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**DOES SUBSIDIZED CHILDCARE HELP POOR WORKING
WOMEN IN URBAN AREAS? EVALUATION OF A
GOVERNMENT-SPONSORED PROGRAM IN
GUATEMALA CITY**

**Marie T. Ruel, Bénédicte de la Brière, Kelly Hallman,
Agnes Quisumbing, and Nora Coj**

Food Consumption and Nutrition Division

International Food Policy Research Institute

2033 K Street, N.W.

Washington, D.C. 20006 U.S.A.

(202) 862-5600

Fax: (202) 467-4439

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ABSTRACT

High urbanization rates in Latin America are accompanied by an increase in women's participation in the labor force and the number of households headed by single mothers. Reliable and affordable childcare alternatives are thus becoming increasingly important in urban areas. The *Hogares Comunitarios* Program (HCP), established in Guatemala City in 1991, was a direct response to the increasing need of poor urban dwellers for substitute childcare. This government-sponsored pilot program was designed as a strategy to alleviate poverty by providing working parents with low-cost, quality childcare within their community.

This paper presents preliminary findings from an evaluation of the HCP carried out in 1998 in urban slums of Guatemala City. The evaluation included both an operations (or process) evaluation and an impact evaluation. Key findings of the operations evaluation are summarized, and preliminary findings of the impact evaluation on children's dietary intakes are presented. Aspects related to the targeting, coverage, and cost of the program are also discussed, and the patterns of childcare use by nonbeneficiary households and their costs are described.

PROGRAM BACKGROUND

In the HCP model, a group of parents elects a neighborhood woman to act as a "caretaker" mother. This mother then receives and cares for up to 10 children in her home, 12 hours a day, five days a week. During their stay in the caretaker's home

(herewith referred to as the *hogar*), the children receive care and affection, hygiene, early child stimulation, and food. The program provides initial training for the caretaker mothers and furniture, cooking equipment, and supplies for 10 children. On a monthly basis the program gives approximately \$0.60 per child per day to the caretaker for food, fuel, and educational material. The program also gives the caretaker an “incentive” of \$3 per child attended per month, which is complemented by a \$5 per child contribution from the parents.

OPERATIONAL EVALUATION

The operational evaluation had three objectives: (1) to review and evaluate the effectiveness of implementation; (2) to assess the quality of the services provided by the caretakers; and (3) to evaluate the level of satisfaction and the attitudes of the program’s main implementers (caretakers and their supervisors) and main users (the beneficiary parents). Both qualitative and quantitative methods were used, including semistructured interviews with caretaker mothers, eight-hour observations in the *hogares*, and focus groups with caretakers, beneficiary parents, and field supervisors. The evaluation was carried out in 206 *hogares* operating in three zones of Guatemala City.

Findings show that the program is generally well-designed and is operating effectively. Delays in cash transfers for food, the insufficient amount of the transfer, and the lack of participation of parents were the key operational constraints identified. The quality of services provided by the caretakers with respect to hygiene, safety, and their interaction with children was good overall but varied significantly between *hogares*.

Caretakers consistently failed to allocate the required amount of time to educational activities, largely because of time constraints, but also because they did not feel adequately trained, motivated, and remunerated. Caretaker mothers were generally grateful to the program for the opportunity to work while taking care of their children (or grandchildren) at the same time. Beneficiary parents were extremely positive about the program. They were appreciative of the caretakers and of the program for the assistance received, and indicated that the program was affordable. They suggested the addition of Saturday care and an increased emphasis on preventive and curative health care.

Most of the recommendations to correct some of the constraints identified by this evaluation were accepted by the new administration that took over the program in 2000. Concrete actions to address and adopt the recommendations were included in the new four-year plan. These included increasing the amount of the cash transfers, strengthening preventive and curative health services, hiring educators to ease the time constraints on caretaker mothers, and strengthening human resource through additional training.

IMPACT EVALUATION

The impact evaluation was carried out in one zone of Guatemala City and included (1) a case-control design of approximately 250 beneficiary children matched with control children of the same age and neighborhood, and whose mothers also worked outside the home, and (2) a random sample of approximately 1,400 households with children 0–7 years of age. The main objective was to assess the impact of the program on children's dietary intakes, maternal wages and employment conditions, household

expenditure patterns, and older siblings' school attendance. Only preliminary findings of the impact of the program on children's dietary intakes are presented here. The purpose of the random sample was to examine aspects of targeting, coverage, patterns of use of other types of childcare and their cost, and to address the issue of whether the program affected women's labor force participation.

The program appears to be reaching its targeted population, i.e., families of working parents with poor resources and particularly families where mothers are the main income generator. Beneficiary mothers are more likely to have a salaried (and possibly more stable) employment than mothers who use other childcare arrangements, which results in higher wages and a larger number of employment benefits.

Among nonbeneficiary families, the most commonly used childcare arrangements involved household members or extended family members. Even compared to these informal alternatives, the HCP was one of the lowest cost alternatives, ranking second after resident household members. Nonresident relatives were more costly than the HCP, as were neighbors, other private arrangements, and formal childcare.

The low coverage of the program (only 3 percent of working mothers in the random sample used the program) seems to result from lack of supply rather than low demand.

The program is having a significant and positive impact on children's nutrient intake and dietary diversity: children participating in the program consume, on average, 20 percent more energy, proteins, and iron, and 50 percent more vitamin A than do control children. Moreover, a greater proportion of the key micronutrients (iron and

vitamin A) consumed by beneficiary children is from animal products, and thus are more bioavailable (more easily absorbed and used by the body). Because the home diet of beneficiary children was also slightly more nutritious compared to control children, the net nutritional impact of the program is positive and significant.

CONCLUSIONS

The government-sponsored HCP in Guatemala provides affordable and good-quality childcare for extended hours, thereby providing needed support to vulnerable urban households, namely single mothers. Expansion and continued strengthening of this type of program could significantly contribute to reducing urban poverty, food insecurity, and childhood malnutrition.

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Marie T. Ruel and Agnes Quisumbing
International Food Policy Research Institute

Bénédicte de la Brière
Previously at IFPRI, now at the Department for International Development, Brazil

Kelly Hallman
Previously at IFPRI, now at the Population Council

Nora Coj
Hogares Comunitarios Program, Guatemala City

1. INTRODUCTION

High urbanization rates in Latin America are accompanied by an increase in women's participation in the labor force (Ruel 2000). In Guatemala, the number of urban women working for income rose from 23 percent in 1990 to 28 percent in 1999 (World Bank 2001). While the majority of working women (61 percent of the female labor force in Guatemala) hold jobs in services, opportunities in manufacturing and other industrial employment are increasingly available to women (electronics, apparel, food processing, and other export industries) (World Bank 2001). This shift in the structure of urban production results in greater employment opportunities for women, but in settings that are not amenable to taking children along. Rural-to-urban migration also often reduces access to extended family networks and thus limits potential assistance with childcare responsibilities. For urban women, and especially women heads of households, the scarcity of childcare alternatives may represent a major obstacle to achieving household livelihood and food security. Affordable and reliable childcare alternatives to assist working parents, and especially single mothers, are therefore increasingly in demand in urban areas of Latin America.

The *Hogares Comunitarios* Program (HCP) was established in Guatemala City in 1991 as a direct response to this increased need. The government-sponsored pilot program was designed as a strategy to alleviate poverty by providing working parents with low-cost, quality childcare within their communities. The program aimed at promoting child development and at filling the existing gap in preschool education in

Guatemala. The pilot program rapidly expanded to both urban and rural areas of all 22 departments of the country. By 1998, the HCP comprised 1,200 *hogares comunitarios* (community daycare centers) that cared for approximately 10,000 children aged 0–7 years.

This paper presents preliminary findings from an evaluation of the HCP carried out in 1998 in urban slums of Guatemala City. The evaluation included two main components. The first was an operations (or process) evaluation, aimed at assessing the efficiency of delivery of the program, the quality of attention provided by caregivers to beneficiary children, and the perceptions and level of appreciation of program caregivers and beneficiary parents regarding the program. The second component was an impact evaluation of the program on four main outcomes: (1) children's dietary intakes; (2) women's earnings and employment characteristics; (3) household patterns of consumption/expenditure on food and other basic needs; and (4) older siblings' school attendance.

This paper summarizes key findings of the operations evaluation and presents preliminary findings of the impact evaluation on children's dietary intakes. The next section of this paper provides background information on urbanization and poverty in Latin America, with an emphasis on the situation of women in Guatemala. This section is followed by a brief description of the design and main components of the HCP. The results presented in the following sections focus mainly on findings from the operations evaluation, which used a combination of quantitative and qualitative methods. Issues of targeting, coverage, and cost of the program are also discussed. Patterns of childcare by

other working mothers not participating in the program are also described, along with their respective costs. Finally, preliminary findings of the impact of the program on children's dietary intakes are summarized.

