Bending the curve: The impact of integrating mental health services on HIV and TB outcomes

JUNE 2021

Across the world, if mental health and psychosocial support services are integrated into HIV and TB programmes then by 2030:

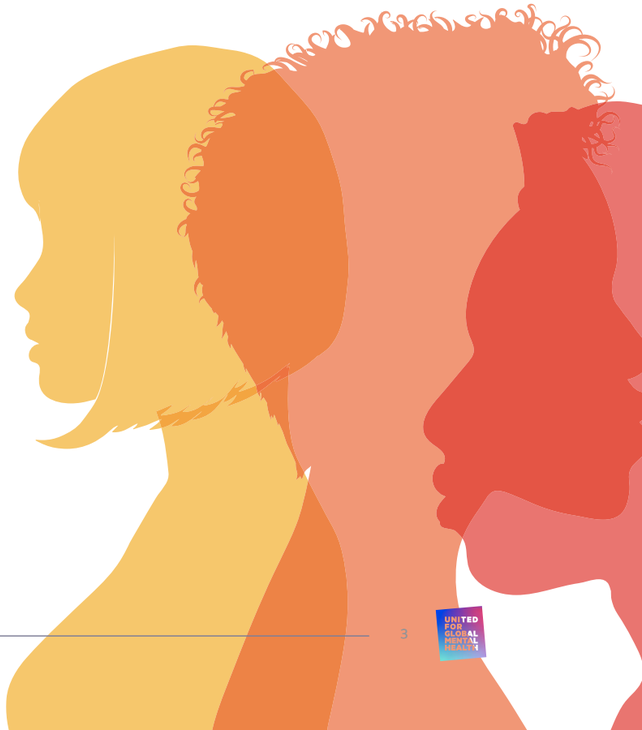
- **Infection rate reduction can be sped up by 10-17% for HIV and 13-20% for TB.**
- **As many as 924 thousand people can avoid contracting HIV, equivalent to the total number of new infections currently projected for 2026.**
- **As many as 14 million TB infections can be avoided, a greater number than the total number of global infections in any given year.**
- **Integrating mental health treatment does not need to be expensive and it is certainly cost-effective.**

Without addressing mental health, there will be no end to HIV or to TB. The fight against HIV and TB is at a critical stage as the world enters the final push towards ending the HIV and TB pandemics by 2030. As with all pandemics and disease eradication efforts, the final stages are often the hardest and most prolonged, requiring new thinking and approaches. For HIV and TB that new approach must include at its core the mental health and psychosocial support of those at risk and those infected.

This is due to the strong and bi-directional relationship between HIV/TB and mental illness. Poor mental health is a risk factor for HIV and TB exposure which complicates the disease course and treatment. Furthermore, living with HIV and/or TB is a significant risk factor for a decline in the individual's mental health, and developing psychiatric illness. This is compounded by the psychological distress associated with stigma and discrimination which may also trigger or aggravate the symptoms of mental health conditions (e.g. depression) in affected individuals.

This briefing summarises research commissioned by United for Global Mental Health (UGMH) , supported by the Elton John AIDS Foundation, and conducted by Dr José Manuel Roche. The research has analysed the effect that integrating mental health and psychosocial services into HIV and TB programmes would have on accelerating progress towards the Sustainable Development Goals targets for HIV and TB and the financial saving to these programmes. This research has not been conducted before.

