

**КРИТИЧЕСКАЯ ОЦЕНКА:
САМОФИНАНСИРОВАНИЕ
В ЦЕНТРЕ ЗДОРОВЬЯ СЕМЬИ
г.ОДЕССА, УКРАИНА**

**CRITICAL EVALUATION:
SELF-FINANCING AT THE
FAMILY HEALTH CENTER
IN ODESSA, UKRAINE**

TECHNICAL REPORT UKR-3
FINAL DRAFT FOR TRANSLATION AND REVIEW

**Critical Evaluation:
Self-financing at the
Family Health Center
in Odessa, Ukraine**

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PREFACE

As a part of the United States Agency for International Development (USAID) program of support to Ukraine, in mid-1994, the *ZdravReform* Program was asked to assist with health sector management, organization, and financing reforms. *ZdravReform* provides technical assistance,

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| Chernivsti: | Analysis, using cost-effectiveness techniques, of a pregnancy screening program conducted by the Chernivsti Diagnostic Center. |
| Drohobych: | Evaluation of an innovative system similar to diagnosis-related groups (DRGs), used to allocate state budget funds to hospitals. |
| Kiev: | Assistance with developing curriculum for, teaching short courses at, and transferring teaching methodologies to the newly established School of Health Administration of the Institute of Public Administration. |
| National: | Conducting a study tour to the United States for the Verkhovna Rada's (the national parliament's) health commission, its staff, and key health leaders from around the country. |

Other *ZdravReform* Rapid Response Activities in Ukraine

training, information dissemination, and (in some places, but not Ukraine) grant support for such health reforms to selected countries of the former Soviet Union.

To begin *ZdravReform's* work in Ukraine, several "rapid response" activities were identified, one of which is this critical evaluation of the Family Health Center's (FHC's) self-financing program. (The other activities are shown in the text box above.) In addition, *ZdravReform*, USAID, and the

National Ministry of Health chose Odessa and L'viv as intensive demonstration sites (IDSs)—areas where *ZdravReform* concentrates its resources to collaborate with local leaders to design, implement, and draw lessons from integrated, market-oriented health sector reforms. The plans for IDS activities in both sites will draw on the experience of the rapid response activities.

In preparation for the FHC self-financing evaluation, in October 1994 one of its authors, Laura Raney, met with FHC's Valentina Bespoyasnaya, MD, Scientific Director of the Out-Patient Clinic, and Karine Tumasyan, MD, Head of the Hospital Department. This meeting came about during a visit by the two doctors to *ZdravReform*'s headquarters in Bethesda, Maryland, as part of a study tour to the United States. At the meeting, the scope of work for the evaluation was discussed (see Annex A) and data availability confirmed.

EXECUTIVE SUMMARY

BACKGROUND AND OBJECTIVES OF EVALUATION

The purpose of this report is to evaluate critically the self-financing program of the International Medical Research Family Health Center (FHC) in Odessa, Ukraine, to draw lessons for dissemination, to inform national and local policy, and to make recommendations for improvement. Data were gathered through interviews with FHC management and staff and through a review of financial and medical records. The principal areas of concern of the evaluation are revenues, expenditures, fee structure, and clinic utilization patterns.

FHC ORGANIZATION AND OPERATIONS

FHC was established in 1988 under the direction of Valery N. Zaporozhan, MD, PhD, as one of the first applications of self-financed health care services in the Soviet Union. FHC is a scientific, diagnostic, and therapeutic facility concerned with treatment of female reproductive organs and urologic pathologies. FHC's mission is to provide high-quality medical services, including specialized services such as the application of endoscopic and cryoendoscopic methods of diagnosis and treatment, at prices that are affordable to all. In 1994, FHC served more than 38,000 patients from Odessa Oblast, elsewhere in Ukraine, and other parts of the former Soviet Union.

FHC may be the only health care facility in the former Soviet Union that attempts to be fully self-financed from user payments and that is totally independent of the state. Other health care facilities employ user payments but also rely on the state budget for financing.

The overall economic situation in Ukraine has had a major effect on how FHC's self-financing program performs. Rapid inflation has created problems, as management has had to cover increasing costs while keeping prices at a level that ensures access for patients of all socioeconomic backgrounds.

FHC AND UKRAINE'S HEALTH REFORM DEBATE

Ukrainian policymakers are considering reforming methods of financing health care services in a way that could involve a three-way split of sources: general government budget revenues, third-party insurance, and direct user payments. FHC's experience with user payments and third-party payments offers lessons to inform this debate. FHC management's methods of allocating resources and providing incentives for staff productivity offer additional lessons.

FINDINGS

This evaluation's major findings are outlined below.

1. Self-financing in operating costs for high-quality outpatient health care services is feasible based on FHC's experience. However, the way FHC keeps its accounting books makes it impossible to evaluate the extent to which the depreciation of physical assets is covered by FHC's user payments.
2. Although FHC management uses incentives for staff performance and other methods to ensure efficiency, a weak financial information system makes it difficult to quantitatively evaluate efficiency and likely obscures possibilities for management to identify where inefficiencies exist.
3. FHC grants exemptions from payment to disadvantaged groups and solicits charitable contributions to make up for lost revenue. However, a large share of its patients are from higher socioeconomic status groups.
4. Although FHC staff and services are of high quality, drug scarcity and cuts in research funding could harm current and future quality.

5. The intelligence and intuition of FHC management and staff concerning financial issues have served them well. Despite the absence of easily used financial information and specific financial management skills, FHC has adjusted to difficult economic conditions sensibly. Neither the center's accounting information nor its data on financial flows are processed in ways that make them useful for management decision making. Nonetheless, FHC's financial performance is reasonably strong without this information.

6. The success of self-financed health care services is damaged by Ukraine's legal environment. Heavy taxation, outdated and unrealistic accounting rules, and pricing restrictions restrict self-financing management in a number of ways.

RECOMMENDATIONS

This evaluation makes a number of recommendations for FHC's management and for Ukrainian health authorities.

Recommendations for FHC Management

1. *Develop further the center's financial management information system.*

Further development of FHC's financial management information system would permit data already

collected to be processed to facilitate day-to-day and strategic financial decision making. Such a system also would allow FHC to conduct special analyses for strategic decision making. An important part of an improved financial management information system would be to produce and maintain accounts that realistically value physical assets.

2. Determine the source of the large increase in operating expenditures for the polyclinic in October 1994.

The polyclinic was pushed below 100 percent self-financing in October 1994, principally by a large increase in other direct expenditures. This situation should be examined to determine what adjustments could be made to allow operating costs to be covered as they had been in the past.

3. Develop a pilot insurance program that would serve as a laboratory for the development of insurance systems in the oblast.

FHC is in a good position to begin a health insurance program. Such a program could bring FHC new clients and revenues. To implement it, the center needs to find a group with which to work in developing an insurance system. To succeed with insurance development, FHC almost certainly needs to improve its financial management information system. Lessons learned from the pilot insurance program would benefit the national and Odessa health care reform debate.

4. Proceed with plans to open a branch office of FHC in a suburb of Odessa.

FHC's plans to open an office in Il'ichovsk appear to be sound. The process of planning for the Il'ichovsk office would offer FHC the opportunity to apply its improved financial management information system, use new methods for assessing demand and for marketing, and improve the center's financial situation.

5. Study the size of the market for in-home services and the costs of serving it.

FHC should study the apparently growing market for in-home services. The study should encompass appraising the size of this market and estimating the cost of services to determine pricing.

6. Train management and administrative staff in health management, economics, and financial analysis.

Training in financial and general management would help FHC's staff make better financial decisions.

7. Conduct a comparative study of the demographic and socioeconomic profile of patients in government facilities offering similar services.

Collection of comparative data on the demographic and socioeconomic profile of patients from a competing government facility would indicate to what extent FHC attains its objective of serving all population groups. This information also would assist FHC in marketing and advertising.

8. Pursue cost-sharing contracts with enterprises.

FHC could suggest to its former enterprise clients that they renew their contracts with the following change: the enterprises would pay for only a share of the cost of treatment, requiring their employees to pay the rest. Enterprises, their employees, and FHC could gain from such an arrangement.

9. Monitor the opening of new enterprises.

FHC could market contracts for its services to newly registered enterprises in Odessa. Such a marketing effort could involve determining the types of services the enterprises would like to offer to their employees.

Recommendations for Ukrainian Health Authorities

1. Recognize that self-financing through user payments is feasible.

FHC's experience demonstrates the feasibility of self-financing of operating costs and some part of capital costs for health care services. Health care reforms may include some form of user payment for services.

2. Consider using FHC's planned insurance program as a pilot test of the concept.

FHC's plans to develop an insurance program should be watched to learn lessons for application in other parts of Ukraine.

3. Consider reducing the tax burden on privately provided social services.

The value-added and revenue taxes could be removed from social services such as health care. Similarly, the value-added tax on charitable contributions for social services could be removed to allow more funding for services provided to the disadvantaged.

4. Consider removing restrictions on profits.

Health care services providers (especially those that are not for profit, like FHC) should not be subject to pricing controls. Freedom of pricing would allow them to vary their prices to promote the use of some services, while earning greater surpluses on others.

5. Remove requirements to use unrealistic values and lifetimes for physical assets in accounts.

Consideration should be given to removing legal accounting requirements that are an administrative burden on health care providers and that provide no useful information for management.

6. Provide training in business skills to health care providers.

Health care services managers throughout Ukraine need to develop health care business skills.

Chapter 1

BACKGROUND AND INTRODUCTION

The purpose of this report is to evaluate critically the self-financing program of the International Medical Research Family Health Center (FHC) in Odessa, Ukraine, to document lessons learned, make recommendations for improvement, and assess the potential for adaptation and replication of self-financing elsewhere in Ukraine's health system.

1.1 Macroeconomic Conditions

Ukraine's transition from a command to a market economy has resulted in new trade patterns and disruptions in output, leading to the closure of or drastic reductions in activity among many enterprises and a steep decline in living standards, accompanied by high and erratic rates of inflation. No part of Ukraine has escaped from this difficult economic situation. The economic crisis has affected the country's health care sector in particular, as it is faced with a lack of pharmaceuticals, equipment, and supplies.

1.2 Odessa

Odessa is the main port city of Ukraine and is located on the Black Sea. It has a population of approximately 1.1 million people and is the capital of Odessa Oblast (population approximately 1.4

million). The city is ethnically diverse and predominantly Russian speaking. Odessa's major economic activities are associated with the port and tourism in the summer months.

1.3 Ukraine's Health Care System and Reform Debate

The health care system of Ukraine and Odessa continues to operate largely as it did during the time of the Soviet Union. The Soviet-style system is highly centralized, with state financing and delivery of services. Centrally determined norms are used to decide the distribution of hospital beds, doctors, drugs, supplies, and pieces of medical equipment. Services are provided through multispecialty "polyclinics" for outpatients, and through often specialized (for example, in ophthalmology, tuberculosis, and infectious diseases) hospitals for inpatients. The country has few general practitioners and family doctors, and doctors' compensation is low relative to that of other workers in the economy. Consumers are provided health care services almost exclusively at no charge.

Ukraine's health care system is inefficient when compared with those of Western Europe, Japan, and North America: Hospital stays in Ukraine are up to three times longer, the country has about twice as many doctors and hospital beds per capita, and the emphasis is on specialized rather than primary and preventive care. Despite this inefficiency, by world standards, a low percentage of Ukraine's national income is allocated to health care. (Difficulties in measuring national income in largely nonmarket economies makes precision difficult in quantifying the percent allocated to health care, but the figure is generally thought to be in the range of 3 to 5 percent.) The system is unresponsive

to consumers, with most having little choice of service providers. However, citizens have universal access to health care services. Recently, as noted above, the country's economic downturn has starved the health care system of funds, provoking shortages of drugs, supplies, and maintenance.