2. WOMEN AND URBAN POVERTY IN GUATEMALA

Latin America is the most highly urbanized region of the developing world, with 75 percent of the population currently living in urban areas and a projected 82 percent by the year 2025 (UN Center for Human Settlements 1996). The rate of urban growth in Guatemala over the past decade exceeded the average rate in the region by 8 percentage points—urban growth in Guatemala between 1990 and 1998 was 2.8 percent, compared to the 2.0 percent average for the region (IDB 1996). Guatemala also has the third highest poverty rate among a subsample of 13 Latin American countries (with 45 percent poor), and the third highest indigency rate (with 24 percent indigent)¹ (Londoño and Székely 1997). Guatemala also has high levels of inequality, with a Gini coefficient² of 0.6, the second highest in the region (Londoño and Székely 1997).

Rapid urbanization in Guatemala has been accompanied by an increase in both the number of urban poor and in the share of urban poverty (Ruel 2000). These trends are accompanied by an increase in the percentage of households headed by women (from 22

¹ Poverty is defined as US\$2/day and indigency (extreme poverty) as \$1/day.

² The Gini coefficient is a measure of the extent to which the actual distribution of income or consumption differs from a hypothetical uniform distribution in which each person or household receives the same share. The Gini coefficient has a maximum value of 1, indicating that one person or household receives everything, and a minimum value of zero, indicating absolute equality.

percent in 1995 to 24 percent in 1998) and in the percentage of children living without their father, which increased from 17 to 20 percent between 1995 and 1998 (INE 1997; 1999). Half of urban female-headed households in Guatemala are poor, and one-quarter are indigent, making this one of the worse-off groups in all of Latin America (ECLAC 1997).

This situation is fueled by a number of factors. First is the low number of potential labor market participants in households headed by women, which has been associated with poverty (Sedlacek, Gutierrez, and Mohindra 1993). Second is low female education and literacy. Urban Guatemalan women have an average of 5.9 years of education, and only 73 percent are literate (ECLAC 1995). On average, female heads of household have 1.5 fewer years of education than male household heads. Among working household heads, the gender education gap is estimated to translate into earnings that are 15 to 20 percent lower for women with otherwise similar characteristics to their male counterparts (Arends 1992; Funkhouser 1996). A third factor is the lower level of economic activity observed among urban female heads relative to male heads. This again may be due in part to the gender education gap if it reduces females' job opportunities. Finally, sectoral and occupational segregation are important factors. Many women work in the informal sector,³ in occupations such as petty trading and domestic services or tortilla shops and other eateries. In Guatemala, the informal sector accounts for approximately 63 percent of urban female employment (Funkhouser 1996). Formal sector

³ Funkhouser (1996) defines the informal sector as all self-employed workers and workers in firms of four or fewer employees who are not professional, technical, or administrative.

employment opportunities include working in textile and small consumer goods industries (*maquilas*). Urban females in the formal sector have mean earnings that are three times greater than those in the informal sector (Funkhouser 1996). Moreover, within sectors, most women continue to be employed in occupations identified as typically female, and men account for a high percentage of managers and employers. Women are often discriminated against in terms of wages, participation, and promotion.

As women engage in the labor force, their households might be differentially affected by the scarcity of social services in urban poor neighborhoods, a result of, among other things, the crisis and structural adjustment of the 1980s, the civil war (which led to internal migration and displacement toward urban areas), and the chronic public underinvestment in social sectors (World Bank 1998).

The HCP was designed to reduce poverty in urban areas by relieving the main constraint faced by working parents and especially single mothers—their need for alternative childcare. It is generally assumed that the higher unemployment rates and the fewer working hours observed for female compared with male urban heads (World Bank 2001) are at least in part due to coordination difficulties between hours worked, work location, and the availability of childcare. One study in Brazil (Deutsch 1998) finds that urban women report lack of childcare options as a primary cause of unemployment. Thus, the HCP is expected to facilitate mothers' participation in the labor force by providing them with affordable childcare for extended hours.

3. THE *HOGARES COMUNITARIOS* PROGRAM (HCP)

The HCP was designed as a nontraditional alternative to ensure the care of children of working parents in poor communities lacking access to other childcare alternatives. The concept is that a group of parents selects a woman from the locality and designates her as the caretaker mother.^{4,5} This woman then becomes responsible for receiving in her home and caring for up to 10 children less than 7 years of age,⁶ Monday to Friday, from 6 A.M. to 6 P.M. During their stay, children receive care and affection, security and hygiene, and food (breakfast, lunch, and two snacks). Additionally, the caretakers organize psychopedagogical activities to stimulate the children's development and encourage the formation of values and personal hygiene habits.

The program provides three types of inputs when a new *hogar* opens: (1) basic equipment (furniture, kitchen equipment, utensils, educational material, toys, and basic supplies for 10 children); (2) initial training for caretakers; and (3) menus to guide the preparation of meals and snacks for the children. Although no specific norms or regulations exist regarding parents' contribution to a new *hogar*, they are expected to provide time and support, and if necessary, to renovate or repair the future *hogar*.

On a monthly basis, the program offers the following additional set of inputs to the caretakers: (1) money to purchase food for the children (the equivalent of \$0.55 per

⁴ In practice, other modalities are often used (see section 5.1 for further discussion).

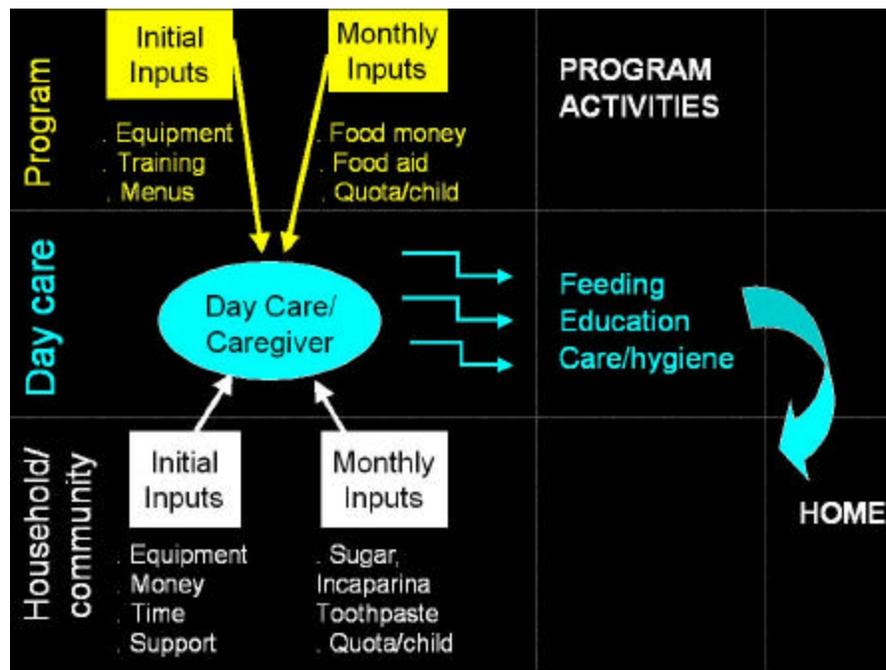
⁵ The term "caretaker" mother will be used in this document to refer to the mother who takes care of children in her own home. In Spanish, this woman is referred to as the *madre cuidadora*. The term *hogar* will be used to refer to this woman's home, which is used as a community day care center.

⁶ For safety reasons, the program limits the number of children under 1 year to one per home.

day per child)⁷ and to purchase gas and educational supplies (\$0.03 per day per child for each item); (2) food donations from the World Food Program⁸; and an “incentive” of \$3.33 per child per month. Parents are expected to complement this amount with a contribution of \$5 per child per month and to provide monthly supplies of basic items such as sugar, *incaparina* (a fortified cereal mixture), toothpaste, toilet paper, and handsoap.

Figure 1 presents a schematic view of the various inputs provided by the program and by the parents of beneficiary children and of the services provided by the program.

Figure 1—Schematic view of the *Hogares Comunitarios* Program



⁷ These amounts correspond to those provided in 1998 (average exchange rate: 6 quetzals = \$1).

⁸ The monthly food donations usually consist of 44 pounds of maize, 1 gallon of cooking oil, and 13 pounds of black beans—or 6 cans of fish).

4. OPERATIONAL EVALUATION

The design of the operational evaluation is presented in Box 1 (Ruel 2001). Key findings and recommendations to strengthen the program are presented next, followed by a brief summary of the main actions implemented by the new program administration in 2000 in response to these recommendations.

BOX 1
Methods for Operational Evaluation of the *Hogares Comunitarios* Program in Guatemala

Operational research (also referred to as *process evaluation*) is concerned with studying the processes by which programs are implemented and interventions are delivered to beneficiaries. The main purpose of such evaluations is to identify as early as possible any shortcomings in the process that may affect the effective delivery of the intervention and thus its potential impact on the desired outcomes (Blumenfeld 1985). The main goal is to generate the necessary information to program planners and implementers that will allow them to design and test potential solutions to improve program delivery and will lead to the timely implementation of corrective actions (Ruel, Arévalo, and Martorell 1996; Adato, Coady, and Ruel 2000).

