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# Introducing and pilot-testing the national guidelines on integrating the management of STIs/RTIs into reproductive health settings in Kenya

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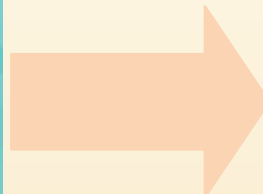
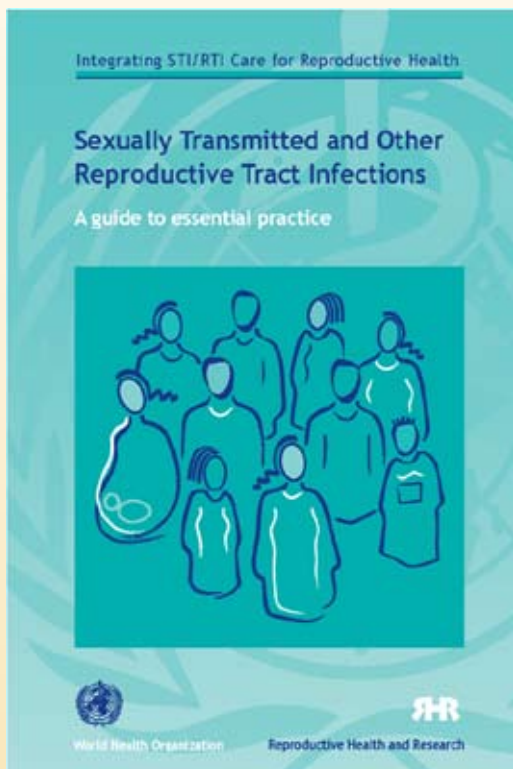
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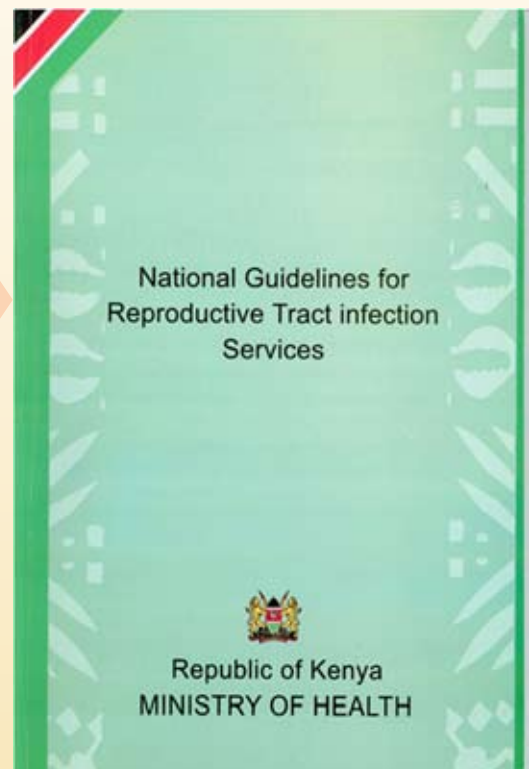
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# Introducing and Pilot-Testing the National Guidelines on Integrating the Management of RTIs/STIs into Reproductive Health Services in Kenya



Adaptation of National RTI Guidelines from GEP



This report describes activities that were implemented under two separate contracts. The project to assess the introduction of the National Guidelines on Reproductive Tract Infections in Kenya (Project HQRHR0801988) was implemented under the terms of Contract No. 200107993; reference 2009/36717-0 August 2009. This project was funded by World Health Organization (WHO) through the Department of Reproductive Health and Research.

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## EXECUTIVE SUMMARY

Sexually transmitted and other reproductive tract infections (STIs/RTIs) present a major burden of disease in Kenya and are responsible for high levels of maternal and infant morbidity and mortality. To address the high prevalence of STIs/RTIs globally by increasing access to detection and management services, WHO and its partners, Population Council and Family Health International, developed guidelines for integrating these services into other sexual and reproductive health services in primary health care settings; these guidelines have been published by WHO as *Sexually Transmitted and Other Reproductive Tract Infections: a Guide to Essential Practice*. In 2004, a process of adapting these global and generic guidelines to a national situation was started in Kenya. This was a collaborative venture between the Division of Reproductive Health (DRH) and the National AIDS Control Program (NASCO) of the Kenyan Ministry of Health, the Department of Reproductive Health and Research at WHO (RHR/WHO), and the Population Council (through its USAID-funded Frontiers in Reproductive Health (FRONTIERS) programme).

An important output of the adaptation process was the establishment of a National RTI Working Group in early 2005 to coordinate the process. The adaptation process culminated in the launch of the Kenya National Guidelines on the Integration of Services for Reproductive Tract Infections (RTIs) in June 2006. The project reported here evaluated the feasibility, acceptability and effect of introducing these guidelines on the quality of care provided and the incremental costs of integrating these services into existing RH services; it also disseminated the results and lessons learnt within Kenya.

The guidelines were introduced and evaluated in ten health facilities, five in Kilifi District in Coast Province and five in Meru South District in Eastern Province. The intervention to introduce the guidelines included revision of the original training materials and job aides, training of health providers, modification of MOH registers, strengthening commodity logistics, enhancing supportive supervision, as well as regular monitoring.

Data for the evaluation were collected through observations of provider-client interactions (382 at baseline and 743 at endline), client exit interviews (382 at baseline and 737 at endline) and a health facility assessment at each facility.

Overall, the results showed that integration of activities to screen for and manage STIs/RTIs into RH services is feasible, acceptable to clients and providers, and effective in improving the range and quality of services offered to clients. The majority (7 out of 10) of facilities had the minimum basic supplies, equipment, infrastructure and competent staff to integrate these services; moreover, provider knowledge and skills improved significantly after training. Exit interviews with clients revealed that integrating STI/RTI prevention and control within other RH services was acceptable to them.

Significant improvements in the range and quality of care occurred in all four of the family planning, antenatal, maternity/delivery and postnatal/postpartum care

services observed. Measures specifically of the provision of information on STIs/RTIs/HIV across all five indicators showed a fivefold increase in the mean number of counselling actions carried out by providers, although there were significant performance differences between districts. High staff turnover in Kilifi District adversely affected the effectiveness of the intervention in those facilities.

The range of average incremental costs for implementing this integrated approach across the four services, once the preparatory activities have been completed, are: \$0.04 - \$0.91 for clients receiving the additional counselling on STI/RTI/HIV; \$0.27 - \$2.36 for clients being counselled and managed for an RTI/STI; \$1.11 - \$1.97 for clients being counselled and having an HIV test; and \$1.30 - \$3.43 for clients being counselled, managed for an RTI/STI, and having an HIV test. Introducing the intervention into every facility in the country so that women are counselled on STI/RTI/HIV during every RH consultation is estimated to cost \$9.72 million.

The proportion of clients who reported having ever using a condom increased significantly from 41% to 56%. By endline, 40 percent of all clients were offered an HIV test (up from 10%) and almost 90 percent of these were tested. The largest increase was among FP clients.

Data from service statistics were of poor quality and not able to measure whether the number of syndromes reported had changed. The proportion of clients diagnosed with a syndrome ranged from 6.6% to 12.3%, with the majority being vaginal discharge syndrome.

Drawing on the findings and lessons learned, the key recommendations for the integration of STI/RTI management services into RH services in PHC settings are:

- Introduce routine counselling and management of STIs/RTIs into RH services.
- Incorporate offers of routine HIV testing as part of the integrated STI/RTI management activities.
- Use district and facility action plans as management tools for ensuring resource mobilization and allocation and securing commitment to providing STI/RTI services within other RH services.
- Strengthen on-the-job training for in-service health providers and update the pre-service curricula to address STI/RTI integration activities.
- Strengthen commodities' logistics management at all levels, especially for STI/RTI drugs and test kits for HIV.
- Strengthen education on STI/RTI prevention behaviours during RH consultations to create awareness of and demand for promotive and preventive services.
- Institute effective partner contact and referral mechanisms that respect the principle of confidentiality.



Stakeholders attending a two-day dissemination meeting in Nairobi convened by the Ministries of Health in October 2009 made additional recommendations as follows:

- ✓ Reconstitute the National STI Technical Working Group.
- ✓ Disseminate the National RTI Guidelines throughout the health system.
- ✓ Review the syndromic management charts so that they are consistent with available drugs for managing the most prevalent STIs in Kenya.
- ✓ Undertake studies of drug sensitivity and institute STI surveillance.
- ✓ Identify mechanisms for accessing additional donor funds to support these revitalization efforts and to sustain implementation.
- ✓ Disseminate the costing data on integrating STI/RTI services so as to assist the MOH in estimating the financial resources required to scale up integrated services.
- ✓ Ensure STI/RTI control activities are integrated within the Community Health Strategy for implementing Kenya's Essential Package for Health.

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## **ABBREVIATIONS AND ACRONYMS**

AIDS	Acquired Immune Deficiency Syndrome
ARV	Antiretroviral
CT (C&T)	Counselling and Testing (for HIV)
DASCO	District AIDS and STD Control Officer
DHMT	District Health Management Team
DP	Dual Protection
DRH	Division of Reproductive Health
FP	Family Planning
GEP	Guide to Essential Practice
HIV	Human Immunodeficiency Virus
IUCD	Intra-Uterine Contraceptive Device
KDHS	Kenya Demographic and Health Survey
KEMSA	Kenya Medical Supplies Agency
Mgt	Management
MOH	Ministry of Health
NASCOP	National AIDS Control Program
OPD	Outpatient Department
PASCO	Provincial AIDS and STD Control Officer
PEPFAR	President's Emergency Plan for AIDS Relief
PGH	Provincial General Hospital
PHC	Primary Health Care
PHMT	Provincial Health Management Team
PMTCT	Prevention of Mother to Child Transmission (of HIV)
RH	Reproductive Health
RTIs	Reproductive Tract Infections
STI	Sexually Transmitted Infection
VCT	Voluntary Counselling and Testing (for HIV)
WHO	World Health Organization
UNFPA	United Nations Population Fund
UNAIDS	Joint United Nations Programme on AIDS
PNC	Postnatal care
PPC	Postpartum care
ANC	Antenatal care

## INTRODUCTION

### Background

Sexually Transmitted Infections (STIs) remain one of the leading causes of disease burden in Kenya. STIs have also been shown to have a link with increased vulnerability to HIV infection. Despite their public health importance, the focus on HIV and AIDS in the last 10-15 years has overshadowed the role of other STIs in causing ill-health among Kenyans. For example, recent evidence from the 2007 Kenya AIDS Indicator Survey (KAIS) revealed that the Herpes Simplex Virus-2 (HSV-2) prevalence rate among the general population (15-64 years) is 35% and that 81% of HIV infected adults are also infected with HSV-2. The KAIS also showed that the prevalence of syphilis among the general population is about 2%, but is higher among older adults aged 50-64 years (4.4% males and 2.5% females). Moreover, among participants who were sero-positive for syphilis, 17% also had HIV, 72% had HSV-2 and 16% had both HIV and HSV-2.