Dissatisfaction with the performance of the Soviet system, heightened by the problems engendered by the transition to a market economy, has put the health care sector's financing and organization under scrutiny. Country leaders seek to diversify the sector's sources of financing, since state budget financing has always seemed to result in insufficient allocations. Ukrainian policymakers are considering reforming methods of financing health care services in a way that could involve a three-way split of sources: general government budget revenues, third-party insurance, and direct user payments. A payroll tax earmarked for health (labeled "mandatory health insurance") is prominently mentioned in this regard. Out-of-pocket user payments also are being considered. Efficiency and quality problems may be addressed by changing the way funds are allocated to favor more primary care at the expense of specialized and hospital care and through allowing greater consumer choice of provider. Notions of "per capita" allocations of funds to providers are also circulating. Many of the ideas being debated are headed in the right direction, but often they are incompletely understood. Further, they have not been tested empirically in the Soviet-style context.

1.4 The Family Health Center

1.4.1 Structure and Services

FHC was established in 1988 under the directorship of Valery N. Zaporozhan, MD, PhD, as one of the first applications of self-financed health care services in the Soviet Union. FHC is an outpatient reproductive health care clinic that provides diagnostic and therapeutic services and conducts scientific research, as well. In particular, it offers specialized services, such as the application of endoscopic and cryoendoscopic methods of diagnosis and treatment.

FHC's staff members enjoy excellent reputations in their fields. Dr. Zaporozhan, for example, is the originator of cryoendoscopic methods of gynecological diagnosis and treatment in Ukraine.

FHC employs 40 doctors and medical personnel full time and 25 on a part-time basis. In addition, the center employs 30 nonmedical personnel, including accounting, engineering, and maintenance staff. The facility is organized into two departments, an outpatient polyclinic and a day inpatient department. The departments within the polyclinic include gynecology, urology, physical therapy, inoculation/virology, scientific research, ultrasound, and dentistry. The polyclinic also houses a laboratory for diagnostics and a small pharmacy. The day inpatient department offers therapeutic treatment (conventional as well as nontraditional) and minor surgery, such as laparoscopy and intrauterine cryosurgery. For some of these surgeries, FHC is the only facility in Odessa that performs them. Patients requiring an overnight stay or major surgery are referred to Odessa Medical University Hospital.

In 1994, FHC served more than 38,000 patients, 80 percent of whom came from the city of Odessa, 13 percent from the immediate region (within a 20- to 40-kilometer radius), and 7 percent from more than 60 kilometers away. In previous years, FHC saw more patients from outside the Odessa region, including many from other parts of the former Soviet Union.

The majority of FHC's patients are treated in the outpatient (polyclinic) department, as Figure 1 illustrates (data shown represent activity in 1993, the most recent year for which statistics are available).

1.4.2 Financing

FHC is one of the few health care facilities in the former Soviet Union that receives no financial support from the state budget and that is fully self-financed from user payments. (Other health care facilities in Odessa employ user payments, but they also rely on the state budget for part of their financing.) FHC seeks to keep prices for its services affordable to all.

The overall economic situation in Ukraine and Odessa has had a major effect on how FHC's self-financing program performs. Rapid inflation in particular has created problems for the center as it tries to cover increasing costs while keeping prices at a level that patients can afford. No patients are refused care because they are unable to pay, and FHC grants exemptions from payment to veterans, invalids, Chernobyl victims, and mothers with more than the average number of children.

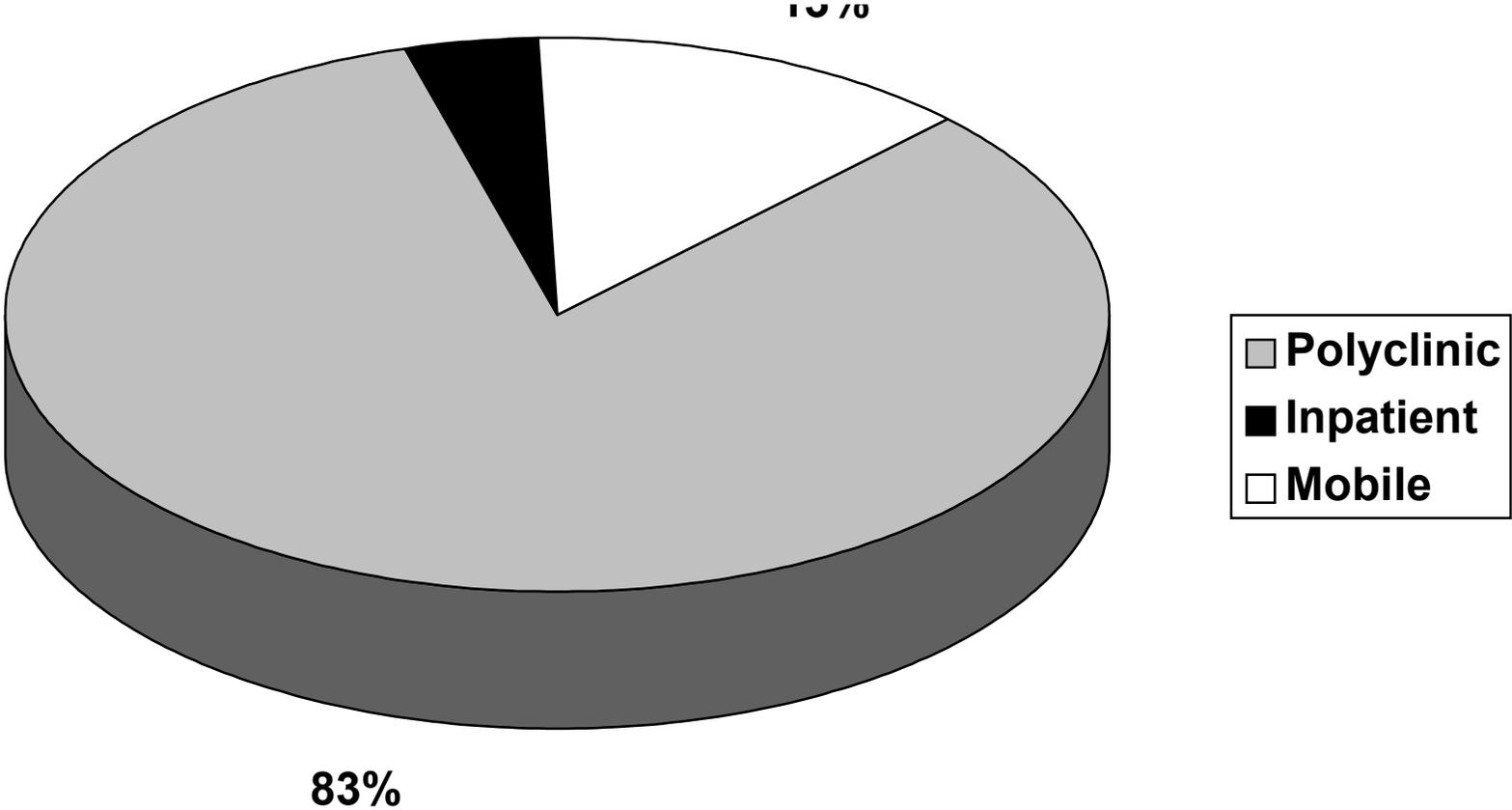
Funds from FHC's Charity Fund, consisting of donations from enterprises, are used to pay for those exempted.

Several of FHC's activities have been downsized or discontinued as a result of the area's deteriorating economic conditions. For example, in the past FHC had a number of contracts with enterprises and provided medical and diagnostic services for their employees both at FHC's premises and at the enterprises' premises. Some of the businesses were in rural areas of Odessa Oblast. To reach them, FHC used outreach teams consisting of a physician, a gynecologist, an endoscopy specialist, and, if necessary, other specialists, such as neurologists and endocrinologists. The outreach teams traveled with mobile consulting rooms to serve these patients. The number of enterprises FHC serves has fallen in recent years, however, from a high of 43 in 1990 to just 2 in 1994. Due to the economic crisis, fewer businesses have money to spend on health care services for their employees.

FHC's share of total revenue from its mobile units was 72 percent in 1989, but dwindled to 0.2 percent in 1993. Because of this poor showing, FHC sold its mobile units in 1992 and discontinued mobile services altogether in 1993. Other cost-saving measures have included reducing the number of staff hours and cutting back or discontinuing certain services. Several pieces of medical equipment have been put into storage, also to save operating costs. In addition, FHC has delayed the start of several planned new activities, such as expansion in the form of satellite offices in nearby towns, home visiting services, and the creation of an insurance program.

FHC's management realizes the need to work within the system to accommodate national, oblast, and municipal reforms as they occur. Odessa Oblast has presented a wide-reaching program of reform to the Ministry of Health. Among its goals are to increase financing and to rationalize the use of resources. These goals may be achieved, in part, replication of FHC's financing system.

Figure 1: Distribution of Services at the FHC, 1995



Chapter 2

METHODS USED TO CONDUCT THE EVALUATION

2.1 Objectives

The major objectives of this study are to:

- Provide an analytical description of FHC's financing system and document its strengths and weaknesses;
- Evaluate the current fee structure's ability to generate sufficient revenues to meet cost recovery objectives;
- Calculate current levels of cost recovery;
- Offer advice on options for modifying the self-financing program, including the fee structure;
- Document lessons learned for dissemination; and

- Identify needed follow-on activities.

Data were collected at FHC during November 10-29, 1994 (see Annex A for the evaluation's scope of work).

2.2 FHC's Record Keeping

Several features of the way FHC keeps financial records affected the way this evaluation was conducted. These features and their consequences for the evaluation are summarized below.

- *Depreciation:* FHC's chief accountant keeps in his books the values and lifetimes of building and equipment given by the Ministry of Health Protection in Moscow as prescribed by law, dating to the Soviet Union era. These values and lifetimes, however, bear little resemblance to true figures. For example, FHC's six-story building is valued at US\$2,500. Further, since seemingly arbitrary adjustments in accounting values for inflation are prescribed by national authorities from time to time, equipment acquired at different times is subject to different rates of adjustment for inflation. This makes of little use the comparison of relative values kept in FHC's books. To get a useful estimate of the value of depreciation of building and equipment would require estimating the replacement price of each item and its expected lifetime when new. The authors attempted to do this, but finding replacement prices for all of FHC's equipment proved to be too time-consuming and difficult. Hence, this analysis is

limited to estimating the degree of FHC's self-financing in terms of the center's service provision, not in terms of all of its activities (see Sections 3.2.2 and 3.2.3 for more details on this approach).

- *Operating expenditures:* Operating expenditures are recorded by polyclinic and day-inpatient department, but no subaccounts are available for services within departments (gynecology, ultrasound, laboratory, and so on) to permit more detailed breakdowns of costs. Lack of computerization makes this kind of detailed record keeping difficult.
- *User revenue data:* FHC keeps no record of daily or monthly user revenues, though it keeps individual receipts. Thus, to estimate monthly user revenues, the authors used a time-consuming and tedious process involving aggregation of individual receipts for a sample of five days in each of two sample months, followed by extrapolation to monthly totals.
- *Total revenues:* FHC lumps together the cash it receives from all sources, including user payments, research grants, contract payments by enterprises, and rental payments by tenants in the FHC building. This is done to meet FHC management needs concerning cash flows, but it obscures net income from specific activities, such as provision of services to patients. Hence, there was a need to reconstruct user revenues as described in the bulleted point above.
- *Revenues from enterprises:* Revenues and accounts receivable from enterprises for services

performed for their employees are kept in such a way that it is impossible to combine them with direct (out-of-pocket) user payments. It is also impossible to disaggregate the costs of services used by enterprise employees from those of direct-pay patients. Therefore, the authors compared direct-pay revenues with the costs of services provided to all patients, thereby understating the degree of self-financing in FHC's operating costs.

- *Patient socioeconomic status:* Individual doctors' and departments' registers contain information on patients' date of birth, place of residence, occupation, fees paid, and, sometimes, place of employment. Thus, a socioeconomic profile of patients was possible only concerning age, place of residence, and occupation.

2.3 Data Collection

This evaluation was performed using financial and service delivery data gathered at FHC. The authors conducted lengthy discussions with FHC senior management; took a tour of the facility covering its major departments; reviewed various books and registers kept by the chief accountant, bookkeeper (called "an economist" in Russian), doctors, and laboratory staff; and conducted interviews with key staff members, including medical officers, administrators, nurses, and medical records clerks.

