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Argentina: Assessment of Changes in the Distribution of Benefits from Health and Nutrition Policies

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Argentina has been in a deep recession since 1998. Public spending has fallen dramatically, and borrowing abroad has been impossible since the country's default. Targeting scarce public resources to the needy has become more than ordinarily important and difficult. Not an easy job at any time in a country like Argentina, where universal programs were the rule for decades, targeting now has to contend with falling incomes. Many people—not just the poor—feel entitled to public assistance.

This study addresses the distributional incidence of social policies in Argentina. Analysis is focused on health and nutrition policies for pregnant women and for children under five years of age. Individual and household information from two Living Standards Measurement Surveys (1997 and 2001) is used to identify beneficiaries of public programs.

The study is intended to help answer two sets of questions:

- Who are the beneficiaries of the publicly financed programs for pregnant women and children? Are these programs pro-poor? Which programs are more pro-poor? Did the structure of beneficiaries change between 1997 and 2001? Did the programs become less (or more) pro-poor?
- Why did public programs become less (or more) pro-poor between 1997 and 2001?

The first set of questions is tackled through benefit-incidence analysis. Public health and nutrition programs, although open to everyone, are intended mainly to benefit the poor, who usually have nutritional problems and lack private health insurance. Some nonpoor people, however, also benefit from public provision, attracted by the low cost (most publicly provided health services are free) and reasonable quality.

To shed light on the second question, we decompose changes in the benefit-incidence results for a particular service into three components: changes in individual and household characteristics linked to the decision to consume a service; changes in the way decisions on whether to consume the service are made; and changes in the public versus private decision on where to consume the service. Both aggregate and microeconometric decompositions are applied to obtain estimates of these three components.

Health, Nutrition, and Distribution in Argentina

Health and nutrition have generally been good in Argentina compared with other Latin American countries.

Health

Argentina's health system is organized around a strong public sector that, besides regulating health services, owns and operates an extensive network of public hospitals and primary health care centers. Expenditures on health by the three levels of government, federal, provincial, and municipal, account for 25 percent of the welfare system in Argentina (DGSC 2001). The public health system is universal in the sense that everyone is entitled to use most services at public health facilities. In practice, public expenditures are targeted mainly to low- and middle-income families because more affluent households usually opt for private treatment.

Most public health policies are channeled through the network of public hospitals and primary health care centers, where people have access to all sorts of health services, mostly free of charge. Our analysis is concentrated on the following services for pregnant women and children under five: antenatal care, attended delivery, visits to a physician, medicines, hospitalizations, and immunization.[1]

Nutrition

Although nutrition problems have been infrequent in Argentina—a country abundant in food—press coverage of child deaths caused by malnutrition has led to public debate about nutrition issues.

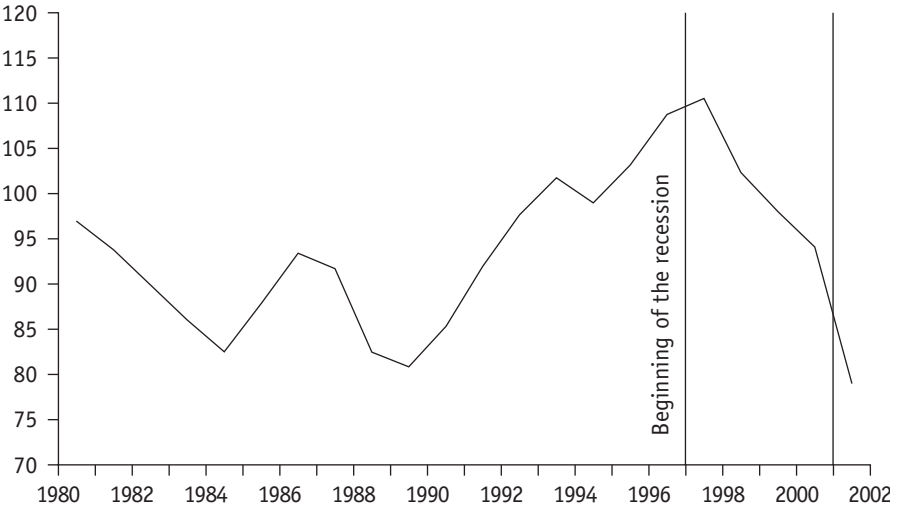
Public nutrition programs targeted to needy children have been small in size and coverage. Babies are provided with milk while under medical supervision at public hospitals or primary health care centers. Children benefit from nutrition programs delivered through selected kindergartens and schools and local feeding centers (*comedores*) and sometimes delivered directly to the home. Some nutrition programs are targeted to extremely poor localities; examples are Programa Alimentario Nutricional Infantil (PRANI) and Pro-Huerta. The economic crisis and the increase in malnutrition forced the government to institute some emergency nutrition programs in 2002.

In this chapter we study three publicly provided nutrition services: milk for babies at public health facilities, meals in kindergartens, and meals at local feeding centers.

Mean Income and Distribution

Argentina's economic performance over the past three decades has been disappointing. Figure 12.1 shows large cyclical fluctuations in disposable mean income, with no signs of a rising trend. During the period covered by this analysis, income fell substantially: per capita disposable income in real terms dropped 13 percent between 1997 and 2001 according to National Accounts estimates.

Figure 12.1. *Mean Disposable Income, Argentina, 1980–2002*



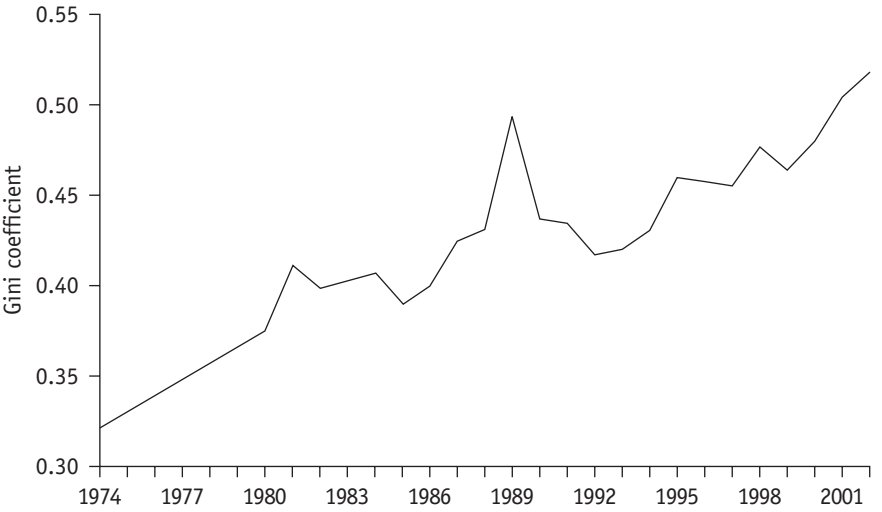
Source: National Accounts data.

Along with a stagnant economy, Argentina has suffered dramatic transformations in income distribution (Gasparini 2003). Inequality and poverty have substantially increased over the past three decades (figures 12.2 and 12.3). The Gini coefficient for household per capita income distribution in Greater Buenos Aires, an urban region with a third of the Argentinean population, increased from 0.345 in 1974 to 0.538 in 2002 (CEDLAS 2003). The poverty headcount ratio, using the official poverty line, was about 5 percent in Greater Buenos Aires in 1980, 28.9 percent in 2000, and a dramatic 54.3 percent by 2002, reflecting the economic crisis. In few countries has poverty increased so much so fast in the absence of a war or a natural disaster.[2]

Who Benefits from Health and Nutrition Policies?

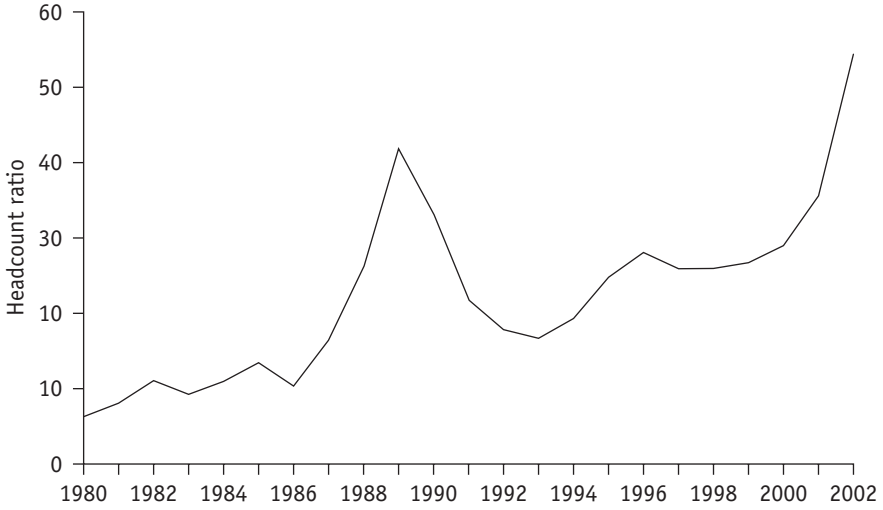
Using a traditional benefit-incidence analysis of public spending on health and nutrition programs for pregnant women and children under five, we assess the targeting precision of average public spending. Benefits from a specific program are assigned to individuals according to their answers to a household survey on their use of that program.[3]

Figure 12.2. *Gini Coefficients for Household Per Capita Income, Greater Buenos Aires, 1980–2002*



Source: CEDLAS 2003.