The process of developing the Kenya national guidelines on the integration of services for Reproductive Tract Infections (RTIs) (including STIs) was completed in 2006. The process, which started in 2004, was a collaboration between the Division of Reproductive Health (DRH) and the National AIDS Control Program (NASCOP) of the Kenyan Ministry of Health (MOH), the Department of Reproductive Health and Research at WHO (RHR/WHO), and the Population Council, through its USAID-funded operations research programme, FRONTIERS. Financial support for WHO came through its Strategic Partnership Programme with UNFPA.

The national guidelines were adapted from the guidelines given in the WHO's *"Guide to Essential Practice for Sexually Transmitted and other Reproductive Tract Infections"* (GEP-STIs/RTIs) (WHO 2005). The objectives of the two-year adaptation phase were to ensure that addressing RTIs become prioritized within Kenya's reproductive health policy and strategy and to facilitate development of Kenya-specific guidelines, training materials and job aides that would strengthen the ways in which RTIs/STIs are detected and managed in Kenya. Additional objectives of this phase were to enhance collaboration of stakeholders around RTI/STI issues, mobilize resources and organizational adjustments necessary for implementation of the guidelines, and to document the in-country adaptation process and disseminate the lessons learned about how a national programme adapts international guidelines.

To address these objectives, NASCOP and DRH, with technical support from Population Council, established a National RTI Working Group to coordinate the guideline development process. The National RTI Working Group ensured that the national guidelines were comprehensive and that the process of their development involved all key stakeholders. Six task teams were established to address adaptation, integration, training, service delivery, supervision, monitoring and evaluation, and communication and advocacy, and to facilitate the process as well as the subsequent implementation phase. The members of the RTI Working Group and task teams were drawn from government and non-governmental institutions (national and

international) involved reproductive health. The RTI Working Group recommended that training for health providers should focus on integrating the detection and management of STI/RTIs within other reproductive health services, such as antenatal care, postpartum care, and family planning, and outpatient consultations.

Pilot testing the draft national guidelines developed by the National RTI Working Group provided an evidence base to guide the MOH in establishing policy and procedure guidelines for training, service delivery, resource mobilization, supervision, monitoring and evaluation. The Reproductive Health Policy (GOK 2007), developed while this adaptation process was on-going, promotes reducing the burden of RTIs/STIs through improving access to RTI/STI services integrated within RH services. The Seventh UNFPA/Kenya Country Programme of Assistance also emphasizes the integration of STI management into HIV/AIDs and RH programming (UNFPA 2008). WHO is mandated to develop and disseminate evidence-based global norms, standards and guidelines for supporting national programmes to provide the full range of quality RH services. There is, however, little experience with assessing and documenting the adaptation and introduction of such international guidelines, in any area of health and not only reproductive health or infectious diseases, and so this study was undertaken to assess and document the feasibility, acceptability, effect and costs of adaptation, introduction and scaling-up these international guidelines.

## **Objectives**

1. To assess the feasibility and acceptability of implementing the RTI/STI guidelines and supporting materials through introducing them at selected MOH facilities in urban and rural setting.
2. To evaluate the effect of introducing the RTI/STI guidelines and supporting materials on the quality of care provided to RH clients and on client behaviours as well as the proportion of RH clients provided an RTI/STI-related service
3. To measure the incremental economic costs of integrating RTI/STI services into existing RH services.
4. To disseminate and utilize the results to create the conditions for national scale up of project activities.

## **DEVELOPMENT OF GUIDELINES**

### **Sensitization of national, provincial and district stakeholders**

Sensitization meetings on the process of integrating STIs/RTIs into reproductive health settings were held at various levels. At the national level, several meetings were held to discuss the pilot-testing of the national guidelines between DRH, NASCOP and Population Council, as well as members of the RTI Working Group. Following discussions at the national level, sensitization meetings were held at the provincial and district levels where the guidelines were to be introduced and pilot-tested, that is, with the Coast and Eastern Provincial Health Management Teams (PHMTs) and the Kilifi and Meru-South District Health Management Teams (DHMTs) and with the management teams of the health facilities that participated in the study.

### **Revision of the global GEP-RTI materials**

Between March and May 2007, copies of the national RTI guidelines and supportive materials (Training manual, student handbook and various job aids) were given to trainees during training sessions to review and provide feedback to trainers from NASCOP, DRH and Population Council. In their feedback, the trainees recommended that the structure of the WHO GEP-RTI training manual be improved to enable readers in Kenya to understand the content. They also suggested that the content of the student handbook be reduced to the bare-minimum, with a focus on flow charts and algorithms. The trainees also proposed that the student handbook should contain details on drug dosages to facilitate “quick reference” by students or health providers. The trainees also pointed out that the job aids had too much text and too many sub-steps, which made it difficult to follow and use the materials. These concerns were taken into account while revising the existing job aids into newer, simple and user friendly formats. In response to requests, a “Pocket Handbook” to guide providers in the key steps for integrating STI/RTIs into various RH services was developed. The four flowcharts evaluated in this study are presented in Appendix 1; The Handbook also includes flowcharts for integrating STI/RTI services into general outpatient care, comprehensive postabortion care, youth-friendly services, infertility services, cervical cancer screening, male circumcision, and post-rape care.

### **Implementation of training activities**

Training of health providers took place during March-April 2007. The training programme was undertaken in two phases: phase 1 was for the training of trainers, while phase 2 was for training of health providers. A total of 14 trainers (6 each from Kilifi and Meru South districts and 2 from MOH headquarters) participated in the training of trainers sessions, the overall purpose of which was to equip them with the necessary knowledge and skills to effectively train health providers in integrating RTIs/STI prevention, detection and management in RH settings. The selected participants were a mixture of registered nurses, clinical officers and doctors. The training session took 5 days, with resource persons drawn from the national level (NASCOP, DRH and Population Council).

After completion of their training, the trainers then organized 5-day training sessions for health providers in each district to build their capacity with the necessary knowledge, attitudes and skills to be able to effectively offer integrated RTI/STI/RH services within RH care settings. A total of 40 health providers (20 from each district) participated in the training.

In order to assess the effect of training on knowledge, skills and attitude of health providers (trainees), pre and post training tests regarding the integration of STI/RTI control activities into RH settings were conducted.



On the last day of the training session, each participant developed an action plan that addressed preparatory steps and anticipated obstacles in their respective facilities in order to “fast-track” implementation of the activities. The action plans addressed five areas: problem identification; steps required to tackle the problems; resources needed to tackle the problems; persons responsible for tackling the problems; and the expected start or completion dates for the planned activities.

At the end of the training period, the trainees’ evaluation indicated that the sessions were appropriate and relevant to their work. They also said that the trainers were knowledgeable on the subject of RTI/RH integration and had good facilitation skills. Nearly all trainees said that group work sessions were very useful and informative and that practical sessions in clinical areas were useful. However, they said that the allocated time was too short for the number of topics to be covered; they recommended that the training should be allocated more time “so that it doesn’t appear as though it is a crash programme”. They also recommended that the course should be introduced during pre-service training so that all student providers who qualify will have skills to manage STIs/RTIs.

### **Strengthening service monitoring through modification of MOH Registers**

Members of the National RTI Working Group teamed up with NASCOP and DRH and other relevant divisions in the MOH to review and modify various MOH registers to ensure adequate monitoring of the integrated services. An innovative feature of the revised registers (Antenatal Care (ANC), delivery/labour units, Outpatient Department (OPD), postpartum care and family planning clinics) is that these tools now contain specific columns on STI/RTI/HIV activities to be completed. Examples include recording the STI/RTI/HIV information and services that clients receive, such as case management of STIs/RTIs, contact tracing/partner notification, referral for treatment, condom provision and clients’ HIV status.



## **Strengthening provision of basic equipment, supplies and commodities**

The main source of equipment, supplies and commodities to the pilot districts was the MOH through the Kenya Medical Supplies Agency (KEMSA). Drugs for managing STIs and other RTIs were obtained from the regular stocks that are supplied to health facilities by KEMSA<sup>1</sup>. Planning for and procurement of other key supplies, such as rapid test kits for HIV and reagents and FP commodities, was also undertaken within the district level mechanisms for sourcing of supplies and commodities. This was necessary since the inventories had shown that there were shortages.

## **Supportive supervision and monitoring**

Supportive supervision and monitoring was done by the DHMTs, using checklists developed for monitoring integrated STI/RTI/HIV and RH services. A key activity of the supervision and monitoring teams was to review the targets and the scope of activities contained in the action plans of each trained health provider. In cases where health providers' targets had been achieved, new ones were set.

## **EVALUATION METHODS**

### **Study design and sites**

A pre and post intervention design without a control group was used to evaluate the introduction of these guidelines in Kilifi District (Coast Province) and Meru South District (Eastern Province). The two districts were purposively selected from among those supported by UNFPA and to represent significant variations in the prevalence of STIs and in their socio-economic and demographic profiles. Kilifi District is located in a socio-economically marginal region and has high STI prevalence while Meru South District is situated in a less impoverished region and has a lower STI prevalence (CBS Poverty Profiles, KDHS 2003).

A total of 10 health facilities (5 in Kilifi and 5 in Meru South Districts – see Box 1) were purposively selected by the District Health Management Teams (DHMTs) to pilot the interventions on the basis of four criteria:

- A minimum of 100 combined new and revisit FP clients per month
- A minimum of 100 ANC clients per month
- A minimum of 2 health providers
- Availability of a maternity unit/ward.

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<sup>1</sup> STI/RTI conditions are managed using drugs from the general pool of commodities delivered to health facilities. The MOH no longer purchases STI-specific drug kits.

