Revista Bioética
Print version ISSN 1983-8042 | On-line version ISSN 1983-8034

Rev. Bioét. vol.34 Brasília 2026

Impacts of territorialization on medical training: an experience report

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Abstract

The National Curriculum Guidelines for undergraduate medical courses emphasize the need for broad and critical training that prepares physicians to deal with the specificities of individuals and the territory. This study reports on the territorialization of an urban settlement carried out by medical students in three stages: planning and reconnaissance of the territory; study and application of forms; and identification and interviews with key informants. At the end, the data were discussed in the classroom. The visits provided students with a comprehensive understanding of the geographical, socioeconomic, cultural, and environmental characteristics of the territory by promoting dialogue, active listening, and teamwork. The practice contributed to the development of fundamental bioethical skills, with an emphasis on social justice in health and the ethics of comprehensive care. Ethical aspects were observed in accordance with current regulations (consent, privacy, and management of expectations). Territorialization enabled the identification of the vulnerabilities of this population and stressed the need for concrete actions that consider the particularities of this community.

Keywords: Territorialization in primary health care. Education, medical. Urban population. Social vulnerability. Social determinants of health.

Resumo

Impactos da territorialização na formação médica: relato de experiência

As Diretrizes Curriculares Nacionais do curso de graduação em medicina destacam a necessidade de uma formação ampla e crítica, que prepare médicos para lidar com especificidades dos indivíduos e do território. Este trabalho relata a territorialização de um assentamento urbano realizada por estudantes de medicina em três etapas: planejamento e reconhecimento do território; estudo e aplicação de formulários; e identificação e entrevistas com informantes-chave. Ao final, dados foram discutidos em sala de aula. As visitas proporcionaram aos estudantes uma compreensão abrangente das características geográficas, socioeconômicas, culturais e ambientais do território, por promoverem diálogo, escuta ativa e trabalho em equipe. A prática contribuiu para o desenvolvimento de competências bioéticas fundamentais, com ênfase na justiça social em saúde e na ética do cuidado integral. Aspectos éticos foram observados conforme normativas vigentes (consentimento, privacidade e manejo de expectativas). A territorialização possibilitou a identificação das vulnerabilidades dessa população e evidenciou a necessidade de ações concretas diante das particularidades dessa comunidade.

Palavras-chave: Territorialização da atenção primária. Educação médica. População urbana. Vulnerabilidade social. Determinantes sociais da saúde.

Resumen

Impactos de la territorialización en la formación médica: relato de experiencia

Las Directrices Curriculares Nacionales del curso de graduación en medicina destacan la necesidad de una formación amplia y crítica, que prepare a los médicos para lidiar con las especificidades de los individuos y del territorio. Este trabajo relata la territorialización de un asentamiento urbano realizada por estudiantes de medicina en tres etapas: planificación y reconocimiento del territorio; estudio y aplicación de formularios; y identificación y entrevistas con informantes clave. Al final, los datos se discutieron en el aula. Las visitas proporcionaron a los estudiantes una comprensión amplia de las características geográficas, socioeconómicas, culturales y ambientales del territorio, ya que promovieron el diálogo, la escucha activa y el trabajo en equipo. La práctica contribuyó al desarrollo de competencias bioéticas fundamentales, con énfasis en la justicia social en la salud y la ética del cuidado integral. Se observaron aspectos éticos acorde con las normas vigentes (consentimiento, privacidad y manejo de expectativas). La territorialización permitió identificar las vulnerabilidades de esta población y puso de manifiesto la necesidad de acciones concretas ante las particularidades de esta comunidad.

Palabras clave: Territorialización de la atención primaria. Educación médica. Población urbana. Vulnerabilidad social. Determinantes sociales de la salud.

The authors declare no conflict of interest.

Update

The National Curriculum Guidelines (DCN) for undergraduate medical courses, as outlined in Resolution 3/2014 of the National Education Council/Higher Education Chamber (CNE/CES) 3/2014 [1], highlight the need for a comprehensive, humanistic, critical, reflective, and ethical education that aims to enable professionals to work at different levels of care, offer individual and collective actions, and holistically ensure human health, considering the impact of the social determinants of health. In this context, territorialization serves as a tool for this process, as it encourages a broad understanding of local needs, given that health-disease processes manifest in the territory, influenced by social dynamics and cultural diversity [2].

Direct exposure to the living conditions of communities provides students with an articulation between the theory studied and practice, given the opportunity to learn about the living conditions of the population and to understand health in its entirety, recognizing the various factors that influence it, and also as a phenomenon that goes beyond biological aspects, i.e., it provides a more comprehensive and integrated training [3]. The inclusion of medical students in vulnerable communities enables and reinforces understanding of territorialization and of how the social determinants of health (SDOH), such as housing conditions, sanitation, and socioeconomic status, influence workers' health, thereby facilitating identification of the population's needs. This experience contributes to the training of more aware professionals, better prepared to communicate with diverse audiences and to address the specificities of the population to be served, as well as to the development of more effective health actions adapted to local needs [4].