Figure 12.3. *Poverty Headcount Ratio, Greater Buenos Aires, 1980–2002*



Source: CEDLAS 2003.

The Data

Benefit-incidence analyses require household surveys with data on a welfare indicator and information on the use of social programs. Argentina has conducted two recent Living Standards Measurement Survey questions on the use of various health and nutrition services. The first survey, Encuesta de Desarrollo Social (EDS), was carried out in 1996–7. It includes about 75,000 individuals (representing 83 percent of the total population) living in urban areas. The second survey, Encuesta de Condiciones de Vida (ECV), with similar coverage and questionnaires, was conducted in 2001.[4]

Welfare Indicators

A crucial stage in a benefit-incidence analysis is sorting households by a welfare indicator. Among the variables usually included in a household survey, household consumption adjusted for demographics is the best proxy for individual welfare (Deaton and Zaidi 2002). Unfortunately, most household surveys in Argentina, including those in the EDS and the ECV, do not have household-expenditure questions. Here we mostly use household income adjusted for demographics—equivalized household income—as the individual welfare indicator.[5]

In annex table 12.2, individuals with consistent answers and positive reported household incomes are grouped in income deciles. The table shows distribution of per capita household income and equivalized household income by decile for 1997 and 2001, and annex table 12.3 shows various inequality indexes for both distributions for those years.[6] Inequality increased significantly between 1997 and 2001. This result is robust to changes in the inequality index and the distribution considered. As annex table 12.4 shows, poverty also increased significantly over the period.

Use of Health Services and Nutrition Programs

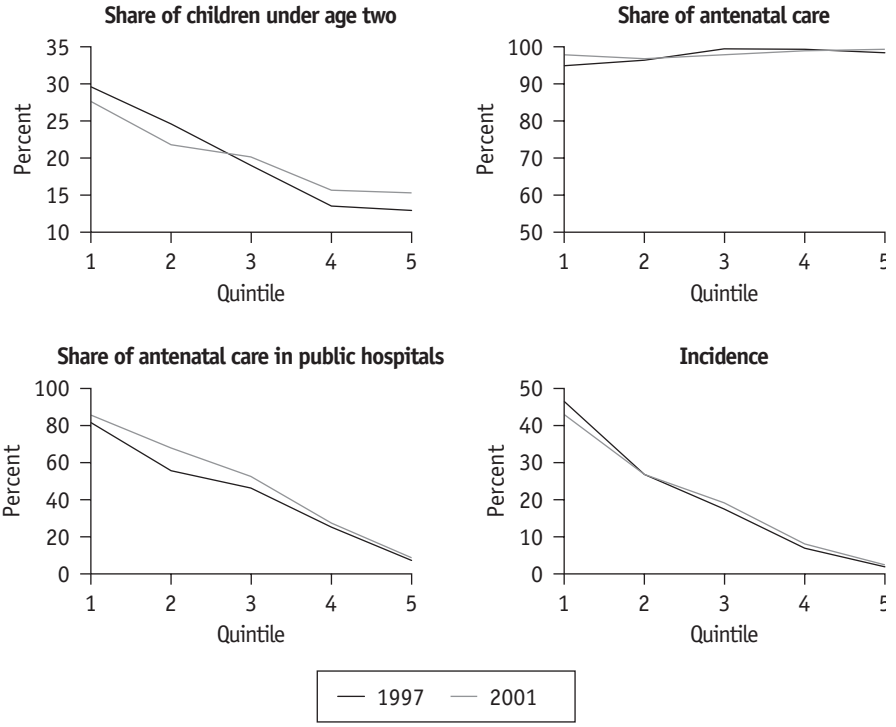
This study focuses on health and nutrition programs targeted to pregnant women and children under five. Annex table 12.5 shows total population and number of children by quintile of the distribution of equivalized household income. By construction, quintiles have 20 percent of total population, but since the number of children per household decreases as income rises, the share of children is not uniform along the income distribution. For instance, the share of children under five was 30.1 in the bottom quintile in 1997, and it was 12.1 in the top quintile. This fact has fundamental consequences for the distributional incidence of public programs directed to children. Even a universal program for all children will be pro-poor, given the inverse correlation between the number of children and household income. This relationship became less strong between 1997 and 2001 as a consequence of a decline in the fertility of low-income families relative to other income groups, implying a potential reduction in the targeting of social policies.[7]

From the surveys, we are able to identify households that use public health services and nutrition programs for children and pregnant women. The rest of this section is devoted to analyzing the use of these services and computing benefit-incidence results.

Antenatal Care

Mothers of children under age two are asked whether they used antenatal care while pregnant.[8] The surveys also ask about the month of the first antenatal care visit, the frequency of tests, and the site of most visits. Annex table 12.6 and figure 12.4 show the results by equivalized household income quintile for 1997 and 2001. Antenatal care is widespread in Argentina, even for poor mothers; mothers of 97.1 percent of the children in 1997 and 97.7 percent in 2001 made at least one visit. In the bottom income distribution quintile, that share rose from 94.8 to 97.6 percent during the same period.

Figure 12.4. *Use of Antenatal Care, Argentina*



Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Differences across quintiles are more evident with respect to the number of visits, the month of the first visit, and the visit site. On average, poor mothers make the first visit after the third month of pregnancy, while mothers from nonpoor households make it after a month and a half of pregnancy. The share of pregnant women with more than four visits increases significantly with household income, from about 70 percent in the first quintile to 95 percent in the top quintile. Most poor mothers go to public hospitals or primary health care centers for antenatal care, whereas nonpoor mothers frequent private institutions. The differences are significant: in 2001, 85.6 percent of mothers in the bottom quintile, but only 9 percent in the top quintile, reported receiving antenatal care in public facilities. During the economically depressed period studied, the share of visits to public facilities increased along income distribution lines. The average rose from 51.6 to 54.9 percent between 1997 and 2001.

The government finances public health facilities. With the help of government resources (for example, doctors' and nurses' salaries, supplies, and a portion of capital costs), public hospitals and centers are able to provide most antenatal care free of charge. A usual assumption is that the beneficiaries of the public program are the users of the subsidized service and their families. By using a free public service, a family saves the cost of buying that service, which is assumed to be equal to the average cost of public provision.[9]

To find the beneficiaries of each public program, we identify the potential users of the service (mothers with children under age two, in the case of antenatal care), the effective use of the service, and the choice of public or private facilities. Annex table 12.6 shows two incidence results for antenatal care according to whether the number of visits is taken into account (H2) or is not considered (H1) in the calculations.[10] In both cases, subsidies for antenatal care in public facilities are highly pro-poor, but the bias weakens when the number of visits (H2) is considered. In 1997 more than 40 percent of all beneficiaries of the program belonged to the first income distribution quintile. The share of beneficiaries in the top quintile was around 2 percent. This pro-poor pattern is basically the consequence of a greater concentration of children under age two at the bottom of the income distribution and a sharp decrease in the choice to use public facilities at higher incomes.

The targeting precision of the public subsidy for antenatal care decreased between 1997 and 2001 (figure 12.4). This change seems to be a consequence mainly of a reduction in the share of children under age two in the bottom quintile and an increase in the use of public facilities by middle- and high-income households. In the next section, we analyze this point in greater detail.

Attended Delivery

Most deliveries in urban Argentina are assisted by a medically trained person. Even in the bottom quintile, the proportion of attended deliveries is close to 100 percent (annex table 12.7). The share of normal births has decreased over time, especially in the bottom quintiles. The share of cesarean sections is still increasing significantly at higher household incomes. More than half of all deliveries are attended at public facilities. This share has increased slightly in recent years. Deliveries in public facilities are much more frequent for poor than for nonpoor mothers. In 2001, 83.4 percent of deliveries by mothers in the bottom quintile were in public facilities, but the figure was only 11.3 percent for mothers from the least poor quintile. Because fertility is higher and the use of public facilities is

more widespread among poor households, the subsidy for attended deliveries in public facilities is decidedly pro-poor.

We have also computed incidence results assuming that cesarean deliveries cost twice as much as vaginal deliveries. Because the share of cesarean deliveries increases with income, incidence results under this assumption are much less pro-poor.