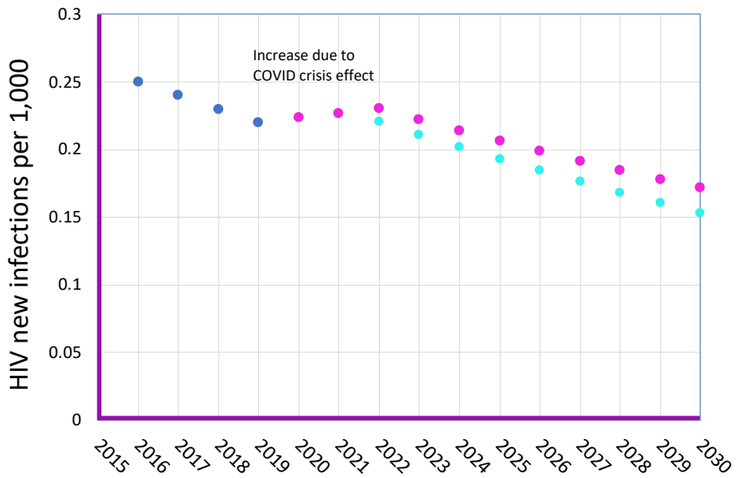
The research findings present a clear and compelling case for increasing investment in mental health and psychosocial support as part of HIV and TB programmes. It shows both the rates of infections and total numbers of infections for both diseases can be significantly reduced by integrating services in such a way. Global institutions and donors need to continue and expand this research so that those making decisions about HIV and TB investment understand the importance and positive effect of mental health and psychosocial support integration into programmes and prioritise it accordingly.



HIV OUTCOMES IF MENTAL HEALTH IS INTEGRATED INTO HIV PROGRAMMES

Our most conservative projection estimates that the reduction in new HIV infections could be at least 10% faster (SDG target 3.3.1), as a result of integrating mental health to HIV programmes, and could be as much as 16.5% faster. Our estimates are based on UNAIDS most up-to-date data and a set of assumptions based on current body of knowledge.[1]

Projection for SDG target 3.3.1 - Number of new HIV infections per 1,000 uninfected population



- **Current trend**
- **Business as usual**
- **Bending the curve**

At least 10% faster progress

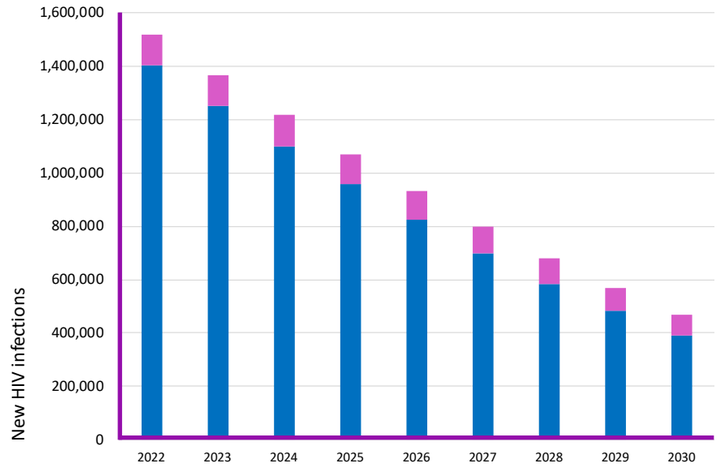
in SDG 3.3.1 progress reducing the number of new HIV infections

In practice it means that over 924 thousand people across the world could avoid being infected with HIV by 2030. This accumulative number is our optimistic scenario, in a more conservative scenario, just over 700 thousand new HIV infections could be avoided.

Avoiding 900 thousand infections is at least equivalent to the total number of new infections projected for the year 2026 (without mental health and psychosocial service integration). Under a business-as-usual scenario, we expect that by 2030 there will be 0.17 HIV new infections per 1,000 uninfected population. The rate would decrease to 0.15 or 0.14 by 2030 under a scenario where mental health and psychosocial support is integrated into HIV programmes.

1 UNAIDS Data from 2000-2019 was downloaded from the Global SDG. Indicators Database: https://unstats.un.org/sdgs/indicators/database/. Projection to 2030 is based on our own calculations based on assumptions supported by the current body of knowledge (see section on methodology for further details).

