Having reliable access to essential medicines would allow billions across the global to lead longer and healthier lives. Pharmaceutical prices are currently too expensive for limited health budgets and the current patent and production system lacks incentives for patent holders to pursue innovative solutions for increasing access to those most in need. Patent pools, in which patents for essential medicines are licensed to a pool which may then be accessed by generic manufacturers and researchers in return for fair royalty payments are a promising and equitable solution.

Why we need innovative solutions to access to medicines:

The WHO estimates only 1/3 of people in the developing world are able to reliably access essential medicines. Delivering essential medicines to resource poor settings is a complicated endeavor, which may be interrupted by everything from the record keeping of a single clinic to global stock prices and regulatory policies. Access depends on four major factors: affordable pricing, sustainable financing, reliable health systems and supply chains, and rational selection and use of medicines. While all four factors are important, the pricing of medications has strong implications for the ability for a health system to provide the other factors. Overly burdensome medication costs take up portions of health systems budgets that might otherwise be spent on improving supply chains or the diagnostics that would assist with rational and conservative medication selection. Furthermore, high costs may prevent rational selection of the most appropriate medicines when they are expensive and chronic high cost medications such as HIV treatments may negatively impact the sustainability of health budgets for other essential medicines.

Why are essential medicines so expensive?

Pharmaceutical companies set the price of medicines. Pricing decisions are dependent on resource and production costs as well as the desired profit margin of the company. Profits may be used to recoup research and development costs, cover marketing and administrative costs and reward investors and executives. In a competitive market, multiple companies will produce the same product and compete on price, thus driving the price down to a point near production costs. Due to the high research and development costs involved in creating new pharmaceuticals, inventors are granted patents for
pharmaceuticals allowing exclusive production often for 20 years. During this time producers have a monopoly and are able to set prices much higher than production costs. World trade agreements, most notably the Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS), have brought patent protection into countries which were previously able to manufacture or purchase generic medications for a lower price. This has severely limited access to medicines, particularly in developing countries where medicines are often paid out of pocket by patients.

Unfortunately, the goal of patents, to reward inventors for valuable contributions and thus spur further innovation, has not panned out for developing countries. Despite having the highest burden of disease, the diseases of resource poor regions like sub-Saharan Africa are often neglected by pharmaceutical company research and development budgets as they are not viewed as profit generating markets. Only in the field of HIV/AIDS have we seen great innovation spurred by the profitable promise of life-long treatment course and high prevalence in developed countries.

**What are the options to increase access?**

Options for overcoming the patent barrier fit into two camps compulsory and voluntary measures.

Compulsory measures have been built into the TRIPS agreement to help ensure that countries can place health priorities over patent protections when needed. First, countries have the right to define, in accordance with their public health needs, what deserves a patent and what doesn’t, a right which India has invoked by specifically prohibit patenting of known compounds or substances thus forbidding patenting of minimally modified medications. Secondly, governments may issue compulsory licenses in which they override a patent by issuing a license to a third party to produce or import the drug deemed essential that is otherwise not obtainable. While compulsory licenses have the potential to increase competition and thus access to medicines and have been invoked in Thailand and Brazil their use faces strong criticism by pharmaceutical companies and their national governments which have threated trade sanctions and withdrawn new drugs from countries in retaliation.

Through voluntary measures such as tiered pricing pharmaceutical companies have granted discounted pricing based on a country’s ability to pay and disease burden however these measures do not address the lack of innovation in pharmaceutical development. They must be negotiated individually between company and country for each medicine and frequently countries will only negotiate with the poorest countries. Another voluntary measure has been prize funds for research into neglected diseases, championed by the Gates Foundation; this approach may spur innovation but does not bring down cost.

Finally, a new approach of patent pooling has been pioneered by UNITAID with the establish of the
Medicines Patent Pool for HIV/AIDS established in 2010….

Why a patent pool:

The Medicines Patent Pool (MPP) is a voluntary mechanism whereby companies or universities license the patents on their inventions to the Patent Pool. Any other researcher or company that wants to use the patented inventions can seek a license from the pool, in exchange for the payment of royalties to the patent holder. The licensee can then pursue multiple ends with the patent. They can produce a generic version of the patented medicine for export to countries covered by the license. They can conduct research on the patented medicine to reformulate it into a heat-stable or liquid formation for children. Perhaps most importantly in HIV, they can combine multiple licensed patents into fixed dose combinations of medications to make them more affordable and easier to take for patients. Thus patent pools have the potential to spur innovation and drive down costs, increasing current and future access to essential medicines.

There are potential pitfalls in the patent pool approach, if licenses are not granted with a focused public health approach or contain restrictive terms that limit competition, sources of manufacturing, and distribution final products then the patent pool will not work. Patent pools are a new idea in pharmaceutical policy but they have existed in other industries since the invention of patent law. One study of the sewing industry which pooled patents in the 1860s suggest that this patent pool discouraged innovation and reduced the number of new patents and geared innovation towards cheaper substitutes rather than better products, however authors conclude that the lack of regulation of this patent pool allowed this failure in achieving concept. Patent pools have been more successful in other industries including airline manufacturing with the creation of the Manufacturer's Aircraft Association and in electronics where patent pools lead to the creation of DVD technology. These examples suggest patent pools may not work in every field and for every health problem but for diseases like HIV and tuberculosis where multiple-pronged treatments are needed or in medical diagnostics where combining technologies may lead to more affordable and cost-effective testing they offer a promising start.
What progress has been made:

1. **Roche** agreed with the MPP to tiered pricing of valgancyclovir for people with HIV and technology transfer for generic production of valgancyclovir
2. **ViiV Healthcare** (GSK, Pfizer, Shionogi) agreed to license abacavir and its pipeline products for pediatric use in 118 countries once they are approved
3. **Gilead** agreed to license its HIV drugs which include: tenofovir (TDF), emtricitabine (FTC), cobicistat (COBI), elvitegravir (EVG) and the Quad pill combination
4. **US National Institutes of Health** agreed to license patents related to darunavir
5. **6 generic companies** have agreed to sublicenses to produce medicines
6. **Boehringer-Ingelheim, Bristol-Myers Squibb, Gilead, Roche and ViiV Healthcare** are in active negotiations with the Pool.
7. **Abbott Laboratories, Merck, Johnson & Johnson** have declined to join negotiations with the Pool at this time.

What happens next:

Current patent pool targets include drugs which are both clinically important and currently face large patent barriers.

