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EDITORIAL

Elimination of Yaws in Colombia: An Epidemiological Milestone Within Reach

Eliminación del pian en Colombia: un hito epidemiológico al alcance

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Palabras clave: frambesia, Pian, *Treponema pallidum, Colombia*

Yaws, also known as frambesia or pian, is a chronic, non-venereal treponematosis caused by *Treponema pallidum* subspecies *pertenue*[1,2]. It is transmitted through direct skin-to-skin contact with infectious lesions and primarily affects children living in impoverished, rural, and humid tropical settings[3]. The disease evolves through three stages. The primary stage presents as a painless papule ("mother yaw") that may ulcerate[4]. The secondary stage is characterized by multiple disseminated papillomatous or ulcerative lesions, often accompanied by periostitis[5]. If untreated, patients may enter a latent phase, and approximately 10% can progress to tertiary disease, with destructive lesions of skin, bones, and cartilage that may lead to permanent disability and social stigma[6,7].

Diagnosis relies on clinical suspicion supported by serological testing, combining non-treponemal tests (VDRL or RPR) with treponemal tests (TPHA or FTA-ABS). The differential diagnosis for yaws lesions is broad and includes syphilis, leishmaniasis, leprosy, and Buruli ulcer, as well as non-infectious causes. Because serological assays cannot differentiate yaws from other treponematoses, the epidemiological context is essential for interpretation[8]. Treatment is simple and highly effective: a single oral dose of azithromycin is currently recommended, with benzathine penicillin as an alternative. Prevention depends on early case detection, contact tracing and treatment, sustained surveillance, and improvements in social determinants such as hygiene, housing conditions, and access to health services[9].

Historically, yaws was widespread across tropical regions worldwide[10]. In the mid-20th century, tens of millions of people were estimated to be infected globally[11]. Large-scale mass treatment campaigns with penicillin, coordinated internationally between the 1950s and 1960s, led to dramatic reductions in prevalence[12]. However, incomplete surveillance and waning political commitment allowed the disease to persist in pockets of poverty in several regions. Yaws was introduced into the Americas during the colonial period and became established in vulnerable communities[13,14]. The first case of the disease arrived in the Caribbean from Africa in 1502, and its incidence increased after 1512, with the spread of slavery and the beginning of sugarcane cultivation. In Colombia, by the early 20th century, it was recognized as an endemic disease, particularly affecting rural and coastal populations[15]. By the early 1930s, authorities estimated approximately 70,000 active cases nationwide, with the highest burden concentrated along the Pacific coast, but also present in other areas of the country (e.g., Antioquia, Valle del Cauca)[16-23].

The introduction of penicillin marked a turning point in Colombia's epidemiological history of yaws. In 1950, the country launched a national anti-yaws campaign based on acti-

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ve case finding and house-to-house treatment. Over three years, more than 111,000 individuals with active yaws and over 125,000 of their contacts received treatment. The impact was immediate and profound. Reported cases fell dramatically from more than 50,000 in 1950 to fewer than 6,000 by 1960. By 1973, only a few hundred cases were reported in endemic areas, and by 1983, the official annual report documented just 31 cases nationwide. This decline represents one of the earliest and most successful public health interventions against a neglected tropical disease in Colombia. However, as transmission decreased, surveillance activities were gradually reduced. Routine notification eventually ceased, and the absence of reported cases was not accompanied by formal verification of a transmission interruption[15,20,22].

The epidemiological trajectory of yaws in Colombia reflects a classic pattern: hyperendemicity in the early 20th century, rapid decline following mass treatment, and subsequent epidemiological silence (Figure 1). While the near disappearance of reported cases strongly suggests that transmission was interrupted, designating elimination as a public health success does not automatically imply that it is a verified epidemiological status. Today, Colombia is considered to be in the elimination phase (https://www.minsalud.gov.co/salud/publica/PET/Paginas/pian.aspx). The country no longer reports routine cases of yaws, yet a formal demonstration of interruption of transmission remains necessary to achieve certification. This requires structured surveillance activities capable of detecting any residual or re-emergent transmission[2,24].

The primary epidemiological challenge lies in distinguishing true absence of disease from absence of detection (https://www.minsalud.gov.co/salud/publica/PET/Paginas/pian.aspx). Yaws predominantly affects children under 15 years of age, especially those living in remote, socioeconomically disadvantaged settings. Consequently, surveillance efforts must focus on historically endemic territories and vulnerable populations. Colombia has recently reinforced its institutional commitment by adopting a comprehensive national plan for the elimination and sustained elimination of communicable diseases and priority conditions for the period 2025–2031 (https://www.minsalud.gov.co/Normatividad_Nuevo/Resolucion%20No%20119%20de%202026.pdf). This framework aligns with regional and global initiatives to eliminate multiple communicable diseases by 2030.