### Box 1: Health facilities in the pilot study

<b>Kilifi District</b>	<b>Meru South District</b>
<i>Hospitals</i> Kilifi District Hospital	<i>Hospitals</i> Chuka District Hospital
<i>Health Centres</i> Rabai Health Centre Vipingo Health Centre	<i>Health Centres</i> Mpukoni Health Centre Muthambi Health Centre
<i>Dispensaries</i> Pingilikani Dispensary Mtwapa Dispensary	<i>Dispensaries</i> Kajuki Dispensary Kiini Dispensary

### Assessing the feasibility of offering integrated services

Before the baseline survey was implemented (July 2006), a facility assessment was undertaken in all 10 facilities to document the preparedness of facilities to implement the integration of RTIs/STIs into RH services. The assessment was carried out by experienced health providers who were recruited from other facilities in the province that had not been selected as pilot sites. They were then trained for two days to undertake the exercise.

The assessment involved a review of records, interviews with health facility in-charges, an inventory of appropriate equipment and supplies available, as well as drugs for managing the common STI/RTI syndromes. A training audit was also undertaken to assess the number and skills of health staff available.

### Assessing provider knowledge and competence

Provider knowledge and competence in the FP, ANC, labour ward and delivery and PNC/PPC were measured at immediately before and immediately after training. In-depth interviews on technical knowledge, theoretical management of various scenarios, and observed practice of selected clinical skills were conducted. In both districts, the trainees were assessed by the six DHMT trainers and four other national level trainers who provided additional support.

### Assessing quality of care

The quality of care provided was measured through structured observations of client-provider interactions in the 10 facilities. Fully trained midwives with a medical background and training in non-participant observation undertook the observations. Two researchers were based at each facility for six consecutive days, during which they collected data on feasibility, acceptability and quality of care. Every consecutive client was requested to be observed during the consultation session with provider until the sample sizes were achieved. For observations of delivery services, informed consent was obtained either during the latent phase or after delivery as the purpose was to observe the counselling provided to the client about her condition and needs and not the providers' technical competence in delivery.

Data collection for the pre-intervention survey took place prior to the training. A trained nurse observed approximately 10 consecutive client-provider interactions at baseline and 20<sup>2</sup> at the endline in each of the four RH/PHC service units (FP, ANC, Maternity and PNC/PPC). During observations, the research nurse used a structured checklist to record the technical competence of the provider as well as the quality of care received. Although data were also collected from observing and interviewing clients in the Outpatient Department, problems with the sampling and data recording procedures meant that it is not possible to evaluate this component. Some of the RH/PHC service units did not have an adequate number of clients in maternity wards and postnatal care clinics in the time available.

In order to evaluate the quality of care by comparing measures at baseline and endline, a series of scores was developed to assess the quality of counselling for each of the four reproductive health components; these are described in the results section below. Two additional components, 'provision of information to clients' and 'counselling on condom use' were also included given their importance in integrating the management of STIs/RTIs and HIV/AIDS into RH settings.

### **Assessing acceptability to clients**

Clients who had been observed during their consultations were requested to be interviewed immediately afterwards by trained research assistants using a structured tool. The research assistants conducting the exit interviews did not take part in observing the provider-client interactions. Exiting clients were asked questions relating to the acceptability and quality of services they had just received and their experiences with testing for HIV or intention to test, dual protection, behaviour, experience of the service, changes in risk perception, and partner notification and testing. Table 1 gives the sample sizes achieved by RH unit<sup>3</sup>.

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<sup>2</sup> Due to budgetary constraints at baseline, data collection in the field lasted only 5 days. At endline, data collection lasted about 10 days.

<sup>3</sup> Sample sizes are not given in the data tables that follow to make them easier to read. The frequencies presented exclude non-responses and "don't know".

**Table 1: Sample sizes by PHC unit for the 10 facilities**

		RH Units				
		FP	ANC	Delivery	PNC/PPC	Total
<b>Client-provider observations</b>	<b>Baseline</b>	104	101	79	98	<b>382</b>
	<b>Endline</b>	214	243	123	163	<b>743</b>
<b>Client exit interviews</b>	<b>Baseline</b>	104	101	79	98	<b>382</b>
	<b>Endline</b>	212	242	123	160	<b>737</b>

### Measuring incremental costs of integrating the management of STIs/RTIs

The costing framework measured the incremental costs incurred for integrating the additional services<sup>4</sup>, comprising resources used for the production of IEC materials, training of providers, additional commodity supplies for service delivery such as test kits, gloves, drugs for treating STIs/RTIs), additional monitoring and supervision visits and the opportunity cost of labour used. Data were collected retrospectively for the baseline and prospectively for the costs of integrated services at the 10 facilities through key informant interviews, review of administrative data, utilization registers and observation of the time each provider spent with clients.

Information was obtained from facility in-charges and KEMSA on STI/RTI and HIV equipment and supplies. For each item, the price per unit of pack or quantities used was obtained. The total quantities used were multiplied by the respective unit cost of the supplies used to obtain the total cost; prices used were for the financial year 2008/9.

Information on labour costs was obtained by reviewing employment details of the staff observed during client-provider interactions. Details included job title, days and hours worked per year, basic monthly gross salary and monthly allowances for housing, medical, leave, non-practice, hardship and other monthly benefits.

A fact sheet was sent to the facilities to record information on service utilization and expenditures during the financial years 2007/2008 and 2008/2009 classified by FP, ANC, delivery, PPC/PNC, OP curative, and inpatients. The data collected using the various tools were entered into Excel spreadsheets, cleaned and initial analysis done using Excel.

The Activity Based Costing (ABC) model was used, in which all the resources used to provide the services at a facility were measured. A three-step process was used to estimate the financial costs of providing the services at the facilities. First, identification of all inputs used to provide each intervention; secondly measuring

<sup>4</sup> Korir J. 2010. *Incremental costing of integrating STIs/RTIs into RH settings in Kenya*, Unpublished Report, Population Council: Nairobi, Kenya.

inputs in their “natural units”; and thirdly converting these natural units into cost estimates by multiplying the quantity of each input used by an appropriate unit cost.

Weighting was applied to obtain the unit costs for estimating the scale up. The weighted costs were derived from the actual costs of integrating the management of STIs/RTIs into RH settings, taking into account all the patients or clients served in the facility and the prevalence of STI syndromes. Estimated costs for scaling up provision of integrated services provide an indication of the magnitude of additional resources required to achieve the projected service coverage.

## Data management and analysis

Quantitative data were coded and edited for completeness and accuracy. Data entry screens for all quantitative data were set up in Epidata and double entered; Stata 9.2 was used for data analysis.

## FINDINGS

### Readiness of facilities to offer integrated services

Overall, the majority of facilities in both districts already had the minimum equipment, supplies, infrastructure and staff necessary to integrate the STI/RTI counselling and management into the range of RH services (Table 2).

**Table 2: Availability of basic equipment, supplies, infrastructure and services**

Category of resources and services	Kilifi (n=5)	Meru South (n=5)	Total (n=10)
Availability of basic equipment in MCH/FP clinics	4	3	7
Availability of FP supplies	4	2	5
Availability of HIV/STI supplies	4	3	7
Availability of infrastructure	4	4	8
Provision of FP services	4	4	8
Provision of HIV/STI services	3	4	7
Overall mean score	4	3	7
Average number of enrolled nurses/midwives	5	5	5
Average number of registered nurses/midwives (in MCH/FP)	2	2	2

The main findings from the facility assessment were:

- Study facilities had, on average, five enrolled nurses/midwives.
- Seven out of ten facilities had functional basic equipment to provide integrated services.
- Almost one third of the facilities reported that they had experienced recent stock outs of key supplies and some of the reagents for VDRL, drugs for the management of various STIs, HIV rapid test-kits among others.

- Nearly one half of the facilities (5 out of 10) reported availability of FP commodities, although the situation was better in Kilifi (4 out of 5) compared with Meru South (2 out of 5).
- In Kilifi district, 3 out of the 5 facilities were offering HIV/STI services compared with Meru South district where 4 out of 5 facilities offered HIV/STI services.
- Overall, 8 out of 10 facilities had appropriate infrastructure for offering STI/RTI/RH integrated services.
- A few of the staff in the selected facilities had received training in areas such as infection prevention, postpartum/postnatal care, PMTCT, family planning, focused antenatal care, counselling and testing for HIV/AIDS and management of sexually transmitted infections. Only one in ten staff had training in planning, logistics management and post-exposure prophylaxis.
- On average, each facility had two registered or diploma level nursing staff working in MCH/FP areas.

### **Providers' knowledge**

The providers participating in the intervention were tested on their knowledge of common STI syndromes, mode of transmission of STIs/RTIs, history taking, diagnosis, treatment, integration of STIs/RTIs into reproductive health settings, HIV/AIDS (transmission, prevention and management), sexual and gender based violence among other topics. A comparison of pre and immediate post training scores showed that both groups registered significant improvements, with the Kilifi team's mean score improving from 68% to 83% and the Meru-South team from 56% to 77%.

Discussions with the District Health Management Teams in Meru South and Kilifi districts at endline revealed that the facilities in Kilifi district experienced much higher staff turnover than those in Meru South over the two years of implementation. Of the 20 staff trained in Kilifi, 12 were either moved to other facilities or assigned different duties within the same facility, compared with four transfers in Meru South. At the endline survey, therefore, less than half of the staff providing services in the Kilifi district facilities had been trained in the intervention.

### **Description of the study population**

As shown in Appendix 2, the two districts are similar in socio-demographic profiles, although with some variations. Most respondents are in their late 20s (median ages, 26-28 years), married (81-93%), have more than four years education, and have 2-3 children; respondents in Meru South are more likely to be married, to have higher education levels and to have fewer children.

## Acceptability of services to clients

Exit interviews with clients revealed that integrating STI/RTI prevention and control activities within RH services was acceptable, with over 90 percent of clients expressing satisfaction and no variation between the types of RH services (Table 3). After the intervention, clients were more likely to report being well-treated and advised on their progress and to feel that RTI management in RH clinics led to better services.

