The EVALUATION Project

Indicators for Reproductive Health Program Evaluation

Final Report of the Subcommittee on STD/HIV

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Acknowledgments

In April 1994, the United States Agency for International Development (USAID) requested that the EVALUATION Project establish a Reproductive Health Indicators Working Group (RHIWG). The purpose of the RHIWG has been to develop indicators for program evaluation in five areas of reproductive health: safe pregnancy, including post-abortion care, breastfeeding, STD/HIV, women's nutrition and adolescents. A steering committee composed of staff from the USAID Center for Population, Health and Nutrition and external organizations, has provided valuable guidance to the work of the RHIWG.

Following the first meeting of the RHIWG on June 8, 1994, in Rosslyn, Virginia, each of the subcommittees met several times, identified the indicators judged most useful for evaluation programs in their specific area, and drafted descriptions of each indicator. Subsequently, the full Reproductive Health Indicators Working Group met on February 8, 1995 to review progress to date and draft a "short list of indicators" for each topic area. Further revisions were made, and each report was then sent to one or more reviewers with expertise in the topic area. Comments from reviewers have been incorporated into the current reports.

The EVALUATION Project and the editors of this report wish to express their thanks to the members of the STD/HIV Subcommittee of the Reproductive Health Indicators Working Group, who spent a great deal of time participating in meetings, preparing descriptions of the indicators, and reviewing various drafts of this report. The names of the members and the organizations that supported their participation in this subcommittee are provided at the back of this report. We owe a debt of gratitude to all who contributed their time, energy and ideas to this collaborative effort.

We extend our special thanks to Willard (Ward) Cates and Wendy Rosenberg, who served as external reviewers for this report. While they are not to be held responsible for its content, their suggestions have been extremely valuable in the creation of the final product.

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SHORT LIST OF INDICATORS

Each of the Reproductive Health Indicators Working Group (RHIWG) subcommittees was asked to draw up a short list of "primary indicators" that potentially would be the most important and useful in monitoring interventions in their area. It was recommended that the list contain 7-8 policy or output (program-based) indicators and 2-3 outcome (population-level) indicators. The list includes the following indicators:

- Percentage of SDPs stocked with condoms and educational materials
- Percentage of clients correctly managed for STDs
- Percentage of clients screened appropriately for RTIs before IUD insertion
- Number of condoms distributed
- Percentage of family planning clients who accept condoms
- Percentage of adults practicing care-seeking behaviors that reduce STD/RTI infection
- Percentage of adults practicing low risk behavior for STD/HIV
- Percentage of target population with an unmet need for protection
- Female empowerment for condom use: composite indicator
- STD prevalence in a defined target population

LIST OF ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BV	Bacterial Vaginosis
CEDPA	Center for Development and Population Activities
CSW	Commercial Sex Worker
CYP	Couple-Years of Protection
DHS	Demographic and Health Surveys
FP	Family Planning
FPLM	Family Planning Logistics Management
HIV	Human Immunodeficiency Virus
IEC	Information-Education-Communication
IPAS	International Projects Assistance Services
IPPF	International Planned Parenthood Federation
IUD	Intra-Uterine Device
JHPIEGO	Johns Hopkins Program for International Education in Reproductive Health
MCH	Maternal and Child Health
MIS	Management Information System
PID	Pelvic Inflammatory Disease
RH	Reproductive Health
RTI	Reproductive Tract Infection
SDP	Service Delivery Point
STD	Sexually Transmitted Disease
USAID	United States Agency for International Development
WHO	World Health Organization

Chapter I

Introduction

- Integration of STD/HIV into Reproductive Health Services
- Technical Issues
- Organization of the Indicators
  - Conceptual Framework

Chapter I

INTRODUCTION

Integration of STD/HIV into Reproductive Health Services

With the spread of the AIDS epidemic over the past decade, there is increasing awareness among policy makers, program administrators, and donor agencies of the importance of integrating STD/HIV prevention activities into reproductive health programs. The nature of these activities varies from one country or program to another; yet they share the common objective of reducing the risk of exposure to sexually transmitted disease and the HIV virus. The integration of STD/HIV services into broader reproductive health programs is a recent phenomenon, and to date there has been relatively little attempt to evaluate this type of intervention. However, given the continued expansion of such initiatives in the future, it is imperative for program managers, evaluators, and other interested parties to define the most appropriate evaluation indicators.

The Subcommittee on STD/HIV is one subcommittee of the Reproductive Health Indicators Working Group (RHIWG). In June 1994, this group accepted the challenge of developing indicators that would be useful in monitoring STD/HIV interventions, practical at the field level, and methodologically sound. The current report represents the work to date on indicator development.

An important first step in this process was to define the type of program in question and the target populations to be considered. Much of the intervention work in the area of STD/HIV has involved populations with high risk behavior (commercial sex workers, truck drivers, etc.). By contrast, the target population for reproductive health programs tends to be adults (and particularly women) in the general population. In this case, their exposure to risk of infection may depend greatly on the prevalence of STDs, including the HIV virus, in that setting.

In the current document the target population is assumed to be men and women of reproductive age in the general population, following the guidelines of the Prevention Indicators or "PIs" of the World Health Organization Global Program on AIDS. These quantitative indicators of prevention activities rely less on long-term impact measures, such as HIV prevalence, and more on measurements that can be attributable to program- or country-level interventions.[1] Although the Prevention Indicators are somewhat limited in their scope, a comparison of all the PI outcomes can aid interpretation of program effectiveness over time.

Due to the past interest in targeting populations with high-risk behavior, STD/HIV programs have traditionally operated in separate facilities, apart from other health care services. However, as the population affected by STD/HIV infection widens and becomes more diverse, there is an increasing

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[1] Complete list of WHO/GPA Prevention Indicators, Mertens et al. 1994. Prevention indicators for evaluating the progress of national AIDS programs.

trend to integrate STD/HIV prevention activities into MCH/family planning service delivery. The indicators presented in this document were developed for programs in which STD/HIV services are integrated with other reproductive health services.

A key question in developing indicators relates to the distinction between reproductive tract infections (RTIs) and sexually transmitted diseases (STDs). RTIs include three types of infection: (1) STDs, including HIV; (2) endogenous infections, which are caused by the growth of organisms in the genital tract, including bacterial vaginosis and vulvovaginal candidiasis; and (3) iatrogenic infections, which are related to events or procedures such as pregnancy and abortion. The current document focuses primarily on STD/HIV, except where noted to the contrary, since most intervention programs deal speci- fically with STD/HIV. It should be noted that some RTIs, such as postpartum sepsis, are included in the indicators for safe pregnancy.

Technical Issues

Prevention versus Disease Control: In light of increasing efforts to integrate family planning and STD/HIV services, it is useful to recognize differences in the approaches used and the objectives pursued by each type of service.

Family planning (FP) constitutes a preventive service designed to provide a commodity (contraceptives) to consumers. Many of the indicators for family planning (e.g., CYP, number of new users) measure performance in terms of **output** (see figure on p.12). An **increase** in output reflects positively on a program, because it is associated with an increase in contraceptive use at the population level, which in turn leads to reduced fertility and morbidity. Family planning programs tend to promote the methods most effective in preventing pregnancy (e.g., many programs emphasize long-acting contraceptive methods such as IUD and sterilization, over less effective, reversible methods such as condoms).

STD services on the other hand often follow the model common to the control of infectious disease. This model generally involves case identification, treatment, and follow-up of contacts. The goal is to **decrease** the occurrence of a given disease or syndrome. An increase in the use of STD services (an **output**) could be interpreted as either positive or negative. Of note, HIV interventions conform more to the preventive model described for family planning than to the classic disease control model for STD.

The integration of STD/HIV with family planning services, while justified for a number of reasons, requires the program to attain somewhat inconsistent objectives. Whereas condom use is one of the few effective means of decreasing risk of STD/HIV infection, condoms are among the least preferred of the available contraceptive methods (because they are less effective and less acceptable to married couples). This leads to a dilemma in interpreting certain indicators, such as method mix (the percentage distribution of users across different contraceptive methods). From an STD/HIV perspective, higher levels of condom use would indicate program success. In a program whose primary objective is family planning, one would ideally want to see condom use increase but in conjunction with long-term methods.

The indicators that have been developed by the subcommittee to date reflect a mixture of disease and family planning models. Many of the outcome indicators (i.e., indicators of mortality and morbidity related to STD/HIV) follow a disease model. The measures of condom use and unmet need follow a family planning model.

Cultural Variations in Definitions: The development of indicators requires standardized definitions that are theoretically applicable across countries or programs. Yet certain variables are problematic given that they refer to things that vary in meaning and in definition from one culture to the next.

For example, with regard to sexual practices, the concept of a "regular partner" varies in definition by culture. Similarly, there is often difficulty in translating concepts of risk. Before any of these indicators can be applied to a new setting, ethnographic research should be carried out to determine appropriate local concepts and terminology to be used in collection of data. Extensive pretesting should also be done to assure that concepts of interest to the project have been adequately translated and that essential features of the local social, cultural and economic context have been identified and taken into account.

The STD/HIV indicators presented in this document provide guidance and examples of the types of variables to consider when defining sexual practices. However, the definition should be adapted to specific cultural contexts by the researcher or program manager.

Levels of Program Concern: Decisions about contraceptives in general and condom use in particular involve balancing the relative need to prevent both unplanned pregnancy and STD/HIV (Cates, 1995). Three distinct levels of decision-making occur: the individual (or couple), the community, and the policy makers. At the individual level, **contraceptive use** (including condom use) by couples is affected by the perceived risks/costs of either STD/HIV and/or unplanned pregnancy. These involve such complex individual factors as partner selection, coital frequency, timing of coitus within the menstrual cycle, safety of the contraceptive method, availability of the method, cost of the method, and acceptance of the method by the sex partner.

At the community level, **contraceptive acceptance** is affected by the social norms of particular cultures. This involves such complex community factors as the relative value of fertility within specific societies, local customs about sexual activity at early ages, community pressures on teenagers to bear children, societal norms about genital manipulation, and religious proscriptions against the use of particular contraceptives.

At the policy level, the priority accorded to contraceptive services versus STD/HIV prevention is affected by the costs/risks of each in a particular society. These involve such complex public health factors as the local prevalence of RTIs, secondary fertility and unplanned pregnancy, the level of unprotected sexual activity, the political acceptance of individual choice over sexual and reproductive decisions, and the economic capacity of the society to support the existing population group rate.

Organization of the Indicators

The current indicators have been selected to correspond to the primary STD/HIV intervention strategies:

- condom use;
- reduction in sexual partners ;
- control of STDs; and
- education/counseling.

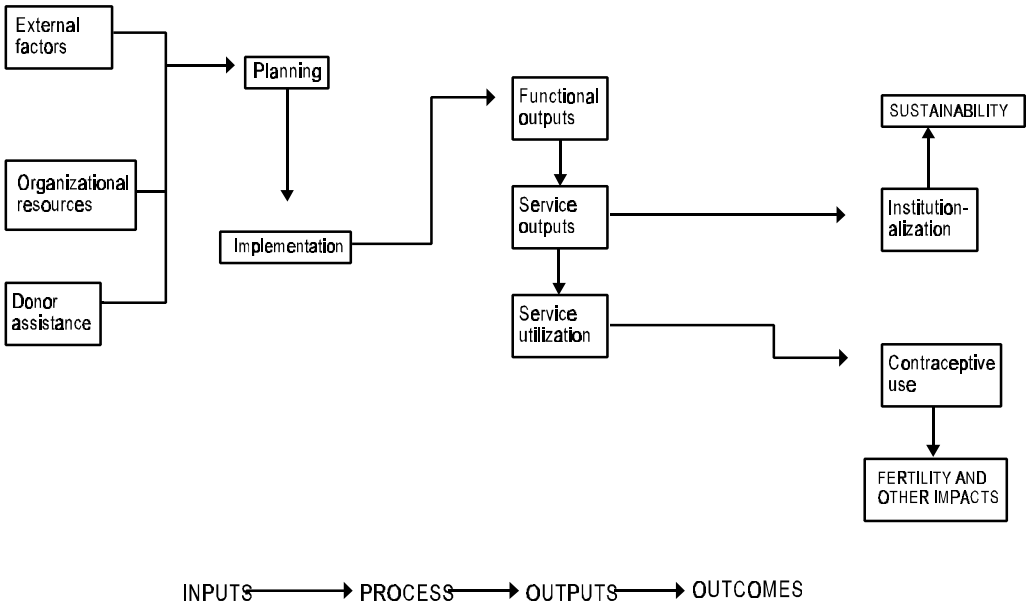
Reproductive health programs (or interventions) can be described in terms of their components: inputs, processes, outputs, and outcomes. These terms are described in the Overview to this series of reports on reproductive health indicators.

The STD/HIV indicators listed at the front of this section ("Summary List") and described in detail on the pages that follow are organized in terms of outputs and outcomes.

Outputs (program-based measures)
- Functional outputs
- Service outputs (adequacy)
- Service utilization

Outcomes (population-based measures)
- Intermediate
- Long-term

MODEL FOR CONCEPTUALIZING FAMILY PLANNING PROGRAM COMPONENTS AND THEIR EVALUATION



Source: Tsui, A.O. & Gorbach, P. (Forthcoming). Framing family planning and reproductive health program evaluation: Cause, Logic, Action. The EVALUATION Project, University of North Carolina at Chapel Hill.

