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Maternal and Child Health
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Considerations for Incorporating Health Equity into Project Designs: A Guide for Community-Oriented Maternal, Neonatal, and Child Health Projects

September 2011

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I. Introduction

A common principle of most community-oriented international maternal, neonatal, and child health (MNCH) programs is the improvement of health equity, by improving the coverage of health interventions among disadvantaged populations, by increasing participation of disadvantaged households and communities in health and other social areas, and by strengthening the capacity of district health personnel to serve these disadvantaged populations. Although most health professionals who work in these programs have an intuitive sense of what equity in health does and does not mean, the definition of equity that they use within the program context is often not clearly stated, nor are they clearly able to articulate how health equity has been improved. In order to advance our understanding of policies and implementation actions that affect equity, it is important to communicate how equity is defined within the context of a program, what specific actions are aimed at improving equity, how these improvements will be demonstrated, and how these actions, if successful, might be sustained/institutionalized and scaled up in programs and policies.

This guide was developed to give those who design and implement community-oriented health programs a systematic way of ensuring that equity is incorporated into program designs and that its improvement can be better demonstrated and explained. It focuses on equitable health outcomes. This guide is aimed at professionals working in MNCH programs, especially those that are part of the Child Survival and Health Grants Program (CSHGP) and country programs of the Maternal and Child Health Integrated Program (MCHIP), both funded by the U.S. Agency for International Development (USAID).

While not a prescriptive document that promotes one approach to equity programming, this guide presents a series of concepts and approaches to take into consideration and decisions to be made that lead to the development of a coherent equity strategy as part of a program design. These questions can serve as a basis for dialog among teams involved in designing programs and can help to ensure a shared understanding of the equity approach used.

This guide was developed through a process of consultation with equity experts in the field and review of literature on this subject. Although this document should be helpful in its present form, it is anticipated that it will be improved based on further input and feedback from experts, including those implementing programs and from further literature review. We think that by following this guide, project designs will better articulate how equity is addressed; monitoring and evaluation systems will be set up that can demonstrate improved equity regarding health outcomes; and it will be easier to communicate these findings with international and country-level groups such as universities, donors (including USAID/Global Health and Missions, the World Health Organization [WHO], and the World Bank), country ministries of health, private voluntary organizations/nongovernmental organizations (NGOs), and other organizations implementing country-level activities.

This guidance document provides background information on definitions, models, and basic assumptions to guide our thinking about equity and outlines a process for incorporating equity into project design, prioritizing actions that will lead to more equitable health outcomes that can be measured. It is important that project teams, partners, and other stakeholders have a shared understanding of what improving equity means for the project.

This begins with dialog about basic assumptions and then participation in designing the project. This guide can be used to generate a dialog that leads to a shared understanding about equity.

II. Equity: Definitions, Models, and Assumptions to Guide our Thinking

When membership in one group is associated with lower health outcomes for that group as compared with other groups, this group is at a disadvantage; thus a situation of inequity of health outcomes exists. A group can be disadvantaged because of ethnicity, religion, poverty, geographic area, gender, or some other trait. Often there is overlap in these sub-groups (e.g., specific ethnic groups may reside in certain geographic areas that have a high rate of poverty). Women, newborns, and young children under five years of age are particularly susceptible to socioeconomic inequities, due to their dependence on others, that lead to wide morbidity and mortality differentials. Underlying factors, such as cultural/social norms, power relationships, community structures, and allocation of wealth, contribute to the disadvantaged situation. Programs can be designed to take into consideration all or some of these aspects of inequity in order to improve health equity. Ideally program designs should help all individuals attain their full health potential, and not create a situation where equity in health outcomes means that all groups have poor health outcomes.

The following are general definitions of equity that have been developed by various experts. They represent important aspects of equity.

- Inequity = “Differences in health that are not only unnecessary and avoidable, but in addition unfair and unjust.” (M. Whitehead¹)
- Equity = “Minimizing avoidable disparities in health and its determinants—including but not limited to health care—between groups of people who have different levels of underlying social attributes.” (WHO)
- Equity = “Acceptable variations in health that are randomly distributed across social groupings such as gender, occupation, race/ethnicity and are not associated with education, income or access to health care.” (F. Peter and T. Evans)

These definitions highlight that inequity is unfair and avoidable, and that it is defined as differences in health between groups.

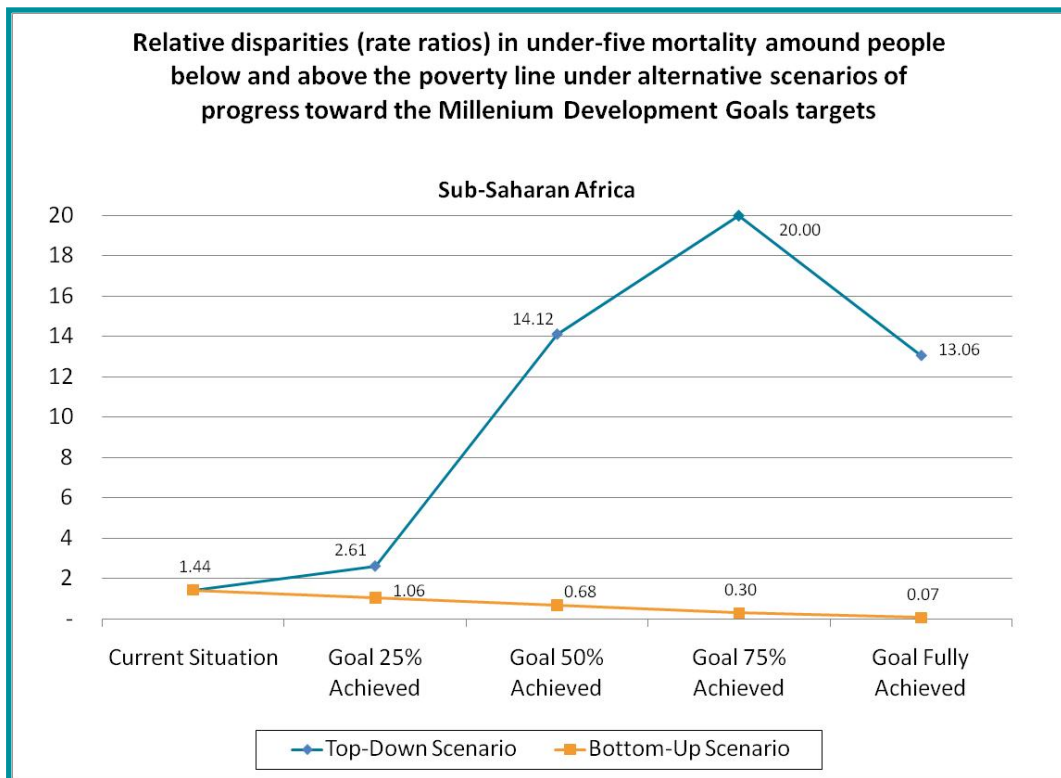
Equity must be intentionally pursued as a strategy; it will not necessarily happen as a byproduct of other development efforts. In fact, health economists have pointed out that it is possible to achieve the Millennium Development Goals (MDGs) while widening the gap between the rich and the poor. For example, Davidson Gwatkin, as part of an analysis done for the World Bank,² modeled two scenarios of under-five mortality reduction toward achieving MDG 4.³ The first scenario is a “Top down” approach, where interventions go to the better off first and then flow down to the less well off. The second scenario is a “Bottom up” approach, where interventions are targeted to the less well off. Analyses were

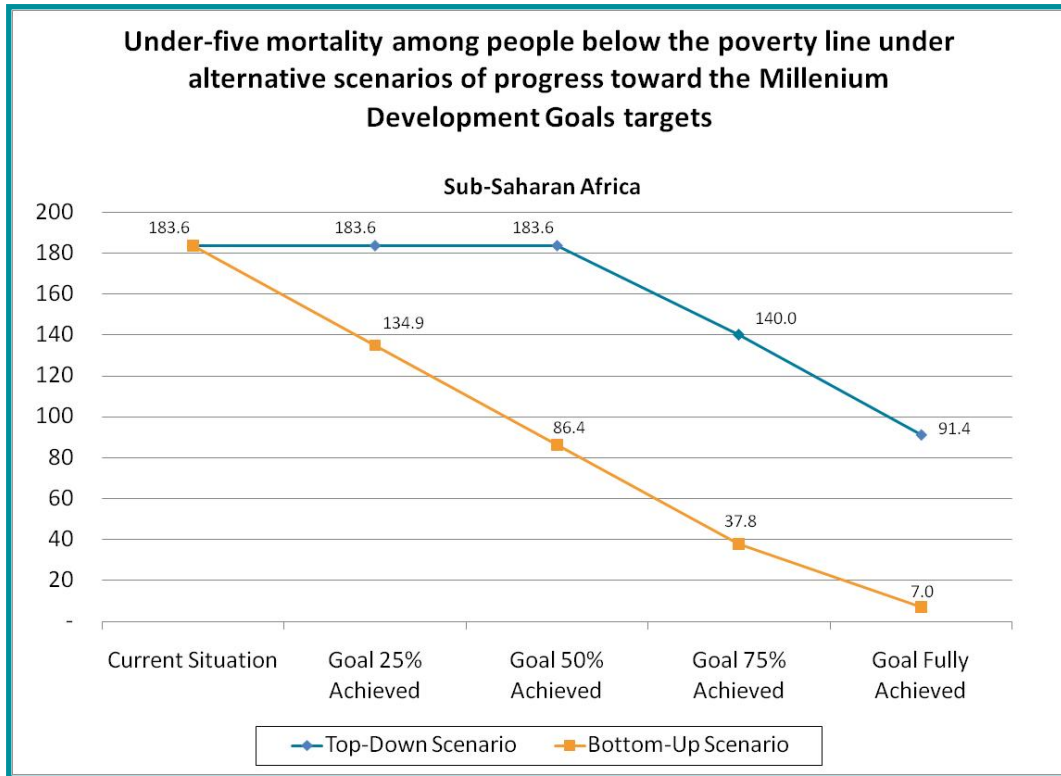
¹ Whitehead, Margaret. *The Concepts and principles of equity and health*. World Health Organization, 2000.

² Davidson R. Gwatkin, *Who Would Gain most from Efforts to Reach the Millennium Development Goals for Health? An inquiry into the Possibility of Progress that Fails to Reach the Poor*, World Bank Health, Nutrition and Population (HPN) discussion paper, December 2002.

