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Democratization of comprehensive health and community care: a report on experiences from the Brazilian national health day with waste pickers residing in the Crateús municipal landfill, Ceará, Brazil.

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Abstract. This study reports a social action carried out on National Health Day at a municipal landfill in the state of Ceará, focusing on the democratization of comprehensive health and community care. The work, of a qualitative and descriptive nature, exposes the reality of recyclable material collectors, a historically marginalized social group that faces unhealthy working conditions and health, environmental, and socio-economic vulnerabilities. The action, promoted by volunteers, included services such as blood pressure measurement, blood glucose testing, fluoride application, distribution of oral hygiene kits, and vaccination guidance. In addition to immediate assistance, the aim was to promote health education and raise awareness about the rights of this population, highlighting the absence of effective public policies to protect these workers. The study emphasizes the need for structural strategies that ensure not only access to health but also the dignity and social recognition of the collectors, reinforcing the importance of community and governmental initiatives to mitigate inequalities and strengthen support networks for these vulnerable populations.

Keywords: Public health. Waste pickers. Social vulnerability, Community participation, Health inequality indicators. Case reports.

Introduction

Waste pickers are important figures in the consolidation of solid waste management within their communities, whether operating autonomously and dispersed throughout the streets or landfills, or collectively through cooperatives and associations (RAMOS; COELHO, 2025). Thus, these agents often act as environmental educators, as they contribute to selective waste collection, increase the

lifespan of landfills, reduce the demand for natural resources, and mitigate environmental problems caused by waste (BRAZIL, 2025).

However, it is important to emphasize that the waste picking process is a step that exposes these individuals to an activity with imminent dangers in an extremely unhealthy environment, with contact with materials that pose risks, which

can be physical, biological, mechanical, ergonomic, chemical and/or social (VELLOSO et al., 1997).

These professionals, in addition to experiencing processes of exclusion in their life and work trajectories, are subject to several risks due to chemical and biological contamination and accidents caused by precarious working conditions (Velloso et al., 1997). The activity in question demands considerable effort, but is not adequately financially rewarded. This disparity lies in the fact that such activity, in the contemporary Brazilian context, does not enjoy any formalized employment relationship. Consequently, this absence of legal protection results in lower than expected income and wages, perpetuating a cycle of economic vulnerability for the workers involved (BRAZIL, 2025).

The working conditions experienced by these waste pickers are permeated by vulnerabilities characterized by precariousness and a lack of social support. In other words, these individuals work in extremely precarious conditions, subject to contamination and diseases, often scavenging their own food from the garbage. In this context, waste pickers carry out their work in unsanitary conditions, often without any type of personal protective equipment, which results in a high probability of acquiring diseases (MOURA; DIAS; JUNQUEIRA, 2018). Ademais, em um ambiente com constantes fumaças causadas pelos incêndios, o intenso odor provindo da decomposição do lixo e à atividade repetitiva e de grande sobrecarga realizada por estes, que carregam sacos pesados, são responsáveis pelo desenvolvimento de doenças respiratórias e osteo musculares, lesões por acidente, bem como a exposição constante a agentes infecciosos, metais pesados e substâncias químicas (MOURA; DIAS; JUNQUEIRA, 2018).

Documentally, solid waste pickers have always been important and recognized figures in the selective collection process and the recycling industry in Brazil, even before the standardization of guidelines such as the National Solid Waste Policy (PNRS), which established them as fundamental and indispensable agents in this process (MOURA; DIAS; JUNQUEIRA, 2018). In this context, recycling, which aims to solve this problem and integrate these workers into public assistance policies, represents a significant milestone in Brazil, as it contributes to the social recognition of waste pickers and the creation of a more inclusive and sustainable society.

Since 2002, waste picking has been officially recognized as a professional category, registered in the Brazilian Classification of Occupations (CBO) under number 5192-05, with the title "workers in the collection and selection of recyclable material" (MOURA; DIAS; JUNQUEIRA, 2018). Accordingly, the Brazilian classification defines waste pickers as:

(...) responsible for collecting recyclable and reusable material, selling collected material, selecting collected material, preparing material for shipment, maintaining the work environment

and equipment, promoting recycling work, managing their labor, and working safely (Brazil, 2015).

In this context, these workers are included in a recognized form of occupation; however, they enter the labor market without basic social and labor guarantees, meaning they emerge within a precarious condition. The main issue faced by waste pickers living in the municipal landfill of Crateús was the lack of a registered institution designated for the destination of these recyclable materials. Consequently, they were forced to sell these materials to local merchants for a minimal price of one real per kilogram, according to information collected from the waste pickers during a field visit. The low selling price of the materials only reinforces the social marginalization of these individuals, who must work extra hours to secure a minimal income for human survival in a society strongly marked by capitalism.

