

# Mapping of Reproductive Health Financing: Methodological Challenges

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## Abstract

*Low level of funding for reproductive health (RH) is a cause of concern, given that RH service utilization in the vast majority of the developing world is well below the desired levels. Though there is an urgent need to track the domestic and international financial resource flows for reproductive health, the instruments through which financial resources are tracked in developing countries are limited. In this paper we examined the methodological and conceptual challenges of monitoring financial resources for family planning and reproductive health services at the international and national level. At the international level, the costs estimates for both reproductive health and family planning from the three widely used sources of data – Adding it up (2009), ICPD (2009), and Taskforce WHO Normative Approach (2009) are not directly comparable. Even after standardization, the estimated costs difference is about \$7.5 billion. At the national level Reproductive Health sub-accounts in the framework of National Health Accounts is considered to be the ideal source to track domestic financial flows for RH activities. However, weak link between data production by the RHA and its application by the stakeholders and lack of political will act as decelerate factor for the institutionalization of RHA at the country level.*

**Key words:** reproductive, health, financing, flows, accounts, institutionalization

## Introduction

It is well evidenced that poor reproductive health accounts for an estimated one third of the global burden of illness and early deaths among women of reproductive age (UNDP, 2006). About 201 million married women in developing countries still have an unmet need for modern contraceptives and around 70,000 maternal deaths annually (13 per cent) occur due to unsafe abortions (Hill et al, 2007). Moreover, 97% of the unsafe abortions occurred in developing countries (David et al, 2006). It has been widely acknowledged that the RH related Millennium Development Goals<sup>1</sup> can only be achieved if there are significant improvements in Reproductive Health (RH), especially in the poorest developing countries. Most families in this part of the world still have more children than they want. Women especially suffer from the lack of means to control their fertility, and many die young from causes related to maternal health.

Since early 1990's there have been continuous efforts to increase access to Reproductive Health (RH) globally through greater resource mobilization. Recent studies show that the funding for reproductive health programmes has consistently fallen short of the financial targets agreed during the International Conference on Population and Development (ICPD) in 1994 (Schrade et al, 2011; Senanayake and Hamm, 2004; Berstein et al, 2008; UNFPA, 2004). Several studies

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<sup>1</sup> There are two RH related MDGs. First, MDG 5A set at reducing Maternal Mortality by three-quarter between 1990 and 2015. Second, MDG 5B aims at achieving universal access to reproductive health by 2015. Indicators used to measure progress in achieving MDG 5B include contraceptive Prevalence Rates, adolescent fertility rates, antenatal care coverage and unmet need for family planning.

attribute this to the shift in focus by the international community both politically and programmatically towards HIV/AIDS program (UNFPA, 2012). Limited integration of HIV/AIDS and RH programs has also been cited as possible contributor to the limited funding going to RH. The end result has been inadequate access to RH services, poor service delivery and high maternal and child mortality rates. From 2000 to 2009, donor assistance for family planning (FP) decreased drastically from 30% to 5% of total population assistance (which includes FP; basic RH services consisting of maternal health, abortion, information, education, and communication about RH, among other services; sexually transmitted infections (STIs), HIV/AIDS, and basic research, data and population and development policy analysis). Funding for basic RH services other than FP was also reduced from 29% to 23% of the total population assistance (UNFPA, 2012).

A number of organizations- including bilateral assistance agencies, multilateral and research organizations and governments of developing countries- are putting their efforts to track the flow of health resources to and/or within developing countries. Some of the data collection efforts have been ongoing for several years and facilitate for trend analysis of financial flows for Reproductive Health. However, there are significant gap in the data and to have a comprehensive picture of country owned health system to track financial resources. Currently, the available resource data constitute a patchwork of information at different level of aggregation and of varying quality that falls short in meeting the needs of many diverse objectives of country health system. Second, most of these data collection focus extremely either on the external flows (health resources provided to developing countries) or on domestic flows (country level resources expanded on health) (Eiseman and Fossum, 2005). Finally, the instruments through which financial resources are tracked in developing countries are limited (Singh et al, 2004; Bernstein et al, 2008; Bernstein and Vlassoff, 2004).

It is well evidenced that planner and policy makers in developed and developing world are less likely to have an accurate, up-to-date and detailed data on the health resource devoted to developing countries. Since accurate and updated data are not available, policy makers fail to make their decisions regarding health resource mobilization and allocation, strategic planning, priority setting, monitoring and evaluation, advocacy and general policy making.

From the background of such varied contexts, the objectives of this paper are threefold: First, review the existing instruments to map financial flows for reproductive health; second, assess the conceptual and methodological challenges with the existing health system to track financial resources at both international and national levels; third, examine the possibilities to institutionalize the process to get periodic data on reproductive health financing.

## **Methods**

The study involved an intensive desk review of various methodologies adopted to track financial resources for reproductive health. The review involved a broad search of the literature on reproductive health financing during 2000-2012. The key objective was to identify various methodologies adopted to track financial resources for reproductive health. We used Ovid MEDLINE, PubMed, Social Science Full Text, Google Scholar, and BioMed Central to get the related literature. Initial searches were conducted on June 15, 2012 and July 15, 2012, and repeated on August 10, 2013.

The following key search terms were used in various combinations: reproductive health/ family planning/maternal health/ financing/methodological challenges/cost estimation/ resource flows/ health accounts/aid. Additional hand searching was conducted by reviewing the references of all retrieved studies. Finally, 53 studies are considered to assess the methodological challenges in mapping financial resources for reproductive health.

Second, in order to have a comparative picture of the financial resource needs for reproductive health programmes at national and sub national levels, a study made by Dennis and Mutunga, 2011 is adopted. They compared the three widely used cost estimates for reproductive health. These are Guttmacher Institute and the United Nations Population Funds (UNFPA's), 'Adding It Up' (2009); the UNFPA's update of the ICPD (2009); and the Taskforce on Innovative International Financing for Health Systems Normative Approach estimate by the World Health Organizations (WHO), 2009.

