

# **HNP and the Poor: Critical Factors Beyond the Health Sector**

## **Session 5**

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This is the fifth of a series of six sessions focusing on the linkages between health, nutrition, population and poverty. This session will focus on the factors outside the health sector that are critical for achieving better HNP outcomes, especially for the poor.

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## Motivation

- **Health, nutrition and population outcomes are affected by risk factors at many levels, including the health sector and beyond.**
- **These factors may exacerbate or reduce inequality in HNP outcomes.**
- **We need to be able to:**
  - **measure differences in risk**
  - **identify interventions to change them**
  - **set priorities among interventions**

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Better health, nutrition and population outcomes are essential for poverty reduction. The reverse is also true in that poverty is a factor in the differential HNP outcomes experienced by the poor compared to the non-poor.

This module focuses on HNP outcomes and the factors inside and outside the health system that influence them. The module uses the “pathways” framework of the PRSP sourcebook to link evidence about poor/non-poor differences in HNP outcomes to actions that might be undertaken to reduce them.

Drawing on the life-cycle approach presented in session 2, this module identifies and provides evidence on risk factors in at three levels (household/community, the health system, and beyond the health system). It also continues the discussion about interventions to mitigate these risks and the criteria that should be used to set priorities among them.

## Session Objectives

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- **Identify and measure impact of factors beyond care that influence HNP outcomes.**
- **Identify actions to address these factors through policy change and program design.**
- **Track how these actions have helped to improve HNP outcomes for the poor.**

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This session seeks to identify and, if possible, measure the health impact of factors outside the health system, identify actions to address those factors, and track whether actions actually have any effect in improving health outcomes for the poor. It will draw on tools and methods from the health annexes to the PRSP Sourcebook.

## Session Outline

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- Review pathways framework
- Review life-cycle model and risk factors
- Household behaviors and resources
- Community factors
- Supply in other sectors
- Government policies and actions in other sectors

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The session covers the six topics listed in the slide. Two of the topics are review, including the overview of the pathways framework and where this session fits into it, and the quick overview of the life-cycle framework which is presented in session two of the course.

It will then move on to the household/community factors, supply in other sectors, and government policies and actions.

## **Pathways to HNP Outcomes**

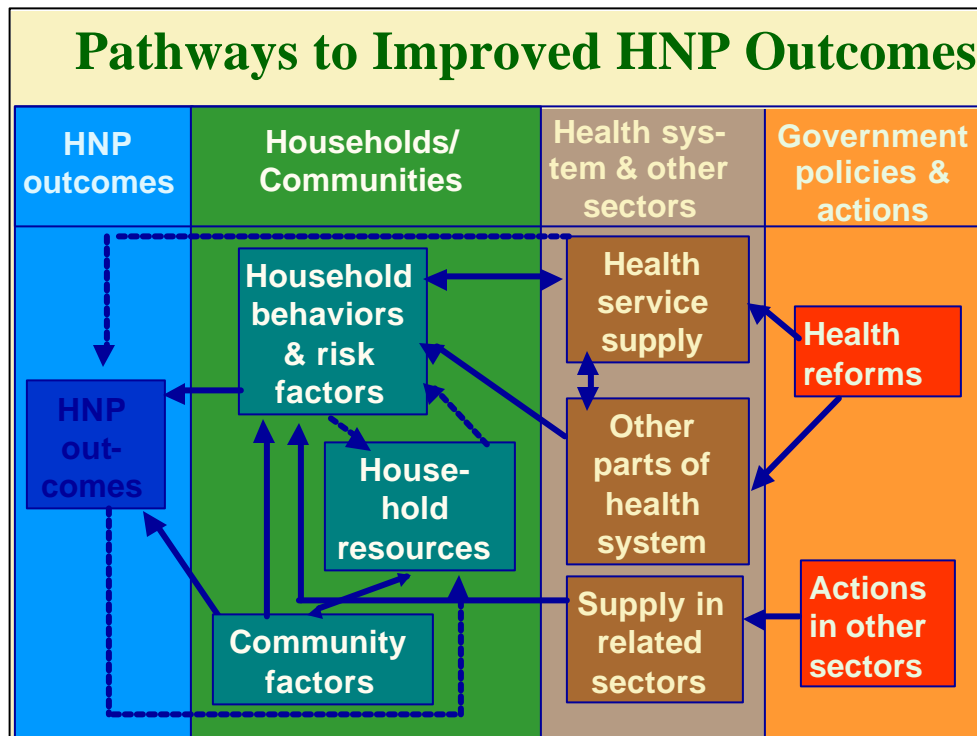
**The “pathways” framework helps us identify factors affecting risks and barriers to better HNP outcomes at three levels:**

- households and communities**
- the health system and other sectors affecting health outcomes**
- government policies and actions**

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As just noted, this module utilizes two valuable conceptual tools provided in previous sessions in the Poverty and Health Learning program – the “pathways” framework and the life-cycle model to identify risks and barriers to better HNP outcomes.

The “pathways” model links differential outcomes to risks and barriers at three levels: households and communities, the health system, including the health sector and other sectors that influence HNP outcomes, and government policies and actions the influence the household and community resources and behaviors and the performance of the health system and other sectors.



This slide shows a version of the “pathways” framework adapted from the HNP chapter for the PRSP Sourcebook.

The blue panel on the left-hand side of the slide has a box for HNP outcomes. As we move through the module, specific examples of HNP outcomes for the poor will be discussed, along with the risk factors associated with them. The examples will focus on outcomes related to maternal and child health and nutrition, for example low birth weight and maternal mortality.

The second (green) panel has boxes for household and community factors, including household behaviors and risk factors, household resources, and community factors. Solid lines link the main pathways through which these factors influence outcomes, and the dashed line adds some of the feedbacks and secondary linkages to be considered.

The brown and orange panels hold the boxes for factors in the health system/other sectors and for government policies and actions.

## **Factors Outside the Health System**

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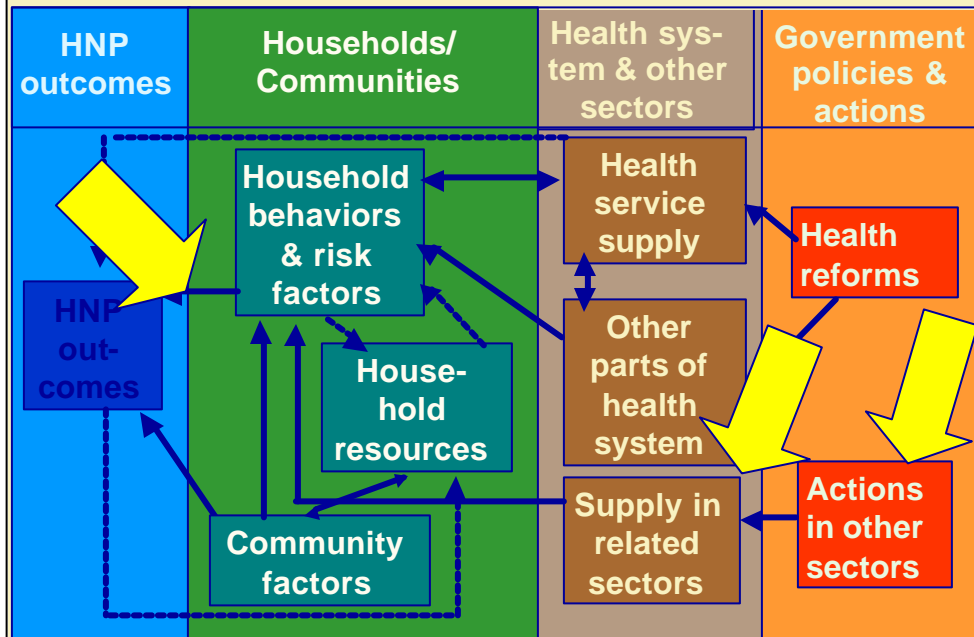
**The module will focus on the following parts of the framework:**

- forces outside the health system affecting households & communities**
- actions in other sectors that affect health outcomes**
- government policies and actions**

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This session focuses on factors beyond care that affect health outcomes. It uses the same PRSP “Pathways” to health outcomes framework that you’ve seen in other modules. It will focus on three linkage areas (1) household and community factors, (2) actions in sectors other than health that affect health outcomes, and (3) government policies and actions that affect outcomes. The module also relies on the “life cycle” framework that PRSP work uses to identify key health risks and what can be done about them, with a specific focus on risks affecting maternal and child health and nutrition. It should be noted that factors outside or beyond healthcare rarely affect outcomes in isolation from those inside the system. This is also true of the household-level factors that have been addressed in module three.

## Pathways to Improved HNP Outcomes



The arrows highlight the subset of links in the pathways framework on which this session is focused.

## Session Outline

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- **Review pathways framework**
- **Review life-cycle model and risk factors**
- **Household behaviors and resources**
- **Community factors**
- **Supply in other sectors**
- **Government policies and actions in other sectors**

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Now we take a quick look at the life-cycle framework that was discussed in details in Session 2.

