Linking sexual, reproductive, maternal and newborn health – the circle of life
The purpose of the Framework

This Framework aims to help policy makers, planners and managers to understand the rationale for integration and stronger links between sexual and reproductive health services, maternal and newborn health services, and HIV prevention and care. It presents a matrix showing the essential services that will ideally be available in different types of health care facilities. The document encourages discussion about the way that these health categories have been conceptualised and defined, and the potential barriers to integration. It suggests the steps needed to working towards stronger integration and referral links, and to making reproductive, maternal and newborn health care more accessible to the poor and to marginalised and key populations likely to be especially vulnerable to HIV infection. The document provides a guide to integration in the diverse settings of the Asia and Pacific region. It presents examples of government and NGO experiences in Asia and the Pacific, and draws on experiences and lessons from other countries, including sub-Saharan Africa, which has suffered the greatest burden of the HIV epidemic. The Framework brings together guidance from several other relevant Frameworks and Guides, which are available through hyperlinks on the accompanying DVD.

Front cover illustration

The daisy chain represents the circle of life and the health care linkages that can help to protect, promote and support good health at each stage of the life-cycle. It can also be seen as the ‘Zero’ that low prevalence countries have as their goal: “Low to Zero”. Thanks to the artist, Kirsty Lorenz, for this use of her painting, ‘Wheel of life’. <mail@kirstylorenz.com>
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Introduction

“The Millennium Development Goals, particularly the eradication of extreme poverty and hunger, cannot be achieved if questions of population and reproductive health are not squarely addressed. And this means stronger efforts to promote women's rights and greater investment in education and health, including reproductive health and family planning.” - United Nations Secretary-General Kofi Annan, July 2005

Sexual and reproductive health encompasses intimate behaviours and the generation of new life. Sexual and reproductive health promotion relates to areas of life that have great cultural, religious, and social significance. It is not surprising that the topic arouses great interest and controversy. The problems that stem from poor sexual, reproductive and maternal health have a major impact on the well-being and productivity of men and women, and make a significant contribution to the burden of disease in the Asia-Pacific region.

Improving sexual, reproductive and maternal health is integral to the achievement of the Millennium Development Goals. In October 2006 the United Nations General Assembly endorsed a new target, “Universal access to reproductive health by 2015”, for Goal 5: “Improve maternal health”. Improving sexual and reproductive health is also especially relevant to Goal 3: “Promote gender equality and empower women”, Goal 4: “Reduce child mortality”, and to Goal 6: “Combat HIV/AIDS, malaria and other diseases”.

The Programme of Action from the International Conference on Population and Development in Cairo in 1994 recognised the importance of integrating reproductive and sexual health services including family planning with primary health care services: "All countries should strive to make accessible through the primary health-care system, reproductive health to all individuals of appropriate ages as soon as possible and no later than the year 2015. Reproductive health care in the context of primary health care should, inter alia, include: family-planning counselling, information, education, communication and services; education and services for pre-natal care, safe delivery and post-natal care; prevention and appropriate treatment of infertility; abortion as specified in paragraph 8.25, including prevention of abortion and the management of the consequences of abortion; treatment of reproductive tract infections; sexually transmitted diseases and other reproductive health conditions; and information, education and counselling, as appropriate, on human sexuality, reproductive health and responsible parenthood. Referral for family-planning services and further diagnosis and treatment for complications of pregnancy, delivery and abortion, infertility, reproductive tract infections, breast cancer and cancers of the reproductive system, sexually transmitted diseases, including HIV/AIDS should always be available, as required. Active discouragement of harmful practices, such as female genital mutilation, should also be an integral component of primary health care, including reproductive health-care programmes.”

The World Health Organization’s first global Reproductive Health Strategy to accelerate progress towards the attainment of international development goals and targets was adopted by the 57th World Health Assembly in May 2004. The Strategy was developed through extensive consultations in all WHO regions with representatives from ministries of health, professional associations, nongovernmental organizations (NGOs), United Nations partner agencies and other key stakeholders. The Strategy recognizes the crucial role of sexual and reproductive health in social and economic development in all communities.
To achieve the target of universal access to sexual and reproductive health by 2015 it will be necessary to integrate sexual and reproductive health services and programs with maternal and infant health and with HIV prevention and care. Government investment to strengthen health care systems is needed to enable this to occur.

What do we mean by integration?

‘Integration’ means combining things so that they work together, from the Latin word ‘integer’, which means ‘whole’. The HIV epidemic has stimulated new calls to integrate and link reproductive health programs and services. There are also now renewed powerful calls to prevent high numbers of preventable newborn and maternal deaths. There has been clear recognition of the urgent need to integrate essential care for newborn babies into maternal and child health programs, which in turn need to be strengthened and expanded. A continuum-of-care approach to deliver proven cost-effective interventions will prevent millions of needless deaths and disabilities of mothers and infants.

In the decade following the famous conference at Alma Ata in 1978 many governments demonstrated that they could greatly improve the health of their people by investing in comprehensive primary health care at community level. In the best cases a ‘supermarket’ approach at community health centres was linked with strong referral systems for specialist care. This meant that people were offered a variety of services at the same facility during the same operating hours. ‘Services’ might include providing information and counselling, diagnosis and management of common conditions, clinical procedures, and delivery of medicines or commodities. Later, emphasis on selecting the most cost-effective ‘packages’ of interventions, implemented through vertical programs, weakened the comprehensive, integrated approach. Integration of health services has several dimensions:

*Vertical integration* relates to the need for strong referral links between services at community level, health centre level and the referral hospital – a continuum of care approach.

*Integration across time* relates to continuity of care through the life cycle, rather than disconnected care for pregnancies, cases of sexually transmitted infections, or contraceptive need. For example care is important in adolescence; in the period before conception; during pregnancy, delivery and the postnatal period; for the newborn; and between pregnancies for the management of breastfeeding, contraception and improved nutrition in preparation for a subsequent pregnancy. Home-based health records support this integration.
Gender integration relates to encouraging greater engagement of men in sexual, reproductive, maternal and child health preventive and care services.

Horizontal integration relates to providing a range of different sexual, reproductive, maternal and child health services at the same facility. The aim is to improve access to important services as well as efficiency and effectiveness. Duplication can be reduced and more preventive and curative services offered with each contact with a client or patient.6 The supermarket approach prevents missed opportunities to vaccinate infants, offer contraception, provide antenatal care, or screen for STIs. Because women are not expected to come for different services on different days this approach acknowledges the importance of women’s time and travel costs. Experience shows that integrated services increase user satisfaction by responding to people’s needs and providing the opportunity to discuss sexual and gender relations.7 There is much variation between countries in the way that services are structured and the extent and strength of existing links between services. These differences have implications for planning the scope and type of integration that will be most effective.

Another related continuum is needed with links between communities and health care facilities. This includes improving home-based practices, encouraging appropriate and timely health care seeking, and linking patients to community support on discharge.

There is also a need to think about the implications of horizontal integration and linkages at the level of policy and program planning and management. Integration needs to be viewed in the context of general health sector reform. This includes consideration of decentralisation of authority, donor coordination, financing reforms, regulation of the private sector and health legislation, and the retraining and continuing education of staff.

This document presents a framework for integration across these dimensions in the diverse settings of the Asia and Pacific regions. A great deal of work has already been done on integration of HIV prevention and care with sexual, reproductive, maternal and newborn health, and the lessons learned have been well documented.8
Rather than duplicate existing documents we point the way to many existing relevant and useful tools and guidelines. This document is also available on CD with hyperlinks to many of these resources. These hyperlinked references appear in the text as a flag symbol.

An annotated inventory of resources

WHO, UNAIDS, UNFPA, and IPPF have recently prepared a valuable inventory of relevant documents. It divides the documents by categories:

- Policy/Advocacy
- Programme guidance
- Research, Reviews, and Discussion papers
- Service delivery
- Capacity building
- Monitoring and Evaluation
- Glossary


This document complements the WHO Framework for implementing the WHO Global Reproductive Health Strategy. The WHO Framework focuses on five core elements:

- improving antenatal, delivery, postpartum and newborn care;
- providing high-quality services for family planning, including infertility services;
- eliminating unsafe abortion;
- combating sexually transmitted infections (STIs), including HIV, reproductive tract infections (RTIs), cervical cancer and other gynaecological morbidities;
- promoting sexual health.

It calls for action in five key areas:

- strengthening health systems capacity;
- improving information for priority-setting;
- mobilizing political will;
- creating supportive legislative and regulatory frameworks; and
- strengthening monitoring, evaluation and accountability.

Sexual, reproductive, maternal and newborn health in the Asia and Pacific regions

Much of the world’s population lives in the Asia and Pacific region, which is characterised by great diversity between and within countries. The region includes the countries with the largest populations in the world, and some of the smallest. There are wealthy countries and very poor countries. Some countries have invested in strong and equitable health care systems, but in many the health care system remains weak. The spread of the HIV epidemic, and responses to it, reflect this diversity.
The HIV epidemic
An estimated 8.3 million people are living with HIV in the region, and 930,000 people were newly infected in 2005. The patterns of spread vary greatly between and within countries. In many countries there have been rapid increases among people with high-risk behaviours, who are often poor and marginalised. This is often soon followed by spread within the wider population. An initial epidemic among people who inject drugs may be followed first by rapid rises in infection rates among sex workers and their clients, and then by increased prevalence in the general population as reflected in antenatal clinic surveillance data. At that stage most new cases of infection are no longer associated with obvious risk factors such as a history of injecting drug use, sex work, or male-male sex. Many are wives infected through sex with their husbands, and many are young children of mothers unaware of their HIV infection. Many are young women infected through exploitative, coercive or violent sex. In many countries, such as India, HIV spread has been concentrated around transport corridors. In some central provinces in China there are localized areas with high prevalence of HIV caused through unsafe blood collection practices in the early 1990s. Economic development in the region has led to large numbers of mobile workers. Poor women living at the sites of construction of roads, railways and large buildings, and the wives of mobile workers, are vulnerable to HIV. Natural disasters and conflict cause populations to be displaced, and this may increase the threat of HIV. Economic disasters such as the culling of birds associated with avian flu results in loss of livelihood and possible increase in risky behaviours. It is important to try to predict new areas of vulnerability to spread of HIV. Some countries, such as Bangladesh, East Timor, Laos, Mongolia, Pakistan, and the Philippines have so far been little affected by HIV, but have groups of people with behaviours that put them at risk of infection. These countries have an opportunity to prevent epidemics and the need is urgent.

This document focuses on incorporating prevention of sexual transmission of HIV and mother to child transmission into sexual, reproductive, maternal and newborn health services. However it is important to recognise that in this region injecting drug use is a significant route of spread. People who inject drugs and their partners have sexual, reproductive, and maternal health needs. It is important that health care workers have a good understanding of injecting drug use, associated social and health problems, and the principles of the harm reduction approach to prevention of spread of HIV.

Strength of response to the epidemic has varied. When governments have invested in prevention and non government organisations have been active there has been great success in reducing incidence. UNDP have prepared a useful account of the successful response in Thailand, and there is evidence that HIV prevalence has declined in Tamil Nadu, India, and in Cambodia, probably as a result of increased use of condoms. The number of people receiving antiretroviral therapy (ART) rose from 70,000 in 2003 to 180,000 at the end of 2005. About one in six people (16%) in need of ART in Asia are now receiving it. A more detailed review of the HIV epidemic and responses in Asia is available in the 2006 UNAIDS Annual Report.

Many countries of this region are experiencing a rapid demographic transition and as a result have a high proportion of young people between 15 and 25, and an increasing proportion of older people over 60 years. It is important that each country considers the characteristics that influence vulnerability to both sexual and reproductive health problems, including HIV infection, and opportunities to address the problems.

“Denial, stigma, discrimination and criminalization of people most at risk of HIV must be addressed by reforming laws and aligning them with national AIDS policies,” Ts. Purevjav,
The burden of reproductive, maternal and newborn health problems

Some countries continue to have very high rates of reproductive, maternal and newborn health problems while in others there have been impressive gains. Access to family planning is closely linked to the status of women and to the religious, cultural and political context. China and Thailand have high rates of use of modern methods of family planning, while Cambodia, Lao PDR, Afghanistan, Pakistan and Papua New Guinea all have very low rates (Table 1). The fertility rate has dropped dramatically in many countries in the region in recent decades, but families in South Asia and the Pacific continue to be large. (Table 1). Unsafe abortions often increase when fertility rates are declining. More women want to avoid pregnancy, but access to effective contraception is limited, so the proportion of unplanned pregnancies rises. WHO estimate that in 2000 there were 34,000 preventable maternal deaths (13% of all maternal deaths) as a result of unsafe abortion in the Asian region.12

<table>
<thead>
<tr>
<th>Table 1. Selected reproductive, maternal and infant health indicators (UNFPA, UNICEF, UNAIDS 2006)</th>
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<tbody>
<tr>
<td><strong>Country</strong></td>
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<tr>
<td><strong>East Asia</strong></td>
</tr>
<tr>
<td>China</td>
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<tr>
<td>Korea DPR</td>
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<tr>
<td>Mongolia</td>
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<tr>
<td><strong>South and South East Asia</strong></td>
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<tr>
<td>Afghanistan</td>
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<tr>
<td>Bangladesh</td>
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<tr>
<td>Bhutan</td>
</tr>
<tr>
<td>Cambodia</td>
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<tr>
<td>India</td>
</tr>
<tr>
<td>Indonesia</td>
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<tr>
<td>Lao PDR</td>
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<tr>
<td>Malaysia</td>
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<tr>
<td>Myanmar</td>
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<tr>
<td>Nepal</td>
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<td>Pakistan</td>
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<td>Philippines</td>
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<td>Sri Lanka</td>
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<tr>
<td>Thailand</td>
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<tr>
<td>DR Timor-Leste</td>
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<tr>
<td>Viet Nam</td>
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<tr>
<td><strong>Oceania</strong></td>
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<tr>
<td>Melanesia</td>
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<td>Papua New Guinea</td>
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</table>

STIs, such as syphilis, gonorrhoea and chlamydia spread more rapidly in places where migrant labour and commercial sex is common and communities are disrupted. The most recent regional estimates are from 1999 (Table 2). The prevalence of herpes simplex virus type 2 in the general population in Asian countries appears to be lower than in the African or South American regions – between 10 and 30%.13 RTIs, such as yeast infection and
bacterial vaginosis, are influenced by environmental, hygiene, and hormonal factors and are common in many Asian settings.

Table 2. Estimates for sexually transmitted infections, 1999 [Source: Global Prevalence and Incidence of Selected Curable Sexually Transmitted Infections Overview and Estimates*, WHO, 2001.]

<table>
<thead>
<tr>
<th>Region</th>
<th>Number of infected adults per 1,000 population</th>
<th>Number of new infections (millions)</th>
<th>New cases of chlamydia (millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>South and South East Asia</td>
<td>50</td>
<td>151</td>
<td>43</td>
</tr>
<tr>
<td>East Asia and the Pacific</td>
<td>7</td>
<td>18</td>
<td>5.3</td>
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</table>

The tragedy of maternal death remains a frequent occurrence in many countries in the region, especially in South Asia (see Figure 3). However Thailand, Malaysia and Sri Lanka have seen substantial declines in maternal deaths since the 1960s. These examples are important because they show that it is feasible to reduce maternal deaths.

Maternal health and newborn health are inextricably linked. An increasing proportion of child deaths is now in the neonatal period. In the WHO South East Asia region 50% of all deaths in children younger than age 5 years happen in the first month of life. The neonatal mortality rate per 1000 live births is 38, with a country range from 11 to 43. Many neonatal deaths go unregistered, but the estimated number of neonatal deaths in this region was 1,443,000.

Where maternal, newborn and child morbidity and mortality are high and the prevalence of HIV infection is low it is urgent to prevent the spread of HIV through efforts that will contribute to the general health of young people, parents and children.

Figure 3. Maternal mortality ratios for 2000 by medical cause and world region
It is important to acknowledge that while integration and stronger referral and follow up links can lead to more efficient use of resources, it is also true that integration cannot be achieved when health systems are weak and different departments are competing for scarce resources. Advocacy is needed to persuade governments that investment in health care systems is also an investment in the economy and future of their populations.

Table 3. Selected health expenditure and human resource indicators, WHO World Health Report, 2006

<table>
<thead>
<tr>
<th>Country</th>
<th>% of GDP spent on health</th>
<th>General govt expenditure on health as % of total govt expenditure</th>
<th>Physicians (density per 1000)</th>
<th>Midwives (density per 1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>East Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>5.6</td>
<td>9.7</td>
<td>1.06</td>
<td>0.03</td>
</tr>
<tr>
<td>DPR of Korea</td>
<td>5.8</td>
<td>7.3</td>
<td>3.29</td>
<td>0.27</td>
</tr>
<tr>
<td>Mongolia</td>
<td>6.7</td>
<td>10.3</td>
<td>2.63</td>
<td>0.24</td>
</tr>
<tr>
<td>South and South East Asia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Afghanistan</td>
<td>6.5</td>
<td>7.3</td>
<td>0.19</td>
<td></td>
</tr>
<tr>
<td>Bangladesh</td>
<td>3.4</td>
<td>5.8</td>
<td>0.26</td>
<td>0.18</td>
</tr>
<tr>
<td>Bhutan</td>
<td>3.1</td>
<td>7.6</td>
<td>0.05</td>
<td>0.08</td>
</tr>
<tr>
<td>Cambodia</td>
<td>10.9</td>
<td>11.8</td>
<td>0.16</td>
<td>0.23</td>
</tr>
<tr>
<td>India</td>
<td>4.8</td>
<td>3.9</td>
<td>0.60</td>
<td>0.47</td>
</tr>
<tr>
<td>Indonesia</td>
<td>3.1</td>
<td>5.1</td>
<td>0.13</td>
<td>0.20</td>
</tr>
<tr>
<td>Lao DPR</td>
<td>3.2</td>
<td>6.2</td>
<td>0.59</td>
<td></td>
</tr>
<tr>
<td>Malaysia</td>
<td>3.8</td>
<td>6.9</td>
<td>0.70</td>
<td>0.34</td>
</tr>
<tr>
<td>Maldives</td>
<td>6.2</td>
<td>13.8</td>
<td>0.92</td>
<td></td>
</tr>
<tr>
<td>Myanmar</td>
<td>2.8</td>
<td>2.5</td>
<td>0.36</td>
<td>0.60</td>
</tr>
<tr>
<td>Nepal</td>
<td>5.3</td>
<td>7.9</td>
<td>0.21</td>
<td>0.24</td>
</tr>
<tr>
<td>Pakistan</td>
<td>2.4</td>
<td>2.6</td>
<td>0.74</td>
<td></td>
</tr>
<tr>
<td>Philippines</td>
<td>3.2</td>
<td>5.9</td>
<td>0.58</td>
<td>0.45</td>
</tr>
<tr>
<td>Sri Lanka</td>
<td>3.5</td>
<td>6.5</td>
<td>0.55</td>
<td>0.16</td>
</tr>
<tr>
<td>Thailand</td>
<td>3.3</td>
<td>13.6</td>
<td>0.37</td>
<td>0.01</td>
</tr>
<tr>
<td>Vietnam</td>
<td>5.4</td>
<td>5.6</td>
<td>0.53</td>
<td>0.19</td>
</tr>
<tr>
<td>Oceania</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fiji</td>
<td>3.7</td>
<td>7.8</td>
<td>0.32</td>
<td></td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>3.4</td>
<td>10.9</td>
<td>0.05</td>
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</table>

Rationale for integration and linkages

Where prevalence of HIV is high and the epidemic is mature several inter-related factors have led to renewed calls for integration of HIV prevention and care into a range of health programs and services. The cost of antiretroviral HIV drugs decreased dramatically and studies showed that HIV treatment could be effective in low resource settings. Effective antiretroviral prophylaxis regimens have been developed that greatly reduce the risk that HIV will pass from an HIV positive woman to her baby. Advocacy efforts led to much greater international funding for HIV prevention and treatment. And there has been a new international commitment to ensuring ‘universal access’ to HIV prevention and care. But at present few people know their HIV status. In order that those who need it can benefit from treatment, support, and prophylaxis of transmission from mother to baby, new efforts are needed to encourage and assist more people to learn their HIV status. Maternal and child health services, family planning services, youth services and STI treatment services provide useful opportunities to reach greater numbers of people with information about HIV, and to offer counselling and testing. The experience of family planning workers in counselling
women about sexual and reproductive health means they can play an important role.\textsuperscript{16}
Closer links between sexual, reproductive and maternal health, and HIV prevention programs could result in more people learning their HIV status, promotion of a safe and satisfying sex life, and easier access to HIV prevention and care.\textsuperscript{10,16}

In most countries in the Asia and Pacific regions HIV prevalence is low, or concentrated in certain areas or groups. In these regions, too, there are good reasons to integrate HIV prevention and care with adolescent, maternal, newborn, sexual, and reproductive health services. In these contexts it is important that investment in HIV prevention and care strengthens maternal and child health care services. Indeed if the capacity of health care systems is not built it will not be possible to provide effective HIV treatment and prevention. Where maternal, perinatal and child mortality remain high, it is important that funding for HIV prevention and care also contributes to general reproductive, maternal, newborn and child health.

