



Cheers to water

Impact Evaluation of
Adequate Bathrooms in Paraguay
2024-2025





Production notes Cheers to water

Cover photo:

Rufina and her daughter, Aitana, receiving their new bathroom in the Roberto Carlos community, Luque

Publication

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Lissi Gayoso, Roberto Carlos community, Luque, Paraguay



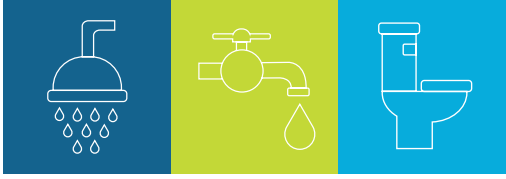
Mia, daughter of Celia, a beneficiary of the Cheers to Water Campaign, on the day she received her new bathroom, Divino Niño Jesus Community, Luque, Paraguay.

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Glossary of *acronyms*

WASH	Water, sanitation and hygiene
IDB	Inter-American Development Bank
ESSAP	Paraguayan Sanitation Services Company
ERSSAN	Regulatory Entity for Sanitary Services
HFH	Habitat for Humanity
HFH LAC	Habitat for Humanity Latin America and the Caribbean
INE	National Institute of Statistics
OECD	Organization for Economic Cooperation and Development
SDGs	Sustainable Development Goals
WHO	World Health Organization
UNICEF	United Nations Children's Fund





*Volunteers from the Laura Maltby
Brigade building a bathroom for a family
in the Roberto Carlos community, Luque.*



Executive Summary

Description of the initiative and context

In Paraguay, the lack of adequate sanitation is a structural challenge that affects the health, safety, and stability of thousands of families. Between October 2024 and June 2025, Habitat for Humanity Paraguay's Cheers to Water Campaign renovated 100 bathrooms in nine urban settlements in the city of Luque, directly benefiting 446 people in highly vulnerable situations.

The initiative was based on a comprehensive theory of change: The combination of adequate sanitation infrastructure, hygiene training, and community participation reduces health risks, optimizes time use, and stabilizes household finances.

Profile of the study population

To understand the initiative's impact, it is essential to consider the characteristics of the participating families, who live in areas with persistent deficits in public services.

Women heads of households: There is a high percentage of women serving as the primary heads of households, representing 82% of the beneficiary group.

Critical economic situation: The average family income is approximately PYG 2,818,148, which is 50% lower than the 2023 national average.



Verónica, a leader of the San Cayetano community, with her daughters Monse and Xime.

Family composition: Households mostly consist of four to five members, with a high number of children under 12 years of age, which creates an intensive demand for care and hygiene.

Housing vulnerability: Families live in homes with zinc sheet roofs, unplastered brick walls, and concrete floors. Forty percent of these households live in overcrowded conditions.

Previous sanitary deficiencies: Before the intervention, most bathrooms lacked basic elements, such as lockable doors, windows, tiles, and sinks.



Purpose of the evaluation and methodological rigor

The primary objective of the evaluation was to identify changes attributable solely to access to adequate bathrooms. The study analyzed four strategic areas defined in the theory of change: health and emotional well-being, economic development, education, and social capital.

A mixed-methods approach was adopted to ensure the validity of the findings.

- **Quantitative analysis:** The quasi-experimental difference-in-differences (DiD) method was used to compare the beneficiary group with a similar control group and isolate the project's net impact.
- **Qualitative analysis:** Fifty-five interviews were conducted via an interactive digital platform to capture the nuances of change in families' daily lives.

Findings and conclusions: a multidimensional impact

a) Health, well-being, and dignity

- *Reduction in illness:* A 31.97% decrease in the incidence of respiratory and gastrointestinal conditions and infections was recorded in beneficiary households.
- *Health prevention:* The need for health care and the purchase of medication decreased by 53.51%, validating the bathroom as an effective preventive measure.
- *Safety and self-esteem:* Perception of safety when using the bathroom increased by 56.27%, eliminating "night-time fear" and restoring privacy for women, adolescents, and girls. Beneficiaries maintained their self-esteem, linked to the pride of having a "dream come true."

Araceli, a beneficiary of the Cheers to Water Campaign, with her daughter in the Divino Niño Jesús community, Mora Cué, Luque.

- *Hygiene as a source of pride:* There was an increase of 26.82 minutes per day spent on cleaning, reflecting the adoption of healthy habits and an increase in dignity.

b) Economic stability and financial relief

- *Cost savings:* Families saved an average of PYG 135,891 per month on health care, representing 8% of their average income. Financial resilience: Financial capital improved by 16.62% thanks to the elimination of indirect expenses, such as purchasing water in drums.

c) Education and daily routine

- *Qualitative impact:* Although there were no quantitative changes in school absenteeism, attributable solely to bathrooms, testimonies reveal an improvement in children's daily routines. They now have access to more comfortable and efficient hygiene facilities before going to school.

d) Social capital and community strengthening

- *Collective achievement:* The participatory methodology generated a 14.82% increase in social capital, strengthening trust among neighbors and local leadership capacity.

The Cheers to Water Campaign 2024-2025 has fulfilled its promise to transform precarious spaces into safe environments that reduce vulnerabilities. This evidence establishes sanitation as a strategic and essential component of inclusive urban development in Paraguay.

Introduction



Access to adequate bathrooms is a fundamental aspect of decent housing and a critical factor in people's health, safety, and well-being. In contexts of urban vulnerability, a lack of safe sanitation solutions increases exposure to waterborne diseases and affects privacy, daily life organization, time use, and household economic stability, particularly impacting women and children. In Paraguay, this deficit remains a structural challenge, especially in urban settlements such as Luque, where the 2022 National Census and various official reports highlight critical reliance on precarious solutions, such as latrines and cesspools. In response, the Cheers to Water Campaign 2024–2025, implemented by Habitat for Humanity Paraguay, aims to improve living conditions by constructing and upgrading bathrooms. The campaign complements technical interventions with social support and community participation, aligning with Sustainable Development Goal 6: "Ensure access to water and sanitation for all."

To estimate the extent to which this intervention generates verifiable changes in families' lives, this report details an impact assessment that uses a mixed-methods approach, combining statistical analysis with qualitative evidence. The methodology is based on a quasi-experimental design that compares a group of beneficiaries with a comparison group of similar characteristics who did not participate in the project.

To ensure the validity of the findings and control for the influence of external factors, the difference-in-differences (DiD) method was used. This method isolates the net impact attributable to the project by analyzing the evolution of both groups between an initial baseline and an exit measurement conducted after the intervention. This ensures that the compared households are statistically equivalent.

Complementing the quantitative analysis, the assessment collected qualitative data through interviews, enabling triangulation of information. This cross-validation process provides a comprehensive understanding of the changes in health, well-being, household economic development, education, and social capital. By comparing changes observed in the beneficiary group with general trends in the comparison group, the report aims to provide comprehensive scientific evidence of the project's effectiveness. Ultimately, these results intend to strengthen programmatic decision-making, optimize future housing interventions, and establish sanitation as an essential component of inclusive urban development and household economics.



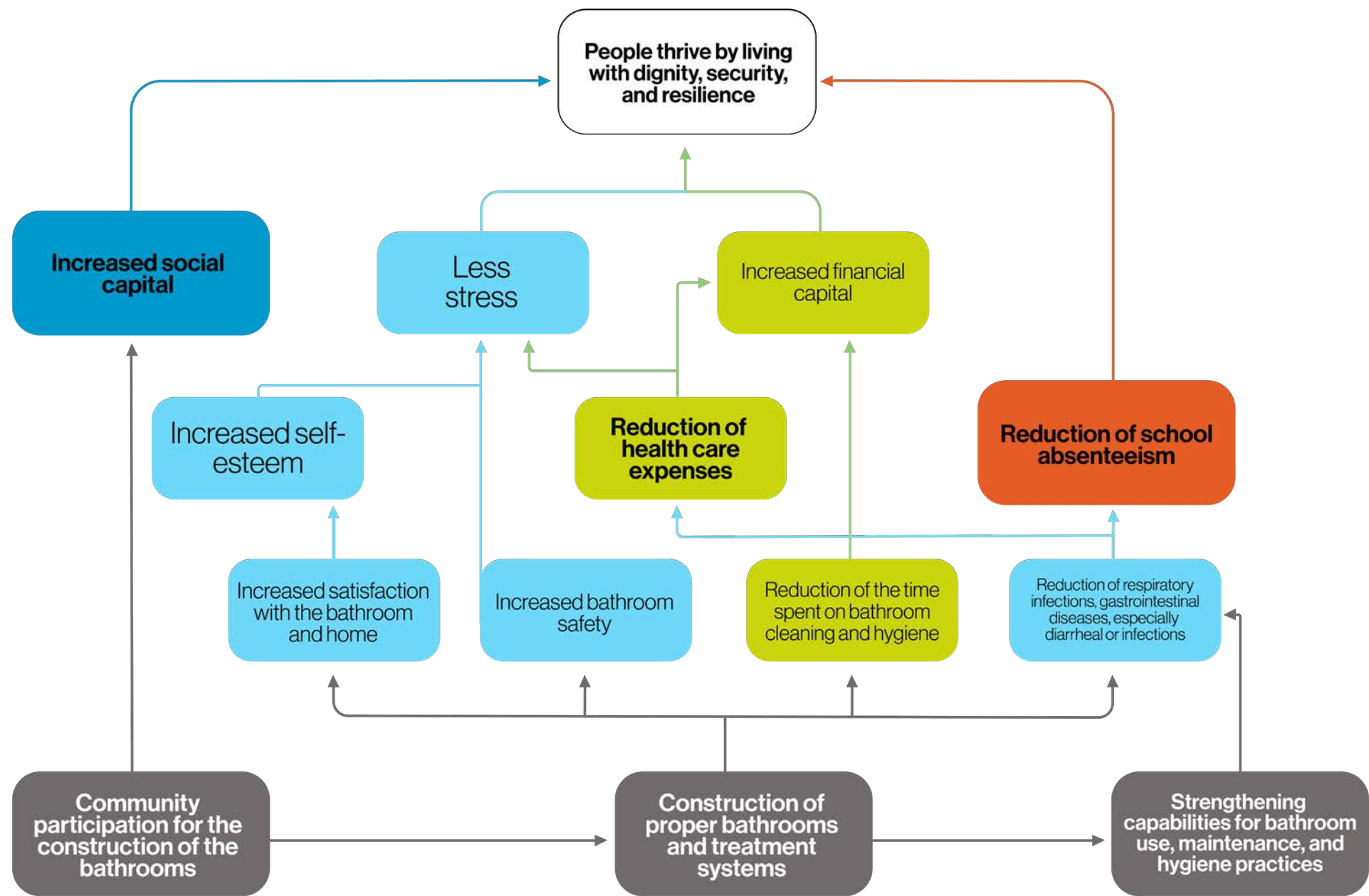
Figure 1. Theory of Change for the Cheers to Water Campaign 2024-2025

Description of the initiative

In Latin America and the Caribbean, access to basic services remains a long-standing issue. Specifically in Paraguay, many households still rely on inadequate sanitation facilities, such as latrines or cesspools, making these homes hotspots for waterborne diseases, skin conditions, and persistent environmental risks. According to the 2022 National Population and Housing Census (INE, 2022), this deficit is particularly acute in rapidly growing urban settlements, such as those in Luque. The lack of adequate infrastructure compromises not only physical health, but also families' privacy, safety, and economic stability due to expenses resulting from preventable diseases. In light of this reality, the Cheers to Water Campaign 2024–2025, led by Habitat for Humanity Paraguay, primarily targets vulnerable households in the city of Luque.

Between October 2024 and June 2025, the campaign renovated 100 bathrooms in nine urban settlements in Luque, directly benefiting 100 households and 446 people. The project included constructing new bathrooms and renovating existing ones in homes with inadequate sanitary conditions.

The intervention logic of this initiative is grounded in a theory of change that asserts families will gain access to safe and functional sanitary conditions that reduce health risks, optimize time usage, and limit illness-related expenses if adequate bathrooms are built and improved using context-appropriate technologies, and the process is reinforced with training on water, sanitation, and hygiene alongside active community participation. These intermediate changes will enable people to thrive with greater dignity, security, and resilience.





Sofía Belén welcoming the Habitat team to her home before the construction of her new bathroom as part of the Cheers to Water Campaign in the Roberto Carlos community, Luque.

This assessment specifically focuses on the outcomes generated by health infrastructure and immediate well-being. At this stage, it does not aim to measure the long-term impact of prosperity.

It is important to note that the study is based on quantitative and qualitative data collected between January and November of 2025. During this period, the communities in Luque where the intervention took place faced contextual challenges, including seasonal droughts and atypical cold spells. Therefore, when interpreting the results, it is crucial to consider these external factors, as they are part of the theory of change's critical assumptions. This approach ensures that the produced evidence is rigorous and sensitive to the context in which the campaign was implemented, allowing the report to contribute effectively to strategic decision-making and the continuous improvement of housing and sanitation policies in the country.

Purpose of the evaluation

This summative evaluation uses a comparative design to align with the OECD's impact criteria and measure which changes are attributable to the intervention. By comparing groups with identical characteristics — those who received the benefit and those who did not — and triangulating the data with a qualitative analysis, we can explain the results in terms of what happened, how it happened, and why it happened.

This study is essential for identifying the effects of providing adequate bathrooms in four areas: health and well-being, household economy, education, and social capital. Beyond the figures, the aim is to generate solid evidence to foster reflection on the Cheers to Water Campaign and facilitate the creation of knowledge products and strategic decision-making to scale up and refine the initiative in the future. The assessment will also provide scientific information to advance advocacy for changes to the country's public policies on water and sanitation.

Conceptual framework of the evaluation

The impact evaluation of the Cheers to Water Campaign 2024–2025 is grounded in the premise that adequate sanitation is a key determinant of human well-being and has direct and indirect effects on health, education, household economics, and community life. From this perspective, access to a decent and functional bathroom is not only an improvement in infrastructure but also an essential housing asset that affects multiple dimensions of daily life, particularly in contexts of urban vulnerability (WHO, 2018; United Nations, 2015).

In Paraguay, the sanitation deficit continues to be a structural challenge. While a significant portion of the population has access to some form of improved sanitation, access to wastewater treatment systems is limited,

especially in informal urban settlements and social territories undergoing regularization.

This situation exposes families to persistent health risks and widens disparities in health, education, and living conditions, disproportionately affecting children and women-headed households (IDB, 2018).

International and national evidence shows that inadequate sanitation is associated with a higher burden of waterborne, respiratory, and parasitic diseases, as well as higher avoidable health costs. These conditions contribute to school absenteeism, especially in contexts where recurrent illnesses and poor hygiene affect attendance and performance.

For girls and adolescents, the lack of safe, private bathrooms is an additional barrier to educational continuity, especially during menstruation (World Bank, 2019; UNICEF, 2020). From a gender and caregiving perspective, it is recognized that inadequate sanitation infrastructure increases the burden of domestic and care work, which primarily falls on women. Improved sanitation reduces the time spent on compensatory hygiene and care practices, freeing up time for self-care, community participation, and potentially productive activities. The links between sanitation, time use, and gender inequalities have been extensively documented in vulnerable urban contexts (UN Women, 2024; UNICEF, 2020).

Likewise, sanitation and housing interventions implemented using participatory approaches can strengthen social capital by promoting community organization, cooperation, and collective ownership of solutions. These processes strengthen local capacities and create more favorable conditions for sustainable community development (IDB, 2023).





Evaluation question

This impact evaluation is based on the OECD's criteria for assessing impact, which focus on the changes observed in the target population associated with the intervention.

In line with this approach, the study analyzes the effects on the living conditions of families who gained access to a new or improved bathroom compared with households that did not benefit from the intervention. This analysis is based on dimensions previously defined in the theory of change and considered in the assessment design. It does not seek to identify adverse effects but rather focuses on changes measured in selected variables.

To measure the impact, a set of indicators was defined and grouped by thematic areas in accordance with the project's conceptual framework, the theory of change, and the assessment's overall question.