The authors also requested that tables be assembled from FHC records to examine the seasonality

of service use, staffing by department, the number of procedures performed per year by department, and the pricing mechanism used. Given the limitations on the availability of revenue data noted above, two months were chosen as reference periods: April and October 1994. October was chosen because it was the latest month for which data were available; and April, because it was six months earlier, a helpful point of reference in financial analyses. With this basic information in hand, the authors gathered the following to perform the evaluation of FHC's self-financing program.

- *Total expenditures:* The authors gathered information from FHC's chief accountant on total expenditures by department, broken down by category of expenditure (salaries, drugs, supplies, maintenance, electricity, and so on) for the two-month sample. As noted in Section 2.2, however, no subaccounts were available for medical services (such as gynecology, ultrasound, and so on).
- *Fee structure and collection of fees:* The authors obtained the current price list and interviewed the bookkeeper about the procedures used to set prices, adjust them for inflation, determine who should be exempted, and collect fees.
- *Revenues from user payments:* The bookkeeper provided a tally of revenues collected by the cashier by procedure and department for the sample days of the reference months.
- *Other revenues:* The chief accountant provided 1994 figures on revenue from enterprise

contracts and other sources, such as rental income and FHC's pharmacy earnings, as well as uncollected bills and exemptions.

- *Unit costing:* Unit cost data were gathered for three commonly performed procedures (colposcopies, mini-abortions, and ordinary consultations).
- *Profile of users:* Patient data were collected from doctors' registers in the polyclinic for gynecology and endocrinology; the immunization, physiotherapy, and ultrasound departments; and one of two registers in the inpatient department for one day. The authors were unable to collect similar information from a government clinic offering similar services.

2.4 Analyses

The authors performed qualitative analyses of the following by conducting interviews with FHC management and staff or by observation:

- Patient registration and fee collection procedures;
- Provision of pharmaceuticals;
- Accounting procedures;
- Effects of legal restrictions on FHC operations;
- Current state of FHC scientific research;
- How FHC pays its doctors;
- FHC's plans for the future; and
- FHC's financial management information system.

Quantitative methods were used to examine the extent to which FHC is self-financed in terms of its operating expenditures, how it structures its fees, how it sets prices and adjusts them for inflation, and the socioeconomic status of FHC patients.

Analysis and preparation of tables were performed using Microsoft Excel 5.0 software. All prices and financial information are reported in April 1994 Ukrainian coupons (see Annex B for conversion methodology), except where otherwise noted.

These qualitative and quantitative analyses are described in detail in Chapter 3.

Chapter 3

FINDINGS

The findings from this evaluation are presented in the following way: Section 3.1 covers qualitative information on FHC management, operations, and future plans, and Section 3.2 reviews financial performance. In both sections, the constraints to successful operation specific to FHC are noted. Where the constraints apply generally to any Ukrainian health care provider wishing to pursue self-financing, this is indicated.

3.1 Qualitative Findings

3.1.1 Patient Registration and Payment

3.1.1.1 Polyclinic System

On arrival at FHC's registration area, patients may look at a price list for the 177 services FHC offers (see Figure 2 for a diagram of FHC's registration and fee collection system). At the polyclinic, patients may see a doctor or nurse for a consultation before being asked to pay the cashier for a service. When a doctor or nurse orders a treatment, patients may pay the cashier either before or after its completion. When diagnostic tests are ordered, patients must present a receipt from the

cashier showing they have paid for the tests before they can obtain the results. Prescriptions for pharmaceuticals may be filled from the FHC's in-house pharmacy, from the private pharmacy operating in the FHC reception lobby, or outside FHC. All of the pharmacies operate on a cash payment basis.

The above system does not ensure that patients who receive services do indeed stop by the cashier's office to pay. However, FHC management is unconcerned about patient nonpayment. This may be because more than 85 percent of patients are repeat clients, and thus are likely to pay so as not to be excluded from future services. Requiring payment prior to services was tried experimentally in one department, but was met unfavorably by patients, and thus was discontinued. Moreover, FHC doctors have difficulty foreseeing what services are necessary, making advance payment difficult. For further details on the polyclinic's registration and fee collection system, see Annex C.

3.1.1.2 Day Inpatient System

Most patients enter the day inpatient clinic following consultation and testing in the polyclinic. Thus, the above steps, in addition to those described below, apply to most day inpatients.

The day inpatient clinic offers two types of services: physiotherapeutic procedures, which consist of a course of treatment, and surgical procedures, which are done on a day inpatient basis.

The clinic charges a fixed fee for a course of treatment, regardless of the number of visits required for an individual patient. When additional drugs are required or complications arise, another course of treatment (and additional payment) may be required. Flexible payment methods are available. Patients may pay either in full or in part, before or after treatment.

Treatments in the day inpatient clinic are priced higher than those in the polyclinic because they are administered by doctors; treatment in the polyclinic is handled by physician's assistants or nurses. In addition, in the day inpatient clinic, patients can receive permission for paid leave from work for treatment, which they cannot do in the polyclinic.

3.1.1.3 Overall Fee Collection

Twice a day, accumulated cash is collected from FHC's register. At the end of the day, the cashier submits a daily log of patients' last names and the total amount received. This paper serves as a record of daily cash revenues and is clipped together with the individual patient slips. Three times a week these are collected by the accountant. On a monthly basis, the bookkeeper checks the receipts against the doctors' registers.

3.1.2 Pharmacy Services and Fees

FHC's in-house pharmacy provides a limited number of drugs for patients at no markup. FHC

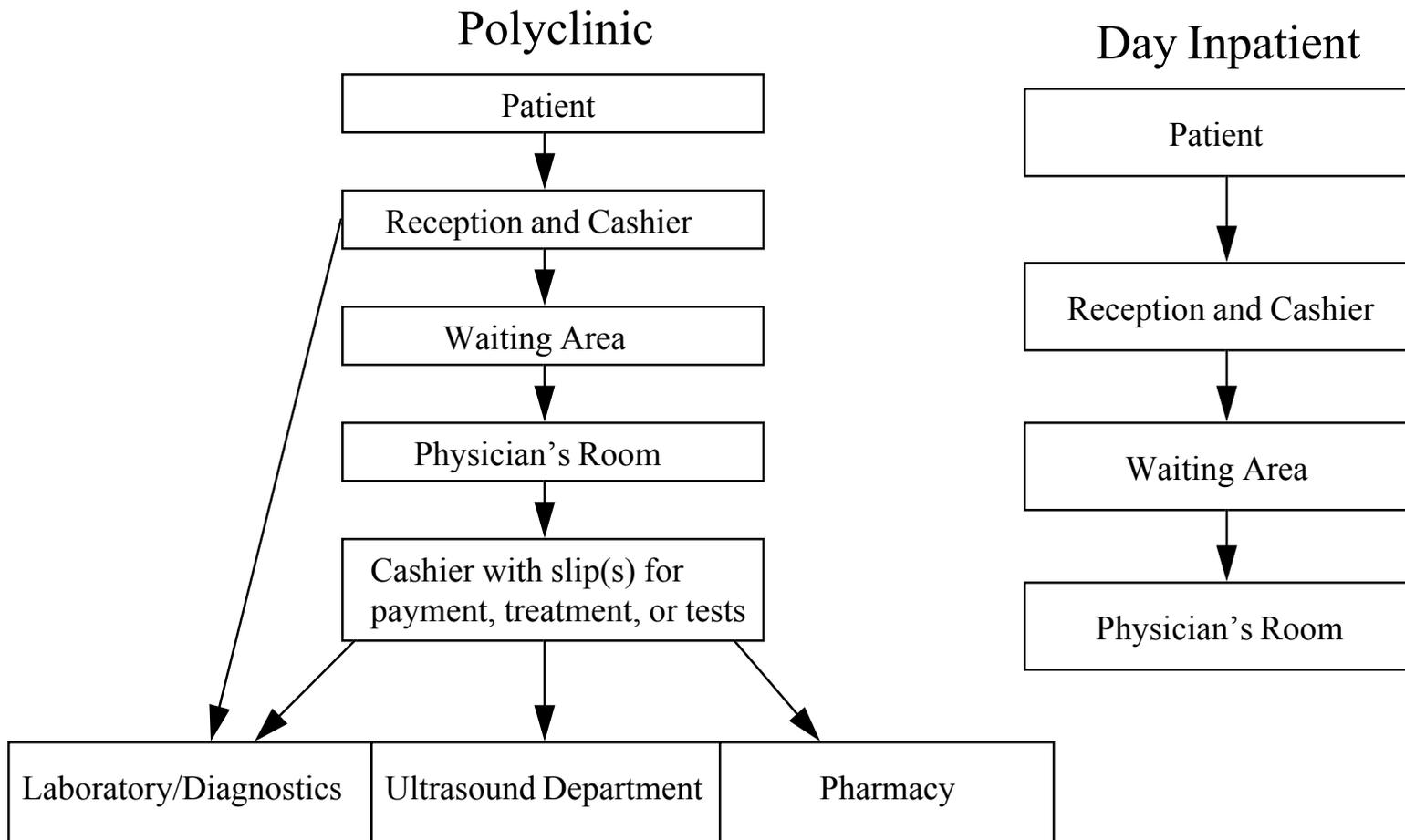
purchases the drugs from local pharmacies and then resells them without adding the costs of overhead. Frequently FHC cannot buy drugs in bulk because of resource constraints and/or the unavailability of supplies from wholesalers, thus forcing the center to purchase from retailers.

Revenues from FHC's pharmacy are supposed to be brought to the cashier on a daily basis and recorded separately. An analysis of the cashier's revenues for a sample of 12 days, however, revealed not daily revenues received from the pharmacy, but rather several days' worth of revenues brought in at one time. Such a practice makes it difficult to determine FHC's true daily revenue.

A second pharmacy at FHC is operated by a private entrepreneur who rents space in the reception lobby. This pharmacy supplies some drugs not available in FHC's pharmacy. Patients also can take their prescription to any other pharmacy. Prices are about the same regardless of the pharmacy used.

FHC plans to manufacture seven or eight pharmaceuticals on its premises. However, it lacks the correct licensing to enable it to begin production and packaging of these items. FHC would use the resulting supply and sell any surpluses on the open market.

Figure 2: Patient Flow Chart



3.1.3 Contracts with Enterprises

Today, nearly all of FHC's revenues from providing health care services come from direct user payments. Additional revenues for the provision of services come from payments made by two enterprises that maintain contracts with FHC to provide services to their employees. The enterprises pay FHC monthly or quarterly on a fee-for-service basis (no discounts) for the employees treated.

3.1.4 Accounting

FHC operates an accounting system to allow it to meet legal requirements for taxation and to safeguard its physical assets. Accounting for physical assets includes an indication of which staff member is responsible for each piece of equipment. The system applies official rates of depreciation and indexation for inflation, as per legal requirements. However, the last official indexation was done in August 1993, despite high inflation in the intervening period. As alluded to in Chapter 2, the combination of legal requirements and officially determined initial values, lifetimes, and systems of indexation significantly distorts the values assigned to FHC's physical assets. This makes the accounting information invaluable for legal purposes, but virtually useless for management decision making (see Section 2.2 for more on this topic). The legal requirement to keep accounts in this fashion is a burden on all self-financed providers, and provides no useful information for financial management.

