

**ALLEVIATING STRUCTURAL POVERTY IN  
DEVELOPING COUNTRIES:  
THE APPROACH OF *PROGRESA* IN MEXICO**

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**February 2003**

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## 1. Introduction

In August 1997, the Government of Mexico introduced a new and innovative program, called PROGRESA, which was intended to be a key component of its poverty alleviation strategy.<sup>1</sup> A number of factors motivated the introduction of such a program. Firstly, in spite of impressive growth up to the mid 1990s, poverty rates in Mexico have remained stubbornly high.<sup>2</sup> The headcount index decreased from 19.7% in 1989 to 15.3% in 1994, while the poverty gap decreased from 0.067 to 0.046. However, the peso crisis of the mid 1990s undid many of these gains. By 1996 the headcount index had increased to 21.2% and the poverty gap to 0.073, meaning that poverty in Mexico was higher in 1996 than it was in the late 1980s.

Secondly, although there is a general consensus that renewed growth is crucial for any sustained decrease in poverty, it is also widely accepted that social safety nets play a very important role in the poverty alleviation process. In fact, for many of the world's poor, public safety-net programs are their only hope of a life free from chronic poverty, malnutrition and disease. However, in Mexico, as in many other developing countries, the perception is that these transfers often fail to reach the most vulnerable groups.<sup>3</sup> General food subsidies, such as the tortilla price subsidy (FEDELIST), were widely perceived to be very badly targeted at poor households and to constitute a substantial drain on the government budget. Other programs such as PRONASOL, which was community based and demand driven, were similarly badly targeted and thought to be extremely susceptible to local political influences (Levy, 1994; Yachine, 1999).<sup>4</sup> Data for the communities participating in PROGRESA show clearly that very few of the national poverty-alleviation programs reach these communities.

Thirdly, a high proportion of program budgets is thought to be absorbed by unnecessarily large administrative costs as well as through corruption and operational inefficiency. For example, it has been calculated that the TORTIVALES (subsidized tortillas) programs in Mexico cost 40 pesos to transfer 100 pesos to beneficiaries (Grosh, 1994). When combined with the fact that the combined social safety-net system is made up of a myriad of uncoordinated and often duplicating components, these factors lead to a very cost ineffective approach to poverty alleviation and an unnecessary waste of scarce public resources.

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<sup>1</sup> PROGRESA is an acronym for "Programa de Educacion, Salud y Alimentacion" (or the "Education, Health and Nutrition Program").

<sup>2</sup> The numbers reported below are taken from CEPAL (2001). The headcount index is the proportion of the population that have per capita incomes below a poverty line of \$2 per day. The poverty gap is the sum of individual poverty gaps divided by the poverty line times the total population. We recognize that comparing poverty rates across time is a hazardous task but we use such comparisons here to bring out broad trends.

<sup>3</sup> For example, a recent review by Coady, Grosh and Hoddinott (2002) of transfer programs in developing countries finds that as many as one quarter of the programs reviewed actually had regressive benefit incidence, i.e. the proportion of benefits going to the poor was less than the share of the poor in the population

<sup>4</sup> For a brief description of the main poverty alleviation programs in Mexico, see Skoufias (2001, Appendix A).

Fourthly, the prevailing view was that the existing components of the social safety-net system had a short-term focus on alleviating only current poverty and thus generally failed to generate a sustained decrease in poverty independent of the transfers themselves. Also, from the perspective of political economy, those pushing the program felt that for a program with sizeable transfers to be politically acceptable it would be necessary to be able to argue that the transfers were not simply handouts but were investments in needy households (i.e. a hand-up as opposed to a hand-out), which simultaneously recognized each person's "right" to a basic living standard but also their "responsibilities" for achieving this goal. The whole conception of the program was built around the objective of social development rather than social assistance.

A number of features of PROGRESA reflect many of the above concerns. The program is very much designed and implemented by the Federal government. Participating communities and households are both selected by program officials who are situated in the central government, and transfers go directly to eligible households without passing through state budgets. It was hoped that this would eliminate the unnecessary bureaucracy inherent in many existing programs. The program uses a range of targeting methods (e.g. geographic, household proxy means and community targeting methods) to ensure that program benefits reach the poorest households. Continued eligibility to receive benefits is conditioned on households investing in the education and health status of household members, in particular children. Failure to meet these conditions leads to a loss of benefits, usually at first temporarily but eventually permanently. In addition, special emphasis was placed on the need to have a built-in comprehensive evaluation of the program from its early stages. In the sections below we discuss some of these issues in more detail.<sup>5</sup>

Over the last decade there has been an emerging consensus that, together with economic growth, improving access of poor households to nutrition, health and education services, as well as to a cost-effective social-safety net system, is necessary for poverty alleviation and long-term development (World Bank, 1990, 1997). It is also widely accepted that governments have a crucial role to play in the achieving these objectives. In a sense, PROGRESA is Mexico's public statement of this reality. By linking transfers to human capital investments by poor households and by strengthening the links between central government (the funder) and poor households (the clients), it also expects to improve the responsiveness of state-level service providers to the needs of the poor and thus the effectiveness and progressivity of these expenditures.

## **2. Innovative Features**

Reflecting the desire of government to signal a clear break with past approaches to poverty alleviation, PROGRESA has a number of innovative design and operational features. Some of these have already been alluded to above, but in this section we discuss them in more detail.

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<sup>5</sup> The synthesis by Skoufias (2001) provides more detail on many of the issues discussed below. See also Rawlings and Rubio (2001), Patrinos (2002) and Morley and Coady (2003) for comparisons and details of similar programs in other developing countries.

## ***2.1 Program Design***

A key feature of the program is that it is not simply a cash transfer program but eligibility for the transfer is conditioned on beneficiaries undertaking a number of actions related to improving the nutrition, health and education status of household members, especially of children. This essentially transforms the program from a pure cash transfer to a subsidy for human capital investments by households. The focus on nutrition, health and education reflects the fact that the poorest households are not simply poor in terms of income and consumption, but also in terms of human capital status. In fact, low human capital levels are often perceived as the root cause of the persistence of poverty both within and between generations. The importance of human capital also reflects the fact that such households rarely have much in the way of physical assets. For this reason these households are often referred to as being “structurally poor” (as opposed to being “vulnerable to poverty”). The integration of nutrition, health and education incentives into one program was also motivated by the belief that there were important synergies between these components for these populations. In a sense, if one loses the nutrition-health battle, the education battle is already half lost before it is begun.

