## **Sexual & Reproductive Health and HIV**

# Linkages: Evidence Review and Recommendations

The importance of linking sexual and reproductive health (SRH) and HIV is widely recognized. The international community agrees that the Millennium Development Goals will not be achieved without ensuring universal access to SRH and HIV prevention, treatment, care and support. In order to gain a clearer understanding of the effectiveness, optimal circumstances, and best practices for strengthening SRH and HIV linkages, a systematic review of the literature was conducted. The findings corroborate the many benefits gained from linking SRH and HIV policies, systems and services.

#### **Key Research Questions**

Bi-directional linkages between SRH and HIV-related policies and programmes can lead to a number of important public health, socio-economic and individual benefits:

- Improved access to and uptake
- Better access of people living
- Reduction in HIV-related stigma and discrimination
- Improved coverage of underserved/

- Greater support for dual protection
- Improved quality of care
- Decreased duplication of efforts
- Better understanding and
- Mutually reinforcing complementarities
- Enhanced programme
- Better utilization of scarce

## SRH and HIV Linkages Matrix

The numbers in each box represent the number of studies that met inclusion criteria, categorized by linkage-type. Matrix sections in grey represent linkage areas not included in final analysis.

Peer-reviewed Studies Promising Practices	HIV prevention, education & condoms <sup>(a)</sup>	HIV counselling & testing	Element 3 of PMTCT <sup>(b)</sup>	Clinical care for PLHIV	Psychosocial & other services for PLHIV
Family planning	54 25	6 16	2 5	1 4	6 5
Maternal & child health care	7 10	15 10	(c)	2 3	1 4
GBV prevention & management	4 10	1 2	1 2	1 1	0 1
STI prevention & management	129 23	9 10	1 2	4 2	5 2
Other SRH services	0 5	1 2	0 1	2 0	1 0

Note: Several studies incorporated multiple linkages. As a result, the number of linkages in the matrix exceeds the total number of studies (58).

- Health and HIV Linkages: A Generic Guide. GNP+ICW, IPPF, UNAIDS, UNFPA, WHO and Young
- (a) Not included in final analysis are studies integrating HIV prevention, education and condoms with SRH services
- transmission (PMTC) includes the following four elements (from: "A Framework for Priority Linkages", WHO, UNFPA, (PPF, UNAIDS, 2005):
- Prevent primary HIV infection among girls and women.
   Prevent unintended pregnancies among women living











### Methodology

#### Study Inclusion Criteria

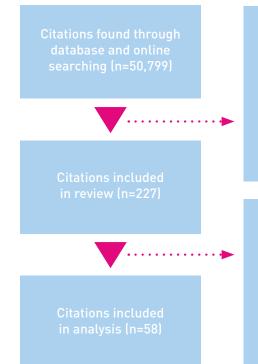
Linkages are a relatively new approach to increasing universal access to SRH and HIV prevention and care. In order to capture the most recent innovative linkages initiatives, this review was not limited to the standard peer-reviewed and rigorous evaluation studies, but also included "promising practices". The following inclusion criteria were used:

#### Peer-reviewed Studies

- Published in peer-reviewed journal (1990-2007)
- Rigorous evaluation study (pre-post or control group)
- Conducted in any setting

#### **Promising Practices**

- 'Grey' (non-peer-reviewed) literature (1990-2007)
- Some evaluation results reported
- Conducted in resource limited settings only



# Citations excluded from review (n=50,572)

Vast majority did not meet inclusion criteria

Studies evaluating prevention of vertical HIV transmission if only concerned with element 3 (i.e. matrix column 3, row 2), were reviewed elsewhere. 12.33

# Citations not retained for analysis (n=169)

between HIV prevention, education and condoms with SRH services (matrix column 1)

## **Key Study Characteristics**

**Number:** 58 studies met the inclusion criteria: 35 peer-reviewed studies and 23 promising practices.

**Region:** 36 Africa, 11 UK or USA, 11 Asia, Eastern Europe, Latin America and the Caribbean. Nearly 80% of the promising practices were based in Africa.

## Direction of linkages:

- 29 studies integrated HIV services into existing SRH programmes
- 21 studies integrated SRH services into existing HIV programmes
- 8 studies integrated HIV and SRH services concurrently

**Type of integrated service:** The majority of studies included HIV testing as part of the integration; fewer studies evaluated integration of other HIV services.

