



Surveillance of migrant worker health in the Bioceanic Road Corridor

Vigilância em saúde do trabalhador migrante no Corredor Rodoviário Bioceânico¹

Vigilancia de la salud de los trabajadores migrantes en el Corredor Vial Bioceánico

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Received on Sept. 24th, 2023; revised and approved on Aug. 10th, 2023; accepted on Aug. 21th, 2023
DOI: <http://dx.doi.org/10.20435/inter.v25i1.4207>

Resumen: The health of migrant workers on the Bioceanic Route requires comprehensive actions, and it is necessary to understand their issues and problems. This is a theoretical reflection article whose objective was to comprehend the possibilities of health surveillance actions for workers in migration situations on the Bioceanic Route in Mato Grosso do Sul. For the identification of these elements, a narrative review of the literature was used, in light of a theoretical framework. Use the portal States National Library of Medicine National Institutes of Health (Medline/PubMed), applying the terms: "Surveillance of the Workers Health"; "Health Vulnerability"; "Transients and Migrants"; combined with the Boolean operator "AND". Five aspects that constitute health worker surveillance were identified: assistance, surveillance, notification, planning, and management. In the context of assistance, it is crucial to provide access to health services, including emergency care, maternal and child care, and treatment of communicable and work-related diseases. Health surveillance should focus on prevention and health promotion through actions centered on identifying occupational risks, accidents, and work-related illnesses. The collection and analysis of epidemiological data are essential to guide surveillance actions and implement appropriate measures, made possible through notifications. For planning and management, it is necessary to strengthen partnerships with social devices, enhance the worker health care network, and regularize the work of these migrants to combat precarious and illegal practices. It is concluded that public policies should be addressed to the dimensions that make up the surveillance of the worker's health, aiming to ensure better living conditions for migrant workers in the Bioceanic Route.

Keywords: worker health surveillance; human migration; Bioceanic Route.

Resumo: A saúde dos trabalhadores migrantes na Rota Bioceânica requer ações abrangentes, e é necessário compreender seus problemas e agravos. Este ensaio tem o objetivo de compreender as possibilidades de ações de vigilância da saúde dos trabalhadores em situações de migração na Rota Bioceânica em Mato Grosso do Sul. Para identificar esses elementos, foi utilizada uma revisão narrativa da literatura considerando um referencial teórico. Utilizou-se o portal *States National Library of Medicine National Institutes of Health* (Medline/PubMed), aplicando os termos: "Surveillance of the Workers Health"; "Health Vulnerability"; "Transients and Migrants"; combinados com o operador booleano "AND". Foram identificados cinco aspectos que compõem a vigilância em saúde do trabalhador: assistência, vigilância, notificação, planejamento e gestão. No contexto da assistência, é crucial fornecer acesso aos serviços de saúde, incluindo atendimento emergencial, cuidados materno-infantis e tratamento de doenças transmissíveis e relacionadas ao trabalho. A vigilância da saúde deve focar na prevenção e promoção da saúde com ações pautadas na identificação de riscos ocupacionais, acidentes e doenças relacionadas ao trabalho. A coleta e análise de dados epidemiológicos são fundamentais para direcionar ações de vigilância e implementar medidas adequadas, possível por meio das notificações. Para o planejamento e gestão deve-se fortalecer parcerias com dispositivos sociais, e a rede de atenção à saúde do trabalhador, regularizando o trabalho e combatendo práticas precárias e ilegais. Conclui-se que políticas públicas devem ser direcionadas às dimensões que compõem a vigilância em saúde do trabalhador,

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visando assegurar melhores condições de vida aos migrantes trabalhadores na rota bioceânica.

Palavras-chave: vigilância em saúde do trabalhador; migração humana; Rota Bioceânica.