The fact that the poorest households are simultaneously disadvantaged in terms of human capital status can be clearly seen by looking at education outcomes (Lopez-Acevedo and Salinas, 1996). Primary enrollment in Mexico is nearly universal, with nearly 95% of children aged 6-11 years enrolled in primary school in 1996, and enrollment rates are not much different between those in extreme poverty (93%) and the non-poor (96%). Enrollment rates drop to 58% among children aged 12-14 years in middle school, with these being substantially lower for the extreme poor (38%) compared to the non-poor (79%). The discrepancy worsens further in high school, with enrollment rates of 14% and 58% for the extreme poor and non-poor respectively. There is also clear evidence that the poorest households start school later and progress more slowly. For example, using household surveys, Psacharopoulos et al (1997) calculated “education deficits” by income quintile for Mexico in the early 1990s; these deficits represent the amount by which the actual years of school of each child falls short of the maximum total years the child could have assuming that he/she started school at six and continued straight through to his or her current age. The results indicate that these deficits were 45% in the first (poorest) quintile, 34% in the second and 27% in the third.

The structure of benefits in PROGRESA is presented in Table 1. Only children over 7-years were eligible for education transfers (starting age for 3<sup>rd</sup> grade) so as to prevent incentives for higher fertility. The benefit structure has a number of important features. Transfers increase by grade (motivated by higher opportunity costs for older children) and are higher for girls in middle school (grades 7-9). Higher subsidies for girls in middle school reflect a desire to reduce gender bias in education as well as to internalize the widely documented social externalities accruing from female education. In 1999, monthly benefits started at 80 pesos in grade 3 of primary school.<sup>6</sup> In middle school benefits rise to 265 and 305 pesos for boys and girls respectively by grade 9. Reflecting

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<sup>6</sup> In 1999 the exchange rate was approximately 10 pesos per US dollar.

the objective of improving educational achievement (and not just enrollment), transfers are also conditioned on an 85% attendance record and children are allowed to repeat a grade at most twice.

It is also important to recognize that increasing enrollments, while important, is not enough in terms of generating improved educational outcomes among the poor. As important is the need to ensure that these students receive a quality education once enrolled, and recognizing the role of the supply side (i.e. the level and organization of inputs) is obviously crucial. On the supply side, although the program did not directly provide extra resources to schools, program officials coordinated with those in the Ministry of Education to ensure that extra resources were made available in anticipation of increasing demand in program areas. Similarly, the full benefits from education programs can only be realized if macroeconomic policy is conducive to economic growth and increasing demand for a more educated labor force.

The “food transfer” was fixed for each family at 125 pesos per month and was conditioned on households making regular trips to health clinics for a range of preventative health checks and also attending monthly nutrition and hygiene information sessions. In principle, the education and food transfers are independent in the sense that beneficiaries can take-up one and not the other. Table 2 provides details on the services available at clinics and Table 3 the required attendance at health clinics by household members. In addition to the cash transfer, beneficiary households with children less than three years receive a monthly nutritional supplement (a box of 30 sachets per month) that contains essential micronutrients (see note to Table 2). The monthly nutrition and hygiene information sessions discussed such things as the importance of consuming nutritional foods, preparing food properly, and following simple hygiene practices and preventative health care in the home.

In order not to erode the incentive for self-help or to avoid incentives for higher fertility, there was a ceiling of 750 pesos for education and health transfers. On average, the transfer to beneficiary households was substantial, constituting around 20% of total household consumption. The money was given to the mothers reflecting the belief that this would maximize the benefits of the extra income for children’s welfare. Transfers are also inflation-indexed every six months.

## ***2.2 Program Implementation<sup>7</sup>***

PROGRESA is a very centralized (or top-down) program in the sense that the design of the program and its implementation were the exclusive domain of the Federal program agency, CONPROGRESA, which had operational arms at municipal and local levels of government. This body was responsible for determining the level and structure of transfers, the conditions attached to transfers, the selection of beneficiaries, the transfer of cash to beneficiaries, and the day-to-day running of the program.

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<sup>7</sup> See Adato, Coady and Ruel (2000) for more details on operational details of the program.

However, a distinctive element of PROGRESA is the direct relationship between the program and the beneficiaries. Once the program identifies which communities and households are eligible to receive program benefits, they hold a general assembly in the community to inform households of eligibility, to explain the workings of the programs with regard to households entitlements and responsibilities, and to answer any questions on program operations or objectives. Beneficiaries are provided with literature documenting these issues as well as with the forms required to register in schools and clinics and to collect their transfers.

At that general assembly, participants select a beneficiary woman to act as “community promoter”. She plays the role of a liaison officer between the program officials and beneficiary communities, arranging regular community meetings with beneficiaries, informing beneficiaries of their rights and responsibilities under the program, and communicating beneficiary concerns to program officials. It is she who informs beneficiaries when and where to collect their transfers and answers any queries regarding the amounts they receive. In practice, she has also played an important liaison role between beneficiaries and education and health providers, as well as providing program officials with crucial information regarding the effectiveness of education and health services. In addition, she is often the first point of contact for program officials checking out the validity of possible operational or other problems brought to their attention. Community promoters are volunteers who do not receive payment for their services except for a small amount to cover expenses for things like travel to promoter meetings organized by the program.

The role of the community promoter was eventually recognized to be so important that initial plans to rotate the position annually were dropped so as not to lose the specific capital accumulated by her in the process. She obviously provides a key link in the funder-provider-client nexus. In this sense she can potentially play an important role in increasing community involvement in programs in order to increase program relevance and effectiveness. In particular, she may provide an important mechanism for addressing issues related to the effective provision of education and health services in poor communities.

Once beneficiaries have been informed of program operations and their rights and responsibilities under the program, they must register at schools and clinics using the registration forms provided. Proof of registration, provided by the school or clinic, must be presented in order to receive their first cash payment. These registration forms are then logged in electronic databases, which are transmitted from the state office to the central office. Attendance at school and health clinics is monitored and recorded by service providers and this information is transmitted every two months to central office. Household transfer levels are calculated based on this information and transferred to households at local distribution points via the national telegraphic system. The number of distribution points was increased over time in response to beneficiary complaints that the time and money costs associated with traveling to and from distant distribution points was substantial. Also, at the start of the program there were long delays in processing attendance data and getting transfers out to households. This reflected delays at the

community level in transferring the necessary forms to program officials and the fact that program officials at the center waited until all forms were received. However, over time the information to be filled in by service providers was simplified (e.g. by now notifying only absences rather than all attendances) and transfers were distributed once 80% of communities in a state had provided the necessary information.

