World Vision

INTEGRATING MATERNAL, NEWBORN AND CHILD HEALTH INTERVENTIONS

IN GLOBAL FUND-SUPPORTED PROGRAMMES

WORLD VISION INTERNATIONAL

Integrating Maternal, Newborn and Child Health Interventions in Global Fund-Supported Programmes
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A

SUMMARY

While the past ten years have seen accelerated declines in child and maternal mortality, rates of decline are not sufficient to reach the United Nations (UN) Millennium Development Goals (MDGs). These shortfalls in decline are greatest where mortality is highest, making MDGs 4 (reduce child mortality) and 5 (reduce maternal mortality) the farthest from achieving their 2015 targets.

Children continue to die of causes such as pneumonia and diarrhoea – for which proven, low-cost interventions are available – and also bear a disproportionately high burden of malaria. In high-burden countries, HIV and malaria exacerbate high maternal mortality rates. High-impact and low-cost interventions proven to save the lives of mothers, newborns and children continue to remain at low to very low coverage levels in most priority countries. Yet, progress in MDGs 4 and 5 is inextricably linked to the extent of success in attaining MDG 6 (combat HIV, malaria and other diseases). Weaknesses in health systems constrain progress towards these Goals.

Global, high-level support for actions to improve maternal, newborn and child health (MNCH) has gained momentum**,** with the UN MDG summit of September 2010 culminating in pledges of more than US$ 40 billion over the next five years to address women's and children's health.

Investments by The Global Fund to fight AIDS, Tuberculosis and Malaria (Global Fund) are already making a significant contribution to attaining MDGs 4 and 5, and have helped expand key services. The Global Fund Board – within its core mandate – encourages countries to strengthen the MNCH content of Global Fund-supported programmes and has requested the Secretariat to develop clear guidance for such programming.

This paper offers a guide to Global Fund-programme implementers to optimally utilise existing opportunities in Global Fund-supported country programmes to maximise MNCH outcomes. It examines each stage in the lifecycle and provides, as an annex, a menu of interventions within programmes for the three diseases to address ways in which these diseases affect MNCH outcomes, along with MNCH interventions that can be added on to disease-specific interventions of Global Fund-supported programmes. It also presents an array of linkages and actions from national health systems to community levels that, together, can effectively deliver the range of MNCH interventions within disease programmes, with particular attention to organisational "preparedness" of health systems, to enable integrated service delivery.

B

PURPOSE AND OUTLINE

The purpose of this paper is to provide the rationale, and offer advice, for national proposals to The Global Fund to fight AIDS, Tuberculosis and Malaria (Global Fund). Recent developments within the Global Fund have led to its positioning as a strategic investor[1] in attaining Millennium Development Goals (MDG) 4 (reduce child mortality) and 5 (reduce maternal mortality).[2]

This paper examines the critical relationship that HIV/AIDS, malaria and tuberculosis (TB) have with maternal, newborn and child health (MNCH). It proposes ways to optimise gains for MDGs 4 and 5 through integrated programming, expanding and acting on the Global Fund's strong encouragement to maximise "existing flexibilities for integrated programming".[3]

The paper also analyses: shortfalls; the causes and distribution of maternal, newborn and child mortality; challenges and considerations for reducing these deaths; and the gathering global support for MDGs 4 and 5. Using a lifecycle approach, it maps potential points for integrating MNCH actions within each of the three disease priorities in the form of a "menu" of possible programming options. This is followed by a discussion on system-wide actions in health and community systems that can impact MNCH outcomes alongside actions for improving organisational readiness for such integration.

C

BACKGROUND AND RATIONALE

C.1 OVERALL OUTLOOK FOR MDGs 4 AND 5

Progress on MDGs 4 and 5 has been uneven, and with less than five years left until the 2015 deadline for attaining the Goals, child and maternal deaths are not declining fast enough. A systematic analysis of progress towards MDG 4, published in *The Lancet* in May 2010, states that rates of decline in child mortality have accelerated in the past five years, but they are still lower than the annual rate of decline of 4.4% required for MDG 4.[4] Progress has been slowest in sub-Saharan Africa and Oceania, but 13 countries[5] within the former region have seen rates of decline of 1% or more and seven others[6] have had yearly rates of decline of 3% or more.[7] *Countdown to 2015,* an initiative that tracks maternal, newborn and child survival and analyses data from 68 countries (that together account for 97% of maternal and child deaths worldwide every year), has shown in its 2010 report that only 19 of these 68 countries were on track to meet the targets for child mortality.[8] Thirty-one countries have made insufficient progress and 17 have made no progress.[9]

While some countries have shown significant decline in maternal mortality, latest estimates of maternal mortality ratios (MMR) from the World Health Organization (WHO) indicate an annual rate of reduction of only 2.3%

globally; this is well below the 5.5% annual rate of reduction required between 1990 and 2015 to meet MDG 5.[10] In sub-Saharan Africa, where maternal mortality is highest, the annual decline has been 1.7%.[11] Forty-five countries had MMR of 300 or more in the year 2008, 38 of which are in sub-Saharan Africa.[12] These shortfalls make MDGs 4 and 5 the farthest of all Goals from achieving their targets.[13]

Children continue to die of causes that can be both prevented and treated using proven, low-cost interventions. Pneumonia, diarrhoea and malaria cause over 40% of all deaths of children under the age of five years worldwide.[14] Children bear a disproportionately high burden of malaria: in Africa, over 90% of all deaths due to malaria occur among young children[15] and over 17% of child deaths are due to malaria (compared to 7% worldwide). Globally, HIV/AIDS is estimated to cause 2.5% of all child deaths, but that estimate rises to up to 5% of all child deaths in the 15 African countries that have HIV prevalence of over 5%.[16] Ninety per cent of child deaths due to malaria and 90% of child deaths due to HIV occur in the region.[17]

Neonatal deaths account for nearly one-third of all deaths in children[18] and progress has been slower for reducing newborn deaths than for deaths among post-neonatal age children.[19] The proportion is higher for South East Asia where about 5% of all child deaths occur during the neonatal period. Undernutrition, including micronutrient deficiencies, is an underlying cause of an estimated 30% of all under-five deaths.[20]

The lion's share of maternal deaths is due to direct causes: severe bleeding (25%), infections (15%), unsafe abortions (13%), eclampsia (12%), obstructed labour (8%)[21] and other direct causes (8%).[22] These pregnancy-related deaths are the leading cause of death among adolescent girls.[23] Indirect causes such as malaria and HIV account for 20% of all maternal deaths globally, but in many priority countries, the high burden of these diseases drives high maternal mortality. A five-year study (2003–2007) in Johannesburg, South Africa – one of the five countries with the highest HIV burden – found maternal mortality among HIV-positive women to be more than six times higher than that in HIV-negative women.[24]

C.2 CHALLENGES AND CONSIDERATIONS IN REDUCING MATERNAL, NEONATAL AND CHILD MORTALITY

Progress in MDGs 4 and 5 is inextricably linked to the extent of success in attaining MDG 6 (combat HIV/AIDS, malaria and TB and other diseases). While the spread of HIV appears to have stabilised globally, the rate of new infections continues to exceed the expansion of treatment, and the share of infected women and girls is increasing.[25] Children represented 17% of new HIV infections and 14% of all AIDS deaths in 2007.[26]

More than 90% of new HIV infections in infants and children are a result of mother-to-child transmission.[27] Although the availability of and access to services related to the prevention of mother-to-child transmission (PMTCT) of HIV have increased in recent years, most priority countries are a long way from providing universal access to PMTCT services. Only 2.6% of HIV-infected pregnant women in Cambodia received a course of antiretroviral (ARV) therapy for PMTCT.[28] In sub-Saharan Africa, which has countries with very high HIV burden and which accounts for 90% of need for PMTCT services, only 28% of pregnant women were tested for HIV in 2008.[29] Disaggregated data from 60 countries shows that only 8% of women received a combination of three ARV drugs for PMTCT,[30] as recommended by WHO in its new guidelines for PMTCT.[31] And of the nearly 3 million people on treatment, only 200,000 or 6% are children.[32]

Malaria continues to be a leading cause of deaths of post-neonatal children. Though several high-burden countries have rapidly scaled up of the use of bed nets by children, the median national coverage is less than 25%.[33]

These gaps point to the need to heighten the emphasis on women and children in disease-specific interventions, addressing the direct and indirect ways in which HIV, TB and malaria affect their health and survival.

High-impact and low-cost interventions proven to save lives of mothers, newborns and children continue to remain at low to very low coverage levels in many priority countries. Only 13 of the 68 priority countries have increased coverage of skilled birth attendance by more than 10% since 1990.[34] Care-seeking for and case management of childhood illnesses remains low: the median coverage for children with suspected signs of pneumonia (the biggest killer of children under five) who actually received an antibiotic was 27% in 35 countries with data.[35] The Integrated Management of Childhood Illness (IMCI) strategy is implemented in at least 75% of districts in 48 member States of WHO, and in the Africa Region, updated HIV guidelines have been included in the strategy.[36] Only one third of reproductive-age women in the 68 priority countries use modern contraceptive methods.[37]

Though over 60% of all maternal deaths take place during the post partum period, particularly during the first 24 hours after birth, this period receives very little attention.[38] Lack of coverage data for services related to the postpartum period testify to this fact. Forty five of the 68 priority countries do not have data related to postpartum care for mothers and postnatal care for newborns, and the rest of the countries show a median coverage of 38%. Though there has been encouraging progress in skilled birth attendance, not all women receive the range of interventions needed.[39]

Coverage and quality gaps in the above interventions point to critical bottlenecks in the health system, particularly in the numbers, skills and motivation of the health workforce. All of these gaps represent opportunities for integrated programming that can be attained by the

strategic use of Global Fund resources, particularly its health system strengthening portfolio.

Underinvested and weak health systems constrain progress towards MDGs 4, 5 and 6. Fifty-four of the priority countries had health workforce densities below the critical threshold identified by the WHO of 2.5 healthcare professionals per 1,000 population.[40] National ministries of health (MOH) operate with fewer than half of the health workers required to deliver basic health services.[41] The critical period of vulnerability for postpartum mothers and their newborns is on the day of birth and in the first week thereafter. Some of the interventions that would enhance their survival depend on well-trained health workers, yet critical shortages in their numbers (particularly those skilled to attend births) and the inequitable distribution of health workers – as well as the absence of sustained availability of adequate supplies and equipment – limit the abilities of countries to scale up effective life-saving postpartum and newborn health interventions.