What is the impact of access to a new or improved bathroom on the living conditions of families in urban settlements in the city of Luque with respect to health, economic development, education, and social capital?



Evaluation indicators by category

Physical health and emotional well-being

- Presence of illnesses in the household
- Required health care and/or purchase of medication
- Bathroom safety
- Satisfaction with housing
- Self-esteem
- Time spent on cleaning and hygiene tasks

Economic development

- Health care expenses or purchase of medication in the past month
- Financial capital

Educational development

- School absenteeism

Social capital

- Community organization
- Networks of trust and collaboration
- External networks and connections

A detailed description of the indicators and their operationalization is provided in the appendix.

Volunteers in Action – Delivery of Materials in Roberto Carlos Community, Luque.

Stakeholder participation

The scope of the evaluation aligns with the initiative's theory of change. The development of the theory of change, including the tools, involved technical staff from HFH Paraguay and HFH LAC and was validated with national implementers. The MEAL team at HFH Paraguay defined the survey population and conducted field data collection, with guidance and support from HFH LAC. Data processing and analysis were conducted jointly by the two aforementioned organizations.



Presentation of completed work to families in the Roberto Carlos community, Luque.

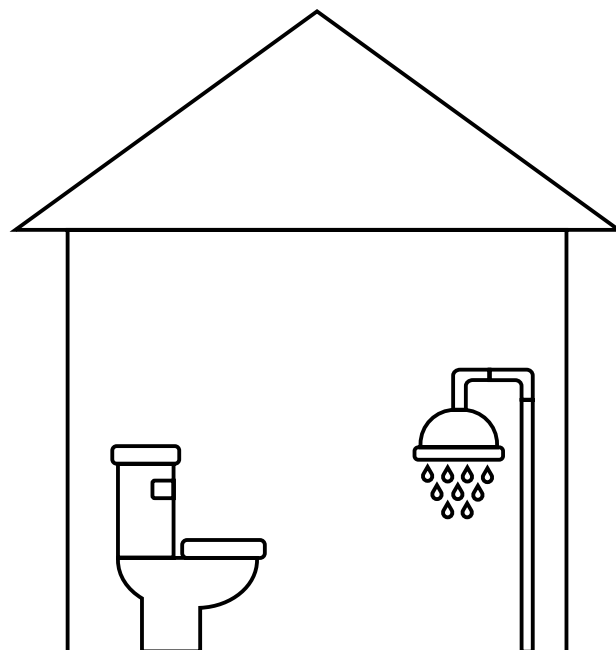
Ethical considerations

One challenge in this evaluation was managing expectations within the comparison-group communities. Therefore, constant and transparent communication was essential to clarify that survey participation did not imply individual benefit awards.

The ethical complexity of this process rests in balancing fairness and impartiality in group selection with the fundamental principles of justice and benefits. Therefore, this challenge was addressed thoughtfully by evaluating the impacts on both beneficiary and comparison households to ensure that no one was harmed by the study design.

To operationalize these considerations, kickoff meetings were held with community representatives to identify participants and ensure informed, voluntary collaboration. Relationships based on respect were cultivated at all times, and effective coordination channels were established. Additionally, the institutional strategy includes providing medium-term support to comparison group families and prioritizing them in future stages of the organization's resource development.

Finally, since the surveys collected personal data, access to the instrument was contingent upon an adult resident signing an informed consent form. All information has been processed and disseminated in accordance with strict confidentiality and data protection protocols.



Evaluation design and methodology

This impact evaluation employs a mixed-methods design. The methodologies used for the quantitative and qualitative analyses are explained below.

Quantitative analysis

The difference-in-differences (DiD) method was used to measure the impact of the Cheers to Water Campaign 2024–2025. This quasi-experimental technique allows for the identification of the causal effect of an intervention. Unlike other methods, DiD does not rely on random assignment; rather, it analyzes the evolution of outcomes over time between the beneficiary and comparison groups.

The impact value is obtained through a “double difference.” First, the change within the beneficiary group is calculated by comparing their situation before and after receiving the bathroom. Second, the same calculation is performed for the comparison group. The final difference between the two results reveals the impact attributable exclusively to the intervention (Hernández & Mata, 2015).

Mathematically, the model is expressed as follows:

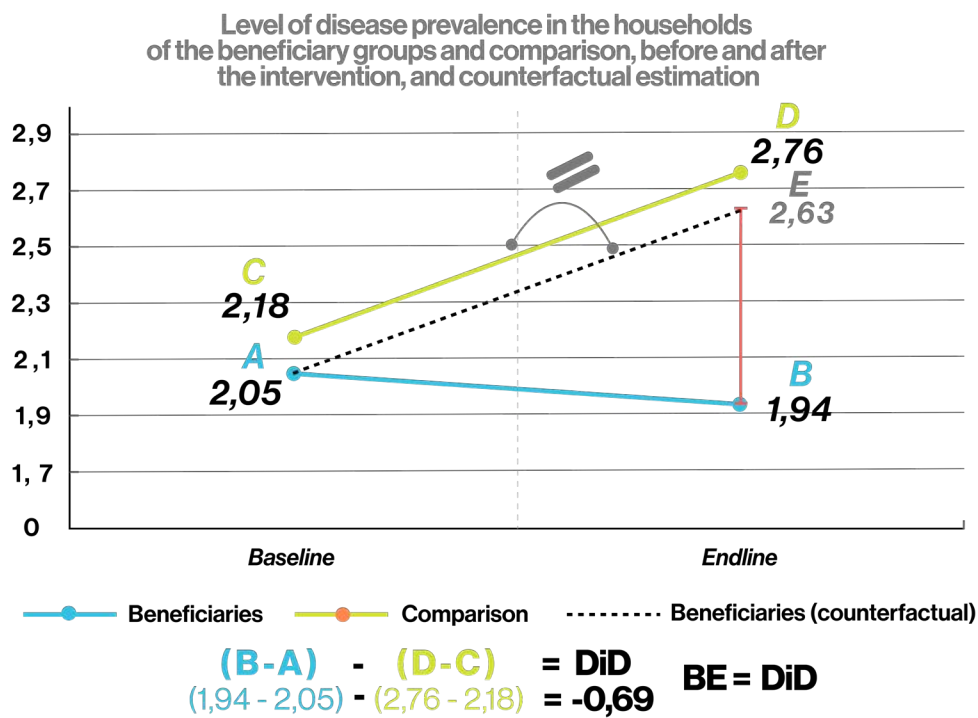
DiD = (GB1 - GB0) - (GC1 - GC0)

Where:

- **GB:** Group of beneficiaries (1 = after, 0 = before).
- **CG:** Comparison group (1 = after, 0 = before).

The validity of this method is based on the parallel trend principle. This principle states that, in the absence of the intervention, both groups would have evolved similarly. To ensure this condition, groups with equivalent socioeconomic, housing, and territorial characteristics are selected. This allows the generation of a robust counterfactual estimate, providing a clear picture of what would have happened to beneficiary families had they not gained access to improved bathrooms.

Figure 2. Example of the DiD model design applied to the Cheers to Water Campaign.



For example, Figure 2 shows a 5% reduction in gastrointestinal, infectious, and respiratory illnesses among families who received new or improved bathrooms. Meanwhile, the rate increased by 27% in the comparison group. One can conclude this if the groups share similar profiles.

To ensure maximum accuracy, statistical tests confirmed the equivalence of the two groups on key variables, including sex, age, the educational level of the head of household, monthly family income, and bathroom characteristics.

Conversely, data collection was conducted in urban communities in the city of Luque, where critical gaps existed in sanitation and living conditions. The neighborhoods comprising the group of beneficiary families were Roberto Carlos, La Piedad, Tapyirá, Ñande Roga Rekavo, Refugio de Navidad, and Azul y Oro. The neighborhoods in the comparison group were Nuevo Horizonte, 2 de Agosto, San Martín, and Paz del Chaco.



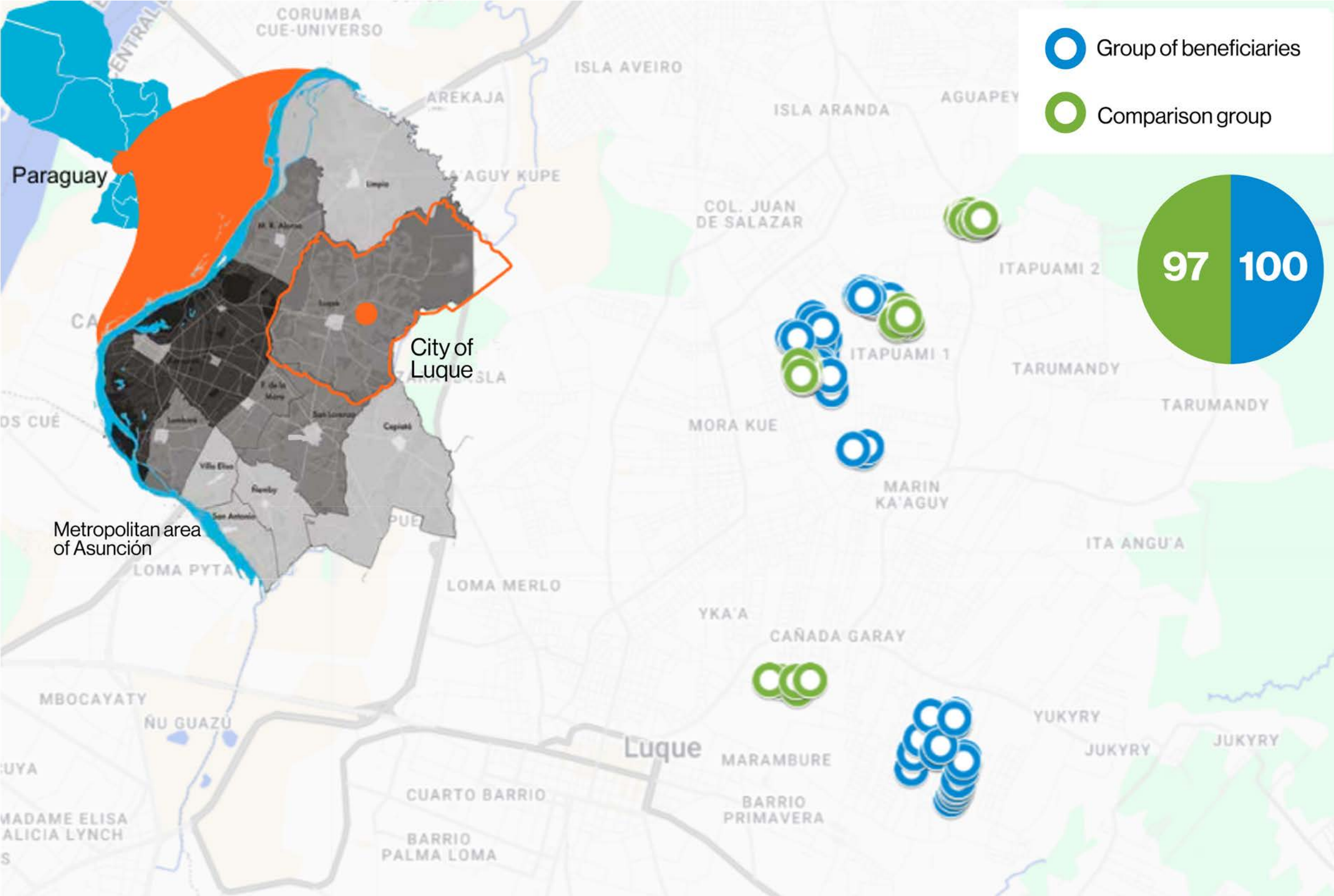


Figure 3. Location map of the study population.

The KoboToolbox technology platform, via the KoboCollect mobile app, was used to ensure comprehensive and efficient field data collection. A group of bilingual interviewers (Spanish-Guarani) was hired and trained to administer the questionnaires. Subsequent analysis was performed using the R statistical software program, following a structured plan that transformed the raw data into absolute values, percentages, and statistically significant differences.



Qualitative analysis

The primary purpose of the qualitative component of this evaluation is to triangulate the quantitative evidence and shed light on the nuances of the impact and changes in families' lives. To maintain coherence throughout the study, the research guide was structured around the same four pillars as the statistical analysis: health and well-being, economic development, education, and social capital.

Testimonials were collected digitally via mobile devices using the company Fortell's technology. This process involved dynamic interaction with a digital avatar on a dedicated web platform.

Upon logging in, participants were greeted with a Spanish-language introductory video inviting them to share their experiences.

The avatar guided the interviewees throughout the session, allowing them to select predetermined options or record spoken responses. This format facilitated the free and fluid expression of the participants, whose audio recordings were securely stored for subsequent transcription and analysis. A total of 55 family representatives participated, divided into 28 beneficiaries and 27 comparison participants. This enabled the identification of significant differences between the two groups.

Alondra, daughter of Wilma Cecilia, a beneficiary of the Cheers to Water Campaign, in the Roberto Carlos community, Luque, Paraguay.

To ensure the narratives were interpreted accurately, an advanced, multi-stage analysis process was implemented.

1 **Thematic coding:**

First, the responses were transcribed and organized using a qualitative coding system to identify recurring patterns.

2 **Comparative analysis:**

Groups were separated for analysis (beneficiaries vs. non-beneficiaries) to quantify the prevalence of themes and detect differences in the perception of impact.

3 **Technology and human validation:**

The transcripts were initially processed using a large language model (LLM) to efficiently synthesize large volumes of text.

The findings were then validated by human review, and detailed adjustments were made to the structure and content to ensure the conclusions accurately reflected the reality of the communities in Luque.



A shared smile is worth a thousand words! Here, Helene, an international volunteer, celebrates the conclusion of the Cheers to Water Campaign with Monse, Magali, Romina, and Xime from the San Cayetano community, Luque, Paraguay.

Evaluation findings

Territorial and contextual characteristics

The families participating in this study live in urban settlements in the city of Luque that emerged through processes of progressive land occupation and owner-driven housing. Although these neighborhoods are located within the Asunción metropolitan area, they suffer from persistent deficits in housing, sanitation, and access to formal public services. They are also poorly integrated into urban institutional networks. In these contexts, housing and basic infrastructure have developed gradually, based on households' economic capacities and community or private-sector strategies to compensate for the absence or inadequacy of state provision.

The analyzed settlements do not reflect transient dynamics, but rather, prolonged community trajectories in which families have established stable territorial ties and their own forms of daily organization. The housing, sanitation, and service access conditions described below constitute the structural starting point from which the changes associated with the project's interventions are analyzed.

Relevant concurrent contextual factors (October 2024 - November 2025)

From the start of the intervention (October–December 2024) to the endline evaluation (October 2025) and qualitative interviews (October–November 2025), a series of climatic and health conditions were recorded in Paraguay that constitute external factors that could potentially influence the living conditions, health, and behaviors of the evaluated households.

Heat waves and extreme temperatures (October 2024 - March 2025)

Between October 2024 and the first quarter of 2025, multiple episodes of extreme heat were recorded,

with maximum temperatures exceeding historical averages. These conditions may have affected households' thermal well-being, as well as water consumption, management, daily use, and hygiene routines in both beneficiary and comparison groups.

Precipitation deficit and drought conditions (end of 2024 - first half of 2025)

During late 2024 and part of 2025, precipitation deficits and drought conditions were observed. These conditions may have affected the availability and regularity of household water access, bathroom cleaning practices, perceptions of service adequacy, and water use strategies, regardless of the intervention being evaluated.

Don Pedro, receiving his new bathroom as part of the Cheers to Water Campaign in the Tapyira community, Luque, Paraguay.

Winter season and circulation of respiratory illnesses (winter 2025)

During the winter of 2025, seasonal temperature drops were recorded, which are associated with the usual circulation of respiratory illnesses. These phenomena are part of the country's recurring epidemiological pattern and may have influenced some health indicators collected during the measurement period.