Visits to a Doctor

Both the 1997 and 2001 surveys ask parents about visits to a doctor for their children age 0 to 4, but there are differences in the questionnaires. The 1997 survey first asks about the child's health status (Has the child felt sick or had an accident in the last 30 days?) and then reports consultations with a physician only for "sick" children. This two-stage procedure misses information about visits to a doctor for routine checkups of well children. The 2001 survey asks about any consultations with a physician, irrespective of the subjective assessment of a child's health status. The large differences in the share of children seen by a doctor shown in annex table 12.8 (32.7 percent in 1997 and 53.8 percent in 2001) is very likely attributable to this difference in the questionnaires. If in 2001 we restrict the analysis to children reported sick, the shares are similar (32.7 percent in 1997 and 29.3 percent in 2001). Patterns also differ with income distribution. The share of children under five who visited a doctor the month before the survey is more sensitive to household income in the 2001 survey than in the 1997 survey. This is a sign that taking a well child to a doctor is more common in wealthier households than in poorer ones.

Two other differences undermine the comparison: only the 1997 survey records the number of visits during the month, and only the 1997 survey has information on visits to public facilities that are not completely free of charge and are partially financed with user charges. Despite the methodological differences, results for both 1997 and 2001 clearly indicate a pro-poor profile of public subsidies for services offered by doctors in public facilities. Around 70 percent of the beneficiaries of these subsidies are individuals in the two poorest quintiles of the population. Leakages to nonpoor households are small.

Comparisons can also be made by ignoring in 2001 individuals not reported as sick (even when it is known that they went to see a doctor) and ignoring in 1997 the available information on the number of visits and partial financing of visits. This alternative (labeled H2 in annex table 12.8) suggests a reduction in the precision of public subsidy targeting for visits to doctors in public facilities.

The 1997 survey includes a question on waiting time. A person in the lowest quintile waits an average of 79 minutes for a doctor to see a child. The average waiting times for the other quintiles are 75, 56, 55, and 45 minutes, respectively. This significant difference in waiting time is probably one factor accounting for the lower probability that a child from a poor household will visit a doctor, even when the service is free of charge.

Medicines

At public health facilities some medicines are free or are sold at subsidized prices. The targeting precision of these subsidies can be studied with the help of household surveys. Again, the two-stage questionnaire of 1997 and the lack of detail in the 2001 questions on the financing of medicines blur the comparative results. Nevertheless, annex table 12.9 unambiguously suggests a pro-poor profile of public subsidies for medicines prescribed for children in public facilities. Around 50 percent of these drugs go to children from households in the bottom quintile of the equivalent household income distribution. The targeting precision of this public program was clearly reduced between 1997 and 2001.

Hospitalizations

According to the household survey responses, on average 8.4 percent of children under five are hospitalized each year (annex table 12.10). The number did not change between 1997 and 2001. During that period, the use of public facilities slowly increased along the lines of income distribution.

Vaccination

Immunization of children under five is widespread in Argentina; in 2001, 99 percent of children received at least one dose of the bacille Calmette-Guérin (BCG) vaccine against tuberculosis (see annex table 12.11).[11] The corresponding shares for the Sabin and measles vaccines were 95.4 and 72.8 percent, respectively. Most children get their shots at public facilities. Even children from wealthier households participate in public immunization programs, but since poor households have more children and some children from nonpoor families use private facilities, the incidence of public immunization programs is still clearly pro-poor. For instance, in the case of BCG, 30.6 percent of the vaccines go to children in the poorest quintile, and 10.5 percent benefit children in the top quintile. (The 2001 survey does not record information on the use of public facilities for vaccination, so all incidence results refer to 1997.)

Nutrition Programs

The three levels of government in Argentina run a variety of nutrition programs. The survey captures those that make available milk for babies in hospitals, food in some public kindergartens, and meals in local feeding centers. Annex tables 12.12 through 12.14 show significant differences in targeting across these programs. The share of total benefits accruing to the poorest 20 percent of the population in 2001 ranges from 77.3 percent for meals in local feeding centers to 41.7 percent in public kindergartens. Local feeding centers are usually situated in public schools in poor neighborhoods.

The coverage of these nutrition programs increased dramatically between 1997 and 2001. For instance, only 2.6 percent of poor children attended local centers to get free meals in 1997, but by 2001, 20.2 percent of them did.

Like health services in public hospitals, the hospital milk delivery program seems to have become less targeted over time. In the case of food in kindergartens, changes seem to have been pro-poor, and they were somewhat neutral for local feeding centers.

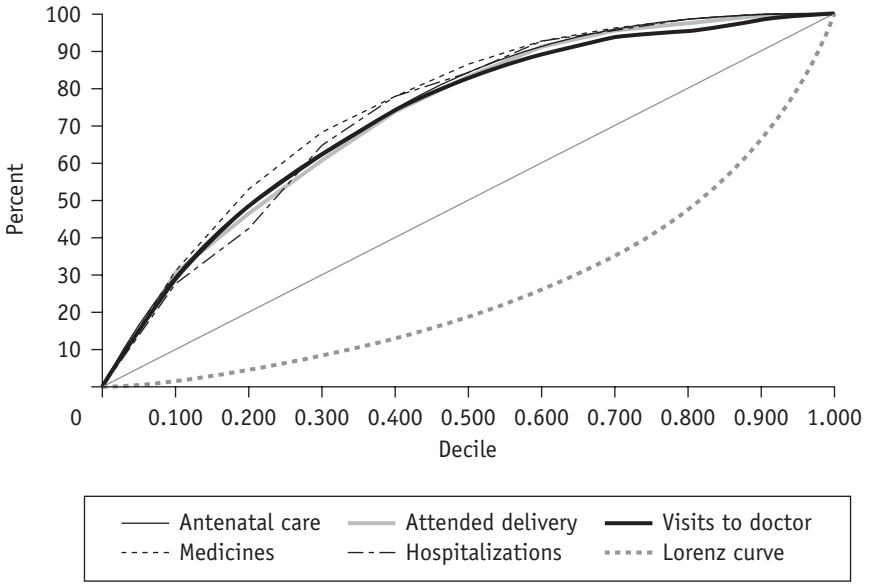
Summarizing Incidence Results

The literature has developed a range of graphic and analytical instruments for summarizing information on the incidence of public programs. In figures 12.5 through 12.10 we show concentration curves for various health and nutrition programs. Individuals are sorted according to their equivalized household income. The concentration (Lorenz) curve shows the cumulative share of total benefits (income) from a given program accruing to the poorest *n*th of the population. Concentration curves above the Lorenz curve characterize progressive programs; curves above the diagonal (the "perfect equality line") are associated with pro-poor programs (Lambert 1993).[12]

Concentration curves do not differ significantly among health programs, with the exceptions of immunization programs, which are less pro-poor, especially the quadruple (DPT plus *Haemophilus influenzae* type B) vaccine and the measles, mumps, and rubella (MMR) vaccines (figures 12.5 and 12.6). Figure 12.7 shows substantial differences between typical concentration curves for a health service and for a vaccination program. Curves for nutrition programs are estimated with less precision, considering the scope of these programs (figure 12.8). Curves for meals in local feeding centers are above the curves for the other nutrition programs.

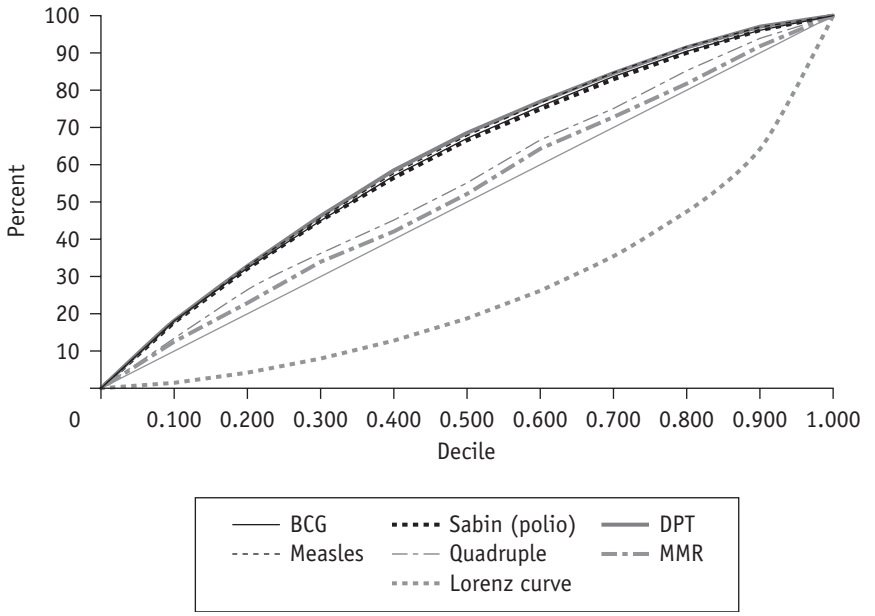
Targeting precision seems to have decreased since 1997 for all health services considered, according to the concentration curves shown in figure 12.9. The same comment applies to milk in public hospitals and primary

Figure 12.5. *Concentration Curves, Health Services, Argentina, 1997*



Source: Authors' calculations based on SIEMPRO (1997).

