JANUARY 2020

EL SALVADOR'S RESPONSE FOR TUBERCULOSIS CONTROL

A Sustainability Analysis

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JANUARY 2020

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Suggested citation: Majumdar, P. and T. Fagan. 2019. *El Salvador's Response for Tuberculosis Control: A Sustainability Analysis.* Washington, DC: Palladium, Health Policy Plus.

ISBN: 1-59560-222-4

Health Policy Plus (HP+) is a five-year cooperative agreement funded by the U.S. Agency for International Development under Agreement No. AID-OAA-A-15-00051, beginning August 28, 2015. HP+ is implemented by Palladium, in collaboration with Avenir Health, Futures Group Global Outreach, Plan International USA, Population Reference Bureau, RTI International, ThinkWell, and the White Ribbon Alliance for Safe Motherhood.

This report was produced for review by the U.S. Agency for International Development. It was prepared by HP+. The information provided in this report is not official U.S. Government information and does not necessarily reflect the views or positions of the U.S. Agency for International Development or the U.S. Government.

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Acknowledgments

The authors would like to thank Ronald MacInnis, Ashley Gibbs, and Saba Waseem for their review and insightful feedback throughout the creation of this document.

Special thanks to Dr. Julio Garay, Dr. Gilberto Ayala Ramos, and the staff at the Ministry of Health in El Salvador (MINSAL). We would also like to thank Carmen Gonzalez and Tara Ornstein for making this technical assistance possible in conjunction with the Global Fund and USAID.

Abbreviations

AIDS	acquired immune deficiency syndrome
DGCP	General Directorate of Penal Centers
FOSALUD	Solidarity Health Fund
Global Fund	Global Fund to Fight AIDS, Tuberculosis, and Malaria
HIV	human immunodeficiency virus
HP+	Health Policy Plus
ISSS	Salvadoran Social Security Institute
MINSAL	Salvadoran Ministry of Health
MJSP	Ministry of Justice, Security, and Peace
MNSP	Multisectoral National Strategic Plan for Tuberculosis
MDR-TB	multidrug-resistant tuberculosis
NTP	National Tuberculosis Program
PDL	persons deprived of liberty
RR-TB	rifamycin-resistant tuberculosis
SWOT	strengths, weaknesses, opportunities, and threats
TB	tuberculosis
USAID	U.S. Agency for International Development
WHO	World Health Organization

Executive Summary

As part of a broader platform to build more sustainable, long-term responses for HIV and tuberculosis programming in nine countries, the Health Policy Plus project, funded by the U.S. Agency for International Development, undertook work in El Salvador on a Global Fund to Fight AIDS, Tuberculosis, and Malaria technical assistance activity. This analysis focuses on building a more sustainable tuberculosis (TB) response: looking beyond financial concerns to include epidemiological, political, structural, programmatic, and human rights implications.

By analyzing the sustainability of El Salvador's TB response through multiple lenses, a clearer picture has formed of the challenges and opportunities that the country faces moving forward. With its high treatment success rates, El Salvador has long served as a model in the region for an effective TB response; however, TB among persons deprived of liberty has spread at an alarming rate due to overcrowding and suboptimal conditions that exacerbate the possibility of becoming infected and progressing to disease. This trend could also influence incidence of TB in the general population over time.

The government of El Salvador is already playing a major role in financing the country's TB program and has taken on a progressively greater share of financing responsibilities over time. Unclear delineation of responsibilities between institutions has led to an unfair burden being placed upon the Ministry of Health to provide resources for the response. This problem can be solved with further mobilization of alternate resources from the Salvadorian Social Security Institute, the Directorate General of Prisons, the Ministry of Justice, Security, and Peace, the Solidarity Health Fund, and other government ministries. Given the critical role of the penitentiary system in the TB response, an emphasis should be placed on securing greater financing for the provision of health services.

El Salvador's National Tuberculosis Program must move away from its highly centralized yet siloed approach and leverage relationships with other ministries to build a more comprehensive, truly multisectoral TB response. Passage of a draft TB law provides an opportunity to mandate both human and financial resources to strengthen the TB program. Underlying factors, such as socioeconomic inequalities, discrimination, poverty, malnutrition, and weaknesses in health systems are contributing factors to public health challenges in El Salvador. Structurally, the root causes of violence among communities need to be tackled in order to reduce the prison population, and thus, incidence of TB in prisons. Culturally, stigma and discrimination play a role in preventing high-quality care.

Greater emphasis on prevention and awareness—including more financial resources allocated to civil society efforts to build community-based screening and detection, knowledge, and awareness—is needed. If resources are allocated to achieve TB elimination in the prison system, then El Salvador has a chance at reducing its TB burden and focusing a less intensive amount of resources on a subset of the population. Inadequate medical care not only violates the rights of persons deprived of liberty but is also a threat to the country with regard to the spread of TB.

This analysis was used to develop a Sustainability Roadmap that assessed the severity of identified risks to ensure El Salvador's success on the path to eliminating TB as a public health challenge. Each threat was prioritized as high, medium, or low risk to the country and mitigating

actions were recommended. The roadmap, "El Salvador Tuberculosis Sustainability Roadmap for Multisectoral Action," can be accessed online via the HP+ website.

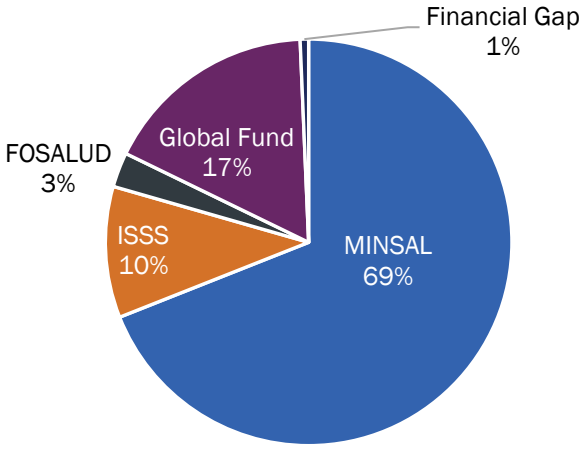
Background

El Salvador was included in the Global Fund's Transition Projection list as a country that was projected to become ineligible for funding in 2017-2019, based on its move to upper-middle-income status. El Salvador recently updated its Multisectoral National Strategic Plan (MNSP) for tuberculosis control for a new five-year period, 2017-2021, to align with current international normative guidance. The updated MNSP includes a section on sustainability and transition challenges based on an updated funding landscape and programmatic context.

Since 2015, El Salvador has been independently managing and implementing Global Fund grants. El Salvador is one of the pioneering countries in Latin America in terms of its response to tuberculosis (TB). Currently, El Salvador serves as the Regional Center of Excellence for Operational Implementation of the Stop TB Strategy. In 2013, El Salvador was chosen as the site for the center due to the success of the country's National Tuberculosis Program (NTP) in implementation of innovative strategies to provide a high level of care to TB patients, as well as a demonstrated commitment to sharing experiences to benefit other countries in the Latin American region.

The government of El Salvador largely funds the TB response through the Ministry of Health (MINSAL). In 2017, 80 percent of the financing spent on TB came from the government and internal financing while 20 percent came from outside funders—97 percent of which was provided by the Global Fund (US$2.4 million) (MINSAL, 2018). Approximately 69 percent of TB funding for 2017-2021 (US$57 million) is expected from MINSAL; 10.44 percent from the Salvadorian Social Security Institute (ISSS); and 2.76 percent from the Solidarity Health Fund (FOSALUD) (Figure 1). The Global Fund is expected to support 17.13 percent of funding within the same time period. The MINSAL diagnoses and treats all cases of TB for uninsured patients and the ISSS treats its insurance holders and beneficiaries, while the private health sector detects and refers cases to the MINSAL and the ISSS.

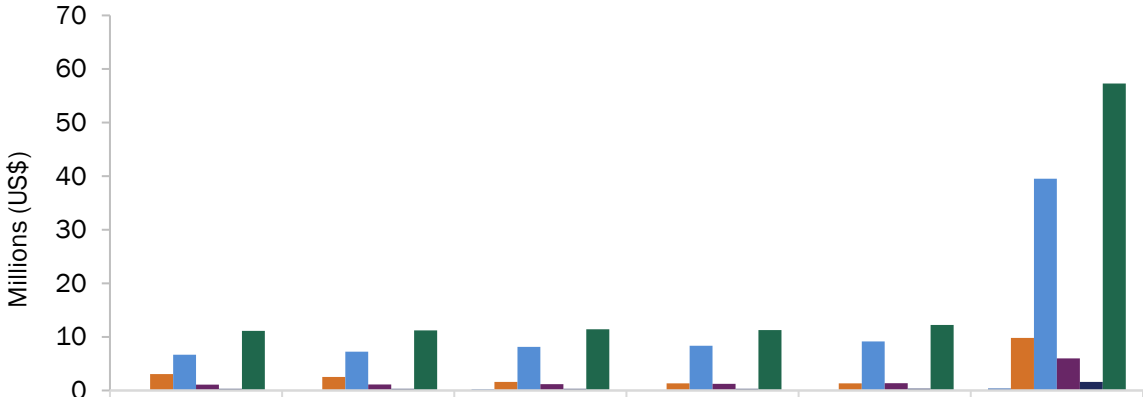
Figure 1. Percentage of Funding of the TB Response from 2017–2021



Source: MINSAL, 2018

The current gap in funding for the TB program is less than 1 percent. The Global Fund disbursed approximately US$5.5 million in 2017 and 2018 and recently approved a grant of US$4 million for the following three years (2019-2021) (Figure 2). With the next Global Fund grant projected to be lower due to the country's upper-middle-income status, it is crucial to identify what gaps in service provision will exist when funds are no longer available from external donors so that early planning can be undertaken to ensure continued coverage.