Women who suffer poor sexual, reproductive, and maternal health are more vulnerable to sexual transmission of HIV and subsequently have a higher risk of mother to child transmission. Pregnancy and the post-partum period are times of increased susceptibility to HIV infection. Sexual, reproductive, and maternal health interventions can contribute to the prevention of HIV infection in mothers and children.

People living with HIV are more likely to experience STIs, RTIs, cervical cancer, infertility and poor maternal and perinatal health outcomes so they have specific needs in relation to sexual, reproductive and maternal health services.\textsuperscript{17} It is sometimes suggested that PMTCT services are needed when HIV passes from key populations, such as people who inject drugs, women in sex work, and men who have male-male sex, to the general population. In fact these groups are also part of the general population. Men have male-male sex for a variety of reasons and often do not have a same-sex orientation. They also have sex with women. Men with a same-sex orientation often do not identify as ‘gay’ and are often married. They may desire to have children or to avoid pregnancy. Many women in sex work are also mothers, or would like to be. When diagnosed with HIV these groups have reproductive concerns that need to be addressed.
In relation to family planning, integration can increase contraception continuance rates because clients have more opportunities to obtain the method of their choice through more varied service delivery points.\textsuperscript{18}

Establishing separate, vertical programs and services for HIV prevention and care adds to the generation of stigma and discrimination associated with HIV infection.

In this region there are groups that are especially vulnerable to poor sexual and reproductive health, including infection with HIV. Special efforts are needed to reach them with integrated prevention and care services through community organisations they trust, and through outreach and referral mechanisms. When they do visit a health facility for any reason it is helpful if they can receive non-judgemental advice and a range of services they are likely to need.
A focus on HIV prevention is unlikely to motivate behaviour change where HIV is a new and uncommon problem. Marginalised groups vulnerable to infection with HIV face many problems and are often fatalistic about their future. They are not likely to worry about an unfamiliar threat that may not make them ill for many years. Other consequences of unprotected sex, especially unintended pregnancy and infertility, are likely to be of greater concern. Accessible sexual and reproductive health promotion and care that focuses on outcomes of immediate concern to them are more likely to be effective, and will also protect them from infection with HIV.

Sexual, reproductive and maternal health problems, including HIV infection, have underlying causes in common. These include gender inequality, poverty, migration for work, sexual violence and exploitation, lack of access to quality services, and lack of education. This is another reason to integrate prevention strategies. Efforts to address these underlying factors will lessen vulnerability to both the spread of HIV and to sexual, reproductive and maternal ill-health. Such efforts need to address individual behaviour change and the social, legal and cultural context, as well as the coverage and quality of services.
Summary of reasons to integrate HIV prevention and care, sexual and reproductive health and maternal, newborn, child and adolescent health services

- Integrated services more cost-effective and efficient
- Common underlying causes and risk factors mean that HIV, SRH and MNH problems can be prevented together
- Increases opportunities for people to learn their HIV status, and for positive women, men and children facilitates access to care and support, including counselling and support for reproductive choices, specific PMTCT interventions, early diagnosis for children, HAART and OI prophylaxis
- New investment in HIV prevention and care can contribute to improvement in SRH and MNH
- Key populations and young people vulnerable to HIV infection and poor SRH and MNH need access to integrated services
- Saves women time and travel costs
- Increases opportunities to promote safe and healthy sexuality
- Creates opportunities for greater involvement of men and fathers in SRH and MNH
- Improved SRH and MNH protects pregnant and breastfeeding women from HIV infection and lowers risk of MTCT when women with HIV infection are unaware of their status
- People living with HIV have particular needs for SRH and MNH services
- Separate HIV prevention and care services may divert resources and staff from other health services and add to stigma

Matrix showing key activities of service components

The following matrices provide a checklist of key services that should be offered either at the facility or through referral links. These are listed under four component headings: maternal and child health; family planning; sexual health; and counselling and HIV testing. There is a matrix for key activities at: maternal and child health facilities; STI clinics; family planning clinics; and centres for voluntary counselling and testing for HIV.
<table>
<thead>
<tr>
<th>Components:</th>
<th>Maternal and child health</th>
<th>Family planning</th>
<th>Sexual health</th>
<th>Counselling and testing for HIV</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Maternal and Child Health Clinic</strong></td>
<td>Offer good quality ANC, PNC and post-abortion care, and referral for complications of pregnancy. Promote skilled attendance at birth, care of the newborn, optimal (inc exclusive) breastfeeding. Include fathers. Provide home-based child health record, and preventive and promotive SRH and MCH services for all ages.</td>
<td>Offer contraception counselling and supplies (including dual protection) for:</td>
<td>When women (or couples) attend MCH clinic for any reason:</td>
<td>Provide HIV prevention counselling at routine couple visit</td>
</tr>
<tr>
<td></td>
<td>Offer a routine couple ANC visit to discuss:</td>
<td>pregnant women (and their partners) at antenatal visits</td>
<td>• offer information and supplies of male and female condoms and lubricants, and demonstrate use</td>
<td>Where HIV prevalence &gt; 1%, routinely offer counselling and testing to pregnant women (encourage couple C and T), or if C and T not available at this level of facility refer for C and T and follow up interventions if positive. Counsel women and couples that test negative and provide male and female condoms</td>
</tr>
<tr>
<td></td>
<td>• importance of good food, rest, exercise, ANC, safe delivery, exclusive breastfeeding, PNC</td>
<td>women (and their partners) at postnatal visit</td>
<td>• increase awareness of STI symptoms and encourage early health care seeking</td>
<td>If HIV prevalence &lt; 1%, refer women/couples at higher risk, or with symptoms/signs suggestive of HIV for C and T and follow up PMTCT interventions if positive</td>
</tr>
<tr>
<td>Services or referral links that should be available:</td>
<td>• warning signs in pregnancy / labour</td>
<td>women (and their partners) at infant immunisation visits</td>
<td>• offer detection and management of STIs</td>
<td>Where HIV prevalence is high encourage women and couples attending the MCH clinic for any reason to learn their HIV status</td>
</tr>
<tr>
<td></td>
<td>• transport for an emergency</td>
<td>HIV positive women and their partners</td>
<td>Detect and treat STIs, especially syphilis, as part of antenatal and postnatal care</td>
<td>Offer counselling and testing to the parents of children with signs or symptoms suggestive of HIV infection</td>
</tr>
<tr>
<td></td>
<td>• TB and STIs, including HIV</td>
<td>women who have experienced spontaneous or induced abortion</td>
<td>Provide information and advice about sex, and STI and HIV prevention for older women</td>
<td>Refer HIV positive women and children for assessment and ARV treatment and OI prevention and treatment if indicated, and to community support group, psychosocial support, and welfare services</td>
</tr>
<tr>
<td></td>
<td>• sex during and after pregnancy</td>
<td>young women attending MCH clinic for any reason</td>
<td>Provide information and counseling for adolescents who accompany mothers or women, about normal physiologic changes, sexuality, and protection against STIs and pregnancy</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• increased susceptibility to HIV during pregnancy</td>
<td>Provide information about contraceptive efficacy of exclusive breastfeeding to 6 months</td>
<td>Provide counselling, emergency contraception, HIV post exposure prophylaxis and offer of referral to legal service for survivors of sexual assault</td>
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<tr>
<td></td>
<td>• danger of unprotected sex with a different partner; provide condoms</td>
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<tr>
<td></td>
<td>Facilitate access for young, single, HIV positive women and men, and vulnerable groups marginalised by poverty, migration, caste, ethnicity, injecting drug use, sex work, disability</td>
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<tr>
<td></td>
<td>For HIV positive pregnant women provide or refer for ARVP or HAART, safer delivery care, safer infant feeding counselling and support, or induced abortion (if legal). Ensure their infants receive co-trimoxazole prophylaxis, follow up care and early HIV diagnosis.</td>
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<tr>
<td>Components:</td>
<td>Family planning</td>
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<tr>
<td><strong>Family Planning Clinic</strong></td>
<td>Offer non-coercive, confidential family planning advice and supplies with a range of options to women and couples</td>
<td>Ensure good communication with MCH services to facilitate referrals from MCH clinics for women that have experienced spontaneous or induced abortion and for post-partum women, especially those who had high risk pregnancies, difficult deliveries, still birth, or neonatal deaths</td>
<td>Offer non-judgemental information and counselling about sexuality, sexual health, genital hygiene, contraception, and prevention of STIs and HIV (including dual protection), especially for young and single people</td>
<td>Provide information about HIV infection and risk assessment</td>
</tr>
<tr>
<td><strong>Services or referral links that should be available:</strong></td>
<td>Encourage dual protection, especially during breastfeeding</td>
<td>Encourage clients who visit the clinic in order to cease their contraception method to attend antenatal, delivery and postnatal care when they become pregnant, together with their partner</td>
<td>Routinely ask clients if they know their HIV status and encourage them to learn their status if unaware</td>
<td>Routinely offer VCT to all clients, and their partners, or offer referral to VCT centre if indicated and testing facilities not available at Family Planning Clinic</td>
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<tr>
<td></td>
<td>Promote exclusive breastfeeding to 6 months as a method of contraception (with condoms)</td>
<td>Promote exclusive breastfeeding to 6 months as a method of contraception when pregnant women seek advice about post-partum family planning</td>
<td>Raise awareness of STI symptoms and encourage early care seeking</td>
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<tr>
<td></td>
<td>Encourage men to be involved in family planning</td>
<td></td>
<td>Encourage clients who visit the clinic in order to cease their contraception method to have screening for STIs and HIV before they become pregnant, and encourage use of condoms except during time of ovulation</td>
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<tr>
<td></td>
<td>Facilitate access to contraception counselling and supplies for young, single, HIV positive women and men[^2] and vulnerable groups marginalised by poverty, migration, caste, language, ethnicity, injecting drug use, sex work, disability or sexual orientation</td>
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</tr>
<tr>
<td>Components:</td>
<td>Sexual health</td>
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<tr>
<td><strong>STI Clinic</strong></td>
<td>Provide confidential STI detection, diagnosis, treatment, and partner</td>
<td>Ensure that male patients presenting</td>
<td>Ask all men and women attending for STI treatment about their reproductive</td>
<td>Provide information about HIV</td>
</tr>
<tr>
<td>Services or referral links</td>
<td>notification and management through patient- or provider-referral</td>
<td>with STI symptoms are asked whether</td>
<td>choices and counsel about contraception, with encouragement to use dual</td>
<td>infection and risk assessment</td>
</tr>
<tr>
<td>that should be available:</td>
<td>Provide information and supplies of male and female condoms and lubricants</td>
<td>their wife is pregnant, breastfeeding or</td>
<td>protection</td>
<td>Routinely ask clients if they know their HIV status and encourage</td>
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<td></td>
<td>Offer non-judgemental information and counselling about sexual health,</td>
<td>planning pregnancy, and encourage</td>
<td></td>
<td>them to learn their status if unaware</td>
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<tr>
<td></td>
<td>including genital hygiene, and sexuality</td>
<td>assessment and treatment. Counsel</td>
<td></td>
<td>Routinely offer VCT to all clients, or offer referral to VCT</td>
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<td></td>
<td>Facilitate access for young, single, HIV positive women and men and</td>
<td>about increased susceptibility to HIV</td>
<td></td>
<td>centre if testing facilities not available at the STI clinic</td>
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<tr>
<td></td>
<td>vulnerable groups marginalised by poverty, migration, caste, ethnicity,</td>
<td>infection during pregnancy and risk of</td>
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<td></td>
<td>language, injecting drug use, sex work, disability or sexual orientation</td>
<td>MTCT of HIV.</td>
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<td></td>
<td></td>
<td>Ask women that present with STI</td>
<td>All clinics that provide STI detection and treatment should be able to</td>
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<td></td>
<td></td>
<td>symptoms about the possibility of</td>
<td>provide contraception counselling and supplies or have referral</td>
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<td></td>
<td>pregnancy and refer for antenatal care</td>
<td>mechanisms in place to services where contraception counselling and supplies</td>
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<td></td>
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<td>are available</td>
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<tr>
<th>Components:</th>
<th>Counselling and testing for HIV</th>
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<th>Family planning</th>
<th>Sexual health</th>
</tr>
</thead>
<tbody>
<tr>
<td>VCT for HIV Centre Services or referral links that should be available:</td>
<td>Provide confidential and non-judgemental pre- and post-test counselling and testing for HIV</td>
<td>Ask male clients whether they have a partner that is pregnant, breastfeeding or planning pregnancy</td>
<td>Include in post-test counselling for positive men, women or couples, questions and information about future reproductive choices and advice about what contraception methods are appropriate for HIV positive women, with encouragement to use dual protection[2] All VCT centres should have referral mechanism in place to services where contraception counselling and supplies are available Refer survivors of sexual assault for counselling, emergency contraception, and HIV post exposure prophylaxis</td>
<td>Encourage health care seeking for STI symptoms Provide information and supplies of male and female condoms and lubricants</td>
</tr>
<tr>
<td></td>
<td>Refer those who test positive for appropriate care, support and treatment</td>
<td>Include in post-test counselling for positive men, women or couples, questions and information about future reproductive choices and what can be done to lower the risk that HIV will pass to the baby Provide information for couples discordant for HIV that are keen to conceive Establish referral mechanisms so that pregnant women can be referred for ANC Provide information about the value of planning for pregnancy and mother to child transmission of HIV</td>
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<tr>
<td></td>
<td>Facilitate access for young, single, and other vulnerable groups including women and men marginalised by poverty, migration, ethnicity, language, caste, injecting drug use, sex work, disability or sexual orientation</td>
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19
Step 1. Thinking through the issues

Responsibility for coordinating integration

Responsibility for planning and coordinating the integration of services and strengthening of outreach and referral links will inevitably vary from country to country.

Health care systems and services have evolved in different ways reflecting different historical, colonial, social, and political factors. Services may be provided by government, faith-based groups, the private sector, mass organisations and international, national and local non government organisations, and traditional practitioners. Responsibility for policy and administration of government Family Planning, MCH and STI/HIV services often lies with different bodies, with separate donors or funding allocations. Within ministries of health, STIs and HIV often ‘belong’ to a department for control of infectious diseases, separate to the MCH department, while Family Planning may be the responsibility of an office outside the ministry. Authority for health care services may be decentralised to a subnational administrative level (state / province / prefecture or district / county). Responsibility and accountability for different functions has been decentralised to different levels to different extents within and between countries. In addition, services are sometimes provided through regional projects that address the needs of border populations. Border populations are often geographically isolated, have poor health care services, and tend to be vulnerable to HIV because of drug use, migration for work and trafficking for sex work.

In some countries with a well functioning National AIDS Authority this authority may initiate a process of integration, in others it will be the responsibility of the national Ministry of Health, or a department within the Ministry. Where authority is decentralised coordination teams may form at provincial or district level. Efforts to integrate reproductive health services may already have been made. The body in charge of integration must have the ability to control allocation of resources, as well as playing a coordinating role with donors and implementing organisations. The greatest challenge to stronger integration and more equitable allocation of resources to improve access to services is usually at higher levels where coordination of players is often the most difficult. Strong, enthusiastic and knowledgeable leadership can make a great difference.

Providing good quality integrated services to all will require considerable investment by government. Non government organisations have played a crucial role in advocacy and in showing the role vulnerable groups and people living with HIV can play in HIV prevention and care when given dignity, skills and opportunities. But it is only governments that have the reach and resources to achieve high coverage. Governments are responsible for meeting the human rights of their citizens to equal access to adequate health care and health-related services, regardless of sex, race, or other status. It is important to consider how best to motivate political leaders who have many demands on their time and attention. Evidence from local studies may be effective, but often the opportunity to hear directly from key populations can transform the motivation of leaders. These key populations include youth, and people marginalised by poverty, occupation, caste, ethnicity, displacement or sexual orientation. Professor Ratnapala of Sri Lanka went to live with beggars for three months and gained an extraordinary understanding of their lives and needs. Health officials and
politicians may not be able to put themselves in other people’s shoes to this extent. But consulting with people in their own setting is a powerful way to gain a different perspective.

There is a wide range of people to consult and who can contribute to linked responses. In addition to the Ministry of Health, involvement from the Ministry of Finance will also be important, and from other relevant ministries such as Ministries responsible for Education, Social Welfare, Family Planning, Women’s Affairs and Justice. Community leaders, representatives of women’s and youth groups, professional associations, and academic institutions should be consulted, as well as groups representing people living with HIV infection and groups with high risk behaviours.

Before deciding which services should be available at which facilities, which links need strengthening, and how national or provincial level programs could be better integrated it is important for the team responsible to think through some issues and develop a common understanding.

**Concepts**

The categories of sexual, reproductive, maternal and newborn health overlap. It can be confusing to know where the boundaries are, and different people and organisations think about these categories in different ways. They are often defined rather narrowly. To be able to measure progress in integrating and linking related services it is helpful to think about their characteristics and define their components. It is useful to think about the grounds that often distinguish these categories – gender, the outcomes of concern, and time interval.

**Sexual and reproductive health**

‘Sexual and reproductive health’ encompasses both men and women. However, within health services and in the general population, many aspects of reproductive health, such as infertility and family planning, are regarded as “women’s problems”. Men’s sexual and reproductive health is a major influence on women’s sexual and reproductive health. Also, men are often the decision-makers in relation to women’s sexual and reproductive health. But women’s role in bearing and caring for children means that they usually have more contact with health care services than men. The need to include men in sexual and reproductive health service delivery has long been recognised, but has not been standardised or implemented on a large scale. There is a common and strong desire to procreate and have healthy children and descendants. This is a powerful motivator to behaviour change.

In the past reduction in population growth was the major outcome of concern for demographers and family planning programs. At the 1994 Cairo International Conference on Population and Development women demanded to be viewed as having the same status and rights as men, rather than as the mothers of too many babies. Improving women’s status, and their access to reproductive health services, enabled more women to choose whether, when, and how many children to have. Greater attention to women’s reproductive health and rights since then has resulted in lower fertility rates in most countries. This is an important lesson as we aim to minimise the impact of STIs, HIV and paediatric HIV. It is important, though, not to see women’s health solely in terms of their reproductive function. Discrimination and disadvantage are also potent causes of women’s health problems.
It has also been argued that sexuality needs to be thought about separately from reproduction in order to gain insights to help prevent spread of HIV. In recent decades there have been great changes in relation to sexual behaviour and attitudes in many countries in the region, influenced by rapid economic growth and modern communications. But it is likely that former societal attitudes and expectations will persist. This may prevent individuals from talking about their problems, youth receiving the information they need, and communities from recognizing and responding to the problems associated with changed sexual practices.

Maternal health
Maternal health tends to be narrowly defined in relation to the time interval of pregnancy and the post partum period. Death is the most obvious outcome of concern and preventing maternal deaths receives most attention. But other adverse outcomes are of great concern to women, including incontinence resulting from fistula following obstructed labour, post-natal depression, and fatigue from anaemia. These maternal health problems can have an impact well beyond the post partum period and into old age.

Figure 6. Indigenous women’s health workers in Melbourne, Australia conceptualised categories of health as overlapping interdependent circles
Conceptualising the prevention of mother to child transmission

Prevention of mother to child transmission of HIV (PMTCT) has also often been conceptualised in a narrow way. The UN Interagency Task Team on Preventing HIV in Pregnant Women, Mothers and their Children promotes a four prong strategy approach for the prevention of HIV infection in infants and young children:

1. primary prevention of HIV infection;
2. prevention of unintended pregnancies among women living with HIV;
3. prevention of HIV transmission from mothers living with HIV to their infants;
4. care, treatment and support for mothers living with HIV, their children and families.

These strategies tend to be viewed in relation to women that know their HIV status, with primary prevention for women who test HIV negative and family planning advice for HIV positive women. The focus to date has been the introduction of routine offer of counselling and testing in the antenatal clinic, with the offer of antiretroviral prophylaxis (ARVP) and counselling and support for safer infant feeding for pregnant women who test HIV positive. However there are also population level interventions for each prong that do not depend on HIV testing:

1. Preventing the spread of HIV between men and women protects children from becoming infected too, and from suffering the physical, emotional and social effects of the illness and death of their parents. Protecting women from becoming infected during pregnancy and when they are breastfeeding is especially important because the risk of MTCT is very high when women are newly infected with HIV. Women are more likely to become infected when pregnant and post-partum both because they may be at greater risk of exposure to HIV, and because their physiological susceptibility is increased.

2. Meeting the large unmet need for family planning services for all women and couples will help to protect many infected women who do not know their status from unwelcome pregnancy. This reduces the number of children with HIV.

3. Most pregnant women infected with HIV are unaware of their status. We can address the factors that we know increase the risk of MTCT at population level. Promoting good...
health, nutrition, and rest during pregnancy, prompt treatment of infections, prevention of STIs and malaria during pregnancy, and promotion of optimal and exclusive breastfeeding will all contribute to reducing MTCT of HIV.