<table>
<thead>
<tr>
<th>Compound</th>
<th>Clinical Priority</th>
<th>Market/IP Priority</th>
<th>Main Patent Holder</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1 Priorities</strong> (high priority under both sets of criteria)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Atazanavir (ATV)</td>
<td>High</td>
<td>High</td>
<td>Bristol-Myers Squibb</td>
</tr>
<tr>
<td>Cobicistat (COBI)</td>
<td>High</td>
<td>High</td>
<td>Gilead Sciences</td>
</tr>
<tr>
<td>Dolutegravir (DLG)*</td>
<td>High</td>
<td>High</td>
<td>ViiV Healthcare [GlaxoSmithKline/Pfizer]</td>
</tr>
<tr>
<td>Elvitegravir (EVG)</td>
<td>High</td>
<td>High</td>
<td>Gilead Sciences</td>
</tr>
<tr>
<td>Lopinavir (LPV)</td>
<td>High</td>
<td>High</td>
<td>AbbVie</td>
</tr>
<tr>
<td>Ritonavir (r)</td>
<td>High</td>
<td>High</td>
<td>AbbVie</td>
</tr>
</tbody>
</table>
Strong government, medical and civil society endorsement may encourage further company participation in the Medicines Patent Pool. Future successes in price-reduction, innovation, and increased access through the Medicines Patent Pool may open the door for patent pooling efforts future efforts as a voluntary and equitable method to reduce barriers to essential medicines.

References

The lack of mental health services for refugees

The Aim: To address the need for mental health services for the refugee population

Refugee population and mental health

The United States continues to be a major hub for refugees. In 2008, an estimated 60,000 refugees resettled in the United States (1). Most of the refuges are from war torn countries that have experienced tremendous psychological and physical injury. It is estimated that over 50 percent of refugees present with mental health problems (2). Posttraumatic stress disorder and major depression are the most common mental health conditions in refugee patients (3).

The problem

While a great number of refugee patients suffer from a mental health illness, few are linked to adequate mental health support upon arrival to the United States. While most of the refugees are required to be seen by primary care physicians upon arrival, a small number are referred to mental health clinics. When psychiatric disorders are diagnosed, resources are often limited.

Serious limitations exist in delivering mental health services including allocation of resources, language barriers, and community involvement. Funding for mental health issues is often scarce. Limited English proficiency can be a major barrier in caring for refugee population, and bilingual clinicians and certified interpreters are often in short supply. In addition, some cultures continue to consciously overlook mental illness and its impact on health.

Impact of the problem on refugees and society

It is well established that mental health disorders can present as nonspecific symptoms, and patients are often misdiagnosed with disorders such as chronic pain syndrome and fibromyalgia. Millions of taxpayers’ dollars are often used for unnecessary testing and fruitless medical treatments. Failure to recognize and address these issues can also lead to significant morbidity and mortality to the patient. Thus, providing rapid mental health support for refugees is essential to decrease overall health costs, and to prevent psychiatric morbidity and hasten recovery.

Tackling the problem

Addressing the need of mental health services for the refugee population is essential. Efforts to improve availability and accessibility of mental health professionals is critical to improving the overall quality of the refugee’s lives and to decrease overall health costs. Allocation of available resources to address these issues is also vital.
The Minnesota Department of Health has recognized the need for mental health services and has assembled a website outlining all the resources available for its refugee population (4). While this is an excellent initial step, other states need to adopt such resources and the country as a whole needs to implement vital changes to further address these issues. Some necessary actions include:

- Educate primary care providers regarding available mental health resources for refugee patients by giving providers a list of the available mental health professionals who are adequately trained to treat refugee patients.
- Encourage primary care physicians to ask about psychological trauma history and to refer to mental health specialists when necessary.
- Train mental health professionals to work with refugees; training should address the use of interpreters, and prescribing culturally acceptable treatment.
- Create incentives for mental health professional to take care of the refugee population.
- Provide accessible and affordable transportation to the mental health services.

Recognizing the mental health needs of the refugee population is imperative, and allocating resources to address those needs is vital to improve quality of life for refugees.

**Bibliography:**

Ihus Mbata, PGY2

Health Policy Brief: Maternal Health Voucher Scheme in Nigeria

Background:

Nigeria’s maternal mortality has remained extremely high for the past two decades. Nigeria has one of the highest maternal mortality ratio (MMR) in the world with an adjusted estimate of 630 in 2011 down from 840 as of 2008 [1]. However, these statistics are discouraging given that in order to achieve MDG-5A which requires a three-quarter reduction in MMR and universal access to reproductive health services. Thus, Nigeria has to aim to attain MMR of 275 by 2015 (Figure 1) [2].

![MMR trend in Nigeria (1990-present)](image)

Figure 1. MMR Trend in Nigeria (1990-2011). The above figure trends the MMR estimates from WHO, UNICEF, UNFPA, and World Bank, which demonstrates a steady decline in maternal mortality, Adapted from WHO et. al 2009 and 2012.

One in 13 Nigerian women will die due to pregnancy and delivery-related complications [2]. Hemorrhage and infections are responsible for 40% of all direct medical causes of maternal death based on 2003 Nigerian demographic health survey (DHS) [3]. Maternal death has been attributed to “3 delays”. The first is a delay in deciding to seek care due to mother or family failing to recognize a potentially life-threatening condition and lack of financial resources to pay for health care service [4]. According to the 2008 Nigeria demographic health survey, 71.8 % of individual in the lowest wealth quintile attributed lack of money as the reason for not utilizing maternal health services during and after pregnancy [5]. The second delay is in reaching a health-care facility due to lack of transportation, road conditions, or distant geographic location.
The third delay is in receiving cost-effective care due to the fragile and dilapidated health care facilities, and lack of appropriate technology to provide appropriate treatment for patients [6]. The States in northern Nigeria utilize maternal health services the least as they have the highest numbers of unattended births (Figure 2) [7].

Being the most populous country in Africa, Nigeria’s performance on MMR is critical for the global progress to decrease maternal mortality. Unfortunately, despite numerous interventions including Reaching Every Ward and Integrated Maternal, Neonatal, and Child health (IMNCH), and Midwives’ Service Scheme, the decrease in maternal mortality has not been substantial enough to set the country on a trajectory to attain the goals of MDG-5a. The unacceptably high maternal mortality in Nigeria has been attributed to weak poor utilization of health care services, due to poverty, insufficient skilled personnel, cultural barriers, and weak implementation frameworks.

**Aim:**

![Figure 2. Utilization of SBAs by State.](image-url)

The northern states utilized SBAs the least, with the lowest being Katsina while the deliveries in the southern states were assisted more by SBAs with the highest utilization being in Imo. Source: (WHO 2009)
This aim of this paper is to propose use of vouchers targeted to the poor in rural Nigeria to improve utilization of maternal health services alongside other ongoing initiatives to decrease maternal mortality.