Objectives
The specific objectives of the operational evaluation of the *Hogares Comunitarios* Program were to

1. Review and evaluate the *operational* aspects (implementation) of the program;
2. Evaluate the *quality of delivery* of the interventions; and
3. Evaluate the level of *satisfaction with, and the attitudes toward, the program* of the caretakers, the beneficiary parents, and the social workers (direct supervisors of the caretakers in the field).

Methods
The study was carried out in all *hogares* operating at the time of the study in the urban slums of three *municipios* (townships) of Guatemala City. The methods used included

1. Semistructured interviews with caretakers to collect quantitative information on program implementation and operations (n = 206);
2. Semistructured eight-hour observations in *hogares* to gather both qualitative and quantitative information on the quality of care and service delivery and the time-allocation of caretakers and their helpers (n = 183: some *hogares* had been closed by the time of the observations and only single *hogares* [with a maximum of 10 children], as opposed to multiple *hogares* [with 20–30 children], were included); and
3. Focus-group discussions to gather qualitative information on the attitudes, opinions, and the level of satisfaction of the beneficiary parents, caretakers, and social workers. Two focus-group sessions were organized in each *municipio* for beneficiary parents and caretakers, respectively, and one focus group was carried out with all 12 social workers responsible for the *hogares* included in the study.

OPERATIONAL ASPECTS OF THE PROGRAM

The operational evaluation assessed whether inputs from the program and from parents were received in a timely fashion and whether all the elements of the intervention package were delivered as planned.

Program Inputs

In general the initial inputs from the program—material, furniture, and equipment—were received in a timely fashion and in good condition. The material, however, tended to deteriorate over time and was not replaced by the program. A recommendation was made that the program help repair or replace broken material so as to ensure a constant quality of services.

Caretakers were also trained as planned before opening their *hogar*. Most of them, however, expressed a need for additional training. They expressed particular interest in receiving training on using menus and on substituting foods of similar nutritional value to adjust for changes in prices and seasonal availability. Although training in this area is supposed to be carried out by the social workers⁹ during their home visits, the caretakers reported not having received this training. The program should include at least some training on the use of the menus and food substitutions during the initial training so that caretakers can be better equipped to provide children with nutritious yet affordable meals.

⁹ Social workers are program staff of the field supervision of caretaker mothers. Each social worker has 10-15 *hogares* and caretaker mothers under her supervision.

Some delays were reported in receiving the monthly cash transfers to purchase food and material for children. Delays were felt strongly by the caretakers and affected their motivation and morale. The program should therefore make special efforts to avoid payment delays in the future.

Caretakers consistently expressed concern about the inadequacy of the amount earmarked for food purchases. They claimed that the amount was insufficient to follow the menus and to ensure an adequate diet for the children. It is likely that the problem was due to a combination of factors, including real increases in food prices and the fact that caretakers tended to use the transfer to feed their whole family in addition to the 10 (and sometimes more) beneficiary children. The caretakers reported using various approaches to the problem of lack of money, namely using their own money, borrowing from their husbands, buying cheaper food, buying where prices are lower, and reducing the amount of food given to the children. This latter approach could have negative effects on children's diets and could significantly reduce the program's nutritional impact. Thus, it should be strongly discouraged. The program should plan to reassess the cost of the menus on a regular basis and adjust the amount of the monthly cash transfers based on changes in food prices.

Another aspect that should be considered by the program is the time required for caretakers to collect their cash transfer every month, which averaged three hours in our sample. It may be necessary for the program to consider a more efficient payment system to minimize caretakers' travel time.

Some delays were also reported in receipt of food donations at the time of the evaluation. Caretakers were not overly worried about this problem, but a more serious concern was the time and transport costs required to acquire the products. On average, caretakers spent one hour to collect the donated foods, and almost 25 percent of them paid for transport (ranging from \$0.25 to \$6.66). It may be worth revisiting the distribution of donated foods and assessing whether more convenient delivery points could be identified to minimize the time required for pickup.

Parents' Inputs

Both the interviews with caretakers and the focus groups (with caretakers and beneficiary parents, respectively) revealed a very minimal level of participation of beneficiary parents in all activities related to the *hogares*. Although it is not an explicit requirement of the program, beneficiary parents are expected to provide inputs at the time of opening a new *hogar* and to be available to assist caretakers on specific occasions or when material breaks and needs repair. Caretakers reported very little participation from beneficiary parents; indeed, few reported having received any type of help from parents.

Parents also had difficulties fulfilling the two requirements of the program—i.e., to pay their monthly fees on time and to bring the required supplies every month. Delays in monthly payments were extremely common: 65 percent of the caretakers reported that parents were late every month and some reported delays of up to 45 days. There were also cases where parents never paid and had to remove their child from the program. Caretakers showed an honorable level of tolerance and flexibility in this regard. The

program should consider a mechanism to increase parents' sense of responsibility and respect toward caretakers, who should not be victimized because they are serving a population with scarce resources.

Conclusions on Program's Operations

Overall, the evaluation indicated that the program is operating efficiently. The low level of parental participation is a main operational constraint, and the program should design and implement concrete activities to improve their interest and participation. Delays in payments should be avoided because they may affect the quality of attention provided to children. The amount of the transfer should also be reexamined periodically and adjusted to compensate for food prices increases, so as to ensure that the quality of the diet is maintained.

QUALITY OF ATTENTION

The eight-hour semistructured observations were used to assess whether the daily activities were taking place as planned and whether the quality of attention was adequate.

Hygiene and Safety

The general conditions of the houses where the hogares were located were better than the average for the areas where the study took place (Table 1). For example, according to the recent Demographic and Health Survey (INE 1999), only 43 percent of

Table 1—Physical characteristics and availability of services in the *Hogares Comunitarios* (n = 206)

Characteristics	Number of <i>hogares</i>	Percent <i>hogares</i>
Ownership of house		
Owned	166	80.6
Rented	16	7.8
Owned with mortgage	22	10.7
Other (lent, family inheritance, etc.)	2	1.0
Type of residence		
House	194	94.2
Apartment	3	1.5
Informal house	8	3.9
Other	1	0.5
Floor		
Mosaic	63	30.6
Cement	139	67.5
Earth	4	1.9
Sanitary facilities		
Flush toilet	180	88.2
Latrine	24	11.8
Assets ownership		
Radio, tape deck	181	87.9
Television	198	96.1
Video (VCR)	46	22.3
Refrigerator	158	76.7
Bicycle(s)	86	41.7
Motorcycle	22	10.7
Car	32	15.5
Electric stove	8	3.9
Blender	60	35.5
Toaster	7	4.1
Storage of drinking water		
Plastic or ceramic tank	20	10.0
Bucket	149	74.5
Pan	2	1.0
Bottled water	28	14.0
Other	1	0.5
Missing	6	2.9

households in the metropolitan area had a refrigerator, compared to 77 percent in our sample. Similarly, flush toilets and tap water were almost twice as common in our sample than among the DHS sample. Clearly, the caretakers tended to have more formal and

better-equipped houses, greater availability of services, and a larger number of assets than the general population living in marginalized urban areas of Guatemala City. This largely reflects the specific criteria established by the program that houses must meet certain standards in terms of space, availability of services, and safety. Not all houses met all criteria, however, and the program staff indicated that some level of flexibility was required when targeting poor areas.

Hygiene was generally good, but various problems were encountered, such as garbage on the floor, dirty dishes, loose animals, uncovered drinking water, and caretakers who did not appear to be clean (Table 2). Safety was also a concern, with almost 40 percent of the *hogares* having some potentially harmful objects within children's reach such as sharp, jagged objects, dangerous staircases, and construction material, to name a few.