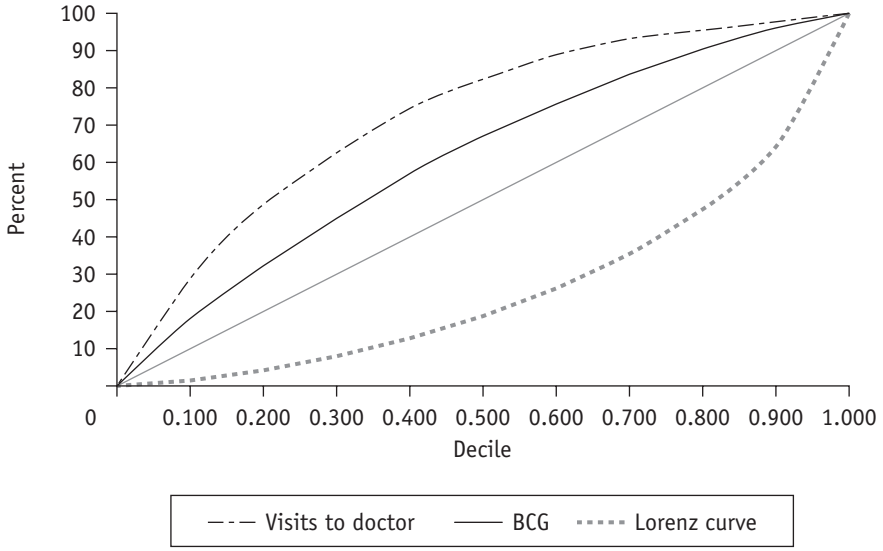
Figure 12.6. *Concentration Curves, Immunization Programs, Argentina, 1997*



Source: Authors' calculations based on SIEMPRO (1997).

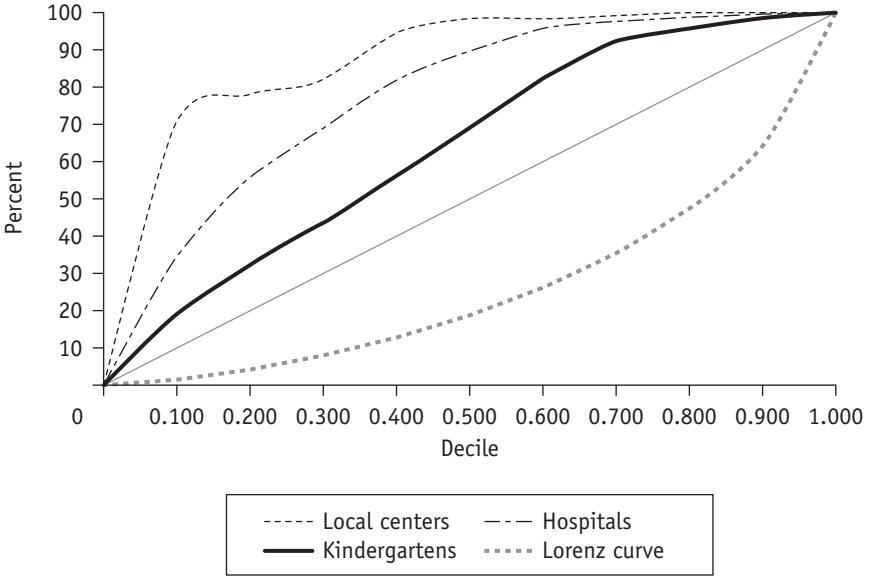
Note: BCG, bacille Calmette-Guérin (tuberculosis) vaccine; DPT, diphtheria, pertussis, and tetanus vaccine; MMR, measles, mumps, and rubella vaccine; quadruple, MMR plus Haemophilus influenzae type B vaccine.

Figure 12.7. *Concentration Curves, Visits to a Doctor and BCG Vaccination, Argentina, 1997*



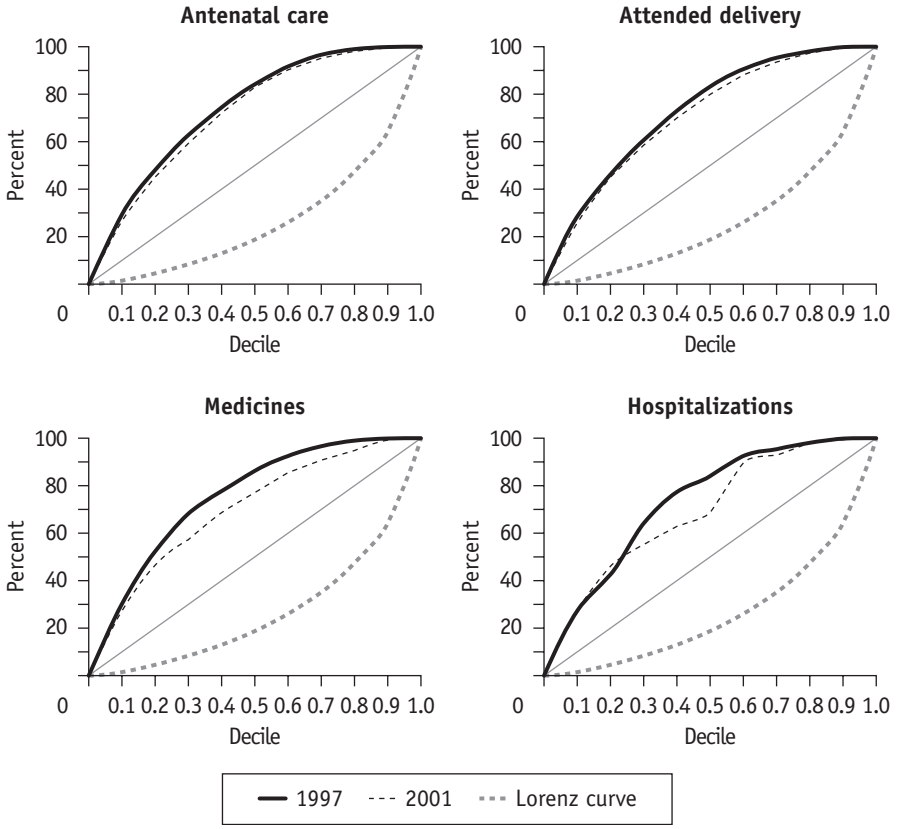
Source: Authors' calculations based on SIEMPRO (1997).
Note: BCG, bacille Calmette-Guérin (tuberculosis) vaccine.

Figure 12.8. *Concentration Curves, Nutrition Programs, Argentina, 1997*



Source: Authors' calculations based on SIEMPRO (1997).

Figure 12.9. *Concentration Curves, Antenatal Care, Attended Delivery, Medicines, and Hospitalizations, 1997 and 2001*



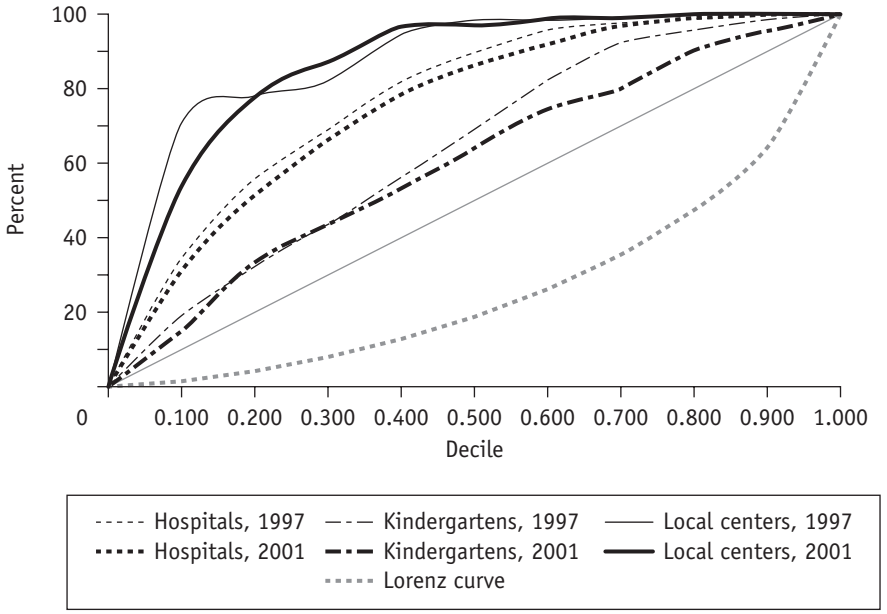
Source: Authors' calculations based on SIEMPRO (1997, 2000).

health care centers (figure 12.10). There is no clear pattern for changes in meals in kindergartens and local feeding centers.