The national plan establishes the elimination of transmission and sustained elimination as explicit objectives (https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PP/ET/plan-nacional-eliminacion-transmision-pian-2025-2031.pdf). It emphasizes integration into primary health care, intersectoral coordination, territorial governance, community participation, and systematic monitoring and evaluation (Figures 2 and 3). These elements are particularly relevant for diseases such as yaws, which are deeply linked to poverty, environmental conditions, and health system access. Under international guidelines, verification of yaws elimination requires evidence of zero indigenous cases over a defined period, supported by sensitive and reliable surveillance systems (Figure 3). Annual surveys of children in previously endemic areas are recommended during the post-zero-case phase, as children are the most sensitive indicator group for ongoing transmission (https://www.minsalud.gov.co/Normatividad_Nuevo/Resolucion%20No%20119%20de%202026.pdf).

Achieving certification of elimination depends fundamentally on epidemiological vigilance. Strengthened surveillance must include training healthcare workers to recognize compatible skin lesions, ensuring the availability of appropriate serological testing, and promoting accurate case registration within national health information systems (Figure 3). Active

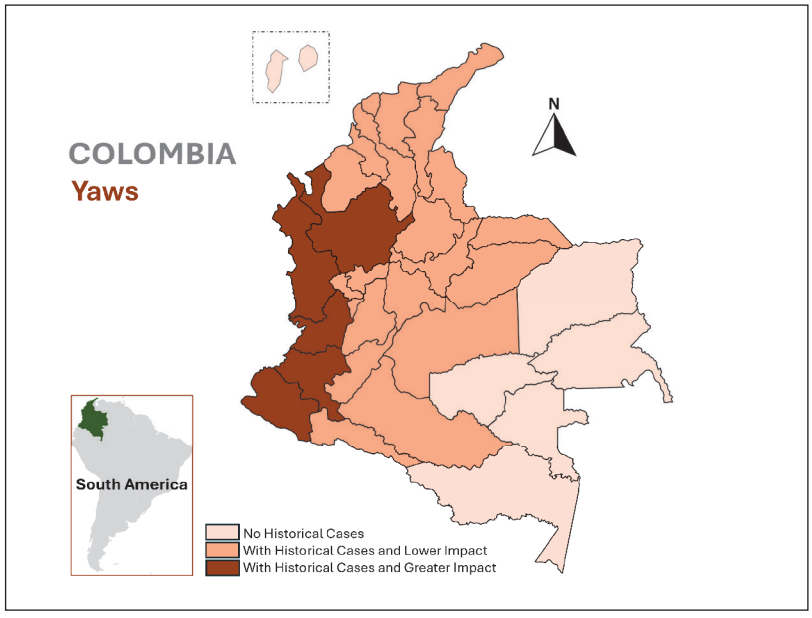

Figure 1. Historical situation of yaws in Colombia. Based on data from the Ministry of Health of Colombia (https://www.minsalud.gov.co/salud/publica/PET/Paginas/pian.aspx).

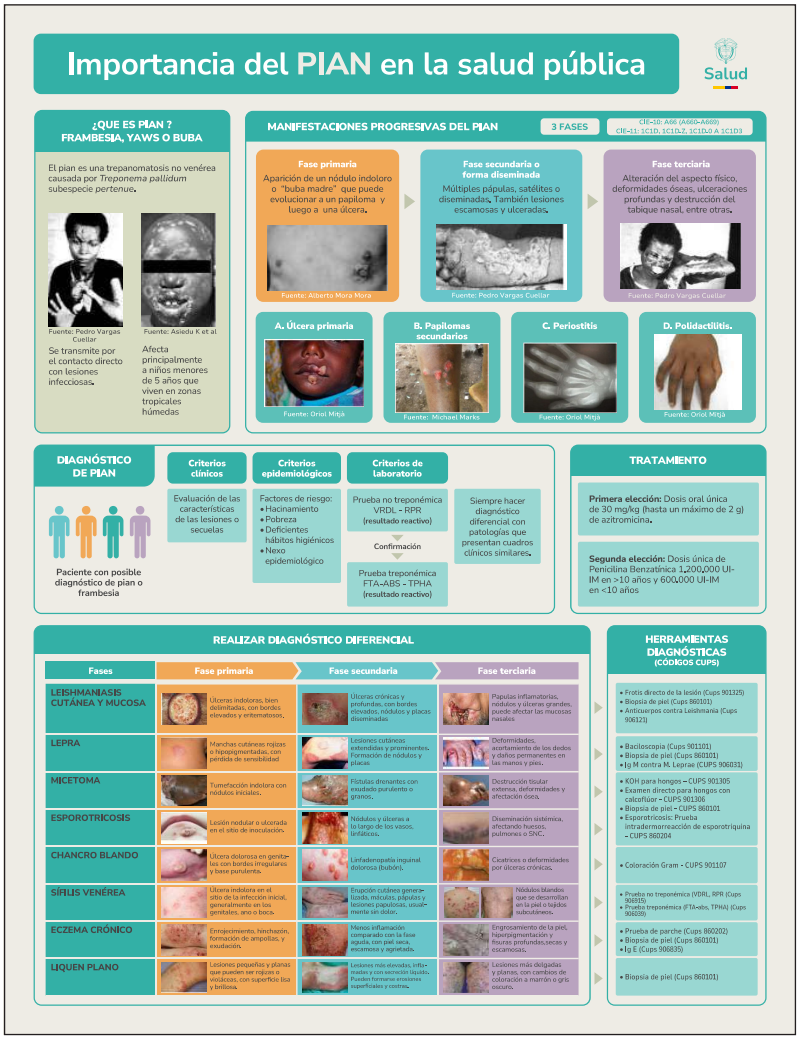

Figure 2. Infographics of the Ministry of Health of Colombia about the importance of yaws in the country. (Source: https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PP/ET/importancia-pian-salud-publica.pdf)