However, from 2017 to 2018, the Sertão de Crateús 2 region, which includes eight municipalities including Crateús, implemented a selective collection plan that structured the National Solid Waste Policy in the region through Regionalized Selective Collection Plans (GOVERNO DO ESTADO DO CEARÁ, 2019).

In the globalization of microorganisms, it is evident that the primary targets of diseases and pathologies are the socially vulnerable and those lacking government assistance, such as individuals without access to housing, healthcare, and income. Landfills, therefore, represent a clear violation of Article 225 of the Constitution of the Federative Republic of Brazil, which establishes the right of all individuals to an ecologically balanced environment, essential for quality of life (BRAZIL, 1998). However, landfills contribute to environmental imbalance, groundwater and air pollution, and the spread of diseases among those who have direct or indirect contact with these sites.

In Kafka's *The Metamorphosis*, the transformation of individuals into socially unaccepted beings is depicted:

One morning, upon awakening from unsettling dreams, Gregor Samsa found himself transformed in his bed into a gigantic insect. [...] Wouldn't it be better to sleep a little longer and forget all this nonsense? he thought. But that was impossible (KAFKA, Franz. The Metamorphosis. 1997).

In this sense, individuals relegated to society's margins coexist in a reality of neglect, degradation, and little social acceptance. In other words, the hazardous conditions in which they live create social distancing reinforced by the prejudice of various social layers. Just as Gregor Samsa in literary imagination, in real life, individuals awaken from unsettling dreams to a bleak reality marked by exclusion, loneliness, and social transformation.

Their transformation occurs gradually and without personal choice, with no opportunity to forget the delusion.

In recent centuries, particularly in the post-Industrial Revolution period, the industrialization of production processes, urban conglomeration, and consumer culture have led to severe environmental problems due to the large quantities of waste—whether solid, semi-solid, or effluents—deposited in nature at levels that the environment struggles to process. Consequently, improperly disposed waste generates severe environmental consequences (CAVALCANTE; TIUJO, 2013).

In this challenging context, social actors emerge to propose contingency alternatives aimed at reducing waste generation and ensuring appropriate disposal. This social actor is known as the recyclable material picker, whose role involves collecting, sorting, classifying, processing, and commercializing reusable and recyclable waste to contribute fundamentally to solid waste management (BRAZIL, 2025).

These key figures in selective waste collection are often individuals with low education levels who turn to waste picking as a means of survival. Due to informal labor conditions resulting from job loss in the capitalist economy, they resort to manual waste-picking techniques as a source of income. Furthermore, their improvised homes, built from materials retrieved from the waste itself or neighboring areas—such as wood, tarps, and cardboard—are rudimentary and offer minimal safety (NOGUEIRA; SILVEIRA; FERNANDES, 2017).

These sites, in addition to serving as residences, frequently become storage spaces for collected waste, where materials are separated for resale. This is especially common in areas lacking cooperatives for proper waste management or where waste pickers operate individually and autonomously. This situation represents a severe public health issue, as it makes the environment prone to the proliferation of disease vectors and increases the risk of fires due to the accumulation of flammable materials (NOGUEIRA; SILVEIRA; FERNANDES, 2017).

Thus, strengthening the productive organization of waste pickers into cooperatives and associations empowers them with principles of self-management and social solidarity economy. It often represents their first formal access to decent work opportunities, fully integrating them into the implementation of the National Solid Waste Policy. This allows them to generate income, establish business networks, offer services, and enhance production verticalization (BRAZIL, 2025).

Finally, strengthening cooperatives and associations of recyclable material pickers requires coordination among various governmental bodies and the integration of social, environmental, and economic initiatives to ensure the dignity of these workers and the formalization of their labor rights

under current legislation (MINISTRY OF THE ENVIRONMENT, 2025).

Method

This study is a qualitative, descriptive research based on an experience report (ANDRADE JÚNIOR; BARBOSA, 2017).

The municipal landfill of Crateús constitutes a conflict zone where the basic needs of the individuals living there are disregarded, subjecting them to subhuman conditions. Although they can articulate their fundamental human needs, they are unable to fulfill them due to unfavorable sociodemographic conditions.