Figure 2. Financial Estimates of the National Tuberculosis Program for 2017–2021



	2017	2018	2019	2020	2021	Total
Financial Gap	0	0	227,800	77,800	77,800	383,400
Global Fund	3,053,668	2,514,184	1,591,240	1,335,771	1,315,728	9,810,592
MINSAL	6,672,000	7,248,399	8,127,446	8,333,379	9,137,237	39,518,460
ISSS	1,087,663	1,131,989	1,179,345	1,230,124	1,353,137	5,982,258
FOSALUD	321,384	307,384	307,384	307,384	338,122	1,581,657
Total	11,134,714	11,201,955	11,433,215	11,284,458	12,222,024	57,276,367

Purpose of Analysis

This analysis was conducted by the Health Policy Plus (HP+) project—funded by the U.S. Agency for International Development (USAID)—under a Global Fund technical assistance activity as part of a broader platform to build more sustainable, long-term responses to HIV and TB in nine countries. The purpose of this analysis is to help strengthen the TB response in El Salvador and ensure its sustainability. Upon review of the TB funding request and supporting documentation, the Global Fund Technical Review Panel commended the country's efforts to tackle sustainability matters and recommended that it develop "a long-term sustainability plan for the TB program, building on the sustainability strategy of the MNSP, that identifies available financing, as well as innovative ways of raising domestic resources for TB, and ensuring TB remains highlighted and prioritized in ongoing health system reforms" (Global Fund, August 2019). HP+ was tasked with conducting this analysis in order to build a more comprehensive sustainability and transition strategy and to identify strengths and weaknesses within the program.

Methodology for the Analysis

Prior to the development of a long-term sustainability plan, the HP+ team conducted an analysis of the current MNSP to identify any gaps. This document provides an analysis of El Salvador's current response to TB as described in the MNSP, with the key question being "how sustainable is the current response?"

As requested by the Global Fund, HP+ used a six-tenet sustainability framework to conduct an analysis of the outcomes of the current strategic plan. This document analyzes the response using these six lenses—epidemiological, financial, political, structural, programmatic, and human rights—using a framework informed by Gemma Oberth and Allen Whiteside (Oberth and Whiteside, 2016). This framework allows for a more comprehensive analysis that does not focus solely on financial sustainability (Table 1).

Table 1. Six-Tenet Sustainability Framework*

Epidemiological	Are the current interventions effective at containing the epidemic? Is El Salvador on the path to eliminate TB by the year 2035?
Financial	What are the financial gaps identified in the MNSP and what sources exist to fill these gaps?
Political	What is the level of political support to guarantee an increase in financing at the national level?
Structural	Is the social and environmental context enabling a long-term, effective response? Do multisectoral responses exist to address the non-health determinants of TB transmission?
Programmatic	Does the specific program or intervention is feasible to implement in an integrated primary care system?
Human Rights	How will the right to health be protected for populations that might be excluded from decision-making?

*See Annex A for the full framework.

Following 25 key informant interviews and a desk review of resources provided by MINSAL, several gaps have been identified in El Salvador's MNSP. Key informant interviews included representatives from the MINSAL, ISSS, the General Directorate of Penal Centers (DGCP), the United Nations Joint Programme on HIV/AIDS, the Pan American Health Organization, the World Bank, the U.S. President's Emergency Fund for AIDS Relief, the Country Coordinating Mechanism, service providers, and civil society. Interviews were conducted from April 1-5, 2019, prior to the ascension of the new government of El Salvador (see Annex B for the interview questionnaire). Table 2 provides a summary of the strengths, weaknesses, opportunities, and threats (SWOT) analysis based on the sustainability framework.

Table 2. Summary of SWOT Analysis Based on Six-Tenet Sustainability Framework

SWOT	Epidemiological	Financial	Political	Structural	Programmatic	Human Rights
Strengths	The NTP has contributed to a higher cure rate and treatment success rate	The government of El Salvador has committed to financing an increasing share of the national TB response from domestic resources and 90 percent of the resource need between 2020-2023	Success of the country's NTP has led to El Salvador being viewed as a leader in the region, with the opening of the Center of Excellence in 2013	The NTP recognizes the role of structural factors such as socioeconomic inequalities, discrimination, poverty, malnutrition, and weaknesses in health systems	Exceptional treatment success rates through solid treatment programs; adoption of latest technology and protocols to diagnose and treat TB (e.g., Gene Xpert)	The NTP recognizes the necessity of a human-rights-based approach that is patient-centered and holds the prison system accountable for the health of persons deprived of liberty (PDL)
Weaknesses	A higher burden exists among vulnerable populations, primarily PDL	The NTP continues to rely significantly on the Global Fund for diagnostic capacity, including equipment and training	The NTP must move away from its highly centralized, siloed approach with limited external coordination	Inaccessibility of services exists due to security constraints; collaboration between the prison system and the NTP is weak	Prevention efforts are insufficient; Diagnostic labs have insufficient staff and equipment for running GeneXpert; monitoring and evaluation systems are not very rigorous	Health is not treated as a right within the prison system; security is prioritized over health to the detriment of health outcomes
Opportunities	Prioritization of expanding detection and notification	Mobilization of greater contributions from other government ministries, institutions, the private sector, and municipalities	Passage of a draft TB law; strengthening of municipalities	Highlighting the need for shared responsibility across ministries to address social determinants	Creating sensitization for health workers to reduce stigma and discrimination against TB patients; integration and strengthening of health systems	Screening for TB at entry of prisons and temporary detention facilities; adherence to treatment (particularly after release from prison); use of TB preventive treatment
Threats	The high burden of TB in the penitentiary system (20 percent higher than that of the general population)—an increasing burden that may negate achievements	The penitentiary system, which accounts for the majority of TB cases, is severely under-resourced to prevent, diagnose, and treat the growing burden of TB cases	Security policies that promote extraordinary measures, leading to increased overcrowding in prisons and lack of healthcare for or well-being of PDL	Violence in communities, general insecurity and criminal activity; cultural norms that perpetuate stigma and discrimination among TB patients	Stigma associated with TB disincentivize TB patients from adhering to treatment in unfriendly treatment centers	The inability of PDL and those released to adhere to treatment could cause TB to spread among the general population

Epidemiological

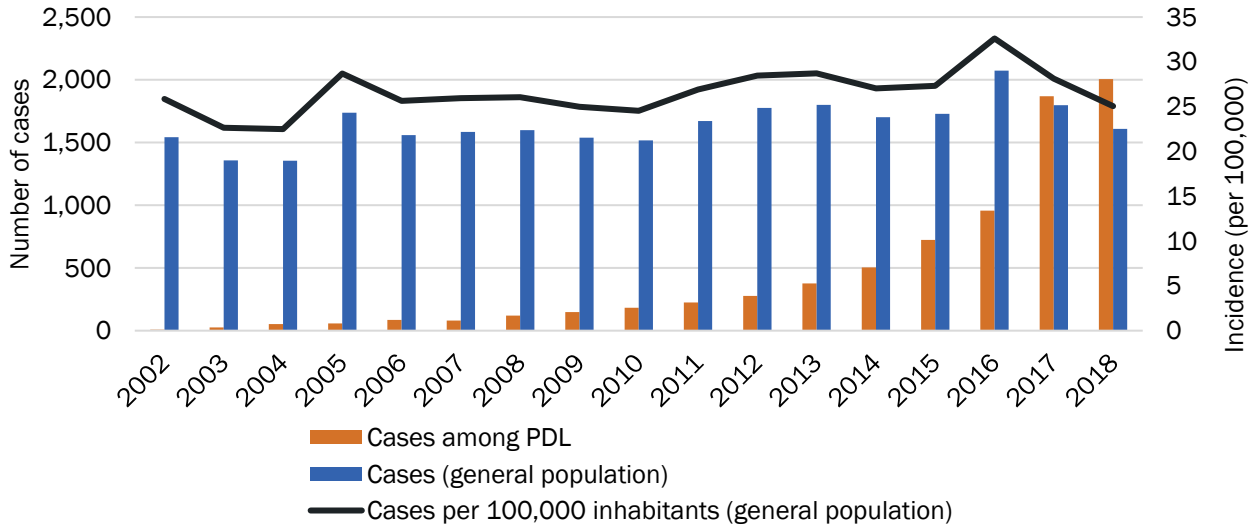
El Salvador is the smallest and most densely populated country in Central America, with a population of 6.4 million as of 2017. The incidence of TB was 72/100,000 in 2017, which represents a 43 percent increase from the rate of 41/100,000 in 2014 (WHO, 2018).

Although El Salvador was previously classified as a low-burden country, TB incidence is now high among vulnerable populations, including people living with HIV, those living in high-risk municipalities, and particularly among PDL. The incidence fluctuates in regions due to accessibility and availability of services (Figure 3). El Salvador suffers from two sets of epidemics: one among the general population in which incidence is decreasing, and one among PDL where incidence is on the rise (Figure 4).

