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GENDER AND TB:

A STOP TB PARTNERSHIP PAPER (VERSION 2)


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Acknowledgements

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Abbreviations

CRG	Community, Rights and Gender
EPTB	Extrapulmonary tuberculosis
GFATM	Global Fund to Fight AIDS, Tuberculosis and Malaria
HIV	Human immunodeficiency virus
LGBTI	Lesbian, gay, bisexual, transgender and intersex people
LTFU	Loss to follow-up
M:F	Male:Female
MDR-TB	Multidrug-resistant tuberculosis, defined as resistance to rifampicin and isoniazid
M&E	Monitoring and evaluation
NTP	National TB program
SDGs	Sustainable development goals
TB	Tuberculosis
STP	Stop TB Partnership
UNHLM	UN high level meeting
WHO	World Health Organization

This is an updated version of the Stop TB Gender and TB Paper first published in 2021.1 This version – particularly the framework for implementing gender-based TB services – draws more substantially on the experiences and lessons generated by the TB REACH Wave 7 funding cycle (2020 – 2021) which emphasized women's empowerment.

This paper provides overview perspectives that are not generalizable to specific settings. We note that regional specificities will often provide alternative examples to the points we make here. This document is intended to be used by all stakeholders in the fight against TB, including the TB community, governments, advocates, academia, donors, innovators and civil society.

1 https://stoptb.org/assets/documents/global/awards/tbreach/TB-REACH_Gender2021-web.pdf

Key Definitions[2]

Barriers and facilitators to care:	"barriers" to health care are any conditions that are inhibiting or stopping access to health care, treatment and support. "Facilitators" to care are conditions that assist or improve health care access and use. Understanding both barriers and facilitators is important because improved TB services require overcoming barriers and strengthening facilitators.
Community:	a group of people with diverse characteristics who are linked by social ties, share common perspectives, and engage in joint action in geographical locations or settings.
Community-led monitoring:	a form of public oversight driven by TB-affected community as active holders of fundamental rights. It aims to increase accountability and drive improvements in TB service availability, accessibility, acceptability, and quality through the provision of robust evidence for advocacy with health care providers and policy makers.
Community, rights and gender (CRG) in the TB response:	the meaningful engagement of TB-affected communities in the TB response; the overcoming of social, policy and legal barriers to TB services; and the application of human rights and gender approaches in planning, implementation, monitoring, evaluation and governance of TB programs.
Community, rights and gender assessment:	a community-led and country-owned process that, through an inclusive and multisectoral approach, generates strategic evidence and information on rights and gender related to barriers to services and informs the development of a national costed TB CRG action plan towards rights-based, gender-transformative and people-centered TB responses.

2 Where relevant these draw from the Stop TB Partnership Guide "Words Matter" (https://www.stoptb.org/words-matter-language-guide), which sets out definitions and guidance on appropriate language related to TB.

Empowerment: the action taken by people to overcome the obstacles of structural inequality that have previously placed them in a disadvantaged position. Social and economic empowerment is a process aimed at mobilizing people to achieve equitable welfare and equitable access to resources and to become involved in decision-making at the domestic, local and national levels. In the context of TB, empowerment is about supporting communities of TB-affected persons and TB survivors to form strong community and country-level networks with the membership equipped with knowledge, tools and skills. These can include advocacy, resource mobilization, community-based and community-led delivery of services, and community-led monitoring to meaningfully engage in and contribute to all components of the TB response.

Key and vulnerable populations: people who are vulnerable or at risk of TB infection and illness. Key and vulnerable populations tend to be marginalized and experience specific barriers in accessing health care in the context of societal inequality.

Gender: a socially constructed set of norms, roles, behaviors, activities and attributes that a given society considers appropriate or valued for women, men and transgender people. Gender is often simplistically understood as relating to biological sex and referring only to men and women. However, some people do not fit into, or associate with, these binary categories in terms of biology or identity.

Gender-based approach to TB: an approach that is gender-sensitive and/or gender-transformative (see below) and which seeks to find a balance between assessing and addressing epidemiological gender differences and responding to broader economic, social and cultural norms and inequalities.

Gender-sensitive approach to TB: an approach that includes laws, policies, programs or training modules that recognize that there are different gendered individuals (women, men, girls, boys, transgender and gender-diverse) within a society and that these individuals are constrained in different and often unequal ways and may therefore have differing and sometimes conflicting perceptions, needs, interests, and priorities.

Gender-transformative approach to TB: an approach that entails programs, laws, policies or training modules that are tailored to respond to the different gendered risks, needs and barriers to services for all people (women, men, girls, boys, transgender and gender diverse individuals). In the context of TB, a gender-transformative approach examines, questions and changes harmful gender norms and inequalities to gain improved rights and health for all people affected by TB.

Human rights-based approach to TB: an approach that entails promoting and protecting the rights of people affected by TB, including the rights to life, health, non-discrimination, privacy, informed consent, housing, nutrition, and water. The approach focuses on identifying, mitigating and overcoming human rights and gender-related barriers to TB services.

Sex: the classification of people as male, female or intersex based on a combination of bodily characteristics including chromosomes, hormones, internal reproductive organs and genitalia. This usually happens at birth.

Stigmatization (or stigma): A process of devaluation whereby a person is discredited, seen as a disgrace or perceived to have less value or worth in the eyes of others. Some common examples of stigma related to TB include assuming that people with TB also have HIV, that they must be a a person who uses drugs and/or that they must have done something bad to deserve the punishment of having TB. This devaluation is then used to justify social isolation and discrimination against the person with TB.

TB response: efforts to prevent and treat TB. It includes a mix of biomedical, public health targets and socioeconomic interventions, along with research and innovation at the global and country level. At country level, the TB response is normally led by the National TB Program (NTP). The WHO End TB Strategy and the Stop TB Partnership's Global Plan to End TB: 2023–2030 provide clear guidance on TB responses that should lead to ending the epidemic.

Introduction

The Stop TB Partnership (STP) supports countries in achieving universal access to tuberculosis (TB) prevention, care, treatment and support services. STP promotes country- and community-led responses and focuses on biomedical advances and innovations, along with approaches that emphasize meaningful engagement of people affected by TB and that are rights- and gender-based.

Gender matters in the TB response because it can influence the risk for TB infection and care accessibility, availability, acceptability, and quality, which in turn can impact health outcomes. A gender-based approach, which responds to biological and social, cultural and economic differences is, therefore, critical for finding those currently missed by the TB response and for providing effective, inclusive, rights-based TB services that meet the needs of all people – boys, men, girls, women and gender diverse individuals.

