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TECHNICAL NOTE NO. 23

MEANS TESTING IN COST RECOVERY:

A REVIEW OF EXPERIENCES

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FOREWORD

The Health Financing and Sustainability (HFS) Project provides technical assistance and training, conducts applied research, and disseminates information to developing countries in health economics, health sector policy development, and health services management. The applied research work is to increase knowledge of the complex issues underlying health financing problems in the following policy areas: cost recovery, productive efficiency, social financing, and the private sector.

As part of the project's studies on cost recovery, one activity examines means testing as a method of protecting the poor under cost recovery systems. This document presents a review of experiences with targeting and means testing worldwide and contributes to the HFS applied research on this topic.

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1.0 EXPERIENCES WITH TARGETING: PART I

This section describes the characteristics affecting targeting in both the United States and developing countries. Some examples of targeting are highlighted and the methods employed are described in detail. The descriptions attempt to provide sufficient information to give a sense of how targeting mechanisms work in practice — how information is collected, how well leakage is prevented, and to what extent coverage if affected, if at all. Section 2.0 provides a comprehensive presentation of information on 48 programs throughout the world, derived from a review of experience.

1.1 CHARACTERISTICS OF INDUSTRIALIZED COUNTRIES THAT AFFECT TARGETING

The vast majority of targeting in industrialized countries, particularly the U.S., is carried out through some form of means testing, typically based on income. Several characteristics of industrialized countries make this a feasible option:

- A large proportion of the population is engaged in the market economy, and income is relatively constant over the year;
- Wage information is available through employers and the tax system, and
- Administrative, communication, and banking infrastructure is well established, allowing centralized certification and verification.

These characteristics tend to favor workable means-tested programs. However, there are still great difficulties in defining and measuring poverty, as well as in implementing feasible eligibility requirements for participation in social programs. For example, there is considerable debate about the appropriate definition of poverty in the U.S., and there are 10 "official" measures of poverty in use, ranging from a restrictive cash-income measure to one which imputes income and benefits received in-kind (Sawhill, 1988).

1.1.1 Experience with Means Testing in the U.S.

Approximately 60 major means-tested public assistance programs are being implemented in the U.S. About half of the total expenditures is spent on four programs — Aid to Families with Dependent Children (AFDC), Supplemental Security Income (SSI), food stamps, and Medicaid. These means-tested programs all have elaborate mechanisms for determining and verifying eligibility, typically involving a combination of self-reporting, cross-checks with employer records and tax reports, and occasional home visits. Administration is carried out at both the state and federal levels, in most cases, with frequent monitoring of the extent of overcoverage and, to a slightly lesser degree, undercoverage. In general, these programs are more concerned with leakage than with coverage, and with technical efficiency in preventing leakage rather than economic efficiency in creating low-cost but effective targeting mechanisms. (Much of the information that follows is summarized in Exhibit 1-1.)

As might be expected, there is intense disagreement about the effectiveness of means-testing in the U.S. According to some social welfare economists, the programs reach the intended target — for the most part, low-income households or individuals. "Judged according to traditional measures of anti-poverty effectiveness, means-tested programs are highly efficient. A high proportion of benefits reaches families that would otherwise be poor or near-poor, and almost no benefits are received by families significantly above the poverty line" (Burtless (1986:19), quoted in Mackintosh, 1989). On the other side, Sawhill (1988) estimates that, in 1983, only about half of the means-tested cash assistance targeted for the poor actually reached the poor; estimated leakage was $15 billion of approximately $31 billion of total benefits in cash means-tested transfers.

Administrative costs range from about five percent of total benefits for the Medicaid program, in which eligibility is based on receipt of other federal and state benefits, to about 16 percent for food stamps, which undertakes independent certification of need.

One example of the administrative efforts can be seen in AFDC. While eligibility varies from state to state, a fairly common requirement is that eligible households participate in a six-month review in which they must furnish proof of earnings to a social worker. Encyclopedia-sized volumes of rules are used by case workers to determine eligibility, and home visits or other means may be used to verify eligibility.

An experimental income maintenance experiment in Seattle, Washington, and Denver, Colorado from 1969 to 1980 depended heavily on self-reporting of income by eligible families, but the administrative requirements were tremendous, even with self-reporting. Recipients reported income monthly. Each monthly form required about 30 minutes of administrative time to check. Families were required to list earnings by person and by paycheck each month, with pay stubs submitted as well. Analysts used computer records to check earnings patterns and historical pay data to determine whether reporting was consistent month to month. Income tax documents were collected each year to further cross-check the information. Self-employed households required substantially more attention in order to validate their incomes. As inaccuracies generated by this system surfaced, marriage licenses and birth certificates were required as proof of changes in household composition. Signatures on forms were hand-checked against earlier ones and against signatures on cancelled checks. Occasionally, verification forms were mailed to recipient addresses to be certain that the eligible household was still at the address of record. Each month, a random sample of files was drawn for a complete audit and verification.

According to 1985 figures, of total AFDC benefits of about $15 billion paid, slightly over six percent represented overpayments (paid to ineligible applicants or excessive payments to eligible applicants). Far less than one percent of the total value benefits was underpaid (not paid to eligible applicants whose benefits were improperly denied or terminated). Administrative costs were estimated at about 12 percent of total benefits.