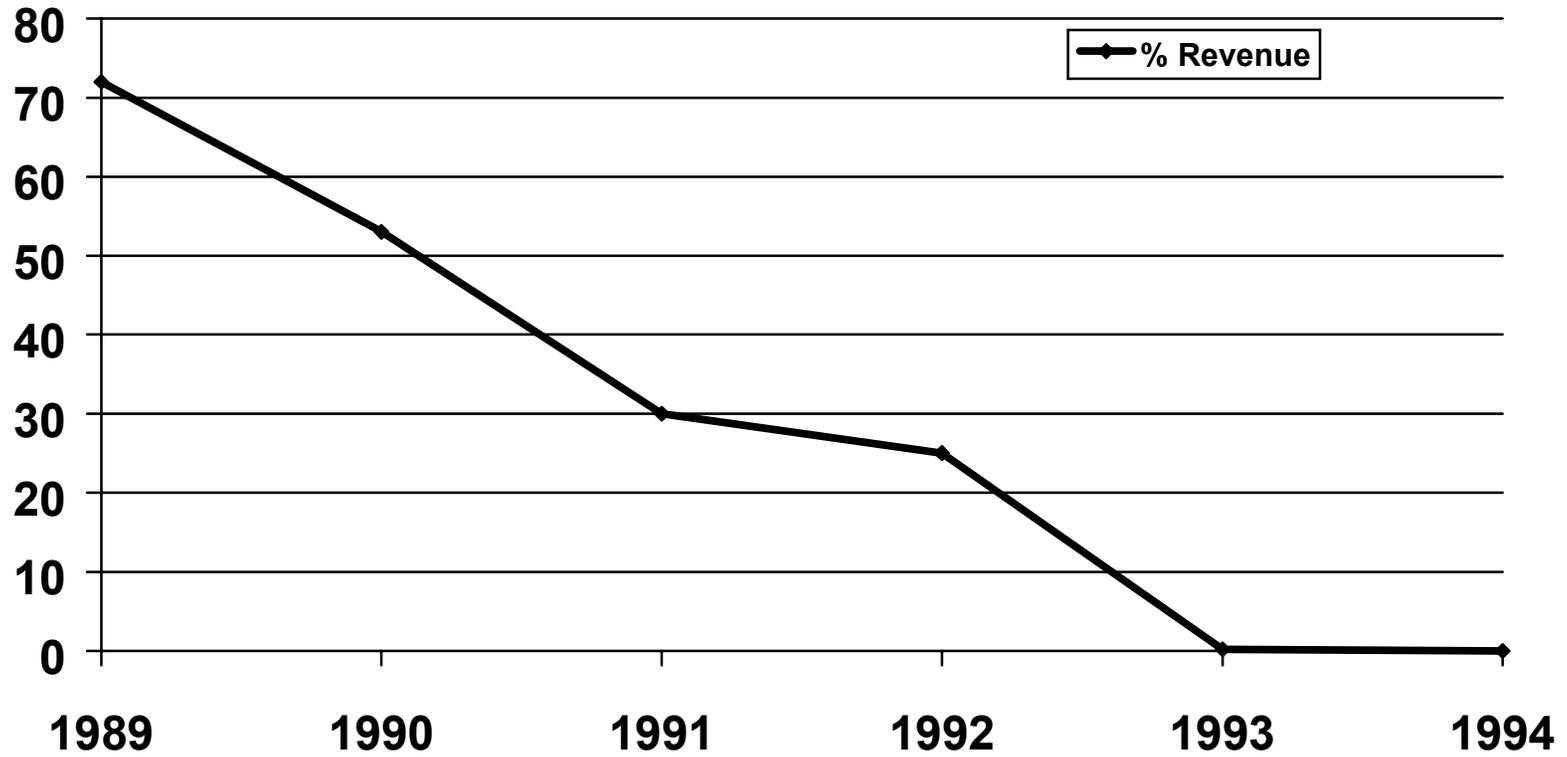
3.1.5 Legal Restrictions

In addition to their aforementioned effects on accounting, legislative requirements hinder FHC's ability to set its prices so as to maintain cash flow under inflationary conditions. The requirements also compromise FHC's ability to get the most from charitable contributions. These restrictions apply to all self-financed providers in Ukraine. In addition, self-financed providers are subject to a regular heavy burden of business taxation (see Section 3.1.5.4).

3.1.5.1 Pricing under Inflation

Legally, FHC may only price inputs at nominal cost plus allowed margins, regardless of the inflation that may have occurred between the purchase of the input and its resale or use in providing a service. This means that FHC cannot set prices equal to the replacement cost (which is much higher than the purchase price) of inputs. Consequently, FHC fails to generate sufficient cash with which to purchase new supplies. Recent high rates of inflation in Ukraine make this problem especially acute.

Figure 3: Percent Revenue from Contracts with Enterprises Served by Mobile Units



3.1.5.2 Charity Fund

FHC receives voluntary contributions to its Charity Fund, which the center taps to pay for services it provides to disadvantaged persons exempt from payment (see Section 3.1.8). These contributions come mainly from enterprises and are diminished considerably by value-added and revenue taxes (see Section 3.1.5.4).

3.1.5.3 Profits

National legislation limits the profits FHC may earn to an average of 10 percent of the cost of its services. However, Odessa Oblast legislation, which supersedes national legislation, allows 15 percent average profit. (The oblast legislation allows the profit on any single item to be greater or less than 15 percent, but the average for all items cannot exceed 15 percent.) Such legislation hinders FHC's ability to cross-subsidize its services.

3.1.5.4 Taxation

FHC is subject to combined payroll taxes of 52 percent that are earmarked for social funds (see Section 3.2.1), a value-added tax (VAT) of 28 percent of the pretax price of services, and a 22-percent revenue tax.

3.1.6 Scientific Research

Scientific research used to be a major activity of FHC, having been funded mainly by state budget allocations. It has declined with the elimination of state budget allocations to the center. This is of great concern to FHC management, as it hinders development of new methods and technologies of diagnosis and treatment. In the past, FHC's researchers have developed new methods that have enabled the center to provide better quality services and offer some that are unavailable elsewhere.

3.1.7 Payment Mechanism for Doctors

FHC's payment mechanism for an individual doctor is based on the doctor seeing a minimum number of patients (a quota). Any patients seen beyond this quota entitle the doctor to bonus payments. Conversely, failure to meet the quota results in downgrading from full-time to part-time status, and a repeat poor performance results in dismissal. FHC management expressed concern over this less-than-perfect system, which could penalize doctors who had patients requiring extra time and care. Since doctors' compensation is unrelated to the number of tests and procedures they prescribe for patients, the risk of overprescribing related to the fee-for-service pricing structure (see Section 3.2.4) is mitigated.

3.1.8 Exemption from Payment

No patient is denied treatment at FHC because of inability to pay. FHC has had an informal exemption mechanism since its beginnings. FHC management is proud of its record in providing treatment to patients regardless of their financial means. Exemptions are handled on a case-by-case basis at the discretion of the doctor.

Exemptions from payment are granted in several ways:

- 1) If the patient discusses inability to pay with the doctor, the doctor has the option of waiving the fees for some services;
- 2) For indigents, Chernobyl victims, pensioners, veterans, and mothers of more than the average number of children, the doctor automatically waives the charges for any services and works with FHC's bookkeeper to arrange for payment to be made on the patient's behalf from a special fund; or
- 3) The patient may ask either the doctor or the cashier for a flexible payment program, such as a partial or delayed payment plan (although it is in the patient's interest to pay as soon as possible because of inflation and resulting price increases).

An average of 22 exemptions per month are granted for pregnant invalids, diabetics, veterans, pensioners, and mothers of many children. FHC management estimates that exemptions granted are equivalent to 5 to 6 percent of the center's revenue. Revenue to replenish the fund used to pay for those exempted comes from FHC's profits, as well as contributions by enterprises to the Charity Fund (see Section 3.1.5.2) or by individuals.

3.1.9 FHC Plans

FHC wishes to develop an insurance plan to help ensure its financial stability. It also wishes to open a branch office in nearby Il'ichovsk and develop in-home services. The following sections describe these plans and provide a preliminary analysis of their feasibility.

3.1.9.1 Development of Insurance

FHC would like to create an insurance company to be affiliated with Odessa Medical University. The center's managers expects that such an insurance program would help ensure FHC's finances. FHC's managers correctly perceive insurance as a way of smoothing out financial flows, as compared with reliance on direct payment by users. However, a number of issues concerning the feasibility of insurance are not as well understood. These include:

- Demand for insurance by suitable groups (with predictable risks) for the kinds of

services FHC provides;

- The extent to which insuring a population would replace direct payment demand versus adding to demand;
- The need to calculate health and associated financial risks for the covered group or groups when planning an insurance program;
- The need for financial capital to launch an insurance program; and
- The need for cost information to calculate the price to charge for insurance coverage.

3.1.9.2 Il'ichovsk Branch and In-home Services

FHC plans to open a branch office in Il'ichovsk (population about 200,000). FHC perceives a need for services in its surrounding area and a small, but growing, demand for in-home care by well-to-do people. With the difficult economic situation, transportation from Il'ichovsk to Odessa has become difficult because of infrequent bus service and rising fuel costs. This is evident from the declining numbers of patients from Il'ichovsk in FHC's registers. At the same time, the demand for in-home service is slowly increasing. Both are seen as opportunities to earn extra revenues for FHC.

Though FHC has neither quantitative demand nor financial information concerning the likelihood of success in expanding to Il'ichovsk, the qualitative information available indicates that success is likely. First, FHC has excess equipment that could be used in an Il'ichovsk branch, and it is likely that the cost of providing services there would be similar to FHC's costs in Odessa. Second, the financial analysis in Section 3.2 indicates that such costs would allow FHC to break even in its operating costs. Further, the lost clients to FHC/Odessa who used to come from Il'ichovsk and pay directly for services would seem to be a good client base.

The market for in-home services by the well-to-do would seem to merit further study by FHC to determine the size of the market and to study the costs of serving it, and, hence, the prices that FHC would need to charge to at least break even.

3.1.10 Financial Management Information

The financial information that FHC staff collects routinely is not processed sufficiently to make it readily available in a form useful to management decision making. For example, at present, it is difficult to acquire information on the following:

- The number of patients served by department per day or month (these figures can be tabulated from information routinely collected, but only through much effort);

- The services performed for a given patient, including what was paid for them;
- The total revenue per day by department or by procedure;
- The number of new and repeat patients per day; and
- The number of exemptions from payment granted per day or month.

Record keeping takes the form of a cash journal in which are recorded neither accounts receivable (in the case of payment for employees of enterprises) nor exemptions. Records of both are kept separately. It is unclear whether receipt of payments on accounts receivable are distinguished from other cash received. Payment of accounts receivable usually occurs after the period when services are provided. Thus, measurement of self-financing performance is difficult, as cash receipts in a given period do not necessarily correspond to services provided. In addition, within the polyclinic, revenues from dentistry and the pharmacy are not itemized by service.

FHC also has failed to standardize its records of cash received from the cashier (for example, revenue from dental services is not itemized separately from revenues from other polyclinic and inpatient services); rather, a lump sum is reported with no record of the type or number of services performed.

3.2 Quantitative Findings

3.2.1 Operating Expenditures

FHC records expenditures by five general categories and by department. Table 1 and Figures 4 and 5 show the breakdown of expenditures by department for two sample months, April and October 1994. The categories of expenditures are supplies (such as cotton wool and alcohol); salaries of medical personnel; allocations to social funds (payroll taxes amounting to 52 percent that must be paid on base salaries and that go to funds for social insurance [37 percent], Chernobyl victims [12 percent], and unemployment [3 percent]); other direct expenditures (contracted laboratory work); and overhead, which includes salaries of nonmedical personnel, housekeeping, utilities, and so forth.

Real (adjusted for inflation) operating expenditures for April were 214 million coupons, and for October, about 264 million coupons. Converting to U.S. dollars at the April 1994 exchange rate (33,396 coupons=US\$1), the monthly expenditures were about US\$6,400 and US\$7,900, respectively.

Overhead accounted for about 42 percent of the total in both months. In both months, the largest proportion (almost 60 percent) of overhead consisted of salaries of nonmedical staff (including their payroll taxes); utilities and fuel made up about 25 percent of total overhead. Supplies contributed around 10 percent of total expenditures in both months, while total payroll taxes (on both medical

and overhead personnel) made up about 10 percent of total expenditures both months.