**Table 3: Summary of clients' perceptions of integrated services**

Questions posed to clients	Response	Pooled Sample	
		Baseline %	Endline %
Were you satisfied with the service you received today?	Yes	100	99
<b>Reasons for being satisfied:</b>			
a). Treated well**	Yes	40	60
b). Advised on my progress**	Yes	21	31
<b>What is the most preferred place for attending VCT session?</b>			
a). Health facility – MCH/FP/STI clinic**	Yes	79	90
b). Stand alone VCT site	Yes	7	6
<b>Is screening and mgt of RTIs in RH clinics a good or bad idea?</b>			
Screening and management of RTIs in RH clinics is a good idea	Yes	96	98
<b>Why screening and mgt of RTIs in RH clinics is a good idea:</b>			
a). Early diagnosis and complete management*	Yes	13	19
b). Good/better services**	Yes	23	45
c). Know health status**	Yes	10	20

\*\* Significant at  $p < 0.01$ ; \* Significant at  $p < 0.05$

## Quality of Counselling in Reproductive Health services

Quality of counselling was assessed using un-weighted, aggregated scores for a series of counselling indicators observed to be undertaken with a client during a consultation for each of the four RH/PHC services (family planning (FP), antenatal care (ANC), delivery, and postnatal/postpartum care (PNC/PPC)), as well as for provision of information to clients and counselling on condom use for all clients as cross-cutting areas for integrated services.

## Quality of counselling on RTI/STI/HIV in FP services

Significant improvements were observed for the pooled sample for all 10 FP clinics across the five indicators that were assessed (Table 4). At endline, providers carried out, on average, just under three of the five essential actions per consultation, compared with virtually none of the actions being carried out at baseline. In Meru-South, providers were undertaking more than four actions compared with one in Kilifi District, despite having started at a lower level. Indeed, although the mean score for Kilifi doubled after the intervention, it remained low, probably due to the staff turnover described above.

**Table 4: Discussions of STI/RTI issues with FP clients**

Proportion of consultations in which provider:	Kilifi District		Meru South District		Pooled Sample	
	Baseline (n= 52)	Endline (n=99)	Baseline (n=51)	Endline (n=115)	Baseline (n=103)	Endline (n=214)
Provided information on HIV/RTI/STI prevention behaviour	17	27	9	96**	13	64**
Informed client about HIV/VCT and arrange counselling/referral	24	39	1	90**	11	67**
Conducted individualized risk assessment for HIV/RTIs/STIs	7	21*	2	87**	5	57**
Promoted importance of dual protection	5	9	2	88**	3	52**
Incorporated HIV/STI prevention information into group health talk	1	19**	13	50**	7	36**
<b>Total Score (0-5)</b>	<b>0.52</b>	<b>1.15**</b>	<b>0.26</b>	<b>4.11*</b>	<b>0.39</b>	<b>2.75*</b>

\*\* Significant at p<0.01; \* Significant at p<0.05

### Quality of counselling on RTI/STI/HIV in ANC services

For the pooled sample, significant improvements were realized across all the indicators in the antenatal care services (Table 5), with providers performing over five out of the eight actions at endline, compared with two at baseline. Again, there were marked differences between the districts, with providers in Meru South performing almost 7 out of the 8 actions at endline, but no change overall in Kilifi district, which saw some marked declines in actions undertaken and improvements in only two (identifying danger signs and reviewing client history).

**Table 5: Discussions of STI/RTI issues with ANC clients**

Proportion of consultations in which provider:	Kilifi District		Meru South District		Pooled Sample	
	Baseline (n=50)	Endline (n= 92)	Baseline (n= 50)	Endline (n=151)	Baseline (n=100)	Endline (n=243)
Reviewed ANC clients history of RTI/STI and asked for any complaints	92	100**	92	99**	92	100**
Looked for signs of RTIs/STIs e.g. discharge, swollen lymph nodes etc	25	28	25	85**	25	63**
Identified any danger signs	41	77**	29	60**	35	67**
Discussed prevention of RTI/STI	31	32	9	95**	20	71**
Asked about client knowledge	26	9**	5	88**	16	58**
Discussed effects of RTI/STI on baby	25	10*	15	84**	20	56**
Discussed risk reduction	21	10*	5	89**	13	59**
Promoted use of male and female condoms	10	2*	2	79**	7	50**
<b>Total Score (0-8)</b>	<b>2.7</b>	<b>2.66</b>	<b>1.81</b>	<b>6.79*</b>	<b>2.27</b>	<b>5.23*</b>

\*\* Significant at p<0.01; \* Significant at p<0.05



## Quality of Counselling on RTI/STI/HIV in maternity services

In the pooled sample, significant improvements (almost three-fold) were realized across all the indicators concerning the integration of STI/RTI control activities within maternity services (Table 6). However, this overall difference was due to substantial improvements in Meru South, with no change in Kilifi, except for obtaining samples, which conversely remained virtually non-existent in Meru South. The better performance in collecting blood samples in Kilifi District may be because it is a malaria endemic area and so pregnant women in this district are more likely to be routinely screened for anaemia through blood sampling.

**Table 6: Discussions of STI/RTI issues with maternity clients**

Proportion of consultations in which provider:	Kilifi District		Meru South District		Pooled Sample	
	Baseline (n=29)	Endline (n= 62)	Baseline (n=52)	Endline (n= 61)	Baseline (n=81)	Endline (n=123)
Discussed risks, history of S&S of RTIs/STIs in herself & partner	32	21	6	82**	15	51**
Conducted a general exam. & checked for anaemia, oedema, Bp	91	100	80	79*	89	91
Obtained samples for investigation	0	47**	2	4	1	25**
Screen for undetected Signs and Symptoms of RTIs/STIs	14	22	4	56**	8	38**
Look for S&S of other infections e.g. HSV2	11	7	18	51**	15	29*
<b>Total Score (0-5)</b>	<b>1.25</b>	<b>1.63</b>	<b>0.37</b>	<b>2.36*</b>	<b>0.68</b>	<b>1.99*</b>

\*\* Significant at  $p < 0.01$ ; \* Significant at  $p < 0.05$

## Quality of Counselling on RTI/STI/HIV in postpartum care services

Significant improvements were observed in postpartum care services across all five indicators (Table 7), but again these improvements were primarily in Meru South clinics, although Kilifi district clinics did achieve a non-significant improvement of one additional action per consultation. In Meru South clinics, virtually all postpartum clients received counselling that included most of the five actions assessed, compared with less than one at baseline.

**Table 7: Discussion of STI/RTI issues with PPC Clients**

Proportion of consultations in which provider:	Kilifi District		Meru South District		Pooled sample	
	Baseline (n=50)	Endline (n= 99)	Baseline (n=48)	Endline (n= 64)	Baseline (n=98)	Endline (n=163)
Discussed risks e.g. Hx. of symptoms of STIs/RTIs in herself and partner	15	58**	8	91**	11	71**
Looked for S&S of RTIs /STIs e.g. discharge, etc	43	54	22	84**	32	66**
Screened for signs of infection following delivery	57	86**	40	95**	49	89**
Discussed prevention of RTIs/STIs (including HIV)	21	30	20	91**	21	54**
Promoted male and female condom use	11	20	4	89**	7	47**
<b>Total Score (0-5)</b>	<b>1.47</b>	<b>2.48**</b>	<b>0.94</b>	<b>4.49*</b>	<b>1.2</b>	<b>3.27*</b>

\*\* Significant at p<0.01; \* Significant at p<0.05

### Provision of RTI/STI/HIV information to clients

Significant improvements were observed in the provision of information on STIs/RTIs and HIV across all five indicators and for both districts (Table 8). At endline, there was a fivefold increase in the mean number of actions carried out by providers, with almost four of the five items being communicated in Meru South but just over one in Kilifi. The weakest areas, although there were substantial increases in all sites, was informing clients that RTIs/STIs may be asymptomatic and that STIs may increase transmission of HIV, although two-thirds of clients in Meru South did receive this information.

**Table 8: Provision of information on STI/RTI issues to clients**

Information given to clients improved	Kilifi District		Meru South District		Pooled Sample	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Client given information on symptoms of an STI?	14	33**	10	94**	12	66**
Client told to seek medical treatment if they notice any symptoms of STIs/RTIs	14	29**	10	93**	12	63**
Client told that STIs/RTIs may be asymptomatic	2	19**	1	59**	2	40**
Client told that STI may increase Transmission of HIV	6	15**	2	72**	4	45**
Client given information by provider on where to get HTC/VCT	29	53**	11	80**	20	69**
<b>Total Score (0-5)</b>	<b>0.65</b>	<b>1.36**</b>	<b>0.31</b>	<b>3.96**</b>	<b>0.47</b>	<b>2.74**</b>

\*\* Significant at p<0.01; \* Significant at p<0.05

## Quality of counselling about condom use

Providers' performance around counselling on condom use was extremely variable. Overall, the proportion of consultations in which the provider mentioned male and/or female condoms increased significantly, from 12 to 50 percent. However, this pooled total masks a significant decrease in Kilifi District (13% to 7%) and a very large increase in Meru South (12% to 88%). Why there should be such a decrease in Kilifi is not clear, but is probably related to the staff turnover. However, for those consultations in which condoms were mentioned, there were significant improvements in the quality of counselling (Table 9), with the mean number of items discussed increasing from 1.77 to 3.27, and only a small difference between the providers in each district.

**Table 9: Information provided to clients on condoms**

Proportion of consultations in which provider:	Kilifi District		Meru South District		Pooled Sample	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Mentioned explicitly that M & F condoms protect against STI / HIV	65	83	58	97**	62	96**
Mentioned explicitly that M & F condoms protect against pregnancy	52	78	58	87**	55	87**
Gave information on how to use condom (s)	48	65	29	75**	38	74**
Emphasized correct and consistent use of a condom	22	70**	21	71**	21	71**
<b>Scores (0-4)</b>	<b>1.87</b>	<b>2.96**</b>	<b>1.67</b>	<b>3.30**</b>	<b>1.77</b>	<b>3.27**</b>

\*\* Significant at p<0.01; \* Significant at p<0.05

## Overall quality of care

At baseline, providers were observed carrying out 4.5 of the 23 counselling actions for integrated services measured across the four services (family planning, antenatal care, delivery, and postnatal/postpartum care); at the endline, this had increased to 13. High staff turnover in Kilifi District adversely affected the effectiveness of the intervention in those facilities; in Meru District, where the intervention was implemented more widely because of less staff turnover, the change was much greater, from 3.4 to 17.8.

