

Assessing the Impact of Saúde Criança

Breaking the vicious cycle of poverty and health shocks

James Habyarimana, Daniel Ortega Nieto and Jennifer Tobin

EXECUTIVE SUMMARY

Saude Crianca has been providing wide-ranging support to very poor families with chronically ill children for more than 20 years. The founding principles of this support are rooted in the idea that medical treatment alone is not sufficient to lift afflicted families from the vicious cycle of illness and deep poverty. The organization provides support in five critical areas that represent key inputs to escape this cycle: health and psychological support; education; a healthy housing environment; income generation and citizenship. Beneficiaries are identified by a team of paediatricians and social workers in Hospital da Lagoa, a public hospital in Rio de Janeiro. Saude Crianca designs, together with the household members, a Family Action Plan attending to each of the five critical areas. Support is provided typically for 2 years after which graduates stop receiving direct benefits.

This report presents the results of the first rigorous evaluation of the medium to long-term impact of Saude Crianca on the wellbeing of recent graduates of the program. A total of 170 families graduating between January 2008 and March 2011, constitute the 'treated' arm of this evaluation. The impact of the Saude Crianca is measured in two ways. First, results from the recent survey are compared to indicators both at entry and on graduation from Saude Crianca. Second, the evaluators exploit a statistical matching technique with the help of comparable households hospitalized in Hospital Jesus, another public hospital in Rio de Janeiro. A total of 543 matched observations were drawn for the purposes of serving as pre-defined matches, given the characteristics of the treated arm. Only 127 of the 170 Saude Crianca graduate sample were located. 172 observations from Hospital Jesus were selected as matches for the Saude Crianca graduates. Despite the evaluator's attempts to improve the quality of the matches, the children of Saude Crianca households were significantly worse off than their Hospital Jesus counterparts: Saude Crianca beneficiaries have more severe health shocks and are of a lower socio-economic status than matched observations.

Positive Results

The evaluation documents significant and sustained improvements in the health of the focal child in Saude Crianca households. Compared to the hospitalization duration at entry into or graduation from the program, the focal child's hospitalization duration falls from an average of just under 62 days to less than 9 days. This represents a reduction of nearly 90%. One potential mechanism that underpins this large reduction in hospital stays appears to be a reduction in the likelihood of surgery or clinical treatment. Compared to the children who never had any exposure to the organization, over the preceding six months, Saude Crianca children are about 11 percentage

points less likely to obtain any surgery/clinical treatment than Hospital Jesus patients. These sustained long-term gains in health are in part due to the successful management of the illness during their enrolment, but also due to the sustained improvements in the economic well-being occasioned by the marketable skills provided/financed by Saude Crianca. In this direction, the evaluators document a higher likelihood of being employed if you are a Saude Crianca beneficiary. In particular, Saude Crianca beneficiaries are nearly 12 percentage points more likely to work than their matched counterparts. The enhanced economic self-sufficiency is best captured in improvements in home ownership. Compared to only about 25% of beneficiaries owning their homes on entry into Saude Crianca, 50% of beneficiaries now own their homes.

Insignificant results

In a wide range of other areas such as school participation, housing quality, access to government programs and services as well as earning power, the evaluation finds no difference between Saude Crianca graduates and matched Hospital Jesus observations. While some of the ranges of estimated differences include some economically significant gaps, the evaluators are only able to conclude that there are indeed no statistically significant differences between both groups. Given the two critical differences in the population of the treated and matched observations discussed above, a reasonable interpretation of these findings is that they represent a 'catching' up effect. In other words, Saude Crianca families start off at lower levels than the matched observations and by the time of our survey, 3-5 years after graduating have attained education, housing, citizenship and earning levels that are on par with their hitherto better off matches.

Negative results

The examination of the long term impact of Saude Crianca on the mental health of beneficiaries (both focal children and caregivers) reveals some potential areas for improvement. The evaluation measures both the mental health functioning of the primary care givers as well as the psychological development of the focal children. The analysis finds considerable differences in the mental health of both populations: Saude Crianca caregivers are more likely to have psychological distress than their matched counterparts, on average scoring two points (out of 50) below their peers on a global measure of distress. Saude Crianca caregivers also have lower self-esteem than their counterparts, scoring, on average half of a point (out of 15 points) below their counterparts. Saude Crianca focal children score worse on a test of strengths and difficulties than do their counterparts, scoring, on average, 2 points (out of 40) below their Hospital Jesus peers.

While these results may reflect unmeasured improvements (the evaluators do not observe the mental health of these care providers at entry into the program), the negative mental health of both adults and children dampens the positive impacts of the program.

Perceptions and focus groups

The evaluation also utilized qualitative data on graduates' perceptions of the role of Saude Crianca and conducted focus groups to obtain insights into some of the mechanisms underlying the gains documented above. Unsurprisingly, the most tangible inputs of medical and nutrition support were the most highly valued inputs by the beneficiaries. The focus groups revealed the degree to which uninsured health shocks can deepen poverty in an already fragile economic context. In particular beneficiaries pointed out the important cushion that Saude Crianca provided during the peak of the illness, as well as through the provision of marketable skills. Focus group participants also emphasized the important role of Saude Crianca in preparing them for potential future setbacks. As a result, the overall perception of family wellbeing improved substantially.

Implications & Conclusion

Overall the results of this evaluation suggest large and sustained gains across each of the five themes of Saude Crianca's Family Action Plan: health, education, housing, income generation and citizenship. The toll of providing care for a chronically and severely ill child is expressed in poorer mental health of care givers and the poor psychological development of the children themselves. Adequately addressing the mental health of these beneficiaries can only amplify the tremendous and sustained empowerment that shines through in this evaluation. In short, Saude Crianca effectively targets the most vulnerable groups and empowers their beneficiaries to weather severe health shocks and more importantly to take control of their own destinies.

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Introduction

Almost a third of the world's urban population lives in slums where there is generally little or no access to basic services and where substandard housing, overcrowding, poor water and sanitation systems are the norm. In addition, these environments are also characterized by high rates of unemployment, crime and domestic violence. The combination of poor service delivery and few income earning opportunities implies that negative and unexpected events such as health shocks—adverse health events such as sickness and injuries—can have substantial and long-lasting consequences on household welfare (Dercon, 2002; Gertler and Gruber, 2002; Wagstaff and Lindelow, 2010). Further, these types of shocks constitute a major channel of the inter-generational transmission of poverty because they impoverish households through costly diagnoses and treatment, as well as through the loss of income (Baeza and Packard, 2006; Viegas, et al., 2006). Poor management of child health shocks, in particular, is likely to affect schooling and health, leading to lower human capital and poor long term prospects for the child (Currie, 2011; Crespo and Reis, 2009). As a result of health shocks, numerous slum dwellers embark on a vicious cycle in which poverty and illness lead to hospital admission and subsequent readmission and/or death as a result of inadequate coping mechanisms. Consequently, attempts to break the vicious cycle of illness and hospitalization are fundamental for eradicating poverty and fostering child welfare.

Associação Saúde Criança (SC), a Brazilian NGO, has been working to break that cycle for 22 years. SC works towards poverty alleviation and social inclusion by supporting families with children that have suffered severe health shocks. This report is the first systematic evaluation of SC's work. Overall, we find that there are large and sustained gains across the five themes of Saúde Criança's methodology (health, education, income generation, housing, and citizenship). Saúde Criança empowers its beneficiaries to weather severe health shocks and more importantly it provides guidance and opportunities for families to improve their overall long-term well-being.

The poverty level in Brazil has declined in the past decade, but 21.4% of the population continues to live below the national poverty line (World Bank, 2013). In Rio de Janeiro, where SC is headquartered, 763 favelas are home to approximately 22% of the city's population or 1.4 million people. The social gap between favelas and the "asphalt" dwellers in Rio de Janeiro is substantial. For example, the average income of favelados living in the largest complexes is 49% lower than the average person living in other parts of the city (World Bank, 2013). Those residing in favelas

generally live in abject poverty and are particularly vulnerable to health shocks because slums are generally located in environmentally hazardous areas where poor sanitation and overcrowding facilitate the rapid transmission of communicable diseases; a process that is aggravated by poor nutrition which compromises the immune system's ability to fight infection (Beall and Fox, 2006). In addition, illnesses that result from environmental conditions such as air pollution and other non-communicable illnesses are prevalent in poor urban communities where access to health advice and medication to remedy these conditions is poor. In this context, health shocks have large adverse effects on the welfare of households especially when the availability of social insurance and social assistance to the urban poor is limited (Fay, 2005).

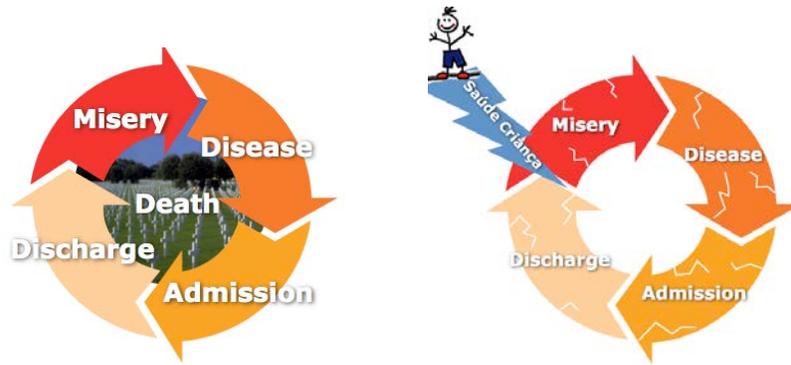
Social welfare programs such as *Bolsa Familia* can help to ameliorate health conditions, increase school attendance, and improve household well-being (IFPRI, 2010; Galea and Vlahov, 2005; Barviero, 2007). *Bolsa Familia* impact evaluations show that beneficiary families increased their expenditure on food, education, and child clothing yet there is no noticeable impact on aggregate consumption (Soares, et al., 2010). To date, there is no evidence that *Bolsa Familia* directly meets the needs of favelados that suffer severe chronic illnesses and injuries. In other words, while the program has been successful in certain areas, it is still unclear if *Bolsa Familia* can help them overcome unexpected and severe health shocks.

Recognizing the need to help the poor and vulnerable whose children have suffered these health shocks, in 1991 Saúde Criança began implementation of an innovative methodology aimed at addressing these health shocks. SC works through a systemic action plan that focuses on both the short and long term needs of the entire family—holistically encompassing the areas of health, housing, income generation, education, and citizenship. Its comprehensive approach provides direct support to families to address health shocks as well as indirect support to families to prevent relapse. In so doing, Saúde Criança's objective is to improve not only the health of the child but also the well-being and social inclusion of the entire family.

Saúde Criança's Methodology

SC's work is guided by the principle that the severity and frequency of child health shocks are not caused by biological factors alone. It recruits families directly affected by health shocks whose children are treated at one of the main public pediatric hospitals in Rio de Janeiro, Hospital da Lagoa. Saúde Criança's objective is to break the vicious cycle of poverty and suffering in which illness leads to hospital admission and extreme poverty mediates subsequent readmission and/or death.

Figure 1: Health Shocks Vicious Cycle and Saúde Criança's Mission



Source: *Saúde Criança, 2012.*

As Figure 1 above shows, *Saúde Criança* works to improve both the health of the child and the well-being of the child's family through economic self-sufficiency interventions. On admission to *Saúde Criança*, a 24 month tailor-made action plan (Family Action Plan) is drawn up for each family. This holistic plan covers 5 areas: health, housing, income generation, citizenship, and education. The Family Action Plan is a co-responsibility scheme in which families are required to visit SC once a month. Those families that do not comply may be asked to leave SC. Furthermore, in order to graduate from SC, families must meet a series of minimum criteria in each of the five areas. The following figure and paragraphs briefly describe the main activities undertaken in each area.

Figure 2: Saúde Criança's Family Action Plan



Source: *Saúde Criança, 2012.*

Health and Psychology

Saúde Criança works with the family to make sure that the child's chronic or acute illness is well-managed. The main goal is that every child in the family is, at a minimum, in satisfactory clinical condition. The type of support varies according to the nature and severity of the illness. It ranges from buying specialized medical equipment, such as wheelchairs, to providing expensive medicines and treatments. In addition to tackling the illness, the primary care giver can opt to receive monthly psychological support throughout the duration of the Family Action Plan. Families also receive a monthly "cesta básica", or basic food allocation for the household, as well as transport coupons to attend checkups and treatment at the hospital.

Saúde Criança also created the *Aconchego* project in which families get together once a month to talk about the specific problems and experiences that they face. These sessions are guided by an experienced volunteer, typically a psychologist, and work as a forum where parents express their concerns, provide advice, and learn from each other's experiences. In addition to teaching families about other beneficiaries' preferred coping mechanisms, the *Aconchego* project serves as a "support group" where these families share experiences and provide emotional support to one another.

Housing

Houses with well defined property rights that are in poor condition and are not located in hazardous areas undergo repairs using materials and labor provided by Saúde Criança. The focus is on the health of the family, and the purpose is to provide essential services and living conditions such as water, sanitation, covered walls and floors, as well as proper ceilings and windows. By living in a healthy environment, both children and families are protected from secondary afflictions that would slow their recovery. Only 40% of the families receive this benefit since many others live in neighborhoods with a high prevalence of violence and likely threat of eviction by drug dealers.

Income Generation

Saúde Criança offers a variety of job training courses to willing adult family members, who are matched to courses based on personal ability and interest. The main purpose is to provide marketable skills to family members in order to ensure stable and higher incomes upon graduation. Saúde Criança offers workshops for professional courses as well as access and financing for external courses. SC also provides start-up capital to the families in the form of working tools (e.g.

hairdresser materials, food stands; etc.). In the case of severe illness when there is urgency to pay for treatment, SC also offers courses that can provide relatively quick income such as hairdressing and cooking courses.

Education

As part of the co-responsibility scheme, parents are required to attend educational lectures on issues such as hygiene, domestic violence, child development, family planning, and sexually transmitted diseases and their prevention. Also as part of the co-responsibility compact, all children in the family between the ages of 6 and 14 must to be enrolled in school, with SC providing additional assistance such as school supplies and other materials.

Citizenship

Saúde Criança helps families obtain official registration documentation so that all eligible members can access appropriate government social services and transfer programs. Under Brazilian law, most of the beneficiaries are entitled to get medications yet few are aware of this benefit. Moreover, they require assistance to file for such benefits. In certain cases, families also receive legal advice in matters such as land tenure, divorce disputes, and other legal matters.

Evaluating Saúde Criança's Methodology

A survey carried out by SC in 2005 showed that at the time of graduation from Saúde Criança, the average number of days that children spent hospitalized decreased substantially, along with a significant improvement in their health. The survey also showed a considerable increase in household income. Yet, while Saúde Criança effectively monitors the evolution of all family members throughout the implementation of the Family Action Plan until discharge, it is unclear if these benefits persist after a family graduates. In other words, it is not evident that the benefits of Saúde Criança are sustainable and long lasting. This report presents the results of an evaluation aimed at measuring the effects of Saúde Criança's methodology on household and individual welfare. In so doing, it tries to answer the following questions:

1. Do the benefits of enrollment in Saúde Criança persist in the medium and long-term?
2. Along which dimensions of well-being does Saúde Criança have a greater impact?

To answer these questions, the evaluators measure the impact of the program along a range of distinct socio-economic outcomes. Two strategies are used to assess the impact of Saúde Criança's Family Action Plan on health and well-being at the household and individual level. The first strategy draws information from Saúde Criança's monitoring system developed by McKinsey & Company that collects data when the family is admitted to the program and is updated monthly until graduation. In addition to this in-program data, indicators from Saúde Criança's database are compared to data from a new survey conducted between December 2011 and April 2012. Because the first strategy does not have a reliable counterfactual estimate, the second evaluation strategy uses matching techniques to generate a synthetic control group from a set of similar households of children that received treatment in a different public hospital in Rio de Janeiro. In other words, the strategy uses statistical techniques to identify families that did not receive Saúde Criança's benefits but are comparable to those that were enrolled in SC with the aim of isolating the impact of the methodology. This technique allows the evaluators to estimate what would have happened to Saúde Criança beneficiaries if they had not received the support of the program. This estimation of the counterfactual is based on a series of assumptions that are elaborated below. Finally, these quantitative approaches are complemented by qualitative methods as a way to obtain additional insights that aren't easily captured using structured survey methods.