## **Life-cycle view of HNP Outcomes**

**The life-cycle framework recognizes that risks and barriers to better HNP outcomes for the poor differ as people experience:**

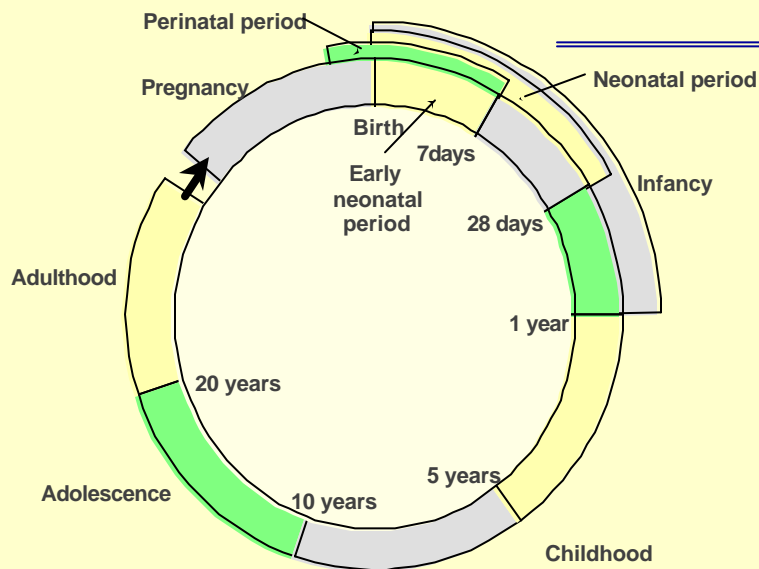
- birth, infancy and childhood**
- youth and initiation of sexual activity**
- reproductive years, pregnancy**
- mature adulthood and old age**

The life-cycle framework presented in the second session of the PRSP learning program for HNP helps us to recognize and trace how risks and barriers to improved HNP outcomes for the poor vary at different stages of the life cycle. The life-cycle model is a stylized representation of four life stages:

- Birth, infancy and childhood.
- Youth and the initiation of sexual activity.
- The reproductive years, including pregnancy and delivery of children.
- Mature adulthood and old age.

Boys and girls, men and women are confronted with different health and nutritional needs and risks as they pass through these phases of the life cycle, as illustrated in the next slide.

## Main stages in the HNP Life Cycle



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Participants will recognize this stylized presentation of the life-cycle framework from session two. It flows in a clock-wise direction from pregnancy, through delivery, infancy and childhood, to adolescence and adulthood. It is obviously a simplification. Mature adulthood and old age would flow on in an outer ring of the circle.

For our purposes, this simpler version sets the stage for considering specific risks relating to maternal and child health and nutrition and linking those risks to factors at the various levels we have just considered using the “pathways” framework.

## Addressing Risk Factors

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- **How do they affect HNP outcomes?**
- **Are risks greater for the poor?**
- **Can they be measured?**
- **Can anything be done to mitigate risks?**
- **How can we choose among the many issues and possible interventions?**
- **How can we evaluate impact of interventions on HNP status of the poor?**

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We need to consider a number of questions in addressing risk factors. As we look again at specific outcomes using the pathways framework in the slides that follow, we should ask ourselves what the risk factors are, how they affect outcomes, whether the risks are greater for the poor, and whether we have evidence on this. We also need to think about what could be incorporated in poverty reduction strategies to reduce those risks.

It will also be important to demonstrate the relative importance of the risks we identify so that we can make a case for allocating scarce financial and institutional resources to address them—given the scarcity and competition for resources that we are likely to face.

Accountability is also important, so that we need indicators to evaluate how interventions are affecting HNP outcomes for the poor.

## **Pregnancy and Early Life Risks**

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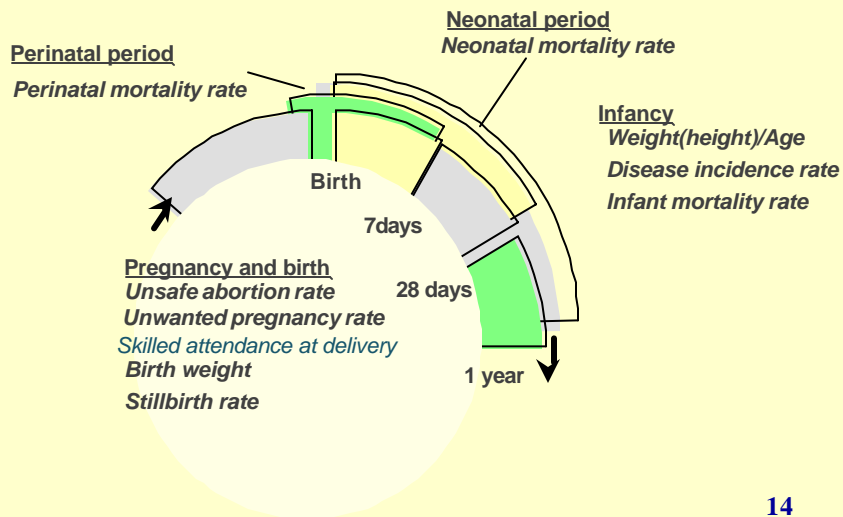
- **Poor women and children experience greater risks during pregnancy, delivery and early life.**
- **Risks during pregnancy and early life are exacerbated by behaviors and by limited household resources.**
- **Outcome measures (maternal and child mortality) are worse for the poor.**

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Now we'll focus on risk factors during pregnancy and early life. The higher child and maternal mortality rates observed among poor women and children suggest that the risk factors associated with this stage of the life cycle are worse for low income groups. The risks are probably exacerbated by household behaviors and by the limited resources of poor households. Let's take a closer look in the next slide at the segment of the life cycle that relates to pregnancy and the first year of a child's life.

## Life Cycle Review

# Pregnancy and Early Life Outcomes



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This phase of the life cycle relates to pregnancy and the first year of a child's life. We can use it to think about risk factors leading to poor outcomes for both the mother and her baby.

For the mother, one important question is whether the pregnancy is a wanted pregnancy. If not, and she decides not to have the baby, she may subject herself to the very high health risks of an unsafe abortion.

If she is anemic or is too young or too old to be having a child, there are risks for herself and her baby—for example, being stillborn or having low birth weight.

The slide shows some of the indicators that are indicative of adverse outcomes during pregnancy, delivery, and infancy.

## Take Home Messages

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- **Risk factors vary through the life cycle**
- **Interventions need to take account of this variation**
- **Life-cycle approach focuses on outcomes for individuals rather than inputs**
- **Come back tomorrow for more on the life-cycle approach**

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This slide highlights some of the key ideas that the life-cycle approach brings to our work on poverty and health.

## Session Outline

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Now we will look at the level of household risk factors and behaviors as well as household resources.

## **Household and Community Factors Matter**

- **Household behaviors and risk factors such as nutritional practices and demand for health care**
- **Household resources, e.g. education, housing, water & sanitation**
- **Community factors, including social values and infrastructure**

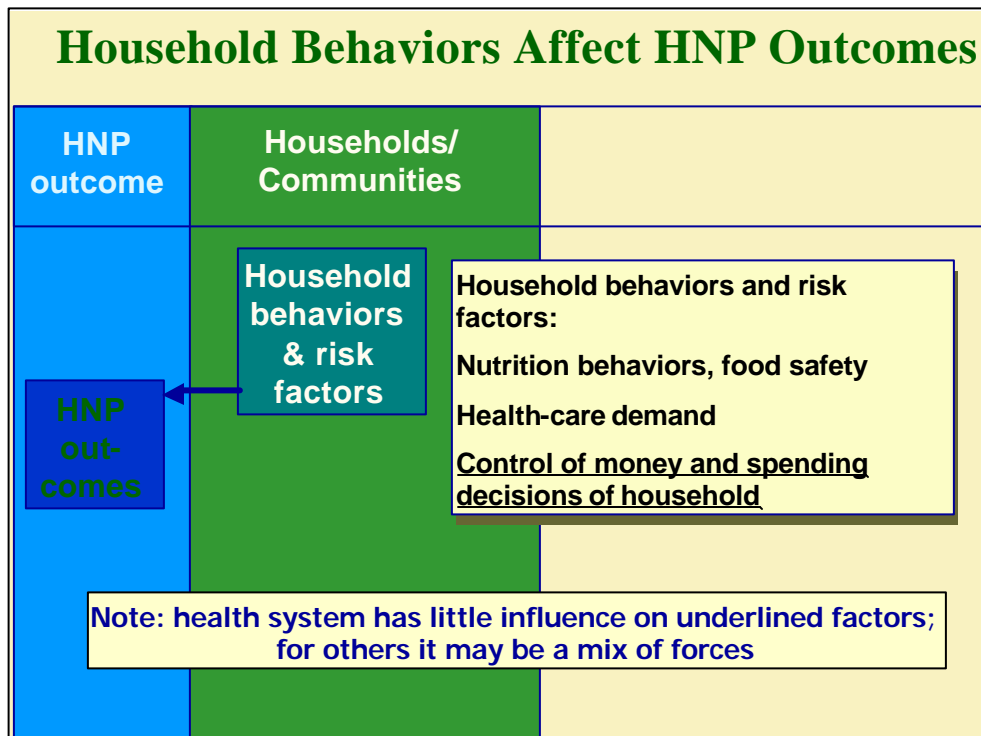
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This slide reminds us of examples of risk factors at the household and community level, including:

Nutritional practices and demand for health care, which are examples of household behaviors and risk factors affecting HNP outcomes.

Education, household income and access to water and sanitation, examples of household resources which influence households' capacity to acquire the medicines and services they need to "produce" better outcomes.

Community factors, including both community values that shape household attitudes and behaviors and the physical and environmental conditions in the community, for example roads and other public infrastructure that enable households to produce better outcomes.