Annex table 12.15 shows the concentration index (CI) for each service, a measure of the extent to which a particular variable is distributed unequally across income strata (Lambert 1993). Negative numbers reflect pro-poor programs. The higher the CI in absolute value, the more pro-poor is the program.

All health and nutrition programs considered are pro-poor. The most pro-poor is the program of meals in the local feeding center, followed by milk in hospitals, all health services, and immunization programs. Between

Figure 12.10. *Concentration Curves, Nutrition Programs, 1997 and 2001*



Source: Authors' calculations based on SIEMPRO (1997, 2000).

1997 and 2001, targeting precision decreased in the health services for which comparable data are available. The same is true of the milk delivery programs. For other nutrition programs, changes were insignificant.

Characterizing Changes in Targeting

Benefit-incidence results are derived by aggregating individual decisions on the consumption of publicly provided services. A household will consume a service if at least one of its members is eligible for it, if the person (or his or her parents) decides to consume the service, and if the person decides to do it in the public sector. Accordingly, differences in a program's targeting over time or across regions are the result of differences in the three stages described above. It is relevant to identify to what extent the change in a program's targeting accuracy results from changes in the sociodemographic structure of the population or from changes in household decisions on the consumption of the service (whether to use it or not, and where to use it). In this section, we tackle this issue using aggregate and microeconometric decompositions.

Aggregate Decompositions

Suppose we group total population into quintiles $h = 1, \ldots, 5$ according to their equivalized household income. The proportion of total users of a health service j in a public facility who belong to quintile h in time t is denoted b_{hjt}. These proportions are the inputs of any benefit-incidence measure. If b_{hjt} is decreasing in income, the public program j is said to be pro-poor. The value b_{hjt} can be written:

$$b_{hjt} = q_{hjt} \bullet a_{hjt} \bullet p_{hjt},$$

where $q_{hj}t$ is the proportion of people who qualify for service j who belong to quintile h, a_{hjt} is the rate of use of service j in quintile h relative to the population mean, and p_{hjt} is the share of users in the public sector in h relative to the population mean. Differences among quintiles in the value of b are driven by differences in q, a, and p.

Let us illustrate this decomposition with the case of antenatal care by medically trained persons. By definition, only pregnant women qualify for this service. If pregnant women are not uniformly distributed along the income distribution, the value of q will differ across quintiles. In most countries, fertility rates decrease with income, which implies that the value of q decreases with income for health services related to pregnant women and children. All other things constant, this pattern will imply a pro-poor bias for any health service directed to that population.

The relative use of a service (summarized by a) is the second determinant of the incidence results. Keeping all else constant, if, in contrast to pregnant women from nonpoor households, most women from poor households decide not to see a medically trained person, the value of a will increase with income.

Finally, the choice between public or private care is the third crucial determinant of the incidence results. If poor pregnant women choose a public facility more often than nonpoor women, the value of p will decrease with income.

Differences in the pattern of the bs, and then in the incidence results over time and across regions, depend on differences in factors on the right-hand side of the equation. We use this simple decomposition to obtain a preliminary characterization of differences in incidence results over time and across regions in Argentina.

Annex table 12.16 shows the results of the decomposition of incidence results by quintile for different health programs. The first three sets of rows in each panel of the table reproduce results from annex tables 12.6, 12.7, 12.9, and 12.10. The distribution of potential users, the participation decision, and

the choice between public or private care determine the incidence results in row set 4. The differences in incidence by quintile are reported in row 5.

There is a clear reduction in the degree of targeting of the public antenatal care program. In 1997, 46.5 percent of total beneficiaries of that program belonged to the bottom quintile of the equivalized income distribution; in 2001 the share fell to 43.3 percent. This drop of 3.2 percentage points has its complement in the gains of 1.6 for quintile 3, 1.0 for quintile 4, and 0.6 for the top quintile. Row set 6 helps us characterize the incidence changes by showing decomposition results. The Potential users line shows incidence results if we change the distribution of pregnant women (row set 1) between 1997 and 2001 but keep fixed the participation rates and the public or private decisions at the values of a given year. Since the values of a and p can be fixed at two alternative years, in the table we report the average over the four possible simulations.[13]

The distribution of pregnant women became less pro-poor between 1997 and 2001, implying a 1.4 drop in the incidence on the bottom quintile. This means that with everything constant, the demographic changes would explain a sizeable part of the decrease in the precision of subsidy targeting to antenatal care in public hospitals and primary health care centers. Poor women are now more likely to be seen by medically trained personnel. This increase in participation (combined with the changes in the rest of the distribution) implies an increase (0.9 points) in incidence on the bottom quintile. The last effect, labeled Public provision, seems the most relevant. Although the use of public hospitals increased for poor people, it increased proportionally more for the rest of the population. This effect implies a sizeable drop in the precision of targeting in the bottom quintile.

For attended deliveries, participation rates are assumed to be unchanged because no information is available for 2001. The reduction in targeting precision on the bottom quintile between 1997 and 2001 is again a consequence of the reduction in the relative fertility rate of poor women and the relative increase in the use of public facilities by nonpoor women. In contrast with the case of antenatal care, the first effect seems to be the dominant one. Similar results are obtained for public subsidies to medicines. The incidence of public hospital admissions increased somewhat for the bottom quintile and decreased considerably for the second one, leading to a decline in the overall precision of targeting as measured by the concentration index. The decrease for the second quintile is explained by a relative reduction in fertility, a large drop in the share of hospitalized children, and a less pronounced increase in the use of public facilities than in other quintiles of the distribution.

The reduction in the precision of targeting of the nutrition programs for milk in hospitals and primary health centers and for meals in local feeding centers is attributable to a decline in the fertility rates of poor people and to a large increase in the participation of people from other quintiles of the distribution in nutrition programs (annex table 12.17).

Microsimulations

The aggregate decompositions, although informative, are only rough approximations of the effect on the benefit-incidence results of changes in the structure of the population, the decision to consume a given health service, and the public or private choice. A more sophisticated analysis can be performed with the help of microeconometric (or microsimulation) decomposition techniques.[14] Suppose we want to analyze changes between t and t' in the concentration index for the program of visits to doctors in public facilities. The idea behind this methodology is to simulate for each individual the counterfactual decision of whether to visit a doctor in a public facility in time t if certain factors were those of time t' instead of those observed in time t.[15] We consider three sets of factors that can be alternatively changed between t and t': the characteristics of each individual (and the individual's family), the way these characteristics are linked to the decision to visit a doctor, and the way these characteristics are linked to the choice to attend a public facility instead of a private one.

To implement this methodology, we estimate econometric models of the decision to visit a doctor, and the conditional decision to attend a public facility, as functions of various individual and household characteristics.[16] Changes in the concentration index are decomposed into three effects. The *population effect* is obtained by simulating the health decisions in time t if the individual and household characteristics were those of time t'; the *participation effect* comes from simulating each individual's health decisions in time t if the parameters governing the decision to visit a doctor were those of time t'; and the *public provision effect* is computed by assuming that the parameters governing the public versus private decision were those of time t'.

Annex table 12.18 reports the decomposition results. The first row reports the change in the absolute value of the concentration index between 1997 and 2001 for each health service, and the last three rows show the values of each effect.[17] The concentration index for the antenatal care program in public facilities declined 4.8 points between 1997 and 2001, implying less precise targeting. If the only change between 1997 and 2001 had been in the way individual decisions are made, the CI would have increased 0.4 points—a negligible change. The effect of changes in public versus private

decisions between 1997 and 2001 contributed 1.7 points to the overall fall of the CI. The most significant factor in this decline was the change in population characteristics. Even keeping all other parameters constant, the change in characteristics would have contributed 3.5 points to the reduction in the CI. The reduction in the number of children in poor families is likely the main factor behind this result.

The population effect is also highly relevant for targeting attended deliveries, medicines, and hospitalizations. The public provision effect is negative except for attended deliveries, probably because an increasing number of middle- and high-income groups sought care at public hospitals as a result of the economic crisis. The participation effect is negligible in all cases except hospitalizations, a sign of the increase in hospitalizations of children from the poorest quintile.

Conclusions

This study analyzes targeting precision of health and nutrition policies for pregnant women and children under five in Argentina, using information from two Living Standards Measurement Surveys in 1997 and 2001. A benefit-incidence analysis tells us that public health and nutrition programs are pro-poor. The results of aggregate and microeconometric decompositions, however, suggest that incidence changes in the past five years have favored the nonpoor because of two factors: a substantial reduction in the fertility rate of poor couples, and an increase in the use of public facilities by wealthier households, probably triggered by the continuing economic crisis that began in 1998.