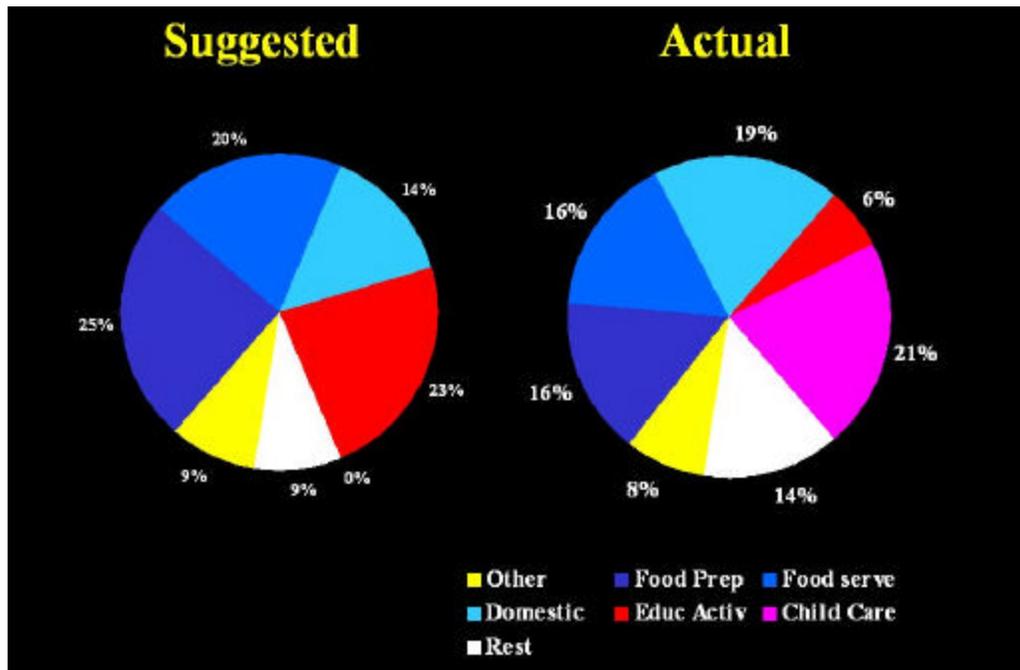
It is recommended that social workers pay more attention during their weekly visits to identify hygiene and safety problems and to help caretakers find ways to reduce risks for children.

Daily Activities and Caretakers' Time Allocation

The program's proposed schedule of activities is illustrated on the left side of Figure 2. According to this schedule, the caretakers' time allocation should be roughly as follows: 25 percent cooking and preparing food, 20 percent serving and feeding children, 14 percent cleaning and maintaining the *hogar*, 23 percent conducting psychopedagogical

Table 2—Frequency of observation of non-optimal hygiene practices

Practices	Number of <i>hogares</i>	Percent <i>hogares</i>
Drinking water containers are uncovered	24	13.0
There is garbage on the floor	52	25.2
There is uncovered food	16	7.8
There are chicken or other loose animals in the house	69	33.7
There are dirty dishes in the sink	47	22.8
There are dirty clothes in the open	33	16.1
There are lots of flies	25	12.1
There is garbage in the room where children play	51	24.8
Children are playing with water	18	8.7
The <i>madre cuidadora</i> is dirty	19	9.2

Figure 2—Time allocation of *madres cuidadoras*

activities, 9 percent resting and personal care, and 9 percent performing “other” activities. The right side of the figure shows the results of our observations of the caretakers’ time allocation.

The time spent by caretakers on food-related activities, in the general maintenance of the *hogar*, and in resting and self-care was, on average, comparable to that suggested by the program. However, caretakers spent markedly less time in psychopedagogical activities than scheduled by the program (only 6 percent); 40 percent were not observed carrying out any educational activities at all during the observation period. Caretakers, on the other hand, dedicated up to 21 percent of their time in taking care of children and in attending to their hygiene and general caring needs. The time allocated to this type of activities was grossly underestimated by the program’s proposed schedule, which assumed that these activities could simply be combined with all others.

Caretakers also spent time purchasing food for the children, and they usually did so during the opening hours of the *hogar*. It is customary among lower socioeconomic groups in urban areas to purchase food on a daily basis, and the program caretakers were no exception. This meant that they left the children either unattended or with their own children or other family member present at the time. More than half the caretakers left the *hogar* during our observations, for periods varying between 15 minutes and four hours (the average was one hour). It is unclear whether the caretakers felt more comfortable to leave the *hogar* because our observers were there, or whether those who abstained from leaving did so because our observers were there. Irrespective of the direction of this potential bias, it is disconcerting to see that the practice of leaving the *hogar* is so

common and seems to be perfectly natural. The program administration is aware of this issue, but some tolerance is probably necessary to allow caretakers to carry out these activities. However, the program should have a stricter control to ensure that children are not left alone for any length of time, and that if caretakers have to leave, they have a reliable person taking care of the beneficiary children. It is important to be aware, however, that whoever is attending the children when the caretaker mother is not present has not received any training from the program to take on this responsibility. This could cause serious problems to the program and to the caretakers themselves if accidents occurred. Caretakers should be better informed about the potential consequences of leaving children unattended or with a young or inexperienced helper.

Interaction Between Caretakers and Beneficiary Children

In general, caretakers tended to be affectionate with the children and responsive to their needs. They were attentive to children when they cried or needed attention, and they tended to settle conflicts peacefully. There were some exceptions, however; approximately one-third of the caretakers was observed yelling at children, and 13 percent hit children (Table 3). Considering that these unacceptable behaviors were observed in the presence of our fieldworkers, it is possible that they occur even more frequently in the absence of visitors. This is another point that should be specifically addressed in the training, retraining, and supervision of caretakers by the social workers,

**Table 3—Quality of interaction between caretakers and beneficiary children
(n = 183)**

Attitude of caretakers	Percentage observed having these interactions (%)	Number of times observed having these interactions (range)	Mean number of times had these interactions (among those who did)
Physical and verbal affection			
Gives verbal affection to children	86.3	0-15	4.71
Gives physical affection	74.9	0-15	3.61
Physical and verbal rejection			
Scolds children verbally	70.5	0-22	5.60
Hits children	13.1	0-4	1.83
When a child is crying, she:			
Attends child immediately (verbally)	66.7	0-13	2.57
Attends child immediately (physically)	33.9	0-8	1.51
When a child is complaining of pain or other complaint, she:			
Scolds child	16.0	0-7	0.31
Ignores child	57.6	0-10	2.46
Attends to the child	54.3	0-5	1.57
Comforts the child	17.9	0-4	1.70
Punishes the child	2.0	0-4	2.33
When children fight, she:			
Yells at them	24.2	0-8	2.16
Gets mad at them	33.0	0-10	1.95
Solves problems with calm	76.4	0-19	3.41
Gives affection to one of them	29.8	0-9	2.49
Punishes them	19.8	0-6	1.74
Ignores them	42.9	0-9	2.64

even though they may be accepted practices in many households from these neighborhoods.

The caretakers also generally did a good job at maintaining children's cleanliness, often without having spare clothes to change children into when "accidents" happened. Teaching of hygiene practices to children was also observed in most of the *hogares*,

handwashing before and after meals being almost the norm. Sustained efforts to encourage mothers to help children acquire good hygiene practices are important.

The caretakers were usually heavily involved in feeding children, in helping the little ones to eat, and in encouraging children with poor appetites to finish their meals.

The psychopedagogical activities were by far the main weakness found in the evaluation of the quality of services. As indicated previously, caretakers dedicated very little time, if any, to these activities. And when they did, they often only provided material or a few suggestions and let the children play on their own. This problem was widespread, and alternative solutions should be sought. One potential solution would be to hire specially trained educators to be in charge of educational activities for a small number of *hogares*, a model similar to that of the social workers.

ATTITUDES AND PERCEPTIONS OF THE MAIN IMPLEMENTERS AND USERS TOWARD THE PROGRAM

The information acquired through focus-group discussions with the various stakeholders depicts a program that is generally appreciated and well perceived by both its users and its implementers. The program was unanimously described as serving the noble purpose of helping families with scarce resources, especially women heads of household and their children.

The main problems identified by each group as needing further attention are summarized below.

Caretaker Mothers

Caretaker mothers identified concerns in two main areas: (1) the quality of services and (2) the lack of support from parents and from the program staff.

The main quality issue was the absence of health supplies and services or of links with the health system. Caretakers deplored the fact that the program stopped providing basic medicines, vitamins, and deworming drugs for children; they recommended that this service be revived. The issue of the increase in food prices and the related difficulties they had in following the menus was discussed in all focus groups; caretakers felt that this problem constituted a main threat to the quality of the services provided by the program.

Probably the greatest concern reported by the caretakers was the expectation from the program that they act as teachers and educators when they felt they did not have the time, training, or financial incentives to do so. The implications of this concern for the program were discussed above. Also reiterated in the focus groups were the problems of lack of support from beneficiary parents.

Overall, caretakers said that they really enjoyed their work and that they perceived a great benefit from the program because it allowed them to work at home while also taking care of their own children (or grandchildren).¹⁰

¹⁰ The large majority of caretaker mothers had a child of their own (or a grandchild or other relative) in the program.

Beneficiary Parents

Beneficiary parents were generally happy and positive about the program, extremely appreciative of the excellent work of the caretakers, and grateful to the program for its assistance. They also indicated that the cost of the service was low, compared to other alternatives, but that they would not be able to pay more.

The suggestions they made to improve the program included the following.