Figure 3: Map of notified TB cases by Department in El Salvador (2018)
(case rate per 100,000 inhabitants)

Source: MINSAL, 2019

Figure 4. TB Cases and Incidence, General and PDL (2002–2018)



Sources: MINSAL, 2017; MINSAL and DGP, August 2019

Strengths: The national response to TB in El Salvador has achieved significant positive outcomes over the last three years, with high treatment success rates (93.1 percent in 2015 and 90.9 percent in 2016) across all forms of TB, and an increase in the treatment success rate for multidrug-resistant TB (MDR-TB) (73 percent in 2014 and 89 percent in 2015) (MINSAL, 2017). The overall TB mortality rate is 1.2 per 100,000 people (WHO, 2017). El Salvador has one of the lowest TB fatality rates in the region, which reflects its ability to provide prompt access to diagnosis and treatment. There was a sustained drop (2.7 percent) in the TB/HIV mortality rate between 2000 and 2014 (MINSAL, 2018). Out of the 98 percent of TB patients with known HIV status, only 7 percent are TB/HIV coinfected, with 96 percent of these patients on antiretroviral therapy (WHO, 2017).

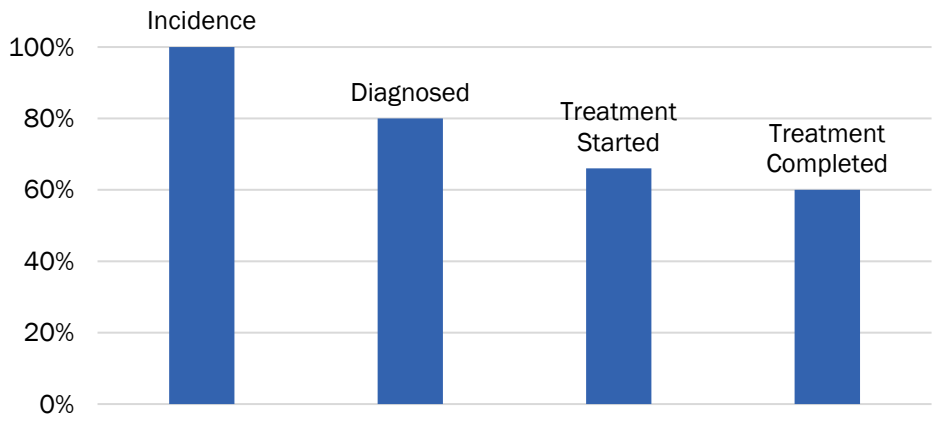
Persons deprived of liberty (PDL): Persons who have been arrested, held in lawful custody, detained, or imprisoned in execution of a lawful sentence.

Weaknesses: Despite this progress, TB still represents a threat in El Salvador, especially to key and vulnerable populations. The estimated TB incidence of all forms increased significantly from 41/100,000 in 2014 to 72/100,000 in 2017, representing a 43 percent increase (WHO, 2018). The case detection rate decreased from 87 percent in 2014 to 80 percent in 2017 (PAHO, 2015). In 2016, the country notified 3,050 cases, with an increase to 3,615 notified cases in 2018 (MINSAL and DGP, August 2019). Though TB diagnosis and treatment are free, universal coverage for access to health services has not been achieved. Four percent of Salvadorians with TB still die from the disease, primarily those in high-risk groups, due to comorbidities, primarily among PDL (WHO, 2017).

The estimated rate of TB cases with rifampicin/multidrug-resistant TB (RR/MDR-TB) in 2016 was 2.9 percent for new cases and 4.1 percent for previously treated cases (WHO, 2017). Significant gaps in early diagnosis continue to exist due to a systematic deficit in screening coverage with large differences across the country. Sixty-five higher-risk municipalities lack diagnostic capacity and present a 77.8 percent gap in detection of cases (MINSAL, 2017). These municipalities correspond to rural areas with high poverty levels and high levels of violent crime and gang activity, as well as overcrowding and informal living conditions.

Opportunities: Increasing detection through more thorough screening efforts utilizing appropriate algorithms could identify more cases of TB at an earlier stage of disease. Improvement in TB diagnosis needs to be prioritized to ensure quick turnaround and timely treatment, which will increase overall performance along the care cascade and improve TB outcomes. Only 80 percent of estimated cases are diagnosed and notified; a 14 percent loss-to-follow-up from diagnosis to treatment exists, as does a 6 percent drop-off from treatment start to completion (Figure 5) (WHO, 2017). The opportunity to ensure that loss-to-follow-up decreases over time could have a significant impact on the epidemiology of the disease in El Salvador.

Figure 5. El Salvador TB Care Cascade



Data source: WHO, 2017

Despite the stark contrast between the state of the two epidemics among PDL and the general population, an opportunity exists to reduce the incidence of TB overall by containing the epidemic within the prison system and ensuring that it does not spread further. Achieving TB elimination relies heavily upon the response within the prison system.

Threats: The greatest epidemiological threat is the high burden of TB in the penitentiary system. The risk of contracting TB is 99 times higher in the prison system than that of the general population due to a dramatic increase in the PDL population within the past three years (MINSAL and DGP, August 2019). The number of detected TB cases has increased significantly since 2016. In 2017, the number of cases of TB in prisons surpassed that of the general population. Unless the outbreak of TB is contained, it is in danger of spreading to the general population when PDL are released. It also heightens the possibility that MDR-TB could spread due to loss-to-follow-up when PDL are released.

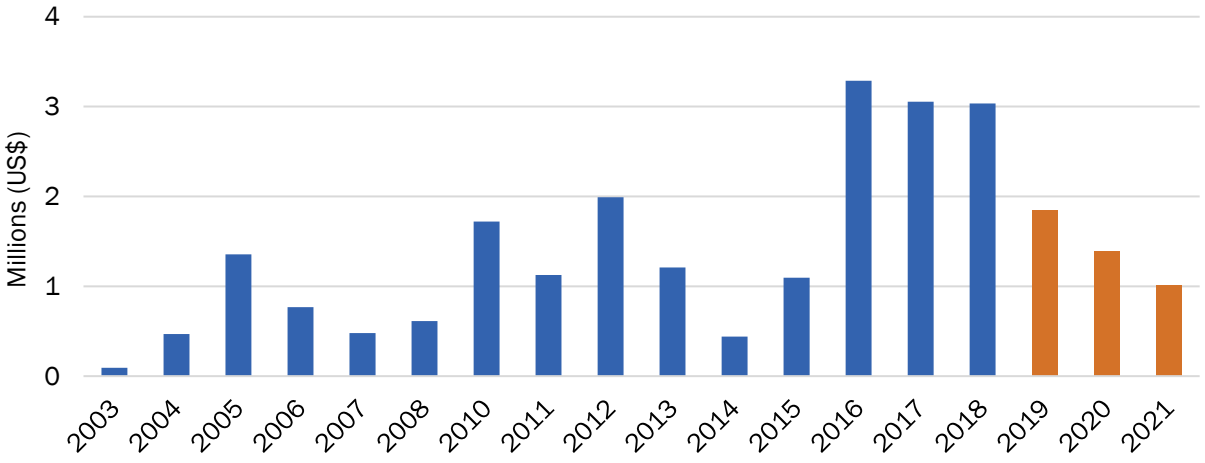
Financial

The ability to finance the TB program in a way that is both sustainable and ensures access to services for those who need them is critical to the program's continued success and the elimination of TB. Government commitment to financing the TB response has helped to eliminate financial barriers to access. TB treatment is exclusively provided by the government and all services are provided free-of-charge. While some patients may still incur out-of-pocket costs associated with testing in the private sector and for indirect costs associated with seeking care, the value of out-of-pocket expenditure is not well-known.

Provision of TB services in the public sector in El Salvador has been supported by development partners in the purchase of goods, services and supplies to improve country capacity. Between 2013 and 2017, 14 percent of total funding for TB through the public sector has come from external sources, with the Global Fund providing 97 percent of external funding in 2017 (MINSAL, 2018). The Global Fund has provided more than US$21 million in grant support for the TB program since 2003 ("The Global Fund Data Explorer," n.d.). It has partnered directly with MINSAL as the prime recipient for TB grants since 2008, and exclusively since 2012. Global Fund support peaked between 2016 and 2018 at more than US$3 million annually

(Figure 6). However, the latest funding application for the period 2019–2021 from MINSAL requests just US$1.4 million annually (Global Fund, 2018a). As such, a greater share of resources for the TB program will need to come from domestic sources.