One of the issues that arose during the program implementation and evaluation was the importance of ensuring that the effectiveness and integrity of this monitoring process was continuously evaluated. But it was also widely agreed that this is not an easy process. The validity of beneficiary compliance cannot be confirmed based solely on impact evaluations since these rely on household reporting and households obviously have an incentive to report attendance. Similarly, service providers may also face incentives to falsely report attendance, for example because of community pressure, of the consequences of benefit withdrawal from poor households, or so as to avoid congestion at schools and clinics.

Although a preliminary evaluation of this process indicated that there were also incentives for truthful reporting (e.g. monitoring by beneficiaries who do comply with the rules, a commitment by service providers to improve human capital status and the fact that there is provision for non-compliance due to genuine health reasons), this process needs to be looked at more systematically. One possibility is to redesign the program to provide direct incentives for improvements in human capital status. This is probably more acceptable in the case of education where one could also link transfers to education performance and successful progression through grades. During focus groups, teachers themselves suggested linking transfer to performance. However, this just pushes the monitoring problem onto performance rather than attendance. But at least there are additional arguments for such monitoring, e.g. through supervised exams, even in the absence of such a program as PROGRESA.

### *2.3 Selection of Beneficiaries<sup>8</sup>*

The targeting methods used to identify eligible households were relatively sophisticated involving a two-step process and a combination of geographic targeting and a proxy means test applied universally at the community level. At the first stage (choosing the poorest or most “marginal” communities) information from the national census on the demographic, housing, infrastructure, occupation and education characteristics of communities was used to construct a “marginality index” (i.e. a community score) for each community in the country and this was used to identify the most marginal communities to be included in the program. In addition, communities had to have access to education and health facilities within a certain radius and also have between 50-2,500 inhabitants. Once these communities were identified, a community census was conducted and the socio-economic data on households from the census were used to calculate a proxy-means score for each household (using discriminant analysis with income as the left-hand side variable) and then to classify households as “poor” (or

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<sup>8</sup> See Behrman, Davis, Levy and Skoufias (1998) and Skoufias, Davis and Behrman (1999) for details on the targeting design of the program.

eligible for the program) and “non-poor” (or not eligible). In all, 20% of households were deemed non-eligible and these were concentrated in the least marginal communities.

An interesting feature of this mechanism as applied was the interplay between statistical selection techniques and community input. When the statistical algorithm was first applied, only approximately 50% of households were classified as “poor” and thus deemed to be eligible for the program. However, feedback from communities emphasized the crude nature of such statistical procedures. Firstly, it was argued that the level of poverty was being greatly underestimated. Secondly, it was argued that very poor households without children, especially elderly couples, were wrongly being left out of the program. Program officials attributed the latter to the linearity of the statistical process and the undue weight the algorithm attributed to the household dependency ratio. For this reason the algorithm was re-run and the program coverage (or poverty rate) increased to nearly 80%. However, there was some indication that the results of the algorithm may not have been strictly adhered to and rumors that some elderly couples were “wrongly” determined to be eligible. These “new” beneficiaries were incorporated into the program during a later “densification” stage.

#### ***2.4 Evaluation***

One of the most innovative aspects of the program was the emphasis placed from the beginning on ensuring that it had an in-built and credible evaluation process. As with the design and operational details of the program, this aspect was home-grown and not imposed externally by, for example, international donors – in fact the program was fully financed domestically rather than by international development institutions. However, the Inter-American Development Bank also played a key role in facilitating and encouraging discussions on design, implementation and evaluation issues. At the request of the Mexican government, workshops were held both in Mexico and Washington, which brought together domestic and international development and program evaluation experts to identify and discuss the relevant issues.

For such an evaluation to be effective and credible it had to be carried out by an institution with the required technical skills as well as one that was clearly at arms-length from the government. For these reasons, the program decided to contract a foreign-based research group, the International Food Policy Research Institute (IFPRI), to be responsible for coordinating and carrying out the evaluation. Consistent with the underlying objectives of the evaluation, IFPRI in turn contracted a number of leading development experts to design, monitor and participate in the evaluation. While this caused predictable unease both within and outside of Mexico, particularly since local experts not directly involved with the program were not always very widely consulted or kept informed on a regular basis, it was perceived to be crucial to the credibility of the evaluation. The fact that national elections were due in 2000, 3 years after the introduction of the program, meant that the program and its evaluation were destined to be bound up in heated political discussion as can be seen by a perusal of the national press over this period.



In order to evaluate the program, 506 communities were randomly chosen from those identified by the geographic targeting method as being the most “marginal” and thus eligible for the program.<sup>9</sup> From these, 320 were designated as “treatment” communities, i.e. those that would receive the program, and 186 as “control” communities. The justification for withholding program benefits from the “control” group was that there were budgetary constraints that would be relaxed over time and this necessitated a phased introduction of the program. Thus the sequential expansion of the program due to annual budget constraints presented the opportunity for a rigorous evaluation of the impact of the program through comparing the outcomes in participating communities with those of ‘control’ communities that were to be incorporated into the program at a later stage. The control group was eventually incorporated in late November 1999, two years after the program was first launched. The decision to maintain a control group predictably generated a lot of heated public debate but program officials were determined to defend this decision, especially since it was perceived to be crucial to maintaining the integrity of the evaluation.

Another defining feature of the evaluation was how extensive it was both in terms of the use of both quantitative and qualitative evaluation techniques as well as the wide range of issues addressed. At the core of the quantitative evaluation was the collection of “baseline” and “follow-up” household surveys over the period November 1997 to November 1999. This collected detailed socio-economic information from all 24,000 households in the 506 evaluation communities (i.e. a detailed census of the evaluation communities). In all, five rounds of data were collected, one in 1997, and two each in 1998 and 1999. This data provided the opportunity to undertake a very scientific evaluation that could provide a very clean estimate of program impacts because the presence of a control group enabled evaluators to “wash-out” confounding factors, including inherent time trends and exogenous shocks. As it turned out, having such a control group was crucial since the program area experienced an economic shock in the form of a drought, which caused much distress in the program area and independently adversely affected many of the outcomes focused on in the evaluation.

