

Health care climate disaster refugees at a university care center in the Vale dos Sinos Region, Brazil

Atenção à saúde de refugiados de desastre climático em um centro de atendimento universitário na região do Vale dos Sinos, Brasil

JOÃO SENGER¹

PAULA TONELLO²

SOFIA KAUFFMANN³

Introduction

Environmental disasters associated with climate change – such as floods, landslides, and fires – have become increasingly frequent worldwide, significantly impacting affected populations (1). In Brazil, these events are intensified by stark social inequalities, unregulated human settlement in river valleys, improper waste disposal, and the absence of public policies for environmental monitoring and urban planning (2). These issues are particularly evident in regions like the Vale dos Sinos (3), which is densely populated and bordered by rivers.

According to the Civil Defense of the state of Rio Grande do Sul (RS), the intensity of such phenomena has increased in recent years due to global warming and climate change. The El Niño–Southern Oscillation (ENSO), which influences sea surface temperatures (SSTs), also plays a significant role in shaping weather patterns. The floods that devastated RS in May 2024 led to the opening of approximately 315 active emergency shelters, although this number varied due to the rapidly evolving situation. According to the Civil Defense's official report (July 2024), 478 municipalities were affected, with 2,398,255 people impacted, 806 injured, 31 missing, and 182 confirmed dead. In the municipalities of Novo Hamburgo and São Leopoldo, approximately 32,000 and 180,000 individuals, respectively, were affected (4).

Considering this scenario, coordinated action was essential, allowing volunteer groups to distribute donations and enabling public-private partnerships to respond effectively to the health crisis.

¹ Adjunct professor, Geriatrics, Faculdade de Medicina, Universidade Feevale, Novo Hamburgo, RS, Brazil.

² Pharmacist, Health Manager, Universidade Feevale, Novo Hamburgo, RS, Brazil.

³ Medical student, Universidade Feevale, Novo Hamburgo, RS, Brazil.

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Correspondence: João Senger, Rua Frederico Mentz, 376, CEP 93525-360, Novo Hamburgo, RS, Brazil.
E-mail: jsgeriatra57@gmail.com

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Experience report

Emergency and disaster contexts require a coordinated network of individuals and institutions, involving public authorities and civil society actors in the planning and implementation of effective responses (5). At Feevale University, health-related degree programs promptly mobilized faculty and students from Medicine, Nursing, Psychology, Biomedicine, Pharmacy, and Dentistry to support climate refugees.

Recognizing and leveraging the available material and immaterial resources of the university, local government, and affected population was essential. Providing assistance to vulnerable groups quickly became a priority.

The University's Integrated Health Specialty Center, a 3,376 m² facility located on campus, serves as a practical training site for Health Sciences students and supports research and outreach activities. In light of the emergency and the rapid spread of its consequences across the Vale dos Sinos region, the university's management team – aligned with its commitment to community engagement – quickly decided to open the facility to care for the flood-affected population, whose clinical needs were overwhelming local health units and hospitals.

Multidisciplinary teams were promptly formed, including physicians, nurses, psychologists, pharmacists, biomedical professionals, dentists, social workers, students from various health fields, and administrative staff. Between May 4 and 17, 2024, a total of 583 individuals received care – 73% from Novo Hamburgo, 23% from São Leopoldo, and 4% from other municipalities. Most patients were women, and 57% were over 30 years of age.

Patients were referred from municipal emergency care units (*unidades de pronto atendimento*, UPAs) when classified as low priority, as well as from seven volunteer community shelters, one municipal shelter, and one structured shelter located on the university

campus, which served as a walk-in center. For individuals facing mobility challenges, including those experiencing homelessness, transportation was provided by the university van – ensuring broader access to care.

Through various support and communication networks, the university coordinated the donation and distribution of over 5,000 boxes of medications to patients, shelters, care facilities, and non-governmental organizations (NGOs). These included 39 units of infant formula, 28 units of insulin, and 71 personal hygiene kits. Additionally, the university's pharmacy produced and distributed 6,600 capsules and more than 150 semi-solid products, including shampoos, liquid soaps, and moisturizers.

The most common health complaints included dengue fever, respiratory infections, gastroenteritis, suspected leptospirosis, musculoskeletal pain, tonsillitis, anxiety, loss of prescriptions or medications, and loss of eyeglasses. Table 1 groups the number of people seen by area/specialty available.

Students were involved in all stages of care – from screening and consultations to lab testing and medication distribution. Under supervision, they conducted patient interviews, physical examinations, and case discussions, providing direct care while also engaging in clinical learning grounded in evidence-based practice.

Familiar with the municipal health network through early curriculum integration, the students extended their efforts beyond the academic environment by volunteering at various support points. This proactive

Table 1. Number of people seen by area/specialty

Area/Specialty	No. people seen
Medicine/Nursing	497
Biomedicine/Pharmacy*	53
Dentistry	33
Social Services	75

* Laboratory test collection and processing services.

involvement enhanced communication between volunteer teams, helping to identify specific health needs across shelters and facilitating patient referrals, needs assessment, and the redistribution of donated resources.

Conclusions

This experience highlighted the importance of establishing dynamic care flows and ensuring the presence of a trained, multidisciplinary team in emergency situations such as major floods (6). The university made a significant contribution

by offering outpatient clinical services, health guidance, serotherapy, confirmatory dengue testing, dental and psychological care, specialized ophthalmology consultations, and even facilitated the production of eyeglasses through a partnership with a local optical store.

This experience was transformative for both faculty and students, offering an opportunity not only to teach and practice clinical skills but also to cultivate a humanized, compassionate approach to health care.

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