**Study design rigour:** Only six studies used a randomized control design; most used a cross-sectional or pre-post design and/or included a control or comparison group.

**Setting:** Of the 58 studies, 39 fell into one of the following six categories\*

- 1. Antenatal Care Clinics adding HIV services (n=16)
- 2. HIV Counselling & Testing Centres adding SRH services (n=3)
- 3. Family Planning Clinics adding HIV services (n=6)
- 4. HIV Clinics adding SRH services (n= 5)
- **5. Sexually Transmitted Infection Clinics** adding HIV services (n=3)
- **6. Primary Health Care Clinics** adding HIV and/or SRH services (n=10)

**Study limitations:** Few studies sought to answer a research question specifically about SRH and HIV service integration. Among studies with research questions directly related to integration, none were designed specifically to compare integrated services to the same services offered separately, only one measured stigma outcomes, and of the few reporting cost outcomes, only one calculated cost-effectiveness.

- \* four studies qualified for more than one setting
- Volmink J, Siegfried NL, et al. Antiretrovirals for reducing the risk of mother-to-child transmission of HIV infection. Cochrane Database Syst Rev, 2007; Issue 1.
- 2. Wiysonge CS, Shey MS, et al. Vaginal disinfection for preventing mother-to-child transmission of HIV infection. Cochrane Database Syst Rev 2005; Issue 4.
- Madi BC, Smith N, et al. Interventions for preventing postnatal mother-to-child transmission of HIV. (Protocol) Cochrane Database Syst Rev 2007; Issue 3.
- Kirby DB, Laris BA, Rolleri LA. Sex and HIV education programs: their impact on sexual behaviors of young people throughout the world. J Adolesc Health 2007: 40(3):206-17.
- Foss AM, Hossain M, Vickerman PT, Watts CH. A systematic review of published evidence on intervention impact on condom use in sub-Saharan Africa and Asia. Sex Transm Infect 2007; 83(7):510-6. Epub 2007 Oct 11. Review.
- "Steady, Ready, Go", Information brief from the Talloires consultation to review the evidence for policies and programmes to achieve the global goals on young people.

#### Outcome Measures

#### The following outcomes were reported:

#### Peer-reviewed Studies

Health	(n=5)
Behavioural	(n=17)
Knowledge and attitudes	(n=7)
Process	(n=18)
Stigma	(n=1)
Cost	(n=0)

#### **Promising Practices**

Health	(n=1)
Behavioural	(n=9)
Knowledge and attitudes	(n=7)
Process	(n=20)
Stigma	(n=0)
Cost	(n=5)

#### **Overall Findings**

- Despite diverse settings and clients, the majority of studies showed improvements in all outcomes measured, and only a few showed mixed results. Many studies reported an increase or improvement in:
  - access to and uptake of services, including HIV testing
  - health and behavioural outcomes
  - condom use
  - HIV and sexually transmitted infection (STI) knowledge
  - overall quality of service
- 2) Linking SRH and HIV was considered beneficial and feasible, especially in family planning (FP) clinics, HIV counselling and testing centres (C&T), and HIV clinics.
- 3) Of the 58 studies analysed, more were conducted between 2000–2007 (65%) than 1990–1999 (35%). This trend was primarily seen in the promising practices; however, this may be due to publication bias as older, unpublished reports may no longer be available.
- 4) There was a slight time trend in directionality of linkages. Earlier studies were more often SRH programmes adding HIV services, while later studies were more often HIV programmes adding SRH services.
- 5) The single cost-effectiveness study suggested net savings from HIV/STI prevention integrated into maternal and child health services.
- 6) Nearly three quarters (71%) of peer-reviewed studies evaluated programmes with only one type of linkage. In contrast, over half (57%) of promising practices evaluated programmes with five or more linkages, while just 9% had only one type of linkage. This difference may be due to more recent programmes linking SRH and HIV services more comprehensively, or the fact that peer-reviewed studies were often designed to address narrow research questions.