A gender-based approach in TB programming is also important because the TB response still too frequently fails to recognize and respond to gender inequality, sometimes even exacerbating harmful gender norms. This manifests at all levels: in service provision processes, organisational structures and in health policy. A gender-based approach therefore also incorporates active steps towards gender equality and women's empowerment.

STP has sought to change the way gender is approached in the TB response through two main intervention areas – Community, Rights and Gender (CRG) initiatives, including country and regional assessments, and TB REACH funded projects (see box 1). In this paper we draw on available literature, CRG research reports, and experience from the women's empowerment approach taken in TB REACH projects as key evidence supporting the need for a gender-based approach to TB programming.

In this paper we outline the influence of gender on TB burden, care and treatment. Here we draw on the available literature, as well as the findings and information generated out of STP activities. We further recommend a six-level framework for assessing and implementing a gender-based TB response[3]: This framework is an adaptation of the five-level framework developed and piloted in the TB REACH Wave 7 funding, which supported women's empowerment. Aligned with this framework, we outline some of the ways in which the TB response continues to ignore gender dynamics in TB programming and reinforce harmful gender norms, and we recommend change actions towards a gender-based TB response.

STP and global gender goals

The STP gender-based approach is aligned with the 2015 Sustainable Development Goals (SDG) agenda, which builds on the recognition that gender equality leads to better development outcomes. Gender equity is both a specific goal (SDG 5) and integrated across all 17 SDGs.[4] This approach also aligns with the commitments of the 2018 UN High Level Meeting on TB, in which Heads of States and government representatives not only reaffirmed their commitment to ending the TB epidemic by 2030, but also committed to addressing gender inequality and developing integrated, people-centred, community-based and gender-based health services based on human rights.[1] Gender as a UNHLM commitment and TB community priority is strongly reiterated in the Calls to Action from the TB community report A Deadly Divide: TB Commitments vs. TB Realities.[2]

3 TB REACH Wave 7 used a 5-level framework to support implementing organisations in planning change interventions. For a description of the framework see Lessons from TB REACH Wave 7 Project Implementation: Compendium of activities and indicators for women's empowerment in TB programming. https://www.stoptb.org/tb-reach-impact/gender-and-womens-empowerment. The adapted six-level framework presented here is for use by the TB response more broadly.

4 United Nations. The Sustainable Development Goals knowledge platform 2015 https://sustainabledevelopment.un.org/sdgs. Accessed 1 December, 2018.

Throughout the paper "gender" refers to the socially constructed set of norms, roles, behaviors, activities and attributes that a given society considers appropriate or valued for women, men and transgender people. A gender-based TB response seeks to find a balance between assessing and addressing epidemiological gender differences and responding to broader economic, social and cultural norms and inequalities.

The predominant focus in this paper on gender as it refers to men and women is due to the lack of evidence about people who do not ascribe to gender norms. CRG assessments in seven countries have shown that gender diverse people face discrimination and unique challenges related to their gender. Assessments in eight countries have further found a lack of gender-sensitive care, including for gender diverse individuals.[3] There is, however, very little other information available, pointing to the need for additional research. Specific challenges faced by gender diverse people should always be considered in the TB response. Detailed discussions on the various TB key populations[5] is beyond the scope of this paper. Readers are also encouraged to recognize that gender intersects – sometimes in very specific ways – with other marginalising factors, such as migration, substance use, imprisonment, HIV status, and some highly gendered employment sectors such as mining, which is mostly done by men, or garment factory work, which is mostly done by women.

5 These include prisoners, people who use drugs, migrants, refugees, urban and rural poor, indigenous peoples, miners, people living with HIV, health care workers, amongst others. Countries can utilize the key population tool to help prioritize key populations in their respective national context. See more at http://www.stoptb.org/assets/documents/communities/Data%20for%20Action%20for%20Tuberculosis%20Key,%20Vulnerable%20and%20Underserved%20Populations%20Sept%202017.pdf

BOX 1.
Key STP gender-related interventions, outputs and achievement 2017 - 2021

- 20 countries have implemented CRG assessments supported by STP, USAID and the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM)
- TB REACH Wave 6 grantees (project initiated in 2018) incorporated gender action plans in their programs
- TB REACH Wave 7 grantees (projects initiated in 2019) included empowerment of women and girls a substantive component of their proposed programmatic activities, their organizational practices, or both
- 5 countries have implemented national costed TB CRG Action Plans
- 4 countries have started national stigma assessments
- 14 countries have implemented community-led interventions to monitor human rights violations, barriers to TB care and support services, TB stigma, and gender related barriers
- 31 grants awarded through Challenge Facility for Civil Society[4] have supported CRG integration into the TB response and networks of people affected by TB to advance rights and gender initiatives
- TBWOMEN, a global network of women in their diversity advancing a gender transformative TB response, was formed[5]
- A declaration of rights of people affected by TB has been launched[6]
- A guide to implementing a rights-based TB response has been launched[7]
- 7 CRG investment packages, including the TB and Gender CRG Investment Package[8] have been developed; and
- A guide to suggested language and usage for TB communications has been launched.

Gender dynamics in TB burden, care and treatment outcomes

TB epidemiology, sex and gender

Globally, the rates of TB are higher in men than in women, with the notable exception of Afghanistan, where women are consistently shown to experience higher rates of TB.[9] The most recent WHO report estimated that in 2019, women comprised 32% of all global TB cases (aged ≥15 years), and men comprised 56% of cases, with the remaining 12% being children (<15 years).[10] Prevalence surveys across 33 African and Asian countries between 2007 and 2019, showed that men have consistently higher notifications than women despite the fact that more men than women are missed by the TB response. Men and boys also account for a larger share of TB mortality, making up 53% of HIV-negative people and 57% of HIV-positive people who died of TB in 2019.[11]

The extent to which men are more affected by TB varies by country and region. In 2019 the M:F ratio of incident TB cases for all ages ranged from 1.3 in the WHO Eastern Mediterranean Region to 2.1 in the European and Western Pacific regions.[12] Prevalence studies show M:F ratios ranging from 1.2 (in Ethiopia) to 4.5 (in Vietnam) for bacteriologically confirmed pulmonary TB.

There are exceptions to the generally higher burden of TB experienced by men. Adolescent girls tend to be more susceptible to TB than adolescent boys[13] and extrapulmonary TB is more common in women than in men and more difficult to diagnose. Consequently, there is also likely some under-reporting of TB in women because prevalence studies tend to exclude adolescents and extra-pulmonary TB (EPTB).