In some cases the definition of an indicator as “out- put" versus "outcome" depends on the level of measurement. For example, suppose a given program had integrated STD/HIV prevention with other reproductive health services in a defined catchment population. One could choose to monitor the behavior, such as condom use, among clients in the program (which would constitute a "program-based measure" or **output**). Or one could measure changes in behavior by conducting a survey among a random sample of adults in the catchment area (a "population-based measure" or **outcome**).

Some indicators can only be **output** (e.g., number of condoms distributed), whereas others can only be **outcome** (e.g., mortality related to AIDS). In this report, indicators that might be listed in either category depending on the level of measurement (program versus population) are described under the category most likely to be used in actual field applications.

Conceptually, changes at the population level are the long term goal of STD/HIV prevention programs. However, it is often difficult to evaluate such programs in terms of changes at the population level, especially long-term outcomes (changes in morbidity status, such as HIV prevalence, and mortality related to AIDS). Even if the evaluator is able to demonstrate that change occurs over time on outcome variables, it is difficult if not impossible in most cases to attribute the change uniquely to the intervention program in question (in the absence of a controlled field experiment). Because of the difficulty of establishing cause and effect, many evaluations are limited to simply monitoring change in key indicators over time.

In sum, the indicators in this document are meant to serve as a menu of possible measures of STD/HIV activities within a reproductive health program. The indicators that are included in this volume do not encompass every possible indicator or capture every result in the field of STD/HIV prevention. Researchers or evaluators interested in using these indicators to evaluate a given program should choose those most relevant to the objectives of the program. Finally, many of the indicators are generic and not culturally specific; therefore they should be further refined and elaborated by the researcher or program manager using the indicator. This process of adaptation and testing will advance the field of program monitoring and indicator development for STD/HIV.

Chapter II

Output Indicators

- Section A: Functional Outputs
- Section B: Service Outputs
- Section C: Service Utilization

FUNCTIONAL OUTPUTS

- Presence of information systems for key areas of program management
- Number of communications disseminated, by type, during a reference period

Indicator

PRESENCE OF INFORMATION SYSTEMS FOR KEY AREAS OF PROGRAM MANAGEMENT

ELEMENT

A five-point score reflecting information availability.

DEFINITION

Program management information systems should produce up-to-date information on key areas of program functioning, including:

- facilities and equipment;
- personnel;
- commodities and logistics;
- finance; and
- service statistics.

A program receives one point if it meets the defined minimum information required for each of these sub-systems as described.

DATA REQUIREMENTS

Evidence of the availability of current information covering the areas outlined above; for example, routine reports from a management information system (MIS), annual or periodic program reviews or reports that are based on information generated by the program, or the routine use of information by the program in undertaking performance reviews and annual workplan development.

DATA SOURCE(S)

Program planning and performance assessment documents; review of management information system output; information from program managers and supervisors.

PURPOSE AND ISSUES

This indicator provides a qualitative, summary measure of the adequacy of information support to program management. The focus of the indicator is on the **availability** of current information, which is viewed as essential to effective management.

The indicator assesses the existence of an MIS or of sub-systems that support planning and decision-making in each of program management key areas outlined above. This system does not have to be completely electronic or monolithic; rather it should be functional and appropriate for the setting and the needs of the program itself.

Some programs may have reasonably current information available for some areas (e.g., service statistics and commodities and logistics) but not others. Programs that have more fully-developed management information systems will score higher on this indicator than programs with only partially developed information support systems.

In scoring the indicator, the following might be considered the minimum information content of each sub-system:

- Facilities and equipment: annual inventory of number of facilities, location,

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and ser- vices provided at service delivery points; annual inventory of equipment, including location and current condition.

- Personnel: total staff, by training/qualifications and current assignment; number of vacant positions, at least annually.

- Commodities and logistics: quantities procured (by commodity) during the current year, quantities in stock at central stores, quantities disbursed from central stores during the current year, year to date number of stock-outs at service delivery/supply points, consistent with established guidelines.

- Finance: amounts budgeted and year to date expenditures, by major budget line item, at least quarterly.

- Service statistics: number of service visits, number of commodities distributed, (others as relevant), at least quarterly.

It should be noted that this indicator does not take into account how effectively program managers utilize the information available to them.

Indicator

NUMBER OF COMMUNICATIONS DISSEMINATED, BY TYPE, DURING A REFERENCE PERIOD

DEFINITION

"Disseminated" refers to (a) the external transmission or distribution of the communi-cations (e.g., radio spots, pamphlets, billboards) produced via electronic, print, or other media; and (b) to interpersonal activities or public relations events implemented.

DATA REQUIREMENTS

Listing of communication products dissemina- ted and of activities conducted during a given time period (e.g., one year).

DATA SOURCE(S)

Log books of radio and TV stations regarding the number of broadcasts of each spot or program; data from records of the IEC Division on number of posters or brochures distributed to SDPs; data from program records at SDPs regarding the number of brochures distributed to clients, educational talks given, outreach visits by program staff, etc.

Adapted from *The Handbook of Indicators for Family Planning Program Evaluation* (Bertrand et al., 1994).

PURPOSE AND ISSUES

This indicator measures productivity of the IEC staff or division, specifically the quantity and type of communications disseminated (irrespective of whether anyone sees/hears them, understands them, or acts on them). "Getting the message out" is a necessary though not sufficient condition to initiate the process of behavioral change.

Well-planned IEC programs generally have a plan for the diffusion of communications that lists the types of communications and the number for each type to be disseminated. This plan serves as a target to be achieved during the reference period. It is particularly useful to interpret the number of communications actually disseminated in relation to the number targeted. It should be emphasized that this indicator measures what the program diffused; it does not answer the important question: how successful were these messages in reaching the target population? Nor does it address the issue of quality of the message disseminated.

SERVICE OUTPUTS

- Percentage of SDPs stocked with condoms and educational materials
- Percentage of staff with positive attitude towards condom use
- Percentage of providers who are technically competent in performing STD/HIV screening and diagnosis
- Percentage of clients correctly managed for STDs
- Percentage of clients screened appropriately for RTIs before IUD insertion
- Quality of care composite indicator

Indicator

PERCENTAGE OF SDPS STOCKED WITH CONDOMS AND EDUCATIONAL MATERIALS

DEFINITION

The percent of SDPs that have condoms and educational materials (and/or other STD/HIV prevention materials) at levels appropriate to meet their current needs.

DATA REQUIREMENTS

Monthly (or quarterly) SDP-specific data on the numbers of condoms and educational materials distributed; SDP-specific supply data for condoms and educational materials, also on the same time interval.

DATA SOURCE(S)

A commodities/logistics MIS should provide the supply data, while the SDP-specific distribution data should be part of the service statistics system.

PURPOSE AND ISSUES

This indicator provides an overall measure of the efficiency of the distribution component of the commodities and logistics system. At first glance, one might argue that this indicator is too minimal to be of use in actual programs (e.g., that every FP service delivery point **should** have condoms available); indeed, this indicator would not be important in those developing countries known to have strong condom logistics systems. However, it is a critical indicator in countries where supply problems persist. Examples exist of studies showing less than half of SDPs theoretically participating in a program to be stocked with unexpired condoms available for distribution.

By not focusing on minimum/maximum stock levels, this indicator avoids the problem of SDP rationing or hoarding of commodities to maintain stock levels.

This indicator can assess the extent to which the SDP is conforming to its inventory control plan and to reassess that plan to see whether the inventory control plan is adequate in terms of user demand.

One would also need to consider shelf life and storage issues, and the reader would need to refer to the related indicators in the commodities and logistics section of the *Handbook of Indicators for Family Planning Program Evaluation*.

Prepared by Susan Hassig, AIDSCAP/Family Health International.

Indicator

PERCENTAGE OF STAFF WITH POSITIVE ATTITUDE TOWARDS CONDOM USE

DEFINITION

Percentage of staff who perceive condoms as an effective disease and pregnancy prevention method if used correctly and consistently, and who have a positive attitude toward condom promotion.

DATA REQUIREMENTS

Data from the staff on (1) the knowledge of the benefits of condoms and (2) the knowledge of their effectiveness (if used correctly and consistently). Additional data from the staff regarding (1) a belief that condoms are effective if used correctly and consistently, (2) a belief that condoms are appropriate for pregnancy prevention in the targeted population, (3) a belief that condoms are appropriate for disease prevention in the targeted population, and (4) a willingness to promote condom use.

DATA SOURCE(S)

Staff interviews or observations and self-administered questionnaires. (Parallel data could be obtained from focus groups, but would not be quantifiable.)

PURPOSE AND ISSUES

Staff often reflect both popular and professional biases against condom use. Despite the fact that condoms can be highly effective in preventing pregnancy when used consistently and correctly, concerns over their effectiveness have often limited the promotion of condoms by family planning programs. Staff may also reflect popular distaste for condoms due to myths and perceptions of inconvenience, potential loss of sensation and implications of infidelity. If staff do not believe in the effectiveness of condoms and have negative perceptions about condom use themselves, promotion efforts may be seriously hampered.

Examples of positive elements that staff should be able to cite or incorporate into a counseling session include: benefit of reduced anxiety over STD or unwanted pregnancy, creative incorporation of condoms into sexual activity, recommendations for lubricants, and strategies for partner communication.

While staff may be able to cite positive factors related to condom use, they may not believe in the benefits of condom use, and this may affect their counseling. To determine the degree to which attitudes effect practice of condom promotion, observation of staff interaction with clients can be used to assess their ability and willingness to promote condoms positively.

Prepared by Julie Becker, IPPF/Western Hemisphere Region and Laurie Fox, Family Health International.

Indicator

PERCENTAGE OF PROVIDERS WHO ARE TECHNICALLY COMPETENT IN PERFORMING STD/HIV SCREENING AND DIAGNOSIS

DEFINITION

This indicator measures the proportion of service providers who are technically competent in performing risk assessment, screening, diagnosis and treatment of STD and HIV infection. The numerator is the number who meet the competency criteria and the denominator is all the persons assessed. The people assessed should be a systematic sample of all the providers.

DATA REQUIREMENTS

List of relevant skills specific to the position of the trained providers and the level of service provision of the particular facility. Evidence of adequate use of skills.

DATA SOURCE(S)

Observation by an expert, based on standards outlined in training materials; self-administered questionnaires or certification policies of a particular region.

PURPOSE AND ISSUES

Adequate technical competence of providers will increase the likelihood that clients at risk of STDs are screened and receive an appropriate workup as determined by the clinic. Correct RTI/HIV assessment is critical in ensuring that clients with the disease are adequately treated and counseled, and those without risk factors and symptoms are not subjected to unnecessary examinations and testing. The steps in the process include: 1) screening or risk status evaluation; 2) detailed history; and 3) physical examination and laboratory tests. At any one of the these levels, the protocol may be referral, in which case the evaluation must assess the service provider at the referral point.

Data for this indicator comes from direct observation by an expert observer who oversees the procedures in a clinic setting. The evaluation could be done using a competency check list. Evaluation of physical examination may also be done using models. Evaluation of microscopic skill may be assessed by using standard lab quality control techniques such as standard slide sets.

In order to compile a list of the expected skills of the service providers, it will be necessary to review training materials and other documentation as to the level of service that was planned.

In order to document the competence of the provider in the specific skills, a trained observer is necessary. The following are areas of practice that should be considered in the evaluation of service providers depending on the service delivery level of the site.

History Taking Skills. Provider collects demographic information from the client (age and marital status, among others) and performs an adequate STD screening history to determine the risk status of the individual clients. Specific elements of this screening history may vary by site and local practices but should include:

Prepared by Gina Dallabetta, Family Health International and Harshad Sanghvi, JHPIEGO.

- presence of abnormal genitourinary symptoms (vaginal discharge, ulcerations, abnormal bleeding, dysuria);
- past history of sexually transmitted diseases;
- STDs or STD symptoms in sex partners; and
- number of sex partners of the client or his/her partner.

Provider performs an adequate and specific RTI/HIV history. The specific questions would be site specific and would be based on the syndrome algorithm developed for the site. For symptomatic women with vaginal discharge a risk assessment has been proposed by WHO to determine treatment that includes:

- symptomatic partner;
- age under 21 years;
- unmarried or not in union;
- presence of a new sexual partner in the previous three months; and
- presence of more than one sexual partner in the previous four weeks.

Physical examination and diagnostic skills.Provider performs an adequate and relevant physical examination to detect STDs. This would include an examination of skin, external genitalia, vaginal/cervical examination with speculum (if available), and bimanual examination (if gloves are available).

As appropriate for the setting, the provider performs adequate and relevant diagnostic tests. These would include clinic based tests such as vaginal fluid pH, whiff test, direct microscopy and gram stains and laboratory based tests such as cultures, serologies, and antigen detection tests.

Indicator

PERCENTAGE OF CLIENTS CORRECTLY MANAGED FOR STDS

DEFINITION

This indicator measures the percentage of clients with STD and HIV/AIDS who are correctly diagnosed and treated according to country or clinic standard treatment guidelines. The indicators are expressed as the following ratios:

- **STD Management:** Number of individuals presenting with a specific STD in health facilities who are assessed and treated in an appropriate way (according to national or clinic standards). Number of individuals presenting with specific STDs in health facilities.

- **STD Education:** Number of individuals seeking STD care in health facilities who have received appropriate advice on medication use, condom use and partner referral. Number of individuals seeking STD care in health facilities.

DATA REQUIREMENTS

Numerators and denominators of the equations above.

DATA SOURCE(S)

Detailed observations by a trained observer of the practices in health care facilities and interviews with health care providers.