³ Another useful reference is: *How much would poor people gain from faster progress towards the Millennium Development Goals for health?* Davidson R Gwatkin *The Lancet* 26 February 2005 (Volume 365 Issue 9461 Pages 813-817 DOI: 10.1016/S0140-6736(05)17992-6)

performed for three regions: Latin America and the Caribbean; South and Southeast Asia; and Sub-Saharan Africa. In all cases a “Top down” approach would arrive at the MDG with a widening gap between poor and better off and unacceptable levels for poor populations. The following graphs illustrate this point for Sub-Saharan Africa using rate ratios that compare under-five mortality levels of populations below the poverty line with those living above the poverty line (below poverty line/above poverty line). From these graphs you can see that the current situation of under-five mortality shows a relatively small gap of 1.44. However, if a “Top down” approach is used, the MDG goal would be reached but the gap would increase to 13.06. In addition with the “Top down” approach, although the MDG goal would be reached, the poorest would still have an under-five mortality rate of 91.4.





The United Nations Children’s Fund’s (UNICEF) global statistics unit studied trends in under-five mortality and found that they are consistent with Davidson Gwatkin’s models. The statistics unit examined sub-national trends in 26 countries where the national under-five mortality rate declined by 10% or more since 1990. In 18 of these countries, the gap between the child mortality rates of the richest and poorest quintiles either grew or remained unchanged, and in 10 of those 18 countries this breach increased by at least 10%. The statistics unit then went on to model cost of different approaches and time needed to reach the MDGs. The team used “Marginal Budgeting for Bottlenecks” (developed by the World Bank and UNICEF). They concluded that targeting disadvantaged groups would both accelerate progress toward achieving the MDG goal and would be more cost effective.^{4&5}

Achieving equity requires a targeted focus on power and structural dynamics that determine policy and underlying social determinants of health.

The pursuit of equity can be seen as a moral imperative, as part of a social justice strategy, or as part of a human-rights based approach for health. The concept of equity is rooted within the 1946 Constitution of the World Health Organization whose preamble defines health “as a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” and later states that “the enjoyment of the highest

⁴ *Narrowing the Gaps to meet the Goals, A special report on a new study by UNICEF shows that an equity-focused approach to child survival and development is the most practical and cost-effective way of meeting the health Millennium Development Goals for children*, UNICEF, September 7, 2010.

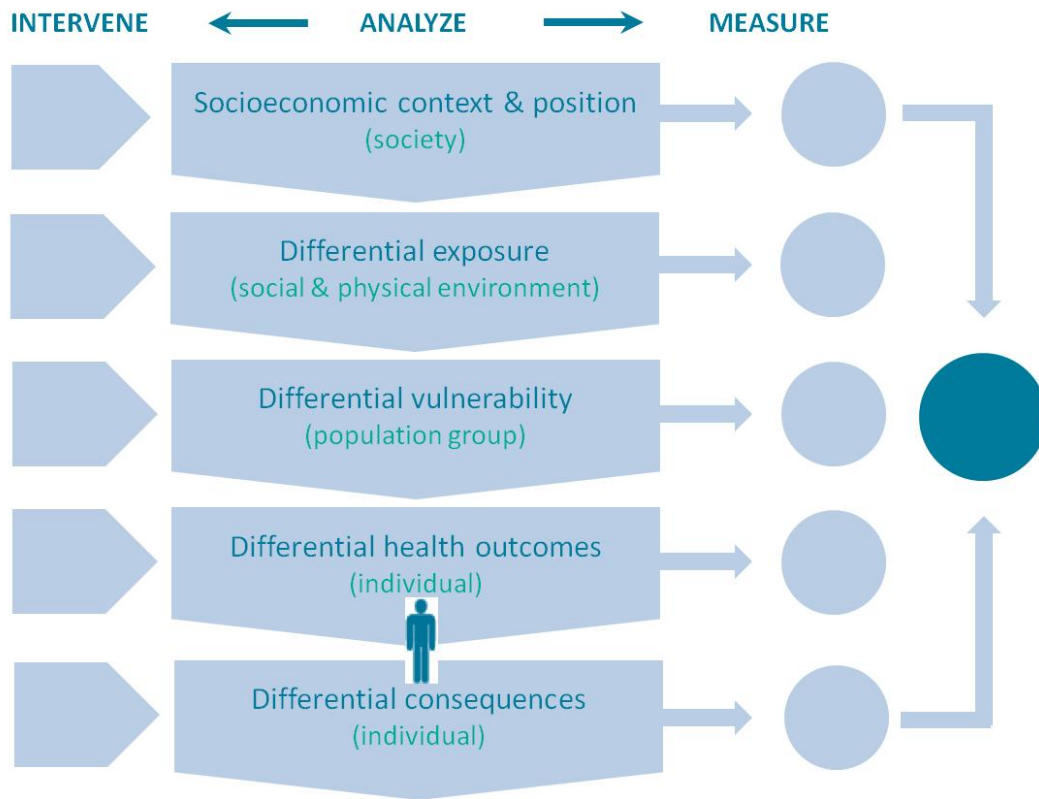
⁵ Another useful reference is: *Progress for Children Achieving the MDGs with Equity*, UNICEF, No. 9, September 2010.

attainable standard of health is one of the fundamental rights of every human being without distinction of race, religion, political belief, economic or social condition.” The Alma-Ata Declaration (1978) further addressed equity in its second principle: “The existing gross inequality in the health status of the people particularly between developed and developing countries as well as within countries is politically, socially and economically unacceptable and is, therefore, of common concern to all countries.” The right to the highest attainable standard of health is a human right recognized in many international instruments over the past two decades that also outline states’ obligations regarding the health of their citizens. These international policy commitments provide a framework for the state’s obligations in respecting, promoting, and fulfilling health care obligations (preventive and treatment services), and addressing the underlying preconditions for health for all people, without discrimination. They also provide a means for NGOs to assist the state in clarifying policies, establishing programs, and holding governments accountable.

Assessing health equity requires comparing health and its social determinants between more or less advantaged groups. These comparisons are necessary in order to better understand the nature and magnitude of health disparities, promote learning in the use of equity-sensitive approaches for the design and implementation of health programs, and raise awareness of national or local policies and practices that affect inequities in health outcomes.

One way to understand the link between underlying conditions or social determinants and inequitable health outcomes is the WHO “Priority public health conditions analytical framework.”⁶ In this framework the socioeconomic context and position of a specific group within this context lead to different exposure to factors that lead to disease and to different vulnerabilities to these exposures. In addition, there may be different consequences once poor health outcomes occur between disadvantaged and more advantaged groups. Ultimately, the consequences of this process can lead to further exasperating the underlying condition of inequity, such as poverty, thus creating a vicious cycle of poverty and inequity.

⁶ *Equity, social determinants and public health programmes* / editors Erik Blas and Anand Sivasankara Kurup. World Health Organization 2010.

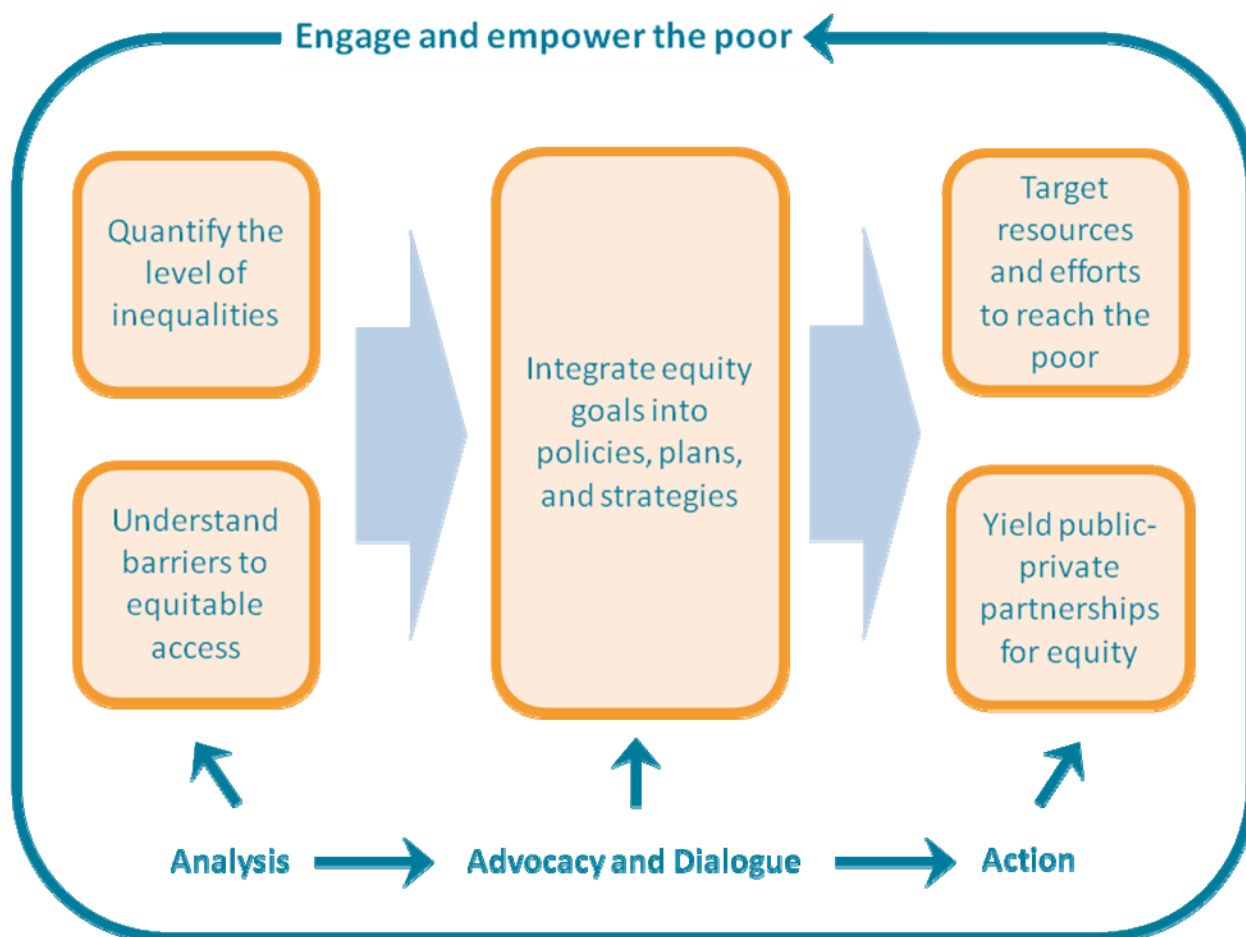


In addition, for a given health inequity, WHO analyzes the following at each level of the framework:

- Social determinants and their contribution to inequity
- Entry points for interventions
- Potential adverse side effects of change
- Sources of resistance to change
- What has been tried and what are lessons learned

The USAID-funded Health Policy Initiative (HPI) developed an Equity Framework for Health.⁷ It specifically focuses on reproductive health and policy action to ensure incorporation of pro-poor approaches and strategies. The elements in this framework are useful to consider when designing an equity approach for MNCH projects. The following diagram and text provide an overview of the framework as described by HPI.

