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EQUITY

Quantify Inequalities in Access to Health Services and Health Status

Over the last decade, the Millennium Development Goals (MDGs) and other global initiatives have spearheaded renewed national efforts to combat poverty and reduce inequalities in health status. Understanding the magnitude and urgency of health inequalities can help catalyze commitment and responsive strategies. Thus, a key component of the EQUITY Framework[1] is to quantify inequalities in access to health services and health status.

Quintile analyses of population-based surveys and poverty mapping can pinpoint inequalities and coverage gaps among groups and areas. Moreover, the poor are not a homogenous group, as inequalities are faced even *within these areas* by the poorest segments of the urban and rural populations. Understanding these inequalities can assist policymakers and program planners to develop more effective and efficient interventions.

To illustrate an approach for quantifying inequalities, this brief summarizes a study by the USAID | Health Policy Initiative, Task Order 1, that examined trends in reproductive and maternal health indicators by place of residence and by relative wealth for 16 countries.[2] In particular, the study aimed to explore the needs of the urban and rural poor. The brief also shares an example from Ethiopia to further illustrate how to assess inequalities in access to health services, in this case, access to antiretroviral treatment (ART).

E - engage the poor
Q - **quantify inequalities**
U - understand barriers
I - integrate equity goals
T - target resources and efforts
Y - yield public-private partnerships

Urban-Rural Disaggregation and Differences in Wealth by Place of Residence

A range of tools and approaches is available to help assess the level and degree of poverty-related inequities in health service use and health outcomes. National population-based surveys, such as the Demographic and Health Surveys (DHS) and the Reproductive Health Surveys (RHS), provide valuable data for quantifying inequalities by geographic areas and socioeconomic status. Most recent surveys derive a national wealth score as a background characteristic of surveyed households and disaggregate key indicators by wealth quintile (e.g., from the poorest 20 percent of the population through the wealthiest 20 percent).

One limitation of the national quintile approach is that relative wealth varies by place of residence—since the wealth index is measured by assets, urban households often cluster together in the highest wealth group (quintile 5), while rural households are spread out across the lower wealth groups (quintiles 1–4). Further, certain characteristics may denote poverty in urban households but wealth in rural households (e.g., a concrete floor in an urban residence may be a sign of relative poverty if most urban households have tiled floors, whereas concrete floors in rural residences could indicate relative wealth if the majority of rural households have dirt floors). The resulting correlation between national wealth quintiles and

place of residence makes it difficult to determine how much of an observed inequality between quintiles can be attributed to poverty as opposed to place of residence. In addition, the clustering of urban households in the single, highest quintile makes it difficult to distinguish the urban poor from less-poor urban residents.

The residence bias in national quintile rankings can be corrected by creating separate quintile rankings for urban and rural populations. The disaggregated urban and rural quintiles make it possible to compare the impact of relative poverty within urban and rural strata and to compare urban and rural populations in a single analysis.[3] To disentangle the effects of poverty-related inequity and place of residence, the Health Policy Initiative

1. Separated the national sample by place of residence (e.g., urban vs. rural);

2. Re-ranked individuals within each place of residence subsample (urban and rural) according to their household wealth scores; and

3. Divided urban and rural sub-samples into their respective quintiles.

Table 1 presents a summary of the countries, datasets used, and comparison of modern family planning use between the lowest urban quintile and highest rural quintile.