Survey

December 2011—April 2012

Saúde Criança started collecting data from their beneficiaries through a monitoring system established in 2005. The list of beneficiaries that graduated any time between 2005 and 2011 constitutes the population that was evaluated. To this end, the team designed a survey aimed at collecting relevant information on a number of household and individual characteristics that would allow them to assess the impact of SC's methodology. The survey consisted of eight different modules that would shed light on all the areas where SC's program might have an impact. The first module collected general information about the individuals living in each household. The second module consisted of an in-depth set of questions that aimed at rebuilding the clinical history of the family members as well as documenting their current health status. Specifically, it asked families about the health of the focal child (the child admitted to the hospital) from 2004 to 2011. The third module asked about the level of and participation in schooling of each family member. The fourth module consisted of questions related to current employment, income, and consumption. The fifth and sixth modules asked about housing conditions and access to government benefits and public programs available in the families' community, respectively. The seventh module fielded three

standardized mental health tests for the focus child and the mother (SDQ, K-10, and Rosenberg). The final module asked about the families' perceptions of Saúde Criança and about the benefits they received during the program. The modules were piloted and the household surveys were conducted between December 2011 and April 2012.

In order to measure the effects of SC, it was necessary to collect data from potentially comparable families that were not enrolled in SC's program. The team of evaluators was granted access to the in-patient health records from Hospital Jesus (HJ), a public pediatric hospital in Rio de Janeiro. The team collected data from a total of 1,812 randomly selected children that had been hospitalized between 2005 and 2010 in HJ. Data from HJ and Saúde Criança families were classified by a physician into more than 20 different disease categories following the World Health Organization's International Classification of Diseases (ICD-10). This enabled the team to rationalize the clinical records of SC and HJ children facilitating the matching exercise. The data were divided into individual cells using a cross product of disease classification, the severity of the disease proxied by the duration of earliest hospitalization and the age of the child. Using statistical matching techniques, the evaluators created matches for each Saúde Criança family. The available data allowed 170 matches out of the 382 Saúde Criança families. This resulted in the creation of 102 groups (bins) that would guide the survey and data collection efforts. A list of bins was given to the data collection company with instructions to first interview the Saúde Criança family and only in the case where the interview was successful would the interviewers proceed to interview at least one match from the HJ records. As expected, the interviewers had vast difficulties in finding families, mostly because the addresses of both SC and HJ families were several years old and there is a high mobility rate in the favelas. However, a total of 299 families (127 Saúde Criança and 172 Hospital Jesus families) were successfully interviewed.

Saúde Criança's Families

2005-2011

In order to evaluate the medium to long-term impact of Saúde Criança, the evaluators interviewed families that entered SC between 2005 and 2008 with the aim of allowing sufficient time to observe the families after they had graduated from Saúde Criança. A total of 382 families that entered in this period graduated from the program between the years of 2005 and 2011. Table 1 and Figure 3- show some of the main characteristics of the 382 families that graduated from Saúde Criança.

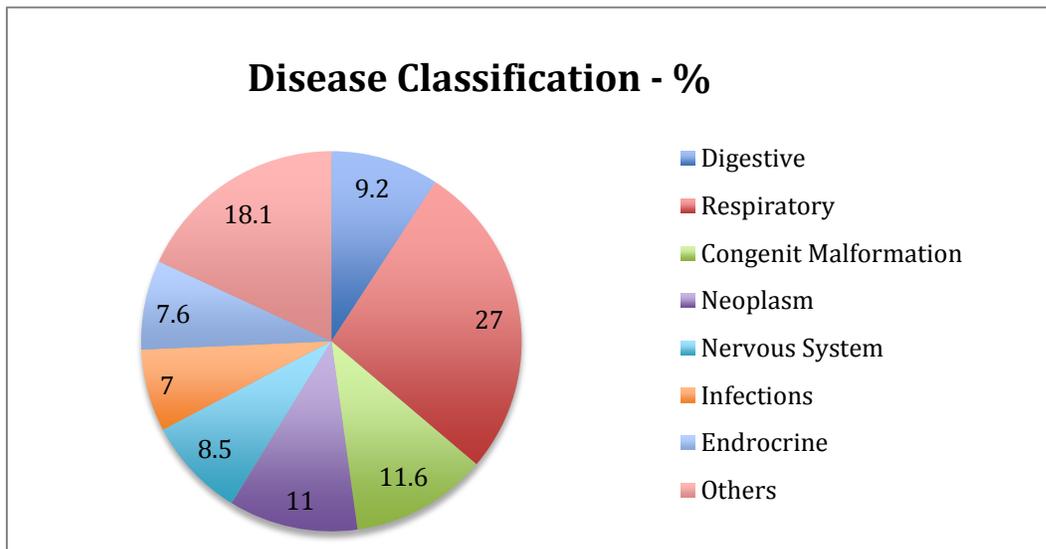
Table 1: Saúde Criança Pre-enrollment characteristics of focus child

	Mean	Median	Min	Max	Standard Deviation	25th Percentile	75th Percentile
Days Hospitalized before Saúde Criança	33	13	0	985	74.2	4	37
Total Hospitalizations before Saúde Criança	2.07	1	0	11	1.93	1	3
Age - Entry Saúde Criança	3.98	2.17	0	16.7	4.29	0.55	7.16
Months at Saúde Criança	23.49	23.3	0.1	66	14.3	9.86	34.8

Saúde Criança's targeting strategy is based on a close partnership with Hospital da Lagoa's pediatricians who, together with social workers, refer the most severe cases in terms of illness and financial need to the program. The Hospital's triage is fundamental for identifying the most vulnerable families with chronically ill children. In this respect, as Table 1 shows, on average, a child referred to Saúde Criança has already been hospitalized two times and has spent 33 days hospitalized. In terms of age, 49% of focus children are less than 2 years of age; 23% are between 2 and 6 years old; 14 % are between the ages of 6 and 10 and; the remaining 14% are 10 years old or more. The average Saúde Criança focus child is almost 4 years old. Beneficiary families receive support from SC for approximately 24 months.

Saúde Criança admits families that have at least one sick child hospitalized at Hospital da Lagoa. There is a vast range of diseases treated at the pediatric ward of this public hospital, which is reflected in the illness composition of Saúde Criança's focus children. Figure 3 illustrates the composition of the most prevalent diseases amongst 382 Saúde Criança families that graduated between 2008 and 2011. The largest disease category is respiratory diseases (e.g. Pneumonia, Asthma, Bronchitis, etc.), which accounts for 27% of the diseases of Saúde Criança's focus children; followed by 11.6% that present Congenital Malformations (e.g. Myocardopathy, Down Syndrome, Megacolon, Hernia, etc.); and 11% that suffer from different types of Neoplasm (e.g. Lymphoid Leukemia, Hodgkin's Lymphoma, Brain Tumors, etc.). At least 16.3% of the children supported by Saúde Criança during this period presented a second severe illness that required treatment at the time they enrolled in the program.

Figure 3: Percentage of SC beneficiaries with Primary Disease Category



Evaluation Strategy 1: Before-After

The evaluation team successfully interviewed 127, or 33.2% of the total number of families that received benefits from SC. Overall, the survey attempted to interview a total of 170 graduate families.¹ Out of these 170 families, the evaluators could not locate 23 families; 9 had moved; 2 refused to be interviewed; and 9 reported that their child had died. The 127 families that were interviewed participated in the survey between December 2011 and April 2012. The 127 interviewed families come from different areas of the Rio de Janeiro Metropolitan Area but mostly from the poorest neighborhoods. 24% of interviewed families currently live in the West Zone and 22% in the North Zone of the Municipality of Rio de Janeiro. Approximately 35% of them live in the *Baixada Fluminense*, which together with the West and North Zones encompasses some of the poorest neighborhoods in the neighboring municipalities of Rio de Janeiro. Furthermore, 16% are dispersed between the South Zone and Center, mostly in favelas surrounded by affluent neighborhoods. The remaining 3% live in other municipalities of Rio de Janeiro's metropolitan area.

Our first estimation strategy compares information collected from SC at the time of entrance to the program, information collected upon graduation from the program, and information collected from the 2011-2012 survey. Figures 4-20 show comparisons on a number of welfare indicators for each of the five key areas of the Family Action Plan (Health, Income, Education, Citizenship, and Housing), including families' perceptions about Saúde Criança's benefits and

¹ See next section for details of the process for selecting surveyed families.

obstacles faced after completing the program. The comparison is based on information collected from the three sources listed above.

Health

The cornerstone for evaluating Saúde Criança's methodology is the effect of the program on the long-term health of the focus child and the ability of SC to break the vicious cycle of illness and re-hospitalization. Figure 4 shows the number of days that focus children were hospitalized before Saúde Criança's Family Action Plan and the number of days hospitalized between the graduation of the program and the survey. The data show that there is a significant reduction in the number of days a child is hospitalized after graduating from Saúde Criança. Prior to starting Saúde Criança, focus children spent 61.4 days hospitalized on average and only 8.9 days after graduating from the program.

Figure 4: Impact of SC on Days of Hospitalization

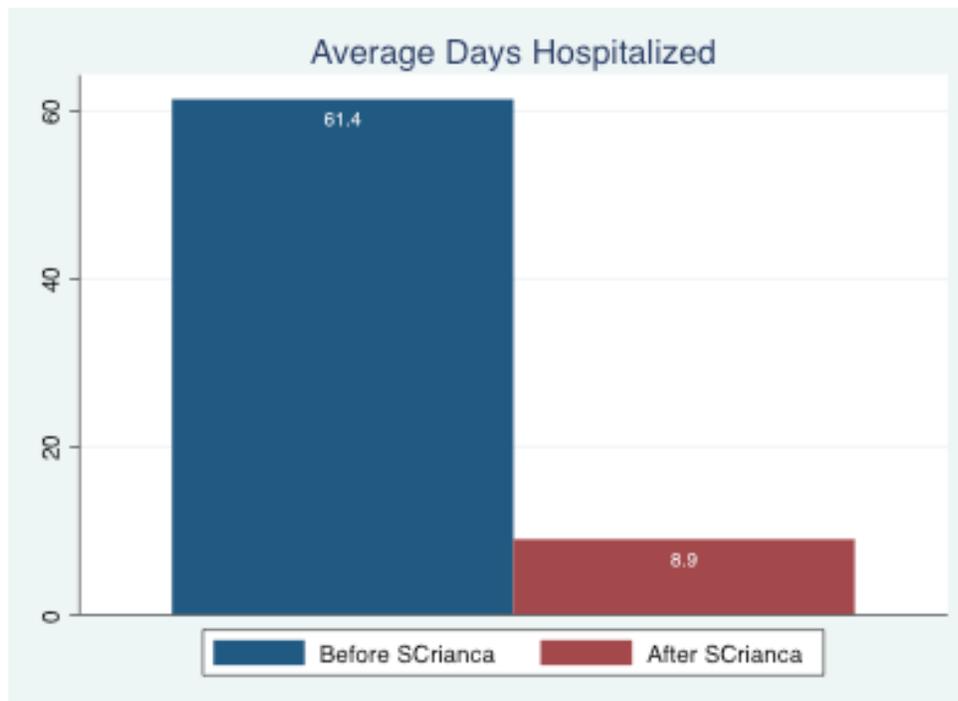
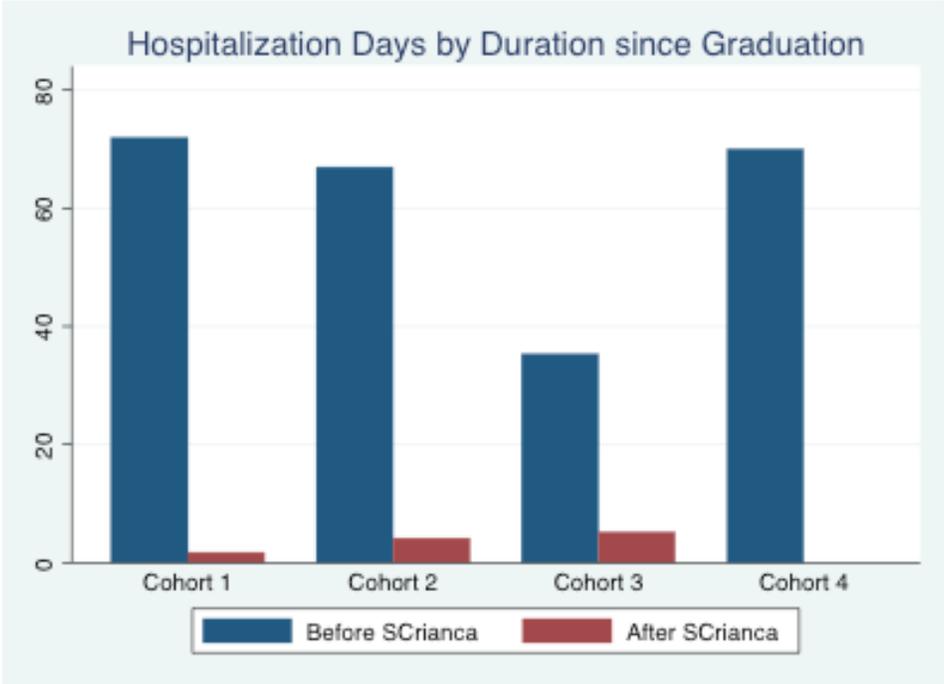


Figure 5 again shows the number of days that focus children were hospitalized, but displays the data by cohorts defined by the time elapsed since leaving Saúde Criança. Cohort 1 includes children that graduated at least 1 year before the time of the survey. Cohort 2 includes children that left Saúde Criança 2 to 3 years prior to the survey. Cohort 3 displays the information for children that graduated 4 to 5 years prior to the survey, and cohort 4 shows the results for children that have

been away of Saúde Criança between 5 and 6 years. Overall, when days of hospitalization at time of entry are compared with days of hospitalization from graduation and until the evaluation survey, we see a substantial decrease in the days of hospitalization across all cohorts

Figure 5: SC Impact on Hospitalization Days by Duration Since Graduation



Education

School enrollment was the next important indicator evaluated. Figure 6 shows that the fraction of children (ages 6 to 14) enrolled in school appears to increase following graduation from SC. Prior to SC, only 79.3% of children were enrolled in school. This number increased to 92.6% at the time of graduation, and 96.3% today (2-5 years following graduation).

Figure 6: SC Impact on School Enrollment

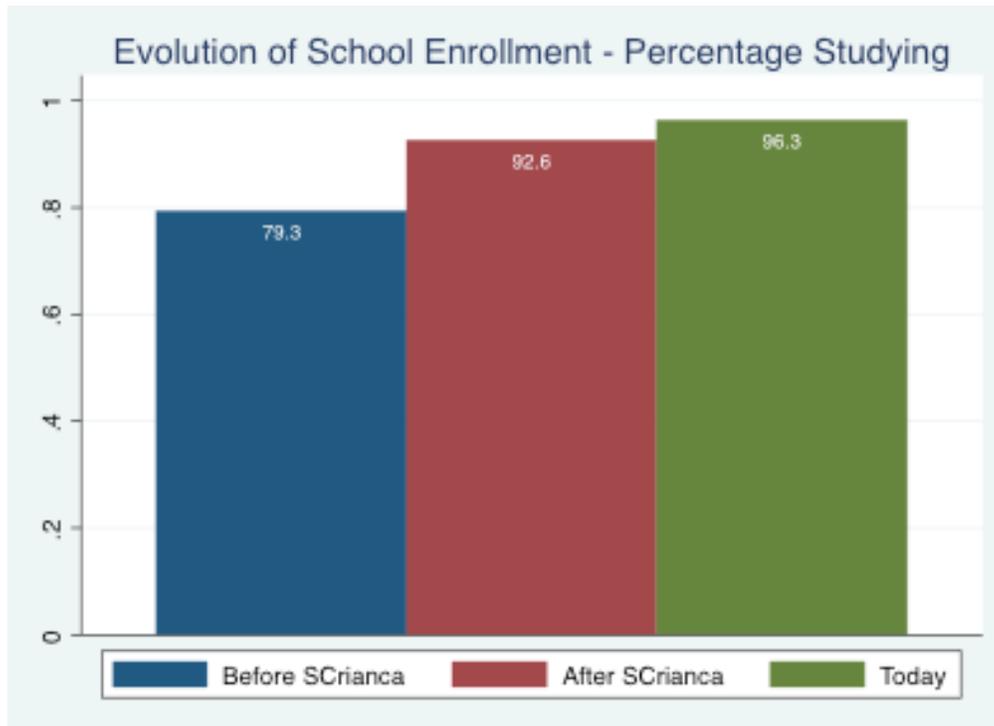
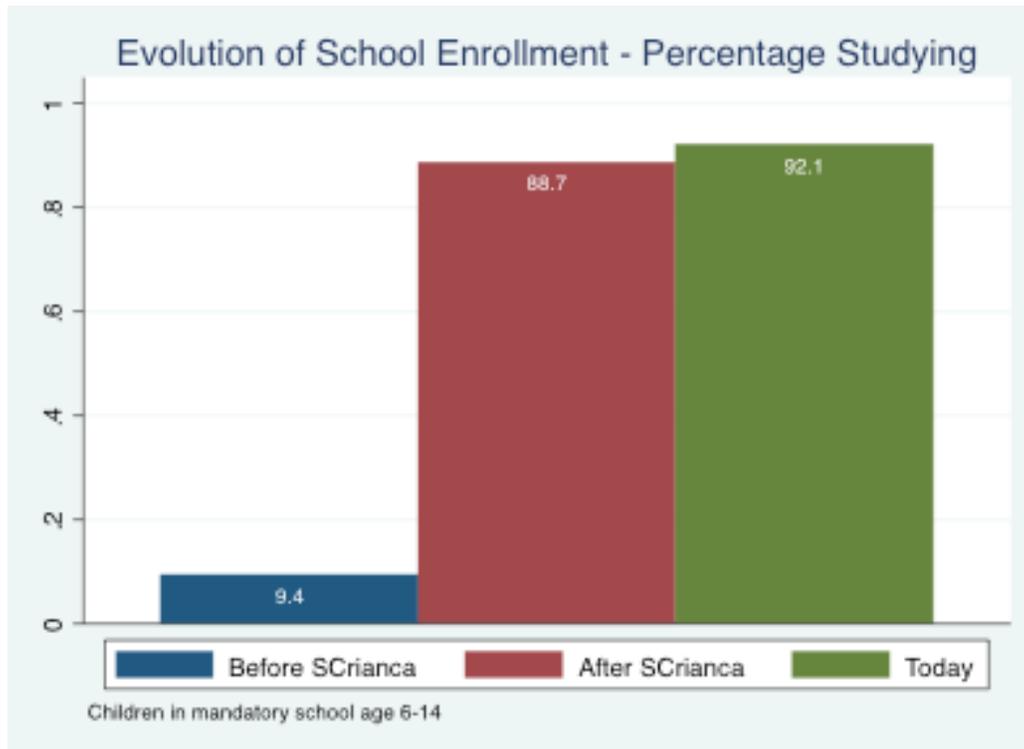