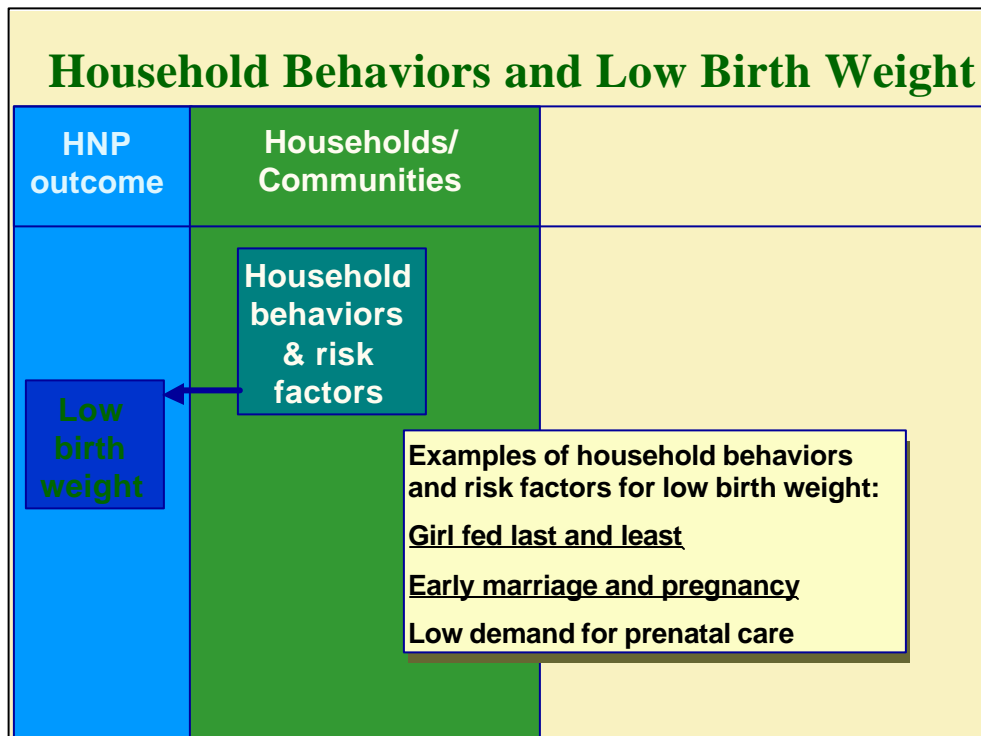


This slide expands a bit further on household behaviors and risk factors. The yellow box to the right of the household box lists three examples:

Some household factors are influenced by the health system, others not. Healthcare demand, addressed in session 3, is an example of the latter.

Nutrition behaviors (dietary practices, amounts of food available to men/women, boys/girls, food safety, etc.) are probably inside—do you agree?

Control of money and spending decisions (whether mothers can spend money on themselves and their infants), is more related to factors outside than inside the health system.



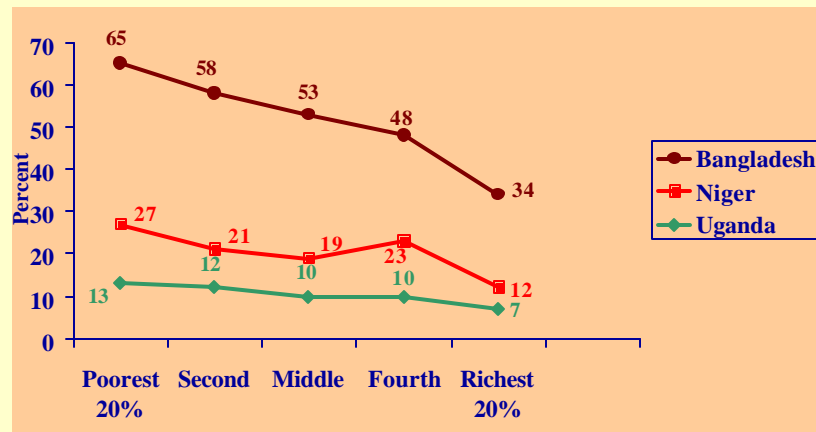
Now let's go back to the "pathways" slide and consider an adverse outcome that affects a higher proportion of babies born to poor mothers—low birthweight. What are some of the household behaviors and risk factors that contribute to this outcome?

The box lists some possible reasons—girls may be fed last, and least, in poor households, which means that they may be small or anemic when they become pregnant. This risk is exacerbated when girls marry and start having children when they are very young.

Poor women at any age may not seek prenatal care, which would help them learn about how to take care of themselves and their babies during pregnancy and delivery.

Participants should help to expand this list with examples from their own experiences.

## Maternal Malnutrition, Low Birth Weights and Poor Households



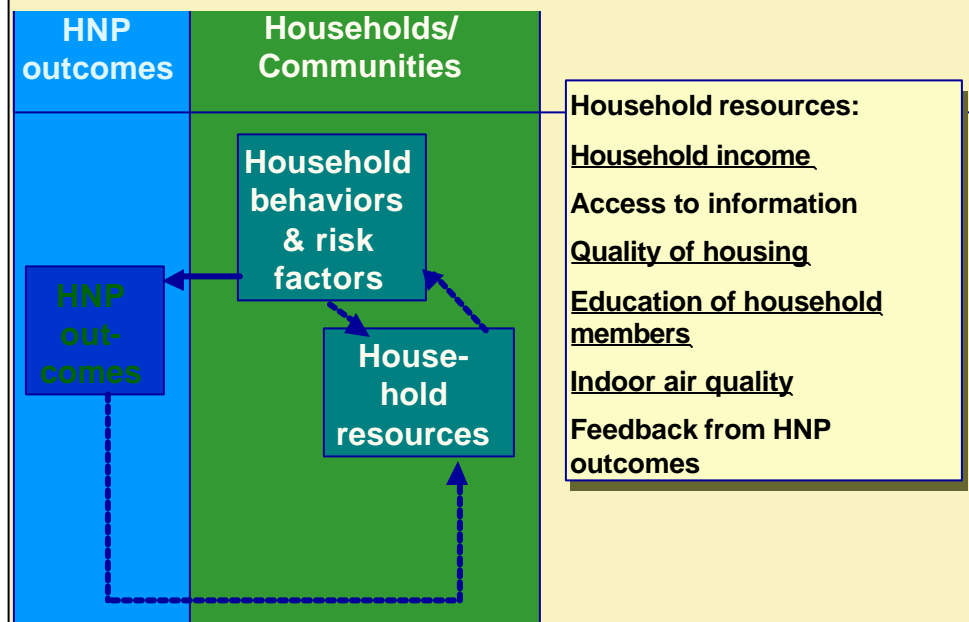
Percent of mothers with low body mass index (weight/height<sup>2</sup> ratio below 18.5)

This slide presents concrete evidence from the PRSP tabulations of the Demographic and Health Surveys to show that mothers in the poorest wealth quintiles are less well nourished and at higher risk of delivering an underweight baby.

This chart shows the proportion of mothers with low body mass index by household wealth quintile for Bangladesh, Niger, and Uganda. Poor women are underweight in all three cases, but much more so in Bangladesh.

All three are poor countries, and participants should discuss factors that may be contributing to the higher proportions observed for poor women, and for the population as a whole in Bangladesh as compared to Niger and Uganda.

## Household Behaviors Affect HNP Outcomes



The yellow box in this slide lists examples of household resources – household income, access to information, and education of household members. Participants are asked to explain how each of these could influence the household behaviors in the previous slide and to provide specific examples of such factors in their own countries or countries where they work. Again, they could add to the list of household resources and elaborate on how these examples might influence outcomes for the poor.

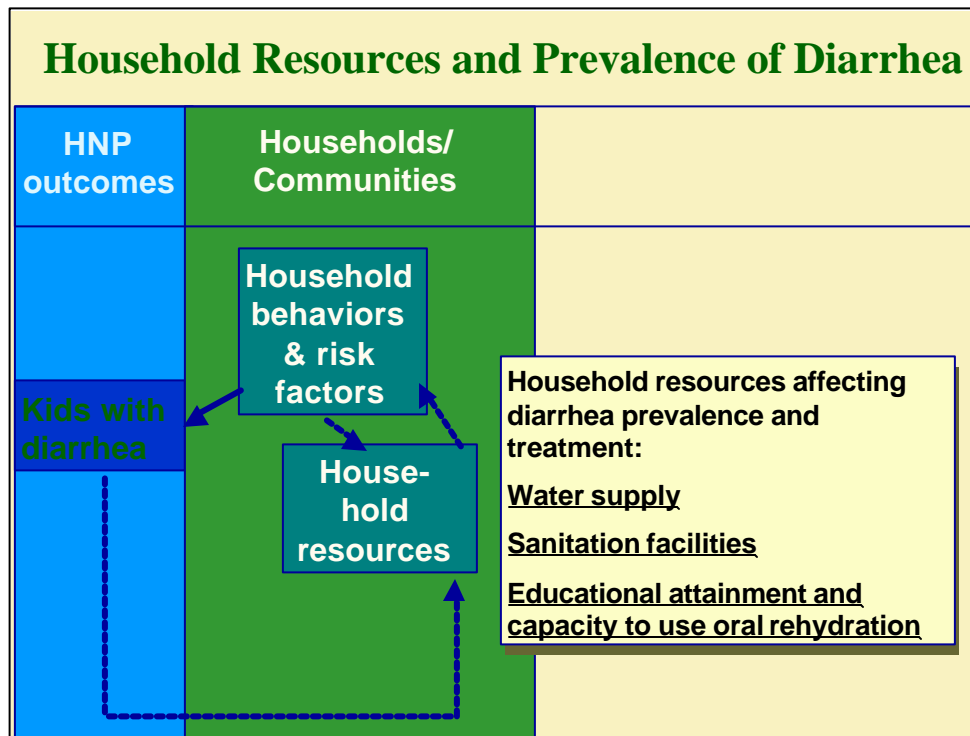
This slide also shows a dashed line indicating feedbacks from HNP outcomes back to the household resource box. How do low levels on HNP outcomes affect household resources, for example income and educational levels? Can participants cite evidence from countries in which they work or live?

## **Health Risks of Poor Indoor Air Quality**

- **Exposure to biomass smoke increases risks of acute respiratory infections (ARI).**
  - **Studies in Nepal, The Gambia, and Tanzania have documented the link between ARI for children under 5 and smoky cook-stoves.**
- **India is promoting a shift from traditional biomass to modern fuels in an effort to reduce indoor air pollution and ARIs.**
- **For poor households who can't afford other fuels, improved stoves are an alternative.** 22

Before we move on to some examples of community factors, let's consider another household resource issue—the technology that households use for cooking and heating. There is strong evidence that indoor air pollution from burning of biomass (coal, wood) in stoves is a major contributor to respiratory infections, particularly among young children. An example of how this is being addressed comes from India, where respiratory infection rates are high and a shift to cleaner fuels is being promoted in order to reduce pollution and infections. However many poor households cannot afford new fuels. For them, it is better to focus on improved biomass-stove technology (e.g. better ventilation). See UNDP/World Bank Energy Sector Management Assistance Program (ESMAP). Indoor Air Pollution, Issue #2, Dec. 2000.