⁷ Health Policy Initiative, USAID, www.healthpolicyinitiative.com.



Engaging and empowering the poor: The poor should be empowered to become involved in the program decisions that affect their healthcare needs. They are best able to speak to the challenges they face and to provide insights to design appropriate solutions. Thus, the poor have an important role to play in problem identification, advocacy, planning, and monitoring.

Quantifying the level of inequality in healthcare access and health status: Getting the family planning (FP)/reproductive health (RH) needs of the poor on the national policy agenda first requires an understanding of the magnitude and urgency of the issue. Market segmentation analyses based on national surveys such as the Demographic and Health Survey (DHS) data and UNICEF’s Multiple Indicator Cluster Survey (MICS) and poverty mapping can reveal the level of inequality and help pinpoint areas of greatest need.

Understanding the barriers to service access and use: Once the level of inequality is known, policymakers must have an understanding of why the inequalities exist in order to devise appropriate responses.

Integrating equity goals into policies, plans, and strategies: Eliminating or reducing poverty requires integrating access to family planning for the poorest groups into national poverty alleviation efforts. To make this happen, specific policies, goals, strategies, resources, and monitoring mechanisms are needed.

Targeting resources and efforts to reach the poor: Implementation efforts, resource allocation mechanisms, and monitoring mechanisms must be targeted to ensure that they reach the poor—so that resources reach their intended beneficiaries.

Yielding public-private partnerships for equity: Meeting the FP/RH needs of the poor requires that countries make the best use of all the available public, private, donor, and NGO resources. This necessitates a plan to strengthen public-private partnerships with the commercial sector and explore innovative models with NGOs to reach underserved populations.

An extensive review was performed of literature on inequalities in child health in low and middle income countries.⁸ Based on this review, they provided recommendations on how the health sector, alone or in combination with other sectors, may contribute to equity. They identified seven specific recommendations that should be taken into consideration by health projects and programs that have an equity focus:

1. Recognize that the health sector is part of the problem
 - a. Health services are often more accessible to the more advantaged
 - b. Health services do not automatically serve the less advantaged first
2. Prioritize diseases of the poor
3. Deploy or improve services where the poor live
4. Consider the pattern of inequity
 - a. In some areas, most groups except the very wealthy have poor health outcomes, while in other areas only the poorest may be affected by poor health outcomes
5. Employ appropriate delivery channels
6. Reduce financial barriers to health care
7. Set goals and monitor progress through an equity lens

Although these frameworks and recommendations present useful information, their use must be adapted to important characteristics of MNCH community-oriented projects. MNCH projects include more than just service delivery through the formal health system. They also include healthy practices and other important actions that communities, families, and mothers can take in order to promote health. Examples of these include exclusive breastfeeding of infants less than six months of age, handwashing, improving nutrition of children, and developing community emergency transportation systems for pregnant women to be able to deliver in a health facility. In addition, CSHGP and MCHIP community-oriented projects or programs focus on sub-areas within a country.

Guiding Assumptions

This guidance is specifically aimed at informing both community-based programs operating at a district or sub-district level and larger programs seeking to operate at scale. In either case, equity issues impact the program's ability to achieve its outcomes. The following guiding assumptions reflect the current thinking about what equity means for these

⁸ Barros FC, Victora CG, Scherpbier RW, Gwatkin D. *Equity, social determinants, and public health programs. In Health and nutrition of children: equity and social determinants.* Ed. Blas E, Kurup AS. Geneva: World Health Organization, 2010:49-76.

programs. Documents that discuss equity for other programs may present different interpretations of some of these concepts. It is important to review these assumptions and discuss them with the project team and partners in order to generate a shared understanding about the approach that will be taken to addressing health inequities in your project area. In this section, we present three key concepts:

- Addressing equity means more than simply working in a disadvantaged geographical region; it means reaching the most disadvantaged within that region and making comparisons over time of health outcomes between disadvantaged and advantaged groups.
- Developing strategies to address inequity requires understanding and deciding how to handle the underlying conditions.
- Obtaining high coverage levels depends on decisions made along a continuum, from narrowly targeting a disadvantaged group to a universal approach aimed at all groups.

Key Assumption 1: Addressing equity means more than simply working in a disadvantaged geographical region; it means reaching the most disadvantaged within that region and making comparisons over time of health outcomes between disadvantaged and advantaged groups.

This guidance considers that having an “equity focus” means that you are reaching the most disadvantaged group **within a project area**. It is not sufficient to say that the project is addressing equity issues solely because it is working in a disadvantaged geographical region of the country. This implies that actions should be targeted to improving health outcomes of the most disadvantaged within the project area and that monitoring and evaluation information from the project area should be disaggregated by disadvantaged and advantaged groups.

Geographical targeting within a project area may be useful when these areas have been shown to have worse health outcomes than other geographic areas. However, ensuring an equity approach means that a project actively compares health outcomes between the less advantaged and more advantaged areas. For example, a poverty map could be used to direct activities to specific geographic area, but in order for this to be considered an equity approach health outcomes should be compared with less poor areas.

It is important to discuss this assumption with all stakeholders to gauge the extent to which there is a shared vision in this regard, because project strategies and objectives can be viewed very differently if they are designed without taking into consideration equity dimensions found within the project area.

Key Assumption 2: Developing strategies to address inequity requires understanding and deciding how to handle the underlying conditions.

Although the overall equity aim of these health programs is to reduce inequities in health outcomes, there are many underlying conditions that lead to these health inequities. Examples of underlying factors are cultural/social norms, power relationships, community structures, education levels, and allocation of wealth. It is necessary to address these underlying factors of inequity, but you have to make a decision about how much effort should be directed at trying to change these underlying factors.

The role of underlying factors of inequity in your program can be viewed along a continuum of attention to these factors.⁹ At one end of the continuum are project designs that do not take into consideration any aspects of underlying factors of inequity, and may therefore inadvertently intensify these issues. At the other end are projects that are designed to transform underlying issues affecting equity. In between are designs that take into consideration equity conditions and work with them. Even if transforming underlying factors of inequity will not be a focal point of the program, it is important to understand these factors in the program area in order to avoid harmful actions.

The following is the continuum of approaches to underlying factors of inequity:

1. Programs designed in a way that inadvertently intensifies underlying factors of inequity issues (harmful).
2. Programs designed without any consideration of the underlying inequity issues, which neither intensify nor reduce inequities.
3. Programs designed to take into consideration the underlying factors of inequity, focused on the need to reduce inequities (or at least not intensify them) in health outcomes, without attempting to transform underlying inequitable conditions.
4. Programs designed to transform underlying inequitable conditions such as: social and cultural norms, community structures, imbalances of power, education, and unequal distribution of wealth.

You need to decide if your project intends to change the underlying conditions that cause one group to be disadvantaged, if the project will only focus on improving health outcomes in the disadvantaged group, or if the project strategy falls somewhere in the middle by addressing some of the underlying conditions at the same time as improving health outcomes. You will make different decisions about program designs and monitoring and evaluation (M&E) systems depending on whether you see changing these underlying inequity conditions as a means to reach a health outcome or whether improving these conditions is seen as an outcome by itself.

Think about the following statement. *You want to improve a health outcome and want a better understanding of how equity issues affect this outcome, so that you can take these issues into consideration when designing strategies.* In this case, you address the underlying inequity issues as a means to improve health outcomes, so you will assess these conditions as part of background information or part of formative research. Then you will develop strategies to work within the confines of the underlying inequitable situation or address it minimally. You will proceed with the health program and measure change in the health outcome. However, you will not track changes in the underlying inequitable conditions.

For example, women from a particular ethnic group in a project area do not access post-partum or post-natal services because there is a cultural norm that they cannot leave home for 40 days after the birth of a child. The project is designed to work within this cultural norm, but not change it, so the solution is to bring services to homes of women from this ethnic group instead of working with communities to allow women to visit health facilities within this 40 day period.

⁹ The Interagency Gender Working Group (IGWG) developed a useful continuum of gender equity that describes this situation.

On the other hand if you realize that changing underlying inequity conditions is vital to improving health outcomes, then changing these factors becomes more integral to the program. Thus, **equity becomes an outcome itself**. For this case, it is important to identify the inequitable issue, determine how this inequitable issue affects health outcomes, and design effective interventions that affect both equity and health outcomes. The M&E system should be set up to track changes in both equity and its underlying conditions and health outcomes throughout the life of the program.

One example is a maternal and newborn health program implemented in the Matagalpa Department of Nicaragua by Catholic Relief Services (CRS).¹⁰ Previous experiences of working with women to get them to increase use of health services for maternal and newborn health were not successful. Gender inequity contributed to this lack of success. It was found that cultural norms of how men view their responsibilities for family health and how decisions are made between husbands and wives were barriers to maternal and newborn health-seeking behavior in the project area. Specifically, men were not actively involved in taking care of their family's health and at the same time controlled decisions about when women could leave home for any reason, including health care. The program developed a system for working with men to get them to change these behaviors, thus allowing women to access health services. As a way to reduce inequity, the project encouraged men to make joint decisions with wives as to when and where to seek health care and to be actively involved in their wives pregnancy, labor, and post-partum care and newborn care.

The project was set up to measure changes both in the underlying conditions (cultural norms of how men viewed their responsibilities for family health) affecting equity and health outcomes. Changes in the cultural norms were measured by percentage of men that responded that the decision to seek health care during pregnancy and for newborns was made together with their wives and percentage of pregnant women who sought health care with their husbands. Changes in health outcomes were measured as percentage of women with four or more antenatal visits, percentage of children who received a post-natal visit, and percentage of children whose births were attended by skilled personnel. Qualitative information was also collected to better understand changes in equity.

A rights-based approach combined with a technical health strategy is another program strategy to deliberately expose the roots of vulnerability and marginalization of certain populations, thereby expanding the range of health and empowerment responses that address equity.