Annex Table 12.1. *Living Standards Measurement Surveys, Observations and Population Represented by the Sample. Argentina, 1997 and 2001*

	1997	*2001*
Observations		
Total	75,407	71,574
Men	36,439	34,556
Women	38,968	37,018
Population		
Total	29,991,693	31,959,425
Men	14,448,953	15,389,584
Women	15,542,740	16,569,841

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.2. *Mean Income by Decile, Argentina, 1997 and 2001*

	Per capita income		*Equivalized income*	
Decile	*1997*	*2001*	*1997*	*2001*
1	35.7	24.2	50.6	34.0
2	73.6	52.1	100.2	71.4
3	104.6	78.9	140.3	104.2
4	137.3	107.1	178.8	139.5
5	173.6	137.1	221.5	175.8
6	220.3	176.8	276.1	221.1
7	278.3	227.5	343.9	280.7
8	363.9	300.4	443.2	363.6
9	517.7	428.0	617.5	511.4
10	1,190.0	981.1	1,382.7	1,136.5
Mean	309.5	251.3	375.6	303.8

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex table 12.3. *Income Distribution by Decile and Inequality Indexes, Argentina, 1997 and 2001*

	Per capita income		*Equivalized income*	
	1997	*2001*	*1997*	*2001*
Share of deciles (percent)				
1	1.2	1.0	1.3	1.1
2	2.4	2.1	2.7	2.3
3	3.4	3.1	3.7	3.4
4	4.4	4.3	4.8	4.6
5	5.6	5.5	5.9	5.8
6	7.1	7.0	7.4	7.3
7	9.0	9.1	9.2	9.2
8	11.8	11.9	11.8	12.0
9	16.7	17.0	16.4	16.8
10	38.5	39.0	36.9	37.4
Income ratio				
10:1	33.3	40.6	27.3	33.4
90:10	11.3	13.7	9.7	11.7
95:80	2.3	2.3	2.2	2.2
Inequality indexes				
Gini	0.507	0.522	0.484	0.499
Theil	0.491	0.521	0.443	0.471
CV	1.410	1.481	1.291	1.350
A(0.5)	0.213	0.227	0.194	0.207
A(1)	0.380	0.406	0.348	0.374
A(2)	0.645	0.678	0.603	0.641
E(0)	0.477	0.520	0.427	0.468
E(2)	0.994	1.097	0.833	0.912

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex table 12.4. *Poverty Measures, Argentina, 1997 and 2001 Official Poverty Line*

	1997	*2001*
Headcount ratio	0.326	0.429
Poverty gap	0.143	0.226
FGT (2)	0.088	0.160

Note: FGT, Foster, Greer, and Thornbecke index.

Annex table 12.5. *Population and Child Population by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Individuals						
All individuals						
Sample	17,084	15,362	14,820	13,620	12,524	73,410
Population	5,859,871	5,858,144	5,858,311	5,850,874	5,810,177	29,237,377
Children under 2						
Sample	1,456	972	799	605	472	4,304
Population	470,802	388,856	302,447	214,781	206,541	1,583,427
Children under 5						
Sample	2,446	1,645	1,326	1,074	792	7,283
Population	801,369	651,945	488,135	394,471	322,350	2,658,270
Share (percent)						
All						
Sample	23.3	20.9	20.2	18.6	17.1	100.0
Population	20.0	20.0	20.0	20.0	20.0	100.0
Children under 2						
Sample	33.8	22.6	18.6	14.1	11.0	100.0
Population	29.7	24.6	19.1	13.6	13.0	100.0
Children under 5						
Sample	33.6	22.6	18.2	14.7	10.9	100.0
Population	30.1	24.5	18.4	14.8	12.1	100.0

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
2001						
Individuals						
All						
Sample	12,387	12,017	11,538	10,814	10,544	57,300
Population	4,832,178	4,832,686	4,831,489	4,829,508	4,815,221	24,141,082
Children under 2						
Sample	938	718	599	455	409	3,119
Population	353,412	278,273	257,517	199,744	193,819	1,282,765
Children under 5						
Sample	1,626	1,207	1,041	774	688	5,336
Population	608,055	472,205	445,167	340,094	318,925	2,184,446
Shares (percent)						
All						
Sample	21.6	21.0	20.1	18.9	18.4	100.0
Population	20.0	20.0	20.0	20.0	20.0	100.0
Children under 2						
Sample	30.1	23.0	19.2	14.6	13.1	100.0
Population	27.6	21.7	20.1	15.6	15.1	100.0
Children under 5						
Sample	30.5	22.6	19.5	14.5	12.9	100.0
Population	27.8	21.6	20.4	15.6	14.6	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.6. *Antenatal Care by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 2 (percent)	29.7	24.6	19.1	13.6	13.0	100.0
ANC visits (percent)	94.8	96.3	99.5	99.4	98.4	97.1
Month of first visit	3.1	2.8	2.6	1.8	1.6	2.6
More than 4 visits (percent)	73.0	82.3	91.7	94.5	95.6	84.5
Visits in public hospital	81.6	56.0	46.0	25.7	7.6	51.6
Incidence (H1)	46.5	26.8	17.7	7.0	2.0	100.0
Incidence (H2)	42.1	27.3	20.1	8.2	2.3	100.0
2001						
Children under 2 (percent)	27.6	21.7	20.1	15.6	15.1	100.0
ANC visits (percent)	97.6	96.5	97.6	98.5	99.2	97.7
Month of first visit	3.6	2.4	2.1	2.0	1.7	2.5
More than 4 visits (percent)	69.6	83.0	87.8	91.0	94.8	83.1
ANC visits in public hospital	85.6	68.1	52.4	27.7	9.0	54.9
Incidence (H1)	43.3	26.8	19.3	8.0	2.5	100.0
Incidence (H2)	38.2	28.2	21.4	9.2	3.0	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Note: H1, calculated without taking number of visits into account; H2, calculated taking number of visits into account.

Annex Table 12.7. *Attended Deliveries by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(percent)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 2	29.7	24.6	19.1	13.6	13.0	100.0
Attended delivery	98.3	99.4	99.9	100.0	100.0	99.3
Caesarean section	21.4	27.4	37.4	38.3	45.6	31.1
Delivery in public hospital	79.5	59.4	49.1	27.3	10.9	53.4
Incidence (H1)	44.5	27.7	17.9	7.1	2.7	100.0
Incidence (H2)	34.6	27.4	23.9	9.7	4.4	100.0
2001						
Children under 2	27.6	21.7	20.1	15.6	15.1	100.0
Attended delivery	98.3	99.4	99.9	100.0	100.0	99.3
Caesarean section	28.2	33.3	38.4	39.8	47.9	36.0
Delivery in public hospital	83.4	67.5	49.5	33.0	11.3	55.0
Incidence (H1)	41.9	27.0	18.4	9.5	3.2	100.0
Incidence (H2)	35.8	27.1	21.3	11.4	4.5	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Note: The 2001 survey does not record the share of attended deliveries. In computing incidence results, we assume no changes between 1997 and 2001. H1, calculated without taking into account differential costs of vaginal delivery and caesarean sections; H2, assumes that the cost of caesarean sections is twice the cost of normal births.

Annex Table 12.8. *Visits to a Doctor by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(Percent, except as otherwise indicated)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Reported sick	33.6	36.6	34.5	37.3	37.1	35.5
Saw a doctor if reported sick	90.7	90.8	92.4	94.4	95.4	92.2
Saw a doctor	30.5	33.3	31.9	35.2	35.4	32.7
Number of visits	2.5	2.4	2.2	2.4	2.5	2.4
Publicly financed (1)[a]	77.4	56.5	42.5	20.5	10.3	48.0
Publicly financed (2)[b]	83.0	61.5	45.0	22.3	11.1	51.7
Incidence (H1)	47.0	29.2	14.4	6.6	2.9	100.0
Incidence (H2)	45.1	29.6	15.6	6.9	2.8	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
Reported sick	31.3	34.7	35.9	31.8	44.3	35.0
Saw a doctor if reported sick	81.3	79.0	84.7	85.0	90.7	83.8
Saw a doctor (calculated as product of two preceding rows)	25.4	27.4	30.4	27.1	40.2	29.3
Saw a doctor (actual answers)	46.7	51.2	54.9	57.3	65.9	53.8
Publicly financed	89.7	68.1	45.4	23.5	8.6	50.6
Incidence (H3)	42.8	27.7	18.7	7.7	3.1	100.0
Incidence (H2)	43.2	27.5	19.1	6.7	3.4	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Note: The "Reported sick" row and the "Saw a doctor" rows refer to the 30 days preceding the survey. For 1997, H1 refers to publicly financed, taking into account the differences between partial and total financing and including differences in the number of visits; H2 refers to publicly financed, ignoring the difference between partial and total financing and differences in number of visits. For 2001, no breakdown between partial and public financing is available. H3 is computed using the row "Saw a doctor (actual answers)"; H2 is computed using the row "Saw a doctor (calculated)."

a. Takes into account the difference between partial and total financing.

b. Does not take into account the difference between partial and total financing.