4. Many mothers first learn that they have HIV when their child or their partner becomes sick with HIV related signs and symptoms. Others learn their status when they are tested before migration, in a rehabilitation centre, or when they attend a VCT centre. While referral to care, support and treatment services is essential for women diagnosed as HIV positive during pregnancy, it is important that testing in the antenatal clinic should not be the only entry point to care, support and treatment.

It is helpful to recognise that the two agendas:

- introducing a more comprehensive approach to PMTCT, and
- achieving better integration of sexual and reproductive health with maternal and newborn health and HIV prevention and care

share common objectives, common themes, and common barriers.

Guiding principles

When planning to strengthen health service integration and linkages in order to improve universal access it is important to discuss guiding principles. These might include commitment to:

- a rights perspective - sexual and reproductive rights of all people including women and men living with HIV need to be recognised. The Gion Call to Action calls attention to the right of women to decide freely on matters related to their sexuality and to their sexual and reproductive health, free of coercion, discrimination and violence.

[2]
• equality of access to prevention and care services
• participatory processes - engaging communities and encouraging ownership (including men, women, youth, and people living with HIV in gathering information, planning, implementation and evaluation)
• planning based on research evidence and local information
• willingness to discuss controversial issues in an open and non-judgemental way
• gender analysis – recognising that efforts to improve sexual, reproductive and maternal health are influenced by gender roles and relations and in turn may affect gender roles and relations.
• coordination, communication and collaboration between organizations
• sustainability – with emphasis on building capacity, strengthening management and accountability
• taking the reduction of stigma and discrimination as a cross-cutting issue
• flexibility – planning processes responsive to the changing context, the changing pattern of the epidemic and to new knowledge
• supporting health care providers
• linking prevention with non-discriminatory care, treatment and support
• ongoing documentation and dissemination of lessons learned

Map current service delivery structures and processes

An appropriate group should map current service delivery structures, responsibilities and processes. This will help in making decisions about which services need to be integrated at different levels of care. This step is a preliminary to more detailed field assessments that might be needed in order to plan delivery of more integrated services.

There is great variation in the extent to which services are already integrated or linked at different levels of the health care system, and a variety of models of primary health care service delivery. For example, Indonesia has had a successful ‘posyandu’ system of integrated preventive and promotive health posts run by volunteers with support of the health services for many decades. Activities include family planning services, growth monitoring, supplementary feeding, antenatal care, immunisation, management of diarrhoea and health education. In Papua New Guinea church run health centres play an important role in delivery of reproductive and MCH services. In Vietnam the mass organisations, such as the Youth Union and the Women’s Union are important stakeholders. While in Sri Lanka integrated reproductive health services are provided by a network of well trained community midwives.

The map should include the various tiers of both health care delivery services and administration, as well as support at community level. Table 3, below, and the coloured matrices on pages 20-24 provide checklists which may be helpful in mapping service delivery and supportive policies and tools, and identifying gaps.
It can be helpful to use scenarios such as those below in an exercise to explore current access to comprehensive services and referral links. Ask the team to discuss the questions below in relation to a variety of scenarios.

- Where would this person be likely to seek care?
- How would they know where to go?
- What services should they be offered?
- Are these services available at the facility they are likely to attend? If not, are they likely to be referred?
- What factors might prevent this person being able to learn about and take up services that would benefit their sexual and reproductive health?
- What factors might make them more likely to seek care appropriately in the future?

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
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<tbody>
<tr>
<td>An 18 year old migrant woman in sex work who wants to obtain contraception. She lives in a poor area of a large town.</td>
<td>A married housewife aged 32 years who is worried by a vaginal discharge.</td>
</tr>
<tr>
<td>A 17 year old girl who has been sexually abused by her uncle, brought to the MCH clinic by her older sister</td>
<td>A 50 year old widow troubled by stress incontinence</td>
</tr>
<tr>
<td>A young married woman who is five months pregnant</td>
<td>A 20 year old single man worried about a penile ulcer that he has had for several weeks.</td>
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Table 3. Functions necessary to support and deliver integrated services

<table>
<thead>
<tr>
<th>Level</th>
<th>Functions</th>
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</table>
| Central administration [This might be national level or decentralised to a sub-national administrative level (state / province / prefecture or district / county) noting that responsibility and accountability for different functions is decentralised to different levels to different extents within and between countries] | ☐ Preparation or adaptation and dissemination of national policies and guidelines, which might include, for example:  
* Standard clinical care and referral protocols  
* Competency standards  
* Support and supervision protocols  
* Counselling guidelines for:  
  - pre and post HIV test counselling  
  - STI and HIV prevention  
  - infant feeding  
  - family planning  
  - sexual health  
* Human resources planning and management, including:  
  - recruitment, deployment and utilization  
  - identification of roles and responsibilities, accreditation, salary and incentives, staff development, career structure  
  - training program and curricula guidelines  
* Financing of health care and health promotion  
* Health information system – data collection, analysis, interpretation and dissemination  
* Drugs and supplies management system –  
  - essential drugs, diagnostics, and equipment lists for health care facilities at different levels  
  - procurement, storage, distribution, security  
* Safe blood supply management  
* Infection control  
* Quality control  
* Monitoring and evaluation  
☐ Donor coordination  
☐ Advocacy for government funds  
☐ Liaison with UN, bilateral, international and national NGO partners  
☐ Consultation and collaboration with other relevant ministries, professional associations and academic institutions |
<p>| Ministry of Health in collaboration with: National AIDS Control Authority; Family Planning office (if outside MoH); Ministry of Social Welfare and Women’s Affairs |</p>
<table>
<thead>
<tr>
<th>Level</th>
<th>Functions</th>
</tr>
</thead>
</table>
| Provincial / district referral hospitals | ✗ Provide specialised SRH, MNH, and HIV prevention and care services not available at lower level facilities, including:  
  • Emergency obstetric and newborn care  
  • Gynaecological care: infertility management; fistula repair; cervical cancer management  
  • VCT for HIV  
  • PMTCT interventions for HIV positive women and couples: ARVP / ART; safer delivery care; safer infant feeding advice and support; psycho-social care  
  • Integrated out-patient and in-patient services for individuals and families living with HIV, including: treatment for symptoms; OI prophylaxis and treatment; ART; palliative care  
  ✗ Provide support and supervision to lower levels  
  ✗ Link patients to community supports  
  ✗ Placement exchange program with staff from lower levels |
| Sub-district health care facilities | ✗ Provide a range of SRH, MNH and HIV prevention and care services (see coloured matrices pages 15 – 18 above for list of essential services) through either: supermarket approach (all services available through same provider at any visit); or teamwork approach (links to another service provider at same or linked facility)  
  ✗ Provide support and supervision to lower levels  
  ✗ Link patients to community supports  
  ✗ Collect, analyse and use consultation data in planning and management  
  ✗ Skill and information exchange with local NGOs/CBOs/mass organisations  
  ✗ Provide outreach services to young people and marginalised groups |
| Community level health care worker | ✗ Provide basic health promotion and care services, prevention information, and counselling  
  ✗ Sit on village council or convene village health committee |

**Step 2. Conduct an assessment**

It is likely to be necessary to conduct an assessment of community needs and preferences in relation to service delivery and an analysis of organisational capacity. This should be planned and carried out by a team that, in addition to trained researchers, includes representation from young people, women, marginalised groups, relevant government, non-government and community based organisations, and people living with HIV. One or two experienced researchers need to take responsibility for coordinating the assessment and collating and analysing the findings. Adequate funding and time will need to be allocated for the assessment.

The first step in the assessment should be to review any recent assessments of sexual and reproductive health services, maternal and newborn health services, or HIV prevention and care services, as well as relevant behavioural surveys. These may be national or provincial assessments carried out by government agencies, project situation assessments conducted by NGOs, or studies by academic researchers. Where they exist, useful data can be drawn from the Demographic and Health Surveys, Multiple Indicator Cluster Surveys, the National
Census and from routine health statistics from the National Health Information System. There may be comprehensive assessments but it is more likely that they will have been conducted with a particular perspective, such as maternal and child health, or HIV-related knowledge, attitudes and practices. A wide range of assessments or reports will be relevant and assist in building a comprehensive picture. Planning based on local epidemiological studies is very important. For example, several studies have found great variability in rates of STIs among pregnant women in neighbouring districts.28

The assessment needs to include an analysis of relevant national or provincial/district level policies, programmes and laws, and the current and planned commitments of donors. Concern about the spread and impact of the HIV epidemic has resulted in major changes in the levels and types of donor funding available for sexual and reproductive health in recent years. The assessment needs to include analysis of current funding channels and their implications and opportunities for integration, and to be aware that new flows of funds can distort existing channels.

The assessment findings should help to identify areas of need and vulnerability and enable the setting of priorities in planning. The assessment will gather information that can inform the planning of training for managers and health care workers, counselling guidelines, supplies procurement, communication materials, and linkages with community organisations.

A combination of quantitative and qualitative methods will result in more reliable data that provides a better understanding of opportunities and challenges. The manual ‘Protecting the Future’ has a guide to thinking through the ethical issues before conducting assessments.[2]

The process of planning the assessment and gathering information can bring together stakeholders who might not usually meet, such as public health officials, hospital staff, brothel managers, and police. It can be a powerful way to raise awareness and promote commitment to stronger integration of services.
Topics of interest

- Policy and legal framework, including issues of legal consent from minors, legal age of marriage, abortion, sex work, male-male sex, injecting drug use
- Knowledge, attitudes, beliefs, practices and skills of health care workers
- Health status of the community: prevalence of STIs, hepatitis B and C, TB, HIV; maternal and perinatal death rates; rates of exclusive breastfeeding
- Capacity of health care facilities at different levels: including services offered; numbers and satisfaction of patients/clients; staffing levels; confidence and morale of health staff; flow of patients / clients; infrastructure quality – possibilities for privacy; ordering and storage of supplies; communication and transport options for referral; capacity for conducting diagnostic tests; management of blood safety and infection control;
- Access to and quality of antenatal, delivery and postnatal care for different groups
- Availability and safety of emergency obstetric care, including Caesarean section, and safe blood supply
- Safety, availability and feasibility of replacement feeding
- Types of social welfare, education, and health programmes already being implemented
- Local decision-making structures and processes, networks, interest groups, and elites;
- Gender roles and relations;
- Barriers to effective care and support for people living with HIV, including stigma;
- Community knowledge, attitudes and practices (including the views of men, women, adolescents and youth) in relation to:
  - Access to and use of health care and related services
  - Family planning / contraception
  - Sex education for young people (in and out of school)
  - Pregnancy and childbirth, including sex during and after pregnancy
  - Antenatal, delivery and postnatal care
  - Induced abortion - knowledge, attitudes and practice
  - Infant feeding
  - VCT for HIV
  - STIs, including treatment seeking
  - Buying and selling sex
  - Injecting drug use
  - Men’s involvement in reproductive and maternal health care
  - HIV prevention and care, including awareness and use of male and female condoms
  - Sexual and domestic violence
  - Communication of health information

Technical support will be needed to identify the costs of potential interventions.\(F_7\)\(^{29}\)

There are many useful guides to assist in carrying out an assessment for integration.

- Guidelines for integrating HIV voluntary counselling and testing services into reproductive health settings.\(F_7\)\(^{30}\)
- Detailed advice for program and facility managers and clinicians about how to conduct an assessment for integration of family planning services with PMTCT services.\(F_7\)\(^{31}\)
- Safe Motherhood Needs Assessment http://www.who.int/reproductive-health/MNBH/smna_index.en.html
- IRC. Protecting the Future: HIV Prevention, Care, and Support Among Displaced


Indonesian national assessment for comprehensive PMTCT interventions

Between November 2005 and May 2006 the Maternal Health Sub Directorate of the Ministry of Health, Republic of Indonesia, with support from UNICEF, implemented a participatory rapid assessment in six cities in six Indonesian provinces. The aim was to gather information about sexual, reproductive, adolescent and maternal health to inform broad interventions to prevent HIV infection in mothers and children. The assessment sites were in medium and large urban settings with concentrations of people with HIV risk behaviours.

24 government and non government public health workers developed capacity in qualitative and quantitative assessment skills. They helped to plan the assessment tools, identify respondents, facilitate focus group discussions, conduct in-depth interviews, and analyse the data. Ethical issues were carefully considered.

Questions were posed to nearly 1000 respondents; a variety of health care workers in both hospital and community health settings; and stakeholders in key decision making positions in the health care sector and in the community. Comments from unmarried male and female youth between the ages of 15-18, pregnant women who were also mothers, their partners, women living with HIV and community based health cadre volunteers were especially interesting. People were more willing to talk about sensitive issues such as sex during pregnancy in a group rather than in one-on-one interviews.

A wealth of information was gathered in relation to reproductive and sexual health, pre and post natal care, labour and delivery, and infant feeding. The process and findings of the PMTCT Rapid Assessment have been well documented and a comprehensive field manual with assessment tools has been developed.

Ministry of Health, Government of Indonesia [Pak Ilhamy, MCH, Ibu Jeanne Uktolseja, Ibu Endang, CDC]
UNICEF-Indonesia [Veera Mendonca, vmendonca@unicef.org]

Step 3. Plan strategy for strengthening integration and linkages of services

A staged approach will be needed. An appropriate group should use the findings from the mapping of existing service delivery at different levels, and the field assessment, to determine priorities for each area of the country, or, if authority is decentralised, of the province or district. They should have an understanding of what resources are currently available to strengthen services and how additional resources can be secured. They should
be aware of the national strategic plan for HIV infection prevention and care, and relevant existing plans in relation to sexual and reproductive health, adolescent health, newborn health, and Safe Motherhood. The plan for integration will need to take into account these existing plans and commitments.

In June 2006 UN Member States made a commitment to work towards the goal of universal access to comprehensive HIV prevention programmes, treatment, care and support:\textsuperscript{113}

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Paragraph 49. Commit ourselves to setting, in 2006, through inclusive, transparent processes, ambitious national targets, including interim targets for 2008 in accordance with the core indicators recommended by the Joint United Nations Programme on HIV/AIDS, that reflect the commitment of the present Declaration and the urgent need to scale up significantly towards the goal of universal access to comprehensive prevention programmes, treatment, care and support by 2010, and to setting up and maintaining sound and rigorous monitoring and evaluation frameworks within their HIV/AIDS strategies;” Resolution adopted by the General Assembly 60/262. Political Declaration on HIV/AIDS, New York, 87th plenary meeting. June 2006
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UNAIDS emphasises that ‘national targets should reflect the dynamic of the local HIV epidemic. In order to ensure that services are reaching most-at-risk individuals, it is also beneficial to set targets specific to those groups’. It is important to note that although a set of core indicators is recommended, it is also acknowledged that for countries with low prevalence or concentrated epidemics, it is vital to reach the most vulnerable key populations.

The principles for setting national targets to achieve universal access to HIV prevention and care are also relevant to the integration agenda. They include:

- Country ownership and participation
- Building on past efforts
- Review of existing data and data collection systems
- Reviewing existing indicators
- Setting targets as part of national strategic plans
- Identifying and overcoming obstacles to scale up
- Human rights, gender and the greater involvement of people living with HIV and AIDS (GIPA)
- Quality of and equity in access to services
- Setting priorities and overcoming obstacles
- Limiting the number of targets
- Using targets to mobilize resources

They also emphasise the importance of identifying and overcoming obstacles.

**Some common challenges and obstacles to integration**

There are often high level structural obstacles to merging of responsibilities in vertical programs.\textsuperscript{125}

National or provincial policies may need to be amended to remove barriers to access, such as prohibitions on provision of family planning advice and supplies to single women. Such
changes require little investment of resources but can contribute much to the goal of prevention.

It is understandable that health care workers may be resistant to integration of services and programs.32 They may worry about increased workload - “being asked to do more with less”. There may be concerns that consultations will take too long and be unpopular with clients or patients. Staff may feel uncomfortable or unwilling to discuss sensitive issues such as sexuality, STIs or HIV. They may fear occupational exposure to HIV infection or opportunistic infections such as tuberculosis. It is important to involve staff in planning for integration and stronger referral links. Clinic hours and the flow of patients through the clinic will need to be reviewed. Training needs to be followed by supportive visits to address problems and identify whether health care workers have the equipment and tools they need to implement what they have learned.

When affordable, non-judgemental, private, confidential and good quality care is available and marginalised people are encouraged to visit health care services there are important opportunities for HIV prevention. Health care workers need to feel confident to ask about risk factors such as injecting drug use and risky sexual behaviour such as unprotected anal sex between men and women. They need to be able to offer male and female condoms with lubricant, and to provide supplies of sterile needles and syringes. They need to be able to refer drug users who want to stop using drugs for substitution treatment or rehabilitation services. Experience from sub-Saharan Africa of service integration suggests that there was often little attention to adding more sensitive or complex components. It is therefore important to emphasise the need to train health care staff in communicating about sensitive issues with confidence, and to recognise that some staff may not be comfortable with this.

Planning vertical integration

The team need to decide what needs to be done to achieve vertical integration for a continuum of care with strong referral links between services at community level, health centre level and the referral hospital. Settings with a high proportion of people vulnerable to poor sexual, reproductive and maternal health, including to spread of HIV, should be prioritised. The challenges and opportunities should be analysed. But too often referred patients are refused care, or receive delayed or poor quality care. A system needs to be established so that an identified tertiary hospital has responsibility for providing timely, effective, affordable and appropriate care for patients referred from a number of district hospitals and health centres within its geographical area. Regular clinical audit meetings attended by staff from both the tertiary hospital and the referral facility to discuss particular referred cases can help to build and maintain the quality of care.

Planning horizontal integration

Next the sites where horizontal integration will be strengthened first should be identified. It will be necessary to decide which services should be available at every level of health care facility and which services should be available through referral to a higher level. This will depend on the frequency of the problem the service addresses and the complexity of the service.
The aim of strengthening integration and linkages is to ensure that more women, couples and men have access to the sexual, reproductive and maternal health services they need. But it will not always be appropriate to aim to offer all services in every facility at every level. For example, it will not be appropriate to offer prophylactic regimens for PMTCT of HIV in every clinic that offers maternal health services. Where prevalence is high it is reasonable to build capacity to provide PMTCT services for HIV positive pregnant women at district or sub-district level. However this is a complex intervention in terms of choice of antiretroviral regimen, infant feeding advice, and the need for psychosocial support for the many challenges and uncertainties faced by these women. Where HIV prevalence is low, as in most settings in the region, health care workers, even if well trained, will have little opportunity to maintain and update their knowledge and skills to provide this service effectively. The risk of adverse consequences for women and their partners is high. It is better if these services are provided through strong referral links to a higher level. This is also true for treatment of HIV infection with antiretroviral treatment HAART for women, men and children where HIV prevalence is low.