PURPOSE AND ISSUES

The purpose of this indicator is to determine the quality of STD management by clinicians. Effective management includes correct diagnosis and treatment and adequate education in order to ensure that therapy is complete and that future infections can be avoided (condom use, decrease in partners, partner referral).

For this indicator the guidelines of the country or clinic for STD management used to train the providers should be adopted as the standard. These guidelines may be inappropriate for a site because of changing relative prevalence of STDs or changing antibiotic susceptibility. Laboratory confirmation of diagnoses treated by syndrome management is the recommended method for verifying the validity of treatment guidelines. To do this, one screens a sample of the clinic population for STDs that are being treated in the clinic using gold standard laboratory tests (cultures, antigen detection, serology) to ensure adequate quality control. These results would be compared with those obtained at the service level using the diagnostic criteria of the site. By comparing the actual etiologic diagnosis with the actual patient treatment, this allows one to assess the sensitivity and specificity of the clinic's treatment guidelines.

The measurement of the indicators for health care providers within health facilities will be based on performance measured over a specific set of activities which are felt to be essential components of adequate case management. One is the performance in the diagnosis and management of three syn-

Prepared by Harshad Sanghvi, JHPIEGO, and Gina Dallabetta, Family Health International.

dromes (if appropriate) including genital ulceration, vaginal discharge and urethral discharge (men). The other measurement will assess the preventive educational component.

In general, interviews complement direct observation by providing data regarding clinic supply availability that may influence treatment practice. Health care practitioners often are able to report the correct management but do not implement the management in actual patient care. Some studies have also used "mystery clients," individuals with or without STDs to receive care from a practitioner and report on the interaction.

Although we carefully looked at ways to measure partner referral for treatment, this activity has not been incorporated into the indicators because of the difficulty in doing so, especially in a developing country context. Tracking partner referral activities in a resource intensive activity with limited return. Thus, in this section we emphasize treatment of the primary cases. In developing country settings, it is already a challenge for clinicians to discuss with their clients the use of condoms, compliance with therapy, and abstaining from sex until therapy is completed. In cases where it is necessary to establish priorities, these activities should be monitored in preference to the effectiveness of partner referrals.

Indicator

PERCENTAGE OF CLIENTS SCREENED APPROPRIATELY FOR RTIS BEFORE IUD INSERTION

DEFINITION

Number of clients screened for RTIs according to acceptable standards before receiving IUDs, as a percentage of all clients receiving an IUD.

DATA REQUIREMENTS

Number of clients screened for RTIs according to accepted protocols before IUD insertion, and the total number of clients who received IUDs.

DATA SOURCE(S)

SDP client records and assessment of providers by trained observers.

PURPOSE AND ISSUES

This indicator provides a means of evaluating whether family planning programs are screening clients for RTIs according to accepted standards before IUD insertion.

Millions of women worldwide choose IUDs as their method of contraception. Therefore, in family planning settings, it is imperative to examine quality of care in the context of the particular risks associated with IUD insertion in women with RTIs.

Uterine infection and subsequent development of pelvic inflammatory disease (PID) can occur as a result of microorganisms normally present in the vagina being introduced into the uterus during IUD insertion. However, the risk of causing PID following an IUD insertion is even higher when such procedures are carried out on clients who have an existing infection, particularly chlamydia or gonorrhea. It is important, therefore, to screen clients appropriately before IUD insertions are performed to reduce any such risk.

Screening methods will vary depending on the setting and may include: a medical history, conduct of a risk assessment, visual inspection, basic microscopy, and other laboratory tests. In some settings, for example, where prevalence of RTIs, especially STD/HIV is low, microscopy and other lab tests may be reserved only for clients determined to be at high risk.

The effectiveness of screening is only as good as the protocol followed by the SDP. This indicator does not reflect the adequacy of the screening protocol; therefore, high percentages of clients being screened does not necessarily indicate that service provision is optimal or that risk of adverse sequelae is reduced.

This indicator has the disadvantage that review of client records or direct observation of procedures may be expensive and time consuming.

There are several related areas that evaluators of reproductive health inter-ventions should examine in order to determine how services might be improved. For example, it has been shown that providers will be more likely to perform a task

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Prepared by Felice Apter, USAID and Mark Barone, AVSC International.

if it is included in their job description. Below is a list of some potential sub-indicators that would reflect the quality of care in IUD provision.

- Written protocols and standards for provision of IUDs
- Screening for RTIs and appropriate referral, diagnosis and treatment
- Competency-based training for IUD providers
- Quality of Care - Composite indicator (see the following page)

Indicator

QUALITY OF CARE COMPOSITE INDICATOR

DEFINITION

The total score that a facility is given on a series of quality of care indicators, listed in Appendix A.

DATA REQUIREMENTS

See Appendix A

DATA SOURCE(S)

- Administrative records
- Clinic records
- Client surveys (in home)
- Exit interviews with clients
- Focus groups
- Observation
- Provider interviews

Note: the best known instrument for collecting data on quality is the situation analysis[2] (Fisher et al., 1992).

PURPOSE AND ISSUES

The purpose of this composite index is to "quantify quality of care," a complex, multi-dimensional concept. Until the late 1980s, there were relatively few attempts to operationalize this concept. Since then, the situation analysis has been developed (Fisher et al., 1992), and other studies of quality have been carried out in response to the substantial interest in assuring quality of care in health programs.

There is no "short list" of quality indicators. The Bruce/Jain framework (Bruce, 1990) has helped to organize the thinking of those working in family planning with regard to six elements of quality: choice of method, interpersonal relations, information given to clients, technical competence, continuity of use, and constellation of services (sometimes replaced by "acceptability of services"). The list of indicators originally developed for use with family planning services has been modified for STD/HIV services, and it is presented in Appendix A of this report. It is important to note that not all of the indicators need be used for a given evaluation. The scoring will depend on the number of items retained from the full list that appears in the Appendix.

Prepared by Jane Bertrand, EVALUATION/Tulane University; Laurie Fox, FHI; Julie Becker, IPPF/WHR; Allen Brimmer, USAID; and Gina Dallabetta, FHI.

[2] The situation analysis is a facility-based survey first used in connection with the Population Council's Family Planning Operations Research/Technical Assistance Project in Sub-Saharan Africa, to assess the adequacy of the service installations and the quality of care provided to the clients. The data collection involves multiple modules (surveys with providers and with clients, observation of providers in counseling sessions, inventory of equipment and supplies, to name the most widely used). The situation analysis has since been expanded to numerous countries around the world and can provide data on other aspects of reproductive health interventions.

SERVICE UTILIZATION

- Number of new acceptors of condoms
- Number of condoms distributed
- Percentage of clients who demonstrate correct use of a condom
- Percentage of family planning clients who accept condoms
- Percentage of clients counseled on STD/HIV at an SDP
- Percentage of client visits during which RTI services are provided

Indicator

NUMBER OF NEW ACCEPTORS OF CONDOMS

DEFINITION

The number of new acceptors of condoms.

DATA REQUIREMENTS

Counts of the number of clients who begin to utilize condoms or who opt for dual methods (one method for pregnancy protection, the other for STD/HIV protection) over a specified period of time.

DATA SOURCE(S)

Service statistics collected by SDP staff.

PURPOSE AND ISSUES

For the sexually active population, condom use is generally considered to be the most effective means of protection from infection. This indicator tracks the number of persons that the program enrolls for condom use in a given reference period.

One shortcoming of this indicator is that condoms are often dispensed in a more informal way than other contraceptive methods. Clinics may make them available for the asking, often without keeping service statistics on the users involved. Similarly, the major outlet for condoms in most countries is pharmacies, and in these cases no records are kept with which to measure number of new acceptors. Nonetheless, if data are available, this indicator can be useful as a simple measure of output generated by the program.

There are concerns about the reliability of condoms as a contraceptive technology, which have led to the recommendation of dual method use (e.g., combining one of the other family planning technologies with condoms or some other barrier method, further explained in the indicator on "Method mix (including dual method use)." To date, there has been little attempt to track dual method use at either the SDP or population level.

A related indicator is "percentage of FP clients who accept condoms." Both indicators are retained in this report, since the "percentage of FP clients who accept condoms" presupposes a service in which contraceptives are also available; this will generally but not always be the case. Also, "number of new acceptors of condoms" reflects condom utilization *per se*; by contrast, "percentage of FP clients who accept condoms" is affected not only by trends in condom use but also by unrelated trends in contraceptive use. For example, the number of new acceptors of condoms could be on the **increase** in a given program, but the percentage of FP clients who accept condoms could be on the **decrease**, if the uptake of **other** FP methods were faster than the uptake of condoms.

Prepared by Lori Heise, Pacific Institute for Women's Health.

Indicator

NUMBER OF CONDOMS DISTRIBUTED

DEFINITION

Number of units sold or distributed to the population free of charge.

DATA REQUIREMENTS

Counts of the number of condoms distributed by a SDP within a given period of time.

DATA SOURCE(S)

Service statistics collected by SDP staff.

PURPOSE AND ISSUES

The indicator measures the volume of condoms distributed to members of the target population; if tracked over time, it will reflect the extent of acceptance for this method.

This indicator is useful in determining the commodity requirements of each SDP. In some settings, obtaining an accurate figure may be problematic, especially when condom distribution is not recorded in a reliable manner. It is not uncommon to find a discrepancy between the number of condoms distributed and the number actually used.

Usage may be overestimated in cases where the clients accept the condoms, but do not use them; or in cases where clients have other sources of condoms not included in the evaluator's count.

The advantage of this indicator is that data is easy to collect, relatively reliable (especially if there is a charge for the condoms), and intuitively clear. One disadvantage is that it is not possible to distinguish (a) the actual number of persons using condoms through the program; and (b) the reasons for their use (protection from pregnancy versus STDs).

Another shortcoming of this indicator is that it constitutes an absolute number and does not provide a sense of "coverage." The indicator may be improved by introducing a denominator. Two alternatives are (1) the population base to whom the condoms are being distributed (i.e., condoms per capita); and (2) the number distributed within a specific region as a percentage of the total quantity distributed.

Prepared by Lori Heise, Pacific Institute for Women's Health.

Indicator

PERCENTAGE OF CLIENTS WHO DEMONSTRATE CORRECT USE OF A CONDOM

DEFINITION

The percent of clients or participants who demonstrate the correct way to put a condom on a model as evaluated by a trained observer. "Correct" refers to the condom being put on the model according to the procedure used in the intervention being evaluated or the standards established by the program.

DATA REQUIREMENTS

The number of people who demonstrate the correct way (according to established standards) to put a condom on a model, and the total number of people observed putting a condom on a model. The population may vary depending upon the setting in which this indicator is used.

DATA SOURCE(S)

Assessment by a trained observer, based on standards outlined by the program or intervention staff.

PURPOSE AND ISSUES

Correct condom use is an important indicator in determining the success of STD/HIV intervention. Caution must be used in interpreting this indicator, as knowledge may not lead to practice. In short, knowledge is necessary, but not sufficient to correct practice.

Incorrect use of condoms increases the likelihood that condoms will tear, break or slip, or that leakage will occur around the base of the condom. This decreases effectiveness in preventing disease transmission or pregnancy. The assessment of correct use of condoms is generally more difficult than the usual assessment of knowledge or frequency of use. However, because correct use is so critical, this indicator of condom use skill can provide a more detailed and accurate picture of the effectiveness of interventions.

The population used as the denominator will vary depending on the intervention being evaluated. Examples include sexually active individuals who come to an SDP, all clients who come to the SDP, only those clients who use condoms, or only people who were given instruction on condom use. To date, this type of indicator has been used primarily to evaluate training programs with individuals engaging in high risk behaviors, such as commercial sex workers.

Data for calculation of this indicator come from direct observation of people asked to demonstrate how a condom should be put on using a model. These data are not available from standard surveys and require special studies. These studies may not be easy to carry out, in part because clients may feel uneasy demonstrating condom use on a model. Also, it is important to test each person in private to avoid clients' learning from previous person tested.

It should be noted that other factors that are not measured by this indicator may influence the effectiveness of condoms in preventing disease transmission, such as type of lubricant used (if any) and condom storage conditions. If more detailed information on the latter is desired, survey questions could be designed to get more data on the ability of the study population to correctly use condoms.

Prepared by Mark Barone, AVSC International.

Indicator

PERCENTAGE OF FAMILY PLANNING CLIENTS WHO ACCEPT CONDOMS

DEFINITION

The percent of clients who visit an SDP for the purpose of obtaining contraceptives, and who leave with condoms (either as their sole method of contraception or in combination with another method).

DATA REQUIREMENTS

The number of clients seeking family planning services at a given SDP (or set of SDPs) in a given reference period (e.g., one year); of these, the number who accept condoms as the sole method of contraception, or in connection with another method.

DATA SOURCE(S)

Service statistics, client record forms.

PURPOSE AND ISSUES

With the spread of the AIDS epidemic, there is an increasing importance given to the promotion of condom use, either as a single method that will prevent both unwanted pregnancy and disease, or as a supplementary method for disease prevention to be used in conjunction with another contraceptive method. This indicator provides program managers with a crude measure of the extent to which the SDP(s) are successfully promoting condom use among clients.

It is recognized that a client may leave the SDP with condoms and never use them. This is more likely to be true in a facility where they are given free of charge than where there is at least a nominal charge for them. Nonetheless, this measure is useful in indicating whether service providers are actively promoting condoms as a method among their clients.

It is important to recognize that service statistics forms are often designed to record only one contraceptive method. Thus, those wishing to collect this kind of information must ensure that the forms allow for registering more than one contraceptive method.