Very little is known about TB epidemiology of gender-diverse people and communities, though the data do demonstrate that TB epidemics might be concentrated in communities that are stigmatized and marginalized because of their gender non-conformity. In India, when the national TB program began tracking (2018) TB among persons of the third gender, TB notifications among this group were 344/100,000, compared to 117/100,000 in women and 194/100,000 in men, indicating a high TB burden in this population.[6] In Pakistan, a TB REACH intervention implemented by Bridge Consultants Foundation addressed TB in an urban transgender community and found that 1.1% of the 18,272 people screened had TB.[7]

Higher rates of TB in men are likely partly a result of biological differences. Sex hormones play an important role in modulating the immune response, with women generally exhibiting more robust responses to antigenic challenges.[14,15] This may partly be due to differences in the metabolism of nutrients, such as iron and fat, and differences in the anatomy and physiology of the respiratory tract.[16] The exception of higher rates of TB in adolescent girls is possibly due to fluctuating oestrogen levels that compromise immunity and may increase their risk of TB.[17] Advancements in the fields of immunology, micro- and molecular biology are likely to bring more clarity to the process of TB disease development, particularly TB activation.

At the same time, the variations in incidence and prevalence ratios between regions and even within countries suggest that cultural and socio-economic factors play a large role in determining TB risk and disease. Men may be more affected in terms of morbidity and mortality due to their greater tendency to use substances, inclusive of cigarettes, alcohol and illicit drugs.[18] Smoking has been found to double the risk of TB disease, as well as the risk of recurrent TB disease after successful treatment and is a significant predictor of the differences in TB burden between men and women.[19] Alcohol use has been found to cause 22 incident cases per 100,000 people.[20] Use of opiates and inhalants and TB risk has been well-established.[21,22,23] Substance use is linked to TB risk because locations where people gather and use substances can serve as ideal infection transmission environments and because substance use increases the likelihood of progression from infection to disease.

6 Rates based on notifications reported in India TB Report 2020. Ministry of Health and Welfare. 2020. https://tbcindia.gov.in/showfile.php?lid=3538 Accessed January 12, 2021.
7 The same project found that 1.7% of 24,253 male sex workers screened also had TB.

Incarceration likely also plays a role in the higher number of men with TB. A 2016 review indicates that 2.8% of those imprisoned globally might have active TB[24] and men make up about 93.1% of the approximately 11 million people in prison or detention globally.[25] There is also evidence that TB in prisons has a significant impact on TB epidemiology in European and Central Asian countries.[26] Exposure in prisons has been linked to 6.3% of TB in the general population in low- and middle-income settings[27] and mass incarceration in Eastern Europe and Central Asia has been associated with an increase in TB prevalence in the general population.[28]

Certain industries that are linked to TB exposure and disease – such as mining and construction – are male-dominated, likely also feeding into the higher number of men with TB. Finally, diabetes, which is an important TB risk factor, is generally more prevalent in men than women, which may also contribute to the higher burden experienced by men, though evidence for this is limited. One study found that diabetes results in higher TB morbidity in women.[29]

While the above risks are weighted towards men, there are also risks that are weighted towards women. HIV increases the risk of TB over ten-fold, and is more prevalent in women than men.[30] Yet this does not seem to translate to proportional increases in women with TB, or notably different treatment outcomes to those found elsewhere in countries where this has been explored.[31,32] Malnutrition, which weakens the body's immune defences and is the risk factor with the largest attributable fraction of TB disease,[33] is more common in women than men.[34] The CRG assessment in India, a country where over half of all women are anemic and one in five are underweight, indicated that malnutrition not only substantially increases risk of TB disease in women, it also undermines treatment adherence. Malnutrition in adolescent girls documented in some regions[35] may be one factor that explains the higher rates of TB in this group.

Certain female-dominated professions also have a high risk of TB. This includes the lower echelons of healthcare providers, particularly nursing and community health work. Sufficient measures to protect these workers are often not in place.[36] Women employed in the garment industry may also be at an increased risk of TB, as has been documented in a few studies,[37,38] and noted in TB REACH work. Women also face greater risks of being infected at home and due to their care roles, with some evidence that this is partly related to male partners who have not accessed care.[39]

Gender and care access, quality and treatment outcomes

Though it is not universal,[40,41] men generally take longer to access TB care than women. Notions of masculinity and the need to exhibit fortitude can inhibit health-seeking and encourage prolonged self-medication.[42] When men do access healthcare, their greater financial freedom means that they are more likely to access services provided outside the public sector. This includes private healthcare providers who may not have the same screening and diagnostic processes as public healthcare providers[43] and traditional healthcare providers. Poorer TB knowledge and capacity in these providers can result in delayed diagnosis. In sub-Saharan Africa, healthcare facilities tend to be structured towards the needs of women and children, resulting in care spaces that may be difficult to approach (and sit and wait in) for men.[44] Greater levels of formal employment in men, along with their role as breadwinners for their families and households can also inhibit care access;[45] men may not be able to get time off work and may fear loss of employment if they are diagnosed with TB. Men are also more likely to be employed as migrant workers, undermining their ability to remain in care for the full treatment duration.[46]

Men's higher rates of substance use not only increase their TB risk; substance use also undermines care access[47] and is associated with poor treatment outcomes.[48,49] Furthermore, people who use substances may face substantial stigma in the healthcare sector given that healthcare providers can be reluctant to provide treatment to people who are identified as using substances.[50]

Women are documented to generally have better health-seeking behaviors, but cultural and socio-economic challenges more often delay or block their access to TB care.[51] This includes the high burden of housework, lack of health literacy, lack of access to finances or resources and decision-making powers lying with male family members.[52] Not only are women less likely to have financial autonomy, when they do have their own income, earnings are often lower than those of men, so costs of TB care account for a greater proportion of their income.[53] Limited mobility for women in many settings also hampers their ability to seek healthcare.[54] Wave 7 TB REACH projects have highlighted how women in many contexts are reliant on permission and support from their partners to access care, or undertake any treatment process. The ways that societal gender discrimination hampers equal access to healthcare is particularly evident in the CRG assessment reports from Eastern Europe and Central Asia and Southeast Asia.[55] This was also evident in TB REACH grantee work in Tanzania, Nigeria, Pakistan and India, amongst other countries.