Exhibit 1-1 Summary of U.S. Means-Tested Programs

PROGRAM	TYPE	TARGET	ELIGIBILITY	VERIFICATION MECHANISM	ADMIN. (% OF PROGRAM COST)	UNDER-PAYMENT (% OF BENEFITS)	OVER-PAYMENT (% OF TOTAL BENEFITS)
Aid to Families with Dependent Children	periodic cash transfer	low-income children	low-income families (per state guideline) with children	applicants provide countable income data to local office; quality control via probability samples	11.9	0.6	6.2
Supplemental Security Income	periodic cash transfer	low-income aged, blind, disabled	low-income aged, blind, disabled, with exhausted resources	applicants provide countable income data to agency; quality control at various state, federal levels	8.7	1.0	3.2
Food Stamps	monthly coupons for range of food items	low-income households	low-income households (below 100% of poverty line, or 130% if disabled)	applicants provide countable income data to agency; quality control at various state, federal levels	15.6	2.3	8.3
Medicaid	reimbursement to provider for medical expenses	low-income households, individuals	all AFDC, SSI recipients; "medically needy," as determined by state	applicants with proof of AFDC, SSI, low-income status	5.1	n/a	2.6
Pell Grants	reimbursement to provider for educational costs, with family co-pay	financially needy students	students meeting Congressionally-mandated means test	applicants provide income data to schools; quality control through follow-up	4.2	5	16

Other programs have equally impressive and daunting administrative procedures. SSI, for example, directly provides monthly cash transfers to aged, blind, and disabled low-income individuals. Applicants for the program are required to provide documentary proof of age, pension, and wage income. Statements are verified by third parties (such as employers) whose names are provided by the applicant. Through statistically representative sampling of SSI cases, the quality assurance scheme within the program double-checks records and estimates payment accuracy. In 1985, overpayments accounted for slightly more than three percent of all SSI benefits, and underpayments were estimated at about one percent of the total value of benefits of $10.9 billion. Administrative costs reached 8.7 percent.

In the Food Stamp Program, low-income households are provided with monthly coupons redeemable for selected foods. Households must prove eligibility through records of wages and other income. As with the other programs, a sample of cases is extensively reviewed at the state level (and then re-reviewed at the federal level) for quality assurance, with the review entailing a field investigation, contacts with banks, employers, landlords, and other sources of information. Overpayments in 1985 were estimated to be slightly more than eight percent of total benefits of $10.8 billion; underpayments were estimated at 2.25 percent; administrative costs were relatively high — nearly 16 percent of the total value of benefits.

Medicaid provides open-ended matching payments to cover part of the cost of medical services for low-income individuals who are aged, blind, or disabled, and for families with dependent children. Eligibility is linked to AFDC and SSI. Overcoverage was estimated at 2.7 percent of benefits, and administrative costs were about 5.1 percent of the total benefits of $31.3 billion in 1985.

1.2 CHARACTERISTICS OF DEVELOPING COUNTRIES THAT AFFECT TARGETING

Developing countries have characteristics that require innovative approaches to targeting social programs. In brief, in most developing countries:

- A large proportion of the population is outside of the formal market economy, either in subsistence agriculture or the informal sector;
- Wage information is not usually available through employers or a tax system;
- Administrative, communication, and banking infrastructure is very limited;
- There is a high correlation between rural residence and poverty, and
- There is such a desperate level of poverty among the poorest groups that relative poverty measures must be tempered with attention to absolute levels of poverty (high administrative costs should be avoided to allow additional benefits to be distributed).

1.2.1 Experience with Targeting in Developing Countries

Social welfare programs in developing countries have used a variety of approaches to target benefits, ranging from untargeted subsidies of foodstuffs to extensively means-tested health care benefits. In general, programs simultaneously use more than one approach to targeting — for example, combining geographic and income-based means-testing — and nearly all employ a self-targeting mechanism, by design or default.

1.2.1.1 Income-Based Targeting

Chile: For health and other social services, Chile uses several nested targeting mechanisms to identify and enlist low-income households — geographic, centralized means testing, and self-selection. Social workers visit each household in geographically-identified low-income areas in an attempt to assess their eligibility for all social welfare programs simultaneously in one visit and with one eligibility card (Pfeffermann and Griffin, 1989). Chile expects to identify the households in the lowest 30 percent of the income distribution, inform them of the services for which they qualify, and determine the level of subsidy for which they qualify.

Chile also uses social security cards (government records) to qualify patients for services in public hospitals. Public hospitals offer three levels of care that are to be clinically equivalent but differ in the amenities available and the amount of choice the patient can exercise over the practitioner he or she sees. Each level of service is priced according to the actual cost of delivering it. People who are not covered by social security (indigent and informal sector workers) are given a card that qualifies them for free care at the lowest level.

Formal sector workers covered by social security are treated differently. Blue-collar workers contribute six percent of their wages for health coverage, which qualifies them to use public hospitals with no fee. White-collar workers also contribute six percent of their salaries for health care, which goes to a separate fund. They may use public facilities, but must first buy vouchers, readily available from many outlets, such as banks. The vouchers are keyed to the three levels of service, with subsidies from the social security fund of 50, 44, and 25 percent for the least to most expensive service. In addition, social security recipients can opt out of the public system and pay their six percent into a private insurance plan.

The convenience of this means testing method from an administrative standpoint is that wage income is automatically known by the social security agency, which makes the classification method reliable. A degree of choice is maintained for users, who determine the level of subsidy by the type of service they want to use.