It should also be noted that this measure may not reflect behavior at the population level (see the separate indicator entitled "Percentage of sexually active adults who report current use of condoms"), nor does it accurately assess the degree to which couples are practicing dual method use; see the indicator entitled "Method mix (including dual method use)". For example, a woman might seek a contraceptive method from a family planning clinic for the purpose of preventing pregnancy, yet count on her partner to purchase condoms from the local pharmacy for the purposes of STD/HIV prevention. In such a case this woman would not be recorded as a condom user based on service statistics, but should be counted as such if she were interviewed in a population level survey.

Prepared by Jane Bertrand, EVALUATION Project/Tulane University.

Indicator

PERCENTAGE OF CLIENTS COUNSELED ON STD/HIV AT AN SDP

DEFINITION

The percent of clients counseled on STD/HIV at a SDP within a specified period of time.

DATA REQUIREMENTS

Number of clients who undergo STD/HIV-related counseling at each SDP, and the total number of clients receiving services at the SDP. The figures for individual SDPs could be summed to give an indication of the system-wide coverage.

DATA SOURCE(S)

Observation by an expert in counseling and STD/HIV (preferable); service statistics collected by SDP staff; exit interview with clients.

PURPOSE AND ISSUES

This indicator is designed to communicate the volume of counseling services that are delivered in a particular facility/system. Taken in isolation, it is of limited value. However, when analyzed in conjunction with performance targets and/or historical data, it can provide information about the relative effectiveness of a program. It can also provide information that could be utilized in the determination of the staffing requirements of SDPs.

It would be useful to have the distribution of clients by sex for this indicator. The ability to apply the skills acquired in such counseling sessions is, to a large extent, dependent on partner communication and cooperation. If the gender mix for counseling services is significantly skewed in favor of females, then efficacy questions may arise.

One of the major limitations of this particular indicator is the fact that it does not distinguish between new clients and those making repeat visits. Additionally, it does not capture the quality of the counseling services that are provided. Therefore, it is important that this indicator be analyzed in conjunction with the related quality of service indicator.

Prepared by Joan Underwood, Health and Development Project.

Indicator

PERCENTAGE OF CLIENT VISITS DURING WHICH RTI SERVICES ARE PROVIDED

DEFINITION

The percentage of total visits to a service delivery point (or a group of SDPs within a system) during which clients have received RTI services including counseling, condom provision, diagnosis, treatment, or referrals in a given reference period (e.g., one year).

DATA REQUIREMENTS

The total number of client contacts at an SDP by type of service(s) requested (e.g., family planning only, RTI only, both FP and RTI, or other health services). The data can be aggregated over SDPs to get a total for a group of SDPs.

DATA SOURCE(S)

SDP statistics and client records.

PURPOSE AND ISSUES

This indicator is a measure of the total volume and level of effort for RTI services within a given SDP or set of SDPs.

The breakdown of visits by type of service allows the data to be expressed as the percentage of total SDP visits which are for RTI services, providing an indication of the level of effort devoted to RTI versus other services. Collection of more detailed data on nature of the services rendered (counseling, diagnosis, treatment, follow-up, partner referral, etc.) provides a measure of the level for different RTI service components. Examples include: the number of visits for follow-up, the number of visits resulting from partner referral, and the number of visits where clients requested condoms for STD prevention. This information can be combined with other data to obtain crude measures of productivity (e.g., does the mean number of client visits per full time service provider or per SDP increase or decrease?).

The advantage of this indicator is that it is simple; data collection is easy and uses simple definitions. There are, however, several disadvantages to this indicator. First, it does not provide information on the number of clients receiving RTI services, since a single individual can make multiple visits during the given period. Second, it does not distinguish new clients from those who have been reinfected or those clients whose infections have not cleared due to either incorrect provider treatment or lack of client compliance. And third, it cannot be used to extrapolate RTI prevalence rates.

This indicator may reflect the availability of RTI services (staff and facilities prepared to provide the broader RTI package), or ability to offer services that are on site. It is proposed for the purposes of further testing.

Prepared by Mark Barone, AVSC International and Felice Apter, USAID.

Chapter III

Outcome Indicators

- Section A: Intermediate Outcomes
- Section B: Long-Term Outcomes

INTERMEDIATE OUTCOMES

- Percentage of target population that know how to prevent STD/HIV
- Percentage of sexually active adults who report current use of condoms
- Percentage of condom users that report consistent use
- Method mix (including dual method use)
- Percentage of adults that have discussed sexual issues with partner in past twelve months
- Percentage of women at risk of reproductive tract infection (RTI) due to personal hygiene practices
- Percentage of adults practicing care-seeking behaviors that reduce STD/RTI infection
- Percentage of adults reporting specific risk behaviors for STD/HIV infection
- Percentage of adults practicing low risk behavior for STD/HIV
- Percentage of sexually active adults who accurately perceive their risk of acquiring STD/HIV infection
- Percentage of target population with an unmet need for protection
- Female empowerment for condom use: composite indicator

Indicator

PERCENTAGE OF TARGET POPULATION THAT KNOW HOW TO PREVENT STD/HIV

DEFINITION

The percentage of persons in the reproductive age group of the target population who can correctly identify three acceptable means of self-protection from STD/HIV infection. Such methods include: consistent condom use; the reduction of partners, especially high-risk partners; and mutual monogamy.

DATA REQUIREMENTS

Spontaneous mention by respondent of means to avoid STD/HIV infection. Appropriate answers include consistent condom use, reduction of partners, especially high-risk partners; and mutual monogamy.

DATA SOURCE(S)

Survey of a sample (preferably random) of the target population.

PURPOSE AND ISSUES

This indicator is designed to measure the level of awareness of various means of protecting oneself from the sexual transmission of HIV and other STDs. It is useful as a baseline measure against which to measure the effectiveness of behavioral communications. It is important to bear in mind that knowledge of STD/HIV and an awareness of methods to prevent their transmission does not necessarily translate into safer sex practices.

The knowledge of facts (about transmission, prevention, sources of methods, risk behavior, etc.) in and of itself has a very limited effect on behavior. Thus, in almost all situations, the "percent that know how to prevent STD/HIV" indicator should be used in conjunction with the indicator on "percent of adults reporting specific risk behaviors for STD/HIV infection" to provide a clearer picture of the degree to which this knowledge is being put into practice.

This indicator also provides data for program interventions on the extent to which IEC material and other media have effectively reached the target populations. This information can be particularly useful in the early stages of awareness regarding HIV in a given country, when such knowledge is a necessary (although not sufficient) condition for behavioral modification. Changes in this indicator over time are especially useful in monitoring awareness and determining the degree to which the disseminated IEC messages (and possibly messages from other sources) are reaching the target population. It is important to note, however, that in countries with a high prevalence of STD/HIV, knowledge of their transmission and methods of prevention may be commonplace, with little or no change in behavior among substantial proportions of the population at risk.

Prepared by Stacey Lisset, CEDPA and Joan Underwood, Health Development Policy Project.

Indicator

PERCENTAGE OF SEXUALLY ACTIVE ADULTS WHO REPORT CURRENT USE OF CONDOMS

DEFINITION

The percent of men or women of reproductive age who report themselves to be sexually active (e.g., according to a specific operational definition, such as sexual activity in the past month) and who report current condom use for sexual relations.

DATA REQUIREMENTS

The number of respondents who report themselves to be sexually active, the number of sexually active respondents who report current condom use (for contraceptive purposes and/or STD prevention), and the total number of respondents.

DATA SOURCE(S)

Population based surveys (e.g., DHS type surveys); coital logs (i.e., diaries that respondents are asked to keep on coital activity for a specified time period).

PURPOSE AND ISSUES

This indicator provides policy makers and program managers with a measure of the extent of condom use among the general population. In the context of the AIDS epidemic, condoms represent one of the few preventive strategies available to avoid the spread of the infection. If programs are successful in encouraging couples to use this preventive measure, one would expect to see an increase in condom use among the general population over time.

Condom use may be motivated by desire to prevent pregnancy and/or to prevent STD/HIV infection. Some couples will use condoms as the sole method for both purposes. Others may opt to use condoms in connection with another contraceptive method, a phenomenon known as dual method use; in this case condoms are presumably intended for disease prevention, whereas the other contraceptive method is added to ensure effective prevention against pregnancy.

With the spread of AIDS and the realization that HIV and other STDs are a significant problem for all sexually active people policy makers and program administrators have taken a new perspective on condoms as well as other barrier methods. Whereas previously condoms were often treated as the method of last resort, they are now promoted in many programs as the viable option for both pregnancy prevention and STD control.

This shift in method mix toward a greater reliance on condoms creates a dilemma for family planning providers. In terms of pregnancy prevention, this shift means moving away from more effective contraceptive methods; yet in terms of disease prevention it represents a positive trend. One response to this dilemma has been the promotion of dual method use (the use of two methods simultaneously, such as the injectable for pregnancy prevention and the condom for STD prevention). However, this solution places an added burden on the

Prepared by Julie Becker, IPPF/Western Hemisphere Region and Jane Bertrand, EVALUATION Project/Tulane University.

user, who must remain supplied with both methods and use not one, but two, methods correctly; it also places additional burdens on the service delivery system to provide even more contraception to a given number of clients.

In fact, the current indicator does not directly address the issue of the efficiency of condom use for prevention of pregnancy. Rather, it places the importance on the use of condoms for STD/HIV prevention. It asks the question: irrespective of contraceptive goals, to what extent is the population attempting to protect itself against STD/HIV infection?

This indicator can be applied to all sexually active adults in the target population. Alternatively, it can be used with respect to a more limited segment of the population reporting behaviors that place them at high risk of STD/HIV infection. For example, in countries where the phenomenon of multiple partners is relatively rare and the threat of AIDS is low, there may be little public health rationale for promoting condom use among mutually monogamous partners. By contrast, in a population where many adults have multiple partners and the prevalence of HIV infection is high, programs should promote widespread use of condoms among sexually active adults. Indeed, even in marital relations where one of the partners remains monogamous, there is a risk of infection if the other partner engages in high risk behaviors. If possible, it is of interest to monitor trends in contraceptive use both for the general population of sexually active adults and for the sub-group that engages in risky behavior. The definition of the indicator remains the same; however, the denominator changes (to include only those who engage in behaviors that put themselves at risk of STD/HIV, based on self-report in a survey).

This indicator can be further refined by specifying the consistency of condom use (see next indicator). In fact, this is important in determining the potential effectiveness of condom use in preventing pregnancy and STD/HIV infection, since many adults who report to be condom users on surveys do admit to using them "some of the time" or "rarely" when probed.

With regard to the data collection instrument, it is important for researchers to ensure that they capture condom use for whatever motivation (pregnancy or disease prevention). That is, if in one section of the questionnaire the respondent is queried about current method of contraceptive use, it is important to ask additional questions (possibly in a- nother section of the questionnaire) on con- dom use for disease prevention. The respond- ent might fail to report condom use as a contraceptive method if in fact that individual were using dual methods and condoms served him of her only as a method of disease prevention. Since data collection forms have not conventionally elicited information on dual method use, it is important that the instrument be designed to reflect the reality of dual method use in certain settings.

Indicator

PERCENTAGE OF CONDOM USERS THAT REPORT CONSISTENT USE

DEFINITION

Among sexually active adults of reproductive age who use condoms, the percent that claim to use them consistently.

DATA REQUIREMENTS

The proportion of respondents of reproductive age who report using a condom "always," "most of the time," "some of the time," "rarely," or "never," during a given period, such as the previous year, and the total number of respondents.

DATA SOURCE(S)

Population-based surveys (preferable); interviews with clients at SDPs.

PURPOSE AND ISSUES

The level/consistency of condom use provides a crude measure of the extent which a population is gaining protection from STD/HIV infection through condom use. Researchers may further specify whether there is dual method use (condoms with another contraceptive method) or condom use alone.

This indicator can be applied either at the program level (among clients) or the population level, depending on the purpose of the evaluation or research. The decision depends on whether researchers want to reach those who are identified as condom users through a given program or the broader group of those potentially affected by the intervention (condom promotion).

Consistency of use is generally measured in one of two forms: by asking about use during "last intercourse" or by asking respondents who report to use condoms whether they use them "always," "most of the time," "some of the time," "rarely," or "never." The "last intercourse" is less af- fected by recall bias; however, there may be little correlation between "last use" and consistent use. Further precision can be gained by asking about condom use with reference to a specific number of sexual acts; for example, "of the last five times you had sexual relations, how many of these acts were protected with condom use?"

A further complication with regard to this question of consistency relates to the issue of "consistency with which partner?" If the respondent reports having multiple sexual partners, the question of contraceptive use during the last five sexual acts can be asked separately for the regular partner (e.g., the spouse) and for any other non-regular partners. The definition of the indicator can be adjusted to reflect the added precision gained with respect to condom use. For example, one could report "the percentage of sexually active adults who report using condoms 'always'."

Questions about consistency of use should ideally reflect dual method use (where applicable), such as a combination of non-barrier methods with condoms, or condoms with other barrier methods such as spermicides or the diaphragm (see next indicator).

Prepared by Christa Coggins, The Population Council.

Indicator

METHOD MIX (INCLUDING DUAL METHOD USE)

DEFINITION

The percentage distribution of contraceptive use by method.

DATA REQUIREMENTS

Percentage of current contraceptive use corresponding to each method, including the category of dual method use (if measured at the population level using survey data). Alternatively, the percent distribution of acceptors by method, including dual method use (if measured at the program level using service statistics).