Resumen: La salud del trabajador migrante en la ruta bioceánica requiere acciones integrales, siendo necesario comprender sus problemas y agravios. Este es un artículo de reflexión teórica cuyo objetivo fue comprender las posibilidades de las acciones de vigilancia en salud del trabajador en situaciones de migración en la ruta bioceánica en Mato Grosso do Sul. Para una identificación desses elementos, utilizou-se a revision narrativa da literatura, à luz de um referencial teórico. Utilizou-se o portal State National Library of Medicine National Institutes of Health (Medline/PubMed), aplicando os termos: “Vigilancia de la Salud de los Trabajadores”; “Vulnerabilidad en Salud”; “Transitorios y Migrantes”; combinados con el operador booleano “AND”. Se identificaron cinco aspectos que componen la vigilancia en salud del trabajador: asistencia, vigilancia, notificación, planificación y gestión. En el contexto de la asistencia, es crucial proporcionar acceso a servicios de salud, incluyendo atención de emergencia, cuidados materno-infantiles y tratamiento de enfermedades transmisibles y relacionadas con el trabajo. La vigilancia de la salud debe centrarse en la prevención y promoción de la salud a través de acciones basadas en la identificación de riesgos ocupacionales, accidentes y enfermedades relacionadas con el trabajo. La recolección y análisis de datos epidemiológicos son fundamentales para orientar las acciones de vigilancia e implementar medidas adecuadas, lo cual es posible mediante notificaciones. Para la planificación y gestión, es necesario fortalecer las alianzas con dispositivos sociales, mejorar la red de atención a la salud del trabajador y regularizar el trabajo de estos migrantes para combatir prácticas precarias e ilegales. Conclui-se que las políticas públicas deben ser dirigidas a las dimensiones que compõem a vigilância em saúde do trabalhador, visando assegurar melhores condições de life aos migrantes trabalhadores na rota bioceânica.

Palabras clave: vigilancia en salud del trabajador; migración humana; Rota Bioceânica.

1 INTRODUCTION

Globalization and the intensification of migratory flows have significant implications for public health (Ramos, 2021), including worker's health. In regions such as Mato Grosso do Sul, located in the center-west of Brazil, the phenomenon of migration is intrinsically linked to economic activity (Jesus, 2018), especially in the context of the Bioceanic Route.

The Bioceanic Route is an important connection route between Brazil and South American countries, establishing a land connection between the Atlantic Ocean (through the Port of Santos) and the Pacific Ocean (through the ports of Chile and Peru). The implementation of this route aims to facilitate the transportation of goods, stimulating trade and regional integration (Abrita *et al.*, 2023). In Mato Grosso do Sul, the Bioceanic Route assumes a strategic role, crossing the state and connecting it to neighboring countries, such as Paraguay and Bolivia. Some of the municipalities that are part of this route include Corumbá, Porto Murtinho, Bela Vista, Caracol and Jardim. This important land transportation route drives the economic development of the region (Asato *et al.*, 2019), bringing with it direct impacts on the health of the workers involved in this process.

Worker's health, in turn, is a field of study that aims to protect and promote the health of individuals in the work environment (Hurtado *et al.*, 2022). Considering the context of the bioceanic route in Mato Grosso do Sul, it is crucial to understand the implications of migration and working conditions in this region for workers' health. Migration, whether internal or international, is often associated with precarious working conditions, exposure to occupational risks and difficulties in accessing adequate health services (Martine, 2005).

Mato Grosso do Sul, as the context of this reflection, presents significant particularities. The state has a diversified economy, with agricultural, livestock, industrial and service activities (Constantino *et al.*, 2019). In addition, its strategic location, and the existence of the Bioceanic Route attract migratory flows of workers from different regions, both from Brazil and neighboring

countries (Asato *et al.*, 2019). This complex reality poses challenges for the protection of workers' health, making it essential to analyze and reflect on Surveillance of the Workers Health in this specific context.

The migrant population may also face additional difficulties in accessing health services, due to lack of legal documentation, migration policy restrictions and discrimination (Premji, 2019). These barriers can prevent access to preventive medical examinations, timely diagnosis, and treatment (Fauk *et al.*, 2022; Harrison; Daker-White, 2019), resulting in worsening occupational diseases and lower quality of life. It is also worth including the difficulties of health teams in recognizing illnesses as a fact directly linked to work activity (Napoleão *et al.*, 2000).

Considering these vulnerabilities, it is essential to reflect on the worker's health of the migrant population along the bioceanic road corridor in Mato Grosso do Sul. Therefore, the narrative review of the literature is relevant, as it allows identifying the existing gaps in scientific knowledge, and the possible challenges to be faced in the health care of migrant workers along the bioceanic road corridor in Mato Grosso do Sul. The aim is to discuss this theme so that intervention strategies can be (re)thought, aiming at the promotion and equity in occupational health, contributing to the improvement of working conditions and well-being of migrant workers.