There are also numerous documented reasons that women may have greater difficulties getting a TB diagnosis. Healthcare providers are less likely to

suspect TB in women as the "typical" person with TB is seen to be male.[56] Related to this, women are less likely to be sent for sputum samples[57] and when they are sent, tend to have greater difficulty producing quality sputum samples, perhaps resulting in under-detection.[58] Introduction of sputum production instructions for women in Pakistan significantly increased the rate of smear positive TB among women.[59]

TB symptoms may not be noted in pregnant women, or by healthcare providers because they can be assumed to be the result of pregnancy. One study found symptom screening to have a sensitivity of only 28%.[60] Diagnosis in pregnant women is further undermined by the difficulties of using chest X-rays in pregnant women. Similarly, genital TB can be difficult to diagnose because it may be asymptomatic or the symptoms, such as irregular menstrual cycles, may not be interpreted as potentially indicative of TB. High-prevalence countries also often lack culture and histopathology services that are needed for diagnosis of genital TB[61]

Challenges in accessing health care are best documented for gender diverse people in developed countries and highlight the pervasive discrimination, stigma, breaches of confidentiality and other issues that discourage gender-diverse people from accessing services.[62] Service access is also limited by criminalization of same sex behavior and morality laws limiting freedom of expression, and by widespread stigma, discrimination and violence experienced by gender-diverse people.

Loss to follow-up (LTFU) has been documented to be similar in men and women in some contexts[63,64] while elsewhere it has been found to be twice as high in men as women with multidrug-resistant tuberculosis (MDR-TB).[65] Retention in care is affected by the same gender factors that impact health seeking behavior. For example, women's need to get permission from male figure-heads for care processes[66] and men's greater involvement in migratory occupations, can impact their respective ability to stay in care. TB REACH experiences in India have also indicated that LTFU in men may not necessarily suggest a lack of treatment completion but rather, that having greater financial resources may enable them to continue care in the private sector after the initial diagnosis and initiation of treatment, resulting in a disruption on reporting processes.[67]

Gender inequality not only shapes access to care, it also shapes the socio-economic impact of infection. For example, men are more likely to be in formal employment and face termination when they are diagnosed with TB, while the burden of care for relatives and community members is overwhelmingly carried by women,[68] who also face increased home care responsibilities when male partners become very ill or die. TB related stigma and discrimination remains pervasive for all people and is also shaped by gender. In South-East Asia, stigma associated with TB can mark women as unmarriageable,[69] and married women with TB may be forced to leave their homes if diagnosed with TB.

Steps for change: a framework for a gender-based TB response

The following four realms (Strategic, Data, Service delivery/programmatic, and Organizational) comprise a framework to develop a gender-based TB response.

Strategic

A gender-based approach must be situated within a protective and supportive legal and policy framework. Too few countries have protections against gender-based discrimination in the health system, and there is a generalized failure to fully consider gender in TB policies, guidelines and monitoring and evaluation frameworks.[70] This allows the continuation of harmful gender norms.

Data

The collection, interpretation and use of both quantitative and qualitative data about gender and TB is key to designing and implementing appropriate gender-based interventions. It is also key to assessing their impact. Sex disaggregated data along the TB care cascade can show gender trends related to diagnosis and treatment access and quality. This is important for all genders. Yet many countries and organisations do not prioritize sex disaggregated data collection, analysis and use in routine programming.[71]

Qualitative data on the ways that gender impacts on care access, diagnosis and treatment must be available and used for planning and ongoing monitoring and evaluation processes. While CRG assessments are increasingly providing this data, gender is not yet sufficiently integrated into planning and monitoring and evaluation processes. Gender-diverse people are, further, routinely excluded in data collection, analysis and use processes[72] (including prevalence studies and monitoring and evaluation processes) and from meaningful participation in program design and management. This exclusion results in a lack of attention to the needs of gender-diverse people.

Service delivery/programmatic

The higher TB burden experienced by men, and the specific challenges faced in accessing and completing treatment require gender-based responses, yet there is a dearth of programming that actively takes men's needs into account. Overall, healthcare providers are not trained or capacitated to understand and respond to gender-based care and treatment needs. This can undermine care for all genders and can be especially harmful to gender-diverse individuals.

Women's subjugated position in society is reinforced by TB service provision in numerous ways. There is also generally a **lack of service provision for women in TB key and vulnerable populations.** Information on TB in women in male-dominated key and vulnerable populations (such as the mining sector, prisons, people who use drugs) is lacking, as is service provision for women in these groups.

Counselling processes and IEC materials tend to reinforce patriarchal gender roles. The notion that women are "natural" caretakers permeates the messaging provided by many TB programs. Women are counselled to take responsibility for caring for children and sick relatives, ensuring male partners take medication and contact tracing in a way that is not habitually expected of men. Information and education materials frequently represent women as lower tier care-takers, and care providers in the home, and men as senior healthcare providers.

Furthermore, diagnosis of TB in women can be more difficult. Yet **there is a lack of appropriate diagnostic processes and procedures that support diagnosis in women.** Together these reinforce gender inequalities and add to women's care burden.

Finally, as has been noted in in CRG Assessments in South Africa and India, gender non-binary people experience pervasive stigma in the health system generally.[73]

Organizational

Power, protection and remuneration are unequally distributed in the health workforce generally, including the TB workforce. Senior decision-making positions in the healthcare sector and TB response – including in government, private, community and entrepreneur sectors – are largely filled by men, while the vast majority of primary healthcare workers, inclusive of care workers, facility-based staff and laboratory technicians are women. Lower tier healthcare positions are mostly female-dominated. These positions have less access to personal protective equipment and less access to compensation for occupational infection, which in turn can inhibit women's financial ability to access care required in cases of occupationally acquired TB disease. Furthermore, systems for reporting and response to instances of gender-based harrassment or discrimination are lacking.

Many organizations rely on poorly paid, or unpaid female community health workers. The notion that women's work is not valuable is reinforced by expectations of free or poorly paid work by women. This can add to the food insecurity, psychological distress, and reduced social security experienced by women, as was illustrated by work done by Women Development Army in Ethiopia.[74]

Solutions and best practices: recommendations for change

Implementing gender-based programming in line with the above four realms is an ethical and practical requirement in the TB response. In addition, TB REACH Wave 7 work has demonstrated that TB programming can positively impact on gender dynamics in two further realms: at the level of individuals and the broader society. We set these out in the solutions and best practices in all six realms below.

Strategic

- **Develop a National Costed TB CRG Action Plan.** Active steps towards gender-based TB programming should be nationally ensured through the development of a National Costed CRG Action Plan. The Action Plan should set out budgeted policy development, advocacy processes and service delivery adaptations along with indicators and monitoring standards. The Action Plan should align with and be integrated into the National Strategic Plan.

- Increase **investment, coordination and commitment to gender-related care access barriers and setting up monitoring, advocacy and accountability.** In a context of societal inequality, ensuring that voices and needs of all genders are recognized and brought to the fore requires active, co-ordinated efforts.[8]

8 TB Women (see text box 2) can provide guidance on inclusion of women.

Data

- **Ensure gender-based programming is supported by sex disaggregated TB care cascade data collection, analysis and use.** Analysis of gender disaggregated data along the care cascade provides insight into gender-based trends in TB risk, diagnosis, and treatment. For this, data collection and analysis should include sufficient demographic detail; interpretation of data should be supported by qualitative findings of a gender analysis (see below); and interpretation and use of the data should be supported by sensitized and knowledgeable TB program staff.