Can participants suggest other examples—what about building materials in household construction? Could someone describe how certain disease vectors might be linked to building materials?



We can continue our discussion of outcomes during pregnancy and early life with another example, diarrhea among young children—another indicator provided by the Demographic and Health Surveys, and one which also allows us to look at how poor children may be more affected by this outcome. In this slide, we’re looking at household resource factors and how they might affect raise or lower the proportion of kids having diarrhea.

The box on the right-hand side of the slide lists several factors—including water and sanitation, that are highly correlated with the prevalence of diarrheal disease.

Participants should add to this list and consider how these and other factors (education, household food availability, for example) might affect differential risks for children in poor households.

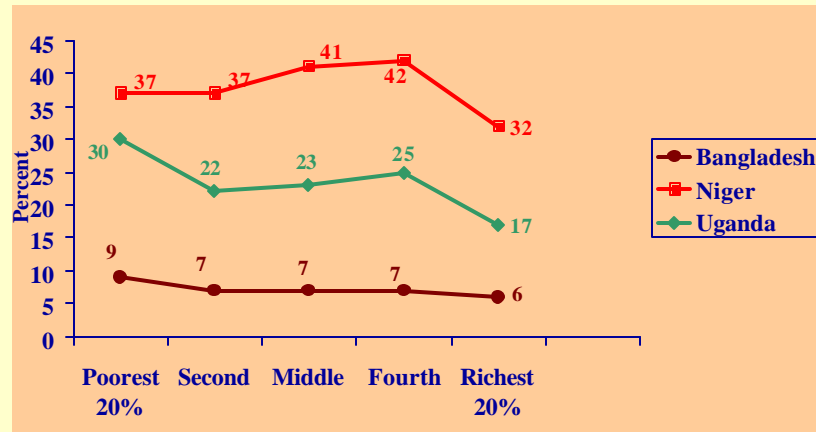
## **Good Hygiene Can Reduce Risk of Diarrhea**

- **Evidence shows that childhood diarrhea can be reduced by:**
  - **Hand washing**
  - **Use of latrines**
  - **Safe disposal of young children's stools**
- **Collaboration with private sector to produce and distribute soap for hand washing is an effective intervention when combined with behavior change communication**

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We know what works to prevent diarrheal disease in children and how to treat it. Health education is critical, in addition to supplies of soap and water.

## Rich-Poor Differentials in Diarrhea Prevalence



Percent ill in the two weeks prior to the survey

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This slide draws again on the evidence base provided by the PRSP tabulations of the Demographic and Health Survey data sets for the three countries we looked at earlier—Bangladesh, Niger, and Uganda. Differences among wealth quintiles are less accentuated than those we observed for maternal anemia. What do participants think about this—can you suggest explanations, perhaps relating to household behaviors or to community factors, for the different patterns that we observe here.

One answer might be that access to water at the community level is a more important problem, except for the highest quintile, than household-level access. Are there other possible explanations?

## Water and Sanitation

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- **Lack of access to quantities of clean water and poor sanitation are major risk factors for diarrheal diseases that kill many children.**
- **Investments in increasing access to quantities of water and sanitation can reduce these risks.**
- **However the effect is not automatic: research has shown that healthy household behaviors and adequate resources are also needed for children in poor households to benefit.**

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In the specific case of access to water and sanitation, the association between diarrheal disease and inadequate quantities of safe water and sanitation is pretty well documented. However, research on the links between water, sanitation, and diarrheal disease has shown that the relationship is mediated by household behaviors—as suggested by the lines linking these household resources to outcomes **through** the household behaviors box.

## Take-Home Messages

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- **Factors inside and outside the health system influence household risk factors and behaviors, resources**
- **For example, health education and general education contribute to adoption of healthier behaviors**
- **Strategies need to take account of these interactions**

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The main points are that factors inside and outside the health system are involved in household household behaviors and risk factors. Strategies to improve outcomes for the poor need to identify deficits that affect the poor and design measure that take account of the interactions between forces inside and outside the health system as well as those which have are “purer” examples of one or the other.

## Session Outline

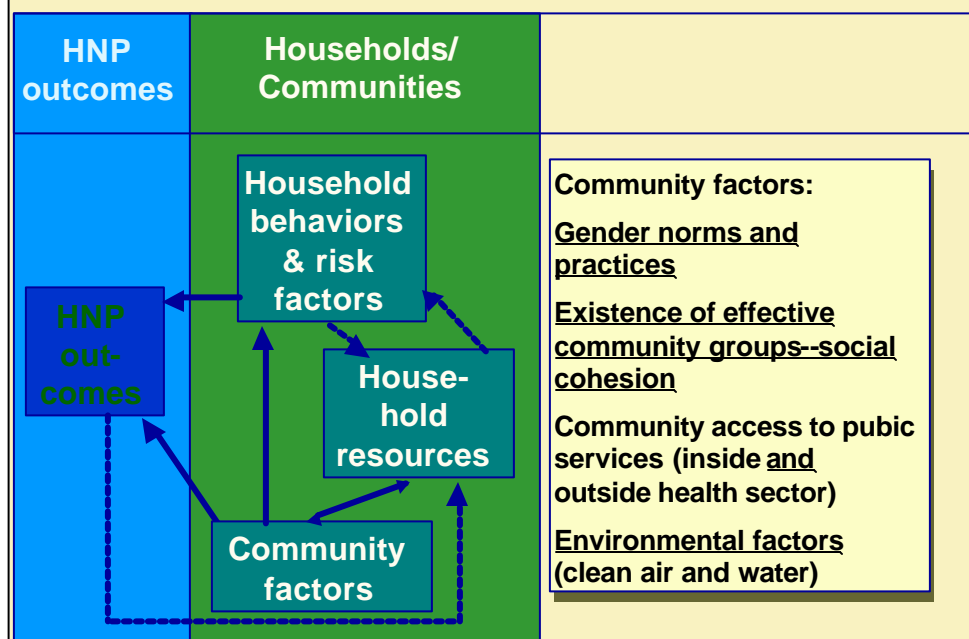
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The next section deals with community-level factors.

## Community Factors Affect HNP Outcomes



The yellow box in this slide lists examples of community-levels factors with either direct effects on HNP outcomes or indirect effects through household resources and through household behaviors and risk factors.

The examples cited include gender norms and practices, the level of social cohesion (sometimes called “social capital”) in the community, cultural and religious values, and ecological factors.

Participants are asked to describe how one of these examples (or others that they can add to the list) would either directly or indirectly influence an HNP outcome for the poor. If possible they should provide specific examples from their work in countries.

Again, the ones that are more clearly outside the health system are underlined.

## Social Capital and HNP Outcomes

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- **Social cohesion a force in Uganda's fight against HIV/AIDS.**
- **Effective community involvement in health management has contributed to success of reforms.**
- **Social capital difficult to measure, but limited evidence shows a positive link to improved HNP outcomes.**

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The positive potential contribution of social cohesion (or social capital) to improved health outcomes is now recognized. There is evidence of this positive effect in the case of Uganda's successful efforts to mobilize the community in its fight against HIV/AIDS. There is also evidence that community involvement in and ownership of such reforms as decentralized management of health services is a critical element of the success of such reforms, and that the failure to involve the community can undermine reforms.

See Rand Stoneburner, Daniel Low-beer, Tony Barnett, and Alan Whiteside, "Enhancing HIV Prevention in Africa: Investigating the Role of Social Cohesion on Knowledge Diffusion and Behavior Change in Uganda," Presentation at Durban AIDS Conference, 2000.

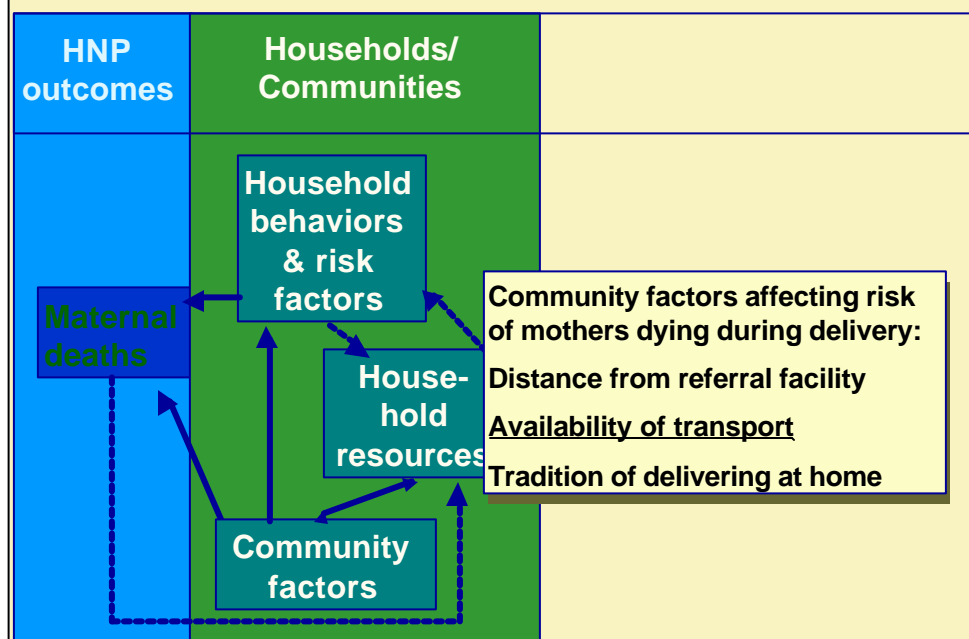
## **Community and Household Factors Interact with Each Other**

- **Research in rural India shows significantly lower incidence and duration of diarrhea for children under 5 in families with piped water.**
- **However, that outcome depends on household income & education; control for these variables reveals that health gains largely by-pass children in poor households.**
- **Infrastructure investments have to be combined with education & income-poverty reduction efforts to achieve desired effects on outcomes.**

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This slide takes us back to the question of water supply, but highlights the point about interactions between household and community factors made in the last section. Analysis by Jaland and Ravallion on links between access to piped water and the incidence and duration of diarrhea episodes among children in rural India reveal that public investments that directly improve children's health can end up having little or no impact on children in poor families once complementary household characteristics (like income and education) are taken into account. This research highlights the need to take account of interactions between household resources and community-level interventions. See Jyotsna Jalan and Martin Ravallion, "Does Piped Water Improve child Health in Poor Families? Propensity Score Matching Estimates for Rural India," World Bank, south Asia Poverty Reduction and Economic Management Group.

