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DRIVERS OF INDUSTRIALIZATION

Expert Conversations on
Mining and Industrial
Workers, Health and TB
Notes from the webinar



Introduction

KHPT aims to implement a community engagement initiative through the Breaking the Barriers (BTB) project, funded by the United States Agency for International Development (USAID), that will empower vulnerable communities to access quality healthcare services, thereby accelerating the elimination of tuberculosis (TB) in India.

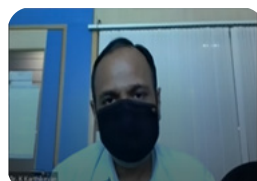
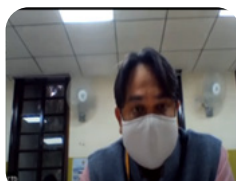
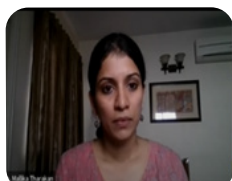
The BTB project will develop and scale up effective behaviour change operational models that improve coverage of vulnerable populations, such as urban vulnerable groups, tribal communities, migrants, and mining and industrial workers. It aims to increase case notification and improve successful treatment outcomes among patients with Drug-Sensitive TB (DS TB), TB HIV (Human Immunodeficiency virus) comorbidities, and Drug-Resistant TB (DR TB).

KHPT launched a webinar series in collaboration with USAID and the Central TB Division, (CTD) seeking to engage experts in public health, community engagement and behaviour change for discussions that will inform strategies implemented under the Breaking the Barriers project. The last in the series was held on November 24, 2020, titled: “Drivers of Industrialization: Expert Conversations on Mining and Industrial Workers, Health & TB.”

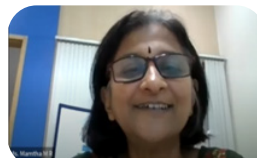
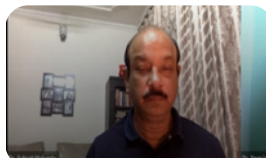
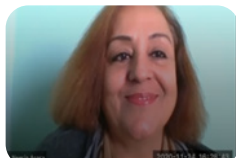
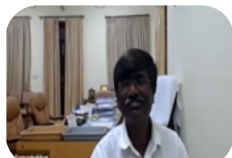
Panelists included Dr. N. Somashekar, Director, National Tuberculosis Institute (NTI), Bengaluru, Dr. Neerja Arora, Senior Technical Advisor, The Union and Dr. Subrat Mohanty, Senior Advisor & Project Director-ALLIES Project, REACH.

Dr. Nishant Kumar, Deputy Additional Director General (DADG) - CTD Ministry of Health and Family Welfare, delivered the opening remarks. Dr. Reuben Swamickan, Division Chief, Tuberculosis & Infectious Diseases, USAID and Dr. K Karthikeyan, Thematic Lead, Tuberculosis and Technical Specialist, Breaking the Barriers, KHPT, delivered the key remarks.

The document highlights key discussions from the webinar, the recording of which may be accessed [here](#).



Upper row (left to right):
Ms. Mallika Tharakan, Results Delivery Officer and Lead, Knowledge Management, KHPT;
Dr. Nishant Kumar, DADG (TB), Central TB Division, Ministry of Health and Family Welfare;
Dr. Reuben Swamickan, Division Chief, Tuberculosis & Infectious Diseases, USAID; and
Dr. K Karthikeyan, Thematic Lead, Tuberculosis and Technical Specialist, Breaking the Barriers, KHPT



Lower row (left to right):
Dr. N Somashekar, Director, National Tuberculosis Institute, Bengaluru; **Dr. Neerja Arora**, Senior Technical Advisor, The Union; **Dr. Subrat Mohanty**, Senior Advisor and Project Director-ALLIES Project REACH; and **Ms. Mamatha M R**, Project Director, Breaking the Barriers, KHPT

Mining, industrial workers and TB

It is well known that TB disproportionately affects the poorest and most vulnerable populations, especially those with high dust exposure in the workplace. Mining and industrial workers are one such category at a higher risk of developing TB due to their exposure to toxins harmful to the respiratory system while working, and living in cramped spaces without adequate ventilation.

