

Institutional stigma toward people affected by tuberculosis in primary health care facilities in a district of Lima, Peru

Estigma institucional hacia personas afectadas por tuberculosis en establecimientos del primer nivel de atención de un distrito de Lima, Perú

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ABSTRACT Despite biomedical advances in the diagnosis and treatment of tuberculosis, the institutional reproduction of stigma as a therapeutic barrier to treatment remains a persistent challenge. This article examines how institutional stigma toward people affected by tuberculosis is reproduced in primary health care facilities in San Juan de Lurigancho, Lima, Peru. Using a qualitative approach, the study combined semi-structured interviews with 16 health workers across six primary health care centers, non-participant observation of tuberculosis care settings in three health centers, and spatial analysis of all six centers, conducted between February and December 2025. The findings show that stigma is materialized through three interconnected mechanisms: health facility architecture that structurally undermines confidentiality through segregated patient pathways and visible signage; epidemiological surveillance technologies that produce the forced visibility of the diagnosis; and conditions of institutional overload that constrain the provision of comprehensive care. The article argues that improving treatment adherence requires interventions not only in the processes of the social determination of health but also in the institutional arrangements that produce and reproduce stigmatization.

KEYWORDS Tuberculosis; Stigma; Health Personnel; Architectural Drawing; Health Centers; Peru.

RESUMEN A pesar de los avances biomédicos en el diagnóstico y tratamiento de la tuberculosis, la reproducción institucional del estigma como barrera terapéutica al tratamiento sigue siendo un problema persistente. El artículo analiza cómo se reproduce el estigma institucional hacia las personas afectadas por tuberculosis en establecimientos del primer nivel de atención de San Juan de Lurigancho, Lima. Desde un abordaje cualitativo, entre febrero y diciembre de 2025, se realizaron entrevistas semiestructuradas a 16 trabajadores de salud en seis centros de salud, observación no participante de los espacios de atención a la tuberculosis de tres centros de salud y análisis espacial de los seis centros de salud. Los hallazgos muestran que el estigma se materializa a través de tres mecanismos articulados: una arquitectura hospitalaria que hace estructuralmente imposible la confidencialidad mediante circuitos diferenciados y señalización visible; tecnologías de vigilancia epidemiológica que producen visibilidad forzada del diagnóstico; y condiciones de sobrecarga institucional que inhiben el cuidado integral. Se argumenta que abordar la adherencia al tratamiento requiere intervenir no solo en los procesos de determinación social de la salud, sino también en los dispositivos institucionales que producen y reproducen estigmatización.

PALABRAS CLAVE Tuberculosis; Estigma; Personal de Salud; Diseño Arquitectónico; Centros de Salud; Perú.

Introduction

Tuberculosis (TB) remains one of the major public health challenges at both the global and national levels. In Peru, most cases are concentrated in urban areas characterized by poverty, overcrowding, and unequal access to healthcare services. San Juan de Lurigancho, the most populous district of Lima, with 1,282,635 inhabitants,⁽¹⁾ has historically reported one of the highest tuberculosis prevalence rates in the country. Its population is predominantly low-income, with a high proportion of informal workers. This situation persists despite efforts to improve TB diagnosis and treatment and to expand the availability of and access to the network of public health facilities. At the same time, treatment adherence remains a persistent challenge that, according to the literature, cannot be explained solely by clinical factors or by the level of knowledge among people affected by tuberculosis.⁽²⁾

As proposed by Morales-Borrero *et al.*,⁽³⁾ in countries where structures of social inequality prevail, health and disease are dialectical processes that cannot be reduced to the simple sum of individual actions or risk factors. What the authors analytically refer to as the “social determination of health” complements the analysis of health services by examining relations of power and inequality, thereby highlighting organizational and institutional conditions within healthcare systems themselves that create barriers to treatment. Within this analytical framework, this article empirically explores the institutional reproduction of stigma as a factor that hinders people affected by tuberculosis who receive care in primary healthcare facilities from adhering to treatment and overcoming the disease.

Several studies have documented a close correlation between poverty and tuberculosis,^(4,5,6) which has informed recommendations for the development of public policies aimed at improving the material living conditions of affected households. Other studies have highlighted the role of everyday practices associated with stigma that may be reproduced within healthcare facilities, affecting timely detection and treatment adherence in urban areas.⁽⁷⁾ In Peru, few studies have examined stigma, and some have focused on the stigma perceived by people affected by tuberculosis from society,⁽⁸⁾ overlooking the stigma reproduced within healthcare services. As Nuttall *et al.*⁽²⁾ indicate, stigma is not only the result of interpersonal attitudes perceived by people affected by tuberculosis; it also operates as a mechanism of exclusion at different points throughout an individual's trajectory. In this regard, as Chakrabarty *et al.*⁽⁹⁾ point out, the reproduction of stigma emerges as a central dimension influencing both the pursuit of diagnosis and continuity of treatment.

Against this backdrop, this study is guided by the following research questions: How is tuberculosis-related stigma reproduced in primary healthcare facilities

in San Juan de Lurigancho through the practices, perceptions, and narratives of healthcare personnel, as well as through the spatial organization of healthcare services? In what ways might these processes affect treatment adherence among people affected by tuberculosis?