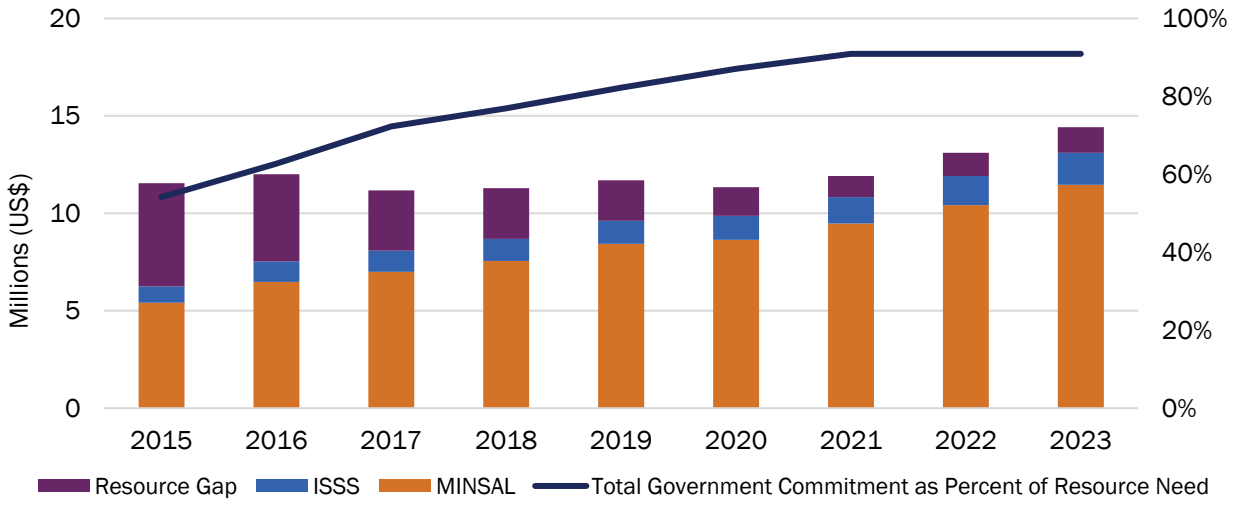
Figure 6. Global Fund TB Grants Disbursed from 2003–2018 (Projected for 2019–2021)



Source: Global Fund, 2015; 2018b

Strengths: The government of El Salvador is already playing a major role in financing the country's TB program and has taken on a progressively greater share of financing responsibilities. In 2015, the government committed to financing US$6.2 million (54 percent) of the US$11.5 million resource need for the MNSP (Global Fund, 2015; 2018b) (Figure 7). For 2019, the government has committed to spending US$9.6 million, financing 82 percent of the annual cost of implementing the MNSP (Global Fund, 2018b).

Figure 7. Government Funding Commitment to TB, 2015–2023 (Projected)



Source: Global Fund, 2015; 2018b

Government expenditure on TB has significantly exceeded its co-financing commitments in recent years. From 2015 to 2017, El Salvador spent an average of US$10.5 million annually from domestically generated resources (including from ISSS) on TB compared to an average annual commitment of US$7.3 million (MINSAL, 2018; Global Fund, 2018b). Expenditure from the general government budget alone (i.e., excluding ISSS contributions) rose from US$3.9 million in 2014 to US$7.8 million in 2015. However, general budget allocations declined steadily thereafter, to US$6 million in 2017. To date, MINSAL has absorbed all TB program and laboratory staff previously supported by the Global Fund and has fully assumed responsibility for the financing and procurement of TB drugs and other key commodities.

The inclusion of TB services within the benefits package of ISSS, which covers all formal sector employees, has been successful in mobilizing financing for the response, ensuring dedicated resources for TB patients in the formal sector. As of 2018, ISSS provided treatment to approximately 12 percent of all TB patients in the country and 28 percent of non-incarcerated patients—above its population coverage of 28 percent (ISSS, 2018).

Weaknesses: El Salvador's TB program continues to rely significantly on the Global Fund for improvements and upgrades to diagnostic services. Funding for early detection and care for high-risk groups accounts for 56 percent of the Global Fund's current US$4.2 million grant (2019–2021) (Global Fund, 2018a). It is focused primarily on procurement of diagnostic equipment and continuous training for health workers, including in the use of new equipment. Of the US$4.2 million allocated for the current grant period, US$3.8 million (90 percent) is designated for five of the MNSP's 10 strategic lines: (1) early detection of TB cases, (2) treatment of drug sensitive pulmonary and extrapulmonary TB, (3) treatment of MDR-TB, (4) monitoring and evaluation, and (5) management/administration. The Global Fund is currently providing 43 percent (US$1.2 million) of total financing for MNSP's early detection strategy, making it the MNSP strategic line with the second highest share of Global Fund funding, behind treatment of MDR-TB (75 percent). Although the overall funding need for MDR-TB is relatively small—just US$50,000 over three years—it is critical to ensure that this strategic line is adequately financed to ensure successful treatment of MDR-TB and avoid ongoing transmission.

Another major challenge to sustaining domestic financing of TB has been a lack of clear delineation of responsibilities between institutions and the alignment of budgetary resources with those responsibilities. To date, MINSAL has assumed all responsibility for GeneXpert testing of suspected TB cases. Both ISSS and the penitentiary system send their samples to MINSAL laboratories for testing. HP+ estimates that more than 50 percent (approximately 25,000) of 43,879 GeneXpert tests processed by MINSAL in 2018 came from patients in the Social Security or penitentiary systems. Processing these tests places a substantial burden on MINSAL both in terms of laboratory capacity (including human resources) and financially. The cost of cartridges for 25,000 tests is approximately US$550,000 annually, or 5 percent of total estimated TB program costs.

Opportunities: Achieving financial sustainability for El Salvador's TB response will require looking beyond MINSAL to mobilize greater contributions from other government institutions. Both ISSS and DGCP are responsible for the provision of all health services for the populations in their care. For 2019, ISSS's budget for health services was comparable to MINSAL's budget—US$631 million compared to US$662 million—despite having a beneficiary population roughly one-fourth of the size ("3200 Ramo de Salud," n.d.; ISSS, 2019). In per capita terms, ISSS

spends an estimated US$520 per beneficiary annually compared to US$130 by MINSAL (author's calculations).

Despite this disparity, MINSAL continues to heavily subsidize TB services for ISSS patients by assuming responsibility for GeneXpert testing. Although the consolidation of testing improves efficiency in resource use and reduces unnecessary duplication of equipment and human resources, it also deepens inequalities in the benefit incidence of health expenditure. To address this, mechanisms should be put in place for ISSS to reimburse MINSAL for services provided to its beneficiaries, including for presumptive TB patients. By mobilizing additional ISSS resources for TB service provision, an opportunity exists to alleviate some of pressure and burden placed on MINSAL, particularly for laboratory testing.

Delegation of responsibility for health services in prisons to MINSAL may help to improve the financing for and quality of service provision for both TB and overall health programming in prisons. Although still limited, MINSAL has greater financial resources from which to draw. Absorbing prison health workers into the MINSAL pay scale may also help to address problems with retention.

Lastly, greater engagement of municipal governments may help to improve financing for community-level contact investigation and case identification efforts. El Salvador has a heavily decentralized system of government and municipalities receive a significant share of government revenues (OECD, 2016). Although MINSAL finances and operates health facilities at all levels, municipalities are identified as playing a key role in public health. Ensuring that TB is a priority and is included in agendas and budgets, particularly in high-prevalence municipalities, can unlock new resources for community-level services.

Threats: Increasing financing for key health programs has been a challenge in recent years due to a relatively flat MINSAL budget, which increased by just 3 percent per year between 2013 and 2019. The budget is stretched by mandated increases in the salaries of all MINSAL employees—an escalation of 8 percent per year (MINSAL and DGP, August 2019). Although these mandatory increases have not been fully complied with in recent years, they create substantial budgetary pressure; budget increases are allocated toward them while program budgets are forced to contend with flat or decreasing allocations.

A separate analysis requested by MINSAL and conducted by HP+ estimated that the cost to DGP of providing TB services from 2020–2025 could be as much as US$3.2 million (HP+, 2019).

Although the penitentiary system is delegated responsibility for health service provision in its facilities, it faces severe underfinancing for these services. The entire budget of the penitentiary system was only US$44.6 million in 2018, or approximately US$1,100 per prisoner ("2400 Ramo de Justicia y Seguridad Pública," n.d.). Of this amount, only a small share goes to the provision of health services. Instead, penitentiaries rely heavily on own-source revenue for the provision of health services. This revenue is generated primarily from prison commissaries and reallocated for services that improve well-being for prisoners, particularly health. This revenue accounts for an estimated 60 percent of the total budget for health service provision within the penitentiary system, with just 20 percent coming from the Ministry of Justice Public Security's (MJSP's) regular budget. The inadequacy of this funding necessitates additional support from MINSAL. Given the critical role of the penitentiary system in TB response, emphasis should be given to securing greater

financing for the provision of health services. Within this effort, prioritization of TB should be justified given recent incidence of TB-related deaths—56 in both 2017 and 2018—within the penitentiary system (MINSAL and DGP, August 2019).

Stakeholders have also noted that prison health workers are paid less than their colleagues at MINSAL and are not entitled to the annual 8 percent escalation in salary that MINSAL staff receive. Due in part to this, many prison health workers, particularly the most qualified, move to MINSAL and other institutions, leaving prisons with insufficient and inexperienced staff.

Political

Strengths: Historically, political will in El Salvador for a sustained TB response has been high. El Salvador has served as a leader in the Latin American region for its TB response efforts. In 2013, the country was chosen by the Pan American Health Organization as the site for the Center of Excellence due to the success of its NTP in implementation of innovative strategies to provide a high level of care to TB patients, as well as a demonstrated commitment to sharing experiences to benefit other countries in Latin America. The NTP is one of the key public health programs in the Ministry of Health and is directly tied to the office of the Minister of Health.