Projection for SDG target 3.3.1 - Number of new HIV infections



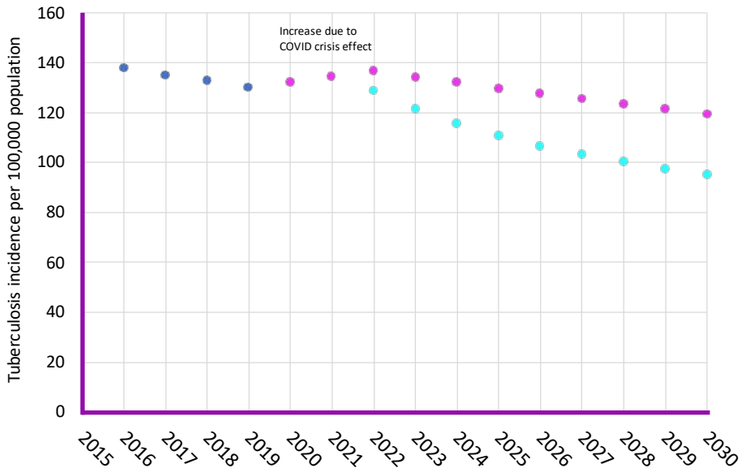
- **Projection when integrating mental health care**
- **Number of infections avoided**

As many as 924,530 new HIV infections could be avoided by 2030

TB OUTCOMES IF MENTAL HEALTH IS INTEGRATED INTO HIV PROGRAMMES

The research shows an even greater decrease in TB infection rates than with HIV. Using official data on SDG target 3.3.1 from the World Health Organization (WHO) for, the projection estimates a 12.6% to 20% faster reduction in tuberculosis incidence (SDG target 3.3.1), as a result of integrating mental health and psychosocial support into TB and HIV programmes.[2] Under a business-as-usual scenario, we expect a TB incidence of 119 per 100,000 population by 2030. The rate would decrease to 95-107 by 2030 under a scenario where mental health is integrated into TB programmes.

Projection for SDG target 3.3.1 - Tuberculosis incidence per 100,000 population



Up to 20% faster progress

in SDG 3.3.1 progress reducing the incidence of tuberculosis

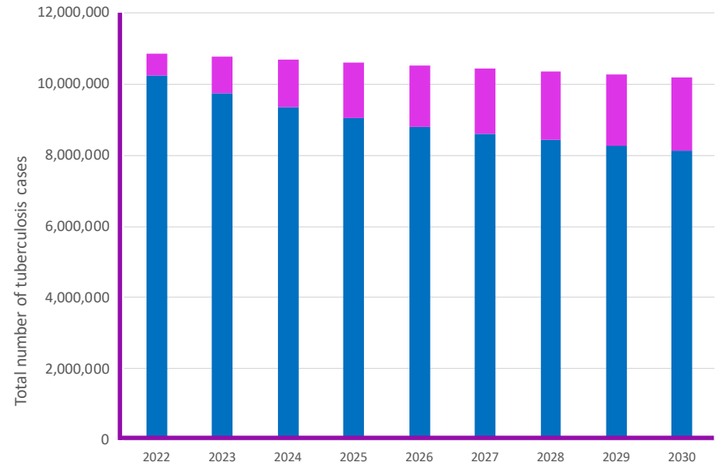
In practice it means that as many as 14 million TB infections could be avoided in an accumulative total by 2030 in the most optimistic scenario. In a more conservative scenario, the research estimates 9.7 million infections could be avoided. The number of TB infections avoided over this period is greater than the total number of global infections in any given year.[3] Incorporating mental health to HIV and TB programmes would achieve the same number of TB infections in 2023 that we see in a business-as-usual scenario for 2030.

2 WHO Data from 2000-2019 was downloaded from the Global SDG. Indicators Database: https://unstats.un.org/sdgs/indicators/database/ Projection to 2030 is based on our own calculations based on assumptions supported by the current body of knowledge (see section on methodology for further details).