South Korea: South Korea is a special case in that health care is primarily delivered through the private sector, and government hospitals are organized as public corporations that recover most of their costs from fees. Private clinics and hospitals account for about 95 percent of all medical facilities, employing 72 percent of the physicians and containing 72 percent of

hospital beds. From 1961 to 1976, free treatment was provided for the poor directly through government facilities. In 1977, the Medical Care Assistance Program was established to help pay the medical bills of the poor, who are divided into three categories. Indigent or first-class beneficiaries are defined as those with no means of support, such as the chronically ill and people living in public facilities. By definition, they are easy to identify. Second-class beneficiaries are those who do not have a steady income and rely on public assistance. In 1986, qualifiers for public assistance were those whose monthly income was less than 42,000 Won ($US50) in large cities, 38,000 Won in other cities, and 34,000 Won in rural areas. The third class include those who do not qualify for public assistance but who meet stringent income or asset criteria for assistance with medical bills only.

In 1985, 643,000 first-class indigents (1.5 percent of the population) were eligible for free in-patient and out-patient care, although the total number of visits and hospital days were limited. Second-class beneficiaries (4.4 percent of the population, or 1.8 million people) were eligible for a 50 percent subsidy on in-patient costs if they lived in urban areas, an 80 percent subsidy if they lived outside of a major city, and free out-patient care no matter where they lived. The third category (medical assistance) included nearly two million beneficiaries (five percent of the population) in 1986. They qualified for a 40 percent subsidy on in-patient care in major cities and 60 percent elsewhere, plus a 33 percent subsidy on out-patient care. For the portion of in-patient care not paid for by the government, zero-interest loans were available. These three groups accounted for about 11 percent of the population in 1986.

Government hospitals are used extensively for in-patient treatment under this program, but private physicians are enlisted to provide out-patient care, receiving fees estimated to be about half the market rate. Thus the government subsidizes medical care for the indigent but expects private practitioners to contribute as well. A recent development in Korea is the extension of insurance coverage to 100 percent of the population, but that is unlikely to change the government's role in paying for care that it currently funds under this program. It is expected that coverage under the Medical Assistance Program will be expanded to 15 to 16 percent of the population that will not be required to pay insurance premia (Park and Yeon, 1981; Yeon, 1985; Republic of Korea, 1986; Lee, 1987; Kim, 1987).

Thailand: In Thailand, there are no professional fees in government hospitals, yet hospitals recover nearly half their costs through charges for drugs, tests, room and board, and procedures. Thailand has a formal Free Medical Care Project, started in 1975, under which the indigent are provided with free care. Until 1980, the head of the health facility decided who would qualify for free services. Since then, free medical care cards have been issued to people with monthly incomes below US$66 for a single person or US$87 for a family. The card must be renewed every three years. In 1985, about 20 percent of the population, 11 million people, held cards.

The program receives a separate allocation that is distributed to government health units to defray the costs of providing free care to card holders. In 1986, the total cost was US$26.25 million. This compares to the Ministry of Health budget in 1985 of US$645 million. It is estimated that

hospitals provide twice the amount of free services that would be accounted for only by card holders, indicating that additional informal subsidies are being provided (Myers et al., 1985; Wibulpolprasert et al., 1987).

Sri Lanka: In Sri Lanka, the food subsidy program was changed in 1979 from a general food subsidy (ration) program to means-tested food stamps — a change that reduced government expenditures from 14 percent to seven percent, and reduced the number of eligible families from 13 million to 7 million (Pinstrup-Andersen and Alderman, 1988). The income-targeted food stamp program is not without problems, however, largely because income information is not universally available or accurate. For example, a large portion of estate workers are excluded because their incomes are more easily documented than workers in other sectors. However, there is evidence that many of these households need subsidized food. Eligibility is not monitored continuously. If households lose sources of income or family needs increase, they cannot gain access to the program. Occasionally, a family is dropped from the food stamp rolls if neighbors report that their status has markedly improved. While this may keep administrative costs relatively low, it increases the chances of mistargeting of benefits (Kennedy and Alderman, 1987).

Jamaica: One of the more successful food and nutrition subsidy programs is the Jamaican food stamp program, which also shifted from a general price subsidy to means-tested targeting. In 1984, the Jamaican government, facing dwindling government resources and the need to protect the poor, called for the elimination of general food subsidies. The system was replaced with targeted food stamp and school feeding programs aimed at providing services to nutritional-risk populations: all pregnant/lactating women and children under five, and the poor, elderly, and handicapped (all recipients of Poor Relief and Public Assistance — indigent households). Eligibility was determined on an individual basis through central-level certification. Means testing is based on self-declared individual and household income and an officer's observation of the household's level of need. As in many other schemes, there is an element of self-selection: recipients must register at public health clinics, which are typically used only by the poorer Jamaicans.

Food stamps are about as well-targeted as school feeding and much better than general food subsidies. Under the current scheme, 57 percent of benefits accrue to the poorest 40 percent of the population, and only eight percent to the wealthiest quintile. In general food subsidies, 34 percent of benefits accrued to 40 percent poorest, and 26 to wealthiest quintile. The poorest quintile receives 31 percent of food stamp benefits, 32 percent of school feeding benefits, and only 14 percent of general food subsidy benefits. It is difficult to assess administrative costs because existing institutions are used for implementation.

With respect to undercoverage, in 1988, about half of households with malnourished children received food stamps, while 23 percent of all Jamaican households and 38 percent of households with children under five were recipients (Grosh, 1990). (It is important to note that this does not take into consideration that there may have been improvement in nutritional status during participation in the program.)