### **International commitment towards reproductive health financing**

On the line of ICPD Programme of Action (PoA), the international community has committed to provide sufficient funding to reproductive health by achieving universal access to health services especially in developing countries. At the International Conference on Population and Development (ICPD) in 1994, 179 countries signed to the ICPD program of Action (PoA), a costed plan to achieve universal access to reproductive by 2015. Subsequently, at the International Parliamentarians' conference on the implementation of the ICPD PoA in 2004, parliamentarians and ministers from 90 countries issued a call to attain at least 10 percent of the national development budgets and development assistance for population and reproductive health programs.<sup>2</sup> At the World Summit in 2005, global leaders added Target 5b 'Achieve universal access to reproductive health by 2015' as a part of the MDG5. At the G8 meeting in Canada, international donors launched the *Muskoka Initiatives*, to mobilize funding for improving maternal and child health and meeting the MDGs by 2015.<sup>3</sup> Secretary General Ban Ki-moon launched the *Global Strategy for Women's and Children's Health* to increase and optimize funding, including for reproductive health to meet MDGs.<sup>4</sup>

### **Divergence in resource needs estimates for ICPD Programme of Action**

Looking at the changing scenario of public health needs, the original ICPD cost estimates fail to address the critical issues outlined under ICPD PoA<sup>5</sup>. A revised cost estimate is required to meet the emerging sexual and reproductive health goals. However, effort to revise the ICPD cost estimates face challenges beyond the political. First, there is a problem of what to include? Within the ICPD PoA, the reproductive health is defined as "a state of complete physical, mental, and social-well being and not merely the absence of disease or infirmity, in all matters related to reproductive system and to its function and process". It also includes sexual health. The ICPD cost estimates addresses resource needs more specifically, but there is still broad

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<sup>2</sup> 2004. Strasbourg Statement of Commitment. Strasbourg, France on 18-19 October.

<sup>3</sup> <http://www.g8.utoronto.ca/summit/2010muskoka/communique.html>

<sup>4</sup> <http://www.everywomaneverychild.org>

<sup>5</sup> ICPD POA Costed Reproductive Health Package includes: i) Family Planning Services and Supplies; ii) Basic Reproductive health services, including maternal and newborn health; iii) prevention of STIs including HIV/AIDS; and iv) Basic research, data and population development policy analysis (UNFPA 2004: Para 13.14)

scope of interpretation: should prevention and treatment of infertility be available at the primary health care level or only through referral? What level of services should be available when it comes to breast cancer and cancer of the reproductive system? (Ethelston and Leahy, 2006). The following tables (Table 1 & 2) give a brief overview of original and revised ICPD cost estimates.

**Insert Table 1 here**

**Insert Table 2 here**

As per the revised estimates, a minimum of US\$ 68-US\$ 70 billion is required each year until 2015 to achieve the ICPD target of universal coverage of reproductive health services (UNFPA, 2009). Moreover, about \$30 billion is required each year for sexual and reproductive health. It is well evidenced that, at the international level, about two-thirds of funding is expected to come from developing country governments, Civil Society Organizations (CSOs), the private sector and consumer and the remaining one-third is expected from bilateral or country donors, multilateral agencies and foundations (Dennis, 2011).

There are many reasons for the differences between these two estimates. The original estimates are based on 'top down' approach, using empirical data on actual cost per user. At that time costs-per-user data were available largely for family planning interventions; cost data for other reproductive health interventions were limited. The present set of SRH cost estimates, on the other hand uses a 'bottom up' approach whereby each of 33 SRH interventions (including 9 for family planning) is broken down into its constituent inputs and each is costed out in detail (see Annex 1). The advantage of the former approach is that it is based on actual cost of using particular RH services, while the later approach on ideal cost. However, the empirical cost-per-user data are scarce and also have critical measurement problems.

Another possible reason could be the extent of data availability. During 1993, no detailed SRH data existed other than family planning services. But now we have access to various costing information related to SRH categories. Also, only after the ICPD, both national and international efforts were made to enhance the RH status. However, the above estimates still need to be re-looked. The estimates of programme and system related costs<sup>6</sup> in developing countries are based on number of assumptions. So, there is a fair chance that the assumption may not be valid over a period of time. The country health system may follow different level of health care innovation and techniques that could lead to different cost estimates for reproductive health care.

### **Comparison of various cost estimates for reproductive health**

There are number of estimates that highlights financial resource needs for reproductive health programmes at national and sub national levels<sup>7</sup>. Lack of understanding of these different

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<sup>6</sup> Systems costs are often thought of as 'overhead' costs. These refer to both the physical infrastructure costs and the programme-related costs of management, supervision, evaluation etc (UNFPA, 2009)

<sup>7</sup> They are: Guttmacher Institute and UNFPA, 'Adding It Up' (2009); ICPD Updates (2009); Taskforce WHO Normative Approach (2009); Taskforce Marginal for Bottlenecks (MBB) Approach (2009); 'Making the Case' (2009); 'The Donor Supply Gap'/ Reproductive Health Supplies Coalition (2009); NORAD/ Global Campaign for the Health MDGs (2008); '1 Billion Ask'(2008); Partnership for Maternal, Newborn and Child Health (2008); Millennium Project (2006); WHO 'Make Every Mother AND Child Count'(2005); Guttmacher Institute and UNFPA, 'Adding It Up'(2003); ICPD POA (1994).

estimates can lead to fragmented advocacy for financial prioritization of reproductive health. A recent study made by Dennis and Mutunga, 2011, compare the three widely used cost estimates for reproductive health. These are Guttmacher Institute and the United Nations Population Funds (UNFPA's), *'Adding It Up'* (2009); the UNFPA's update of the ICPD (2009); and the Taskforce on Innovative International Financing for Health Systems Normative Approach estimate by the World Health Organizations (WHO), 2009. In principle the three estimates, as originally presented are not directly comparable. However, they standardized them to ensure that each include current, additional and total funding for a given year and that it integrates health system and programs costs with direct (service and supply) costs. The estimated standardized figure shows that the projected cost of fulfilling international family planning ranges from \$ 6.7 billion to \$ 7.7 billion annually, with a notable convergence around \$ 6.7 billion, as reflected in *'Adding It Up'* and the ICPD Update (Table 3). The estimated costs of reproductive, maternal and newborn health range from \$ 15.2 billion to \$ 23.7 billion annually, with a convergence between *'Adding It Up'* and ICPD Update at around \$ 23 billion annually (Dennis and Mutunga, 2010)<sup>8</sup>.

### **Insert Table 3 here**

Though the estimates are not comparable directly, even after standardization the estimated cost difference (Upper bound-lower bound) for International reproductive, maternal and newborn health estimates is about \$8.5 billion (Table 3). At the aggregate level the cost difference stands at \$7.5 billion. So, the differences in the cost estimates sometime misleads the donor organizations to assess the actual level of funding needs to address various reproductive health challenges to achieve Millennium Development Goals 5.