1. *Include Saturday care:* The large majority of beneficiary mothers work on Saturdays, at least until midday or 2 p.m. The types of childcare arrangements beneficiary parents are currently using on weekends and their cost are described in Section 5. As will be discussed later, this is clearly an important issue for the program to consider, because the benefits provided by the program may be significantly reduced if parents have to pay expensive childcare costs on weekends.
2. *Provide health services and assistance when children are sick:* Most parents risk losing their employment if they are absent more than one day per month. Therefore, they have few alternatives when their child is sick and unable to attend the *hogar*. In addition, because of their employment, neither the program caretakers nor the parents themselves are able to take the child to the health center during opening hours (daytime).
3. *Include more than one young infant per hogar:* The program currently cannot include more than one young infant per *hogar* because of the high ratio of

children to caretaker. The issue, however, is truly a problem that poor families face. It is especially acute for women who are single breadwinners and who do not have maternity leave benefits, which constitutes the overwhelming majority of women in the urban slums of Guatemala City. Even when maternity benefits are provided, they usually cover only the very first few weeks of the child's life. Although the current program does not have the capacity to include more than one young infant, it may be worth considering an additional childcare modality. For example, a similar type of subsidized program, adapted to the needs of young infants, could be established to specifically target low-income working parents with young infants.

Beneficiary parents also expressed a concern about caretakers who leave children alone with family members younger than 14 years of age. This legitimate concern deserves additional discussion between program staff and caretakers.

Social Workers

The focus group with social workers unveiled a surprisingly high level of dissatisfaction with the program, which management should review carefully. Because the social workers play such an important role at the local level with caretakers, beneficiaries, and communities, the program cannot afford to ignore their concerns. Many of the issues raised in the focus group were related to problems with their direct supervisors, and with the lack of support they felt they were receiving from them.

The social workers' relationships with caretakers, on the other hand, appeared to be generally satisfactory, and they felt appreciated by them. In their role as supervisors, they experienced difficulties at times, e.g., when caretakers did not accept suggestions or failed to comply with program norms. Overall, however, they characterized their relationship with the caretakers as generally good and rewarding.

The social workers reported having little contact with beneficiary parents. This is not surprising, as parents are notoriously absent from the community during work hours. It is not clear whether social workers are expected to meet with parents outside of normal work hours or on weekends, but the absence of parents from their community greatly limits communication between the program and beneficiary parents.

SUMMARY OF ACTIONS IMPLEMENTED BY THE NEW PROGRAM ADMINISTRATION IN 2000

The findings of our evaluation became available at the time the new administration took over in early 2000. Presentation of the findings was made to the new program administration in Guatemala just as the program work plan for the next four years was being developed. Thus, the timing of the operational evaluation could not have been better, and the findings were discussed with a new administration eager to strengthen the program. The proposed plan includes the following improvements:

➤ Operations

- A 22-percent increase in the amount of cash transfer to caretakers for food purchases
- A 38-percent increase in the incentive provided to caretaker mothers

➤ Education

- Hiring of 110 educators to carry out the psychopedagogical activities and relieve caretaker mothers from this responsibility
- Provision of books and educational material

➤ Health

- Immunization campaigns, deworming activities
- Distribution of donated medicines
- Links with the health system to ensure follow-up of sick beneficiary children

➤ Food and nutrition

- Increase in the variety of food products received from the World Food Programme
- Review of the menus to adapt them to local dietary patterns and food preferences (by department)
- Improvements in growth monitoring activities: training of personnel to improve anthropometric measurement techniques (weight/height) and replacement of equipment (scales and measuring boards)

- Training of human resources
 - Training for beneficiary parents
 - Training to staff in early child stimulation
 - Workshops on child abuse prevention

Clearly, the new administration is planning to allocate resources to improving many of the aspects identified by the evaluation as needing attention. This highlights the usefulness of operations research approaches for evaluating program implementation and delivery. It also underlines the importance of three key aspects of this type of evaluation that ensure that the information is used for action: (1) the inclusion of the main stakeholders in the design and implementation of the evaluation and in the identification of key research questions, (2) the provision of relevant information to improve decisionmaking processes, and (3) the provision of the information in a timely fashion and to the right people—those who have the power to act.

5. IMPACT EVALUATION

The impact evaluation of the *Hogares Comunitarios* Program in Guatemala City was aimed at evaluating the impact of the program on:

1. *Children's diet and nutrient intakes.* This impact was expected to result from better diets among beneficiary children cared for in the *hogares* compared to

- children using other childcare alternatives. It also assumed that parents did not substitute (i.e., reduce the amount and/or quality of the diet of children participating in the program).
2. *Women's earnings and employment characteristics.* It was hypothesized that participation in the HCP could improve mothers' employment opportunities. For instance, it is possible that the program enables mothers to engage in more stable, formal work that provides greater wages and employment benefits, and that the program also allows them to work longer hours without being interrupted by childcare demands.
 3. *Household expenditure and budget shares.* The program could affect household expenditure patterns through its impacts on women's labor force characteristics, including earnings, which, in turn, may affect their share of household income, and consequently their decisionmaking power. Another pathway is through reductions in expenditures on food resulting from the provision of food for the child at the *hogar*. Finally, changes in women's employment patterns may result in changes in dietary patterns, increasing greater use of processed food and meals prepared away from home.
 4. *Older siblings' school attendance.* Participation in the program could reduce the need for childcare assistance from family members such as school-age daughters or sons. By doing so, the program could increase older siblings' school attendance.

To test these hypotheses, the evaluation included two components: (1) a case-control study of beneficiary children individually matched with control children of the same age whose mothers were working outside the home and who lived in the same neighborhood (n = 259 pairs), and (2) a random sample of 1,363 households with children 0–7 years of age from the study area.

The matched case-control study design was used to evaluate the impact of the program on the outcomes of interest, by comparing beneficiary children and their households with controls that were as similar as possible to the beneficiaries in their eligibility for the program (child age and maternal working status), and area of residence (living conditions, availability of services, etc.). This comparison was made to determine whether participation in the *hogares* was associated with better child diet, maternal employment opportunities and wages, different household expenditure patterns, and greater school attendance of school-age children.

To control for two sources of potential selection bias (selection of mothers into the labor force and selection into the program), a random sample of households with children 0–7 years of age residing in study areas was surveyed. The random sample also allowed assessment of the coverage of the program and the collection of information on the childcare arrangements used by nonparticipating working mothers in the study area. Details about sample sizes and methodology of the evaluation are provided in Box 2.

This section uses the impact evaluation information to address three main issues. First, we present a discussion of the targeting and coverage of the program by comparing

BOX 2**Methodology for the Impact Evaluation of *Hogares Comunitarios* Program in Guatemala****1. Impact Evaluation***Design*

The impact evaluation was carried out in one *municipio* of Guatemala City (Mixco). A cross-sectional design with two comparison groups was used. The first group consisted of beneficiary children 2–5 years of age who were attending the *hogares* on a regular basis. The control group, which included nonparticipating children and their households, was selected by individually matching neighborhood children with beneficiary children based on their age (\pm 3 months) and maternal employment (all mothers from both groups worked outside the home). It was originally hoped that control children could be selected from waiting lists available in the *hogares* (to minimize self-selection bias), but this proved logistically impossible because of the informality of the waiting lists. Control children were therefore selected by surveying houses in the area to identify eligible children.

Sample size

Sample size calculations revealed the need to include 60 *hogares* and 5 participating children per *hogar* to detect a difference of 15 percent in individual energy intake between beneficiary and nonparticipating children, using a power of 80 percent and an alpha level of 5 percent. Thus, our target sample size was 300 children in each group. This sample size was judged adequate because it also allowed us to detect differences as small as 10 percent in other outcomes such as maternal earnings, with a power greater than 90 percent. In practice, a sample size of 259 pairs was achieved.

Data collection methodology

1. Household survey methodologies were used to collect data on a variety of child, maternal, and household sociodemographic characteristics. These included household composition, consumption/expenditure, labor force participation of mothers and other household members, household nonlabor income and productive assets, childcare arrangements, and family history and social networks.
2. Child nutrient intake. Two methods were used: (1) direct weighing method carried out on weekdays in the daycare setting (during 10-hour observations), and (2) recall methods to assess weekend diet and morning and evening diets (before and after the 10-hour observations).
3. Maternal and child anthropometry (weight and height) using standard measurement and standardization techniques.

2. Random Sample*Design*

A random sample of households from Mixco with children aged 0–7 years was used.

Sample size calculations

A sample of 1,266 households was found necessary to detect a program effect of 25 percent on women's decision to enter the labor force. The actual sample size was 1,363 households.

Data collection methodology

An abbreviated survey was used, which collected information on household composition, labor force participation (of the mother only), household nonlabor income and productive assets, childcare arrangements (Monday-Friday only), and family history and social networks. Anthropometric measurements of mothers and all children 0–7 years of age were taken. Household consumption/expenditure and children's dietary intakes were not measured in the random sample due to the large sample size.

the characteristics of beneficiary households with nonparticipating households from the sample. Second, the patterns of childcare use in the study area are described, and their cost is compared to the cost of the HCP. Finally, preliminary findings from the evaluation of the impact of the program on the diet of participating children are presented. A brief discussion of the benefits of the program for caretaker mothers is also included. The impact of the program on maternal wages, expenditure patterns, and siblings' school attendance will be presented in future publications.