General health context (2024-2025)

During the analysis period, no health crises or nationwide epidemiological alerts were recorded. Health conditions were primarily influenced by climatic and seasonal factors, such as high temperatures, climate variability, and irregular rainfall, which affected the occurrence of certain infectious and respiratory conditions in a widespread, cross-sectional manner in both the beneficiary communities and the comparison group.



Characteristics of the study population

Before presenting the results obtained for each study dimension, it is important to understand the study population. This involves contrasting the beneficiary and comparison groups, since the DiD method requires statistical comparability between groups. This chapter's graphs group the main variables into five areas: the first covers the head of household's sociodemographic and economic conditions; the second addresses family composition and household characteristics; the third focuses on housing conditions; the fourth deals with water and sanitation services; and the fifth covers bathroom characteristics. This dimension-based grouping allows for quick comparison of each group's situation, as greater symmetry in these graphs indicates greater comparability between groups.



Beneficiaries of the Cheers to Water Campaign holding up their signed contracts in the Ñande Roga Rekávo community.

Within this framework, the characteristics in the five aforementioned areas are detailed below.

Chart 1. Sociodemographic and economic characteristics of household heads by beneficiary and comparison groups, in percentages, n=197.



First, regarding the gender of the head of household, there are more female household heads in the beneficiary group than in the comparison group. However, this difference is not statistically significant. In general, eight out of ten heads of households in the beneficiary group are women, compared to seven out of ten in the comparison group. The high proportion of women as primary household heads is important when interpreting living conditions, family strategies, and the potential effects of interventions related to housing and sanitation, as these factors directly affect tasks and time allocations traditionally associated with women.

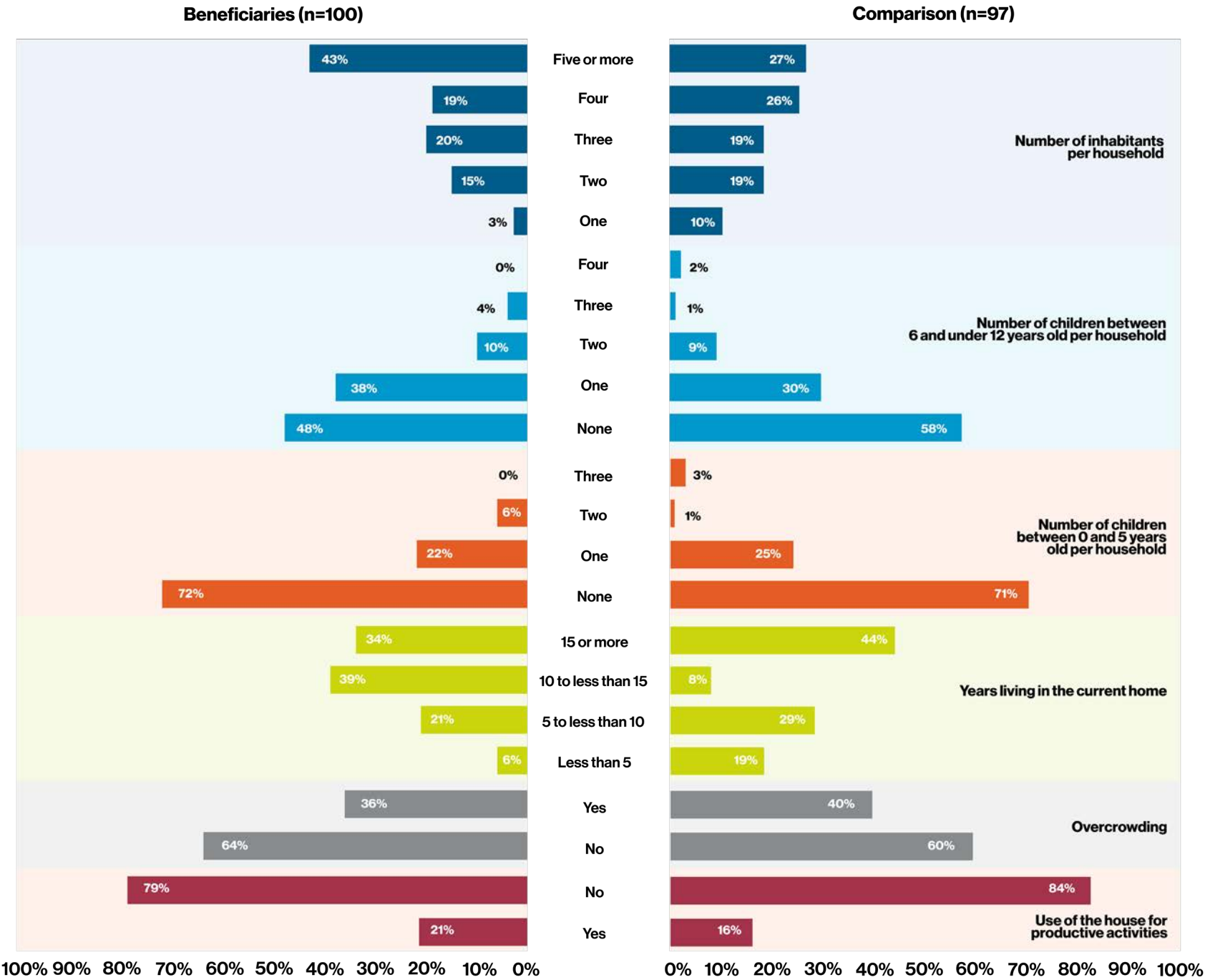
In terms of age, the majority of household heads in both groups are young adults of working age. The beneficiary and comparison groups are more symmetrically distributed, with average ages of 45 years and 42 years, respectively.

Regarding educational level, 48% of household heads in the beneficiary group completed primary school, while 46% are split evenly between those who completed primary school and those who completed high school. On average, household heads in the comparison group have more years of schooling than those in the beneficiary group. Although differences between the groups are observed, they are not statistically significant.

Household income is distributed evenly across groups. The majority (58% in the beneficiary group and 51% in the comparison group) is concentrated in the lowest income bracket, with only 2% of both groups in the highest bracket. Although the distribution across brackets is similar, the comparison group has better income conditions. The average for the beneficiary group is PYG 2,818,148, while the average for the comparison group is PYG 3,004,771. For context, official statistics from the National Institute of Statistics' (INE) Continuous Permanent Household Survey (EPHC) indicate that the average monthly household income nationwide was approximately PYG 5.74 million in 2023, placing the families studied below the national average.

Finally, regarding the presence of a disability among household heads, the situation is 4% more challenging for the comparison group, where 28% have at least one of the following difficulties: motor, visual, hearing, cognitive, or basic care.

Chart 2. Household composition and activity characteristics by beneficiary and comparison groups, in percentages, n=197.



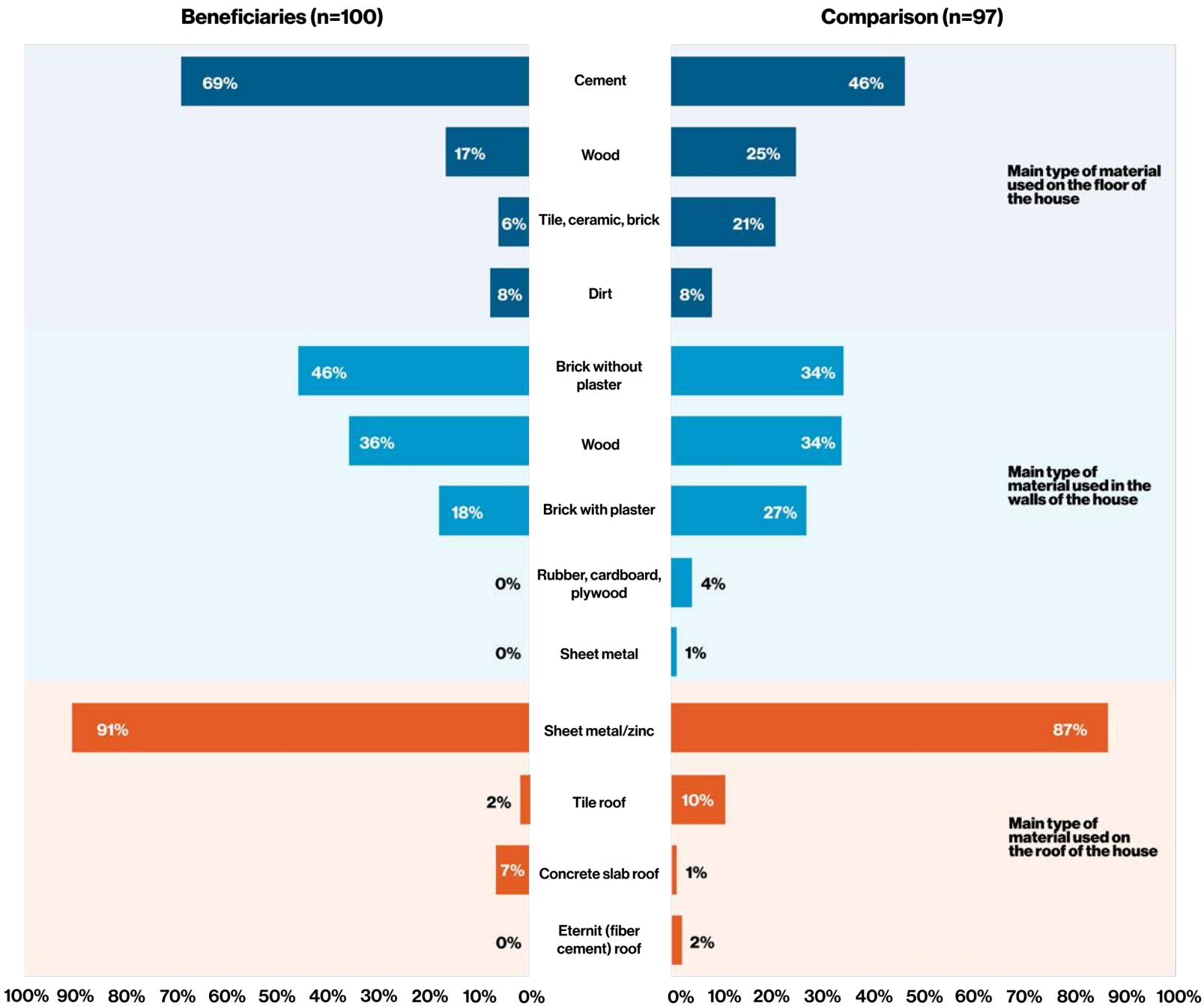
Regarding household characteristics, the beneficiary group consists of households with a higher-than-average number of members: 62% have between four and five members, while 53% of households in the comparison group fall within this range. Similarly, the beneficiary group has 6% more children aged 6 to under 12 in their households, as well as nearly the same number of children aged 0 to under 5. These characteristics suggest that the households are in the early or intermediate stages of the family life cycle. These stages are marked by high demands in care, household organization, and intensive use of the home. This is particularly relevant to this evaluation, as diarrheal illnesses are most critical in children under 5 years of age.

Both groups have lived in their homes for 10 years or more. There is a 4% difference in overcrowding prevalence: 36% in the beneficiary group and 40% in the comparison group. Finally, the beneficiary group has 21% of cases where the home is also used for productive activities, which is 5% higher than the comparison groups' 16% rate.



Mary Lechenuk and Sonia, a beneficiary of the Cheers to Water project, are pictured at the handover of completed work in the Roberto Carlos community, Luque.

Chart 3. Housing characteristics by beneficiary and comparison groups, in percentages, n=197.

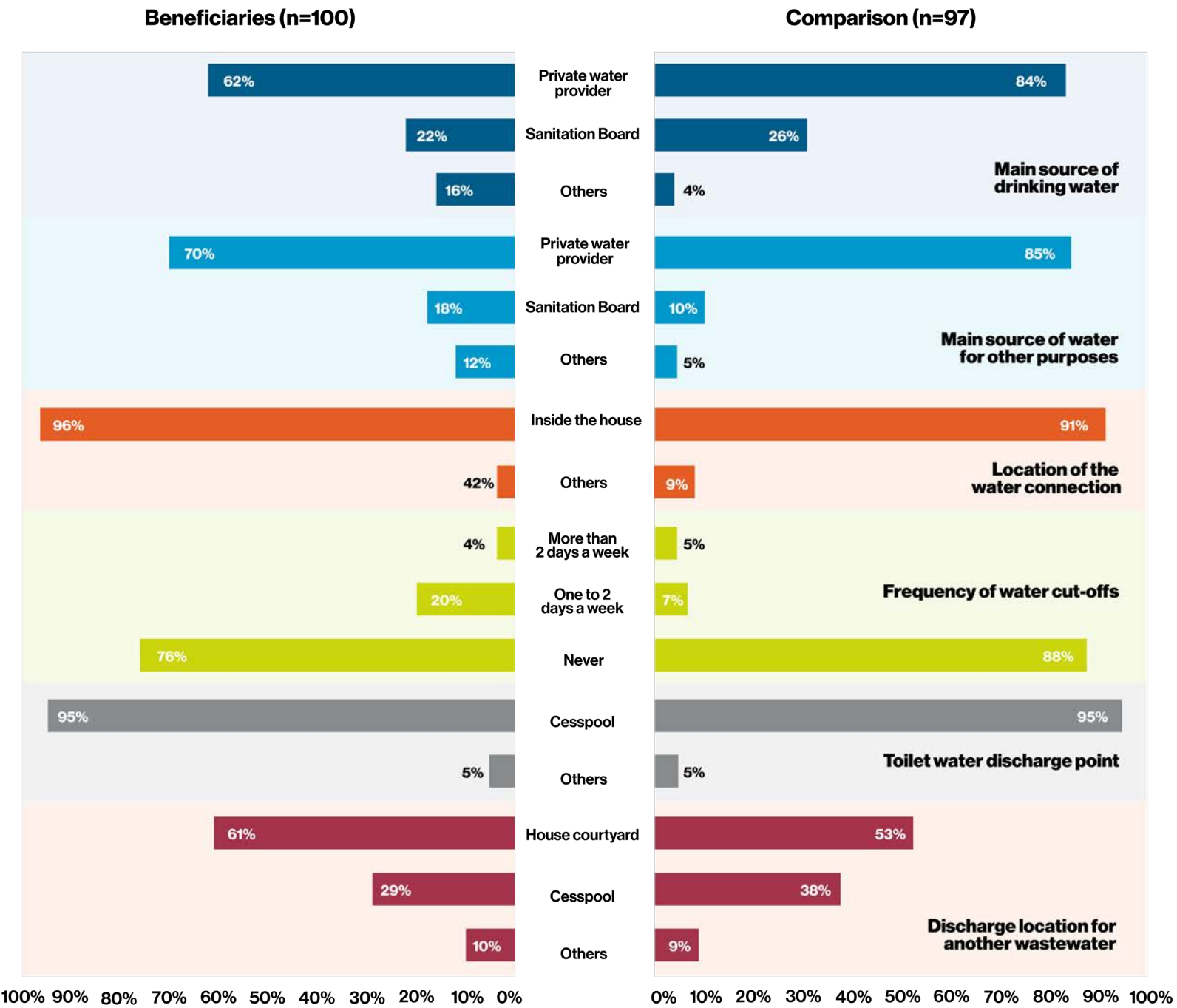




In terms of housing materials, the two groups are generally very similar. While 23% more people in the beneficiary group have concrete floors, this is offset by a similar percentage of people in the comparison group who have wooden or ceramic tile floors. The comparison group has greater diversity in wall materials. A 5% minori-

ty uses poor-quality materials, such as rubber or sheet metal, while 82% of the beneficiary group has unplastered brick or wood walls. Finally, both groups primarily use galvanized sheet metal for roofing in 9 out of 10 cases.

Chart 4. Characteristics of access to water and sanitation services by beneficiary and comparison groups, in percentages, n=197.