DATA SOURCE(S)

- Population-based surveys
- Service statistics

PURPOSE AND ISSUES

Method mix provides a profile of the relative level of use of different contraceptive methods. In the context of family planning programs, a diversified method mix suggests that the population has access to a broad range of contraceptive methods. Method mix that is not diversified can reflect provider bias, supply problems or user preferences. Although there is no "optimal method mix," it is considered desirable to have a range of methods used. Historically, in family planning programs, emphasis has been placed on longer-acting, highly effective methods (e.g., voluntary sterilization, NORPLANT® and IUDs).

With the emergence of the AIDS epidemic and the realization that HIV and other STDs are a significant problem for all sexually active people (including family planning clients), policy makers and program administrators have taken a new perspective on condoms, as well as other barrier methods. Whereas in the past condoms were often treated as a method of last resort, or as a back-up method, they are now promoted in many programs as a viable option for both pregnancy prevention and STD control.

The integration of STD/HIV prevention into family planning/reproductive health services is expected to alter method mix. Specifically, the percentage of total use corresponding to condoms is expected to increase as a result of (a) greater efforts by service providers to promote condoms, and (b) greater awareness among clients of the potential risks of STD/HIV infection.

This shift in method mix poses a curious problem to evaluators of integrated programs: should an increase in condom use as a percentage of all methods be interpreted as positive or negative? In terms of pregnancy prevention, it represents a shift away from the more effective contraceptive methods; yet in terms of disease prevention, it represents a positive trend. In fact, there could be an increase in condom use which would not be detrimental to pregnancy prevention efforts, which involves **dual meth-**

Prepared by Julie Becker, IPPF/Western Hemisphere Region and Jane Bertrand, The EVALUATION Project/Tulane University.

od use (i.e., the use of condoms in addition to another family planning method, such as the IUD for pregnancy prevention and the condom for STD prevention).

While the possibility for dual method use has long existed in family planning programs, it has not been carefully monitored. Prior to the AIDS epidemic, "dual method use" tended to refer to the use of condoms and spermicides in combination to increase use effectiveness. However, neither method alone tended to constitute a high percentage of use, and thus neither (even in combination) were followed closely.

As programs come to integrate STD/HIV prevention into family planning and other reproductive health services, it will be important for evaluators to improve their tools to measure dual method use. Specifically, it will be necessary to develop data collection forms for use in SDPs that allow for recording simultaneous use of at least two methods. Similarly, population-based surveys will need to treat the question of current contraceptive use as a variable with multiple responses possible.

When designing instruments to collect service statistics or survey data, one can add dual method use as a new category. Although many programs have chosen to count only the more effective method in cases of dual method use when analyzing couple-years of protection (CYP), it is possible to add dual method use as a category within CYP as well. It is important to avoid counting condoms twice; this can be done by clearly labeling the categories (e.g., condoms only versus condoms with another contraceptive method).

Indicator

PERCENTAGE OF ADULTS THAT HAVE DISCUSSED SEXUAL ISSUES WITH PARTNER IN PAST TWELVE MONTHS

DEFINITION

The percent of adults currently with a regular sexual partner who have discussed sexual matters (needs, concerns, desires, etc.), contraceptive use, or risk of infection from STD/HIV with their sexual partner over the past year.

DATA REQUIREMENTS

Responses to survey questions:

- Do you have a regular sexual partner?
- Have you ever discussed sexual matters (needs, concerns, desires, etc.) with your regular sexual partner over the past twelve months?
- Have you ever discussed contraception with your regular sexual partner over the past twelve months?
- Have you ever discussed your risk of STDs or HIV with your regular sexual partner over the past twelve months?

Indicator to be calculated as:

Numerator	the number of persons who have ever discussed sexual matters or contraceptive use or risk of infection from STD/HIV with their sexual partner over the past 12 months.
Denominator	total number of persons currently with a regular sexual partner.

DATA SOURCE(S)

Survey of target population.

PURPOSE AND ISSUES

Research evidence shows that partner communication on issues related to sex is an important determinant of HIV/STD risk reduction. Programs should promote partner communication, and this indicator is available to measure whether such changes have occurred at the population level. It could also be used as a measure of output among clients in a given program, provided pre- and post-test data could be obtained.

Prepared by Geeta Rao Gupta, International Center for Research on Women, and Lori Heise, Pacific Institute for Women's Health.

Indicator

PERCENTAGE OF WOMEN AT RISK OF REPRODUCTIVE TRACT INFECTION DUE TO PERSONAL HYGIENE PRACTICES

DEFINITION

Percent of women of reproductive age who report one or more personal hygiene practice(s) that increase(s) their risk of a reproductive tract infection (RTI).

DATA REQUIREMENTS

Answers given by female respondents regarding periodic or regular practice of the following:

- frequent douching;
- douching with caustic agents (e.g., Clorox, pesticides);
- use of vaginal desiccants or other vaginal preparations/irritants;
- use of antibiotics in a prophylactic manner; or
- use of cloth or other material for menstrual protection that is unsterile or has not been washed and dried.

DATA SOURCE(S)

Survey among a (preferably random) sample of women of reproductive age in the target population, preceded by in-depth qualitative research (i.e., key informant interviews) to identify the types and local names for potentially harmful practices common in the population under study.

PURPOSE AND ISSUES

This indicator is designed to provide information on a topic that has received little attention to date but that constitutes an important health risk to women: reproductive tract infections (RTIs). Information from this indicator would provide program planners and managers with a more concrete idea of the practices that should be targeted in future reproductive health educational interventions. Moreover, repeated surveys in a given population would indicate the extent to which ongoing interventions (and possibly other sources, such as the media) have resulted in changes regarding these harmful practices. These practices include frequent douching and douching with caustic agents such as clorox or pesticides, use of vaginal desiccants or other vaginal preparations/irritants, use of antibiotics in a prophylactic manner, and for non-sexually transmitted RTIs, the use of unclean cloths for menstruation.

Frequent douching has been associated with increased risk of pelvic inflammatory disease, ectopic pregnancy, and cervical cancer in a number of studies, all diseases known to be sequelae to untreated lower reproductive tract infections. Women who douche at least once a week had a nearly four times increased risk of PID than women who douche less frequently and among current douches, PID was significantly related to frequency of douching (Wolner-Hanssen et al., 1990; Scholes et al., 1993). In the case of PID, it is thought that infected fluid from the lower reproductive tract might be propelled into the uterine cavity and other

Prepared by Joan Kaufman, Abt Associates.

upper pelvic areas by douching, or that the bacteriostatic barrier in the cervix might be compromised (Chow et al., 1985). The risk of tubal ectopic pregnancy for women who douched at least weekly was twice that of women who never douched and the risk for women who used commercial douches on a weekly basis was 4.4 the risk for women who never douched (Chow et al., 1985). Cervical carcinoma risk also increased significantly for women who douched more than once a week, regardless of douching preparation used. Douching is thought to alter the vaginal chemical environment making the cervix more susceptible to pathologic change (Gardner et al., 1991). The use of other intravaginal preparations has also been associated with increased risk of RTIs and STDs. In a study conducted in Zambia, HIV seroconversion was 28-fold among Zambian women in couples practicing "dry sex", a practice by which couples wipe out the vagina with a rag if the woman becomes very lubricated during intercourse (Hira, 1990).

Self-medication with antibiotics as a prophylaxis for RTIs can also increase the risk of infection by contributing to the development of drug-resistant strains of the pathogen. For example, penicillin resistant strains of gonorrhea are increasing in prevalence worldwide, partly in response to incomplete courses of treatment for infections. For non-sexually transmitted reproductive tract infections, such as bacterial vaginosis (BV), some studies have shown an association between menstrual hygiene practices and increased risk of infection. In Bangladesh the use of rags to absorb menstrual blood was significantly associated with an increased risk of infection with BV. These rags were washed in contaminated river water and not dried in the sun (Wasserheit et al., 1989). Preliminary findings from China confirm this relationship between the use of unclean menstrual cloths and increased risk of BV (Yan and Wang, 1995).

Currently, given the life-threatening nature of HIV infection and the debilitating effects of other STDs, much of program effort is focused on preventing STD/HIV infection. But the reproductive health consequences of upper genital tract infections caused by some RTIs can be as severe as those caused by STDs, and because in many places of the world RTIs are believed to be more prevalent among women than the classic STDs, it is important to address RTIs in program activities. This indicator is included in this series to focus attention on the need to decrease personal hygiene practices that may be one cause of RTIs in societies where they are widespread.

Indicator

PERCENTAGE OF ADULTS PRACTICING CARE-SEEKING BEHAVIORS THAT REDUCE STD/RTI INFECTION

DEFINITION

The number of persons at a given point in time citing specific care-seeking health behaviors as a percentage of sexually active adults in the population under study. This indicator may be expressed for population subgroups by sex, occupation or by urban/rural residence. Depending on the variable being measured, the indicator will be expressed as either a mean (median) for continuous variables or as a percentage for dichotomous variables.

DATA REQUIREMENTS

Responses to questions on care-seeking behavior, such as:

- recognition of symptoms requiring care;
- interval between onset of symptoms and seeking of care;
- appropriate identification of location of care (clinic, pharmacy, vendor, self, etc.);
- self-referral for medical screening of individuals at high risk for a STD. Screening for asymptomatic infection requires more laboratory diagnostics than treating symptomatic individuals;
- compliance with prescribed therapy for STD/RTI; and
- partner referral.

Prepared by Gina Dallabetta, FHI, Harshad Sanghvi, JHPIEGO, and Joan Kaufman, Abt Associates.

DATA SOURCE(S)

Survey (preferably with a random sample) of the target population. Some of these questions for specific clinic populations may be part of routine data collection (e.g., intake interview). Clinic-based data do not reflect the general population but only that subset attending the clinic. Similar information can be obtained from focus groups, though they will not provide percentage data.

PURPOSE AND ISSUES

The purpose of these indicators is to provide a basis for assessing behaviors other than sexual risk behaviors associated with the treatment of a STD, and reproductive health practices that may reduce the risk of an STD or other reproductive tract infection.

This indicator measures individuals' knowledge of abnormal symptoms and where to seek care. Additionally, one measurement of improved care-seeking behavior would be to shorten the interval between symptoms and seeking care preferably to a few days. However, the duration will be locally determined by such factors as the cost of care, the availability of care and local beliefs. Ideally, care should be sought at a medical facility with trained personnel and adequate supplies. One would like to see a decrease in the numbers of symptomatic individuals seeking care from street vendors, traditional healers and other non-medical outlets.

This indicator deals with care-seeking behaviors in a person with a symptomatic genitourinary complaint consistent with a sexually transmitted disease. It is generally felt that the clinical signs and symptoms of urethritis in men (dysuria and urethral discharge) are sensitive for infection with gonorrhea and/or chlamydia infection. However, as the true magnitude of asymptomatic infection in males has not been fully evaluated, the specificity is unknown. The same is true for genital ulcer disease in both men and women when the clinical signs and symptoms include genital epithelial disruption and pain/discomfort. The specificity of genital ulceration is unknown and while it is probably much higher in men than women, women are usually less likely or less willing to perform self examination, and many of the lesions in women may be asymptomatic due to their location. Vaginal discharge, on the other hand, is a very non-specific complaint and is therefore neither sensitive nor specific for infection. Moreover, data from Africa indicate that even grossly abnormal discharges are either not recognized as abnormal or no treatment is sought for numerous reasons. Syphilis is asymptomatic after the first two stages of the disease, primary disease manifest as ulcers and secondary disease manifest as rash.

Data from developing countries indicate a very high level of unrecognized RTIs. As a result of this lack of specificity of the signs and symptoms of common STDs, questionnaire data may have limited usefulness, especially in women, of estimating the prevalence of STDs. Consequently, this indicator reflects care-seeking behavior only for those individuals who are symptomatic or, in limited circumstances, feel that they are at high risk. In order to maximize the information obtained from surveys and questionnaires, evaluators must have an understanding of the community perspective regarding STD issues including the community's perceptions of illnesses and use of local names. This information should be obtained through ethnographic research prior to questionnaire development.

Indicator

PERCENTAGE OF ADULTS REPORTING SPECIFIC RISK BEHAVIORS FOR STD/HIV INFECTION

DEFINITION

The percent of adults assessed to be at risk of STD/HIV infection based on specific sexual behaviors associated with transmission of infection. Information should be collected on each separate behavior but can be analyzed jointly to better reflect the extent of risk in a given population.

DATA REQUIREMENTS

Filter question to identify respondents who are currently sexually active (e.g., have had sexual intercourse in a given reference period), and responses on the following variables:

- **Number of sexual partners during a given period of time:** The question addresses either lifetime number of sexual partners or number of partners during an interval of time that is determined to elicit accurate recollection. The interviewer needs to probe to clarify that the question about "partners" is phrased to elicit "the number of people with whom you have had sexual relations in the given time period." Because sexual frequency is high for commercial sex workers (CSWs), the interval is best stated in weeks or days with questions to follow that will assess periodicity of sexwork; with adolescents and young adults, it should be stated in months or at most 1-3 years; with adults, the period can be longer, such as the last 3-5 years. Beyond 3-5 years the response loses accuracy and is somewhat less important in assessing individual risk exposure. The question is more accurately answered when it is stated historically, rather than in an hypothetical or aggregate manner. It is important to probe in relation to other sexual contacts of the main partner(s).

- **Type of sexual partner(s):** Sexual partners will be categorized as low risk or high risk. High risk sexual partners can include all those who are known to have multiple concurrent sex partners; who have sex with a known high risk partner; who frequently have sex while their judgment is impaired by substance abuse; who are intravenous drug users; who have sex with a partner(s) who have HIV/STDs.