CARE in Nepal introduced a rights-based approach that empowered marginalized groups to organize and launch collective social movements. CARE trained local marginalized groups in the use of a rights-based tool to make them aware of their health rights and responsibilities and how to claim these rights through advocacy and social mobilization campaigns. The movement resulted in social inclusion of low castes and marginalized groups in women's groups and local decisionmaking forums such as Health Facility Management Committees. Excluded groups were slowly

¹⁰ CRS project in Nicaragua funded by USAID's Child Survival and Grants Program. 2008-2012.

mainstreamed with proportionate representation in community structures. The focus on publicized information led to increased accountability of local leaders and adoption of pro-poor policies, filled vacant health positions, and improved systems for regular medical supplies and drugs. Unfair penalties for delayed birth registration, which affected marginalized groups the most, and other corrupt practices were stopped.

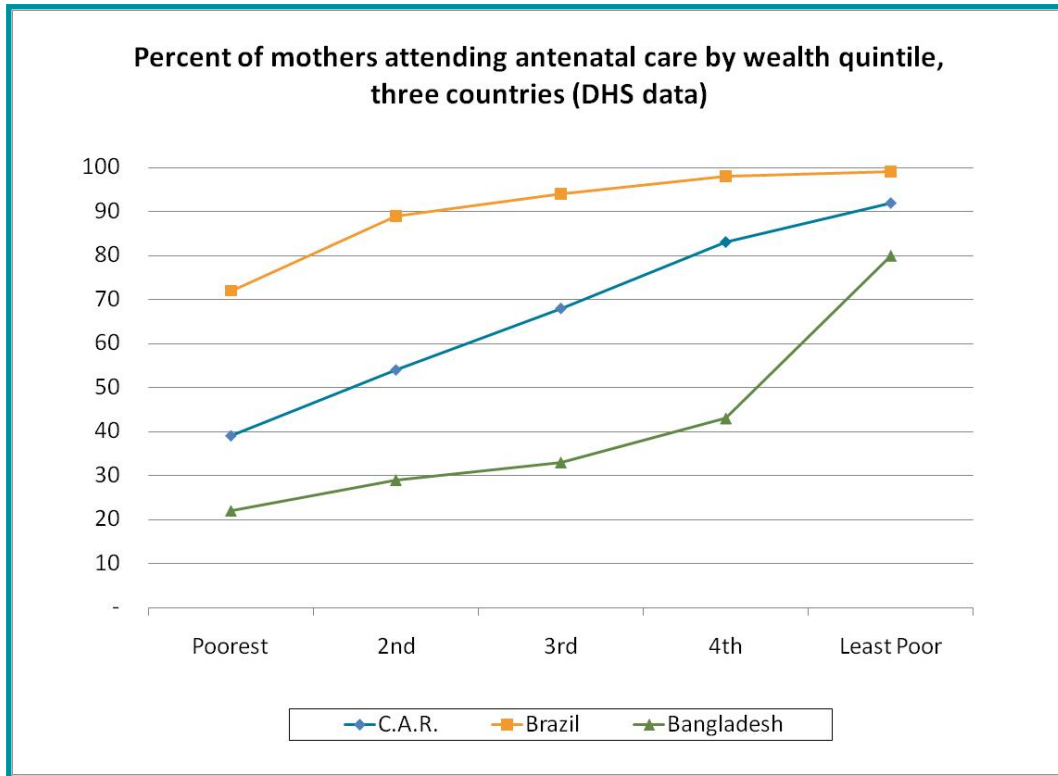
Another example is from Helen Keller International (HKI)'s¹¹ work with women farmers in Bangladesh. HKI added a group marketing component to their work with Homestead Food Production (HFP). Previously, women were not able to make a profit from these gardens because of their small level of production and of the need for a man to go to the market to sell for them. It was difficult for many men to sacrifice a day's work to sell the produce. As a solution, HKI worked within the cultural norm of women not being allowed to go to the market and created a group marketing model. In this model a central location was established for women to pool their production in one location in the community and a village model farmer, a man, was assigned to the group to act as an intermediary between the women beneficiaries and market vendors. Through this intervention, for the first time women earned money independently from their husbands and were able to play a greater role in household decisionmaking in terms of keeping and spending the money from their HFP activities. Women reported that they increasingly made joint financial decisions with their husbands, thus increasing their empowerment. They used this empowerment to improve food diversity in the household.

An advantage of modifying underlying factors is that several health outcomes may improve as a result, for example, of empowering women to take decisions on health care seeking. A potential drawback, however, is that it often takes longer to modify underlying factors than it takes to change a specific health outcome such as antenatal care attendance.

Key Assumption 3: Obtaining high coverage levels depends on decisions made along a continuum from narrowly targeting a disadvantaged group to a universal approach aimed at all groups.

Ideally we want all groups to have high health outcomes, but the strategy for achieving equity will vary according to overall coverage levels and to the shape of the inequity curve. The following examples can be used to guide thinking about how to increase coverage levels at the project or sub-national level by deciding where to focus on the continuum between narrowly targeting one group and a universal approach aimed at all groups. Here we give an example based on antenatal care attendance by wealth quintile in three countries.

¹¹ Helen Keller International, Bangladesh, Bulletin No. 2. February 2010, website: www.hki.org.



In a high-coverage situation such as Brazil, the poorest tend to lag behind all other groups, configuring a “bottom inequity” pattern (also known as “marginal exclusion”). Under these conditions, programs that are targeted at the poorest families or geographical areas are essential to reach universal coverage, because the better off groups are already well served.

Where overall coverage is low, such as in Bangladesh, one often sees a pattern of “top inequity,” when all groups except the wealthiest are affected. Under such conditions, individual or geographic targeting does not make much sense, and widespread interventions are needed to reach the 80% of the population who are underserved.

Finally, the Central African Republic provides an example of a more or less linear pattern of inequity. Coverage must be increased for the whole population except for the top quintile, and special attention must be given to the poor—for example, through geographical targeting of the poorest areas—to avoid inequities from becoming larger.

Ideally, you would have local data that would allow the construction of a graph such as the figure above. However, this will not be feasible for most programs. As discussed, most countries have recent surveys from which these types of analyses can be obtained, and discussions with locally knowledgeable informants can help establish whether the national patterns also hold for the sub-national program areas.

These inequity patterns are relevant for discussions on how a program should target efforts toward achieving universal coverage. In the “bottom inequity” situation as in Brazil, universal coverage can be best reached by targeting the poorest, because the rest of the population is already being served.

In Bangladesh, on the other hand, coverage is so low in the entire project area that just about everyone needs help. If this is the case, then a universal coverage approach may be appropriate at least at the beginning of a program.

It is also important to look at the pattern of inequity of different health outcomes. Do not assume that because one health indicator is inequitably distributed that all health indicators are inequitably distributed. For example, exclusive breastfeeding is often higher in disadvantaged groups because they do not have the economic means to use formula.

There is important evidence that programs designed with a universal approach almost never reach universal coverage, that the most advantaged groups benefit first, and that the intervention may never reach marginalized groups unless special efforts are made. This can be explained using the concept of a “reverse equity hypothesis,” which has been tested in Brazil by Cesar Victora.¹² This theory proposes that new public health interventions initially reach those of higher socioeconomic status, thus initially increasing inequity, and that these interventions only reach the poor after outcomes for the rich have improved. Research on health programs in Brazil demonstrated this hypothesis. For example, time trends for inequity ratios of morbidity and mortality from programs in Ceara State and Pelotas are consistent with this hypothesis. Further evidence that supports this hypothesis can be found in an article published in the Lancet in 2003, entitled *Applying an equity lens to child health and mortality: More of the same is not enough*.¹³

One danger with the universal approach is that the strategy may be stopped from a variety of reasons, such as the project or program ends or funding priorities change, before it has a chance to reach the underserved, thus only benefitting the better off.¹⁴

¹² Cesar G. Victora, J Patrick Vaughan, Fernando C Barros, Anamaria C Silva, Elaine Tomasi; *Explaining trends in inequities: evidence from Brazilian child health studies*; The Lancet; Vol 356; September 23, 2000.

¹³ Cesar G Victora, Adam Wagstaff, Joanna Armstron Schellenberg, Davidson Gwatkin, Mariam Claeson, Jean-Pierre Habicht; *Applying and equity lens to child health and mortality: More of the same is not enough*; The Lancet, Vol 362; July 19, 2003.

¹⁴ *How much would poor people gain from faster progress towards the Millennium Development Goals for health?* Davidson R Gwatkin The Lancet 26 February 2005 (Volume 365 Issue 9461 Pages 813-817 DOI: 10.1016/S0140-6736(05)17992-6).

III. What You Can do to Build Equity Issues into Your Design and M&E System: A Six-step Process to Design an Equity-focused Project

Once the project team and partners understand the guiding assumptions presented above, they are ready to begin the design process. This section describes a six-step process. Of course after the design stage, the project is implemented, monitored, adjusted based on progress, and evaluated as is true for any project. The following are the steps for the equity-focused design process:

1. Understand the equity issues in the project area
2. Identify the disadvantaged group on which to focus
3. Decide what is in your manageable interest to change
4. Define equity goals, objectives, and a project-specific definition of equity
5. Determine equity strategies and activities
6. Develop an equity-focused M&E system

Step 1: Understand the Equity Issues in the Project Area

In order to understand the equity issues in your project area, it is important to 1) identify inequities in health outcomes and 2) understand the underlying socioeconomic issues and barriers that lead to inequity.

Identify inequities in health outcomes

Information about inequities in health outcomes can come from either quantitative or qualitative data, depending on what data are available. For this stage, the implementing organization can use secondary data or can collect its own data. Examples of secondary data are DHS, MICS, other national surveys, or special studies conducted by others in the project area. Organizations can conduct their own household surveys. Qualitative information can come from methods such as key informant interviews, focus groups, or community mapping. Communities, families, and health workers should be involved in identifying inequities.

At this point, the aim is to get an idea of what the health inequities are, some idea of the magnitude of the problems, and who is affected by the inequities. It is not necessary to obtain exact information during this stage. Even if only national data are available, projects could discuss findings from these surveys with local populations and key informants to find out if the project area has similar issues. It is advisable to perform some formative research and secondary data review to identify probable health inequities and disadvantaged groups before investing in extensive data collection, such as for a project baseline. This will help ensure that baseline studies once conducted will be adequate for assessing progress in reducing inequalities.

The following table presents examples of the type of information that a project might obtain during this stage. Annex 1 presents some ideas on how to adapt your Knowledge, Practice and Coverage (KPC) survey to be able to generate this type of data.