- **Integrate gender research and indicators into program design, implementation and assessment.** All interventions, whether focused on gender or not, happen in a context of existing gender relations and can impact on those relations. Monitoring and evaluation therefore include gender-related indicators that[75,76] measure impact on gender relations and shifts towards gender equity. Indicators should include qualitative measures and quantitative measures over and above care cascade data. Indicators should further include gender-diverse people.

Program/service delivery design and implementation

Reaching and providing optimal services for all people requires gender-based **program/service delivery design and implementation.** In most contexts this will likely require attention to service provision for gender-diverse people. Men and women will face different challenges and barriers dependent on the context.

- **Consider gender in care accessibility, acceptability, availability and quality.** The ability to access care, the extent to which care is considered acceptable, the degree to which it is experienced as available, and the quality of services provided can all hinge on gender. Each of these realms should be considered in terms of gender. This includes consideration about gendered needs and realities in health care location, nutritional needs, care provider gender, facility opening hours, screening and diagnostic algorithms, and counselling processes, amongst others.

- **Train and capacitate healthcare workers to provide gender-based care.** Healthcare workers need to understand how gender manifests in the local context, what this means for TB risk, infection, disease and care, and how to provide care that is responsive to gender-based care barriers and needs.[9] This includes training on sensitivity to the needs of gender-diverse people.

- **Develop gender-responsive awareness and education processes.** Harmful gender norms should be challenged, not reinforced, through awareness and education processes. Counselling processes and IEC materials should be designed to work against gender-based myths related to TB, and demonstrate gender equity. For example, information and education materials should represent men as care providers and women as senior healthcare providers.

- **Ensure sufficiently sensitive screening and diagnostic procedures for women.** this should attend to the diagnostic needs of including pregnant women, women with genital TB, and women who cannot provide sputum.

9 For more on training areas and methods for healthcare providers see Lessons from TB REACH Wave 7 Project Implementation and Assessment: Training healthcare providers on gender-based TB care provision

Organizational structure and functioning

Gender equity should start within TB **institutions and organizations.** Furthermore, sustainable change towards gender-based TB programming requires that the people planning and implementing programs regard gender equality and women's empowerment as a standard requirement. Possible responses can include:

- **Assess organizational gender equity.** Women working in the TB sector have a right to equality in the workplace. An organizational gender assessment can highlight areas of inequality and key change requirement areas. Areas for assessment include pay, leadership, decision-making, and work access and safety, amongst others.
- **Set organizational gender equity policies and standards.** All organizations should have gender equity policies in place. Additional gender equity standards can include gender recruitment targets (at all levels of work – see above) and gender-based targets and processes to ensure equity in decision-making and leadership.
- **Set up monitoring and response systems for instances of gender discrimination or harassment.** Healthcare workers and people affected by TB have the right to working and care environments that are free from harassment and gender discrimination. Effective and confidential systems for reporting instances of stigma or discrimination are key both for accountability and for monitoring progress towards gender equity.

Societal change

The TB response can shift societal norms and practices that discriminate against women, girls and gender diverse people by using moments of engagement and connection with diverse groups. It is essential that men are engaged in all these processes to build their support for women's empowerment and gender equity. Possible responses include:

- **Counsel all people affected by TB about TB and gender.** Including discussions about the ways in which gender and TB intersect locally in TB education and counselling for people affected, their families and household contacts, can build basic gender literacy in a large group of people.

- **Include gender and women's empowerment as an agenda item in stakeholder meetings.** Regular updates on the status of gender and women's empowerment in the TB response ensures that it stays a concern for stakeholders.

- **Provide gender and women's empowerment sensitization to stakeholders, including health and community leaders.** This can be done through specific sensitization sessions, or through simply including gender as a discussion point in routine meetings.

Individual

The TB response has the capacity to counter harmful gender norms and change individual lives through women's empowerment and support processes. These can target women accessing TB services as well as women providing those services. Possible responses include:

- **Set up support for women and gender-diverse people accessing services.** Women, girls and gender-diverse individuals tend to be more socially and economically vulnerable than their male counterparts and the TB response can mitigate this. Some examples of action that can be taken include identification and support for individuals facing catastrophic costs because of TB; linking economically vulnerable individuals to micro-finance and income generation programs; and the provision of mental health counselling.
- **Undertake educational and skills development in individual women and gender-diverse individuals working in the TB response.** Due to societal systems of discrimination, women and gender-diverse individuals working in the TB sector are likely to have had access to less education and skills development opportunities than their male counterparts. Opportunities such as digital literacy training, financial literacy training, mobility (bicycle and scooter riding) training, and leadership training can change individual lives. Empowered individuals are also able to contribute better to their work and communities.

TEXT BOX 2. TB WOMEN

In 2020, Stop TB Partnership supported the development of TB WOMEN, a global network. This network has the vision to ensure a just and inclusive society, where women in all their diversity are empowered to realize a world free from TB and build a coordinated movement for a gender transformative TB response through women's mobilization, empowerment, policy advocacy, innovation, evidence building and knowledge sharing. Stop TB Partnership will look to further the advancement of TB and gender and promote gender equality in close partnership with this global network.

In conclusion: Positive change from gender-based programming

All people – men, boys, women, girls and gender-diverse individuals – should be provided with TB care and support services that are available, accessible, acceptable, and of high quality. Services should meet men's needs to reduce their relatively higher burden of TB. Services should further meet the needs of key and vulnerable populations and be free of stigma and discrimination. This means that the intersection of gender and other vulnerabilities needs to be taken into account. A gender-based response also seeks to lessen the global phenomenon of discrimination against women, girls and gender-diverse people, which continues to manifest in multiple ways in the TB sector.

Gender-blind TB programming – programming that ignores systemic gender inequities – is still too common in the TB sector, resulting in the reinforcement and perpetuation of harmful societal gender norms which, in turn, undermine health for all.[77] The COVID-19 pandemic has further exacerbated existing barriers and challenges,[78] while also creating new human rights and gender related issues which require further understanding and consideration in the context of TB and gender. A gender-based approach that incorporates women's empowerment is, therefore, a pragmatic and ethical imperative.