Figure 1. Map of Ceará showing the location of the municipality of Crateús (in red). Source: 40th Infantry Battalion

The methodology for constructing the social action was based on a comparative analysis between the Theory of Human Needs, advocated by Wanda Horta in her book *Processo de Enfermagem*, published in 2011, and the reality experienced by waste pickers at the municipal landfill in Crateús.

Wanda Horta proposes steps to establish the individual as unique and autonomous in their health-disease process, forming the basis of the Nursing Care Systematization (SAE), which has been regulated since 2009 by the Federal Nursing Council (CONSELHO FEDERAL DE ENFERMAGEM, 2009). This framework was used in this study to develop the care plan. According to Horta, the individual is a biopsychosocial and spiritual being, who must be analyzed in conjunction with their family and society. Their basic needs—such as physiological requirements, safety, love, self-esteem, and self-fulfillment—must be respected (HORTA, 2006).

Health, according to Horta, is not merely the absence of disease but rather the acceptance of the illness process, provided that the individual maintains balance within themselves, as well as in social, mental, and spiritual dimensions. However, this balance is often absent in many complex social

contexts where individuals are marginalized (HORTA, 2006).

Finally, the social action aimed to ensure the effective provision of healthcare, in accordance with Article 196 of the Brazilian Federal Constitution, which establishes health as a duty of the State. This right should be guaranteed through public health policies, even if implemented by other societal agents (BRASIL, 1988).

Aim

To report and analyze the actions carried out on National Health Day at a municipal landfill in Ceará, emphasizing the promotion of comprehensive health and community care for recyclable waste pickers, with a focus on health education, immediate assistance, and awareness of social rights.

Results

The municipality of Crateús is located in the state of Ceará, in the Northeast region of Brazil, east of the state of Piauí. It has become a significant commercial, cultural, and economic hub for both Ceará and Piauí. Given its location along the banks of the Poti River, Crateús is considered one of the most historically important cities in the state (HISTÓRIA DE CRATEÚS, 2025).

However, despite the state's ongoing development, Ceará ranks as the fifth Brazilian state with the highest proportion of open-air dumpsites as the final destination for solid waste. In response, albeit gradually, the state has been developing consortia to construct regional sanitary landfills and deactivate municipal dumpsites, aiming to improve environmental sustainability policies and public health (SECRETARIA DE MEIO AMBIENTE DO ESTADO DO CEARÁ, 2015).



Figure 2. Municipal Landfill of Crateús. *Source: Author's personal archive, 2024.*

The state of Ceará has 30 consortia aimed at constructing regional sanitary landfills, located in 14 strategic planning regions, with the Crateús region standing out. This region includes the municipality of Crateús and neighboring municipalities (SECRETARIA DE MEIO AMBIENTE DO ESTADO DO CEARÁ, 2015).

However, despite the governmental efforts, the municipal landfill of Crateús remains active, representing a significant public health problem for the region. As of 2024, there were still waste picker settlements at the site, with individuals relying on solid waste for their livelihood. Thus, at the Crateús landfill, a true reflection of the neglect toward public health, one could observe the presence of children, adolescents, the elderly, and pregnant women scavenging for food. These individuals were in constant contact with the leachate produced by the waste, disease vectors, and fires, further compromising the health of those living in the area and nearby regions.



Figure 3. Woman scavenging for food in waste in an area with accumulated water and leachate. *Source: Author's personal archive, 2020.*

On the date marking the 151st anniversary of the birth of the Brazilian physician, bacteriologist, epidemiologist, and sanitarian Oswaldo Cruz, and the celebration of National Health Day in Brazil, the Rotaract Club of Crateús launched the campaign: "Comprehensive Health: Caring for the Community" – Crateús Landfill Edition, carried out voluntarily at the municipal landfill in Crateús.

In this context, founded in 1968 in North Carolina, Rotaract Clubs are affiliated with a local Rotary club, bringing together young leaders from various countries, cultures, and fields. Their purpose is to unite volunteers to promote social actions, humanitarian services, environmental preservation, and the development of leaders through ethical values, as well as to foster peace on an international level. There are more than 37,000 Rotary clubs worldwide, and their members are called Rotarians (ROTARY INTERNATIONAL, 2025).

In this context, it was through words like those of the black writer Carolina Maria de Jesus, a waste picker, that the Rotaract Club Crateús found inspiration for carrying out this action: "Ah, with me the world will change. I don't like the world as it is." (JESUS, 1986).

Therefore, the action carried out on the date marking National Health Day in Brazil and the 151st anniversary of Oswaldo Cruz offered services such as blood pressure measurement, blood glucose testing, distribution of oral hygiene kits, condoms, and vaccination guidance for the workers and local residents. Additionally, a special kit was given to the participants, along with a nutritious breakfast meal.