Analytic Table 1: Identifying Inequitable Health Outcomes (Examples)

| Inequitable health outcomes | Between or among which groups | Magnitude of the differences/ Sources of Information |
|---------------------------------------|---|---|
| Post-natal care visit within two days | Households living within five Km of health post and households living five Km or more from health posts | 30% for households living within five Km 10% for households living five Km or more Source: Baseline household survey |
| Three or more ANC visits | Spanish-speaking households and households speaking indigenous languages | 80% for Spanish-speaking households 20% for households speaking indigenous languages Source: National-level household survey |
| Handwashing | Households in the upper two quintiles and households in the lower three quintiles | 60% for households in the upper two quintiles 10% for households in the lower three quintiles Source: National-level household survey |
| DTP3 coverage | Households in the upper two quintiles and households in the lower three quintiles | 90% for households in the upper two quintiles 80% for households in the lower three quintiles Source: National-level household survey |
| Skilled attendance at birth | Households belonging to the main ethnic group and households belonging to a minority ethnic group | Almost no women from the minority ethnic group deliver in health facilities, but many from the majority ethnic group deliver in health facilities Source: Key informant interviews with health staff |

Understand the underlying socioeconomic issues and barriers that lead to inequity

Usually, qualitative methods are most effective for gathering this information. Studies conducted by other groups can be used or the organization can collect its own information. It is best to involve communities, members of the disadvantaged groups, local health providers, and any other local stakeholders in providing this information. They can best describe the reasons for a low health outcome, whether this is use of services or practicing healthy behaviors. Participatory Learning and Action (PLA)¹⁵ and Barrier Analysis¹⁶ are examples of methodologies for working with communities to provide information on underlying conditions and barriers. At this stage it is important to consider how gender relationships affect inequities in health outcomes.

¹⁵ Good references for this technique are: *The Ten Seed Approach* by Dr. Favi Jayakaran, April 2002; Robert Chambers. *Whose Reality Counts? Putting the First Last*, Intermediate Technology Publications, London, 1997, p. 106.; and *Rural Development: Putting the Last First*, Robert Chambers, 1983, Longmans.

¹⁶ http://www.coregroup.org/storage/documents/Workingpapers/barrier_analysis_facilitator_guide.pdf

The following lists some commonly found issues or barriers and provides a good starting point for dialog with knowledgeable groups.

- Harmful cultural norms and practices
- Burden of care
 - Women’s duties are too time consuming to practice healthy behavior
 - Women cannot leave livelihood activities or other children for preventive care or to take care of illness
- Low literacy
- Barriers in accessing services
 - Economic
 - Distance/lack of transportation
 - Language
 - Health service not culturally acceptable
 - Poor treatment by health staff
 - Poor understanding of health messages given by health staff
- Stigma or violence against group
- Unequal power relationships between disadvantaged and advantaged groups
 - Unequal decisionmaking power within a family or community
 - Unequal representation in community structures, i.e., community health development committees

The WHO gender, women, and health website has a good reference that describes issues and barriers.¹⁷

Step 2: Identify the Disadvantaged Group on which to Focus

When we think of inequity, we may automatically assume it refers to one situation, for example wealth status or gender inequity. We may assume that it refers to people who need health services, but not to those providing services. This may lead to confusion when discussing the equity focus of a program; for example, one person might assume it refers to poverty and another might be thinking another aspect, such as health differences between ethnic groups.

David Gwatkin¹⁸ refers to the acronym (taken from presentations by Timothy Evans and Hilary Brown) “PROGRESS” to summarize the different groups that we could focus on. PROGRESS stands for “place of residence, race, occupation, gender, religion, education, socio-economic status.”

Although you may see different forms of inequity in the program area, it is important to **prioritize** which group you are focusing on in order to make better use of time and resources.

¹⁷ Technical Guidance for Global Fund HIV Proposals Cross-Cutting Issues. Addressing Gender Inequalities: Strengthening HIV/AIDS Programming for Women and Girls. UNAIDS and World Health Organization. Website: http://www.who.int/gender/hiv_aids/en/.

¹⁸ Davidson R. Gwatkin; *10 best resources on ... health equity*; Health Policy and Planning 2007: 348-351

How do you determine which group to prioritize?

The following are three approaches that can be used at the design stage or early in program implementation. One, or if possible more than one, of the following approaches may be used.

A. Review secondary data that have been disaggregated by different groups, specifically ethnic, geographic, age, gender, religion, or wealth.

Even if there are no survey data specific to the communities where you will be working, there are usually data available for the whole country (and sometimes even for sub-national regions) from standard surveys such as the DHS or MICS. These data can help identify which health outcomes are more inequitable and which of the PROGRESS dimensions is most critical. After reviewing the national data, discuss with project staff and knowledgeable local key informants whether the national data also apply to the project area or if there are obvious differences to be taken into account.

B. Conduct quantitative or qualitative studies that look at differences between groups.

In Ecuador, CHS-URC conducted a quantitative baseline survey that revealed a striking inequity between indigenous and mestizo (mixed ethnic) groups regarding maternal and newborn care. For example, only 49% of indigenous mothers reported receiving four or more antenatal sessions with their last pregnancy, in contrast to 77% of mestizo mothers; only 36% of indigenous mothers reported a facility birth, while the percentage for mestizo women was 89%. Because of these findings, project activities were changed to focus mostly in areas with high concentrations of indigenous populations. Specifically, CHS-URC prioritized those “parishes” for project activities using two selection criteria: >50% of parish population lives in “extreme poverty” and >40% indigenous Indian ethnic composition.

Another example of using quantitative and qualitative studies to look at differences between groups is International Aid’s CSHGP project in the Philippines,¹⁹ where they looked at differences between indigenous and non-indigenous groups. They discovered important disparities between coverage of basic health outcomes between these two groups. For example, only 12% of indigenous women had skilled attendance at last birth as compared with 46% among non-indigenous women. There was however one exception; data on breastfeeding showed that 64% of indigenous mothers with infants less than six months of age reported they were exclusively breastfeeding at the time of the interview and 40% of non-indigenous mothers. See Annex 3 for more details.

C. Work with communities and religious/social leaders to identify the most disadvantaged groups and work within the national government definition of disadvantaged groups.

Working with communities is very important because they usually have a clear idea of who needs special attention. Also, if they own the decision about which group to focus on, they will be more likely to support activities that target the disadvantaged group. For example, in the Mexican PROGRESA program, families in a community were asked to identify which ones among them were poorest, and program efforts were concentrated on these families.

¹⁹ Detailed implementation Plan and Baseline Information from CSHGP project in the Philippines, International Aid, 2007, communication from Alan Talens currently with Christian Reformed World Relief Committee (CRWC).

In some circumstances, it may be possible to use the host country government's approach to identifying poor/disadvantaged groups and or build on their approaches to reach the poorest or most underserved. In addition, there is an important role for NGOs in the development of these criteria around equity. Some countries may use geographic targeting, via poverty maps or other approaches, to prioritize interventions. In Nicaragua, the government agreed to prioritize the implementation of Community Case Management for hard to reach communities, or those communities >2 hours distance from a health post, the lowest level facility of the health system.

Another example is in Indonesia, where in response to the economic crisis, which struck in 1998, the Ministry of Health implemented a program to ensure that the poor could still access health services. Health cards were created and distributed to districts based on the estimated poor population residing in each district. Local leaders received the cards and distributed the cards to poor households, based on pre-set eligibility criteria, or a "prosperity status." An eligible household included those who did not have sufficient funds to 1) worship according to faith, 2) eat basic food twice daily, 3) have different sets of clothing for school/work and home, 4) have a floor made of materials other than earth, and 5) access health care services for children or modern contraceptive methods. Local leaders could also use their own discretion to distribute the health cards to those most in need.²⁰

In Cambodia's Kirivong Operational District (KOD),²¹ while user fees were enacted at health facilities, a health equity fund was established to ensure the poorest could still access health services and to ensure equity. Community participation in KOD involved establishing Health Center Co-Management Committees (HCCMC) that included community volunteers at all health facilities. The government worked with NGOs, community members, and religious leaders to determine the criteria. Using the criteria shown below, eligible households were identified by the Village Chief and HCCMC members residing in or close to the concerned village. The socioeconomic status of the identified households was endorsed by the respective Pagoda Chief Monk.

The following criteria were used:

- Must comply with all of the following three major conditions:
 1. Poor composition of house (roof and wall from thatch/palm/bark/aluminum sheets)
 2. Owning less than 0.5ha of land
 3. Having a daily household income of R4000 or less
- Must comply with at least one additional criterion:
 1. No "luxury goods" assets (such as TV, motorcycle)
 2. No farm animals
 3. Having at least seven economically inactive household members

When deciding whether to use a host county national definition of inequity, it is important to understand how and if this definition is relevant to the local situation. In some cases,

²⁰ Saadah F, M. Pradhan, R. Sparrow. 2001. The effectiveness of the health card as an instrument to ensure access to medical care for the poor during the crisis. Jakarta, Indonesia: World Bank.

²¹ Jacobs B, Price N. 2006. Improving access for the poorest to public sector health services: insights from Kirivong Operational Health District in Cambodia. *Health Policy and Planning* 21(1):27-39

there may be special circumstances in a local area that are different from the rest of the country (e.g., the presence of an ethnic group not found in the rest of the country or local power relationships between different groups). Also, in some cases, the national government's approach to health equity may exclude certain disadvantaged groups.

Another point to consider is that inequities may occur in health workers as well as the population that they serve. There may be situations of inequity in this group. For example, there may be gender inequities in health workers in areas such as employment, training, and health risks.

D. Consider the cost of reaching a particular disadvantaged group compared to reaching another group that also needs attention.

It is important to decide whether large amounts of funds should be spent to reach a few disadvantaged people or whether the same amount of funding should be used to reach more people. It may be appropriate to focus on a wider group than just the most disadvantaged group. For example, it may be more cost effective to focus on the lower 50% wealth group than just the lowest wealth quintile. There are no steadfast rules for this, because it also depends on what proportion of the negative health outcomes (for example, mortality or under-nutrition) affects each social group. If most child deaths, for example, are concentrated in the poorest quintile, concentrating on this group may pay off even though they are harder to reach, because this is where the intervention will have the largest impact in improving health. If the second poorest or third poorest quintiles also have high mortality or under-nutrition rates, but are easier to reach, it may be cost effective to have a gradual approach in which these groups are prioritized in an initial phase. A potential danger here is that if the project is stopped mid-way, inequalities could be increased.