The discourse on gender has, until recently, largely focused on setting out the ways in which gender shapes TB risks, care provision and treatment outcomes, with a focus on TB epidemiology. This is imperative for effective and rights-based care provision, but it is only the first step. Health programming, including TB programming can and should incorporate more holistic social and developmental approaches that move beyond biomedical responses and seek to improve the overall wellbeing of the population. Beyond this, the ways in which TB care provision impacts on gender dynamics and TB programming must be recognized. TB programming, when well implemented, and when it includes components of capacity building and increased resource access for women and girls, can positively impact on individual capacities and confidence as well as gender relations in homes and communities. A comprehensive engagement with gender in TB programming holds an opportunity for a more gender equitable world that is currently largely unrealized. STP calls diverse TB stakeholders to recognize the potential power of their work and join us in efforts to broaden the discourse and action on gender and TB.

Endnotes

1 United Nations General Assembly. United to End Tuberculosis: An Urgent Global Response to a Global Epidemic. 2018; published online https://www.un.org/pga/72/wp-content/uploads/sites/51/2018/09/Co-facilitators-Revised-text-Political-Declaraion-on-the-Fight-against-Tuberculosis.pdf. (Accessed 18 December, 2018).

2 Stop TB Partnership. A Deadly Divide: TB Commitments vs. TB Realities. 2020; published online http://www.stoptb.org/assets/documents/communities/The%20Deadly%20Divide_TB%20Commitments%20vs%20TB%20Realities%20FINAL%20HLM%20Report.pdf (Accessed 18 December 2018).

3 Citro B, Soltan V, Malar J, Katlholo T, Smyth C, Sari AH, Klymenko O, Lunga M. Building the Evidence for a Rights-Based, People-Centered, Gender-Transformative Tuberculosis Response: An Analysis of the Stop TB Partnership Community, Rights, and Gender Tuberculosis Assessment. Health and Human Rights 2021; 23(2), 253.

4 Stop TB Partnership. About challenge facility for civil society. 2022; published online http://www.stoptb.org/global/awards/cfcs/ (Accessed 07 June 2022)

5 TB Women. TB Women Strategic Plan 2021-2025. 2021; published online https://stoptb.org/assets/documents/communities/TB%20Women%20Strategic%20Plan%202021-2025.pdf (Accessed 07 June 2022)

6 TBpeople and Stop TB Partnership. Declaration of the rights of people affected by TB. 2019; published online http://www.stoptb.org/assets/documents/communities/Declaration%20of%20the%20rights%20of%20people%20affected%20by%20TB%20-%20A5%20english%20version.pdf (Accessed 07 June 2022)

7 Citro B. Activating a Human Rights Based Tuberculosis Response: A Technical Brief for Policymakers and Program Implementers. 2020; published online http://www.stoptb.org/assets/documents/communities/Activating%20a%20Human%20Rights-Based%20TB%20Response%20-%20Technical%20Brief%20(November%202020).pdf (Accessed 07 June 2022)

8 Stop TB Partnership. Gender and TB: Investment Package Community, Rights and Gender. 2020; published online http://www.stoptb.org/assets/documents/communities/CRG%20Investment%20Package_Gender%20and%20TB%2006.07.2020.pdf (Accessed 07 June 2022)

9 Sabawoon W, Sato H. Sex Difference in Tuberculosis in Afghanistan: A National Cohort Study. Mycobac Dis 2012; 2(3) doi: 10.4172/2161-1068.1000115.

10 World Health Organization. Global Tuberculosis Report. 2020; published online https://www.who.int/publications-detail-redirect/9789240013131. (Accessed 5 December, 2020) .

11 World Health Organization. Global Tuberculosis Report. 2020; published online https://www.who.int/publications-detail-redirect/9789240013131. (Accessed 5 December, 2020).

12 Ibid

13 Donald PR, Marais BJ, Barry CE 3rd. Age and the epidemiology and pathogenesis of tuberculosis. The Lancet 2010; 375:1852–4. doi:10.1016/S0140-6736(10)60580-6.

14 Nhamoyebonde S, Leslie A. Biological Differences Between the Sexes and Susceptibility to Tuberculosis. The Journal of Infectious Diseases 2014; 209: suppl 3. doi:10.1093/infdis/jiu147 1.

15 Hertz D, Schneider L. Sex Differences in Tuberculosis. Seminars in Immunopathology 2019; 41:2. doi: 10.1007/s00281-018-0725-6

16 Neyrolles O, Quintana-Murci L. Sexual Inequality in Tuberculosis. PLoS Me 2009; 6:12. doi:10.1371/journal.pmed.1000199

17 Donald PR, Marais BJ, Barry CE 3rd. Age and the epidemiology and pathogenesis of tuberculosis. The Lancet 2010; 375:1852–4. doi:10.1016/S0140-6736(10)60580-6.

18 UNODC. World Drug Report. 2018; published online https://www.unodc.org/wdr2018/. (Accessed 11 February, 2021).

19 Watkins R, Plant J. Does smoking explain sex differences in the global tuberculosis epidemic? Epidemiol. Infect. 2006; 134: 333–339.

20 Imtiaz S, Shield KD, Roerecke M, Samokhvalov AV, Lönnroth K, Rehm J. Alcohol consumption as a risk factor for tuberculosis: meta-analyses and burden of disease. Eur Respir J. 2017; 50:1700216.21 Deiss RG, Rodwell TC, Garfein RS. Tuberculosis and drug use: review and update. Clin Infect Dis 2009; 48(1):72-82.

22 Markowitz N, Hansen NI, Wilcosky TC, Hopewell PC, Glassroth J, Kvale PA, Mangura BT, Osmond D, Wallace JM, Rosen MJ, Reichman LB. Tuberculin and anergy testing in HIV-seropositive and HIV-seronegative persons. Ann Intern Med 1993; 119(3):185–93.