## Community Factors and Maternal Deaths



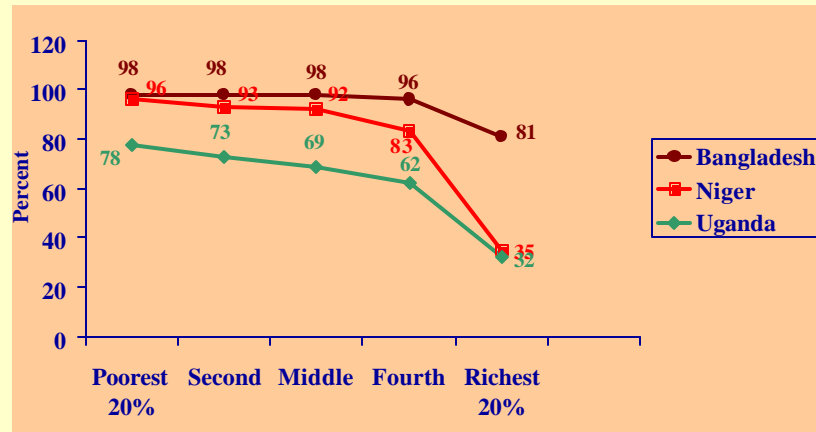
Let's continue on to the community level and consider some of the factors at that level which may contribute to high levels of maternal mortality in poor households. It is a fact that the lifetime risk of a mother dying from complications of delivery are many times higher for poor women—even though the risk of an obstetric complication occurring is pretty much equal among all women.

The question is then why poor women are more likely to die when a complication occurs, and what factors in her community may be contributing to this higher risk.

The box on the right-hand side of the slide suggests three reasons—all of which are related to delays in managing life-threatening obstetric emergencies. These include distance from a facility, availability of transport to that facility, and the tradition of delivering at home rather than in a facility where an emergency could be managed quickly if it were to occur.

DHS data in the next slide provide some insight into differences in the last indicator.

## Poor Women are More Likely to Deliver Babies at Home



Percent of deliveries at home

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This slide reports differences in the proportion of home deliveries by wealth quintiles for women in Bangladesh, Niger and Uganda. In Bangladesh nearly all births occur at home, except for the upper income quintile, where the proportion is 81%. The gradient between lower and upper quintiles is more pronounced in Niger and Uganda. Still, home deliveries account for a very high proportion of the births among women in the poorest quintile as well as the two quintiles just above the poorest. All three countries have maternal mortality ratios well in excess of 300 maternal deaths per 100,000 live births, which is a cut-off level for countries with very high levels of maternal mortality.

Home delivery is not a cause of maternal deaths, but it becomes a risk factor when home deliveries occur without a skilled attendant and when facilities for management of emergencies are inaccessible because of distance or lack of transport.

## **Distance/delays kill mothers**

- **Obstetric emergencies are difficult to predict; when they occur during a home delivery, getting the mother to a hospital is critical.**
- **Distance, poor roads and lack of ambulances or other means of transport delay management of life-threatening complications.**
- **Problems are exacerbated for such difficult-to-anticipate complications as hemorrhage, which is usually fatal beyond 4 hours.** 34

Distance from a referral center is one of the main risk factors associated with home deliveries. Even if a midwife or family members decide that a mother is experiencing a life-threatening emergency, poor roads and the lack of transport may delay her treatment in a facility that can save her life. Such delays can be deadly. For example, severe hemorrhage can cause fatal shock if not treated within four hours.

Addressing the so-called “three delays”—in recognizing a life-threatening emergency, in getting a mother suffering an emergency to a facility where it can be managed, and in effectively managing it once she is there—is a challenge for all three countries. Participants are asked to provide examples from their experience of ways in which one or all of these delays has been reduced.

## Summary: How to Address Household & Community Factors

Level	Risk factors	Diagnostic tools	Possible interventions
Household	Income, wealth, education, behaviors, gender bias	Household surveys; various statistical methods	Health finance; social protection; BCC and health education; advocacy for gender equality
Community	Physical factors, values & culture, social capital	Community surveys, consultation exercises	Transport & infrastructure; advocacy for changes in attitudes harmful to HNP outcomes; foster social capital

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The PRSP Handbook provides those of you working on poverty reduction strategies with a three-step summary of the approach to addressing household and community factors affecting HNP outcomes. The first step is to identify the risk factors at the household and community levels, as we have done with the examples that have been discussed in the series of slides through which we've just worked. The second step is to measure and analyze these risks using data tools such as the quintile-wide tabulations of Demographic and Health Survey data we've examined, along with the diagnostic tools for further analysis of these data that you've learned about in other sessions. The third step is to consider possible interventions like the ones we've already discussed, along with others that could be undertaken from within or outside of the health system. One of the challenges we face is that many of the forces from outside the health system affect HNP outcomes via their impact on the performance of the health system or on households' capacity to make effective use of information and services provided by that system.

## Take-Home Messages

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- **As in the case of households, the forces inside and outside the health system interact**
- **Health-system interventions can take advantage of positive forces, for example strong social cohesion**
- **They can also help mitigate some of the negative forces, e.g. gender bias**

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Here are some take-home ideas from our discussion of community-level factors.

## Session Outline

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Next we move to supply in other sectors.

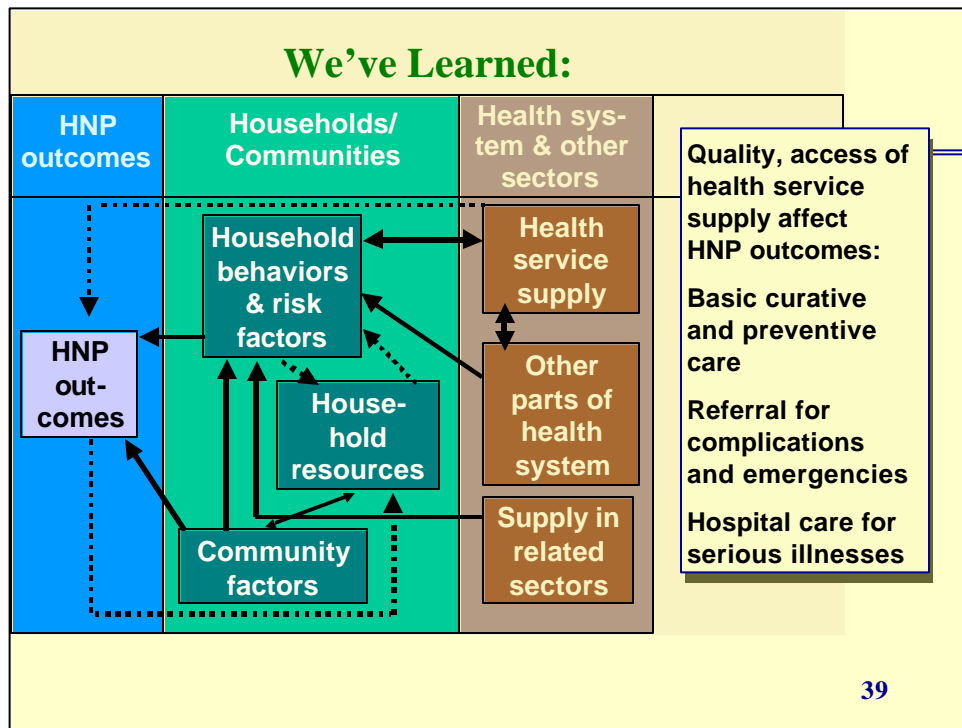
## **The Framework Again: The Health System and Other Sectors**

- **Health care supply, including outreach, referrals and curative care**
- **Other health services, including drug supply and health education**
- **Supply in other sectors, for example, water/sanitation, transport and communication, social protection**

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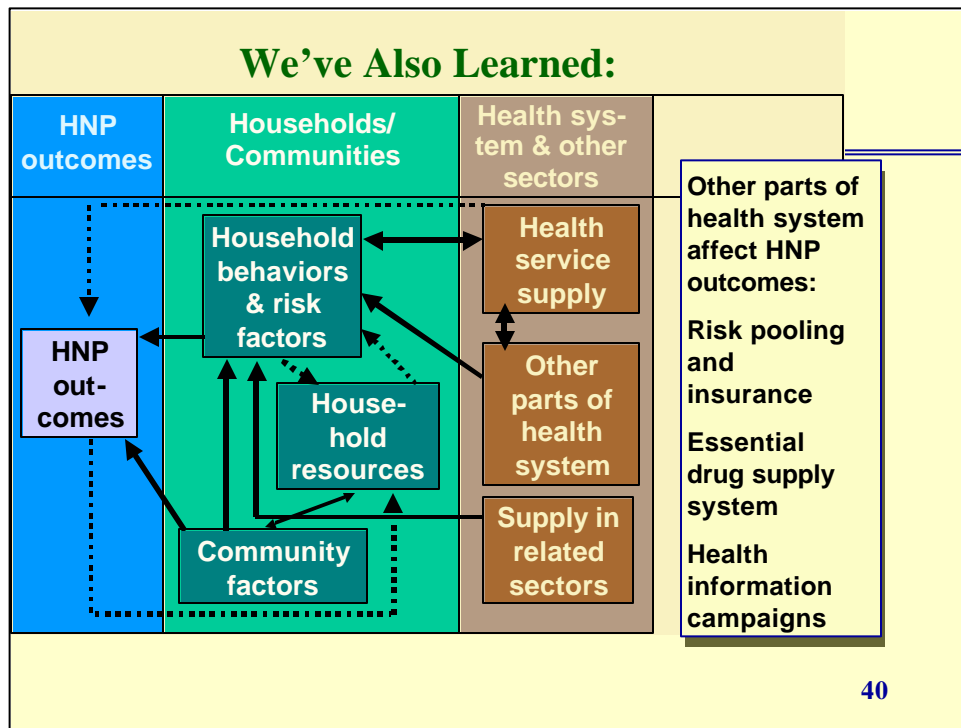
It would be a lot easier if all of the arrows from our pathways boxes pointed directly to health outcomes; but things are rarely that easy. Some do, but many of the pathway arrows flow through other boxes, and many factors outside the health system either influence the performance of the health system or mediate the effects of health care and information on outcomes.