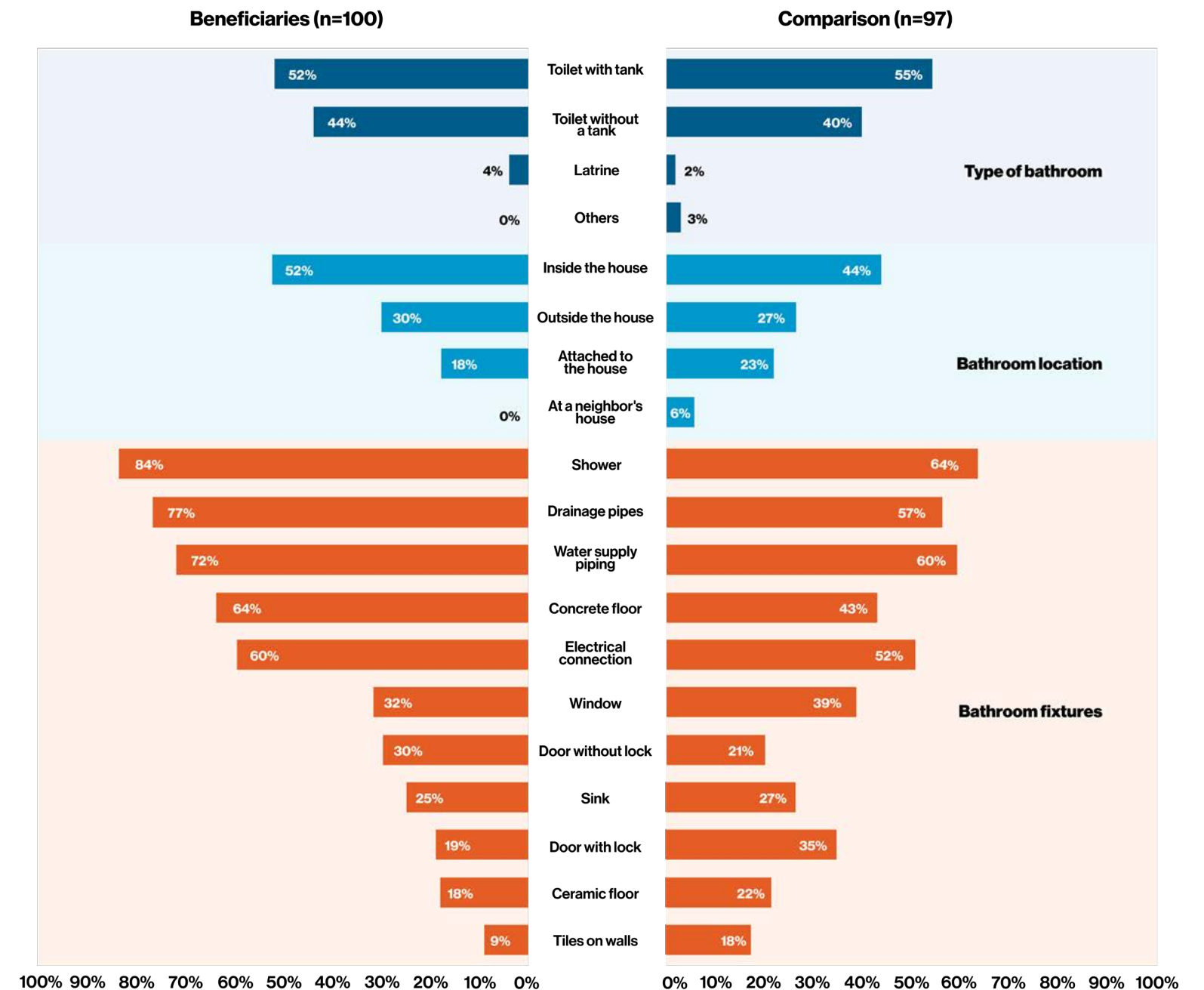
These materials were delivered prior to the start of construction in the Roberto Carlos community, Luque.



Regarding access to water services, the majority of households in both groups obtain water through private suppliers with piped connections leading directly into their homes. Gray water is mostly discharged into home gardens, while wastewater from toilets is discharged into cesspools. Both groups have similar access to water and sanitation. The only observed difference concerns the frequency of water supply interruptions: the beneficiary group experiences 13% more interruptions lasting at least one to two days per week.

A volunteer with the Laura Maltby Brigade builds the wall of the future bathroom for Ceci and her family in the Roberto Carlos community, Luque.

Chart 5. Bathroom characteristics by beneficiary and comparison groups, in percentages, n=197.



Both groups share similar bathroom characteristics, with the majority using flush toilets (52% in the beneficiary group and 55% in the comparison group), followed closely by toilets without an automatic flush. Nearly half of the beneficiary group's bathrooms are inside the home, compared with 12% in the comparison group. Three out of 10 households in both groups use bathrooms located in the home's courtyard, while 18% of the beneficiary group and 23% of the comparison group use bathrooms attached to the house.

Regarding the condition of bathroom interiors, the greatest needs overall are for wall and floor tiles, doors with locks, and sinks. Access to showers, drainpipes, and a water supply are the most common features in both groups. The beneficiary group has slightly better conditions in bathroom infrastructure and finishes, although there are no statistically significant differences.

These bathroom conditions indicate that families have made efforts to gradually improve their bathrooms, as most have concrete floors or plumbing (the structural foundations), while access to finishes such as lockable doors, windows, and tiles generally decreases.

In summary, the results presented below describe the effects of having adequate bathrooms on a population predominantly consisting of women heads of households, averaging 41-44 years of age, and with incomes 50% lower than the national average. Most households consist of four people per dwelling, with at least one child under 12 years of age. Forty percent of households are overcrowded, and 20% engage in productive activities in their homes. Additionally, the population predominantly lives in homes with zinc-sheet roofs, unplastered brick walls, and concrete floors. These homes have partially constructed bathrooms, which mostly lack tiles, sinks, electrical connections, doors, and windows.



Verónica, leader of the San Cayetano community, Luque.

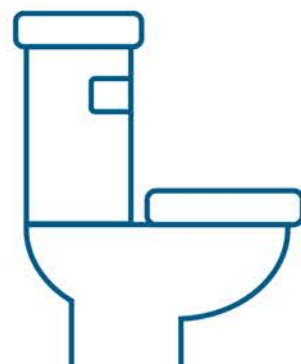
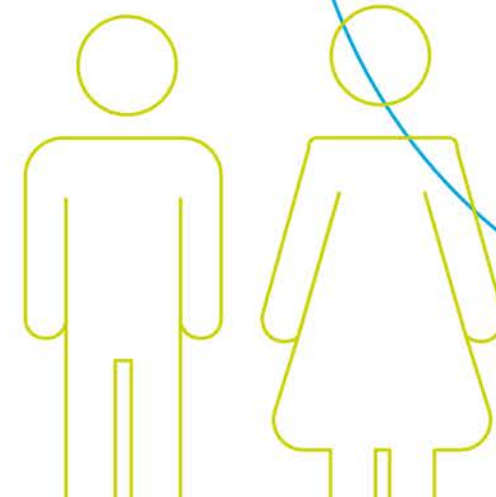
These conditions create a scenario of structural vulnerability, marked by inequalities in the distribution of caregiving tasks and time use. This directly impacts how families experience and manage housing conditions, sanitation, and access to basic services. This analysis is essential for understanding both the project's starting point and the relevance of the implemented interventions.

Cheers to Water



Findings in:

Health and emotional well-being
Economic development
Education
Social capital



HEALTH AND EMOTIONAL WELL-BEING

The following indicators are used to measure outcomes related to health and emotional well-being:

1 Presence of illnesses in the household¹

2 Health care and/or purchase of medication

3 Bathroom safety

4 Satisfaction with housing

5 Self-esteem

6 Time spent on cleaning and hygiene²

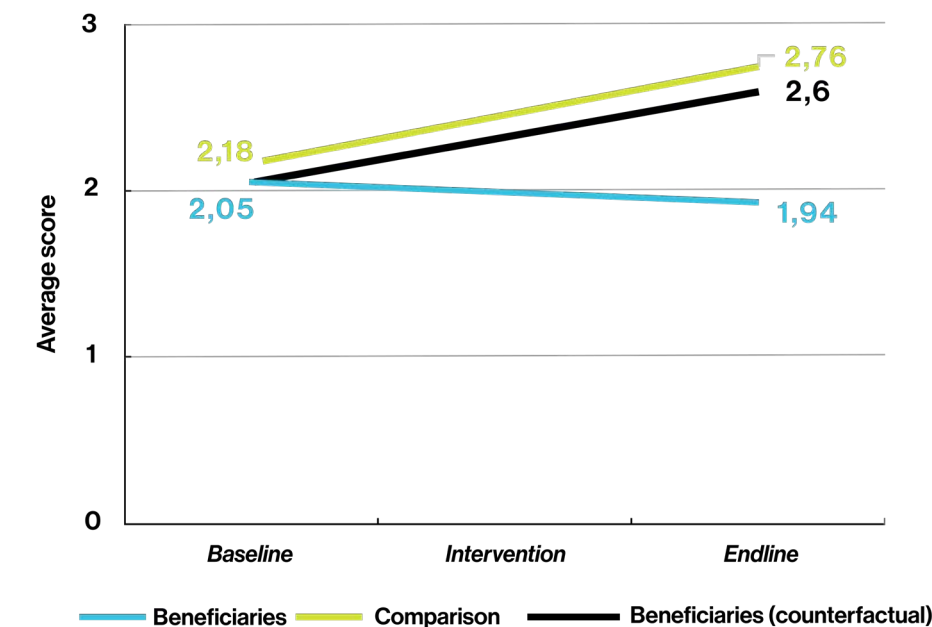
Illnesses in the home

The evaluation uses two measures to analyze the impact of adequate bathrooms on respiratory, gastrointestinal, and infectious diseases. First, it analyzes the average number of people with illnesses, referred to as “presence of illnesses in the household.” Second, it uses an index of households in which at least one member required health care or purchased medication in the past month. The maximum score is 4 (at least one member required health care for all four types of illnesses), and the minimum score is 0 (no member required health care for any of the four types of illnesses).

¹ Includes respiratory diseases, gastrointestinal diseases (stomach pain and diarrhea), and urinary tract infections. A specific breakdown is provided for children under 5 years of age regarding diarrheal illnesses and urinary tract infections.

² Includes the minutes spent cleaning the bathroom, practicing personal hygiene, and caring for dependents. Originally included in the economic development dimension, this indicator is more closely related to health and well-being than to economic development, as this assessment’s findings show.

Chart 6. Disease prevalence index for the beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



The evaluation results show a reduction of approximately 5% in the disease burden in beneficiary households, as shown in Chart 6. In contrast, the comparison group shows an opposite trend, with an increase from 2.18 to 2.76 points (+0.58), suggesting a general deterioration in health conditions in the absence of the intervention.

Calculating the difference-in-differences indicates that having an adequate bathroom reduces illnesses by 0.69 points, or 31.97%, compared to not having one.

Breaking down this result by illness type shows that respiratory illnesses have seen the greatest reduction, followed by stomach ailments, urinary tract infections, and diarrhea.

The impact on diarrheal illnesses and urinary tract infections in children under 5 years of age shows a 7.47% reduction in diarrheal illnesses and a 16.67% reduction in urinary tract infections.

Helen, an international volunteer, with Monse, Xime, and their sister during a volunteer visit to the San Cayetano community, Luque.





“What I notice most is that there aren’t as many cases of the flu anymore, and there isn’t as much diarrhea at home. I mean, it’s changed our lives a lot.”

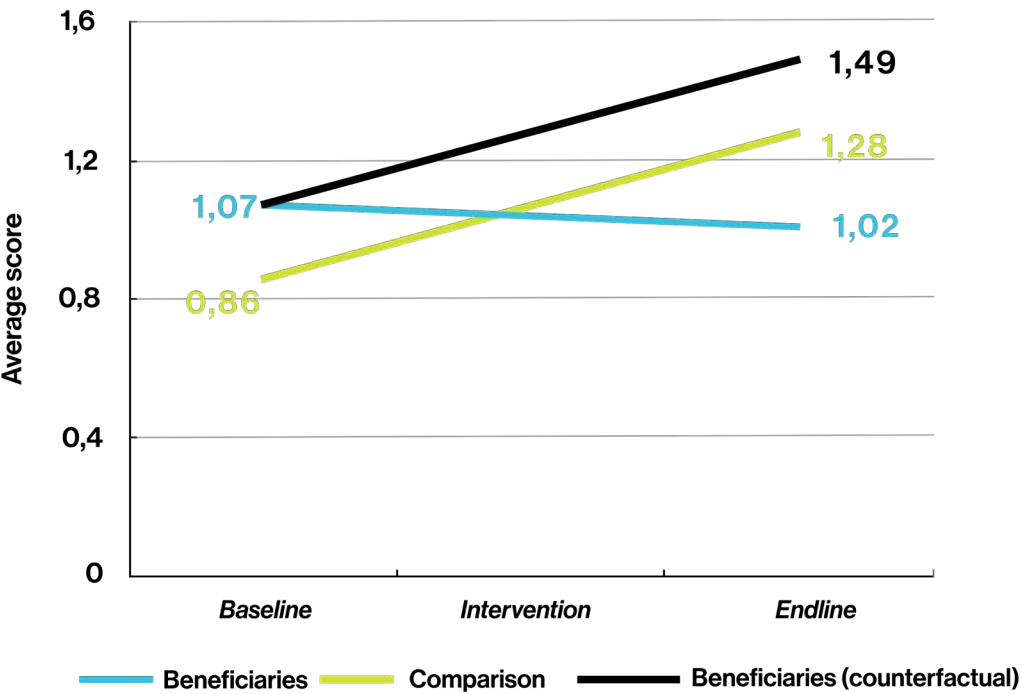
The interviewees’ testimonies align with the quantitative evidence, as the flu is mentioned more frequently and with greater emphasis. People say they get sick less often with this respiratory illness because they no longer have to bathe in cold drafts or go outside. Now, they have a bathroom where they can close the doors and windows and use hot water in the winter.

Salvador González, a beneficiary of the Cheers to Water Campaign, in the Roberto Carlos community, Luque.

Throughout the evaluation period, there were clear differences in trends between the beneficiary and comparison groups regarding the need for health care and/or the purchase of medication.

From the baseline to the exit point, beneficiary households showed a reduction in the need for health care, falling from 1.07 to 1.02 points. This equates to an approximate 5% decrease. In contrast, comparison group households showed the opposite trend. During the same period, their score increased from 0.86 to 1.28, a nearly 49% increase.

Chart 7. Level of health care and/or purchase of necessary medication in the past month for the beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



Rufina, a beneficiary of the Cheers to Water Campaign, in the Roberto Carlos community, Luque.

Comparing the two groups shows that the beneficiary group reduced its need for health care by 0.47 points, thanks to having adequate bathrooms, equating to a 53.51% reduction.

This difference is statistically significant at the 5% level, which reinforces the idea that improved sanitation reduces the need for health care. Comparing impact results across disease types, in terms of percentage variation and statistical differences, reveals that improved sanitation in homes has a greater impact on reducing the health care needed to treat illnesses related to inadequate sanitation than on preventing their onset. The qualitative data reinforce this finding. Although improvements in health are highlighted with great emphasis and consistency among beneficiaries, associated medical expenses are mentioned more frequently and in more sections.

It is worth noting that although the term “urinary tract infection” does not appear verbatim, interviewees emphasize that having a safe, private bathroom enables women and adolescent girls to manage their menstrual hygiene with dignity and reduces the risk of other infections.