A large proportion of the population is also malnourished, addicted to smoking, involved in substance use and excessive alcohol consumption, further increasing their vulnerability to the disease. Limited or a lack of access to quality diagnosis and treatment facilities adds to the challenges faced by this marginalized population.

Opening remarks

Delivering the opening remarks at the webinar, Dr. Nishant Kumar emphasized the government's resolve to end TB in India by 2025, well ahead of the global goal of 2030. He said that the CTD has focused on the extension of innovative and inclusive diagnostics across the country at every level. He also shared that industrial and mining workers are one of the key and vulnerable populations identified by CTD as at-risk. In response to the specific needs of this community, the CTD has also entered into a Memorandum of Understanding (MoU) with the Ministry of Labour and Employment. Given the diversity of the country and scale of the disease, he acknowledged the need for all stakeholders to make synergized efforts towards containing TB.

“Since 2018 we have made phenomenal progress; from notifying 16-17 lakh cases we reached 2.5 million (25 lakhs) in 2019. There has been an increase in the number of quality diagnostic tools, from 14-15 molecular platforms to more than 3000 molecular platforms in the country today. The program today has the best possible drugs, diagnostics and we are scaling up all the infrastructure even at the block level. The CTD is committed to providing a comprehensive set of services to TB patients.

- Dr. Nishant Kumar, DADG (TB), CTD, MoHFW

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Dr. Reuben Swamickan, in his key remarks, drew attention to the multiple layers of vulnerabilities experienced by the industrial and mining workers. He stressed that though TB is seen largely as an occupational disease among the industrial and mining workers, it is not enough to address TB transmission only in workspaces; it is equally critical to consider workers' residential and individual conditions as TB transmission can happen at home too. A confluence of occupational, biological and socio-economic conditions creates a perfect storm for silicosis that lowers immunity, and increases the risk of TB among workers, he added.

“There are currently 3 billion people in the world of work, of these 1.3 billion do not earn enough money to lift themselves out of poverty. This makes them extremely vulnerable to disease. Addressing TB in the workplace is the first step. There should also be the provisioning of essential services, and adequate mechanisms for early diagnosis, methodologies to ensure treatment adherence and completion for vulnerable groups”. - **Dr. Reuben Swamickan, Division Chief, Tuberculosis & Infectious Diseases, USAID**

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Dr. Karthikeyan underscored the need for a collective effort to support vulnerable communities in accessing TB care. He went on to add that given their challenging occupational and living conditions, they refuse to accept sickness. The fact that they need to earn and feed their family is their priority, not their health.

“We have to focus on how all of us can come together to support these communities in accessing TB care. The call to action ‘TB Harega Desh Jeetega’ resonates with us, it should be our mantra for 2021.” - **Dr. K Karthikeyan, Thematic Lead, Tuberculosis, and Technical Specialist, Breaking the Barriers, KHPT**

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Risks and vulnerabilities of mining and industrial workers

Social, occupational and economic vulnerabilities

TB is not only a medical condition but also a socio-psychological condition. Mining is known to be a high-risk job where workers are prone to injuries and diseases. At the workplace, the miners and workers in industries such as the garment industry are exposed to extreme temperature situations, heat stress, and dust or cotton fibres. Their workspaces are crowded and lack any proper ventilation.

Those working in the industries are known to have limited access to even basic provisions such as potable drinking water or toilets. Limiting toilet usage and drinking of water lead to dehydration. At times, owing to work targets and stress to meet those targets, workers tend to skip their meals. Irregular eating habits and inadequate eating also lead to gastrointestinal problems, anaemia and malnutrition.

The situation is even more challenging for women workers. Inadequate toilet facilities essentially force them to cut their intake of water so that they do not have to use the toilet; during menstruation they do not have enough space to change their sanitary pads. They also experience stress associated with violence and sexual harassment.