Global and country averages mask critical variations between and within countries, in terms of progress made (or the lack of it). The burden of disease, as well as low access to and utilisation of services, falls disproportionately on the poorest**.**

(Note: Information provided in this section is meant to be indicative, and national proposal planners and programme managers will benefit from data found in country profiles in the *Countdown to 2015* full report of 2010. These profiles provide demographic measures as well as coverage rates for priority interventions and for selected indicators on equity, policy support, human resources and others for the 68 priority countries.[42] The *Know Your Epidemic* toolkit developed by UNAIDS is useful for designing effective HIV programmes.[43])

C.3 GATHERING MOMENTUM OF SUPPORT FOR MDGs 4 AND 5

Support for actions to improve maternal, newborn and child survival has gained momentum over the past few years, after the Gleneagles pledges of G8 countries and the World Health Reports of 2005 and 2006 clearly set out the interventions required to achieve MDGs 4 and 5:

- *The Consensus for Maternal, Newborn and Child Health*, launched in September 2009 by the United Nations, has been supported by a range of governments, including the G8 countries, non-governmental organisations and agencies. The Consensus envisions that "every pregnancy will be wanted, every birth safe and every newborn and child healthy" and aims to save the lives of 10 million women and children by 2015.[44]
- The African Union (AU) in its 15th Ordinary Session, held in Kampala, Uganda in July 2010, called on the Global Fund to create a new window to fund MNCH programmes and to ensure that new pledges are earmarked for MNCH. It also appealed for equitable access to the Global Fund by all AU member States.[45]
- Culminating the MDG Summit in September 2010, the UN Secretary-General and the Partnership for Maternal, Newborn and Child Health (PMNCH) launched the "Global

Strategy for Women's and Children's Health". With pledges of over US$40 billion over the next five years,[46] the strategy includes support for national plans, comprehensive and integrated packages of essential interventions, health systems strengthening, and health workforce capacity building.[47]

- The 65th General Assembly of the UN resolved to "redouble…efforts to reduce maternal and child mortality and improve the health of women and children, including through strengthened national health systems, efforts to combat HIV/AIDS, improved nutrition…making use of enhanced global partnerships."[48]

C.4 STRENGTHENING MNCH OUTCOMES THROUGH THE GLOBAL FUND-SUPPORTED PROGRAMMES

Global Fund investments are already making a significant contribution to attaining MDGs 4 and 5; they have helped expand key services that benefit women and children, such as PMTCT, insecticide-treated bed nets, and interventions to strengthen health and community systems.[49] In 2009, Global Fund programmes provided ARV therapy to 2.5 million people, half of whom are women; 790,000 HIV-positive pregnant women received ARV for PMTCT.[50] Among the top 25 Global Fund-supported malaria programmes, the proportion of pregnant women and children using insecticide-treated bed nets (ITNs) rose from a median of 2% (between 1999 and 2004) to 21–23% in 2008.[51]

Encouraged by the Global Fund's contributions towards improved MNCH outcomes in country-led programmes, the Global Fund Board stated in April 2010 that it "strongly encourages CCMs [Country Coordinating Mechanisms] to identify opportunities to scale up an integrated health response that includes MCH in their applications for HIV/AIDS, tuberculosis, malaria and HSS [Health Systems Strengthening]."[52] A report of the Global Fund's Policy and Strategy Committee (PSC) noted that "more strategic use of existing opportunities (within the current portfolio of investments) could accelerate progress towards MDGs 4 and 5."[53] In October 2010, the PSC was presented with three options for enhancing the Global Fund's role in strengthening MNCH outcomes. PSC expressed broad support for Option 3, which was "to continue to accelerate investments in MNCH by optimizing synergies within the current portfolio", and stressed that "this approach should not dilute funding for the three diseases."[54] Following this, the 22nd Board meeting held in December 2010 encouraged countries to strengthen the MNCH content of Global Fund-supported programmes and requested the Secretariat "to develop clear guidance… for countries" for doing so. It also acknowledged the need to "define longer-term possibilities for increased engagement by the Global Fund in MNCH."[55]

D

INTERVENTIONS TO ADDRESS MNCH OUTCOMES THROUGH GLOBAL FUND-SUPPORTED PROGRAMMES

With the spotlight clearly on reducing maternal, newborn and child mortality, translating this high-level attention to concrete and robust action requires interventions within the following broad categories:

- Heightening emphasis on reaching mothers, newborns and children within disease-specific interventions. These interventions specifically address the direct and indirect ways by which HIV/AIDS, TB and malaria affect their health and survival.
- Identifying points within disease-specific interventions where basic MNCH actions can be integrated. Such actions help coalesce efforts around critical points within disease programmes and optimise efficiencies. This also involves exploring optimal ways to bundle interventions and deliver them from common service delivery mechanisms that enable synergy between disease-specific outcomes and MNCH.
- Addressing systemic weaknesses around such points of convergence between MNCH actions and those for HIV/AIDS, TB and malaria in order to improve the capacity and "preparedness" of the health system to deliver integrated services at points of care.

These categories of interventions will help Global Fund-supported current and future programmes maximise their impact on MNCH outcomes along with improved patient-outcomes in HIV, TB and malaria, the core mandate of the Global Fund.

Section D.2 below uses a lifecycle approach to fully explore the range of interventions within the first two categories listed above. For the third category, section D.3 presents interventions for health systems and community systems that together can effectively deliver a range of MNCH interventions within disease programmes. It is to be noted that while interventions are presented under different categories to explore the rationale for their inclusion, they need to be seen as parts of a continuum of effort to deliver integrated services.

D.1 APPLYING A LIFECYCLE APPROACH TO INTEGRATED PROGRAMMING

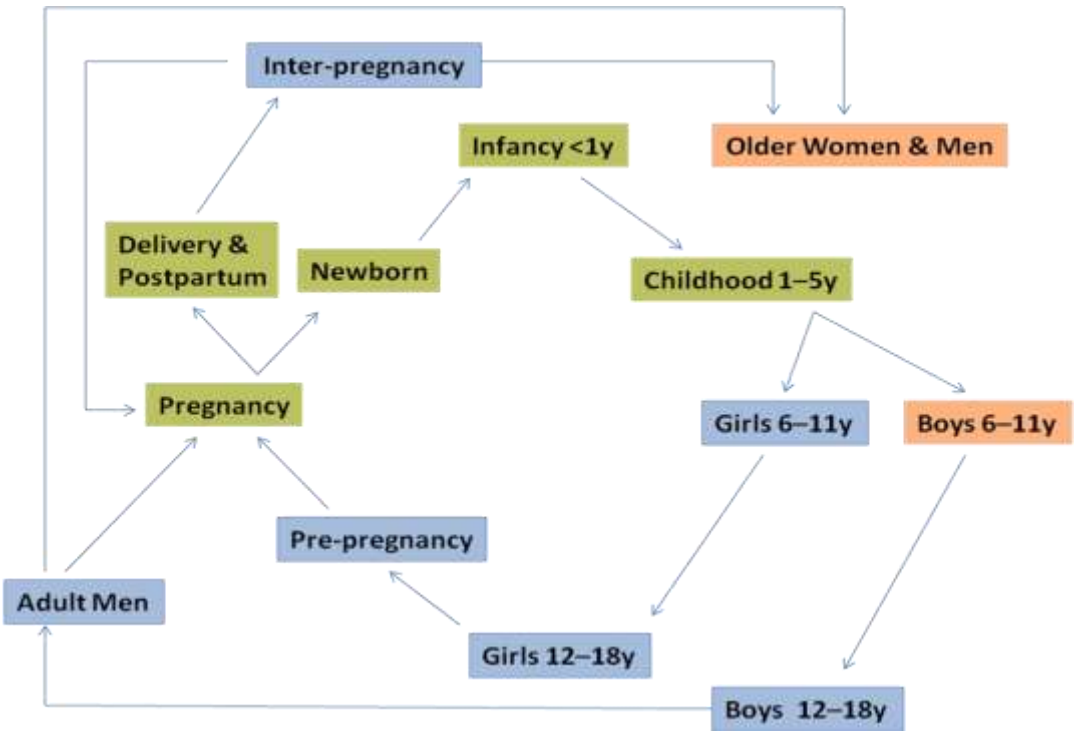
A lifecycle approach refers to the analysis of consecutive stages of human life and inter-linkages between the stages in one person's life, as well as with those of the preceding and subsequent generations. The human lifecycle comes full circle at pregnancy and childbirth with an intergenerational link.

When applied to health programming, a lifecycle approach helps programme designers identify and seize opportunities for synergy between interventions directed towards the same point in the lifecycle, as well as between those meant for different stages in the cycle. When used in its entirety, the approach ensures that improving efficiencies at one point in the lifecycle does not create inefficiencies at another.[56] By pointing to areas of potential synergy, the approach opens up avenues for innovation. Lastly, this approach helps connect and maintain caregiving across the various stages in the lifecycle and across the different levels of care, thus improving outcomes across the lifecycle and overall better returns on investments.

Figure 1 below provides a snapshot view of key stages in the lifecycle. Drawing on the "Family Health Cycle" (by Simon *et al.*[57]) and the "Intergenerational Cycle of Growth Failure" (featured in the UN's World Nutrition Situation Report, Volume 1[58]), it attempts narrower age disaggregation to enable interventions to take into account the changing needs of the different stages that could get buried in broader age brackets. The figure below also attempts to classify lifecycle stages by their relationship to MNCH into three overlapping groups: stages that have a direct and immediate relationship to MNCH (shaded green), those that have an indirect, biological and often intergenerational relationship (shaded blue) and those that have an indirect and non-biological relationship through caregiving and influencing (shaded orange). Though this grouping oversimplifies the relationships to some extent (as in the case of fathers who can biologically influence newborn and child survival by transmitting HIV and STIs but also have caregiving and decision-making roles), it helps

analyse the full range of possibilities especially in the overlap between HIV/AIDS and MNCH interventions.

Figure 1: Stages in Lifecycle with MNCH Emphasis



D.2 MAPPING INTERVENTIONS USING A LIFECYCLE APPROACH: METHODOLOGY

A full list of actions for MNCH that can be integrated into Global Fund applications for HIV/AIDS, TB and malaria are presented in **annex I** in tables that follow a four-layered scheme:

- By disease priority
    - By lifecycle stage
        - By intervention level: facility and community/household
            - By intervention category: Disease-specific interventions with effects on MNCH, and MNCH activities integrated with disease-specific interventions for that level

This scheme will enable the reader to easily zoom into a table of interest, such as community-based HIV interventions for infants and children, or facility-based interventions for pregnant women in a TB programme.

Interventions are presented in the left-side column of each table and the rationale for their inclusion and their link to improved MNCH outcomes on the right-side columns. Each table also presents common platforms that can be used to deliver both categories of interventions/services in an integrated manner.

Figure 2, below, is an illustrative table that follows the above scheme:

Figure 2: Illustrative table from Annex 1

Disease Priority: HIV/AIDS	**Lifecycle Stage: Pregnancy**	**Intervention Level: Facility**
Service delivery platform: Antenatal care (ANC) services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	

Interventions provided in the tables are taken from evidence-based guidelines such as the WHO revised guidelines for PMTCT.[59] Rationale statements are referenced, evidence-based arguments that provide proposal planners with the logic and motivation for including an intervention as one that improves both disease-specific and MNCH outcomes. Due diligence has been exercised to ensure that MNCH actions proposed are not stand-alone ones but those that contribute to disease-specific outcomes.

Most of the interventions presented require health systems that have the capacity to deliver integrated packages of care and, most importantly, a capable and motivated health workforce. Therefore corresponding actions will be needed within health and community systems to enable the delivery of integrated services.

While national planners are strongly encouraged to consider the full range of interventions within each table that is applicable to their context and local epidemiology, to draw maximum benefit-for-cost that "bundling" offers, they should also ensure that each selected intervention is in line with national policy and strategies and contributes to closing existing gaps in coverage levels, and that there are corresponding actions that prepare the health and community systems to deliver integrated services. The overall goal is to stretch the coverage of health investments, for better outcomes overall and for accelerating progress towards MDGs 4, 5 and 6.

The menu of interventions provided in **annex 1** is thorough but not exhaustive. Intervention lists related to HIV/AIDS are provided for all lifecycle stages, but only for some stages for TB and malaria, as applicable.