Factors outside the health system that affect its performance include government actions and policies in the last (orange) panel of the “pathways” framework, while those that mediate the impact of health interventions are more like to be found at the household and community level (the boxes in the green panel) or in other sectors like education and public infrastructure. To understand how factors outside the health system affect outcomes, we need to think about how they are linked to the boxes in the brown health systems panel of the pathways framework, which include health care supply, other health services such as health information and drug supply, and supply in other sectors.



We don't need to spend a lot of time on the box that refers to health service supply, which is addressed in another part of the PRSP learning program. It includes such interventions as basic curative and preventive care, referral systems, and hospital care for serious illnesses. It is important for us to remember that most of the arrows that link health service supply to outcomes flow **through** boxes in the household/ community panel. In fact, as session three has reminded us, household and community factors often have a larger impact on outcomes, and on rich-poor differences in outcomes, than health services supply itself.

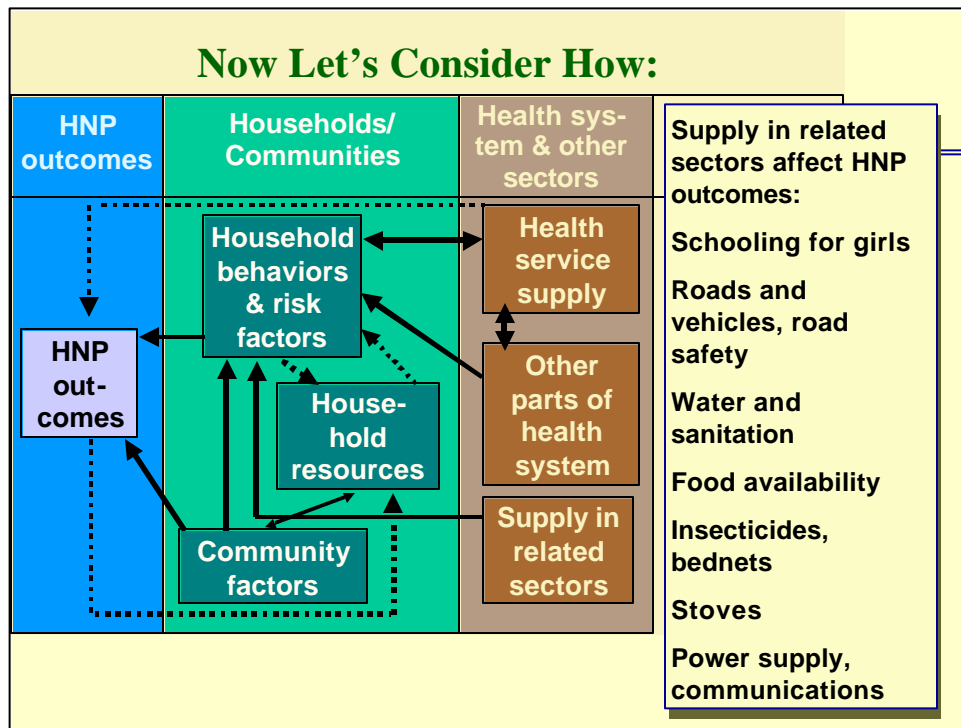
We'll also see that the influence of government policies and actions on outcomes can have both direct and indirect effects on outcomes, and that these too are often indirect—working either through the healthcare system or through household and community channels.



It's a similar story with the items that go in the box for "other parts of the health system." Factors such as health financing, drug supply systems and health information are often critical for the attainment of better health outcomes. But they are often necessary but not sufficient conditions.

For example, the effectiveness of health information campaigns depends on how much those campaigns improve households' knowledge about management of health risks and their behaviors in managing those risks.

The little arrow that runs between the health service supply and other parts of the health system reminds us of the interdependence of these factors. For example, many poor women report that they do not go to health centers when they or their children are sick because they know from experience that there will not be any medicine available for treatment (unless they can make under-the-table payments). Here we see an interplay between health system and household factors that is clearly detrimental to better outcomes for the poor.



Supply in related sectors (for example, education and infrastructure) does not have any arrows pointing directly to health outcomes. For this reason, factors in this box are not considered as part of the health system even though they can have an important indirect influence on health outcomes.

The box on the right-hand side of the slide lists several examples, and participants can surely suggest others.

If we take one that we've already thought about in our discussion of the delays that contribute to higher levels of maternal mortality for the poor – transport – we get further insight into the role of factors in other sectors. At the household level we cited availability of transport as a factor. Here we can think about transport infrastructure, for example roads. Even if an ambulance is available to the rural Bangladeshi woman who suffers an emergency during the rainy season, the roads may be so impassable that the ambulance won't get her to the hospital in time.

If there is time, participants may want to discuss other pathways such as those linking water/sanitation infrastructure and food availability to the diarrheal disease and low birthweight outcomes discussed earlier.

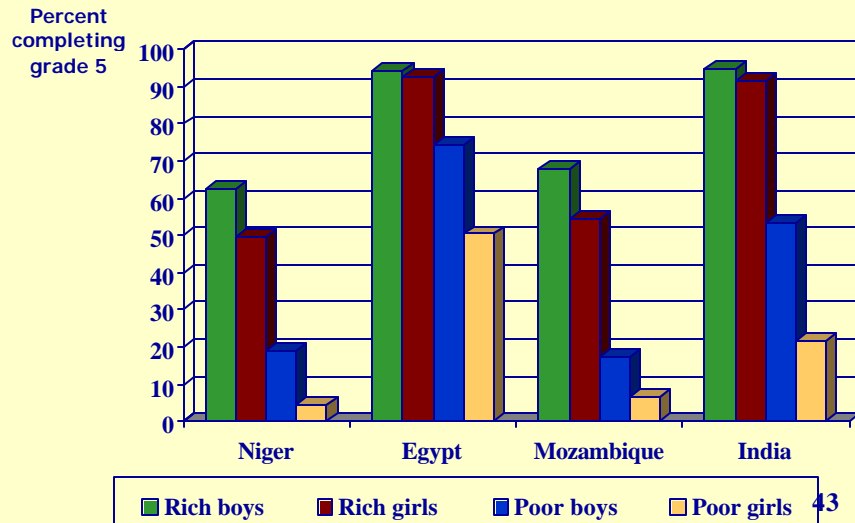
## **We Know that Educating Girls Can Improve HNP Outcomes**

- **Mothers' education positively correlated with better HNP outcomes: lower fertility, better nutrition, higher child survival.**
- **Better educated mothers more likely to practice positive behaviors, avoid health risks.**
- **Education empowers mothers to seek health care for themselves and their children.**

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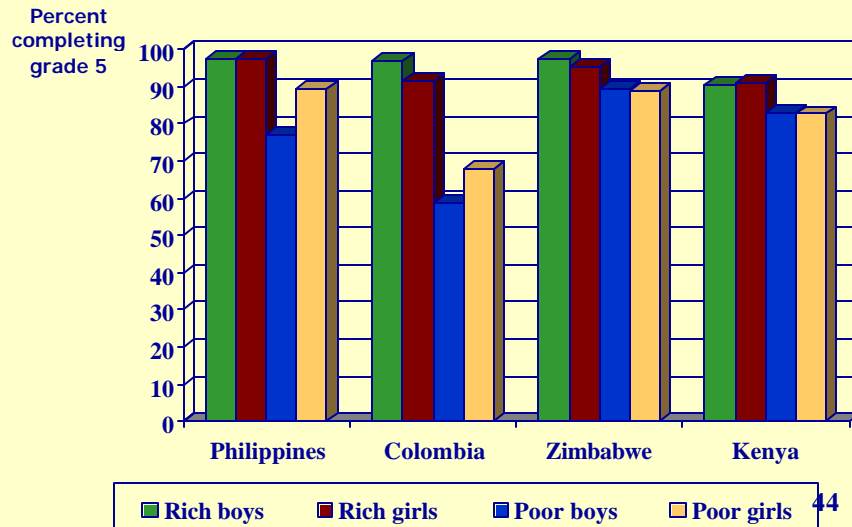
We know that educating girls matters a lot, but that the effects of education on HNP outcomes usually work in combination with other measures. For example, more educated mothers are more likely to adopt healthier behaviors such as better nutritional and reproductive health practices. Health education and the means to regulate fertility or avoid sexually-transmitted infections are required. If the market fails to supply these means, which is often the case for the poor, there is a role for the public sector to help in financing or provision.

## The Gender Gap for Poor Households



Evidence from the Demographic and Health Survey tabulations by wealth quintiles reveal large gender gaps in educational attainment. This chart, which shows the proportion of boys and girls in the highest and lowest wealth quintiles who have completed five years of school, also shows that gender differences are greater for poor households than rich households.

## Poor Girls Do Better When Attainment Improves



This chart uses the same data to look at gender differences in countries that have higher overall educational attainment, and which have less rich-poor differentials. The data suggest that, at least for certain countries, raising educational attainment levels for the poor helps to reduce gender differentials. There is further support for this hypothesis in the demographic literature. See: **Post-Cairo Population Policy: Does Promoting Girls' Schooling Miss the Mark?** John Knodel, Gavin W. Jones *Population and Development Review*, Vol. 22, No. 4. (Dec., 1996), pp. 683-702.