From Individual Stigma to Structural Stigma

Traditionally, stigma has been defined as a discrediting attribute that undermines an individual's social identity and leads to exclusion.⁽⁷⁾ However, Link and Phelan⁽¹⁰⁾ propose understanding stigma not as an individual mark, but as a social process that operates through power relations. According to these authors, stigma takes shape when four interrelated components converge: labeling, through which human differences are identified and named; stereotyping, which associates these differences with undesirable characteristics according to dominant cultural beliefs; social separation, which establishes a symbolic boundary between “us” and “them”; and status loss and discrimination, which generate social inequality. These processes become effective only within contexts of asymmetric power, positioning stigma as a structural phenomenon rather than a merely symbolic one.⁽¹⁰⁾ National tuberculosis prevention and care programs increasingly recognize that reducing disease-related stigma is a necessary condition for facilitating timely diagnosis, treatment adherence, and the comprehensive recovery of people affected by tuberculosis.⁽¹¹⁾

The Challenge TB Stigma Measurement Guidance⁽¹²⁾ introduces the concept of structural stigma, understood as stigma that is materialized through laws, public policies, institutional norms, and organizational arrangements that restrict the opportunities, resources, and well-being of stigmatized populations. In the field of tuberculosis, this form of stigma is expressed through control protocols, administrative categories, surveillance practices, and the spatial organization of healthcare services. Accordingly, the guidance indicates that structural stigma can be observed and measured by analyzing institutional policies, normative discourses, healthcare personnel's behaviors, and the spatial distribution and signage of areas designated for the care of people affected by tuberculosis.

From this perspective, many stigmatizing practices do not result from explicit individual intentions, but rather from the repetition of mandatory practices derived from technical standards and standardized tuberculosis control strategies. In this regard, certain interventions considered “neutral” from a biomedical standpoint—such as the mandatory use of masks, directly observed treatment, or the segregation of care areas—may operate as mechanisms of labeling, separation, and status loss, thereby reinforcing the association between tuberculosis and dangerousness.

Healthcare Workers and Their Role in the Reproduction of Stigma

The contribution of Nunes and Lotta⁽¹³⁾ helps explain how structural stigma is reproduced in everyday practice through the discretion exercised by healthcare personnel. The authors argue that frontline workers act as “street-level bureaucrats,” with significant discretion to interpret, adapt, and implement public policies in contexts characterized by limited resources and high institutional pressure. This discretion does not constitute an implementation failure, but rather a structural component of how policies operate, through which power is exercised and inequalities are produced, ultimately undermining the impact of the very policies being implemented.

The articulation between structural stigma and discretion is key to understanding that stigmatizing behavior among healthcare personnel cannot be reduced to individual attitudes. Institutional arrangements—including regulatory frameworks, clinical protocols, and healthcare facility design—create a context in which personnel are required to classify, monitor, and assess patients. Although these assessments are presented as technical, they incorporate moral judgments concerning the responsibility, commitment, and reliability of people affected by tuberculosis. In this way, discretion becomes a mechanism through which structural stigma is translated into concrete practices.

Following Nunes and Lotta,⁽¹³⁾ healthcare personnel decide who is granted greater flexibility, support, or additional resources and who is subjected to increased monitoring or symbolic sanction. These decisions are not always explicitly codified in regulations, but they derive their legitimacy from the design of the policy itself and from institutional mechanisms that reinforce surveillance. Thus, discretion not only reproduces pre-existing inequalities but also consolidates stigma by associating tuberculosis with individual shortcomings and deviant behaviors.

Several studies show that healthcare personnel may reproduce this stigma through a “blame paradigm,” in which people affected by tuberculosis are held responsible for adverse treatment outcomes.⁽¹⁴⁾ Categories such as “suspect” or “treatment defaulter” do not merely describe clinical trajectories; they also moralize the experience of illness, shifting attention away from systemic shortcomings and toward the individual. In response to this logic, authors such as Sagbakken *et al.*,⁽¹⁵⁾ Hargreaves *et al.*,⁽¹⁶⁾ and Burgos-Ugaz and Surca Rojas⁽¹⁷⁾ argue for the need for a social justice and supportive care approach that respects the autonomy and dignity of people affected by tuberculosis.

Institutional Architecture and the Materialization of Stigma

The spatial organization of healthcare services constitutes a fundamental material dimension in the reproduction of structural stigma, yet it has not been sufficiently explored in the literature on tuberculosis. Nyblade *et al.*⁽¹⁸⁾ point out that further research is needed on the potential of structural interventions to reduce stigma in healthcare settings, particularly regarding how the physical layout or spatial configuration of a facility may contribute to or mitigate the experience and anticipation of stigma within healthcare facilities.

Challenge TB⁽¹²⁾ indicates that healthcare facility design and the spatial organization of tuberculosis services reinforce stigma by making the condition of people affected by tuberculosis visible and materializing their separation from other users. The existence of designated areas, exclusive pathways, and explicit signage not only expresses stigma spatially but also structures interactions between healthcare personnel and people affected by tuberculosis. In this sense, institutional architecture simultaneously functions as a material support for structural stigma and as a framework that legitimizes the everyday exercise of power.

Methodology

The study employed an exploratory-interpretive qualitative methodology to understand the experiences, perceptions, and practices of healthcare personnel in relation to people affected by tuberculosis and the stigma associated with the disease. Multiple data collection strategies were combined: semi-structured interviews with healthcare workers, non-participant observation of tuberculosis care spaces in three health centers, and spatial analysis of these same areas in six public health centers in San Juan de Lurigancho, Lima, between February and December 2025.

Sixteen healthcare workers were interviewed: two physicians, seven nurses, one nutritionist, two medical interns, one nursing technician, one social worker, and two psychologists. The inclusion criteria were: currently working in the care of people affected by tuberculosis and people with tuberculosis; having at least one month of experience in the service; and voluntarily agreeing to participate by providing informed consent. Participants ranged in age from 25 to 63 years, with heterogeneous levels of experience, ranging from one month to 10 years working in tuberculosis services. This allowed for the inclusion of perspectives from individuals who had recently joined the health centers as well as from workers with extensive experience in these services.

Access to the field was obtained through the institutional protocol of the Pontificia Universidad Católica del Perú (PUCP), which included approval by the Ethics

Committee and formal authorization from the *Dirección de Redes Integradas de Salud Lima Norte* (Lima North Integrated Health Networks Directorate). Initial contacts were established through the tuberculosis service coordinators at each health center, who facilitated the voluntary recruitment of participants.