However, in spite of this, many have pointed to the great difficulty in maintaining the integrity of the control group. For example, it could be argued that if households in the control group are aware of the program and its design then they may change their behavior if they believe that it will increase their chances of being eligible or the amount of benefits they will receive or simply because they now know that substantial transfers will be coming their way in the near future. Establishing the importance of such issues in practice is an extremely difficult research task and is among one of the numerous issues now being investigated by researchers around the world with the official public release of the evaluation data by IFPRI in late 2002.

In order to provide insights on program impacts that are not easily evaluated using quantitative techniques and to validate and better understand the processes generating the identified quantitative impacts, great emphasis was placed on the use of qualitative

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<sup>9</sup> See Behrman and Todd (1999) and Skoufias (2001) for more detail on the evaluation data and framework.

evaluation methods. This took the form of structured and semi-structured observations and interviews, focus groups and workshops with a series of stakeholders, including beneficiaries, community promoters, local leaders, local program officials, central program officials, and service providers. Together with the quantitative evaluations, this provides an unusually rich set of data for the purpose of program evaluation but also more generally for analysis of the socio-economic characteristics of poor households, the nature of their poverty and its determinants.

The use of a “control” and “treatment” group, as well as pre-program and post-program information, has many advantages in enabling evaluators to identify a “clean” estimate of program impacts. By focusing simply on differences in mean outcomes between these groups, the impact of confounding factors (e.g. economic shocks) can be removed, even without any “fancy” econometric analysis. The impacts that are identified reflect the way the program is actually implemented. But, in addition, it captures the indirect effects of the myriad of household (or even government) responses that affect final outcomes and which are hard to identify *ex ante* or control for *ex post*. In other words, the estimated impacts are the “reduced-form” impacts after operational and behavioral responses play themselves out, and this is of paramount importance to policy makers.

However, herein lies one of its limitations. Regardless of whether the program has impact or not, policy makers could also benefit from knowing how program implementation and design could be manipulated to improve program impacts. For example, how could one change the benefit structure to improve education impacts? Or what is the impact of conditioning the transfers relative to just giving pure unconditioned transfers? Or what aspect of the nutrition and health components explains improvements in these dimensions? Is it the nutrition supplement, the increase in income or improved information on the part of households regarding the links between their behavior and their nutrition and health status? However, because the program is implemented as a single package (i.e. without randomly selected groups of households receiving different combinations) it is very difficult to get clean estimates of the precise channels through which observed impacts come about. Although evaluations can be designed to address these issues, the complexity of the evaluations increases substantially and it is often difficult to persuade program officials or policy makers to sanction such evaluation designs. As indicated above, the recent release of the program data will undoubtedly enable researchers to address these issues and possibly identify approaches that can enable one to learn more from the data generated by such evaluations.

### **3. Program Impacts**

In this section we very briefly summarize the results of the large number of evaluations of program impacts. We start by looking at the targeting performance of the program. We then look at the impact on outcomes perceived as being the main objective of the program, namely, health, education and consumption/nutrition. This is followed by a summary of the range of other “secondary” impacts that were identified by the program evaluation. It is important to note that, no attempt is made to be exhaustive in this respect.

### *3.1 Targeting Performance*<sup>10</sup>

Analyses of the targeting efficiency of the program shows that it is very well targeted, with a high proportion of the transfers going to the poorest households. The numbers presented in Table 4 can be used to evaluate the overall targeting performance of the program but also the contribution of each targeting method. In the absence of any targeting (i.e. neutral benefit incidence), each decile would receive 10% of the benefits; targeting increases the share going to the lowest deciles. It is estimated that 58% of PROGRESA transfers go to households in the bottom 20% of the national income distribution and that over 80% goes to the bottom 40% of the distribution. In other words, based on the latter numbers, “poor” households receive twice as much as they would have without targeting.

This is very impressive targeting compared with other safety net programs analyzed in a recent review by Coady, Grosh and Hoddinott (2003). They report that the median program among the 77 for which they had data distributed about 65% of its benefits to the bottom 40%, but also surprisingly that over one quarter of programs had regressive benefit incidence with the “poor” receiving a share of benefits less than their population share. In fact, PROGRESA is included in that study and is placed in the top 30% of programs based on this targeting performance. The median outcome for the ten best-targeted programs had just over 80% of the budget going to the poorest 40% in the income distribution.

Geographic targeting alone increases the share going to the bottom quintile from 20% to 33%. Adding a proxy means test increases this further to nearly 40%. Linking benefits to household demographic structure increases this even further to 58%. Therefore, 36% of the total gains from targeting are due to geographic targeting, an additional 16% to household proxy-means targeting, and an additional 48% due to demographic targeting by way of linking transfer levels to the number of children in the household. The relatively high contribution of demographic targeting reflects the very high correlation between family size and poverty and the fact that education transfers are linked to children.

From the outset of the program, there was much debate regarding the need for targeting within communities with those arguing against pointing out that such gains would be low and the process may cause internal conflict. In addition, the statistical approach was often perceived (among other things) as crude, unethical and not transparent enough for beneficiaries to assess its fairness. And the numbers above make clear that the use of household targeting (i.e. classifying households as “poor” and “non-poor” based on a proxy-means test) accounts for very little of the total gains from targeting. This relatively low contribution is mainly due to the high poverty rate within participating communities, with 80% of households being classified as poor.

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<sup>10</sup> On targeting, see Skoufias, Davis and Behrman (1999), Skoufias, Davis and de la Vega (2001) and Coady (2000, 2001).

The results from qualitative analyses highlighted the fact that there was a general belief within communities that “poor” households were left out. In fact, initially the approach to proxy-means testing resulted in around 50% of households in participating communities being classified as “poor”. However, the feedback from the communities (discussed earlier) drew attention to the crude nature of the statistical targeting method used, with a strong belief that too few households were being classified as “poor” and that there was a bias in the statistical approach against poor families without children (in particular elderly couples). As a result the coverage of the program increased on average to around 80% of the households in participating communities. There is also evidence that suggests that the statistical approach may not always have been rigorously followed and that some elderly couples may have been incorporated in response to community pressures without going through the statistical selection process.