Sometimes it does not cost much more to reach one group than another, and attention to equity in program design can pay off. For example, when the then new Hib vaccine was introduced in Peru and stocks were not sufficient for covering the whole country, it was decided to ship the vaccines to the poorest districts in the country, and only when coverage was achieved in these districts the vaccines were introduced in the rest of the country. This pro-equity approach is in contrast with the "business-as-usual" model, in which new interventions are introduced in the capital area and in large cities before attempts are made to roll them out to the neediest regions.

Step 3: Decide What is in Your Manageable Interest to Change

No project has unlimited funds and time for implementation. Usually we can identify many different inequitable health situations, different disadvantaged groups, and important underlying conditions. However, it is important to prioritize and concentrate on a limited number of issues. It may not be possible to work in all aspects of inequity at the same time. Decisions about which interventions to focus on should be related to the magnitude of the inequity and the possibility of taking action to improve the situation.

Also, you may not be able to specially target all disadvantaged groups and demonstrate increased equity. For example, you may find that inequities exist between families who live far from health centers and those who live near and also exist between a majority and a minority ethnic group. However, the project may decide that the greatest inequities exist

between those who live far or near to health centers and thus, develop strategies that specifically target improving health outcomes for those that do not live near health centers. Monitoring and evaluation indicators would be set up to measure health outcomes disaggregated by proximity to a health center. On the other hand, although special characteristics of the different ethnic groups may be taken into consideration when designing behavior change communication, the project may not disaggregate information by ethnic group and track progress differently between these groups. In this case, the project has chosen to focus the equity strategy on groups that live far from health centers.

It is important to think very carefully about how to handle underlying conditions and barriers. In some cases, it will be useful and feasible to change some of these issues. In other cases, it may not be possible to change these conditions, but interventions can be developed that work around them and still permit the disadvantaged group to improve their health outcomes. It is important to look at all the proposed interventions together. Although many interventions may be feasible by themselves, there may not be enough time or money to do all of the interventions together.

Step 4: Define Equity Goals, Objectives, and a Project-specific Operational Definition of Equity

It is not enough just to state that a project will improve equity. In order for this to happen, equity goals and objectives should be formulated. These goals and objectives should focus on reducing the gap between disadvantaged and advantaged groups. Without this comparison, it is not possible to claim that equity has been increased.

A project-specific definition of equity should be written, so that you will know when you have improved equity and will be able to clearly articulate what this means.

The following are examples of equity focused goals and objectives:

Goal:

- Reduce the gap in the health situation between the poorest and the richest population groups in the project area
- Reduce the gap in the health situation between families with easy access to health facilities and those that live farther away

Objectives:

- Improve the coverage of skilled attendance at birth of the women in the lowest 50% wealth category in order to reduce the gap with women in the upper 50% wealth category
- Increase appropriate treatment of fever in children who live more than 10 kilometers from a health facility in order to reduce the gap in malaria treatment between children who live close to a health facility and those that do not
- Increase the full immunization coverage rate of children living in urban slum households to coverage rates of nearby better-off non-slum areas

- Improve joint decisionmaking of men and women regarding seeking health care during pregnancy and for newborns

The International Society for Equity in Health—Chapter of the Americas presents a table²² of equity changes for policymakers linked to barriers and interventions. It provides useful information that can be adapted for projects. They list equity goals as: access, utilization, resource allocation, delivery of quality services, delivery of effective services, and health. The goals that are listed in this table might serve as objectives in a community-oriented health project ultimately leading to improved equity of health outcomes. For example, improving equity in access to health services should contribute to improved health outcomes, although in order to achieve this, it may have to be combined with improvements in another area, such as quality of services.

²² International Society for Equity in Health—Chapter of the Americas, “Equity and Health Sector Reform in Latin America and the Caribbean from 1995 to 2005. Approaches and Limitations, 2006.

Table 2: Categories of equity goals and interventions

| Equity goals | Barriers | Interventions |
|---|---|--|
| Category 1: Equity in access to health care services | <ul style="list-style-type: none"> ▪ Physical (distance, topography) ▪ Organizational (limited schedules at health facilities) ▪ Cultural (providers not acquainted with local culture and language) | <ul style="list-style-type: none"> ▪ Delivery of services through mobile teams (public providers or private under contract) ▪ Extending opening hours of health care facilities ▪ Service delivery by providers who speak local languages |
| Category 2: Equity in the utilization of health care services | Financial: <ul style="list-style-type: none"> ▪ User fees in public facilities ▪ High cost of services in private clinics | <ul style="list-style-type: none"> ▪ Exemption mechanisms for poor/vulnerable users at public facilities ▪ Expansion of medical insurance |
| Category 3: Equity in resource allocation | Tendency by which the central government favors urban centers and rich/influential territories with a higher allocation of public resources | <ul style="list-style-type: none"> ▪ Implementing progressive formulae to allocate resources ▪ Financial decentralization to local health authorities ▪ Return of infrastructure and financial resources to local governments |
| Category 4: Equity in the delivery of quality services | Tendency to deliver services of lower quality to poor/disenfranchised population groups | <ul style="list-style-type: none"> ▪ Accreditation and certification of public and private service providers |
| Category 5: Equity in the delivery of effective services | Tendency by which new and effective interventions and/or services are delivered preferentially to population groups with more resources (due to cost and availability) | <ul style="list-style-type: none"> ▪ Delivering interventions based on primary health care ▪ Delivering comprehensive services (beyond packages of basic services/prevention) |
| Category 6: Equity in health | <ul style="list-style-type: none"> ▪ Utilization of effective services in the reduction of inequities in health ▪ Other social determinants of health (education, employment, income, etc.) | <ul style="list-style-type: none"> ▪ Implementation of interventions based on the model of primary health care ▪ Implementation of comprehensive and multi-sectorial interventions (health, education, employment, etc.) |

Project-specific operational definition of equity

The definitions listed in Section II (Whitehead, WHO, Peter and Evans) provide good starting points for project planners who are developing their approach to equity. However, project planners must continue this process to create a project-specific definition of equity.

In order to develop a project-specific definition of equity, you should think about how you will know when you have improved the inequitable situation. For example, a program could decide that inequity is reduced when women from the poorest 20% of the population (also known as the bottom wealth quintile) receive the same level of maternal health care as women from the richest 20% (or top wealth quintile).

These are some examples of project-specific equity definitions.

- Equity means reducing the gap in maternal and newborn health between the poorest and the wealthiest groups in the population.
- Equity means increasing male involvement in maternal and newborn health care in order to improve the health of mothers and newborns.
- Equity will be achieved when immunization coverage for children in X ethnic group is increased to at least baseline levels for other ethnic groups in the program area.
- Equity means improving access to and use of acceptable health services in geographic areas located more than 5 km from a facility through a community-based delivery strategy.

This project-specific equity definition will help guide activities and will allow the project to clearly articulate when equity has improved. It will also help set up the monitoring and evaluation plans for checking whether the objective will be achieved.

Step 5: Determine Equity Strategies and Activities

Strategies for improving equity reach beyond only working with the disadvantaged group. Interventions should be developed that work with additional groups in order to provide a more favorable environment for improving health outcomes of the disadvantaged group. One example is that if women are not accessing maternal health care because they are not able to make decisions on their own, the project can work with men so that men develop a sense of their role in supporting health of their wives or partners, thus allowing more women to access health care. If a disadvantaged group does not access health services because certain cultural practices are not followed by the health care providers, then the project can work with health care providers to help them develop ways to adjust services to make them more culturally acceptable.

When developing strategies to reduce inequities, it is important to work with communities and allow them to help determine appropriate actions. This will produce more appropriate strategies and actions, and since the community has been involved, they will facilitate the equity-focused strategies. This is particularly important if interventions are perceived as a benefit by families—a good example being cash transfers—and when these are provided to some but not all families there may be resistance from those left out. One example is that a community may develop its own agreed-upon criteria for when a family has economic difficulties that are sufficient to justify a reduction of health service fees.

Strategies can address underlying conditions and barriers directly or may be designed to work around them. For each intervention, it is important to think about any negative effects that might occur if changes are made and develop ways to reduce these effects. For example, encouraging women to go to the health services even if men have not given permission could lead to violence against women. However, if the project works with men, so that they participate in developing acceptable solutions that allow women to go to health services, then negative effects are reduced. It is also important to see where there might be resistance to change. For example, many community members may not appreciate that men should be involved in maternal health care of their wives, thus they are not supportive of these changes. The project can widen its scope to work with community members to help change this attitude.

Step 6: Develop an Equity-focused M&E System

The M&E system should be set up from the beginning to measure the equity-focused objectives and changes in underlying conditions of disadvantaged groups that the program chooses to target. Just as it is important to involve the community in the identification of disadvantaged groups and strategies to reach them, the community should be involved in tracking changes in equity.

Planning is of the utmost importance in order to ensure that adequate baseline studies are performed, with adequate sample sizes. This will allow the resultant data to be disaggregated into the subgroups needed to measure differences between groups of interest, without reducing the comparative sample sizes to the degree that the respective confidence intervals become too large to show differences between the groups. Decisions taken during steps 1-4 of the design process will provide information that is needed to plan the M&E system and to ensure that an adequate baseline is performed.

There are many ways to measure equity. We will briefly describe some methodologies and provide references for further information. The methodologies that we are including are a modified KPC survey; asset-based wealth quintile analysis; monitoring users of services; qualitative techniques; relative index of inequality and Slope index of inequality; and client service statistics tool.

When considering these methodologies, it is important to remember that it is not necessary to create special equity indicators of health outcomes. Instead, the M&E system should be set up to collect standard health outcome indicators, such as skilled attendance at birth, but be able to disaggregate this information into the groups on which the program focuses. For example, if one ethnic group has very low coverage of skilled attendance at birth compared with other ethnic groups, information on skilled attendance at birth must be disaggregated into two groups, the disadvantaged ethnic group and all other ethnic groups. Targets can be established for reducing the gap in coverage of skilled attendance at birth. For example, a program could set a target of reducing the gap to only 15 percentage points compared with a baseline gap of 50 percentage points.

However, special indicators can be established for tracking and evaluating changes in underlying conditions that lead to inequity. For example, the CRS project in Nicaragua is tracking changes in the behavior of men, specifically regarding joint decision-making with their wives and taking a more active role in pregnancy and newborn care. In order to measure this they are tracking: the percentage of men that responded that the decision to seek care during pregnancy was made with their wives; the percentage of men that state that the decision to seek care for newborns was made with their wives; and the percentage of pregnant women who sought care with their partners

Methodologies for measuring equity

Modified KPC survey

The KPC survey is a small population-based survey that was originally developed by Johns Hopkins University and has been used by CSHGP grantees since 1991. It is compatible with DHS, MICS, international efforts such as Role Back Malaria, and information that is

crucial to USAID technical areas (elements). The tool consists of three parts: Rapid CATCH indicators, key indicators, and KPC modules that all contain standard indicators, questions, and tabulation plans for the following technical areas: Maternal and Newborn Care, Breastfeeding and Infant and Young Child Feeding, Vitamin A Supplementation, Immunization, Malaria, CDD, ARI, Water and Sanitation, and Anthropometrics.