Among the central conceptual frameworks, Link and Phelan's⁽¹⁰⁾ components of stigma, the dimensions of structural stigma proposed by Challenge TB,⁽¹²⁾ and Nunes and Lotta's⁽¹³⁾ notion of discretion guided the development of the research instruments as sensitizing categories, without determining in advance the topics to be explored in a closed or prescriptive manner. The interview guide was organized around four thematic areas: conditions and organization of tuberculosis-related work; perceptions of treatment adherence and profiles of people affected by tuberculosis; gender differences in the management of the disease; and tuberculosis-related stigma. Although confidentiality and spatial design were not formulated as direct questions, they consistently emerged in participants' accounts and were therefore treated as relevant inductive patterns. The spatial observation forms were developed based on the dimensions of structural stigma proposed by Challenge TB⁽¹²⁾: signage, differentiated circulation routes, spatial distribution, ventilation, and compliance with Technical Health Standard 113-MINSA/DGIEM V.01, concerning "Infrastructure and Equipment of Primary Healthcare Facilities"⁽¹⁹⁾. An informal interview was also conducted with an architect specializing in healthcare facility design to investigate the design decisions underlying the tuberculosis care areas.

The interviews lasted an average of 41 minutes and were conducted in person in private spaces within the health centers, except for one interview conducted via Zoom. All interviews were recorded and transcribed verbatim. Thematic analysis followed the iterative and dialogical process proposed by Braun and Clarke,⁽²⁰⁾ supported by Atlas.ti for the organization and coding of the material. A mixed coding approach was employed, combining theoretically informed sensitizing categories with inductively generated codes. This approach made it possible to identify cross-cutting patterns across interviews and observations.

As a complement to the interviews, non-participant observation was conducted to examine reception dynamics and interactions between people affected by tuberculosis and healthcare personnel at three facilities: Chacarilla de Otero Health Center, Huáscar XV Health Center, and Sagrada Familia Health Post. Each facility was visited on three occasions between November and December 2025, during morning hours, from 8:00 a.m. to 1:00 p.m. Reception dynamics, interactions, spatial distribution, signage, and ventilation were recorded during each observation period.

The study protocol was approved by the Ethics Committee for Research in the Social Sciences, Humanities, and Arts of the Pontificia Universidad Católica del

Perú (CEI-CCSSHAA-PUCP) on November 14, 2024, under protocol code 180-2024-CEI-CCSSHAA/PUCP. All participants provided written informed consent. To preserve confidentiality, each interview was assigned a code, and the recordings were stored in encrypted files accessible only to the researchers.

Results

Based on the objective of analyzing how tuberculosis-related stigma is reproduced in primary healthcare facilities in San Juan de Lurigancho, with a focus on how the structural conditions of the healthcare system create an environment conducive to the perpetuation of stigmatizing practices, our study identified, on the one hand, structural conditions that facilitate the reproduction of stigma within healthcare facilities and, on the other, entrenched stigmatizing practices that remain unquestioned and form part of the everyday interactions that people affected by tuberculosis have with the healthcare system.

Structural conditions of healthcare services

This section shows that the limitations of the healthcare system in San Juan de Lurigancho act as institutional barriers to comprehensive care and reinforce attitudes that construct stigma toward people affected by tuberculosis. The analysis reveals that these shortcomings are not simply "poor conditions," but rather mechanisms that structurally produce and reproduce institutional stigma in multiple ways. The structural conditions of the Peruvian healthcare system systematically reproduce labeling, stereotyping, social separation, and status loss.

Work overload and the depersonalization of care

One of the main difficulties reported was the high demand associated with people affected by tuberculosis. In some health centers, between 70 and 80 active cases are managed simultaneously, creating serious difficulties in daily organization and the quality of care:

"It's complex because you get everything at once; sometimes you're doing one thing and they already schedule you for something else [...] then another patient comes, another patient comes, a report, another report, they call you from DIRIS [Lima North Integrated Health Networks Directorate], they call you from here, from the other side. So, you lose track." (Interview 1, nurse)

The account reveals a process of depersonalization of care: under conditions of extreme workload, the person

affected by tuberculosis ceases to be understood as an individual with complex needs and instead becomes one more task on an endless list. This clinical workload is compounded by an excessive administrative burden that reduces the time available for direct care, undermining the person's trust and the therapeutic relationship:

"The difficult part is coordinating with other facilities [...] it's a little difficult to get an appointment for a patient; you want it to be right away, but because of the demand [...] it's a little difficult. [...] And, on top of that, that patient also trusts you, so they're going to be more adherent in every sense." (Interview 3, nurse).

Long waiting times (two or three hours) convey an implicit message of devaluation, which is particularly stigmatizing for people affected by tuberculosis, who may already internalize the disease as a source of shame. This situation materializes the fourth component of stigma identified by Link and Phelan⁽⁴⁰⁾: status loss and discrimination, expressed through prolonged waiting times and rushed consultations. In this context, person-centered care is reduced to an encounter in which medications are dispensed and data are recorded, with no space for the emotional support that healthcare personnel themselves identify as important for treatment adherence.

Limitations of the multidisciplinary team: The fragmentation of the individual

Technical regulations issued by the Ministry of Health⁽⁴⁹⁾ require every person diagnosed with tuberculosis to undergo an assessment by psychology, nutrition, and social work professionals. This regulatory recognition that tuberculosis requires comprehensive care extending beyond the biomedical domain is, in principle, a significant step forward. However, the implementation of this regulation reveals a profound gap between the ideal of comprehensive care and the reality of healthcare services in the urban periphery.