Figure 6 considers school enrollment for all children (including focus children) living in a household between the ages of 6 and 14. However, when the data is disaggregated and concentrates only on the focus child, there is an even larger improvement in school enrollment that is consistent with the health gains documented above. As a result of their poor health and other socio-economic difficulties, only 9.4% of focus children attended school when they entered Saúde Criança. As of the 2011-2012 survey, 92.1% of focus children of mandatory school age were attending school (see Figure 7). It is important to note that the large gains in enrollment were generated while beneficiaries were in the program, but have been sustained since graduation. Finally, the data show that when non-focus school-age is considered, 98.6% of them are currently enrolled in school.

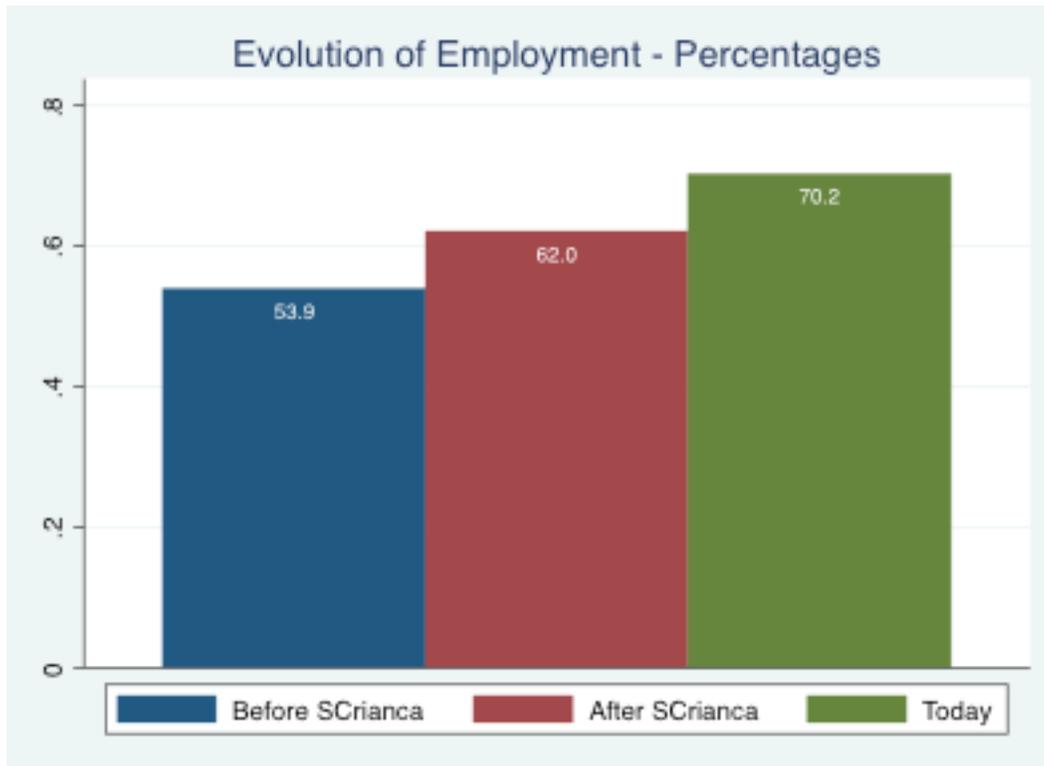
Figure 7: SC Impact on Enrollment of Focus Child



Employment

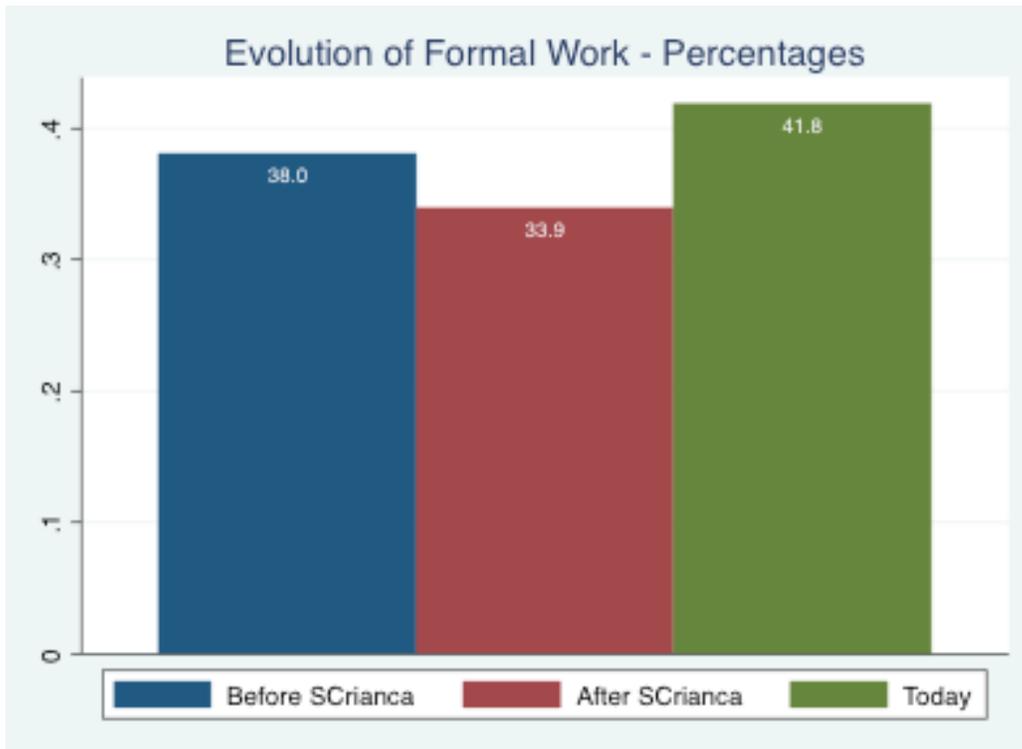
Saúde Criança's methodology emphasizes the need to provide adults with the necessary skills to generate income through a variety of professionalization courses. In addition to a lack of marketable skills, a number of adults are forced to quit their jobs in order to take care of their sick child. Figure 8 shows the evolution of employment for adults (age 15 and older not enrolled in school) and confirms that there is a gradual and important increase in employment after being supported by Saúde Criança. Before joining Saúde Criança, only 53% of adults were employed, increasing to 62% at the time of graduation and 70% today.

Figure 8: SC Impact on Likelihood of Employment



Many families need to adapt their employment situations to the precarious health conditions of their child. That is, due to the severe illness of a child, otherwise employed parents may either lose or be forced to quit their jobs, and when possible, look for a job that allows them flexibility to spend more time with their sick child. Therefore, a decrease in the number of formal workers once they enter Saúde Criança can be expected. Figure 9 shows the evolution of formal employment versus informal employment and reveals that while formal employment indeed decreases immediately after graduating from Saúde Criança, it recovers later on to reach 42% and surpasses the original 38% level at entry into Saúde Criança. Like the employment result above, this improvement is consistent with improvements in child health and schooling that allow mothers to re-enter the formal labor force with the improved skills obtained in the program.

Figure 9: SC Impact on Access to Formal Jobs



Household Income

Figures 10-11 reveal that the overall household income of Saúde Criança families has improved substantially over time. Current household income is almost double post-graduation figures. In addition to more and better jobs, Saúde Criança families also benefit from the government transfers they are eligible for and can now get thanks to the help and guidance of SC. In this respect, Figure 10 shows the evolution of household income in 2012 Reais. We find that the average household income when enrolling in SC was R\$566, it increased to an average of R\$606 at the time of graduation, and reached a total of R\$1087 at the time of the survey. Figure 11 breaks down the evolution of income by number of years that have elapsed since graduation from Saúde Criança.

Figure 10: SC Impact on Earnings

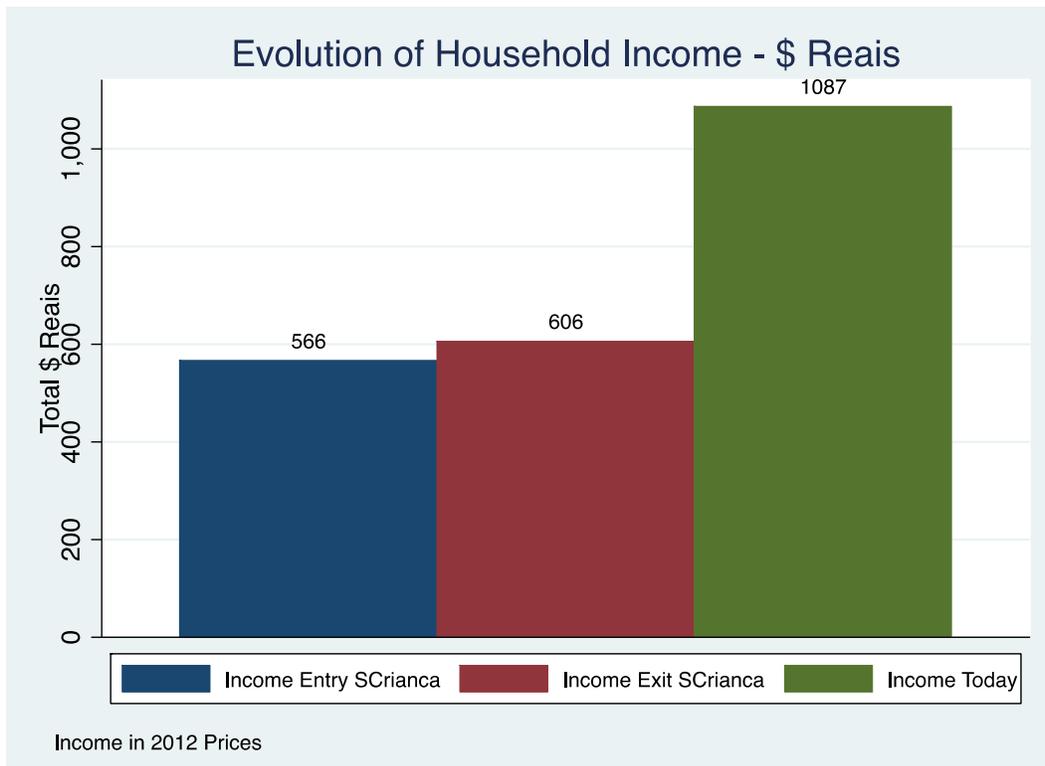


Figure 11: SC Impact on Earnings by Time Since Graduation

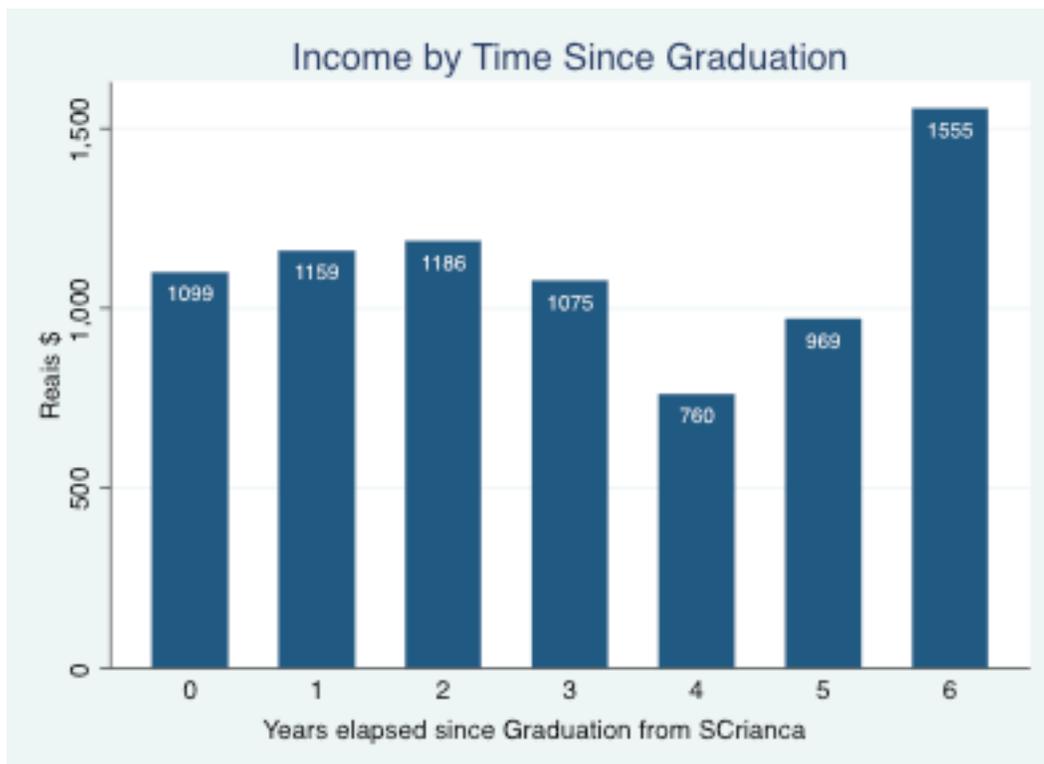


Figure 12 shows the evolution of per capita income and reveals an increase of over 80% when current figures are compared with graduation data. Here, we find that per capita income at the time of entry into SC was R\$143, which increased to R\$153 at the time of graduation, and reached an average of R\$251 at the time of the survey. Figure 13 is a more detailed evolution of per capita income by the number of years that have passed since the family graduated from Saúde Criança.