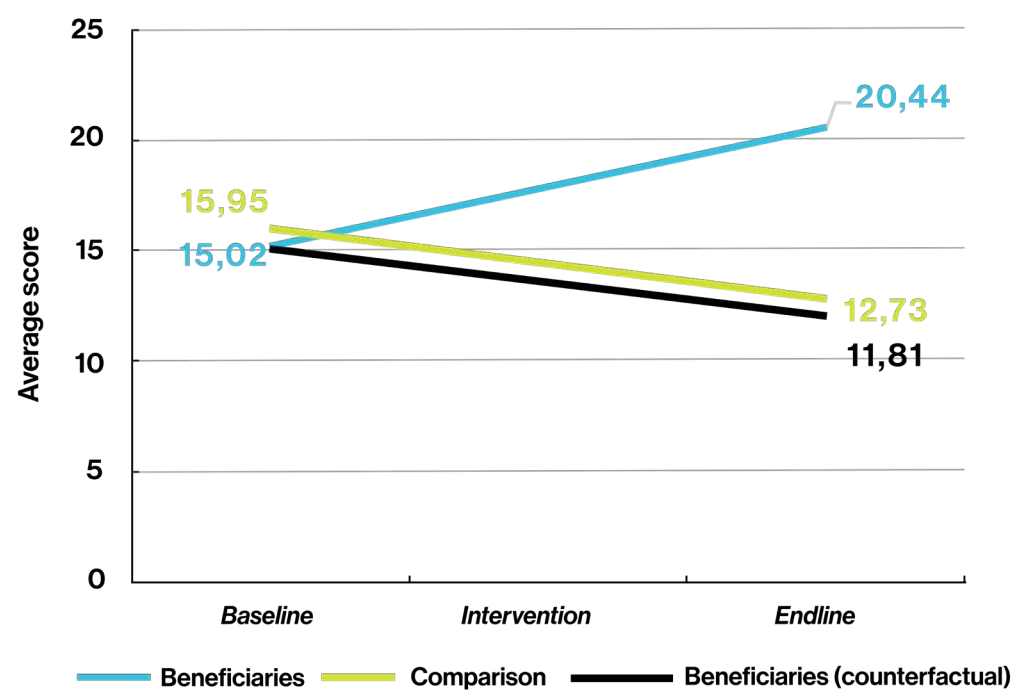
Emotional well-being

The assessment uses three indicators to measure emotional well-being. First, it measures the level of perceived safety that women household heads feel about their bathrooms, including the sense of protection, privacy, and security they experience when using them. This indicator incorporates aspects related to the bathroom's structural soundness, including locking mechanisms, lighting, and privacy, which are elements particularly relevant for women, girls, and adolescents. This assessment allows us to estimate the extent to which bathroom improvements are associated with a safer user experience in daily life. Second, it measures satisfaction with the home, a category within the qualitative indicator "Relevance of Construction Interventions" developed by Habitat for Humanity LAC. This indicator is defined as the level of satisfaction with the home regarding aspects such as spatial needs, materials, costs, safety, and other factors. Third, self-esteem is measured using the Rosenberg Self-Esteem Scale, a standardized instrument consisting of 10 statements that assesses overall self-esteem, defined as a relatively stable perception of personal worth. Due to the scale's structural nature, observed changes should be interpreted as gradual, cumulative variations rather than abrupt transformations of self-image.

The results regarding perceived bathroom safety clearly differentiate the beneficiary group from the comparison group. From the baseline to the endline, beneficiary households experienced a 36.1% increase in perceived bathroom safety. In contrast, the comparison group showed a 20.2% decrease during the same period, suggesting a progressive deterioration of safety conditions in settings where structural improvements were not implemented.

The magnitude of this change is reflected in the impact results, which show a +8.63 point increase, or a 56.27% increase, in perceived bathroom safety in beneficiary households. This outcome indicates a highly significant statistical difference at the 1% level.

Chart 8. Level of perceived bathroom safety among beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



This increase indicates that beneficiaries feel considerably safer using the new bathroom than they would have in its absence.

In practice, this finding implies a reduction in situations of fear, exposure, or discomfort associated with using substandard facilities, especially at night or when the bathroom is shared. This outcome is supported by interview accounts, in which people describe tangible changes in how they use and inhabit the new bathroom.

The bathroom improvements appear to be associated with greater peace of mind during use, especially at night, as well as a clearer sense of privacy and security within the home.

"It used to be scary to use the bathroom at night, but not anymore."

"Now you can close the door properly. There's more privacy."

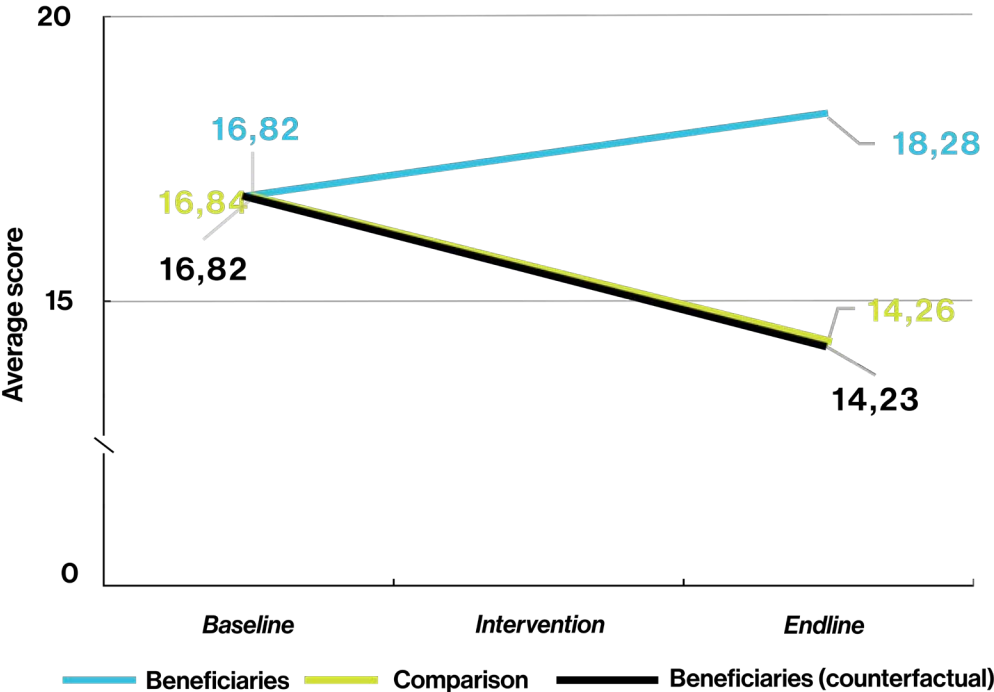
These accounts suggest that perceived bathroom safety is not solely explained by the physical improvements to the space, but also by how these improvements reshape people's daily relationships with their domestic environment. This reshaping strengthens the sense of protection and control, especially for women, girls, and adolescents. This is especially significant when contrasted with accounts from the comparison group. For example, many families in this group said they avoid using the bathroom at night or in the rain for fear of accidents or simply because it is impractical. Some wait until the weather clears, while others resort to emergency solutions, such as using buckets inside the house.

Aitana, daughter of a Cheers to Water Campaign beneficiary, in the Roberto Carlos community, Luque.



Regarding housing satisfaction, the results clearly show distinct trends between the beneficiary and comparison groups. From the baseline to the endline, the beneficiary group's average level of housing satisfaction increased, while the comparison group's decreased. This suggests that perceptions of housing deteriorated in the absence of improvement interventions.

Chart 9. Level of housing satisfaction among beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



The difference-in-differences result shows a 4.04-point increase on the satisfaction scale, representing a 24% relative improvement in the beneficiary group compared to the comparison group. There is a highly significant statistical difference at the 1% level, although both groups are at the median level for this indicator.

In practical terms, this means that, by the end of the measurement period, beneficiary families achieved a significantly higher level of housing satisfaction than they would have without the intervention. Upon in-depth analysis of the variables comprising this indicator, the most significant improvement was observed in satisfaction with the amount of water reaching the home. One of the most critical bathroom improvement projects was installing running water to directly supply the shower, sink, and toilet.

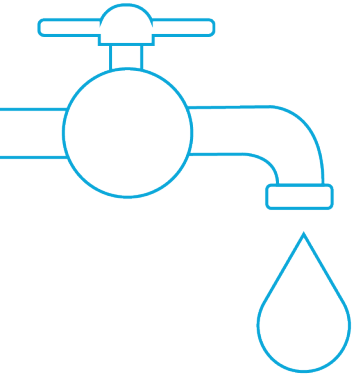
Bathroom presentation event for the Cheers to Water Campaign in the Roberto Carlos community.



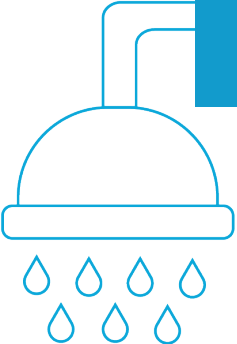
“Now, we don’t need a water barrel anymore. Before, we had to collect water, even just to flush the toilet.”

Beneficiaries note that the bathroom improvement influences their overall evaluation of their home, bringing a sense of greater dignity, comfort, and completeness.

“Now the house doesn’t feel incomplete anymore. It’s much better.”



“It used to be embarrassing. Now, we feel more at ease in our home.”



The testimonials suggest that satisfaction with housing cannot be explained by a specific physical change alone, but rather by how that change reshapes the day-to-day experience of home. For the comparison group, housing satisfaction is replaced by tacit resignation, as expressed in statements such as the following:

“The bathroom I have is not that precarious, but at the same time it is, because it doesn’t have a door, just a curtain, and we live in only one room. It’s not very comfortable, but we manage.”

“Normal... it just needs a door and things like that.”

“I always go to my son’s house, but sometimes I don’t want to bother them too much. But what can I do? I still don’t have a bathroom.”

“And even now, I’m okay with it, because it’s what we have, what we can afford.”

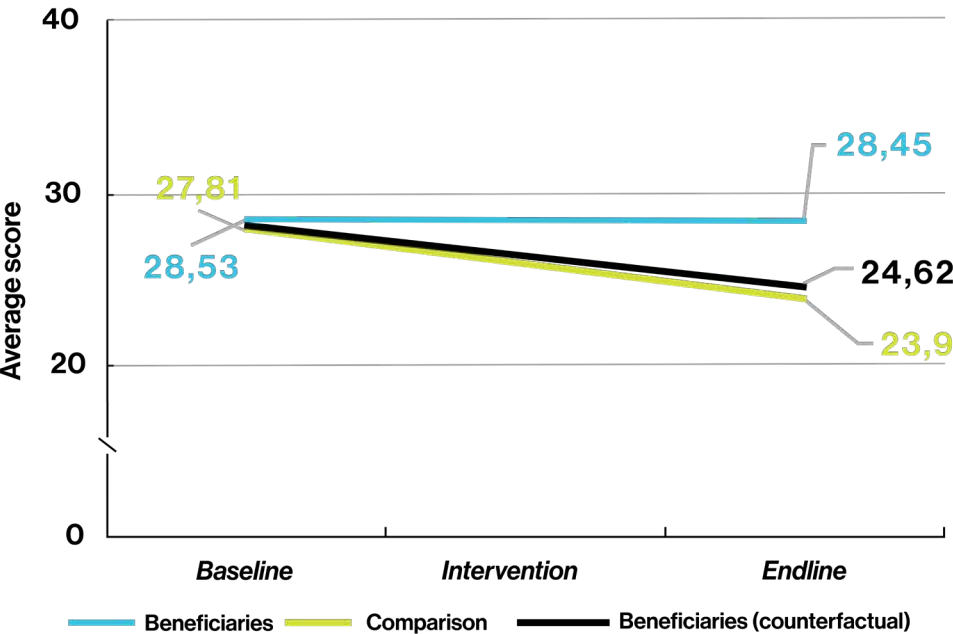
All of these statements suggest that after years of deprivation, some people have normalized this condition as part of their reality.

Overall, the quantitative and qualitative results indicate that the intervention led to a more positive assessment of the home as a living space, which is consistent with the project’s theory of change.

The results on self-esteem show a positive impact, with a highly significant statistical difference at the 1% level between the beneficiary and comparison groups. Calculating the difference-in-differences yields a result of +3.83 points in favor of the beneficiary group relative to the counterfactual scenario.

This effect is not due to an absolute increase in self-esteem among beneficiary households, whose average score remained virtually stable between the baseline and post-intervention periods. Rather, it is due to the intervention’s ability to prevent the sharp decline in self-esteem observed in the comparison group.

Chart 10. Level of self-esteem among beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.

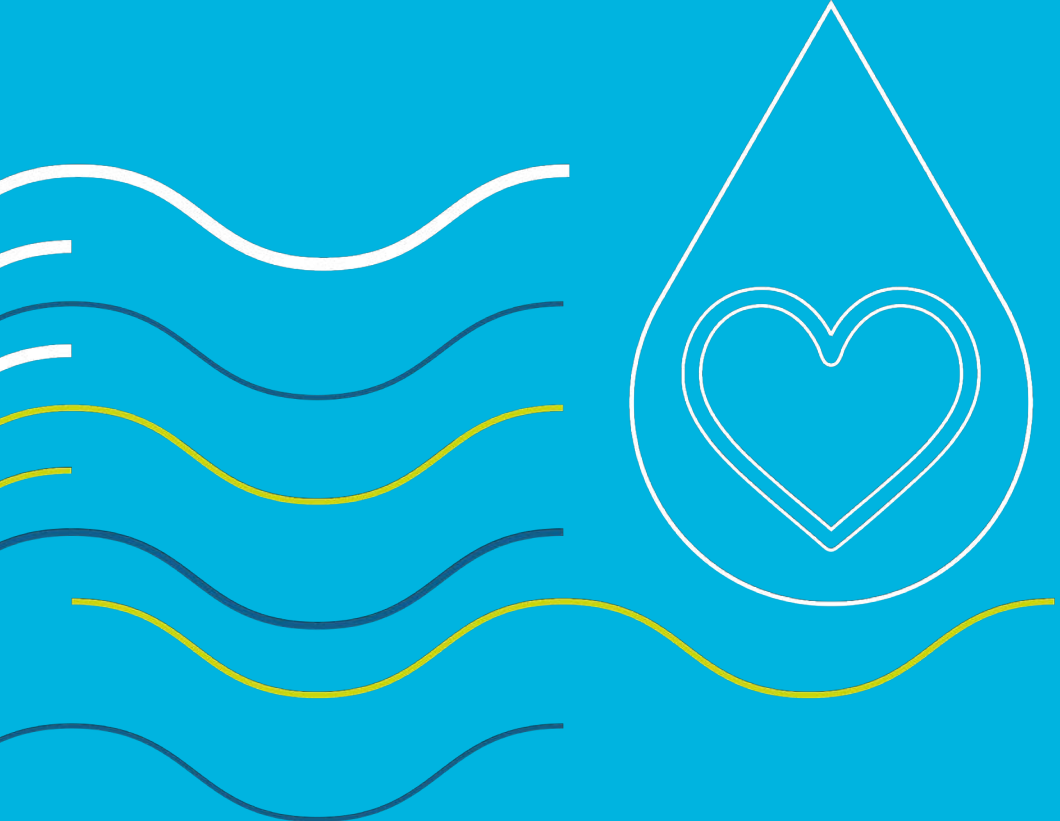


While the average self-esteem score of non-beneficiaries decreased by nearly 4 points, beneficiary households maintained their self-esteem levels, avoiding a relative loss of 14.06% compared to the initial value.

The significance of this finding is reinforced by qualitative accounts in which beneficiaries directly link bathroom improvements to feelings of dignity, peace of mind, and greater self-worth. The interviews reflect how access to an adequate bathroom affects self-image and how people relate to others:

“Before, I was embarrassed. Now, I feel better about my home and am more confident.”

“Now, I don’t feel inferior when someone comes over. I no longer have to hide anything.”



Testimonials like these suggest that the bathroom plays a significant symbolic role in building self-esteem by reducing stigmatizing experiences and reinforcing a sense of normality and belonging. The impact observed on the Rosenberg Scale reflects a functional improvement in the bathroom space and a shift in how people view themselves and their surroundings.