In health centers located in the peripheral areas of San Juan de Lurigancho, these support services are limited or provided on a rotating basis, being available only once or twice a month, in stark contrast to larger health centers where they may be available weekly:

"Regarding the tuberculosis area, we have professionals who come [...] from RIS 7 [Integrated Health Network 7] [...] Obviously, it has been observed that at the health center [the name of the larger health center is mentioned], which is where, so to speak, those professionals were assigned, they are available weekly. Every week

they have the professionals, whereas the others, in the peripheral areas, are sent [there] once or twice a month. [...] The psychologist may only be able to come twice in the entire month. And the nutritionist, if we are, so to speak, lucky, perhaps once a month." (Interview 8, nurse)

This testimony reveals a territorial hierarchy in access to comprehensive care: while the main health center has complete multidisciplinary teams available weekly, smaller facilities lack regular access to these professionals. This unequal distribution illustrates what Link and Hatzenbuehler⁽²¹⁾ refer to as structural stigma: policies, norms, and institutional conditions that constrain the opportunities and resources available to stigmatized populations without necessarily reflecting discriminatory attitudes at the individual level.

According to healthcare personnel, this inequity deepened, paradoxically, when workers achieved employment stability through permanent appointments (*nombramiento*). This illustrates how health workforce management practices can produce unintended consequences that deepen territorial inequalities and reinforce the third component of stigma identified by Link and Phelan⁽⁴⁰⁾: social separation between patients attending central and peripheral health centers. Implicitly, this establishes that those receiving care at the former "deserve" greater access to comprehensive care than those attending the latter. Moreover, this dynamic is embedded within a historically rooted logic of healthcare centralization that reproduces inequalities between "central" and "peripheral" territories, with the latter often inhabited by impoverished and racialized populations.

The absence of a complete multidisciplinary team or adequate service frequency significantly hinders the comprehensive and specialized care required, particularly for patients with substance use disorders, emotional comorbidities, or situations of violence. Nursing staff compensate for these limitations through informal strategies, such as telephone calls, contact with family members, and home visits. However, these actions cannot replace the specialized interventions required in cases involving mental health, gender-based violence, or severe nutritional problems.

The sporadic availability of multidisciplinary teams may result in people affected by tuberculosis being reduced to individuals who carry the bacillus and must take medication, while their psychological, nutritional, and social dimensions are relegated to occasional and insufficient interventions. This fragmentation of treatment and of the needs of people affected by tuberculosis contradicts the official discourse of "comprehensive care" and communicates to patients that only their biomedical condition matters, rather than their overall well-being.

The healthcare system as a reproducer of stigma

The exercise of discretion: extra-normative strategies

In response to structural conditions, healthcare personnel implement a range of strategies to improve treatment adherence targets. These strategies are discretionary; that is, they are not always regulated, or regulations are applied by healthcare personnel based on what they consider appropriate in each individual case.

"I told you that she had a family and that they have very limited resources; they live in the last little house up on the hill. They tell me, 'Nurse, the motorcycle fare is difficult for me.' Sometimes the mother—I have a 14-year-old patient—the mother goes out to work and is afraid to send her daughter alone. They may have gone through some experience that has affected them. So, I try to support her in that, you know? 'Okay, that's fine, come here so you can save money, so you don't have to spend what little money you have.' She started crying. 'I work, I'm a single mother, I don't have money for school supplies.' 'Okay, take your medication, but send me a video.' I supervise her. It's also a form of support for them. And economically, yes, because some of the patients come saying, 'I haven't had breakfast.' So, sometimes we prepare food here for ourselves, and I save some because I know they're going to come without having eaten. Or sometimes I buy them some quinoa or coffee. Although it's not frequent, some of them come like that, but they come to comply with their treatment, and for me, I tell them, 'I'll even give you a meal, just come.' Of course, it's not always possible." (Interview 1, nurse)

This account reveals extra-normative care practices: healthcare personnel make accommodations—including video-based supervision instead of in-person supervision⁽²²⁾—which is permitted under the technical regulations, but whose implementation is left to the discretion of healthcare personnel. Healthcare workers also use their own money to purchase food and set aside food from their personal supplies. The statement, "for me, I'll even give you a meal, just come," illustrates the priorities of healthcare personnel: maintaining treatment adherence, even if this requires flexibilizing established rules. However, by adding "of course, it's not always possible," the nurse acknowledges that these practices are unsustainable and inequitable because they depend on the individual worker's "goodwill."

In another case, a nurse described how she talks with people affected by tuberculosis to encourage them to continue their treatment, flexibilizing the requirement

that they take full medical leave, which is difficult for many to comply with:

"That's why we give them some flexibility: 'Don't miss your treatment.' You've already worked all day, so have your breakfast, come here, take your medication, and from 11 or 12 in the afternoon you can go and do whatever you need to do, and if you want, continue in the afternoon. But don't push yourself too hard, because in the end there won't be any progress in your illness. In other words, you're not going to improve in the way you want to improve." (Interview 3, nurse)

Healthcare personnel negotiate: "don't let me down on your treatment" in exchange for allowing the person to work half a day. This negotiation implicitly acknowledges that the formal protocol—full medical leave for people with tuberculosis—is impracticable, but it also places responsibility on people affected by tuberculosis to "not push themselves too hard," transferring to them the decision regarding how much they can work without compromising their health.

This discretionary power is not neutral. As Nunes and Lotta⁽⁴³⁾ argue, it functions as a mechanism of domination aimed at shaping the behavior of people affected by tuberculosis and constituting "healthy" subjects who conform to the system's vision. These discretionary practices reveal a fundamental tension: do they compensate for structural deficiencies, or do they perpetuate a system that depends on the "goodwill" of individual healthcare workers rather than on institutional guarantees? The answer appears to be both at the same time. On the one hand, these strategies keep people affected by tuberculosis engaged in treatment when they might otherwise discontinue it. On the other hand, they allow the system to avoid addressing the structural causes underlying these dilemmas.