These analyses also highlighted some problems that can arise with the use of statistical techniques based on surveys. For example, sometimes people were not at home when the enumerator called and the enumerator did not return. Or people overstated their resources because they were ashamed to admit to their poverty. But most agreed that the better off (e.g. professionals, shop-owners etc.) should not receive transfers and that selection process was not politically motivated. There was also some evidence that those not eligible no longer contributed as much to community activities, feeling that the onus was now more on program beneficiaries in part payment for the privilege of benefits. Although the selection process did attempt to address some of these problems over time, generally there was a feeling that many of these problems could be addressed by having a more active participation of the community in the final selection process.

But it is important to point out that, although the gains from household proxy-means targeting are on average relatively small, these gains increase substantially as the program expands into less marginal localities. For this reason, program officials decided that establishing the principle of targeting (i.e. that only the needy were eligible for the program) early on in the program’s life was important. But it seems clear that the process of selecting households within communities needs to be revisited. However, even if the statistical approach is improved it is still probably desirable to complement it, where possible, with some enhanced role for communities or with some in-built self-selection mechanism.

This also raises the issue of the desire to have some rules for “entry” (of new “poor” households) and “exit” (of previously “poor” households) to/from the program. Initially it was intended that beneficiaries were to be eligible only for three years, after which they would have to reapply with other potential beneficiary households (i.e. the so-called “recertification” process). However, as of 2003 this process has not yet taken place, although the database on household socioeconomic status has been updated. This reflects not only the initial inertia that inevitably follows immediately after the change of government but also the difficulties inherent in using the original proxy-means targeting method, which is based on a relative (and static) concept of poverty, as the basis of program entry and exit decisions. How the current PROGRESA team address this issue

will have important lessons for similar programs that have very recently been implemented in other Latin American countries.

### ***3.2 Impacts on Human Capital***

One of the central objectives of the program is to generate a sustained decrease in poverty through improvements in the nutrition, health and education status of poor households. This is to be achieved by the conditioning of transfers on households ensuring that their children attend school and also on regular visits to health clinics for preventative health checks and nutrition/health information sessions. In this section we very briefly summarize the results of the many impact analyses that have been undertaken as part of the program evaluation.

#### *Nutrition and Health Impacts<sup>11</sup>*

The program has had substantial impacts on nutrition, preventative health care and health outcomes. Prior to the program, stunting levels (i.e. low height-for-age) for children aged 12-36 months were very high at 44%. The program had a substantial effect on reducing the probability of stunting, increasing the annual mean growth rate by 16% (or 1 cm per year) for children receiving treatment in the critical 12-36 month range. These gains were achieved despite evidence that some households were not regularly receiving nutrition supplements and also that the supplement was being “shared” among other older children in the family. These impacts are also consistent with very large impacts on the future productivity and earnings of these children. It was estimated that the impact of the nutritional supplements alone would be around a 2.9% increase in lifetime earnings for these children, suggesting that this dimension of the program may be a particularly cost-effective way of improving the nutrition and health status in these populations.

The potential for increases in the nutritional status for the household as a whole can be seen from the fact that median food expenditures in 1999 were 11% higher. Since this increase is mainly due to higher expenditures on fruits, vegetables, meats and other animal products, this is consistent with substantial improvements in the availability of crucial micronutrients in their diets. By November 1999, the median calorific value of household diets had also risen by 7.1% and generally there was a clear feeling by households that they were eating better. Even controlling for the amount of the program transfer, there is evidence that the acquisition of calories from fruits, vegetables and animal products increased, consistent with a change in consumption behavior, which is one of the objectives of the nutrition information meetings. There is also evidence that this dimension of the program also has positive spillover effects on non-beneficiaries in the same community. Neither was there any evidence to support the view that the nutritional supplement would “crowd-out” calorie consumption from other foods.

On average rural Mexicans make less than one visit to medical providers annually, with the poor making on average 0.65 visits compared to 0.8 for the non-poor. This is

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<sup>11</sup> On nutrition and consumption impacts, see Behrman and Hoddinott (2000), Hoddinott, Skoufias and Washburn (2000), Rivera et al (2000) and Rosado et al (2000). On health impacts, see Gertler (2000).

substantially lower than in other Latin American countries. The program has substantially increased preventative health care visits, including an increase of 8% in visits by pregnant women in their first trimester. This has led to substantial improvements in the health of babies and pregnant mothers. There has been a substantial decrease in the incidence of illness, ranging from a 25% decrease among newborns, a 19% decrease for children between 0-2 years old, and a 22% decrease among children 3-5 years old. Child height has increased by between 1-4% and children are on average 3.5% heavier. The prevalence of anemia among children 24-48 months has decreased by 19%. In addition, there is evidence of improved adult health status with adults reporting on average 19% fewer days with difficulties undertaking daily activities due to illness, 17% fewer days incapacitated due to illness, 18% fewer days in bed due to illness, and being able to walk 7.5% further without getting tired.

### *Education Impacts*<sup>12</sup>

Prior to the program, primary enrollments in the evaluation communities were about 93% over all primary grades. Enrollment rates dipped substantially after the final primary 6<sup>th</sup> grade, with enrollment rates in middle school (i.e. grades 7-9) falling to 67% for girls and 73% for boys. Enrollment rates in high school showed another dip, with only 58% of those successfully completing middle school enrolling in high school. This is the main motivation for grants increasing by around 50% in middle school compared to those in primary school

As expected, the enrollment impacts in primary school were much smaller, with the program increasing the enrollment rates by 0.74-1.07 percentage points for boys and 0.96-1.45 percentage points for girls. These relatively small improvements reflect high initial enrollment rates and capture a range of impacts including improvements in start dates, progression rates and primary completion rates. The largest impact was on enrollments in middle school, with enrollment rates for girls increasing by 7.2-9.3 percentage points (i.e. from 67% to around 75%) and for boys by 3.5-5.8 percentage points (i.e. from 73% to around 78%). Most of this increase came in the transition year from primary to middle school (i.e. from 6<sup>th</sup> to 7<sup>th</sup> grade). Among those who successfully completed primary school, the program increased enrollment rates in the first year of middle school by 14.8 percentage points for girls and 6.5 percentage points for boys. There is also evidence that much of this overall increase in education rates is due to an increase in continuation rates (i.e. continued enrollment by those already enrolled) as opposed to encouraging those who had dropped-out prior to the program to return.