**Structure of Maternal health voucher scheme**

A Health voucher scheme is an output-based demand side financing mechanism for subsidizing the price of health services and products to target population groups, with the goal of improving access to and utilization of those services and products. The principle of the proposed maternal health voucher scheme is to give poor women a voucher that would provide them to specified free or highly subsidized services such as antenatal care visits, transport to facilities, delivery fees and post-partum consultations for women and newborns [7].

A pilot of maternal health voucher scheme in a rural community in northern Nigeria is warranted due to the fact that the country has explored several supply-side and input-based financing mechanisms, where donor and government allocated resources in a top-down manner in the form of investing in new health facilities or supporting existing health care infrastructure. Considering that in northern Nigerian states such as Katsina where births assisted by SBAs is only 4.1% and on average approximately 70% of births in rural regions occurs in the absence of an SBA, demonstrating that there are difficulties in provision of accessible and quality services in these areas.

Considering the immense involvement of bilateral and international NGOs in Nigeria, there the structure of the proposed voucher scheme will require collaboration of both the domestic government and international, as well NGOs. One of the current NGOs, heavily involved in maternal health initiatives will work with the local government the voucher management agency (VMA) that supplies the subsidized vouchers to the distributors, who sell them to the targeted patient population (poorest women of childbearing age in the rural towns in Northern Nigeria, perhaps Katsina state). The VMA will also be in charge of contracting and reimbursing accredited health care public and private health providers of maternal and family planning services after they return the vouchers. Finally, it will be VMA’s responsibility to report to the State and Federal Nigerian Ministry of Health (MOH). Vouchers will be purchased from
distributors at a subsidized price and redeemed at designated health facilities. The voucher program should start as a pilot in 3 rural districts and should include three antenatal checkups, safe delivery including C-section and complication management, post-natal care and a transport allowance [8]. An bilateral agency such as USAID will partner with the FMOH and SMOH such that target voucher holders may have subsidized transport health facilities and receive free antenatal, childbirth, and postnatal care at tertiary, secondary, and primary care levels, respectively. Figure 3 (index 2) illustrates the proposed voucher scheme.

Figure 7. Schematic of Maternal Voucher Scheme. The above schematic illustrates the organization of the proposed maternal health voucher scheme. Adapted from Janisch et al 2010.

Advantages of a Maternal Health Voucher Scheme

One benefit of voucher programs will be the ability to target the poorest in specific geographic areas and link them with reproductive health facilities by subsidizing direct and indirect costs [9]. For example, in Uganda, an area-based poverty targeting measure has been used in regions where poverty incidence is above 50% and poverty density is above 100 people per km² following analysis of national and local poverty data [10].
A benefit is that this proposal will increase utilization of maternal health services. There is strong evidence supporting that voucher schemes increase utilization of health services. In Bangladesh and Cambodia, there was a statistically significant increase in facility deliveries compared to control areas [11, 12]. In Bangladesh there was also a greater increase in antenatal care, post-natal care visits, and qualified attended delivery; however the increase might have been higher if there was not the problem of insufficient supply of vouchers to the local distributors [13].

A third advantage is that the voucher scheme has the tendency to improve the quality of service provided. For instance, in Kenya, it has been shown that the facilities invest in infrastructure and supplies, staff, which makes them more responsive to patients [14].

Another possible advantage is the ability of the voucher scheme to engage the private sector in prioritizing public health objectives and introducing competition in reproductive health sector services by increasing supply and improving consumers’ choice [15]. The likelihood of achieving this benefit with voucher schemes is high due to the fact that the private sector facilities provide about 70% of primary care services and thus will have to compete with one another on quality and cost to attract voucher holders to use the maternal health care service they provide.

Furthermore, voucher schemes can facilitate greater transparency through the review of administrative data that track voucher distribution, receipt of services, and performance measures; an incentive can be created to reward providers financially for providing quality care [16].

The entire process involved in establishing voucher programs is lengthy, information dense with high transaction costs. It has been postulated that this initial administrative costs might decline if the programs geographic coverage is expanded [17]. Though very few studies have evaluated the cost-benefit of their voucher schemes, there is evidence that health voucher scheme are cost-effective. In Nicaragua the program had lower costs per STI effectively cured
compared to cost in the public sector facilities with an incremental cost ratio (ICER) of US$103 [18].

**Potential Challenges to Implementing a Maternal health voucher Scheme**

In order to establish a maternal health voucher scheme that will thrive, certainty of stewardship and stable and committed government are necessary [19]. At present the Nigerian government is fairly stable, but the commitment is questionable considering that the total health care expenditure by the government is only 5.8% as of 2009 [16]. The low government expenditure is concerning because the initial cost of setting up a voucher scheme is high and can be lengthy.

Another anticipated challenge is low uptake among pregnant women due to cultural constraints that may still persuade them to use traditional birth attendants due to poor knowledge of the scheme and significance of maternal health [19]. This problem can be combated through education and awareness campaigns. Inadequate targeting of the poorest pregnant women due to paucity of information system especially at the local government level is another difficulty, which can be address by investment of the government in the information technology.

It is also likely that provider competition may not respond assuming voucher holders are in geographically remote areas such that the nearest health facility is a significant distance away. In such a situation, covering indirect costs such as transportation may help alleviate this problem.

Adequate capacity in the rural health facilities will present a limitation to the quality of care provided but this can be combated through local government solicitation of recent health care graduates to complete national youth service in their community and incentivize experienced professionals to work in the rural health centers.

Furthermore, transparency and fraud will be a challenge that the VMAs will face while trying to implement the scheme. Innovative strategies in information system, such as cell phones use for
processing claims from a central database, will be crucial for adequate supervision and efficiency [20]. Another form of fraud is counterfeiting, which can be averted by increasing the sophistication of the design of vouchers such as with watermark, as was done in Pakistan [10].

**Recommendations**

Based on the potential benefits and challenges described above, recommendations to facilitate achievement of improved outcomes from maternal voucher schemes are noted Table 1.