This study aims to report the experiences of first-semester medical students at the Federal University of Uberlândia (UFU) during a territorialization activity in an urban settlement. The impacts of this activity on the professional training of future physicians are emphasized, highlighting the relevance of this process in stimulating more humanized and critical care practices through the integration of theoretical and practical knowledge, in addition to awakening students to the complexity of the health-disease process, especially concerning the challenges faced by populations, through the approach to the specificities and unfolding of the SDOH.

Method

This study describes the experience of first-semester medical students at UFU during a territorialization activity proposed jointly by the subjects of Collective Health I and Scientific Methodology. The study took place in a settlement located in the municipality of Uberlândia/MG, during the final months of 2023. The work comprised three stages: planning and site reconnaissance; study and application of sociodemographic questionnaires; and finally, identification and interviews with key informants. Each stage consisted of a classroom meeting with the professors responsible for the Collective Health I subject to present concepts and guidelines for the next activity, followed by a visit to the territory. In addition, to mark the conclusion of the work, a closing session was held with the entire class to present and discuss the collected data, integrated with the Scientific Methodology subject.

This activity was integrated into the curricular component of Collective Health I and Scientific Methodology, and was characterized as an educational practice foreseen in the course's pedagogical project. According to Resolution 510/2016 of the National Health Council [5], teaching activities that do not involve risky procedures do not require specific approval from an Ethics Committee and are governed by the general ethical precepts for interaction with communities.

All students received guidance on the ethical principles of the community approach, including respect for privacy, confidentiality of collected information, and a clear distinction between academic activity and medical assistance [6]. The community leader was informed of the activity's objectives and facilitated the students' introduction to the residents, ensuring transparency throughout. The data were treated anonymously and aggregated, in accordance with the precepts of the General Data Protection Law [7].

Sixty first-semester students participated, organized into 30 pairs. The activities took place between October and December 2023. The individual and household registration forms

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of e-SUS Primary Care (e-SUS AB) and a semi-structured script for key informants were used. The analysis employed descriptive statistics for quantitative data and thematic discussion for qualitative data.

In the first stage, the students received guidance on planning the field activities. This phase included an in-depth study of territorialization and its fundamental concepts, encompassing mapmaking techniques and biosafety guidelines. The students were divided into two groups, then organized into pairs and, with the help of Google Maps, assigned to sub-areas. After this moment of organization and planning, the first visit was performed to effectively recognize the territory, in which the students identified the elements of the environment, such as geographical, socioeconomic, and cultural characteristics, the number of plots of land, vacant lots, areas of irregular waste disposal, inhabited houses and points of reference, with a view to the next phases of territorialization.

The second stage was based on data collected using individual and household forms from the Unified Health System (SUS), which covered personal information and characteristics related to housing and access to health services. Thus, the students were previously instructed in techniques for approaching residents and collecting data, as well as correctly completing the forms. To reinforce this information, the students watched a simulated interview in the classroom and identified and discussed errors and successes, as well as the importance of using simple, accessible language. Finally, the students returned to the settlement, spoke with the residents, and gathered information.

In the third stage of the work, the pairs met with their respective groups to share the information and impressions they had gathered, aiming to improve their understanding of the territory and to discuss topics such as political movements, local leaders, drug presence, and violence in the settlement. In this meeting, key informants were identified and selected, then distributed among small groups to conduct the final interview. This activity marked the third and final visit, in which the interviews were conducted following a semi-structured script that addressed topics such as social aspects of the territory, access to health services, infrastructure, and political aspects, and the same questionnaires applied to the general population were answered again in order to identify possible discrepancies.

After completing the territorialization activities, the students compiled the general data and key informant data into two separate electronic forms. The variables were divided among the small groups for analysis and subsequently discussed in the classroom. Thus, the students prepared for two rounds of presentations: in the first, addressing quantitative data about the territory, they were to present and compare the results of individual and household registrations from the perspective of the general population of the settlement and key informants; and in the second, presenting qualitative data about the territory, they were to promote discussion about subjective impressions of the territory based on interviews with key informants. With this, the presentations addressed aspects such as territory delimitation, area characterization, housing details, social segregation, teenage pregnancy, and primary healthcare (APS).