The reader is also referred to other lists of interventions such as a 2010 WHO document that provides evidence-based packages of care for a range of interventions for sexual and reproductive health,[60] and a working paper

from the Evidence to Policy Initiative that provides packages of interventions for MNCH.[61]

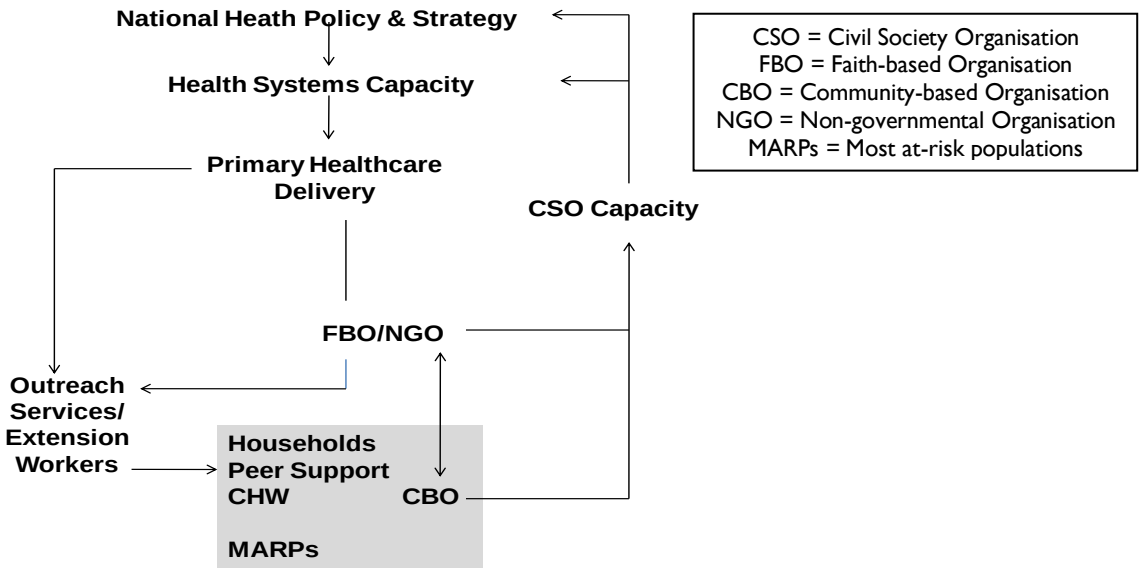
D.3 HEALTH AND COMMUNITY SYSTEMS STRENGTHENING FOR IMPROVED MNCH

The Global Fund is very flexible in the types of Health Systems Strengthening (HSS) activities it supports, and there are few categorical exclusions.[62] It disbursed US$600 million for cross-cutting HSS interventions through the first two years of 42 successful applications in its Rounds 8 and 9[63] and has provided guidance on HSS for applicants.[64] The Health Systems 20/20 Project and Physicians for Human Rights have also developed reference guides for using Global Fund support for HSS actions.[65] These documents provide detailed guidance on the rationale for including HSS interventions in Global Fund applications, information required in developing HSS proposals, factors critical to the success of such applications and examples of successful HSS proposals.

This section analyses windows of opportunity that exist across health systems and communities to improve MNCH outcomes through programmes that address HIV/AIDS, malaria and TB. It draws from, among others, the WHO's six "building blocks" for health systems,[66] the Global Fund's *Community Systems Strengthening Framework*[67] and the Global AIDS Alliance's guidelines on integrating sexual and reproductive health into HIV/AIDS proposals.[68] It considers a wide array of linkages and actions from national to community levels that together can effectively deliver the range of integrated interventions discussed in the preceding section. Some countries have begun to move towards integrated service delivery, pooling donor funds to support one national plan, one health policy and one monitoring mechanism using country compacts to gain agreement from all stakeholders.

Proposed activities cut across lifecycle stages, consider health systems and communities in a continuum, and have the potential to impact MNCH and disease-specific outcomes. They fall in the middle of a spectrum of HSS efforts, between those that are tied to one of the disease priorities on the one end, and those that cause system-wide effects on the other. Figure 3 captures the range of systems, players and levels into a single continuum within which interventions to improve MNCH and disease-specific outcomes are considered.

Figure 3: Mapping of Health and Community Systems



A full list of interventions is presented in **annex 2**, and these have the potential to influence MNCH outcomes alongside outcomes related to disease priorities. These are required in order to successfully implement the packages of interventions in an integrated manner. Interventions are classified by the following thematic areas:

- National Health Policy and Strategy
- Health Systems Capacity
- Primary Healthcare Delivery
- Healthcare Financing
- Outreach Services
- Community/Extension Health Workers
- Community Management/Governance Bodies and Community-based Organisations (CBOs)/Faith-based Organisations (FBOs)
- Informal Healthcare Providers and Medicine Sellers

Enabling integrated service delivery. The tables in annex 2 are simple lists of interventions under each of the above themes, and they are aimed at improving the capacity of health and community systems specifically for such integration. The list of interventions is not exhaustive, and they could be categorised differently or be placed in more than one category. Country proposal planners are invited to consider the interventions in these lists within the context of their health systems, and in line with the interventions selected from the tables in annex 1. This iteration is critical because integration and coordination come with a cost; if not carefully weighed against benefits they add complexity and administrative burden and can lead to overwhelming and disempowering an unprepared health workforce. However, if critical actions are carried out across all levels of the health system, integrated service delivery will greatly improve efficiencies over time and, hence, represents value for money.

E

CONCLUSION

Global consensus on accelerating progress towards women's and children's health has never been stronger, and the Global Fund's encouragement to countries to maximise the MNCH opportunities in its investments has the potential to save the lives of millions of mothers, newborns and children.

This paper presents a range of possible synergies within Global Fund-supported programmes in the form of actions that emphasise women and children within disease-specific interventions: those that are MNCH-specific but also contribute to disease-specific outcomes and can be integrated with disease-specific interventions; and corresponding actions required within health and community systems to enable the delivery of integrated services.

Country proposal writers therefore need to make the most of this unprecedented opportunity by integrating context-driven and strategic MNCH interventions within Global Fund-supported programmes that will enable more countries run to the last goal post in reaching MDGs 4, 5 and 6.

ANNEXES

CONTENTS OF ANNEXES

LIST OF ACRONYMS

AMTSL	Active Management of Third Stage of Labour
ANC	antenatal care
ARV	antiretroviral
CBO	community-based organisation
CHW	community health worker
FBO	faith-based organisation
FP	family planning
DOT	directly observed treatment
HBC	home-based care
IDU	injecting drug user
IFA	Iron Folic Acid
IMCI	Integrated Management of Childhood Illness
IPTp	intermittent preventive treatment in pregnancy
LLIN	Long Lasting Insecticide-treated Nets
MARPs	most at-risk populations
MNCH	maternal, newborn and child health
OI	opportunistic infection
PCR	Polymerase Chain Reaction
PMTCT	prevention of mother-to-child transmission
RBM	Roll Back Malaria
STI	sexually transmitted infection
TB	tuberculosis
UNAIDS	Joint United Nations Programme on HIV/AIDS
WHO	World Health Organization

ANNEX 1

Menu of Interventions for Improving MNCH Outcomes Within Disease Priorities

PART I Tables for Disease Priority: HIV/AIDS

Table 1.1

Disease Priority: HIV/AIDS	**Lifecycle Stage: Pregnancy**	**Intervention Level: Facility**
Service delivery platform: Antenatal care (ANC) services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For pregnant women with unknown HIV status:</u> Ensure provider-initiated, opt-out HIV testing Counsel on safer sex/dual protection; provide and promote condoms Implement harm-reduction interventions for injecting drug users (IDUs) and link with social support Screen for and treat sexually transmitted infections (STIs) Provide repeat testing of HIV-negative women in late pregnancy	1.1a) These are evidence-based actions that intervene at a critical point in the lifecycle, enabling prevention and early detection of HIV with immediate effects on the health of the pregnant woman and the unborn baby. 1.1b) The availability and uptake of HIV testing at antenatal clinics was only 28% in sub-Saharan Africa in 2008. 1.1c) A negative result for HIV testing presents a good opportunity to emphasise primary prevention methods such as safer sex, and a positive test result enables counselling on steps to prevent re-infection and to initiate antiretroviral (ARV) therapy. 1.1d) Research from South Africa suggests that infection with bacterial vaginosis could double a woman's susceptibility to HIV infection.[69] Integrating diagnosis and management of sexually transmitted infections (STIs) at service delivery points is therefore a high-priority strategy to prevent HIV transmission. 1.1e) World Health Organization (WHO) guidelines for HIV testing and counselling recommend a systematic offering of repeat testing of HIV-negative women in the third trimester of pregnancy in high-prevalence and generalised epidemic settings.[70]	
<u>For HIV-positive pregnant women:</u> Initiate early ARV therapy for preventing mother-to-child transmission (PMTCT) and for the woman's health Screen for and manage TB and other opportunistic infections (OIs) Implement harm-reduction interventions for IDUs and link with social support Screen for and treat comorbidities such as Hepatitis B in IDUs Screen for and treat STIs Counsel on infant feeding options Counsel on safer sex/dual protection; provide and promote condoms Plan and prepare for facility birth Support for disclosure Nutrition support Plan for monitoring and follow up Identify and report gender-based violence	1.1f) Maximising the reach and coverage of services for HIV-positive pregnant women will address the most important indirect cause of maternal mortality in high HIV burden countries. 1.1g) The focus of the revised guidelines for PMTCT from WHO is not just on reducing maternal deaths but also on improving maternal health and well-being (with effects on the survival of their newborns and infants) and on preventing transmission to their babies.[71] 1.1h) The range of interventions provided here form a package for mothers' well-being and are recommended by WHO and UNAIDS[72] as part of integrating Sexual and Reproductive Health (SRH) services with HIV/AIDS interventions.	

<u>For all pregnant women, irrespective of HIV status:</u> Counsel on safer sex/dual protection; provide and promote condoms Counsel on postpartum family planning (FP) Screen for and treat STIs Implement harm-reduction interventions for IDUs and link with social support Screen for and treat comorbidities such as Hepatitis B in IDUs Provide Intermittent Preventive Treatment (IPTp) for malaria Identify and report gender-based violence	1.1i) Unsafe sex is the second most significant risk factor to health in developing countries because of its association with increased HIV and STI transmission and maternal mortality and morbidity.[73] Unsafe sex also increases the risk of re-infection in HIV-positive pregnant women, thereby increasing the chances of vertical transmission. 1.1j) Women who receive FP counselling in the prenatal period are more likely than others to use a contraceptive.[74] 1.1k) A study on Malawian pregnant women showed that placental malaria infection is associated with an increase in peripheral and placental HIV-1 viral load, which might increase the risk of mother-to-child transmission of HIV.[75] It is therefore completely reasonable to include IPTp provision as part of antenatal services to reduce HIV transmission. 1.1l) Gender-based violence increases women's vulnerability to HIV infection by limiting their ability to negotiate the use of protection. It also limits their access to health and social services, making it more difficult and dangerous for them to refuse unsafe sex, and to access HIV testing.[76]
MNCH activities integrated with disease-specific interventions	Rationale for inclusion
<u>For all pregnant women, irrespective of HIV status:</u> Ensure at least four antenatal care visits by a skilled worker trained in PMTCT Promote facility birth; link with skilled health worker trained in PMTCT for home birth; refer to facilities for PMTCT services	1.1m) Antenatal care (ANC) visits enable the provision of a package of essential, evidence-based interventions meant for all pregnant women, each proven to affect a direct or an indirect cause of maternal and/or perinatal/neonatal mortality. These interventions include all the HIV-related interventions for pregnant women discussed above, malaria interventions such as IPTp and distribution of bed nets, as well as basic ANC services such as TT (Tetanus Toxoid) immunisation. Delivering the ANC package thus carries high benefit-to-cost ratios, maximises existing synergies and reduces missed opportunities for both disease-specific and MNCH services. 1.1n) Targeting all pregnant women by offering an integrated package is likely to reduce the stigma associated with HIV-specific services, and thus increase its uptake by HIV-positive women. 1.1o) Promoting facility birth is critical for implementing the full range of PMTCT interventions, and it presents the opportunity to provide a range of interventions directed towards maternal/perinatal/neonatal health.