<table>
<thead>
<tr>
<th><strong>Target Outcome</strong></th>
<th><strong>Recommendations with supporting evidence</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Improved Targeting</strong></td>
<td>Utilizing a geography-based targeting system to identify those who qualify for the vouchers in towns where poverty density is high. This requires development of a household and health facilities database; this will be time consuming but will ultimately be useful information for the health care system. With this data available, GIS software can be used to map targeted households such that target population will be homogenous [21, 70].</td>
</tr>
<tr>
<td><strong>Uptake and Utilization of health care services</strong></td>
<td>A robust awareness-raising campaign to educate the public and encourage participation is necessary [22]. This has been shown to increase uptake in Uganda [22]. Meticulous planning prior to implementation is needed to ensure adequate administrative and financial resources are mobilized to ensure timely processing and disbursement of vouchers and incentive payments in order not to repeat the problem of low utilization with the scheme in Bangladesh [13].</td>
</tr>
<tr>
<td><strong>Consumer choice and competition</strong></td>
<td>Vouchers should cover indirect costs such as transportation to contracted health facilities due to evidence in Uganda that patients would increase utilization only if the facility was within 10km [22]. Available transportation will increase choice of providers, increased utilization by voucher holders, both of which can foster provider competition based on quality and price.</td>
</tr>
<tr>
<td><strong>Quality and Effectiveness</strong></td>
<td>Quality can be ensured by routine analysis of collected claims data to evaluate whether providers are prescribing the correct treatment and services as was done in Uganda [22]. Quantitative evaluation should be performed to assess cost-effectiveness of the pilot schemes prior to expanding the schemes to other regions of Nigeria; this will determine whether initial costs of setting up the program were recovered. Voucher Schemes for RH have been found to be cost-effective in Nicaragua [18].</td>
</tr>
<tr>
<td><strong>Efficiency and transparency</strong></td>
<td>Adequate information system is required for claims processing in order to enhance efficiency. This will also address the issue of transparency such that any fraudulent activities can be picked up. Innovative technologies such as mobile phones can be used to submit claims to a central database [10]. Sophisticated voucher designs will aid in reducing fraudulent activities [10].</td>
</tr>
</tbody>
</table>
Summary

Ultimately, substantial strides in reducing maternal mortality in Nigeria will depend on interventions such as maternal health voucher schemes, within the health system that can ensure high coverage of midwifery service with timely and competent hospital care appropriately targeted towards the most vulnerable groups, i.e., the poor and rural populations. Finally, political will, in the context of unwavering commitment in prioritizing maternal health care and implementing strategies in an effective and transparent manner that would facilitate monitoring and evaluation of progress to combat this basic inequity—maternal death.

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Theodore Belsches, PGY1

Stop Using Compulsory Service Programs to Provide Healthcare to Rural Populations in South Africa

Executive Summary: South Africa’s compulsory service program is an effective temporary means to ensure the staffing of rural hospitals and clinics. But this plan does not address the need for long-term staff in these rural environments and hinders the development of programs that would.

Background: The WHO estimates that there is a worldwide shortage of 4 million healthcare workers (HCW). This shortage is particularly evident in rural communities where there is an even more limited number of HCW. In South Africa in 1998, provinces with >50% rural populations contained 62% of the total population but only 32% of the total number of health professionals. HCW cite low wages, poor working conditions; lack of infrastructure, equipment, and accommodations; and minimal support/oversight as the primary reasons they are unwilling to work in rural areas.

Problem: More than 70 countries have used compulsory service programs as a means to ensure there are HCW in their rural hospitals/clinics. In South Africa all health professional school graduates are required to perform 1 year of community service. Despite the thought that this program might convince more HCW to work in rural areas, this has not come to pass.

Option #1: Continue compulsory service program

Pros: Well established and generally well accepted by HCW

- Provides sorely-needed staff at rural hospitals and clinics
- Exposes the country’s future HCW leaders to rural healthcare
- Easier to convince HCW already working in a rural area to remain there than to get an urban HCW to move
- Ensures South Africa recoups some of their investment in the training of HCW

Cons: HCW leave once they have completed their compulsory service so there is no continuity of care

- Rural hospitals/clinics are dependent on the compulsory service HCW for staff
- Puts inexperienced HCW in difficult situations with minimal support
- Many of the compulsory service HCW are actually sent to tertiary referral hospitals
• Potentially disillusion HCW with the country’s health system, making them more likely to emigrate

Option #2: Stop the compulsory service program and pursue more successful ways to create long-term rural HCW

Pros: Has already experienced significant drop in number of compulsory service physicians
• Has already created Centres for Rural Health at 3 universities and decentralized campuses so there is a system in place to recruit and train rural HCW in their communities
• Recently expanded internship program allows more time for physicians to be exposed to rural healthcare while still in-training
• Has created the Rural Doctors’ Association and other support networks which can be bolstered
• Has rural allowance system in place which can be increased
• Has system that can be expanded where medical students receive their training in Cuba and agree to serve at a rural post for 5-6 years

Cons: Risk of rural facilities being even more understaffed while creating long-term rural HCW
• Some HCW and future HCW leaders might not experience first-hand the conditions in rural healthcare
• Some HCW would be able to emigrate immediately after completing training

Recommendations
-Stop the compulsory community service program
-Have more medical students complete their final year of clinicals at rural hospitals/clinics
-Increase the rural allowance
-Focus HCW recruitment on rural citizens
-Build more medical training facilities in rural locations
-Expand the existing support networks such as Rural Doctors’ Association and Healthlink
-Continue to support the research initiatives of the Centres for Rural Health
-Improve hospital facilities and the training of hospital management

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Strengthening the Provision of ART to Prevent Mother-to-Child Transmission of HIV in Africa

Key Messages

- Universal access must be available to women for optimal prevention of HIV and treatment of HIV during pregnancy
- HIV prevention services must be integrated into existing platforms for healthcare to increase access and promote entry into a continuum of health care services
- Country ownership and accountability is essential for sustainable PMTCT programming

Prevention of mother-to-child transmission (PMTCT) of HIV is an essential component in the fight against the HIV/AIDS epidemic in Africa. Of all pregnant women living with HIV, 92% reside in Africa and almost 40% of them will pass the infection to their children with no intervention. Without treatment, the risk of mother-to-child transmission of HIV is estimated at 10-15% during pregnancy and 10-20% during labor/delivery. PMTCT is a clinical approach for preventing the transmission of HIV from an infected mother to her child. Vertical transmission can be reduced to less than 2% with early and appropriate ARV therapy. PMTCT programming is significantly influenced by HIV-related stigma and gender inequity. Due to financial constraints and low-functioning health infrastructure, governments are struggling to implement new WHO guidelines to shift to more efficacious drug regimens for HIV-infected mothers and their infants. Additionally, successful interventions require that service linkages be established during antenatal, perinatal and postpartum care so that the mother-infant pair receives continuous support. Women are often lost to follow-up during the transition between these services. Despite the challenges, PMTCT programs remain a smart investment and mother-to-child transmission should be a priority of the international agenda.

Ensure Universal Access to Optimal Prevention and Treatment

Universal access requires communities to support adolescent and family-friendly HIV testing and counseling without stigma and discrimination. Provider initiated testing and counseling in the antenatal care period is essential to identify pregnant mothers who qualify for ART. It also remains essential to include women, their partners, communities and the public sector in the design and implementation of programs that scale up access to care, treatment, and support services.