Table 10 summarizes the conclusions that can be drawn from the analyses presented above. A '✓' indicates that there was a significant improvement after the intervention and a '-' means that there was no statistically significant difference. Two conclusions can be drawn from this table. First, for the total sample, the intervention was effective in significantly improving the integration of STI/ RTI control into all four RH services and for improving the counselling around STIs/RTIs and around condom use. Secondly, the differences between the two districts emphasize that staff trained and oriented in the STI/RTI counselling issues

need to be retained if a facility is to be able to sustain and significantly improve the quality of counselling. With Kilifi District retaining only eight of its 20 trained providers through staff transfers and the new staff not being oriented in the integrated approach, performance at the five study facilities was substantially poorer than in Meru South District, which lost only four of its 20 trained providers. The results for Meru South are, therefore, a more valid measure of the intervention's effectiveness as they reflect a truer implementation of the intervention as it was designed.

**Table 10: Summary scores for quality of care RH components at baseline and endline**

Quality of care RH components	Kilifi District	Meru South District	Pooled Sample
Integration of STI/RTI control in FP Services	✓	✓	✓
Integration of STI/RTI control in ANC Services	-	✓	✓
Integration of STI/RTI control in Delivery Services	-	✓	✓
Integration of STI/RTI control in PNC Services	✓	✓	✓
Counselling clients on STIs/RTIs	✓	✓	✓
Counselling RH clients on condom use	✓	✓	✓

### Consultation Time

Overall, the median consultation time for all clients attending the four RH units at baseline was 12 minutes (Table 11). At the endline, this had increased to 15 minutes, primarily due to increases in the duration of consultations in FP, ANC and maternity units; there was no increase in consultation time for postpartum clients, despite the significant improvements in quality of integrated care described in Table 7. The median additional time needed for testing someone for HIV during the same visit at baseline was three minutes, which remained constant at endline.

**Table 11: Consultation Times**

Reproductive Health Component	Median consultation time (minutes)		Difference (minutes)
	Baseline	Endline	
Family Planning	10	15	+5**
ANC	12	15	+3**
Maternity/delivery	20.5	24	+3.5**
PPC/PNC	12	12	0
<b>Total</b>	<b>12</b>	<b>15</b>	<b>+3**</b>
Median time for clients being tested for HIV	<b>15</b>	<b>18</b>	<b>+3</b>
<b>Proportion of consultations &gt;15 minutes</b>	<b>35%</b>	<b>44%**</b>	

\*\* Significant at  $p < 0.01$ ; \* Significant at  $p < 0.05$

## Condom Use

Condom use increased significantly among clients. The proportion of clients who reported “ever used a condom” increased from 41% at baseline to 56% at the endline.

## HIV Testing

According to the National RTI Guidelines and the WHO GEP-RTI, provision of HIV testing and counselling (HTC) services should be one of the key steps in the management of STI/RTI syndromes. The National Guidelines for HIV Testing and Counselling in Kenya also recommend that HTC ought to be provided for STI patients, in STI clinics and as part of health services for all patients. Table 12 shows that significant increases occurred in the proportions of clients with whom HIV testing was discussed and who were offered a test during the RH consultation. By endline, 40 percent of all clients were offered an HIV test on the day of the consultation and over three-quarters accepted the offer and were tested. The slight, non-significant decrease in the proportion of clients accepting a test after being offered may reflect the higher levels of clients having previously been tested and not wanting a further test.

**Table 12: Clients’ experience with HIV testing**

Proportion of clients in RH Units who:	Pooled	
	Baseline	Endline
	%	%
Discussed HIV test with provider	26	83**
Were offered HIV testing on the day they visited	10	40**
Accepted the HIV test (after they had been offered)	94	87

\*\*significant at  $p < 0.05$

It is important to note that there were substantial differences across the RH services for these three indicators, which reflect differences in the feasibility and/or perceived importance of integrating HIV testing with each RH service. Discussions of HIV testing at baseline were as low as 8% among FP clients and as high as 45% among ANC clients, which would be expected as PMTCT had been introduced. After the intervention, HIV testing was mentioned during 84% of FP consultations and 92% of ANC consultations. Again, at baseline, the highest proportion of RH clients being offered HIV tests was for ANC (34%) and at endline the highest proportions were for ANC (55%) and FP (53%); only 8% of delivery clients and 18% of PNC clients were offered a test, presumably because of the expectation that they had been tested during ANC. For ANC, delivery and PNC clients, virtually all of those offered a test chose to have one (96-100%), whereas only 72% of FP clients were tested, perhaps reflecting a concern around perinatal transmission.

## Detection of syndromes in RH clinics

One of the key reasons for integrating STI/RTI screening and management into RP services is to increase detection of syndromes that can then be managed according to national guidelines. Although service statistics from all of the clinics were extracted from service registers for the four year period of the study, unfortunately they were generally of poor quality and incomplete, rendering it almost impossible to determine whether detection and management rates had increased. The best quality data were in the FP and PNC clinics, for which no particular trend was observed over time. The proportion of FP clients diagnosed with a syndrome ranged from 6.7% to 11.0%, and for PNC clients the range was 6.6% to 12.3%. Among FP clients, the vast majority (63%) of cases were for vaginal discharge, whereas for PNC clients, 39% had vaginal discharge and 37% lower abdominal pain.

## Cost analysis and incremental costs for scaling up

A full report of the costing analysis is available<sup>5</sup>; this section will describe the key findings as they relate to introduction and scaling up of the integration model, assuming that the costs of developing the curriculum and materials have already been covered during the development phase (an exchange rate of US1 = 75 Kenya shillings (KES) is used).

Average preparatory costs for introducing the model in each district included stakeholder meetings (\$3,133 per district), training of trainers (\$484 per trainer x 7 per district = \$3,388) and training of providers (\$337 per provider).

The incremental resources needed to implement the minimal components of the integrated services delivery model, that is, for providers to counsel a client about RTI/STI/HIV issues, is the cost of the additional time required by a provider to include this counselling during each type of RH consultation. Using the data for the median additional time per consultation (see Table 11), and weighting the cost per minute by whether the staff providing the service is usually a nurse or clinical officer, the additional cost of staff time per consultation by type of RH service and level of facility is given in the first column of Table 13. This ranges from 3.24 KES (\$0.04) for postpartum clients at a dispensary to 68.48 KES (\$0.91) for clients attending for labour and delivery at a health centre.

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<sup>5</sup> Korir J. 2010. *Incremental costing of integrating STIs/RTIs into RH settings in Kenya*, Unpublished Report, Population Council: Nairobi, Kenya.

**Table 13: Incremental costs for integration by service and facility**

Service	Facility	Incremental staff time cost per consultation (KES)	RTI/STI drugs cost per client treated (KES)	Cost of HIV test per client tested (KES)	Cost for all 3 services per client (KES)	Cost for all 3 services per client (US \$)
FP	Hospital	6.48	82.25	79.84	168.57	2.25
	Health centre	16.20	82.25	79.84	178.29	2.38
	Dispensary	11.34	82.25	79.84	173.43	2.31
	Overall				172.30	2.30
ANC	Hospital	3.24	92.48	79.84	175.56	2.34
	Health centre	19.44	92.48	79.84	191.76	2.56
	Dispensary	16.20	92.48	79.84	188.52	2.51
	Overall				179.94	2.40
Delivery	Hospital	-	109.15	79.84	188.99	2.52
	Health centre	68.04	109.15	79.84	257.03	3.43
	Overall				199.16	2.66
PNC/PPC	Hospital	6.48	17.30	79.84	103.62	1.38
	Health centre	-	17.30	79.84	97.14	1.30
	Dispensary	3.24	17.30	79.84	100.38	1.34
	Overall				102.03	1.36

For those clients that require treatment for an RTI/STI detected during the integrated consultation, the additional cost varies depending on the type of RH service for which the client was attending; costs range from 17.30 KES (\$0.23) for postpartum clients to 109.15 KES (\$1.46) for delivery clients (Table 13, column 4).

For clients choosing to have an HIV test as part of their integrated consultation, the additional cost was constant across type of RH service and level of facility, at 79.84 KES (\$1.06) (Table 13, column 5).

In summary, the range of average incremental costs for implementing this integrated approach across the four services, once the preparatory activities have been completed, are:

- \$0.04 - \$0.91 for clients only receiving the additional counselling (col 3);
- \$0.27 - \$2.36 for clients being counselled and managed for an RTI/STI (cols 3+4);
- \$1.11 - \$1.97 for clients being counselled and having an HIV test (cols 3+5);
- \$1.30 - \$3.43 for clients being counselled, managed for an RTI/STI, and having an HIV test (cols 6 & 7).

Using the annual client loads registered in facility records, these incremental services would require an additional annual cost to a facility of between \$373 and \$984, depending on facility type, to be able to counsel every client attending for each of the RH services. The additional annual cost of making quarterly monitoring visits and meetings is approximately \$425 per facility.

To generate estimates for computing the costs of scaling up this integrated model, “weighted” costs were applied to the numbers of clients actually attending for each service, irrespective of whether they had an STI syndrome or were tested for HIV.

The weighted costs of integrating the management of STIs/RTIs into RH settings per client by service component, using financial data from Financial Year 2008/2009, would be: FP (\$0.35), ANC (\$0.45), Maternity (\$0.19), and PNC/PPC (\$0.13). The weighted cost of integrating the management of STIs/RTIs into RH settings per client by type of facility were estimated at \$0.33 at a hospital, \$0.50 at a health centre, and \$0.39 at a dispensary.

### Cost of National Scale Up

The projected costs of national scale up of STI/RTI/RH integration activities over a three year period for all Dispensaries (2,290) Health Centres (460) and District Hospitals (n = 243) in all 243 Districts is presented in Table 14. A three year period is used as it is highly unlikely that introducing this intervention into all 2,993 facilities would be feasible in a shorter period. For STI/RTI/HIV counselling to be integrated into and undertaken during every RH consultation is estimated to cost \$9.72 million in total.

The additional costs of treating STI/RTIs detected and of providing HIV tests through this intervention have been calculated using the weighted proportions of clients presenting with syndromes and requesting HIV tests. Although the costs may appear high - \$3.05 million for STI treatment and \$7.00 million for HIV tests - investing these amounts would yield an additional 2.31 million STIs treated and 7.98 million HIV tests.

