President’s Emergency Plan for AIDS Relief
Health Development at the Crossroads

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THE UNITED STATES GLOBAL LEADERSHIP AGAINST HIV/AIDS, Tuberculosis, and Malaria Act of 2003, which funded the President’s Emergency Plan for AIDS Relief (PEPFAR), was the largest commitment by any nation to combat a single disease in human history, authorizing up to $15 billion over 5 years. On July 30, 2008, President Bush signed into law the historic reauthorization of PEPFAR, dramatically increasing the financial commitment by authorizing up to $48 billion over 5 years, including $5 billion for malaria and $4 billion for tuberculosis. During the signing ceremony, the president said, “There is no way to quantify PEPFAR’s greatest achievement: the spread of hope. . . . And spreading hope is in our moral interests—because we believe that to whom much is given, much is required.” PEPFAR’s global targets are inspiring: treat 3 million people; prevent 12 million new human immunodeficiency virus (HIV) infections, and care for 12 million people, including 5 million orphans and vulnerable children.

PEPFAR has been mired in controversy. To some, it exemplifies the United States’ extraordinary compassion and generosity; to others, it symbolizes the politicization of public health and unilateral approach to international health. The truth lies somewhere in between. The latest data on global health assistance predates the reauthorization, but includes the original PEPFAR. In 2007, the United States donated $21.8 billion in official development assistance, more than any other country, and the United States is the only country projected to meet the 2005 Group of 8 (G8) Gleneagles commitment to double aid to sub-Saharan Africa by 2010. Yet, in 2007, the United States devoted only 0.16% of its gross national income to official development assistance, placing it last among G8 countries, with nearly 70% going to AIDS. The United States is tied for last on aid effectiveness using a set of 10 critical indicators.

US health assistance to the developing world stands at a crossroad. As PEPFAR is scaled up, will it provide opportunities to fulfill basic human needs or will its limited focus pull resources from sustainable, capacity-building support in line with poor country priorities?

PEPFAR is prescriptive on how the funds can be spent, irrespective of country priorities. The reauthorization requires half of bilateral aid spent on treatment and care, with at least 10% spent on orphans and vulnerable children. The focus on antiretroviral treatment is extraordinary, reflecting an ethic of universal access to lifesaving medicines for rich and poor alike. When PEPFAR was launched in 2003, only 50,000 Africans (<2% of the 4.4 million in need) received antiretroviral treatment, but by March 31, 2008, PEPFAR supported antiretroviral treatment for approximately 1.73 million people, mostly in focus countries in sub-Saharan Africa.

Treatment is a humanitarian triumph, rescuing individuals and their families from a dire fate, but from a population perspective it does little to stem the tide of the pandemic. For every individual to receive treatment, 2 to 3 others become newly infected. Although prevention and treatment are intertwined and it is unfair to pit one against the other, there are nevertheless inherent trade-offs in the use of scarce health resources. Treatment is, at best, a stop-gap measure that requires enormous resources because of the life-long need of millions of individuals. The current costs are approximately $2 billion annually, an amount that could increase to $12 billion by 2016, more than half of US official development assistance. The cost, moreover, could increase considerably with the increase in drug-resistant forms of HIV, requiring expensive second-line medications. Additionally, patient retention in treatment programs has often been relatively poor in sub-Saharan Africa; if PEPFAR treatment dollars are to be spent effectively, retention in care should become just as important as expanded enrollment.

