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Sustainable Development Goals and tuberculosis in Brazil: challenges and potentialities

Os Objetivos do Desenvolvimento Sustentável e a tuberculose no Brasil: desafios e potencialidades

Los Objetivos de Desarrollo Sostenible y la tuberculosis en Brasil: desafíos y potencialidades

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Several of the 17 Sustainable Development Goals (SDG) deal with health issues. The third goal, health and wellbeing, aims to *"ensure healthy lives and promote wellbeing for all at all ages"* and is clearly related to the tenth goal, the reduction of inequalities, and other SDG [1]. The SDG agenda, which succeeds the Millennium Development Goals (MDG), proposes to leave no one behind. In terms of health, the most coherent and accessible proposal to achieve these goals is universal health care through a strong primary health care system [2].

There are many challenges for meeting the targets within the SDG. An example is tuberculosis (TB). TB still poses a huge global health threat, with some 10 million new cases per year. In 2016, 1.3 million people died of TB, and another 370 deaths occurred in people living with HIV/AIDS [3]. Among the global efforts to control the disease, TB was included in target 3.3 of SDG [3]. The challenge is to eliminate TB as an endemic through 90% reduction in mortality and 80% in incidence by 2030, in order to eliminate the disease by 2050. The World Health Organization (WHO) launched the End TB Strategy to support these targets, with the additional goal that no patient should need to bear the catastrophic costs and social repercussions of the disease [4]. This concern reflects the view that TB maintains the most vulnerable populations in a vicious circle, a view that sustains target 3.8 of the SDG [1], which deals with achieving universal health coverage, includes protection from financial risk, and complements TB control. To reach these targets, three lines of action are recommended for governments: patient-centered care and prevention integrated with other care, bold policies and strong health systems, and acceleration of research and innovation [4].

At the current rate of reduction, these targets will not be reached within the deadlines laid out in international agreements [5]. Different tools are needed, since TB has biological, clinical, and socioeconomic determinants, including coinfection with HIV, malnutrition, smoking, poverty, overcrowding, and insufficient access to health care [4].

In Brazil, many determinants of TB overlap in poor urban communities, making it increasingly unlikely to meet the targets. In these neighborhoods, TB incidence exceeds 300/100,000 inhabitants, compared to 32.4/100,000 inhabitants in the country as a whole [6]. Another extremely vulnerable urban group is Brazil's prison population, with 31 times higher odds of catching TB compared to the general population [7]. Such TB hotspots, which must be identified and controlled in order to reduce transmission [8], reflect the country's health inequalities and pose a special challenge for controlling the disease.

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Such inequalities exist not only in the determinants and risk of catching TB, but also in the treatment outcomes. While the risk of catching TB is ten times higher in Manaus (Amazonas State) than in Brasília [6], the odds of therapeutic success are four times lower in poorer people [9]. Thus, in order for the goals and targets to be reached in Brazil, it is not enough to maintain interventions at the current levels. The country must do more, which means investing the necessary funds. For example, recent evidence shows that coverage by the Family Health Strategy [10] and the Brazil Income Transfer Program [11] increase the odds of TB treatment success in poor people, illustrating the benefit of social protection strategies in relation to TB outcomes. Although the cost-effectiveness of these interventions has not been analyzed in Brazil, arguments for making the necessary budget investments are backed not only by the irrefutable importance for public health and the struggle to reduce inequalities: fighting TB is also good business, since one dollar invested in reducing TB mortality generates a return of 43 dollars [12].

In order to look to the future with optimism and increase the odds of Brazil achieving its own targets for TB [6], we need an analysis that includes both the country's potentialities and the risks created by the recent financial crisis and new austerity policies.

Brazilian Unified National Health System (SUS), guaranteeing universal access to heath, and the coverage rates in primary care (62.6% in late 2016) (e-Gestor Atenção Básica. Cobertura da atenção básica. https://egestorab.saude.gov.br/paginas/acessoPublico/relatorios/relHistoricoCoberturaAB.xhtml, accessed on 06/Feb/2018) are certainly major advantages, especially when compared to other countries (both medium and low-income) with high TB burden. Likewise, since Brazil has a well-consolidated national health surveillance system, the country has historical series and the conditions to make the necessary adjustments and establish an efficient system for monitoring the targets.

From the point of view of biological determinants, new technologies with shorter and more effective low-cost treatments and new and more streamlined diagnostic tests are necessary. However, although new technologies are available in the SUS that could have a profound impact on TB control, their use is suboptimal. One well-known example is the rapid molecular test, implemented in 96 Brazilian municipalities in 2014. The test replaces diagnostic bacilloscopy, which had only 50% sensitivity in two sputum samples, with 90% sensitivity in a single sample, thereby increasing diagnostic confirmation in Brazil by 60% [13]. However, according to a report by the Brazilian Ministry of Health [14], 265,000 cartridges were distributed in the first year, but only 146,393 were used.

Even more striking are the low levels of implementation of the recommendation to test contacts and treat latent TB, proposed by the National TB Control Program for adults and children since 2010 [15]. In addition to finding up to 6% of TB cases among contacts [16], testing these individuals provides the opportunity to detect and treat latent TB infection, which affects 1.7 billion people in the world [17]. Treatment of latent TB is the public health measure with the greatest impact on TB incidence rates [5]. In Brazil, only a negligible share of individuals targeted for this intervention are properly treated [18], despite the high efficacy of the treatment regimens currently recommended by the WHO.

The situation is even more dramatic for TB patients living with HIV. Despite abundant evidence that treatment of latent infection reduces mortality, treatment of latent TB is rarely prescribed [20]. Considering that TB is the leading cause of death in persons with HIV, millions of lives could be saved by the preventive treatment, which is simple, well-tolerated, efficacious, and cost- effective [20]. Without a sharp turnaround in this situation, it will be impossible to meet the proposed targets.

It is equally important to enhance case detection and initiate early treatment. In Brazil, a significant proportion of TB cases are still notified only after patients have already died from the disease [21], showing that much progress is still needed in access, case investigation, and diagnosis of the disease. The country still falls far short adequate detection rates, and the situation may get worse. European countries that experienced financial crises and implemented austerity measures that impacted their health systems saw their detection rates fall, resulting in increased risks and resurgence of the disease [22].

It is also necessary to increasingly incorporate innovations that improve diagnostic tests and make treatments quicker and less toxic. The key to incorporating innovations in order to obtain the best results from the investment is to have a well-financed and universal health system, along with an adequate information system that serves as a platform for the new technologies to reach everyone that needs them and to be evaluated and to generate data for more research and development. Without a

strong universal health system, no technological innovation can be efficient. Finally, social protection should not be limited to health coverage, although more studies on the health impact of conditional cash transfer programs are necessary [23].

In general, Brazil has the objective conditions to honor its international commitments and to be a global leader in the field, but it must not overlook the price needed to pay today in order to avoid facing much higher bills in the not-too-distance future.

Contributors

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