SUMMARY REPORT

Health Care Provider Survey in Kerala, India
This report is part of a series of baseline surveys conducted to monitor the impact of HIV/STI prevention programmes in five states of India: Andhra Pradesh, Gujarat, Kerala, Orissa, West Bengal and in the Healthy Highways Project. The surveys conducted include behavioural surveillance surveys (BSS), STI/HIV prevalence surveys and health care providers surveys. Together these surveys follow the methods outlined by UNAIDS/WHO for evaluation and monitoring of large scale HIV/STI prevention programmes.

Surveys in each state were implemented by a variety of research organizations, NGOs, medical colleges and laboratories, in collaboration with the respective State AIDS Control Societies. Family Health International provided technical assistance in the implementation of these surveys with funding from the UK Department for International Development.

This report was compiled in 2001

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“This document is an output from a project funded by UK Department for International Development for the benefit of developing countries. The views expressed are not necessarily those of DFID or FHI”
SUMMARY REPORT
Health Care Provider Survey in Kerala, India

A study Implemented by Consultancy Group for Research and Forecasting (C-Graf), Department of Future Studies, University of Kerala for the Kerala State AIDS Control Society with technical assistance from Family Health International

Funded by UK Department for International Development
MESSAGE

I am glad to note that the Impact Assessment Project is drawing to a close and is now ready to disseminate the findings of its work. The Impact Assessment Project, supported by DFID, was carried out under the guidance of NACO and the State AIDS Control Societies in the states of Orissa, West Bengal, Kerala, Gujarat, Andhra Pradesh and among highway populations. The studies, which include behavioural surveillance surveys, STI prevalence studies and health care provider survey's, provide a mine of information for the planning, design, implementation and monitoring and evaluation of HIV/AIDS control programmes.

I must record here my appreciation for the technical support provided by the Family Health International and their constant efforts to maintain very high standards of quality. I would also like to thank NACO and the State AIDS Control Societies for their ungrudging support throughout this exercise. I hope this report will be a valuable source of information for all people working in the field of HIV/AIDS prevention in India and the world at large.

Tim Martineau
Senior Health Adviser
FOREWORD

Sexually transmitted infections (STI) and Human Immunodeficiency Virus (HIV) infection have emerged as an important public health problem in India in recent times. STI/HIV is not only a public health problem but also an important developmental challenge.

A number of activities are being implemented as a part of the National AIDS Control Programme under the leadership of National AIDS Control Organization in the state of Kerala for the prevention of HIV/STI. Activities include awareness generation, behaviour change communication, condom promotion, management of STIs, training of health care providers etc. Activities are also directed towards monitoring and evaluation (including impact assessment) of the programme.

Impact Assessment Project implemented in the state under the overall guidance of Kerala State AIDS Control Society (KSACS) with technical assistance of Family Health International (FHI) and funding from Department for International Development (DFID) is an important step for tracking the trend of sexual behaviour (behavioural surveillance surveys, BSS), sexually transmitted infections (STI prevalence studies) and STI case management practices of health care providers [health care providers survey (HCPS)]. STI prevalence studies among female sex workers (FSWs) were implemented by different NGOs (1. SOMA in Thiruvanthapuram, 2. CSRD in Calicut and 3. ACS in Trissur); BSS was implemented by TNS MODE in the whole state; and HCPS was implemented by C-GRAF, Department of Futures Studies, University of Kerala in the whole state.

All these surveys provided useful insight into the prevalence of STIs among FSWs, the behaviour of some of the important groups in the state (like FSWs and clients,
plantation workers etc. and the way STI patients are managed in the health care settings. For instance, BSS showed that the level of risk behaviour of some of the groups were substantially different from what was estimated before the survey. In the case of Auto rickshaw drivers, while the estimated measurement was 25%, the actual measurement was 13.8%, for Plantation workers it was 20% and 4.8% respectively.

It will be important to repeat these studies at periodic interval to see the change in these parameters over time.

We thank DFID for providing the financial support to this project.

It is expected that these reports will also be useful for agencies and individuals involved in the fight against STI/HIV/AIDS elsewhere in the country.