Table 1.2

Disease Priority: HIV/AIDS	**Lifecycle Stage: Pregnancy**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive pregnant women who choose to disclose their HIV status:</u> Monitor treatment adherence (ARV, OI treatment) Provide Directly Observed Treatment (DOT) for TB Facilitate regular follow up at the health facility Counsel on infant feeding options Encourage and enable facility birth Provide support for food, housing, safe water and other needs Facilitate PMTCT mother support groups	1.2a) Community-based support is likely to improve adherence to treatment and the timely follow up at the facility and to provide continuity of care between the facility and the home. 1.2b) The provision of food, housing and other support addresses broader, social determinants of health[77] and creates an enabling environment that leads to better health outcomes. 1.2c) In recent years, community-based mother support groups have played a key role in creating awareness and building confidence amongst HIV-positive women to have access to PMTCT services. Mother support groups provide safe environments in which women are able to learn.[78]	
<u>For all pregnant women, irrespective of HIV status:</u> Identify pregnant women, mobilise and link them with health facilities or outreach services to access ANC services including HIV testing Counsel on safer sex practices/dual protection; provide and promote condoms Facilitate planning and preparation for birth/promote facility birth; link with skilled health worker for home birth for those unable/unwilling to go to a facility to give birth Facilitate early recognition of danger signs and immediate referral Facilitate establishment and operation of an emergency transport mechanism Provide social and peer support, community reinforcement and psychosocial counselling and follow up of harm-reduction/substitution therapies for IDUs	1.2d) These actions will lead to an increased uptake of essential, as well as HIV-specific, antenatal services and consequently, increase the proportion of pregnant women being tested for HIV, paving the way for potentially universal coverage of HIV-specific services. 1.2e) Community-based interventions for primary prevention of HIV have the potential to cover all pregnant women – irrespective of HIV status and preferences for disclosure of status – and do not carry with them the stigma associated with services that target HIV-positive women. 1.2f) Increasing the proportion of births occurring in facilities will lead to a greater uptake of HIV-related services including HIV testing and initiation of actions for PMTCT.	

MNCH activities integrated with disease-specific interventions	Rationale for inclusion
<u>For all pregnant women, irrespective of HIV status:</u> Provide counselling by community health extension workers trained in PMTCT Link pregnant women with peer/support groups	1.2g) Actions meant for mobilising all pregnant women at the community level will help counter stigma arising from these services being seen as HIV-specific, besides helping complete the continuum of care between the facility and the household/community. 1.2h) Community-based efforts are more likely than facility-based interventions to reach most at-risk populations (MARPs) such as people living in poverty, migrants, ethnic minorities and IDUs. Such efforts also subsequently link MARPs with facilities for further care, thus increasing the uptake of both HIV services, as well as basic MNCH services, by these populations. 1.2i) These interventions offer the scope for counselling and providing support on a range of both HIV-specific topics and basic MNCH topics (such as the intake of Iron Folic Acid tablets, the need for antenatal checkups and infant feeding practices), which further reinforce each other and improve HIV-specific and MNCH outcomes.

Table 1.3

Disease Priority: HIV/AIDS	**Lifecycle Stage: Delivery & postpartum**	**Intervention Level: Facility**
Service delivery platform: Facility Births, Postpartum wards and clinics		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For women with unknown HIV status:</u> Provide intrapartum and postpartum ARV prophylaxis for PMTCT Ensure provider-initiated, opt-out HIV testing Support early and exclusive breastfeeding Counsel on safer sex practices/dual protection; promote and provide condoms Screen for and treat STIs	1.3a) The PMTCT interventions given here are recommendations from WHO's revised guidelines.[79] 1.3b) Infants infected in pregnancy or during delivery have a very rapid progression rate, but the early diagnosis and initiation of treatment dramatically reduces this. 1.3c) A negative result for HIV testing presents a good opportunity to emphasise primary prevention methods such as safer sex, and a positive test result enables counselling on steps to prevent re-infection and to initiate ARV therapy. 1.3d) Research from South Africa suggests that infection with bacterial vaginosis could double a woman's susceptibility to HIV infection.[80] Integrating diagnosis and management of STIs at service delivery points is therefore a high-priority strategy to prevent HIV transmission.	
<u>For HIV-positive women:</u> Continue/initiate early ARV therapy for PMTCT and for the woman's health Support early and exclusive breastfeeding/other optimal infant feeding options Screen for and manage TB and other OIs Implement harm-reduction interventions for IDUs and link with social support Screen for and treat comorbidities such as Hepatitis B in IDUs Screen for and treat STIs Counsel on safer sex practices/dual protection; provide and promote condoms Plan for monitoring and follow up Identify and report gender-based violence	1.3e) Maximising the reach and coverage of services for HIV-positive pregnant women will address this most important indirect cause of maternal mortality in high HIV burden countries. 1.3f) The focus of the revised guidelines for PMTCT from WHO is not just on reducing maternal deaths but also on improving maternal health and well-being (with effects on the survival of their newborns and infants) and on preventing transmission to their babies.[81] 1.3g) Non-exclusive breastfeeding more than doubles the risk of early postnatal HIV transmission.[82] 1.3h) The range of interventions provided here form a package for mothers' well-being and are recommended by WHO and UNAIDS[83] as part of integrating Sexual and Reproductive Health (SRH) services with HIV/AIDS interventions.	

<u>For all women, irrespective of HIV status:</u> Provide postpartum FP counselling and services Counsel for safer sex/dual protection; provide and promote condoms Screen for and treat STIs Implement harm-reduction interventions for IDUs and link with social support Screen for and treat comorbidities such as Hepatitis B in IDUs Identify and report gender-based violence	1.3i) There is a high to very high unmet need for FP in the postpartum period; a study in Nigeria found that 86.6% of mothers of infants aged 8–11 months had an unmet need for FP.[84] There is also the need to pay attention to the "extended postpartum period" (the first six months after childbirth), as the woman's fertility is likely to return in that period even if she is exclusively breastfeeding. 1.3j) A meta analysis found that when mothers acquired HIV-1 postnatally, the estimated risk of transmission through breastfeeding was 29%; while when mothers were infected prenatally, the additional risk of transmission through breastfeeding (over and above transmission *in utero*) was 14%.[85] Promoting the use of condoms is therefore critical during this period.
MNCH activities integrated with disease-specific interventions	Rationale for inclusion
<u>For all parturient and postpartum women, irrespective of HIV status:</u> Enable facility birth in a centre equipped for PMTCT Ensure postpartum care by a skilled worker trained in PMTCT – at least three visits in the first week after birth	1.3k) Facility birth is critical for PMTCT and also leverages other benefits offered by the facility such as Active Management of Third Stage of Labour (AMTSL), support for early and exclusive breastfeeding, and postpartum vitamin A supplementation. These benefits affect direct and indirect causes of maternal and/or neonatal mortality. Such integration carries high benefit-to-cost ratios, optimises existing synergies and reduces missed opportunities. 1.3l) Targeting all parturient women by offering an integrated package is also likely to reduce the stigma associated with HIV-specific services, and thus increase its uptake by HIV-positive women.

Table 1.4

Disease Priority: HIV/AIDS	**Lifecycle Stage: Delivery & postpartum**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive women, who choose to disclose their HIV status:</u> Monitor treatment adherence (ARV, OI treatment) Provide DOT for TB Facilitate regular follow up at the health facility Counsel on safer sex practices/dual protection/planning for future childbearing Provide support for food, housing, safe water and other needs	1.4a) Community-based support is likely to improve adherence to treatment and the timely follow up at the facility and to provide continuity of care between the facility and the home. 1.4b) The provision of food, housing and other support addresses broader, social determinants of health[86] and creates an enabling environment that leads to better health outcomes. 1.4c) Continuing treatment, counselling and support for non-pregnant women of reproductive age contributes to preventing new infections and reducing the unmet need for family planning (FP).	
<u>For all women, irrespective of HIV status:</u> Counsel on safer sex practices/dual protection; provide and promote condoms Refer or follow up for postpartum FP Support early and exclusive breastfeeding Facilitate early recognition of danger signs and immediate referral Facilitate establishment and operation of an emergency transport mechanism Screen for and treat STIs Facilitate and support HIV testing/repeat testing Provide social and peer support, community reinforcement and psychosocial counselling and follow up of harm-reduction/substitution therapies for IDUs	1.4d) Most births in priority countries continue to occur in the home and community-based interventions provide the continuum of care from pregnancy, to ensure that adequate care is provided during and soon after birth, and referrals and counter-referrals are completed between the facility and the household. 1.4e) Promoting early and exclusive breastfeeding for all women will help to ensure protection from the virus for newborns of HIV-positive mothers when the mother's status is unknown. This will also help prevent disclosure of the mother's HIV status in cultures where breastfeeding of babies is a norm. The Zambia Exclusive Breastfeeding Study[87] found a 3.5- to 4-fold increased hazard of infant infection by the age of four months among those who were not being exclusively breastfed, compared to those who were.[88]	

MNCH activities integrated with disease-specific interventions	Rationale for inclusion
<u>For all women, irrespective of HIV status:</u> Ensure clean home birth with skilled birth attendant trained in PMTCT, for those unable/unwilling to give birth in a facility At least three postpartum visits in the first week by a worker trained in PMTCT to improve ARV adherence and provide infant feeding support Counsel and refer for FP services and follow up Implement harm-reduction interventions for IDUs and link with social support	1.4f) These interventions offer the scope for counselling and providing support on a range of both HIV-specific topics and basic MNCH topics, such as: clean births (avoiding unhygienic practices in home births that lead to fatal infections[89,90]); early and exclusive breastfeeding;[91] and promoting the use of bed nets – all of which reinforce each other and improve HIV-specific, as well as MNCH, outcomes. 1.4g) Providing postpartum visits and counselling to all women not only helps support ARV adherence and infant feeding in HIV-positive women, but is also likely to reduce the stigma associated with interventions that target HIV-positive women. These visits can also be leveraged to improve MNCH outcomes by supporting exclusive breastfeeding, linking with facilities for child immunisations etc. 1.4h) FP services are an integral part of the PMTCT package.

