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Distributing US Health Aid

Kenneth Hugh Mayer; Carol Dukes Hamilton

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modifiable risk factors for stroke, such as hypertension, smoking, and levels of physical activity. A cohort study⁴ has suggested an association between high triglyceride levels and certain "type A" personality traits, such as hostility, anger, and domineering attitudes, which in turn may indirectly influence the risk of coronary and stroke events.⁵ Thus, adjustment for depression and its interaction with other known risk factors may result in a more accurate estimation of the additional risk of stroke in patients with hypertriglyceridemia.

Elias Tzavellas, MD
Dimitrios Karaiskos, MD
Thomas Paparrigopoulos, MD
tparrig@med.uoa.gr
Department of Psychiatry
Athens University Medical School
Athens, Greece

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In Reply: Dr Tzavellas and colleagues suggest that depression could influence our finding that increasing levels of nonfasting triglycerides are associated with increased risk of ischemic stroke. This comment is also relevant to an earlier study demonstrating an association between increasing levels of nonfasting triglycerides and increased risk of myocardial infarction, ischemic heart disease, and early death.¹

Unfortunately, we do not have information on depression in the Copenhagen City Heart Study and therefore cannot include this cardiovascular risk factor in our multivariate analyses. However, for the 1991-1994 examination of the Copenhagen City Heart Study, we do have information on vital exhaustion (a psychological measure characterized by fatigue and depressive symptoms) associated with depression. Using a 17-item questionnaire, participants from the 1991-1994 examination of the Copenhagen City Heart Study were grouped in 4 categories with increasing vital exhaustion.² For depression or vital exhaustion to confound our risk estimates, these factors must be associated with both nonfasting triglycerides and risk of ischemic stroke. We therefore tested whether increasing scores for vital exhaustion were associated with increasing levels of nonfasting triglycerides and found no such association (Cuzick test for trend as an extension of Wilcoxon rank-sum test, $P=.07$). Although vital exhaustion may not be equivalent to depression, based on this finding we nevertheless find it unlikely

that our results of increasing nonfasting triglycerides being associated with increasing risk of ischemic stroke (in the current study) and myocardial infarction, ischemic heart disease, and early death² would be confounded to a large extent by depression.

Jacob Freiberg, MD
Department of Clinical Biochemistry
Herlev Hospital
Copenhagen University Hospital
Herlev, Denmark

Anne Tybjaerg-Hansen, MD, DMSc
Department of Clinical Biochemistry
Rigshospitalet
Copenhagen University Hospital
Copenhagen, Denmark

Børge G. Nordestgaard, MD, DMSc
brno@heh.regionh.dk
Department of Clinical Biochemistry
Herlev Hospital
Copenhagen University Hospital

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Distributing US Health Aid

To the Editor: In their Commentary, Ms Denny and Dr Emanuel¹ are correct in saying that diarrhea and other illnesses exact a terrible toll on infants and children in resource-limited settings. However, their proposal to shift funds from the President's Emergency Plan for AIDS Relief (PEPFAR) to maternal and child health programs could result in unintended adverse consequences for the women and children they seek to protect.

The bill reauthorizing PEPFAR (PL 110-293) includes a large increase for tuberculosis and malaria programs (\$4 billion and \$5 billion, respectively), and it authorizes \$10 billion for the US contribution to the Global Fund to Fight AIDS, Tuberculosis, and Malaria over a 5-year period.² Children experience high rates of morbidity and mortality from both malaria and tuberculosis. In addition, the bill includes important targets for strengthening health care systems, which will benefit primary care generally.

Ten percent of US AIDS funding to poor countries supports a broad range of services, including health care and nutritional support for both HIV-infected and HIV-negative orphaned and vulnerable children.³ A Rwanda study from 2007 showed that PEPFAR dollars contributed to broader health services, including reproductive health, prenatal, and pediatric services.⁴

Denny and Emanuel do not discuss the central reasons that intensified and specific action on HIV/AIDS remains a global health imperative. HIV/AIDS kills young adults, on whom children depend for care and support, and profoundly undermines economic development. HIV/AIDS amplifies the transmission of tuberculosis, has resulted in enormous numbers of new cases of tuberculosis among both HIV-infected and uninfected adults and children, and is fostering the spread of multidrug-resistant tuberculosis.⁵

The authors' comments do highlight a fundamental problem: the lack of adequate funding for global health programs generally. But the answer is not to scale back PEPFAR, which has a much broader impact than these comments acknowledge, but to greatly increase the overall amount of US foreign assistance so that all effective programs, including essential maternal and child health programs, are appropriately funded.

Kenneth Hugh Mayer, MD
kenneth_mayer@brown.edu
Department of Medicine
Brown University
Providence, Rhode Island

Carol Dukes Hamilton, MD
Family Health International
Research Triangle Park, North Carolina

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In Reply: Drs Mayer and Hamilton are correct in noting the significant achievements of PEPFAR. The program has unmistakably demonstrated that a large influx of US resources can produce enormous health benefits in developing countries, even in as short a time as 5 years. Thus, the United States has clearly proven its power to save thousands of lives through directed contributions.

Yet the very fact of PEPFAR's success creates a heightened responsibility. If the United States has the power to save lives, it also has an obligation to do so ethically and effectively. The United States does not and will not have sufficient funds to address all the serious health problems of developing countries. Choices will have to be made. Spend-

ing limited resources on any one health care intervention will necessarily mean that other types of interventions will go unfunded.

To ensure the just distribution of finite aid, it is necessary to look beyond the history of US health aid or the influence of specific disease lobbying groups. Instead, 3 principles should determine which programs receive priority: (1) save the most lives, (2) save children's lives, and (3) achieve these goals in a cost-effective manner. We do not argue that PEPFAR is an unjust or misguided program. Rather, in light of its demonstrated capacity to save lives, we believe the United States should fundamentally rethink how it distributes its resources, focusing on achieving these goals.

The PEPFAR reauthorization does pledge some resources to combating malaria and tuberculosis. But why should less aid be allocated to these diseases compared with the aid provided to HIV/AIDS? As our Commentary indicated, the annual disease death tolls are similar, and the interventions available for treating malaria and tuberculosis are significantly more cost-effective. It seems that redistributing the same aid money could save more lives. The relative cost-ineffectiveness of HIV/AIDS treatments might be partially mitigated by factoring in the societal devastation HIV/AIDS wreaks by primarily affecting young adults, as Mayer and Hamilton argue. But such explanations are not transparently obvious. Current US aid programs, including PEPFAR, are largely designed without a set of fundamental guiding principles; we argue that such principles are ethically necessary if the United States is going to shoulder the burden of choosing which lives to save in the developing world.

The proposed Mother & Child Campaign is an example of how future health aid programs could be designed by building from these foundational criteria. There are many reasons why it would be unwise and unjust to dismantle existing aid programs such as PEPFAR, including such practical concerns as increased drug resistance. But new international aid funding, such as the newly pledged \$33 billion added to the existing PEPFAR budget of \$15 billion,¹ should be distributed not simply according to what the United States has done in the past, but to overtly and justly provide maximal health benefit.

Colleen Denny, BA
Ezekiel J. Emanuel, MD, PhD
eemanuel@nih.gov
Department of Bioethics
Clinical Center
National Institutes of Health
Bethesda, Maryland

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