It will not always be more cost-effective to integrate services. Where services are functioning well and women are familiar with and able to reach separate facilities horizontal integration is not a priority. For example where family planning is the responsibility of a different department, women may be used to attending a family planning clinic at one site and a maternal and child health centre at another. However where there are gaps in services, such as detection and management of STIs during pregnancy, it is important that the capacity of all antenatal care services to provide these are strengthened. Integration requires much investment of time and resources. It is important that integration efforts should not result in weaker services for disadvantaged, vulnerable or geographically isolated groups. It is better to invest in improving outreach services for marginalised and isolated populations than to integrate services for populations that are already able to access services, even if at different sites.
Table 3. Planning for scaled up comprehensive PMTCT interventions in a country with low national HIV prevalence and areas with higher HIV prevalence

<table>
<thead>
<tr>
<th>Type of PMTCT interventions:</th>
<th>Areas with relatively high levels (&gt;1%) of HIV prevalence among pregnant women</th>
<th>Areas with low levels (&lt;1%) of HIV prevalence among pregnant women</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facilities with VCT services and PMTCT prophylactic interventions</td>
<td>Facilities with VCT services, but without PMTCT prophylactic interventions</td>
</tr>
<tr>
<td></td>
<td>Facilities with VCT services, but without PMTCT prophylactic interventions</td>
<td>Facilities without VCT services or PMTCT prophylactic interventions</td>
</tr>
<tr>
<td></td>
<td>Facilities with VCT services available</td>
<td>Facilities without VCT services</td>
</tr>
<tr>
<td></td>
<td>Facilities without VCT services</td>
<td></td>
</tr>
</tbody>
</table>

VCT during antenatal care

<table>
<thead>
<tr>
<th>VCT during antenatal care</th>
<th>Offer counselling and HIV test routinely to all pregnant women / couples</th>
<th>Offer counselling and HIV test routinely to all pregnant women / couples, or Counsel and offer HIV test to women / couples thought to be at higher risk</th>
<th>Refer women / couples considered to be at higher risk to facility with VCT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HIV prevention counselling at routine couple ANC visit and Counsel and offer HIV test to women / couples considered to be at higher risk</td>
<td>Refer HIV positive pregnant women / couples to PMTCT site</td>
<td>Refer HIV positive pregnant women to PMTCT site Or Consult PMTCT specialist in referral hospital and provide PMTCT services</td>
</tr>
<tr>
<td></td>
<td>Refer HIV positive pregnant women / couples with clinical signs symptoms of AIDS to PMTCT site</td>
<td>Refer HIV positive pregnant women to PMTCT site Or Consult PMTCT specialist in referral hospital and provide PMTCT services</td>
<td>Refer HIV positive pregnant women to PMTCT centre for interventions</td>
</tr>
</tbody>
</table>

Interventions for HIV positive women:
- ARV prophylaxis
- Infant feeding counselling
- Safe delivery
- Follow up care, support and treatment including non-coercive advice about contraception (Prongs 2, 3, 4)

<table>
<thead>
<tr>
<th></th>
<th>Comprehensive services offered to HIV positive pregnant women / couples</th>
<th>Refer HIV positive pregnant women / couples to PMTCT site</th>
<th>Refer HIV positive pregnant women to PMTCT site Or Consult PMTCT specialist in referral hospital and provide PMTCT services</th>
</tr>
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<tbody>
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<td></td>
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</tbody>
</table>

Plan for a rapid roll out nationwide. If phased approach is needed, start with:
- areas with high HIV prevalence
- areas with relatively large groups at higher risk of HIV infection
- target women with factors that put them at higher risk of acquiring HIV

Prong 1 – Primary HIV prevention, including pregnant, post-partum and lactating women
Non-test-dependent interventions for Prongs 2, 3 and 4

|                                | Plan for a rapid roll out nationwide. If phased approach is needed, start with: |                                                                  |                                                                  |
|--------------------------------|--------------------------------------------------------------------------------|                                                                  |                                                                  |
|                                | - areas with high HIV prevalence                                                  |                                                                  |                                                                  |
|                                | - areas with relatively large groups at higher risk of HIV infection             |                                                                  |                                                                  |
|                                | - target women with factors that put them at higher risk of acquiring HIV       |                                                                  |                                                                  |
Community level

“Improving reproductive health will not be achieved with machines, devices or drugs without taking into consideration the human element. Changes in behaviour and social attitudes are often needed to achieve lasting improvements in health.” (WHO 1987)

Activities will also be needed at community level:

- Health care workers should be able to refer patients or clients to community support groups and NGOs.
- To enable access by youth or marginalised groups such as people who inject drugs, or women in sex work, health care services may need to be available in community rather than health facility settings.
- A communication strategy is needed to raise community awareness of changes and improvements in service delivery.
- Stigma and discrimination need to be addressed so that those with stigmatised behaviours or characteristics are not inhibited from accessing services, and do not suffer the rejection that may result from disclosure of problems such as STIs, HIV or unmarried pregnancy.
- Changes in the social and cultural context can facilitate changes to safer behaviours that will improve sexual and reproductive health.

Sexual, reproductive, adolescent, maternal and newborn health problems have many underlying factors in common. They relate to normal aspects of life such as sexual maturation, pregnancy and breastfeeding. In addition to strengthening the coverage and quality of services it is important to plan integrated behaviour change activities and to address the social and cultural context. This needs broad community involvement.

One of the most important and effective ways to ensure that new policies are relevant to community needs and priorities is to stimulate community discussion. In most countries, television is probably the single most effective mass medium to help initiate such discussions. Debates on the radio, as well as in newspapers and magazines, can help policy makers understand the ways in which a proposed policy might affect existing realities, and rework it more appropriately.

Authorities need to provide space for community support groups to flourish. Support groups for people living with HIV have an important role to play in helping clients to maintain adherence to ART regimens, and in meeting a broad range of social, emotional and health needs, as well as in prevention, raising awareness and decreasing stigma.
Community resolutions against discrimination in Tamil Nadu

Since 1988 the South India AIDS Action Programme has worked with people distanced from their communities by stigma, including women in sex work, disabled men and men who have male-male sex. They have established and built the capacity of community based organisations. They have addressed poverty through thrift schemes. They have trained counsellors for HIV prevention and care, and worked with government to ensure that they are now employed by government at hospitals throughout the State.

They say: “At the heart of our work is recognising that most people are intelligent, responsible, capable and responsive and want to contribute. We can help them to help themselves.” One Sangam co-ordinator said: “ when people came to us and gave us condoms and told us we could get free treatment for STDs, it didn’t mean anything to us, because we had no sense of our own self worth so we did not care what happened to us. But once the focus was on restoring our lost sense of dignity and self-worth, we don’t wait for people to tell us how to take care of ourselves.”

SIAAP’s advocacy with panchayats (village councils) has resulted in 120 of them passing resolutions to support people with HIV and protect women against violence and discrimination:

Structured community discussions provide opportunities for men and women to better understand each other’s perspectives and problems, and have been found to be effective in altering HIV risk behaviours. In 1995 the British NGO, ActionAID, produced the Stepping Stones training package which helps communities to develop communication and relationship skills. The aim of Stepping Stones is to enable women, men and young people to describe and analyse their relationships, and to develop solutions to the sexual health problems and risks that they face in the course of their daily lives. The materials enable

Shyamala Natraj, South India AIDS Action Programme, No.4 (Old No. 65), 1st Street, Kamaraj Avenue, Adyar, Chennai-600020, Tamil Nadu
people to explore issues that affect sexual health including gender roles, money, alcohol use, traditional practices, and attitudes to sex and death.

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**Stepping Stones in India, the Pacific and Sri Lanka**

The regional office of Action Aid International adapted Stepping Stones for India in December 2004. The program has been implemented successfully in Karnataka with HIV positive people and women in sex work. A Marathi manual has also been produced and an NGO, the Center for Youth Development and Activities, in Pune has taken Stepping Stones to 14 districts of Maharashtra, where it has proved to be a powerful behavioural change tool among youths. [http://www.actionaidindia.org/camp_hiv.htm]

In 2006 the AusAID funded Pacific Regional HIV Project trained 40 participants in Fiji and the Solomon Islands in the Stepping Stones approach, with two experienced facilitators from Africa. Participants included representatives from NGOs, the Ministry of Health, and health promoting communities in both countries. Male and female facilitators were trained from each community. They returned to their villages and began working through the participatory sessions with their communities. The response has been even more enthusiastic than was expected. People have been glad to have an opportunity for structured discussions about the problems they face. They have initiated their own discussion sessions and are willing to devote large amounts of time to this activity. The Ministry of Health and NGO participants agreed to form a network of trainers and there are now plans to extend the activity to Vanuatu and the Polynesian countries. [http://www.prhp.org.fj/]

The Stepping Stones manual in Sinhala is available from Alliance Lanka, 111/1 D.S. Senanayake Mawatha, Colombo 8, Sri Lanka (E-mail: allianca@sri.lanka.net)

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**Working with young people**

Young people are essential allies in promoting healthier and safer sex. They have energy, optimism, curiosity, talents and skills.

**Principles when working with young people**

- Gather information from young people to understand resiliency and the factors that help protect them; in addition to those that increase their vulnerability. These might include for example extended families, a sense of belonging, adaptability, strength that comes from having to take responsibility at a young age, or talents and skills in dance, music, media, sport.
- Engage officials responsible for young people’s services in gathering information through participatory methods. This can be very effective in helping them change their own beliefs about what young people really think and do.
- Use positive and empowering language with, and about, young people. Acknowledge that they are capable of making positive choices themselves. Avoid painting a picture that views them only in terms of risky behaviour and delinquency.
- Sexual and reproductive health are often not a priority for young people. Address these issues in the context of their other perceived needs and priorities.
- Use pleasure to motivate safer sex rather than fear [www.pleasureproject.org]
• Plan appropriately for rural and urban youth who usually face different challenges.
• Encourage formation of partnerships between youth and elders in the community (adult partnerships.) Elders often relate well to youth and can form a buffer against harmful modern influences.
• Recognise that the behaviour and beliefs of young men and women are different and are shaped by cultural and societal pressures that can be harmful to both. Young men may not ask for information because they are expected to ‘know’. Young women may not ask for information because they are expected to be ‘innocent’. Young women are generally more vulnerable than young men through greater biological susceptibility, exploitation by older men, lower status, domestic and sexual violence, and economic and educational disadvantage.
• Be aware of the current trends in risk taking in relation to sexual behaviour and use of drugs. These often change rapidly,
• Ensure that young people participate in decision-making at all stages from planning to evaluation.
• Encourage young people to know their rights and help them identify sources of support for times when they may need them.
• Provide appropriate information, education and support services.
• Provide appropriate sexual and reproductive health services.
• Encourage young people to speak up about their experience and views regarding sexual coercion and violence.
• Step up the campaign to end female genital mutilation.
• Prevent early pregnancy and help make pregnancy as safe as possible.

There are many useful resources for working with young people and promoting a change to safer sexual behaviours.

• http://www.who.int/reproductive-health/publications/policybrief4.pdf
• IPPF. Ending child marriage: A guide for global policy action. 2006. [p]
• IPPF. Setting standards for youth participation: Self assessment guide for governance and programmes. 2004 [p]

**Working with key populations**

The term ‘key populations’ has been adopted by many to avoid the stigmatising effect of referring to ‘high risk groups’. It is important to work with these groups to help them to protect themselves against infection with HIV because they are more vulnerable to HIV for a variety of reasons.
Many HIV and STI programs have taken an approach that targets interventions narrowly to “high risk groups”, on the basis that if HIV can be prevented in these groups it will not reach the rest of the population. While it is important to identify and work with groups that are more vulnerable than others because they have a greater likelihood of unsafe sex encounters and lack access to services and information, there is need to be cautious. The groups most often targeted are women in sex work, injecting drug users, men who have sex with men, and truck drivers. When these groups are singled out for messages about reducing the numbers of their sexual partners and using condoms they fear that they are being further marginalised and stigmatised. They may suspect that the attention they receive is motivated by concern for the rest of the community rather than for themselves which leads to resentment and rejection of messages. There is also a danger that HIV becomes associated with these groups and others in the community then feel that they are not at risk. The targeted interventions fail to reach people with the same behaviours as those in the “high risk” groups who do not identify as ‘sex workers’, or ‘men who have sex with men’.

Outreach and peer strategies, and building capacity of collectives tend to be most effective with marginalised groups.

**Detailed planning**

Then detailed planning needs to occur to:

- identify specific objectives
- identify the groups and individuals that will be involved
- determine the activities and tasks that will be needed to achieve the objectives
- decide what resources will be needed
- prepare a feasible timeline or implementation schedule
- decide the responsibilities of those involved, and
- formulate a plan for monitoring and evaluation

The process of integration should be viewed as a dynamic one. There is a need to monitor the process and modify service delivery in the light of new evidence, changes in funding allocations and changing social and political contexts. If possible the plan for integration of services and programs should be incorporated into the national HIV Action Framework and the country level Monitoring and Evaluation System in line with the ‘Three Ones’ principles.38
Key areas:

Improving antenatal, delivery, postpartum and newborn care

Rationale

The Universal Declaration of Human Rights, ratified in 1948, states that “motherhood and childhood are entitled to special care and assistance”. The Convention on the Rights of the Child, ratified in 1989, guarantees children’s right to the highest attainable standard of health. Poor maternal and newborn health has a great impact on the emotional and economic well-being of families and communities.

Antenatal care is important because it provides opportunities to improve maternal health, and the health and survival of infants. Women’s contact with health care services when they are pregnant provides an opportunity to offer other preventive and curative services including treatment and prevention of STIs and family planning services, as well as emotional support. Antenatal care makes it more likely that a woman will deliver with a skilled attendant. Tetanus immunization during pregnancy prevents both maternal and infant deaths. Antenatal care also provides an opportunity to prevent and treat malaria and TB and to improve nutrition. These are important outcomes in themselves, but malaria, STIs and poor nutrition are also risk factors for mother to child transmission of HIV when the mother is HIV positive. Antenatal care also provides an opportunity to prepare the mother for optimal breastfeeding. Optimal breastfeeding practices lower the risk of breast problems such as mastitis and abscesses which increase the risk of MTCT of HIV, while exclusive breastfeeding has been shown to reduce risk of MTCT of HIV, and provides infants with protection against many infections. Antenatal care can prevent preterm births, which increase the risk that a baby will become infected with HIV. Thus good quality antenatal care, even when testing for HIV is not possible, contributes to the reduction of HIV infection.
in children. Where HIV prevalence among women is greater than 1% antenatal care provides a valuable opportunity to routinely offer expectant couples HIV counselling and testing. In this way antenatal care can be an entry point to HIV prevention and care for families, including specific interventions to reduce the risk of MTCT of HIV.

Access for young, single and poor women
It is important to make efforts to increase the access of single, young and poor women to antenatal, delivery and postnatal care. They stand to gain more than wealthier and older women, and in many countries in the Asia and Pacific region they are less likely to attend. In Bangladesh, India and Pakistan poor rural women with little education are especially likely to miss out on antenatal care, and subsequently delivery care and postnatal care. If these women can be encouraged to attend they are more likely to have an attended delivery, postnatal care and subsequent contacts with the health care service for immunization for their child, and care of common childhood illnesses. Health care workers need a non-judgemental approach so that single women, and women marginalised for any reason, feel welcome. Young women are often shy and have little autonomy; they should be invited to bring their partner, relative, or friend.

Service providers
The majority of the antenatal interventions known to be effective can be delivered by a midwife, nurse or community level health care workers. These workers need training, equipment, and supplies, as well as support and supervision. They need to have emergency management and referral protocols, and access to communication and transport to be able to facilitate referral when complications occur.

Involvement of men
To date little attention has been given to encouraging men to attend for antenatal care with their partners. However antenatal care provides a chance to engage men in reproductive health care with benefits for themselves, their partners and their children.

“Men have personal and social responsibility for their own sexual behaviour and fertility and for the effects of that behaviour on their partner’s and children’s health and well-being”

There have long been calls for greater engagement with men in reproductive health promotion, and for research to better understand men’s behaviours and motivations. Men do not traditionally attend antenatal clinics, but experience in Cambodia, India and South Africa suggests that when they are encouraged, with appeals to their sense of responsibility, they are keen to do so. If the antenatal clinic can be conducted as an evening clinic once a week, or on Saturday, this will make it easier for working men to attend with their partners.

An antenatal visit provides an opportunity to tell men that unprotected sex with someone else during or after their partner’s pregnancy could result in the death of their child, and to supply condoms. The couple visit can be promoted as a routine visit rather than an ‘HIV visit’. It allows an opportunity to screen and treat for infectious diseases that could affect the baby, including tuberculosis and STIs, enables discussion about warning signs in labour, plans for emergency transport, and counselling about contraception after delivery. Some women may have a good reason not to want their partner to attend the clinic with them, but if the couple
visit is scheduled as the second visit, women have a chance to choose. A protocol for a routine second antenatal couple visit is in appendix 2.

Although pregnancy, childbirth and breastfeeding are viewed as women’s business they are influenced by men. Although men do not usually attend antenatal care with their partners in any society, experience shows that when they are invited to attend they are often willing to do so. It is possible to appeal to their role as decision-makers in the family and protectors of the family’s health and well being. If men are invited to attend antenatal care with their partners it may become more likely that women who do not currently attend are able to do so. It takes few resources to provide an area in the clinic or on the porch that is set aside for men to wait together, away from the women. A picture or two of cars or sport, and posters with information aimed at men, will make the space feel more comfortable to men, rather than sitting among posters of breastfeeding and pregnant women.

Postnatal care
Attendance at antenatal care enables a good relationship to develop and makes a postnatal visit at one week more likely. This postnatal visit allows an opportunity to:

• Check the health of the mother
• Prevent future unplanned pregnancies
• Support exclusive breastfeeding
• Complete tetanus immunization for late attendants to ANC
• Continue iron supplementation for women who are anaemic, or with heavy blood loss in labour;
• Check the health of the baby
• Provide the first dose of hepatitis B vaccine for the baby
• Counsel the father about the danger of unsafe sex and provide condoms

Delivery care
The majority of maternal complications cannot be predicted but they can be managed and deaths and disability prevented. A continuum of care and universal coverage is needed to ensure that there is skilled care at every birth. Without the ability to treat women with obstetric complications, maternal mortality cannot be substantially reduced. Without strengthened health care services emergency obstetric care cannot be provided. WHO has developed a new strategic approach to improving maternal and newborn survival and health, with a focus on equity and reaching those with least access to care.

Rosenfield et al point out that in the past decade there have been a range of successful models, and it has been shown that several can be successfully adopted by governments and scaled up. For example, In Rajasthan general practice physicians have been trained with the support of the Federation of Obstetrics and Gynaecological Societies of India to do caesarean sections and to give anaesthesia. This has been taken up by the state government and elements are being incorporated into India's national Reproductive and Child Health Program. met need for emergency obstetric care offers a useful tracer for overall strengthening of health systems

Newborn health
Cost-effective interventions for newborn health have been relatively neglected:

• Basic preventive newborn care such as care before and during pregnancy, clean delivery practices, temperature maintenance, eye and cord care, and early and exclusive breastfeeding on demand day and night;
• Early detection of problems or danger signs (with priority for sepsis and birth asphyxia) and appropriate referral and care-seeking.
• Treatment of key problems such as sepsis and birth asphyxia.\textsuperscript{P2}

Figure 7. Maternal and newborn health are inextricably linked\textsuperscript{51}

Encourage learning of HIV status

“We have basically applied similar approaches to very different epidemiologic contexts and should not be surprised this is not successful.”\textsuperscript{52}

As yet, only a small proportion of people in the region know their HIV status. There are benefits to individuals and to public health when people learn their HIV status. To achieve universal access to HIV treatment for all those who need it we need to expand the availability of quality counselling and confidential testing for HIV. Decisions are necessary about where and how this will be made available, and which models of testing will be established at different levels and in different settings.

What are the possible benefits for individuals of learning their HIV status?
• Having a test can reduce the anxiety of not knowing HIV status
• If positive, they can receive support and learn how to look after their health
• If health staff know that an adult or child is HIV positive they can diagnose opportunistic infections early, and avoid unnecessary and expensive investigations
• If affordable antiretroviral drugs are available positive people can be treated when HIV damages their immune system
• If positive, they can decide whether to become pregnant, and learn how to reduce the risk of transmission to their baby, or how to avoid pregnancy safely
• They can learn how to ensure they don’t pass the virus on to others.53
• They can plan for the future
• Some parents, after months of worry about their child’s health, may initially feel relief that a diagnosis has been made. Relatives may have blamed the mother for the child’s frequent illnesses.

In high prevalence settings, where care, support and treatment are available, it is important to work towards expanding the capacity to test for HIV infection to all health care facilities. Because men often have little contact with health care services it is also important to establish capacity to offer counselling and an HIV test in workplaces. When men suffer the symptoms of an STI they often visit a pharmacist for advice and help. Booths with a counsellor and testing facilities (like ISD telephone booths) could be established next to pharmacies to encourage confidential testing for men with STIs. It is especially important to think about how to encourage young people to learn their status, and to ensure that counselling and testing are available in a setting that is acceptable to them, accessible, and trusted. Non-government and community organisations can play an important role. They may provide information and refer for counselling and testing, or visiting health staff could offer counselling and take blood for testing which is then sent to government facilities for testing. Setting up VCT services is complicated and needs to be well resourced to be effective and avoid causing harm. The requirements are listed below with hyperlinks to relevant documents.

In low prevalence settings it will not be appropriate to invest in counselling and testing services at every level of the health care system. Instead it is important to include in the training of health care workers the ability to discuss sensitive subjects such as sexual health and drug use. This is an important skill for general health care and promotion, but also enables them to help clients and patients to assess their risk of HIV infection. Those who have symptoms and signs suggestive of HIV infection, or assess themselves as at risk, should be able to be referred to a hospital for VCT and follow up care and support. It is also essential to work through organisations that are trusted by vulnerable groups at risk of HIV infection, with strong links to care, support and treatment services.

In low prevalence settings ‘false positive’ results present a major challenge. The chance that a positive test result is a false positive is much greater than in settings with higher prevalence. You can work through the example below to understand why this is. The WHO testing strategy, which requires repeat testing using a different rapid or ELISA assay, will reduce the chance of false positives. However because the antigens in the different rapid tests are often from the same manufacturers there will still be a proportion of false positives. There is a need for research to determine to what extent repeat testing with a different antibody test reduces the chance of false positive results.
### False Positives

Assume that the HIV antibody test has specificity of 99.8%.

**Low prevalence population** e.g. 0.01% HIV infection rate

Of 100,000 tests done, there will be 10 true positives and 200 false positives. The chance of any positive result being a false positive is 200/210 or 95%.

**High prevalence population** e.g. 10% HIV infection rate

Of 100,000 tests done, there will be 10,000 true positives and 200 false positives. The chance of any result being a false positive is 200/10,200, or 2%.