Integrating HIV Prevention and Treatment into Existing Platforms for Healthcare

Integrating HIV prevention and treatment for mothers and children into existing platforms for maternal, newborn, and child health will optimize outcomes and increase sustainability. More effective integration will not only increase access but will promote entry into a continuum across health care services. Integration is
essential for preventing loss of follow-up, strengthening referral linkages, and increasing maternal and child access to longer term treatment. Initiation of ART before and during pregnancy sends the message that ART therapy must be taken for life. Prevention of maternal mortality has a striking effect on child survival, independent of any effect gained from the prevention of HIV transmission. By starting lifelong ART earlier, the risk of morbidity and mortality related to HIV is decreased which has positive benefits for the child, family, and community.

**Endorse Country Ownership and Accountability**

It is essential that leadership and development of elimination plans start at the country level. Strategic planning, priority setting, and performance monitoring must be led and coordinated at both national and decentralized levels. Reconciling national policies with articulated health needs at a local level will improve the quality of patient care and ensure much-needed staffing at disadvantaged health facilities. Task-shifting and sharing policies improve the effectiveness of the existing health workforce. Integration of PMTCT should be built on evidence-based interventions ensuring a sustainable supply of PMTCT commodities at the local and national level. Dialogue, careful planning, and strong coordination are essential for successful integration.

**Recommendations**

- Scale up access to prevention and treatment programs
- Integrate PMTCT programs into existing healthcare systems
- Governments should coordinate at the national and local level for PMTCT interventions
A Call to Action: Addressing Intimate Partner Violence in the Developing World

Emily Insetta, MS4

Every day, an alarming number of women across the globe are suffering violence at the hands of their male partners. A public health response must address not only acute harm but also lifelong health consequences that affect victims of intimate partner violence (IPV). Although domestic abuse obeys no borders, it is an especially prevalent and unexposed endemic in the developing world.

Lifting the Veil on Intimate Partner Violence

Assessing Global Prevalence

In 2005, the landmark World Health Organization Multi-country Study on Women’s Health and Domestic Violence against Women (1) revealed that 15 to 71% of ever-partnered women across eleven countries have experienced physical or sexual violence in their lifetime. The most alarming statistics are reported in rural regions of Bangladesh, Ethiopia, Peru, and Tanzania, where rates of violence are 56% to 71%. One in four sexually experienced women in Bangladesh and Peru reported their first sexual intercourse experienced was forced. Emotional abuse, often considered by victims to be the most devastating form of violence, is also prevalent in the developing world, with nearly 25% of women in provincial Brazil and Peru reporting a history of being threatened by a male partner.

Figure 1. Prevalence of lifetime physical violence by an intimate partner according to severity of violence for ever-partnered women, by site.

Identifying Women at Risk

Risk factors for violence include being 15 to 19 years of age, living unmarried with a partner versus with a spouse, having a history of separation or divorce, and receiving a lower level of education. Personal and cultural acceptance of violence is a key issue in the developing world. Women who have experienced violence are more likely to view the abuse as “normal.” IPV is more common in relationships defined by the controlling dominance of the male partner. There is great variation in cultural perspectives; over three quarters of women in urban Brazil, Japan, Namibia, and Serbia and Montenegro say partner violence is never justified, while less than one quarter agree in the provincial settings of Bangladesh, Ethiopia, Peru, and Samoa. Up to 20% of women in the developing world believe that females do not have the right to refuse sex under any circumstance (1).

Recognizing Health Consequences

IPV affects the physical, mental, and reproductive health of female victims. The prevalence of acute physical injury due to violence among ever-abused women ranges from 19% in Ethiopia to 55% in Peru. Over 25% of ever-injured women in Bangladesh, Ethiopia, provincial Peru, and Samoa describe losing consciousness as a result of severe IPV. Beyond acute harm, IPV victims are more likely to self-report their overall health as poor or very poor, which is a validated predictor of illness. There is increased risk of recent poor health in association with lifetime experience of violence, which suggests a long term effect of IPV. Specifically, when asked about symptoms in the past four weeks, ever-abused women are more likely to have recent problems with walking, daily activities, pain, memory, dizziness, and vaginal discharge. Emotional distress, suicidal thoughts, and suicide attempts are all more prevalent among abused women. Finally, reproductive health is a concern, with violence during pregnancy affecting up to 28% of women in provincial Peru (1). Victims have higher rates of induced abortions, miscarriages, preeclampsia, and maternal mortality, and lower likelihood of accessing postnatal care (2). In developing countries with limited resources, violence and its health effects contribute a large burden to healthcare cost (3). Public health intervention is warranted to protect human rights in addition to preventing health consequences and alleviating healthcare costs.

Responding to the Endemic

Supporting Victims

A 2012 study from Nicaragua (4) describes the “supportive process” as a key component to helping a woman successfully ending her IPV experience. Female victims report strategies to end IPV that most often involve seeking help within informal networks of family and friends. Living in an environment that is less tolerant of violence is associated with successfully ending IPV. Therefore, promoting awareness of domestic violence, via media and school-based campaigns, is needed to destigmatize victimization and increase knowledge among family members and friends who comprise informal networks of support.

IPV victims seeking help may not have access to or be aware of formal support systems. The rural developing world is especially lacking in counseling services, social workers, criminal justice advocates,
and women’s shelters. Programs must be established and made available to victims. Nicaraguan women felt that being asked about abuse by study investigators was a motivating factor for them to end violent relationships. The healthcare sector has been shown to play a key role in impacting women’s perspectives about violence and motivating change. Especially in emergency departments and reproductive health centers, providers must be trained to ask about abuse and provided with protocols to connect women to appropriate resources (5).

**Preventing and Ending Intimate Partner Violence**

Although IPV is a worldwide problem, cultural frameworks pose a specific challenge to ending violence against women in developing countries. Even in regions with an abundance of support services, women do not access formal help due to fear, stigma, or worry about losing their children. Promoting opportunities for education and employment are key steps to empowering females and increasing gender equality. Many governments have already shown interest in participating in worldwide efforts such as the 1993 United Nations Declaration on the Elimination of Violence against Women and the 2000 Millenium Development Goals. Commitment to these global initiatives must be strengthened and reinforced by national leadership. Governments must identify specific leaders, especially males, from all sectors including government, healthcare, judicial, and social systems. Changing cultural frameworks begins with educating youth. In schools children should be taught about sexual health and women’s rights. In some regions, violence by teachers versus students is a problem that must be addressed as an example of eliminating disrespectful relationships (1). Beginning with collecting surveillance data will be important to identify target regions with the greatest IPV burden. Interval data collection can be continued to monitor changes in rates of violence in response to initiatives.

