ment and recovery plans. A system that does not recognize the "voice" of persons with SMD or acknowledges their views and opinions becomes an enforcer of disempowerment. Persons with SMD must be acknowledged as the key partners in scaling up mental health care services and reducing stigma. They must be empowered to a level where they can be actively involved in policy development, implementation and monitoring of health systems.

The Rural Mental Health Campaign in South Africa engaged with service users to assess the implementation of South Africa's Mental Health Policy Framework and Strategic Plan, and published the outcome in a report[1]. A service user from one of the participating rural communities confirmed the gap in acknowledging service users as key partners in improving mental health services, by stating: "People tend to disregard a mad person's opinions on issues of discussions". Service user engagement exercises conducted by the South African Federation for Mental Health further confirmed the experiences of service users who feel that they are often being denied the right to fully participate in their own treatment and recovery plans, that they are not taken seriously and that their views and opinions are often automatically dismissed.

General health workers need to receive adequate training in mental health related disorders, especially SMD, as part of their curriculum and become sensitized to the needs of persons with SMD, to eliminate attitudinal barriers that result in persons with SMD avoiding to seek services or failing to remain treatment compliant for both mental and physical health conditions. Some research studies conducted on the attitudes of health care workers towards persons with mental disorders interestingly indicated that they had less positive attitudes than the general public[2,3]. Another study showed that mental health care workers (registered nursing staff and medical orderlies) had both positive and negative attitudes towards persons with mental disorders, and suggested that mental health specific training (replacing myth with fact) can influence attitudes[4]. It is important to understand how these attitudes are formed to allow for the development of a targeted approach to educational initiatives, for health care service delivery to improve.

Community-based health care facilities or clinics need to move away from being "dispensers of medication", but rather become a "one-stop" service that accepts persons with SMD as equally deserving of all services available, a comprehensive package that looks at the person as a whole, as proposed by Liu et al's[5] multilevel intervention framework.

It is imperative to acknowledge peer and family support initiatives and service user groups as essential elements to the social model that focuses on eliminating systemic barriers, negative attitudes and exclusion by society, as stigma causes ripple effects in creating barriers in accessing services and life opportunities, further leading to human rights violations.

Considering that unemployment is a strong independent risk factor for increased mortality, it must be a vital target of interventions focusing at addressing socio-environmental determinants. Unemployment of persons with SMD is an issue that receives very little attention, yet it has an enormous impact on the lives of these persons – leaving them with feelings of worthlessness, inability to be independent and financially self-sustainable, and becoming isolated. Occupational therapists would be ideal to lead specific interventions to facilitate access to employment or supported employment, and assist persons with SMD in optimizing cognitive functioning and achieving independence as far as possible where they are able to take charge of their lives and invest in their overall health and mental wellbeing.

Health systems must collaborate with community-based organizations to create an effective and holistic service delivery platform for persons with SMD. If there is a disconnect between the two, it can cause great frustration to persons with SMD, who are trying to consolidate a treatment and recovery plan that is centered around their individual needs.

The aspiration of the Sustainable Development Goals of "leaving no-one behind" must be honored in the name of persons with SMD, especially in low-resourced or rural communities. "Rural-proofing" of policies[6] must be conducted to ensure that those communities are not left behind as they are most marginalized when it comes to accessing social and economic opportunities, including health care.

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Reducing premature mortality from non-communicable diseases, including for people with severe mental disorders

The Sustainable Development Goals approved by the United Nations General Assembly in 2015 include a specific target in goal 3.4 for non-communicable diseases (NCDs): by 2030, reduce by one third premature mortality from NCDs through prevention and treatment and promote mental health and well-being[1]. This target aligns well with the paper by Liu et al[2], which offers a multilevel intervention framework to reduce excess mortality in persons with severe mental disorders (SMDs). The World Health Organization (WHO)'s Global Action Plan for the Prevention and Control of NCDs (2013-2020)[3] shares this goal and provides a menu of options, including risk factor control, scaling up management in primary health care, surveillance and other cross cutting areas. A life course approach including human rights and equity and universal health coverage are overarching principles in implementing this global action plan.