A real example is given by a study at the AIDS Reference Laboratory in Delhi in 1992. They found that when they tested blood donors, (prevalence low at 0.1%), 31.7% of the positive results were false positives. However when they tested thalassaemic children who had had many transfusions (prevalence high at 8.5%), 100% of the positive results were confirmed as true positives.

### Requirements for VCT for HIV

- Appropriate selection of rapid tests or EIA [54](#)
- Appropriate, timely, accurate confirmatory testing strategy [55](#)
- Sustainable supply of quality low cost test kits/reagents [56](#)
- Quality control system [57](#)
- Protocols for specimen collection, transport and storage
- Protocol for indeterminate results
- Training for lab staff [55](#)
- Confidentiality
  - coded specimen labelling system
  - coded results on patient-held medical records
  - secure storage system
  - training in confidentiality for all staff
- Effective non-coercive, pre-test counselling
  - develop guidelines
  - identification of counsellors
  - training of counsellors [58](#) [59](#)
- Post-test counselling guidelines for positive result, negative result and indeterminate result [55](#)
- Publicise benefits of couple counselling
- Referral system for specimens from peripheral level
The IPPF South Asia Regional Office and UNFPA have produced useful guidelines for integrating HIV voluntary counselling and testing services into reproductive health settings. 

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**VCT through community – government links in the Pacific**

In the city of Lautoka in Fiji there is a good example of how strong links can be formed between government and non-government organisations. A local community-based counselling support organisation, the Family Support and Education Group (FSEG), have teamed up with the Western Health Service to provide counselling and HIV testing in the government hospital antenatal clinic. Each week on booking day, after registration, the pregnant women are given a 30 minute information session about HIV infection and are routinely offered VCT. Those who would like to be tested are invited to go for 10 to 15 minutes of pre-test counselling with one of 3 or 4 experienced counsellors in the NGO office. The majority of women, although not all, decide that they would like to accept the counselling and testing. The women are invited to consider bring their partners for counselling and testing together, and the proportion of couples tested together has been increasing over time. HIV positive women receive post-test counselling from the same counsellor and form a trained doctor. Attention is also paid to post-test counselling for the negative women and couples. The NGO has been able to provide six week placements for trainee counsellors from other parts of Fiji, contributing to building capacity for expansion of VCT. [http://www.prhp.org.fj/](http://www.prhp.org.fj/)

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**Discussion Point - “Opt-out” HIV testing and counselling**

For a long time doctors and other health professionals have performed diagnostic tests without first discussing them with their patients. This has often caused problems when a patient learns without warning that they have a life-threatening illness such as cancer, or an infection with implications for their sexual partner, such as syphilis. Not long ago doctors would frequently keep a diagnosis of cancer a secret from the patient while telling other family members. In richer countries testing without consent, breaching confidentiality and keeping a diagnosis secret from the patient are less common now. Patients are better educated and doctors have sometimes been used by patients for testing them without informed consent. Some argue that counselling before an HIV test treats HIV infection in an 'exceptional' way. Ideally, though, health care providers would explain and seek consent for every test.

When the HIV antibody test became available in 1985 WHO and others advocated for confidential counselling before and after the test. Many health care workers were trained in counselling and the term Voluntary Counselling and Testing (VCT) was widely adopted.

What are the benefits of the VCT model?
- Individual pre-test counselling helps to prepare people for a positive result and helps them to consider who they might tell.
- Where counsellors are well trained and supported counselling can contribute to behaviour change and prevention of STIs and HIV among those who test negative as well as positive.

What are the arguments against the VCT model?
- In practice, few clients or patients ask for an HIV test – they may not know about HIV or the possibility of a test, or they may fear to know their status. This means that many people with HIV are missing out on life-saving treatment.
- Counselling is time consuming and uses resources that could be used for testing and treatment.
• Pre-test counselling adds to the stigma attached to a diagnosis of HIV infection and acts as a barrier to testing and treatment

This has led to a call for routine offer of “opt-out” testing for HIV in all health care facilities.

The availability of rapid tests that do not require laboratory facilities or training means that testing can be offered more widely. Most people agree that it should become routine for health workers to offer the option of an HIV test in settings with high prevalence of HIV infection. However there is much debate about the idea that people should be tested unless they “opt-out”.

What are the concerns with this approach?
• There is a danger that health officials may confuse ‘routine testing’ with ‘mandatory testing’, with breaches of rights.
• An ‘opt-out’ policy may inadvertently lead to coercion and does not emphasise the need for genuine informed consent.
• Many people do not have the confidence to decline the advice of a health care provider. Even if they do not want to be tested they may agree, but may not return for the result. They may then miss out on needed health services for themselves or their children.
• People who are tested without the chance to discuss this with their partner, relative or friend are less likely to disclose their result. Then they may live with fear, guilt and the burden of secrecy.
• Because of their reproductive and caring roles women attend health care services more often than men. This means that this policy results in more women than men learning their status before their partner, which is often associated with being blamed.
• There is a danger that when testing is routine, the handling of results may become routine, with breaches of confidentiality. This may result in stigma and discrimination, especially for women. Studies show that stigma and discrimination are common in health care settings.
• The chance of negative consequences of an HIV test remain, despite the availability of treatment. These may include, for example, restrictions on employment, travel, insurance and marriage opportunities.
• In low prevalence settings, among people without symptoms, the chance that any positive test result is a false positive is high.
• In low prevalence settings resources invested in widespread testing in health care facilities may be better spent on outreach VCT services to those most vulnerable to HIV infection, who may be those least likely to attend mainstream health care services

How could these problems be minimised?
• Educate all health care providers about their legal obligations not to test without informed consent
• Routine suggestion to women in health facilities that they may like to discuss the option of an HIV test with their partner, a relative or a friend
• Ensure informed consent by providing sufficient information and the opportunity to check understanding before seeking consent to the test.
• Ensure that all health care providers understand the law: Common law jurisdictions hold that every person’s body is inviolate and that informed consent is essential.
• Know what is happening in your country or province. Be aware that doctors have great authority in many settings and may be testing without consent. This is especially likely to happen to children and young people, to prisoners and people in drug rehabilitation centres, to women in sex work, and to foreign workers.
• Ensure privacy, and confidential information management systems
• Address stigma and discrimination, especially in health care settings
• Community education about the policy and the benefits of testing
• Links between health care services and HIV positive support groups and non-government organisations
Providing high-quality services for family planning

The early goal of family planning policies was to stem population growth, but since the Cairo International Conference on Population and Development there has been a greater focus on the reproductive health and rights of clients. For example in China the Family Planning Commission has had a greater emphasis on improving quality of care, seeking the views of women and men, and providing a comprehensive reproductive health service, including management and control of RTIs. In Indonesia the National Family Planning Coordinating Board, the Ministry of Health, the Ministry for Women's Empowerment and local NGOs are taking a new approach that seeks to empower Indonesians to make informed choices about their own reproductive health including their right to access quality services.

The ability to plan when and whether to become pregnant makes an important contribution to sexual and reproductive health. Many women and couples still do not have access to family planning services. Family planning services predominantly target married women of reproductive age. But it is important to reach young single people, and to attract men. Where women do not have access to family planning services there is usually a high use of abortion as a means of regulating fertility.

It is important to promote the idea of dual protection. Many sexually active people need protection against unintended pregnancy and against STIs including HIV. Those contraceptives that offer the best pregnancy prevention do not protect against STIs. Thus, simultaneous condom use for disease prevention is recommended. Condoms used alone can also prevent both STIs and pregnancy if used correctly and consistently, but are associated with higher pregnancy rates than condoms used together with another contraceptive method.

Female condoms are effective and have been found to be acceptable in many settings. They are currently underused and undervalued. The Female Condom: A guide for planning and programming is intended to help design, implement and monitor the introduction of the female condom in a range of different settings.

Introducing HIV prevention in the family planning service in Henan province, China

Henan province has high prevalence of HIV infection as a result of unsafe blood donor practices in the 1990s. The National Research Institute for Family Planning in Beijing evaluated the introduction of HIV prevention and VCT into the Family Planning Service Centre of Shang Cai County in Henan Province. Women clients were given information, counselling and the offer of an HIV test. Men were invited to participate in condom workshops held by family planning service providers. They found that knowledge and willingness to be tested for HIV increased significantly; men were willing to be included, and learned how to confirm the quality of condoms and how to use condoms correctly. The researchers concluded that the acceptability and feasibility of scale up of AIDS prevention through family planning services is very high.

There is much scope for integrating family planning services with maternal and child health services and STI services. But providing sensitive counselling and a range of contraceptive methods are skilled tasks and will require additional training, support and supervision. The ability to provide a sterile environment is important to avoid infection when an intrauterine device is inserted.

The Department of Reproductive Health and Research of the World Health Organization and the INFO Project at the Johns Hopkins Bloomberg School of Public Health, Center for Communication Programs have produced a useful decision-making flipchart tool for family planning clients and providers. This can be downloaded at http://www.who.int/reproductive-health/family_planning/tool.html

IPPF have produced a useful guide that discusses all aspects of counselling and service delivery for the full range of contraceptive methods.64

**Eliminating unsafe abortion**

Unsafe abortion causes a substantial proportion of preventable maternal deaths. The burden is greatest for those who are most vulnerable and least able to access safe services: millions of poor women, young women, rural women and their families bear the lasting consequences of unsafe abortion.2 Over three fourths of the abortions in South Asia and nearly two thirds of the abortions in South-East Asia are highly restricted and most of these are unsafe. Morbidity and mortality from medically unsafe abortions remain unacceptably high in South and South-East Asia.65

Unsafe abortions may be induced by the woman herself, by non-medical persons or by health workers in unhygienic conditions. Women who undergo unsafe abortion face anxiety, and major social, financial and emotional costs. They also risk their lives. The most frequent complications are incomplete abortion, infection, haemorrhage and injury to the internal organs. Long-term health problems include chronic pain, pelvic inflammatory disease and infertility. The consequences of unsafe abortion also place great demands on the clinical and financial resources of hospitals.66 This burden of ill health on women, families and health care services is preventable.

Women often choose abortion when faced with an unwanted pregnancy. They may want to end a pregnancy because they are unable to afford the costs of having and raising a child; because they have no partner; because they fear their child may become infected with HIV; or because their pregnancy is the result of rape or incest. Unmarried girls may want to end a pregnancy because of the stigma associated with premarital sex in many cultures.

The role of the World Health Organization is to develop norms and standards and provide advice to Member States in order to strengthen the capacity of health systems. WHO has assisted governments, international agencies and non-governmental organizations to plan and deliver maternal health services, including managing complications of unsafe abortion and providing high-quality family planning services. At the Special Session of the United Nations General Assembly in June 1999, Governments agreed that “in circumstances where abortion is not against the law, health systems should train and equip health-service providers and should take other measures to ensure that such abortion is safe and accessible. Additional measures should be taken to safeguard women’s health.”67


Prevention and management of sexually transmitted infections

Control of STIs is one of the most effective interventions to reduce HIV transmission. It is easier for HIV to pass between sexual partners when another STI or other infection of the reproductive tract is present. The risk is much higher when there is an ulcer or sore. STIs have the same underlying risk factors as HIV. So efforts to prevent the spread of STIs help to prevent the spread of HIV, and the treatment of STI patients presents an opportunity to reach a group at high risk of HIV.

WHO have produced a very helpful document that discusses the management and control of STIs in detail.68

The incidence of STIs varies greatly, depending on patterns and networks of sexual behaviour, susceptibility to infection, and access to health care services. Women often have no symptoms when infected with gonorrhoea or chlamydia, which generally cause a discharge in men. STIs may result in acute or chronic pelvic inflammatory disease with subsequent risk of infertility or tubal pregnancy. They may also cause cervical cancer, miscarriages, stillbirths, low birth weight, prematurity, congenital syphilis and gonococcal eye infection in the newborn.

Many individuals with STI symptoms seek care outside formal health services. This may be because of shame, fear of discrimination, lack of availability of formal health services, cultural beliefs, unwelcoming attitudes of staff or because of inability to pay for the treatment. In many countries in Asia it is common to buy antibiotics from pharmacies, resulting in resistant organisms. In some settings there is great scope to use modern technology, including SMS via mobile phones, and the internet, as cost-effective ways to provide information and encourage STI care seeking.69

**Primary prevention** aims to change sexual behaviour. It includes the encouragement of safer sexual choices, such as abstinence, monogamy, non-penetrative sex and consistent use of condoms, and the provision of condoms. Secondary prevention aims to improve access to effective treatment for STIs, to encourage care-seeking behaviour, and to detect and treat asymptomatic and symptomatic infections early.

**Improving access to effective treatment**

The influence of traditional healers can be used to reinforce advice about condom use and reducing the number of sexual partners.

Acceptable and effective STI care needs to be available in a range of settings if it is to be accessible to different groups in the population, who have different needs and preferences. For example STI care integrated with maternal and child health, and family planning services, is important to enable women to have asymptomatic STIs detected, and to seek treatment for symptoms without fear of stigmatization. But men may not feel comfortable in such women-focused settings, so care for STIs should also be available at primary health care and hospital out-patient clinics. Youth may benefit from health care sessions offered in the evenings in an informal youth centre setting and may sometimes prefer to be able to see a doctor or nurse with one or more friends.
• When someone presents to a clinic with an STI it is important that they receive comprehensive care:
  • a correct diagnosis is made
  • effective treatment is provided
  • the patient is advised how to take the treatment and for how long
  • future risk taking behaviour by the patient is reduced or prevented
  • condoms are promoted and provided
  • sexual partners are told that they may have an STI and are appropriately treated

In some settings laboratory services may be available that allow blood tests for syphilis, and culture of swabs for gonorrhoea and chlamydia. New DNA tests enable diagnosis of STIs from urine or tampon specimens. Where such services are not available there may be a microscope that allows for simple observation for gonorrhoea (using a gram stain) or trichomonas. Simple serological testing for syphilis is recommended for case finding in pregnant women and screening of blood donors.

However often health care workers need to rely on syndromic management, where the choice of treatment depends on the particular pattern of signs and symptoms. Syndromic diagnosis avoids wrong diagnoses and ineffective treatment, can be learned by primary health workers and allows treatment of symptomatic patients in one visit. However it cannot assist in the management of asymptomatic infections and means that patients may take medicines for STIs that they do not have.

Specific choice of treatment will depend on local antibiotic sensitivity studies and availability of antibiotics. Whenever possible the choice of antibiotics should be consistent with national treatment protocols. For effective treatment to be possible health care workers need to be well trained in syndromic management, and antibiotics need to be appropriately ordered and stored. Patients need specific advice about how to take the treatment and for how long. As services and awareness improve expect a rapid increase in the amounts of antibiotics required.

**Prevention counselling**

When patients attend with an STI this is an opportunity to counsel them about the risk of HIV infection. If HIV testing is available this should be offered to them. Condoms need to be available in all clinics to offer to patients with STIs.

**Partner notification**

The aim is to:

• Treat all sexual partners (within the past three months, at least) of the STI patient
• Treat the partners for the same STI

This should be done in a way that maintains confidentiality and is not compulsory. Counseling and support should be available. Partners may be contacted through referral by the patient, the health care worker, or both.
Detecting and treating asymptomatic and symptomatic infections early

Detecting asymptomatic infections is not possible without laboratory diagnostic services. Community education and the chance to be seen in private by a female health worker who is non-judgmental will encourage women to attend for screening and treatment. The management of women who have been raped or sexually assaulted should include screening for STIs. Testing for syphilis, and treatment if required, should be a routine part of antenatal care.

STI prevention and management among women in sex work

Preventing and managing sexually transmitted infections among women in sex work presents particular difficulties. In every country there are men who pay for sex, and who carry STIs from one woman to another. But the extent to which this is acknowledged by authorities and the general public varies. The structures and dynamics of selling sex also vary greatly. In some settings, the sex industry is highly organised, relatively open, and predominantly venue based, in others it is more hidden, informal and street based. Not all women who sell or exchange sex for money or goods think of themselves as sex workers. In most settings the sale of sex is controlled by men, whether as owners and managers of brothels or as street pimps.

STIs are an occupational health problem for women who sell sex, and increase their vulnerability to infection with HIV. Frequent douching after sex also increases their risk. Street-based and younger sex workers are often more difficult to reach and tend to have higher rates of HIV than venue-based sex workers. High STI prevalence, (especially cervicitis due to Neisseria gonorrhoeae and Chlamydia trachomatis), has been observed among women in sex work in countries in the region. Most women with these infections, though, do not have symptoms, so they are unaware of their infection and do not seek treatment. Syndromic management treats only symptomatic cases, so a different approach is needed.

Clinical services which provide regular screening have reported increases in condom use and reductions in STI and HIV prevalence. But there are many barriers to women in sex work accessing care, including poverty and discrimination. Effective services have included a strong peer education and empowerment component, emphasize consistent condom use, provide effective treatment for both symptomatic and asymptomatic STIs, and begin to address larger social, economic and human rights issues that increase vulnerability and risk.

Periodic presumptive treatment (PPT) is an approach in which women in sex work are given an antibiotic such as azithromycin at intervals, for example, monthly, whether they have STI symptoms or not. Studies of PPT among women in sex work in the Philippines, Lao PDR and Bangladesh found that this approach was acceptable and achieved large and rapid reductions in prevalence of STIs. But the researchers noted that to maintain decreases in prevalence and risk behaviour, clinical services and behaviour change communications must also be improved. It is possible that the PPT approach could interfere with promotion of condom use, result in self-medication, increase resistance to antibiotics, distract from the need to invest in better and more accessible non-judgemental clinical services. Women in sex work need to be included in planning and implementing this approach and should know that PPT does not directly protect them against HIV infection. Antibiotic resistance should
be monitored. PPT should be introduced as a temporary measure while clinical services and behaviour change communications are being improved.\textsuperscript{32}

**Preventing HIV infection in children**

The document “Preventing HIV infection in mothers and children: A policy guide for Asia and the Pacific” provides a framework of interventions and advice for implementation.\textsuperscript{21} EngenderHealth have produced a valuable programming guide: HIV Prevention in Maternal Health Services.\textsuperscript{21,75}

The UN Interagency Task Team on Preventing HIV in Pregnant Women, Mothers and their Children promotes a four prong strategy approach for the prevention of HIV infection in infants and young children:

1. Primary prevention of HIV infection;
2. Prevention of unintended pregnancies among women living with HIV;
3. Prevention of HIV transmission from mothers living with HIV to their infants;
4. Care, treatment and support for mothers living with HIV, their children and families

**1. Primary prevention of HIV infection**

Preventing the spread of HIV between men and women protects children from becoming infected too, and from suffering the physical, emotional and social effects of the illness and death of their parents. The significance of primary prevention in preventing HIV infection in children was demonstrated in Thailand. The number of cases of paediatric HIV infection began to fall in 1997, a few years after successful condom promotion efforts caused a fall in HIV prevalence among young men, and before widespread PMTCT interventions were implemented.\textsuperscript{10}

It is especially important to prevent new infections late in pregnancy and during breastfeeding. There is evidence that pregnancy increases vulnerability to HIV.\textsuperscript{76} Vulnerability to HIV during pregnancy and the post-partum period depends on both likelihood of exposure to the virus, and biological susceptibility. If a man has unprotected sex with someone other than his pregnant partner during pregnancy-related abstinence he risks becoming infected with HIV and may be highly infectious when he resumes sex with his partner. A woman may remain uninfected for years despite having an infected sexual partner, but become infected when pregnancy increases her biological susceptibility. Pregnancy-related blood transfusions also increase risk of exposure to HIV. During pregnancy there are vascular, immunological, and hormonal changes that may increase susceptibility to HIV.

Viral load is the most significant predictor of risk of MTCT.\textsuperscript{77} Viral load peaks in the weeks after infection with HIV, and rises again when HIV has damaged the immune system and HIV-related disease develops. So the risk to the baby is highest: 1) when a woman becomes infected late in pregnancy or during breastfeeding, because the post-infection peak in viral load coincides with the times when MTCT is most likely, during labour and breastfeeding\textsuperscript{78}, and 2) when the mother has low immunity with low CD4 count and high viral load. The contribution of new maternal infections to HIV infection in children is especially significant in the early years of an epidemic when incidence is high relative to prevalence.\textsuperscript{83,79}
Preventing new maternal infections is also important because the uninfected children of HIV positive mothers have higher morbidity and mortality than the children of uninfected mothers in the same settings.80

Encouraging men to attend a couple antenatal clinic visit is an important intervention to protect women becoming infected with HIV during and after pregnancy. (see Appendix 3.)

2. Prevention of unintended pregnancies among women living with HIV

Improving access to family planning services for all women and couples has reproductive, maternal and child health benefits.

HIV positive women learn their status in varied ways. In the early years of the epidemic this is commonly when their child develops signs of HIV infection, or when they or their partner become ill. Marginalized women often learn their status when they are tested in prison or rehabilitation centres.81 They may not have had a child, be pregnant or breastfeeding, or have children already. They face varied challenges, but however they learn their status, most women will have reproductive concerns and need access to advice about the risk of MTCT, ways to reduce MTCT, and may want contraceptive advice.