### **Existing studies to track RH financing**

There are number of instruments through which financial flow for RH activities can be tracked at the national and international level. Table 4 provides a brief overview of the various databases available to track domestic and donor funding for reproductive health. The source of data could be divided into three categories: i) data on donor aid; ii) data on donor aid and country level expenditure; and iii) data on country level expenditure. The following section gives a brief overview about the databases and related challenges to track RH financing at the country level.

### **Insert Table 4 here**

#### **Data on Donor Aid: CRS/OECD data**

The Creditor Reporting System (CRS) database includes data from the OECD member organizations, including 23 donor countries (DAC countries), the European commission, multilateral organizations (mainly UN organizations), development banks, and the Bill and Melinda Gates Foundations (Hagedoorn and Beets, 2011). OECD doesn't collect data from other foundations and NGOs. However, few Non-DAC countries provide data on voluntary basis. The financial information on aid is stored in two main databases: the Development

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<sup>8</sup> Description about various methods are highlighted in the paper: Dennis, S, and C. Mutunga. 2010. Funding Common Ground: Cost Estimates for International Reproductive Health. Washington, DC, Population Action International.

Assistance Committee (DAC) database for data on an aggregate level and the Creditor Reporting System (CRS) Aid activities database for data on a project level. Both databases are complementary, more specifically CRS shows the DAC database in more detail, that could help planner and policy makers in better programme implementation (OECD, 2007). Information is available on both bilateral and multilateral contribution from the DAC countries.

The aid activities database also includes information on the aid recipients-either developing countries or countries in transition. When a project benefits multiple countries it is classified as regional. The reported purpose code should be related to the sector ultimately targeted by the contribution, and not to the means used to deliver the aid. Projects are also assigned a purpose code, based on the sector they contribute to. To avoid double counting, only one CRS code is assigned per contribution. When multiple sectors benefit from the project, the sector receiving most money should be assigned (OECD, 2011).

Some of the other organizations like Kaiser Family Foundations (KFF) conduct their analysis on the original CRS data (Kates et al, 2010), while most others reclassify the codes or allocate a specific amount for maternal and child health. Because the OECD aggregates data to large subsectors of health, their categorization does not give very detailed information on the precise aim of the project (Hagedoorn and Beets, 2011). Some organizations, like AidData, Countdown 2015 and the Institute for Health Metrics and Evaluation (IHME), collect additional financial data from project documents and financial reports (AidData, 2011; WHO & UNICEF, 2010; IHME, 2010). The IHME also uses other existing sources like IMF or WHO (IHME, 2010). Only a few contact donors directly, like AidData, IHME and the Resource Flows (RF) project.

However, the CRS database fails to give a complete picture of ODA for reproductive health (Patel et al, 2009). The use of CRS purpose code for reproductive health is limited to assess donor disbursements for specific sub-sector of reproductive health- for example for sexual and gender based violence (SGBV) (The Sphere Project, 2004). A separate purpose code for SGBV would enhance resource tracking, which could help planner and policy makers for better decision making. Also, CRS may not capture all governmental donor aid flows. A number of governments provide ODA but do not report to CRS, for example China, Russia, and Saudi Arabia. ODA between developing countries is also not included in the CRS. However, it is estimated that the CRS database covers around 90 percent of the ODA to the developing countries (Powell-Jackson et al, 2006; Greco et al, 2008). Moreover, the CRS also does not include direct aid disbursements by philanthropic organizations, because philanthropic organizations are not required to report funding in the same way as institutional donor are (Sridhar and Batniji, 2008).

There are also a number of administrative limitations with the CRS reporting system (Patel et al, 2009). First, the CRS database is entirely dependent on the data from the existing financial systems of donor organizations. But, some donors may have different classification systems, and linking these to the CRS system is a challenge (Powell and Mill, 2007). Second, there may also be misclassification of disbursements. For example, a donor may classify family planning activities as reproductive health activities (CGD, 2007). Third, the CRS database was not originally designed to be analysed for specific sectors such as health, so intensive analysis on these sector can be limited or difficult to analyse (CGD, 2007). This problem is reflected in the fact that a

project that supports more than one sector is categorized according to the sector receiving the majority of funds, and the other sectors are classified as receiving no funds from that particular project. Fourth, descriptive information on projects, which is important for determining the precise nature and purpose of any aid transaction, is often missing. There are also problems regarding the multilateral institutions that report to the CRS on a voluntary basis, as they are not DAC member.

### **Domestic resource flows: *Reproductive Health Sub-Accounts***

National Health Account (NHA) is an internationally accepted tool used to estimate a country's total expenditure on health (WHO, 2003). It provides information on distribution of health spending across various major financing sources, key stakeholders who manage health spending, the providers of the services and type of services utilized. NHA estimation has been conducted in more than 100 countries over the past 20 years.

Also NHA subaccounts are designed to provide information on priority health areas such as Reproductive Health, HIV/AIDs, Child Health and Malaria. The basic objective of all these subaccounts is to help planners and policy makers to address specific health priority issues in specified country health system. Reproductive health accounts provide an instrument for improving allocation mechanisms and the performance of health system related to reproductive health activities (Willekens, 2005). In the case of RH interventions that overlap with other subaccounts like child and HIV/AIDs, the guideline recommends estimation technique to assess the comprehensive picture for RH financing (WHO, 2009a). RH sub-accounts have been/ are currently being conducted in Ethiopia, Georgia, India (Karnataka state), Jordan, Kenya, Liberia, Malawi, Mali, Mexico, Rwanda, Senegal, Tanzania, Uganda, and Ukraine (The world Bank, 2011).