**Calling to Action**

Public health action is needed to support individual IPV victims and to impact discriminatory cultural norms. When developing initiatives, local citizens must be involved to assure cultural sensitivity and confidentiality must be prioritized to protect women in violent situations. The 2005 WHO report lifted the veil to reveal silent suffering across the globe. It is the duty of government, healthcare, criminal justice, and social services to organize a collaborative response to protect the women of our world.

**Resources**

Improving Access to Mental Health Services for Priority Mental Health Conditions in Low and Middle Income Countries: Addressing Human Resource Barriers  Marisa Sochacki, PharmD

Mental health is a vital component of the definition of health, “state of complete, physical, mental, and social well-being.”

“No health without mental health.”

Burden of Mental Health Disorders

The lifetime prevalence rate of mental disorders in adults is 12.3-48.6%. Mental, neurological and substance use disorders account for 13% of the global burden of disease in terms of disability adjusted life years. They account for 22.7% of years lived with disability, which has not improved since 1990. Major depressive disorder is the second leading cause of years lived with disability globally, and alcohol-use disorders and schizophrenia also rank in the top 20 conditions. The presence of mental health disorders increases the risk of and mortality from other diseases such as cardiovascular disease and HIV/AIDS.

Disparities in Low and Middle Income Countries

Significant evidence shows that mental disorders are disproportionately present among the poor, and that lower income countries dedicate less resources to mental health than higher income countries. Almost 75% of mental health burden is in countries with low and middle incomes, and more than 75% of people with serious mental disorders in less developed countries do not receive care for it. Only 62% of low income countries have a plan for mental health, and, on average, low-income countries only spend 0.5% of health spending on mental health.

The scarcity of human resources is a significant contributor to mental health disparities in low income countries. There is a shortage of clinicians with specialized training in treatment of patients with mental health conditions in low and middle income countries. The gap in mental health workers in low and middle income countries is estimated to exceed one million workers. There is on average only 0.05 psychiatrists, 0.02 psychologists, 0.01 social workers, and 0.42 psychiatric nurses for every 100,000 residents in low-income countries. Moreover, the number of graduating psychiatrists in low income
countries is only 0.01 per 100,000 population. There are a variety of factors influencing the decreased availability of providers including limited training facilities, distribution difficulties, migration of providers, and demoralized providers.

Global Mental Health Initiatives

Mental health is emerging as an important topic in the global agenda. The World Health Organization’s Mental Health Gap Action Programme aims to reinforce commitment to allocation of resources for care of mental disorders in low and middle income countries. It has identified priority conditions based on disease burden: schizophrenia, depression, psychotic disorders, suicide, epilepsy, dementia, alcohol-use disorders, substance-use disorders, and mental disorders in children. In May 2013, the World Health Assembly adopted the Comprehensive Mental Action Plan 2013-2020 representing a commitment of members to take actions towards attainments of mental health goals.

A Call to Action

The general goal for human resources for mental health treatment is to “get the right workers with the right skills in the right place doing the right things.” One of the objectives from the Comprehensive Mental Action Plan 2013-2020 is to increase service coverage for mental disorders by 20%.

Addressing human resource deficits will require political commitments to addressing mental health as a priority. This entails forming partnerships among governments, nongovernmental organizations, academia, local communities, and the international community to improve mental health workforce.
Supporting nongovernmental run mental health services is recommended by the World Health Organization. Strategies for overcoming the stigmas associated with mental health, such as public campaigning, are also critical to improving access to care.

A variety of strategies for increasing human resources have been proposed: increasing specialists, increasing mental health services by nonspecialists, and training community health workers. Both pre-service and in-service training of all levels of mental health providers are recommended. Introducing mental health topics into graduate and undergraduate curricula, while also implementing training and mentoring in the field is a strategy recommended by the World Health Organization. This will require collaboration with universities and training programs. Additionally, policies need to be implemented to improve working conditions and help retain providers.

Training nonspecialists to perform mental health services, which would allow specialists to train and supervise care, is another highly suggested solution to addressing the gap in human resources. The World Health Organization recommends that clinical tasks be shared with nonspecialists, and that mental health services be integrated with other health services such as general health, social care, and disease specific services in order to better address mental health disorders. Currently 27% of low income countries do not allow primary care nurses to prescribe medications for mental health disorders, and only 29% of countries have policies allowing them to diagnose/treat mental health disorders. Delivery of this mental health care should be implemented in a stepped-care model, where roles are defined and more serious conditions are triaged to providers with more training.

Task-shifting, or training of community health workers, is another effective strategy for improving mental health disparities, specifically in difficult to treat areas. Several studies have shown promise for this model in treating mental health disorders. This strategy should involve development of easy to follow algorithms. The Mental Health Gap Action Programme Intervention Guide provides evidence based treatment recommendations for the priority conditions that can be adopted for specific populations.
References

Aim: To promote policies that would shift fat consumption away from saturated fats to unsaturated fats in India

Background information:
Noncommunicable diseases (NCDs) are responsible for two-thirds of the world's deaths.¹ Nearly 80% of NCD deaths, close to 30 million per year, occur in low- and middle-income countries (LMICs), where they are also rising most rapidly.¹ In India, the latest Registrar General of India report confirms that cardiovascular diseases (CVD), including coronary artery disease (CAD) and stroke, are the largest cause of deaths.² This is observed in all regions of the country, in rural as well as urban populations, and in both men and women.² Prevalence of cardiovascular diseases is rapidly increasing and generating a major burden on healthcare systems.² Case-control studies reported that standard risk factors, such as smoking, abnormal lipids, hypertension, diabetes, high waist-hip ratio, sedentary lifestyle, psychosocial stress, and lack of consumption of fruits and vegetables, explained more than 90% of acute CAD events and incident hemorrhagic and thrombotic strokes.³⁴ In addition, reviews of epidemiological studies suggest that all the major risk factors are increasing in India.² For instance, dyslipidemias are rising.² Serial studies from a north Indian city reported increasing mean levels of total, LDL and non-HDL cholesterol and triglycerides as well as decreasing HDL cholesterol.⁵

Overall, in absence of proper preventive approaches, CVD risk factors are increasing in low and middle income countries.⁵ On the other hand, control of risk factors has led to 50 to 80% decline in incidence of CVD in high income countries.² A large body of scientific evidence supports the concept that policy changes at the government level significantly improve population health including outcomes of chronic diseases.² North Karelia, Finland was the first population level observatory where government-led policy changes, including dietary fat control and smoking policies, coupled with population-based educational intervention reduced CVD mortality by 60 to 80% over twenty years.⁶ The project included some agrifood system measures, including assistance to producers to transition away from dairy to berries, agricultural research to produce a domestic rapeseed oil, and close collaboration with manufacturers of vegetable oil-containing products.⁷ Similar observations have been reported in Europe, North America and Japan where the dietary and smoking policies were put into practice leading to reduced smoking and cholesterol levels.²

In 1987, Mauritius introduced a regulatory policy for general cooking oil to limit the content of palm oil (high in saturated fatty acids) and replace it with soybean oil (high in unsaturated fatty acids).⁸ From 1987 to 1992, the estimated intake of saturated fatty acids decreased by 3.5% of energy intake in men and by 3.6% in women, and the intake of polyunsaturated fatty acids increased by 5.5% and 5.6% of energy intake, respectively.⁸ These dietary changes led to significant reductions in total cholesterol concentrations, 0.79 mmol/l (P < 0.001) in men and 0.82 mmol/l (P < 0.001) in women.⁸ Since more than 90% of consumed food is home-made in India and the use of palm oil, which is high in saturated fatty acids, is widespread, saturated fatty acids play a key role in regulation of serum cholesterol.² Thus, policy initiatives that would shift
fat consumption away from saturated fats to unsaturated fats in India could have significant impact in reducing morbidity and mortality.