Weaknesses: Politically, in order to create a stronger multisectoral response, El Salvador's NTP must move away from its highly centralized yet siloed approach that involves only minimal coordination with other ministries and sectors. MINSAL works primarily with ISSS and FOSALUD, thus limiting its opportunities for support from other ministries. While MINSAL does work directly with the DGCP, the tension that arises from different institutional priorities prevents true progress from being made in terms of a moving toward a functional relationship. Greater cooperation with MJSP and the Ministry of Education in addition to a more collaborative relationship with the private sector and civil society can only serve to strengthen the national TB response. Efforts to this end have been made, including a joint plan to strengthen attention to PDL in 2016 and a *Specific Plan of Activities* between MINSAL and MJSP that was created in September of 2017. However, if these plans are poorly implemented, the burden of TB in prisons could rise dramatically.

Opportunities: The greatest political opportunity is the passage of the TB law that is currently being drafted. The proposed law provides a legal framework that may mandate TB case notification by all care providers, enable regulated access to TB medicines, ensure quality care for all TB patients in both public and private sectors, and safeguard sustainable financing for a comprehensive TB response. The law could also mandate that other sectors that are responsible for social determinants for TB play a larger role in the response. For example, it can serve to strengthen the TB response in prisons and ensure that adequate care is provided for PDL.

Additionally, as municipal budgets begin to receive more funding, it's important that the highly centralized TB response becomes more decentralized. Strengthening municipal health centers and hospitals in order to ensure that quality of care is equal among municipalities must also be addressed. Currently, the poorest municipalities contain some of the highest incidence rates. Ensuring that people can access care through the national health insurance scheme, rather than paying out-of-pocket, will help to reduce catastrophic costs associated with TB. Rolling out a national campaign to promote the national scheme could potentially drive demand, increasing enrollment and thereby covering catastrophic household costs due to TB.

Threats: With the recent ascension of the new government administration as of June 1, 2019, it is important to understand the priorities of the new leadership. A lack of prioritization of funds toward the TB program could detract El Salvador from its path to eliminate TB by 2030. Even if the draft TB law is passed, a major threat is the effect of current security policies. This set of policies has led to overcrowding in prisons and a lack of care for prisoner health or well-being. In order to create more productive, healthier citizens, it is necessary to ensure that environments are secure. However, to create true progress, attention to the health of PDL can ensure that the outbreak of TB does not spread to the general population.

Structural

Strengths: The persistence of TB in El Salvador is due to a great extent to the social and economic inequalities that exist in the country. The NTP reflects an understanding of the close relationship between TB and structural factors such as socioeconomic inequalities, societal violence, discrimination, poverty, malnutrition, and weaknesses in health systems. The NTP has made it a strategic priority to strengthen the health system and build the infrastructure needed to support the ambitious goals of the END TB strategy (MINSAL, 2017). It also aims to sensitize health workers and, as outlined in the *National Community Participation Strategy for the Prevention and Control of Tuberculosis,* strengthen awareness and reduce stigma and discrimination associated with TB (MINSAL, 2016).

> *"I think that the limiting factor is what I see with the gangs… The challenge, it's not financial access because the services are free, it's not geographic access because we're two blocks away from this community. What I see most is the lack of access due to insecurity."*
>
> *--Interview Respondent*

Weaknesses: A major structural barrier is the current security situation in El Salvador. Due to high rates of gang violence and related tension, medical personnel and caregivers are unable to enter certain neighborhoods and communities, limiting patients' ability to adhere to TB treatment. The inability of health workers to follow-up on patients and the lack of patient access to clinics are huge barriers to ensuring that treatment regimens are followed.

El Salvador was the world's most violent country in 2015 and 2016. Recent numbers suggest an improvement: the national rate fell from 103 killings per 100,000 people in 2015 to 91 in 2016, and the rate in San Salvador fell from 190 to 137 during this same period ("The World's Most Dangerous Cities," 2017). However, this improvement is associated with increased government security efforts, which have done little to address the underlying causes of gang violence that continue to persist. Violence has led to overcrowding in prisons, which is a major structural factor that contributes to higher incidence of disease. Poor ventilation, malnutrition, and a lack of open-air exposure are all high-risk factors for TB.

Opportunities: An opportunity exists with regard to greater involvement from other ministries, as social determinants that do not depend on the health sector influence health outcomes. These include the improvement of living and working conditions, especially in factories (under the purview of the Ministry of Labor and Social Security), informing and educating citizens about the disease (under the purview of the Ministry of Education), improving conditions for PDL (under the purview of MJSP), etc. Addressing the social

determinants of health is a shared responsibility across ministries and stakeholders within and beyond the health sector.

Threats: Structural determinants, such as insecurity and violent criminal activity that prevents access to care, are a huge barrier to achieving epidemic control goals. High-risk municipalities with a higher burden of TB include those that are impoverished and lack opportunities to access care. Violence within communities and territorial control by gangs prevent patients from adhering to treatment, as they have to put their lives at risk to do so. Culturally, TB is still considered to be a poor person's disease; programming to reduce TB stigma must be strengthened.

Programmatic

Strengths: El Salvador has one of the highest treatment success rates in the region, having reached 90 percent or greater treatment success as recommended by End TB by 2025 (WHO, 2018). The MNSP that was developed for 2017-2021 is comprehensive and ambitious in its goals. The team at the NTP is very strong and their organizational skills translate into continued program success.

Weaknesses: While the TB program is very strong overall with exceptional treatment success rates, opportunities exist to improve prevention as well as monitoring and evaluation efforts. As El Salvador moves toward a results-based budget, it becomes even more important to ensure that the results gathered are based on high-quality data.

The lack of effective prevention and awareness mechanisms means that the general population is still largely uneducated about TB. There is a need for sufficient, proactive prevention and health promotion activities at the community level. Greater involvement from civil society organizations to advocate for increased funding for TB is needed. Currently, only a few civil society organizations are involved in the TB response due to a lack of funding. Getting greater contributions from civil society groups in developing programmatic action steps can help to fill gaps in service provision. Engagement with civil society at all stages, including in the creation of the draft TB law, will be critical to ensuring that implementation succeeds. As donor funding declines, it is important to engage civil society groups and encourage them to fill any gaps in service provision.

Human resources for health are another identified weakness that contributes to the backlog in detection. Currently, health staff from MINSAL encounter challenges in obtaining access to certain parts of the prison system that demand high security. The quality of care in prisons suffers as a result of this obstacle. Diagnostic labs have insufficient staff and equipment for running GeneXpert tests. GeneXpert is used as the primary diagnostic method for high-risk and vulnerable populations, including PDL. The number of samples tested using GeneXpert increased by fivefold over two years, from 8,842 in 2016 to 43,879 in 2018 (MINSAL and DGP, August 2019).

Stakeholders highlighted the introduction of GeneXpert machines, and accompanying training for laboratory staff in their operation, as one of the principal contributions of the Global Fund in recent years and as a potentially critical gap that needs to be addressed as Global Fund support declines. Increased use of GeneXpert, as well as the need for greater capacity for maintenance

and periodic replacement of machines, will be a major cost driver for the government of El Salvador in the absence of Global Fund support. Due to the large influx of tests, laboratories become backlogged. Ultimately, while GeneXpert cuts down notification time, it still takes time to run the test and ensure the quality of the result.

Opportunities: Consistent training and hiring of more laboratory professionals could help to reduce the high burden of laboratory test demands. Building capacity and training for a support group of laboratory technicians in the biomedical field to help with maintenance and troubleshooting for GeneXpert provides another opportunity for improvement. The NTP could also explore the possibility of including GeneXpert tests in the national insurance package in the future. Further analysis of treatment adherence and outcomes among PDL and identification of risk factors associated with poor outcomes, improvement of data quality, integration of information systems of the prison centers with national health information systems, and the use of data in decision making in a timely manner could help to strengthen the TB response.

> *"What happens is civil society is solely used to legitimize processes that are already happening. We want to be involved from the beginning."*
>
> *--Interview Respondent*

The role of civil society organizations needs to be elevated to ensure the long-term sustainability of the current TB response. Currently, civil society is included perfunctorily, with limited engagement in new government efforts or policies. There needs to be greater understanding on the part of government entities that civil society can contribute meaningfully to fill gaps in public service delivery, whether it be through ensuring quality of care, helping with case finding within communities, or notifying authorities of stockouts. Civil society groups can also hold government entities accountable for funds allocated in health budgets to ensure that misuse of resources does not occur. Through advocacy, communication, and social mobilization efforts, key groups can be targeted in prevention campaigns. Greater visibility can translate to greater civil society engagement in TB programs and prevention. Annual grants and/or social contracting mechanisms with civil society organizations can be used to target greater community awareness and health literacy surrounding TB. These efforts could be integrated within municipal health budget activities.

Additionally, creating sensitization trainings for health workers to reduce stigma and discrimination against TB patients could help to promote health-seeking behaviors. It is essential that healthcare staff receive continuous education about TB—particularly those who provide health services to groups at risk for TB, such as migrant health services, prison health services, and outreach health services for vulnerable groups. Mandatory efforts should be made for frequent screening of health workers to ensure that they remain TB-free. Continuous use of TB-preventive treatment for those in contact with TB patients and people living with HIV is a low-cost method of prevention.