Table 1.5

Disease Priority: HIV/AIDS	**Lifecycle Stage: Between pregnancies**	**Intervention Level: Facility**
Service delivery platform: Follow up from postpartum period; cross referrals from other primary points-of-care such as TB, FP, STI clinics and general outpatient services; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For women with unknown status :</u> Ensure provider-initiated, opt-out HIV testing Implement harm-reduction interventions for IDUs and link with social support Screen for and treat STIs Counsel on safer sex practices/dual protection/planning for future childbearing	1.5a) Integrating reproductive health services with HIV services – and establishing cross-referral mechanisms with other services – has numerous benefits, including: reducing missed opportunities; reducing stigma related to accessing HIV services; and reducing duplication of efforts. Such integration also ensures that HIV-negative women remain so and enter pregnancy free of HIV.	
<u>For HIV-positive women:</u> Monitor and follow up treatment – ARVs and OI treatment Screen for and manage TB and other OIs Implement harm-reduction interventions for IDUs and link with social support Screen and treat comorbidities such as Hepatitis B in IDUs Screen for and treat STIs Counsel on safer sex practices/dual protection/planning for future childbearing HIV testing for children Identify and report gender-based violence	1.5b) Continuing treatment, counselling and support for HIV-positive non-pregnant women of reproductive age contributes to preventing re-infection and to reducing the unmet need for family planning in this group. 1.5c) Many of these women also serve as entry points to identify and test children born before efforts for the in-country scale-up of PMTCT.	
<u>For all women irrespective of HIV status:</u> Counsel and refer for family planning services and follow up Screen for and treat STIs Implement harm-reduction interventions for IDUs and link with social support Screen for and treat comorbidities such as Hepatitis B in IDUs Identify and report gender-based violence	1.5d) Integrating reproductive health services with HIV testing and treatment at points-of-service delivery is a high priority strategy both for reducing the unmet need for family planning and for improving coverage for HIV diagnostic and treatment services.	

Table 1.6

Disease Priority: HIV/AIDS	**Lifecycle Stage: Between pregnancies**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive women who choose to disclose their HIV status:</u> Monitor treatment adherence (ARV, OI treatment) Provide DOT for TB Counsel and refer for FP services Facilitate regular follow up at the health facility Provide support for food, housing, safe water and other needs	1.6a) Community-based support is likely to improve adherence to treatment and the timely follow up at the facility and to provide continuity of care between the facility and the home. 1.6b) A qualitative study on the provision and use of family planning in the context of HIV/AIDS in Zambia found greater demand for FP services among HIV-positive women, and wide prevalence of myths and misconceptions among them related to FP methods.[92] Community-based counselling and dialogue helps address these misconceptions. 1.6c) The provision of food, housing and other support addresses broader, social determinants of health[93] and creates an enabling environment that leads to better health outcomes.	
<u>For all women, irrespective of HIV status:</u> Implement harm-reduction interventions for IDUs and link with social support Screen and refer for STI management Counsel on safer sex practices/dual protection; provide and promote condoms Counsel and refer for FP services and follow up Provide social and peer support, community reinforcement and psychosocial counselling and follow up of harm-reduction/substitution therapies for IDUs	1.6d) These interventions at the community level improve the uptake of HIV-related services by women of reproductive age.	

Table 1.7

Disease Priority: HIV/AIDS	**Lifecycle Stage: Newborn**	**Intervention Level: Facility**
Service delivery platform: Follow up from postpartum period; cross referrals from other primary points-of-care such as well-baby clinics, immunisation and growth monitoring centres; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-exposed newborns:</u> Provide short-duration ARV prophylaxis Provide early HIV testing Establish referral systems for the collection and transport of dried blood samples for PCR (Polymerase Chain Reaction) testing/early diagnosis Provide cotrimoxazole prophylaxis Manage neonatal withdrawal syndrome for babies of mothers who are IDUs Diagnose and manage illness using IMCI (Integrated Management of Childhood Illness) Counsel for immediate breastfeeding within 1st hour of life and exclusive breastfeeding for six months	1.7a) This package of interventions is part of the revised guidelines of WHO on PMTCT and are directly linked to broader HIV-related objectives such as reducing HIV transmission among children and reducing mortality and morbidity associated with diarrhoea and malnutrition secondary to inappropriate feeding practices.[94]	
<u>For all newborns:</u> Diagnose and manage illness using IMCI Counsel for immediate breastfeeding within 1st hour of life and exclusive breastfeeding for six months	1.7b) IMCI established clinical criteria to identify children with suspected HIV infection for HIV testing and management, and these criteria have been fine-tuned into a clinical algorithm and were subsequently included in the 2003 edition of IMCI guidelines in South Africa.[95] Global Fund HIV applications are well positioned to scale up the use of IMCI for maximising the identification of newborns, infants and children with HIV infection. 1.7c) Promoting early and exclusive breastfeeding for all women will help to ensure protection from the virus for newborns of HIV-positive mothers when the mother's status is unknown. This will also help prevent disclosure of the mother's HIV status in cultures where breastfeeding of babies is a norm. The Zambia Exclusive Breastfeeding Study[96] found a 3.5- to 4-fold increased hazard of infant infection by the age of four months among those who were not being exclusively breastfed, compared to those who were.[97]	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all newborns:</u> Ensure birth registration Provide early vaccinations (BCG/OPV/Hepatitis B/Other) Facilitate growth monitoring	1.7d) These are critical interventions essential for addressing key causes of neonatal mortality in priority countries, and are also essential for continuing care for HIV-exposed newborns and can be integrated into primary points-of-care within facilities.	

Table 1.8

Disease Priority: HIV/AIDS	**Lifecycle Stage: Newborn**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/ Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-exposed newborns:</u> Refer for early HIV testing and for ARV prophylaxis Establish community-based referral systems for the collection and transport of dried blood samples for PCR testing/early diagnosis Follow up cotrimoxazole prophylaxis Counsel for and support exclusive breastfeeding	1.8a) Community-based interventions help identify newborns of HIV-positive mothers who are born at home, and have therefore missed the intrapartum care required for PMTCT. 1.8b) Community and home-based peer support (beginning in pregnancy) have been shown to significantly improve breastfeeding practices[98] thereby improving the chances of survival of the newborn and reducing chances of vertical transmission.	
<u>For all newborns:</u> Identify signs of illness early and refer to facility	1.8c) With several HIV-positive women (and women of unknown status) continuing to deliver in the home with no access to skilled attendance, it is critical for community-based interventions to provide care through the time of birth and the newborn period. The early recognition of symptoms, and subsequent use of IMCI in facilities, helps identify those newborns requiring HIV testing.	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all newborns:</u> Provide caregiver with counselling by a worker skilled in Home-based Care (HBC) for birth registration Provide kangaroo-baby care for low-birth-weight newborns Provide mother with counselling and follow up for early vaccinations Link with community-based growth monitoring (including birth weight) Counsel for and support exclusive breastfeeding	1.8d) These are critical interventions essential for addressing key causes of neonatal mortality in priority countries,[99] and are also essential for continuing care for HIV-exposed newborns. 1.8e) Extending these services to all mother–baby pairs (rather than to HIV-positive mothers alone) is likely to carry less stigma and hence enable a better uptake by the latter group. This is especially relevant to priority countries with high neonatal mortality, limited access to facility-based care and a high proportion of births occurring in the home.	

Table 1.9

Disease Priority: HIV/AIDS	**Lifecycle Stage: : Infancy (<1y) and Childhood (1–5y)**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as paediatric outpatient department, well-baby and immunisation clinics; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-exposed infants and children:</u> Ensure provider-initiated opt-out HIV testing Continue ARV prophylaxis (for 4–6 weeks) Continue cotrimoxazole prophylaxis Provide isoniazid (INH) prophylaxis Counsel on appropriate infant and child feeding practices (including exclusive breastfeeding for the first six months) Counsel on hand washing with soap at appropriate times	1.9a) The scale up of paediatric HIV care and treatment programmes represents an opportunity to improve the overall survival, health and well-being of children. This package of interventions is promoted by UNAIDS, UNICEF and WHO in its guide to paediatric HIV care and treatment.[100]	
<u>For HIV-positive infants and children:</u> Screen for and manage TB and other OIs Counsel on appropriate infant and child feeding practices (including exclusive breastfeeding for the first six months) Continue cotrimoxazole prophylaxis Counsel on hand washing with soap at appropriate times		
<u>For all infants and children:</u> Diagnose and manage illnesses using IMCI Counsel on hand washing with soap at appropriate times	1.9b) Use of the IMCI package is included as an HIV-specific intervention (rather than as an MNCH service) because of its value in early diagnosis and appropriate management of HIV in children and of other infections in HIV-positive children 1.9c) IMCI established clinical criteria to identify children with suspected HIV infection for HIV testing and management, and these criteria have been fine-tuned into a clinical algorithm and were subsequently included in the 2003 edition of IMCI guidelines in South Africa.[101] Global Fund HIV applications are well positioned to scale up the use of IMCI for maximising the identification of newborns, infants and children with HIV infection.	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all infants and children:</u> Diagnosis and management of illness using IMCI Counsel and refer mother for FP services	1.9d) Facilities that have the capacity to use the IMCI algorithm would be able to provide it for all children, and the use of IMCI will also enable the identification of children with HIV infection. 1.9e) FP services are an integral part of the package of HIV prevention/support services.	

Table 1.10

Disease Priority: HIV/AIDS	**Lifecycle Stage: Infancy (<1y) and & Childhood (1–5y)**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-exposed infants and children:</u> Refer for HIV testing Screen and refer for management of TB and other OIs Monitor treatment (Cotrimoxazole prophylaxis, OIs, etc.) Counsel for and support appropriate infant and child feeding practices Provide support for food, housing, safe water and other needs Support and facilitate changes in community norms and attitudes Counsel on hand washing with soap at appropriate times	1.10a) These community-based interventions complement and improve the uptake of PMTCT and paediatric HIV interventions, as concluded by an operations research study conducted in Kenya in 2007 by Population Council.[102] These interventions also provide an enabling environment that supports the uptake of appropriate behaviours and essential services.	
<u>For all infants and children:</u> Identify signs of illness and refer to facility Provide community-based growth monitoring Counsel and support for appropriate infant and child feeding practices Counsel on hand washing with soap at appropriate times Counsel on and provide Oral Rehydration Solution (ORS) for diarrhoea management in the household	1.10b) Community-based growth monitoring and actions for early care-seeking for illness, coupled with the implementation of IMCI algorithms, help identify infants and children who require HIV testing and subsequent care.	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all infants and children:</u> (Provided by a community Home-based Carer): Counsel on and follow up essential vaccinations Counsel on and support exclusive breastfeeding for six months	1.10c) The uptake of these counselling and referral services by HIV-positive children and infants is likely to improve if the full package of services is offered to the entire community, thereby reducing the stigma associated with services meant for HIV-positive children alone.	

Counsel on and support timely initiation, quantity, quality and frequency of complementary feeds Counsel on iron-rich foods and iron fortification Counsel on and follow up for vitamin A and iron supplementation Counsel on and provide ORS for diarrhoea management in the household Counsel and refer mother for FP services	

Table 1.11

Disease Priority: HIV/AIDS	**Lifecycle Stage: Girls and Boys (6–11y)**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as paediatric outpatient department; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive boys and girls:</u> Provide and follow up ARV therapy Screen for and manage TB and other OIs Screen for and treat STIs Provide cotrimoxazole prophylaxis Monitor treatment Support disclosure Counsel for delaying initiation of sexual activity and for safer sex practices Identify and report gender based violence Identify and report child abuse	1.11a) A study conducted by Save the Children UK in Angola in 2005 found that children have their first sexual contact at as young as eight years of age, and that girls tend to debut earlier than boys.[103] Providing user-friendly STI diagnosis and treatment services is therefore a critical strategy for HIV prevention, including prevention of re-infections among HIV-positive girls and boys. 1.11b) Maximising the coverage of adolescent sexual and reproductive health services provides entry points for PMTCT for the next generation, and enables HIV-positive adolescent girls to protect themselves from an unwanted pregnancy.	
<u>For all boys and girls:</u> Ensure provider-initiated, opt-out testing for children with suggestive findings Counsel for delaying initiation of sexual activity	1.11c) These are critical interventions to identify HIV-positive children born before the in-country scale-up of PMTCT and paediatric HIV treatment.	