Moreover, these practices generate inequalities: some healthcare workers are more empathetic or have greater personal resources that enable them to make such accommodations, whereas others do not. Thus, the care received by people affected by tuberculosis depends on which healthcare worker they happen to encounter, rather than on institutionally guaranteed rights. The analysis reveals that institutional stigma is not produced primarily by individual discriminatory attitudes among healthcare personnel, who generally demonstrate empathy and commitment toward people affected by tuberculosis, but rather by the structural conditions under which healthcare services operate. As Link and Phelan⁽⁴⁰⁾ argue, stigma depends entirely on access to social, economic, and political power that enables its components to take effect. In this case, power does not reside in individual attitudes, but in the institutional architecture that systematically fragments care and places responsibility on people affected by tuberculosis.

Reproduction of Stigma: Confidentiality and Treatment Adherence

This section examines how the healthcare system materializes stigma through the implementation of regulations, surveillance technologies aimed at ensuring treatment adherence among people affected by tuberculosis, and healthcare facility design that segregates their care. The analysis reveals tensions between the need for epidemiological control and respect for individuals' privacy and autonomy.

Healthcare personnel are fully aware that tuberculosis is highly stigmatizing within the communities of San Juan de Lurigancho, an awareness grounded in concrete experiences that people affected by tuberculosis report consistently. A tuberculosis diagnosis immediately becomes public knowledge, fueled by fear of transmission and neighborhood surveillance, as illustrated by the following account:

“What should be done more? Preventive care in the community, outside [the health center]. But people find it difficult; they feel ashamed. [...] Because they say, ‘Oh! She’s leaving her sample here,’ ‘Oh, neighbor!’ And that’s how it starts: ‘The neighbor is sick, she has tuberculosis!’ The label they put on people—that stigma, you know?—that tuberculosis is highly contagious, that you can catch it by hugging or touching someone. Many patients

here feel bad. It’s as if they feel excluded.” (Interview 10, psychologist)

In response to this community-level stigma, healthcare personnel deploy strategies of moral reframing:

“Being ashamed is stealing; being ashamed is killing. An illness is nothing to be ashamed of. It happened to you, so you have to take the treatment.” (Interview 7, nursing technician)

These strategies are pedagogically destigmatizing, but they do not resolve the pragmatic problem: stigma operates regardless of whether it is morally justified, and people affected by tuberculosis have concrete reasons to fear public disclosure, including neighborhood exclusion, job loss, and the breakdown of social relationships. Healthcare personnel may attempt to change an individual's attitudes, but they cannot change the attitudes of the community.

The mere act of entering the tuberculosis care area is sufficient to publicly identify people affected by tuberculosis, making confidentiality structurally impossible. Across all six health centers, large signs indicating the location of the tuberculosis care area were identified (Figure 1).

This signage constitutes a form of institutional labeling that creates a distinction between “them” (people affected by tuberculosis) and “us” (other users), reinforcing stereotypes of dangerousness and contagion.



Figure 1. Signage identifying tuberculosis care areas in the health centers analyzed. Lima, Peru, 2025.

Source: Authors' own elaboration.

Only one of the centers visited used signage with acronyms that made it more difficult to directly identify the area, a practice recommended by Challenge TB.⁽¹²⁾ The practical consequence is that people affected by tuberculosis adjust their schedules to avoid being seen:

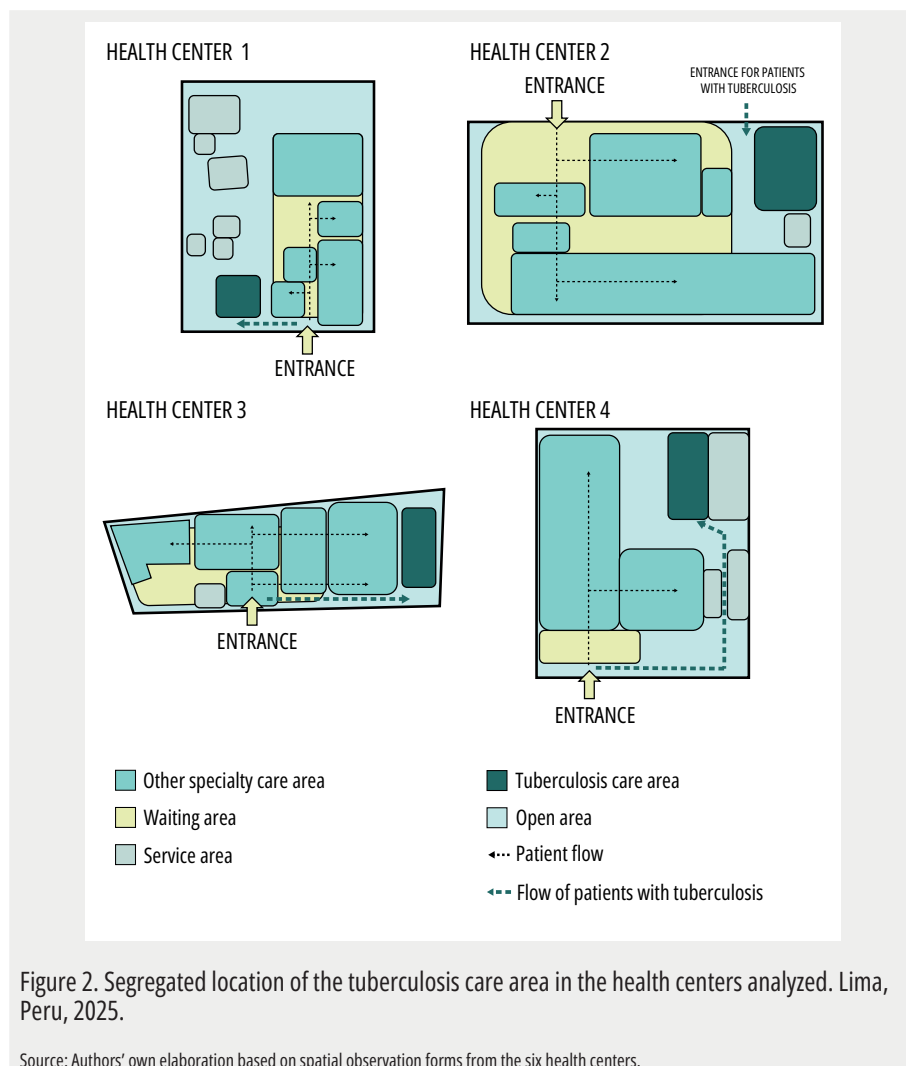
“They also tell me, both men and women [...] ‘No, it’s just that at that time the health post is emptier, and there are people there whom I know.’ So, they’re afraid [...] because as soon as someone finds out, the rumors start.” (Interview 3, nurse)