Two sampling methodologies are used for these surveys: 30x10 cluster and lot quality assurance sampling (LQAS). Information from these surveys can be disaggregated into different groups in order to compare coverage between these groups. These groups might be defined by ethnicity, gender, place of residency, wealth, or any other factor that leads to one group being disadvantaged. Information about assets (same as asked in the DHS) can be added to these surveys to allow for disaggregating into wealth groups (i.e., quintiles or fewer divisions). It is important to remember that standard sample sizes for these surveys are small (300 for 30x10 cluster and 95 for coverage using LQAS), so it is crucial to determine at the beginning of a project what groups you want to disaggregate into and to ensure that the sample size is large enough for meaningful comparisons. This can be done either by increasing the overall sample size, parallel sampling, or oversampling specific disadvantaged groups. If parallel or oversampling is undertaken, then overall coverage levels must be calculated using a weighted average. Annex 1 provides detailed instructions on how to adapt the KPC to measure equity for both evaluation and monitoring. For more information about the KPC tool, see KPC Resources at the following link on the MCHIP website: http://www.mchipngo.net/controllers/link.cfc?method=tools_mande.

Asset-based wealth quintile analysis

A common method for looking at inequities based on relative wealth is through including asset information in household surveys. Questions are asked about assets such as housing composition (e.g., type of flooring, roofing); infrastructure (such as water source); and possessions of durable goods (e.g., radio, television, bicycle). The DHS routinely collects this information as part of national surveys, and wealth index values are assigned for households and individuals. Quintile analysis is derived from principal components or factor analyses to assign indicator weights (reflection of the relative contribution of each asset to wealth determination). For countries where DHS has recently performed this analysis, it may be possible to use these indicator weights for project-level surveys. Because DHS samples are large, it is possible to disaggregate information into quintiles. For smaller sample sizes, it might be better to divide the population into only two or three wealth groups. The following excerpt from the MEASURE Evaluation publication *Addressing Poverty: A guide for considering poverty-related and other inequities*²³ has a good explanation (mostly drawn from DHS documents) of what is involved in quintile analysis.

²³ MEASURE Evaluation Publication: *Addressing Poverty: A guide for considering poverty-related and other inequities in health* prepared by Karen Foreit, April 2008. www.cpc.unc.edu/measure

Construction of the DHS Wealth Index¹

There are several steps to the construction of the DHS wealth index, including determination of indicator variables and calculation of indicator weights and the index value, among others.

The selection of indicator variables is relatively straightforward. Almost all household assets and utility services are included. Generally, any item that will reflect economic status is used.

The determination of specific indicator variables is somewhat of an art, depending on knowledge of conditions in each country. Sometimes variables need to be removed from the set of indicators in order for the resulting wealth index to make sense. Such is the case for “having a dacha” in the Central Asian Republics. While the term “dacha” is used for the country house of rich Russian families, it can also represent a small cottage or even just a rural garden plot with a small shed that many poor families have as a means of extending their income. When “dacha” was included in the set of indicator variables for the Central Asian Republics, the resulting index changed sign, with wealthier people having lower (negative) index scores than poor people (positive). The anomalous relationship was investigated by consulting with country natives, who recommended excluding this variable. With “dacha” removed, the index righted itself.

DHS follows Filmer and Pritchett’s² recommendation to use principal components analysis to assign the indicator weights. DHS uses the SPSS factor analysis procedure. This procedure first standardizes the indicator variables (calculating z scores); then the factor coefficient scores (factor loadings) are calculated; and finally, for each household, the indicator values are multiplied by the loadings and summed to produce the household’s index value.

The final DHS dataset includes two wealth indexes; the household index value described above (V191 in the standard recode file for recent surveys) and the national quintile score (V190 in the standard recode file) calculated as follows. Each member of the household is assigned his or her household’s index value. Then, all the people represented in the entire sample are ordered by their scores, from lowest (poorest) to highest (wealthiest). This distribution is divided at points such that the first 20% are assigned to quintile 1, the second to quintile 2, and so on, with the highest 20% to quintile 5. The resulting national quintile score is assigned to both the household and all its members. This is the wealth indicator shown in the tables of the DHS final reports.

¹ Taken from Rutstein SO and Johnson K. *The DHS Wealth Index*. DHS Comparative Reports No. 6, 2004.

² Filmer D. and Pritchett LH. Estimating wealth effects without expenditure data – or tears: an application to educational enrollments in India. *Demography*, 2001, 38, 115-132.

However, wealth quintiles calculated on the basis of national samples (e.g., in the DHS) may not be ideal for ranking families within a sub-national area covered by a specific program. This is because some of the assets included in the national index (e.g., TV sets or flush toilets) may be rare in the program area, and therefore do not discriminate well among rich and poor families at the local level. If a baseline survey is planned for the project, it is important to work with local key informants to establish which assets are most closely associated with wealth; for example, the number of livestock or type of roof may be more relevant than TV sets or flush toilets.

Qualitative techniques

Qualitative techniques such as were described in step 1 can be repeated during the project to collect more details about changes in the underlying conditions that affect inequitable

health outcomes or reactions to activities that address the health inequities more directly by working around the underlying conditions.

Monitoring users of services

A simple monitoring approach is to keep track of relevant characteristics of program users, for example, women attending antenatal care, children with their growth being monitored, or families receiving free bednets. Short questionnaires including information such as ethnic group, gender, educational level and/or key household assets may be applied to those using the services being provided, and compared with information on the population as a whole obtained in a baseline survey, or even from a recent population census. This approach allows the program to identify how those being reached compare to the population as a whole, and has been used successfully in Brazil.^{24&25}

Quick Poverty Score

The Quick Poverty Score (QPS) is a simple, easy-to-use tool that health service programs can use to assess the prevalence of poverty among their clients. Using three components, QPS provides a snapshot of uptake of program services by those living below the national poverty line, below U.S. \$2 per day, and below U.S. \$1 per day:

- A short survey, with 10 simple, objective questions on housing conditions, household assets, and household amenities (such as “What are the dwelling’s floors made of?” or “What is the main source of lighting for your main living rooms?”)
- A data entry template in Microsoft Excel for entering, storing, and analyzing survey responses
- A prediction model that calculates the rate of poverty among program beneficiaries at three separate poverty lines—the national poverty line, the U.S. \$1 per day line, and the U.S. \$2 per day line.

QPS user guides explaining how to apply the QPS and interpret outputs are available at <http://www.cpc.unc.edu/measure/tools/poverty/quick-poverty-score> for 10 countries, with Microsoft Excel spreadsheets for each country. Countries include Azerbaijan, Bangladesh, Bolivia, Guatemala, Haiti, Honduras, India, Pakistan, Philippines, and Uganda.

Slope Index of Inequality (SII)

The SII is not a data collection method, but a statistical method for summarizing data on inequalities collected through surveys. The SII represents the difference in the health outcome between the bottom and top of the equity scale, for example, between the poorest and richest subjects in the sample.

²⁴ Barros AJD, Victora CG, Cesar JA, Neumann NA, Bertoldi AD. Brazil: are health and nutrition programs reaching the neediest? In Gwatkin D, Wagstaff A, Yazbeck AS. Reaching the poor with health, nutrition and population services: what works, what doesn’t and why. Washington, DC: The World Bank, 2005;281-306.

²⁵ Barros, A. J. and C. G. Victora (2005). "[A nationwide wealth score based on the 2000 Brazilian demographic census]." *Rev Saude Publica* 39(4): 523-9. English version available at: http://www.scielosp.org/scielo.php?script=sci_arttext&pid=S0034-89102005000400002&lng=en&nrm=iso&tlng=en

The SII can be used to compare the how different levels of a disadvantaged status (relative wealth, distance from a health facility) relate to health outcome. It provides a single measure of the gap in health outcomes between the extremes of a disadvantaged-advantaged situation. It is estimated using the data on all groups and weighted by group size. It can only be used with disadvantaged-advantaged groups that occur in hierarchies, such as relative wealth (e.g., quintiles), nutritional status groups (e.g., severely malnourished, moderately malnourished, normal), or distance from a health facility (e.g., 0-4km, 5-9km, >10km). Ethnic groups or religious groups cannot be analyzed using this methodology. There must be at least three categories. Health outcomes may be dichotomous (for example, skilled attendance at delivery or received ORT for diarrhea), or continuous (for example, number of ANC visits). The SII is calculated using a regression model (linear, logistic, Poisson). A larger SII means a greater degree inequity across the hierarchy. A single number is produced that can be compared over time to assess changes in inequity. For example, a SII of 34.5 for skilled delivery care means that the gap in coverage between women at the top and bottom of the wealth distribution is 34.5 percentage points. The ease of interpretation of the SII is an advantage relative to other approaches such as the concentration index.²⁶ A major advantage of summary indices is that by using the full distribution in their calculation (e.g., the five wealth quintiles), they are more precise than comparisons of extreme groups (that is, the difference or ratio between the top and bottom quintiles). This is important for small-scale surveys which are often used in local project monitoring and evaluation.

²⁶ O'Donnell, O., E. van Doorslaer, et al. (2007). *Analyzing Health Equity Using Household Survey Data: A Guide to Techniques and their Implementation*. Washington, DC, The World Bank.

IV. Conclusion

Most community-oriented maternal, newborn and child health projects aim for high coverage of health interventions. Often, the best way to achieve this aim is to include an approach that focuses on inequities of health outcomes within the project area. This document provides guidance for a process to incorporate health equity into project designs. Equity issues for the project area should be considered at the design stage. During this stage partners and stakeholders, including community members, should obtain a basic understanding of which health outcomes are most inequitably distributed, which groups are disadvantaged, and what are the main underlying factors that contribute to these inequities. If equity issues are not understood at this stage, it is possible for a project to be designed that inadvertently worsens inequities in the project area. Once a basic understanding of these issues is obtained, decisions must be made as to what is in the project's manageable interest to try to change. Given time and cost constraints, it is not possible for one project to change all underlying factors, improve equity of all health outcomes, and target all possible disadvantaged groups. At the design stage, it is important to demonstrate a clear understanding of how the project will address inequity, so that objectives, strategies and M&E systems are both driven by and uniquely positioned to address the inequities in health outcomes found the project area. This includes developing a project specific operational definition of health equity, so that partners and stakeholders have a shared understanding of what equity means for the project and so that the project can clearly articulate when equity has been improved.