- 7) Of the few studies reporting cost and stigma outcomes, all were conducted after 2000. This positive trend may indicate a growing recognition of the importance of addressing HIV from a human rights perspective and an intent to scale up linked services.
- 8) Studies reporting health outcomes were evenly distributed across time.
- 9) Interventions which successfully implemented provider training resulted in improved provider knowledge and attitudes, leading to better SRH and HIV service provision.
- 10) Notably, few studies addressed the following:
  - Linked services targeting men and boys
  - Gender-based violence (GBV) prevention
  - Comprehensive SRH services for PLHIV, including addressing unintended pregnancies and planning for safe, desired pregnancies.
- 11) More attention needs to be paid to commodity security, in particular contraceptives.

## Factors Promoting or Inhibiting Effective Linkages

#### **Promoting Factors**

- Positive attitudes and good practices among providers and staff
- Ongoing capacity building
- Involvement of the community and government during planning and implementation
- Simple, easily applied additional services which add no costs to existing services
- Non-stigmatizing services
- Male partner inclusion
- Engagement of key populations

#### Inhibiting Factors

- Lack of commitment from stakeholders
- Non-sustainable funding
- Clinics understaffed/low morale/high turnover/inadequate training
- Inadequate infrastructure, equipment, and commodities
- Lack of male partner participation
- Women not sufficiently empowered to make SRH decisions
- Cultural and literacy issues
- Adverse social events/domestic violence incidence
- Poor programme management and supervision
- Stigma preventing clients from utilizing services

## Facility-based Analysis

The following tables summarize findings from a subset of studies grouped by type of facility:

- 1. Antenatal Care Clinics adding HIV services (n=16)
- 2. HIV Counselling & Testing Centres adding HIV services [n=3]
- 3. Family Planning Clinics adding HIV services (n=6)
- 4. HIV Clinics adding SRH services (n= 5)
- 5. Sexually Transmitted Infection Clinics adding HIV services (n=3)
- **6. Primary Health Care Clinics** adding HIV and/or SRH services (n=10)

Of the 58 studies, 39 fell into one of these six categories. The remaining 19 studies were conducted in another type of setting or did not clearly specify the setting. Findings are reported and interpreted according to the objectives of the study. For a full list of studies included in each summary, please visit the online document (see page 8 for web addresses).

#### **Antenatal Care Clinics**

Studies	9 peer-reviewed studies	7 promising practices
Locations	Peer-reviewed studies: 2 in USA 1 in Burkina Faso 1 in Zimbabwe 2 in Kenya 1 in China 1 in Zambia 1 in UK	Promising practices:  1 in South Africa
Interven- tions	<ul> <li>All interventions integrated some form of HIV counselling C&amp;T into maternal and child health (MCH) services in antenatal care (ANC) settings.</li> <li>C&amp;T in a variety of forms, including in-clinic services; screening for referral to off-site C&amp;T routine provision of C&amp;T (opt-out); C&amp;T by client request only; C&amp;T performed by clinic providers, trained counselling staff or community volunteers; couples</li> </ul>	or individual C&T individual counselling sessions and group counselling sessions.  In many of the interventions, C&T was the only HIV service integrated into routine ANC services. In a few, C&T was performed in conjunction with distribution of nevirapine or offered within an enhanced package of services including care and support for PLHIV.
Study Design	Peer-reviewed studies: 3 serial cross-sectional 3 cross-sectional 2 non-randomized control trial 1 pre-post	Promising practices: 2 serial cross-sectional 1 cross-sectional 4 mixed methods
Reported Outcomes	Health outcomes: None reported Behavioural outcomes: Condom use, number of sex partners and contraceptive use Knowledge/attitudes outcomes: Male and female condoms, HIV and STI facts	Process data /outcomes: Access to HIV testing; availability & uptake of drugs; uptake of HIV testing; provider training; provider knowledge; provider implementation; provider attitudes; quality of services; cost
Findings	<ul> <li>Significant increase in condom use among sexually active women, but not men, and among sexually active women living with HIV, but not HIV-negative women.</li> <li>Decrease in number of sex partners among women, but not men.</li> <li>Post-intervention increase in use of a modern method of contraception among mothers.</li> <li>Overall increase in HIV knowledge post-intervention, increases in knowledge of methods to reduce mother-to-child transmission.</li> <li>Increase in HIV tests offered at first visit, increase in HIV testing coverage, and increased awareness of places offering C&amp;T.</li> <li>Increase in uptake of C&amp;T among all groups directly offered testing, including after a new policy made HIV testing part of routine ANC for all women, and after provider-initiated opt-out testing was implemented, although rates of partners' testing and counselling did not change significantly.</li> <li>Increase in the availability of antiretroviral (ARV) drugs for women living with HIV but no change in rates of uptake of single-dose nevirapine among women living with HIV after implementation of opt-out testing in one study.</li> <li>Post-intervention increase in health workers trained in HIV</li> </ul>	counselling and other topics.  Increase in provider knowledge about HIV post-intervention, increase in providers identifying exclusive breastfeeding as one of the ways to reduce mother-to-child transmission.  Increases in proportion of first-visit clients receiving HIV-related information or services and proportion of observed client-health worker interactions which included a discussion about mother-to-child transmission and infant feeding choices. Higher rates of thorough and appropriate counselling experiences reported by clients post-intervention.  Improvements in provider attitudes toward provision of HIV services and attitudes about PLHIV.  No difference in client satisfaction with consultation between those who did and did not receive routine C&T. Clients reported more favourable views of counsellors performance during counselling sessions if counsellors had been exposed to a prevention of mother-to-child transmission (PMTCT) training.  Cost for promoting timely initiation of breastfeeding was lower than that of other intervention components (i.e., HIV education, voluntary counselling and testing (VCT) uptake, delivery in ANCs, exclusive breastfeeding) yet showed the most significant improvements. VCT uptake showed the lowest rate of increase, and was the most costly behaviour to change.