The United States' impressive leadership in global AIDS, therefore, would be more effective if PEPFAR focused on comprehensive behavioral strategies, condoms, male circumcision, and structural approaches such as social, economic, political, and environmental factors that have an evidence base for preventing new infections. It is for these reasons that the Institute of Medicine recommended eliminating PEPFAR’s spending directives, and the US Government...
ment Accountability Office proposed a more country-focused approach.12

More broadly, reliance on vertical or disease-specific programs is less effective than building health system capacity and human resources, as well as serving priority health needs as determined by the host country. Although it is primarily a single-disease program, PEPFAR deserves credit for strengthening the health workforce, promoting local clinics, supporting nutrition, and increasing integration with malaria and tuberculosis services. Nevertheless, focusing on “basic survival needs” such as clean water, sanitation, pest abatement, and essential medicines for a broad range of health conditions could save even more lives by addressing the major determinants of health.13

Politics of AIDS

AIDS policy has been embroiled in politics since the beginning of the HIV epidemic. The ideological aspects inherent in PEPFAR tarnish its reputation, but it is important to stress that without political compromise, AIDS funding on such an unprecedented scale would not have been politically possible.

Abstinence and Faithfulness. The PEPFAR reauthorization removes the 2003 requirement that 33% of prevention funds be spent on abstinence-until-marriage programs but still requires host countries to meaningfully and equitably support “activities promoting abstinence, delay of sexual debut, monogamy, fidelity, and partner reduction.”14 The administration must report to Congress if a host country spends less than half its prevention funds for these purposes. The “ABC” (abstinence, faithfulness, and use of condoms) approach can be effective, but PEPFAR prevention dollars may go to organizations that withhold information about condoms or other contraception services, thus restricting access to lifesaving information. Even worse, PEPFAR’s 2008 “conscience clause” allows organizations with a moral or religious objection to opt out of providing services to which they may object, and that could pave the way for PEPFAR funding recipients to refuse care based on their disapproval of a patient’s behavior or sexual orientation. The “soft” prescription to focus half of prevention funds on abstinence and faithfulness programs can distort priorities but will not have the same binding force as the abstinence-only mandate in 2003.

Family Planning: Gender and Youth. Family planning programs may receive funding for HIV services only, irrespective of their compliance with the Mexico City policy, which means that groups providing or counseling women about legal abortions are eligible for PEPFAR funding. The PEPFAR reauthorization admirably requires global HIV/AIDS prevention strategies to address the vulnerability of women and youth, with a target of 80% coverage for preventing mother-to-child transmission. Yet, PEPFAR misses an opportunity to better serve women and girls by strengthening critical linkages between family planning, reproductive health services, and HIV prevention—helping vulnerable groups with unmet needs.

Prostitution and Sex Trafficking. PEPFAR proscribes funding any group without a policy “explicitly opposing prostitution and sex trafficking,” thus requiring organizations to pledge opposition to marginalized individuals, driving them underground. A federal court of appeals upheld the same provision in the original PEPFAR, reasoning that “the government can—and often must—discriminate on the basis of viewpoint,”15 even though the organization believes that opposition to commercial sex work stigmatizes and alienates those most vulnerable to HIV/AIDS.

Immigration and Travel

In 1987, a time when HIV was poorly understood, the Secretary of the US Department of Health and Human Services, in response to congressional direction in the Helms Amendment, added HIV infection to the list of communicable diseases of public health importance, which restricted travel or immigration to the United States, whether for vacation, employment, or conference attendance. Although the Bureau of Citizenship and Immigration Services can grant a waiver, the conditions are restrictive.

By the early 1990s, recognizing the absence of a public health justification, the Department of Health and Human Services reversed its position, but the Immigration and Nationality Act of 1993 codified the ban; HIV is the only disease specifically named for exclusion from the United States. The ban has been widely condemned as arbitrary and discriminatory and led to the International AIDS Society refusing to hold its annual conference in the United States. The PEPFAR reauthorization ends the statutory exclusion of travelers and immigrants to the United States, thus demonstrating respect for the human rights and dignity of the person and restoring its reputation in the international AIDS community.

