

of particular concern in light of the reaffirmation in the amended UAGA of the importance of acting on the first-person consent of patients, as expressed through organ-donor registries, regardless of the wishes of the patient's family.² On first impression, this makes good sense: families should not be able to veto the wishes of patients. But some have voiced concern that a patient's general indication of a willingness to donate (e.g., a checked box on a driver's license) could be interpreted as indicating a desire to donate through newer procedures that were not envisioned by the patient at the time the intent was expressed. For example, as of July 2007, all transplantation hospitals are required by the United Network for Organ Sharing to develop and follow protocols that facilitate organ donation after cardiac death.⁴ Unlike organ donation after brain death, in which patients are declared dead before organ-procurement procedures begin, some protocols for donation after cardiac death involve the exposure of dying patients to resuscitation efforts, placement of central venous catheters, the administration of heparin and vasodilators, and withdrawal of life support under

sterile conditions in the operating room. Although consent from the next of kin is required for any antemortem procedures, under the presumptive approach, families may feel pressured to give consent by OPO representatives who choose to assume that the patient's general willingness to be an organ donor indicates a willingness to undergo these additional procedures before death, which may not be the case. As one ethicist has noted, "Most people who agree to be organ donors think about it in terms of what will happen to their body after they die. This [approach] has implications for what they do to you before you die."⁵

Both clinicians and OPOs therefore face conflicting ethical obligations. The growing transplant waiting lists obligate us to strive to increase the supply of transplantable organs. But our commitments to respecting the rights of our patients and their families require that consent be obtained by people who are, in turn, committed to being fully transparent, fair, and evenhanded. When we are faced with competing ethical obligations, our challenge is to find a balance that will preserve our most essential ethical principles. Over the past

few years, the pendulum has swung too far in the direction of procuring organs at the expense of commitments that are fundamental to the patient-physician relationship. If uncorrected, this trend could substantially erode the public's trust in the transplantation enterprise, to the ultimate detriment of people who desire to make these remarkable gifts as well as those who are desperately in need of them.

A letter to the editor from Luskin and colleagues at the New England Organ Bank appears on page 1297.

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Taking Your Child's Breath Away — The Extension of Asthma's Global Reach

Eva C. Mantzouranis, M.D.

On a clear summer day, as Michael runs through the fields playing with his friends, the view from his farm is spectacular. You can look past the hills where his family grows olives and raises sheep to the

Mediterranean Sea. Last winter, however, the picture was far less tranquil for the 4-year-old and his family. In their small cottage that is heated by burning olive pits left over from the olive-oil press, with his mother cook-

ing over an open fire and his father smoking two to three packs of cigarettes a day, Michael developed frequent colds, a chronic cough that worsened considerably at night, and shortness of breath when he played.

Since he repeatedly had to be rushed to the hospital because he could not breathe, his mother had to stop working. In desperation, the family spent a day on the bus to come see me in Heraklion, the capital of Crete.

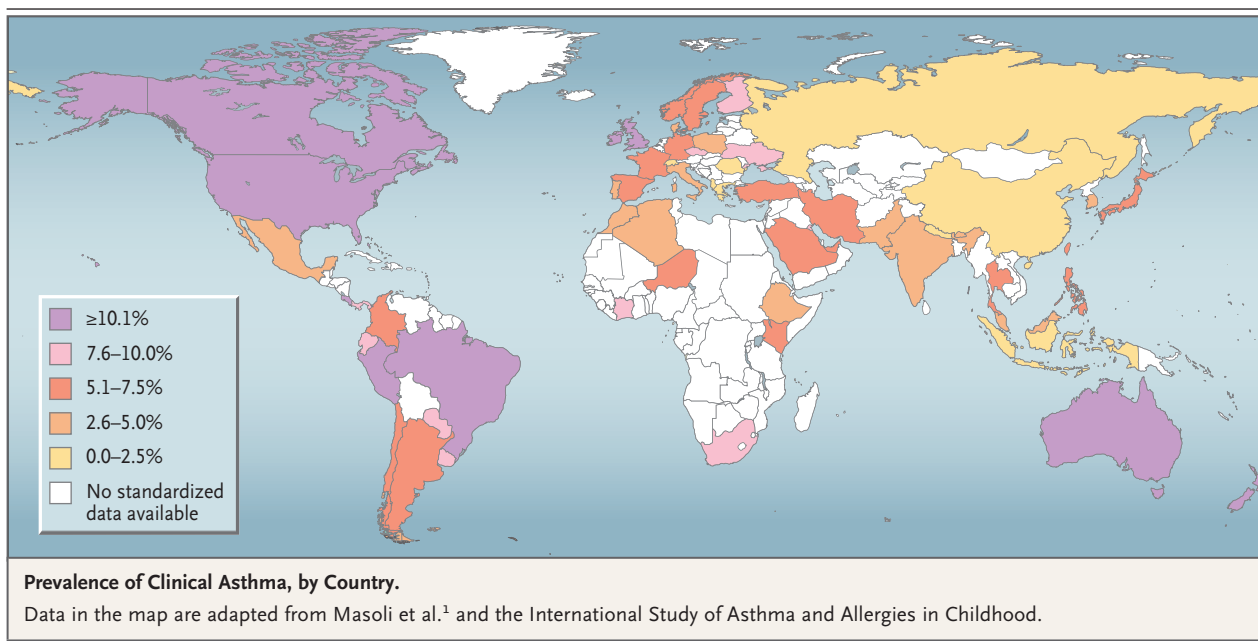
The familiarity of Michael's story led me to a fairly rapid diagnosis of asthma. Breathing secondhand smoke from cigarettes and biomass fuels while confined in a small house and having recurrent colds put the boy at risk. His risk was further exacerbated by his inheritance, from both parents, of yet-to-be-identified genes that made him susceptible to asthma. His mother knew that she had asthma, but his father had been given a diagnosis of bronchitis when, as a boy, he had presented with symptoms similar to those Michael had now. In fact, Michael's paternal grandmother had reassured his parents that because the boy's breathing problems resembled those his father had had as a child, there was "nothing to worry about." With this combi-