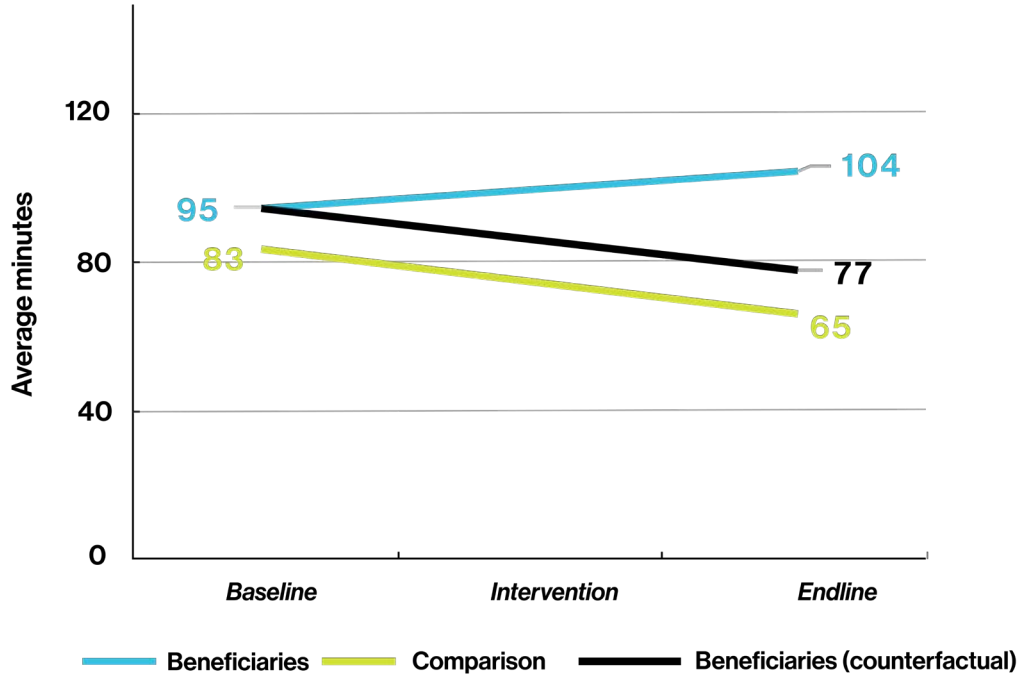
The final aspect related to emotional well-being is time spent cleaning, practicing personal hygiene, and caring for dependent individuals. This constitutes a central dimension of household well-being, especially in vulnerable contexts where domestic and caregiving tasks tend to be concentrated among a few people. These tasks directly compete with rest, paid work, and other productive or educational activities.

Sanitation conditions directly affect this time organization, either by requiring additional cleaning, maintenance, or care for sick individuals, or by creating situations of disorder and daily overload. Originally, in the theory of change, this indicator was placed within the economic development dimension because the expected change was linked to the possibility that time spent on maintenance, hygiene, and personal and dependent care activities would decrease thanks to an adequate bathroom. This time could then be invested in income-generating activities.

On average, time spent cleaning, practicing personal hygiene, and caring for dependent individuals increased from 95 to 104 minutes per day, for a total of 9 additional minutes per day devoted to these tasks. In relative terms, this increase amounts to approximately 10% more time per day than the initial level.

In contrast, the comparison group shows the opposite trend. Over the same period, the average time spent on these activities dropped from 83 to 65 minutes per day—equivalent to a reduction of 18 minutes, or nearly 22%.

Chart 11. Average minutes spent on cleaning, personal hygiene, and caregiving for dependent individuals in beneficiary and comparison group households, before and after the intervention, and the counterfactual calculation.



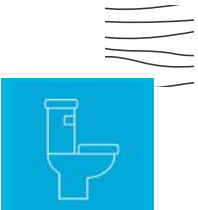
The impact, calculated as the difference-in-differences, summarizes this divergence in trajectories as an increase of 26.82 minutes per day for beneficiary households. This difference from the comparison group is statistically significant at the 5% level. This means that, on average, families who received the intervention spend nearly half an hour more per day organizing and performing care and domestic activities than they would have without the project. Breaking down time spent by activity type reveals that the largest increase is in bathroom cleaning, while time spent on personal hygiene decreases.

The overall increase in time is directly related to awareness-raising and training activities on home maintenance and hygiene, improved bathroom safety, and increased housing satisfaction and self-esteem. Qualitative accounts identify bathroom cleaning and care as a consequence of having an improved space, or even a bathroom. Time is not perceived as a loss, but rather as an increase in dignity. However, time-use results show that, between the baseline and exit surveys, beneficiary households increased their daily time spent on caregiving and domestic activities. Testimonials link time spent cleaning and on personal hygiene to feelings of “happiness,” “pride,” and “a dream come true.” It is not described as a financial burden, but rather as an activity that “lifts the spirits.” Beneficiaries describe how much easier it is to clean and maintain hygiene now with washable surfaces, proper drainage, and a water supply, which allow for more efficient routines. Some mothers report cleaning the bathroom “almost every day” with disinfectants, demonstrating the adoption of good practices.



Sabrina photographs the bathroom installation.

“Now we can bathe under the shower; we no longer have to go out to the patio. Even the kids can bathe on their own, and everything is fine.”



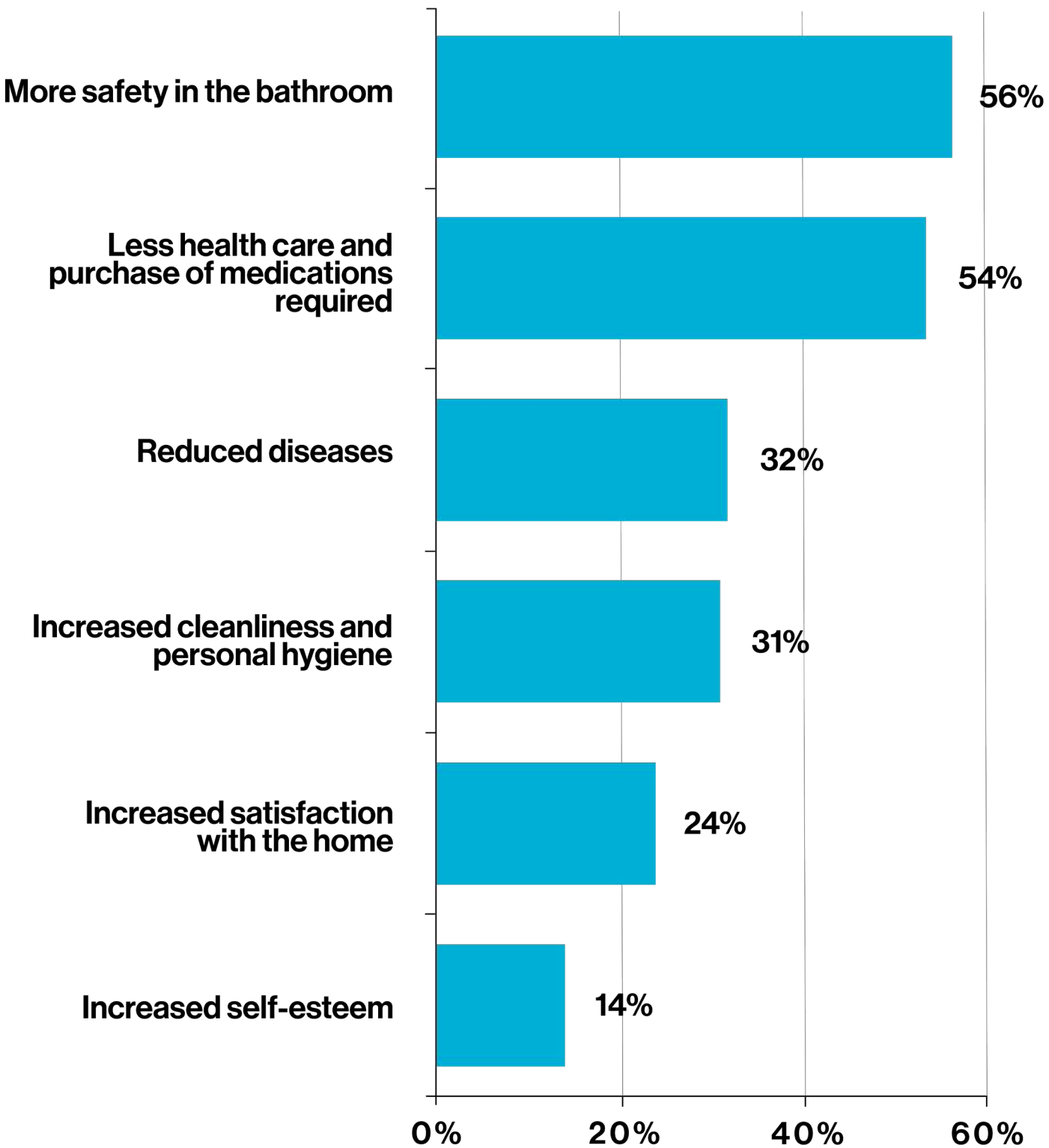
Summary of results for the health and emotional well-being dimension

When analyzing the results of this dimension as a whole and ranking them by depth of impact, it is evident that improving the bathrooms' physical conditions has had a greater, more direct impact on people's perceived safety when using them. This is confirmed not only for emotional health but also for physical health. It reduces the need for medical care and medication purchases, as well as the incidence of sanitation-related diseases. The decrease in illnesses is also explained by improved bathroom conditions and the 31% increase in time spent cleaning and practicing hygiene. This increase contributes to people's health and results from the training and social interventions that accompanied the bathroom construction. Having an adequate bathroom leads to greater housing satisfaction and improved self-esteem because people find greater meaning and physical and emotional well-being in keeping it clean and well-maintained.



Delivery of materials in the Roberto Carlos community.

Chart 12. Percentage impact of health and well-being indicators.



ECONOMIC DEVELOPMENT

The economic development indicators measured were:

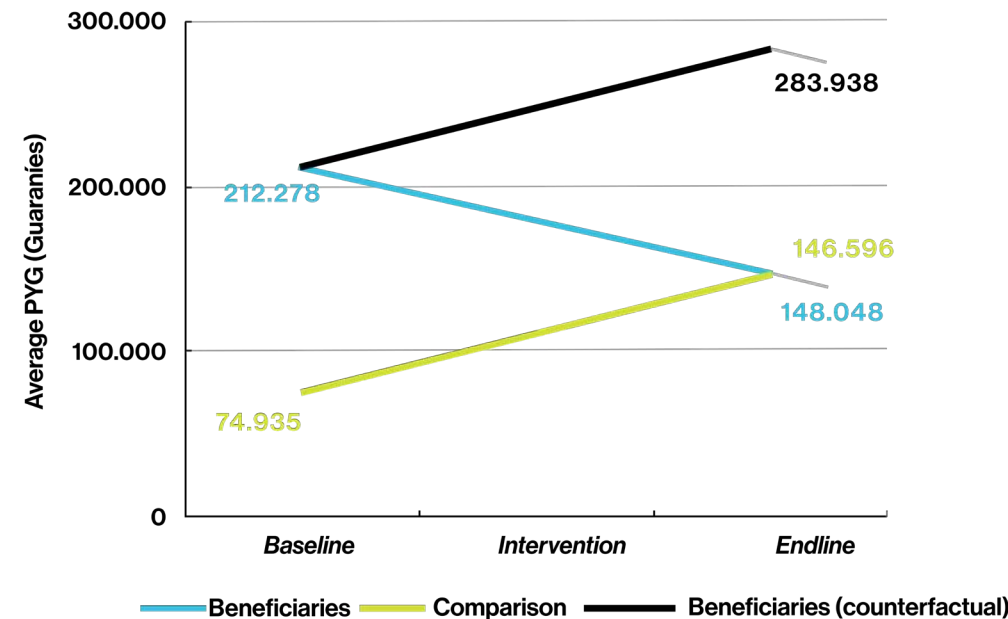
1 Health care expenses

2 Financial capital

Health care expenses

From the baseline to the endline, medical expenses in beneficiary households decreased, falling from an average of 212,278 to 148,048 guaraníes per household. In contrast, households in the comparison group experienced higher medical expenses. During the same period, their average spending doubled, rising from 74,935 to 146,596 guaraníes per household.

Chart 13. Average amount spent on health in the past month by beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



Volunteers from the Laura Maltby Brigade building a bathroom in the Roberto Carlos community, Luque.

Comparing both groups reveals that, on average, beneficiary households spend 135,891 guaraníes on health care, which is half of what they would have spent in the counterfactual scenario. This represents 8% of their average income.

This difference is highly significant at the 1% level and is consistent with the previously observed decrease in health care needs. It demonstrates the direct relationship between bathroom construction or improvement and reduced medical expenses.

In practical terms, the results show that, thanks to the intervention, there is less economic pressure associated with health care, reducing medical expenses in absolute terms before and after the intervention for beneficiaries. Bathroom improvements also help control the rise in health care expenses, as observed in households that didn't receive the intervention. For families with limited monthly incomes, avoiding an average increase of more than 130,000 guaraníes in medical expenses provides significant leeway to cover other daily and unexpected expenses. This reinforces the relationship between adequate sanitation, health, and economic stability as outlined in the project's theory of change.

Qualitatively, families express financial relief, explaining the contrast between a decrease and a significant increase in health care expenses by saying that they "no longer get sick as often" and avoid buying cold medicines and antibiotics, and that they avoid seeking care for unexpected medical emergencies that would destabilize the family's limited budget. Conversely, the comparison group reports feeling that "their health is at constant risk" due to the poor condition of their facilities, forcing them to deal with humidity, mold, and pathogens.



“Our financial situation has improved slightly since we no longer spend money on medicine. We don’t get sick anymore because we have a safe, enclosed space.”

The beneficiaries’ stable trajectory is based on a decrease in acute illness episodes, especially diarrhea and the flu, accompanied by an increase in preventive hygiene practices. This improvement is due to the installation of showers and sinks, which allow people to wash properly, as well as to the protection the built infrastructure provides against the cold and humidity of the outdoors.

These improvements demonstrate that improving bathroom facilities can prevent health deterioration, reduce the need for medical care, and alleviate the economic burden of health in beneficiary households. While non-intervention households experienced increases in disease burden, health service use, and medical expenses, beneficiary households showed more stable and favorable trajectories. These effects are consistent with the project’s theory of change and reinforce the idea that access to adequate sanitation is key to protecting households’ physical well-being and daily stability, especially in vulnerable contexts.

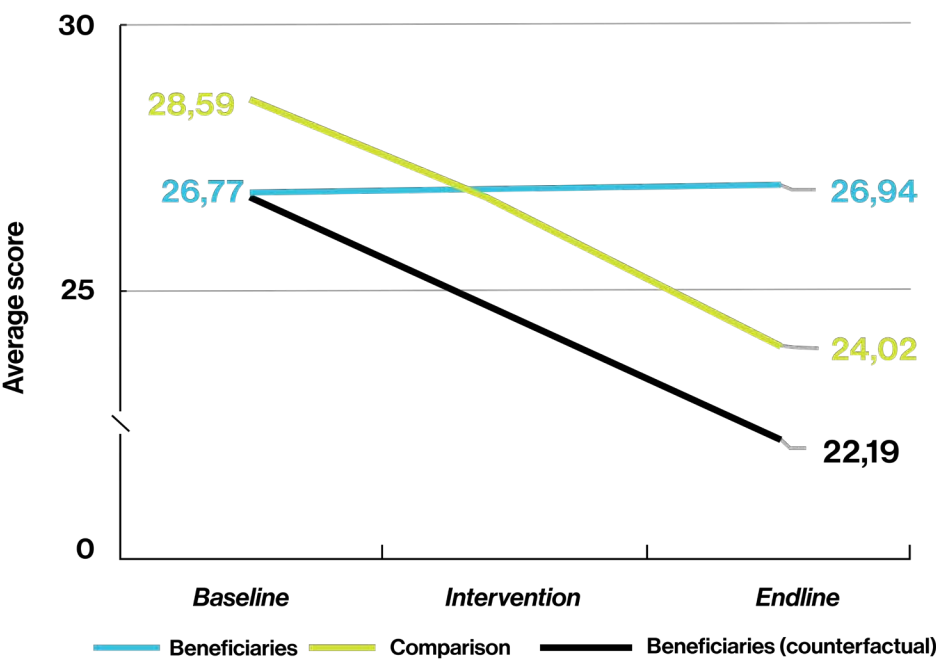
Signing the contracts for the Cheers to Water Campaign in the Roberto Carlos community.