**Table 14: Estimated costs of nationwide scale-up and outputs over a three-year period**

		<b>Total</b>
Training of district TOTs (243 districts)		\$129,656
Training of health providers (2,993 facilities)		\$2,100,315
Monitoring and supervision		\$1,404,735
Additional staff time on consultations		\$6,081,553
<b>Sub-total: integrated counseling</b>		<b>\$9,716,259</b>
<b>Additional activities</b>	<b>Number</b>	<b>Cost</b>
Treatment of STIs	2,313,784	\$3,046,954
HIV testing	7,977,784	\$7,000,956



## DISCUSSION

### Study Limitations

In both districts only one hospital, two health centres and two dispensaries were selected, which limited the range of facilities with which comparisons could be made. The interventions were implemented in two districts, one of which, (Kilifi) is located in a socio-economically marginal region with higher STI prevalence and the other (Meru South) is situated in a socio-economically richer region with a lower STI prevalence. These differences could influence clients' awareness, behaviours and attitude towards STI/RTI control activities, including HIV testing. Poorly recorded service statistics limited the study's ability to measure one of the key outcome variables, the effect on detection and management of STI/RTI syndromes among PHC clients.

Substantial differences in provider performance between the two districts may reflect a differential level of retention of trained staff. As Kilifi District suffered from very high levels of staff turnover (12 out of 20 left), the findings are less valid than for Meru South District, in which only four out of 20 providers left the facilities.

### Summary of key findings

Overall, the results showed that integration of activities to screen for and manage STIs/RTIs into RH services is feasible, acceptable to clients and providers, and effective in improving the range and quality of services offered to clients. The majority (7 out of 10) of facilities had the minimum basic supplies, equipment, infrastructure and competent staff to integrate these services; moreover, provider knowledge and skills improved significantly after training. Exit interviews with clients revealed that integrating STI/RTI prevention and control within other RH services was acceptable to them.

Significant improvements in the range and quality of care occurred in all four of the family planning, antenatal, maternity/delivery and postnatal/postpartum care services observed. Measures specifically of the provision of information on STIs/RTIs/HIV across all five indicators showed a fivefold increase in the mean number of counselling actions carried out by providers, although there were significant performance differences between districts, with almost 3.96 out of five items being communicated in Meru South and 1.36 in Kilifi. High staff turnover in Kilifi District adversely affected the effectiveness of the intervention in those facilities.

The proportion of clients who reported having ever using a condom increased significantly from 41% to 56%. By endline, 40 percent of all clients were offered an HIV test (up from 10%) and almost 90 percent of these were tested. The largest increase was among FP clients.

Data from service statistics were of poor quality and not able to measure whether the number of syndromes reported had changed. The proportion of clients diagnosed

with a syndrome ranged from 6.6% to 12.3%, with the majority being vaginal discharge syndrome.

The range of average incremental costs for implementing this integrated approach across the four services, once the preparatory activities have been completed, are: \$0.04 - \$0.91 for clients receiving the additional counselling on STI/RTI/HIV; \$0.27 - \$2.36 for clients being counselled and managed for an RTI/STI; \$1.11 - \$1.97 for clients being counselled and having an HIV test; and \$1.30 - \$3.43 for clients being counselled, managed for an RTI/STI, and having an HIV test. Introducing the intervention into every facility in the country so that women are counselled on STI/RTI/HIV during every RH consultation is estimated to cost \$9.72 million.

## **LESSONS LEARNT**

### **Positive experiences**

- ✓ Building consensus among stakeholders and strengthening advocacy activities at all levels were critical steps for successful implementation of STI/RTI/RH integrated activities.
- ✓ Developing and utilizing comprehensive problem-based training packages was useful in facilitating STI/RTI/RH integration.
- ✓ Integration of STI/RTI management into RH settings improves case detection of some of the common STI syndromes
- ✓ Providers' willingness to give comprehensive package and clients' preference to receive information from one stop-shop accounted for improvements in service delivery.
- ✓ Nurturing good working relations between DRH, NASCOP, KEMSA, PHMTs and DHMTs motivated health providers at the district level.
- ✓ Ensuring commodity security is important for provision of quality STI/RTI/RH services & creating opportunities to link clients to HIV services and reduces incidences of missed opportunities.
- ✓ Supportive monitoring and supervision especially from DRH and NASCOP and provincial teams encouraged health providers.
- ✓ The model used for piloting the interventions has potential for sustainability given that the Kenya Govt. used its supplies, staff etc.
- ✓ Supportive service delivery guidelines and MOH leadership are necessary for successful implementation of integrated activities.

## Constraints experienced

- Frequent turnover and shortage of staff did affect the pace of implementing project activities in some of the facilities.
- Occasional interruptions in supplies and commodities affected the operations of services in some of the pilot health facilities.
- Delays in carrying out project evaluation (due to lack of funds) resulted into occasional rescheduling of activities and interruptions of plans of operations at the district level.
- Competing priorities tended to affect the pace of supervision and monitoring activities. DHMT members found it difficult to carry out scheduled monitoring and evaluation activities given that donors, PHMTs AND MOH HQs wanted their time and attention.

## RECOMMENDATIONS

Drawing on the findings and lessons learned the key recommendations for institutionalizing the integration of STI/RTI control into RH/PHC settings are:

- Scale up activities for integrating the management of STIs/RTIs into RH settings.
- Address the issue of staff shortage in all facilities.
- Incorporate routine HIV testing into STI/RTI control activities.
- Use district and facility action plans as management tools for ensuring resource mobilization and allocation and securing commitment to providing integrated services.
- Strengthen on-the-job training for health providers.
- Strengthen the commodities & logistics management system at all levels.
- Strengthen clients' education around STI/RTI control activities as a strategy for primary prevention and demand creation for promotive and preventive services.
- Institute effective partner management approaches that respect the principle of confidentiality.

## **DISSEMINATION OF FINDINGS**

To strengthen the STI/RTI-RH integration activities in Kenya, the Ministries of Medical Services and Public Health and Sanitation convened a two-day dissemination meeting in Nairobi in October 2009 during which preliminary findings and lessons learned from the pilot phase of the GEP-RTI project activities were communicated to key stakeholders. The overall goal of the dissemination meeting was to stimulate engagement of the main stakeholders that are already participating in various aspects of STI/RTI control and prevention activities and to chart the way forward.

The meeting served to: share local and international experience in implementing STI/RTI control activities; discuss current STI/RTI control activities in Kenya; share results and lessons learnt from the pilot project on integrating STIs/RTIs into

Reproductive Health settings in Kenya; discuss innovative ways of building on STI/RTI Control program opportunities and how to address various weaknesses to achieve desired program outcomes; discuss strategies for mainstreaming STI/RTI control activities into the NHSSP/ Joint Programme of Work and Funding (JPWF)/AOP process; discuss and reach consensus on priority STI/RTI Control activities and develop an action plan for STI/RTI Prevention and Control activities.

Stakeholders made additional recommendations during the two-day meeting as follows:

- Reconstitute the National STI Technical Working Group.
- Disseminate the current National RTI Guidelines at all levels
- Review the syndromic management charts so that they are consistent with available drugs for managing STIs in Kenya.
- Undertake studies of drug sensitivity and STI surveillance
- Identify mechanisms for accessing donor funds (e.g. from the Global Fund) to support STI/RTI revitalization efforts and to sustain the implementation tempo.
- Disseminate costing data on integrating STI/RTI services so as to assist MOH in estimating the financial resources required to scale up integrated services.
- Ensure STI/RTI control activities are integrated within the Government Community Strategy for implementing Kenya's Essential Package for Health.

### **The Government's Commitment to addressing STIs and Other RTIs**

The Government of Kenya is committed to addressing STIs and other RTIs. This is evident in a number of activities:

- The GEP-RTI integration activities not only led to the development of the Kenya National Guidelines on the integration of services for Reproductive Tract Infections (RTIs) but also informed the development of the National

Reproductive Health Policy and the National Reproductive Health Strategy (2009).

- Allocation of financial resources to support integration of STI/RTI activities. A total of \$400,000 has been earmarked for STI integration and surveillance, \$5,010,192 for the purchase of HIV testing kits and \$2,213,822 for the purchase of selected STI drugs (acyclovir and clotrimazole) for two years<sup>6</sup>. In order to address staff shortage, the government has already set aside \$16,800,000 for recruiting an additional 4,200 nurses (20 for each of the 210 constituencies)<sup>7</sup>. Key activities of some of these staff will be integration of STI/RTI activities in RH settings. In this study, estimated costs of national scale-up of providing integrated counselling is \$9,716,259 over a three year period (out of which additional staff time for integrating STI/RTI activities was estimated to cost \$6,081,553. The key issue will be ensuring that the incorporated staff gain the necessary skills to be able to provide integrated services.
- The bulk of drugs for treating STIs will be purchased directly by the government through KEMSA (using funds allocated by Ministry of Finance). A discussion with KEMSA staff revealed that STI drugs are part of the “pool” items and hence are quantified, procured and distributed alongside other drugs for managing other health conditions. Thus, the government will address the financial resources required to treat STIs (\$3,046,954) by purchasing STI drugs through KEMSA. Although this arrangement works well, there is need for proper quantification of STI drugs and improvements in the logistics system to ward-off problems that have to do with occasional stock outs and erratic supplies.
- Although the government is committed to addressing most of the identified budgetary gaps, there is still need for other development partners to support activities such as training of health providers in STI/RTI integration activities during the scale up phase. Already some development partners such as CDC have pledged to support the government in improving the capacity of health providers, although more partnership is needed to support this activity. The estimated cost of \$2,100,315 for the training of health providers is still far from being realized. It is expected that the National RTI Working Group will work closely with other government departments and development partners to mobilise adequate resources to address this financial gap and any other needs during the scale-up phase.