case finding in historically affected municipalities is essential, particularly in remote rural and Pacific coastal regions where transmission was once concentrated. Additionally, integrating yaws surveillance into broader neglected tropical disease platforms can enhance efficiency and sustainability. Colombia's ongoing investments in primary health care, territorial management, and community-based strategies provide an operational foundation for these activities[6].

Accurate documentation is critical. Even isolated suspected cases must be thoroughly investigated, with laboratory confirmation and epidemiological assessment. The absence of confirmed cases, supported by systematic surveillance data, will constitute the evidence base required for formal certification. From an epidemiological perspective, elimination of yaws in Colombia appears highly plausible. The extraordinary reduction from tens of thousands of cases in the mid-20th century to near-zero reports by the 1980s strongly suggests that sustained transmission was likely interrupted decades ago. Nevertheless, certification demands rigorous demonstration[2,25].

Beyond the technical process, verified elimination would represent a symbolic and substantive achievement. It would confirm that a disease historically rooted in poverty, exclusion, and limited access to health services can be effectively controlled and ultimately eliminated through coordinated public health action. Moreover, Colombia's success would contribute to the broader regional and global goal of yaws eradication. Unlike many infectious diseases, yaws has no known animal reservoir, no vector, and a highly effective single-dose treatment. These characteristics make eradication biologically feasible, provided surveillance and response systems remain vigilant. The elimination of yaws in Colombia is therefore not merely the conclusion of a historical campaign; it is a test of the country's capacity to sustain epidemiological rigor in the absence of visible disease. Through strengthened surveillance, targeted verification activities, and continued commitment to equity in health, Colombia stands on the threshold of formally consigning yaws to history. The final step is clear: document the absence, verify the interruption, and sustain the achievement[13,26].

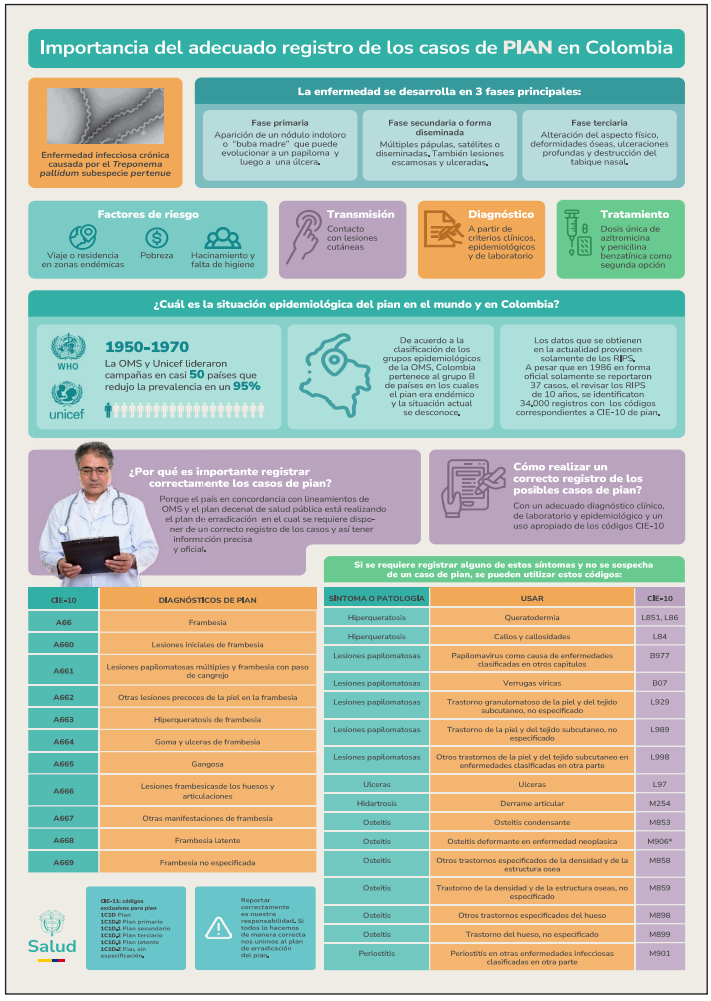

Figure 3. Infographics from Colombia's Ministry of Health on the appropriate recording/notification of yaws cases in the country. (Source: https://www.minsalud.gov.co/sites/rid/Lists/BibliotecaDigital/RIDE/VS/PP/ENT/registro-casos-pian-colombia.pdf)

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