Financial capital

The indicator used to measure financial capital was developed by HFH LAC and is defined as the level of financial resources available to support one's livelihood. The indicator is divided into two categories: a) income, expenses, savings, and investments, and b) sources of financing. The first category measures the extent to which a household's income covers basic needs, savings, and investments. The second category reflects access to financing sources such as banks, cooperatives, social assistance institutions, and other individuals.

From the baseline to the endline, beneficiary households maintained a practically stable level of financial capital, rising from 26.77 to 26.94 points (+0.17). In contrast, the comparison group showed a sharp decline, falling from 28.59 to 24.02 points.

Chart 14. Level of financial capital for the beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



Comparing the two trajectories shows that while non-beneficiary households saw their financial situations deteriorate, households that gained access to adequate bathrooms were better able to maintain their financial resources and support their livelihoods. The impact is +4.74 points in favor of beneficiary households, with a statistically significant difference at the 5% level.

This means that, by the end of the period, beneficiary households were in a 16.62% better financial situation than they would have been without the intervention.

Verónica, leader of the San Cayetano community in Luque, with her daughters Monse and Xime.



“We’re saving money now because we used to have to collect water, but not anymore.”

When this indicator is broken down by category, it’s clear that income, expenses, savings, and investments have changed the most as a result of the intervention. This impact is statistically significant, indicating a more direct relationship between the benefit and the outcome. In practical terms, beneficiary households can now better manage their expenses, have more leeway to save, and are better equipped to handle unforeseen events compared to similar households without access to an adequate bathroom.

Qualitatively, families mention other expenses alleviated by having an adequate bathroom, in addition to health care expenses, which are the most significant, as noted in the previous section.

These other expenses include those related to purchasing and managing water, which had to be stored in drums or containers since most bathrooms lacked running water connections. Other expenses mentioned include payments to use other people’s or public bathrooms.

These expenses are consistent with the improvement in the housing satisfaction indicator, where the variable that improved the most was the perception of the quantity and quality of water available in homes.

Another expense mentioned is the purchase of cleaning and hygiene supplies for the bathroom, though in two different contexts. Some people report saving on these supplies because cleaning lasts longer. Others report now spending a little more because they buy “Ayudín³,” fabric softener, and other supplies needed to keep the bathroom clean. They say it’s nice to feel good knowing the bathroom is sanitized at all times.

This latter situation is consistent with the increase in time spent on bathroom maintenance, as discussed in the previous chapter.



Rossana, leader of the Sol de Mayo community, with her daughter, Dulce.

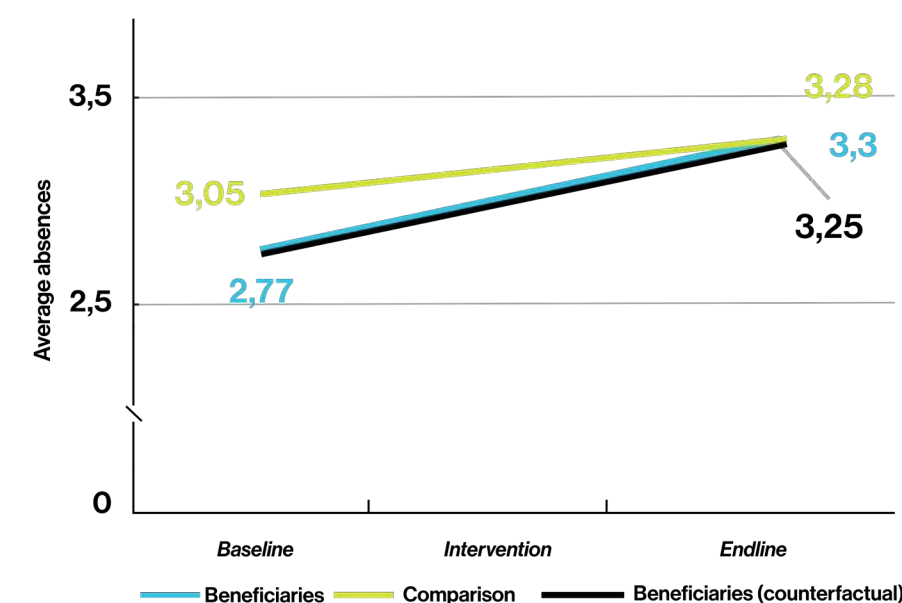
EDUCATION

Access to adequate sanitation facilities can indirectly impact the educational trajectory of children and adolescents by improving health, hygiene, and daily household routines. In vulnerable urban areas, school absences are often associated with illness, difficulty with personal care, and practical barriers to regular attendance. Improving bathroom facilities could help create more favorable conditions for school attendance in this context, although the effects are expected to be indirect and varied.

To analyze the educational dimension quantitatively, the school absenteeism indicator is used, which measures the number of times children and adolescents missed school in the month prior to the survey, both at the baseline and at the post-intervention assessment. The same time frame is used for both time points, enabling a comparison of the situation before and after the intervention.

The results show that school absenteeism increased in both beneficiary households and the comparison group between the baseline and post-intervention periods.

Chart 15. Average number of school absences in the past month for children under 12 in the beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



The beneficiary group increased from an average of 2.77 days to 3.30 days in the last month, while the comparison group increased from 3.05 days to 3.25 days over the same period. Calculating the difference-in-differences shows that the beneficiary group increased by an average of 0.30 days relative to the comparison group, though the difference is not statistically significant. Of all the statistical difference calculations, the relationship between school absences and bathrooms is the weakest and most indirect.

Therefore, in quantitative terms, using this measurement method (self-report and DiD), the impact of a bathroom on school absenteeism among children under 12 is marginal and cannot be attributed to the intervention. However, qualitative information provides interesting data for further analysis.

“My children no longer rush to take a bath before going to school. We no longer have to heat water for them to bathe in the tub—now they bathe directly in the hot water from the shower.”

On the one hand, the interviewees state that the relationship between bathrooms and school absences is generally the least direct compared to those related to health, well-being, and household economy. This reinforces the theory-of-change framework. On the other hand, although the relationship is indirect, people note that an adequate bathroom supports daily hygiene routines and time management. It allows children to go to school clean, comfortably, efficiently, and easily, especially in the winter, when they used to have to heat water for bathing. If it rained and the bathroom was outside, sometimes the children went without bathing or arrived late. With the improved bathrooms, this problem practically disappeared.

SOCIAL CAPITAL

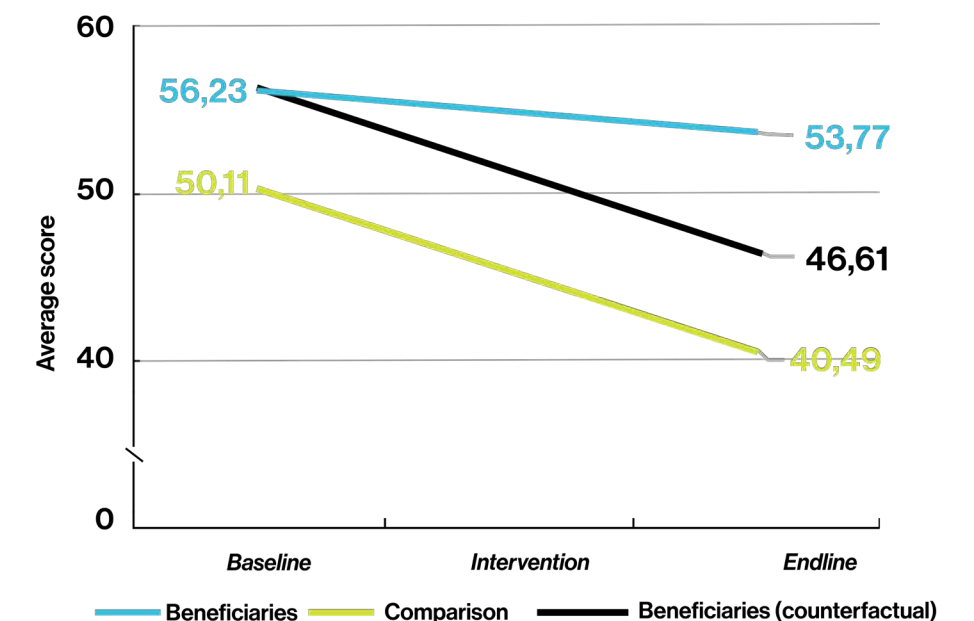
Social capital is an indicator developed by HFH LAC and refers to the level of social resources (trusted relationships, group membership, networks, access to institutions) available to support livelihoods. In contexts of urban vulnerability, social capital plays a key role in addressing daily challenges, managing demands, strengthening community participation, and facilitating connections with external actors, such as public institutions and social organizations.

The indicator consists of three categories. The first category is community organization, which is defined as the qualities and conditions (spaces and tools) that enable community management. The second category is networks of trust and collaboration, defined as the levels of reciprocity and exchange that facilitate cooperation and promote well-being through joint efforts. The third category, external networks and connections, refers to the level of relationship and network building with local governments, NGOs, and individuals outside the community.

The project is not conceived solely as a physical intervention, but rather as a process that can impact community life. It can reduce tensions associated with housing insecurity, strengthen families' self-esteem, and create more favorable conditions for participation and collective organization. This is especially true, as the project incorporated a social support strategy that promoted active participation by families and community leaders in designing and implementing the bathroom improvements. This support included training sessions on bathroom hygiene and maintenance, opportunities to raise awareness and engage in dialogue, and technical and social follow-up during and after construction was completed. Together, these actions strengthened practices of care, shared responsibility, and community organization beyond the physical improvement of the infrastructure. In this sense, social capital is a strategic dimension for analyzing whether the intervention strengthens community capacities beyond individual households.

The evaluation results show that, between the baseline and endline measurements, the beneficiary group went from an average of 56.23 points to 53.77 points, while the comparison group went from 50.11 points to 40.49 points.

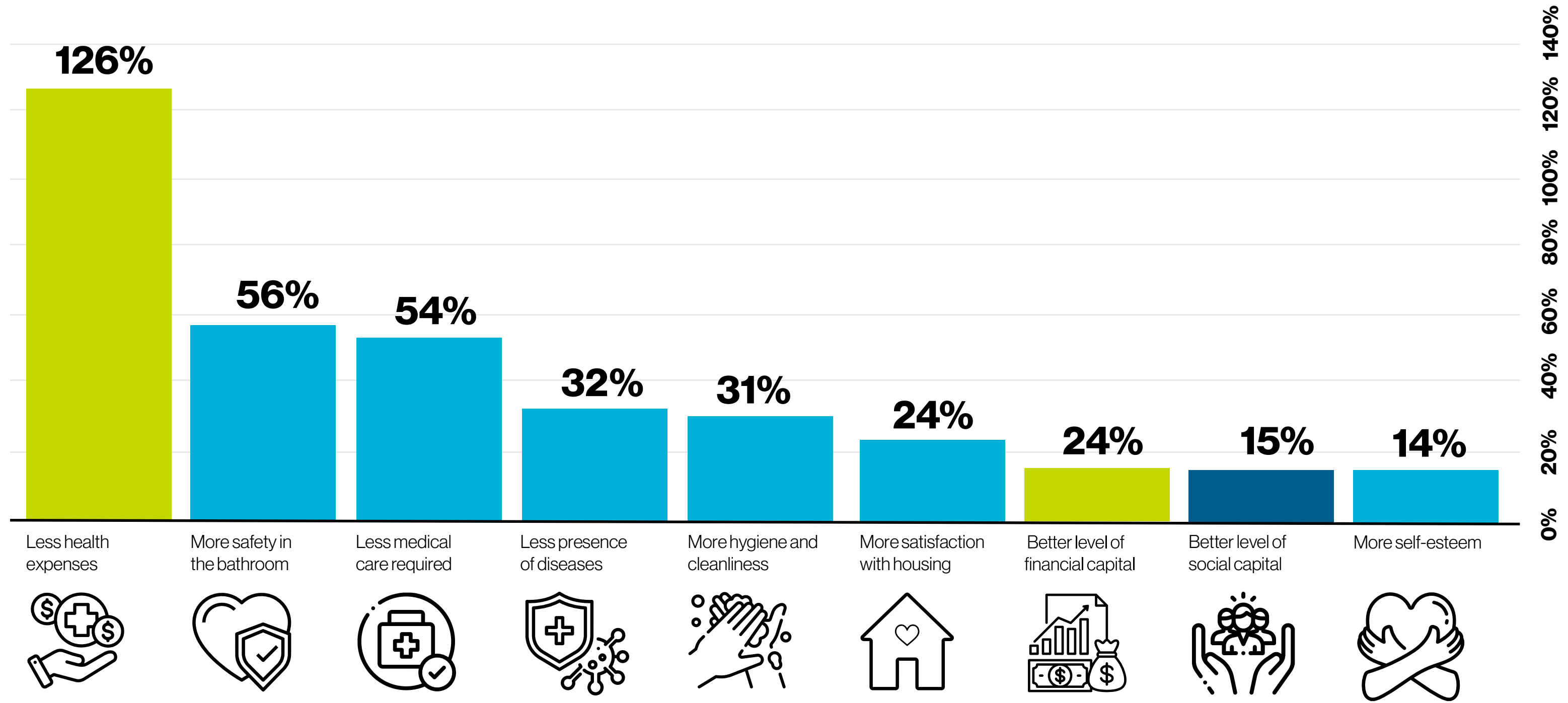
Chart 16. Level of social capital in the beneficiary and comparison groups, before and after the intervention, and the counterfactual calculation.



Thus, the difference-in-differences calculation indicates an impact of 7.16 points, or 14.82%, with a highly significant difference at the 1% level. Both groups remain within the average range for this indicator.

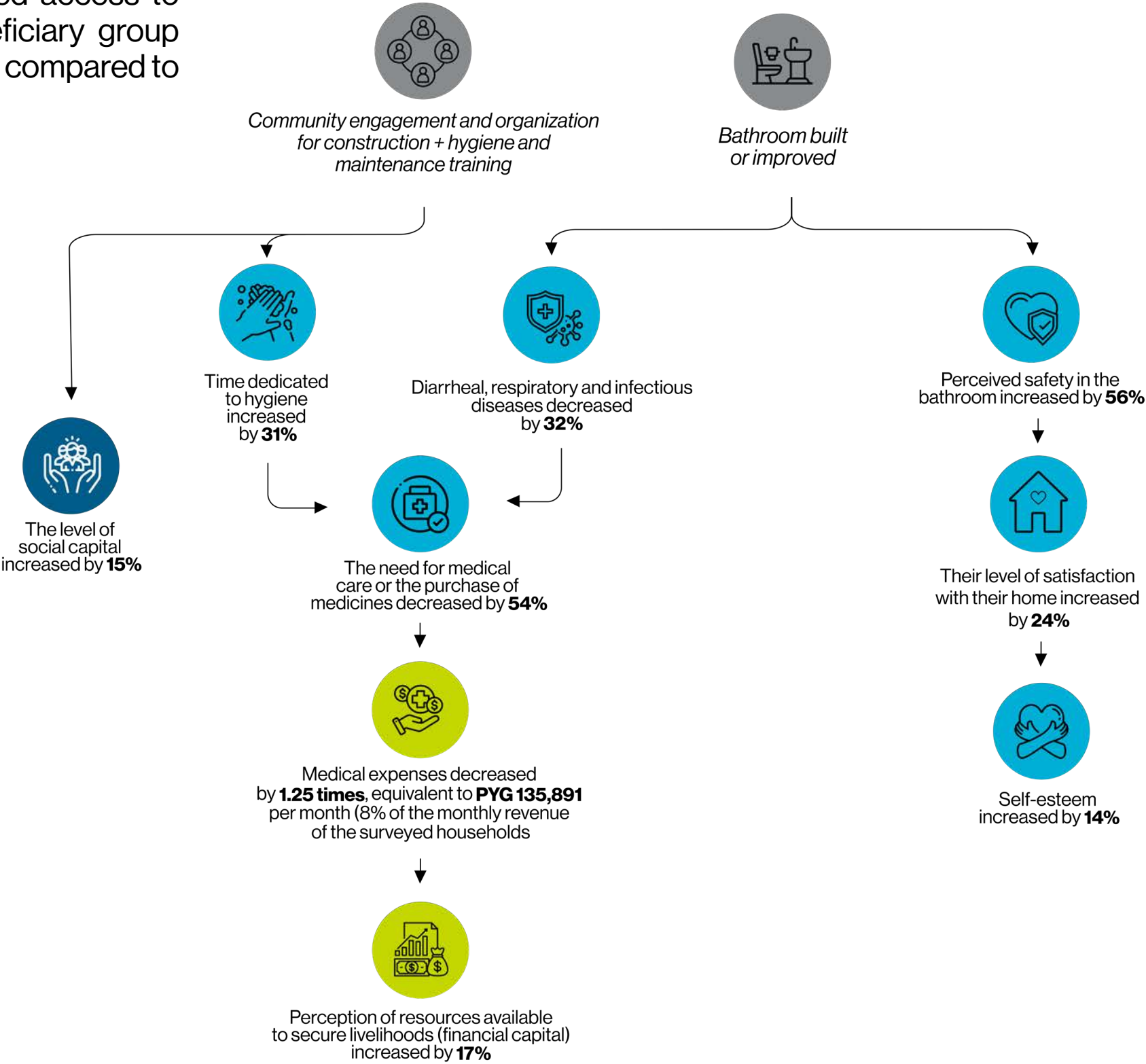
Breaking down the results by category shows that the community organization was most impacted by the intervention, followed by networks of trust and collaboration. However, external networks and connections do not show a direct relationship with the intervention in terms of results.