23 Mathur ML, Chaudhary RC. Increased risk of tuberculosis in opium addicts. Indian J Med Sci 1996; 50(10): 365–7.
24 Dolan K, Wirtz AL, Moazen B, Ndeffo-Mbah M, Galvani A, Kinner SA, Courtney R, McKee M, Amon JJ, Maher L, Hellard M, Beyrer C, Altice FL. Global burden of HIV, viral hepatitis, and tuberculosis in prisoners and detainees. The Lancet 2016; 388(10049):1089–102. doi:10.1016/S0140-6736(16)30466-4
25 Penal Reform International. Global prison trends. 2015; published online https://cdn.penalreform.org/wp-content/uploads/2018/04/PRI_Global-Prison-Trends-2018_EN_WEB.pdf. (Accessed 11 February, 2021).
26 Stuckler D, Basu S, McKee M, King L. Mass incarceration can explain population increases in TB and multidrug-resistant TB in European and central Asian countries. Proc Natl Acad Sci 2008; 105(36):13280–5.
27 Baussano I, Williams BG, Nunn P, Beggiato M, Fedeli U, Scano F. Tuberculosis incidence in prisons: a systematic review. PLoS Med 2010; 7(12):e1000381. doi:10.1371/journal.pmed.1000381
28 Stop TB Partnership. Engage and Empower: Support access to TB Health Services for Prisoners and other persons deprived of liberty. 2020; published online http://www.stoptb.org/assets/documents/communities/TB%20Prisons%20CRG%20Investment%20Package.pdf (Accessed 07 June 2022)
29 Pérez-Guzmán C, Vargas MH, Torres-Cruz A, Pérez-Padilla JR, Furuya ME, Villarreal-Velarde H. Diabetes modifies the male: female ratio in pulmonary tuberculosis. The International Journal of Tuberculosis and Lung Disease 2003; 7(4):354-8.
30 UNAIDS. Miles to Go—Closing Gaps, Breaking Barriers, Righting Injustices. 2018; published online http://www.unaids.org/en/20180718_GR2018. (Accessed 15 January, 2019).
31 Nsubuga P, Johnson JL, Okwera A, Mugerwa RD, Ellner JJ, Whalen CC. Gender and HIV-associated pulmonary tuberculosis: presentation and outcome at one year after beginning anti tuberculosis treatment in Uganda. BMC Pulmonary Medicine 2002; 2(4):1-7.
32 Horton K, MacPherson P, Houben RMGJ, White RG, Corbett EL. Sex Differences in Tuberculosis Burden and Notifications in Low- and Middle-Income Countries: A Systematic Review and Meta-analysis. PLoS Med 2016; 13(9):e1002119. https://doi.org/10.1371/journal.pmed.1002119
33 World Health Organization. Global Tuberculosis Report. 2018; published online https://www.who.int/tb/publications/global_report/tb18_ExecSum_web_4Oct18.pdf?ua=1. (Accessed 1 December, 2018).
34 Food and Agriculture Organization of the United Nations. Gender and Nutrition. 2018; published online http://www.fao.org/docrep/012/al184e/al184e00.pdf. (Accessed 13 January, 2019).
35 World Health Organization. Adolescent nutrition: a review of the situation in selected South-East Asian countries. 2006; published online https://apps.who.int/iris/handle/10665/204764. (Accessed 11 February, 2021).
36 OCHA services. Nurses demand protection from TB infection. 2012; published online https://reliefweb.int/report/swaziland/nurses-demand-protection-tb-infection. (Accessed 5 September, 2018).
37 Hassan MR, Bennoor KS, Rahman MF, Mahmud AM, Hossain MA, Habib GM, Kabir MH, Kamaluddin AF, Ali T, Shamsul AH. Incidence of pulmonary tuberculosis in garments workers of Dhaka City, Bangladesh. Bangladesh Medical Research Council Bulletin 2005; 31(1):7-14.
38 Al-Khal AL, Bener A, Enarson DA. Tuberculosis among garment workers in an Arabian developing country: State of Qatar. Archives of environmental & occupational health 2005; 1;60(6):295-8.
39 Stop TB Partnership. South African Community Rights and Gender Assessment: Exploring the impact of gender, key population membership and the legal environment on TB vulnerability, treatment access and quality of care. 2018; published online http://stoptb.org/assets/documents/communities/CRG/TB%20CRG%20Assessment%20-South%20Africa.pdf. (Accessed 11 February 2021)
40 Stop TB Partnership. Breaking the silence: Human rights, Gender, Stigma and Discrimination Barriers to TB services in Georgia, Kazakhstan, Kyrgystan, Tajikistan and Ukraine: Overview Report. 2020; published online http://www.stoptb.org/assets/documents/communities/CRG/TB%20CRG%20Assessment%20EECA%20Regional%20Report.pdf. (Accessed 11 February, 2021).
41 Chen, HG, Wang, TW, & Cheng, QX. Gender and time delays in diagnosis of pulmonary tuberculosis: a cross-sectional study from China. Epidemiology & Infection 2019; 147:1-6.
42 Horton, KC, Sumner, T, Houben, RM, Corbett, EL & White, RG, A Bayesian approach to understanding sex differences in tuberculosis disease burden. American Journal of Epidemiology 2018; 187(11): 2431-2438.
43 Kaur M, Sodhi SK, Kaur P, Singh J, Kumar R. Gender Differences in Health Care Seeking Behavior of Tuberculosis Patients in Chandigarh. Indian J Tuberc 2013; 60: 217-222
44 TB HIV Care, Stop TB Partnership. South African Community Rights and Gender Assessment: Exploring the impact of gender, key population membership and the legal environment on TB vulnerability, treatment access and quality of care. 2018; published online https://stoptb.org/assets/documents/communities/CRG/TB%20CRG%20Assessment%20-South%20Africa.pdf. (Accessed 07 June 2022)
45 van den Hof S, Najlis CA, Bloss E Straetemans M. A systematic review on the role of gender in tuberculosis control. 2010. Report prepared for Tuberculosis Control Program (TB CAP) September. http://www.tbcare1.org/publications/toolbox/tools/access/Role_of_Gender_in_TB_Control.pdf. Accessed 5 December, 2020.