# **HIV Counselling and Testing Centres**

Studies	1 peer-reviewed study	2 promising practices
Locations	Peer-reviewed studies: 1 in Haiti	Promising practices: 2 in Kenya
Interven- tions	<ul> <li>VCT clinic that progressively integrated a variety of SRH and primary health care services, including tuberculosis services, STI management, FP services, nutritional support for families affected by HIV, prenatal services for pregnant women living with HIV (including</li> </ul>	PMTCT), post-rape services (including counselling, emergency contraceptives, and post-exposure prophylaxis [PEP]) and PEP for health care-workers.  VCT providers trained in FP counselling and methods.
Study Design	Peer-reviewed studies: 1 serial cross-sectional	Promising practices: 1 cross-sectional 1 pre-post
Reported Outcomes	Health outcomes: None reported Behavioural outcomes: HIV testing, FP use, condom use Knowledge/attitudes outcomes: Providers' knowledge of and attitudes toward FP methods	<b>Process data /outcomes:</b> Availability of guidelines, policies and supplies; client-provider discussions about FP and fertility; referrals, client satisfaction and cost; preferred timing of FP in VCT
Findings	<ul> <li>The number of clients being tested for HIV increased dramatically.</li> <li>Percentage of VCT clients who chose a FP method increased.</li> <li>VCT providers' knowledge and attitudes toward FP improved.</li> <li>Trained providers were more likely to engage in FP discussions with VCT clients.</li> </ul>	<ul> <li>After adding FP, there was no change in observed quality of VCT.</li> <li>Cost per VCT provider trained in FP was US\$672.</li> <li>In timing of FP counselling during VCT, providers preferred pre-test counselling and clients preferred post-test counselling.</li> </ul>

# Family Planning Clinics

Studies	No peer-reviewed studies	6 promising practices
Locations	Peer-reviewed studies: None	Promising practices: 1 in Kenya 1 in Dominican Republic 1 in Tanzania 1 in Uganda 1 in South Africa 1 in Nepal
Interven- tions	<ul> <li>Existing FP clinics integrating C&amp;T services or C&amp;T as part of a package of new STI services offered.</li> <li>Existing FP clinic integrating C&amp;T and provision of ARV drugs.</li> </ul>	<ul> <li>Integration of C&amp;T into FP services comparing direct provision of C&amp;T services versus referral for testing.</li> </ul>
Study Design	Peer-reviewed studies: None	Promising practices: 1 participatory appraisal approach 3 cross-sectional 1 serial cross-sectional 1 mixed methods
Reported Outcomes	Health outcomes: None reported Behavioural outcomes: Condom use Knowledge/attitudes outcomes: HIV and STI knowledge	<b>Process data /outcomes:</b> Availability of ARV drugs and HIV testing; availability of equipment and materials; providers' knowledge and attitudes & use of skills; providers' training; quality of services; uptake of FP materials and ARV drugs; uptake of HIV testing; cost
Findings	<ul> <li>Integration of HIV services into FP services is feasible and improves outcomes.</li> <li>Integration did not increase waiting times or decrease quality of FP services.</li> <li>One study comparing direct provision of C&amp;T versus referral found that both versions should be considered.</li> </ul>	<ul> <li>Only one study presented basic cost information on the raw amount per client needed to provide ARV drugs.</li> <li>Conducted in resource-limited settings only.</li> </ul>