PROGRAM TARGETING AND COVERAGE

Program documents indicate that the geographical targeting of the program is based on poverty levels. To set priority areas, the program uses information from the United Nations Development Programme (UNDP) that ranks *municipios* and departments by poverty level. Once areas are identified, the program establishes quotas and sets a target number of *hogares* to be opened by a certain date in the various regions. At the time of the study, the goal was to achieve 1,500 *hogares* in the country by the end of the year (1998), of which 350 (23 percent) would be in Guatemala City.

Once the quotas are established, staff from the headquarters and social workers operating locally take responsibility for promoting the program in the respective areas. Headquarters staff use channels such as local leaders, churches, schools, and local radio where available. The social workers work more directly at the community and family level.

In theory, the process of opening a *hogar* consists of a group of parents selecting a woman from their community to become the caretaker mother, which involves caring for children in her own home. As a group they submit an application, which is processed. This is followed by visits from the program staff to the designated caretaker and to all proposed beneficiary parents to confirm their eligibility. In practice, many program caretakers indicated that they found out about the program through a variety of channels (schools, friends, or relatives, etc.), and decided to attend the training offered by the program for future caretakers. Once they had received the training, they started gathering families who were interested in participating in the program and then submitted an official application. Thus, both beneficiary parents and caretakers are self-selected.

To be eligible for the program, families must be of low income, the mother must be able to prove that she is employed outside the home (or has two weeks to find employment), and they must have a child under age 7. There are no eligibility criteria based on race, migrant status, age, or family structure other than having a preschooler.

Table 4 presents a summary of the sociodemographic characteristics of our sample of beneficiary mothers and their families ($n = 259$) and compares them with mothers from the random sample ($n = 1,363$). Because all beneficiary mothers by definition participate in the labor force, Table 4 also provides separate information for the subsample of working mothers from the random sample ($n = 504$).

Beneficiary mothers tended to be slightly less educated, have fewer assets, and live in more precarious conditions (in a room as opposed to an apartment or a house) than

Table 4—Characteristics of families using the *Hogares Comunitarios* Program compared to families from the random sample

	Beneficiary mothers (n=259)		Working mothers from random sample (n=504)		All mothers from random sample (n=1,363)	
	Mean (or %)	SD	Mean (or %)	SD	Mean(or %)	SD
Child (2-5 y)						
Age (months)	3.5	0.9	3.7	1.1	3.6	1.1
Height-for-age z-scores (HAZ)	-1.6	1.0	-1.4	1.2	-1.3	1.1
% stunted (HAZ < -2)	33%		29%		27%	
Mother						
Age (years)	28.3	5.7	30.5	7.6	28.8	7.9
Years of schooling	5.3	3.2	5.9	3.9	5.8	3.7
% single mothers (divorced, widowed, never married)	40.2%		29%		17%	
Maternal employment						
Currently working	100%		100%		37%	
Works at home	0%		28%			
Type of employment						
Salaried	87.6%		50.6%			
Type of job						
Itinerant vendor	6.6%		26.5%			
Small factory/business	62.5%		22.1%			
Domestic work	0%		23.5%			
Clerical work	0%		8.4%			
Number of days worked in past month (in up to 3 jobs)	22.8	4.2	19.1	12.5		
Money brought home in past 30 days from up to three jobs ^a	\$139	\$63	\$107	\$93		
Receives benefits:						
Medical insurance for self	10%		4%			
Social security	73%		33%			
14th month pay	81%		40%			
Vacation	73%		36%			
Mean number of benefits	4.4	2.2	2.2	2.6		
Household						
Household size	4.2	1.5	5.3	2.3	5.2	2.1
Number of preschoolers	1.9	0.8	1.6	0.7	1.5	0.7
Value of assets per capita	\$1,155	\$2,618	\$1,359	\$1,763	\$1,516	\$2,469
House ownership:						
owns	11.2%		20.0%		19.3%	
rents	73.0%		46.8%		47.1%	
other	14.3%		33.1%		33.5%	
Housing arrangement:						
Lives in room	56.8%		33.5%		36.0%	
Lives in house	22.4%		44.6%		44.8%	
Living arrangement:						
Nuclear family	19%		37%		32%	
Several households (related)	25%		34%		47%	
Several unrelated households	54%		23%		24%	

^a The average exchange rate during the study period was 6 quetzales (Q6) = US\$1.

mothers from the random sample (whether working or not). Beneficiary mothers were also much more likely to be single: 40 percent of beneficiary mothers were single compared to 29 percent among working mothers from the random sample, and 17 percent among mothers from the random sample as a whole. Beneficiary mothers had a smaller household size, but a higher mean number of preschoolers and thus a higher dependency ratio than women from the random sample.

Children of beneficiary mothers were more likely to be stunted and had lower height-for-age Z-scores than children from the random sample. Since stunting is a cumulative indicator of long-term growth retardation, it is likely that these children had suffered chronic growth retardation throughout their young childhood (and possibly starting from life in *utero*) as a result of a combination of factors, including poverty, food insecurity, poor health, and poor maternal care.

Beneficiary mothers, on the other hand, were more likely to be employed in the formal sector and to work in factories than other working mothers and to receive work-related social and medical benefits. The income of beneficiary mothers in the previous month was also 30 percent higher than the income of working mothers from the random sample.

Thus, the program appears to be reaching its targeted population: households with scarce resources, and especially single mothers with childcare responsibilities. It is likely that the program, because it provides reliable and affordable childcare for 12 hours a day, allows single mothers to engage in more formal, and possibly more stable, employment,

which also offers them a higher wage and a greater number of social and medical benefits.

Analysis of the random sample revealed a very low coverage of the program in the general population. Only 3 percent of working mothers from the random sample were beneficiaries of the program. This low coverage seems to result from inadequate supply rather than low demand. This was highlighted in the focus groups with the caretaker mothers who indicated having no problems getting new children when some dropped out of the program. Many reported being able to replace a child within 24 hours. Some also indicated having waiting lists, or that parents regularly stopped by the *hogar* to request their services.

We also collected information on whether mothers had heard about the program, and if so, why they were not using it. For those who had not heard about it, we described the program and asked whether they would be interested in such a program if a *hogar* was available in their community. Table 5 summarizes the findings. Only mothers working outside the home are included in this table because women working at home are not eligible.

More than half of working mothers from the random sample had heard about the program. Among those who knew about it, the most common reason for not using it was that they had an alternative caretaker at home (52 percent). Other reasons given for not using the program were mistrust of the program, the caretakers, or the quality of services; lack of flexibility of the schedule; and lack of space. When the hypothetical question was

Table 5—Reasons why mothers do not use the *Hogares Comunitarios* Program or would not use it even if space was available (random sample)

Reasons why does not use or would not use	Mothers working outside the home (n = 348) ^a	
	N	%
Knew about the program	205	58.9
Any child ever in the program	23	6.6
Reason child not in program	(n = 179)	
Expensive	2	1.1
Program has bad name	11	6.1
Does not trust caretaker	14	7.8
Does not know caretaker	3	1.7
Too many children in <i>hogar</i> , poor attention	4	2.2
Children not well taken care of, not safe	11	6.1
Children are not taught anything	1	0.6
Schedule too inflexible	7	3.9
Does not need it, has caretaker at home	94	52.5
<i>Hogar</i> is too far	9	5.0
No opening in the <i>hogar</i>	8	4.5
Child does not like this type of day care center, not used to it	4	2.2
Other	11	6.1
Would register child in <i>hogar</i> if there was space available	64	44.8
Reason why would not register child in <i>hogar</i>	(n = 78)	
It is too expensive	1	1.3
Program has bad reputation	6	7.7
Does not trust caretaker	10	12.8
Too crowded, poor quality of attention	2	2.6
Children not well taken care of, not safe	3	3.8
Children are not taught anything	1	1.3
Schedule is too inflexible	46	59.0
Does not need it, has caretaker at home	1	1.3
Would use if one was close by	5	6.4
Child does not like, is not used to this type of child care	3	3.8
Other		

^a Only mothers who worked outside the home were included in this analysis because mothers working at home are not eligible for the HCP.

asked to mothers who had not heard about the program whether they would be interested, 45 percent responded that they would be. Among those who said they would not use it, the same pattern of answers as that described for mothers who knew about the program

but did not use it was given: more than half replied that they did not need the service because they had childcare available at home, and the remaining answers showed a similar distribution as among mothers who had heard about the program.

These findings suggest that, although approximately half of working mothers in this marginal area of Guatemala City were not interested in using the program (mainly because they did not need the service), there was still a large proportion of the population who would be willing to participate. It is also possible that some of the women who are currently not working would decide to join the labor force if they had a childcare opportunity like the HCP made available to them.