The project "*Comprehensive Health: Caring for the Community*" – *Crateús Landfill Edition* aimed to provide comprehensive and nutritious healthcare, as well as moments of awareness and education for the workers and local residents, including children, in an environment that required special support and attention. This was achieved through the participation of volunteers from various fields, including volunteer dentists, medical students from the State University of Piauí, nursing students from the UNIPLAN University Center in Crateús, a doctoral candidate in biomedicine from the Federal University of Ceará, and volunteers from the Rotaract Club of Crateús.

Activities carried out by volunteers during the action

Among the activities carried out, the following stand out:

Setting up the environment: In order to ensure the success of the actions, while preserving the integrity of the participants and ensuring biosafety during the procedures, a structure was set up using tents available in the Crateús landfill area. The setup was designed to be both comfortable and informative, with designated areas for each activity. General resources for conducting the procedures were provided, including cotton, 70% alcohol, disposable waterproof lab coats, gloves, caps, hairnets, and related materials.

Measurement of blood pressure, blood glucose testing, and screening for non-communicable chronic diseases such as Systemic Arterial Hypertension and Diabetes Mellitus: Stations for measurement were set up with sphygmomanometers, stethoscopes, lancets, glucose test strips, glucometers, and all necessary personal protective equipment (PPE) for carrying out the action. This was made possible through a partnership with the municipal health department, which provided the PPE after the submission of official letters.

Distribution of oral hygiene kits: The kits were distributed by a volunteer dentist and included toothpaste and toothbrushes, along with instructions on proper oral hygiene practices.

Awareness on Condom Use: Condoms and educational pamphlets on sexual health were made available, and informative sessions were conducted on the importance of condom use and healthy sexual health practices.

Vaccination and Immunization Record Update: A space was designated for consultation and updating of vaccination records in accordance with the current guidelines of the National Immunization Program. Additionally, a survey of previously administered vaccine doses was conducted, and information was provided on recommended vaccines and the

importance of completing the immunization schedule.

Nutritious Breakfast: A balanced and nutritious breakfast meal was provided to participants. The food was obtained through community donations, in an initiative coordinated by the Rotaract Club of Crateús.

Application of Fluoride Gel and Fluoride Varnish: Fluoride was applied by a volunteer dentist, along with general guidance on oral health.

Partnerships and Resources Needed for the Implementation and Success of the Initiative

- ✓ Collaboration with the local Health Department for logistical support and resource availability;
- ✓ Involvement of trained volunteers to conduct measurements and provide health information.
- ✓ Acquisition of materials and oral hygiene kits through available financial resources;
- ✓ Donations of food and items for special children's kits.

Action Evaluation

- ✓ Monitoring community participation and engagement in each activity in the Crateús landfill;
- ✓ Collecting feedback from participants to assess the usefulness and effectiveness of the campaign;
- ✓ Evaluating goal achievement and identifying opportunities for improvement in future editions.

Discussion

The primary goal of the action undertaken was to promote health education among these individuals as an attempt to remediate their main complaints. In this regard, it can be asserted that Brazil positions itself as a remedial country concerning the pathologies addressed, rather than a decentralizing one, demonstrating an excessively hospital-centered approach. Consequently, individuals marginalized by society, such as waste pickers, lack prior contact with health education programs conducted in Primary Care Units (PCUs). This results in their unawareness of the risks posed by their living environment and, consequently, a higher demand for secondary and tertiary healthcare services, leading to hospital overcrowding and medical attention only when diseases have already manifested.

The National Immunization Program (PNI) currently offers 19 vaccines free of charge to the population through the National Health System (SUS), all recommended by the World Health Organization (WHO). Among these 19 vaccines, five are offered and recommended for the adult immunization schedule: Hepatitis B, Influenza, Adult Diphtheria-Tetanus (DT), Measles-Mumps-Rubella

(MMR), and Yellow Fever, with the latter being disregarded in the region (BRAZIL, 2025).

The primary objective involves effective health education, the provision of basic hygiene supplies in the short term, and a future attempt to update the vaccination records of these individuals, who are not mapped by any Primary Care Unit. Therefore, they do not receive continuous health education, as recommended by SUS regulations.

During the territorial mapping visits in 2020 and in the year of the intervention, a preliminary assessment of individuals was conducted through inspection and indirect conversation. Among the waste pickers encountered, visible impairments included ocular conditions, compromised skin integrity, facial wounds, and general pallor, alongside reports of puncture injuries from sharp materials, which they attributed to unknown sources.