Greater decentralization of services could create a stronger response to TB, especially for more rural areas that are harder to reach. Increased participation of health workers could improve the early detection of tuberculosis cases in these rural communities because detection rates are lower in these areas. Municipal funding to increase detection efforts could be a potential solution. Although decentralization is key, it may also lead to duplication of diagnostic testing in certain cases. Ensuring that multiple tests that serve the same purpose are not being distributed

could help to lower costs for the TB program. Identifying which patients are receiving duplicate testing could also help to maximize efficiency.

Finally, a key opportunity is a transition from the current paper-based to an electronic surveillance system. While this has been identified as an area for improvement in the MNSP, rollout of a new plan to digitize records has yet to be implemented. An electronic surveillance system is a huge step forward in recording and accessing information about TB patients and TB treatment results. It could also have an important impact on decision-making at higher levels, ultimately allowing for more funding to be allocated to TB elimination. In tandem with electronic records, another opportunity is the systematic use of unique patient identifiers across national and subnational levels. Consistent use of unique identifiers can prevent incurring unnecessary costs by streamlining patient services to ensure that duplication does not occur within the health system.

Threats: All GeneXpert machines, including the cartridges for testing, are currently donor-funded. It will be important to cover these costs through domestic funding sources in the long-term. This status quo if left unchecked is unsustainable and a threat to service delivery in the event of donor fatigue.

Within the prison system, health workers need to be able to access PDL without compromising security. Healthcare workers' risk of TB infection and progression to active TB disease is estimated to be two- to three-fold greater than that of the general population. Certain work locations, such as inpatient TB facilities, laboratories, and internal medicine and emergency facilities, as well as individuals in various occupational categories such as radiology technicians, patient attendants, nurses, ward attendants, paramedics, and clinical officers are associated with a higher risk of contracting active TB disease.

Human Rights

Upon analyzing country funding requests for TB for 50 countries, the Global Fund found that, while the majority identified human rights-related barriers to services, including high levels of stigma and discrimination, few included investments in human rights programs to address those barriers. El Salvador's TB response could greatly benefit from investment in programs grounded in human rights principles. TB is often associated with poverty and other socially undesirable behaviors. People with TB, or those suspected of having TB, may be stigmatized and discriminated against based on their perceived socioeconomic status, as well as their disease status. The stigma associated with TB is a barrier to adherence to treatment through what may be perceived to be unfriendly or discriminatory environments at treatment centers.

Strengths: The MINSAL recognizes the need for a human rights lens in order to adopt a more patient-

Key Exacerbating Factors for TB Transmission in Prisons

- Malnutrition, poor ventilation, and lack of open-air exposure
- Overcrowding of detention areas and inadequate isolation of symptomatic PDL
- Gang control of prisons inhibiting health-seeking behavior and treatment adherence
- Security restrictions due to high number of gang-affiliated PDL and inadequate security personnel, resulting in bottlenecks to services provision

centered approach. Efforts are being made to ensure that health workers are sensitized to reduce stigma and discrimination. Moreover, concerted efforts have been made to gain access to PDL and ensure that treatment of TB patients is properly observed despite extenuating circumstances.

Weaknesses: The inability to uphold basic human rights in the prison system poses a significant challenge to El Salvador's overall TB response. Prisons promote the transmission of TB by containing a vulnerable population that often lacks access to timely diagnosis or treatment due to late detection by the system, often in very poor housing conditions. PDL are at particular risk of becoming infected with TB and developing active disease due to overcrowding in prisons, lack of infection control, proper ventilation systems, low nutritional status, and poor sanitation. PDL are also often drawn from population groups at high risk for the disease and are then housed under conditions that are optimal for TB transmission. Prison populations are dynamic, creating a risk for populations at large once PDL are released. Additionally, prison staff and visitors are at high risk of exposure to TB, infection, and development of active disease, and may also spread TB to the general population. A truly multisectoral approach is needed, not only to identify and treat PDL during their incarceration, but also to ensure adherence to treatment upon release.

According to Human Rights Watch, although the Salvadorian prison system is designed to hold up to 11,400 inmates, more than 38,700 were held in January 2018 (Human Rights Watch, 2019). The number of inmates with TB increased from 96 in March 2016 to 1,272 in January 2018. Although visiting access to prisons has been restricted, international journalists allowed to enter have noted PDLs' unhealthy circumstances. The number of inmates that were killed or died within the prison system also increased from 2017 to 2018.

The average rate of overcrowding in 2016 was 375 percent (ranging from 66 to 877 percent) (MINSAL and MJSP, 2016). According to official data, 90 percent of patients diagnosed with TB were in prisons with extraordinary measures. In some special cases, inmates who have renounced gangs and are a safety risk in the general prison population are held in tiny rooms, with up to 30 people in rooms of 12 square meters. In several of these prisons, access to safe water and sanitation is poor, leading to waterborne illness and malnutrition. Malnutrition is a risk factor for TB, along with compromised immune systems, as seen in people living with HIV and diabetes patients. TB mortality and the rate of malnutrition is high within the prison system with 56 TB-related deaths in both 2017 and 2018 (MINSAL and DGP, August 2019). Key informants noted that at times the cause of death isn't properly identified as TB.

Finally, the general population still expresses fear surrounding the transmission of TB, which can contribute to an unfriendly environment at health centers. Stigma and discrimination against those who seek to access care compound inequalities, making it a barrier to achieving the elimination of TB.

Opportunities: In order to decrease TB incidence within the prison system, the NTP must emphasize the importance of screening for TB at entry, the importance of adherence to treatment among PDL with TB (particularly after release from prison), and the risk of the TB epidemic developing into an MDR-TB epidemic in the prison setting. Political will from both prison and public health authorities must be present in order to make progress, with health workers being allowed to visit detention centers without restrictions to provide care and treatment.

Threats: El Salvador's steadfast commitment to extraordinary security measures undermines the basic human rights of PDL. In August 2016, the Legislative Assembly made permanent a "state of emergency" that put inmates at seven prisons on lockdown and suspended their family visits. Extraordinary security measures include extended detention periods, use of the army in public security activities, increased flexibility for the execution of searches and seizures, and the tightening of administrative measures in prisons. New legal reforms were also instituted, including the creation of 13 new crimes and the reform of juvenile criminal law. These measures have been extended by the new government to 2019, taking what was intended to be a temporary measure and making it a permanent fixture in the current security landscape.

Extraordinary measures within the prisons entail a focus on transferring gang leaders to maximum-security prisons, cutting off cell phone service around prisons, and restricting visitors. However, contracting TB and dying from the disease should not be part of a prisoner's sentence. Currently, the risk of contracting TB as a PDL is 99 times greater than that of the general population (Table 3).

Table 3. TB Among PDL in Selected Latin American Countries

Country	Reporting Year	TB Incidence Reported in General Population x100,000	TB Incidence in Prisons x100,000	Relative Risk of TB in PDL
Argentina	2015	24.4	420.9	17.2
Bolivia	2017	68.8	986.8	14.3
Brazil	2016	36.3	883.7	24.3
Ecuador	2016-2017	33.0	1,674.0	50.7
El Salvador	2016-2017	48.2	4,765.7	99.0
Guatemala	2016-2017	19.0	91.2	4.8
Guyana	2017	15.7	487.8	8.5
Haiti	2017	139.1	3,202.7	23.0
Honduras	2016-2017	32.1	1,223.6	38.2
Jamaica	2016-2017	3.6	0.0	—
Mexico	2016-2017	17.3	195.0	11.2
Peru	2016-2017	135.2	2,812.0	20.8
Dominican Republic	2016-2017	38.5	989.1	25.7
Suriname	2016-2017	20.4	43.7	2.1

Source: PAHO, 2018

The inability to follow-up once prisoners are released to ensure that they have access to clinics for adhering to treatment is a threat to the well-being of the general population. Inadequate medical care not only violates the rights of PDL but is also a threat to the country as a whole with regard to the spread of TB.

WHO Recommendations

At the 2017 World Health Organization (WHO) conference "Ending TB in the Sustainable Development Era: A Multisectoral Response," several innovations to help enhance the TB response were suggested (WHO, 2017b). The following is an analysis of where El Salvador stands in relation to these recommendations.

- **Scaling-up access to rapid molecular diagnostics.** El Salvador's NTP has taken steps to scale-up access to the latest diagnostic tools such as GeneXpert, with 15 machines currently operational the country; it was one of the first countries in the region to do so. El Salvador's commitment to adopting the latest technology is a testament to the country's high political will to addressing the TB epidemic; however, funding the maintenance and staff required to operate the technology is costly.
- **Community empowerment and community-based TB care and health systems strengthening.** El Salvador has a *National Strategy for Community Participation for the Prevention and Control of TB 2017-2020*. However, the TB response remains highly centralized and current community strengthening efforts are not sufficient to reach identified End TB and Sustainable Development Goals.
- **Multisectoral engagement and cooperation between ministries and by adopting an all-of-government approach.** El Salvador has room for improvement in terms of creating a truly integrated approach to addressing social determinants that affect TB. Fostering a better understanding of each sector's and corresponding ministry's role will be important in moving forward and ensuring the sustainability of the TB program. Multilateral forums can be used to draw attention to the fight against TB. Enhanced domestic funding is essential to ensure universal access to health, including that of vulnerable populations.
- **Adopting a national TB law is an example of a clear commitment countries can make towards ending TB.** El Salvador is in the process of creating a TB law that MINSAL hopes to pass with the new government in power. Making the law as comprehensive as possible will help to ensure that political will is sustained in upcoming years. However, a law doesn't necessarily equate to political will for policy implementation and funding disbursement; it will be critical to ensure that the law is implemented properly and funded accordingly in order to be truly effective.
- **An equitable, ethically sound, and human rights-based response that prioritizes people affected by poverty, disease, stigma and marginalization, including global action on the plight of migrants, and on the special risks faced by other vulnerable groups such as PDL.** El Salvador needs to ensure that vulnerable groups such as PDL are treated with dignity. Stigma and marginalization faced by TB patients is something that each service provider should work to ensure does not exist. Working with civil society organizations to ensure that these groups are treated with compassionate care and respect is of utmost importance.