Thus, the current low coverage of the program seems to reflect an insufficient supply rather than a low demand. Promotion of the program and improvement of its image could further increase demand.¹¹ The question that the administration needs to answer is whether or not they have the capacity and willingness to increase their coverage in Guatemala City, or whether they want to continue to expand in rural areas.

PATTERNS AND COST OF CHILDCARE USE IN GUATEMALA CITY

The types of childcare arrangements used on weekdays by families from our impact evaluation sample are listed in Table 6. The comparison groups for this table are the beneficiary families and their matched neighborhood controls. Note that the

¹¹ Confusion existed between the HCP and another subsidized daycare programs managed by a separate governmental entity. The latter program used a large daycare center modality, rather than the community daycare center approach, and had recently been attacked by the press. This resulted in the closing of many of the centers and resulted in a general mistrust regarding all government-sponsored daycare programs.

percentages add up to more than 100, because many parents use more than one childcare arrangement (27 percent of the beneficiaries and 18 percent of the controls). The fact that beneficiary parents resort to other childcare arrangements during the week reveals that they are generally absent from their home for more than 12 hours a day. Thus, even a service offering 12 hours of care daily is still insufficient for many parents in this environment.

Table 6—Childcare arrangements used by beneficiary and control households on weekdays (Monday to Friday) and their cost^a

Type of child care arrangement	Beneficiaries n = 259		Control n = 259	
	% who use	Cost/month	% who use	Cost/month
Resident household member	15.8%	--	57.5%	\$4.69
Nonresident grand mother	3.1%	\$4.17	18.5%	\$12.85
Nonresident aunt	1.9%	--	10.0%	\$11.31
Nonresident other relative	0.8%	--	2.3%	\$11.47
Neighbor	5.0%	\$3.61	6.9%	\$12.80
Babysitter	0.4%	\$0.42	12.7%	\$6.66
Other person	0.4%	\$5.05	1.5%	\$37.15
Child left alone	0.0	--	1.9%	--
<i>Hogar comunitario</i> (HCP)	100.0%	\$7.23	0	--

^a The average exchange rate during the study period was 6 quetzals (Q6) = US\$1. Note that percentages add up to more than 100 percent because many households used more than one arrangement.

The most popular alternative childcare used by beneficiary mothers in addition to the program was resident family members, which were used by 16 percent of beneficiary mothers. Resident household members were used even more widely by control households, where more than one-half used resident household members and 31 percent used nonresident relatives (the second most popular childcare alternative among this

group). The resident household members more commonly used differed between the beneficiaries and the control group: among beneficiaries, male heads predominated, whereas among the control group, grandmothers prevailed (not shown). Female siblings aged 7–15 years were the second most common resident family members taking on childcare responsibilities in both groups. Note, however, that for beneficiary households, relatives (resident or nonresidents) were used only for a few hours (three, on average) to complement the hours children spent in the *hogar*, whereas among the control group, relatives spent, on average, 10–11 hours per day as main caretakers.

Babysitters, neighbors, and other arrangements were much less popular childcare alternatives in this population than relatives, and this was probably due to a combination of factors, including high cost and issues of trust. Two percent of our control households left their child at home alone, without a caretaker. This was far from representative of the true prevalence of this practice in the area, however, because a large number of families who left their child alone refused to participate in the study. Thus our sample underestimates the importance of this desperate measure.

Table 6 also presents the monthly cost paid for the different types of childcare arrangements (among those who used them). Note that the average price paid for the HCP was \$7.23, as opposed to the official price of \$5.00. Only 44 percent of beneficiaries paid the required \$5.00, one-third paid \$5.83, and the remainder paid between \$6.17 and \$25.00. The main reasons for these price variations are twofold. First, as revealed by the operations research, some caretakers admitted charging their “clients” more, and parents agreed to pay these higher amounts. Second, many parents had special

arrangements with the caretakers to leave their children in the *hogar* after hours, and in some cases overnight or even for weeks at a time.

Other types of paid childcare arrangements that beneficiary parents used to complement the 12-hour service offered by the program included nonresident grandmothers, neighbors, and other babysitters.

The average monthly cost paid by users of the HCP, nonetheless, was one of the lowest of all childcare arrangements used in our sample, aside from resident household members. The cost of the HCP was even lower than the average cost paid by the control group to nonresident relatives.

Table 7 summarizes the cost information by showing the average monthly cost paid in childcare (for up to three arrangements per day) by beneficiary and control

Table 7—Comparison of the mean monthly cost of childcare paid by beneficiary and control households^a

	Beneficiary		Control	
	Mean	SD	Mean	SD
Monday-Friday		N = 257		N = 256
Cash	\$9.58	\$7.42	\$8.77	\$13.77
In-kind	\$4.23	\$10.12	\$3.65	\$8.52
Total	\$13.81	\$17.54	\$12.42	\$22.28
Saturday		N = 186		N = 197
Cash	\$2.00	\$3.07	\$0.20	\$1.20
In-kind	\$0.60	\$1.87	\$0.20	\$0.67
Total	\$2.60	\$4.94	\$0.40	\$1.87
Sunday		N = 27		N = 64
Cash	\$0.27	\$1.27	\$0.20	\$1.13
In-Kind	\$1.00	\$3.13	\$0.13	\$0.53
Total	\$1.27	\$4.40	\$0.33	\$1.67

households, separately for weekdays and weekend days, and for amounts paid in cash versus in-kind. Overall, the total amount paid in childcare during weekdays by beneficiary households was, on average, only 11 percent higher than the price paid by the control group, in spite of the fact that control households relied principally on relatives. Saturday care was an additional cost, and it appeared to be particularly high for beneficiary parents. Up to 72 percent of beneficiary households reported expenses on Saturday care, which averaged \$2 in cash and \$0.60 in kind. This cost represents approximately 19 percent of the amount they paid for the monthly childcare services they used on weekdays. Among the control group, the total amount paid on Saturdays (including cash and in-kind) was only \$0.40, which represents a low 3 percent of the amount paid by the control group for weekday care.

The issue of weekend childcare costs for beneficiary parents was discussed in the operations research section of this paper, and remains an issue for the program to address. One-fifth of the beneficiary mothers resorted to the program caretakers on weekends for an average of seven hours, at an average cost of \$5 per month. This roughly doubled the amount of their monthly cost of participation in the program. This additional fee was also disproportionately high, considering that it covered only an additional 28 hours (four part-time Saturdays), or the equivalent of 2.33 normal 12-hour weekdays. Clearly, mothers who resorted to this measure had no other alternative. Other weekend arrangements used by beneficiary mothers generally involved relatives and were cheaper, but they were usually not free of charge.

Overall it appears that the HCP is truly a low-cost childcare arrangement, even compared to informal alternatives involving household members or extended family members. Although the program's services are available for extended hours, its users still require additional help with childcare, often at high cost. As a whole, the program appears to be reaching its targeted population—poor families who do not have access to informal childcare possibilities—but the services offered seem to only partially fulfill the needs of this vulnerable population.

PRELIMINARY FINDINGS OF THE IMPACT OF THE PROGRAM ON CHILDREN'S DIETARY INTAKES

The impact of the program on children's dietary intakes was assessed by comparing the diet of beneficiary children with that of their matched controls. Both diets at the place of care (*hogares* for beneficiary children and the place of care for nonbeneficiary children) and at home were compared.

Preliminary findings show that the program is having a large positive impact on preschoolers' dietary intake: beneficiary children consumed, on average, 20 percent more energy, proteins and iron, and 50 percent more vitamin A than nonparticipants at their place of care during weekdays (Table 8). Moreover, a greater proportion of the iron and vitamin A intake of participating children was from animal products and thus was more bioavailable (Table 9) (Allen and Ahluwalia 1997; Sommer and West 1996).

Table 8—Impact of the *Hogares Comunitarios* Program on children’s nutrient intakes (results of direct weighing at the place of care on weekdays)

Nutrient (% adequacy)	Beneficiaries (n=257)		Control (n=257)		Stat. Signif.
	Mean	SD	Mean	SD	
Calories	69.5	16.4	57.5	18.1	*
Protein	118.5	34.9	96.2	39.8	*
Calcium	61.2	37.6	64.7	48.4	
Iron	107.5	38.3	89.9	58.4	*
Thiamine	126.5	50.3	94.6	56.4	*
Riboflavin	90.3	67.9	90.3	80.8	
Niacin	69.4	31.5	59.4	41.9	*
Vitamin C	139.2	92.8	132.4	133.7	
Vitamin A	257.7	209.0	169.9	147.4	*
Zinc	66.8	28.7	64.1	49.8	

Notes: * paired t-tests = statistically significant ($p < 0.05$). % adequacies are calculated by comparing the child’s nutrient intake to its daily requirements for his/her age and gender. The diet in the *hogares* is not expected to provide more than 80 percent of the daily requirements of children and it is expected that parents complement the *hogar* diet with food consumed at home (dinner, for example). The observations were carried out between 6 a.m. and 4 p.m. and therefore did not include dinnertime for either beneficiary or control children.