Like the general NHA, the RH subaccount captures and organizes information on health care expenditure in two-dimensional tables from financing sources to end users (figure 1). RHA classifies actors in the domain of RH into five broad groups namely Financing Sources (FS), Financing Agents (HF), Health Care Providers (HP), the Activities/ Functions (HC) and the Beneficiaries (B). Each of these categories are further categorized following the System of Health Accounts/ Organization for Economic Co-operation and Development/ World Health Organization (SHA/OECD/ WHO) (for detailed description please see WHO Producer Guide). Consequently, four tables are recommended i.e. Financial Source by Financing Agent (FS×HF); Financing Agent by Provider (HF×HP); Providers by Functions (HP×HC); and Financing Agent by Functions (HF×HC). The tables are the end result of the RH subaccounts. According to figure 1, financing agents pools resources from financing resources or use self generated resources to pay directly for reproductive health services (service function) produced by health providers to be consumed by beneficiary population who can be grouped by sex, age group and socio-economic group or geographical division. Also like the NHA, the subaccount aims to be comprehensive in scope, capturing public, private, and donor fund flows. While there may be more specific goals in a particular country context, generally speaking the RH subaccount methodology aims to:

- provide key expenditure information to guide the strategic planning of national policymakers, donors, and other stakeholders in the area of RH care;

- identify all sources and uses of financial flows for RH in the context of overall health spending; and
- provide internationally comparable data.

The advantage of following the general NHA framework is that it is widely used thus allows the preparation of RH estimates that are consistent, comparable, and compatible (World Bank, 2011). In accordance with NHA principles, the RH sub-analysis should collect a set of indicators to address key policy questions in the areas of family planning and reproductive health (PHR*Plus*, 2005) (Please see annex 2). However, development of RHA, especially where financial data are limited, suffers from following challenges.

### Insert Figure 1 here

#### Definition of actors:

**Financing sources (FS):** Entities that provide funds used in the reproductive health system, including donors and domestic sources (ministry of finance, UNFPA, and household out-of-pocket expenditure)

**Financing Agents (HF):** Entities that channel funds from financing sources and use them to pay for reproductive health programs (ministry of health, insurance companies, and social security fund)

**Providers:** Entities that receive money in exchange for providing the reproductive health services or goods (Public hospitals, private practitioner and midwife)

**Service function (HC):** Type of goods and services provided and activities performed within the RH-subaccounts boundary, e.g. curative care, preventive, rehabilitative and long term nursing care etc.

**Beneficiaries:** People obtaining goods and services provided by the reproductive health system

#### Case studies of Reproductive Health Subaccounts

**Rwanda:** According to the Rwandan Integrated Living Conditions Survey, the current economic growth rate in Rwanda is insufficient to support the rapid population growth fuelled by high birth rates. Though reproductive health (RH) remains a top priority for policymakers, the 2006 RH subaccount showed RH accounted for only 6% of total health expenditures in 2006. The government and health planners used this information to advocate for and select family planning/reproductive health as one of the four priority areas in the 2008 Rwandan Joint Annual Health Work Plan.

Rwanda was the first country to use RH subaccounts in 2002. The results showed donors financed 80 percent of all RH spending in the country, leading the Ministry of Health (MOH) in Rwanda to advocate for increased domestic support (funding for RH from the central government budget, which may include budget support from the international community) for RH. By 2006, when Rwanda conducted its next RH subaccount analysis, the amount of domestic support had increased from \$1 million to \$2.8 million (in 2006 dollars). A majority of these funds were used for maternal and child health programs. However, the level of funding for FP commodities managed by the Government of Rwanda also increased from approximately \$212,000 to \$744,000 in 2006 dollars.

**Malawi:** Malawi benefits from RH subaccount trend data from three rounds of data collection between 2002 and 2005. RH subaccount information reveals that resources for FP/RH are inadequate, at about \$12 per woman per year. While spending on RH in absolute terms has increased, it has decreased as a percentage of all health spending compared with other health priority areas- despite RH's perceived high profile on the national health policy agenda. RH subaccount data also point to a disproportionate allocation of scarce resources across priority areas. With one of the world's highest maternal mortality ratios- 984 maternal deaths per 100,000 live births- mothers' health is a priority for Malawi. However, little funding supports maternal health care interventions, such as training and salaries for nurses and midwives; funding drugs and medical supplies; and providing equipment and supplies for emergency obstetric, prenatal, labor and delivery, and postnatal care. In Malawi, RH subaccounts have helped identify overall funding needs and resource allocation imbalances.

## Challenges in the construction of RHA

As discussed above, the result from RHA, could help planner and policy makers to address various RH related Millennium Development Goals within pre-existence health system. However, development of RHA suffers from following conceptual and methodological challenges.

**Definitional issues:** In most of the RHA, the standard definition RH (as per NHA manual) is used i.e. any spending whose primary purpose is to restore, improve and maintain reproductive health of the individual and the population. However, the definition of reproductive health, basically issues need to be covered are not as clear cut as in General Health Accounts. For example ICPD adaptation of WHO definition of health for RH is problematic from the point of view of health economics. Hurley (2000) argued that the WHO definition is problematic because it conflates health and utility. The definition of reproductive health varies from country to country. In the Kenyan RHA, the package of reproductive services include family planning services, maternal health services, childbirth services, infant care, child health services and other personal reproductive health services for women (UNFPA/NIDI, 2012a). However, the RH definition in case of Bangladesh study included maternal and child health, family planning and RTIs (UNFPA/NIDI, 2012b).

**The boundary issues:** As discussed in NHA framework, boundary demarcates limits for what is supposed to be included in the RH accounts. The core of the RHA is in keeping with the NHA approach. In this case RHA will only include all expenditures for activities whose primary purpose is to restore, improve or maintain reproductive health for individuals during a specified period of time. The “primary purpose” is inferred from the type of good or service purchased, or determined from the stated intention of the purchaser. This definition applies regardless of the institution or entity providing or paying for the health activity.

It will also include expenditure on health care by citizens and residents who are temporarily abroad and excludes spending on health care by foreign nationals within the country. Regarding time boundary, RHA accounts will include expenditures recorded for the time period in which the activity took place as opposed to when the actual payment is made. For example, if a hospital stay occurs during the final month of fiscal year 2010 but payment is made in fiscal year 2011, the expenditure is recorded for fiscal year 2010.

**Defining actors:** Development of sub-accounts (e.g. Reproductive health, Malaria, HIV/AIDS, and child health) raises additional problems of distinguishing primary financing sources and financing agents (Willekens, 2005). For example in Ethiopia, more than one level of financing source can be identified (Susna et al, 2004). In Ethiopia, the Ministry of Finance gives block grants to regional Finance Bureaus (RFB) and all critical decisions on spending are made at the regional level. Again RFBs give fund to Regional Health Bureaus. Susna et al., categorize the regional/local government as the ‘financial source’, though fund it disbursed by central government. If the central government is shown as the ‘source’ this would greatly diminish the role of RFBs and may fail to describe how the health system operates in Ethiopia.