PEPFAR: A Turning Point for Global Health

AIDS advocates have been highly conflicted about PEPFAR, recognizing its unprecedented generosity but torn by its moralizing and constraining spending mandates. It is tempting to focus on PEPFAR’s undeniable deficiencies—prioritizing treatment over prevention, stressing abstinence and faithfulness, forcing clinicians to condemn sex workers against their beliefs, and not doing enough to empower women and youth. But beyond these deficiencies, PEPFAR has transformed lives and instilled a sense of hope in poor African communities ravaged by AIDS that is heartening and palpable on the ground.

PEPFAR represents a milestone in development assistance, but the United States and its rich global partners face a critical choice. PEPFAR can remain a vertical program of exceptional value that will cease when political will subsides. Alternatively, rich countries can build on PEPFAR by making a historic commitment to international development assistance for health that is scalable and sustainable and that attacks the root causes of poverty, inequality, and early death. By ensuring the capacity of poor countries to take care of their own with decent living conditions, hy-
COMMENTARIES

US Health Aid Beyond PEPFAR
The Mother & Child Campaign

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ONE OF THE GEORGE W. BUSH ADMINISTRATION’S biggest successes has been the President’s Emergency Plan for AIDS Relief (PEPFAR). Even the president’s critics acknowledge the important benefits PEPFAR has produced, both for those countries most seriously affected by human immunodeficiency virus (HIV)/AIDS and for the United States’ moral legitimacy and diplomatic reputation. It was accordingly unsurprising that the president used his final State of the Union address to call for a doubling of PEPFAR’s funds. Congress recently went along with research, editing, and writing as part of his fellowship.

REFERENCES

PEPFAR’s Purview

In 2003, Congress appropriated PEPFAR $15 billion over 5 years to combat HIV/AIDS in developing regions. By September 2007, the program had prevented mother-to-child transmission for 10 million pregnancies, supported outreach activities aimed at preventing transmission to 61.5 million people, and provided antiretroviral treatment (ART) to 1.45 million individuals. United States citizens generally strongly support PEPFAR, partly because of the devastating effects of HIV/AIDS—the disease claims 1.9 million lives annually in lower-income countries—but also because HIV/AIDS is one of the few major health problems the United States shares with the developing world, and because it primarily affects adults, who have greater economic and political power.

Yet despite being “the largest commitment ever by a single nation toward an international health initiative,” PEPFAR fails to address many of the developing world’s most serious health threats. In lower-income countries, mundane but deadly diseases cause more harm than HIV/AIDS. Respiratory infections alone claim 2.86 million lives each year. Yet doubling or tripling PEPFAR’s funding is not the best use of international health funding. In focusing so heavily on HIV/AIDS treatments, the United States misses huge opportunities. By extending funds to simple but more deadly diseases, such as respiratory and diarrheal illnesses, the US government could save more lives—especially young lives—at substantially lower cost. Rather than inflating PEPFAR funding, the newly pledged billions could launch a new proposal program called the Mother & Child Campaign.

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each year.3 Another 2.2 million die annually from diarrheal
diseases,4 and 1.24 million and 1.6 million die from
malaria5 and tuberculosis,6 respectively. Even though a few
smaller government-sponsored initiatives do target some of
these illnesses, such efforts pale in comparison with the
sheer funding and attention that PEPFAR provides for HIV/
AIDS.

Principles for International Health Aid

International aid is inherently limited; it is impossible to ad-
dress all health problems in developing countries simulta-
nuously. Consequently, it is extremely important to con-
sider how this finite aid is distributed. The allocation of
international health aid should be guided by 3 fundamen-
tal principles: (1) to save the most lives; (2) to save young
lives in particular; and (3) to do so using finite resources
most effectively.