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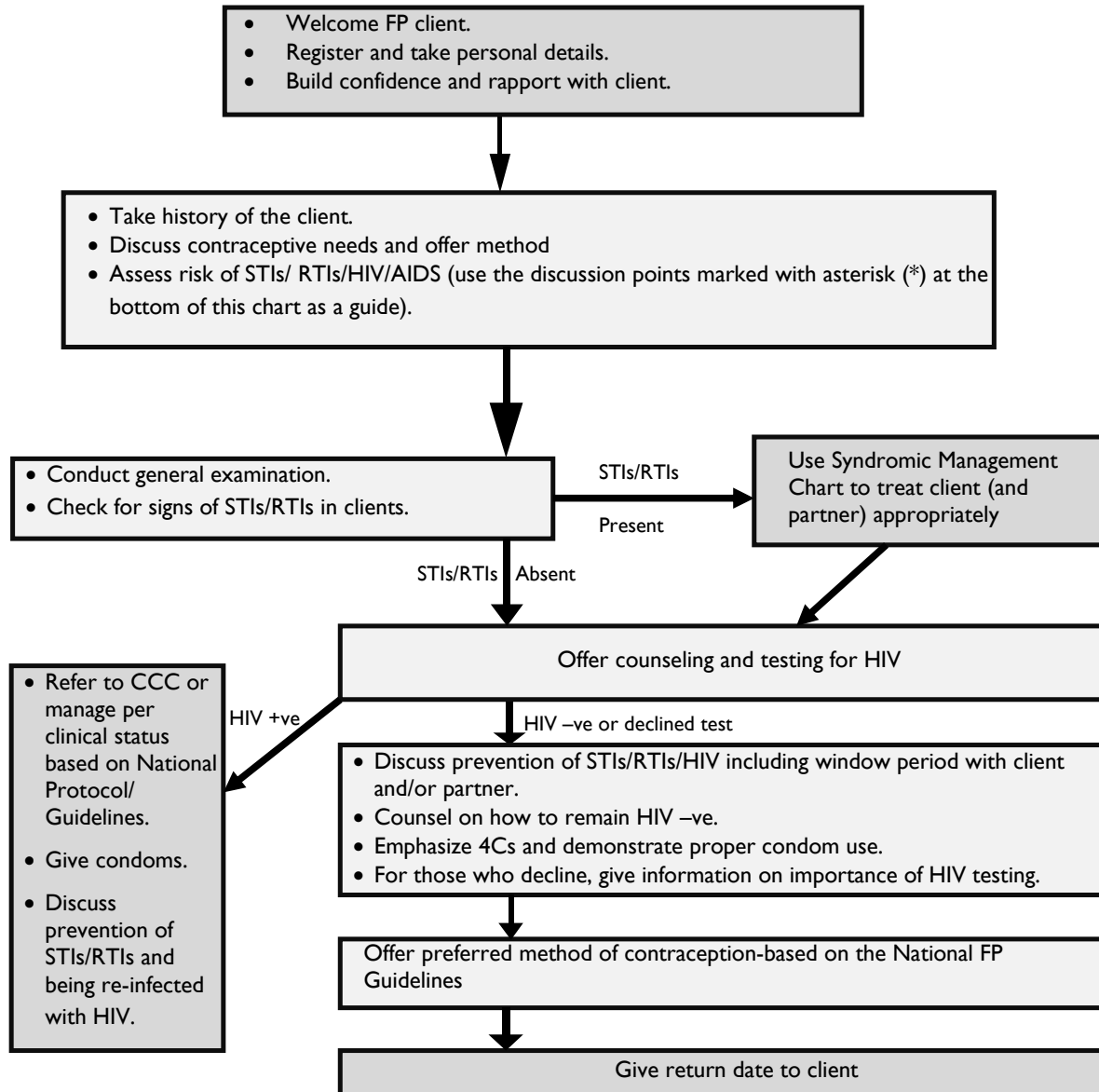
<sup>6</sup> Supporting documents for the Kenya National AIDS Strategic Plan for the period 2009/10- 2012/13 (pages 72-73; 145-146, NACC, 2009);

<sup>7</sup> Supporting documents for the Kenya National AIDS Strategic Plan for the period 2009/10- 2012/13 (pg. 128);

## APPENDICES

### Appendix 1: Algorithms to guide integration of STI/RTI Management

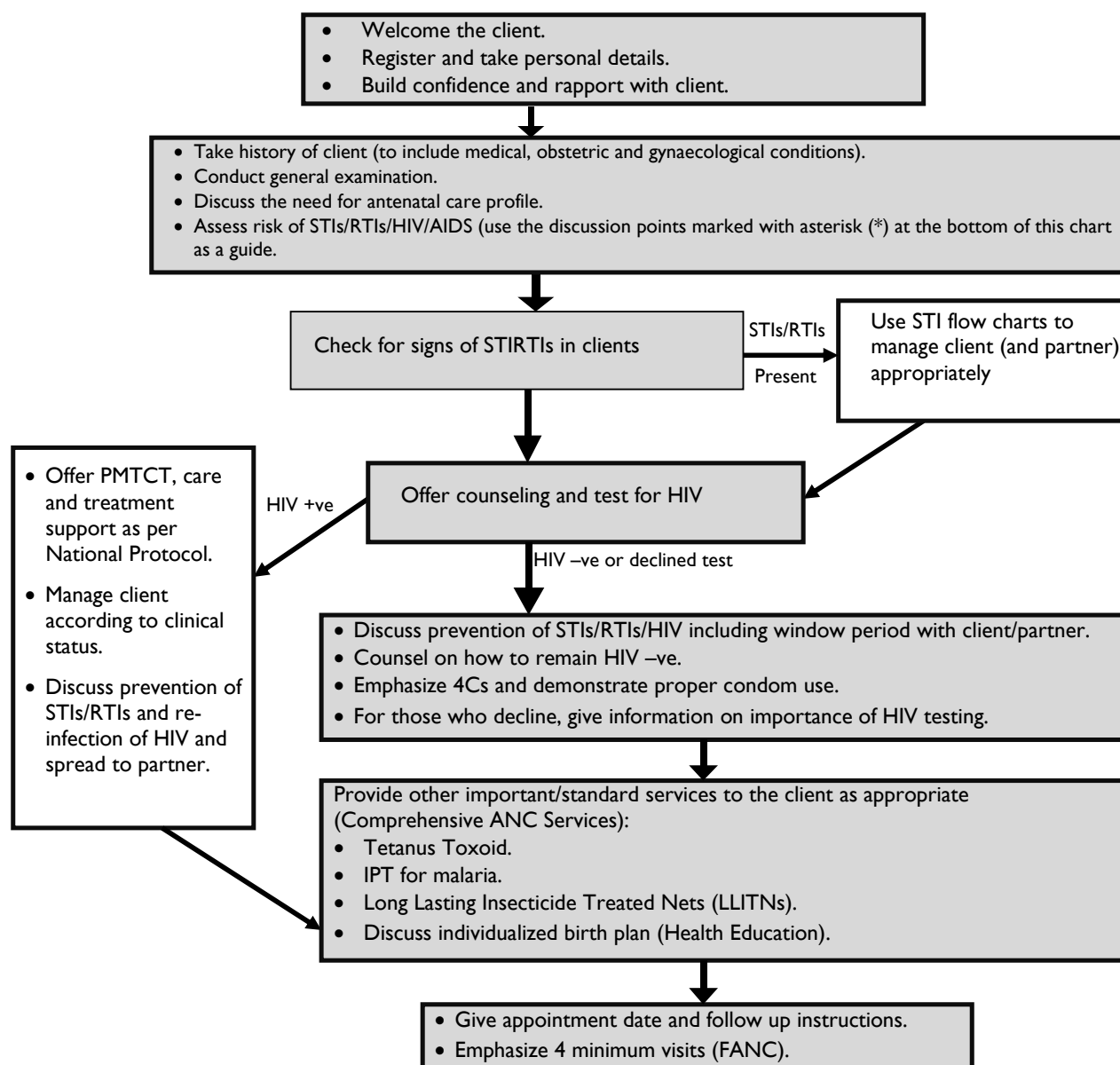
#### STI/RTI Management in Family Planning Care Settings



#### \* Assessing Risk of STIs/RTIs/HIV/AIDS

- Find out how much client knows about RTIs/STIs including HIV and information on opportunities for counseling and testing for HIV.
- Ask if the client could identify specific issues or aspects of what she/he knows about STIs/RTIs and HIV that puts her/him at risk.
- Correct misinformation, fill in gaps and answer arising questions.
- Find out about the client's number of sexual partners currently and in the past including the partners' other sexual partners.
- Find out what type of sex or sexual practices and behaviors the client is involved in.
- Find out history and current symptoms of STIs/other RTIs (for self and partner). Enquire about previous treatment for RTIs/STIs.
- Ask if client is aware of own HIV status and HIV status of partner(s).
- Enquire about past and present condom use (include perception of partners' attitude) and whether client is aware that condoms protect against STIs/HIV and pregnancy.
- Enquire about client's home life situation (partner violence, social supports, etc).
- Help client make a plan to reduce risk (including discussion of dual protection and condom use).