Table 1: April and October 1994 Operating Expenditures (000,000 April 1994 coupons)

| | Month | Supplies | Salaries | Fund Alloca- tions | Other Direct Expend. | Overhead | Total |
|------------|-------|----------|----------|--------------------------|----------------------------|----------|-------|
| Polyclinic | Apr | 14.1 | 30.1 | 15.6 | 34.6 | 71.6 | 166.0 |
| | Oct | 15.5 | 37.4 | 19.5 | 64.1 | 97.2 | 233.7 |
| Inpatient | Apr | 9.1 | 11.5 | 6.0 | 0 | 21.4 | 48.0 |
| | Oct | 3.1 | 9.1 | 4.7 | 0 | 13.2 | 30.1 |
| Total | Apr | 23.2 | 41.6 | 21.6 | 34.6 | 93.0 | 214 |
| | Oct | 18.6 | 46.5 | 24.2 | 64.1 | 110.4 | 263.8 |

Figure 4: October 1994 Operating Expenditures

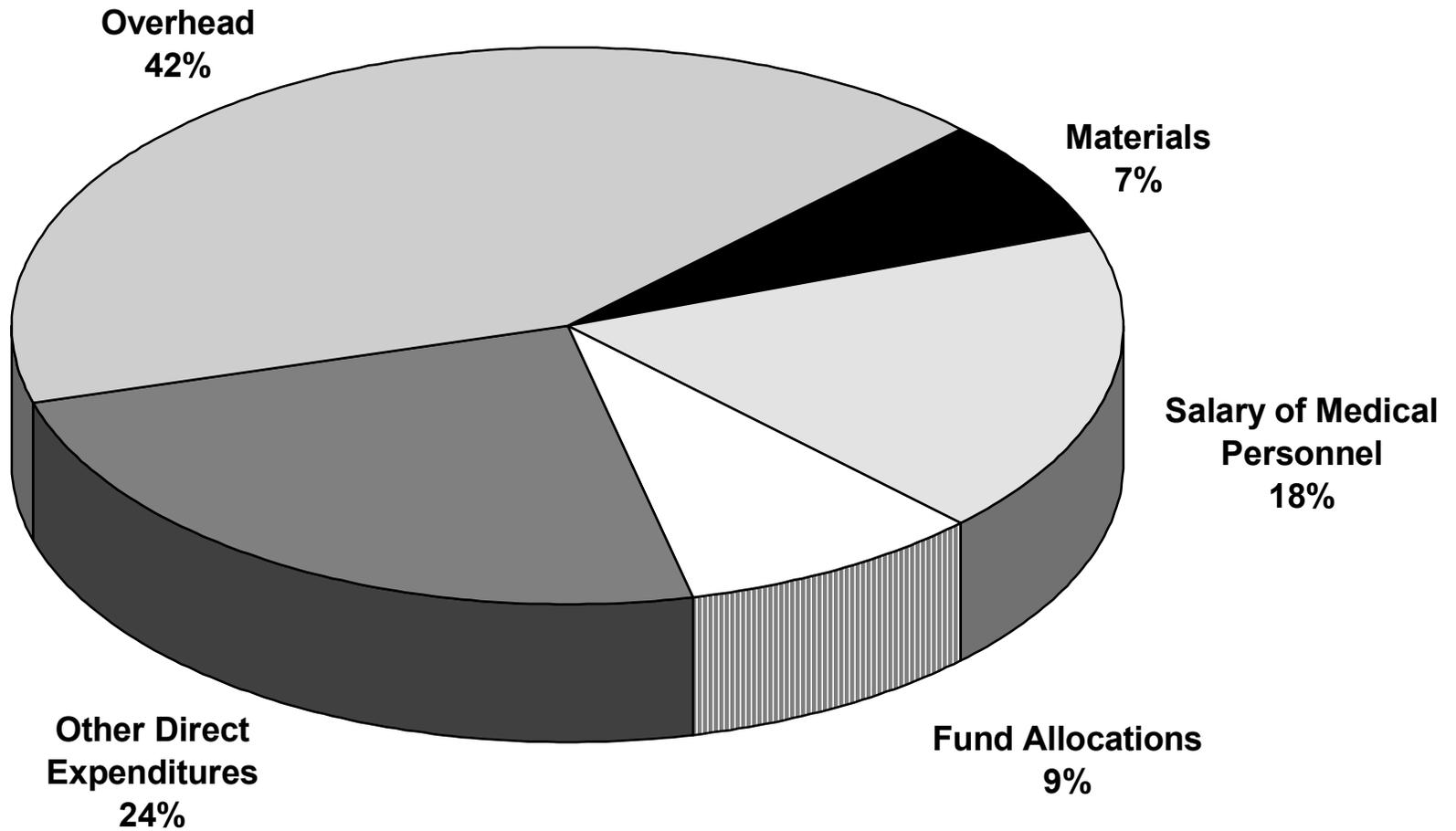
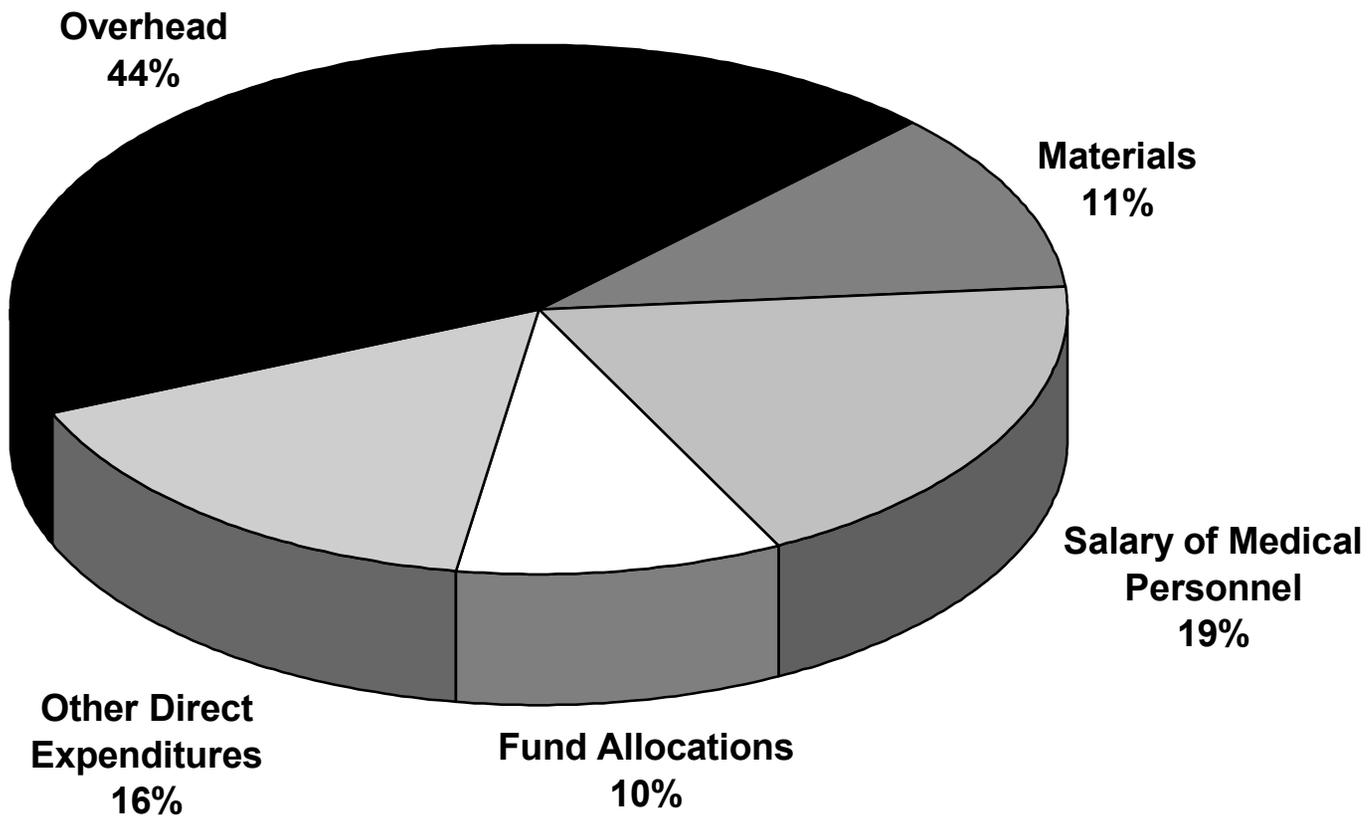


Figure 5: April 1994 Operating Expenditures



3.2.2 Revenue from User Charges

The estimated real monthly revenue from FHC’s user charges for April and October 1994 is shown in Table 2 (see Section 2.2 for an explanation of the methods used to calculate this revenue).

Table 2: Estimated Monthly Revenues from User Charges (000, 000 April 1994 coupons)

| | April | | October | |
|------------|---------|-----|---------|-----|
| | koupons | % | koupons | % |
| Polyclinic | 215.3 | 79 | 207.7 | 84 |
| Inpatient | 58.7 | 21 | 40.9 | 16 |
| Total | 274.0 | 100 | 248.6 | 100 |

Converting to U.S. dollars, the monthly revenues are approximately US\$8,200 for April and US\$7,400 for October. These estimates of monthly revenue exclude accounts receivable from enterprises for the services used by their employees. Thus, these figures are conservative estimates of the actual monthly revenue from payments for health care services.

The analysis presented here focuses on FHC’s core activities—those involving health care service delivery. Other activities and financial transactions (such as research and joint ventures) affect FHC’s cash flow, net worth, composition of ownership, and so on, but obscure the center’s core

financial health. Thus, with respect to revenue, only revenue from user charges is accounted for here. Revenues from other sources, such as the pharmacy, support for scientific research, and renting out office space in FHC, are not examined.

3.2.3 Self-financing in Operating Expenditures

To determine the extent to which FHC is self-financed in its operating expenditures, those expenditures are compared with user revenues (see Table 3). The results show that FHC was able to generate sufficient overall revenue from user payments to have covered completely its operating expenditures in April 1994, and nearly enough to have covered them all in October 1994.

As noted above, the user revenues shown in Table 3 do not include payments by enterprises. Thus, the degree of self-financing in FHC's operating expenditures is understated in the results.

Table 3: Comparison of Operating Expenditures and User Revenues (000, 000 April 1994 kcoupons)

| | April | | | October | | |
|------------|---------------|----------------|-------------------|---------------|----------------|-------------------|
| | User Revenues | Operating Exp. | Rev. as % of Exp. | User Revenues | Operating Exp. | Rev. as % of Exp. |
| Polyclinic | 215 | 166 | 130 | 208 | 234 | 89 |
| Inpatient | 59 | 48 | 123 | 41 | 30 | 137 |
| Total | 274 | 214 | 128 | 249 | 264 | 94 |

This is an important result, since many observers are skeptical about the financial viability of high-quality health care services under self-financing. Many skeptics have argued that FHC's sources of revenue other than user payments have been used to cross-subsidize the health care services the center provides. These other revenues, including rental of space in FHC's building, grants from supporters, earnings from the sale of unused equipment, and new investments, do add to FHC's overall income. However, as the analysis in Table 3 shows, user payments for health care services are sufficient to cover the great majority of FHC's operating costs of providing those services.

It should be noted that FHC's operating expenditures do not represent the center's full costs, because the cost of capital used in producing services is not included in these expenditures. Again, as noted above (see Section 2.2), it was not possible to estimate the value of FHC's capital for this study. Where user revenues exceed operating expenditures (for example, in the day inpatient department

in both April and October), user payments for FHC's health care services cover at least some of the capital costs in addition to operating costs. (For the polyclinic in October, however, neither operating nor capital costs were completely covered.) In the short run, especially during Ukraine's economic crisis, what is most important is to cover operating costs. In the longer run, if capital costs could not be covered, FHC would be unable to maintain its building and replace worn equipment.

The self-financing figures for October show that FHC's inpatient department improved its self-financing performance compared with April. The polyclinic, however, suffered a reversal, becoming only 89 percent self-financed. The polyclinic's real revenues dropped slightly, and expenditures jumped significantly (up 41 percent), pushing the clinic below the break-even point. This jump in expenditures came mainly from an 85-percent increase in other direct expenditures and a 24- and 25-percent increase in salaries and fund allocations, respectively. The increase in other direct expenditures in part came from the need to have more laboratory work done outside of FHC because of the center's inability to repair broken lab equipment or find reagents. For the day inpatient department, expenditures declined more than revenues (38 percent versus 31 percent) from April to October 1994, so self-financing performance improved. With the data available, it is impossible to determine further why these changes occurred and whether they represent trends. They merit further investigation and monitoring.