The program has also brought about a substantial reduction in the incidence of child labor among both boys and girls and in salaried and non-salaried activities. For example, labor force participation rates for boys decreased by 15-25% due to the program. Still, a substantial number of children still continue to combine work with school. But the qualitative analyses also indicate that teachers believe that there have also been great improvements in education outcomes and attribute this more to improvements in

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<sup>12</sup> On education impacts, see Schultz (2000a-e), Behrman, Sengupta and Todd (2000a,b) and Coady and Parker (2002).

attendance, student interest and nutrition, rather than to improvements in the amount of resources made available to schools. The general perception among parents and teachers is that, by addressing the resource constraints facing these poor households, the program has enabled families who were already motivated to do so to improve their children's education status.

The accumulated effect of increased schooling from grades 1-9 are consistent with an average increase in educational attainment of 0.66 years by grade 9, from an average of 6.2 years of schooling to 6.9 years. The impact on girls is higher at 0.72 extra years of schooling compared to 0.64 years for boys. It has been estimated that these education gains are consistent with an increase of 8% in the adult earnings of these children. The use of conditioned transfers also seems to be a much more cost-effective instrument for generating these education increases than the increase in school-building program that accompanied the program. It has been estimated that the cost per extra year of education generated was ten times lower for conditioned transfers.

### *Poverty Impacts*<sup>13</sup>

From November 1998 to October 1999, the average monthly transfer was around 238 pesos per beneficiary family, which was equivalent to nearly 20% of their mean household consumption before the program. This is obviously a substantial transfer, especially for the poorest households. However, beneficiaries are required to forego any existing transfers through other programs. This, together with the potential of household responses that reduce income and consumption (e.g. reduced income from child labor, adult labor supply responses, or reduction in private transfers)<sup>14</sup>, means that the effect on consumption and welfare may be lower than suggested by the above numbers.

For example, there is evidence that the percentage of households receiving transfers from other government programs decreased and that the income received from children aged 8-17 decreased. Simulations that ignore responses suggest that, in these communities, the program decreases the poverty gap index by 30% and the severity of poverty index by 45%. Regression estimates using actual outcomes, which incorporate these responses, find that these indices decrease by 36% and 46% respectively, and therefore suggest that adverse indirect income effects are negligible. This interpretation is supported by results that find that the labor force participation rates of men and women have not decreased. Also, the analysis of private transfers did not find any evidence of program transfers crowding out these transfers.

### *Program and Private Costs*<sup>15</sup>

By the end of 1999 the program covered approximately 2.6 million rural families, constituting about 40% of all rural families and one ninth of all families in Mexico. It

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<sup>13</sup> On poverty impacts, see Skoufias (2001) and Handa et al (2000).

<sup>14</sup> On child labor and labor supply responses, see Skoufias and Parker (2001). On private transfers, see Teruel and Davis (2000)

<sup>15</sup> On costs, see Coady, Perez and Vera-Llamas (2000).

operated in nearly 50,000 communities in more than 2,000 municipalities and in all 31 states. The total budget in 1999 was around \$777 million equivalent to 0.2% of total GDP and 20% of the Federal poverty alleviation budget. However, it is important to note that not all these costs are additional. For example, to be eligible for the program beneficiaries must forego benefits from other programs. Crudely speaking, the overall strategy was to remove existing food subsidies, which have associated inefficiencies and are badly targeted, and replace them with PROGRESA transfers which are better targeted and are expected to generate additional positive benefits in terms of improved nutrition, health and education. A general equilibrium analysis examining the welfare impacts of introducing PROGRESA transfers financed by the removal of highly distortionary food subsidies finds that there may be substantial indirect welfare impacts arising from such a strategy (Coady and Harris, 2000). These indirect effects were found to increase the welfare impact of the program by as much as 60%. One of the issues raised by the findings was the fact that the urban poor excluded from the program were adversely affected and that further measures were required to protect such households from the increases in prices caused by the removal of food subsidies. The ongoing expansion of the program into more urban areas is a move in this direction.

One of the initial concerns was that, because of the complexity associated with targeting and monitoring conditioned transfers, administrative and other costs would be prohibitive. However, an analysis of program administrative costs found that these accounted for less than 9% of total program costs (i.e. transfers plus administrative costs), implying that it cost less than 10 pesos for every peso transferred to households. This number is relatively low compared to those calculated for other programs such the LICONSA (subsidized milk) and TORTIVALES (subsidized tortilla) programs, which cost 40 and 14 pesos per 100 transferred to beneficiaries. And since PROGRESA has large up-front set-up costs, this number should decrease over time. For example, if one removes the costs associated with the geographic and household proxy-means targeting methods, it costs less than 6 pesos to transfer 100 pesos to beneficiaries.

However, because transfers are conditioned on certain household actions they thus involve additional private household costs linked to the time and money costs of traveling to and from schools and health clinics as well as collecting transfers. These costs turn out to be as important as targeting costs, which accounted for one third of total program administrative costs. But, as we saw above, these additional private costs have substantial returns in terms of the nutrition, health and education impacts of the program and thus on future earnings.

### *Other Impacts<sup>16</sup>*

The evaluation of the program using qualitative research methods helped to address a range of other impacts that the program might have. There is evidence of an increased role in household decision making for women beneficiaries. Although the program obviously puts additional demands on women's time, especially with respect to the need

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<sup>16</sup> See Adato, Coady and Ruel (2000) and Adato, de la Briere, Mindek and Quisumbing (2000) for discussion of the range of intra-household and community impacts of the program.



to take attend the health clinics (private time costs), on the whole the beneficiaries believed that any extra demands were worthwhile given the benefits accruing from the program. Women also reported feeling more self-confident and having more control over household resources and their own time allocation and travel. They felt that the program provided them with greater opportunities to meet with other beneficiary women to discuss common concerns and problems. One expects such improvements to have additional benefits in terms of control over fertility decisions and thus the future welfare of women and children. Interestingly, although many had argued that the fact that benefits were linked to children would lead to higher fertility rates, no discernible impacts on fertility rates was evident one year after the program.

#### **4. The Role of Evaluation**

The strong emphasis in PROGRESA on the need for a comprehensive and credible evaluation helps to highlight some of the important benefits that are associated with such evaluations. In particular, it helps to emphasize the point that evaluation should not be seen as a nice add-on only when one has “extra” resources or to appease “outsiders”. Serious attention to both ex-ante and ex-post evaluation has a number of important benefits. Firstly, the existence of ex-ante evaluation feeds into the choice, design and implementation of interventions. This was very clear in the case of PROGRESA. Prior to the program design, resources were devoted to analyzing the link between poverty and human capital using existing data sources. These issues were discussed at internal and external workshops during the design phase of the program. It is clear that much valuable analysis can be undertaken before programs are designed or implemented provided the necessary micro data are available, as they are now for many developing countries.