TABLE 1. SYNOPSIS OF DATA SOURCES AND COUNTRY FINDINGS FOR MODERN FAMILY PLANNING USE

Country	DHS Datasets Used	Rural Wealthiest vs. Urban Poorest *
Africa		
D. R. Congo	2007	Rural 5 ~ Urban 1
Ethiopia	2000, 2005	Rural 5 ~ Urban 1
Kenya	2003, 2008	Rural 5 > Urban 1
Madagascar	2004, 2009	Rural 5 ~ Urban 1
Malawi	2000, 2004	Rural 5 > Urban 1
Nigeria	2003, 2008	Rural 5 > Urban 1
Rwanda	1992, 2000, 2005, 2007	Rural 5 > Urban 1
Tanzania	2004	Rural 5 ~ Urban 1
Uganda	2000, 2006	Rural 5 > Urban 1
Zambia	1996, 2002, 2007	Rural 5 ~ Urban 1
Asia		
Bangladesh	1994, 1997, 2000, 2004, 2007	Rural 5 < Urban 1
India	2006	Rural 5 > Urban 1
Pakistan	1990, 2007	Rural 5 > Urban 1
Latin America and Caribbean		
Bolivia	2003, 2008	Rural 5 ~ Urban 1
Haiti	2000, 2006	Rural 5 > Urban 1
Peru	2000, 2008	Rural 5 < Urban 1

*Based on most recent DHS year

Urban-Rural Trends by Healthcare Use: Selected Indicators and Countries
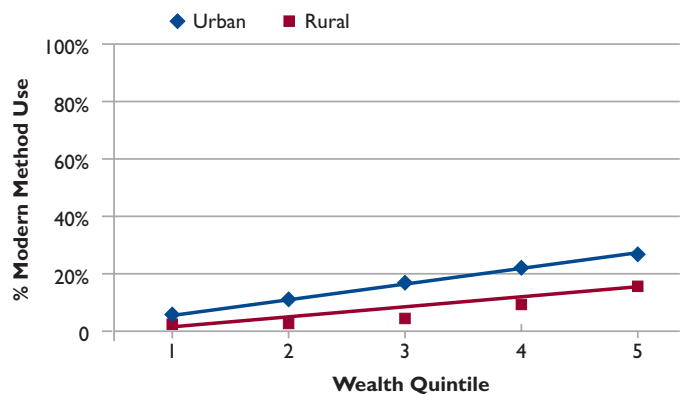
Family Planning. In all countries studied, urban women showed consistently higher use of modern contraceptives than rural women. In Bangladesh (Figure 1), once place of residence and relative wealth are disentangled, in both urban and rural cases, prevalence is equal and uniform across wealth quintiles—there is little, if any, difference in prevalence between poorer and wealthier groups. However, urban-rural differences are clear: urban prevalence is approximately 6 percent higher than rural prevalence through all wealth quintiles. Moreover, the *poorest urban quintile* shows higher modern method use than the *wealthiest rural quintile* (52 percent vs. 46 percent, respectively).

FIGURE 1: BANGLADESH 2007 FAMILY PLANNING
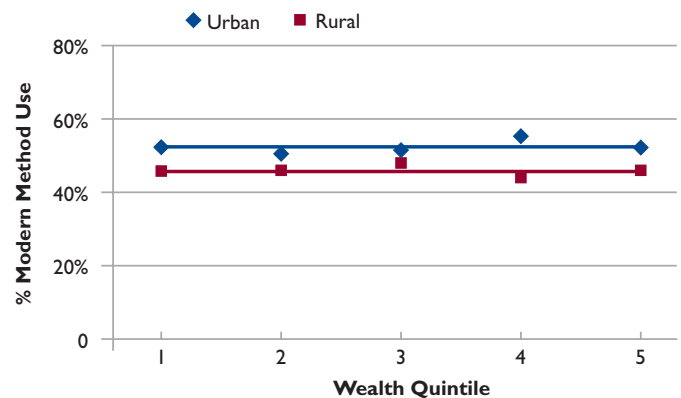
Conversely, Nigeria shows increasing modern method use with increasing wealth, although at very different levels of prevalence (Figure 2). The urban-rural gap appears to increase with increasing wealth.

**FIGURE 2:** NIGERIA 2008 FAMILY PLANNING

Maternal and Child Health. Pronounced urban/rural and wealth differentials in maternity care were found in all countries studied: urban women were more likely to have had four or more antenatal care visits and deliver in a medical

facility than were rural women, as were wealthier women regardless of residence. Comparable results were found for birth in a medical facility, with a tendency for birth attendance in medical facilities to lag behind minimum antenatal care.