Figure 12: SC Impact on Household Per Capita Income

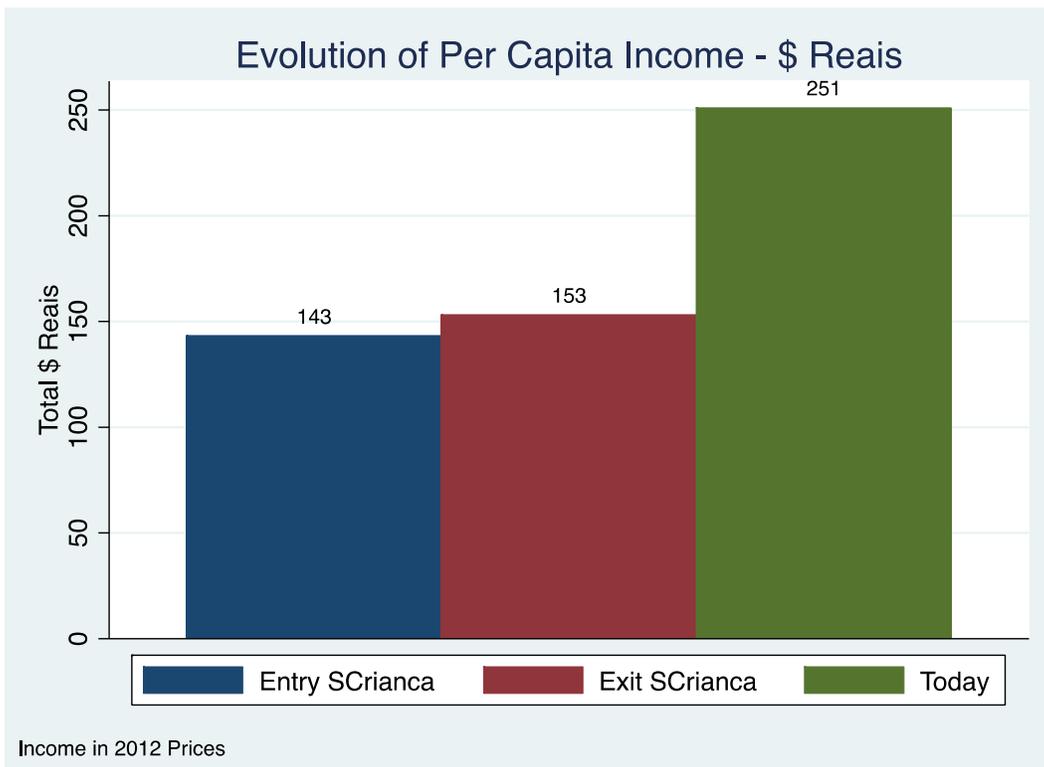
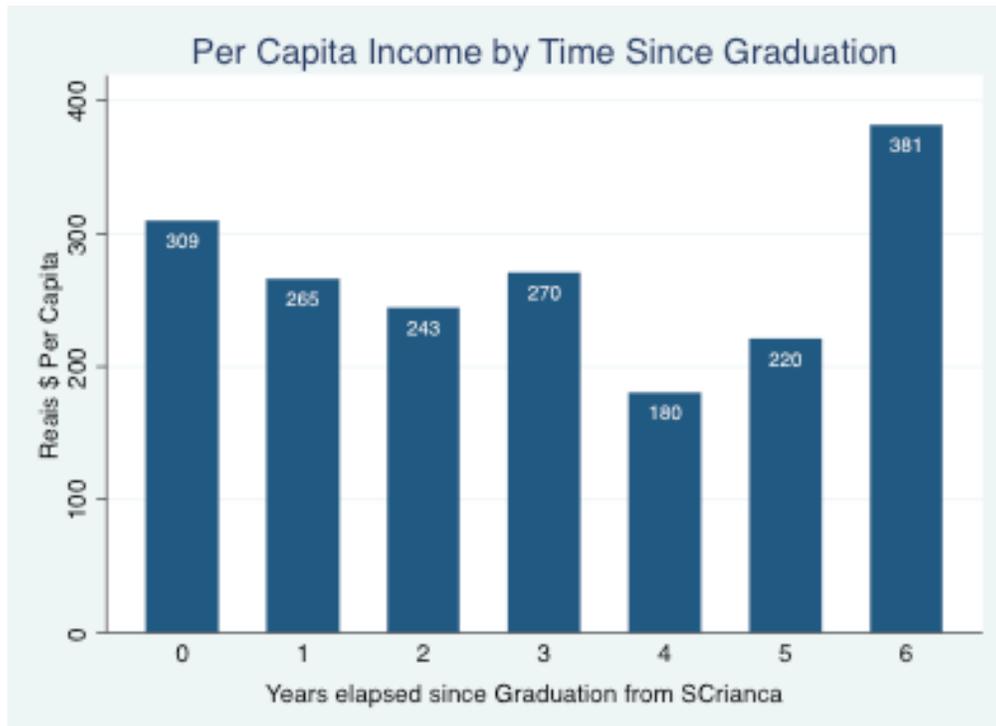


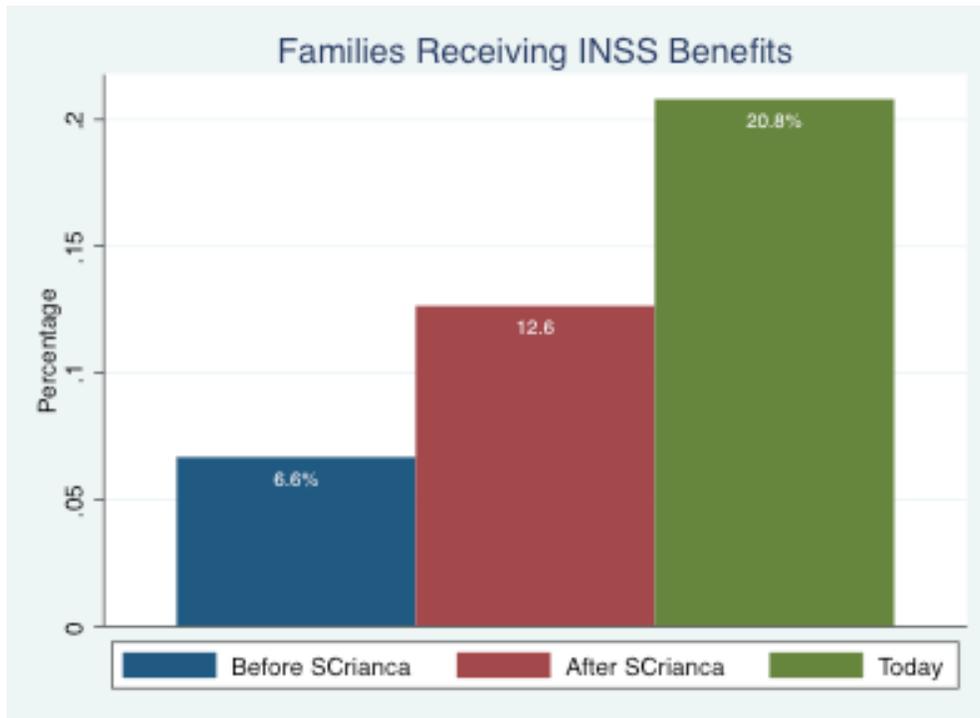
Figure 13: SC Impact on Household Per Capita Income by Time since Graduation



Citizenship

Saúde Criança families are eligible for several government transfers as a consequence of their children's severe illnesses or the family's living conditions among other characteristics. Saúde Criança provides useful guidance about these important rights and ensures that entitled members receive government benefits. Saúde Criança determines eligibility, helps put together and submit required documentation, and follows up on applications. Figure 14 shows the percentage of families that had access to these resources as a result of Saúde Criança's help.

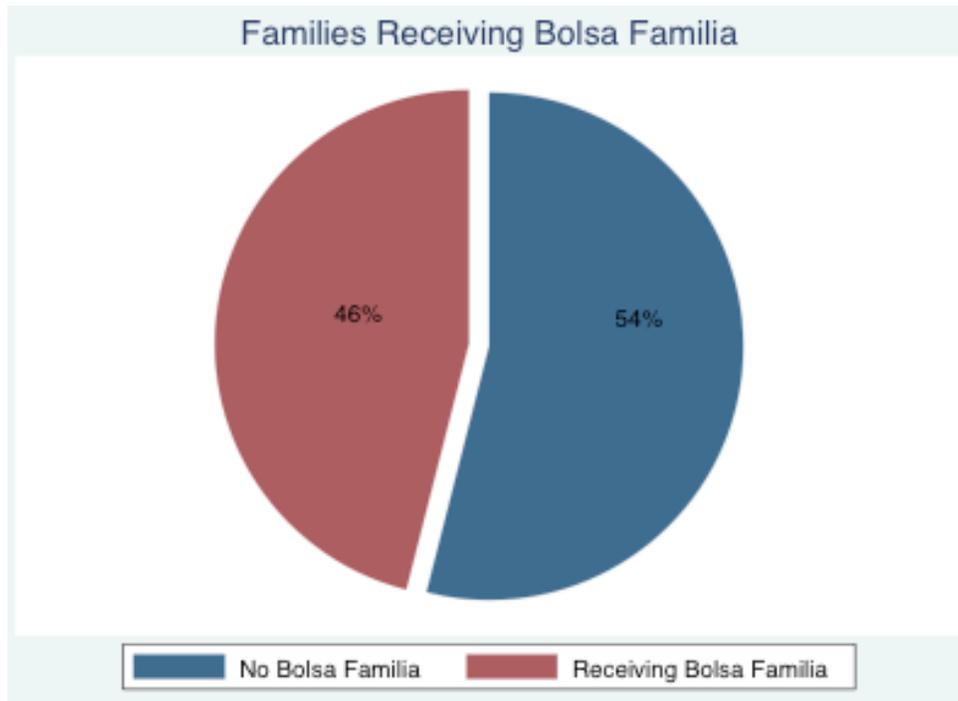
Figure 3: SC Impact on Access to INSS Benefits



Another important source of income for the poor in Brazil is the conditional cash transfer program, *Bolsa Familia*. Figure 15 shows the percentage of families currently receiving this program – a total of 46%.²

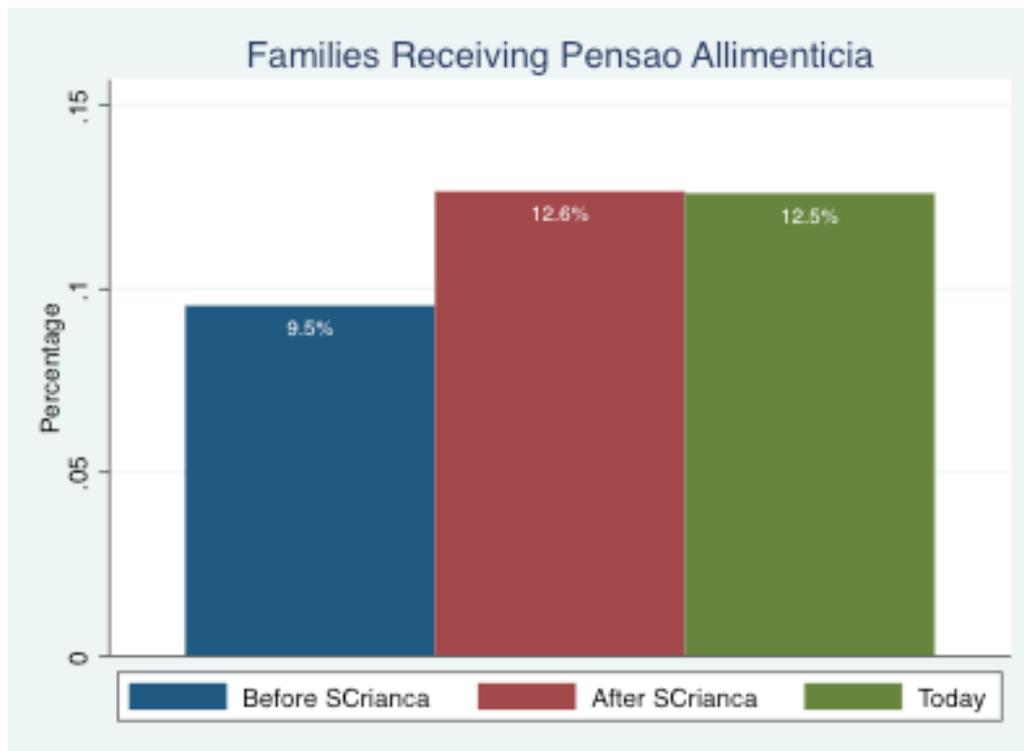
² The data from the monitoring system did not allow us to compare *Bolsa Familia* before and after Saúde Criança with today.

Figure 4: SC Impact on Receipt of Bolsa Familia



A large share of Saúde Criança families (43% of the surveyed families) are female-headed households. Brazilian law mandates that abandoned children receive an allowance from the father (*pensao alimenticia*). Most mothers are not aware of this or have trouble enforcing this right. Saúde Criança helps these single mothers and guides them through the process of obtaining this “pension”. Figure 16 below shows that 9.5% of single mothers received this pension when they entered Saúde Criança and 12.6% received it at the time of graduation. Currently, 12.5% continue to receive this benefit, which could suggest that there is greater family stability as this figure did not change.

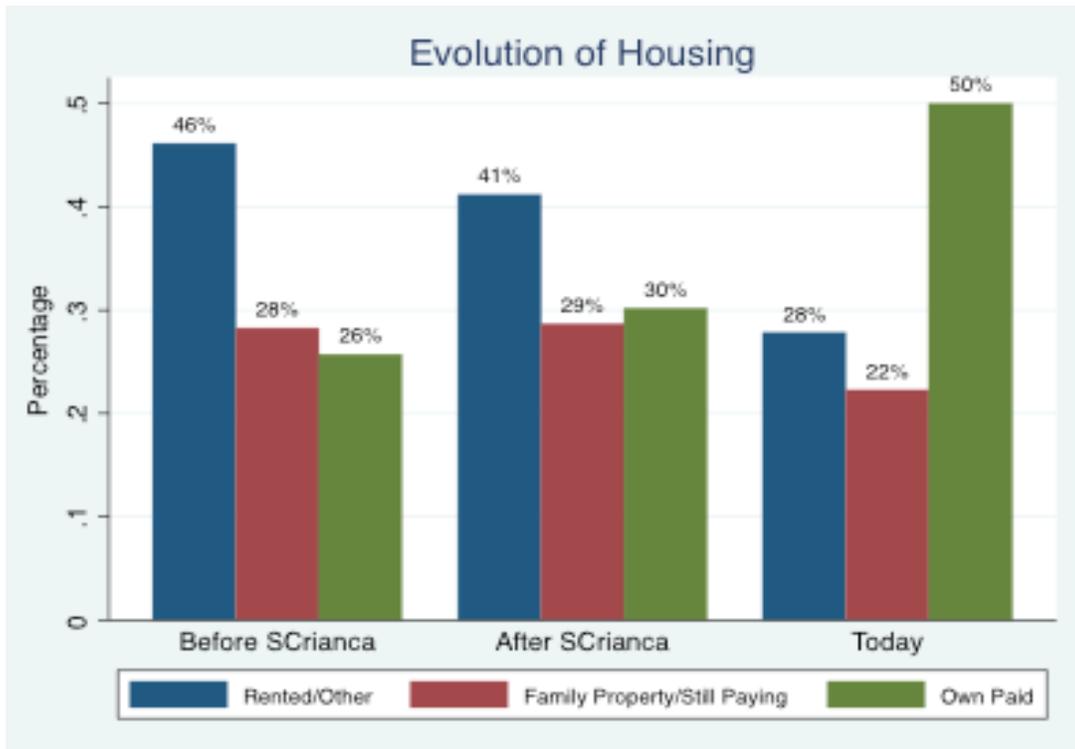
Figure 5: SC Impact on Receipt of Alimony



Housing

Saúde Criança provides housing benefits with the aim of improving the living conditions of families and helping sick children recover in a healthy home environment. In addition to improving the living standard of the family, owning a house can also have other positive externalities. 38% of the recently surveyed families received the housing benefits of Saúde Criança since they did not live in hazardous areas – all the beneficiaries have a legal title to their houses with no outstanding liens. Figure 17 shows the evolution of the housing conditions of families by dividing the type of housing into three groups. First it shows those families that are renting or have occupied a property; second, it shows the percentage of families living on family property (typically the house of the focus child’s grandparents) or families that are still paying for their home. Finally, the last column shows families that own their home and therefore have paid for it fully. The figure shows an impressive result: only 26% of families owned their home when they enrolled in SC, compared to the current rate of 50%.