Annex Table 12.9. *Medicines by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(percent)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Prescribed medicines	25.1	27.0	27.2	29.5	26.9	26.8
Received medicines	96.7	94.9	97.7	96.4	97.3	96.5
Publicly financed	49.7	29.2	21.4	10.1	3.1	27.2
Incidence (H1)	51.6	26.1	14.8	6.1	1.4	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
Prescribed medicines	54.6	55.0	59.6	56.8	63.5	57.6
Received medicines	94.5	94.5	97.0	96.4	99.4	96.3
Publicly financed	64.8	36.4	25.9	19.1	8.0	32.3
Incidence (H2)	49.4	21.7	16.3	8.7	3.9	100.0
Incidence (H1)	47.3	24.4	16.5	8.2	3.7	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).
Note: H1, ignores population that does not self-report being sick; H2, includes population that does not self-report being sick.

Annex Table 12.10. *Hospitalizations by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(percent)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
In hospital last year	8.8	10.6	6.9	7.1	7.0	8.4
Publicly financed	84.3	70.5	62.1	29.1	9.2	63.1
Incidence	42.5	35.0	15.1	5.9	1.5	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
In hospital last year	9.6	6.8	10.9	9.1	4.5	8.4
Publicly financed	91.9	66.0	67.3	35.1	15.0	65.4
Incidence	44.5	17.5	27.1	9.1	1.8	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.11. *Vaccines by Quintiles of Equivalized Household Income, Argentina, 1997*
(Percent, except as otherwise indicated)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
BCG						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	97.5	98.0	99.2	99.2	95.7	98.0
Received vaccine (2001)	99.1	98.4	99.2	97.4	99.6	98.8
Doses (number)	1.0	1.1	1.1	1.1	1.0	1.1
Publicly financed	98.4	98.4	96.3	91.7	85.3	95.5
Incidence	30.6	25.5	18.9	14.5	10.5	100.0
Sabin						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	93.9	94.6	94.9	97.1	96.4	95.0
Received vaccine (2001)	93.9	96.1	95.1	95.6	97.7	95.4
Doses (number) (1997)	3.3	3.3	3.4	3.4	3.3	3.3
Doses (number) (2001)	3.4	3.4	3.4	3.4	3.4	3.4
Publicly financed	98.6	98.2	96.0	91.3	82.7	95.0
Incidence	30.6	24.9	18.8	15.0	10.8	100.0
DPT						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	87.1	90.0	86.2	86.4	72.8	85.8
Received vaccine (2001)	80.8	82.0	77.9	79.6	82.9	80.6
Doses (number) (1997)	3.2	3.2	3.3	3.3	3.3	3.3
Doses (number) (2001)	3.5	3.5	3.5	3.6	3.5	3.5
Publicly financed	66.7	46.1	33.3	17.6	10.4	36.3
Incidence	48.4	27.9	14.7	6.4	2.6	100.0
Measles						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	71.8	73.2	74.1	78.6	65.4	72.8
Doses (number) (1997)	1.1	1.1	1.1	1.1	1.1	1.1
Publicly financed	98.2	98.2	95.7	91.1	80.5	94.7
Incidence	31.6	25.7	18.7	15.0	9.0	100.0

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
Quadruple						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	28.5	30.4	40.5	51.1	60.2	38.4
Received vaccine (2001)	67.0	72.2	79.4	76.9	86.4	75.0
Doses (number)	3.0	2.9	3.2	2.9	3.1	3.0
Publicly financed	97.4	93.4	89.8	79.5	74.2	87.4
Incidence	25.2	19.7	20.9	17.5	16.8	100.0
MMR						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received vaccine (1997)	15.0	19.2	26.2	29.4	43.4	23.6
Received vaccine (2001)	72.3	68.9	71.3	72.0	79.0	72.3
Doses (number)	1.2	1.3	1.2	1.3	1.2	1.2
Publicly financed	95.1	92.6	89.9	74.3	73.5	84.8
Incidence	21.0	22.3	21.2	16.9	18.6	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Note: BCG, bacille Calmette-Guérin (tuberculosis) vaccine; DPT, diphtheria, tetanus, and pertussis vaccine; MMR, measles, mumps, and rubella vaccine; quadruple, DPT plus the *Haemophilus influenzae* type B vaccine.

Annex Table 12.12. *Milk for Babies in Hospitals by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001 (percent)*

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Received milk	24.1	16.6	12.8	8.8	11.6	16.4
Publicly financed	91.8	80.4	74.7	28.2	4.7	74.2
Incidence	55.0	26.9	14.5	3.0	0.5	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
Received milk	35.8	29.4	23.8	24.6	21.6	28.2
Publicly financed	92.0	82.4	54.2	31.6	6.2	65.5
Incidence	49.7	28.4	14.2	6.6	1.1	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.13. *Food in Kindergartens by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(Percent, except as otherwise indicated)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Attend kindergarten	10.3	13.1	21.1	27.0	38.9	18.9
Attend public kindergarten	70.8	55.2	56.5	33.5	20.6	44.8
Number of meals	1.6	1.3	1.2	1.3	1.0	1.1
Incidence	31.4	20.0	24.2	16.0	8.3	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
Attend kindergarten	33.3	36.9	41.3	45.4	49.2	41.4
Attend public kindergarten	86.2	69.5	61.0	52.3	24.5	54.7
Number of meals	1.7	1.3	1.2	1.1	1.0	1.3
Incidence	41.7	21.0	19.2	12.6	5.5	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.14. *Meals in Local Feeding Centers by Quintiles of Equivalized Household Income, Argentina, 1997 and 2001*
(Percent, except as otherwise indicated)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
1997						
Children under 5	30.1	24.5	18.4	14.8	12.1	100.0
Receive food in local centers	2.6	1.9	0.6	0.1	0.3	1.4
Receive food in public local centers	35.3	8.9	14.5	50.3	0.0	24.2
Number of meals	1.1	1.6	1.0	1.0	0.0	1.1
Incidence	78.1	16.2	4.1	1.7	0.0	100.0
2001						
Children under 5	27.8	21.6	20.4	15.6	14.6	100.0
Receive food in local centers	20.2	12.2	10.4	9.0	1.5	12.0
Receive food in public local centers	25.9	14.9	2.5	1.6	—	16.0
Number of meals	1.3	1.2	1.0	1.0	—	1.2
Incidence	77.3	19.4	2.3	1.0	0.0	100.0

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.15. *Concentration Indexes, Health and Nutrition Programs, Argentina, 1997 and 2001*

	1997	*2001*
Health		
Antenatal care	−0.469 (−0.484, −0.458)	−0.429 (−0.445, −0.411)
Attended delivery	−0.453 (−0.464, −0.438)	−0.414 (−0.430, −0.391)
Visits to a doctor	−0.440 (−0.449, −0.431)	
Medicines	−0.510 (−0.535, −0.484)	−0.387 (−0.417, −0.366)
Hospitalizations	−0.466 (−0.499, −0.443)	−0.372 (−0.433, −0.331)
Immunization		
BCG	−0.223 (−0.235, −0.214)	
Sabin	−0.216 (−0.228, −0.202)	
DP	−0.241 (−0.253, −0.230)	
Measles	−0.234 (−0.245, −0.219)	
Quadruple	−0.085 (−0.108, −0.052)	
MMR	−0.040 (−0.075, −0.012)	
Nutrition		
Milk in hospitals	−0.544 (−0.557, −0.528)	−0.496 (−0.515, −0.479)
Meals in kindergartens	−0.279 (−0.330, −0.199)	−0.195 (−0.233, −0.151)
Meals in local centers	−0.754 (−0.793, −0.708)	−0.724 (−0.745, −0.695)

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Note: BCG, bacille Calmette-Guérin (tuberculosis) vaccine; DPT, diphtheria, tetanus, and pertussis vaccine; MMR, measles, mumps, and rubella vaccine; quadruple, DPT plus *Haemophilus influenzae* type B vaccine. Numbers in parentheses are the limits of the 95 percent confidence intervals for the concentration index estimates. Intervals are computed by bootstrapping techniques, with 200 replications. For details, see Gasparini and Panadeiros (2004).