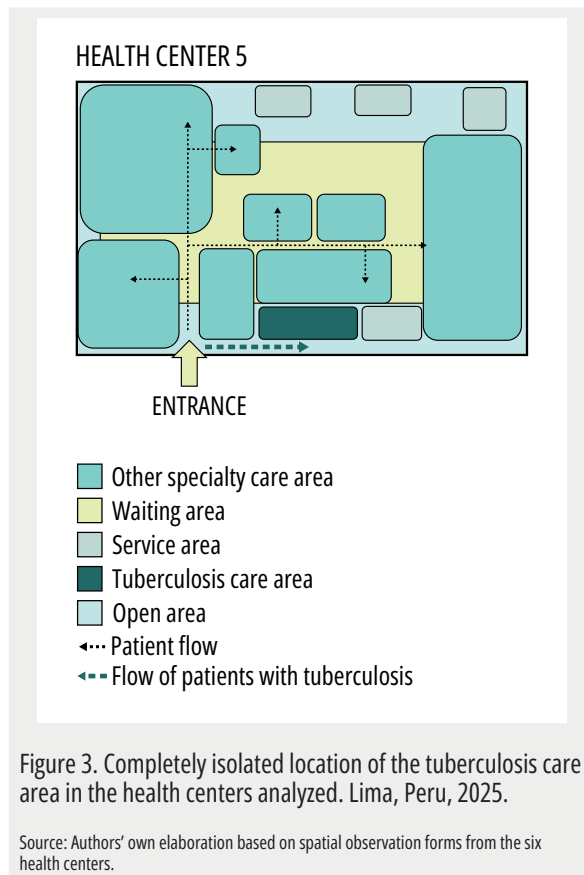
Concealment Strategies: Schedules and Spaces

The concealment strategies employed by people affected by tuberculosis cannot be understood solely as individual decisions motivated by shame or fear. Rather, they constitute rational responses to an institutional environment that materializes processes of labeling and social separation. Their recurrence across health-care personnel’s accounts allows them to be understood as a significant pattern of responses to an institutional environment that materializes these processes.

Peruvian healthcare facility design for primary healthcare, as established by Technical Health Standard 113,⁽¹⁹⁾ sets minimum technical criteria for design, equipment, and the management of contaminated biological waste. Within this framework, the standard establishes “differentiated care areas” for tuberculosis—and for human immunodeficiency virus (HIV) care—with exclusive circulation routes and care areas located away from other services in order to promote natural ventilation and prevent the spread of the bacillus to other areas of care. Thus, the physical environment becomes a mechanism of institutionalized labeling and separation, reinforcing the idea that people with tuberculosis are inherently dangerous and different from other users, while reproducing experiences of exclusion and humiliation:

“Because sometimes they say, ‘No, they’re going to see me at the health post. What if they find out I have tuberculosis? They’ll stay away from me.’ [...] A patient also came in just now, but she was hiding and rushed in here, you know? ‘Don’t let them see me, don’t let them see me taking treatment.’ I told her, ‘But, my dear, it’s normal. We all have





tuberculosis, and we can get sick if we don't take care of ourselves. Maybe two months from now, your friend or your neighbor will get it.' So, I think it might be that, you know? The fear of what people will say." (Interview 7, nursing technician)

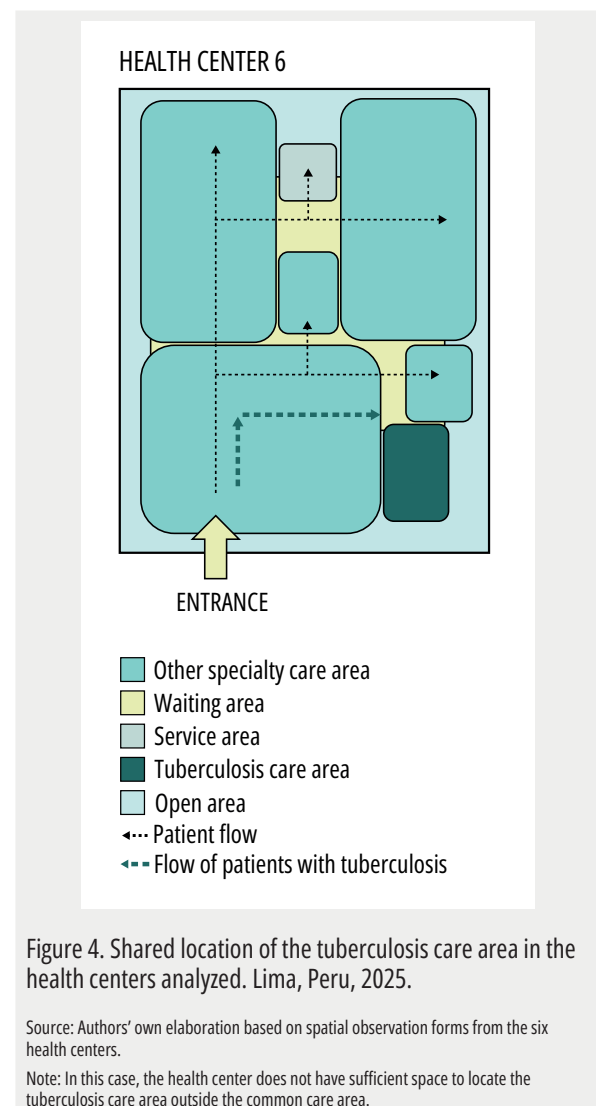
Across the six health centers studied, we analyzed how the location and physical layout of the tuberculosis care areas, as well as the placement of signs and informational posters, may reinforce stigma toward people affected by tuberculosis. In four of these health centers, the tuberculosis care area was located in the most remote part of the facility (Figure 2); in others, it was located in concealed areas (Figure 3) or in shared spaces divided by screens due to lack of space (Figure 4). As a result of this spatial arrangement, there is a clearly differentiated entry route and segregated spaces for people affected by tuberculosis. This may discourage timely care-seeking, affect treatment adherence, and exacerbate the social burden of the disease, thereby reproducing stigma.