## **HIV Clinics**

Studies	5 peer-reviewed studies	No promising practices
Locations	Peer-reviewed studies: 2 in UK 2 in USA 1 in Thailand	Promising practices: None
Interven- tions	<ul> <li>HIV clinic offering women living with HIV screening for STIs, contraceptives, pre-conception counselling, and cervical cytology.</li> <li>MCH programme started within an HIV clinic to improve clinic attendance. The programme involved a number of woman and child friendly aspects, such as private waiting areas and examination rooms for women and children, more female providers, free onsite child care, and transportation.</li> </ul>	<ul> <li>With the goal of increasing safe sex practices, adults with HIV received safe sex messages that either emphasized the benefits or costs of their decisions. The study included a control group.</li> <li>A sexual health clinic was started for clients with HIV to increase uptake of STI screening.</li> <li>Women living with HIV were offered STI screening, and those who consented received an exam, screening for skin ulcers, and STI testing. STI treatment and condoms were free.</li> </ul>
Study Design	Peer-reviewed studies: 2 serial cross-sectional 1 cross-sectional 1 randomized trial 1 non-randomized control trial	Promising practices: None
Reported Outcomes	Health outcomes: None reported Behavioural outcomes: Unprotected sex and condom use Knowledge/attitudes outcomes: None reported	<b>Process data/outcomes:</b> Availability of STI screening; uptake of cervical cytology; uptake of scheduled HIV visits; uptake of STI screening; uptake of Hepatitis B screening; quality of services
Findings	<ul> <li>Unprotected sex either decreased or remained the same compared to control depending on the specific intervention and the subpopulation under study.</li> <li>Use of condoms decreased among clients with HIV in one study (interpreted by the authors as a success, as their goal was to increase uptake of more reliable forms of contraception, although this outcome was not measured).</li> <li>Offer of STI screening increased: annual STI screening and STI screening at first visit were higher among intervention than control.</li> </ul>	<ul> <li>Uptake of screening for Hepatitis B was similar between intervention and control.</li> <li>Uptake of cervical cytology increased from pre- to post-intervention and was higher among intervention than control.</li> <li>The number of women living with HIV attending at least 75% of their scheduled HIV visits was greater among the intervention than the control.</li> <li>Client reporting showed that physicians talked about safer sex at half or more of clinic visits, an increase from baseline values.</li> </ul>

# **Sexually Transmitted Infection Clinics**

Studies	3 peer-reviewed studies	No promising practices
Locations	Peer-reviewed studies: 1 in India 1 in USA 1 in Thailand	Promising practices: None
Interven- tions	<ul> <li>HIV C&amp;T offered to STI clinic clients.</li> </ul>	<ul> <li>Women living with HIV at an infectious disease clinic and an STI clinic offered STI screening and treatment, as needed.</li> </ul>
Study Design	Peer-reviewed studies: 1 retrospective cohort 1 cross-sectional 1 time series	Promising practices: None
Reported Outcomes	Health outcomes: Gonorrhoea incidence Behavioural outcomes: Condom use	Knowledge/attitude outcomes: HIV transmission and prevention knowledge Process data /outcomes: None reported
Findings	<ul> <li>Post-test rates of gonorrhoea re-infection were consistently lower than pre-test rates.</li> <li>Two of three studies reported positive behavioural outcomes.</li> </ul>	<ul> <li>After the intervention, clients reported less frequent visits to sex workers and more consistent use of condoms.</li> </ul>