Table 1.12

Disease Priority: HIV/AIDS	**Lifecycle Stage: Girls and Boys (6–11y)**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services, Communication campaigns and school health programmes		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive children:</u> Support and monitor treatment (ARV, and treatment for TB and OIs) Provide DOT for TB Provide support for food, housing, safe water and other needs Support and facilitate changes in community norms and attitudes Counsel on hand washing with soap at appropriate times	1.12a) Community-based support and monitoring are critical steps to ensure compliance to treatment, as they not only closely follow up the intake of medication, but also provide food, water and other support that makes it easier for the affected families to comply with treatment.	
<u>For all children:</u> Conduct activities to improve school enrolment and to reduce drop-out rates Mobilise communities for child protection Facilitate the creation and maintenance of child-friendly spaces in schools and communities Counsel for and support delaying initiation of sexual activity and for safer sex practices Provide life skills and HIV-prevention education, both in schools and in communities Facilitate peer education and support	1.12b) Community-based facilitated education sessions reach children who are in school and out of school, [104] especially the latter who are more vulnerable than others to risky sexual behaviour. 1.12c) Close relationships and connectedness with teachers, neighbours, and family (particularly parents) can be highly protective, and are related to delayed sexual initiation and safer sexual behaviour.[105]	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all girls:</u> Provide targeted food support and nutrition education for pre-pubertal and adolescent girls	1.12d) Food support for girls in food-insecure families reduces the risk of these girls engaging in transactional sex. Moreover, nutrition education and food support for girls before puberty supports the growth spurt that occurs during this period and maximises their adult height, as short maternal stature is a major determinant of low birth weight in developing countries.[106]	

Table 1.13

Disease Priority: HIV/AIDS	**Lifecycle Stage: Girls and Boys (12–18y) and pre-pregnancy girls (>18y)**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as outpatient department; FP/STI clinics; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive adolescents:</u> Provide and follow up ARV therapy Screen for and manage TB and other OIs Screen for and treat STIs Provide cotrimoxazole prophylaxis Monitor treatment Support disclosure Counsel for delaying initiation of sexual activity and for safer sex practices Identify and report gender based violence	1.13a) It is estimated that 50% of all new HIV infections are among young people, and that 30% of people living with HIV are in the 15–24-year age group.[107]	
<u>For all adolescents:</u> Ensure provider-initiated, opt-out testing for those with suggestive findings Counsel for delaying initiation of sexual activity and for safer sex practices	1.13b) The vast majority of young people who are HIV-positive do not know that they are infected, and few young people who are engaging in sex know the HIV status of their partners. A WHO/UNICEF global consultation on strengthening health sector response towards young people with HIV identified support for disclosure of HIV status to partners as a key area for support..[108]	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For married/co-habiting adolescents:</u> Counsel on delaying birth of first child Counsel and refer for FP services	1.13c) FP services are an integral part of HIV-prevention/support interventions. Girls who give birth before the age of 15 are five times more likely to die in childbirth than women in their 20s[109] and, hence, interventions should focus on delaying the birth of the first child; this is critical for the survival of both the mother and her infant. If a mother is under the age of 18, her infant's risk of dying in its first year of life is 60% greater than that of an infant born to a mother older than 19.[110]	

Table 1.14

Disease Priority: HIV/AIDS	**Lifecycle Stage: Girls and Boys (12–18y) and pre-pregnancy girls (>18y)**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services, Communication campaigns and school health programmes		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive adolescents:</u> Support and monitor treatment (ARV, and treatment for TB and OIs) Provide DOT for TB Provide support for food, housing, safe water and other needs Support and facilitate changes in community norms and attitudes Counsel on hand washing with soap at appropriate times	1.14a) Community-based support and monitoring are critical to ensure compliance to treatment, and they provide the enabling environment that ensures that the intended outcomes are achieved. Adolescents and young adults form a significant proportion of people living with HIV.	
<u>For all adolescents:</u> Counsel and support for delaying initiation of sexual activity and for safer sex practices Encourage parental communication Provide life skills and HIV-prevention education – both in schools and in communities Facilitate peer education and support; condom promotion and distribution by peer educators Advocate with communities for the need for adolescent-friendly health services Encourage community-based dialogue between adolescents and parents/elders	1.14b) Parental communication and instruction is associated with the delayed initiation of sexual activity and less risky sexual behaviour. 1.14c) Community-based interventions on adolescent sexuality and adolescent reproductive health services generate intergenerational dialogue on even taboo subjects, such as pre-marital sex. They also help break down discriminatory attitudes, and recognise the risk of not providing adequate sex education. Community-wide activities are more likely to lead to changes in social norms than those that reach individual adolescents only.	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all adolescents:</u> Mobilise social and legal support for delaying the age at marriage <u>For married/co-habiting adolescents:</u> Counsel and refer for FP services to delay birth of the first child	1.14d) Economic dependence on men and illiteracy fuel gender-based violence. Delaying the age at marriage enables girls to complete schooling and seek employment and economic resilience, thereby reducing chances of gender-based violence and improving their ability to negotiate safe sex. This is recommended by a WHO study on women's health and domestic violence against women.[111] 1.14e) FP services are an integral part of HIV-prevention/support interventions. Girls who give birth before the age of 15 are five times more likely to die in childbirth than women in their 20s[112] and, hence, interventions should focus on delaying the birth of the first child; this is critical for the survival of both the mother and her infant. If a mother is under the age of 18, her infant's risk of dying in its first year of life is 60% greater than that of an infant born to a mother older than 19.[113]	

Table 1.15

Disease Priority: HIV/AIDS	**Lifecycle Stage: Adult Men**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as outpatient department; FP/STI clinics; antenatal and postnatal clinics for pregnant wives/partners; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For male partners/husbands (with unknown status) of pregnant, parturient and postpartum women:</u> Counsel on and promote provider-initiated, opt-out HIV testing for themselves along with their partners/wives Screen for and treat STIs along with their partners/wives Counsel on safer sex practices/dual protection/planning for future childbearing Implement harm-reduction interventions for IDUs and link with social support Screen and treat comorbidities such as Hepatitis B in IDUs Include male partners/husbands in counselling during ANC, HIV testing and other services	1.15a) Interventions should focus on involving male partners of pregnant women in initiating HIV testing for both. A hospital-based cross-sectional survey in Phnom Penh, Cambodia, found that a major barrier for HIV testing of pregnant women was a perceived need to obtain the partner's permission to be tested.[114] 1.15b) A study conducted in Christian Medical College, Vellore, India found that women diagnosed with STI and given medication for themselves and for their partners were often reluctant to give the medication to their partners. The men preferred to receive medication directly from a health worker.[115] 1.15c) The continued use of safer sex practices helps prevent re-infection or new infection in pregnancy and in the immediate postpartum period, that carry a high risk of vertical transmission. 1.15d) Integrating reproductive health services with HIV services – and establishing cross-referral mechanisms with other services – has numerous benefits, including: reducing missed opportunities; reducing stigma related to accessing HIV services; and reducing duplication of efforts. Such integration also ensures that HIV-negative women remain so and enter pregnancy free of HIV.	
<u>For HIV-negative male partners/husbands of pregnant, parturient and postpartum women:</u> Counsel on safer sex practices/dual protection; provide and promote condoms Screen for and treat STIs along with partner/wife Implement harm-reduction interventions for IDUs and link with social support Screen and treat co morbidities such as Hepatitis B in IDUs Promote couple dialogue related to sexuality, childbearing intentions, STIs and HIV/AIDS Include male partners/husbands in counselling during ANC, HIV testing and other services		

<u>For HIV-positive male partners/husbands of pregnant, parturient and postpartum women:</u> Monitor and follow up treatment – ARV and OI treatment Screen for and manage TB and other OIs Implement harm-reduction interventions for IDUs and link with social support Screen and treat comorbidities such as Hepatitis B in IDUs Screen for and treat STIs Support disclosure – to partner and others Counsel on safer sex practices/dual protection/planning for future childbearing Include male partners/husbands in counselling during ANC, HIV testing and other services	
<u>For all men (irrespective of HIV status) who are husbands/partners of pregnant, parturient and postpartum women and for all women irrespective of HIV status:</u> Counsel and refer for FP services and follow up Screen for and treat STIs (along with partner) Implement harm-reduction interventions for IDUs and link with social support Screen and treat comorbidities such as Hepatitis B in IDUs Promote couple dialogue on sexuality, childbearing intentions, STIs and HIV/AIDS Include male partners/husbands in counselling during ANC, HIV testing and other services	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion
<u>Husbands/partners of pregnant and parturient HIV-positive women:</u> Counsel on need for four antenatal checkups, facility birth, ARV adherence	1.15e) Counselling is helpful in contexts where the woman is dependent on her partner's decision to access these services, during which time MNCH interventions are also delivered.

Table 1.16

Disease Priority: HIV/AIDS	**Lifecycle Stage: Adult Men**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns, Outreach/Mobile Services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive men who choose to disclose their HIV status:</u> Monitor treatment adherence (ARV, OI treatment) Provide DOT for TB Counsel and refer for FP services Facilitate regular follow up at the health facility Provide support for food, housing, safe water and other needs	1.16a) Community-based support is likely to improve adherence to treatment and the timely follow up at the facility and to provide continuity of care between the facility and the home. 1.16b) A qualitative study on the provision and use of family planning in the context of HIV/AIDS in Zambia found greater demand for FP services among HIV-positive women, and wide prevalence of myths and misconceptions among them related to FP methods.[116] Community-based counselling and dialogue helps address these misconceptions. 1.16c) The provision of food, housing and other support addresses broader, social determinants of health[117] and creates an enabling environment that leads to better health outcomes. 1.16d) These interventions at the community level improve the uptake of HIV-related services by male partners/husbands of women of reproductive age. 1.16e) Results from a male motivation campaign held in Zimbabwe in 1996 show that involving men in family planning increases couple communication and increases demand for family planning.[118]	
<u>For all men, irrespective of HIV status:</u> Implement harm-reduction interventions for IDUs Screen and refer for STI management Counsel on safer sex practices/dual protection; provide and promote condoms Counsel and refer for FP services and follow up Provide social and peer support, community reinforcement and psychosocial counselling and follow up of harm-reduction/substitution therapies for IDUs		

Table 1.17

Disease Priority: HIV/AIDS	**Lifecycle Stage: Older Men & Women**	**Intervention Level: Community/Household**
Service delivery platform: Follow up from postpartum period; cross-referrals from other services within the facility such as TB, STI clinics and outpatient services; referrals from community-based services		
HIV interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
Facilitate the integration of HIV-related themes in community activities Facilitate dialogue and advocacy-related action on issues of stigma and discrimination Facilitate communication on sexuality, STIs and HIV/AIDS between adolescents and their parents and elders	1.17a) A literature review by Population Council found that integration of HIV-related messages in cultural events was one of the mechanisms used in Thailand to reduce discrimination.[119] 1.17b) Community-based interventions on adolescent sexuality and adolescent reproductive health services generate intergenerational dialogue on even taboo subjects, such as pre-marital sex. They also help break down discriminatory attitudes, and recognise the risk of not providing adequate sex education. Community-wide activities are more likely to lead to changes in social norms than those that reach individual adolescents only.	