Similar challenges are faced in the development of reproductive health sub-account in Kenya, especially at the financing source where more than a financing source is identified (UNFPA/NIDI, 2012a). In some cases, a financing agent may also act as financing source in the sense that it receives money from a financing source but also behaves like a financing by channelling resources to another financing agent. A case in point is where African Medical and Research Foundation (AMREF) receives money from a USAID implementing partner, MSH to implement a health related activity. In this case NHA practitioner may assume MSH is a financing source while AMREF is the financing agent but again, USAID features in this case as a financing source. In this case one needs to be very careful as ignoring USAID as the main financing source may lead to failure to describing how the health system operates. However, in Bangladesh, the MOHFW operates as a financial intermediary of the Government of Bangladesh (GOB) obtaining funds from the Ministry of Finance (MOF) and allocating and disbursing them to its reproductive healthcare providing units (UNFPA/NIDI, 2012b).

**Overlap between sub-accounts:** The boundaries of various disease specific sub-accounts may overlap. The Reproductive Health sub-account may overlap with child health, HIV/AIDS and Malaria sub-accounts (Table 5). The inclusion of these components in one sub-account or another, or in multiple sub-accounts, will largely be determined by the local policy context. So, necessary steps should be taken to disaggregate services, so that adjustment may be made to ensure comparability. The following table could help to understand the possibilities of overlapping among various sub-accounts.

#### Insert Table 5 here

In the Kenyan experience, there are cases of overlapping among Reproductive health sub-account and HIV/AIDS sub-account (UNFPA/NIDI, 2012a). These challenges are addressed by the team producing the NHA by looking at the primary purpose for the expenditure. For instance, expenditures on condoms bought for FP purposes are captured under RH accounts, and when bought for HIV/AIDS prevention, they are captured under HIV/AIDS sub-accounts.

**Non-targeted expenditure for RH:** In principle, the RH sub-account should cover both targeted and non-targeted funds for RH (WHO, 2009a). Targeted funds can be easily identified from the established primary and secondary data sources. They are generally programme expenditure incurred by major RH financing agents (or source), such as the ministry of health, NGOs, donors, and households. Non-targeted expenditure refers to indirect spending on RH personnel and medical services; e.g. proportion of medical staff wages going to public hospital staff who treat patients for RH related issues. Non market providers may use their general revenue to pay for RH related services<sup>9</sup>. Generally speaking, unless providers have cost-accounting systems, such information can not readily be disaggregated, particularly in low-middle income countries.

**Breakdown of RH spending by beneficiary:** The breakdown of RH spending by beneficiary shows the RH expenditure in the health system distributed among the population group. It answers the question, “Who benefits from RH spending?” The population groups are defined on the basis of sex, age, social economic status, health status and geographical place of residence.

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<sup>9</sup> The full cost of intermediate inputs (including salaries, equipment, and supplies) at private for-profit providers is embedded in the price charged to patients or insurance schemes. Thus, non-targeted expenditures do not need to be estimated separately for those providers.

The information on beneficiary is necessary to assess the equity and efficiency of health programmes at the country level.

Breakdown of RH spending by beneficiaries groups is one of the most challenging health accounts activity (WHO, 2003). It requires reliable health status and population data that can be linked to reproductive health expenditures. To generate the RH spending by beneficiary, the utilization statistics on RH services need to be generated alongside the NHA-RHA estimations. The utilization information needs to be broken down by specific categories that include age, sex, social economic groups (wealth index) etc. This kind of RH utilization statistics broken down by the specified categories is difficult to get from administrative records and special HH surveys, in most cases cross sectional surveys are usually undertaken targeting the population groups that consume RH services.

Most of the time the RH utilization statistics broken down by the beneficiary groups are combined with data on RH spending to generate estimates of spending on RH by beneficiary – sex, age, social economic status. This kind of analysis is referred to as Benefit Incidence Analysis (BIA). BIA for the purpose of generating RH spending by beneficiary therefore require estimating RH spending using RH sub account within the NHA framework. The accounting exercise in this case will also include a special household survey to assess the share of out-of-pocket expenditures (OOPE) in the total spending on sexual/reproductive health. Results from the specialized household expenditure survey are therefore a critical direct input to resource tracking. They are also important as they have the potential to assess a level of detail usually not obtained from other sources, for example the costs of transportation or informal payments. However, use of special survey to examine the level of expenditure for RH care is limited in most of the developing countries.

**Estimation of out of pocket expenditure for RH:** According to WHO, out of pocket expenditure include household expenditure used for purchasing of health services such as co-payments, fee- for –service payments, self-medication, informal payments and all other expenses paid directly (in cash or in kind) by the households (Belli et al, 2004). Out of Pocket Expenditure is considered to be a major part of health care expenditure in Asia and Sub Saharan Africa (SSA). The adverse effect of OOPE is also significant for Reproductive Health, where occurrence of medical expenses is considered to be large and unexpected. The high level of OOPE on RH has vital impact on household expenditure pattern, poverty and inequality. Van Doorslaer et al., (2006) estimated that the overall prevalence of absolute poverty in the 14 Asian countries they studied was 14% higher than conventional estimates that do not take account of out of pocket payment for health care. The costs of illness include both direct such as OOPE and indirect costs, such as loss of income from an inability to work or travel to a hospital, reduction in the food consumption, less investment for children’s education etc. These expenses often constitutes large share of household disposable income and drive them into poverty (Berman et al, 2010; Ghosh, 2011). During 2005-2007, the UNFPA/NIDI Resource Flows project carried out OOPE surveys in India, Nepal and Ethiopia with local research institutions (Mishra et al, 2006; Puri et al, 2006). The studies revealed that catastrophic expenditure for sexual and reproductive health can be significant, e.g. as a result of complication during delivery or treating infections among PLWAs. Few other studies also gives brief overview about OOPE for sexual and reproductive health (Rannam-Eliya, 2005; Khan, 2005).

In many developing countries, OOP spending for RH care is significant and of particular interest to policy-makers. It is, therefore, critical to address the issue of estimating household spending at the beginning of the RH subaccount initiative. In doing so, it is useful to consider the volume of services requiring OOP payments, where such payments are made, the types of OOP payment

made (formal and informal), and the technical team’s budget (can it afford to do a separate household survey?).