In addition, poor work infrastructure such as lack of proper chairs with backrests and neck rests, coupled with hard physical labour, leads to musculoskeletal issues. Further, to deal with personal and work stress workers tend to get addicted to tobacco and alcohol.

“Workers are hesitant to go out to get help for health as they are afraid of losing their livelihood, as there is an abundant supply of labour and they are scared of losing their employment. - **Dr. Subrat Mohanty, Senior Advisor & Project Director-ALLIES Project, REACH**

Industrial workers are vulnerable as they work in crowded conditions without ventilation under extreme temperature situations, exposed to dust and cotton fibres. There are problems accessing even basics like drinking water and toilets. They also experience stress-related anxiety and depression. All these factors make the industrial workers susceptible to diseases like TB.

- **Dr. N Somashekar, Director, NTI, Bengaluru**

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Health and TB-related vulnerabilities

All occupations are linked to some health hazards, which range from mild to very serious problems. The set of diseases associated with the mining and industrial workers are known as pneumoconiosis. This segment of the working population is exposed to a high rate of inhalation of dust, which leads to fibrosis of the lungs. Exposure to minerals and metals gives them interstitial lung disease, the most common of which is silicosis.

Silicosis is one of the first known occupational diseases. The first recorded case in India from the Kolar mines was reported in 1934. Silicosis is a causative factor for developing TB. According to Dr. Neerja Arora, a person who has silicosis is 3-39 times more likely to develop TB. Silicosis impairs the functioning of the macrophages and alveoli of the lung. Any person with impaired macrophages is prone to developing infectious diseases, including TB. In a person with silicosis the shadows of TB cannot be easily differentiated; owing to fibrosis the person may not be able to bring out the sputum, and even the sputum microscopy may not capture the TB bacteria in the sputum. These factors make it difficult to diagnose TB in a person with silicosis.

Although some big companies have established medical care services for their workers, others do not have any structure for healthcare. The fear of losing out on employment, given the abundance of the workforce, acts as a barrier as many workers shy away from visiting doctors. The stigma associated with the disease also prevents them from seeking health care.

“Symptoms of TB and silicosis are quite similar, even if you get cured of TB there is no relief from symptoms. There is a high chance of re-emergence of the disease. It (silicosis) is a progressive interstitial disease, the only cure is to remove the patient from the environment and provide symptomatic treatment, rehabilitate and give some kind of palliative care.

- **Dr. Neerja Arora, Senior Technical Advisor, The Union**

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Health system challenges

Most industries operate in remote areas that are characterized by either limited access or the complete absence of proper healthcare facilities.

Although industries are legally bound to provide health care facilities (first aid care, hospital, and ambulance facilities) for their workers, as well as pre-employment and post-employment screening, more often than not these guidelines are not followed.

As per existing legislation, industries are to ensure the existence of an occupational health centre, along with occupational health specialists within the premises. The health specialist needs to be trained in the International Labour Organization (ILO) classification of diseases. They have to undertake periodic medical examinations of employees, as well as a pre-placement examination of the workers. These rules are not regularly followed by industries.

Additionally, there is no comprehensive health surveillance program that includes critical components such as the monitoring of airborne respirable dust levels.

Systemic challenges

All legislations are to be implemented in spirit and letter if health care barriers to TB for industry workers are to be addressed. However, there are a number of enforcement challenges. According to Dr. Neerja Arora, there are too many agencies working and they are all working in silos. The Mines Act is under the Union List and the Factories Act is under the State list leading to further complexities in terms of enforcement of legislations related to the mining and industrial sector.

Industries are responsible for occupational health and safety, health surveillance, diagnosis of silicosis, compensation and rehabilitation, but the failure to detect any occupational health disease does not constitute an offense.

The lack of coordination among stakeholders is a big challenge. There are no data forthcoming or large scale epidemiological studies around the industrial and mining workers. There is no central registry of silicosis cases. Official statistics on mortality and morbidity are just the tip of the iceberg, said Dr. Neerja Arora.