3.2.4 Fee Structure

FHC's price list covers prices of 177 services. The center maintains a fee-for-service structure in

which each service performed is charged for separately. FHC avoids the tendency of some fee-for-service providers to overprescribe tests, procedures, and drugs because its personnel are not paid according to the number of procedures they order (see Section 3.1.7).

3.2.5 Fee Levels

Table 4 illustrates the prices of five services FHC commonly provides. The center's most expensive service (a mini-abortion) costs about 900,000 koudons (US\$6.92), while some laboratory services are priced at about 45,000 koudons (US\$0.35). The average expenditure per patient is 280,000 koudons (US\$2.15), and the average number of procedures performed per patient is 1.4. To put these prices in perspective, the estimated per capita income in Ukraine in 1994 was US\$1,820 (World Bank, 1994). Cash income is quite a bit lower than this, however, since the World Bank figure includes the value of subsidies and goods and services received in-kind, including housing, heat, electricity, phone service, and transportation.

Table 4: Prices for 5 Commonly Provided Services at FHC in November 1994 (in November 1994 coupons)

| Service | Price (in coupons) | US\$ Equivalent* |
|----------------------|--------------------|------------------|
| Consultation | 100,000 | \$0.77 |
| Smear | 40,000 | \$0.31 |
| Ultrasound diagnosis | 150,000 | \$1.15 |
| Mini-abortion | 900,000 | \$6.92 |
| Endoscopy/colposcopy | 87,000 | \$0.67 |

*The November 1994 exchange rate was 130,000 coupons=US\$1.

3.2.6 Price Setting

When FHC began operations in 1988, it offered a limited number of services and so had only 15 prices to set. Prices were set using a method designed in Moscow, which tried to account for the prices of inputs used. Today, FHC uses a variation on this method of price setting.

The inputs FHC uses in producing its services and in setting its prices are as follows:

- Supplies (cotton wool, alcohol, and so on);

- Salaries of medical personnel involved in providing the service;
- Additional salary payments to medical personnel;
- Payroll taxes for various fund allocations;
- Overhead expenses (utilities and fuel, salaries and payroll taxes for nonmedical personnel, depreciation of nonmedical equipment, and depreciation of FHC's building);
- Expenditures for the maintenance and use of medical equipment used in providing the service;
- Allowable profit (10 percent of all of the above in 1988 and 15 percent in Odessa Oblast today); and
- A value-added tax (28 percent of all of the above).

In 1988, the Soviet Ministry of Health in Moscow provided norms for the amount of personnel time and medical equipment time to account for in determining prices. Table 5 shows an example of this method for setting prices that FHC used in 1989. Tables D-1, D-2, and D-3 in

Annex D show how the inputs to Table 5 for supplies, salaries, and depreciation are calculated.

FHC's pricing methodology basically is sound; however, the imposition of norms for amounts of time used for various personnel and equipment and the arbitrarily chosen values and lifetimes of FHC's building and equipment distort the input values used in the pricing method. These input values would be better calculated by using estimates of actual time and types of personnel and equipment used, and realistic replacement values and lifetimes of the center's building and equipment.

After the center opened, it continued to use this same pricing procedure even as its services grew close to the current 177. However, once high and erratic inflation began, careful and methodical use of this pricing system became impractical. This was especially so given FHC's lack of automation in its accounting and bookkeeping offices. At present, given continued inflation, in setting its prices FHC relies on rough estimates of general input price increases and intuition concerning what its patients can pay, rather than the formal methodology. This is the only practical short-term approach.

3.2.7 Price Adjustments for Inflation

FHC adjusts its prices to account for inflation only when the state legislates salary increases in the state sector. Prices are adjusted approximately proportionally to the legislated salary increases. In the period November 1993 to October 1994, FHC made five such price increases following

legislation mandating salary increases.

A comparison of the inflation rate with FHC price increases for December 1993 to October 1994

(Figure 6) shows that FHC prices have moved parallel with inflation.

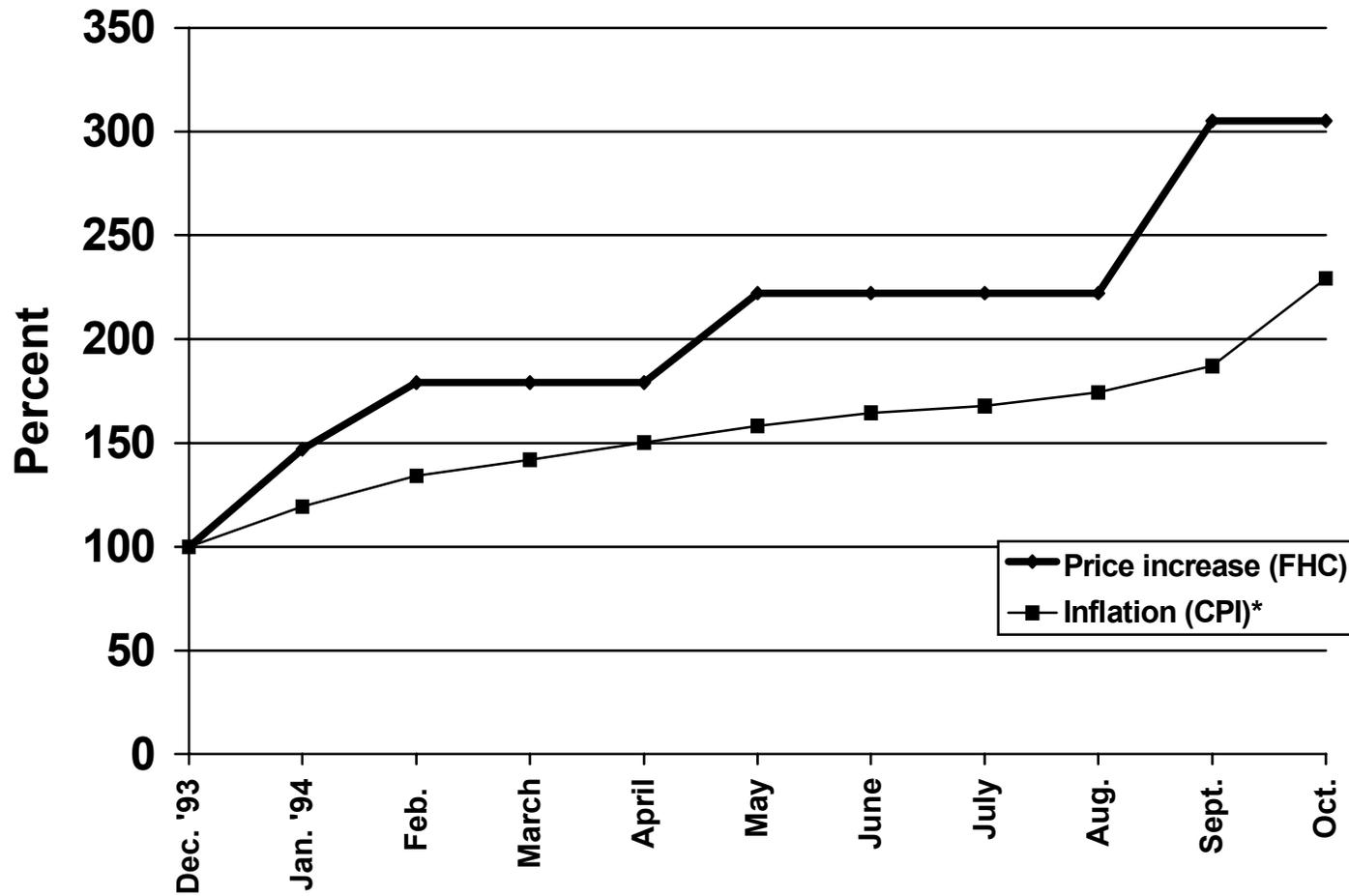
Table 5: Price Setting for Endoscopy Offered at FHC in 1989 (in rubles)

| Service | Supplies | Salary of Medical Personnel | Additional Salary | Payroll Taxes* | Overhead | Depreciation of Equipment | Total Cost | Profit** | Total | Value-added Tax | Endoscopy |
|-------------|-----------|-----------------------------|-------------------|----------------|-----------------|---------------------------|----------------|-----------|---------|-----------------|-----------|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |
| Source | Table D-1 | Table D-2 | (2) x 0.10 | (2)+(3) x 0.52 | From accountant | Table D-3 0.05 | Sum (1) to (6) | (7) x 0.1 | (7)+(8) | (9) x 0.28 | (9)+(10) |
| Cost/Profit | 0.34 | 5.43 | 0.54 | 3.10 | 5.43 | | 14.89 | 1.49 | 16.38 | 4.59 | 20.97 |

* Fund allocations consist of the following payroll contributions: 37 percent to social insurance, 12 percent to Chernobyl victims, and 3 percent to unemployment.

** Profit was limited to 10 percent of total cost in 1989; now, in Odessa Oblast, the limit is 15 percent of total cost.

Figure 6: Comparison FHC Price Increases and with the Inflation Rate



* Consumer Price Index

An analysis of the number of consultations per month before and after the five price changes reveals no substantial decrease during the periods following the price increases. In fact, in three cases, the number of consultations increased. In another, insufficient data were available to determine a trend.

3.2.8 Demographic and Socioeconomic Profile of Patients

FHC attempts to serve the general public with its services. As noted earlier, it grants exemptions from payment to disadvantaged groups to try to ensure access to all (see Section 3.1.8).

To obtain a basic socioeconomic profile of FHC's users, the authors examined the registers of the center's doctors. It was not possible to obtain comparable information about users of similar services at no-charge government health facilities. Thus, the information gathered must be considered as a baseline against which future comparisons may be made.

Socioeconomic information was taken from a sample of 131 and 136 patient records in doctors' registers (see Tables 6 and 7, respectively, and Annex E). The data show that more than 60 percent of FHC service users are professionals and housewives, groups with high socioeconomic status. The remainder are semiskilled workers, students, and pensioners.

Table 6: Sample Occupational Distribution of FHC Service Users

| Occupation | Number | Percent of Total |
|-------------------------|--------|---------------------|
| Professionals | 31 | 24 |
| Housewives | 50 | 38 |
| Semiskilled workers | 21 | 16 |
| Pensioners and students | 29 | 22 |
| Total | 131 | 100 |

The age profile of users is shown in Table 7. (Note that the sample size for information in Tables 7 and 8 is greater than that used in Table 6.) As expected, the bulk of FHC's patients are in the 20 to 29 age group. Fewer than 17 percent are 35 or over.

Table 7: Sample Age Profile of FHC Service Users

| Age Group | Number | Percent of Total |
|-------------|--------|------------------|
| 15-19 | 18 | 13 |
| 20-24 | 46 | 34 |
| 25-29 | 26 | 19 |
| 30-34 | 24 | 18 |
| 35-39 | 7 | 5 |
| 40 and over | 15 | 11 |
| Total | 136 | 100 |

The distribution of place of residence of the sampled users is shown in Table 8. The great majority come from Odessa City, but the share who come from outside the city (20 percent) is important, too.

Table 8:**Sample Distribution of Place of Residence of FHC Service Users**

| Place of Residence | Number | Percent of Total |
|----------------------|--------|---------------------|
| Odessa City | 109 | 80 |
| 20-40 km from Odessa | 20 | 15 |
| > 40 km from Odessa | 7 | 5 |
| Total | 136 | 100 |

Chapter 4

LESSONS LEARNED FROM FHC'S EXPERIENCE

The following general lessons may be drawn from FHC's experience with self-financing.

4.1 Financial Sustainability

FHC's experience shows that self-financing the operating costs for high-quality outpatient health care services is feasible. Even under the conditions of an economic crisis related to the transition to a market economy, FHC has been able to cover the large majority of its operating costs. During more normal economic times, self-financing of operating costs should be relatively easy.