Generally OOP spending on RH care estimated either from the provider side (when providers record their revenue from OOP payments) or from the household side. In countries where OOP payments can be linked to the type of service rendered, provider records may be useful data sources. However, this may not be the case in resource-poor settings. Thus, the team may need to rely on a household survey for such data. The household survey can also provide valuable estimates of RH expenditure on non-conventional health providers, such as traditional healers, traditional birth attendants, and shops selling contraceptive commodities. However, the household surveys suffer from following three biases; 1) sampling error in survey; 2) non sampling error; and 3) lack of annual repetition of household surveys. A good place to start the search for household data is by examining DHS data. If current, its household data will usually suffice. Although the DHS does not usually include expenditure questions, its data on service utilization can be combined with cost data to estimate expenditures.

**Example:** Estimation of OOPE on contraceptive using cost and use data (when expenditure information is not available)

The DHS usually provides the number of women who use a given contraceptive commodity by provider type. From a mini-costing exercise, the cost at which the commodity is sold to patients can be determined for various provider types. Next, data are needed to determine the estimate of annual expenditure.

In Rwanda, key informant estimated that patients made approximately five visits per year to obtain the contraceptive pill. At the first visit, the patient purchases pills for one monthly cycle; at each subsequent visit, she purchased pills for three cycles. Therefore to obtain 13 cycles (for the whole year), five visit are required. Total household OOP spending on birth control pills at public hospital can be estimated as follows:

$$\begin{array}{l}
 \textit{Total number of women} \\
 \textit{obtaining the pill at} \\
 \textit{public hospitals}
 \end{array}
 \times
 \begin{array}{l}
 \textit{Total number of visits per} \\
 \textit{women to obtain 13 cycles}
 \end{array}
 \times
 \begin{array}{l}
 \textit{Unit cost of one cycle} \\
 \textit{(inclusive of consultation} \\
 \textit{fee)}
 \end{array}
 =
 \begin{array}{l}
 \textit{Total household} \\
 \textit{OOPE on the pills at} \\
 \textit{public hospitals}
 \end{array}$$

Source: Guide to producing Reproductive Health Subaccounts, WHO, Page 74-75

### **Institutionalization of RHA**

Ideally, institutionalization occurs when RHAs are created on an annual or regular basis that is supported both politically and financially by the country government. Use of RHA data on a recurrent basis for making RH policy decisions is essential for Government ownership. More importantly, when resource tracking exercise meets the need of planner and policy makers, the process of institutionalization becomes easier. However, in low-middle income countries often specific financial data on RH activities are limited, that lead to slow progress in the institutionalization of RHA. So, what forces constrains institutionalization of RHA?

**Weak link between data production and its application by the stakeholders:** Much of the RHA capacity building has focused on data collection and production, where as less effort has been made to translate data into policy relevant information (The World Bank, 2011). The translation of data into policy related finding is essential to help policy makers to capture, interpret and use the critical information contained in RHA for their policy decision. Also lack of

long term strategy for ownership and capacity building stands as an obstacle to institutionalise the RHA in the framework of NHA.

**Lack of country ownership:** In some of the countries, consultants produce NHA/RHA with insufficient focus on the transfer of capacity to the local staff. So, there has been a little ownership by the countries and little use of RHA finding by the planner and policy makers. Several countries have undertaken multiple rounds of NHA production, yet do not possess the institutional skills to own the process of producing RHA periodically.

**Lack of political will:** Lack of political will restricts the institutionalization of RHA especially in developing countries. Whether a programme receives political priority is influenced by many factors: available financial and qualified human resources, institutional capacity, special interests, as well as specific demands of the population (Raciborska et al, 2008). In Mexico, political commitment overcame the lack of resources and other institutional barriers to NHA institutionalization.

**Shared responsibility:** In countries where external assistance is required there has to be a shared responsibility, and country has to play a critical role in the institutionalization process of RHA. Institutionalization will occur when country leaders recognise the added value of the evidence that RHA helps to produce. Moreover, the national health policy should highlight the importance of producing RH related indicators to address MDG5.

The following key steps are therefore critical for the institutionalization agenda to be pushed forward:

- Expanding the NHA team to include the representation of key Government departments, NGOs and development partners. This will ideally ensure these key players understand and appreciate why the RHA accounts are required and the kind of information required;
- Development of a standardized data collection tool that targets the donors and NGOs. This can later be computerized so that expenditure information on RH is made available on regular basis from the NGOs. This should be followed by an intensive advocacy targeting these two sources of RHA data to ensure that the tool is populated on regular basis and then send to the NHA team;
- Institutionalization also requires an ongoing technical team to work on RHA and respond promptly to the requests from policy makers and other stakeholders. The number of the qualified NHA team is reducing and more targeted training is required to create a critical mass of RHA practitioners. Support will also be required to help the universities revised their economics curriculum to include NHA/RHA resource tracking module. This will help in term of introducing NHA/RHA resource tracking at an early stage to potential government economists. Supporting the development of capacity on RHA accounts will substantially reduce the costs involved in generating routine estimates of resource flows of RH.

## **Conclusion and discussion**

As reviewed above, several initiatives are simultaneously active in the field of reproductive health resources tracking. Some initiatives focus on several aspects of health, like the OECD, WHO,

PAHO, World Bank, IHME, KFF and AidData, while others focus on a more specific sub-sectors e.g reproductive health, malaria, child health etc.

There are number of estimates that highlights financial resource needs for reproductive health programmes at national and sub national levels. Lack of understanding of these different estimates can lead to fragmented advocacy for financial prioritization of reproductive health. So, a well defined costing tool is necessary to predict the resource need for RH during forthcoming periods.

CRS database is still the leading source on health financing. The RF data base uses percentage figures to allocate part of the specific CRS to one of the ICPD categories, while other organizations focus more on maternal and child health, like the Muskoka initiative, Countdown 2015 and the Global Strategy. Moreover, the CRS purpose code for reproductive health is limited to assess donor disbursements for specific sub-sector of reproductive health- for example for sexual and gender based violence (SGBV). Also, the gap in data on international health funding by non-DAC government donors and private foundations and on funding that is channelled through and spent by NGOs and the private sector, need to be addressed. Better data on pattern and flow of global health financing would enable a more critical analysis of the performance of funders and global health actors in delivering appropriate and effective development assistance for health to LMICs (McCoy, et al, 2009).