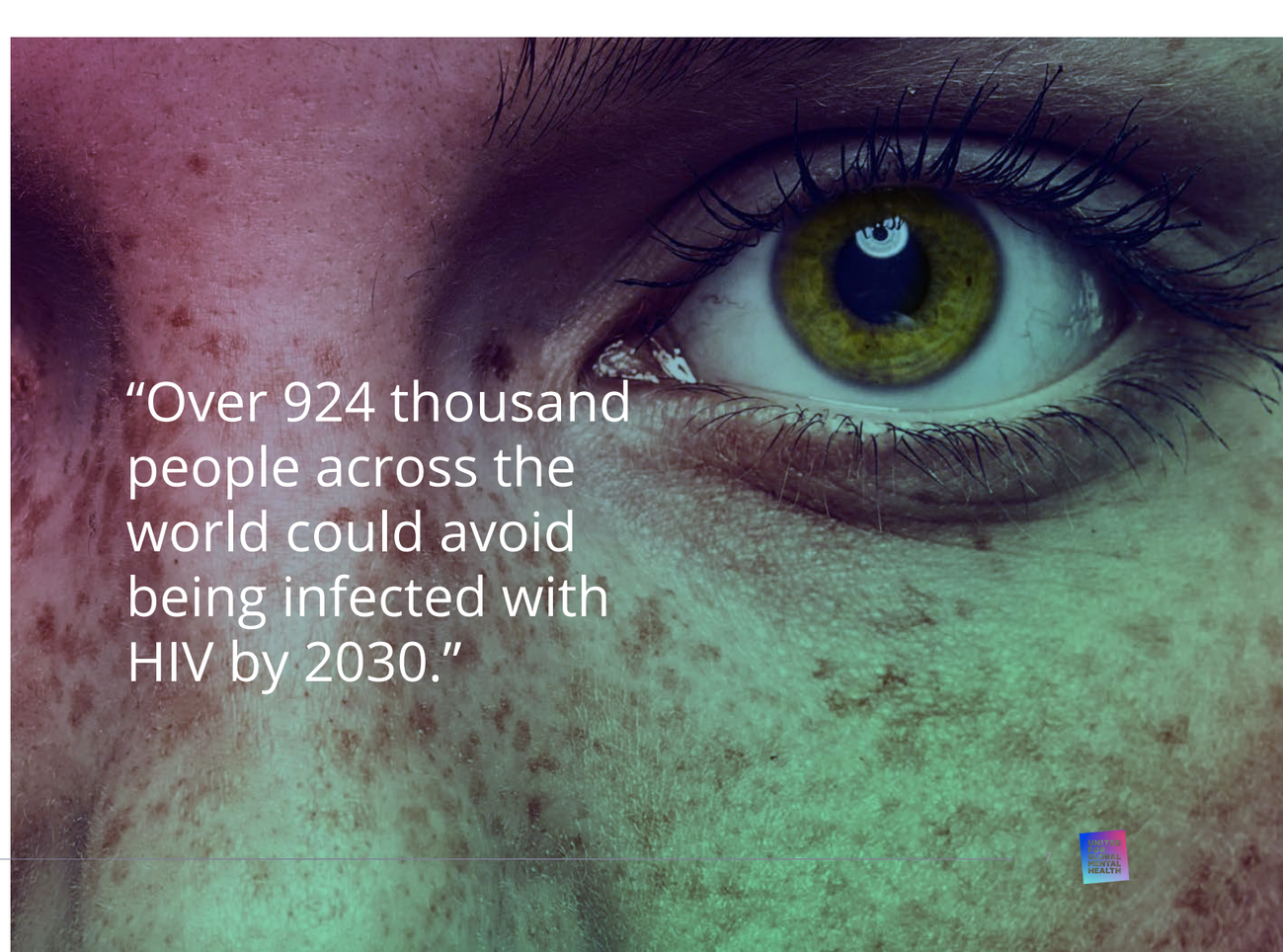
3 Under a business-as-usual scenario, we expect a TB incidence of 119 per 100,000 population by 2030. The rate would decrease to 95-107 by 2030 under a scenario where mental health is integrated into TB programmes.

BENDING THE CURVE: THE IMPACT OF INTEGRATING MENTAL HEALTH SERVICES ON HIV AND TB OUTCOMES

Projection for SDG target 3.3.1 – Total number of TB cases



As many as 14 million TB infections could be avoided by 2030



COST EFFECTIVE BENEFITS OF INTEGRATING MENTAL HEALTH INTO HIV AND TB PROGRAMMES

It is widely cited that economic modeling suggests that for every US$1 invested in treating common mental health conditions, up to US$5 is saved in economic cost and health returns.[4] For HIV and TB, savings are estimated at $6.40 and $43, respectively.[5] [6]