Because of the difficulty in estimating the value of FHC's capital stock, it is not possible to know to what extent the center's total (operating and capital) costs are self-financed. The surpluses earned above estimated operating costs by both of FHC's departments, except for the polyclinic in October 1994, indicate that some portion of capital costs are being covered by user payments.

4.2 Efficiency

FHC tries to be efficient by offering performance-based pay to doctors and other staff and by

downgrading or dismissing those who perform below standard. The weakness of FHC's financial information, however, makes it difficult to evaluate the extent to which the center's prices approach marginal cost. The inability to reconstruct such information easily, let alone make it readily available to managers, indicates that there are probably many ways FHC can improve its efficiency that go unrecognized.

4.3 Equity

FHC takes a number of steps to ensure the equity of its access to patients. For one, the center grants exemptions from payment to disadvantaged groups and seeks to make up for lost revenues by soliciting charitable contributions. Further, some cross-subsidization occurs among patients in the day inpatient department, where a fixed fee is charged for a course of treatment. Nonetheless, a large share of FHC's patients seem to be drawn from high socioeconomic status groups.

4.4 Quality of Care

FHC has a strong reputation for the quality of its staff and the services it provides. Scarcity of some drugs because of general economic disruptions and the increased need to use outside laboratories for some tests may compromise quality marginally. The cut in government funding for scientific research may harm the center's ability to improve quality in the future.

4.5 Financial Management

FHC management and staff lack sophisticated financial management skills and tools. Nonetheless, their general intelligence and intuition about financial issues have served them well. FHC uses innovative methods to pay staff, giving doctors and laboratory workers incentives for strong performance. The center also has adjusted to the country's economic crisis in a number of ways that appear to be sensible, despite limited financial information. Accounts are kept in the legally required manner, and detailed records are kept of revenues and expenditures. However, neither accounting nor financial transactions data are processed in ways that make them very useful for decision making. Given that, FHC's strong financial performance is remarkable. Its performance would be strengthened, however, were management and staff provided with additional financial skills and tools.

4.6 Legal Environment

The legal environment in Ukraine inhibits the success of self-financed health care services in a number of ways. Outdated and unrealistic rules of accounting for the value of physical assets render the legally required accounting information useless for decision making. Furthermore, current pricing rules harm self-financed services' ability to earn sufficient cash to replace used inputs and to use pricing to cross-subsidize among services. Taxation is also a heavy burden, especially when value-added taxes are applied to charitable donations and the provision of social services.

Chapter 5

RECOMMENDATIONS

The recommendations flowing from this study are of two types: those for FHC management and those for Ukrainian health authorities considering whether and how to expand self-financed health care services.

5.1 Recommendations for FHC Management

1. *Develop further the center's financial management information system.*

With further development of FHC's financial management information system, data already routinely collected could be processed to facilitate day-to-day and strategic financial decision making. Monthly financial reports could be generated to provide a current picture of FHC's overall financial status and allow monitoring to the extent that individual departments (cost centers) could generate enough revenue to meet costs. This system also would be able to produce special analyses for strategic decision making, evaluating ideas such as the expansion or contraction of certain services, the acquisition of additional equipment, and new FHC activities. Further development of FHC's information system will require technical assistance, training for both management and administrative staff, and support for the acquisition of computer hardware and software.

Under a more developed information system, patient registers in all FHC departments (such as diagnostics/laboratory, immunization, physiotherapy, and sonogram) could be standardized so that the various departments collect the same information, including occupation and employer (currently, place of employment is not consistently recorded). Such information would be helpful as a management tool for decision making for future expansion, indicating which services generate the most income (compared with expenses). This information would also allow an analysis of equity to determine the total cost to the patient of a series of procedures. Such information would also be useful for pricing service packages in preparation for an insurance program.

Further, the doctors' forms that patients take for laboratory or other diagnostic work could be standardized so that the information given to the cashier would indicate clearly in which department the services were rendered, which services were performed, and the price. Such forms should be designed with the input of the appropriate responsible staff member and could consist of a list of procedures, diagnoses, and further actions. They could then be made in multiple copies for the doctor, lab or ultrasound department, and cashier.

In addition, FHC should prepare routine (weekly, monthly, quarterly, and annual) reports that show the bulleted items listed in Section 3.1.10 plus accounts receivable. These reports should be circulated among FHC managers.

To provide information for pricing and strategic decision making, FHC could produce and maintain

accounts that value physical assets realistically. Thus, replacement values would be used for FHC's building and equipment, as would realistic lifetimes. This would allow FHC's financial analysts to determine to what extent total costs are self-financed, provide input on what services to expand and contract, and so forth.

2. *Determine the source of the large increase in operating expenditures for the polyclinic in October 1994.*

The large increase in the polyclinic's operating expenditures in October 1994 pushed the clinic below the break-even level. The 85-percent increase in real other direct expenditures seemed to be the major source of the problem. This should be examined to determine whether and how expenditures could be reduced or whether prices need to be increased to allow total operating costs to be covered again. This situation should be monitored, as well.

3. *Develop a pilot insurance program that would serve as a laboratory for the development of insurance systems in the oblast.*

As a leader of reform in the Odessa region, FHC is well placed to begin the development of a health insurance program. Such a program would benefit the center directly, by assisting in development of new payment methods that could bring FHC new clients and revenues. To develop and pilot-test health insurance, FHC would need to find a group (such as the port of Odessa or the faculty and staff

of Odessa Medical University) to insure for the services it provides. Technical assistance, training, and financial support probably would also be needed to help FHC and the group it insures to develop and implement the pilot insurance program. FHC would greatly enhance its ability to conduct such an insurance program by improving its financial management information system, as noted above. External financial support could be used to set up a financial risk guarantee program for the period of the pilot for FHC and the insured group. Lessons learned from the pilot would be useful to national and Odessa health authorities in designing a broader health insurance system.

4. *Proceed with plans to open a branch office of the FHC in a suburb of Odessa.*

FHC's plans to open a branch office in Il'ichovsk appear to be sound. The branch would provide needed services in an underserved area and attempt to replicate FHC's self-financing system. Further, the branch office would offer opportunities to apply information from an improved financial management information system to assist in deciding the scale and scope of operations. The branch office could also allow FHC to use new methods for assessing consumer demand and for marketing FHC services, and, possibly, improve FHC's overall financial health. FHC can pursue the opening of the branch office without external help. However, to improve decision making for this venture, the aforementioned improvements in the center's financial information system would be of help, as would training and technical assistance in new methods of marketing and demand assessment, including the use of focus groups and surveys.

5. *Study the size of the market for in-home services and the costs of serving it.*

A market for in-home services appears to exist in FHC's area. FHC should study the size of this market by questioning current patients about their interest in and willingness to pay for such services, and by using focus groups or surveys of nonpatients who might be interested in such services. FHC also should estimate the cost of in-home services to determine break-even pricing. If the market size is great enough and the willingness to pay for the services is greater than or equal to the break-even cost, the services should be offered.

6. *Train management and administrative staff in health management, economics, and financial analysis.*

Short-course training in management, economics, and financial analysis would help FHC's management and administrative staff to use financial information more efficiently, make more sophisticated decisions, and generally perform the nonmedical parts of their jobs better.

7. *Conduct a comparative study of the demographic and socioeconomic profile of patients in government facilities offering similar services.*

FHC could arrange to collect comparative data on the demographic and socioeconomic profile of patients from a government, no-charge facility that offers roughly the same services it does. This

information would indicate to what extent FHC attains its objective of serving all population groups. It also would provide useful information for future marketing and advertising purposes.

8. *Pursue cost-sharing contracts with enterprises.*

A number of enterprises that once maintained contracts with FHC for health care services have dropped their contracts because they can no longer afford them. Yet, employees from some of these enterprises continue to go to the center for services and pay out of pocket. FHC may be able to suggest to their former enterprise clients that they renew their contracts at a lower cost by paying for only a share of the cost of treatment and requiring their employees to pay the rest. All parties could gain from such a setup, since the enterprises would not have to spend as much as before, employees would not have to pay as much as they do now, and FHC would regain some of its lost client base. FHC can find out which enterprises to contact in this regard by gathering from its doctors' registers information about which enterprises' employees continue to use its services.

9. *Monitor the opening of new enterprises.*

FHC could monitor the registration of new enterprises in Odessa, especially those with foreign participation, to market to their management contracts for FHC services for employees and/or spouses. Further, FHC should try to determine what types of services the enterprises would like to offer to their employees. Methodologies such as focus groups could be used in this regard,

concerning both services and the level of comforts (nonmedical amenities) expected. These studies could help FHC to identify areas for potential expansion.

5.2 Recommendations for Ukrainian Health Authorities

1. Recognize that self-financing through user payments is feasible.

FHC's experience demonstrates that self-financing operating costs and some part of capital costs in health care services is feasible. Thus, self-financing should be considered seriously as one option under health care reforms.

2. Consider using FHC's planned insurance program as a pilot test of the concept.

There is much debate over instituting some form of health insurance in Ukraine. Ukrainian health authorities could monitor FHC's plans to develop an insurance program in order to learn lessons for its wider application.

3. Consider reducing the tax burden on privately provided social services.

To promote and make much more affordable the provision of social services such as health care, authorities could remove the value-added and revenue taxes now applied to such services. Similarly,

the value-added tax on charitable contributions to social services could be removed to allow more funding for services provided to the disadvantaged.

4. *Consider removing restrictions on profits.*

In a market economy, businesses are permitted to charge whatever prices they wish and restrictions rarely are placed on profits as a percent of costs. Under such conditions, health care service providers (especially those that are not for profit, like FHC) would be able to vary their prices to promote the use of some services, while earning greater surpluses on others.

5. *Remove requirements to use unrealistic values and lifetimes for physical assets in accounts.*

Ukraine's legal accounting requirements place an administrative burden on health care providers and provide no useful information for the management of such providers. Consequently, consideration should be given to removing these requirements.

6. *Provide training in business skills to health care service providers.*

FHC's managers have more business skills than the doctors administering government hospitals and polyclinics because they have had to develop such skills to survive financially. Nonetheless, FHC's managers are lacking in many skills that would greatly enhance their performance as financial

managers. Health care services managers throughout Ukraine need to develop similar business skills.

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Annex A

SCOPE OF WORK

Evaluation of User Charges: FHC, Odessa, Ukraine

The International Medical Research Family Health Center (FHC) in Odessa was founded in 1988 based on the principle of self-financing. It is independent of the Ministry of Health. It provides maternal and child health (MCH) services on a fee-for-service basis through four departments: consultant clinic, outpatient department, diagnostic clinic, and home visiting services. Fees at the Family Health Center are paid by enterprises for services provided to workers (and in some cases to families). Fifty percent of revenue comes from home visiting. Due to recent economic problems, more and more services are being paid for out-of-pocket. The FHC tries to balance high cost-low volume services with high volume-low cost.

The center is able to render medical and diagnostic services in Odessa and its region, as well as different parts of the Ukraine and the former USSR, through outreach teams consisting of a physician, a gynecologist, an expert in endoscopy and other specialists, if necessary. The center also operates mobile consulting rooms, so examinations can be carried out under otherwise unpractical conditions. Patients who cannot be treated as outpatients are referred to FHC for treatment.

At present, the FHC is the only health facility in Odessa Oblast which is self-financed with user payments. Other facilities in Odessa are funded by the state budget from general revenues. FHC developed this innovative financing program independently. It is increasingly being forced to seek new sources of revenue. FHC realizes the need to work within the system to find their place within future national and oblast reforms. Odessa Oblast presented a program of reform to the Ministry of Health. Among the goals are to provide for the adequate financing of the medical sector and rational use of financial resources, such as replication of the financing system of the Family Health Center.

The Family Health Center is receptive to technical assistance to evaluate and draw lessons from its experience with and to provide options for improvement to its self-financing through user payments. The *ZdravReform* technical assistance team will study current expenditure levels and revenues for the FHC using accounting and service delivery data collected by the FHC. The *ZdravReform* team will work in collaboration with Family Health Center co-directors, Valentina Bespoyasnaya, M.D., Scientific Director of Out-Patient Clinic and Karine Tumasyan, M.D., Head of Hospital Department. The goal of technical assistance is also to provide training for local experts (counterparts) in the methodological techniques used in analysis. In this regard, it is requested that the *ZdravReform* team also be assisted by a staff member who in turn can serve as a resource once the technical assistance is completed.