Experience report

After theoretical preparation and eager to make their first visit to the territory, the students were surprised by a fire that broke out in some of the settlement's residences in the days leading up to the activity. There were no victims, but rumors that it was a criminal act generated insecurity among the residents. Faced with this situation, the students became even more apprehensive because, in addition to it being their first contact with the territory, they did not know how they would be received or whether the population would engage in the activities.

When the students arrived in the area, residents expressed distrust because of the large number of strangers in the community. To minimize tension, the local leader and community kitchen coordinator recorded all members. They sent the video in real time to community groups via a messaging app, along with information about the work to be carried out. Despite this, an initial discomfort was identified among some members of the area, which lessened as they

became familiar with the students' presence, until it became solicitude and helpfulness.

During the mapping, the students were able to observe the area, recognize striking geographical features, social, infrastructural, and environmental vulnerabilities, the dynamics of the place, and social problems, all of which are important for the development of critical thinking. In the foreground, what stood out most was the structure of the houses, made mainly of tarpaulins and recycled materials, located at the base of several high-voltage towers on the side of the highway, a very dangerous area given the risk of electric shocks, falling structures, and broken cables, and also invasion by any vehicle traveling nearby. In addition, the population was highly exposed to various health risks and aggravating factors, as they lacked essential services such as basic sanitation, electricity, and garbage collection.

Subsequently, during the second visit, individual and household forms from the SUS were applied to obtain concrete data from the population. It is worth noting that many teams observed initial resistance from the settlement residents to assisting them, even though the residents had stated only that they would like to conduct a local survey with open and closed questions. However, after identifying themselves as medical students, the treatment was suddenly modified in a positive direction. This reflects the deprivation that permeates this segment of the population, especially in access to health services, as many residents made various demands on the students, such as requests for analysis or exams, disease investigations, and complaints about delays in medical care and surgeries in the public health system.

During the last visit, interviews with key informants were conducted on a range of topics, from personal aspects to community organization. In short, a lack of access to health services, including primary care, was observed, compromising the promotion, prevention, and treatment of various diseases. Based on the population's accounts, the main challenges to these people's access to quality healthcare are the difficulty of traveling to health units due to distance, the precariousness of public transport, and the exclusion of this territory from the community healthcare worker's coverage area. Furthermore, difficulty accessing information about health programs and available services was noted due to the absence of an active support network for these individuals in situations of extreme vulnerability.

Discussion

The practical experience of territorialization in an urban settlement provided medical students with a comprehensive understanding of the territory that went beyond mere spatial mapping, encompassing the community's socioeconomic, cultural, and environmental characteristics. In addition to the objective information collected, the study showed, despite the differences, the residents' unity and organization, enabling them to overcome the vulnerability to which they are exposed and demonstrating a very strong sense of collectivity.

Initially, it is worth noting that the practice of territorialization was made possible by the restructuring of the UFU medical course, governed in accordance with the DCN for undergraduate medical courses [1], advocating the

training of physicians with a generalist and humanist character; critical and reflective spirit; encouragement of self-learning; potential for specialization; with ethical principles; ability to act in the health-disease process at its different levels of care, with emphasis on APS; sense of social responsibility and commitment to citizenship; aptitude to promote the integral health of the human being [8].

The alignment of the objectives proposed in the reformulation with the activity developed is noted, which supports the training of medical students across the domains mentioned. From this perspective, the activity enabled the development of essential skills for medical practice, such as communication with individuals and society, which sensitized students to the importance of practicing active listening to build bonds with the community and to strengthen communication competence in health, one that considers cultural diversity and intercultural dialogue, with a view to providing humanized and empathetic care [2].

In addition, territorialization allowed students to broaden their individual understandings of diverse social realities, enabling them to act at the individual and community levels, as well as in different sociocultural contexts[9], to provide integrated clinical practice and comprehensive care to these individuals.

The territorialization activity carried out in urban settlements favors the development of critical thinking, which enables the analysis of the living and health conditions of the population and, above all, stimulates the improvement of an attentive gaze that goes beyond the traditional biomedical view and understands that the social determinants of health interfere in the development of disease and cause inequalities, i.e., that they influence the production of health and disease, since the scarcity of resources makes these individuals even more vulnerable and fragile when exposed to various pathologies. Buss emphasizes that for

the National Commission on Social Determinants of Health (CNDSS), SDOH are the social, economic, cultural, ethnic/racial, psychological, and behavioral factors that influence the occurrence of health problems and their risk factors in the population. The World Health Organization (WHO) homonymous commission adopts a shorter definition, according to which SDOH are the social conditions in which people live and work[10].

Therefore, how social, economic, and political factors affect people's health is understood, especially when analyzing more vulnerable groups. This occurs because income inequality leads these individuals to live in peripheral areas, where there is no public investment in quality infrastructure to form a network of services capable of meeting needs across sectors such as health, education, transportation, housing, and security. Thus, social stratification confers distinct social positions to individuals and exposes settlement residents to health inequity-related vulnerabilities.