Conclusion and Recommendations

Analyzing the sustainability of El Salvador's TB response through multiple angles allows for the formation of a clearer picture of what challenges and opportunities exist moving forward. The following is an overview of the six lenses that were used in this analysis and a recommendation for next steps in identifying sustainability risks and mitigating actions.

Epidemiological: El Salvador suffers from two distinct TB epidemics: one among the general population in which incidence is decreasing and one among PDL where incidence is on the rise. With high treatment success rates, El Salvador has long served as a model in the region for an effective TB response; however, TB among PDL has spread at an alarming rate due to overcrowding and suboptimal conditions that exacerbate the possibility of contracting the disease. High-risk municipalities and less accessible, rural areas present gaps in detection that still need to be filled.

Financial: The government of El Salvador is already playing a major role in financing the country's TB program and has taken on a progressively greater share of financing responsibilities over time. However, El Salvador's TB program continues to rely significantly on the Global Fund for improvements and upgrades to the diagnostic network and capacity, accounting for 56 percent of the Global Fund's current US$4.2 million grant (2019–2021) (Global Fund, 2018a). Unclear delineation of responsibilities between institutions has led to an unfair burden being placed upon MINSAL to provide resources for the response. This problem can be solved with further mobilization of alternate resources from ISSS and DGCP. Greater municipal engagement financially could also lead to stronger community-based efforts in detection. Given the critical role of the penitentiary system in the TB response, emphasis should be placed on securing greater financing for the provision of health services and ensuring enough staff are properly trained on the utilization of GeneXpert.

Political: El Salvador's NTP must move away from its highly centralized yet siloed approach and leverage relationships with other ministries and sectors to build a more comprehensive, truly multisectoral TB response. Passing the TB law provides an opportunity to mandate both human and financial resources to strengthen the TB program. A major political threat is that the set of extraordinary measures in place will continue to place a large burden on a prison system that is not adequately prepared to deal with the TB epidemic. Uncertainty remains regarding how the new administration will handle and prioritize such an imminent health risk.

Structural: Underlying factors, such as socioeconomic inequalities, discrimination, poverty, malnutrition, and weaknesses in health systems are contributing factors to the epidemics in El Salvador. Structurally, the root causes of violence among communities need to be tackled in order to reduce incidence of TB in prisons. Culturally, stigma and discrimination also play a detrimental role in the quality of care provided by clinics. Opportunities exist to address social determinants of health with shared responsibilities across sectors.

Programmatic: The strength of the NTP and its organizational capability is an asset to the TB response. Greater emphasis on prevention and awareness—including more financial resources allocated to civil society efforts to build community-based detection, knowledge, and awareness—is needed. The use of TB-preventive treatment should be mandatory for health workers who are confirmed to have latent TB, people in frequent contact with TB patients, and people living with HIV. Understanding the public sector's role in conjunction with that of civil

society can contribute in meaningful ways to heightening the epidemic response. Providing consistent training and hiring more laboratory professionals can help to reduce the high burden that laboratory tests demand. The development and training of professional experts will also help with the maintenance of GeneXpert. Sufficient human resources need to be provided, specifically laboratory staff that are adequately trained to handle the complexities of the GeneXpert machines. Further sensitization of staff to reduce stigma and discrimination can decrease loss-to-follow-up rates and increase adherence over time. Finally, moving away from paper-based records to electronic monitoring systems and consistent use of unique patient identification numbers can help create a higher standard of care. As El Salvador moves towards a results-based budget, meticulous documentation of data and a high quality of results can be aided through digitized records. Decision-making at higher levels can also be made more transparent with the creation of electronic databases that can track progress over time.

Human Rights: If resources are allocated to achieve epidemic control in the prison system, then El Salvador has a chance at reducing its national TB burden and focusing resources on a subset of the population. Opportunities include mandatory screening for TB at entry of prisons and programs set up to limit loss-to-follow-up in order to ensure adherence to treatment among released prisoners. The inability to follow-up once prisoners are released and ensure that they have access to clinics for adhering to treatment is a threat to the well-being of the general population. Inadequate medical care not only violates the rights of persons PDL but is also a threat to the country with regard to the spread of TB.

Next Steps

This analysis was used to develop a Sustainability Roadmap that assessed the severity of each identified risk to ensure El Salvador's success on the path to controlling its TB epidemic. Each threat was prioritized as high-, medium-, or low-risk to the country and mitigating actions were recommended for each. The roadmap, "El Salvador Tuberculosis Sustainability Roadmap for Multisectoral Action," can be accessed online via the HP+ website. Concerted efforts and true multisectoral action to address each risk can take El Salvador one step closer on its path of eliminating TB and regaining control over the epidemic.

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Annex A. Six-Tenet Framework for Sustainability in El Salvador's TB Response

1) **Financial:** Is there a credible long-term financing scenario?

   Financing is a critical tenet of sustainability as resource needs outpace available funding. In assessing financial sustainability, the following questions need to be considered:

   - What are the financing gaps identified in the MNSP and where will funding for these gaps come from?
   - How should financing be prioritized to best balance equity and efficiency?
   - Due to the highly decentralized nature of El Salvador's health sector, what is the potential role of municipalities and/or departments in funding the TB response?
   - Given that a significant proportion of TB funding comes from social security contributions, the current health of El Salvador's social security system will need to be considered. Can the system maintain similar levels of contribution in the near future?
   - What are the options for securing the consistency of TB financing in the country (e.g., should it be integrated into the social health insurance scheme? Can it be integrated into the primary health care program?)?
   - What is the country's strategic direction in terms of financial protection for people diagnosed with TB? If there is a move toward maximum financial protection, there needs to be an understanding of the magnitude of current out-of-pocket and catastrophic health expenditures incurred by those suffering from TB to better estimate the resources required to cover these expenditures.
   - Will the country have access to affordable procurement channels for drugs and commodities?

   Results from assessment of the other tenets of sustainability, such as epidemiological and political will, also feed into financial sustainability.

   - Epidemiological: Is there an expected change in the epidemiological landscape in the near future? Any changes in epidemiology will affect the response and determine whether future costs are expected to increase, decrease, or remain at the same level.
   - Political: Can funding be affected by a change in leadership of the program, ministry, or government at either the national or subnational level? Are there any legislative orders in place that ensure program funding?

2) **Epidemiological**: Are the current interventions effective at containing the epidemic? Are the current interventions on trend to ending TB by 2035?

   Based on recent data, the number of TB cases identified in El Salvador is increasing, which suggests that detection methods are becoming more effective, possibly due to the introduction of technology such as GeneXpert that reduce the time it takes to provide an accurate diagnosis and allow for early treatment.

The national response to TB in El Salvador has shown significant progress over the past three years, notably by an increase in investment to improve access to early diagnosis for the different populations, a higher cure rate (93.1 percent) in all forms, a higher detection rate and treatment success rate in MDR-TB (77 percent in 2017 and 73 percent in 2014), and a sustained drop (2.7 percent) in the TB/HIV mortality rate since 2000. Most TB patients (98 percent) are screened for HIV—5 percent are HIV-positive and 100 percent receive antiretroviral therapy.

Despite this progress, TB still represents a threat in El Salvador, especially to key and vulnerable populations. TB diagnosis and treatment are free but there is no universal access to health services for managing TB. The estimated TB incidence of all forms increased significantly from 41/100,000 in 2014 to 72/100,000 in 2017. In 2016, when the country notified 3,050 cases (80 percent of total estimated cases), 87 percent were pulmonary cases and 90 percent were bacteriologically confirmed. Only 12 percent of notified cases were tested with WHO-recommended molecular rapid diagnostics at time of diagnosis. Four percent of Salvadorians still die from the disease, primarily in high-risk groups and due to comorbidities, principally among PDL. Only 10 percent of children under five years household contacts of bacteriologically confirmed TB cases are on preventive treatment.

The estimated rate of TB cases with RR/MDR-TB is 2.9 percent for new cases and 4.1 percent for previously treated cases. However, there remain significant gaps in early diagnosis due to a systematic deficit in screening coverage with large differences across the country. Fifty-two higher risk municipalities lack diagnostic capacity and present a gap of more than 70 percent for investigating respiratory symptoms to identify TB cases. They represent 26 percent of the country's population and correspond to rural areas with high poverty levels and the Metropolitan Region, characterized by high levels of violent crime and gangs; overcrowding; and informal living conditions. Lastly, in the penitentiary system, the number of detected TB cases in 2016 doubled from 2015, accounting for 51 percent of total case notifications. The notified TB incidence rate in the PDL population is 2600/100,000, 64 times higher than the national rate. In 2017, 43 percent (12/23) of the cases that turned out to be RR-TB in the same year were among PDL.