2 METHODOLOGY

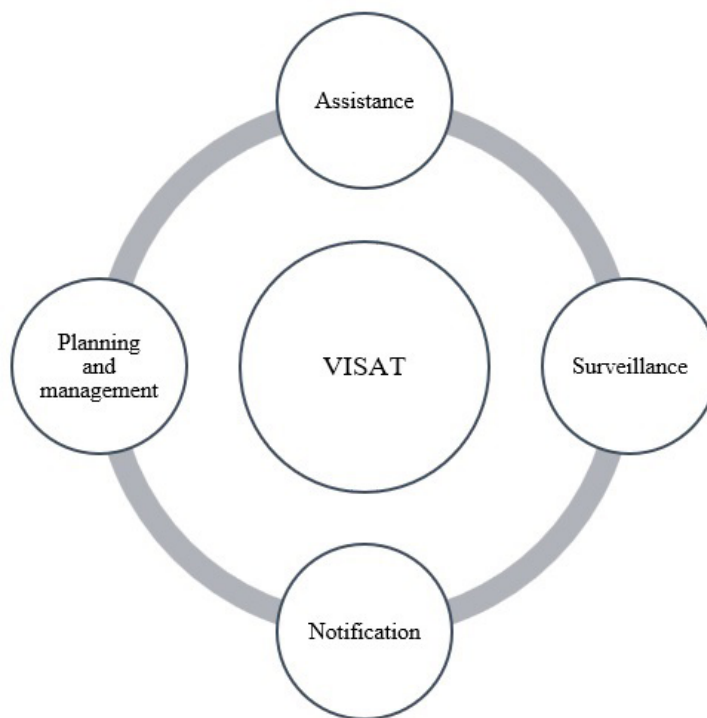
This essay is based on a review of the scientific literature related to the health of migrant workers.

The search for scientific literature was carried out on the portal States National Library of Medicine National Institutes of Health (Medline/PubMed), in June 2023. For the research, the following descriptors and search strategy were used: "Surveillance of the Workers Health"; "Health Vulnerability"; "Transients and Migrants"; combined with the Boolean operator "AND". Publications from the last five years (2019 to 2023) were considered. Based on the search results, the productions that contributed to the objectives of this essay were selected, at the author's discretion.

Then, the process involved, initially, the reading of 56 abstracts of documents found, to identify the pertinence with the object studied and, later, the reading of 25 articles, analyzed in full. Finally, the selected articles were indexed.

To understand the issues that permeate the actions of Surveillance of the Workers Health and discuss it from a theoretical point of view, the development of the essay was organized according to the actions recommended by the current rules of Surveillance of the Workers Health and highlighted by Dias *et al.*, 2009, being described and related in Figure 1. National and local literature was consulted to counter international findings and develop in-depth reflections.

Figure 1 – Surveillance of the Workers Health (VISAT, in Portuguese)



Source: Adapted from Dias *et al.* (2009).

3 RESULTS AND DISCUSSION

3.1 Assistance

It is necessary to clarify that workers' health actions are organized in the National Network of Comprehensive Care for Workers' Health (RENAST), which is a network of information and health practices, organized with the objective of implementing care, surveillance, and health promotion actions, in the SUS, from the perspective of Workers' Health (Dias; Hoefel, 2005).

Throughout RENAST, workers' health surveillance should be attentive to the assistance offered in cases of occupational accidents and suspected occupational diseases, ensuring the right to guidance, access to services and comprehensive care (Dias *et al.*, 2009).

International literature reports that emergency care is often the first contact migrants have with health care. According to the perception of care providers in the United Kingdom, there are barriers that obstruct migrants' access to emergency services, such as difficulties in cultural competence (language, gender issues, respect for professional authority) between health professionals and migrants. The organization of the service is also poorly understood among this segment, such as how to call ambulances or go to the emergency room for non-acute problems. In addition, the lack of documentation and fixed residence contributes to the fear of deportation among migrants, and to the delay in seeking care. In addition, intersectoral support for these cases is not yet adequate (Harrison; Daker-White, 2019).

Women who have recently migrated are considered a vulnerable group who may face challenges in adapting to a new country. When considering access to health services for maternal and child health care, there are notes on individual, structural and institutional barriers that prevent recently migrated women from achieving optimal maternal health care. It is suggested to

disseminate information on health structure for migrant women, increase the use of interpreter services, adequate psychosocial support and strengthen diversity and intercultural competence training among health professionals (Bains *et al.*, 2021).

These difficulties in accessing health care are also reflected in local studies, as in the case of the municipality of Porto Murtinho, which is part of the Bioceanic Route. Apparently, maternal and child health care for foreigners is precarious. By analyzing data from the Mortality Information System, a survey identified that 25% of stillbirths between 2006 and 2016 were children of Paraguayans. There is also a high demand for cesarean sections by this population, due to the lack of adequate prenatal care, generating significant costs to SUS (Mochizuke, 2017).