During the fieldwork, a complaint was witnessed at Health Center 4 (Figure 1) involving a person affected by tuberculosis. Although the health center has a segregated entrance for people affected by tuberculosis, the door is not always open, forcing these individuals to enter through the main entrance and then follow the segregated route. The person arrived at approximately 8:30 a.m., and the security guard at the entrance publicly

reprimanded them for using the main entrance, shouting: "You have tuberculosis; you could infect the people here. You cannot enter through this door. You have to use door N2." The embarrassed person replied: "The door is closed, and I am wearing a mask." Despite this response, the security guard continued to blame the person for potential infections.

The person affected by tuberculosis arrived at the care area visibly distressed and feeling exposed. They reported the incident to the nurse in charge, who offered support and stated that what had just occurred was a serious mistake. The nurse called the security guard over and reprimanded him in front of the person, explaining that such public disclosure was unacceptable on confidentiality grounds. Although a reparative action was taken, the person affected by tuberculosis had already been exposed to other users, thereby reproducing the stigma associated with tuberculosis transmission.

On the other hand, regulations also stipulate that the tuberculosis care area must be exclusive and have adequate cross-ventilation, but they do not establish the same conditions for other care areas. Consequently,



the location of this area depends, in part, on how tuberculosis is understood by the architects responsible for designing, constructing, or renovating health centers. According to an architect specializing in healthcare facility design in Peru (exploratory conversation, August 2025), architecture professionals are not trained in issues such as the rights of people affected by health conditions, stigma, and dignified care. As a result, ideas associating tuberculosis with a dangerous disease requiring complete isolation from other services may be reproduced. Although exploratory, this observation is consistent with the findings of the spatial analysis and with the provisions established in the technical regulations.

Peruvian healthcare facility design reflects an unresolved tension between the biomedical logic of epidemiological control and the need to ensure dignified and inclusive care for people affected by tuberculosis. Regulations prioritize biosafety but lack a rights-based approach that incorporates anti-stigmatizing criteria into the physical organization of healthcare spaces. This regulatory framework institutionalizes separation and reinforces a hierarchy between people considered “safe” and “dangerous,” thereby perpetuating structural stigma that may affect treatment adherence and erode people affected by tuberculosis’ trust in the healthcare system. In practice, users perceive that “people with tuberculosis” should go to a different place, wait separately, or move through designated corridors, thereby naturalizing their separation from people with other health conditions.

Discussion

The findings of this study identify three conceptual tensions that warrant further elaboration in light of the existing literature.

The first tension concerns the analytical boundaries between institutional stigma, structural stigma, and everyday practices. The article relies primarily on healthcare personnel as its empirical source, making it possible to reconstruct the everyday mediations through which workers reproduce or modulate institutional mechanisms. However, structural stigma itself, in the sense proposed by Hatzenbuehler et al.,⁽²³⁾ operates at a broader level, encompassing the policies, regulatory frameworks, and conditions that organize the healthcare system as a whole. From the perspective of the social determination of health,⁽³⁾ this distinction is particularly relevant to the Latin American literature, which has systematically distinguished between the effects of social relations on the distribution of illness and the institutional mechanisms that reproduce inequalities in healthcare. This study provides evidence on the latter dimension from a localized perspective in Lima, contributing to a research agenda that should be

expanded through comparative studies in other Latin American cities with a high tuberculosis burden, such as São Paulo, Bogotá, and Mexico City, where similar dynamics of spatial segregation and institutional overload have been reported.⁽²⁴⁾

The second tension is between biosafety and rights. The analysis shows that epidemiological control protocols, directly observed treatment, differentiated circulation routes, and signage identifying tuberculosis care areas are legitimate instruments from a biomedical perspective, yet they produce forms of “persecutory health”⁽²⁵⁾ in which epidemiological risk control may systematically undermine the privacy, dignity, and autonomy of people affected by tuberculosis. This tension is not exclusive to the Peruvian case. In Brazil, Nunes and Lotta⁽¹³⁾ document how tuberculosis control programs in primary healthcare settings reproduce forms of surveillance that stigmatize impoverished populations. In Mexico, Bidegain⁽²⁶⁾ has shown how the mobility and use of space of people with tuberculosis in urban settings are conditioned by stigma associated with their physical visibility within healthcare facilities.