PART 2 Tables for Disease Priority: Tuberculosis (TB)

Table 2.1

Disease Priority: TB	Lifecycle Stage: Pregnancy	Intervention Level: Facility
Service delivery platform: Antenatal care (ANC) services		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For HIV-positive pregnant women:</u> Integrate active screening for TB in post-HIV-testing counselling, in antenatal care/PMTCT centres For all pregnant women: Scale up coverage for ANC services and provider-initiated, opt-out testing for all pregnant women attending ANC Link all pregnant women diagnosed with TB, with a Directly Observed Treatment (DOT) provider Counsel on safer sex practices/dual protection; provide and promote condoms	2.1a) In high HIV-prevalence settings, TB is a leading cause of maternal mortality and morbidity. An antenatal care/PMTCT facility in South Africa successfully integrated active screening for TB in post-HIV-test counselling sessions, by counsellors and using a simple questionnaire[120]. 2.1b) Active, intensified TB case-finding (combined with DOT) is a powerful tool for TB control even in the absence of new diagnostics and drugs.[121] 2.1c) In addition, co-infected pregnant women are more likely than HIV-negative pregnant women to transmit TB to their babies both vertically and horizontally, and a review on the subject concludes that intensified case-finding for TB in PMTCT programmes is a vital addition to maternal and child health.[122] 2.1d) Scaling up ANC services leads to an increased uptake of HIV testing by pregnant women and, subsequently, active TB screening in pregnant women.	

Table 2.2

Disease Priority: TB	Lifecycle Stage: Pregnancy	Intervention Level: Community/Household
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns, Outreach/Mobile Services, Community DOT provision		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all pregnant women:</u> Identify/facilitate the registration of all pregnant women early in pregnancy to avail all ANC-related services Counsel on HIV testing for all pregnant women Operate sputum collection centres for the collection and transport of samples from pregnant women Provide community DOT for those diagnosed with TB Counsel on safer sex practices/dual protection; provide and promote condoms	2.2a) These community-based efforts are more likely to reach more pregnant women, especially from MARPs, than facility-based services, as the former are closer to the communities and possibly more acceptable. These actions would also eventually increase the uptake of facility based services. 2.2b) Providing sputum collection and transport facility in communities help pregnant women avoid multiple trips to the facility	

Table 2.3

Disease Priority: TB	Lifecycle Stage: Postpartum (mother), Newborn (<1m), Infancy (<1y) and Childhood (1–5y)	Intervention Level: Facility
Service delivery platform: Postpartum wards and clinics, well-baby and immunisation clinics, paediatric outpatient department and wards		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all infants and children:</u> Trace household child contacts of sputum-positive adults, including those born to HIV-positive mothers Provide preventive chemotherapy for exposed infants Implement effective BCG (Bacille Calmette Guerin) vaccination strategies, in the light of WHO's BCG vaccination guidelines of 2007[123] Monitor growth on a regular basis <u>For all HIV-positive mothers:</u> Provide active screening for TB during postpartum visits to the facility	2.3a) HIV-exposed and HIV-infected children face a significantly high risk of TB infection relative to HIV-negative children, and effective preventive and treatment strategies are required in areas where both infections are endemic.[124] 2.3b) The Global Advisory Committee on Vaccine Safety does not recommend BCG vaccination for children known to have HIV infection or those with unknown status but who have signs or reported symptoms suggestive of HIV. But benefits of BCG vaccination outweigh risks for newborns born to women of unknown status and those infants whose status is unknown; the vaccine is recommended for these children, provided the national health system has the capacity to follow up such infants and provide early virological testing.[125] 2.3c) Growth faltering or failure may serve as early indicators of TB infection in children and contacts of adults with sputum-positive TB, and this intervention should be offered to all infants and children at facilities. 2.3d) A study conducted in 1994 in Malawi found that 63.8% of children who were household contacts of sputum-positive adults had evidence of TB; 77% of the adults and 18% of the contacts were HIV-positive.[126] 2.3e) A prospective study of HIV-positive postpartum women carried out in Pune, India, showed a high incidence of TB and associated maternal and infant death.[127]	

Table 2.4

Disease Priority: TB	Lifecycle Stage: Newborn (<1m), Infancy (<1y) and Childhood (1–5y)	Intervention Level: Community/Household
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns, Outreach/Mobile Services, Community DOT provision		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all infants and children:</u> Ensure contact-tracing of newborns, infants and children exposed to TB, including those born to HIV- and TB-infected mothers Monitor and support preventive chemotherapy for exposed infants Provide community-based growth monitoring <u>For HIV-positive mothers:</u> Look for symptoms suggestive of TB and refer for diagnosis and treatment	2.4a) Community DOT providers are best positioned to motivate adults on DOT to take their household child contacts for screening for TB. 2.4b) Community-based growth monitoring helps the early identification of growth faltering or failure, and also aids growth promotion activities. 2.4c) With the majority of births in priority countries occurring in the home, community-based actions to identify postpartum women with symptoms suggestive of TB are likely to reach a large number of TB-infected mothers.	

Table 2.5

Disease Priority: TB	**Lifecycle Stage: All other stages**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as paediatric and general outpatient departments and wards; FP/STI clinics, TB clinics, referrals from community services		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For those with TB:</u> Trace and screen household child contacts of sputum-positive adults	2.5a) This intervention can be fully integrated into the package of TB services.	

Table 2.6

Disease Priority: TB	**Lifecycle Stage: All other stages**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns and Outreach/Mobile Services, Community DOT provision		
TB interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For those with TB:</u> Trace household child contacts of sputum-positive adults and refer them for TB screening <u>For all adults:</u> Sensitise on the need for growth monitoring of all children	2.6a) Community-based interventions are often the first point of contact for persons with symptoms suggestive of TB, and those who are subsequently diagnosed with TB are often followed up and provided DOT by these interventions. Contact-tracing can be integrated into this continuum of services to adults with TB.	

PART 3 Tables for Disease Priority: Malaria

Table 3.1

Disease Priority: Malaria	**Lifecycle Stage: Pregnancy**	**Intervention Level: Facility**
Service delivery platform: Antenatal care (ANC) services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all pregnant women:</u> Provide Intermittent Preventive Treatment (IPTp) Provide bed nets (directly or through vouchers) Assess and treat those with fever, for malaria Counsel on care-seeking for fever Link with HIV testing (provider-initiated, opt-out testing)	3.1a) Prevention, diagnosis and appropriate management of malaria in pregnancy are critical for avoiding poor birth outcomes. A facility-based nested study done in Malawi on the effects of malaria infection in pregnancy on foetal outcomes showed high cord-blood levels of ferritin which is associated with significantly low birth weight and low gestational length, suggesting foetal immune activation to maternal malaria.[128] 3.1b) While the interactions between HIV and malaria infections in pregnancy are complex, a review of studies carried out on this comorbidity showed that HIV-infected pregnant women had consistently more peripheral and placental malaria, higher parasite densities and more severe anaemia than those pregnant women not infected with HIV.[129] It is therefore in the interest of improved malaria outcomes to prevent, diagnose and manage HIV infection in pregnant women, as early as possible during pregnancy. 3.1c) While the current Roll Back Malaria (RBM) strategy aims at universal coverage with Long Lasting Insecticide-treated Nets (LLINs) with one net per two people, programmes should continue to use ANC services as a channel for providing nets until high-to-full coverage of communities is achieved.	
MNCH activities integrated with disease-specific interventions	Rationale for inclusion	
<u>For all pregnant women:</u> At least four antenatal care visits by a skilled worker	3.1d) Antenatal care (ANC) visits enable the provision of a package of essential, evidence-based interventions meant for all pregnant women, each proven to affect a direct or an indirect cause of maternal and/or perinatal/neonatal mortality. These interventions include all the HIV-related interventions for pregnant women discussed above, malaria interventions such as IPTp and distribution of bed nets, as well as basic ANC services such as TT (Tetanus Toxoid) immunisation. Delivering the ANC package thus carries high benefit-to-cost ratios, maximises existing synergies and reduces missed opportunities for both disease-specific and MNCH services.	

Table 3.2

Disease Priority: Malaria	**Lifecycle Stage: Pregnancy**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns, Outreach/Mobile Services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all pregnant women:</u> Identify/facilitate the registration of all pregnant women early in pregnancy to avail all ANC-related services Counsel on early and appropriate care-seeking for fever Provide community-based diagnostic, treatment and referral services Counsel/remind/link pregnant women with outreach services/health facilities to avail IPTp Distribute bed nets and follow up for use Conduct bed net "Hang Up" campaigns Carry out re-treatment drives for bed nets, until LLINs are scaled up Counsel on HIV testing for all pregnant women	3.2a) These community-based efforts are more likely to reach more pregnant women, especially from MARPs, than facility-based services, as the former are closer to the communities and possibly more acceptable. These actions would also eventually increase the uptake of facility-based essential services for malaria and for overall MNCH. 3.2b) Periodic re-treatment of existing nets will be required until LLINs are fully scaled up.[130]	

Table 3.3

Disease Priority: Malaria	**Lifecycle Stage: Delivery & Postpartum**	**Intervention Level: Facility**
Service delivery platform: Facility births, postpartum wards and clinics		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all parturient and postpartum women:</u> Assess, and appropriately manage those with fever, for malaria Counsel on early and appropriate care-seeking for future episodes of fever Provide bed nets on discharge from facility Link with HIV testing services (provider-initiated, opt-out testing)	3.3a) Women during and after child birth form a small but critical proportion of those requiring preventive and curative services for malaria. Interventions targeted them will contribute significantly to reductions in malaria-related maternal, neonatal and infant mortality. 3.3b) The labour and postpartum periods are also a good opportunity to test women with unknown status for HIV, in view of the direct, detrimental impact of HIV infections on maternal and neonatal outcomes. 3.3c) While the current Roll Back Malaria (RBM) strategy aims at universal coverage with Long Lasting Insecticide-treated Nets (LLINs) with one net per two people, programmes should continue to use ANC services as a channel for providing nets until high-to-full coverage of communities is achieved.	

Table 3.4

Disease Priority: Malaria	**Lifecycle Stage: Delivery & Postpartum**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all parturient and postpartum women:</u> Counsel on early and appropriate care-seeking for fever Provide community-based diagnostic, treatment and referral service Distribute bed nets and follow up for use Periodic re-treatment of bed nets Conduct bed net "Hang Up" campaigns Counsel on HIV testing for those with unknown status	3.4a) With the majority of births in priority countries occurring in homes, interventions for malaria should have a community component for preventive and curative actions. These actions would also eventually increase subsequent uptake of facility-based essential services for malaria and for overall MNCH.	