In order to monitor the domestic financial flow for RH activities, the RHA (in the framework of NHA), is the best possible source to track national level spending on RH. However, producing RHA in the context of NHA suffers many challenges. First, use of RHA need to be enhanced. Creating RHAs is not enough, they need to be disseminated before national level planner and policy makers. Once they agree upon the findings of the RHA, the users of RHA will increase. Second, countries need to use the same methodology suggested in the WHO guideline (WHO, 2009a), in order to have better comparability. Third, there is a need to have an improved financial management and information system in recipient countries that are capable of providing a composite picture of health expenditure that integrate external and domestic funding for health. Fourth, since special surveys to generate information on RH utilization are expensive, a module on RH utilization can be developed and “piggy backed” in other routine surveys like the DHS. This will however depend on the sample size since a survey targeting RH consuming population groups require a large sample size to generate the required RH indicators. Specific RH surveys are also subject to both sampling and non-sampling errors; so in health accounting they are best used in combination with other data; for example data from health facilities and other health service providers. This process of triangulation and integrating data sources increases the validity and reliability of the accounting process. Fifth, the development of RHA should be institutionalized in order to produce periodic report on financial flows for RH activities. Institutionalization of development of RHA, depends only on the technical and financial capacity of its institution. Hence, capacity-building is required not-only on how to develop RHA but also how to make use of data from RHA for national level health planning and programming.

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**Table 1 Costed package components and resource allocation goals (in Billions USD)**

ICPD Components	2000	2005	2010	2015
Family Planning	10.2	11.5	12.6	13.8
Basic RH services	5.0	5.4	5.7	6.1
HIV/AIDS prevention	1.3	1.4	1.5	1.5
Basic research, data and policy analysis	0.5	0.2	0.7	0.3
<b>By Source</b>				
Domestic Resources	11.3	12.4	13.7	14.5
External Resources	5.7	6.1	6.8	7.2
<b>Total</b>	<b>17.0</b>	<b>18.5</b>	<b>20.5</b>	<b>21.7</b>

Source: Programme of Action of the ICPD, 5-13 September 1994 (Art 13.15 and 14.11).

**Table 2 Revised ICPD cost estimates (in Billion USD)**

Categories	2009	2010	2011	2012	2013	2014	2015	Annual Average
Sexual/Reproductive Health/ Family Planning	23.5	27.4	30.7	32.0	32.7	33.3	33.0	30.4
Family Planning Direct Cost	2.3	2.6	2.9	3.2	3.5	3.9	4.0	3.2
Maternal Health Direct Cost	6.1	7.9	9.5	11.3	13.5	15.7	18.0	11.7
Programme and System related Costs	15.0	16.9	18.3	17.4	15.7	13.6	10.9	15.4
HIV/AIDS	23.9	32.5	33.1	34.0	34.7	35.4	36.2	32.8
Basic Research/ Data/ Policy Analysis	1.5	4.8	3.9	2.2	1.2	0.9	0.6	2.2
<b>Total</b>	<b>48.9</b>	<b>64.7</b>	<b>67.8</b>	<b>68.2</b>	<b>68.6</b>	<b>69.6</b>	<b>69.8</b>	<b>65.4</b>

**Table 3: Standardized Annual (average) estimates of funding needs (US\$ Billions)**

	Current Users	Additional needed	Total	Differences in estimates (Upper-Lower)	Time frame	
<b>International Family Planning Estimates</b>						
Adding It Up	3.1	3.6	6.7		Annual average	
ICPD Updates	4.2	2.5	6.7	7.7-6.7=1.0		
Taskforce WHO Normative Approach	3.1	4.6	7.7			
<b>International Reproductive, Maternal and Newborn Health Estimates</b>						
Adding It Up	8.7	14.3	23.0	23.7-15.2=8.5		
ICPD Updates	8.7	15.0	23.7			
Taskforce WHO Normative Approach	8.7	6.5	15.2			
<b>For both Family planning and Reproductive health</b>						
Adding It Up	11.8	17.9	29.7	30.4-22.9=7.5		
ICPD Updates	12.9	17.5	30.4			
Taskforce WHO Normative Approach	11.8	11.1	22.9			

Source: Dennis, Suzanna, 2011. More Funding Needed for International Reproductive Health, Washington, DC, Population Action International

**Table 4 Reproductive health resource data collection**

Type of collection	Name	Supporting organizations
Data on donor aid	CRS (Creditor Reporting System)- Database on Aid Activities	Organization for Economic Co-operation and Development (OECD)/ Development Assistance Committee (DAC)
Data on donor aid and country level expenditure	Resource Flows Database	United Nations Population Fund (UNFPA)/ Netherlands Interdisciplinary Demographic Institute (NIDI)
Data on country level expenditure	OECD Health Data	OECD/ Directorate for Employment, Labour and Social Affairs (DELSA) Health Policy Unit
<i>National Health Accounts</i>		
<i>Reproductive Health Sub-Accounts</i>	National Health Accounts	WHO
	Health Accounts/ National Health Accounts	Pan American Health Organization (PAHO)
	Reproductive Health Sub-accounts	Partners for Health Reformplus (PHRplus)/ Abt Associates