## Primary Health Care

Studies	5 peer-reviewed studies	5 promising practices
Locations	Peer-reviewed studies: 1 in Kenya 1 in Tanzania 1 in Zambia 1 in USA	Promising practices: 4 in Kenya 1 in Brazil
Interven- tions	<ul> <li>Integrating HIV and STI services and HIV and FP counselling and services, providing contraceptives to PLHIV, and building the capacity of health care staff and health facilities to provide integrated services.</li> </ul>	Integrating HIV, STI and FP services into services offered at a primary health care clinic at a border-crossing truck stop, district level primary health care facilities, a post-abortion care facility, a well-child/acute care paediatric clinic, an adolescent health clinic, a governmental hospital and primary health care clinic, and a mobile clinic.
Study Design	Peer-reviewed studies: 1 randomized control trial 1 pre-post 1 prospective cohort 1 cross-sectional 1 serial cross-sectional	Promising practices: 3 cross-sectional 1 serial cross-sectional 1 participatory appraisal
Reported Outcomes	Health outcomes: HIV incidence Behavioural outcomes: Contraceptive use, condom use, number of sexual partners Knowledge/attitude outcomes: None reported	Process data /outcomes: Access to HIV testing; access to other services; availability of drugs; availability of FP methods and information, education, communication (IEC) materials; provider training; provider implementation; uptake of HIV testing, drugs, condoms, FP methods, IEC materials, other services; quality of services; cost.
Findings	<ul> <li>No significant effect of integrating HIV testing on HIV incidence among males and females, although impact on HIV incidence is only likely to be shown after long term observation.</li> <li>Receiving VCT increased condom use, dual contraceptive methods, and receipt of a positive HIV test generally resulted in fewer sexual partners and higher levels of condom use.</li> <li>Improved access to VCT and increased HIV C&amp;T uptake, especially if point-of-care tests were offered, but mixed results for postpartum C&amp;T. High rates of uptake for other services, such as HIV education.</li> <li>High rates of attendance at ANC and well-baby visits, increased uptake of post-abortion services.</li> </ul>	<ul> <li>Increased number of pregnant women who learned their HIV status at first ANC visit, and increased uptake of nevirapine among women living with HIV, but not among women living with HIV who received a postnatal follow up visit.</li> <li>Inconsistent availability and uptake of supplies. Availability of IEC materials decreased post-integration in one study; uptake was low in some settings but high in others. FP methods restricted to only some facilities.</li> <li>Training of providers was inadequate on a range of topics. Provider implementation and quality of services showed mixed results.</li> <li>Cost of delivering integrated services was reported but not translated into cost-effectiveness.</li> </ul>

#### 15 Key Recommendations

#### Policy makers

#### Programme managers

- - a) Stakeholder commitment

  - c) Health provider training
  - d) Client education involvement
  - e) Quality of services

#### Researchers

- - a) Health

  - d) Trends in access to services

#### **Acronyms and Definitions**

AIDS acquired immunodeficiency syndrome

ANC antenatal care

FP family planning GBV gender-based violence

GNP+ The Global Network of People Living

HIV human immunodeficiency virus

ICW International Community of Women

IPPF International Planned Parenthood

MCH maternal and child health PEP post-exposure prophylaxis

**PLHIV** people living with HIV

PMTCT prevention of mother-to-child

SRH sexual and reproductive health

**UNAIDS** The Joint United Nations Programme

UNFPA United Nations Population Fund

WHO World Health Organization

Linkages: The policy, programmatic, service and advocacy bi-directional synergies between sexual and reproductive health and HIV.

Integration: Refers to how different kinds of sexual and reproductive health and HIV services or operational programmes can be joined together to ensure and perhaps maximize collective outcomes. This would include referrals from one service to another, for example. It is based on the need

This document is a preliminary overview of findings. For more information about the methodology and programme-specific findings, as well as a complete list of references, please refer to the full report available on the websites below.



#### International Planned Parenthood Federation

4 Newhams Row London SE1 3UZ

Tel +44 (0)20 7939 8200 Fax +44 (0)20 7939 8300 Email info@ippf.org www.ippf.ora



#### **UCSF**

UCSF Global Health Sciences 50 Beale Street Suite 1200 San Francisco, CA 94143 www.igh.org/linkages



#### UNAIDS

Avenue Appia 20 1211 Geneva 27 Switzerland Tel +41 22 791 3666

Fax +41 22 791 4187 www.unaids.org



#### UNFPA

220 East 42nd Street, New York NY 10017, USA Tel +1 212 297 5000 www.unfpa.org



#### WHO

Avenue Appia 20 1211 Geneva 27 Switzerland

Tel + 41 22 791 2111 Fax + 41 22 791 4806

www.who.int/ reproductive-health