Most contraceptive methods can be used by people living with HIV.82,83 Dual protection, against unintended pregnancy and against STIs including HIV, is recommended. Those methods that offer the best pregnancy prevention do not protect against STIs. Condoms used alone can also prevent both STIs and pregnancy if used correctly and consistently, but are associated with higher pregnancy rates than condoms used with another method.17 Hormonal methods may interact with certain drugs, e.g. Rifampicin, and possibly cause increased shedding of virus from the cervix. Douching is common, but is not an effective form of contraception and can increase susceptibility to STIs and HIV.84

Women who already have HIV-related illness have a high viral load, and a higher risk of MTCT, so, where HIV testing is not yet available, care for any woman with a chronic illness should include counselling and contraception if they want to avoid pregnancy.

As for all women and men, complex social, gender, family and cultural factors influence reproductive decision-making of HIV positive women and men.85 It is not surprising that there is much evidence that many HIV positive men and women continue to have a strong desire for children, especially when they have no children.86,87 In countries of high HIV prevalence, there is evidence that those unaware of their status and those that know they are positive continue to become pregnant. Reluctance to disclose their status to partners is a barrier to HIV positive women using contraception; when they do disclose they may have little control over their fertility. In poor communities often neither men nor women have much sense of control over their lives. Knowledge of HIV status and a single counselling session has not been found to increase uptake of contraception88,89, but with discussion and follow up pregnancy rates decrease.90 It is an important principle, although not always respected, that HIV positive people have the same right as others to decide when and whether to have children. When they first learn their status, HIV positive women may fear death and decide to avoid pregnancy. But later if they remain well, or are able to access treatment, they may decide they want a child. Many people wrongly believe that all babies
born to an HIV positive mother will be infected and die, creating pressure on HIV positive women not to conceive.

There is evidence that health workers have strong attitudes against HIV positive women becoming pregnant, resulting in women not disclosing their status and breaches of their rights. Reports of pressure from health care providers on HIV positive women to undergo sterilization and abortions are common. An evaluation of the Thai PMTCT programme found that 42 of 48 counsellors interviewed recommended sterilization to all HIV-positive women. Health workers often lack accurate knowledge about the risk of MTCT and ways to decrease the risk. They may wrongly believe that pregnancy is harmful to HIV positive women and be concerned that children will be orphaned. Inaccurate assessment of the risk to the baby may result in women choosing to terminate a wanted pregnancy. To prevent the common problems of coercion and inaccurate advice, training of health workers should include review of what is known about the reproductive needs and concerns of people living with HIV, thorough understanding of the right of everyone to live with a partner and found a family, and up to date advice about appropriate contraception.

Table 4. Summary table of community and health facility interventions for Prongs 1 and 2

<table>
<thead>
<tr>
<th>Community level interventions</th>
<th>Interventions that depend on knowledge of HIV status</th>
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</thead>
<tbody>
<tr>
<td><strong>Population level and targeted interventions that do not depend on HIV testing</strong></td>
<td><strong>Work with HIV positive peer support groups, community support groups and NGOs to provide continuum of prevention and care:</strong></td>
</tr>
</tbody>
</table>
| Participatory methods and communication campaign:  
• Increase acceptance of people living with HIV  
• Promote community resilience to HIV and sexual and injecting behaviour change  
• Promote planning for pregnancy  
• Encourage STI care-seeking  
• Encourage people to learn their HIV status  
• Increase awareness of MTCT; increased susceptibility during pregnancy and post-partum  
• Promote condom use during pregnancy, post-partum and lactation  
• Encourage attendance at ANC, including men  
• Promote avoidance of unintended pregnancy and uptake of contraception, respecting rights  
• Educate young women and men about sexuality and contraception and encourage use of services  
• Empower women and girls to negotiate safer sex and to access SRH and HIV/AIDS services  
• Promote exclusive breastfeeding to all mothers who breastfeed. |  
• Training in counselling skills and support for HIV positive men and women to adopt safer sexual and injecting behaviours  
• Provide information about MTCT of HIV and interventions to lower risk of MTCT to positive individuals, couples and peer support groups  
• Provide rights-based counselling about reproduction and referral to contraceptive services; encourage dual protection for HIV positive women and discordant couples |
| Establish or strengthen services:  
• Promote and distribute male and female condoms and lubricants  
• Establish VCT centres | |
### Health facility level interventions

<table>
<thead>
<tr>
<th>Where antenatal PMTCT testing and prophylaxis services not available</th>
<th>Where VCT and antenatal PMTCT testing and prophylaxis services available</th>
</tr>
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</table>
| **Strengthen accessibility, quality and links between SRH, MCH and HIV prevention services:**  
- Introduce as routine a “couple” ANC visit to discuss TB, STIs, HIV, promote safer sexual practices during pregnancy and breastfeeding and provide condoms  
- Improve detection and early treatment of STIs  
- Prevent and treat anaemia (and malaria) to minimize need for blood transfusion  
- Ensure safe blood supply; strict transfusion criteria, safe injection practice and universal precautions; active management 3rd stage of labour to minimise blood loss  
- Provide counselling, IEC materials [unprotected sex with others carries high risk of HIV to baby] and condoms for fathers after delivery or at post-natal visit  
- Provide female/male condoms to women after delivery  
- Strengthen access to family planning, ANC, delivery and PNC services for young women and marginalized women vulnerable to HIV, including outreach services and referral for VCT  
- Promote male-friendly SRH services  
- Protect, promote and support optimal breastfeeding including exclusive breastfeeding for women who do not know their status  
- Ensure counselling, emergency contraception and HIV post exposure prophylaxis for sexual assault survivors  
- Promote dual protection against pregnancy and HIV – provide male and female condoms and lubricants  
- Offer contraception advice and methods at routine PNC  
- Include services that address gender-based violence and offer counseling, emergency contraception and HIV post exposure prophylaxis to survivors of sexual assault  | **In addition to activities in the left hand column – develop protocols and train health staff to ensure:**  
- Pre and post-test prevention counselling for HIV negative women/couples to help them to stay negative and provide condoms and lubricants  
- Counselling for HIV discordant couples about prevention and provide condoms and lubricants  
- Advice for discordant couples if they are keen to conceive to minimise the risk of transmission to the HIV negative partner and baby – by advising about how to detect timing of ovulation so they need have unprotected intercourse only once each month, maximising chance of conception  
- Coercion is avoided in relation to contraception, sterilisation and termination of pregnancy for HIV positive women  
- Counselling and accurate information and support for HIV positive women/couples who want to avoid pregnancy; encourage dual protection  
- Post–partum counselling about contraception for HIV positive women/couples  
- Counselling and MTCT risk assessment to assist HIV positive women to make informed reproductive choices  
- Continuum of care for HIV infected women, her child, and family  
- Referral for women who test HIV positive to support groups/organisations |

#### Train midwives, doctors, MCH and FP workers and counsellors:
- Reduce HIV stigma and discrimination in health settings and promote confidential care and respect  
- Accurate risk of occupational exposure; needlestick protocol and PEP - address fears  
- Increase knowledge of HIV infection and PMTCT  
- Strengthen counselling skills – HIV prevention counselling, inc couple counselling, risk assessment, sex during pregnancy  
- Breastfeeding management skills  
- Ensure women with any chronic illness have access to counselling and contraceptive advice  
- Counsel wives and widows of HIV positive men and assist them if they want to avoid pregnancy  
- Where VCT is available, encourage learning of HIV status, provide advice about PMTCT to positive people and, if possible, refer positive pregnant women to PMTCT services elsewhere.
3. Prevention of HIV transmission from mothers living with HIV to their infants

Advances in preventing transmission of HIV from an HIV positive pregnant woman to her baby means that the risk can be reduced from an average 34% to less than 2%. Where prevalence of HIV infection is higher than 1% among women all pregnant women should routinely be offered VCT for HIV. Those who test positive, and women who already know they are HIV positive, should be offered:

- An effective anti-retroviral prophylaxis regimen
- Elective Caesarean section (if safe and feasible)
- HIV and infant feeding counselling to assist women to make a choice between exclusive breastfeeding or exclusive replacement feeding based on individual risk assessment, and follow up support [These guidelines are due to be updated soon]
- Counselling about termination of pregnancy (if legal, safe and appropriate)

This is a complex intervention so careful planning and preparation is needed before implementation. Requirements include:

- Commitment by leaders
- Well-functioning maternal and child health services
- Accessible and acceptable VCT services
- Quality and confidential testing facilities
- Sustainable supply of antiretroviral drugs in appropriate formulations
- Community acceptance of those infected and affected by HIV
- Health care workers trained in VCT, infant feeding counselling, and management of breastfeeding
- Resources for follow up care and support for infected mothers, babies and their families

It is important for PMTCT programs to be integrated with maternal and child health services, and other health and social welfare services. Vertical programs will not be sustainable – and may take resources from other aspects of MCH care services.

A PMTCT High Level Global Partners Forum was held in Abuja, Nigeria in December, 2005, organised by the global PMTCT Inter-Agency Task Team. Representatives of governments, multilateral agencies, development partners, research institutions, civil society and people living with HIV, assembled to take stock and accelerate action to prevent mother-to-child transmission of HIV.

The meeting recommended:

- Development, review and implementation of national scale up plans that include population-based targets, clear time lines, budgets and plans for monitoring and evaluation, appropriate to the stage and type of the epidemic;
- PMTCT interventions be integrated with maternal and child health services and links to other health and nutrition programmes strengthened, including sexual and reproductive health programmes and HIV prevention, care, support and treatment programmes;
- Governments prioritise and strengthen primary prevention and family planning as important components of PMTCT within the wider context of maternal and child health,
and other sexual and reproductive health services including HIV prevention services for women testing HIV negative and their partners;

- Decentralizing programmes, developing community mobilisation and other strategies that go beyond clinical settings to reach out to women who are not accessing antenatal care or who are not delivering in clinical settings;

- Engaging local communities and people living with HIV as key players in programme expansion and reduction of stigma and discrimination;

- Strategies that are anchored in the “Three Ones Principles”: one agreed AIDS action framework that provides the basis for coordinating the work of all partners, including civil society partners and the private sector; one national coordinating authority with a broad-based multisectoral mandate; and one agreed country-level monitoring and evaluation system.

4. Care, treatment and support for mothers living with HIV, their children and families

In the early years of establishing antenatal screening PMTCT programs there was little emphasis on follow up care support and treatment and many mothers were lost to follow up. The efforts of activists led to dramatic reductions in prices of antiretroviral drugs in the late 90s. The call by WHO in December 2003 to treat three million people with HIV by 2005 led to greatly increased funding for HIV treatment and increased availability. However many people living with HIV still lack access to treatment. Progress in treating children has been especially slow, but the need to treat children with HIV is now receiving increasing attention, and better paediatric formulations of antiretroviral drugs are becoming available. WHO has produced new guidelines for the treatment of HIV infection in adults and children.

Testing for HIV in the antenatal clinic is now seen as an opportunity to provide care, support and treatment to HIV infected women and their families, rather than simply as a chance to reduce the risk to the baby. Columbia University's MTCT-Plus Initiative was established in 2001 to provide HIV treatment and care to families in resource-poor settings. Its programs in several African countries and Thailand have been very effective. HIV positive mothers face many challenges and much is being learned about how to address them.

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<th>'Continuum of Care' for children in Cambodia</th>
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Through active networking, community-based organizations in Battambang province have identified the care and support needs of HIV-infected children, and integrated the children into the existing community services network. Community members meet regularly and learn from each other. Community representation at ‘Continuum of Care’ committee meetings, held at referral hospital level, has enhanced communication and strengthened relationships between health staff and the community. The meetings provide a forum for the community to advocate for services for affected children, and promote linkages of HIV-infected adults and children’s services. Care providers, village volunteers and NGO staff have received training on how to treat simple opportunistic infections, teach basic health care and support children’s adherence to ART. The team recommend that services for HIV-infected adults and their children need to be linked. Poor living conditions and a lack of nutritious food negatively affects children’s response to care and treatment. It is important to address the psychosocial issues of HIV affected children and their carers. Networks need to expand to encompass a holistic multi-sectoral response to this issue.

In Asia and the Pacific planners need to consider the appropriate mix of interventions in different settings, as well as strategies and mechanisms for their implementation, to take into account:

- the characteristics of women most likely to be vulnerable to HIV and the changing trends in pattern of spread of HIV
- the need to avoid potential adverse effects for individuals associated with antenatal screening PMTCT through appropriate preparation and training
- the importance of engaging men in prevention of HIV infection in children
- the fact that many HIV positive women learn their status when their child, their partner, or they themselves, develop HIV-related symptoms and signs; through testing at an STI clinic, rehabilitation centre, or prison; or when they attend a VCT centre
- the limited capacity of maternal and child health care systems in many countries in the region
- in countries with high child mortality rates deaths from HIV infection currently represent a very small proportion of all children’s deaths

**Step 4. Strengthen capacity of health care systems to support integration**

A new guide to achieving reproductive health goals from WHO provides useful advice to policy makers about detailed actions for implementation at the policy and programme level in relation to:

- Strengthening health system capacity
- Improving information for priority-setting
- Mobilizing political will
- Creating supportive legislative and regulatory frameworks
- Strengthening monitoring, evaluation and accountability

Strengthening of integration and referral linkages will often be occurring in the context of decentralisation of the planning, management and funding of health services and programs. Advocacy and policy guidelines from national level play an essential role because the preventive and health promotion aspects of sexual, reproductive, adolescent and maternal health are rarely considered to be priorities.

Weak health care systems and lack of government investment in health usually present the greatest barrier. Achieving well integrated services and referral linkages requires attention to:

- training
- supervision and support
- strengthened supply systems
- communication programs
- modifications to health information system
monitoring and evaluation

IPPF have produced a medical and service delivery guide for programme planners and managers, clinical services providers, and trainers and supervisors of clinical and community-based services. This can be used as a guide for the delivery of services a reference document for assessing quality of care, a training instrument and as a tool for supervision.

The World Bank Strategy for Health, Nutrition, and Population in the East Asia and Pacific Region has useful advice about the enhancement of performance of health care systems, sustainable health care financing and emphasises the importance of improving health outcomes for the poor.

Training, support and supervision

Health care workers are the key to successful integration of services, but they will need new skills, new knowledge and much support.

It is important to allocate time to careful planning to meet their new needs for training. Both pre-service and in-service curricula will need to be reviewed. Review of training needs to be considered at the same time as reviewing the roles and accreditation of health care workers at different levels of the health care system. There is often a need to clarify what training has already been conducted within a variety of government and non-government programs and projects.

Although specific technical knowledge and skills are needed in relation to antenatal care, family planning provision, and the detection and management of RTIs and STIs, there are also general skills that will bring great benefits in interactions with all patients and clients. Communication skills that enable health care workers to put patients at ease, to discuss sensitive topics with confidence, and to treat people with respect and dignity, help health care workers to enjoy their work and obtain greater job satisfaction. They need to be helped to develop an understanding of the importance of confidentiality and arranging privacy when discussing sexual and reproductive health issues. They need to understand the importance of the role they can play in encouraging young people, men and vulnerable groups to make use of reproductive health care services. Training should also include clarification of values, understanding of a rights-based approach, and sensitivity to address gender-based violence. The chance to learn and practice non-judgemental counselling skills through role-play will enable them to assist their clients in decision-making, risk assessment, and personal behavioural options, and to identify those requiring further emotional support. There are many useful participatory tools and exercises to achieve these aims.
The competency-based training approach helps to ensure that learning generates new knowledge and skills that relate to real workplace needs. This approach can build competency and confidence because participants know what level of performance is expected, how knowledge and skills will be evaluated, that progression through training is self-paced, and that there are opportunities for practice until mastery is achieved. But it is important to have consistency between training curriculum topics, training modules, training manuals and reference materials, standard management guidelines and protocols, competency standards, and supervisory assessment tools.

There is evidence that stigma and discrimination are common in health care settings. They present a major barrier to people seeking and receiving the health care services they need. Health professionals have the potential both to generate and dispel stigma. Their own fears of occupational exposure need to be addressed. They need to know the evidence that the risk is extremely low. They need access to protective equipment such as gloves and masks, display of Universal Precautions, and protocols for reporting needlestick incidents and receiving post-exposure prophylaxis.
A further challenge is that new evidence and experience results in rapidly changing international policy and technical guidelines and recommendations. This complicates the training and supervision of health staff and can result in confusion, uncertainty and reluctance to engage in new or unfamiliar activities. Training needs to include the reality that knowledge changes rapidly so there is a need to keep up to date and expect change. The increased availability of modern information technology will assist in dissemination of new information, but requires computer literacy.

The Family Health International Network newsletter issue on “Integrating Services” has a chart summarising these challenges and useful advice.

Financing

The funding implications of strengthening sexual, reproductive, youth, maternal and newborn health services need to be carefully assessed. Sometimes lessons can be learned from piloting a comprehensive approach in a single site, but this may be misleading and even successful pilots often fail to be scaled up. The affordability of the programme, financial sustainability, and the possibility of cost recovery can all be assessed.

WHO identify three essential aspects of health financing that need to be considered in adapting the Global Reproductive Health Strategy at the country level: 1) resource mobilisation, 2) resource-pooling and 3) purchasing. Resources for health care at the global level have risen substantially. But these are being directed largely towards HIV prevention and care activities. It is important that this does divert external resources from other aspects of sexual and reproductive health. It is important to try to ensure that HIV prevention and care activities also contribute to promotion of general sexual and reproductive health. Community-based financing schemes may not cover controversial or sensitive aspects, such as family planning and may exclude single people, adolescents, or people marginalised by migration, poverty, disability, ethnicity or sexual orientation. User fees or ‘out of pocket’ payments are common in this region. They have a great impact on the...
lives of the poorest and have the potential to increase poverty.\textsuperscript{106} It is important to collect data at national and sub-national level on health expenditure patterns, including on sexual and reproductive health. This can be used to advocate for national allocation of funding.

Cost-effectiveness analyses often determine which services are available under resource-pooling or health insurance schemes. Women may be at a disadvantage when health insurance is linked to employment. The methods used in cost-effectiveness analyses often undervalue many sexual and reproductive health needs. In assessing the cost-benefits, the short- and long-term costs of morbidity and mortality avoided should also be taken into account. The costing of interventions requires specialized personnel, and the use of technical assistance should be considered here.

**Health personnel management**

Recruitment and retention, pre and in service training, supervision and support, accreditation and career development

Human resources represent the most critical constraint in achieving the Millennium Development Goals. Health care is labour intensive, and the cost of labour accounts for a high proportion of total costs (often 75\% or more). Planning needs to consider the number, skills and distribution of health personnel for meeting population health needs, and the political implications, values and choices given limited resources. A recent paper by Dreesch et al provides advice about how to plan to meet human resource needs.\textsuperscript{107}

In order to increase access for groups that often do not use SRH or MCH services it is likely to be necessary to have flexible clinic hours, with services available one or two evenings a week, and at the weekend. This will require more staff, and a recognition that because of low pay many health care providers conduct private practice that may make them reluctant to change their working hours. WHO have produced excellent guidelines on the management of nurses and midwives for the South and South East Asia region, which include important advice in relation to integration on change management\textsuperscript{2}.\textsuperscript{108}

Further useful tools and guidelines on personnel management issues can be accessed at: http://www.who.int/management/resources/staff/en/index1.html

**Prevention of transmission of HIV in health care settings**

If proper precautions are not taken HIV, and other blood borne viruses, may spread from one patient to another, from a patient to a health care worker, or from a health care worker to a patient. Fortunately HIV does not spread casually. This means that there is no need for isolation practices or “barrier nursing” of HIV infected patients, unless they have a contagious opportunistic infection such as infectious diarrhoea.

It is natural for health care workers to worry that they may become infected with HIV from their patients. This can result in stigmatising behaviour causing distress and often causing people living with HIV to avoid seeking care.\textsuperscript{81} Health staff need clear information about findings from studies of the risk of transmission in health care settings and the factors that
increase risk. The risk of occupational transmission of HIV depends on the prevalence of HIV in the patient population, the chance of becoming infected after a single exposure, and the type and number of exposures. HIV can be found in blood, semen, vaginal and cervical secretions, urine and faeces, wound secretions, saliva, tears, breastmilk and other fluids inside the body. But blood is the only fluid that has been associated with transmission in the health care setting.

Health care workers worry about needlestick injuries, cuts, getting blood on sores or broken skin, and blood splashes in the eye or mouth. Reassuringly their risk of infection with HIV through their work is extremely low. Analysis of results from 21 studies in developed countries and Brazil showed a 0.25% risk of infection (1 in 400) after a needlestick injury from an infected patient\textsuperscript{109}. The average risk after a mucous membrane exposure (e.g. eye splashes) was only 0.09%. When researchers analysed 200 incident reports from hospital workers in Thailand who had occupational exposure to HIV-infected blood and body fluids during 1991-1997, none of the workers had become infected with HIV\textsuperscript{110}.