46 REACH & Stop TB Partnership. A Rapid Assessment of Gender and Tuberculosis in India. 2018; published online http://www.stoptb.org/assets/documents/communities/CRG/TB%20Gender%20Assessment%20India.pdf. (Accessed 11 February, 2021).
47 Storla, DG, Yimer, S.& Bjune, GA. A systematic review of delay in the diagnosis and treatment of tuberculosis. BMC public health 2008; 8(1): 1-9.
48 Ragan EJ, Kleinman MB, Sweigart B, Gnatienko N, Parry CD, Horsburgh CR, LaValley MP, Myers B, Jacobson KR. The impact of alcohol use on tuberculosis treatment outcomes: a systematic review and meta-analysis. The International Journal of Tuberculosis and Lung Disease 2020; 24(1): 73-82.
49 Deiss RG, Rodwell TC, Garfein RS. Tuberculosis and drug use: review and update. Clin Infect Dis 2009; 48(1):72-82.
50 TB HIV Care, Stop TB Partnership. South African Community Rights and Gender Assessment: Exploring the impact of gender, key population membership and the legal environment on TB vulnerability, treatment access and quality of care. 2018; published online https://stoptb.org/assets/documents/communities/CRG/TB%20CRG%20Assessment%20-South%20Africa.pdf. (Accessed 07 June 2022)
51 Cai J, Wang X, Ma A, Wang Q, Han X, Li Y. Factors associated with patient and provider delays for tuberculosis diagnosis and treatment in Asia: a systematic review and meta-analysis. PloS one 2015; 10(3):e0120088.
52 Citro B, Soltan V, Malar J, Katlholo T, Smyth C, Sari AH, Klymenko O, Lunga M. Building the Evidence for a Rights-Based, People-Centered, Gender-Transformative Tuberculosis Response: An Analysis of the Stop TB Partnership Community, Rights, and Gender Tuberculosis Assessment. Health and Human Rights 2021; 23(2), 253.
53 Yang WT, Gounder CR, Akande T, De Neve J, McIntire KN, Chandrasekhar A, de Lima Pereira A, Gummadi N, Samanta S, Gupta A. Barriers and delays in tuberculosis diagnosis and treatment services: does gender matter?. Tuberculosis Research and Treatment 2014; 1.
54 Sabawoon W, Sato H. Sex difference in tuberculosis in Afghanistan: a national cohort study. Mycobac Dis. 2012;2(3):155-60. Doi:10.4172/2161-1068.1000115
55 See the CRG reports from Pakistan and Bangladesh, and the TB and gender assessment from India. http://www.stoptb.org/communities/
56 Cai J, Wang X, Ma A, Wang Q, Han X, Li Y. Factors associated with patient and provider delays for tuberculosis diagnosis and treatment in Asia: a systematic review and meta-analysis. PloS one 2015; 10(3):e0120088. doi:10.1371/journal.pone.0120088
57 Smith A, Burger R, Claassens M, Ayles H, Godfrey-Faussett P, Beyers N. Health care workers' gender bias in testing could contribute to missed tuberculosis among women in South Africa. The International Journal of Tuberculosis and Lung Disease 2016; 20(3):350-6.
58 Uplekar M, Rangan S, Ogden J. Gender and tuberculosis control: towards a strategy for research and action. Geneva: World Health Organization 1999; published online https://apps.who.int/iris/handle/10665/66552
59 Khan MS, Dar O, Sismanidis C, Shah K, Godfrey-Faussett P. Improvement of tuberculosis case detection and reduction of discrepancies between men and women by simple sputum-submission instructions: a pragmatic randomised controlled trial. The Lancet 2007; 369(9577):1955-60.
60 Hoffmann CJ, Variava E, Rakgokong M, Masonoke K, van der Watt M, Chaisson RE, Martinson NA. High prevalence of pulmonary tuberculosis but low sensitivity of symptom screening among HIV-infected pregnant women in South Africa. PloS one 2013; 8(4):e62211. https://doi.org/10.1371/journal.pone.0062211
61 Ahmadi F, Zafarani F, Shahrzad G. Hysterosalpingographic appearances of female genital tract tuberculosis: part I. Fallopian tube. International journal of fertility & sterility 2014; 7(4):245-252
62 Albuquerque GA, de Lima Garcia C, da Silva Quirino G, Juscinaide M, Alves H, Belem JM, dos Santos Figueiredo, da Silva Paiva L, Barbosa do Nascimento V, da Silva Maciel E, Valenti VE, de Abreu LC, Adami F. Access to health services by lesbian, gay, bisexual, and transgender persons: systematic literature review. BMC International Health and Human Rights 2016;16(1):1-0.
63 Akessa GM, Tadesse M, Abebe G. Survival analysis of loss to follow-up treatment among tuberculosis patients at Jimma University Specialized Hospital, Jimma, Southwest Ethiopia. International Journal of Statistical Mechanics 2015; published online https://www.hindawi.com/journals/ijsm/2015/923025/ (Accessed 07 June 2022)
64 Thomas BE, Subbaraman R, Sellappan S, Suresh C, Lavanya J, Lincy S, Raja AL, Javeed B, Kokila S, Arumugam S, Swaminathan S, Mayer, KH. Pretreatment loss to follow-up of tuberculosis patients in Chennai, India: a cohort study with implications for health systems strengthening. BMC infectious diseases 2018;18(1):1-1.
65 Shringarpure KS, Isaakidis P, Sagili KD, Baxi RK. Loss-to-follow-up on multidrug resistant tuberculosis treatment in Gujarat, India: the when and who of it. PLoS One 2015;10(7):e0132543.
66 TB Reach Grantee Interviews, 2018
67 TB Reach Grantee Interviews, 2018
68 Adams LV, Basu D, Grande SW, et al. Barriers to tuberculosis care delivery among miners and their families in South Africa: an ethnographic study. The International Journal of Tuberculosis and Lung Disease 2017; 21(5):571-8.doi: 10.5588/ijtld.16.0669.
69 Hatherall B, Newell JN, Emmel N, Baral SC, Khan MA. "Who will marry a diseased girl?" Marriage, gender, and tuberculosis stigma in Asia. Qualitative Health Research 2019; 29(8):1109-19.

70 Citro B, Soltan V, Malar J, Katlholo T, Smyth C, Sari A H, Klymenko O, Lunga M. Building the Evidence for a Rights-Based, People-Centered, Gender-Transformative Tuberculosis Response: An Analysis of the Stop TB Partnership Community, Rights, and Gender Tuberculosis Assessment. Health
71 Rowley E, Mugala N. Sex-disaggregated tuberculosis data call for gender-equitable tuberculosis control. The Lancet. Infectious Diseases 2021; 22(2):155-156
72 Mason PH, Roy A, Spillane J, Singh P. Social, historical and cultural dimensions of tuberculosis. Journal of Biosocial Science 2016;48(2):206-32.
73 Ayhan CH, Bilgin H, Uluman OT, Sukut O, Yilmaz S, Buzlu S. A systematic review of the discrimination against sexual and gender minority in health care settings. International Journal of Health Services 2020; 50(1):44-61.
74 Maes K, Closser S, Tesfaye Y, Gilbert Y, Abesha R. Volunteers in Ethiopia's women's development army are more deprived and distressed than their neighbors: cross-sectional survey data from rural Ethiopia. BMC Public Health 2018; 18:258 https://doi.org/10.1186/s12889-018-5159-
75 MEASURE evaluation. The Importance of Gender in Tuberculosis Data. 2017; published online https://www.measureevaluation.org/resources/publications/fs-17-205f. (Accessed 4 December, 2018).
76 United Nations Economic and Social Council. Gender mainstreaming extract from the Economic and Social Council for 1997. 1997; published online https://www.un.org/womenwatch/daw/csw/GMS.PDF. (Accessed 4 December, 2018).
77 Sen G, Östlin P. Gender Inequity in Health: Why it exists and how we can change it. 2007; published online https://repositorio.cedes.org/bitstream/123456789/4019/1/wgekn_final_report_07.pdf. (Accessed 25 February, 2021).
78 Stop TB Partnership. The impact of COVID-19 on the TB epidemic: A community perspective. published online http://www.stoptb.org/assets/documents/resources/publications/acsm/Civil%20Society%20Report%20on%20TB%20and%20COVID.pdf

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