The patterns in use of antenatal care in Bangladesh contrast sharply with the use of family planning in terms of overall levels, urban/rural differences, and wealth differentials. With the exception of the wealthiest urban women, none of the other groups come close to the Millennium Development Goal of universal access to antenatal care (Figure 3). This is especially troubling because antenatal care does not require complex physical infrastructure and could even be provided during a home visit by a field worker.

FIGURE 3: BANGLADESH 2007 ANTENATAL CARE
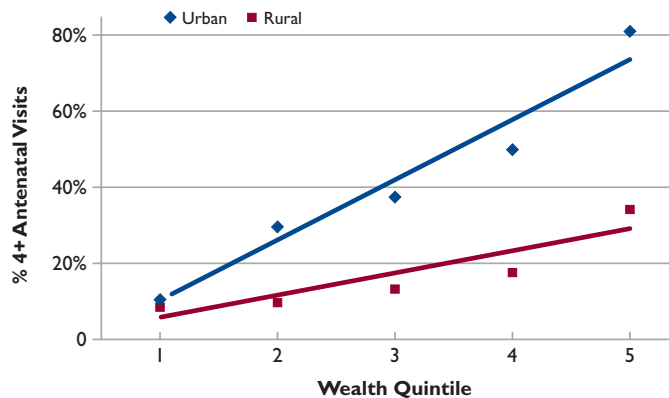
In contrast to the situation in Bangladesh, Nigeria—with half the modern contraceptive use of Bangladesh—has achieved access to antenatal care by almost all urban women (except for the very poorest urban quintile) and among the wealthiest rural population (Figure 4). The country still has a long way to go to reduce its urban-rural disparities and differentials by relative wealth. That Nigeria has achieved such high levels of antenatal care raises the question why the health system has not reached or attracted larger numbers of family planning users.

FIGURE 4: NIGERIA 2008 ANTENATAL CARE
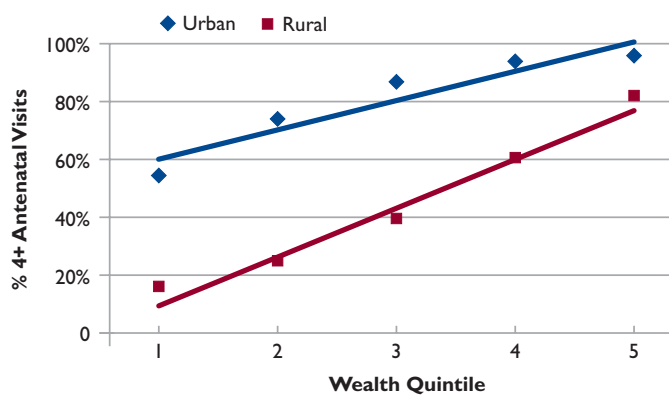
Programmatic Considerations. None of the developing countries included in the analysis appears to have totally overcome wealth and urban/rural differentials in good health outcomes, but the magnitude of and patterns in these differences vary from country to country, especially in the case of family planning. Countries also vary from one another in terms of overall contraceptive prevalence. These findings demonstrate the importance of quantifying inequalities in health access, utilization, and outcomes, which can reveal patterns hidden in national trends.

Here are some general rules of thumb to consider when designing and assessing program interventions:

1. *Decide which population groups warrant special attention.* Persistent wealth and/or residential differentials, especially as the more privileged groups achieve moderate to high levels of the desired behavior change or health outcomes, should be a matter of program concern.

2. *Establish a-priori minimum thresholds below which a "general population" approach may be a better strategy than targeting additional resources to specific groups.* For example: a minimum threshold for family planning might be 20 percent use of modern contraceptive methods. If no residence quintile, especially the wealthiest urban quintile, shows at least 20 percent modern method use, the national family planning program should promote small family norms, stress the health benefits of birth spacing, and increase access to family planning to all segments of the population. By this criterion, the Democratic Republic of Congo, which in 2007 had 18 percent modern method use in the urban Quintile 5, would be advised to adopt or continue a general population approach to family planning *even though urban prevalence showed a clear wealth gradient from the poorest to the wealthiest quintile.*

3. *Compare the urban poorest and rural wealthiest populations.* If the poorest of the urban population (urban Quintile 1) show a higher or better outcome than the wealthiest of the rural population (rural Quintile 5), this would argue for consideration of geographic targeting to rural areas, whether or not pro-poor strategies are also considered. By this criterion, both Bangladesh and Peru would qualify for pro-rural targeting, as would Bolivia, Ethiopia, Madagascar, Tanzania, and Zambia, where modern method use among urban Quintile 1 and rural Quintile 5 were roughly the same. By the same token, if the urban poor show worse outcomes than the wealthiest of the rural population, or significant differences when compared to other urban quintiles, this would suggest a need to target resources to the urban poor, such as through initiatives for urban slums.