- **Number of sexual encounters during a given period of time:** The number of sexual encounters increases the risk of STD/HIV to the extent that the partner is likely to be infected and/or these encounters involve multiple partners. The question should be asked for a specific time interval selected to elicit accurate recollection from the respondent (e.g., the last four-weeks).

- **Non-use of condoms:** Three questions that are frequently used include:

  - Do you or your partner use condoms?
  - How consistently do you use them? (with answers falling in the categories of "always", "most of the time", "some of the time," "rarely," or "never"); and

Prepared by Nadine Burton, The Futures Group and Laurie Fox, Family Health International.

- In the last five acts of intercourse, how many were "protected" (by condom use)?

However, where a respondent has multiple partners, it may be necessary to create a matrix that allows for these questions to be asked in relation to more than one partner.

DATA SOURCE(S)

Response to sample survey questions, such as the DHS or specialized KAP surveys or in-depth interviews.

PURPOSE AND ISSUES

Sexual behaviors provide key information for assessing the risk of contracting STDs or specifically HIV. There is a direct relationship between the number of sexual partners, the partner's risk level, and coital frequency with the risk of becoming infected or reinfected with STD/HIV. The risk of infection is heightened when multiple partners are concurrent as opposed to a situation of serial monogamy. The risk is also increased when coital frequency with a high-risk partner is high.

Coital frequency and the number of sexual partners are regularly used in modeling the transmission of STDs and HIV and are closely related. It is imperative to measure these two variables accurately. Substantial precautions should be taken to ensure that the quality of the data used for modeling is of high standard. As questions on sexual behaviors are difficult to ask and evaluate, the relationship between interviewer and respondent is critically important. Careful recruitment and training of interviewers are key factors to elicit good data.

Sexual behavior cannot be observed directly, because information is based on self-reporting of practices through interviews. In general, sexual behaviors are not easy to ascertain accurately, since the subject matter is very private for most individuals in many societies, and it has deep implications of self-worth and morality for many. Meanings and values of terms for relationships and acts vary greatly with language, culture, social class, gender, and even according to the setting. Survey questions about sexual beha-viors need to be carefully worded and administered. Formative ethnographic research to identify local terms and norms for various types of sexual relations and behaviors is essential before survey instruments are developed. In particular, the formulation of questions must be devoid of value judgment. The gender and age parity or disparity between interviewer and respondent has been shown to influence responses in many surveys.

To improve the accuracy of this kind of data, additional questions can measure the time since the last sexual encounter (open interval) and coital frequency (closed interval). The comparison of coital frequency reported by men and by women independently is useful in assessing the quality of the data.

This indicator on risk behaviors is based on multiple variables (listed above). Each of these variables is important in its own right and thus described as part of this indicator. Collectively, these variables are the source of information for several of the composite indicators that follow and are described separately (e.g., percent of adults with a low risk for STD/HIV, unmet need for protection).

Additional factors not included on this list may be important in specific settings or subpopulations (e.g., age at first penetrative sex, other sexual practices such as anal sex).

Because risky sexual behavior is at the heart of STD/HIV prevention efforts, some have argued for the need to better quantify these behaviors in an effort to monitor progress over time. Since quantification of risky sexual behavior is relatively new, we have little experience in its application to field settings. However, as an illustrative example of how one could quantify risky sex, we have included an example of an approach proposed by R.A. Bulatao of the World Bank in Appendix B.

Indicator

PERCENTAGE OF ADULTS PRACTICING LOW RISK BEHAVIOR FOR STD/HIV

DEFINITION

The percentage of the adult population whose sexual behavior and/or condom use places them at low risk of infection from STD/HIV.

DATA REQUIREMENTS

Responses from survey questions that define the respondents on the following behaviors:

- Has abstained completely from sex over the past 12 months.

If no,

- Has not had more than one sexual contact in the past 12 months.

If no,

- Has used condoms consistently ("always") with all partners in the last three months.

DATE SOURCE(S)

Survey among men and women of reproductive age.

PURPOSE AND ISSUES

This composite indicator combines information from several variables to identify members of the population who are theoretically protected from sexual transmission of STD/HIV infection. This indicator has a number of limitations, described below. Nonetheless, it provides a summary measure--analogous to contraceptive prevalence in family planning programs--that (with refinement) is potentially valuable to policy makers and program administrators seeking to express "success" in STD/HIV prevention programs with an intuitively clear measure.

The shortcomings of this indicator include the following. First, it lacks precision, in that there are behaviors not listed above that reduce but do not eliminate the risk of STD/HIV infections. For example, reducing the number of sexual partners from six to four and using condoms "some of the time" but not "always" in sexual relations with non-regular partners. However, the exact risk from these behaviors varies depending on a series of factors not easily measured (the probability that the other partners are infected, the actual proportion of sexual relations protected by condom use). Although in reality there is a continuum of risk ranging from 0 to 100, we have taken a conservative approach in operationalizing this indicator and have defined "low risk" to include those at the lower end of this continuum.

Second, in measuring variables such as "having a single (monogamous) partner" and "consistent use of condoms," the reference periods have been limited in an arbitrary manner (to 12 and 3 months, respectively) to minimize recall bias. However, an individual could be classified on this indicator as being at "low risk," when in fact he/she could be at risk (or in fact already be infected) due to unprotected sex before these arbitrarily

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established reference points.

Third, in countries with high levels of STD/HIV prevalence, a monogamous spouse may be at risk due to the partner's behavior. However, this is difficult to ascertain and thus is not included as a factor in this composite variable. In countries where partners are likely to be infected, it may be appropriate to ascertain condom use with long-term sexual partners. In countries with polygamous unions, it may be necessary to adjust the definitions used in operationalizing this indicator. For example, "not more than one partner" could be modified to "no partners outside the polygamous union."

The inverse of the safe sex indicator would give an estimate of the "Unmet need for protection" for either broader STD/HIV prevention services or for condoms.

Indicator

PERCENTAGE OF SEXUALLY ACTIVE ADULTS WHO ACCURATELY PERCEIVE THEIR RISK OF ACQUIRING STD/HIV INFECTION

DEFINITION

The percent of sexually active adults who perceive themselves to be at risk of STD (or specifically, of HIV) AND whose behaviors do in fact put them at risk.

DATA REQUIREMENTS

Two types of information are needed: (1) self-assessment of risk of acquiring an STD/ HIV; and (2) responses regarding sexual behavior (see "percent of adults reporting specific risk behaviors for STD/HIV infection").

DATA SOURCE(S)

Population-based or targeted surveys.

PURPOSE AND ISSUES

This indicator consists of two separate components: (1) the extent to which sexually active adults believe they may become infected with an STD (including HIV), whether or not they are in fact at risk; and (2) the accuracy of this perception in light of actual behavior.

In some cases, only the first part is used (e.g., perceived risk), in which case this indicator gives only a crude reflection (if any) of the actual risk of infection in a given population. It is mainly used to determine whether people feel personally threatened by the STD/HIV problem, since such beliefs appear to be a necessary (though not sufficient) catalyst to action. One approach to obtaining "perceived risk" is to explain to the respondent the factors that put a person at risk and then to ask: "Given what you know about (or we've talked about) HIV transmission and prevention, what do you think your chances are of getting infected?" (It is assumed that the respondent bases his/her response regarding perceived risk on one or more of the following: knowledge of STD/HIV transmission and prevention, aware- ness of prevalence in community; practice of risky sexual behavior; perception of vulnera- bility; skills to implement prevention behavior; use of condoms; and access to diagnosis.)

However, information on perceived risk is far more useful when combined with data on sexual behavior that reflects the actual risk of the individual in question. The results from the combined information can be presented in the following 2 X 2 table:

Perceives Self at Risk:	**Actually at Risk**	
	Yes	No
Yes	A Has Unmet Need	C Faulty Conclusion (The Worried Well)
No	B Ignorant of Risks (Or in Denial)	D Protected (Not at Sexual Risk)

The respondents who are concordant in their actual and perceived risks (A and D) constitute the proportion of the population with

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Prepared by Laurie Fox and Susan Hassig, Family Health International, in consultation with Julie Becker, IPPF and Allen Brimmer, USAID.

with an accurate assessment of their risk status. The relative size of Group A and Group D have obvious programmatic implica- tions, and thus it is useful to present the percentages for each of the cells of the table.

The two groups in greatest need of further information and services are A and B. Group A apparently acknowledges its risk but is not taking adequate precautions to protect itself from infection. Group B is also at risk (based on reported behaviors), but is not aware of or is unwilling to acknowledge this risk. In fact, Group B (the false negatives who think they are not at risk but actually are) represents a crucial target population, since more informa- tion, or more appropriately presented informa tion, may enable them to avoid infection.

Programs may also direct messages to two other groups with little or no risk of STD/HIV infection. Those in Group C are unnecessarily worried ("the worried well") and thus need further information to clarify their status. Finally, Group D correctly assesses that they are not at risk (or that their risk is lowered by the use of condoms), and program messages can serve to reinforce their behaviors.

With intensive program efforts, one would expect an increase in the percentage of the population in Group D: protected or not at sexual risk (and cognizant of that fact).

Indicator

PERCENTAGE OF TARGET POPULATION WITH AN UNMET NEED FOR PROTECTION

DEFINITION

The percentage of persons who are sexually active and perceive themselves to be at risk of STD/HIV, who do not report protective behavior against STD/HIV (consistent condom use or mutual monogamy).

DATA REQUIREMENTS

Data on:

- sexual activity (has had sexual relations in a specific period, e.g., the last 12 months);
- perceived risk of STD/HIV (considers risk to be "high," "moderate," "low," or "zero");
- consistency of condom use (reports using condoms "always," "most of the time," "some of the time," "rarely," or "never"); and
- mutual monogamy (neither respondent nor partner has had other partners in a specific period, e.g., the last 12 months).

DATA SOURCE(S)

Surveys (preferably with a random sample) of the target population.

PURPOSE AND ISSUES

This indicator is analogous to unmet need for family planning, which estimates the percentage of married women who report wanting to space or limit pregnancies but do not use contraception. In terms of STD/HIV, this indicator attempts to estimate the percentage of the sexually active population that believe themselves to be at risk of infection but do not report any of the behaviors that would most effectively protect them from infection: mutual monogamy or consistent condom use.

This indicator, as described above, includes all adults who reportedly perceive themselves to be at risk of infection. As described in the indicator on "percent of sexually active adults who accurately perceive their risk of acquiring STD/HIV," a certain segment of the population (the so-called "worried well") may consider themselves to be at risk, when in fact their reported behavior does not indicate any risk factors. The indicator for unmet need may be refined by removing such cases from both the numerator and denominator, and redefining the indicator as the "percentage who appropriately perceive themselves to be at risk."

One limitation of this indicator is that it is based on self-reports of multiple factors (perceived risk, consistency of condom use, mutual monogamy), any of which may be subject to biased response because of the sensitive nature of the questions involved. As such, this indicator should be taken as a crude estimate rather than a precise figure. Nonetheless, it is potentially very useful in summarizing for policy makers the magnitude of the problem in a given population. Also, it

Prepared by Geeta Rao Gupta, International Center for Research on Women and Lori Heise, Pacific Institute for Women's Health.

serves as an evaluation indicator for tracking change in behavior over time in the months/ years following program intervention, promoting behavior change to protect the sexually active population from STD/HIV infection.

To the extent that sexually active adults engage in unprotected sex, the obvious question will arise: Why? Data on this indicator may suggest the need for further research on the issue of barriers to condom use. Five types of barriers that may exist in a given country include:

- Geographic (source of condoms too far away/too hard to reach);
- Economic (condoms too expensive);
- Administrative (limited hours of clinic service; limited number of condoms distributed per visit; restrictions regarding types of persons eligible to obtain condoms/services);
- Cognitive (lack of knowledge of existence and/or source of services); and
- Psycho-social (fear, embarrassment, negative attitudes toward act of procuring condoms and/or source of service).

Although one could also research the issue of mutual monogamy, this variable may be less amenable to influence by program interventions.

Indicator

FEMALE EMPOWERMENT FOR CONDOM USE: COMPOSITE INDICATOR

DEFINITION

A composite indicator combining knowledge, communication and access to estimate the degree to which a woman of reproductive age is "empowered" to practice "safer sex" with her partner.

DATA REQUIREMENTS

This indicator is composed of the three elements illustrated below. Depending upon the question, one point is given for each positive or negative response that demonstrates appropriate "empowered" behavior. A respondent receives a "one" in each element if 2 or more questions in the element are answered correctly. The summation of element scores equals the respondent's overall performance on the composite index, making the total possible score achieved equal to "3."

- **Knowledge**

  a. **Sexual Transmission of HIV/STD:** Does respondent have knowledge of HIV/STDs (e.g., can she correctly identify sexual transmission routes, including those people from whom she could possibly be infected (i.e., her partner)?

  b. **Preventive Methods:** Can respondent correctly identify at least 2 safer sex practices, including barrier methods?

  c. Awareness of Service Delivery Point: Does the respondent know the location of a distribution site for barrier methods?

- **Partner Communication/Relations**

  a. **Decision-Making Ability/Locus of Con-trol:** Has respondent discussed the risk of STD/HIV with her regular partner in the past 12 months?

  b. **Physical Security/Fear of Violence:** Would the respondent fear verbal or physical violence from her partner or any other household member in response to her interest in condom use?

  c. **Ability to Discuss Barrier Methods with Partner:** Is respondent able to ask her partner to wear a condom?