Understanding the vaccination records of these individuals is crucial to verifying their immunization status, as they live on the margins of society without access to dignified living conditions. Not only does their environment provide favorable conditions for biological contamination by pathogenic organisms, but it is also entirely unsanitary and unfit for human habitation, violating Brazilian regulatory standards.

Leachate, a liquid resulting from the decomposition of organic matter in waste, pervades much of the area and, combined with rainwater, contaminates the environment. This facilitates the spread of microorganisms and macro-organisms such as vultures, flies, larvae, and gases produced in the decomposition process, including methane.

Obligate anaerobic and facultative bacteria present in waste decompose organic matter as a food source, producing methane gas, which is dispersed in a toxic and hazardous manner when there is continuous exposure (CPT, 2025).

Human misery associated with waste has been documented in Brazilian literature for decades. The poet Manuel Bandeira captures this stark reality:

"I saw an animal yesterday / In the filth of the yard / Scavenging food among the debris. / When it found something, / It did not inspect or smell: / It devoured it ravenously. / The animal was not a dog, / It was not a cat, / It was not a rat. / The animal, my God, was a man" (BANDEIRA, 1930).

Governmental neglect and the inadequacy of municipal public policies contribute to the marginalization of these individuals. One of the main objectives, therefore, was to make these individuals aware of their role in society and their rights regarding health care.

Thus, both mental and physical health were addressed to establish physiological homeostasis, as emphasized by WHO, which advocates for physical, mental, and spiritual balance to ensure health continuity. The transformation of the world is only possible through the transformation of the

human mind. In this context, Haemin Sunim states, "We know the world only through the window of our mind. When the mind is agitated, the world is too..." (SUNIM, 2017).

Hepatitis B, tetanus, diphtheria, and poisoning are among the most transmissible diseases in this high-risk zone. Landfills constitute a significant health risk due to the coexistence of various microorganisms that increase the likelihood of contamination. Numerous diseases can arise from pathogen exposure and contaminated materials in this environment (GOMES; BELÉM, 2022).

Hepatitis B and C can be contracted through skin punctures caused by sharp objects such as improperly discarded needles, syringes, and scalpels, making this issue a public health concern. These diseases have the potential for vertical transmission (DUARTE et al., 2021), posing an increased risk in a setting where pregnant women are present. Improper disposal of sharp materials often stems from a lack of knowledge or disregard for proper disposal procedures.

Furthermore, diphtheria, tetanus, and pertussis can be contracted through bacterial infections and punctures from rusty objects, as is the case with tetanus. Hence, vaccination is critical for individuals in high-risk zones (NATIONAL HEALTH FOUNDATION, 2001).

In this context, vectors such as flies, cockroaches, mosquitoes, and rats found in landfills can spread diseases like bubonic plague, cholera, yellow fever, dengue, and leptospirosis (GOMES; BELÉM, 2022). Without proper healthcare assistance, individuals may unknowingly carry certain microorganisms without immediately developing symptoms. However, when immunosuppression occurs, diseases tend to manifest more aggressively, as highlighted in literature:

"In truth, while hearing the joyful shouts from the city, Rieux remembered that this joy was always under threat. Because he knew what the euphoric crowd ignored and what can be read in books: the plague bacillus never dies or disappears entirely. It can lie dormant for decades in furniture and clothing, patiently waiting in bedrooms, cellars, trunks, linens, and documents. And he also knew that perhaps one day, for the misfortune and instruction of humankind, the plague would awaken its rats and send them to die in a happy city" (CAMUS, 2019, p. 128).

Final considerations

This study reveals not only the precarious living and working conditions of recyclable material collectors but also the failure of public policies to ensure minimum dignity and access to basic rights for these individuals. The action carried out on National Health Day, though significant, remains a temporary measure in the face of the social invisibility and systemic vulnerabilities experienced

by this population. The voluntary and emergency nature of the intervention underscores the absence of an effective and structured social protection network, which should be the responsibility of the State.

The scarcity of public policies focused on the inclusion of waste pickers, their health, and labor rights is not an isolated issue but rather a reflection of a socio-economic model that marginalizes the most vulnerable. Neglecting the dignity of these workers perpetuates a cycle of exploitation, leading to unsafe working conditions, inadequate housing, and social exclusion. Therefore, democratizing healthcare and promoting community-based care must be part of a broader movement for the recognition and appreciation of informal workers, who, despite their crucial contributions to urban cleanliness and environmental preservation, continue to be treated with indifference and disrespect.

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