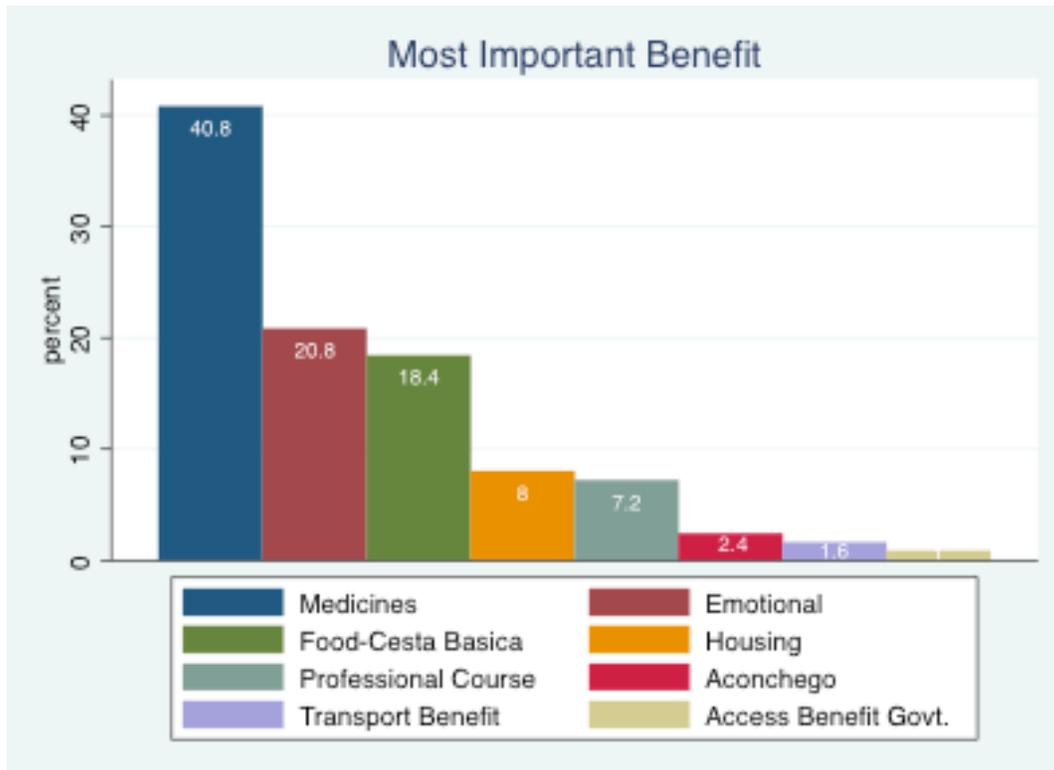
Figure 6: SC Impact on Housing Ownership



Perceptions of Saúde Criança's Benefits and Family Well-being

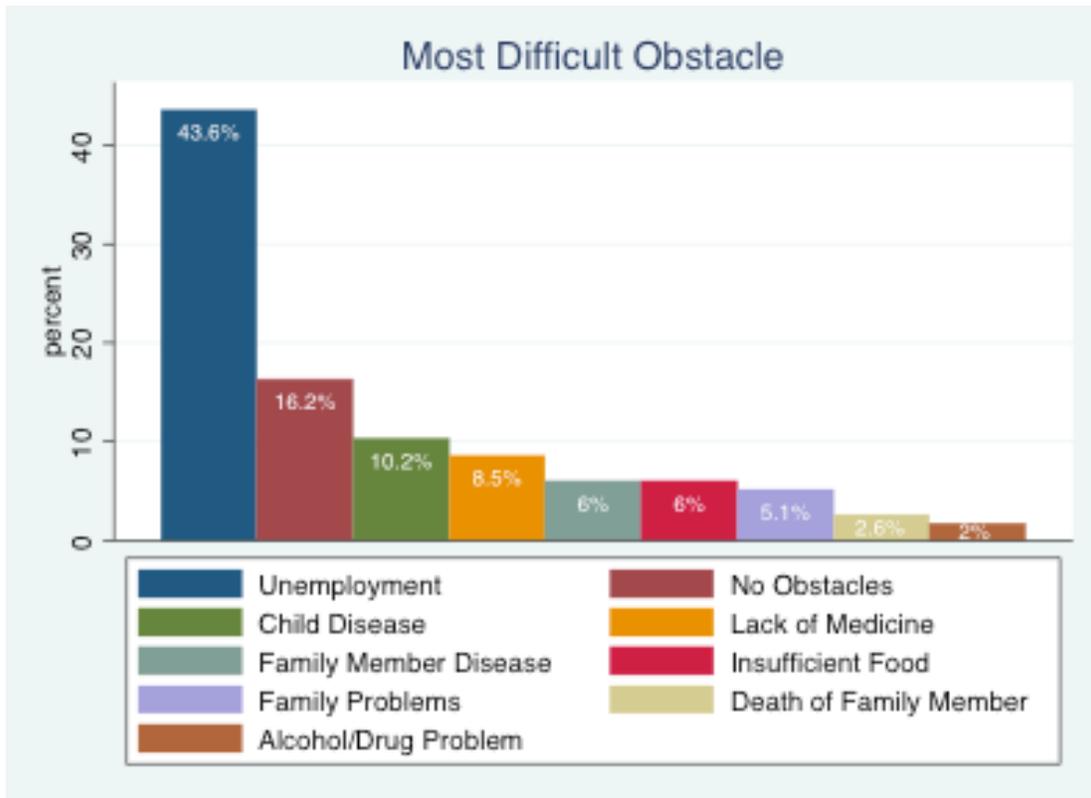
The survey conducted between December 2011 and April 2012 went beyond the intake and graduation questions asked by SC and followed up with families regarding their experiences at Saúde Criança. Figure 18 shows what the families believe was the most important benefit from SC. The figure shows that 40% of the families believe that receiving medicine was the most important benefit from Saúde Criança while 18% expressed that it was the basic food supplement. Approximately 21% said that emotional or psychological support was the principal benefit, while 8% thought that the professionalization courses were the most important and another 8% believed housing aid was the most beneficial help they received.

Figure 7: Perceptions of Most Important Support provided



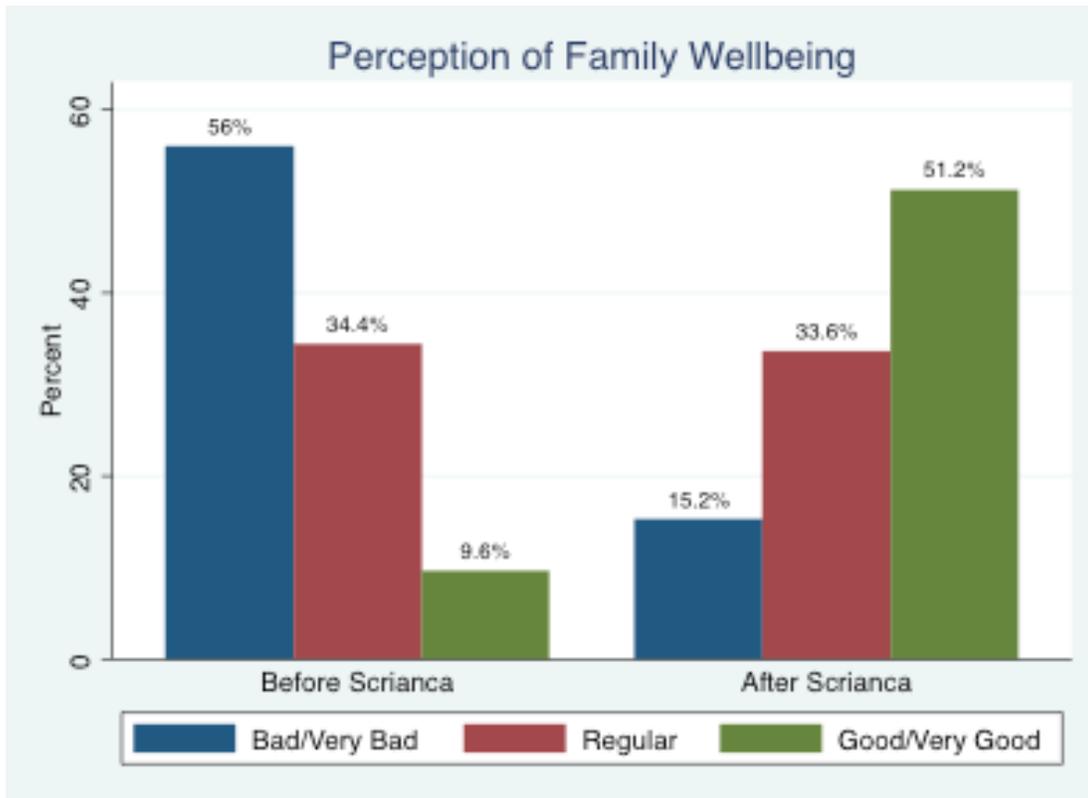
The interviewers followed up with graduates regarding the most important obstacle they faced following graduation from SC. Figure 19 shows that the main obstacle for 43% of the families was unemployment, followed by 10% that mentioned a child's new illness. Another 8.5% mentioned a lack of medicine, 6% stated that it was insufficient food, 6% said the main obstacle was the illness of another family member. Finally, a total of 16% of the families said that they didn't face obstacles once they graduated from Saúde Criança.

Figure 8: Perceptions of Most Difficult Obstacle Faced



Finally, families were asked about their overall perception of the well-being of their family before enrolling in Saúde Criança and how they felt once they left. As Figure 20 shows, 56% of families felt very bad or bad when entering SC and only 9.6% said that their overall situation was good. The numbers change drastically at the time of graduation. Only 15.2% were feeling very bad or bad, while 51.2% reported feeling good or very good.

Figure 9: Perception of Well-being: Before and After



Evaluation Strategy 2: *Impact Evaluation*

The evaluators attempted to isolate the effect of Saúde Criança’s methodology on its clients using a synthetic control group of families similar to those enrolled in SC. As discussed earlier, using available information on the age of the child, duration of hospitalization, severity of the disease and location of residence in Rio de Janeiro, the evaluators statistically matched the 382 SC families to 1812 families from Hospital Jesus. Of the successful matches, 127 SC and 172 HJ families were surveyed between December 2011 and April 2012.

The evaluators faced some formidable challenges in generating good matches between the two groups as our only pre-hospitalization characteristics were age, neighborhood, type of illness and number of days in the hospital. The small number of pre-hospitalization characteristics and the low share of the variation in participation in SC that these variables explain imply that the quality of the matches is poor. There are possibly consequential differences in observed and unobserved characteristics that will likely confound the impact that the evaluators estimate below. One way to verify the quality of the matching is to compare post-hospitalization attributes, particularly those that are either pre-determined or invariant to participation in SC. Table 2 below shows this

comparison. What is obvious from these statistics is the important differences not only in socioeconomic characteristics of the families but also in the severity of illness. In particular, households in our control group are wealthier and suffer considerably less severe health shocks. Consequently, the control group is not a good stand-in for what SC families would have experienced had they not participated in the program. In particular, it is likely that our controls overstate the experience of SC families thereby underestimating the likely impact of participation in SC.

Table 2: Selected Characteristics of Saúde Criança and Hospital Jesus populations

Variable	Saúde Criança	Hospital Jesus
Days Hospitalized (average)	17.5*	8.9*
Bolsa Familia Benefits	46.03%	39.53%
Female Headed Household	43.31%*	34.88%*
Live in Favela	18.11%*	12.79%*
No education or incomplete primary (Head of Household)	54.33%*	43.60%*
Completed high school (Adults >=25)	19.7%*	33.96%*
Total Family members (average)	5.64	5.57
Total Household Income	\$1,087*	\$1,373*
Income per capita	\$383*	\$480*
Race	78% (black or parda)	69% (black or parda)

* indicates that difference between groups is statistically significant

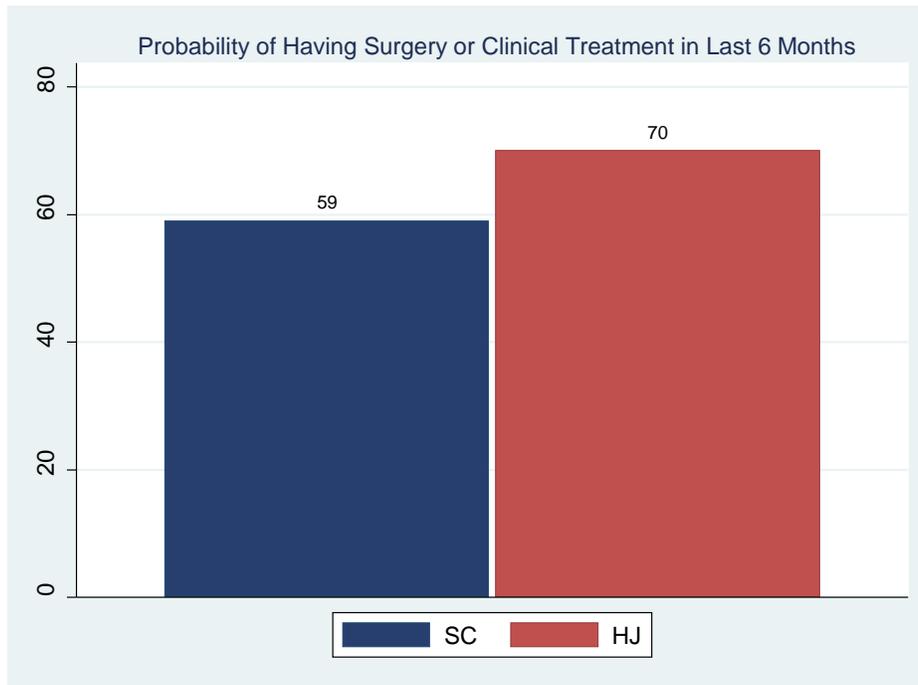
Regression Analysis

Based on the observed differences between participants in Saúde Criança and the potential control group (Hospital Jesus), a simple comparison of any of the outcome variables between the two groups would give biased estimates. Instead, the evaluators turn to a procedure called *propensity score matching (PSM)*. Through PSM the evaluators *may* be able to adjust for any differences in the average outcomes for our treatment and control groups for differences in pre-treatment characteristics (those traits that are not affected by the treatment). Unfortunately, there is little information on these pre-treatment characteristics for our HJ participants, but enough information to determine the probability that a participant was “treated” by Saúde Criança, based on the age of the focus child, the severity of the child’s disease, the head of household’s education level, whether the household was headed by a female, the total days of the first hospitalization, and whether or not the family lived in a slum. Based on these characteristics the evaluators generated a “propensity score” or a probability that a particular participant from the survey was treated by Saúde Criança. The evaluators then used this probability as the basis for matching households from SC with those from HJ. The evaluators then calculate an average treatment effect of being a Saúde Criança participant by taking the difference in outcomes between matched observations of SC and HJ households. As stated above, because of the limited information on pre-treatment, the results likely under-report the effect of Saúde Criança on its participants.

Health and Psychology

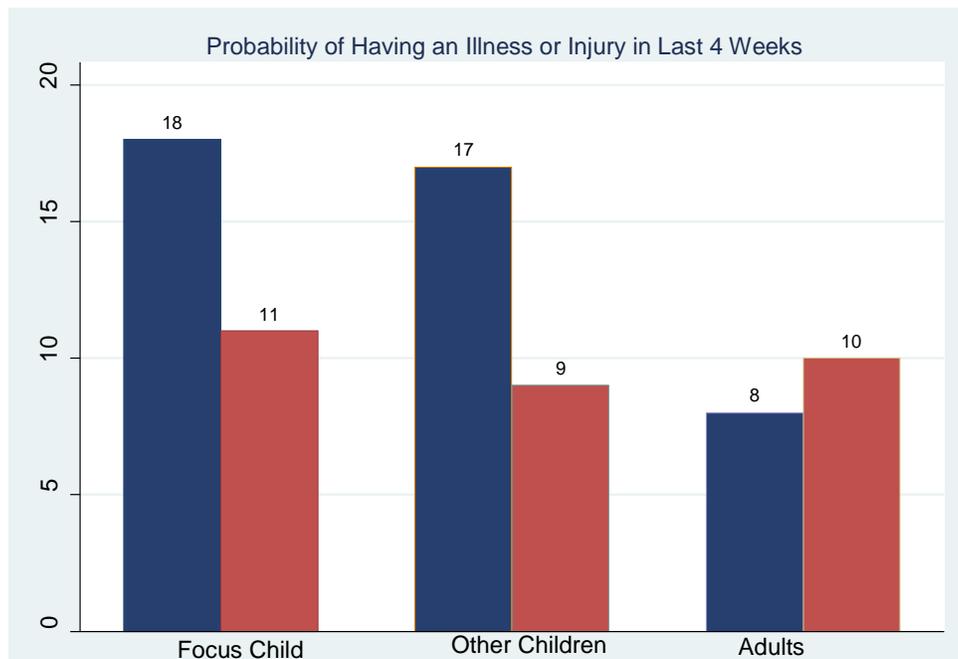
The evaluators document a significant improvement in health. As Figure 21 shows, there is a reduction in the likelihood of surgery or clinical treatment. Specifically, compared to the children who did not participate in SC, over the preceding six months, Saúde Criança focus children are about 11 percentage points less likely to obtain any surgery/clinical treatment than Hospital Jesus patients. This result shows that SC helps families break the vicious cycle of hospitalization and successfully manages the illness during and beyond their enrollment in the program. This result is particularly relevant because, as Table 2 above shows, the illnesses of SC children were much more severe than that of their HJ counterparts.

Figure 21: Impact of SC on Focus Children's Health



The evaluators found that the probability of having an illness or injury in the last four weeks prior to the survey was higher for SC focus children and their siblings (see Figure 22) than for HJ children and their siblings. However, it is likely that this result is driven by important differences between groups in terms of the severity of the focus child's illness as well as household socioeconomic characteristics.