Argentina: In Argentina, the National Food Program, started in 1984, provides food supplements to low-income groups, identified both by residence in a poor geographic region and deficient dwellings. In 1986, the program covered about 5.5 million of the country's 30 million inhabitants, and was generally effective at targeting the poor. The distribution favored low-education groups, with about 44 percent of the lowest education quintile, 25 percent of the second quintile, and 13 percent of the third quintile receiving benefits. Little leakage to the top education quintiles was occurring (World Bank, 1986; Pfeffermann and Griffin, 1989).

Bangladesh, Nepal, Pakistan: Several agricultural credit programs have used local authorities to identify poor households within target rural areas, with mixed success. While there has been little evaluation of the extent to which the programs reach the nominal target group (usually the landless or small farmer), several specific experiences are informative. In Bangladesh, Nepal, and Pakistan, where various types of credit officials seek information about households that might fall into the target group, program benefits did reach the target group in the vast majority of cases, but the benefits accrued disproportionately to the farmers toward the upper range of eligibility — the small farmers rather than the landless workers.

Senegal: In rural Senegal, health committees elected at the local level are authorized to exempt special classes of individuals from user fees, including "certain kinds of poor people, such as the physically or mentally handicapped" (Vogel, 1988:37). Also exempted are people with particular types of chronic illness (tuberculosis and leprosy), and those involved in accidents or other emergencies. It is worth noting that, as in many other countries, various government workers are also exempted from payment, regardless of income. Originally, the village committees did not follow the national guidelines and allowed considerable leakage of benefits. An effective response to this problem was the imposition of a negative fiscal incentive — the local organizations were required to pay local health centers for each patient categorized as indigent (Vogel, 1988).

At national and regional hospitals in Senegal, administrators are given jurisdiction to determine ability to pay — a system that appears to lead to considerable leakage. According to Vogel (1988:43), "one official in the Ministry of Health complained that the Administrators at the National Hospitals... classify every patient as being indigent."

Ethiopia: In Ethiopia, rural peasant associations determine eligibility of individuals for free health care certificates (World Bank, 1987). Unlike many other settings, it appears that very little leakage occurs, at least for the lower cost services. In 1986, less than 10 percent of out-patients at Addis Ababa hospitals were receiving free care, and about 30 to 40 percent of in-patients were not paying for service.

Philippines and Belize: The same problem of leakage of benefits was found in the Philippines, where health service providers are authorized to determine which patients must pay for care, and yet there are no incentives to promote appropriate targeting. A World Bank study (1988a) showed that hospitals outside the Manila region classified more than 70 percent of patients in 60 district

hospitals as indigent (not required to pay). This was thought to be substantially higher than the true incidence of poverty in the region. In Belize, nearly all patients are classified as falling into the lowest income category, and correspondingly pay the lowest amount or no fee at all (La Forgia, 1991).

Ghana: An ad hoc means test is employed in Ghana, where legislation provides exemptions for "persons unable to pay," as determined by the head of the local health facility. According to observers, the provision is used very little, in contrast to other settings where exemption provisions are vaguely worded (Waddington and Enyimayew, 1990).

1.2.2 Indirect Targeting by Personal Characteristics Related to Income

Philippines: A German economic development effort in the Philippines, the Cebu Upland Project, demonstrated that geographic targeting alone failed to adequately discriminate between poor and non-poor households. The project involved activities for low-income households, such as development of small-scale enterprises. Initially, one geographic area was chosen for the project because, according to an initial socioeconomic study, more than 80 percent of the population lived below the poverty line. Project designers assumed that nearly all households were poor.

After the project began, it was recognized that the population was, in fact, far more heterogeneous in terms of resources and needs than initially thought. As a result, the project "started to pay closer attention in early 1989 to the problem of a more detailed socioeconomic subdivision among the population, in order to identify homogenous interest groups as well as particularly impoverished population strata, and to better recognize their problems, needs, interests, and potential" (Kievelitz, 1991:21). To refine their assessments of need, project managers designed "social stratification surveys," which involved collection of detailed data from each household in the project area through semi-structured interviews. Analysis of the data resulted in a sort of social map of the area, showing the various social links among households, relative status of each household, and identification of the most important target households.

Mexico and the Philippines: In food and nutrition programs, target areas have been identified on the basis of infant mortality rates, average income, and the prevalence of malnutrition among preschoolers. According to Kennedy and Alderman (1987), effectiveness of geographic targeting depends on the level of nutritional need in the region. Geographic targeting was used for a milk subsidy in Mexico, and a pilot rice and oil subsidy in the Philippines. In Mexico, the target neighborhoods were identified on the basis of average income and the presence of children under age 12, pregnant women, or the elderly. The Philippine program was targeted to villages on the basis of malnutrition prevalence. The effectiveness in improving nutritional status differed significantly, largely because of differences in prevalence of malnutrition. The Philippine program, where one child in three weighed less than 75 percent of the appropriate weight-for-age, was much more effective than the program in Mexico City, where only one in 20 was malnourished.

Sri Lanka and Colombia: Another variant of geographic targeting was used in Sri Lanka. In one program, local needs for food supplementation (free school lunches) were determined by nutritional status scores of 8,082 schools on the basis of arm circumference for pupil's height (Kennedy and Alderman, 1987). The Colombian food stamp program also was targeted geographically; within each high-risk region, benefits were provided preferentially to families with members at relatively high risk for malnutrition, including preschoolers, pregnant, and lactating women (Pinstrup-Andersen and Alderman, 1988).