Table 9—Contribution of selected food groups to intakes of vitamin A, iron, and zinc (findings from direct weighing at the place of childcare on weekdays)

Food groups	Vitamin A adequacy (%)		Iron adequacy (%)	
	Benef.	Control	Benef.	Control
Meat	28.2	10.8	6.9	3.7
Other animal products	16.5	14.2	12.9	8.8
Black beans	0.4	5.9	2.0	6.4
Other beans and pulses	0.01	0.01	1.6	2.2
Cereals and grains	4.6	13.8	35.6	36.4
Atoles (cereal drinks with or without sugar)	2.7	6.2	0.8	1.2
Vegetables	31.7	9.9	7.5	3.6
Fruits	10.5	9.6	5.7	5.2
Sugar (fortified with vitamin A)	113.0	55.8	0.7	0.8

The weekend and the morning/evening diet of participating children were also more nutritious than that of nonparticipants, especially with regard to energy, protein, iron, and vitamins from the B-complex. Weekend intakes of vitamins A and C, and zinc were also greater among beneficiary compared to control children but differences did not reach statistical significance (not shown).

Thus, our findings confirm that the overall benefits of the HCP on children's dietary quality were large and were not attenuated by problems of substitution and poor diet at home. Similar findings were documented by Jacoby (2002) in relation to a school-feeding program in the Philippines. Children participating in the school-feeding program received the same diet at home as nonparticipants, and thus the program had a net impact on children's nutrition, but it did not provide an income transfer to the family.

The benefits of the HCP on preschoolers' micronutrient intakes are particularly important because micronutrients, and especially vitamin A, iron, and zinc¹² are the most widespread nutrient deficiencies among this age group (ACC/SCN 2000). Although vitamin A deficiency has declined in Guatemala since the reinforcement of sugar fortification in the early 1990s, it continues to be a major health problem along with iron and zinc deficiencies (ACC/SCN 2000; Rivera et al. 1998; Ruel et al. 1997; Population Health and Nutrition Information Project 2000). Deficiencies of zinc and iron may weaken the immune system and increase the incidence and severity of diarrhea and respiratory infections, two main causes of childhood mortality in developing countries,

¹² The difference between beneficiaries and control in zinc intake was positive, but it reached statistical significance only for the morning/evening diet.

and may also impair growth and motor and cognitive development. Unfortunately, blood samples could not be drawn in our study to verify the impact of the program on children's micronutrient status. However, with such large improvements in micronutrient intakes and with the documented greater contribution of animal (more bioavailable) sources of vitamin A and iron, the program has a large potential to improve preschoolers' micronutrient status. To maximize the impact, however, efforts should be made to maintain children in the program for extended periods. The high mobility of poor urban dwellers and the instability of maternal employment (mothers have to be working outside the home to be eligible for the program) results in high turnover, which, in turn, is likely to limit nutritional benefits. In our sample, more than half of the beneficiary children had been in the program for less than one year, and one-third had been in the program for less than three months.

DO CARETAKER MOTHERS ALSO BENEFIT?

It is important to note that the HCP provides important benefits to the caretaker mothers and their families. Caretaker mothers are clearly different in terms of their sociodemographic characteristics from the general population in the area and from beneficiary mothers. They are less likely to be single mothers (22 percent), have better housing conditions and greater availability of services, and are well established in their community, having lived there for an average of 17 years (Ruel 2001). Caretaker mothers are also older (averaging 43 years) and have lower levels of education (average four years of schooling; 15 percent have never attended school) than women from the random

sample. Thus, employment opportunities for this group of women may be limited and the HCP probably constitutes a unique opportunity for them to generate income while working at home and taking care of their own children or grandchildren. More than half of the caretaker mothers had at least one child or grandchild in the program, and some had up to three, although the program tries to limit the number to two. As documented in the operations evaluation, caretaker mothers may also benefit from the program by using the cash transfers and the food donations to feed their whole family in addition to the beneficiary children (of which some are their own). Finally, caretaker mothers receive a monthly incentive of \$83.33 (when their *hogar* is operating at full capacity), which is only about 22 percent lower than the average monthly income of working mothers from the random sample.

On the other hand, it is important to recognize that caretaker mothers work long hours and use their own resources—house, furniture, equipment, supplies, and electricity. Even more importantly, they share the workload and responsibilities of managing the *hogar* with their whole family. All caretaker mothers reported receiving help from at least one family member in managing the *hogar*, and some had as many as five helpers, mostly their own children. Thus, the *hogar* is truly a family enterprise, and it is impossible to determine whether the net benefits of the program for caretaker mothers and their families are positive. It would seem that they are, but we do not have sufficient information to confirm this observation.

6. SUMMARY AND FINAL COMMENTS

Our evaluation revealed that the HCP is carefully designed, well implemented, and much appreciated by its users and main implementers. The program reaches its targeted audience—families of working parents with poor resources, and particularly, families where mothers are the main income generator.

The program seems to benefit two distinct groups of poor urban women. First, it benefits women of participating children, who are mostly young working mothers, many of whom are single. Beneficiary mothers are more likely to be engaged in formal, stable employment, possibly a result of having secured reliable and affordable childcare for extended hours. These women, in turn, have higher wages and a larger number of employment benefits than working mothers who use alternative childcare arrangements. The second group of women who appear to also benefit from the program are the caretaker mothers themselves, who are, on average, older, less educated women with possibly limited opportunities to work outside the home. These women benefit from generating some income (albeit low), while taking care of their own children or other relatives' children and providing childcare services to their community.

In spite of being one of the cheapest childcare alternatives available in the study area, the program was used by only 4 percent of eligible households, i.e., families with a child younger than 7 years whose mother was working outside the home. This low coverage was largely due to the program's limited supply, but there was still a significant proportion of nonusers who considered that they did not need the program because they

had family members available to help with childcare responsibilities. As is the case in most cultures, Guatemalan parents generally feel more comfortable having their children cared for by a close relative than by a daycare center or private babysitter. Cost is obviously an additional consideration.

There is concern, however, that available relatives are often older siblings, and particularly girls, who may be denied their right to attend school in order to take on family childcare responsibilities. Many studies from developing countries indicate that older females in the home, particularly older daughters, enhance mothers' labor force market participation by acting as substitute childcare providers (Deutsch 1998; Connelly, DeGraff, and Levinson 1996; Wong and Levine 1992). A study in India found that time spent in school by boys and girls was negatively affected by higher mother wage rates, indicating that school-age children may be acting as substitutes for home production activities when the mother works (Skoufias 1994). Our impact evaluation will examine whether the HCP does contribute to maintaining older siblings in school.

The cost of the program was estimated at \$1.38 per child per day in 1998. This ranks the Guatemala HCP in the middle of the range compared to five similar programs in Latin America that range from \$0.58 (Colombia's *Hogares Comunitarios de Bienestar*) to \$2.15 (Bolivia's *Proyecto Integral de Desarrollo Infantil*) (de la Brière, personal communication).

The cost structure of the Guatemala program presented in Table 10 shows that only one-fifth of the cost is incurred by parents, while the remainder is provided by the government. By far the most expensive component of the program is the cash transfer for

food, which represents 40 percent of the cost. With such a high investment in food for beneficiary children, it is reassuring to see that the program is indeed having a large impact on the quality of their diet. It would be worth carrying out a small evaluation to document that the impact on diet does translate into improvements in the micronutrient status of beneficiary children and may therefore have long-term benefits on their health, nutrition, and cognitive development.

Table 10—Cost structure of the *Hogares Comunitarios* Program^a

Item	Cost/child/day (US \$)	% of total cost
Program costs		
<i>Direct transfers</i>		
Food	\$0.55	40%
Educational supplies	\$0.03	2.25%
Fuel	\$0.03	2.25%
<i>Administration</i>	\$0.22	16%
<i>Caretaker incentive</i>	\$0.17	12%
<i>Food donations</i>	\$0.09	6.5%
Total program	\$1.09	79%
Parent costs		
Caretaker incentive	\$0.29	21%
Total	\$1.38	100%

^a Cost structure in 1998.

Due to budgetary constraints, the present evaluation was restricted to urban areas of Guatemala City. Considering the large presence of the program in rural areas and the difference in the characteristics of life in urban and rural areas (Ruel, Haddad, and Garrett

1999), it would be worth carrying out a similar evaluation in rural areas. This would be particularly helpful to help the program set future priorities for expansion and strengthening.

At least in Guatemala City, however, it is clear from our evaluation that the program has a great potential to contribute to the alleviation of poverty, food insecurity, and malnutrition, and that this potential would be further enhanced by expanding the program while continuing to strengthen it.

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