Secondly, ex-post evaluation is key to determining whether and how interventions achieve their objectives, and how they can be redesigned to have greater impact or to have similar impacts in other countries. We now have very clear results that such a program can have a significant impact on human capital in these poor populations. And the ongoing evaluation of the implementation process in PROGRESA continually fed back into improving program operations. In addition, the evaluation of program impacts has helped to address concerns regarding the relationship between the program design and the types of impacts that were identified. For example, the issue of reforming program targeting is now being considered based on the evaluation results. Similarly, the issue of whether to redesign the structure of grants, e.g. so as to provide some stronger links to performance, is also being carefully discussed. And the design of other similar programs in other Latin American countries was strongly influenced by the results from PROGRESA’s evaluation. Having evidence that programs do work is especially important in the present environment where many argue that development aid has not worked; arguably where it hasn’t worked this is partly because of insufficient attention to evaluation.

Thirdly, evaluation plays a crucial role in generating political and economic support, both domestically and internationally, for effective interventions and thus in ensuring their

sustainability. Unlike following previous changes of government, this flagship program of the previous political regime has not been consigned to history. This is all the more striking given that for the first time in over 70 years there has been a change in the governing party. Although one can convincingly argue that this reflects political factors (e.g. it may not be very politically astute to remove a large transfer program just after taking office), it does appear that the fact that there was clear and credible evidence that the program produced large benefits for the poorest populations in the country had an important role to play in ensuring that the integrity of the program's design was kept intact, albeit with a name change to Oportunidades. It also made it easier for the new government to secure the largest loan ever received by the Mexican government from the Inter-American Development Bank for a large-scale expansion of the program into more urban areas. In addition, the evidence that this approach has worked in Mexico has undoubtedly played a key role in other countries securing loan financing for programs in their own countries. There are now similar programs underway in Columbia, Honduras, Jamaica, and Nicaragua. It is also the case that, since domestic funding is scarce, evaluation is contagious domestically since evidence of program success attracts funds at the expense of other ministries and this creates a pressure on these to identify the impacts of their own programs in order to be competitive in securing a slice of the domestic pie.

Finally, especially in relation to international development organizations, there is an important sense in which evaluation is what they are really about. A key role played by such organizations is the identification of interventions that effectively promote development and poverty reduction, and encouraging their adoption more widely by governments and donors. Taking evaluation seriously is a pre-requisite to achieving this end and the Inter-American Development Bank has used the evidence of PROGRESA's success to promote the program in other Latin American countries.<sup>17</sup> This highlights the fact that evaluation generates "international public goods" and this may also have implications for who finances such evaluations, i.e. loans versus grants. But one also needs to keep in mind that evaluation generates domestic benefits by helping to identify and design more effective interventions and, in this sense, it should clearly be in the national interest to ensure that it is taken seriously.

## **5. Concluding Remarks**

Despite decades of growth, the world is faced with an increasingly serious poverty problem. The World Bank recently estimated that almost half of the world's population are living on less than \$2 per day and one fifth are living on less than \$1 per day. These

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<sup>17</sup> This point is echoed by Krueger (2002) who argues that the evaluation of Mexico's PROGRESA program (discussed later), by showing that the program is extremely effective, has played an important role in ensuring that it was retained by the new government. He goes on to argue that: "The \$5 billion in development aid the Bush administration has requested will not have much impact given the magnitude of the problems, especially if the money is spread out over more than a handful of countries. But if the aid could be used to develop and rigorously test programs like Progresas, the knowledge garnered could stimulate more development aid and encourage poor countries to pursue more effective policies."

averages also hide important regional variation in terms of levels and trends, with these being particularly depressing for South Asia and sub-Saharan Africa. Over the last decade the numbers in poverty in South Asia have increased by about 10% and the prevalence of malnutrition has remained substantially higher than in other developing countries (Haddad and Gillespie, 2001). Over the same period, the poverty rate has actually increased slightly in sub-Saharan Africa to around 48% and the prevalence of malnutrition has also increased. Although poverty rates are substantially lower in the Latin American region, the recent economic crisis has meant that many of the gains over the last decade have been substantially eroded.

It is now also clear that the poor are poor not only in terms of consumption and nutrition, but also in terms of access to key public services such as health and education and thus in terms of their associated human capital outcomes. While it may be more cost effective to bring about a given improvement in health and education status by concentrating resources in more densely populated areas, this strategy results in the poorest households, who typically are disproportionately located in remote rural areas, facing higher access costs (e.g. the time and money costs of traveling to and from facilities). Reflecting their poverty, these costs and any service fees will constitute a relatively high proportion of their incomes and thus access necessitates severe trade-offs with other dimensions of welfare. It is not surprising, therefore, that one finds the poor to be disadvantaged in this regard. However, there is a widespread view that cost-effective ways exist for delivering these services to poor households, although implementation mechanisms have commonly been found to be dismal in practice.

Reflecting rising concern over the poverty problem, the international community has established the Millennium Development Goals (MDGs), which set a target of halving poverty and malnutrition from their 1990 levels over a twenty-five year period (i.e. by 2015) as well as attaining universal primary education by that date. Although it is widely accepted that renewed economic growth is a necessary condition for meeting these goals, it is also widely accepted that growth alone is insufficient.<sup>18</sup> One also needs to recognize that even if one succeeds in reaching the MDGs, the job remains only half done. Persistent poverty and malnutrition result in irreversible costs in terms of both human and economic development. Clearly more direct action is required and on a large scale.

In this paper we have discussed an innovative approach to poverty alleviation in Mexico, which simultaneously addresses these goals. This program was motivated by the precise problems that motivated the establishment of the MDGs. The impressive performance of this program suggests that other countries should give serious consideration to incorporating some dimensions of this program into their overall poverty alleviation strategy. The program has made very effective use of targeting methods to ensure that the benefits reach the poorest households. Administrative costs have been kept impressively low. The design of the program allows for an important role for community actors in the form of the community promoter, a beneficiary woman who acts as liaison officer between beneficiaries, service providers and central program officials. And the

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<sup>18</sup> See, for example, Haddad et al (2002) and Sahn and Stefiel (2003) for more detailed cross-country discussion.

program has been shown, through an all to rare rigorous evaluation process, to have generated substantial improvements in human capital outcomes among the poor population that it serves.