- **Perceived Access to Condom Use:** Does respondent feel her access to condoms is hindered by any of the following items?

  a. **Financial Barriers:** Perceived cost of condoms.

  b. **Geographic Barriers:** Perceived proximity to service delivery point.

  c. **Approval Barriers:** Perceived attitude toward condoms by the respondent herself, her partner, other member(s) of the household, community, etc.

DATA SOURCES

Population-based surveys and standardized

Prepared by Sandhya C. Rao, The EVALUATION Project/Tulane University.

psycho-social questionnaires that include questions on the above three domains. Respondents are women of reproductive age.

PURPOSE AND ISSUES

This composite indicator combines knowledge, communication and access to derive an index which reflects the degree to which a woman of reproductive age is empowered to practice condom use with her partner. Since it is conceptually difficult to operationalize a multi-dimensional phenomenon such as female empowerment into a single indicator, the variables here have been limited to include only those determinants that directly affect reproductive empowerment as it relates to condom use. It is assumed that other forms of safer sex such as deferral, temporary abstinence, non-penetrative sex, etc. are too rare to be usefully measured. Although broader dimensions of empowerment, such as contraceptive laws and levels of female education indirectly influence the outcome, this indicator does not aim to study the systemic context of female empowerment.

Within the first dimension of this indicator, the process by which empowerment is translated into behavior change is based not only upon a woman's factual **knowledge** of sexual modes of HIV/STD transmission, but also upon her perceived susceptibility to the disease. For example, if a woman believes that she is unable to be infected by her partner, she is less likely ask/require her partner to use condoms. Moreover, the use of condoms is unique in that it requires a woman to exert control over her partner's behavior as well as her own. For this reason, **partner communication**, especially joint decision-making, is hypothesized to facilitate the practice of safer sex methods. (The empirical research to support this point is very limited and yields mixed results. However, in data from discordant couples--one positive, one negative for HIV--communication is associated with increased condom use, lending indirect support to this link.)

This indicator relies on self-reported data from surveys and measures a woman's **per-ceived access** to condom use, rather than her physical access to facilities. Through the female respondent's perceptions, which are the individual-level manifestations of empowerment, we can better understand the broader cultural, financial and interpersonal constraints that act upon her behavior. For example, it is not relevant, for our purposes, to know that there is a free condom distribution site located less than one mile away from a respondent's house. What is relevant, however, is why she does not use the facility's services. Does she *believe* the site is too far or the condoms too expensive? Does she fear her partner's reaction to her interest in condom use? Or is she simply too embarrassed to obtain them? Although difficult to quantify, these perceptions of access are vital to our understanding of how broader dimensions of reproductive empowerment translate into safer sex practices.

Taken together, the three dimensions of this indicator are equally important in providing a measurement of how empowered, or ready, a woman is to change her preventive health behavior. Given a conducive system (e.g., condoms are legal and geographically accessible), an empowered woman would be ready to undertake safer sex practices in order to protect herself from infection. The operationalization of the indicator works on a continuum; that is, a woman must score points on more than one of the three elements in order to receive a high score. Taken alone, knowledge, communication or access is not sufficient; to be effective, this indicator should bring together the combined total of the three in order to adequately assess the degree to which a woman is empowered to practice safer sex.

Richer data is needed, perhaps through more qualitative methods (e.g., focus groups), in order to fully understand the dynamics of empowerment. However, this indicator is proposed as a quantifiable measure of reproductive empowerment, which may be further refined through field testing.

LONG-TERM OUTCOMES

- STD prevalence in a defined target population
- HIV prevalence in a defined target population
- Rate of congenital syphilis or ophthalmia neonatorum
- Infertility
- STD/HIV-related cause-specific mortality rate

Indicator

STD PREVALENCE IN A DEFINED TARGET POPULATION

DEFINITION

The number of persons diagnosed with a specific sexually transmitted disease or syndrome at a given point in time per 100,000 persons in the population, or population sub-group - defined by gender, age or place of residence.

STD = (N/Pop) X 100,000

N = # of STD infections (e.g., urethritis, genital ulcer disease (GUD), syphilis, gonorrhea, chlamydia, etc.) identified by syndromic signs/symptoms); etiologic (serology/culture) methods

Pop = # of population group screened or covered by case reports

The multiplier of 100,000 is used in this instance in conformity with standard methods of presenting data on relatively rare diseases. It is also possible to present STD prevalences in percentages, if so desired, by changing the multiplier to 100.

DATA REQUIREMENTS

The number of persons identified as infected with an STD syndrome (e.g., urethritis, GUD) or with a specific STD (e.g., syphilis, gonorrhea) by lab testing (serology, culture, antigen detection, etc.). The appropriate laboratory test is dependent on the specific STD of interest.

DATA SOURCE(S)

- **Numerator**

  a) special laboratory-based surveys

  b) sentinel surveillance

  c) case (syndromic or etiologic) and laboratory reports from clinicians and diagnostic laboratories.

- **Denominator**

  a) and b) number of persons screened

  c) number of persons in the popula-tion (or population sub-group) served by the reporting facility(ies).

PURPOSE AND ISSUES

It is important to emphasize that this is a measure of "prevalence" rather than of "incidence." This means that the result generated estimates the current situation regarding STD infection levels in the sample population for the period of testing. It does not provide any information about the rate of increase in STD infections, as "incidence" estimates can provide. Some researchers have attempted to link prevalence to underlying incidence, but have met with very mixed results. In very special cases, such as samples drawn from newly sexually active populations of adolescents, the prevalence and changes in prevalence may approximate incidence in that sub-population. In the case of bacterial STDs that can be treated and cured, extrapolations of incidence from prevalence data (for short time frames) may also be more feasible.

Prepared by Susan Hassig, AIDSCAP/Family Health International.

The use of special cross-sectional surveys to determine the prevalence of STDs is generally considered to be the best methodology because it is possible to control the sampling frame and many of the biases inherent in the other methods. However, it requires considerable infrastructure (laboratory and statistical) to perform correctly, especially if the desire is to determine the prevalence of more than syphilis. It can also be somewhat expensive in terms of monetary and human resources.

Sentinel surveillance and case reporting methods, whether for syndromic or etiologic diagnoses, are significantly influenced by site selection and participation, as well as shifts in utilization or provision of services. Thus, the actual validity, reliability and representativeness of both of these methods is questionable and often variable. Case reporting has the additional caveat of being completely dependent on (frequently) weak systems of health statistics and infrastructure, and provider non-compliance in reporting.

The diagnosis of STDs requires laboratory support and has several logistical and infrastructure cost constraints. Syphilis serology is the easiest and least expensive method to use for the detection of an STD. It uses a relatively low-technology method to screen for the presence or absence of antibodies to syphilis. However, these antibodies can remain at detectable levels for up to two years after treatment and cure. Thus, there is no easy way, from cross-sectional survey activities, to distinguish between active or cured syphilitic infections.

Diagnostics for other specific STDs require sophisticated laboratory facilities and other infrastructure However, technology is changing and several research and development efforts are underway for rapid diagnostics for other STDs. These are likely to become available (if not affordable) over the next few years and should greatly expand abilities to monitor and manage STD infections, especially in women.

It is felt by STD experts that self-report of STDs by clients via symptomology is only theoretically feasible in males, and to date has not been validated. Self-reported STD symptomology is completely unreliable in women due to both non-recognition of symptoms as pathologic conditions and the high rate of asymptomatic infection.

Finally, despite the many commonalities between HIV and other STDs, HIV prevalence is described in a separate indicator because it is currently not curable.

Indicator

HIV PREVALENCE IN A DEFINED TARGET POPULATION

DEFINITION

The number of persons infected with HIV at a given point in time per 100 persons in the population tested. Often expressed for population sub-groups: by gender, age group or by urban/rural residence.

HIV prevalence = (N/Pop) X 100

N = number of HIV serologic positives identified

Pop = number of population groups tested

The multiplier of 100 is used to express the result in a percentage, the most appropriate and frequent form of presentation for HIV prevalence data.

DATA REQUIREMENTS

The number of persons serologically identified as infected by HIV, categorized by desired sub-population characteristics: gender, age and place of residence (urban/rural).

DATA SOURCE(S)

Numerator and denominator - special serologic surveys (e.g., blood supply screening activities or sentinel surveillance).

PURPOSE AND ISSUES

It is important to emphasize that this indicator is a measure of "prevalence" rather than of "incidence." This means that the result generated estimates the current situation regarding HIV infection levels in the sample population for the period of testing. It does not provide any information about the rate of increase in HIV infections, as "incidence" estimates can provide. Some researchers have attempted to link prevalence to underlying incidence, but have met with very mixed results. In special instances, such as samples drawn from newly sexually active populations of adolescents, the prevalence and changes in prevalence may approximate incidence in that sub-population. In addition, serial cross-sectional sero-surveys can suggest magnitudes of incidence (e.g., a prevalence rising from 1% to 40% over two to three years as was seen in Thailand obviously suggests a high, albeit unquantified, incidence of infection).

The purposes for which HIV prevalence is used are: 1) to determine the scope of the HIV/AIDS epidemic in a country, or a particular sub-population within a country, to inform decision-making regarding prevention efforts; 2) to follow, over time, the progression of the epidemic in a population to assess the effectiveness of prevention interventions; and 3) to generate estimates of the number of persons who are likely to require medical care and support at a later stage of the epidemic, or to otherwise compute the impacts of the epidemic.

This indicator is limited by the rigor of the

Prepared by Susan Hassig, AIDSCAP/Family Health International.

methods used to collect the numerator information. If the common "sentinel surveillance" technique is employed, the results will be biased by the type of site used and the representativeness of that client population for the population of interest. Even blood supply screening, for example, is biased by the nature of the source of blood for transfusion (e.g., voluntary or paid donors), each of which may introduce biases in different directions vis-a-vis the general population.

The utility of HIV prevalence for the second purpose is also somewhat problematic. HIV prevalences are relatively insensitive to recent (<5 years) events, given that there is currently no way to determine the duration of the identified infections. WHO/GPA has suggested that, based on modeling runs, even if all HIV transmission were stopped in a population at time zero, it would take 6-7 years before the HIV prevalence would begin to decrease significantly. Many "steady state" epidemics have actually reached an equilibrium point for rates of new infections and deaths which is not necessarily a decrease in new infections, as many assume.

The utility of HIV prevalence for estimating future care and support burdens, and other impacts, is also diminished by the variance in progression to clinical disease among those infected by HIV. Also, it should be mentioned that data collection among a truly random sample of the population has proved very difficult to obtain, for logistical and ethical reasons. In testing individuals for HIV, non-anonymous situations require informed consent and should include pre- and post-test counseling, while anonymous testing of pre-existing blood samples does not allow for informing individuals of their HIV status.

Indicator

RATE OF CONGENITAL SYPHILIS OR OPHTHALMIA NEONATORUM

DEFINITION

The number of infants born infected with syphilis or with gonococcal/chlamydial eye infections during a specific time period (usually one year) per 100,000 live births in that time period.

CS or ON Rate = (N/LB) X 100,000

N = number of cases of infants born with congenital syphilis (CS) or ophthalmia neonatorum (ON)

LB = number of live births among population covered by case reports

The multiplier of 100,000 is used in this instance in conformity with standard methods of presenting data on relatively rare diseases.

DATA REQUIREMENTS

- The number of cases of congenital syphilis or gonorrhea/chlamydia ophthalmia neonatorum identified by serologic testing or by culture.
- The number of live births.

DATA SOURCE(S)

- **Numerator:** Case and laboratory reports from clinicians, clinical settings and diagnostic laboratories.
- **Denominator**: Vital records

PURPOSE AND ISSUES

The diagnostic problems associated with case definition of congenital syphilis and ophthalmia neonatorum are significant, especially in resource-poor settings. An accurate diagnosis hinges on data from both the mother and the infant (e.g., treponemal and non-treponemal serologies or cultures/detection of gonorrhea/chlamydia).

This indicator is also significantly influenced by the type of birthing services available to a population, as well as shifts in their utilization. In addition, the appropriate assessments of diagnostics may not be universally applied to all births, resulting in under-detection of cases. And, as with any case reporting system, the quality of the data is dependent on the providers who make the diagnosis and the system of health statistics and infrastructure.

In short, this measure is included in this "menu of indicators" to acknowledge that it could theoretically be used as a marker of sexually transmitted disease at the population level. In practice, it is far more useful in the context of STD control or prenatal care programs.

Prepared by Susan Hassig, AIDSCAP/Family Health International.

Indicator

INFERTILITY

DEFINITION

The proportion of sexually active non-contracepting women in a reproductive age group (15-45) at risk of pregnancy who have not had any pregnancies in the previous five years.

DATA REQUIREMENTS

- **Numerator:** The number of women in the specified age group who are not using contraceptives (and have not done so in the past 5 years), and not pregnant and who have not had a child in the last 5 years.

- **Denominator:** The total number of women in the specified age group that are at risk of pregnancy (i.e., those who are not using contraceptives, and not pregnant).

DATA SOURCE(S)

DHS data, fertility surveys.

PURPOSE AND ISSUES

This indicator measures the level of infertility in a community. A low level (less than 5%) of infertility is to be expected in all populations due to inherent reproductive abnormalities. The most common cause of higher rates of tubal infertility in many countries is due to STDs. The proportion of infertility attributable to RTIs is 50-80% in Africa, 15-40% in Asia, and 35% in Latin America (Germain et al., 1992). The level of infertility then is to some extent a measure of consequence of STD in a community. The period of five years is chosen to reflect a wider time interval; however, it is generally agreed that 90% of all couples will achieve pregnancy within 2 years if they have regular intercourse and do not use contraceptives. A one-year interval may be suitable for younger women.