Saving the most lives has intuitive appeal: There are clear
ethical obligations to help others, especially to avoid death,
and it is imperative to meet that obligation for as many in-
dividuals as possible.6 This requires paying particular at-
tention to the health problems inflicting the greatest bur-
den on the greatest number of individuals.6

The focus on saving children reflects the particular
need and condition of this population. Young children in
developing regions have a proportionally greater disease
burden than any other age group: 1 in 6 children born in
sub-Saharan Africa dies before age 5 years.7 Furthermore,
while every premature death is distressing, death in
childhood is particularly tragic, as children lose more
future years and stages of life than adults. Additionally,
the effort required to prevent these deaths is small: of the
10 million annual deaths that occur among young chil-
dren, 70% are attributed to easily avoidable causes such
as pneumonia, diarrhea, malaria, and neonatal complica-
tions.7 Thus, children in developing regions likely repre-
sent the population most deserving of aid: a greater per-
centage die, losing more potential life, from causes that
could be easily averted.

Because resources devoted to international health aid are
inherently limited, seemingly economic considerations about
cost-effectiveness actually reflect fundamental ethical prin-
ciples. The more cost-effectively resources are used, the more
lives can be saved.

Assessing PEPFAR

PEPFAR’s strategy falls short of these 3 principles. Al-
though annual mortality from HIV/AIDS is staggering, more
lives could be saved by combating simple illnesses such as
respiratory disease and diarrhea. PEPFAR also fails to fo-
cus on children: as Jones et al note, “levels of attention and
effort directed at preventing the small proportion of child
deaths due to AIDS with a new, complex, and expensive in-
tervention seem . . . to be outstripping the efforts to save mil-
ions of children every year.”8

Even though some HIV/AIDS-related interventions, such
as condom distribution, are indeed cost-effective, other
PEPFAR-funded interventions prove significantly less so.
ART, for example, has a cost-effectiveness ratio between
$350 to $2010 per disability-adjusted life-year (DALY)
avoided.9,10 Increasing US spending on such interventions
means that health needs unrelated to HIV/AIDS will remain
unmet.

The Mother & Child Campaign

What is the alternative? United States international health
aid resources could launch a new program to provide a more
comprehensive approach to health crises in developing coun-
tries: the Mother & Child Campaign.

This campaign would focus on the health needs of those
hit hardest by simple but deadly diseases: young children
and their mothers. Accordingly, the campaign would sup-
port efforts to prevent and treat diarrhea disease, respira-
tory infections, tuberculosis, malaria, vaccine-preventable
diseases, neonatal conditions, and obstetric and maternal
health problems.

Funding distribution would emphasize cost-effectiveness.
For example, rather than financing treatments of neonatal jaun-
dice ($652 per DALY averted), the program would first pro-
vide community-based care for neonatal pneumonia ($1 per
DALY averted), nutritional supplements for anemic preg-
nant women ($13 per DALY averted), and insecticide-
treated bed nets in areas of endemic malaria ($11-541 per DALY
avoided) (TABLE). Even anticipating start-up costs, these life-
saving interventions would prove considerably more cost-
effective than some currently funded interventions. Emerg-
ing cost-efficiency data would be incorporated into future
Mother & Child Campaign funding decisions, continuously
refining the program to maximize benefit.

To appreciate the potential health effects, compare the
available treatment options under the 2 programs. In 2007,$1.34 billion, nearly 50% of PEPFAR’s annual budget, was
spent supporting ART treatment for 1.45 million individu-
als.1 For this same amount, the Mother & Child Campaign
could vaccinate more than 44 million children against diph-
theria, pertussis, polio, tetanus, and measles, and provide
134 million insecticide-treated bed nets to prevent ma-
laria.11,12 PEPFAR has taken its $15 billion far; the Mother
& Child Campaign could take it even farther.