Along these same lines, this article shows that the Peruvian healthcare system formally recognizes the importance of maintaining confidentiality. Healthcare personnel emphasize that they do not disclose information to third parties without the individual’s consent. However, this formal confidentiality is structurally impossible to maintain when:

- People affected by tuberculosis must attend the health center daily for six months.
- The health center has an identifiable “tuberculosis area.”
- Home visits are conducted in settings where neighbors can observe them, and communities are small and people know one another.
- People affected by tuberculosis are required to wear masks.

The architecture of epidemiological surveillance makes confidentiality more of a legal fiction than a practical reality. The system is designed to maximize the visibility of and control over the individual user through mechanisms such as daily directly observed treatment, which is incompatible with privacy.

The third tension concerns the ambiguous nature of healthcare personnel’s discretion. The findings show that frontline workers deploy extra-normative care strategies that simultaneously sustain treatment adherence and perpetuate dependence on individual workers rather than guaranteeing institutional rights. This dual nature of discretion has been documented in Latin American primary healthcare settings. Ramírez Hita,⁽²⁷⁾ in the case of Bolivia, has pointed out that the quality of care in primary healthcare facilities depends to a considerable extent on the subjective dispositions of healthcare personnel, thereby deepening inequalities

among patients with different capacities to negotiate. Farmer,⁽²⁸⁾ from a global health perspective, has argued that when healthcare systems rely on frontline personnel to compensate for their own structural deficiencies, structural violence is not only left unresolved but also rendered invisible through the mediation of individual acts of empathy. In this sense, the care practices documented in this study do not invalidate the structural analysis of stigma; rather, they illustrate how the subjectivity of healthcare personnel operates within the boundaries defined by institutional organization.

What distinguishes the Peruvian case within this regional landscape is the combination of three interconnected factors: a technical healthcare infrastructure regulation⁽¹⁹⁾ that explicitly institutionalizes differentiated circulation routes and the spatial segregation of tuberculosis care areas; a context of high levels of informal employment that makes the medical leave protocol structurally impracticable, shifting to healthcare personnel the responsibility of individually negotiating the conditions necessary for treatment adherence; and a territorial concentration of the tuberculosis burden in densely populated districts characterized by urban poverty, such as San Juan de Lurigancho, where anonymity is virtually impossible and community stigma operates with particular intensity. This combination has not been documented in an integrated manner in the Latin American literature on tuberculosis, constituting the specific contribution of this study to the regional research agenda on collective health.

Conclusions

This article began with the observation that, in urban contexts such as San Juan de Lurigancho, persistent difficulties with tuberculosis treatment adherence cannot be explained solely by clinical factors or individual decisions. Although the literature on social determination has demonstrated the close relationship between poverty and tuberculosis, our analysis suggests that it is also necessary to examine how the healthcare system itself shapes experiences of institutional stigmatization. The social determination of health perspective⁽³⁾ provides a relevant analytical framework for this observation: unlike the “determinants” approach, which tends to identify discrete risk factors affecting individuals, social determination refers to the structural relationships that produce collective illness. In this case, these relationships include not only the material conditions of poverty and overcrowding associated with tuberculosis, but also the institutional organization of the healthcare system itself as a space in which forms of stigmatization are produced and reproduced, affecting the therapeutic trajectories of people affected by tuberculosis.

The concept of structural stigma⁽¹²⁾ made it possible to identify how these processes become institutionalized

through regulatory frameworks, control protocols, and spatial arrangements within healthcare facilities. It also showed that healthcare personnel operate within these frameworks, reproducing or modulating practices of discretionary control and stigmatization. The institutional stigma documented in this study can therefore be understood not as a residual or cultural phenomenon, but as a product of power relations expressed through the material organization of healthcare services: in the spaces, protocols, resources, and regulations that shape what is possible within the system.

These findings engage with a central debate in public health: the tension between protecting collective health and safeguarding individual rights to privacy, dignity, and quality care. Epidemiological control strategies are necessary, but when implemented without consideration of their social effects, they may produce forced visibility and symbolic separation that undermine trust in the healthcare system. Directly observed treatment protocols, differentiated circulation routes, and signage identifying tuberculosis care areas are legitimate instruments from a public health perspective, but they also produce forced visibility and symbolic separation that erode trust in the system and discourage treatment adherence.

Finally, the study suggests that healthcare systems are not merely neutral channels for service delivery, but are constitutive components of the social determination of health. As Smyth et al.⁽²⁹⁾ point out, discrimination discourages people with tuberculosis from seeking care, obtaining a timely diagnosis, and maintaining treatment. Therefore, institutional organization, the distribution of spaces, and surveillance mechanisms influence therapeutic trajectories. Addressing tuberculosis thus requires not only biomedical and social interventions, but also a critical review of institutional arrangements that may contribute to the reproduction of stigma.

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CONFLICT OF INTEREST

The authors declare that they have no relationships or affiliations that influenced the content of this article or that could be construed as a conflict of interest.

AUTHOR CONTRIBUTIONS

Eileen Janeth Contreras-Cerdeña: Conceptualization; Formal analysis; Investigation; Methodology; Project administration; Resources; Supervision; Validation; Visualization; Writing – original draft; Writing – review and editing. **Diana Torres-Obregón:** Conceptualization; Formal analysis; Inves-

tigation; Methodology; Resources; Supervision; Validation; Visualization; Writing – original draft; Writing – review and editing. **Camila Gianella-Malca**: Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Resources; Software; Supervision; Validation; Visualization; Writing – original draft; Writing – review and editing. **Paola Patiño-Rabines**: Data curation; Funding acquisition; Investigation; Methodology; Validation; Visualization; Writing – original draft; Writing – review and editing. **María Amalia Pesantes**: Data curation; Funding acquisition; Investigation; Methodology; Validation; Visualization; Writing – review and editing of subsequent versions. All individuals who assumed legal responsibility for authorship of this work approved the final version for publication.

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