nation of genes and environment, the odds that Michael had asthma were overwhelming. I confirmed the diagnosis by demonstrating that his airway obstruction responded to bronchodilators.

Treatment was straightforward, with a combination inhaler that allowed Michael to receive inhaled steroids and long-acting β_2 -agonists. Soon Michael was able to return to the normal life of a 4-year-old. I also treated his father with the same combination inhaler, albeit at twice the dose, and a leukotriene-receptor antagonist. Since Michael could attend day care again, his mother could return to work, but now she needed to use the money she earned to pay for his asthma medications instead of saving it for his education. Fortunately, his father could now sleep through the night and so became somewhat more productive in his agricultural business, earning enough to offset the cost of the medications. It was a happy ending to one variation of an increasingly common and troubled tale.

Although asthma is considered a disease of the Westernized world, most aspects of Michael's village have not changed for hundreds of years. What is new are the gas engines that run generators, motorbikes, and farm equipment. When the olive-oil factory is working, the entire village is covered in a dark cloud. In the shadow of such clouds in low-income countries all over the world, asthma is now occurring at increasing rates (see map).¹

Changes in the environment seem to be key factors in this epidemiologic shift. In many low- and middle-income countries, people rely on solid fuel (wood or crop residues such as the olive pits used in Michael's village) that they burn in simple stoves or open fires for domestic energy.² Secondhand smoke has become more common as parents become wealthy enough to buy cigarettes. Together, these factors generate indoor air pollution that is estimated to be as much as five times as severe in poor countries as in rich ones.²



Asthma in children requires special attention. Most asthma develops before children are 6 years of age,² but the diagnosis usually cannot be confirmed until a child is 6 or 7 years old, since many young children cannot cooperate with the performance of spirometry. Asthma in young children is therefore frequently misdiagnosed as bronchitis, repeated bronchiolitis, cough of unknown cause, viral respiratory infection, or pneumonia, among other conditions. Since their asthma remains untreated, these children tend to have many acute care visits and hospitalizations and to receive inappropriate medications, mostly antibiotics, adding to the cost of the condition. Once the diagnosis is made, the appropriate treatment is effective but expensive. In Michael's family, asthma medications consume 10 to 15% of monthly income. In India, the monthly cost of medication for an asthmatic child can amount to one third of an average family's monthly income.³

Other costs of asthma are harder to measure. In the United States, pediatric asthma results in 14 million missed days of school each year, which in turn result in lost workdays — and

lost wages — for caregivers.⁴ Children may fall behind in schoolwork, with long-term consequences for their education and perpetuation of their poverty. As asthma continues to affect more children in lower-income countries, we need to find ways to control indoor and outdoor air pollution, to train health care professionals to diagnose and treat asthma in children, and to ensure that asthma medications are affordable for everyone who needs them.

To reduce pollution, countries will need to enact laws and apply health care policies that strictly prohibit smoking in public places, provide smoking-cessation programs (ideally, free of charge), and encourage early and ongoing public education about smoking-related diseases, as well as about respiratory diseases that are related to the use of open fires for cooking or heating. A reduction in pollution will also mean long-term changes in infrastructure, such as ensuring that factories produce fewer toxic fumes or are located far from residential areas and improving the efficiency of public transportation so that people will be encouraged to use it.

Diagnostic efforts would be en-

hanced by the development of a straightforward algorithm for use by clinicians — as well as by the education of school teachers and gym teachers about asthma symptoms and exacerbations. Finally, it would be a boon to the control of asthma globally if more generic asthma drugs were developed and if facilities for the treatment of uninsured patients with asthma — like the one recently created for African patients by the nongovernmental organization International Union against Tuberculosis and Lung Disease — became more widespread.

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