## **Better Roads/Transport Can Reduce Delays that Cause Maternal Deaths**

- **In a Tanzania study, 63 percent of women who died after reaching a hospital had traveled 10 kilometers or more for treatment.**
- **A study of maternal deaths in India showed that half of maternal deaths occurred before the woman reached a treatment facility; most had come by bus, rickshaw, bullock cart—only 9 percent by ambulance.**
- **Generally, a high proportion of deaths in hospitals can be traced to arrivals that are too late for effective treatment.**

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When the treatment facility is far away, not only the distance but also the mode of transport becomes an important determinant of how soon medical help becomes available, and consequently, of survival chances. Many studies document how delays related to distance and slow transport have contributed to the deaths of mothers who suffered a delivery complication.

See Vinaya Pendse, “Maternal Deaths in an Indian Hospital: A Decade of (No) Change?”, *Reproductive Health Matters Special Issue on Safe Motherhood Initiatives*, 1999, 119-127

## **Better Roads/Transport Reduced Delays but not Many Deaths**

- **A ten-year study in Rajasthan, India, showed that better roads and transport helped more women reach referral facilities.**
- **Investments in transport helped, but many women died because there was less improvement at household & facility levels.**
- **More deaths were reported because women were able to come from greater distances.**

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A ten-year “before-and-after” study of maternal deaths in Rajasthan, India, showed that improved roads and means of transport (including use of jeeps at the later date) enabled more women suffering an obstetric emergency to get to a referral hospital. However deaths at the referral hospital did not decrease significantly. Women were able to come from greater distances and were in such grave condition on arrival at the facility that many still died.

The lesson is that roads and transport can help, but effective management of obstetric emergencies requires an effective referral chain. A weak link at any level can cause the system to fail.

It should be recognized that because a higher proportion of women reached hospital in the “after” case, a higher proportion of overall deaths were probably reported (many deaths in remote areas probably remained unreported).

## Safer Roads and Vehicles Can Also Reduce Many Deaths

- Every year more than 1.17 million people die in road crashes, 70 percent of them in developing countries; injuries and deaths are a significant and growing part of the global disease burden
- A high proportion of accident victims are pedestrians, often women and children fetching water or wood; in poor countries, walking is still the dominant form of transportation; other victims are passengers of over-crowded, unsafe collective vehicles used by poor people

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**At the international level**, road insecurity is more severe in developing countries than in developed countries: Currently, traffic fatalities as a proportion of the number of vehicles are higher in developing countries (18 for every 10,000 registered cars in Latin America) than in OECD countries. Projections suggest that the # of people killed/injured in road accidents will continue to increase in developing countries, whereas a steady decrease is observed in developed countries since the late 60's.

**At the national level**, and in particular in those developing countries, available data suggest that a high proportion of the victims of road accidents is poor, and consequently a high proportion is also more vulnerable to the negative consequences of these accidents. A high proportion of victims of traffic accidents are pedestrians, often women fetching water or wood, and children --in developing countries, walking is still the dominant form of transportation, even in cities--; other are passengers of collective vehicles (buses, pick ups, taxis, etc.) -- relatively few people own their own car, and instead, use collective/ overused /non-maintained vehicles. These victims are also those who (i) have the less easy access to curative health services needed after car-related injuries, (ii) suffer the most from the loss of income subsequent to car fatalities/deaths.

**Conclusion:** As the poorest people in the poorest countries bear a disproportionate burden of traffic insecurity, poverty oriented programs ought to include targeted measures aiming both at prevention (redesign of traffic circulation, education, awareness programs), support and care.

## Take-Home Messages

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- **Supply in other sectors, particularly education and infrastructure, clearly impact on health outcomes**
- **These effects interact with forces at other levels (households, health system--e.g. health & nutrition BCC)**
- **A key challenge is to identify the most important synergies and remove obstacles to their effective action**

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Here are some take-home messages on supply in other sectors.

## Session Outline

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- Review pathways framework
- Household behaviors and resources
- Review life-cycle model and risk factors
- Community factors
- Supply in other sectors
- Government policies and actions in other sectors

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Let's move on to policies and actions by government.

## **Pathways to HNP Outcomes: Policies in Health and Other Sectors**

- **Health reforms, including new financing and provision schemes**
- **Actions in other sectors, including**
  - **Reforms leading to private provision of other public services (transport, power), and**
  - **Economic policies, for example tariffs on drugs, health goods**

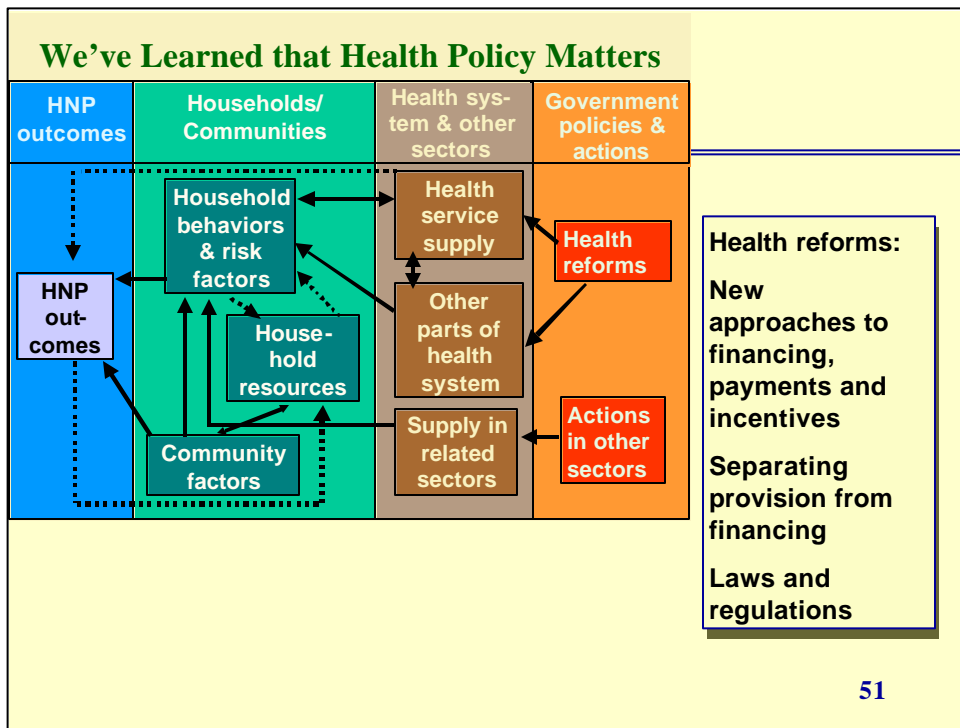
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The final segment in this module refers to the last (orange) panel in the pathways framework, in which we examine the role of government policies and actions that can impact on HNP outcomes. These include:

Health reforms, for example new financing and provider payment mechanisms that aim specifically at improving health system performance.

Actions in other sectors, for example reforms in transport and water/sanitation, where fees and other changes may improve performance in those sectors but also have effects on health outcomes.

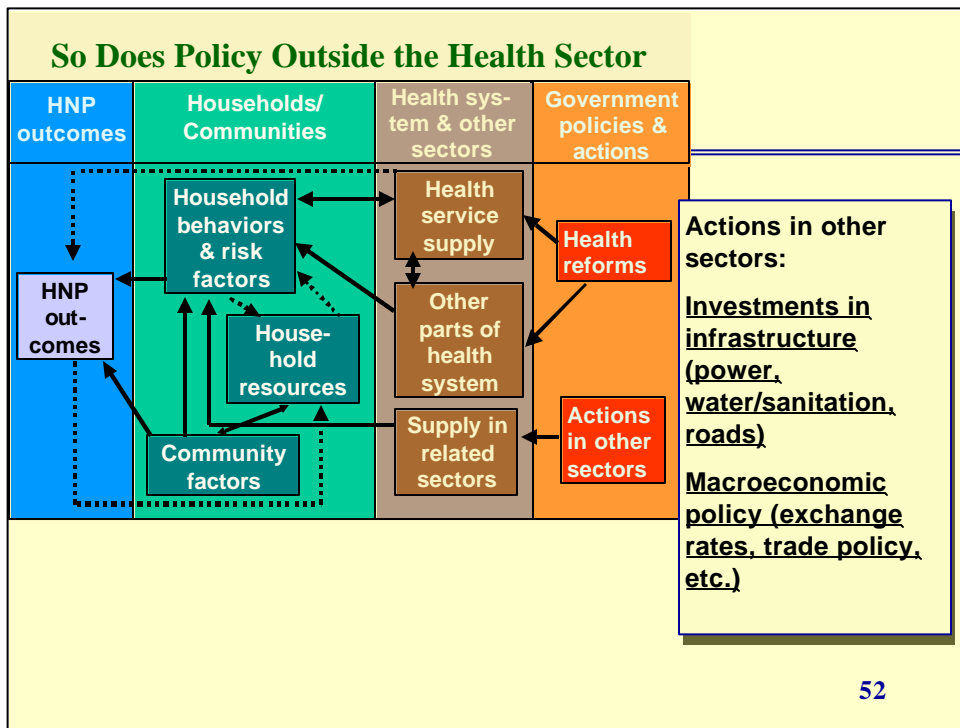
Economic policies, for example tariffs and tax policy, which can affect health outcomes through a variety of paths.



The goal of health reforms is to improve the performance of health systems. Improved performance means better equity in access to care, better quality of care, more sustained financing of care, less waste and inefficiency in the use of resources for health, etc.

To achieve this goal, reformers have introduced new modes of financing and organizing care (for example user fees and risk pooling), separated financing from provision of care and instituted contracting with private providers, and worked to remove legal and regulatory obstacles that undermine performance.

In principle, reforms should lead to improved outcomes. However, the effect of reforms on outcomes is generally indirect. It depends on how changes in the health system actually play out, and this means that we have to pay attention to the mediating role of household and community factors.



