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Health Gains and Financial Protection Provided by Scaling Up Neuropsychiatric Services in Ethiopia: A Cost Effectiveness Analysis

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Summary

Mental health services are underdeveloped in low- and middle-income countries.There is a great need for these services to be scaled up in an impactful and efficient way. Cost-effectiveness analyses (CEA) and extended cost-effectiveness analyses (ECEA) can provide valuable information for how to do this to benefit the most number of people.

Background

The prevalence of neuropsychiatric disorders contributes to 13% of years lived with disability (YLD) in the East Africa region.[1] These disorders can influence a patient's susceptibility to other medical conditions. Many also suffer from the social stigma associated with mental illness.[1] Despite the prevalence of disorders, there is a great scarcity of providers who are trained to treat patients. Currently, there are four specialists in psychiatry per 10 million people in Ethiopia.[2] There is little known about the cost-effectiveness of investing in neuropsychiatric services in Ethiopia and the possible health and financial gains for households and families that could be made through such targeted policy intervention and investment.

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Methods

Strand et al. used a mathematical population model (i.e. PopMod) to estimate the effectiveness and cost for the treatment of a range of neuropsychiatric disorders in Ethiopia.[3] Building on this work, Johansson and colleagues [2] used an extended cost-effectiveness analysis (ECEA) approach to estimate the impact that financing health coverage that included neuropsychiatric disorders would have on patients in Ethiopia.

ECEA was developed to asses 4 key domains in health and financial consequences of public policy:

1. Health gains
2. Financial risk protection benefits
3. Total costs to policy makers
4. Distibution of benefits

Analysis

Strand et al.[3] performed uncertainty analyses by using the WHO-CHOICE Monte Carlo (MC) League software program.

Johansson et al [2] ensured that all ECEA analyses were performed with interventions that had been contextualized to Ethiopia. Multiple interventions and potential outcomes were analyzed and disaggregated across varying wealth distributions.

Results

Strand et al [3] estimated that treatment of depression, bipolar disorder, epilepsy and schizophrenia cost between USD 300 and USD 2000 per Disability Adjusted Life Year (DALY) averted. It would cost USD 180 million to cover the entire Ethiopian population based on target coverages in the National Mental Health Strategy in Ethiopia. The expected net health benefit to the population would be 155,000 healthy life years.[3] Most significantly, the treatment of depression and epilepsy had the lowest cost effectiveness rates among all the neuropsychiatric treatments that were evaluated. Furthermore, the study showed that a health plan consisting of only depression treatment (with 30% incremental coverage) is expected to generate high economic benefits. In total, an economic return of USD 0.8 in productivity gain per USD 1 invested in depression treatment was estimated. The main reasons for these productivity gains are that treatment of depression improves the quality of the work of the patients and it reduces the time these patients are absent from work. This would result in USD 51 million in productivity in total.[3]

Next Steps

It is recommended that the Ethiopian government should set limits on treatment coverage based on the investment models that maximize impact for patients who suffer from a neuropsychiatric disorder.

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