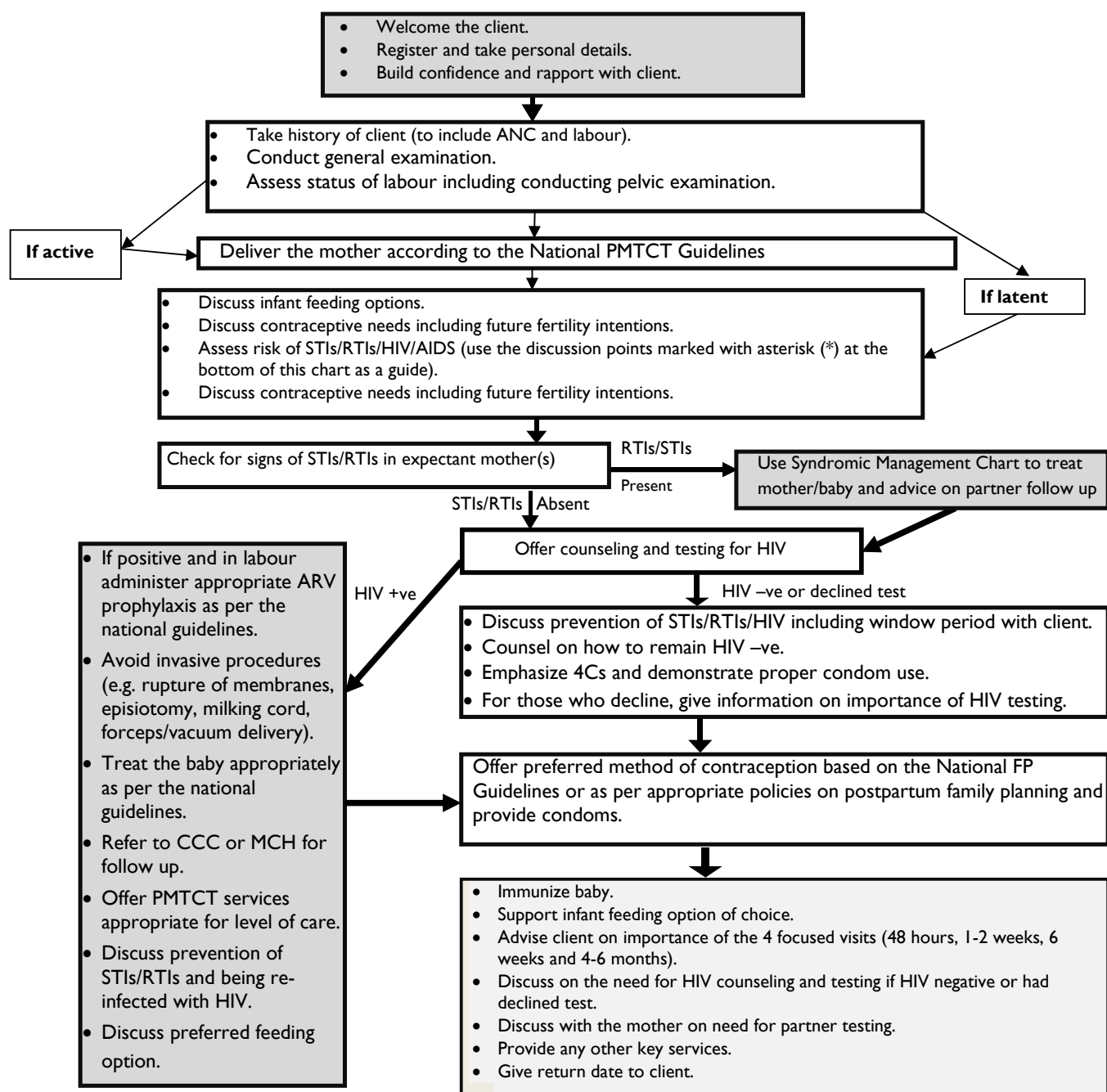
## STI/RTI Management in Antenatal Care Settings



### \* Assessing Risk of STIs/RTIs/HIV/AIDS

- Find out how much client knows about RTIs/STIs including HIV and information on opportunities for counseling and testing for HIV.
- Ask if the client could identify specific issues or aspects of what she/he knows about STIs/RTIs and HIV that puts her/him at risk.
- Correct misinformation, fill in gaps and answer arising questions.
- Find out about the client's number of sexual partners currently and in the past including the partners' other sexual partners.
- Find out what type of sex or sexual practices and behaviors the client is involved in.
- Find out history and current symptoms of STIs/other RTIs (for self and partner). Enquire about previous treatment for RTIs/STIs.
- Ask if client is aware of own HIV status and HIV status of partner(s).
- Enquire about past and present condom use (include perception of partners' attitude) and whether client is aware that condoms protect against STIs/HIV and pregnancy.
- Enquire about client's home life situation (partner violence, social supports, etc).
- Help client make a plan to reduce risk (including discussion of dual protection and condom use).

## STI/RTI Management in Labour and Delivery

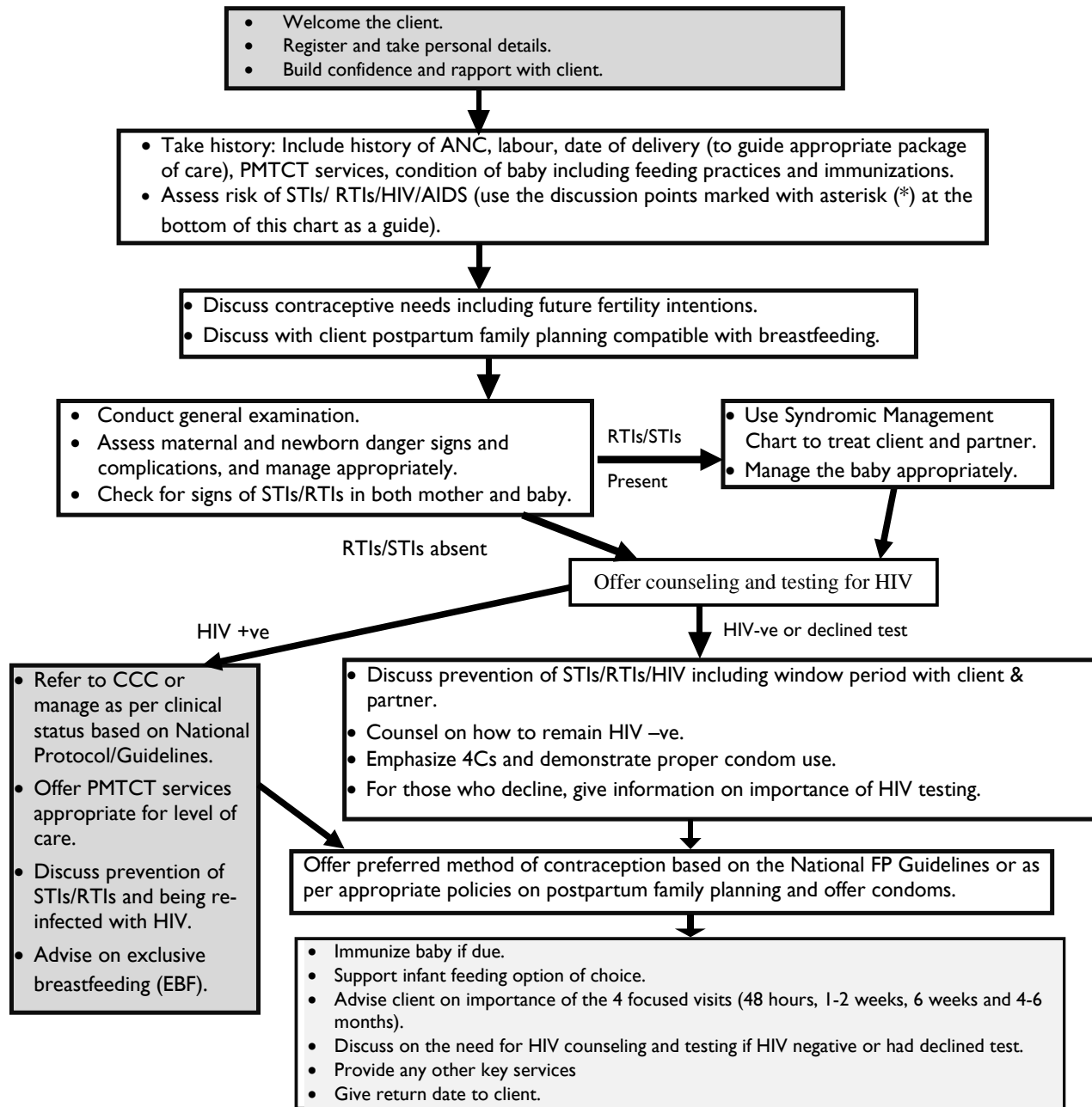


### \* Assessing Risk of STIs/RTIs/HIV/AIDS

- Find out how much client knows about RTIs/STIs including HIV and information on opportunities for counseling and testing for HIV.
- Ask if the client could identify specific issues or aspects of what she/he knows about STIs/RTIs and HIV that puts her/him at risk.
- Correct misinformation, fill in gaps and answer arising questions.
- Find out about the client's number of sexual partners currently and in the past including the partners' other sexual partners.
- Find out what type of sex or sexual practices and behaviors the client is involved in.
- Find out history and current symptoms of STIs/other RTIs (for self and partner). Enquire about previous treatment for RTIs/STIs.
- Ask if client is aware of own HIV status and HIV status of partner(s).
- Enquire about past and present condom use (include perception of partners' attitude) and whether client is aware that condoms protect against STIs/HIV and pregnancy.
- Enquire about client's home life situation (partner violence, social supports, etc).
- Help client make a plan to reduce risk (including discussion of dual protection and condom use).



## STI/RTI Management in Postnatal Care



### \* Assessing Risk of STIs/RTIs/HIV/AIDS

- Find out how much client knows about RTIs/STIs including HIV and information on opportunities for counselling and testing for HIV.
- Ask if the client could identify specific issues or aspects of what she/he knows about STIs/RTIs and HIV that puts her/him at risk.
- Correct misinformation, fill in gaps and answer arising questions.
- Find out about the client's number of sexual partners currently and in the past including the partners' other sexual partners.
- Find out what type of sex or sexual practices and behaviors the client is involved in.
- Find out history and current symptoms of STIs/other RTIs (for self and partner). Enquire about previous treatment for RTIs/STIs.
- Ask if client is aware of own HIV status and HIV status of partner(s).
- Enquire about past and present condom use (include perception of partners' attitude) and whether client is aware that condoms protect against STIs/HIV and pregnancy.
- Enquire about client's home life situation (partner violence, social supports, etc).
- Help client make a plan to reduce risk (including discussion of dual protection and condom use).

## Appendix 2: Comparison of study population over time and by district

Characteristics of the RH clients by district	Kilifi		Meru South		Pooled	
	Base Line (2006)	End Line (2009)	Base Line (2006)	End Line (2009)	Base Line (2006)	End Line (2009)
<b>Age</b>						
Mean Age	26.2	27.6	27	30.7	26.7	29.3
Median age (Range 13years – 48 yrs)	25	26.5	25.5	30	25	28
<b>Highest Education</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>	<b>(%)</b>
Lower primary school (1-4) and none	59	34	5	11	32	22
Completed upper primary school (5-8)	29	43	70	68	50	56
Completed secondary school and above	12	23	25	21	18	22
<b>Marital Status</b>						
Married monogamous/living together	88	81	93	92	90	87
Married polygamous	4	9	0	3	2	6
Single	4	10	8	4	6	7
Divorced/Separated/widowed/	4	0	0	2	2	1
<b>No. of Pregnancies, Children/ future fertility intentions</b>						
Median number of pregnancies	3	3	2	2	2	2
Median number of living children	3	2	2	2	2	2
Want more children	47	57	55	53	51	55
Do not want more children	37	31	40	39	38	35
Uncertain/ Don't know	16	12	6	9	11	10
Of those wanting more, want in 1-2 yrs	42	30	13	20	26	25
Of those wanting more, want in 3-5 yrs	21	23	37	32	30	28
Of those wanting more, want after 5 yrs from date of interview	21	30	40	20	31	25
Of those wanting more, Didn't know when	13	16	3	14	7	15

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