Kennedy and Alderman (1987:29) conclude that, for nutrition programs, "geographical targeting works best when an area — village, city, or district — has a densely concentrated group of intended beneficiaries ... A general rule of thumb is that if less than 20 percent of the households or children in an area are nutritionally needy, geographical targeting by itself is unlikely to work."

Brazil: In Brazil, a shift from means-tested to geographic targeting improved effectiveness of a food program. According to the World Bank (1986): "A coupon program that distributed food every two weeks through government-run supermarkets used income to determine who could participate in Recife, Brazil. The program revealed several problems ... It is difficult to target income if income reporting is arbitrary ... A coupon program requires extensive bookkeeping and administrative cost ... Building on lessons from the evaluators, the Brazilian program was modified, with apparent success, to reach very low income neighborhoods without coupons or down payments. Common basic foods are now subsidized for all customers of many small neighborhood stores in selected poverty areas. Any leakage of benefits to people not in need is much less expensive than administering the cumbersome coupon program."

1.2.3 Self-Selection by Economic Signals

India: Self-selection was used to subsidize condoms in India. A market survey showing that lower-income groups were more likely to purchase particular types of condoms led government agencies to provide large subsidies to these products. Later evaluation of the program showed that higher-income consumers tended to steer away from the products, so the subsidies were largely benefitting the poor (Lewis, 1985).

Indonesia and Singapore: In health care services in Indonesia, patients are given a choice of five levels of care, which differ in standard of service, sophistication of treatment, and price. Patient utilization is highest at the higher quality facilities, and subsidies to more basic health care services primarily benefit the poor (Griffin, 1990). However, a similar quality-based self-selection program in Singapore is less successful: up to 80 percent of patients choose to receive treatment in the lowest quality, highly-subsidized facilities.

2.0 EXPERIENCES WITH TARGETING: PART II

This section expands the discussion in Section 1.0, systematically classifies 48 approaches to targeting, and evaluates the effect of the targeting mechanisms on leakage of benefits, coverage, and administrative cost. The classification system used is based on variations in institutional characteristics of programs. In a few instances, additional subcategories are added to provide more detailed information on institutional arrangements. The result is documentation of available and feasible methods to protect the poor under cost recovery, the administrative costs and effectiveness of alternative approaches, and how the poor are identified in the face of costly information collection.

There are severe data constraints that limit our ability to make comparisons across types of targeting. By depending on secondary sources — written reports and personal interviews — many types of data were unavailable within the time allocated for this review. In addition, there are no standard criteria for "success" of either a cost recovery program or a targeting mechanism. Therefore, this paper is limited to comparing characteristics and making tentative inferences about whether the characteristics are "good" or "bad." However, some insights can be drawn from the available information.

This review of experience makes clear, first, that although targeting has been done in the health sector, it is more common in food and nutrition programs. There is also limited experience in targeting housing and credit subsidies (Sri Lanka, AID) and rural electrification subsidies (Bolivia, AID). Second, means testing is not the only method used to identify and protect the poor. Third, not all cost recovery efforts involve explicit targeting. The selection of experiences documented here, therefore, extends over a broad spectrum of approaches to protecting the poor.

2.1 ANALYSIS OF EXPERIENCES

A few overall statistics help to establish background on the cases examined. Exhibit 2-1 summarizes the project or country experiences surveyed and classified. The 48 projects surveyed were distributed evenly across regions (Africa, Asia/Near East, and Latin America/Caribbean). Thirty-five were health care projects; 12 were food and nutrition projects. The vast majority were publicly-operated projects; only five were private. Forty of the projects included some mechanism for targeting or protecting the poor, but only 33 included cost recovery.[1]

Of the three major types of targeting mechanisms, indirect targeting by personal characteristics related to income were used in about 21 cases, self-selection mechanisms were attempted in nine cases, and some sort of income-based targeting (means test) was applied in 27 cases. These categories are not mutually exclusive, because approaches often overlap.

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[1] Details on the programs reviewed are not included in this document, but are maintained in the files of the Health Financing and Sustainability Project.

2.1.1 Hypotheses and Lessons

The description of approaches used in various countries in Section 1.0 leads to hypotheses about the effects of program characteristics on coverage of the poor, leakage to the non-poor, and administrative (or information-related) cost.

This section briefly discusses the specific cases that confirm or contradict initial expectations. Exhibit 2-2 states a number of hypotheses and identifies specific experiences that appear to confirm or contradict these hypotheses. Because these hypotheses are based both on theoretical considerations and the general review of developing country experiences, cases that tend to confirm the hypotheses are not independent checks. Therefore, it is the cases that contradict expectations that are particularly interesting. To the extent that the exceptions have unique or unusual features that explain the discrepancy, the general validity of the hypothesis is not shaken substantially. Where the exceptions are widespread and repeated, the reasoning behind the hypothesis requires reexamination.

Exhibit 2-1
Summary Statistics for Projects Surveyed

LOCATION	
Africa	15
Asia/Near East	17
Latin America/ Caribbean	15
TYPE OF PROGRAM	
Food/Nutrition	12
Health Care	35
SECTOR	
Public	43
Private	5
COST RECOVERY	
Yes	33
No	15
TARGET THE POOR	
Yes	40
No	8

2.1.1.1 Untargeted Subsidies

It is expected that untargeted subsidies would have high coverage of the poor and low administrative cost, but also high leakage to non-target groups. Only 11 cases reviewed used untargeted subsidies. Of these, Sri Lanka and Pakistan generally confirmed these expectations. The other cases did not provide definitive results, although Egypt provided an exception that is also a lesson. The Egyptian system involved a general subsidy with low coverage of the poor, subsidizing foods (e.g., meat) that the poor seldom ate or could not afford. This may suggest that programs wanting to use behavioral approaches that rely on economic signals or self-selection should choose goods or services that are inferior.[2]

[2] This refers to goods and services which people tend to abandon as their incomes rise.