When universal precautions are not in place needlestick incidents and blood splashes are common. This highlights the need for guidelines, training, sharps containers and supplies of gloves. The term “Universal precautions” (or ‘Standard precautions’) means they must be followed with everyone, not just patients known to be infected with HIV. It is not possible to know which patients may be infected with HIV or other blood borne viruses, so it is essential to adopt the same precautions with all patients.

Guidelines for Universal precautions and advice for training of health care workers and monitoring are available in the publication: Joint ILO/WHO Guidelines on health services and HIV/AIDS. ILO, WHO 2005.\textsuperscript{12}

**Supply management systems**

Effective integration of sexual and reproductive health with maternal and newborn health and HIV prevention and care requires continuity of supplies of contraceptives, HIV test kits,
pregnancy test kits, male and female condoms, and lubricants, antiretroviral drugs, antibiotics for STI treatment, and drugs to prevent and treat opportunistic infections.

It is essential to build national logistics capacity. This is an often underestimated element of the local supply-chain management process. It focuses on the planning, implementation and control of an efficient, effective flow and storage of supplies and services from the port of entry to the final destination in the receiving country. Unfortunately this is readily undermined when vertical donor funded projects establish separate logistics systems. There is a danger that this may happen as a result of the urgency of distributing antiretroviral drugs and HIV diagnostic tests. Advocacy is needed to ensure that additional funds for these programs strengthen the capacity of national systems to support supply management for comprehensive integrated services, including treatment for people living with HIV.

The interagency list of essential medicines for reproductive health
Reproductive health medicines are essential to the provision of quality reproductive health services. Rational selection is a vital component to ensure improved access to these medicines, followed by efficient procurement, logistic systems and rational use, which are equally important. Essential medicines for reproductive health include contraceptives, medicines for prevention and treatment of sexually transmitted infections and HIV, and medicines to ensure healthy pregnancy and delivery. The Interagency List of Essential Medicines for Reproductive Health has been revised in 2006 and presents the current international consensus on rational selection of essential reproductive health medicines. The list is intended to support decisions regarding the production, quality assurance, national procurement and reimbursement schemes of these medicines.

Advice and support for strengthening the supply management system can be obtained from UNICEF at www.unicef.org/supply/index_26076.html.

The International Dispensary Foundation, an independent not-for-profit organization, provides high quality essential drugs and medical supplies at low prices to the not-for-profit healthcare sector in developing countries, and offers consultancy and training on topics related to pharmaceutical supply management. [http://www.idafoundation.org/en%2DUS/]

Health information system

Integration has implications for health information systems (HIS). Program managers need consultation data to guide the planning and progress of integration and monitor the strength of referral mechanisms and community links. The need to record, report and analyse more consultation data can increase the workload of health care workers and officials. But increased attention to data collection processes as part of the integration process can streamline HIS and improve the quality and use of the data collected.

Integration will require new indicators to cover the delivery of new services, and referrals to other health, welfare or support services. The system should be simple and representative. A recording system that tries to capture all services provided in a consultation and all outcomes will overburden health care workers. Recording and reporting should focus on key services and outcomes that indicate the coverage and uptake of services, and the quality of service. The first question to consider when selecting indicators should be “How will the information be used?” The burden of data recording and reporting, ease of analysis, interpretation and feedback all need to be considered.
An important aim of integration is to reach more people at risk of reproductive health problems, including HIV infection. To enable monitoring of progress in providing a service that is friendly to the needs of youth, single people and people who inject drugs the HIS should record these variables. Health workers often fail to ask clients and patients about risk factors such as injecting drug use. Routine recording of this data may make it more likely that these questions are included in the consultation. Because of the importance to HIV prevention of reaching marginalised and vulnerable groups it is important to link outreach contact data with facility consultation data.

Decentralisation of the planning, management and funding of health services and programs has sometimes meant that less attention is paid to recording, reporting and use of data. The HIS may be viewed as part of an unwelcome ‘policing’ role from a central level. There may be local modifications affecting consistency of data collection and analysis. These problems can be reduced by simplifying systems and providing adequate training and support to health staff. Local analysis of their data is also a key to recognition of the value of data collection and compliance with HIS. This will be an important consideration where staff in integrated centres are encountering new issues.

Choice of key indicators for STI services will depend on the approach to detection and management of STIs.

In services that provide contraception advice and methods it is important to record numbers of clients offered dual protection. The indicator “new acceptors”, sometimes used in family planning services, often counts the same individual several times, overestimating program coverage.

The number of clients or patients offered information and testing for HIV should be recorded. Although it is useful to be able to follow trends over time in acceptance of HIV testing, health care workers and counsellors should not feel that they are being evaluated by the number of clients that they ‘persuade’ to have an HIV test.

Documenting antenatal care coverage requires discussion. Reporting number of first visits provides a measure of access but does not provide information about the proportion of HIV positive women who could benefit from antiretroviral prophylaxis, who need to attend several visits. Experience suggests that the use of complicated algorithms to determine ‘complete antenatal care’ (using a combination of numbers, timing, and content of visits) is rarely effective. Periodic evaluation through interviews with women about coverage, quality and satisfaction with services is more useful.

A review of achievements and missed opportunities in relation to antenatal care has a useful discussion of how access, use and quality can be measured.\textsuperscript{[112]}
Trialling a client ledger format in the antenatal clinic

The AusAID supported “Healthy Mothers Healthy Babies” project in Eastern Indonesia introduced a change from the common daily ledger format to a more functional client ledger format. In the daily ledger format staff list the visits and services delivered chronologically. In a client ledger, kept in a register book with lines and columns, staff list initial and follow up visits for each pregnant woman, noting the date that each service was delivered. This can be name or identity number based. The change required careful training and follow up support and supervision. The midwives initially complained that they were confused, but with support they appreciated the benefits. Use of the client ledger resulted in a change in staff attitudes to focus on client needs, rather than simply tallying workload. A simple tally system was developed to allow them to note how many women had received a full complement of services through a daily/weekly/monthly summary sheet.

Monitoring and evaluation

Commitment to an integrated and comprehensive approach to tackling poor sexual and reproductive health, including minimising the impact on women’s and children’s survival of the spread of HIV and STIs, means having a commitment to integrated monitoring and evaluation. Just as the planning for integration needs to take into account existing relevant plans, such as a national HIV prevention and care strategic plan, so the monitoring and evaluation plan should be developed in consultation with the HIV monitoring and evaluation technical advisory group if one exists in the country, and with other relevant monitoring and evaluation groups in relation to Safe Motherhood and sexual and reproductive health programs.

There is a need to monitor progress at several levels, and the needs for data will be different at different levels. UN Member States have made international commitments that are monitored against a set of core indicators for which national targets are being set. In the new document “Setting National Targets for Moving Towards Universal Access” UNAIDS urges that reporting on progress towards targets should occur within existing country-level monitoring mechanisms and information sources, as countries should measure their own progress and address problem areas that may be identified. A recent report from the Global AIDS Monitoring and Evaluation Team summarizes recent progress and challenges in meeting the “Third One” – One national Monitoring and Evaluation System.  

The seven core HIV prevention and treatment indicators:

Treatment:
1. Percentage of women, men and children with advanced HIV infection who are receiving antiretroviral combination therapy;
Care and support:
2. Percentage of orphaned or vulnerable children (boy/girl) aged under 18 living in households whose household have received a basic external support package;
Prevention:
3. Coverage of preventing mother-to-child transmission;
4. Coverage of HIV testing and counselling;
5. Number of condoms distributed annually by public and private sector
6. Percentage of young men and women who have had sex before age 15;
National Commitment
7. Amount of national funds disbursed by governments in low and middle income countries.

These indicators require data collection at peripheral levels as well as central level, but the data then needs to be collated, analysed and presented at national level and at international level by UNAIDS. The needs for evaluation of progress in integration at peripheral levels will be different. The aims of monitoring and evaluation at this level are likely to include:

- assess the extent and manner of implementation of the integration plan
- assess the impact of integration activities, including unanticipated benefits or adverse consequences
- assess sustainability
- identify constraints and solutions
- analyse how changes in the wider context have influenced the integration process
- describe how management and administrative issues have influenced integration
- use the findings to inform modifications to planning and implementation

It is easy for monitoring and evaluation to seem a specialised and obscure topic. National and sub-national program managers can feel obliged to collect data for many indicators. But if local staff are to be motivated to collect, analyse and, most importantly, make use of data to improve their services it is important to involve them in planning for monitoring and evaluation. Choice of indicators should be determined by specific national and local objectives, which in turn should be identified through local consultation. Qualitative methods such as in-depth interviews, observation and focus group discussions are important to describe qualitative indicators that complement quantitative indicators. For example they are important to capture satisfaction of marginalised clients or young people with services, and the effect of integration on job satisfaction of staff.

Multiple vertical programs are a challenge to monitor and evaluate, and the validity and usefulness of data collected is likely to be reduced. When health service administration is decentralised it is especially important that the process of monitoring and evaluation should be manageable. Information is expensive. This means that the number of indicators chosen to chart progress should be minimised. Methods needed to collect the data should be feasible. It is important when choosing indicators to remember that it is not possible to measure an increase or a decrease in an indicator if there is no reliable baseline data available. Indicators should be selected that will capture more than one beneficial outcome – such as ‘rate of exclusive breastfeeding at 4 months’* – which influences newborn, infant and child health, maternal health, and reduces the risk of MTCT at population level when HIV status is not known. The commitment to equity and the need to reach those key populations most vulnerable to HIV infection makes it important for indicators to measure improvements in access of the poorest and more marginalised members of the population. These are called equity indicators. For example; ‘reduce neonatal mortality amongst the poorest quintile of the population by two-thirds.’ This is also important because it usually requires less investment to improve services for people in better off central areas than in poorer and more isolated rural areas.

* WHO recommend exclusive breastfeeding for 6 months; 4 months is suggested for the indicator because few babies are exclusively breastfed for 4 months and this will allow trends to be measured
There are many general and specific resources to assist in planning for monitoring and evaluation and lists of indicators available for a variety of relevant program areas. IPPF has produced a useful tool to assist in capturing the views of young people about different aspects of sexual and reproductive health services. Table 5. provides some examples of relevant indicators and methods for measuring or describing them.

In the UN Member States committed to significantly scale up their AIDS response in the bid to achieving the goal of universal access to HIV prevention, treatment, care and support by 2010. Countries such as Cambodia, India, Philippines, Nepal and Thailand have already agreed on targets. They have set targets in relation to prevention, treatment and care and support, and assessed the resources needed to achieve the new targets. Bangladesh, Indonesia, China, Laos, Viet Nam, Myanmar and Sri Lanka are reported to be making progress but at a slower rate.

Countries in Asia and the Pacific have made commitments to ensure that civil society is involved in the process of setting targets. that it should be driven by local realities and should include all stakeholders Harmonizing the target setting process with ongoing planning processes is definitely a challenge.

UNAIDS is currently assisting countries to set ambitious but feasible targets towards achieving the goal of universal access to HIV prevention, treatment, care and support by 2010.

Table 5. Some examples of relevant indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Method of measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neonatal mortality rate</td>
<td>Cluster sample household survey</td>
</tr>
<tr>
<td>Skilled attendant at delivery</td>
<td>Survey and review of health facility / midwife records</td>
</tr>
<tr>
<td>Birthweight &lt; 2500 gms</td>
<td>Midwife records</td>
</tr>
<tr>
<td>Proportion of mothers of babies over four months who exclusively breastfed for at least four months*</td>
<td>Survey</td>
</tr>
<tr>
<td>Proportion of pregnant women from the poorest quintile attending for ante-natal care</td>
<td>Survey</td>
</tr>
<tr>
<td>Proportion of partners attending at least one ANC visit</td>
<td>Survey / review of clinic attendance records</td>
</tr>
<tr>
<td>Proportion of women who deliver in a health care facility provided with female condoms before going home</td>
<td>Review of health records</td>
</tr>
<tr>
<td>Increase in community knowledge about PTCT</td>
<td>Survey results compared to baseline/ focus group discussion findings</td>
</tr>
<tr>
<td>Proportion of health care workers trained in HIV and infant feeding counseling</td>
<td>Review of training records</td>
</tr>
<tr>
<td>Transfusion criteria documented and disseminated to relevant health personnel</td>
<td>Review of documents</td>
</tr>
<tr>
<td>Universal precautions guidelines displayed in health care settings and available to home-based care volunteers</td>
<td>Observation</td>
</tr>
<tr>
<td>Satisfaction of HIV infected patients that they are being treated in a non-discriminatory way</td>
<td>Focus group discussions with group of people living with HIV</td>
</tr>
<tr>
<td>Management protocol for needlestick incidents available and post-exposure prophylaxis available</td>
<td>Observation</td>
</tr>
<tr>
<td>Proportion of supervisors/ senior staff aware of management protocol for needlestick incidents</td>
<td>Interview survey of supervisors / senior staff</td>
</tr>
<tr>
<td>Number of sub-district elevel health care providers trained in diagnosis of HIV infection in children</td>
<td>Review of records</td>
</tr>
<tr>
<td>Satisfaction of health care staff with support available</td>
<td>FGDs with staff, interviews with supervisors</td>
</tr>
<tr>
<td>Indicator</td>
<td>Method of measurement</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Proportion of women seen for post-abortion care who receive counseling about HIV, STIs and family planning</td>
<td>Review of clinic records</td>
</tr>
<tr>
<td>Proportion of STI patients who receive counselling (by age and sex)</td>
<td>Review of clinic records</td>
</tr>
<tr>
<td>Attendance at VCT services (by age, sex and socio-economic group)</td>
<td>Review of VCT service records</td>
</tr>
<tr>
<td>Satisfaction of clients with quality of counseling</td>
<td>Interviews with a sample of (consenting) clients – use checklist to see whether points have been covered. Ask about level of satisfaction with the counseling</td>
</tr>
<tr>
<td>Satisfaction of counselors with level of support</td>
<td>Regular discussions with 1) counselors and 2) supervisors using a checklist</td>
</tr>
<tr>
<td>Quality control system established for HIV tests</td>
<td>Observation and review of documents</td>
</tr>
<tr>
<td>Increase in use of condoms with last sexual intercourse (with regular partner / with non-regular partner), among specified groups</td>
<td>Survey among specified groups</td>
</tr>
<tr>
<td>Increase in knowledge of people who inject drugs in relation to STIs, symptoms and care-seeking</td>
<td>Survey</td>
</tr>
<tr>
<td>Proportion of STI patients who receive condoms by age and sex</td>
<td>Review of clinic records</td>
</tr>
<tr>
<td>Reduction in prevalence of STIs among pregnant women</td>
<td>Survey of ANC attenders (with genital examination and swabs or urine specimens for PCR testing if available.)</td>
</tr>
<tr>
<td>Protocols available for psychosocial and medical care of survivors of sexual violence.</td>
<td>Observation Review of protocols</td>
</tr>
<tr>
<td>Proportion of reports of sexual violence that result in a penalty for the perpetrator</td>
<td>Will depends on circumstances – definition of ‘penalty’ etc</td>
</tr>
<tr>
<td>Changes in attitudes and practices as described by different groups within the community</td>
<td>Participatory processes</td>
</tr>
<tr>
<td>Satisfaction of young people with services</td>
<td>IPPF survey tool for young people[1]</td>
</tr>
</tbody>
</table>
### Appendix 1. Glossary of terms