Figure 4. Summary of results ordered by percentage of impact



Thanks to a participatory strategy and capacity-building efforts that provided access to adequate bathrooms, the beneficiary group demonstrated these differences compared to the comparison group.

Figure 5. Summary of the relationship between the impact results obtained in different areas



References

- Health and well being
- Economic development
- Social capital



Conclusions

The impact evaluation of the Cheers to Water Campaign 2024–2025 confirms that access to adequate bathrooms and sanitation is a catalyst for multidimensional well-being, not merely an improvement in infrastructure. Using the difference-in-differences (DiD) methodology, the study demonstrated that the intervention protected families from declines in quality of life and achieved statistically significant improvements in health, economic status, and social capital.

Physical health, emotional well-being, and hygiene habits: from insecurity to dignity

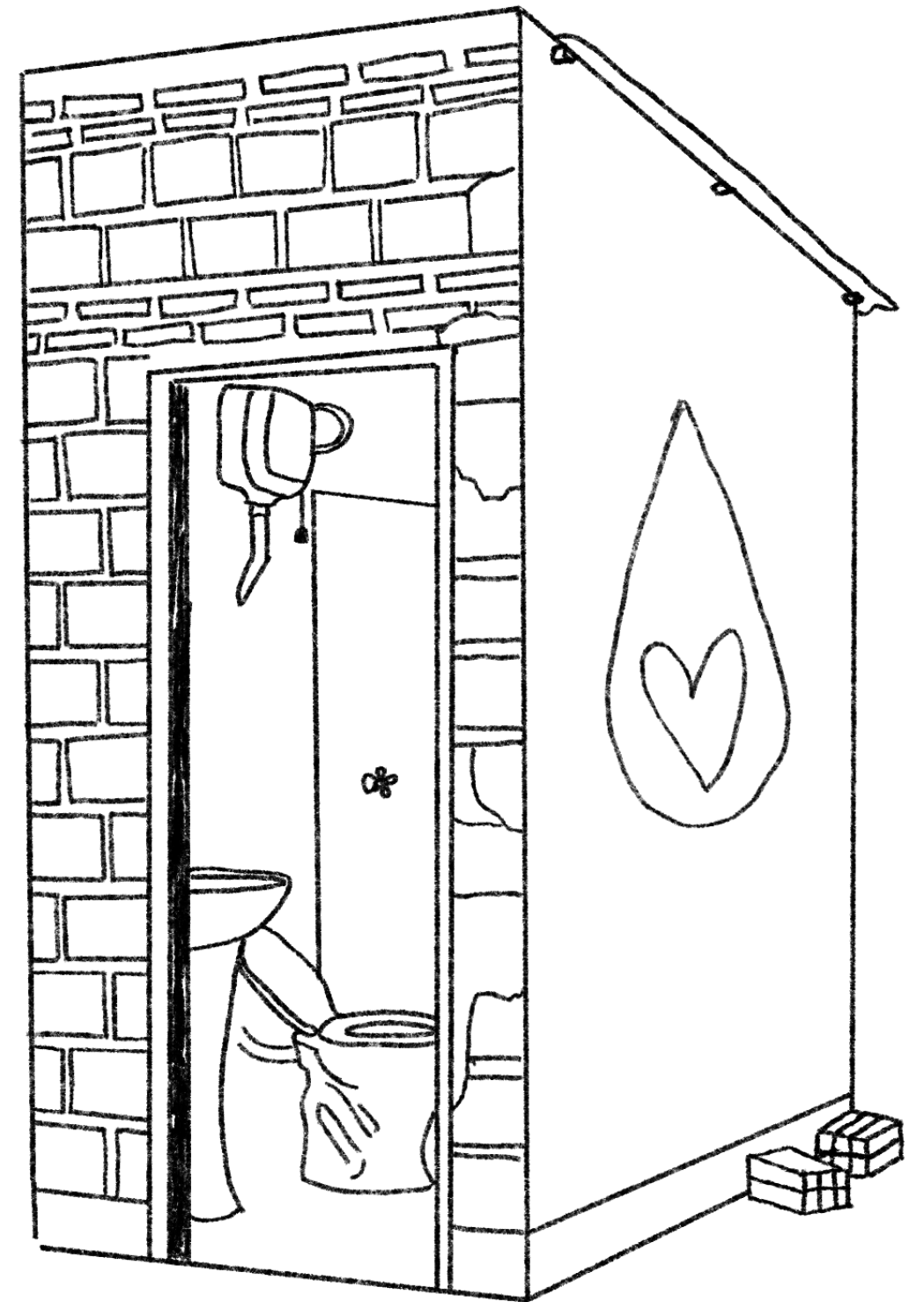
The intervention broke the cycle of illnesses linked to exposure to the elements and poor hygiene.

- **Direct health impact:** The incidence of illnesses (respiratory, gastrointestinal, and infectious) decreased by 31.97%, compared to the group that had not yet received the benefit. A critical finding was a 53.51% reduction in the need for health care and medication purchases, confirming that adequate bathrooms are a highly effective preventive health measure.
- **Safety and privacy:** The 56.27% increase in perceived bathroom safety is one of the most powerful results. Having an adequate bathroom eliminates “nighttime fear” and the need for emergency solutions, such as buckets, thereby restoring women’s, adolescents’, and girls’ rights to privacy and physical safety.

- **Protection of self-esteem:** The intervention acted as a psychological shield. While the comparison group experienced a decline in self-esteem, the beneficiaries maintained theirs. They associated their new bathrooms with feelings of “pride” and “a dream come true.”

An unexpected finding—as it differed from the predicted outcome in the project’s theory of change yet was equally positive—was a 26.82-minute-per-day increase in cleaning and personal hygiene in beneficiary households.

- **Hygiene practices:** This additional time is not perceived as a burden, but rather as an increase in dignity and well-being. The increase in bathroom cleaning time directly demonstrates the internalization of the hygiene practices promoted by the project’s social component and the desire to maintain a valued family asset.
- **Facilitation of routines:** The installation of running water and showers has simplified household logistics and eliminated the need to heat water or bathe outdoors, particularly helping with children’s routines.



Economic development: stability and savings

The economic impact is evident not in increased income, but in reduced avoidable expenses and in optimized existing resources.

- **Financial relief:** Beneficiary families save an average of PYG 135,891 per month in health care costs, representing 8% of their average monthly income. This margin allows them to reallocate resources to cover other basic needs.
- **Financial capital management:** The financial capital indicator improved by 16.62%. Eliminating indirect expenses (e.g., buying water in drums or paying to use public bathrooms) makes households more resilient in the face of unforeseen events.

Education: an indirect but necessary link

In quantitative terms, school absenteeism did not change exclusively due to bathroom access. However, qualitative evidence suggests that bathroom access improves children's willingness to attend classes. Easier morning hygiene practices and reduced winter respiratory illnesses are factors that promote long-term educational continuity.

Social capital and community strengthening

Habitat for Humanity Paraguay's participatory methodology transformed an individual need into a collective achievement.

- **Community organization:** A 14.82% impact was recorded in social capital. The intervention strengthened trust among neighbors and their capacity for collective leadership, showing that housing improvement projects are effective platforms for sustainable community development.

Delivery of works to beneficiary families in the Divino Niño Jesús community.



Based on the above, the 2024–2025 Salud al Agua campaign has fulfilled its theory of change. By providing adequate sanitation solutions, accompanied by a social process, the economic and health vulnerabilities of families in Luque have been reduced, allowing them to inhabit their homes with greater security and resilience.

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Appendix 1

Definition of quantitative indicators and their key variables

Health and emotional well-being

Indicator	Category	Variables
Presence of illnesses in the household: The average number of people who reported having respiratory, gastrointestinal, diarrheal, or urinary tract illnesses in the past month.	Diarrheal illnesses	How many household members had diarrhea in the past month?
		Were any of these members children under the age of 5?
	Gastrointestinal illnesses	How many household members had severe stomach pain or vomiting in the past month?
	Urinary tract infections	How many household members had urinary tract infections in the past month?
		Were any of these members children under the age of 5?
Health care and/or purchase of medication: Average amount spent on health care for respiratory, gastrointestinal, and diarrheal illnesses, as well as urinary tract infections in the past month.	Respiratory illnesses	How many household members had a respiratory illness such as asthma, bronchitis, sinusitis, pharyngitis, pneumonia, or allergies in the past month?
	Health care and medication expenses for diarrheal illnesses	Did anyone go to the doctor or buy medication to treat a household member with diarrhea?
		How much money approximately was spent on the doctor or buying medication for diarrhea?
	Health care and medication expenses for gastrointestinal diseases	Did anyone go to the doctor or buy medication to treat a household member with gastrointestinal diseases?
		How much money approximately was spent on the doctor or buying medications for gastrointestinal diseases?
	Health care and medication expenses for urinary tract infections	Did anyone go to the doctor or buy medication to treat a household member with a urinary tract infection?
		How much money approximately was spent on the doctor or buying medication for urinary tract infections?
Bathroom safety: The level of bathroom safety is measured based on six statements, where the lowest score is 1 (Strongly disagree) and the highest score is 5 (Strongly agree).	Health care and medication expenses for respiratory illnesses	Did anyone go to the doctor or buy medication to treat a household member with a respiratory illness, such as asthma, bronchitis, sinusitis, pharyngitis, pneumonia, or allergies?
		How much money approximately was spent on the doctor or buying medication for asthma, bronchitis, sinusitis, pharyngitis, pneumonia, or allergies?
	6 statements	The bathroom I use gives me the privacy I need to feel comfortable.
		The bathroom I use has good lighting.
		The location of the bathroom I use makes me feel safe and at ease.
		The bathroom I use is clean.
		The bathroom I use is easy to access.
		The bathroom I use has soap and toilet paper.

Indicator	Category	Variables
Relevance of construction interventions in the community: The extent to which community members are satisfied with the construction interventions, the technical advice provided, and the quality of the community's services and infrastructure. Also relevant is how the work has strengthened local skills in managing construction processes and improving the community or neighborhood.	Satisfaction with housing: Rating of the level of housing satisfaction regarding aspects related to spatial needs, materials, costs, safety, and others.	What is your level of satisfaction with the bathroom in your home or the bathroom you use?
		The size of your home meets your household's spatial needs.
		You are satisfied with the cost of construction or improvements in your home.
		Your home has been built with good-quality materials.
		You are satisfied with the amount of water you have in your home.
		You are satisfied with the distance to the water source for your household's consumption needs.
		Your home is beautiful.
		Your home is protected against burglary.
Level of Self-Esteem: The Rosenberg Self-Esteem Scale is a standardized instrument consisting of ten statements that assess overall self-esteem, which is understood as a relatively stable perception of personal worth.	10 statements	You feel that you are a person worthy of appreciation, at least as much as others.
		You are convinced that you have good qualities.
		You are capable of doing things as well as most people.
		You have a positive attitude toward yourself.
		Overall, you are satisfied with yourself.
		You feel that you don't have much to be proud of.
		Overall, you tend to think of yourself as a failure.
		You would like to feel more self-respect.
		Sometimes, you really think you're useless.
		Sometimes, you think you are not a good person.
Time dedicated to cleaning and hygiene tasks: Time spent by the adult female head of household on personal hygiene, the hygiene of those in her care, and cleaning the bathroom.	4 questions	Approximately how many minutes per day do you spend cleaning the bathroom?
		How many minutes per day do you spend bathing or grooming?
		Are there people in the household who need your help with bathing or grooming?
		How many minutes per day do you spend bathing or grooming those who need your help?

Financial capital

Indicator	Category	Variables
Livelihoods - Financial capital: The level of financial resources available to support livelihoods.	Income, expenses, savings, and investments: How much of the household income received is used to cover basic needs, and to facilitate savings and investments.	The household income is sufficient to purchase basic food items.
		The household income is sufficient to cover clothing needs.
		The household income is sufficient to cover education costs.
		The household income is sufficient to pay for electricity and water.
		The household income is sufficient to pay for a telephone.
		The household income is sufficient to get by.
		Household members who are able to work have stable employment.
		The household income is sufficient to allow for savings.
		The household income is sufficient to pay rent or a mortgage.
		The household income would be sufficient to invest in buying a home.
		The household income would be sufficient to invest in home maintenance.
		The household income would be sufficient to invest in buying land.
	Financing sources: Access to financing sources such as banks, credit unions, social welfare institutions, other people, etc.	Your household has access to loans from banks, credit unions, mutual aid societies, etc.
		Your household has access to loans from social welfare institutions.
		Your household has access to loans from private individuals.

Education

Indicator	Category	Variables
School absenteeism level: School absenteeism is measured by counting the number of days a child was absent during the month before each data collection.	2 questions	How many children or adolescents who attend primary or high school live in this household?
		How many times did (name) miss school in the past month?

Social capital

Indicator	Category	Variables
Livelihoods - Social capital: The level of social resources (e.g., trusted relationships, group membership, networks, and access to institutions) available for securing livelihoods.	Community organization: Qualities and conditions (spaces and tools) that enable community-based management.	We can make community decisions together.
		We have places to meet in the community.
		In the community, we dedicate the necessary time to organize ourselves.
		There are people in the community who know how to organize community activities.
		In the community, we strive for people to learn how to organize themselves.
		In the community, we have defined action plans or projects.
		In the community, we have decided how we want to organize ourselves.
		In the community, we work with organizations or institutions to increase our opportunities.
	Networks of trust and collaboration: Reciprocity and exchanges that facilitate cooperation and promote well-being through working together.	If you have a problem, you can count on the support of your community.
		If anyone in the community has a problem they can count on your support.
		You feel good about living in your community.
		People help one another in your community.
		People come together in the community to work for the well-being of those who live there.
	External networks and connections: Establishing relationships and building networks with local governments, NGOs, and people outside the community.	In your community, you have the support of the local government to improve your living conditions.
		In your community, you have the support of non-governmental organizations to improve your living conditions.
		In your community, you have the support of people who don't live there to improve your living conditions.
		You join forces with other communities to organize activities and improvements that benefit everyone.
		In your community, you help other communities improve their well-being.
		In your community, you seek the local government's support to improve your living conditions.



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