Exhibit 2-2
Summary of Characteristics of Targeting Mechanisms

Approach	Coverage	Leakage	Administrative Cost	Apparently Consistent Country Experiences	Apparently Inconsistent Country Experiences
No Explicit Targeting					
General Price Subsidy	+ + +	- -	+ + +	Sri Lanka, Pakistan	Egypt
Self-Selection by Economic Signals					
Service Characteristics	+	+	+ +	Indonesia, Malaysia, Belize, Honduras	Peru, Dominican Republic, Zimbabwe, Jamaica, Honduras
Indirect Targeting by Personal Characteristics Related to Income					
Residence	+ +	-	+ +		Brazil, Mexico, Honduras, Argentina
Demographic Characteristics or Health Conditions	+ +	-	+ +		Jamaica
Income-Based Targeting (income or proxy for income)					
Local Authority-Determined	-	-	+	Ethiopia, Indonesia	Honduras, Jamaica, Bolivia, Kenya
Facility-Determined (social worker or care-giver)	-	-	-	Brazil, Zimbabwe, Dominican Republic, Belize, Papua New Guinea	Dominican Republic, Kenya, Peru, Jamaica
Central Registration	- -	+ + +	- -	Korea, Sri Lanka, Ecuador, Senegal, Ethiopia, Jamaica, Honduras, Chile	Thailand, Sri Lanka

Note: Information in this exhibit results from a review of experiences carried out by the HFS Project. Although not included in this Technical Note, the completed data collection instruments are available in the HFS files.

2.1.1.2 Self-Selection by Economic Signals

Self-selection refers to approaches that attempt to divide the market according to characteristics of consumers that are related to willingness to pay for health services. These approaches rely on economic signals, such as prices or opportunity costs, to move beneficiaries to select themselves into target groups. This often involves charging different prices for different levels of service or amenities that richer patients may choose for additional fees. It may also include the practice of requiring those in the target group to withstand embarrassment or long waits to obtain service.

Leakage of benefits may be moderately high if wealthier people do not want to pay for the services or amenities offered, or if no qualitative difference is perceived. In theory, self-selection schemes that cause the non-poor to remove themselves from the target group are relatively neutral with respect to coverage. With respect to cost, one might expect this approach to be less costly than a large administrative apparatus. However, fixed costs may be high where special facilities or amenities are offered as an enticement to the rich. Under some circumstances, separate hospital wings must be maintained. However, a private wing presumably would not be maintained if it did not pay for itself.

Of the surveyed projects and countries, seven provided additional amenities and seven provided separate facilities for those willing to pay. Only a few of the programs in this category had coverage/leakage information: Zimbabwe, Morocco, Belize, and Jamaica had the unfortunate combination of low coverage and high leakage.

Several examples confirmed that the administrative costs of this approach tend to be low: Belize (1.2 percent of budget devoted to administration) and Dominican Republic (3.6 percent). Although no prediction was made, this category of programs may be better at recovering hospital costs: Singapore recovered 25 percent; Indonesia, 20 percent; Swaziland, 84 percent; and Jamaica, up to 24 percent. There were exceptions to this generalization, however: Morocco recovered only eight percent of hospital costs, and Belize often recovered less than seven percent.

Only six countries or projects were identified as places where waiting time or stigma served as a targeting mechanism. Little information was available, but none of the cases specifically confirmed hypotheses about coverage, leakage, or costs. Exceptions could be noted in each category. For example, Jamaica's food stamp program provided good coverage for women, even though waiting times and distances traveled could be long. There was little stigma associated with use of food stamps in this country, however. The Dominican Republic had high leakage of benefits (low-cost hospital services) to non-target groups. This was probably because the better-off could use influence peddling to obtain high quality services, for which they should have to pay premiums.

2.1.1.3 Indirect Targeting Using Personal Characteristics Related To Income[3]

For all types of targeting by proxy — residence, demographic characteristics, and health condition (e.g., malnourishment or pregnancy) — one expects that coverage would be moderate to high, but that leakage would be high as well, at least relative to more intrusive, direct income testing methods. Administrative costs should be relatively low.

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[3] In this typology, we attempt to distinguish indirect proxies from proxy-based means testing. The former is a general subsidy or benefit to a group of people, such as the elderly or the poor, or all people in a given area, such as rural villages. The latter is part of a means test, or series of questions, administered to individuals. For example, how many children do you have? How far do you walk to get water?

Nine programs or countries used geographic targeting and 13 used demographic targeting. Targeting by condition was used in conjunction with demographic targeting in 11 of 12 cases.

There were many exceptions to the expectations about targeting by residence, but these exceptions were attributable to program design. Mexico and Brazil had low coverage, but these could be explained by specific features of their programs. Mexico's urban food subsidy program did not address the rural poor, and the poorest urban groups did not buy the product subsidized, prepared tortillas. Brazil's program was for one urban area and may have been directed more at cost recovery than at protecting the poor: less than one percent of visits entailed discounts. Argentina and Honduras experienced little leakage to non-target groups. In Argentina, tight geographic targeting was achieved with a detailed poverty map that isolated target areas that were extremely poor. The Honduran food stamp program achieved low leakage by combining several targeting proxies. In addition to geographic proxies, demographic proxies such as age and conditions such as pregnancy or malnutrition were used to direct benefits to target groups.