Given that STDs and upper genital tract infection result in tubal infertility, this indicator might be more appropriately labeled "tubal infertility," rather than simply "infertility." However, the operational definition is based on self-report in a survey (e.g., the absence of pregnancy in a five year period among women at risk) without clinical or laboratory confirmation of the cause. Thus, we have chosen not to specify "tubal" with respect to this indicator on infertility.

Prepared by Harshad Sanghvi, JHPIEGO.

Indicator

STD/HIV-RELATED CAUSE-SPECIFIC MORTALITY RATE

DEFINITION

Estimated STD/HIV-related cause-specific death rate among women of reproductive age due to four leading diagnoses: AIDS, cervical cancer due to Human Papilloma virus (HPV), pelvic inflammatory disease (PID), and ectopic pregnancy.

DATA REQUIREMENTS

$$\frac{\text{Number of deaths among women aged 15-49 due to AIDS, cervical cancer due to HPV, PID and ectopic pregnancy}}{\text{Total number of women aged 15-49}} \times 100{,}000$$

DATA SOURCE(S)

Hospital records indicating cause-specific mortality among women of reproductive age.

PURPOSE AND ISSUES

This indicator combines four life-threatening diagnoses related to STD/HIV into one measure of mortality. It is included in this document to underscore the fact that the long-term goal of STD/HIV intervention programs is to lower mortality by reducing the risk of exposure to infection. However, in practical terms, programs are rarely evaluated on this objective since it is virtually impossible to isolate the effects of program intervention from a host of external factors (e.g., socio-economic conditions) on this outcome. Moreover, any behavioral changes leading to reductions in STD/HIV incidence will require at least ten years to have a discernible impact upon this mortality rate.

Although the leading causes of STD/HIV-related deaths used in this indicator are AIDS, cervical cancer due to HPV, PID and ectopic pregnancy, prevalence rates of these diseases may vary across countries. Consideration should be given to those STD/HIV-related diagnoses which are most life-threatening in any given country. In addition, the ability to diagnose certain diseases may vary depending upon medical technology available (e.g., the ability to diagnose AIDS varies by country, ranging from the use of syndromic algorithms to the etiologic detection of specific opportunistic infections.) When screening services are improved, rates may increase due to better case detection. In addition, it may be more relevant, depending on cultural and geographic climates, to use this indicator with reference to specific age groups (15-24, 25-34, 35 and older).

Prepared by Sandhya C. Rao, The EVALUATION Project/Tulane University.

- References
- Appendix A: Indicators of Quality of Care for STDs in Reproductive Health Settings
- Appendix B: Illustrative Example of How to Quantify “Risky Sex
- Appendix C: Members of the Subcommittee on STD/HIV
- Appendix D: Steering Committee of the RHIWG

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Appendix A

INDICATORS OF QUALITY OF CARE FOR STDS IN REPRODUCTIVE HEALTH SETTINGS

The EVALUATION Project has worked with researchers and practitioners from other organizations to develop a list of indicators of Quality of Care in international family planning programs. Many of those indicators also apply to the evaluation of integrated STD and reproductive health care programs. The following list is based on the format of the family planning indicators, but addresses issues specific to STD/HIV prevention and STD diagnosis and treatment in a reproductive health setting. **They are meant to complement, not substitute for, the family planning indicators.**

The code(s) in parentheses indicates the type(s) of data collection approach(es) that can be used to obtain data for each indicator. The codes are as follows:

AR = administrative (programs) records
CR = client record review
CS = client survey
EI = exit interview with a client
FG = focus group
OB = observation (client-provider interaction, clinical procedure, etc.)
PI = provider interview

Condom Availability

SDP is adequately stocked with condoms, as well as other methods.

Condom storage facilities are adequate. (PI)

Provider presents condoms as a family planning method to use alone or in conjunction with other methods (not only as a back-up method until another method can be effective against pregnancy).(OB, EI)

Provider refers client to other locations where condoms are available if present location is inconvenient or choice of condoms (style, lubricant, etc.) is not available. (OB, EI)

Provider discusses the relationship of each family planning method to STD/HIV transmission, stressing the importance of using condoms in addition to other methods to prevent STD/HIV transmission. (OB, EI)

Informing and Counseling Clients

Provider establishes rapport for assisting client to assess his/her personal situation, including nature of sexual relationships, personal circumstances, and the risk of STD/HIV infection and unwanted pregnancy. (OB, CS, EI, FG)

Provider assists client to assess her risk of STD/HIV infection (and unwanted pregnancy). (OB)

Prepared by Laurie Fox, FHI; Julie Becker, IPPF/WHR; Allen Brimmer, USAID; and Gina Dallabetta, FHI.

Provider explains relationship of family planning methods to STD/HIV transmission/prevention, including the dual benefits of condoms. (OB, EI)Provider gives information on how to use condoms correctly, including issues of storage and lubrication, and demonstrates use correctly. (OB, EI)

Provider discusses the benefits of dual method use (condoms with other family planning methods). (OB, EI)

Provider discusses potential barriers to condom use/behavior change, including the need for communication and, potentially, negotiation. (OB)

Provider assists clients with safer sex negotiation skills. (OB)

Provider ensures that client understands key facts related to STD/HIV transmission, including, at a minimum, how they are and are not transmitted and how to prevent transmission. (OB, EI)

Provider explains basic signs and symptoms of STDs and other infections, potential consequences of untreated STDs (e.g., PID, infertility, ectopic pregnancy, child morbidities) and assures that client recognizes the importance of having them treated. (OB, EI)

Provider assesses history of STDs. (OB, EI)

Provider offers condoms to all clients (free or at appropriate cost) in addition to any other method chosen. (OB, EI)

Provider addresses ongoing client concerns/skills on return visits. (OB, EI)

Provider gives directive counseling for compliance with treatment, abstention during treatment, prevention of reinfection and the importance of partner notification and treatment. (OB, EI)

Provider refers client for appropriate follow-up services, if not available at clinic. (OB, EI)

Technical Competence

Written guidelines for FP practice include reference to STD/HIV prevention and treatment and special consideration for IUD insertion (see p. 27 in text). (AR)

Job descriptions include STD/HIV prevention counseling, STD identification (diagnosis and treatment where available), screening of IUD acceptors. (AR)

New staff training includes STD/HIV prevention and STD recognition and referral (diagnosis and treatment where available), information and skills. (AR)

Supervisory system in place to ensure that screening protocols are utilized. (PI)

Refresher/in-service training includes STD/HIV issues, skills. (AR)

Facilities supplied and equipped for screening. (AR)

Staff Knowledge: (PI)

- STD/HIV transmission process (including sexual and perinatal transmission)
- STD/HIV prevention measures
- STD/HIV infection process
- STD/HIV testing process
- Relationship of family planning methods to STD/HIV transmission
- Relationship of family planning methods to STD complications (e.g., IUD/PID)
- STD signs and symptoms
- Asymptomatic STDs
- Referral resources for STD/HIV testing,

diagnosis and treatment

- Infection control/prevention procedures

Staff Skills: (OB)

- Staff provide clear, correct, pertinent and sufficient information to clients
- Provider adequately demonstrates correct condom use
- Provider demonstrates ability to recognize/identify potential STD contraindication to IUD insertion
- Provider uses counseling methods that allow clients to clarify values, explore circumstances and feelings and develop skills
- Provider follows infection control/prevention procedures
- Provider can handle STD/RTIs (see p. 25 in text)
  - Recognition/identification of signs and symptoms
  - Diagnosis
  - Referral
  - Treatment and counseling
  - Recommend appropriate family planning method

Acceptability of Services

Privacy/confidentiality is adequate for particularly sensitive STD/HIV issues (e.g., HIV test results. (EI)

Clients felt that time with service provider was adequate. (EI)

Continuity

An effective system for partner notification of family planning clients with STDs is in place. (PI, OB, CS)

Follow-up to solve problems related to use of barrier methods is in place. (PI, OB, CS)

An effective system for follow-up of STD referrals is in place. (PI, OB, CS)

Clients return for follow-up visits. (CR)

Appendix B

ILLUSTRATIVE EXAMPLE OF HOW TO QUANTIFY "RISKY SEX"

This appendix describes one way to quantify risky sexual behavior. This is potentially useful for monitoring sexual dynamics in a population and, where the study design permits, assessing effective interventions. The frequency of "risky sex" is defined as the average number of risky sexual contacts (or coital episodes) per adult 15 years of age or older over a four-week period, in a community or in a national population, with riskier contacts given greater weight.

Steps in Calculation

1. Estimate the average number of sexual contacts (or coital episodes) per adult for the population under study (and if possible, for specific subgroups of interest).

2. Identify key factors affecting risk, which should include, at a minimum, condom use and partner choice (regular, monogamous partner versus casual partner versus commercial sex worker). Note: for current purposes, "regular partners" are understood to be those in a socially recognized continuing sexual relationship; "casual partners" are all other partners except commercial sex workers. If and only if adequate information is available, add such factors as the sexual profile of the partner (is he perhaps active extramaritally, unlike the individual herself?) and specific sexual practices (such as non-penetrative and anal sex). See the indicator "Percent of adults reporting specific risk behaviors for STD/HIV infection".

3. Determine, usually from survey data, the frequency with which people take specific risks: the frequency of use and non-use of condoms, frequency of choice of types of sexual partners, etc.

4. Assign weights from 0 to 1 to the various levels of these risk factors, with the value of 1 assigned to the riskiest choice in the set. In the absence of better estimates, the following default weights might be used:

Condom use:	
Used	0.05
Did not use	1.00
Partner choice:	
Regular, monogamous	0.05
Casual	0.80
Commercial	1.00

5. Calculate the "riskiness" for each factor (see example below).

6. Take the product of the "riski-

Prepared by R.A. Bulatao, World Bank.

ness" readings across factors to obtain overall "riskiness" (see example below).

7. Multiply the overall "riskiness" by the number of sexual contacts to obtain the final score.

Example

Assume the following situation:

- The average number of sexual contacts is 12.
- Condoms are used 10% of the time.
- Sexual partners are 80% regular, 18% casual, and 2% commercial.

Using the weights above, one would calculate the following:

Riskiness based on condom non-use = (.10 x .05) + (0.9 x 1.00) = .905

Riskiness based on partner choice = (.80 x .05) + (.18 x .80) + (.02 x 1.00) = .204

Overall riskiness = .905 x .204 = .185

Frequency of risky sex = .185 x 12 = 2.22

A simple interpretation of the indicator value is that average adults can be represented as having somewhat over two sexual contacts in four weeks in which they bear the full, unreduced risk of contracting an STD, in addition to almost ten contacts where behavioral factors make the risk zero. (In reality, of course, every contact carries some risk usually short of the maximum, but this interpretation gives the number some concreteness.)

DATA REQUIREMENTS

At a minimum, data on the number of sexual contacts, condom use and type of partner.

DATA SOURCE(S)

Generally a household survey, such as a

Demographic and Health Survey, with appropriate questions; or a more focused survey of sexual behavior. For accurate determination of weights, epidemiological studies for the specific population, if they exist, should be consulted.

PURPOSE AND ISSUES

In principle, this is a measure of the number of risky sexual contacts per adult, with each contact weighted by its riskiness for STD transmission. In practice, relative riskiness is unlikely to be known with precision, and various compromises and simplifications may have to be adopted in different settings.

Some variation in specific operationalization is therefore possible. If the measure is to be used repeatedly, however, or to be used to compare different settings, definitions should be standardized. To facilitate this, any report using the measure should specify the risk factors taken into account and the weights applied. In addition, the characteristics of the sample from which information is drawn should be reported, because many samples are likely to be small or unrepresentative in some respect.

The components of this indicator--riskiness based on specific factors, overall riskiness and frequency of sexual contacts--may themselves be useful as indicators. What the summary indicator adds is a way to draw these different components together and summarize them in a fashion that represents the overall potential created by community sexual behavior patterns for the spread of STDs.

Reducing the value of the summary indicator as low as possible is therefore an appropriate overall goal for STD prevention programs. As

the assessment of risk improves and as more

risk factors can be incorporated, the measure could become useful in comparing the effectiveness of alternative changes in sexual behavior at controlling the spread of STD/HIV.

The indicator is meant to apply primarily to heterosexual contacts. Homosexual contacts cannot be ignored, however. If data are available, one should count them as equivalent to heterosexual contacts, and if they are common enough and lead to different levels of risk, add another risk factor differentiating homosexual and heterosexual risk.

The indicator is more useful the more it can be desegregated to apply to different population groups. If a single overall indicator is desired, it is important that both men and women be represented, usually in equal proportions. For communities with severely imbalanced sex ratios, however, different aggregation might work better.

It should be stressed that this estimate of riskiness is a "best guess" estimate; it should not be taken as a precise measure, but rather as a statistic indicative of trends in a given society. The precision of the number will depend greatly on the availability of quality data on sexual behavior for the population under study, which itself is often suspect.

Nonetheless, this approach to quantifying riskiness of sexual behavior is included to underscore the need for further quantification and standardization of parameters as the evaluation of STD/HIV programs evolves.

This indicator rests on several parameters, some determined from surveys and some set by assumption. The precision of the measure depends greatly on the quality of available data on sexual behavior. Given the suspect nature of much of these data, the specific value of the measure may be useful more as a general indication of societal trends. Nevertheless, the possibility of quantifying riskiness of sexual behavior in this way underscores the potential for further quantification and standardization of STD indicators.

Appendix C

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Appendix D

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