Mental Health and the Global Agenda

TO THE EDITOR: Becker and Kleinman (July 4 issue) highlight the burden of mental diseases worldwide. Major concerns are for people living in less-developed countries (because of the low level of resources devoted to neuropsychiatric illnesses) and for young people (because of the difficulty accessing mental care).

We would like to emphasize the enormous suffering associated with mental disorders in older people. The prevalence of mental diseases in older people has increased dramatically in the past decades, not only because of aging itself (e.g., Alzheimer’s disease), but also because of new emotional and sociodemographic situations to which the elderly are exposed. Moreover, disorders such as depression and dysthymia often become chronic, and the link between mental and physical health (ultimately leading to disability) is extremely strong. Finally, the use of psychotropic medications without fair evidence of safety, efficacy, and effectiveness in persons who are already receiving many other medications is fraught with danger. Training primary care clinicians in the care of elderly patients with mental illness should be a priority.

Alessandra Marengoni, M.D., Ph.D.
Sergio Pecorelli, M.D., Ph.D.
University of Brescia
Brescia, Italy
marengon@med.unibs.it

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TO THE EDITOR: In their article, Becker and Kleinman articulate the critical steps needed to improve global mental health care. One of us is a Ghanaian medical student, and we would respectfully add that persons involved in the discourse on global mental health also need to engage indigenous mental health care systems. These systems, which fall outside the hegemonic discourse of Western psychiatry, include traditional healers and faith-based practitioners. In Ghana, it is estimated that there are 45,000 traditional “healers” — far more than there are psychiatrists, psychologists, social workers, and mental health nurses. These indigenous forms of healing are widely used, in part, because they operate within ingrained cultural beliefs about mental illnesses, and although there is limited research, there is some evidence that traditional healers are effective in offering certain mental health services. Although legitimate concerns have been raised about human rights abuses and the scientific validity of forms of treatment in traditional medicine, these caregivers shoulder a considerable burden of care delivery and offer an important avenue through which capacity can be developed, stigma can be reduced, and quality can be improved.

Akosua A. Korboe, B.A.
University of Rochester School of Medicine and Dentistry
Rochester, NY

Julia Carney, B.A.
Massachusetts General Hospital
Boston, MA

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2. Ae-Ngibise K, Cooper S, Adibokah E, Akpalu B, Lund C, Doku V. ‘Whether you like it or not people with mental problems are going to go to them’: a qualitative exploration into the widespread use of traditional and faith healers in the provision of mental health care in Ghana. Int Rev Psychiatry 2010;22:558-67.
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THE AUTHORS REPLY: Marengoni and Pecorelli raise an important point about the large and growing mental health burden in older persons. Indeed, the formidable burden imposed by Alz-
Primaquine Failure and Cytochrome P-450 2D6 in Plasmodium vivax Malaria

**TO THE EDITOR:** Primaquine is the only medication approved by the Food and Drug Administration to eradicate the hypnozoites of *Plasmodium vivax*, but relapses of *P. vivax* malaria due to drug failure occur.1 Human cytochrome P-450 isoenzyme 2D6 (CYP2D6) may be a key enzyme involved in metabolizing primaquine into redox-active metabolites against hypnozoites in the liver.2,3

As part of a phase 1 clinical trial of a vaccine against *P. vivax* (Study of VMP001 and AS01B in Healthy Malaria-Naive Adults; ClinicalTrials.gov number, NCT01157897), 33 participants were exposed to *P. vivax* sporozoites from the bites of infected mosquitoes. Parasitemia developed in all participants by day 13 after the challenge, and parasitemia rapidly cleared on initiation of the directly observed administration of a combination of chloroquine (at a dose of 1500 mg base by mouth over a period of 48 hours) and primaquine (at a dose of 30 mg by mouth daily for 14 days). Two participants (6%) had multiple relapses of malaria (see Fig. 1 in the Supplementary Appendix, available with the full text of this letter at NEJM.org). After each relapse, parasitemia was rapidly cleared in these participants with chloroquine (at a standard dose of 1500 mg base by mouth over a period of 48 hours) and a weight-based dose of primaquine (at a total dose of 6 mg per kilogram of body weight). To our knowledge, true resistance to primaquine in *P. vivax* hypnozoites has not been described; this suggests a role for host factors in drug failure.1

We sought to identify an association between CYP2D6 activity and primaquine drug failure. CYP2D6 phenotypes were ascertained in 25 available participants. The institutional review boards of the Walter Reed Army Institute of Research, the Naval Medical Research Center, and the Walter Reed Army Medical Center, as well as the Western Institutional Review Board approved the study, and all participants provided written informed consent. CYP2D6 phenotyping was performed; 21 participants had an extensive-