Few examples specifically confirmed the hypotheses about targeting by demographic characteristics or health condition. The Jamaican food stamp program stood out as an exception that provided relatively high coverage and low leakage. This is explained by the fact that the poor and elderly were targeted for the benefit, but eligibility was subjected to a formal, centralized means test, with verification by home visit. It appeared that general proxies combined with other targeting mechanisms can contribute to success.

2.1.1.4 Income-Based Targeting

The idea behind means testing is that with more examination and investigation at the individual level, one can ensure that only the eligible are covered by a benefit. However, obtaining this detailed information will be costly. Thus, in general, one can expect that means-tested programs will have lower leakage and higher administrative cost than other targeting mechanisms. However, programs can be structured using many factors and characteristics, each of which will have some impact on coverage, leakage, and cost. The following discussion identifies major institutional features of programs that offset their inherent weaknesses.

Information Used for the Means Test: Means tests identify the poor (or other eligible group) through examination at the individual level. One may attempt to identify income specifically or use proxies for poverty, such as home location, residence characteristics, family size, access to water, etc. It is expected that more detailed income-based testing would have lower leakage and higher cost than proxy-based means testing. The effect on coverage is not clear. A strict income threshold may exclude some of the truly needy. Proxies may admit more needy individuals based on living situation.

- Income-based means tests: Seventeen examples were identified, with many exceptions to the general expectations. Morocco, Jamaica, Zimbabwe, Thailand, and Belize all had relatively high leakage to the non-poor. Some of these exceptions are

instructive. In Zimbabwe, the income threshold had never been adjusted to keep pace with inflation and development. Since few qualified, though many may have been needy, there was a tendency (in this facility-based screening system) to admit people and bill them for services, knowing that they would not pay. Similarly, in Belize, income thresholds fixed in the past had no relation to ability to pay and thus were widely ignored. This was perhaps one reason why Belize appeared to have low administrative costs. Leakage was high in Jamaican hospitals because the means test relied on self-identification. Anyone willing to claim "inability to pay" received reduced fees if the hospital director agreed. The low coverage problems in Mexico and Brazil were explained previously and had little to do with the application of the test.

Income-related, proxy-based means tests: Eight examples were identified: four in Latin America, three in Africa, and one in Asia. Honduras had low administrative costs (5.9. percent of benefits dispersed) as predicted. The Dominican Republic also appeared to have low costs, but was not considered to be a successful program.

Administration of the Means Test: Means tests can be administered centrally or locally. The U.S. provides examples of central means testing. Applicants are screened and eligibility determined through complex regulatory procedures, perhaps with computerized verification of information. The alternative is to administer the means test locally at the hospital or clinic that serves the patient or applicant. Local testing procedures can be further subdivided, as discussed later. It is expected that centralized means testing will have good coverage, lower leakage, and higher administrative cost than local means testing. Centralized systems probably have higher fixed costs, as well. Local testing may provide better coverage because it is closer to the community.

Local authority-determined (government agencies or leaders) and facility-determined: Twenty-six programs relied on local means testing. Mexico and Brazil had low coverage, for reasons noted earlier. Honduras and Pro Salud in Bolivia appeared to be exceptions because of unexpected low leakage. However, upon examination, neither was a good example. Honduras had a food stamp program with targeting based on multiple criteria, including income and conditions such as pregnancy; thus, leakage should have been low. Pro Salud is a privately-operated health program with extensive community outreach limited to specific communities, where other facilities exist to serve wealthier people. Kenya and Belize had unexpectedly high administrative costs. In Kenya, prices for services at Kenyatta National Hospital had eroded with inflation so that the labor cost of the social workers administering the test was far higher than any revenue received by conducting the screening. Belize's means testing was done by clerks with other duties so that the cost appeared

low, even though the test was ineffective and the program was considered unsuccessful.

For local means tests, one can further distinguish between those conducted by local governments or authorities, such as chieftains or village councils, and those conducted at the health care facility. One might expect coverage to be moderately high in both cases, because the test is nearer the population served. Leakage may be high in the first case and highly variable in the second, because the person who gives the test may know the applicant or be under pressure to provide benefits to most who claim need. Only two examples of testing by local authority, Ethiopia and Indonesia, were found, but neither had good information about incidence or cost.

Jamaica's food stamp program was administered locally, and it had low administrative costs. This program was relatively unique in that local means testing formed the basis for a centralized recordkeeping system. Costs may have been lower because of extensive data sharing across welfare programs.

A facility-level means test can be conducted by a trained social worker or a caregiver, such as a physician or nurse. A priori, one might expect that leakage would be higher for caregivers because it is difficult to turn away people who need treatment. Also, costs may be lower because the test is administered as part of other duties. Peru's program of screening by trained "health workers" offered an exception to low-cost expectations: administrative costs were 27 percent of the program budget.

Central registration: Jamaica, Korea, Sri Lanka, and Thailand used this approach. There were two exceptions. Thailand had high leakage, possibly because the cut-off point for eligibility was set at a relatively high level of income. Thailand moved away from a locally administered program in 1980. Sri Lanka claimed low administrative cost, but the system relied on self-reporting, was not often updated, and lacked good income data for verification. Thus, leakage was high.