Figure 22: Impact of SC on Recent Health

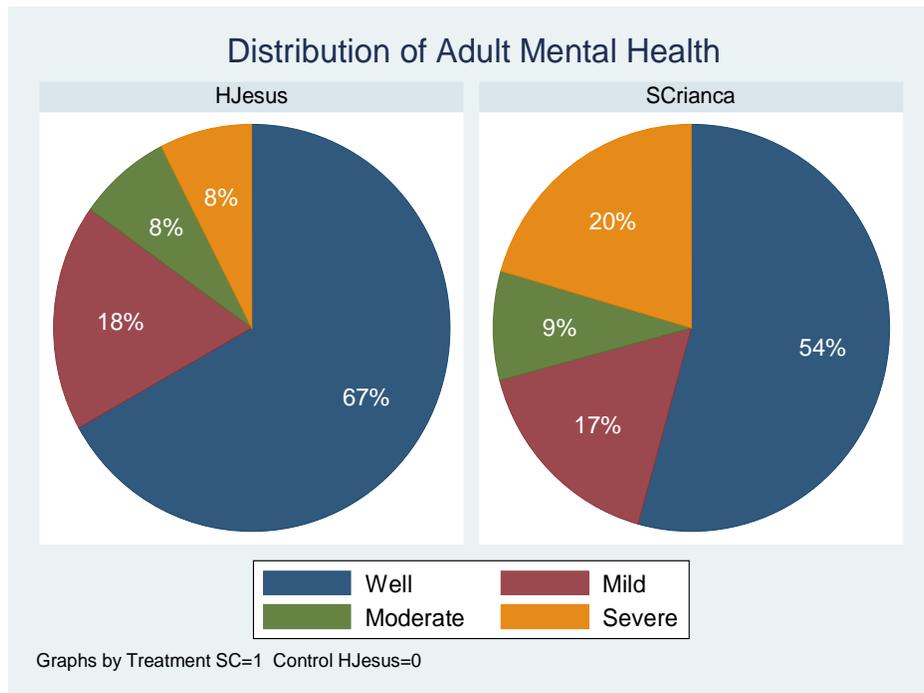


The evaluators included three psychological tests in the survey. First, the respondents' mental health was evaluated through the Kessler-10 (K-10) test, which measures non-specific psychological distress based on questions about the level of nervousness, agitation, depression, and psychological fatigue. Figure 23 shows that 29% of SC respondents have moderate or severe mental distress as opposed to only 16% of HJ respondents.

Second, the respondent's mental health was evaluated through a shortened version of the Rosenberg test. The Rosenberg test measures self-esteem by asking respondents questions about their feelings toward themselves.³ The results show that Saúde Criança caregivers are more likely to have psychological distress than their matched counterparts, on average scoring two points (out of 50) below their peers on this global measure of distress. Saúde Criança caregivers also have lower self-esteem than their counterparts, scoring, on average half of a point (out of 15) below their HJ counterparts.

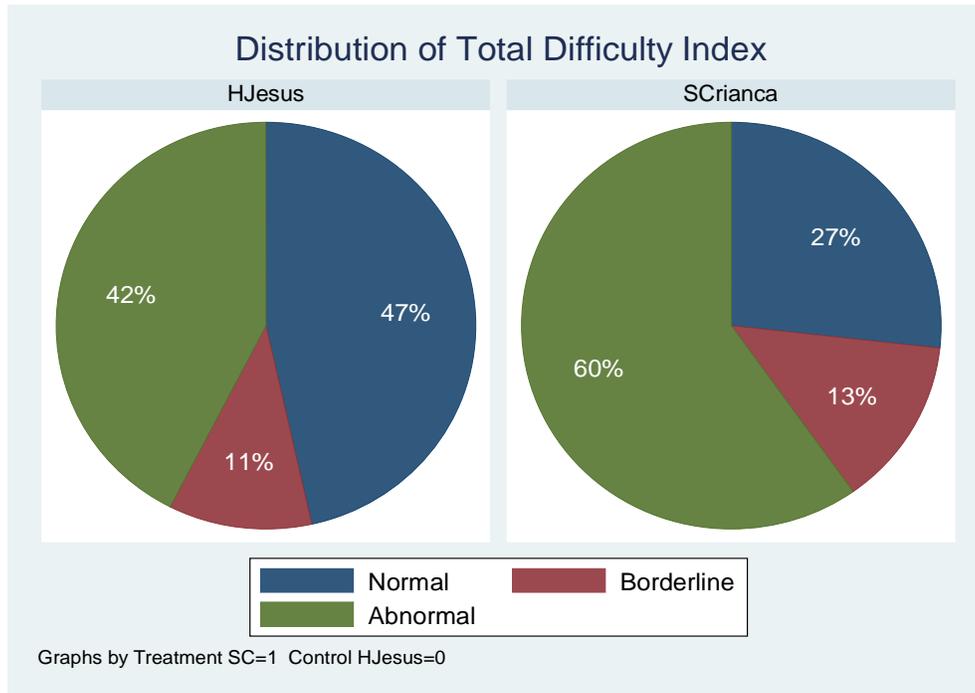
³ The Rosenberg Test has ten questions. Five of the questions have positively worded statements and the other five have negatively worded statements. We only applied the positive statements to have a broad sense of the self-esteem of respondents.

Figure 23: Impact of SC on Mental Health- K10 Test



Third, the survey included the Strengths and Difficulties Questionnaire (SDQ), which is a screening questionnaire that measures emotional and behavioural disorders in children. The SDQ consists of questions regarding emotional symptoms, conduct problems, hyperactivity, peer relationship problems, and prosocial behaviour. The SDQ test found that 60% of SC focus children reported an abnormal or concerning score, as opposed to 42% of HJ focus children (see Figure 24). The evaluators found considerable differences in the mental health of both populations: SC focal children score worse than their counterparts do, scoring, on average, 2 points (out of 40) below their HJ peers.

Figure 24: Impact of SC on Mental Health- SDQ

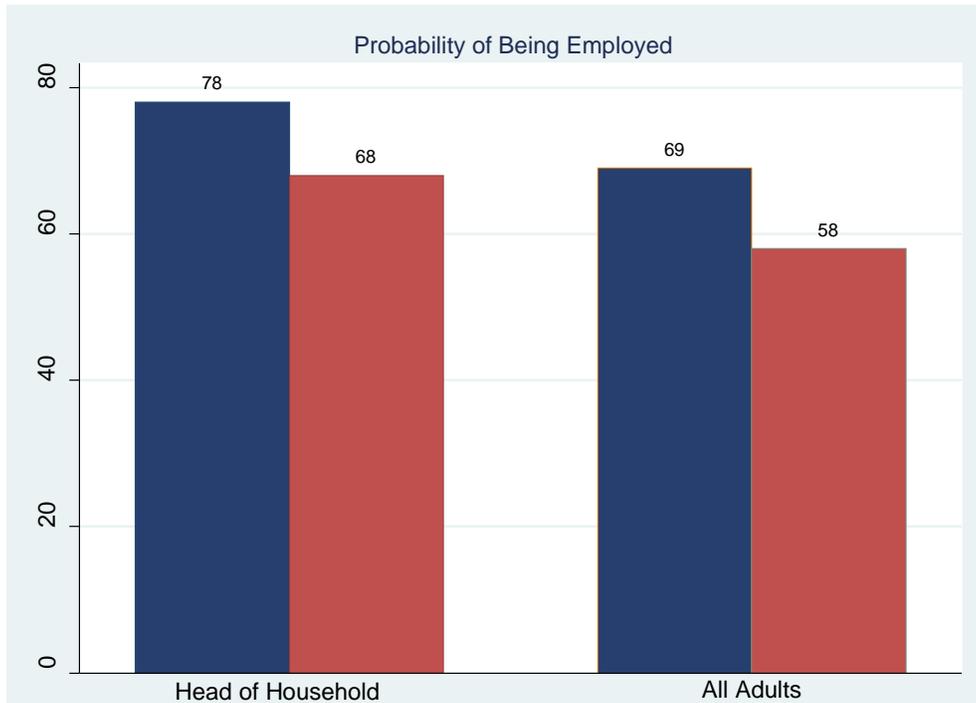


These results must be interpreted with caution for at least 3 reasons: first, SC does not provide psychological treatment to children and only provides this type of treatment to mothers that opt for it; second, these results may reflect unmeasured improvements (the evaluators do not observe the mental health of the care providers and children at entry into the program) and; third, the toll of providing care for a chronically and severely ill child is reflected in poorer mental health of respondents as well as focus children. However, these results do indicate that there is room for SC to improve.

Employment

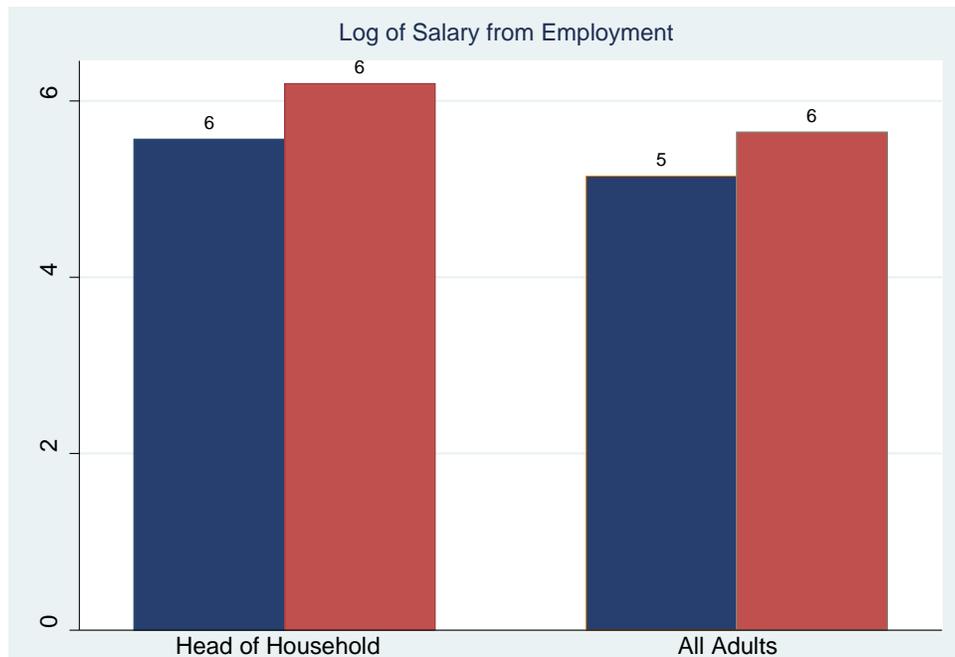
The marketable skills provided by SC are reflected in the higher likelihood of SC adults being employed when compared to their HJ counterparts. SC's heads of household are 10 percentage points more likely to work than their counterparts and there is nearly a 12 percentage point probability that all SC adults are working compared to adults from HJ (see Figure 25). The increases in employment are also reflected in the improvement in the economic well-being of households occasioned by the marketable skills provided/financed by SC.

Figure 25: Impact of SC on Adult Employment



The regression results show that while the likelihood of SC adults being employed is greater than that of their counterparts, the salary from employment of HJ adults is higher (see Figure 26). This result is not unexpected since, as Table 2 above shows, there are important differences in characteristics of SC clients and their counterparts in terms of level of education, which generally translates into better-paid jobs.

Figure 26: Impact of SC on Salary from Employment



Education, Housing, Income and Citizenship

The evaluators conducted a number of tests to assess the impact of SC’s program on other areas, within education, housing, income and citizenship. However, there were few statistically significant differences between SC and HJ households in these areas. For education, the evaluators constructed an aggregated index using factor analysis which included respondents’ ability to read, write, and do basic mathematical calculations. In addition, we verified that children were in the appropriate level of schooling for their age. In neither case was there a statistically significant difference between SC respondents and their counterparts. For impact on housing, the evaluators tested if there were differences with respect to the condition of a family’s home (renting or owning), as well as a housing index composed of measures that reflect the quality of housing such as type of material of the walls, roof, floor, and windows. Again, no statistically significant differences were found. For income, Figure 26 above showed that the salary from employment of HJ adults is higher than their counterparts, but the evaluators found no difference between total household income and per capita income between SC and HJ families. Finally, with regard to citizenship, the evaluators found no differences between groups after testing for access to government transfers (*Bolsa Familia* and INSS), as well as participation in membership organizations and teenage pregnancy. Given the critical socioeconomic and health profile differences in the population of the SC and HJ discussed above, a logical interpretation of these findings is that they represent a ‘catching’ up effect. In other words, SC families start off at lower

levels than HJ families and by the time of the survey, 3-5 years after graduating, SC families have attained education, housing, citizenship and earning levels that are similar to their hitherto richer HJ counterparts.⁴

Qualitative Analysis: *Focus Groups*

As a final step, the evaluators used qualitative methods as a way to obtain insights into the value of Saúde Criança's work. The evaluators carried out four focus groups: two focus groups with Saúde Criança families and two with Hospital Jesus families. The first focus group was conducted with Hospital Jesus mothers that had reported being employed and having children in stable health during the 2011-2012 survey. This group was followed by a session with a group of Saúde Criança mothers that reported similar employment and health conditions. The third focus group consisted of Hospital Jesus mothers struggling with employment and whose children were in poor health, while the fourth group comprised Saúde Criança mothers that reported struggles in these same areas. With the aim of conducting focus groups on a sub-sample that was representative of the surveyed sample, marital status and level of education were taken into consideration in addition to the employment and health criteria. Thus, each focus group had married, divorced and single mothers, as well as mothers with incomplete primary education, complete primary education, and some with secondary education. These characteristics allowed for some variation in the size of a family's immediate social safety net and in the level of formal skills, both of which are generally assumed to play an important role in the ability of a family to respond to a health or income shock.

A total of 27 women participated in the focus groups that took place between September 18th and 21st, 2012 at SC's headquarters in Rio de Janeiro. The evaluators named group "A" the mothers from Hospital Jesus that reported stable health and employment, while Group "B" was its Saúde Criança counterpart. The Hospital Jesus mothers that were unemployed and had a sick child joined Group "C" and the Saúde Criança mothers in a similar situation formed Group "D". Each session started with two exercises aimed at helping the mothers remember details about their families' overall trajectory before the child's health shock and until the present. The evaluators made use of techniques such as life trajectory lines and group introspection to help families remember what occurred before and during the health shock as well as other key events that changed their lives. Following these memory exercises, the questions asked in the focus group discussion aimed at collecting relevant information with respect to the impact of the child's health

⁴ See Figure 34 (Tentative Trajectory of SC and HJ Families) below.

shock on the families' well-being and the coping mechanisms they used on a daily basis. In other words, the questions revolved around the main obstacles that the families faced as a result of the health shock and how they tried to overcome these problems. Participants also discussed key factors that affected their families' welfare both positively and negatively during the illness and if there had been lessons learned for potential setbacks in the future. The following sections highlight the most recurring answers from the focus group discussions. Additionally, Saúde Criança mothers were asked about their overall experience during and after the program. For this final exercise, the evaluators collected information by asking all participants to compare their life before their child's illness, during the hospitalization phase, and today. The families used a scale (1=Very Bad; 2=Bad; 3=Regular; 4= Good; 5=Very Good), and also mentioned how their income varied by annotating the total number of minimum salaries earned by household members.

Group A: Hospital Jesus Better-Off Families

How did your child's illness impact your family and how did you overcome the situation?: Group A participants were faced with two primary hardships as a result of the health shock. First, all of them had to stop working in order to spend time at the hospital and second, they needed to find a way to take care of their other children. The participants emphasized that their family and friends played a crucial role in helping them cope with the illness both in terms of providing necessary resources and helping take care of their other children. The safety net formed by their immediate family provided the necessary financial and emotional support to deal with the most difficult times. Interestingly, even though family income decreased because all the mothers stopped working, no one mentioned facing financial difficulties as a result of the illness.

With regard to being prepared for potential setbacks in the future or advice for other families experiencing similar situations, Group A insisted that they would not have done anything differently except to look for second opinions from other doctors. Only one mother mentioned that she would like to have a profession that could enable her to get a better-paid job. As Figures 27 and 28 show, families were able to return to pre-health shock levels of overall wellbeing even though their income had not returned to pre-shock levels. This confirms that the health shock did not significantly affect the families' financial situation.