Lack of understanding of the host country's health system and undocumented worker status appear to be a serious problem that compromises care for people with communicable diseases such as HIV. Also, the unavailability of HIV treatment services near migrants' workplaces, long-distance travel to health facilities and difficulties in accessing public transport are recognized barriers that impede access to necessary care (Fauk *et al.*, 2022). There is therefore a need to improve pre-departure information for migrant workers about the health system and access procedures in potential host countries.

A study, conducted in Mato Grosso do Sul, analyzed the trend of HIV/AIDS cases by sex and age group in the twin border cities of Mato Grosso do Sul. There was an increasing trend in the 2017-2018 biennium, with a total of 734 notifications. According to the authors, the migratory flow in the region contributed to these results, requiring the expansion of access to antiviral therapy and the International Cooperation Program for HIV/AIDS Prevention and Control Actions in the border region (Werle *et al.*, 2021).

Sexually transmitted infections such as syphilis and hepatitis C virus are also targets for investigation by researchers worldwide. Among migrant workers, there was a higher overall prevalence of syphilis in the middle-aged and elderly groups when compared to the younger groups. In addition, older people were more likely to engage in high-risk unprotected behaviors (Wang *et al.*, 2020).

Another point discussed in the international literature is the vaccination of migrant populations and the difficulty of access for migrant workers (Socha; Klein, 2020). An example of this is vaccination against hepatitis B virus (HBV). A study in China, concluded that health policymakers should provide additional information to migrants about the severity of HBV; inform migrant workers about where, when, and how to get the HBV vaccine; leverage work organizations as a site for vaccination; and identify subgroups of migrant workers for targeted interventions (Liu; Nicholas; Wang, 2020).

All these issues are interconnected and have an impact on the health of migrants and workers. Mato Grosso do Sul has an economic dynamic focused on agriculture and agroprocessing industry, with increasing advancement of sugarcane activity, This activity is closely related to the degradation of labor and intensification of the pace of labor (Azevedo; Azevedo, 2016). Most of the published works discussing the migratory processes and work in the state highlight Haitian migration, stimulated by the hiring of companies from the state of Mato Grosso do Sul from 2012 onwards. It was estimated that 1,500 Haitians were present in the state in 2018, with about a third formally employed in heavy industries, meatpacking plants and civil construction. Most of this population is male, but there is a trend of migration of single self-employed women and the prevalence of a generation of Brazilian children with Haitian parents (Jesus, 2018).

Considering the Bioceanic Route, there are few studies developed specifically on workers' health in this region. One of the few studies identified was conducted with truck drivers, such research identified that the most prevalent Chronic Noncommunicable Diseases (CNCDs) were hypertension, diabetes mellitus and depression. The main difficulty in coping with NCDs identified was access to health. Regarding absence from work in the last year, 16.1% were absent due to health problems. Regarding medical appointments in the last 12 months, 51.6% attended, while 48.4% did not (Espíndola *et al.*, 2022).

3.2 Surveillance and notification

VISAT has the particularity of understanding the relationship between health and the environment and work processes. Inter-institutional and transdisciplinary actions are necessary to be able to propose intervention actions (Machado, 2005).

For Dias *et al.*, (2009) the mapping of productive activities developed, and the registration of the population enrolled in the territory support the planning of health promotion actions, health, and epidemiological surveillance, assisting in the adequacy of care. Professionals also play a crucial role in participating in the surveillance of work environments and processes, identifying risk situations, and defining corrective or mitigating measures. In addition, they contribute to the health surveillance of workers exposed to risk situations, conducting epidemiological investigations, and providing necessary guidance to workers.

In the context of notification, it is important to emphasize that professionals play a relevant role in the notification of work-related health problems, feeding the information system of surveillance agencies and services, as well as the SUS, in Portuguese. (The Brazilian Unified System) databases. This notification is essential for the systematization and analysis of data on work-related health problems, allowing the guidance of surveillance actions, the organization of services and other actions in workers' health. Therefore, surveillance and notification are essential components for monitoring and controlling health risks in the workplace, promoting workers' safety and well-being (Dias *et al.*, 2009).

Regarding surveillance and reporting of migrant worker health issues, studies were identified that address occupational health problems, the importance of attention to infectious diseases, parasitic diseases, mental illnesses and disorders, and unhealthy behaviors.