Use of Formal Criteria for the Means Test: The criteria used in the means test are an important determinant of who is eligible. Criteria may be very formal with rigid thresholds, or eligibility may be left to the discretion of the person giving the test. It is expected that the more formal the criteria, the lower the level of leakage, while the opposite is expected for informal rules. The structure of the rules should have no appreciable impact on cost.

Formal criteria: Eleven cases of formal criteria were noted. Of these, Thailand, Jamaica, Belize, and Zimbabwe all had high leakage. This was generally because the formal criteria had

eroded with time, inflation, and development to the point that they were not useful in making distinctions.

- Informal criteria: Seventeen programs used informal criteria. Honduras had low leakage, but again, it was based on condition, not on poverty. Conversely, Brazil had low coverage with informal criteria, almost a case of reverse targeting.

Maintenance of Records: After means tests are given, the results may be recorded or certified in some way and remain valid for a long period of time, or they may be episodic, with recertification occurring each time an individual appears for treatment. This may have an important impact on the effectiveness and cost of the program. For example, programs that have some type of centralized registration and recordkeeping can more easily share eligibility data with other programs, such as food and nutrition. While it would appear that a recordkeeping system is desirable, episodic means testing may be a valid and necessary approach where central resources are limited, populations are rural, and the possibility of abuse of a certified system is high.

One may expect that centrally registered programs will have lower leakage. To the extent that episodic testing implies repeated use of a social worker's time to conduct the test, administrative costs may be higher with this approach. Fixed costs will likely be higher with the centralized registration system.

- Central registration: Fourteen programs used some type of central registration coupled with health cards or food stamps distributed to the beneficiaries to document their eligibility. Of particular interest are the five programs that administered the means test locally, but then also certified the results at some central level. This approach captured the benefits of both methods. The Jamaican program determined a pregnant woman's eligibility at local clinics, but also registered her in the centrally administered food stamp program for six months. Ecuador and Bolivia both had privately-operated systems where a certification system was used, but only for the region served by the private organization. Ethiopia and Indonesia had certification at the village or district level. None of the remaining nine centrally-operated registered programs was located in Africa and only three were in Asia. Mexico and Thailand were exceptions that showed that even centrally-registered programs can have high leakage.

- Episodic: Sixteen programs used episodic means testing, five of these in Africa. The Dominican Republic, Belize, and Zimbabwe examples confirmed that this approach may have high leakage. Kenyatta National Hospital in Kenya provided an extreme example of high administrative costs associated with episodic testing. The few that appeared to have low administrative costs — Dominican Republic, Belize — were not viable examples, as discussed previously.

Clearly, several of these categories of central, local, formal, and informal overlap. Twenty-eight projects included some form of means test administered at the local level. Of these 28, 13 used formal testing criteria; 11 used informal criteria. Informal testing criteria almost always imply that the means test is episodic; all but two of the informal means tests are administered each time a patient comes for treatment. This distinction is not so clear for means tests with formal criteria; about half are associated with central certification and about half are episodic.

Verification of Means Testing Information: Using some type of procedure to verify the information received in a means test would be expected to lower leakage and raise cost. Five programs, all in Latin America and the Caribbean, used home visits to verify information. Ethiopia and Indonesia relied on local knowledge at the village level to verify individuals' statements. Jamaica used a more complex computerized cross-checking program in its food stamp and welfare programs. There is little information on the cost of these approaches.

2.2 MEASURES OF SUCCESS

Success measures are neither widely available nor uniformly applied. One assessment that was available in several cases was the subjective judgment of the people involved in the project or the reports of evaluators, rather than numerical criteria. By this criterion, 10 projects were considered successful; 18 were considered unsuccessful. Although subjective, this assessment can provide some insight.

All but one of the successful projects were located in the Latin American and Caribbean region. Of these, one-third were privately operated. All 10 used targeted approaches rather than untargeted transfers, and used some sort of proxies for income, but four used individual means tests as well. Only one of these was centrally administered. Six of them used formal rules and five used some sort of central registry of those tested. Only two relied on one-time-only, or episodic, means tests administered at the facility. Four conducted some independent verification of the individual's claims.

Of the programs considered successful, self-selection by economic signals was used in only two programs. This may indicate more that these approaches are not often tried rather than that these approaches are not successful. Indeed, only nine programs used self-selection approaches. Exhibit 2-3 provides comparisons of the successful, unsuccessful, and unevaluated projects.

Exhibit 2-3 Summary of "Successful" and "Unsuccessful" Targeting

	For 48 Projects or Countries (excl. U.S.)	For 9 Projects Considered Successful	For 18 Projects Considered Unsuccessful
Location			
Africa	15	1	5
Asia/Near East	17	0	9
Latin America	15	9	4
Type of Program			
Food/Nutrition	12	4	5
Health Care	35	5	13
Public	43	6	17
Private	5	3	1
Cost Recovery	33	5	13
Targeting the Poor	40	8	14
Approaches to Reaching the Poor			
Untargeted Approaches	11	2	5
Self-Selection			
Levels of Care	16	3	4
User Costs	10	2	3
General Proxies			
Geography	9	4	1
Demography	13	4	3
Condition	12	2	3
Means Testing			
Information Source			
Income Based	19	3	9
Proxy Based	8	1	2
Administration			
Central	5	1	2
Local	22	6	11
—Local authority	2	0	0
—Facility base	18	3	9
—Social Worker	6	0	5
—Caregiver	4	1	2
Criteria			
Formal Rules	18	6	5
Informal	11	0	6
Certification			
Central Registration	10	4	3
Local Registration	4	1	1
Verification			
Home Visit	5	2	2
Other Verification	4	2	0

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