4. ***Compare family planning use to maternal health coverage*** before designing the family planning or safe motherhood intervention. Health systems strengthening—a core principle of the World Health Organization's building blocks,[4] the MDGs, and the Global Health Initiative[5]—stresses integration of compatible services. Completion of four or more antenatal visits during the last pregnancy is an especially appropriate indicator to compare with family planning because both have comparable physical infrastructure requirements. Findings that family planning lags behind antenatal care, such as in urban Nigeria and among the wealthier urban population of Ethiopia, may suggest the need to look for barriers to family planning among maternal and child health service providers and/or opportunities to promote post-partum family planning. Conversely, the Bangladesh program, which has done much to promote family planning, might want to consider integrating safe motherhood into its family planning program.

Assessing Equitable Access to ART in Ethiopia

Ethiopia includes equity as one of its goals under a number of policies relating to HIV care and treatment. To find out how equity is reflected in actual implementation, as well as provide recommendations for improved equity of access to care and treatment, the Health Policy Initiative conducted analyses to identify socio-demographic differentials of antiretroviral treatment (ART) uptake and continuation in Ethiopia. The analysis involved focus group discussions and key informant interviews to explore some of the issues identified by a quantitative analysis.[6]

ART use follows the age-sex pattern of HIV infection in the general population, suggesting that ART access and use is reaching the different age groups and sexes relatively equally. ART access for the poor and vulnerable groups is improving. Patient-level ART data extracted from health facilities sampled for this study provide information on sex, age, work status, and education and marital status of ART users. The majority of ART users in the facilities were female (59.2%) and illiterates or with elementary education (54%). Many were also non-working (42%), and widow/divorced (32%). These data show that populations that often lack access to services are being reached. Improved access to ART for these population groups is likely a result of the recent provision of ART in health centers, bringing services closer to the community.

More effort is needed to expand access to the rural population. While the number of people accessing treatment has increased, evidence suggests that the majority of ART users are from urban areas. While HIV prevalence in the rural areas is only 0.7 percent, nearly nine times lower than urban prevalence, 40 percent of the population needing ART resides in rural areas. Expanding ART to rural areas is challenging due to the distribution of the population over vast geographic areas, but expansion of services to the community level through satellite facilities and outreach programs is necessary to ensure equitable access for all.

Overall, data suggest that Ethiopia has made considerable progress toward equity in access to ART, but a good deal of work remains to be done.

ENDNOTES

[1] Health Policy Initiative, Task Order 1. 2010. "EQUITY Framework for Health." Washington, DC: Futures Group, Health Policy Initiative, Task Order 1.

[2] Foreit, Karen, Mahesh Karra, and Tanvi Pandit-Rajani. 2010. *Disentangling the Effects of Poverty and Place of Residence for Strategic Planning*. Washington, DC: Futures Group, Health Policy Initiative, Task Order 1.

[3] Foreit, Karen. 2008. *Addressing Poverty: A Guide for Considering Poverty-related and Other Inequities in Health*. Chapel Hill, NC: MEASURE Evaluation.

[4] See http://www.who.int/healthsystems/topics/en/.

[5] U.S. Department of State. 2010. *Implementation of the Global Health Initiative: Consultation Document*. Washington, DC: U.S. Department of State.

[6] Mekonnen, Yared, Mela Research PLC, Rachel Sanders, Senait Tibebu, and Priya Emmart. 2010. *Equity and Access to ART in Ethiopia*. Washington, DC: Futures Group, Health Policy Initiative, Task Order 1.