In previous studies involving migrant workers, significant patterns related to occupational injuries and diseases were identified. For example, males aged 45 years and older, working as machine operators and in the construction, agriculture, livestock, and fishing industries were found to have a more significant association with an increased risk of sustaining fatal occupational injuries as migrant workers in South Korea (Lee; Cho, 2019). These findings highlight the importance of understanding the specific risk factors affecting this population to develop appropriate prevention and intervention strategies to promote the occupational safety and health of migrant workers.

Occupational diseases, such as cancer, cause more deaths each year than occupational accidents. Occupational carcinogens include physical, chemical, biological, and organizational hazards (Gosselin *et al.*, 2020). In the United Arab Emirates (UAE), migrant workers represent 80% of the workforce. They are sometimes employed as unskilled workers and are more willing to work in unhealthy jobs. A study in this region of 1,778 migrant workers working in construction, cleaning, dry cleaning, mechanical workshops, and beauty salons identified moderate to high exposure to 20 different carcinogens (Elbarazi *et al.*, 2022).

There is evidence indicating the occurrence of cancer among workers in Mato Grosso do Sul. An epidemiological survey conducted in a district of an interior municipality revealed the presence of chronic symptoms of intoxication among rural workers, possibly due to inadequate storage of pesticide containers, inadequate use of personal protective equipment and low-tech sprinkler equipment (Perez, 2009). Although the study did not specifically address the migrant population, this finding is alarming, as this population is more vulnerable to working conditions. This serves as a warning to managers and health professionals, highlighting the need for preventive actions and effective interventions to protect workers' health and mitigate the risks associated with occupational cancer.

When it comes to diseases among migrants, articles highlight the prevalence of tuberculosis among migrant workers. The risk of becoming ill with tuberculosis among migrant women and young people (≤ 24 years) is higher when compared to the general population (Lu *et al.*, 2019). Considering the state of Mato Grosso do Sul, a previous study reported that the border population with Bolivia and Paraguay presents higher risks of tuberculosis. Through the analysis of compulsory notifications, it was possible to identify a risk of almost 1.7 times of being affected by tuberculosis in border regions, when compared to the other regions of the state. The authors raise the possibility that these results are justified by the importation of active cases and, therefore, transmitters, from foreigners who are in Brazil (Ferraz; Valente, 2014).

Attention is also needed on parasitic diseases. Findings on barriers to access to diagnosis of visceral leishmaniasis (VL) by migrants reinforce the importance of vector control, access to food, shelter, water, and health care. They also reiterate the need for decentralization of diagnostic tests to basic health units; improved referral/feedback/notification/training within the health system; free comprehensive medical care for all services related to parasitic disease care and community health education (Coulborn *et al.*, 2018).

Attention to visceral leishmaniasis (VL) goes beyond the health of workers in the state of Mato Grosso do Sul and the migrant population. The state faced an epidemic of the disease with a high lethality rate in previous years. Between 2004 and 2015, 2,762 cases of VL were identified, with 8 deaths related to the disease, which represents a lethality of 7.53% during the study period. Although there has been a decrease in incidence recently, there is a clear need to implement effective prevention and control measures (Oliveira, 2017). Considering the working, migrant and vulnerable population, it is recommended that health education strategies be promoted specifically for this segment to raise awareness and provide relevant information on VL prevention and care.

Migration can be accompanied by precarious work, low pay, and rigid recruitment regimes, causing implications for the migrant worker's family. An international study identified the prevalence of malnutrition among the children of construction workers, among the possible mediators of this scenario, the lack of food diversity at home, lack of hygiene and sanitation and economic inability to seek health care were reported (Ravindranath; Trani; Iannotti, 2019).

The precariousness of work is highlighted as one of the factors responsible for the impairment of migrant workers' mental health. Other aspects inherent to the labor occupation are related to poor interpersonal relationships, lack of empowerment, lack of labor rights and low pay, which collaborated with outcomes of stress, depression, anxiety (Koseoglu Ornek *et al.*, 2022).

Exposure to potentially traumatic events throughout the migration cycle also affects women migrant domestic workers. Despite the scarcity of literature on migrant working women, the

findings identified point to a considerable impact of migration on concentration, sleep quality, fatigue and other symptoms that influence depression among this segment (Garabiles *et al.*, 2020), even collaborating with compulsion for gambling (YI *et al.*, 2019).

It is also worth looking at the wives of migrant workers who accompany them. A study of 2,193 wives of migrant workers found moderate to severe depression in 42.6% of the wives, and that 80.09% of these women had suffered some form of gender-based violence (Aryal; Shrestha; Pant, 2019). These results warn that preventive strategies in the field of physical and mental health should be provided to this public.