The study will:

- examine expenditures for a reference time period (personnel, drugs, operations, other) by department (consultant clinic, outpatient department, diagnostic clinic, and home visiting) to determine operating costs;
- estimate the value of depreciation of capital;
- track uses of revenues generated through the current cost recovery mechanism;
- examine the current fee structure, including cross-subsidization and exemptions, in terms of effects on efficiency, equity and revenue;
- examine the demographic and socioeconomic profile of users vs. the population as a whole;
- review the ability of the FHC to collect and account for fees;
- calculate the current levels of cost recovery by type of service for selected commonly performed services;

- evaluate the current fee structure's ability to generate sufficient revenues for the FHC to meet cost recovery objectives;
- provide an analytical description of the financing system and document its strengths and weaknesses;
- provide advice on options for the modification of the self-financing program, including the fee structure; and
- document lessons learned for dissemination.

The study will be of interest to Odessa Oblast authorities as they undertake planned reforms in the health sector and implementation of alternative financing programs, such as the fee-for-service system practiced by the Family Health Center.

It is anticipated that the Family Health Center will require five (5) person weeks of external technical assistance to complete the study.

Annex B

METHODOLOGY FOR CONVERSION OF OCTOBER KOUpons TO APRIL KOUpons

The expenditures and revenues for the months of April and October 1994, expressed in coupons, are not directly comparable, due to high and erratic inflation rates. The inflation rate from April to October 1994 was 53 percent. To facilitate comparisons, the figures for the month of October were adjusted to account for inflation and expressed in terms of April coupons. The formula is below.

October coupons in April terms = October coupons / (1 + (May inflation) / 100) * (1 + (June inflation) / 100) * (1 + (July inflation) / 100) * (1 + (August inflation) / 100) * (1 + (September inflation) / 100) * (1 + (October inflation) / 100)

= October

coupons / (1 + (5.2) / 100) * (1 + (3.9) / 100) * (1 + (2.1) / 100) * (1 + (4.0) / 100) * (1 + (7.3) / 100) * (1 + (22.6) / 100)

= October coupons / (1.052 * 1.039 * 1.021 * 1.04 * 1.073 * 1.226)

= October coupons / 1.53

Annex C

REGISTRATION AND FEE COLLECTION SYSTEM

The polyclinic registration and fee-collection system is as follows:

1. A patient, upon arrival, goes to the reception/cashier area where the patient can:
 - a) see the doctors' schedule listed on the wall;
 - b) inquire from the receptionist about which doctor to see or inquire whether the procedure requires a doctor, nurse, or if the patient can proceed directly to the laboratory (for tests ordered by other doctors); and/or
 - c) ask the price of a particular service.

The patient can choose to wait to see a doctor or nurse or can make an appointment for later.

For both the polyclinic and inpatient services, prices are available from the reception. The price list denotes 177 services and their corresponding prices.

2. The patient waits in the waiting area for the doctor.
3. The patient is called by the doctor or nurse. At the end of the consultation, the doctor fills out a slip which contains the patient's last name, and the services and/or procedures performed. The slip then is given to the patient. Additional slips may be filled out by the doctor and given to the patient for tests, to be done in the laboratory or the ultrasound department, or to prescribe treatment. Treatment includes prescriptions to be filled in the pharmacy, or treatment in the day in-patient department, e.g. physiotherapy, medicines, or injections.
4. The patient returns with the slip(s) to the reception/cashier to pay for the service. The cashier states the total amount due from the patient, calculated from the price list, and the patient pays the cashier for the services received. FHC is quite flexible about payment plans (see section 3.1.8 on exemptions). If the patient has other slips indicating the need for tests or treatment, the receptionist gives instructions on how to prepare for tests, where to go for prescriptions, or helps schedule treatment. It is seldom that the patient has a chance to get other procedures the same day, as many tests require preparation. The receptionist instructs the patient where to report for the tests or treatment, on the following visit. The patient may pay in advance or after the procedure. Most patients prefer to pay after treatment or when they see some results. There have been cases where FHC refunded a patient's money where results were not satisfactory.

5. Whether the next day or the same day, the patient goes to the waiting area for the laboratory or the ultrasound department for tests, bypassing the reception area.
6. The patient is called by the doctor or technician. At the end of the procedure, if the patient has pre-paid and shows the proof of payment, the doctor or technician issues a paper with the results of the test(s) to the patient. If the patient has not paid, the doctor fills out a slip which the patient takes to the cashier indicating payment due. Once the patient has paid, she returns to the doctor and presents the receipt to obtain the results.
7. The patient takes the results back to the doctor who ordered the tests for diagnosis. It is necessary for the patient to go to the reception and either make an appointment for a later time, or, if the doctor is in, to wait in line. At this point, the doctor has the option of charging for the consultation. However, he himself loses money if he does not charge. With the diagnosis in hand, the doctor can start treatment, send the patient to the in-patient department, to the Odessa Medical University hospital, (e.g. for urgent cases, major surgery or 24-hour care).
8. When receiving a prescription from the doctor, the patient has three choices:
 - a) go to FHC's pharmacy, which stocks a limited supply of certain medicines;

- b) go to the private pharmacy that rents space in the lobby of FHC for medicines that are not in supply in FHC's pharmacy; or
- c) go to any pharmacy.

The prices are likely to be the same for any of these choices (see section 3.1.2 on pharmacy services). Patients who choose to have the prescriptions filled at the FHC pharmacy pay the cashier/clerk at the pharmacy.

9. If treatment is required in the in-patient department, the patient sees the receptionist to arrange for an appointment.

Annex D

BREAKDOWNS OF INPUTS INTO ENDOSCOPY PRICING

Table D-1: Endoscopy: Breakdown of the Cost of Materials (in rubles)

(Output is column 1 of Table 5)

| Materials | Unit | Number | Price | Sum |
|------------------------------------|-------|--------|-------|-------|
| Gauze tampon | pack | 0.750 | 0.16 | 0.120 |
| Sodium carbonate solution | pack | 0.100 | 0.05 | 0.005 |
| Lugol's solution glyceric | liter | 0.005 | 2.37 | 0.010 |
| Vinegar solution | liter | 0.005 | 1.00 | 0.005 |
| Disposable medical sterile tissues | pack | 0.400 | 0.49 | 0.200 |
| TOTAL | | | | 0.340 |

Table D-2: Endoscopy: Breakdown of Salaries of Medical Personnel (in rubles)

(Output is column 2 of Table 5)

| Personnel Category | Length of time per procedure | Rate per minute (Salary) | Salary Fund |
|--------------------------------------|------------------------------|--------------------------|-------------|
| Doctor: Obstetrician/Gynecologist | 20 | 0.1425 | 2.85 |
| Nurse | 20 | 0.0920 | 1.84 |
| Cleaner | 6 | 0.0500 | 0.30 |
| Receptionist | 4 | 0.0800 | 0.32 |
| Head of Polyclinic | | | 0.12 |
| TOTAL | | | 5.43 |

In Table D-3, the allowed charges for maintenance and use of equipment are based on the equipment necessary for each procedure, the norms set for minutes of use of each piece for the procedure, and the depreciation value per minute per piece of equipment. (N.B. the replacement values and lifetimes of equipment were set in Moscow, using methods not reflecting true values, thereby understating and distorting relative values calculated for depreciation; see Section 2.2.)

The breakdown of salaries of personnel in Table D-2 indicates the labor used in pricing includes

doctors, nurses, cleaners, and the receptionist and a percentage of the time of the head of the polyclinic, as well. The allocation of the time of the head of the polyclinic was standard for all services.

Table D-3: Endoscopy: Breakdown of Allowed Charges for Maintenance and Use of Equipment (in kopeks) (Output is column 6 of Table 5)

| Name of Equipment | Depreciation: value per minute | Minutes of use per procedure | Depreciation value |
|---------------------|-----------------------------------|------------------------------------|-----------------------|
| Gynecologic chair | 0.056 | 20 | 1.12 |
| Colposcope | 0.193 | 20 | 3.86 |
| Sims' speculum | 0.006 | 20 | 0.12 |
| Cortsang (hemostat) | 0.001 | 20 | 0.02 |
| TOTAL | | | 5.12 |

Annex E

DEMOGRAPHIC AND SOCIOECONOMIC DATA FROM PATIENTS AT THE FAMILY HEALTH CENTER

These utilization data were collected from doctors' registers for November 24, 1994, at the Family Health Center. The logs consulted include inpatient, gynecology, endocrinology, inoculation, physiotherapy, and ultrasound in the polyclinic. For this sample of 136 patients, data on age, residence, and profession were collected. The data on occupation were available only for 131 patients. The results are below.

Socioeconomic Profile of Sample of Patients

| <u>Occupation</u> | <u>number</u> |
|---|---------------|
| PENSIONER, STUDENT | |
| young mother (on leave from job; baby < 6 mos.) | 2 |
| pensioner (old men) | 2 |
| student (university or institute) | 22 |
| pupil (secondary school) | 3 |

HOUSEWIFE

| | |
|-----------|----|
| housewife | 48 |
|-----------|----|

PROFESSIONAL

| | |
|-------|---|
| nurse | 4 |
|-------|---|

| | |
|--------|---|
| doctor | 2 |
|--------|---|

| | |
|---------|---|
| teacher | 5 |
|---------|---|

| | |
|----------------------------|---|
| teacher (secondary school) | 2 |
|----------------------------|---|

| | |
|--------------------------------------|---|
| teacher (after school, about nature) | 1 |
|--------------------------------------|---|

| | |
|---|---|
| teacher (special school for ages 15-18) | 1 |
|---|---|

| | |
|------------------------|---|
| teacher (kindergarten) | 2 |
|------------------------|---|

| | |
|--------------------------------------|---|
| teacher (for children in sanitorium) | 1 |
|--------------------------------------|---|

| | |
|----------|---|
| engineer | 5 |
|----------|---|

| | |
|---------------|---|
| businesswoman | 1 |
|---------------|---|

| | |
|---------------------|---|
| editor of newspaper | 1 |
|---------------------|---|

| | |
|-----------|---|
| librarian | 1 |
|-----------|---|

| | |
|------------|---|
| bookkeeper | 2 |
|------------|---|

| | |
|--------------------|---|
| bookkeeper (chief) | 1 |
|--------------------|---|

| | |
|-----------|---|
| economist | 1 |
|-----------|---|

| | |
|------------------------------------|---|
| technical specialist (electronics) | 2 |
|------------------------------------|---|

| | |
|-------------|---|
| interpreter | 1 |
|-------------|---|

SEMI-SKILLED

| | | |
|------------------------------|---|---|
| casino worker | 2 | |
| ship stewardess/waitress | | 1 |
| airport (supervisor) | | 1 |
| airport (agent) | 1 | |
| tram driver | | 1 |
| construction worker | | 1 |
| construction crew leader | | 1 |
| hairdresser | | 2 |
| cleaning lady | | 1 |
| bank clerk | | 1 |
| clerk (state office) | | 1 |
| military | | 1 |
| waitress | | 1 |
| cashier in village | | 1 |
| cashier in bank | | 1 |
| cashier in private company | | 1 |
| theater employee (non-actor) | 1 | |
| secretary in private company | 2 | |

TOTAL

131

Age Profile of Sample of Users

| <u>Age group</u> | <u>number</u> | <u>percent</u> |
|------------------|---------------|----------------|
| 15-19 | 18 | 13% |
| 20-24 | 46 | 34% |
| 25-29 | 26 | 19% |
| 30-34 | 24 | 18% |
| 35-39 | 7 | 5% |
| 40-44 | 4 | 3% |
| 45-49 | 6 | 4% |
| 50-54 | 2 | 1% |
| 55-59 | 0 | 0% |
| 60+ | 3 | 2% |
| TOTAL | 136 | 100% |