A focus on prevention, especially on the four common shared risk factors of tobacco use, harmful use of alcohol, unhealthy diet and physical inactivity, is a cornerstone of NCD control. The impact of general population interventions, such as taxation or restriction to access, may not be the same in people with SMDs. People suffering from SMDs will need a tailored approach to risk reduction: cognitive capacity, enabling factors, information and skill building of care providers and family members are needed. Some of the risk factors, such as weight gain and eating patterns, are influenced by people with SMDs' condition and medications and will have to be factored in. A perception change in carers and health providers may be needed for them to see the relevance of risk factor control in people with SMDs.

NCDs, especially cardiovascular diseases (CVDs), diabetes, cancer and chronic respiratory diseases, are becoming more prevalent due to an epidemiological and demographic transition. In addition to prevention, early identification and prompt management can reduce premature mortality and morbidity and improve the quality of life. Treatment of NCDs in earlier stages is more feasible, less expensive and can be taken up at lower levels of health care.

The WHO has developed a Package of Essential NCD (PEN) interventions which are suitable for primary health care and can be applied in resource constrained settings. They include protocols for identifying people at high risk for CVDs, identification and management of asthma and chronic pulmonary diseases, along with a protocol for individual counselling. A short list of essential medicines and technology is provided to support the use of these protocols[4]. The proposed approach of Ask (for risk factors), Assess (examination and tests), Estimate (CVD risk), Refer (for high risk) and Counsel and treat is a feasible framework that can be appropriately integrated in the WHO Mental Health Gap Action Programme (mhGAP)[5].

Health care providers for SMDs, including mental health professionals, can be informed, and their capacity can be enhanced to undertake this simple assessment depending on the clinical condition. Individuals at high risk for CVDs based on the risk assessment can be offered additional support and checking of parameters along with the follow-up of their mental health condition. This integration will have to be taken up through active engagement of care providers of both streams (NCDs and mental health) and also through appropriate operational interventions in health care settings. Mental health services may have to be supported with NCD medicines and technology, and skill building of providers. Including NCDs as part of the medical records will also help to identify and focus on people who have SMDs and NCDs.

Diabetes is also an important consideration in SMDs. The WHO PEN offers a protocol for management of diabetes, and the special needs for people with SMDs will have to be reflected in developing care plans. Dietary restrictions and physical activity which are part of the management plan may have more challenges in people with SMDs than medication interventions. Self-care which is often proposed to people with NCDs may not be directly applicable to people with SMDs.

Respiratory diseases like asthma are overtly symptomatic and are more amenable to detection and management. Awareness of signs and symptoms of common cancers among mental health care providers can potentially lead to early diagnosis, for instance of breast cancer.

All major NCDs need prolonged treatment, including adherence to medicines. Periodic follow-up and checking for signs of complications can help to prevent or delay adverse events in NCDs. Including these tests in protocols and adhering to them as part of the care for SMDs will have to be part of the management plan.

People with NCDs may have mental health conditions such as depression and anxiety, and it is also important that NCD care providers have the skills and capacity to detect and manage or refer these comorbidities as needed.

Integration of NCD prevention and management for people with SMDs will happen only through a systematic and sustained process at different levels. National programmes for NCDs, mental health and primary care services can work together to develop operational guidance and resource allocation. National strategies and action plans in these areas and in overall health sector plans should reflect this adequately.

Appropriate system level interventions, including changes in protocols, health workforce capacity, medicines and technology, counselling support and financial protection measures, will have to be developed and implemented in a structured manner. Context specific approaches can be developed based on the general guidance, and sustained practice can benefit both people with SMDs and those with NCDs.

The WHO is planning to demonstrate this approach in settings which are implementing mhGAP to include PEN protocols and vice versa. The framework proposed in Liu et al's paper will help to accelerate this work.