There is a huge informal, unregulated sector in the industry, which is not entitled to protection and cannot claim any support.

These factors lead to a situation where there is no accountability for the welfare of workers. The lack of health care services, health surveillance, awareness among workers, employers and doctors add to the existing challenges of inadequate infrastructure and implementation of legislation that ensures health safety and security of the industrial and mining workers. Further, the primary health care physicians, or even staff of the National Tuberculosis Elimination Programme (NTEP) are not trained to manage occupational health diseases.

“Despite a lot of clinical and operational challenges in the management of silicosis or silico-tuberculosis, we need to emphasize silicosis, as when we prevent silicosis, we prevent TB. This is an opportunity for the government to develop a multisectoral approach and framework for prevention, treatment, rehabilitation, and compensation for such patients. - **Dr. Neerja Arora, Senior Technical Advisor, The Union**”

Success stories

In 1999 based on a study by the Indian Council for Medical Research, the National Human Rights Commission (NHRC) had asked all States and Union Territories to share the status of enforcement of preventive and protective measures to prevent silicosis among industrial workers. Acting on the NHRC's recommendations, Gujarat took some positive steps. They conducted a comprehensive survey of the organized and unorganized industry who were at risk, and decided to provide the workers free treatment and diagnostics at all levels of healthcare, as well as counselling to patients on the importance of preventing of dust inhalation. The state set up silicosis health units, and even identified silicosis risk districts where free chest X-Rays and pulmonary function tests were done. The state actively involved NGOs for proper monitoring.

In 2012, the Rajasthan Human Rights Commission announced a flat compensation of Rs. 1 lakh for persons diagnosed with silicosis by government appointed doctors and Rs 3 lakh for families of persons who died due to silicosis. In 2013, six government medical colleges established pneumoconiosis medical examination boards for medical examination.

While sharing this success story, Dr. Neerja Arora said in 2013 not a single case of silicosis or pneumoconiosis was diagnosed. Between 2013 and 2017, more than 10,000 miners and stone carvers identified with silicosis received compensation from the government.

Recommendations

- Community-based and community-led models can play an important role in containing TB among vulnerable populations. Various existing community structures in the form of unions, SHGs, formal and informal groups need to be educated on these existing guidelines and their rights as workers. Once informed, these community structures can not only play a role in informing the larger community of workers but can also press for the protection of workers and demand services from employers.
- Employers need to be sensitized about labour protection policies and Acts, and how they can be enforced to ensure the health and wellness of their workers. There needs to be enforcement and accountability at each level through clearly laying down employer responsibilities and the rights of workers.
- Industries need to focus on prevention and early diagnosis of silicosis. In order to do so, they must make all protective gear available to workers, have linkages with digital X-Ray and CT machines, mobile vans with these facilities and ensure Active Case Finding activities.
- There is a need to develop a multisectoral approach where concerned ministries including Labour, Health, Mines and Industries, state government bodies, as well as research institutions can come together to mount an all-encompassing response to contain the TB cascade in the country.

“In Tamil Nadu, Self-help Groups sensitized the larger community on TB. They further referred persons for testing, ensured adherence, thus strengthening TB prevention and control. There have been instances where mining workers' unions have catalysed the provisioning of safety gear, access to personal protective equipment and ID cards for themselves. - **Dr. N Somashekar, Director, NTI, Bengaluru**”

The renewed focus on ending TB by 2025 is an opportunity for the government to develop a multisectoral approach and framework for prevention, treatment, rehabilitation, and compensation for such patients. We also need a comprehensive guidance document and capacity building of public health professionals, including those working in NTEP to improve lung health. We envisage that the NTEP will move beyond just TB prevention and care and cover the larger domain of lung health - **Dr. Neerja Arora, Senior Technical Advisor, The Union**

“We have systems and comprehensive workplace policies in place. We have to move from letters of intent to practice and focus on how the mining industry can transform the workplace policies into action. - **Dr. Subrat Mohanty, Senior Advisor & Project Director - ALLIES Project, REACH**”

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