Integrating mental health and psychosocial support into HIV and TB programmes will have an increase in initial cost but synergistically increase gains by reducing community transmission and drug resistance, as well as social and economic costs to individuals and households affected by these multimorbidities. Therefore integration of mental health and psychosocial support will also create savings and compensate for at least some of the increased programme costs which in some cases will be marginal. A randomized control trial study that evaluates the cost-effectiveness of integrated HIV primary care, mental health, and substance abuse services among triply diagnosed patients came to the conclusion that "professionals could pursue coordination or integration of care guided by the evidence that it does not increase the cost of care".[7]

More importantly, evidence indicates it mental health and psychosocial support integration can be very cost-effective, for example:

- A cluster-randomised control trial study in Uganda assed the effectiveness and cost-effectiveness of group support psychotherapy delivered by trained lay health workers for depression treatment among people living with HIV. The study found an incremental cost-effectiveness ratio of US$13 per disability-adjusted life-year averted, which can be considered very cost-effective in Uganda as per WHO standards.[8]
- A model-based analysis studying health outcomes and cost-effectiveness of treating depression in people with HIV in Sub-Saharan Africa found that: "This strategy costs $15/QALY compared to the status quo, and was highly cost-effective over a broad range of sensitivity analyses".[9] The analysis concludes, "screening for and treating depression among people living with HIV in sub-Saharan Africa with fluoxetine would be effective in improving HIV treatment outcomes and would be highly cost-effective."
- A third study found that treatment of depression-related disability in people living with HIV, "is very cost effective (cost per healthy life year gained < average income), quite affordable (implementation cost < US$ 1 per person) and feasible for delivery through primary care".[10]

4 Chisholm D, Sweeny K, Sheehan P, et al. Scaling-up treatment of depression and anxiety: a global return on investment analysis. Lancet Psychiatry. 2016;3(5):415-424. doi:10.1016/S2215-0366(16)30024-4

5 104-108. doi:10.1016/j.healthpol.2018.11.007 Lamontagne E, Over M, Stover J. The economic returns of ending the AIDS epidemic as a public health threat. Health Policy. 2019;123(1):

6 World Health Organization. Towards ending tuberculosis: what gets measured gets done. Published 2017. Accessed July 14, 2020. https://www.who.int/publications/10-year-review/tb/en/index7.html

7 Weaver MR, Conover CJ, Proescholdbell RJ, Arno PS, Ang A, Uldall KK, Ettner SL. Cost-effectiveness analysis of integrated care for people with HIV, chronic mental illness and substance abuse disorders. J Ment Health Policy Econ. 2009 Mar;12(1):33-46. PMID: 19346565.

8 Etheldreda Nakimuli-Mpungu, Seggane Musisi, Kizito Wamala, James Okello, Sheila Ndyanabangi, Josephine Birungi, Mastula Nanfuka, Micheal Etukoit, Chrispus Mayora, Freddie Ssengooba, Ramin Mojtabai, Jean B Nachega, Ofir Harari, Edward J Mills (2020): Effectiveness and cost-effectiveness of group support psychotherapy delivered by trained lay health workers for depression treatment among people with HIV in Uganda: a cluster-randomised trial, The Lancet Global Health, Volume 8, Issue 3, 2020, Pages e387-e398, ISSN 2214-109X, https://doi.org/10.1016/S2214-109X(19)30548-0.

RECOMMENDATIONS

The evidence presented in this briefing demonstrates what has been long suspected: integrating mental health and psychosocial services into HIV and TB programmes will not only help millions of vulnerable people with ill mental health but contribute ending these pandemics much quicker at no additional cost. Mental health needs to be immediately placed at the centre of the world's HIV and TB response through full integration supported by adequate finance.

This briefing makes the following recommendations:

1. **Invest in mental health:** Health system authorities and donors such as The Global Fund should increase resources and capacity for providing mental health and psychosocial services at every stage of the HIV and TB care continuum.
2. **Holistic Approach:** Health system authorities and donors such as The Global Fund should not approach mental health as a sub-sector of the health system, but rather install a holistic approach through fully integrating mental health and psychosocial services throughout HIV and TB programmes. Mental health should be at the centre of HIV and TB strategies.
3. **Rights and Key Populations:** Key populations who are vulnerable to mental ill health, HIV and TB should have their right to good mental health promoted and protected. In focussing mental health and psychosocial support efforts on these vulnerable populations as part of the holistic HIV and TB planning, health system authorities and donors such as The Global Fund will also be fighting inequity.