Figure 27: Focus Group A – Perception of Wellbeing

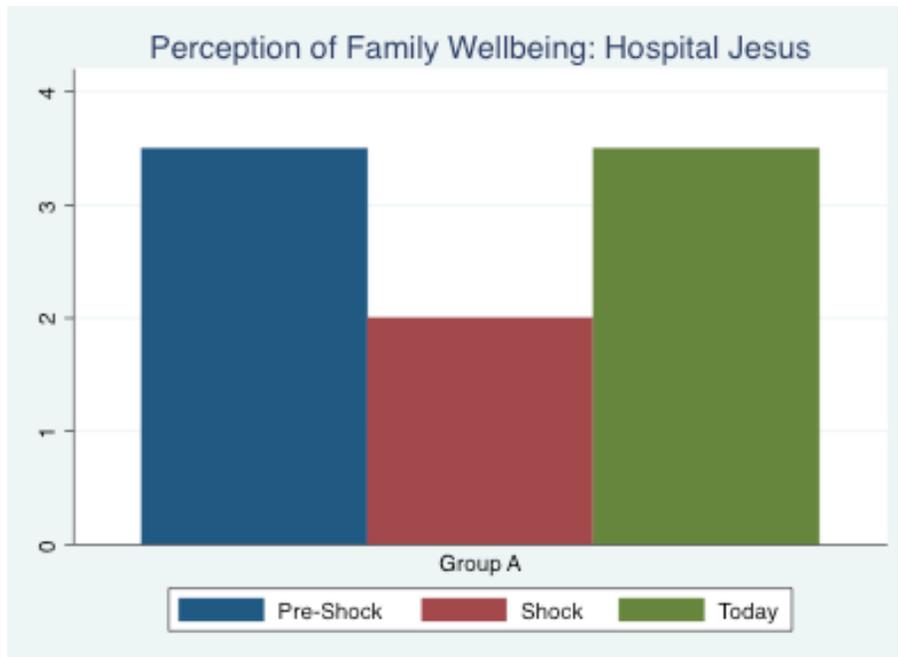
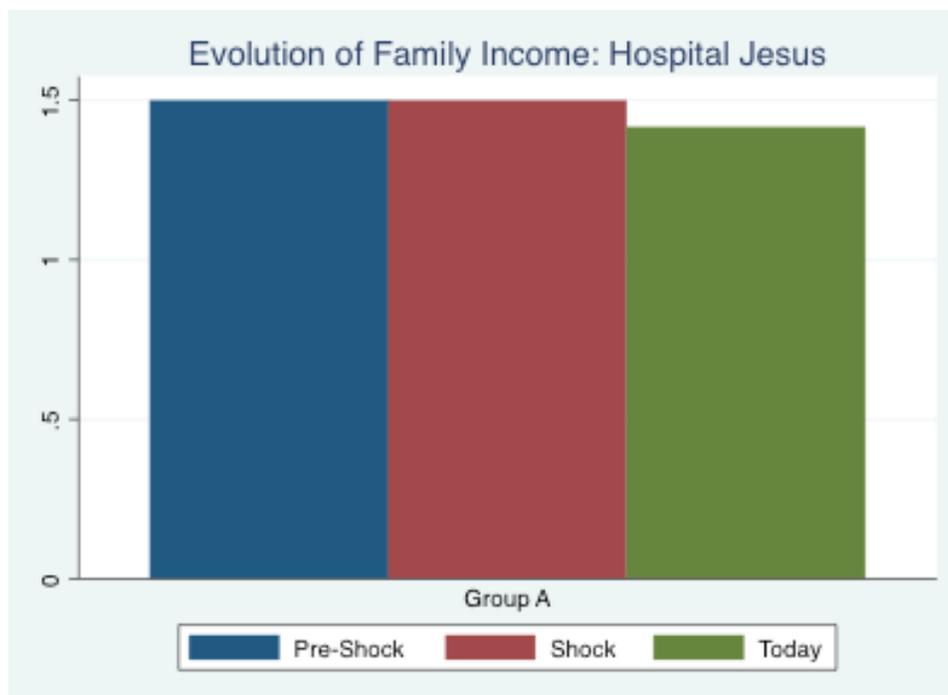


Figure 28: Focus Group A – Evolution of Family Income (Minimum salaries)



Group B: Saúde Criança Better-Off Families

How did your child's illness impact your family and how did you overcome the situation?: In contrast to HJ mothers, the single most important problem for Saúde Criança mothers was financial. As a result of their child's illness and long periods of hospitalization all of them stopped going to work. The negative effect of the loss of income was felt significantly because, at the time of the health

shock, most of these mothers were the heads of their households and the sole providers. The health shock made the families' economic situation extremely problematic because, even before the illness, these families lived in precarious conditions. For example, two participants had no money to pay for transportation to the hospital; another had to move to her mother's house because she had no means to live on her own anymore; others could not afford the medicines for their sick child. This contrasts with Hospital Jesus (Group A) households that did not mention economic problems during the time of hospitalization.

Saúde Criança mothers had little or no support from their family and friends, and therefore SC became fundamental for overcoming the situation. Only half of the group mentioned that their family was important in providing support (mostly their own mothers). All participants emphasized the critical role of Saúde Criança in helping them cope with the illness of their children in terms of providing material and emotional support, as well as giving them opportunities for professionalization and other future opportunities. When asked which specific component of the program was most helpful, all the mothers said that the program as a whole had provided them with opportunities to sustain themselves and to take care of their families. When asked what they would do in case of another health shock, they said that they felt better prepared to handle a similar situation. They are now employed and have better economic prospects. Moreover, half of them said that they could now pay for health insurance and know where to find resources in case they needed them.

Those mothers that did a professionalization course (half of the participants) explained how important it was for income during the child's illness and how relevant it was for their own self-esteem. The participants said that the food, financial assistance, and medicine were also very important. Saúde Criança became a refuge for many mothers since having someone to encourage you and give you hope and advice at a time of illness is extremely important. They found guidance, support and a friend in SC and other families that were confronting even more difficult situations. The key to the success of the Group B mothers was to think of the 24 months at SC as an opportunity for the future. A participant explained it as follows: "everything that I know and I am now, I owe to Saúde Criança ...when you arrive here (Saúde Criança) you are sad, downcast, and hopeless. Here they teach you to walk with your head up high". Moreover, Figures 29 & 30 show that Group B families have improved perceptions of their family's well-being as well as their income. As one mother put it, joining Saúde Criança was like "something great came out of something terrible [son's illness]."

Figure 29: Focus Group B - Perception of Wellbeing

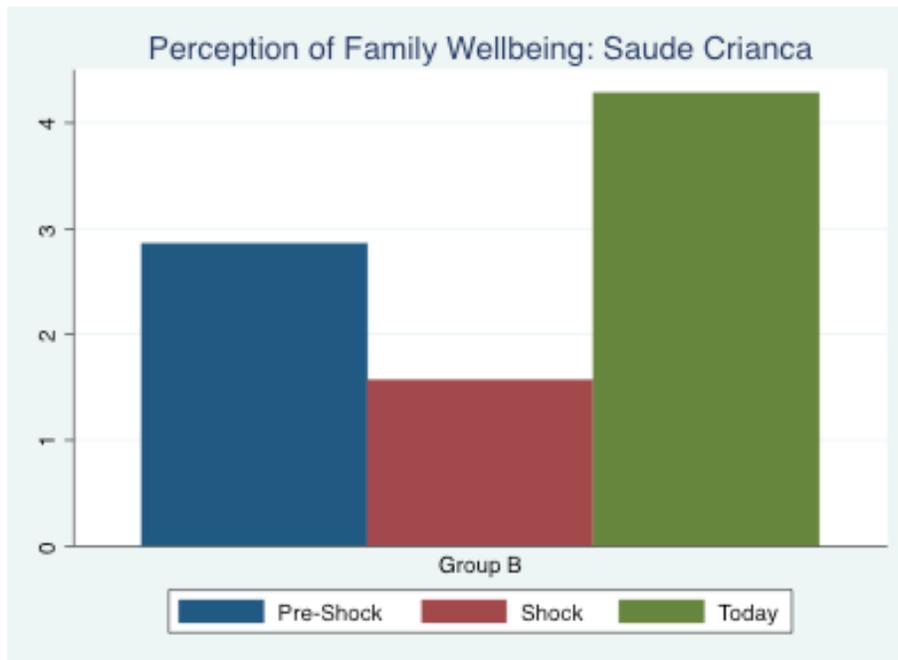
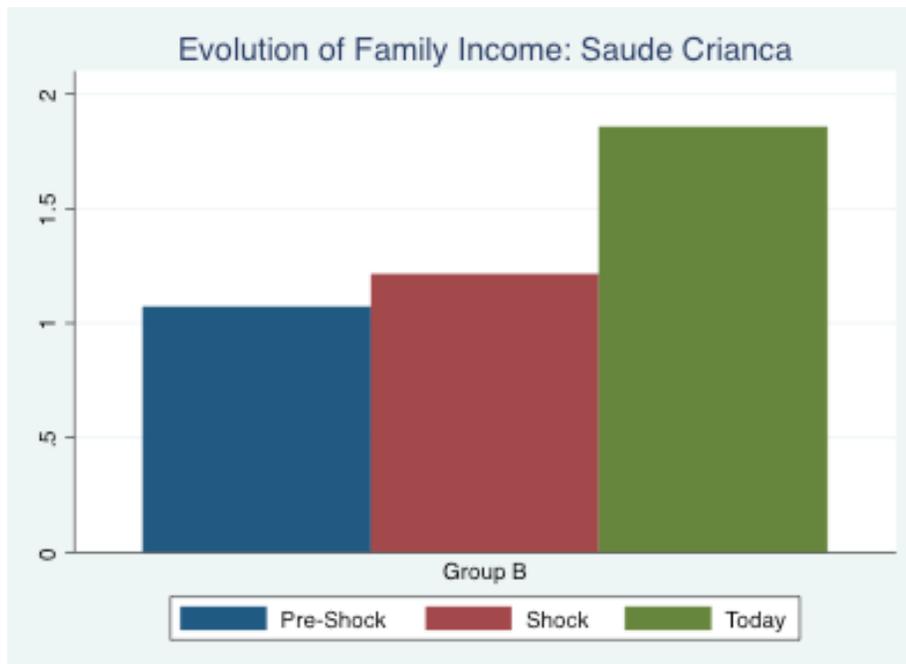


Figure 30: Focus Group B - Evolution of Family Income (Minimum salaries)



Group C: Hospital Jesus Worse Off Families

How did your child's illness impact your family and how did you overcome the situation?:

The mothers from Group C reported being unemployed as well as continuing health problems with the focus child. For these families, the most significant negative impacts of the first health shock were discrimination and financial difficulties. Most of the participants had become pregnant as teenagers and were living with their families (mostly their own mothers). Most were single mothers, and once the partner found out about their child's illness, they distanced themselves even more. They all felt discriminated by the father of their children and sometimes their own family. The mothers reported that the families were struggling financially even before the illness due to the day to day costs of childcare. The mothers made it clear that they had little familial support at the time of the first hospitalization. Most of them said that it was their mother that helped them or sometimes a neighbor, but this contrasts sharply with the HJ Group A mothers that openly spoke about different family members supporting them throughout their child's illness. Those that did not have close relatives said they survived because of external help: income from Bolsa Familia, an old friend giving them shelter, or a Church member that helped with money and clothes.

When asked if they would do something differently in case of a new illness, they said that they wouldn't and that they would pray and hope for the best. We also asked the mothers what support they would have liked to have during the time of that first hospitalization of their child. Emotional support was key for everyone. One participant put it this way: "Life is difficult, it's not enough with beans and water... some advice, a hug is also needed." They envision a place with no preconceptions and discrimination. They wanted a place where they could have access to medicine (a few of them said that they had to go to drug dealers to get money for medicine). A few participants suggested activities for the parents since sometimes the breadth of problems are simply overwhelming and they need a way to forget about them even if it is temporary. No one mentioned professional courses or working skills as a way to increase their income and provide for their family in the future. Figure 31 clearly shows how perceptions of family well-being diminished significantly and while it has increased, they still believe their overall situation is bad.

Figure 31: Focus Group C - Perception of Well-being

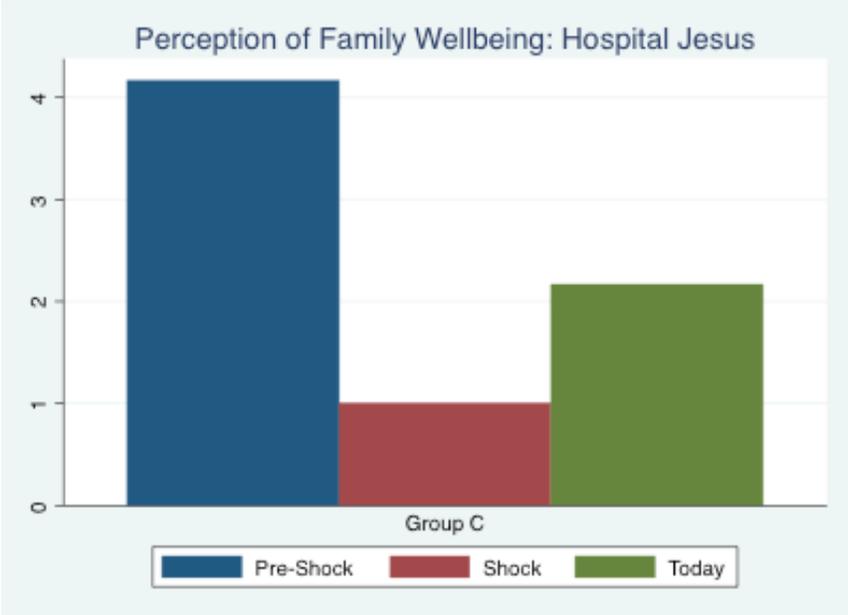
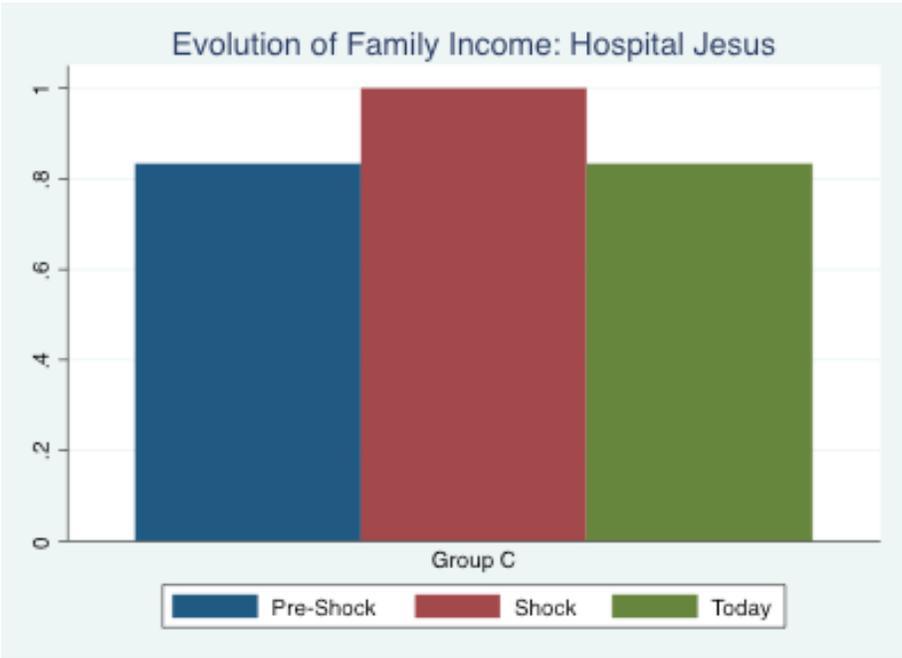


Figure 32: Focus Group C - Evolution of Family Income (Minimum salaries)



Group D: Saúde Criança Worse Off Families

How did your child's illness impact your family and how did you overcome the situation?:

The life of all of the participants changed dramatically, as most were single mothers and had to adjust their day to day activities to attend to their sick children. The financial difficulties they faced were vast since they were the main providers in the household. As a result of their child's hospitalization, all except one of the participants had to stop working because they had to be in the hospital and therefore their income was severely affected (see Figure 33). While two mothers mentioned that their immediate family was very helpful in providing financial support and care for their other children, the rest of the participants did not mention family or friends as a source of support. The support of Saúde Criança was key in helping them cope with the illness and recovery. When asked which component of Saúde Criança was the most helpful, half of them said that it was the housing project. For another participant the most relevant help came through the professionalization courses: "I was given a present, my profession, and now I'm the best hairdresser in my neighborhood!" The rest of the mothers emphasized the importance of medicines, transport fees, and emotional support. Another participant said that: "if it weren't for Saúde Criança, my son would be dead."