The MNSP mentions that two epidemiological analyses of TB in El Salvador were conducted, one with global figures showing the behavior of the disease in the past 25 years and another in which the disease is disaggregated by municipalities and geographical areas. The first scenario reported substantial progress and therapeutic successes; however, the second showed a geographical asymmetry and disparities in access to health services in some municipalities, which negatively impacts the detection of TB and in reporting TB cases in those municipalities. Greater focus on these municipalities can help to move the dial on the national response to TB.

3) **Political**: Is there political support and country ownership to ensure increased domestic financing?

Although current political will is high in El Salvador, with a strong NTP, the recent election means that new ideas and priorities may emerge. It is crucial to ensure that the current momentum behind TB efforts is sustained by the new government administration. With donors scaling-down their support, the gains achieved can soon plateau if there is a decrease

in detection and an emergence of active TB cases across municipalities. Additionally, the containment of MDR-TB remains a priority as it requires more intensive costs and care.

4) **Structural**: Is the social and environmental context enabling for a long-term, effective response? Are there multisectoral responses to addressing the non-health determinants of TB transmission?

   According to the WHO Commission on Social Determinants of Health, "the structural determinants of TB are those conditions that generate or reinforce social stratification (e.g., socio-economic inequalities, population growth, urbanization) and therefore give rise to an unequal distribution of key social determinants of TB epidemiology such as poor housing, poverty, and malnutrition, which in turn influence exposure to risk, vulnerability, and ability to recover after developing the disease." National TB incidence rates are more closely correlated with social and economic determinants such as access to water sanitation and child mortality. Although structural elements are often difficult to identify and change, HP+ will look at key social determinants in El Salvador, including the incidence of TB in key and vulnerable populations (Figure 8). Structurally speaking, within the central prison system there are changes that need to be made, such as better ventilation and policies that place the health of the prisoner as a priority, to reduce the spread of TB.

Figure 8. Risk Factors for Different Stages of TB Pathogenesis and Epidemiology

Exposure	Infection	Disease	Access to TB Care and Clinical Outcome
• Being male • Age of source infection • Community TB prevalence • High population density • Crowding • Urban residence • Poor ventilation at home • Indoor pollution	• Being male • Increased age • Race/ethnic group[a] • Contact with source case[b] • Poverty • Malnutrition • Lack of Bacille Calmette-Guérin vaccine • HIV • Urban residence	• Being male[c] • Increased age • Race/ethnic group[a] • Poverty • Malnutrition • Lack of Lack of Bacille Calmette-Guérin vaccine • Smoking, alcohol/drug abuse • HIV • Diabetes, cancer, silicosis • Other immune-suppressive conditions • Migration[d] • Urban residence	• Being female • Geographic barriers • Economic barriers • Cultural barriers • Weak healthcare system • Stigma • Lack of social protection • MDR-TB • HIV • Malnutrition • Other immune-suppressive conditions

[a] TB infection and disease rates are often reported to be higher among Black Africans and Hispanics.
[b] Increased TB risk associated with contact with a case of TB depends on the infectivity of the source case, the degree of exposure to the case by the susceptible person, and the degree of susceptibility of a person to infection.
[c] It is unclear whether this observation can be explained by differences in case finding or whether it is due to different susceptibility to TB among sexes. TB disease tends to be more common among males.
[d] Migrants' increased risk of TB in many settings may result from higher exposure to TB in country of origin or experience of worse socioeconomic living conditions compared with residents.
Source: Hargreaves et al., 2011

5) **Programmatic:** Does the specific program or intervention make sense in an integrated primary care system?

   Although the MNSP is clearly based on the Salvadorian context, it is possible that perspectives from outside MINSAL may not be accurately reflected in the current plan. A deeper understanding of any possible shortcomings from patients and medical providers in public and private sectors, at regional or community levels, and in urban and rural areas can help to clarify the status of TB control. It is necessary to engage all relevant care providers—private, public, and voluntary—in basic TB care and control. By strengthening the entire health system, the quality of TB care will be increased.

6) **Human rights:** How will the right to health be protected for populations who might be excluded from decision-making?

   The key to a sustainable TB strategy lies in patient-centered care. Adherence to TB medication is particularly important with sustained patient care required for prevention of loss of TB cases in the cascade of care. El Salvador has a number of high-risk populations for TB infection, including prison populations, factory workers, people living with HIV, and those in poor living conditions.

   PDL are at particular risk of developing TB due to overcrowding in prisons and lack of proper ventilation systems. Prison populations are dynamic, creating a risk for populations at large once PDL are released. Additionally, prison staff are at high risk of contracting TB and spreading the disease to the general population. A truly multisectoral approach is needed, not only to identify and treat PDL during their incarceration, but also to ensure adherence to their TB regimen while incarcerated and upon their release.

   Finally, key populations such as sex workers, men who have sex with men, and transgender individuals are at greater risk of contracting HIV, which in turn increases the potential that they will acquire TB. Stigma and discrimination are often the primary barriers to key populations accessing and remaining in TB and HIV care. Identifying and addressing the primary drivers of stigma and discrimination toward these populations is critical to achieving improved care and treatment outcomes.

Annex B. Questionnaire for Key Informant Interviews

Country: El Salvador

Key Informant First and Last Name: _____

Key Informant Employer: _____

Key Informant Job Title: _____

Date: _____

TB response sustainability questions for Ministry officials:

1. What was your involvement, if any, in the development of the National Strategic Plan for TB in El Salvador?
2. Are the current interventions effective at containing the epidemic? Are the current interventions and scale-up trend sufficient to end TB by 2035?
3. To what extent is tuberculosis considered a priority by the Salvadoran government? Is there political support and country ownership to ensure increased domestic financing?
4. Is the social and environmental context enabling for a long-term effective response? Are there multi-sectoral responses to addressing the non-health determinants of TB transmission? Are they backed by funding towards multi-sectoral efforts for the TB response?
5. Can you please describe the process for the creation of the annual TB budget?
6. How integrated is the national TB response into the primary care system?
7. How involved are community stakeholders in the TB response?
8. Are there any vulnerable groups that are underserved or not targeted enough to ensure adherence to TB regimens and proper detection of TB cases? What more can be done to reach these populations?
9. What is the current system for monitoring progress for the current MNSP? What more could be done to ensure that the plan is implemented as intended?
10. Has the government thought about social contracting or public procurement mechanisms for CSOs?
11. What other recommendations do you have for ensuring that the TB response is more sustainable in the future?
12. In 10 years from now, what do you think are the key things that need to happen to eliminate TB?

TB response sustainability questions for CSOs:

1. Was your organization involved in the development of the National Strategic Plan for TB in El Salvador? If so, how?
2. Are the current interventions effective at containing the epidemic? Are the current interventions and scale-up trend sufficient ending TB by 2035?
3. Is there political support and country ownership to ensure increased domestic financing?
4. Can you please describe the process for the creation of the annual TB budget?
5. To what extent is the private sector engaged in the TB response?
6. How involved are community stakeholders in the TB response? Do you feel that the government takes a multi-sectoral approach to TB detection and response?
7. Are there any vulnerable groups that are underserved or not targeted enough to ensure adherence to TB regimens and proper detection of TB cases? What more can be done to reach these populations?
8. What is the current system for monitoring progress for the current MNSP? What more could be done to ensure that the plan is implemented as intended?
9. What are your primary sources of funding? Have you looked into any social contracting mechanisms for NGOS?
10. What other recommendations do you have for ensuring that the TB response is more sustainable in the future?
11. In 10 years from now, what do you think are the key things that need to happen to eliminate TB?

Specific financing questions for MOH planning department, health financing experts, and MOF health focal person:

1. How were costs for the national strategic plan estimated?
2. Have the sources of funding been clearly identified in the present national strategic plan?
3. Are there specific programs or activities (included in MNSP) that are under-financed or likely to see funding reductions over the next few years?
4. Which programs and activities currently rely most heavily on external financing, and which are primarily funded by government?
5. What was the total amount spent on TB prevention, care and control during the past year? How much of this came from the government? What are the other major sources of financing?

6. What is the current and potential role of municipalities or departments in funding the TB response?

7. Social security current plays a significant role in the financing of TB services. Which services are covered by SS, and with which providers? If applicable, is there an effort to increase the TB services covered by SS?

8. What is the current status of SS in terms of population coverage and financial sustainability? Are there efforts to increase the population covered, particularly to the poor or other marginalized groups?

9. What are the options for securing the consistency of TB financing in the country (e.g. should it be integrated into the social health insurance scheme? Can it be integrated into the primary health care program?)

10. How are TB services currently provided in public facilities (e.g. by whom and at what level of care)? Are patients required to pay user fees?

11. What is known about the magnitude of out-of-pocket and catastrophic health expenditures incurred by those with TB? What is the country's strategic direction in terms of financial protection for people diagnosed with TB?

12. Has the national TB program developed a strategy to mobilize financial resources to implement the national strategic plan? What actions have been taken to mobilize these resources? How proactive has the program been in undertaking these actions?

13. How should financing be prioritized to best balance equity and efficiency?

14. How are TB drugs and commodities currently procured and through what channels? What steps are being taken to ensure affordable procurement? Are regional procurement agreements currently in use or being considered?

15. With the new government coming into power in July, do you think funding will be affected by this change in leadership of the program or ministry or government at national or sub-national levels? Are there any legislative orders in place that ensures program funding?

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