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquired immunodeficiency syndrome (AIDS)</td>
<td>A: Acquired, (not inherited) to differentiate from a genetic or inherited condition that causes immune dysfunction. I: Immuno-, because it attacks the immune system and increases susceptibility to infection. D: Deficiency of certain white blood cells in the immune system. S: Syndrome, meaning a group of symptoms or illnesses as a result of the HIV infection. AIDS is the most advanced stage of HIV infection.</td>
</tr>
<tr>
<td>Adherence</td>
<td>Compliance with a drug regimen, as in taking medications correctly and on time.</td>
</tr>
<tr>
<td>ANC</td>
<td>Antenatal care</td>
</tr>
<tr>
<td>Antibiotic</td>
<td>A medicine that kills infection-causing organisms.</td>
</tr>
<tr>
<td>Antibody</td>
<td>Protein molecule produced in the blood by white blood cells in response to the presence of foreign or invading substances. HIV antibody: A substance produced by certain white blood cells in reaction to contact with HIV, the human immunodeficiency virus.</td>
</tr>
<tr>
<td>Antiretroviral prophylaxis (ARVP) for PMTCT</td>
<td>Short-term use of antiretroviral drugs to reduce HIV transmission from mother to infant.</td>
</tr>
<tr>
<td>Antiretroviral treatment (ART)</td>
<td>Long-term use of antiretroviral drugs to treat HIV and prevent MTCT.</td>
</tr>
<tr>
<td>Asymptomatic</td>
<td>Without symptoms of illness or disease.</td>
</tr>
<tr>
<td>Breastmilk substitute</td>
<td>Any food being marketed or otherwise represented as a partial or total replacement for breastmilk, whether or not suitable for that purpose. A breastmilk substitute can be commercial infant formula or home-modified animal milk.</td>
</tr>
<tr>
<td>CD4 cells</td>
<td>T-lymphocyte cells (white blood cells) in the immune system involved in protection against infections. When HIV actively multiplies, it infects and kills CD4 cells.</td>
</tr>
<tr>
<td>CD4 count</td>
<td>A test that measures the number of CD4 cells in the blood, thus reflecting the state of the immune system. A normal count in a healthy adult is 600–1200 cells/mm³. When the CD4 count of an adult falls below 200 cells/mm³, there is a high risk of opportunistic infection.</td>
</tr>
<tr>
<td>Commercial infant formula</td>
<td>Breastmilk substitute formulated industrially to satisfy the nutritional requirements of infants during the first months of life up to the introduction of complementary foods.</td>
</tr>
<tr>
<td>Complementary food</td>
<td>Any food, whether manufactured or locally prepared, used as a complement to breastmilk or to a breast-milk substitute. In general, complementary foods should not start before the age of 6 months.</td>
</tr>
<tr>
<td>Contraception</td>
<td>Contraception means an intervention to prevent conception or pregnancy. Methods of contraception include barrier methods such as the male and female condom and diaphragm, hormonal methods such as the oral contraceptive Pill, implants and injections, and intra-uterine devices.</td>
</tr>
<tr>
<td>Counselling</td>
<td>The confidential dialogue between individuals and their care providers. The term counselling can refer to discussions between healthcare workers and clients/patients specific to HIV testing to help clients examine their risk of acquiring or transmitting HIV infection, and prepare for a positive result. Discussions between a health care worker and client/patient related to nutrition is called 'nutrition counselling'.</td>
</tr>
<tr>
<td>DNA PCR</td>
<td>HIV DNA polymerase chain reaction (PCR) is a laboratory test to detect the presence of the virus in the blood. It is used for diagnosis of the infant less than 18 months.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>------</td>
<td>------------</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>Frequent loose and watery bowel movements often caused by viruses, bacteria, parasites, and drug use. People with HIV commonly develop diarrhoea, which can lead to wasting.</td>
</tr>
<tr>
<td>Disclosure</td>
<td>Sharing of HIV status with others. Most people believe that disclosure of HIV infection should be encouraged. Yet many people infected with HIV avoid disclosing their HIV status for fear that doing so will subject them to unfair treatment and stigma. Benefits of disclosure include: encouraging partner(s) to be HIV tested; preventing the spread of HIV to partner(s); and receiving support from partner, family, and/or friend.</td>
</tr>
<tr>
<td>Discrimination</td>
<td>An act or behaviour based on prejudice. Discrimination is a way of expressing, either on purpose or inadvertently, stigmatising thoughts.</td>
</tr>
<tr>
<td>Epidemic</td>
<td>A disease affecting or tending to affect a disproportionally large number of individuals within a population, community, or region at the same time.</td>
</tr>
<tr>
<td>Exclusive breastfeeding</td>
<td>Providing breastmilk only (including expressed breastmilk), and no other food or drink, including water. The only exceptions are drops or syrups consisting of vitamins, mineral supplements, or medicines.</td>
</tr>
<tr>
<td>Female condom</td>
<td>A plastic sheath that is put inside the vagina before sex to protect against pregnancy and STIs, including HIV.</td>
</tr>
<tr>
<td>Fixed dose combination (FDC)</td>
<td>Two or more drugs are combined together in one pill, capsule or tablet.</td>
</tr>
<tr>
<td>Gender</td>
<td>This refers to the attributes and opportunities associated with being male and female; these may be economic, social, political and cultural. The social definitions of what it means to be female or male vary among cultures and change over time.</td>
</tr>
<tr>
<td>Highly Active Antiretroviral Therapy (HAART)</td>
<td>The use of at least three antiretroviral drugs in combination to suppress viral replication and progression of HIV disease by reducing the viral load to undetectable levels. HAART is often abbreviated to ART.</td>
</tr>
<tr>
<td>HIV-negative</td>
<td>Showing no evidence of infection with HIV in blood test or tissue test. An HIV-negative person can be infected if he or she is in the “window period” between exposure and the production of detectable HIV antibodies.</td>
</tr>
<tr>
<td>HIV-positive</td>
<td>Showing indications of infection with HIV on a test of blood or tissue.</td>
</tr>
<tr>
<td>HIV rapid test</td>
<td>A simple test for detecting HIV antibodies in blood or other body fluids that produces results in less than 30 minutes.</td>
</tr>
<tr>
<td>HIS</td>
<td>Health Information System. The system for routine collection, analysis and use of information in health care facilities.</td>
</tr>
<tr>
<td>Human immuno-deficiency virus (HIV)</td>
<td>Stands for human immunodeficiency virus, the virus that causes AIDS. HIV breaks down the body’s defence against infection and disease - the body’s immune system - by infecting specific white blood cells, leading to a weakened immune system. It is transmitted through blood, blood products, semen, vaginal fluids, and breastmilk.</td>
</tr>
<tr>
<td>Immune system</td>
<td>The defence system that works to protect the body from potentially harmful, infectious micro-organisms, such as bacteria, viruses and fungi.</td>
</tr>
<tr>
<td>Immuno-compromised</td>
<td>Having a weak or damaged immune system as measured by a low CD4 count. Also, see Immunosuppressed.</td>
</tr>
<tr>
<td>Immuno-suppressed</td>
<td>When the body’s immune function is damaged and incapable of performing its normal functions. Immuno-suppression may occur due to certain drugs (e.g., in chemotherapy) or because of certain diseases such as HIV infection.</td>
</tr>
<tr>
<td>Lymphocyte</td>
<td>A small white blood cell that plays a large role in defending the body against disease. Lymphocytes are responsible for immune responses. There are two main types of lymphocytes: B cells and T cells.</td>
</tr>
<tr>
<td>MCH</td>
<td>Maternal and child health</td>
</tr>
<tr>
<td>Medication adherence</td>
<td>Taking medicine exactly as recommended by a healthcare provider without missing doses.</td>
</tr>
<tr>
<td>MoH</td>
<td>Ministry of Health</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
<td>----------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Monitoring</td>
<td>The systematic and continuous assessment of the progress of an intervention or program over time.</td>
</tr>
<tr>
<td>Mother-to-child transmission (MTCT) of HIV</td>
<td>Transmission of HIV from a woman infected with HIV to her child during pregnancy, childbirth, and breastfeeding. Also referred to as vertical transmission or perinatal transmission. In many countries, the term “Prevention of Parent-to-Child Transmission” (PPTCT) is preferred over “Prevention of Mother-to-Child Transmission” (PMTCT) to acknowledge the role of men in HIV infection in children and to avoid stigmatising women.</td>
</tr>
<tr>
<td>NVP</td>
<td>Nevirapine</td>
</tr>
<tr>
<td>NGO</td>
<td>Non-government organisation</td>
</tr>
<tr>
<td>Non-nucleoside reverse transcriptase inhibitor (NNRTI)</td>
<td>An antiviral drug used against HIV; binds directly to reverse transcriptase and prevents RNA conversion to DNA; often used in combination with other drugs.</td>
</tr>
<tr>
<td>Nucleoside reverse transcriptase inhibitor (NRTI)</td>
<td>An antiviral drug used against HIV; is incorporated into the DNA of the virus and stops the building process; results in incomplete DNA that cannot create a new virus; often used in combination with other drugs.</td>
</tr>
<tr>
<td>Opportunistic infection (OI)</td>
<td>A disease caused by a micro organism that ‘takes the opportunity’ to cause infection when the immune system is weakened, and may cause serious disease</td>
</tr>
<tr>
<td>Palliative</td>
<td>A treatment that provides symptomatic relief but not a cure. Palliative care is an approach to life-threatening chronic illnesses, especially at the end of life.</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother-to-Child Transmission of HIV.</td>
</tr>
<tr>
<td>PNC</td>
<td>Postnatal care</td>
</tr>
<tr>
<td>PPT</td>
<td>Periodic presumptive treatment. This means that an antibiotic is given regularly to someone (such as a sex worker) in case they might have an STI, rather than treating after diagnosis, because in many settings it is difficult to diagnose STIs.</td>
</tr>
<tr>
<td>PPTCT</td>
<td>Prevention of Parent-to-Child Transmission of HIV. In many countries, this term is preferred over “Prevention of Mother-to-Child Transmission” (PMTCT) to acknowledge the role of men in HIV infection in children and to avoid stigmatising women.</td>
</tr>
<tr>
<td>Pneumocystis jiroveci pneumonia (PCP)</td>
<td>A severe, life-threatening lung infection that causes fever, dry cough, and difficulty breathing (previously pneumocystis carinii pneumonia).</td>
</tr>
<tr>
<td>Polymerase Chain Reaction (PCR)</td>
<td>A viral assay (test) that detects the presence or the amount of a virus in the blood. For HIV, the DNA-PCR indicates the presence of the virus. The HIV RNA-PCR measures the amount of virus, often referred to as the viral load.</td>
</tr>
<tr>
<td>Prophylaxis</td>
<td>Prophylaxis means ‘prevention’ – a drug or intervention to prevent the onset of a particular disease (primary prophylaxis) or recurrence of symptoms in an existing infection that has been brought under control (secondary prophylaxis). PMTCT prophylaxis refers to using antiretroviral drugs to reduce HIV transmission from mother to infant. Prophylaxis for opportunistic infections involves the use of antibiotics to prevent infections like PCP (described above).</td>
</tr>
<tr>
<td>Protease Inhibitor (PI)</td>
<td>An anti-HIV drug that blocks the action of the enzyme protease, which is needed for viral replication.</td>
</tr>
<tr>
<td>Replacement feeding</td>
<td>The process of feeding infants who are receiving no breastmilk with a diet that provides the nutrients that infants need until the age at which they can be fully fed on family foods. During the first six months, this should be with a suitable breastmilk substitute such as commercial formula, or home-prepared formula with micronutrient supplements.</td>
</tr>
<tr>
<td>Term</td>
<td>Definition</td>
</tr>
<tr>
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<td>------------</td>
</tr>
<tr>
<td>RNA PCR</td>
<td>HIV RNA polymerase chain reaction, also called viral load testing, detects and measures the amount of virus in blood.</td>
</tr>
<tr>
<td>RTIs</td>
<td>Reproductive tract infections. These include many but not all STIs, as well as RTIs that are not necessarily transmitted sexually such as candidiasis (thrush), and bacterial vaginosis.</td>
</tr>
<tr>
<td>Side effect</td>
<td>Unintended action or effect of a medication or treatment.</td>
</tr>
<tr>
<td>SRH</td>
<td>Sexual and reproductive health</td>
</tr>
<tr>
<td>Stigma</td>
<td>Refers to all unfavourable attitudes and beliefs directed toward people living with HIV infection (PLWH) or those perceived to be infected, as well as their significant others and loved ones, close associates, social groups, and communities.</td>
</tr>
<tr>
<td>STIs</td>
<td>Sexually transmitted infections. These include infections that cause genital ulcers (sores), such as chancroid, syphilis or herpes simplex, and discharge, such as gonorrhoea and chlamydia.</td>
</tr>
<tr>
<td>Stunting (chronic malnutrition) in children</td>
<td>Measured by a height for age index. Stunted children are short for their age. It is not possible to reverse stunting.</td>
</tr>
<tr>
<td>Symptomatic</td>
<td>Showing signs of illness or disease.</td>
</tr>
<tr>
<td>Tuberculosis (TB)</td>
<td>A contagious bacterial infection that damages the lungs and other parts of the body. TB is a respiratory illness and is mainly transmitted through coughing. The most common and serious co-infection and OI related to HIV.</td>
</tr>
<tr>
<td>UNGASS</td>
<td>United Nations General Assembly Special Session</td>
</tr>
<tr>
<td>VCT</td>
<td>Voluntary counselling and testing (usually for HIV infection)</td>
</tr>
<tr>
<td>Viral load</td>
<td>The concentration of HIV in the blood. Can be measured by the HIV RNA PCR test.</td>
</tr>
<tr>
<td>Viral resistance</td>
<td>Changes in the genetic makeup of HIV that decrease the effectiveness of antiretroviral drugs. Usually occurs in response to drug treatment especially when there is incomplete treatment or poor adherence to appropriate treatment.</td>
</tr>
<tr>
<td>Wasting (syndrome)</td>
<td>Condition characterised by loss of more than 10% of body weight and either unexplained chronic diarrhoea (lasting more than 1 month) or chronic weakness and unexplained, prolonged fever (lasting more than 1 month).</td>
</tr>
<tr>
<td>Wasting (acute malnutrition) in children</td>
<td>Growth failure as a result of recent rapid weight loss or failure to gain weight. Wasting is measured by the weight for height index. Wasted children are extremely thin; reversible once conditions improve.</td>
</tr>
<tr>
<td>Wet-nursing</td>
<td>Breastfeeding of an infant by someone other than the infant’s mother.</td>
</tr>
<tr>
<td>Window period</td>
<td>The period of time between the onset of infection with HIV and the appearance of detectable antibodies to the virus. The window period lasts for 4 to 6 weeks but occasionally up to 3 months after HIV exposure.</td>
</tr>
</tbody>
</table>
Appendix 2. HIV Testing Strategies

Several strategies can help to reduce the cost of HIV antibody testing. The use of a combination of rapid and/or simple tests can avoid the use of expensive tests such as the Western blot for confirmation. WHO and UNAIDS have recommended the following HIV testing strategies according to test objective and prevalence of infection in the population\(^\text{117}\):

The strategy for testing depends on:

- The purpose of the test
- The prevalence of HIV in the population.

<table>
<thead>
<tr>
<th>Reason for HIV antibody test</th>
<th>HIV prevalence</th>
<th>Testing Strategy*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification of asymptomatic HIV infected people</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; 10 %</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>&gt; 10 %</td>
<td>2</td>
</tr>
<tr>
<td>Diagnosis of HIV-related disease</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; 30%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>&gt; 30%</td>
<td>2</td>
</tr>
<tr>
<td>Epidemiological Surveillance</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>&lt; 10 %</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>&gt; 10 %</td>
<td>1</td>
</tr>
<tr>
<td>Screening blood for transfusion</td>
<td>All prevalences</td>
<td>1</td>
</tr>
</tbody>
</table>

**Strategy One**

A sample which tests positive can be counted as positive for the purpose of surveillance, or rejected as positive for the purpose of screening for transfusion. However if the donor is to be informed of the result then proceed as for “Identification of asymptomatic HIV infected people” with strategy two or three depending on the prevalence of HIV.

If the sample tests negative then the result can be reported as negative to the donor (with post-test counselling).

**Strategy Two**

If the sample tests negative then the result can be reported as negative to the client/patient (with post-test counselling).

If the sample tests positive on the first test repeat the test with a different type of test based on a different antigen preparation or different testing principle.

If the second test is also positive the result can be reported to the client/patient, with counselling.

For samples which have tested positive on the first test and negative on the second test:

- Re-test the sample with the same two tests.
- If both tests are positive the second time, then confirm that a second sample is positive before telling the client/patient that they have a positive test result and counsel them.
- If both tests are negative the second time, tell the client/patient that they have a negative test result and counsel them.
• If the two test results still differ then consider the result uncertain or "indeterminate". Repeat this testing strategy on a different sample taken 14 days later.

**Strategy Three**

If the sample tests negative then the result can be reported as negative to the client/patient, with counselling.

If the sample tests positive on the first test repeat the test with a different type of test based on a different antigen preparation or different testing principle.

If the second test is also positive the result can be reported to the client/patient, with counselling.

For samples which have tested positive on the first test and negative on the second test:

• Re-test the sample with the same two tests.
• If both tests are positive the second time, then test the sample with a third different test.
• If the third test gives a positive result, then confirm that a second sample is positive before telling the client/patient that they have a positive test result and counsel them.
• If the third test is negative then consider the result uncertain or "indeterminate". Repeat this testing strategy on a different sample taken 14 days later.
• If one test is positive and one test is negative, then test the sample with a third different test.
• If the third test gives a positive result, then consider the result uncertain or "indeterminate". Repeat this testing strategy on a different sample taken 14 days later.

If the third test gives a negative result and the client/patient has been at risk of HIV infection in the previous three months, then consider the result uncertain or "indeterminate". Repeat this testing strategy on a different sample taken 14 days later.

• If the third test gives a negative result and the client/patient has not been at risk of HIV infection in the previous three months tell the client/patient that they have a negative test result and counsel them (but do not use their blood for transfusion).
Appendix 3. Routine couple second antenatal care visit

At the first, booking, antenatal care visit pregnant women should routinely be invited to bring their partner for the second antenatal visit. Male partners of pregnant women should be invited to be included in the consultation. They should also take part in an information and discussion session with other expectant fathers, led by a male staff member.

Protocol for routine couple second antenatal care visit

Congratulate the expectant father, and thank him for attending. Explain that all expectant fathers are now invited to attend at least one antenatal visit because they need certain information in order to be able to make decisions to protect the health and well being of their wife and baby. Ask him, and his partner, if they have any particular concerns or questions. Ensure privacy and treat the couple with respect.

Provide information:

Explain when his partner is expected to deliver. If all is well, reassure him. Explain that even when a woman is healthy, there can be unexpected complications during pregnancy or labour. Planning ahead can reduce stress and anxiety if such complications occur. Women are more susceptible to some infections when pregnant, which can affect the health of both the woman and the baby. The man can help to maintain the health of his partner and the baby and protect them from infections.

Plan for delivery and post-partum care

Discuss where the couple plan for the woman to deliver. Emphasise the value of delivery at a health care facility. If the delivery is to be at home discuss the availability of a trained attendant. Describe the signs of labour and discuss with the couple what form of transport might be available to take the woman to the health care facility when she is in labour, or if there is an emergency. If a home delivery is planned discuss how they will communicate with the midwife when labour begins. If the woman has any of the risk factors for a difficult delivery explain this to her partner. If the couple live far from a health care facility equipped for deliveries ask whether the woman is able to move and stay nearer to the health care facility from two weeks before her due date.

Ask the man to think through what might be needed if the woman were to experience a complication during the pregnancy or labour that would require emergency referral. He might need to consider:

- Who would be able to accompany the woman?
- Who could be asked to look after their home (and children, livestock etc) if the man accompanied his partner?
- How much money might be needed for transport, accommodation, food etc while away from home? If not available now, could this amount be saved, or borrowed if needed?

Describe the warning signs that show that medical attention is needed during pregnancy or labour.

Explain the value of attending a post-partum care visit at 6 weeks. Invite him to attend this visit with his partner and their baby.
Protecting the health and well-being of the pregnant woman and the baby

Explain any current concerns with his partner’s health identified at the first antenatal visit. If all is well, reassure him.

Give information about the value of a varied and nutritious diet during pregnancy and breastfeeding. Address any locally held harmful beliefs or food taboos that might limit his partner’s diet during pregnancy or post-partum. Explore what foods are available. Recommend locally available foods that are sources of protein, iron, Vitamin A, folate, thiamine and iodised salt. Explain the benefits of reasonable exercise and rest during pregnancy and the danger of too much physical labour. Discuss any fears he (or the woman) might have that eating well or resting will cause a big baby and difficult delivery.

Describe the way that certain infections, for example malaria, tuberculosis and reproductive tract infections, including STIs, could affect the health of his partner and his baby. Ask him about his own health, in particular ask about cough, fever, loss of weight, skin rashes, genital sores, or discharge. If he has symptoms arrange for him to be examined in private, and for any necessary investigations. If in a malarious area, describe the value of sleeping under an insecticide treated bednet.

Discuss mental and emotional health during pregnancy. Explain that although having a baby is a happy and exciting time it can also be stressful and cause anxiety. Ask him if he has any worries about becoming a father and discuss these with him. Explain how a supportive partner can play an important role in helping women to cope with pregnancy and the changes of motherhood. Warn that for some women the hormonal changes post-partum can result in unexpected depression; a supportive partner can make a great difference, but if severe it is important to seek treatment.

Provide information about sex during pregnancy and post-partum. Often women and couples are too shy to ask about this. Say that you give this information to all couples; acknowledge that it is a private area of life, but that people often want to know what is safe but don’t like to ask. Explain that sex will not harm the baby in the womb and is safe throughout pregnancy, unless the woman has any bleeding. Explain that after delivery it is not safe to have sex until the bleeding stops, usually between 4 to 6 weeks. Explain that every couple is different. Some women feel more like having sex during pregnancy and some women feel less keen to have sex during pregnancy. Some men find their partner more attractive during pregnancy and some less attractive. All this is normal. After pregnancy it is very common for women to prefer not to have sex for several weeks or even months. It is important for the man to respect his partner’s feelings about having sex during pregnancy and post-partum. Explain that it is possible to share sexual pleasure without intercourse. Emphasise that sex with someone else carries a risk of infection with HIV or an STI so if this happens it is very important to use a condom. The man needs to know that if he becomes infected with HIV he will be highly infectious when he resumes sex with his partner. He is likely to infect his partner who will then have a high risk of transmitting the virus to the baby. [It may be culturally unacceptable to mention the possibility of sex outside the relationship with the couple. If so, it is important that there be an opportunity before or after the consultation for a male staff member to talk to the man individually or in a group with other expectant fathers about the risks and to provide condoms and lubrication. Men have a right to know that their behaviour can be dangerous to the life of their baby, as well as to their partner and themselves.]

Provide information about HIV infection and discuss risk factors for HIV infection with the couple. If HIV counselling and testing is available encourage the couple to be counselled and tested together. If the couple have any risk factors for infection refer them to a facility where HIV counselling and testing
are available. Explain that if the man is infected with HIV his partner may not be infected, but pregnancy increase the risk that she will become infected. Explain that the woman is more vulnerable to STIs and HIV infection during pregnancy. HIV can cause severe illness and death of the baby.

Ask the woman if she would like her partner to stay while she is examined. Allow the expectant father to listen to the baby's heart-beat with a hand-held Doppler or foetal stethoscope.

Thank the father for attending and ask him to wait outside while you finish examining his partner.

Complete the consultation with the woman:

a) Obtain information on:

- Medical history
  - Review relevant issues of medical history as recorded at first visit.
  - Note intercurrent diseases, injuries, or other conditions since first visit.
  - Note intake of medicines, other than iron, folate.
  - Iron intake: check compliance.
  - Note other medical consultations, hospitalization or sick-leave in present pregnancy.

- Obstetric history
  - Review relevant issues of obstetric history as recorded at first visit.

- Present pregnancy
  - Record symptoms and events since first visit: e.g. pain, bleeding, vaginal discharge (amniotic fluid?), signs and symptoms of severe anaemia.
  - Other specific symptoms or events.
  - Note abnormal changes in body features or physical capacity (e.g. peripheral swelling, shortness of breath), observed by the woman herself, by her partner, or other family members.
  - Fetal movements: felt? Note time of first recognition in medical record.
  - Check-up on habits: smoking [CL], alcohol, other.

b) Perform physical examination

- Measure blood pressure.
- Record uterine height values
- Generalized oedema.
- Other alarming signs of disease: shortness of breath, coughing, other.
- Vaginal examination: do only if not done at first examination. If patient is bleeding or spotting, do not perform vaginal examination; refer to hospital.

c) Perform the following tests:

- Urine: repeat multiple dipstick test to detect urinary-tract infection; if still positive after being treated at the first visit, refer to hospital. Repeat proteinuria test only if woman is nulliparous or if she has a history of hypertension, pre-eclampsia or eclampsia in a previous pregnancy.
Note: all women with hypertension in the present visit should have a urine test performed to detect for proteinuria.

- Blood: repeat Hb only if Hb at first visit (taken on medical indication) was below 70 g/l or signs of severe anaemia are detected on examination.

d) Assess for referral

- Unexpected symptoms: refer as required.
- Hb <70 g/l at first and present (second) visit: refer.
- If bleeding or spotting: refer as required.
- Evidence of pre-eclampsia, hypertension and/or proteinuria: refer to higher level of care or a hospital.
- Suspicion of fetal growth retardation (uterine height values below the 10th percentile: arrange referral to hospital for evaluation.
- Woman does not feel fetal movement: use hand-held Doppler for detection of fetal heart sound; if negative, refer to hospital.

e) Implement the following interventions:

- Iron: continue, all.. If Hb is <70 g/l, increase dosage of Fe. If with clinical symptoms of anaemia, refer.
- If bacteriuria was treated at first visit and test is still positive, refer.

f) Advice, questions and answers, and scheduling the next appointment

- Repeat all the advice given at the first visit.
- Questions and answers: time for free communication.
- Give advice on whom to call or where to go in case of bleeding, abdominal pain or any other emergency, or when in need of other advice. This should be confirmed in writing (e.g. on the antenatal card), as at first visit.
- Schedule appointment: third visit, at (or close to) 32 weeks.

g) Maintain complete records

- Complete clinic record.
- Complete home-based record or antenatal card. Give the record or ANC card to the patient and advise her to bring it with her to all appointments she may have with any health services.
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