Stakeholders:
- India’s entire adult population: rural and urban, men and women²
- Palm oil supply chain (industry, agriculture, trade and processors): Unlike the studies mentioned above in which policies involved the national sourcing of fats, fat supply chains have become far longer, more complex and increasingly globalized. Currents, approximately 50% of vegetable oils available in India are obtained from imports, of which approximately 80% is palm oil from Indonesia and Malaysia. More specifically, in 2011-2012, 18.9 million tons of edible oils were available in the country, of which only 9 million tons came from domestic sources. Palm oil is favored given its low cost and its high availability.
- Governments of and people of Indonesia and Malaysia: Palm oil is the world’s most used vegetable oil (46.8 million tons in 2010). Approximately 85% is produced in Indonesia and Malaysia. Both countries implement input, production and trade policies to promote production and export, including research funding, the opening of new and degraded lands for cultivation, lower limits on plantation size, schemes for smallholders, incentives for private sector investment and lower export taxes.
- Government of India: The Indian Government has now begun its own palm production program. The purpose is to reduce reliance on Malaysian and Indonesian imports and support the development of a very high-yielding and low cost oil. The Oil Palm Development Program (OPDP) provides various incentives for palm oil production. In addition to the OPDP, the government has more recently begun the Special Program on Oil Palm Area Expansion (OPAE) given the still very low levels of production in India. Under the OPAE, the government is providing incentives for setting up oil palm processing units, new seed gardens, protecting growers against fall in prices, reviewing the existing pricing formula, and identifying new areas for oil palm cultivation, plus a range of incentives for growers to purchase inputs that will increase productivity.
- Environment: The palm oil industry has contributed to deforestation, carbon emissions and biodiversity loss.

Summary of Policy Options:
- **Status quo**: Continue without implementation of any new government-led policy changes.
  - **Benefits**: It would provoke the least amount of opposition. It would conform to current national and international programs.
  - **Liabilities**: CVD would likely continue to be the leading cause of death, and dyslipidemias would continue to increase. WHO has predicted that from years 2000 to 2020 disability-adjusted life years (DALYs) lost from CAD in India shall double in both men and women from the current 7.7 and 5.5 million, respectively.²
• **New policy initiative:** Gradual and cautious implementation of policy changes that would shift fat consumption away from saturated fats to unsaturated fats in India

**Benefits:** Dyslipidemias would decrease across India. Thus, the initiative would reduce prevalence, morbidity and mortality of CVD on a national scale, along with the costs and DALYs associated with these. It would also help align a large sector of the economy, the food system, with public health goals in the long-term. In addition, it might decrease deforestation and carbon emissions. If successful, it could serve as a model for other countries to replicate.

**Liabilities:** Would negatively impact palm oil supply chain. Consequently, if implemented without taking into consideration Indonesia and Malaysia, could negatively impact economic growth and food security in these two countries by leading to increased unemployment, greater poverty and worse health.

**Final Recommendations:**
At the outset, the implementation of any new policy change should take into consideration all of the stakeholders involved. In order for the initiative to be comprehensive, the World Bank Group should judiciously modify their policy of investing in palm oil production to investing in the production of healthier oils, high in unsaturated fatty acids, in the regions of the world with current palm oil plantations. Specifically in Indonesia and Malaysia, the World Bank Group should closely collaborate with the manufacturers and finance agricultural research and development to produce high-yielding, low cost and healthier oils.

On a national scale, the Indian Government’s OPDP and OPAE programs should shift their focus to provide incentives for the production of oils that are high in unsaturated fatty acids, such as rapeseed and cottonseed. Since India is still producing very low quantities of palm oil and already has an infrastructure of incentives set in place, a change in the aforementioned programs’ direction might be relatively cost-effective and less time-consuming than the previous approach. Consequently, the government should provide financial incentives for setting up healthier oils’ processing units and new seed gardens, as well as for growers to purchase inputs that will increase productivity. In addition, the government should apply subsidies for distributing healthier oils as well as graded taxation on oils based on percentages of saturated fat content.

Separating these recommended policies into different chronological stages might allow for gradual health and socioeconomic changes to take place alongside the continuous reevaluation of the unintended potential effects on non-health sectors. Overall, further assessments at the international and national levels must be performed prior to the implementation of any policy changes. These appraisals would enable more informed decision-making about whether the direct health gains would outweigh any possible negative societal side effects. Additionally, if more direct positive outcomes for non-health sectors were identified, this information could be used to gain support for the policy initiative.

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Aim: To propose the use of cash transfers to provide social protection and build social capital in communities devastated by HIV in Mozambique.

Vulnerable families know best what they need. Why not give them the power to decide how to best use the resources they receive?

HIV is devastating the families of Mozambique. Each year 74,000 of Mozambique’s 25 million people will die from HIV\textsuperscript{ii}. The disease preys most on those in the prime of their life; as a result, less than half of Mozambique’s population survives from age 15 to their 60\textsuperscript{th} birthday, leaving many orphans and families without their primary earners. All Mozambiquans are affected by the HIV epidemic, but poorer families are harder hit by its effects, and are less able to cope with illness or death of a breadwinner.

Death of a head of household in Kenya was associated with a loss of 68% of crop production in that household. Poorer families were more affected than those with more initial assets\textsuperscript{iii}.

Cash transfers provide social protection by providing money for education, healthcare, transportation, food, and other necessities. They are often targeted to certain families using different criteria of need. Some cash transfers require beneficiaries to meet perform certain conditions (ie school enrollment, ART therapy) while others are available to any family meeting the criteria of need.