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The views expressed in this commentary are solely the responsibility of the author and they do not necessarily reflect the views, decisions or policies of the institution with which he is affiliated.

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Mind and body: physical health needs of individuals with mental illness in the 21st century

It is well recognized that individuals with severe mental illness show high rates of suicide and also various physical illnesses which contribute to reduced longevity[1]. This is a major public health challenge in the 21st century. Drugs and alcohol consumption and tobacco use further add to the increased rates of morbidity and mortality. The delays in help-seeking, whether it is for physical illness or psychiatric illness, and the underdiagnosis due to stigma and other factors contribute further to this disparity. Liu et al[2] provide a model based on a multi-level approach at individual, health care systems and social determinant levels to cope with the excess mortality among mentally ill people. We believe that it is a relevant proposal in the framework of modern medicine.

At the individual level, although early recognition of physical comorbidity and early interventions are effective strategies to reduce mortality, it is also relevant to explore what people seek help for and where they seek it from. In fact, culture and explanatory models will guide people to the sources of help, especially those which are easily available and accessible[3]. Explanations of distress and symptoms (explanatory models) will vary across cultures and communities and also be related to educational and socio-economic status.

Health care systems need to be geographically and emotionally available and accessible for people affected by mental illness, so that they can seek help early. Some of the physical comorbidity may not be recognized by clinicians and on occasion the responsibility for managing physical illness may be left to primary care physicians or specialists who in turn may not recognize mental illness or due to stigma may not intervene early enough. This might be due, in the West at least, to a somewhat rigid division between mental health and physical health services. For centuries, the mind-body dualism attributable to Descartes' dogma has affected clinical practice and has increased the dichotomy between psychiatric and physical health care services. This dualism may well have contributed to stigma against mental illness, the mentally ill and the psychiatric services[4]. Furthermore, if physicians are not very good at identifying psychiatric disorders or carrying out mental state examinations, psychiatrists are often not very good at identifying and managing physical illnesses either. When interventions have taken place in partnerships between services, physical health of patients with severe mental illness has been shown to improve[1].

At a social level, explanatory models of disease do not only vary across cultures and communities. They may also differ between the patients, their families and their carers, who may interpret these experiences on the basis of physical or psychosocial factors. More industrialized societies are likely to have psychological, medical or social causative factors as explanations, whereas more traditional societies may hold supra-natural and natural explanations[3]. In many cultures, mind and body are seen as in connection with each other, and patients may link their symptoms to both body and mind, thus making sense of their experiences in a holistic manner. Among Punjabi women in India and Pakistan, for example, the distress may be expressed in different parts of the body feeling hot and cold at the same time[3]. So, when they seek help from physicians who are not aware of these cultural differences, the clinician may miss the distress and underlying psychiatric disorders completely.

In 2013, in a report for the UK Mental Health Foundation[5], we recommended an integration at multiple levels similar to Liu et al's model. One of the potential solutions might be to develop units based on medical liaison, such as consultation-liaison psychiatry, where physicians work with psychiatrists to help early diagnosis and management[6]. Also, we believe that the multi-level model proposed by Liu et al has major implications for training. Training health professionals is a critical first step to make them aware of various components of patient's health. Moreover, education on cultural factors that may influence physical and mental health is relevant. One option may well be teaching social sciences and medical humanities at early stages of training[7], so that clinicians are aware of the impact of cultures on presentation and the interaction between mind and body.

Psycho-educational programmes about physical health among mentally ill patients need to be widely explained and utilized, as they are known to be effective[1]. In addition to the general information about various risk factors, specific programmes must be developed for vulnerable groups and individuals. Also, screening at early stages of treatment may help to reduce physical complications, improving psychiatric outcomes[1,6]. Integration with social care may help individuals with chronic mental illness so that all their needs are met in a single port of call.

Integrated care across primary and secondary care, across physical and mental health, and across social and health care means that training, recruitment and re-