Considering attitudes and behaviors in the context of worker health surveillance, studies highlight the use of alcohol, use of stimulants and sexual behaviors as factors to be investigated to prevent injuries (Guadamuz; Clatts; Goldsamt, 2018).

3.3 Planning and Management

The planning and management of workers' health surveillance actions should be based mainly on social mobilization (Dias *et al.*, 2009).

To this end, it is essential to start this debate by demystifying the cultural worldview regarding the health of migrant workers (Farwin *et al.*, 2023). Much of the research on the health and safety of foreign-born workers argues that culture affects attitudes and behaviors. In fact, certain health outcomes are more affected by economic, social, political, and environmental forces, as well as lack of information and worker protection equipment, than by cultural behaviors (Premji, 2019).

In addition, it is suggested that planning and management in this area consider the structural challenges of health services, such as availability of an interpreter, collection of information on the health and life of migrant workers, and organization of schedules for consultations that are compatible with the availability of workers' schedules (Ramos, 2021).

It is recommended that the planning and management of workers' health surveillance consider a close approximation with social devices such as the Pastoral of Migrants of the Archdiocese of Campo Grande, as well as the Migrant Support Center (CEDAMI). These devices work to welcome migrant groups, collaborating with the promotion of dignity, ensuring human rights, generating income, and strengthening dialogue with communities (Rosa, 2019). The author Rosane Costa Rosa (Rosa, 2019), also described the relationship of the Pastoral and its articulation with the Committee for Refugees, Migrants and Stateless Persons (CERMA), State Secretariat for Human Rights, Social Assistance and Labor (SEDHAST); the State Committee for Combating Trafficking in Persons (CETRAP); the Permanent Commission for Investigation and Inspection of Labor Conditions in Mato Grosso do Sul (CPIFCT/MS) and the Decent Work Forum that promote and fight for public policies and actions aimed at migrant peoples in the state. In this sense, it is essential to support and expand the connection of these devices, also looking at the region of the Bioceanic Route.

Finally, it should be noted that the state of Mato Grosso do Sul has borders with Paraguay and Bolivia and internally with the states of São Paulo, Paraná, Goiás and Mato Grosso. The state has a migratory wave of Bolivians and Paraguayans seeking better living conditions through work in Brazil. These workers venture into various labor activities and in certain situations not regularized and analogous to slavery (Sobrinho, 2015). Government management needs to pay

attention to the regularization of migrant work, and it is also necessary to consider the areas that make up the bioceanic corridor.

In the health field, RENAST includes the Reference Center for Workers' Health (Cerest, in Portuguese), which plays a key role in health promotion, prevention of occupational diseases and protection of workers in Brazil (Galdino; Santana; Ferrite, 2012). RENAST in Mato Grosso do Sul is composed of different lines of care and has occupational health services and technical references in the other municipalities of the state. To carry out surveillance actions, RENAST is composed of basic health units, reference centers and hospitals aimed at offering comprehensive assistance to workers, welcoming and solving the problems of migrant workers, considering their cultural, social, and economic specificities involved.

In general, these notes should be considered in planning and management with the aim of promoting health and ensuring decent working conditions for migrant workers. The joint action of public services, various actors and social devices are fundamental to face the challenges and ensure the safety and well-being of these workers on the Bioceanic Route.

4 CONCLUSION

In short, the reflections in this essay are provocations regarding a fairer, more inclusive, and healthier society for all migrant workers on the Bioceanic Route. Health in this segment should be discussed from the perspective of care, surveillance, notification, planning and management.

In the care aspect, it should be ensured that migrant workers have access to the necessary health services, including emergency care, maternal and child health care and treatment of communicable diseases. It is paramount to provide information on the health system of the host country, ensure the availability of interpreters and psychosocial support to facilitate communication and understanding.

Migrant worker health surveillance needs to work on identifying occupational hazards, injuries, work-related diseases, and their underlying causes. The collection and analysis of epidemiological data through notifications are important to direct surveillance actions, inform decision-making and implement appropriate prevention and control measures.

Finally, it is imperative that planning and management develop strategies for partnerships with social provisions and the regularization of migrants' work to combat precarious and illegal work situations.

The Bioceanic Route presents unique challenges due to migration and the intense flow of workers between countries. Therefore, an integrated and coordinated approach involving governments, health institutions, civil society organizations and the community should be structured to ensure the health protection and rights of migrant workers along this route.

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