It's a similar story with actions in other sectors outside the health system. Most of the measures that are taken in these sectors seek to improve the performance of those sectors or to improve the performance of the economy. In principle, such actions ought to be supportive of better HNP outcomes. However there are risks, because unintended consequence may result via the mediating roles that household and community factors play – particularly in terms of how these affect the performance of the health system service in meeting the needs of poor people.

Participants are asked to provide examples from their experience of economic policies that have had a positive or negative impact on the performance of the health system in meeting the needs for the poor. (Hint: what about salary and employment caps aimed at reducing government deficits?)

## **Consider the Unintended Health Consequences of Policies**

- **User fees a health system issue, but fee structure may have other goals**
- **In Vietnam, fees for a normal delivery are lower for poor women, but the fee structure causes poor women to pay more (see table).**
- **Vietnam's population policy: exempt first two births from fees.**
- **More poor women have three or more children than rich women, so average cost of delivery is higher for poor women.**

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The diagnostic tools presented in session three can help us track these changes. For example, benefit-incidence analysis looks at the differential impact of reform measures on rich and poor households.

The Vietnam example summarized in the next slide shows the impact of fees charged for normal delivery on the costs of delivering babies for rich and poor households.

The bottom line is that poor women end up paying more even though the fee per delivery is higher for rich women.

Because no fees are charged for the first two deliveries and because poor women are more likely to have three or more children, they end up with a higher total cost for delivering their children.

Vietnam Example: Fees Charged for Normal Delivery by Income Quintile, 1996

	Income quintile					Vietnam
	Poorest	2	3	4	Richest	
Fee charged for normal obstetric delivery (third child) at nearest district hospital (VND)	15,831	18,318	17,977	20,038	27,796	20,335
Average fee charged for normal obstetric delivery at nearest district hospital (VND)	9,551	10,148	9,768	7,894	8,082	9,204
Fee charged for normal obstetric delivery (third child) at nearest commune health center (VND)	11,711	12,537	14,387	13,489	16,816	13,918
Average fee charged for normal obstetric delivery at nearest commune health center (VND)	7,581	5,685	8,085	5,009	4,685	6,314

Fee averaged over subsample of women who delivered within the past 5 years and with the fee equal to zero for all women with fewer than two children at the time of their birth.

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This table summarizes the impact of Vietnam's user fee structure on costs of delivery for women in different income quintiles. While per-delivery fees for poor women are lower for normal deliveries in district hospitals and commune health centers, poor women end up paying a higher average fee than rich women because they have more children.

Source: J. Knowles (2000). *Benefit Incidence Analysis of Safe Motherhood Services in Vietnam*. Paper prepared for WBI Core Course, World Bank Institute, Washington D.C

## **Vietnam Case: Issues for Discussion**

- **Vietnam's fee structure has a dual purpose: to recover costs and to create a negative incentive for high birth rates.**
- **Higher average costs for poor women may discourage delivery at a facility with a skilled attendant and increase risk of maternal mortality.**
- **Are there better ways for Vietnam to promote lower birth rates?**

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The Vietnam case raises a number of issues for those concerned about delivery services and the possible adverse effect of cost as a disincentive for mothers to give birth in facilities, where they are more likely to receive treatment in case of an obstetric emergency.

Vietnam's fee structure has a dual purpose—to recover the costs of delivery care and to promote lower birth rates via the exemption for the first two births but not for third or higher order births.

What are participants' views about the possible risks to maternal health of this policy? Can they cite other examples of population-related policies that may be detrimental to maternal health, and can they suggest better approaches to both population policy and user fees that might reduce such risks?

## **How Policies Can Affect Efforts to Reduce Health Risks for the Poor**

- **Tariffs and taxes on drugs and health-sector goods can push prices beyond the reach of the poor or limit the providers' capacity to procure adequate supplies of commodities.**
- **Public sector investments in infrastructure (roads and communication networks) may reduce the delays in managing emergencies that threaten poor women's lives.**

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When health reforms introduce user fees to make services more financially sustainable or even to rationalize utilization of scarce resources, they may help or hinder poor women's access to emergencies services. What can we draw from our earlier discussion of the influence of such community factors as gender attitudes on health seeking behaviors to think our way through this question?

Tariffs and taxes on drugs and health sector goods can push prices of essential commodities beyond the reach of the poor or may limit public-sector capacity to procurement for subsidized distribution to the poor.

Let's not forget policies in other sectors, for example promoting investments in rural roads and communication, may help to reduce the delays in managing emergencies.

## **Reduced Taxes/Tariffs on Bednets Help the Poor**

- **Insecticide-treated bednets (ITNs) are a proven way to prevent malaria, a major killer of children and pregnant women.**
- **Taxes & tariffs on ITNs/ITN materials (netting and insecticides) have kept ITN prices beyond the reach of the poor.**
- **Reducing taxes/tariffs has cut ITN prices by 10-20 percent.**

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Malaria kills more than one million people a year worldwide – with nine out of ten cases in Africa – but can be prevented by using insecticides and bednets to stop the mosquitoes that transmit the disease.

Prices for nets vary across Africa – with prices reported to be as high as US \$45 in Swaziland and US \$30 in Sudan – putting them completely out of reach of most Africans.

It is estimated that only about three per cent of families in malaria endemic countries use treated nets – with cost thought to be a major obstacle for wider use. Most tax and tariff authorities continue to view insecticide treated nets as textiles, instead of classifying them as pharmaceutical materials with the potential to save lives.

Tanzania was the first African country to take action on the ‘malaria tax’ last year reducing the total of taxes and tariff duty combined to 5% - making mosquito nets more affordable at an average price of US \$3.50.

Uganda has completely scrapped taxes and tariffs on mosquito nets and insecticides used in the fight against malaria in its June budget. This follows hard-hitting pledges to waive malaria-related taxes and tariffs made at the historic African Malaria Summit in Nigeria this past April. Now, Uganda is the fastest country to respond - with most African nations yet to act.

See J. Simon et al., “Reducing Tariffs and Taxes on Insecticide-Treated Bednets: Background Paper for Africa Malaria Day, April 25, 2001

## **Social Funds Can Contribute to Better HNP Outcomes for the Poor**

- **by increasing income through credit and employment schemes,**
- **by mobilizing community support for behavior change, and**
- **through community-based investments in water, sanitation and health infrastructure.**

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Social funds can help to mitigate the risks of reforms and policies such as tariffs on poor households' capacity to improve HNP outcomes.

For example, they may help households to increase incomes, they may mobilize the community to support changes in household behaviors, and they may improve necessary infrastructure at the household and community levels.

Participants who have experience with social funds and other community-level interventions are asked to use the pathways framework to cite further examples of how these funds have contributed to improved HNP outcomes.

## **Example: Social Funds & the Multicountry AIDS Program (MAP)**

- **Direct funding for community-based AIDS activities is a key feature of MAP**
- **Poverty action funds and social funds channel debt-relief funds to communities**
- **Pilots in Uganda and Malawi show the fund model can be monitored and provide accountability**

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In a number of HIPC countries there is strong interest in having a large share of debt-relief savings assigned to the fight against AIDS and to channel such resources directly to local initiatives that are on the front line in implementing AIDS control activities. Malawi's Social Fund (MASAF) as well as Uganda's newly-created Poverty Action Funds are demonstrating that this model is effective and provide a mechanism for monitoring and accounting for effective use of debt-service savings.

The establishment of these kinds of arrangements for transferring debt-relief savings to local groups could be explicitly laid out in the HPIC documents as completion point actions.

For more on this see UNAIDS on "AIDS, Poverty Reduction and Debt Relief", Chapter 4.

## **Summary: How to Address Other Sectors and Government Actions**

<b>Level</b>	<b>Risk factors</b>	<b>Diagnostic tools</b>	<b>Possible interventions</b>
<b>Other sectors</b>	<b>Failure to see health impact of investments in education and infra-structure</b>	<b>Household surveys; various statistical methods</b>	<b>Multi-sector strategies, invest HIPC funds in education, water and sanitation, rural roads</b>
<b>Public policy</b>	<b>Unintended effects on the poor, anti-poor bias</b>	<b>Expenditure reviews, benefit incidence analysis</b>	<b>Target policy discussion on fixing anti-poor taxes, tariffs, spending patterns</b>

Source: PRSP Sourcebook Chapter on Health, Nutrition and Population

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Again a reminder that there are tools in the PRSP Handbook for assessing factors and designing interventions to address them.

## **Take-Home Questions for Work on Factors Beyond Care**

- **What are the challenges in working across sectoral boundaries?**
- **At what level (national, community) is cross-sectoral work feasible, effective?**
- **What roles can NGOs play?**
- **How can HIPC and PRSC resources be mobilized for this work?**

***Discuss: how are these assessed, who should be involved, who decides?***

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One of the challenges in dealing with the multiplicity of factors affecting HNP outcomes is that there are so many of them and that all require investments of financial and institutional resources as well as political and social capital.

What criteria should guide the selection of interventions? Clearly equity is a high-priority consideration in the PRSP context, but other factors matter, including cost and feasibility, as well as consumer demand and political support.

Priority-setting is critical whenever hard choices have to be made in the face of scarce resources, and it is important that key stakeholders be at the table when priorities are set. Participants are asked to express their views about priority setting criteria and stakeholder involvement in the process.

## Further Discussion

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- **Which cross-sectoral linkages are most important for health outcomes where you work?**
- **Can you suggest examples to illustrate the framework in that country?**
- **Can you provide examples of cross-sectoral collaboration in projects supported by the WB or others?**

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Now that you've seen how the pathways framework can help to identify risk factors affecting HNP outcomes for the poor, which factors in which segments of the framework do you think are most relevant for the PRSP process in countries where you work?

We've focused most of the discussion here on examples relating to maternal and child health and nutrition. What other examples are relevant for that country?

Are some of the factors in the framework more important than others for this country?

How would you use the evidence and diagnostic tools from other sessions in the PRSP/HNP learning program to support your selection of issues and examples?