The Mother & Child Campaign also more fully meets the
3 evaluative principles. Addressing maternal and pediatric
health works to save as many lives as possible by targeting 2
populations enduring much preventable morbidity and mor-
tality; like young children, women of childbearing age in de-
viloping regions have a particularly great burden of dis-
case.12 The campaign also promotes children’s health, both
directly and by aiding mothers: motherless children are 10
times more likely to die within 2 years of their mother’s death.13
Moreover, the Mother & Child Campaign overtly considers
cost-effectiveness in distributing finite resources.
## Table. Treatment Options and Cost-effectiveness in Lower-Income Regions

<table>
<thead>
<tr>
<th>Annual Deaths in Lower-Income Regions</th>
<th>Sample Interventions</th>
<th>Cost-effectiveness Ratio, $/DALY&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Cost per Intervention, $</th>
<th>DALYs Averted for 1 Year of PEPFAR-Level Funding ($3 Billion), in Millions</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIV/AIDS</td>
<td></td>
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<tr>
<td>1.9 Million total (280,000 in children &lt;15 y)</td>
<td>Condom promotion and distribution (for sex workers) through 99 (medium-risk women)</td>
<td>1</td>
<td>11-17 per infection prevented</td>
<td>15-3 Billion</td>
</tr>
<tr>
<td></td>
<td>Prevention of mother-to-child transmission</td>
<td>1-34</td>
<td>20-47 per infection prevented</td>
<td>250-600</td>
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<tr>
<td></td>
<td>Voluntary counseling and testing</td>
<td>18-22, 82</td>
<td>393-1,115 per infection prevented</td>
<td>36.6-167</td>
</tr>
<tr>
<td></td>
<td>First-line ART</td>
<td>350-2010</td>
<td>28,038-185,396 per infection averted</td>
<td>1.5-8.5</td>
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<tr>
<td>Respiratory illness</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.86 Million total (2 million in children &lt;5 y)</td>
<td>Community-based case management for neonatal pneumonia</td>
<td>1</td>
<td>3 Billion</td>
<td></td>
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<tr>
<td></td>
<td>Treatment of nonsevere pneumonia at the facility level</td>
<td>24-50</td>
<td>2 per treatment episode</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Case management of pneumonia</td>
<td>62-87</td>
<td>3-6 per treatment episode</td>
<td>34-48</td>
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<tr>
<td>Diarrheal disease</td>
<td></td>
<td></td>
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<tr>
<td>2.2 Million total (1.9 million in children &lt;5 y)</td>
<td>Oral rehydration therapy</td>
<td>24-139</td>
<td>0.50-6 per treatment for a child</td>
<td>125</td>
</tr>
<tr>
<td></td>
<td>Water supply and sanitation: hygiene education, program design, and regulation added to existing infrastructure</td>
<td>20 (1.67-140)</td>
<td>NA</td>
<td>150</td>
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<tr>
<td>Malaria</td>
<td></td>
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<tr>
<td>1.24 Million total (848,000 in children &lt;5 y)</td>
<td>Case management with artemisinin-based combination therapy</td>
<td>12</td>
<td>NA</td>
<td>250</td>
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<tr>
<td></td>
<td>Indoor residual spraying of long-lasting insecticides</td>
<td>9-41</td>
<td>NA</td>
<td>250-333</td>
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<tr>
<td></td>
<td>Insecticide-treated bed nets</td>
<td>11-41</td>
<td>5 per insecticide-treated bed net</td>
<td>176-273</td>
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<tr>
<td>Vaccine-preventable disease</td>
<td></td>
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<tr>
<td>2.1 Million total (1.4 million in children &lt;5 y)</td>
<td>Traditional immunization program (diphtheria, pertussis, polio, tetanus, and measles)</td>
<td>7</td>
<td>14 per fully immunized child</td>
<td>429</td>
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<tr>
<td>Tuberculosis</td>
<td></td>
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<tr>
<td>1.1 Million (100,000 child deaths)</td>
<td>DOTS treatment of new smear-positive cases only</td>
<td>6-8</td>
<td>443-590 per treatment</td>
<td>500</td>
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<tr>
<td></td>
<td>DOTS therapy plus therapy for resistant cases</td>
<td>11-15</td>
<td>465-460 per treatment</td>
<td>200-273</td>
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<tr>
<td>Maternal conditions and neonatal complications&lt;sup&gt;b&lt;/sup&gt;</td>
<td></td>
<td></td>
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<tr>
<td>529,000 Maternal and 4 million neonatal deaths</td>
<td>Community newborn care package</td>
<td>9</td>
<td>NA</td>
<td>333</td>
</tr>
<tr>
<td></td>
<td>Antenatal tetanus toxoid immunizations</td>
<td>12</td>
<td>NA</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>Iron and folic acid nutritional supplementation</td>
<td>13</td>
<td>NA</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td>WHO mother and baby package&lt;sup&gt;c&lt;/sup&gt;</td>
<td>77-151</td>
<td>NA</td>
<td>20-39</td>
</tr>
<tr>
<td></td>
<td>Routine maternity care&lt;sup&gt;d&lt;/sup&gt;</td>
<td>86-125</td>
<td>NA</td>
<td>24-35</td>
</tr>
</tbody>
</table>