When asked if they felt they had made the most out of their time at Saúde Criança, three of them said that they wished they had taken the professionalization courses but that it was not possible mainly because they had to be in the hospital. While all of them said that they left Saúde Criança with trust in themselves, "força de vontade", and some with a profession, these families said that they did not know what to do in case of another hospitalization. Most said they would pray and ask for help from a neighbor, as opposed to Group B of Saúde Criança where respondents were more confident on how to deal with another hospitalization. Most of these families saw SC as a way to get things (food, medicine, house), as opposed to an opportunity to change their lives, as Group B had underscored. In other words, this group was more about receiving handouts than seeing Saúde Criança as a long-term opportunity. An illustrative example was when one mother complained that she had asked for a pair of contact lenses and didn't receive them or another one that complained because she asked for a job and Saúde Criança couldn't get her one.

Figure 33: Focus Group D- Perception of Well-being

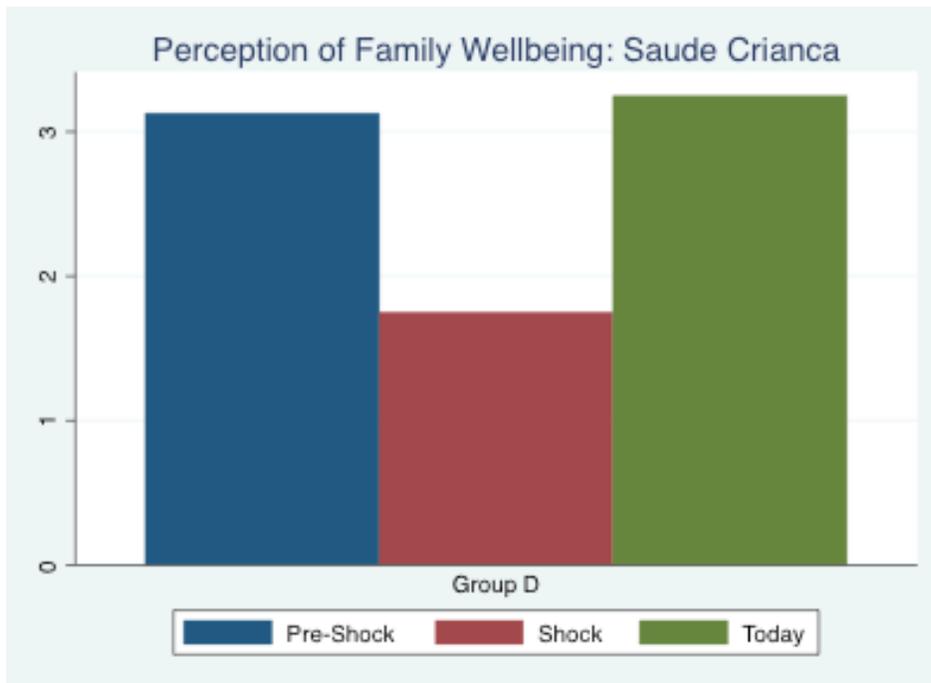
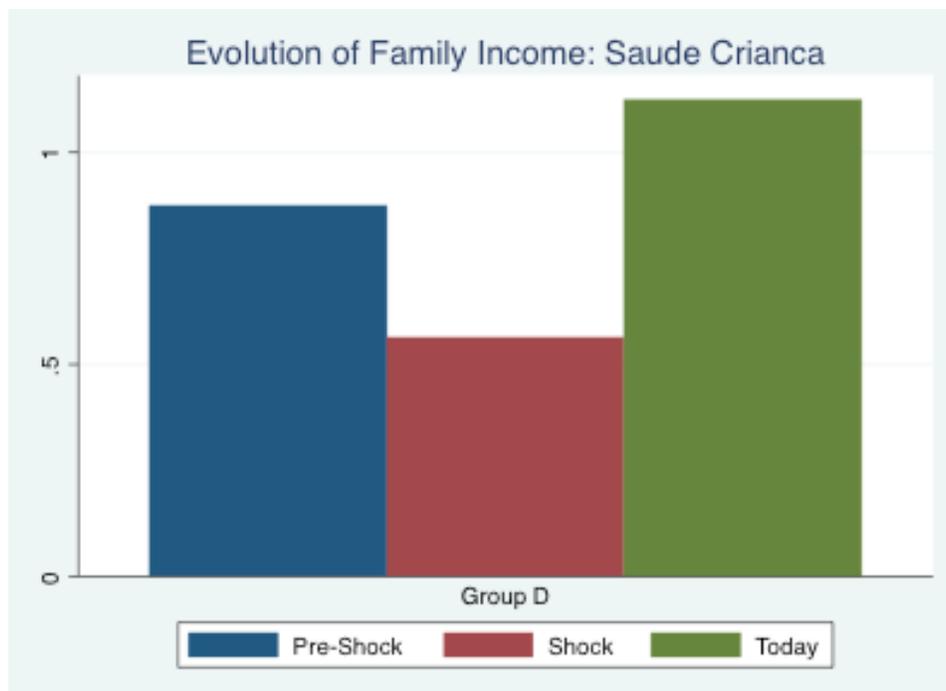


Figure 34: Focus Group D - Evolution of Family Income (Minimum salaries)



Comparing Focus Groups

The focus group analysis revealed a number of interesting characteristics about Hospital Jesus and Saúde Criança families. Hospital Jesus families (Group A) did not mention any financial problems as opposed to Saúde Criança families (Groups B and D) and other Hospital Jesus families (Group C). This suggests that Hospital Jesus families that participated in the focus groups and reported a stable situation were better off prior to hospitalization when compared to Saúde Criança focus group participants. Additionally, the role of family and friends was fundamental during the health shock since these networks worked as safety nets.

Figure 35 and Figure 36 compare Hospital Jesus and Saúde Criança families that participated in the focus groups, with respect to perception of family well-being and family income (number of minimum salaries), respectively. These figures show that Hospital Jesus families' well-being before the health shock was higher than that of Saúde Criança. However, currently, Saúde Criança families' income and perception of their well-being is higher than that of Hospital Jesus families.

Figure 35: Comparing Focus Groups – Perception of Wellbeing

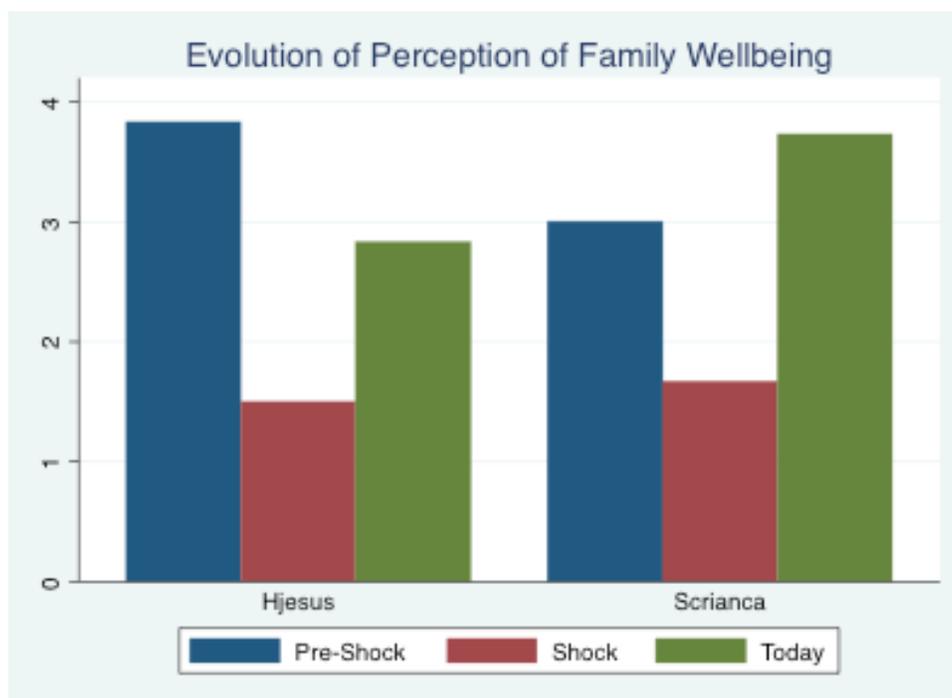
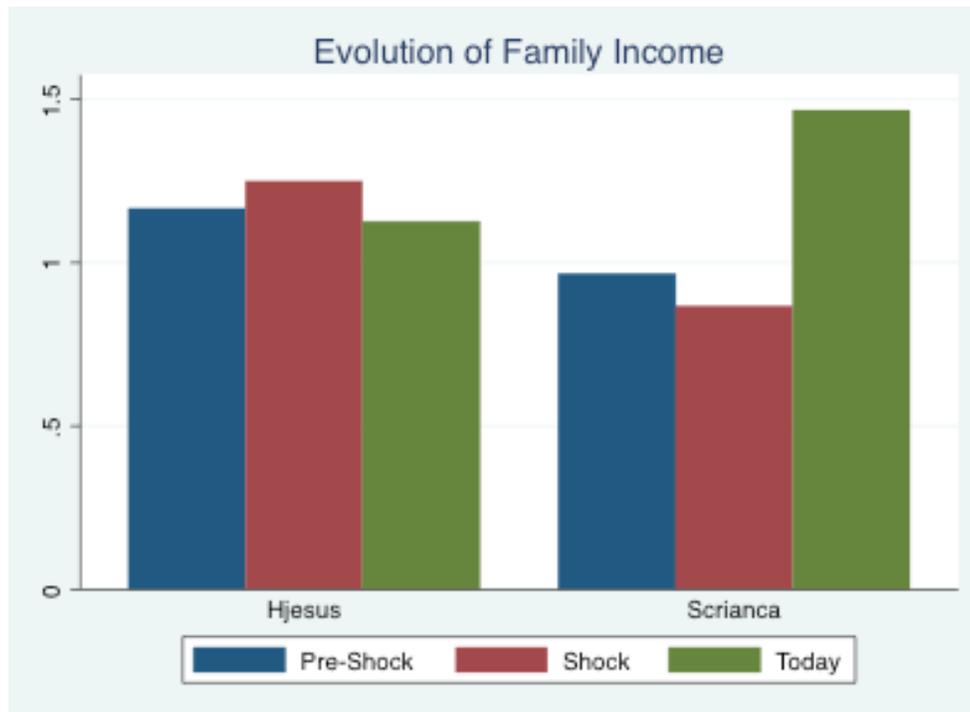


Figure 36: Comparing Focus Groups – Evolution of Family Income



Conclusions: *Saúde Criança's Long-term Impact*

The overarching goal of the impact evaluation was to estimate the medium to long-term impact of *Saúde Criança's* methodology on household and individual well-being. The evaluators used different methods to assess the effects of *Saúde Criança* and found that when comparing beneficiary families before entering the program, at the time of graduation, and several years later, there are large and sustained gains across five different areas: health, education, income, housing, and citizenship. Evaluating a comprehensive program like SC through regression analysis proved a formidable challenge. Because SC's triage effectively targets the poorest and most vulnerable, finding a comparable group of families was particularly difficult, especially due to the lack of pre-hospitalization data. Consequently, important differences between beneficiaries and the control group remain and the impacts reported must be taken with a note of caution, as they underestimate the true positive impact of *Saúde Criança*. Nevertheless, the evaluators found positive and significant effects of participating in *Saúde Criança* along a number of dimensions. There was a significant decrease in the likelihood that SC focus children had surgery or clinical treatment in the past 6 months compared to their counterparts. In terms of income generation, the evaluators found that *Saúde Criança* adults are nearly 12 percentage points more likely to be employed than those from the control group. Furthermore, SC families' enhanced economic self-sufficiency is best

captured in impressive improvements in home ownership. Compared to approximately 25% of beneficiaries owning their homes at the time of entry into SC, 50% of beneficiaries now own their homes. The percentage of focus children that are currently attending school also increased substantially, moving from under 10% at entry into SC to 92% today. Finally, the number of SC families that were eligible to receive benefits from the government, such as pension, medical benefits, or conditional cash transfers, increased significantly as a result of SC’s guidance.

The evaluators found room for improvement in the area of mental health. The regression analysis showed that both primary caregivers and focus children are more likely to have psychological distress than their Hospital Jesus counterparts. However, due to some of the difficult socioeconomic and clinical circumstances faced by Saúde Criança beneficiary families and their children, the evaluators believe that these results must also be taken with caution. The evaluation also underscored a number of areas in which the regression results found no difference between Saúde Criança graduates and matched Hospital Jesus observations: school participation, housing quality, access to government programs and services as well as earning power. As a result of some of the differences between Saúde Criança and Hospital Jesus families shown in Table 2, the evaluators believe that these findings reflect a “catching up effect” which is illustrated in Figure 37 below.

Figure 37 Tentative Trajectory of Saúde Criança and Hospital Jesus Families

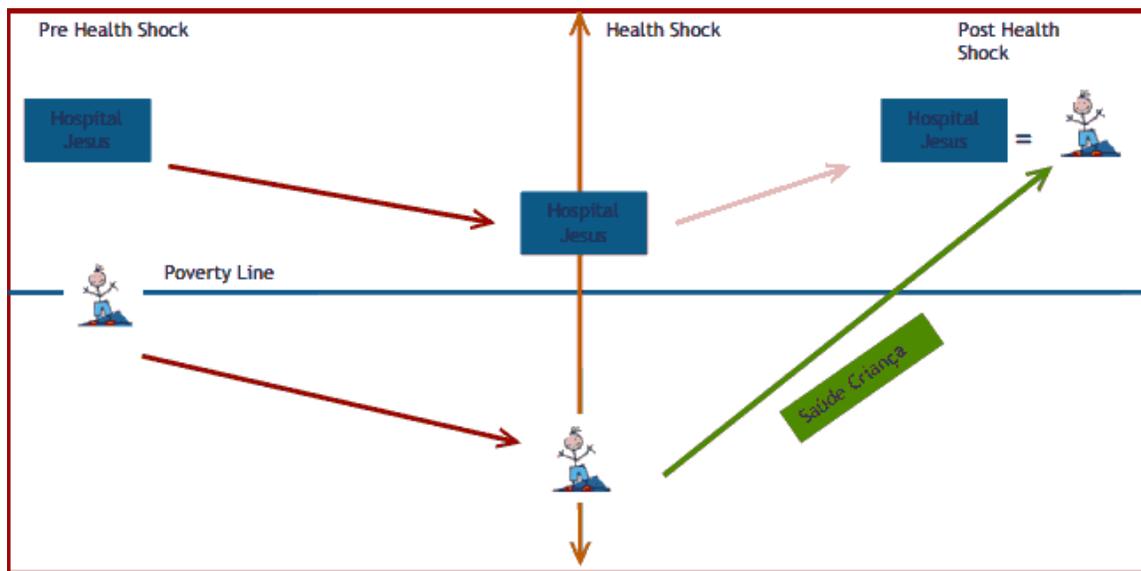


Figure 37 shows the hypothetical trajectory of both Saúde Criança (represented by Saúde Criança’s logo) and Hospital Jesus families. In the immediate left foreground there are relevant

differences between groups prior to the health shock, which show that HJ families are significantly better off than their SC counterparts. At the time of the first hospitalization or health shock, both families suffer a blow to their livelihood; however, Saúde Criança families likely experience a more acute negative impact as a result of a lack of supporting mechanisms and/or severity of the child's illness (e.g. savings, social network, family structure, etc.). The Hospital Jesus families that were able to recover from the health shock did so mainly because of their pre-health shock resources. Saúde Criança's beneficiaries, on the other hand, are those families that are most vulnerable to the negative consequences of health shocks and will have a hard time recovering, let alone improving their pre health shock status. What the evaluation's results show is that SC's comprehensive intervention breaks the vicious cycle of illness and poverty, and enables families to "catch up" with their Hospital Jesus counterparts, as shown in the right hand side of Figure 37. This catch-up was also corroborated through qualitative methods, which showed that Saúde Criança focus group participants perceive that their families are better off than before the first hospitalization. In short, SC provides tools to deal with health shocks and helps improve families' livelihoods.

This evaluation has corroborated that the policy relevance of Saúde Criança's methodology is not in dispute. Attempts to eradicate poverty and promote social inclusion in the world depend crucially on the targeting, design, and impact of programs. Identifying ways in which a vicious cycle of poor health and low income keep large sections of favela dwellers in abject poverty is an important contribution to the fight against poverty and towards social inclusion, not just in Brazil, but also in other developing countries. The work of Saúde Criança travels well outside of the specific context of Rio de Janeiro. First, within Brazil, a large proportion of the urban population lives in similar conditions. Second, the context where SC works is very similar to areas where a rising share of the world's poor live: on the margins of rapidly expanding cities in the developing world. In this respect, the tremendous and sustained empowerment that shines through in this evaluation demonstrates that Saúde Criança enables poor families to improve their livelihoods and take control of their own destinies.