Table 3.5

Disease Priority: Malaria	**Lifecycle Stage: Newborns (<1m), Infants (<1y) and Children (1–5y)**	**Intervention Level: Facility**
Service delivery platform: Postpartum wards and clinics, well-baby and immunisation clinics, paediatric outpatient department and wards		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all newborns, infants and children:</u> Assess and appropriately manage those with fever, for malaria Counsel on early and appropriate care-seeking for future episodes of fever Provide bed nets while leaving facility Link with HIV testing services (provider-initiated, opt-out testing) For HIV-positive/HIV-exposed children: Provide/follow up daily cotrimoxazole therapy	3.5a) These interventions target the age group that is most vulnerable to mortality and morbidity due to malaria – children under five years of age; 20% of child mortality in sub-Saharan Africa is due to malaria.[131] 3.5b) Comorbidity with HIV adversely affects malaria treatment outcomes in young children, with higher all-cause mortality and malaria-related mortality than in uninfected children.[132] HIV testing for children with unknown status, and appropriate management of those that test positive, will help improve malaria outcomes in infants and children. 3.5c) While the current Roll Back Malaria (RBM) strategy aims at universal coverage with Long Lasting Insecticide-treated Nets (LLINs) with one net per two people, programmes should continue to use ANC services as a channel for providing nets until high-to-full coverage of communities is achieved. 3.5d) Daily prophylaxis with cotrimoxazole has been shown to reduce the risk of malaria infection in HIV-infected children in sub-Saharan Africa, in addition to its effects on overall survival of such children.[133]	

Table 3.6

Disease Priority: Malaria	**Lifecycle Stage: Newborns (<1m), Infants (<1y) and Children (1–5y)**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Outreach/Mobile Services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
<u>For all newborns, infants and children:</u> Assess and appropriately manage those with fever, for malaria Counsel on early and appropriate care-seeking for future episodes of fever Distribute bed nets and follow up for use Conduct bed net "Hang Up" campaigns Link with HIV testing services (provider-initiated, opt-out testing) For HIV-positive/HIV-exposed children: Provide/follow up daily cotrimoxazole therapy	3.6a) These interventions target the age group that is most vulnerable to mortality and morbidity due to malaria – children under five years of age; 20% of child mortality in sub-Saharan Africa is due to malaria.[134] 3.6b) Comorbidity with HIV adversely affects malaria treatment outcomes in young children, with higher all-cause mortality and malaria-related mortality than in uninfected children.[135] HIV testing for children with unknown status, and appropriate management of those that test positive, will help improve malaria outcomes in infants and children. 3.6c) Community-based interventions are more likely to provide regular follow up on adherence to daily cotrimoxazole therapy.	

Table 3.7

Disease Priority: Malaria	**Lifecycle Stage: All other stages**	**Intervention Level: Facility**
Service delivery platform: Primary points-of-care such as paediatric and general outpatient departments and wards; FP/STI clinics, referrals from community services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
Counsel on need for bed net use by pregnant women, mothers and young children in the family	3.7a) Information provided at the facility level is perceived as credible. Focusing on decision-makers in the family aims to improve the possession and utilisation of bed nets.	

Table 3.8

Disease Priority: Malaria	**Lifecycle Stage: All other stages**	**Intervention Level: Community/Household**
Service delivery platform: Community Health/Extension/Home-based Care Workers, Peer/Support Groups, Communication campaigns and Outreach/Mobile Services		
Malaria interventions with effects on MNCH	Rationale for inclusion/Links to MNCH outcomes	
Include individual and group dialogue and other behaviour change communication (BCC) efforts in communication campaigns, to ensure: universal coverage with bed nets; use of bed nets by pregnant women and children under five years of age; immediate care-seeking for fever, especially among pregnant women and children under five Facilitate the establishment and operation of emergency transport mechanisms Provide/facilitate universal coverage of bed nets (one bed net per two people) Include bed net use in school health education	3.8a) Older men and women influence decisions made for the health of pregnant women, and children and their mothers. Involving them in communication activities helps identify and remove barriers to the use of bed nets and to seek care early during illness.	

ANNEX 2

Menu of Interventions for Health and Community Systems to Integrate for MNCH and Disease-specific Interventions

Thematic Area	Actions for Integrating MNCH and Disease-specific Interventions
National Health Policy and Strategies	
Changes to national policies, plans and budgets	Create a national-level think tank for regular reviewing of evidence from in-country (and other) locations, to inform national policy Facilitate a review of existing norms of health worker density, based on WHO recommendations, and the cost and other implications of increasing this Facilitate a review of policies related to financial compensation packages of health staff, particularly those serving in hard-to-reach areas Facilitate the inclusion of civil society (CS) players in policy development forums and task forces Facilitate defining of the role of private informal service providers and medicine vendors in primary health care delivery Advocate for and facilitate inclusion of community-based approaches, and "soft" interventions such as behaviour change communication (BCC), thus ensuring their inclusion in national health budgets Design and implement operations research (OR) for critical gaps in knowledge related to access and utilisation of MNCH through disease-specific services *(please also see OR-related actions in other thematic areas that follow)*
Formulation and fine-tuning of technical guidelines	Lead the adaptation and simplification of guidelines to suit national context and develop protocols for implementing them (Examples include WHO revising guidelines on PMTCT, BCG vaccination in settings with high HIV prevalence, Isoniazid preventive therapy for HIV-infected persons with latent TB infection, repeat HIV testing of pregnant women closer to delivery; as well as setting up a coordinating group for Baby Friendly Hospital Initiative (BFHI) and establishing national BHFI goals and integrating HIV elements into the Integrated Management of Childhood Illness (IMCI) strategy.) Facilitate access to technical support from UN agencies for formulating and adapting guidelines
Health Systems Capacity	
Capacity and effectiveness of health workers to provide the health system with trained and motivated staff	Facilitate a review of health worker training curricula and include material related to new initiatives, such as "Ten Steps to Successful Breastfeeding" from BFHI[136] Facilitate and update health worker training material; include detail on the concept and practice of integrated service delivery, "soft" skills such as counselling, dialogue and appropriate attitudes in pre- and in-service training curricula Re-design health worker job descriptions to include integrated service delivery; develop integrated job aids and algorithms such as the one for IMCI Establish indicators to track the provision of integrated services and build them into performance monitoring Improve health worker density by recruiting and training additional health workers Design and implement OR on strategies to retain health workers especially in difficult areas, maintaining motivation levels and providing options for career growth Improve the infrastructure of training institutions in terms of the physical capacity of the buildings, and other resources such as computers and internet

	Train teaching staff of health worker training institutions in updated training curricula and material, in instructional capacity, and in adult learning methods Provide financial incentives and hardship allowances for health workers posted in remote locations
Infrastructure in healthcare facilities	Provide essential facilities in maternity wards, such as those required for active management of the third stage of labour (AMTSL), enclosures in out-patient examination rooms for privacy, birthing huts (in the vicinity of health facilities) to accommodate pregnant women living in distant areas while awaiting labour, and infection prevention mechanisms for health staff Improve rural housing for health staff Create co-locating service delivery points (see below)
Primary Healthcare Delivery	
Integrated service delivery	Facilitate the provision of a range of integrated services (including training of health workers) at primary points-of-care, such as those described in the packages of interventions above (Examples include: HIV-testing centres providing FP counselling and linking pregnant women to ANC services, the latter providing active screening for TB; FP clinics offering assessment and treatment for STIs and referring for HIV testing; health workers assessing children for fever using the IMCI algorithm to identify those that require HIV testing; and the provision of HIV, obstetric and IDU-related services to pregnant women who are IDUs) Establish mechanisms for coordinating services and regularly reviewing the extent of coordination for continuous improvement Co-locate service delivery points such as TB and malaria diagnostic services in the same premises as HIV testing and counselling centres; and ANC and malaria testing services closer together Re-train health workers in integrating health services and in other issues such as identifying and reporting gender-based violence Review/Improve health worker compensation packages and motivation prior to implementing integrated services
Improved attitudes of health workers	Train and sensitise health workers to overcome prejudice or ignorance regarding HIV-positive people, particularly in relation to their sexual and reproductive health choices, when providing FP and HIV services and to provide reproductive health services to adolescents in a non-judgmental manner Facilitate periodic reviews/audits of client-oriented care involving all levels of health staff
Improved efficiency at heath facilities	Identify points of delay for patients within facilities, and take steps to reduce patient waiting time at these points (Co-locating services and providing a range of services at primary points-of-care also improve efficiency)
Continuity of care between facility and the community	Facilitate the provision of referral notes to patients for community-based workers/organisations to follow up and support, and ensure facilities recognise referrals from community-based services Design and implement OR to identify effective strategies to provide continuity of care between the facility and the community/household Provide community-based identification of pregnant women, systematic counselling and community-level services (along with referrals for facility-based services) throughout pregnancy and, later, during childbirth and postpartum, as well as for the child

Healthcare financing	
Innovative financing solutions	Identify financial barriers to accessing essential MNCH and disease-specific services Pool pre-paid funds to allow for risk sharing Design safety nets for people living in poverty and vulnerable groups; vouchers and conditional cash transfer mechanisms help to ensure that the poorest access essential services Co-finance integrated programmes such as ANC services (between MNCH, HIV and malaria funding pools)
Outreach Services	
Services closer to communities	Create health outposts in areas with poor access and provide a mechanism of transport to health workers to conduct weekly/biweekly/monthly clinics at the outposts Provide periodic outreach services, such as mobile clinics for hard-to-reach areas and for at-risk populations such as migrants Establish collection and transportation mechanisms for sputum samples for TB testing and dried blood samples for HIV testing
Community/Extension Health Workers	
Community-based counselling, linking and referral; provision of essential services *(related to continuity of care, above)*	Facilitate recruitment, training and support of community health workers (CHWs); embed them in communities and link them with the health system and/or community management committees for supervision and performance assessment Adapt and implement tools for the regular review of CHW performance, such as the CHW Functionality Assessment Tool[137] Develop and test simple treatment algorithms for CHWs in fever management with appropriate referral Facilitate community- and household-level functions, such as the support and supervision of compliance to treatment including ARV therapy, DOT and Iron Folic Acid (IFA) intake Facilitate effective linkages between CHWs and primary healthcare facilities for referrals between communities and facilities
Community Management/Governance Bodies and Community-based Organisations (CBOs) / Faith-based Organisations (FBOs)	
Monitoring of healthcare delivery	Recruit and monitor CHWs; provide financial incentives Monitor the functioning of the local primary healthcare facility and of informal healthcare providers Facilitate participation in planning and implementation of outreach clinics, and of the location of new health facilities and outposts
Advocacy	Facilitate advocacy with the community at large on issues such as discrimination of people living with HIV; support to those who choose to disclose their HIV status Facilitate advocacy with local health services for improved accessibility, quality of services and essential drugs and other supplies
Creation and maintenance of an enabling environment	Provide core funds to address food, water, education and housing needs Enable the identification and addressing of discriminatory practices, disempowering gender norms, and domestic and gender-based violence through skills-building actions

	Identify ways to reach MARPs and assess their needs Facilitate the community's contribution to non-discriminatory policies directed towards MARPs Facilitate the monitoring of child protection policies at the community level
Improved access to welfare schemes and other sectors	Link patients and their families and orphans and vulnerable children (OVCs) with food subsidies, housing and other material support Ensure the inclusion of patients in micro-enterprise development programmes
Capacity interventions	Train in partnership building and collaborative efforts for policy advocacy Train in technical and communication skills and in financial management and resource mobilisation Provide mentoring support for resource mobilisation and in partnership building
Informal healthcare providers and medicine sellers	
Capacity interventions	Provide peer education, in-shop education, behaviour change materials, training workshops on services (such as providing medication for malaria), and counselling on FP methods
Creation of an enabling environment	Provide pre-packaged drugs and medicines on credit or on subsidised rates; implement enabling legislation and subsidies for distribution
Quality assurance	Facilitate local accountability (by community organisations), supervision, and accreditation mechanisms

ENDNOTES

[1] The Global Fund, *Twenty First Board Meeting 28–30 April 2010, GF/B21/4 Attachment 1*, April 2010, http://www.theglobalfund.org/documents/board/21/GF-B21-04-Revision1-Attachment1-Global%20Fund%E2%80%99s%20Role%20As%20A%20Strategic%20Investor%20In%20Millennium%20Development%20Goals%204%20And%205.pdf

[2] See United Nations Statistics Division, Department of Economic and Social Affairs, *Millennium Development Goals Indicators*, January 2008, http://mdgs.un.org/unsd/mdg/Host.aspx?Content=Indicators/OfficialList.htm

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