The monitoring and evaluation system should be developed from the beginning with health equity in mind in order to ensure that progress in reducing inequities can be measured. This document presented overviews of a few methodologies and statistics that range from easy to more sophisticated in their application, which can add rigor to a project's ability to articulate its contributions to addressing inequities. CSHGP and MCHIP programs are uniquely positioned to contribute to the evidence base about how to best address equity issues in the communities where they work because of their community-oriented focus, good understanding of the characteristic of the populations where they work, and a tradition of rigorous measurement of health outcomes.

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Annex 1: Adapting the KPC Tool for Baseline and Monitoring to Capture Inequities in the Project Area: Implications for the Questionnaire, Sample Size, and Sampling Methodology

The monitoring and evaluation system should be set up from the beginning (baseline) to measure the equity focused objectives and changes in underlying conditions of disadvantaged groups that the program chooses to target. Planning is of the utmost importance in order to ensure that adequate baseline studies are performed, with adequate sample sizes. This will allow the resultant data to be disaggregated into the subgroups needed to measure differences between groups of interest, without reducing the comparative sample sizes to the degree that the respective confidence intervals become too large to show differences between the groups. To do this, determine through using secondary data and needs assessments, including discussions with the community, the hypotheses regarding which inequities possibly exist. This is important because it tells you which subgroups are of interest and therefore which subgroups should be represented in the survey sample. For example, if you feel that some health services are limited to women of a certain ethnic group, you will need to consider both gender and tribe in your sample size determinations. If you are performing a household survey, the sample size would have to be large enough to allow the resultant data to be disaggregated into gender, and then again into ethnic groups. A common mistake organizations make is that they perform a KPC survey either with 30 cluster or LQAS methodology without taking this into consideration. They often find that they do not have a sufficient sample size of each group to effectively determine a difference between these groups. Therefore, it is important to choose the inequities you are trying to determine, so that it is possible to determine the subgroups involved, and therefore determine the sample size required to see a difference between these various groups.

When the subgroups have been determined, sample size calculations may be performed to determine the sample sizes required, and then a survey methodology may be constructed to ensure that adequate sample sizes of all needed groups are acquired in a random fashion. For example, let us say a project has the understanding that women of a certain ethnic group (Ethnic Group A) typically do not exclusively breastfeed their infants for the first 6 months of life due to the fact that their cultural norm is to leave their child at home with the grandmother and return to the fields to work. However, sample size determinations are not taken into consideration prior to the baseline survey, and a 30 cluster KPC survey is performed that includes mothers of children aged 0-23 months. Of the 300 mothers of children aged 0-23 months, approximately 25% of these mothers will have children aged 0-5 months, which means that only about 75 mothers will be asked about exclusive breastfeeding. Let us say that Ethnic Group A comprises 20% of the population. This would mean that, approximately only 15 mothers of this ethnic group would be asked about exclusive breastfeeding. This sample size will be much too small to draw any conclusions about differences between this group and the other. Therefore, prior to the survey, it should be determined that there is the need to compare women of children aged 0-5 months of Ethnic Group A with women of children aged 0-5 months of the other ethnic groups combined. Sample size calculations may therefore be made based on the following factors: the size of the difference you would like to detect, the expected frequency of the feature you are studying (in this case the percentage of women in Ethnic Group A that exclusively breastfeed their child aged 0-5 months and the percentage of women in the other ethnic

groups combined that exclusively breastfeed their child aged 0-5 months), and the power you would like in detecting the difference (for example, a study with a power of 90% will give you a 90% chance of detecting a difference if it exists).

There are numerous sample size calculators and tables available online that will calculate the needed sample size for each subgroup based on this information, including the table below. In this instance, let us say that you would like to detect a difference of 20% or greater between the groups in this example, and you would expect 20% of mothers of Ethnic Group A and 60% of mothers of the other ethnic groups to answer that they do exclusively breastfeed their child aged 0-5 months (if you are unsure of the response percentage, use 50%, which will yield the highest sample size requirement). Using the table below, you would find that for Ethnic Group A at a power of 90% and a prevalence of 20% (utilizing the column for 25% Prevalence) the study would need a sample size of at least 128. Likewise, for the other ethnic groups combined, at a power of 90% and a prevalence of 60% (utilizing the column for 50% Prevalence) the study would need a sample size of at least 134. Therefore, because you use the largest sample size determination for both groups, in this example both groups should have a sample size of at least 134. You may be confident that this sample size is large enough because, as stated earlier, the column showing results for “Prevalence in One Group of 50%” yields the largest sample size needed.

| Difference between the groups | Prevalence in one group 50% | | Prevalence in one group 25% | | Prevalence in one group 10% | |
|-------------------------------|-----------------------------|------|-----------------------------|------|-----------------------------|------|
| | Power | | Power | | Power | |
| | 90% | 95% | 90% | 95% | 90% | 95% |
| 5% | 2134 | 2630 | 1714 | 2110 | 957 | 2134 |
| 10% | 538 | 661 | 460 | 563 | 286 | 538 |
| 15% | 240 | 293 | 216 | 264 | 146 | 240 |
| 20% | 134 | 163 | 128 | 155 | 92 | 134 |
| 25% | 85 | 103 | 85 | 103 | 65 | 85 |
| 30% | 58 | 70 | 61 | 73 | 49 | 58 |

Sample Size Guide, Ronán Conroy; http://www.beaumontethics.ie/docs/application/sample_size_calculation.pdf

Sample size requirements increase dramatically as the size of the difference between groups you would like to detect becomes smaller. For example if you would like to change the above example to detect a difference of 10% between the two groups, this would yield a sample size requirement of 460 for Ethnic Group A and 538 for group 2, meaning that the sample size for each group should be 538.

In the above example (at a Power of 90%) , the project will need to sample at least 134 mothers of children aged 0-5 months of Ethnic Group A and 134 mothers of children aged 0-5 months of the other ethnic groups combined. When planning a survey utilizing either 30 cluster or LQAS methodologies, a method needs to be put in place to acquire the needed sample size for each subgroup. This would mean conducting a parallel sample of mothers of children aged 0-5 months that are of ethnic group A, and a parallel sample of mothers of children aged 0-5 months that are of any of the other ethnic groups.

Monitoring equity throughout the life of the project: Monitoring of indicators is necessary throughout the life of the project. Naturally, performing frequent full household KPC type surveys with parallel sampling is not feasible due to staffing, time, and budget constraints. However, for indicators that require household surveys these indicators may

be monitored by utilizing LQAS methods. During annual monitoring, for example, 19 mothers of children aged 0-5 months from each Supervision Area (SA) may be surveyed. While surveying, parallel sampling may be utilized to ensure that at least 19 additional mothers in total (from all of the SAs combined) are from Ethnic group A. The LQAS Decision Rule Table may then be used to determine if the mothers of ethnic Group A performed up to the average for mothers of children aged 0-5 months in the project area regarding this indicator. The Average Coverage is calculated by totaling the responses from all of the SAs. This information, along with the frequency of yes answers from Ethnic group A and the number of total responses from Ethnic Group A, are used in the Decision Rule Table. The table will then determine with 95% confidence if Group A has met the Decision Rule, meaning they are within the average for this indicator, or whether they did not meet the Decision Rule, meaning they did not perform as well as the average in regard to exclusive breastfeeding. Utilizing LQAS in this manner will not yield an actual percentage of mothers of Ethnic Group A who exclusively breastfed their child aged 0-5 months, but will, with 95% confidence, inform the project of whether they are statistically below the average of the other ethnic groups. If desired, instead of using the Average Coverage in the table, the project may use the desired benchmark set for this indicator for that time period, and determine if the indicator for Ethnic Group A met this benchmark.

Annex 2: Example: Philippine Child Survival Program (International Aid)

The International Aid's Child Survival Program covered a district with 3 municipalities in Sarangani Province located in the southernmost part of Mindanao Island in the Philippines. The province was considered among the top 10 most vulnerable provinces by indicator of "human insecurity." The baseline studies showed there was high disease burden and low health service coverage. The poor health standing of the province in their health data reflected the fact that **health interventions in the district failed to benefit the hard-to-reach and important segment of the society.**

The indigenous population comprised about 30-40% of the people of Sarangani, who by their sheer number alone, their low health status affected the overall standing of the province. In general the indigenous population of Mindanao had not benefited much from the development of the region. During the Spanish period, they resisted the Spaniards and isolated themselves as they moved further inland to the hills and forest, which are less fertile than the alluvial plains. These areas were far from the reach of the colonizers who remained in the coastal areas and the plains.

One challenge in the health system in the province was the effective use of the services of the health facilities. It would take 1-3 hours (more than 5 km) walking to reach by these isolated population; but even if the hospitals and clinics were geographically accessible, focus group interviews revealed that the indigenous population avoided going to the facilities due to several barriers: language, culture, and perception that the indigenous population (IP) is not at par with the lowlanders due to their lack of education. They represented a significant number of the underserved, and disproportionately bear the bulk of child morbidity and morbidity

An initial five-day rapid assessment revealed that there were many cases of unreported deaths among children, especially infants, in the more remote areas. In one municipality, for example, there were 34 unreported deaths versus 13 in the records. These cases were not registered mainly due to three main reasons: (1) extra cost of going to town and fees for the death certificate; (2) "What for? The child's dead, there's nothing to gain"; and (3) "*hiya*," the local word for shame. The above experience showed that what may have been thought of as the minority group doing better in terms of health was actually the opposite; the health information system was rather limited and had not reflected the true picture of the morbidity and mortality trends.

The International Aid program has placed a high priority on the indigenous population groups to effectively change knowledge, attitudes, and practices, increase community-based initiatives, and strengthen the peripheral health system. The baseline KPC was done in a way the data collection and analysis were broken down by indigenous and non-indigenous populations. The purpose was to give an overall view of both groups' health status and the individual challenges that the project would have to address during the life of the project.

The comparison between the two groups indicated notable differences for the coverage and access indicators. For example: Only 12% of indigenous women had skilled attendance at last birth as compared with 46% among non-indigenous women. There was however one exception; data on breastfeeding showed:

64% of IP mothers with infants less than six months of age reported they were exclusively breastfeeding at the time of the interview, while this figure was 40% among non-IP mothers.