However, the program should not be viewed as a rigid proto-type waiting to be successfully applied in other countries. The appropriate program design (e.g. what targeting methods to adopt, which school grades to focus on, whether to provide more incentives for school performance, the transfer levels, the emphasis on supply side, or the importance or precise role for various community actors) will depend on the exact circumstances of the country. But there is no reason to believe that such features cannot be easily incorporated into the program design. However, we have learned that, properly implemented, the explicit targeting of benefits can ensure that program benefits do reach the intended poor, that the conditioning of transfers on human capital accumulation can bring about important behavioral change in these poor populations with substantial impacts on their human capital status, thus transforming social assistance into social development. In addition, the results now emerging from the implementation of a similar program in Nicaragua suggest provide optimism that these results can be replicated in countries with much lower per capita incomes than Mexico and lower levels of human capital (IFPRI, 2001).

There already exists plenty of evidence that the economic and social returns to this human capital are very large, and that poor households under-invest in this area because of their poverty and a host of market failures. Unlike pure transfers, these benefits remain even after the program disappears. In addition, the conditioning of transfers on households investing in their own future (i.e. the linking of “rights” with “responsibilities”) can mean that it is easier generate political support for such programs. And PROGRESA has shown that these programs can be cost effective. It is also clear that some issues need more attention, such as the potential for increasing the role of community actors in improving the targeting of the program, providing a way of encouraging exit from the program when a household’s socio-economic circumstances improve, as well as improving the effectiveness of human capital services. The issue of establishing an effective monitoring mechanism also needs to be tackled. But, at the very least, the evidence from PROGRESA suggests that this innovative approach to development requires serious consideration.

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**Table 1. Benefit Structure of PROGRESA, July-December 1999 (Pesos/Month)**

	Boys	Girls
Education Scholarships		
Primary		
Grade 3		80
Grade 4		95
Grade 5		125
Grade 6		165
Materials (annual)		155
Secondary		
Grade 7	240	250
Grade 8	250	285
Grade 9	265	305
Materials (annual)	205	205
Food Transfer	125 per family	
Benefit Cap	750 per family	

Note: The cap on the total benefits a household can receive is applied only to the sum of the education scholarships and food transfer (i.e. excluding transfers for materials).

Source: Adapted from Skoufias (2001, Table B.1, p90)

**Table 2. Composition of the Basic Health Services Package**

1.	Basic sanitation at the family level
2.	Family planning
3.	Prenatal, childbirth and puerperal care
4.	Supervision of nutrition and children's growth
5.	Vaccinations
6.	Prevention and treatment of outbreaks of diarrhea in the home
7.	Anti-parasite treatment
8.	Prevention and treatment of respiratory infections
9.	Prevention and control of tuberculosis
10.	Prevention and control of high blood pressure and diabetes mellitus
11.	Accident prevention and first-aid for injuries
12.	Community training for health care self-help

**Notes:**

(a) In nutrition information sessions, women discuss issues such as nutrition, hygiene, infectious diseases, immunization, family planning, and chronic disease detection and prevention. Information is provided on: ways to prevent and reduce health risks (e.g. prenatal care, early detection of malnutrition, childhood immunizations, safe water and food treatment); how to recognize signs and symptoms of sickness; and how to follow appropriate primary-care procedures (e.g. treatment of diarrhea via oral rehydration). Women are also informed about how to use the nutritional supplements as well as best-practice breastfeeding techniques and complementary feeding of young children.

(b) Nutritional supplement are given to pregnant and lactating women as well as children between the ages 4-24 months, and children between 2-5 years if any signs of malnutrition were detected. Children from “non-poor” households could receive them if malnutrition signs were evident. Supplements contain whole dry milk, sugar, maltodextrin, micronutrients, and artificial flavors and colors and reflect different nutritional needs of mothers and children. The child supplement produces a type of pap and is available in banana, vanilla and chocolate flavors. A 40g daily ration supplies 194 kilocalories, 5.8 grams of protein and around one RDA of selected micronutrients. The mothers supplement is intended to be consumed as a beverage after rehydration and available in banana, vanilla or natural flavors. The daily ration is 52 grams and provides 250 kilocalories of energy, 12-15 grams of protein and selected vitamins and minerals. Supplements have a long shelf life of about 1 year.

(c) The supplements contained the following micronutrients. For pregnant/lactating women (iron, zinc, vitamins B12/C/E, folic acid, and iodine). For children (iron, zinc, vitamins A/B12/C/E, riboflavin, and folic acid).

**Table 3. Annual Frequency of Health Care Visits in PROGRESA**

<b>Age Group</b>	<b>Frequency of Check-Ups</b>
<b>_ Children</b>	
Less than 4 months	3 check-ups: 7 and 28 days, and at 2 months
4 months to 24 months	8 check-ups: 4, 6, 9, 12, 15, 18, 21 and 24 months with 1 additional monthly weight and height check-up
2 to 4 years old	3 check-ups a year: 1 every 4 months
5 to 16 years old	2 check-ups a year: 1 every 6 months
<b>_ Women</b>	
Pregnant	5 check-ups: prenatal period
During purpurement and lactation	2 check-ups: in immediate purpurement, 1 during lactation
<b>_ Adults and youths</b>	
17 to 60 years old	One check-up per year
Over 60 years old	One check-up per year

Source: Skoufias (2001)

**Table 4: Comparing Geographic, Household and Demographic Targeting in PROGRESA**

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National Consumption Deciles	Mean Consumption (per adult equivalent)	PROGRESA Localities		PROGRESA Benefits (Geographic with proxy means and demographic transfer)
		Beneficiaries and Non-beneficiaries (Geographic with uniform transfer)	Beneficiaries (Geographic and Proxy means with uniform transfer)	
1	68.3	18.3	22.0	36.4
2	94.3	15.0	17.5	21.6
3	113.0	11.5	12.4	12.4
4	131.6	10.3	10.5	9.0
5	151.1	8.9	8.5	5.9
6	173.4	10.3	9.6	5.6
7	198.5	8.0	7.3	3.8
8	228.0	6.9	5.3	2.4
9	275.6	7.0	5.0	2.1
10	383.6	3.8	2.0	0.8

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Note: Under neutral targeting, each decile would receive 10% of the program budget.

Source: Coady (2001)

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