Annex Table 12.16. *Aggregate Decomposition of Incidence Results, Health Services, Argentina, 1997 and 2001*
(percent)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
Antenatal care						
1. *Potential users*						
1997	29.7	24.6	19.1	13.6	13.0	100.0
2001	27.6	21.7	20.1	15.6	15.1	100.0
2. *Participation*						
1997	94.8	96.3	99.5	99.4	98.4	97.1
2001	97.6	96.5	97.6	98.5	99.2	97.7
3. *Public provision*						
1997	81.6	56.0	46.0	25.7	7.6	51.6
2001	85.6	68.1	52.4	27.7	9.0	54.9
4. *Incidence*						
1997	46.5	26.8	17.7	7.0	2.0	100.0
2001	43.3	26.8	19.3	8.0	2.5	100.0
5. *Difference*	–3.2	0.0	1.6	1.0	0.6	
6. *Effects*						
Potential users	–1.4	–2.1	1.7	1.4	0.4	
Participation	0.9	–0.2	–0.5	–0.1	0.0	
Public provision	–2.7	2.4	0.4	–0.2	0.1	
Attended deliveries						
1. *Potential users*						
1997	29.7	24.6	19.1	13.6	13.0	100.0
2001	27.6	21.7	20.1	15.6	15.1	100.0
2. *Participation*						
1997	98.3	99.4	99.9	100.0	100.0	99.3
2001	98.3	99.4	99.9	100.0	100.0	99.3
3. *Public provision*						
1997	79.5	59.4	49.1	27.3	10.9	53.4
2001	83.4	67.5	49.5	33.0	11.3	55.0
4. *Incidence*						
1997	44.5	27.7	17.9	7.1	2.7	100.0
2001	41.9	27.0	18.4	9.5	3.2	100.0
5. *Difference*	–2.6	–0.8	0.5	2.4	0.4	
6. *Effects*						
Potential users	–1.5	–2.2	1.7	1.5	0.6	
Participation	0.0	0.0	0.0	0.0	0.0	
Public provision	–1.1	1.5	–1.2	1.0	–0.1	

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
Medicines						
1. *Potential users*						
1997	30.1	24.5	18.4	14.8	12.1	100.0
2001	27.8	21.6	20.4	15.6	14.6	100.0
2. *Participation*						
1997	24.2	25.6	26.6	28.5	26.2	25.9
2001	51.6	52.0	57.8	54.8	63.1	55.5
3. *Public provision*						
1997	49.7	29.2	21.4	10.1	3.1	27.2
2001	64.8	36.4	25.9	19.1	8.0	32.3
4. *Incidence*						
1997	51.6	26.1	14.8	6.1	1.4	100.0
2001	49.4	21.7	16.3	8.7	3.9	100.0
5. *Difference*	–2.2	–4.4	1.4	2.6	2.5	
6. *Effects*						
Potential users	–1.7	–1.9	2.3	0.7	0.6	
Participation	0.6	–0.9	0.6	–0.6	0.3	
Public provision	–1.1	–1.6	–1.5	2.6	1.6	
Hospitalizations						
1. *Potential users*						
1997	30.1	24.5	18.4	14.8	12.1	100.0
2001	27.8	21.6	20.4	15.6	14.6	100.0
2. *Participation*						
1997	8.8	10.6	6.9	7.1	7.0	8.4
2001	9.6	6.8	10.9	9.1	4.5	8.4
3. *Public provision*						
1997	84.3	70.5	62.1	29.1	9.2	63.1
2001	91.9	66.0	67.3	35.1	15.0	65.4
4. *Incidence*						
1997	42.5	35.0	15.1	5.9	1.5	100.0
2001	44.5	17.5	27.1	9.1	1.8	100.0
5. *Difference*	2.0	–17.5	12.0	3.2	0.3	
6. *Effects*						
Potential users	–1.8	–2.2	3.0	0.6	0.4	
Participation	2.7	–12.2	8.7	1.6	–0.8	
Public provision	1.1	–3.2	0.4	0.9	0.7	

Source: Annex tables 12.6–12.10; authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.17. *Aggregate Decomposition of Incidence Results, Nutrition Programs, Argentina, 1997 and 2001*
(percent)

	Quintile					
	1	*2*	*3*	*4*	*5*	*Total*
Milk in hospitals						
1. *Potential users*						
1997	30.1	24.5	18.4	14.8	12.1	100.0
2001	27.8	21.6	20.4	15.6	14.6	100.0
2. *Participation*						
1997	24.1	16.6	12.8	8.8	11.6	16.4
2001	35.8	29.4	23.8	24.6	21.6	28.2
3. *Public provision*						
1997	91.8	80.4	74.7	28.2	4.7	74.2
2001	92.0	82.4	54.2	31.6	6.2	65.5
4. *Incidence*						
1997	55.0	26.9	14.5	3.0	0.5	100.0
2001	49.7	28.4	14.2	6.6	1.1	100.0
5. *Difference*	–5.3	1.5	–0.2	3.5	0.5	
6. *Effects*						
Potential users	–1.1	–1.9	2.3	0.5	0.2	
Participation	–5.9	1.8	1.6	2.4	0.1	
Public provision	1.7	1.6	–4.2	0.7	0.2	
Meals in local centers						
1. *Potential users*						
1997	30.1	24.5	18.4	14.8	12.1	100.0
2001	27.8	21.6	20.4	15.6	14.6	100.0
2. *Participation*						
1997	2.6	1.9	0.6	0.1	0.3	1.4
2001	20.2	12.2	10.4	9.0	1.5	12.0
3. *Public provision*						
1997	35.3	8.9	14.5	50.3	0.0	24.2
2001	25.9	14.9	2.5	1.6	0.0	16.0
4. *Incidence*						
1997	81.1	12.1	4.8	2.0	0.0	100.0
2001	75.6	20.4	2.8	1.2	0.0	100.0
5. *Difference*	–5.5	8.3	–2.0	-0.8	0.0	
6. *Effects*						
Potential users	–0.5	–0.8	0.7	0.6	0.0	
Participation	–8.6	–3.9	2.5	9.9	0.0	
Public provision	3.2	13.0	–5.2	-10.9	0.0	

Source: Annex tables 12.12 and 12.14; authors´ calculations based on SIEMPRO (1997, 2000).

Annex Table 12.18. *Microeconometric Decompositions (Microsimulations): Change in the Absolute Value of Concentration Index, Argentina, 1997–2001*

	Antenatal care	*Attended deliveries*	*Medicines*	*Hospitalizations*
Difference	–0.048	–0.052	–0.116	–0.072
Participation	0.004	0.000	–0.008	0.021
Public provision	–0.017	0.006	–0.036	–0.057
Population	–0.035	–0.058	–0.072	–0.036

Source: Authors´ calculations based on SIEMPRO (1997, 2000).

Notes

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1. The extended version of this paper (Gasparini and Panadeiros 2004) also contains information on postnatal care, medical studies and analysis, treatment of chronic diseases, and HIV/AIDS testing of pregnant women.

2. Trends in inequality and poverty for the rest of urban Argentina in the 1990s are similar to those depicted in figures 12.2 and 12.3 for Greater Buenos Aires. The levels vary significantly, however, across regions. For instance, whereas in the city of Jujuy in the northwest of the country the poverty headcount ratio is 57.3 percent, in Río Gallegos in the Patagonia region it is 11 percent, and in the city of Buenos Aires it is 10 percent.

3. See van de Walle and Nead (1995) and van de Walle (1998). More recent assessments of these techniques and their problems are found in Bourguignon, Pereira da Silva, and Stern (2002) and Carneiro, Hansen, and Heckman (2002). For benefit-incidence analysis in Argentina, see Flood, Gasparini, and Harriague (1993); Harriague and Gasparini (1999); Gasparini and others (2000); and DGSC (2002).

4. The sample frame for both surveys is the same. Migration was not relevant in the period under analysis.

5. Equivalized household income is computed here as total household income divided by the number of adult equivalents in the household raised to a power of 0.9 in order to consider moderate consumption economies of scale within the household. We use the official adult equivalent scale for Argentina. See Gasparini and Panadeiros (2004) for details.

6. Weighted statistics are used throughout this chapter. Weights to expand the sample to the population were provided by the Instituto Nacional de Estadística y Censos (INDEC).

7. Marchionni and Gasparini (2003) report a similar trend for Greater Buenos Aires, using information from the Encuesta Permanente de Hogares.

8. There is a selection bias because mothers are not asked about miscarriages or children who died, but since infant mortality is low in Argentina, this bias is probably small.

9. The factors used in producing the service are not considered beneficiaries of public provision. It is assumed that doctors and nurses could find similar jobs in the private sector if the public sector decided not to provide health services.

10.Theoretically, the number of visits is relevant for an incidence analysis. The surveys, however, record neither the exact number of visits (they only ask whether the mother made more than four visits) nor the type of facility visited (the surveys ask only where mothers made *most* of their visits).

11. Information on vaccinations was recounted by the mother and confirmed by inspection of a vaccination card.

12. For technical notes on quantitative techniques for health equity analysis, see the World Bank Website, http://www.worldbank.org/poverty/health/wbact/health_eq.htm.

13. Results are quite robust to changes in the base year.

14. For the application of microsimulation techniques to distributional problems, see Bourguignon, Ferreira, and Lustig (2004).

15. A more detailed explanation of the methodology is included in Gasparini and Panadeiros (2004) and can be obtained from the authors on request.

16. Details of the estimated models are given in Gasparini and Panadeiros (2004).

17. Changes do not exactly coincide with those in annex table 12.15 because observations with missing information for variables included in the models were dropped.

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