Furthermore, the practice enabled integration among students, even in the first months of class, and recognition of the importance of teamwork among healthcare professionals. In this way, it allowed them to recognize the need to communicate effectively, clearly, concisely, and respectfully with team members, and to value diverse skills and points of view to achieve the best possible results. Given this, the final presentation of the results collected during the territorialization process demonstrated, in addition to variations within the same territory, the different perspectives of each group, as the analysis of the results is influenced by team members' varied interpretations, thereby enriching the discussion.

In this sense, it is noteworthy that very important topics were discussed, and interesting graphs and data about the territory could be analyzed. However, despite the benefits, the groups drew a critical conclusion regarding territorialization: bias in the data, as visits to the settlement occurred on fixed days in the afternoon, leaving many residents and key informants absent. Thus, because of the data-collection period, the information reflects the impressions of only a portion of the population, and it would be interesting to have visits at different times and on different days to gain a broader understanding of the settlement's reality.

Another point of attention identified was the absence of concrete feedback to the territory, which highlights the need for greater articulation between the academic space and the community, as well as adequate human and material resources capable of addressing the needs and deficiencies expressed by the community, which points to a field for curricular and extension activities. A stage for the elaboration and execution of health promotion and prevention actions for the territory is suggested for inclusion in the activity.

Despite the challenges encountered, given the activity's potential, alternatives must be sought to improve the practice of territorialization in urban settlements carried out by medical students. It is evident that territorialization can play a unique role in the training of physicians who are more complete, critical, and committed to the health of the population. Thus, it is necessary to overcome existing challenges to ensure this strategy is implemented more effectively and achieves greater success. Therefore, analyzing the benefits, challenges, and proposals for improving this strategy is fundamental for educators, managers, and healthcare professionals who seek to train physicians who are better prepared to act in a humanized and comprehensive way, considering

the social determinants of health, in the face of the challenges present in the different realities spread throughout the country.

Bioethical implications of territorialization

The experience of territorialization transcends purely pedagogical aspects, becoming a formative practice in applied bioethics. Exposure to social inequities embodies the principle of justice in health, insofar as it highlights the direct impact of the unequal distribution of resources on the health outcomes of the population [11]. The recognition of community vulnerabilities develops in future physicians an understanding of vulnerability as a central bioethical concept [12]. Populations in vulnerable situations require special protection and differentiated attention, a principle that becomes concrete with this practical experience.

Territorialization promotes the development of relational autonomy by recognizing that individual health choices cannot be analyzed in isolation, as the social context profoundly influences them. Students understood that respecting the autonomy of future patients implies recognizing and addressing the social conditions that limit their care options.

The absence of concrete feedback to the community constitutes an ethical issue under the principle of reciprocity. The social responsibility of the public university requires that academic activities in vulnerable communities yield tangible benefits and establish genuine partnerships.

Final considerations

The territorialization activity described in this study, carried out jointly by the disciplines Collective Health I and Scientific Methodology, provided medical students with a unique opportunity to establish closer contact with the population and contributed to a more critical, reflective, humanized, and ethical training, as advocated by the DCN. Thus, by analyzing the nuances of the relationship among health, disease, and territory, the study highlighted, in practice, the physician's responsibility for the population's health needs, the effects of SDOH, and the importance of investing in health promotion strategies.

The territorialization in the settlement analyzed provided learning and discussion on the challenges of accessing health services, from primary care, and on the importance of integrating students to address the community's particularities. In addition, it awakened in the students the need to offer a more concrete response to the participating community, which demonstrated commitment to helping in all visits, fostering in them social responsibility as future healthcare professionals. Thus, as a consolidation of the activity, the development and implementation of health actions that effectively improve access and health conditions in the community are suggested as a way of reciprocating their generosity and collaboration and promoting the articulation between the academic space and the community.

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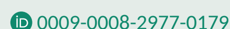 0009-0008-2977-0179

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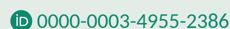 0000-0003-4955-2386

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Contribution of the authors

Isadora Ferreira de Camargos Rosa, Fernando Maia, and Luiza de Freitas Rangel participated in the study conception, article writing and approval of the final version to be published. Fernanda Nogueira Campos Rizzi, Jacyara Santos de Oliveira and Stefan Vilges de Oliveira participated in the guiding conception and writing of the article and approval of the final version to be published.

Data availability: All data used or generated in this study are described and presented in full in the body of the article.

Editor in charge: Dilza Teresinha Ambrós Ribeiro

Received: 3.14.2025
Revised: 8.22.2025
Approved: 10.21.2025