Abbreviations: ART, antiretroviral therapy; DALY, disability-adjusted life-years; DOTS, directly observed treatment, short-course; HIV, human immunodeficiency virus; NA, not found or available; PEPFAR, President’s Emergency Plan for AIDS Relief; WHO, World Health Organization.

<sup>a</sup>Data in this column were calculated using information from references 9-15.

<sup>b</sup>Primarily neonatal sepsis/pneumonia, preterm delivery, and asphyxia at birth.

<sup>c</sup>WHO mother and baby package with magnesium sulfate and active management of labor.

<sup>d</sup>Ninety percent coverage of prenatal care, normal delivery with skilled attendance, postnatal care, and treatment of sexually transmitted infections, syphilis, anemia, eclampsia, obstructed labor, postpartum hemorrhage, and sepsis.
It would be unethical and impractical to abandon or decrease programs developed under PEPFAR given fiduciary relationships, the threat of drug-resistant HIV/AIDS, and the devastation the disease wreaks on societal infrastructure. But the choices are not “double or nothing.” Government pledges to vastly increase PEPFAR funding create new options for international health aid. By allotting these newly pledged billions to the Mother & Child Campaign, the United States could continue PEPFAR programs at their current high level while using the newly committed funding to launch a more cost-effective program targeting basic health problems. This would respect the continuing need for HIV/AIDS work while acting upon the moral, economic, and practical advantages of devoting funding to diseases afflicting mothers and children in the developing world.

PEPFAR has been an important step for US international health aid, but multiplying its funding misses enormous opportunities to save lives, especially young lives, with more cost-effective interventions. By devoting the new funding to the Mother & Child Campaign, the United States could provide tremendous benefit to developing regions that experience great health burdens from common but deadly diseases. As President Bush said in his original PEPFAR announcement, “seldom has history offered a greater opportunity to do so much for so many.”

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Glucose Lowering to Control Macrovascular Disease in Type 2 Diabetes
Treating the Wrong Surrogate End Point?

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In the 1920s, the use of insulin to treat type 1 diabetes was lifesaving for children in diabetic ketoacidosis. Among the surviving patients with diabetes, the microvascular and macrovascular disease complications proved to be nonetheless devastating. The treatment of type 1 diabetes was revolutionized by the discovery that intensive glycemic control could prevent or delay the development of the microvascular complications of retinopathy, neuropathy, and nephropathy. Indeed, for patients with type 1 diabetes, aggressive insulin treatment also reduced the long-term risk of cardiovascular disease.

Therapeutic enthusiasm for intensive treatment expanded to include patients with type 2 diabetes, who typically have insulin resistance rather than the absence of insulin production characteristic of type 1 diabetes. Elevated glucose levels in patients with type 2 diabetes, like the high white blood cell counts in patients with bacterial pneumonia, are a consequence of insulin resistance together with inadequate compensatory hyperinsulinemia. Clinical trials of patients with type 2 diabetes demonstrated that improved glycemic control was associated with the prevention of microvascular complications. Numerous observa-