9 Huaiyang Zhong, Isabel K. Arjmand, Margaret L. Brandeau & Eran Bendavid (2021) Health outcomes and cost-effectiveness of treating depression in people with HIV in Sub-Saharan Africa: a model-based analysis, AIDS Care, 33:4, 441-447, DOI: 10.1080/09540121.2020.1719966

10 Abas M, Ali GC, Nakimuli-Mpungu E, Chibanda D. Depression in people living with HIV in sub-Saharan Africa: time to act. Trop Med Int Health. 2014 Dec;19(12):1392-6. doi: 10.1111/tmi.12382. Epub 2014 Oct 16. PMID: 25319189.

4. **Learning:** Further research should be conducted to better understand the potential physical, mental and financial returns of integrating mental health and psychosocial support into HIV and TB programmes. This could be led by a pragmatic taskforce of expert agencies, with the inclusion of academia, civil society, and people with lived experience of ill mental health and HIV and/or TB within a multilateral platform such as The Global Fund.
5. **Planning:** Mental health and psychosocial support options for HIV and TB programmes should be built into health sector planning software such as the WHO OneHealth Tool so that those planning health systems can readily see the benefits of such investments in their health system and therefore are encouraged to do so.

METHODOLOGY

This study used econometric analysis to estimate the effect that investing in mental health would have on accelerating progress towards global HIV and TB targets, taking into account the impact of COVID-19, and cost-effective benefits of incorporating mental health service into HIV and TB programmes.

The research process began with a review of evidence on the value of incorporating mental health services into HIV and TB programmes. We review over 40 academic journal papers and policy reports to scan the body of evidence on the benefits of incorporating mental services in TB and HIV programmes. This was followed by a review of available data on HIV, TB targets, and any available estimations on the impact of COVID-19, and data on global health financing and financing on HIV and TB programmes.

The mental health interventions considered are: a) screening for depression, b) group support treatment, and c) providing antidepressants therapy at antiretroviral initiation or re-initiation (if the patient has stopped treatment).

This analysis will be based on a range of sensible assumptions based on the current body of evidence. The full methodology is available upon request from james@unitedgmh.org

CASE STUDY - THE FRIENDSHIP BENCH

Zimbabwe faces a critical shortage of mental health specialists with only 12 psychiatrists serving a national population of 15.3 million. The Friendship Bench, a mental health programme founded by Zimbabwean psychiatrist Dr. Dixon Chibanda who got their first major funding from Grand Challenges Canada, tackles this issue by training community health workers to provide free talk therapy at primary care level.

These wooden benches are placed in outdoor spaces at clinics where people come to access services for a variety of health conditions, including HIV/AIDS. Community health workers, known locally as Ambuya Utano or 'Grandmothers', are trained to offer problem-solving therapy. Clients are referred to the benches by nurses, community mobilizers, or other service providers e.g. ARV distribution hubs. Clients receive up to six counselling sessions with the Friendship Bench Grandmothers, including home visits if need and then join the group support and income generation circles known as Circle Kubatana Tose. In some cases, 'red flag' clients who need specialist treatment get referred to a supervisor or alternate services such as food programmes if they are underweight but registered on an ARV treatment plan.

Studies have shown that the Friendship Bench programme is particularly effective in encouraging young people who are HIV positive to adhere to treatment. Grandmothers' empathic attitude is key during counselling on adherence to HIV treatment, to demystify the disease and treatment, normalize the reality of living with HIV, encourage young people to socialise with peers and free them of guilt. Studies have reported improved HIV treatment adherence following Friendship Bench counselling.[11]

11 Ouansafi I, Chibanda D, Munetsi E, Simms V (2021) Impact of Friendship Bench problem-solving therapy on adherence to ART in young people living with HIV in Zimbabwe: A qualitative study. PLoS ONE 16(4): e0250074. https://doi.org/10.1371/journal.pone.0250074

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