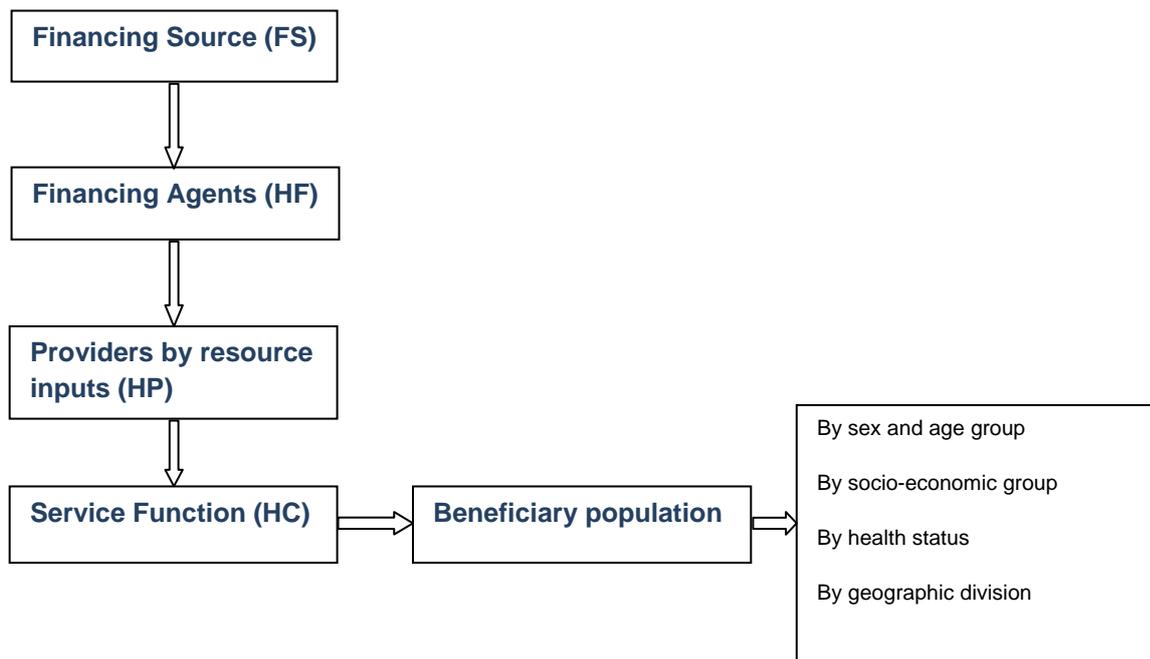
**Table 5 Possible overlapping services in RH and other sub-accounts**

Service	Subaccounts that could include the service			
	RH Subaccount	Child health subaccount	HIV/AIDS subaccount	Malaria subaccount
STI Services	×		×	
HIV/AIDS services	×		×	
Prevention of mother-to-child transmission (PMTCT) of HIV	×		×	
Intermittent preventive therapy (IPT) and anti-malaria chemoprophylaxis (given to pregnant mothers for malaria prevention)	×			×
Basic newborn health care (in peri-natal period)	× <sup>a</sup>	×		

Source: Guide to producing Reproductive Health Subaccounts, WHO, Page 13.

<sup>a</sup>newborn care is defined as routine/well-baby care given up to 28 days after birth. To the extent that these services are delivered as a mother-baby package of care, they would be included in RH. If there are complications with the newborn and the baby is cared for in a paediatric unit, these expenditures would be classified under child health.

**Figure 1 Relationship between actors**



**Annex 1:**

SRH Interventions used for Cost Estimation in the UNFPA Reproductive Health Costing Tool

<b>ANC and Delivery Care</b>		<b>Other Maternal Conditions</b>	
1	Antenatal Care (ANC)	18	Obstetric Fistula (OF)
2	Malaria Prevention within ANC	19	Urinary Tract Infection (UTI)
3	Malaria Treatment within ANC	20	Mastitis
4	Treatment of Severe Anaemia	<b>Newborn Interventions</b>	
5	Delivery Care	21	Routine Newborn Care
6	Postpartum Care	22	Newborn Sepsis/Infections
<b>Obstetric Complications</b>		23	Birth Asphyxia/ Breathing Difficulties
7	Prolonged Labor (>18 Hours)	24	Low Birth Weights (LBW)
8	Forceps or vacuum-assisted Delivery (AVD)	<b>Family Planning</b>	
9	Eclampsia/Severe Pre-eclampsia	25	Condom, male (MC)
10	Cesarean Section (C-Section)	26	Condom, Female (FC)
11	Prelabour rupture of membranes (PROM)	27	Oral Contraceptives
12	Emergency pre-referral care	28	Emergency Contraception (EC)
13	Antepartum Hemorrhage	29	Intrauterine Device (IUD)
14	Postpartum Hemorrhage	30	Injectable
15	Puerperal Sepsis	31	Implant
16	Hypertensive Disorders of Pregnancy	32	Female Sterilization
17	Management of Post-abortion Complications (PAC)	33	Male sterilization

Annex 2  
Indicators Tracked by the RH Sub-analysis

<b>General indicators</b>	<ul style="list-style-type: none"> <li>• Total RH expenditures</li> <li>• RH expenditures per woman of reproductive age</li> <li>• RH expenditures as % of GDP</li> <li>• RH expenditures as % of Total Health Expenditures (THE)</li> </ul>
<b>Financing sources indicators</b>	<ul style="list-style-type: none"> <li>• Public contribution as % of THE for RH</li> <li>• Private contribution (by households and other private entities) as % of THE for RH</li> <li>• Donor contribution % of THE for RH</li> </ul>
<b>Household expenditure indicators</b>	<ul style="list-style-type: none"> <li>• Total household spending as % of THE for RH</li> <li>• Out-of-pocket spending as % of THE for RH</li> <li>• Out-of-pocket spending per woman of reproductive age</li> </ul>
<b>Financing agent indicators</b>	<ul style="list-style-type: none"> <li>• % of RH funds managed by <ul style="list-style-type: none"> <li>○ the Ministry of Health and other public entities</li> <li>○ NGOs and donors</li> <li>○ Directly by households (through out-of pocket expenditures)</li> </ul> </li> </ul>
<b>Provider indicators</b>	<ul style="list-style-type: none"> <li>• Provider spending as % of THE for RH <ul style="list-style-type: none"> <li>○ By ownership (public and private)</li> <li>○ By facility (hospital, health center, shops, etc.)</li> </ul> </li> </ul>
<b>Indicators by NHA functions</b>	<ul style="list-style-type: none"> <li>• Curative care as % of THE for RH</li> <li>• Prevention and public health programs as % of THE for RH</li> <li>• Health administration as % of THE for RH</li> <li>• Linking of financing sources to their end uses: <ul style="list-style-type: none"> <li>○ e.g., % of curative care financed by donors versus households versus the government</li> </ul> </li> </ul>
<b>RH functional categories</b>	<ul style="list-style-type: none"> <li>• Maternal health services (including prenatal, postnatal, and delivery proportions) as % of THE for RH</li> <li>• Family planning as % of THE for RH</li> <li>• Prevention and public health programs as a % of THE for RH</li> <li>• Administration as a % of THE for RH</li> <li>• Expenditure per delivery in a facility</li> <li>• Expenditure breakdown by contraceptive method mix <ul style="list-style-type: none"> <li>○ e.g., % of oral contraceptive expenditures financed by households versus the government</li> <li>○ e.g., expenditure versus utilization of various contraceptive types</li> </ul> </li> </ul>