Positive Effects of Cash Transfers:

**Decreased poverty:**
- With avg $1.14 per person-month, GAPVU program in Mozambique reduced poverty prevalence by 6%, reduced the poverty gap\textsuperscript{1} by 27%, and reduced poverty severity by 44%.
- While the benefits were the same among all families, they had the greatest impact for the poorest families\textsuperscript{iv}.

**Increased school attendance:**
- Family receipt of unconditional cash transfers in S. Africa was associated with an 8.1% increase in school enrollment among 6-yr olds\textsuperscript{v}.

**Increased Health Access:**
- Those receiving cash transfers in S. Africa reported easier access to healthcare, automatic fee exemptions based on poverty (no income verification), decreased transportation barriers, and more social network resources that could be called upon if needed\textsuperscript{vi}.

This brief targets poor families dealing with HIV in Mozambique. Close individual targeting to this group – based of seropositivity and income – has the benefit of precisely allocating resources with a lower overall budget. However, this approach has the potential to further marginalize a stigmatized group. For instance, a food assistance program targeted to HIV positive families had visible food pick-up points and

\textsuperscript{1} Mean distance of income from the poverty line
AIDS awareness messages on its packaging. Beneficiaries suffered from community gossip when picking up food from the program, and also requested that packaging be made more discrete\textsuperscript{iv}.

In response to adverse effects of individual targeting has been community targeting. Conceptually, if all members of a community benefit from a program, none can be singled out or marginalized. This approach is more “blunt,” expanding the size of the target population and the resources needed.

There is considerable ideological debate on conditional cash transfers versus unconditional cash transfers, and there are no available head-to-head trials for comparison. In weighing the options, a family unconsciously determines the value/cost of a certain behavior, and makes its decision based on the perceived value versus cost.

Unconditional cash transfers provide families the means to address problems due to lack of resources. As an example, if families wish send their children to school but cannot provide the money or cannot afford the lost labor, unconditional cash transfers relieve the burden, and school enrollment increases. Conditional cash transfers provide monetary incentives to change people’s behavior. For instance, if obtaining HAART is of low value and its only barrier is inconvenience, a small cash transfer with HAART may bring the perceived value above the perceived cost and change behavior.

Recommendations:
- For communities devastated by HIV cash transfers may buffer the severe economic effects of HIV associated illness and death.
- Due to potential for marginalization and stigma, targeting should be broadened from an individual level to a community level. Criteria for community-level targeting could be an HIV prevalence and poverty level above appropriate thresholds.
- In an attempt to buffer negative economic effects and increase social capital, unconditional cash transfers may serve better than conditional cash transfers. Alternatively a mixture of unconditional transfers to battle poverty and conditional transfers for certain health behaviors could be combined.
Anita Lyons, PGY1

Topic: Childhood obesity necessitates removal of soda from SNAP

Audience: Congress

America’s children are becoming obese at an alarming rate, and the Federal Government is partly to blame. It’s time to provide true nutrition to our kids to secure their healthy futures.

The Supplemental Nutrition Assistance Program (SNAP) is one of the most important social safety nets provided by the U.S. Federal Government, providing food security for over 45 million Americans, 50% of whom are children. According to its official website “SNAP offers nutrition assistance to millions of eligible, low-income individuals and families and provides economic benefits to communities.” However, rising rates of childhood obesity, most marked in lower-income children, call into question whether the mission of SNAP is being realized. This brief will explain how removing soda and other sugar-sweetened beverages (SSB’s) from SNAP benefits will alleviate the burden of disease suffered by low-income children, their families, and their communities.

Recent studies from the Harvard School of Public Health provide definitive evidence that increased sugar-sweetened beverage intake is associated with weight gain, obesity and development of Type II diabetes. Low-income children drink more sugar-sweetened beverages than their more affluent peers, deriving >8% daily calories from SSB’s and placing them at greater risk for health complications. In addition, recent evidence shows that SNAP-eligible adults purchase and consume more SSB’s than their ineligible peers. The reasons for this high soda intake are likely multi-factorial, ranging from limited access to other food options to cultural trends. A major problem is access: many children may get a majority of their nutrition from corner stores, where SSB’s are prominently displayed and marketed. In addition, a 2011 Yale study found the soda industry may directly target black and Hispanic youth through ad placement and actor selection. Thus, low-income children are trapped in a system which promotes empty calorie intake rather than healthy development.

The Women, Infants, and Children (WIC) program provides an example of how changes in government food provision can positively affect the health and communities of low-income children. WIC changed its food package in December 2007 based on IOM recommendations to include more fruits and vegetables, whole grains, and less milk/cheese. This change is partially credited with the slight decrease in childhood obesity observed in 19 states in a 2013 CDC report. Perhaps most exciting, the change led many corner stores that accept WIC to increase their healthy food options, according to a study from Philadelphia. This one policy change had a positive impact on food access for entire communities. Modifying the SNAP program could have a similar effect: decreasing demand for soda and other SSB’s may lower their prominence in corner stores and decrease overall consumption in American communities.

One of the most frequent arguments against limitations on SNAP purchases is that it is paternalistic or even discriminatory to tell low-income families what they can or cannot buy.
However, individuals are always free to purchase whatever they would like with their own money. In fact, SNAP currently has limitations: tobacco and alcohol are not eligible for SNAP purchases as they are not nutritious and deleterious to health\(^i\). No one would argue that this is discriminatory. In the same way, sugary beverages have been definitively linked to obesity in both children and adults, and cannot be viewed as a source of nutrition. The goal of changing SNAP policy is not to inhibit personal choice, but rather to stop the disturbing funding of the soda industry and fueling of the obesity epidemic by the U.S. government. Studies estimate that soda companies earn **$4 billion per year** from SNAP sugary drink purchases\(^vi\). The soft drink lobbies are not surprisingly working hard to ensure that soda remains SNAP-eligible.

One final consideration in evaluating the impact of elimination of SSB’s from SNAP is cost-saving in health-care expenditure. Logically, if Americans consume less soda, the rates of diabetes and obesity will decrease along with healthcare costs. A recent study from Stanford University found that the policy could prevent 52,000 deaths from MI and stroke and 510,000 diabetes person-years\(^xvii\). They estimate a savings of $2900 per QALY saved.

It remains to be seen how elimination of SSB’s from SNAP would affect soda intake in participants and the broader community, rates of obesity and diabetes, and healthcare costs. However, one certainty is that low-income children are suffering from obesity at unacceptably high rates. They are developing diabetes, bone disease, breathing problems, and depression. They are being admitted to the hospital three times as often as their thin peers\(^xviii\). They do not choose to live in a neighborhood where soda intake is prevalent or the

-sweetened beverages from SNAP.

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\(^i\) World Health Organization, Mozambique Health Profile.  

\(^ii\) UNAIDS, Mozambique HIV and AIDS Estimates, 2011 estimates for Mozambique.  


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