Thiruvananthapuram

Dr. D. Thangam
Additional Project Director
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### Abbreviations and acronyms

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<tr>
<th>Abbreviation</th>
<th>Definition</th>
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<tr>
<td>AIDS</td>
<td>Acquired Immuno Deficiency Syndrome</td>
</tr>
<tr>
<td>Ayur-homeo (Cat 5)</td>
<td>Doctors trained in indigenous medical systems (Homeopathy, Ayurveda, Unani or Siddha)</td>
</tr>
<tr>
<td>CHC</td>
<td>Community Health Centre</td>
</tr>
<tr>
<td>C-Graf</td>
<td>Consultancy Group for Research and Forecasting, Department of Future Studies, University of Kerala</td>
</tr>
<tr>
<td>DFID</td>
<td>Department for International Development</td>
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<tr>
<td>EI</td>
<td>Exit interviewers</td>
</tr>
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<td>FHI</td>
<td>Family Health International</td>
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<td>FSW</td>
<td>Female Sex Worker</td>
</tr>
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<td>Government</td>
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<td>Allopathic doctors employed in Government health care settings</td>
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<td>Govt-pvt (Cat 2)</td>
<td>Allopathic doctors employed in Government health care settings and also doing private practice and contacted in private settings</td>
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<tr>
<td>HCPS</td>
<td>Health Care provider Survey</td>
</tr>
<tr>
<td>HCPs</td>
<td>Health Care providers</td>
</tr>
<tr>
<td>HIV</td>
<td>Human Immunodeficiency Virus</td>
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<td>IMA</td>
<td>Indian Medical Association</td>
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<td>KSACS</td>
<td>Kerala State AIDS Control Society</td>
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<td>National AIDS Control Organization</td>
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<tr>
<td>NGO</td>
<td>Non-governmental Organization</td>
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<td>PHC</td>
<td>Primary Health Centre</td>
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<td>Pvt-inst. (Cat 3)</td>
<td>Allopathic doctors employed in private institutions</td>
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<tr>
<td>Pvt-pvt (Cat 4)</td>
<td>Allopathic doctors doing exclusive private practice</td>
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<td>RMP</td>
<td>Registered Medical Practitioner</td>
</tr>
<tr>
<td>SACS</td>
<td>State AIDS Control Society</td>
</tr>
<tr>
<td>SP</td>
<td>Simulated Patient</td>
</tr>
<tr>
<td>STI</td>
<td>Sexually Transmitted Infection</td>
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Executive summary

The Health Care provider Survey (HCPS), Kerala was conducted during November 1999 – July 2000. The main purpose of this study was to collect baseline information on the quality of STI case management provided by Health Care Providers (HCPs) in Kerala. This study was implemented for Kerala State AIDS Control Society (KSACS) by the Consultancy Group for Research and Forecasting (C-Graf), Department of Future Studies, University of Kerala. The study was financially supported by Department for International Development (DFID) and technically supported by Family Health International (FHI).

The study was conducted in five districts representing a cross section of Kerala, which were purposefully selected in consultation with the KSACS. In each district, the Health Care providers (HCPs) were grouped into five categories based on (a) the settings of their practice and (b) the system of medicine they were either trained in, or practiced. The five categories of health care providers included in the survey were:

Category 1: Government employed allopathic practitioners in government settings (govt. – govt.);
Category 2: Government employed allopathic practitioners in private settings (govt. – pvt.);
Category 3: Allopathic practitioners employed in private health care facilities or institutions (pvt. – inst.);
Category 4: Allopathic practitioners having their own private clinics (pvt. – pvt.); and
Category 5: Non-allopathic practitioners practicing any indigenous system of medicine such as Ayurveda, Homeopathy, Traditional Ayurveda and Registered Medical Practitioners (Ayur-Homeo).

Health care providers in Category 5 were further divided into two groups: Group 1 included qualified practitioners of Ayurveda, Siddha and Traditional Ayurveda (Ayur) and Group 2 comprised of qualified practitioners of Homeopathy (Homeo).
The universe of HCPs for allopathic doctors was prepared for each district and a sample of these practitioners was randomly identified. The universe of non-allopathic practitioners was limited to one Taluka in each district from which the random sample was selected.

The two approaches in the study methodology included: (a) visit to a HCP by a simulated patient (SP) followed by an exit interview of the SP by a social researcher, and (b) a structured interview of a sub-sample of the above HCPs by a team of investigators consisting of a junior MBBS doctor and a social researcher. Both, the exit interview of the SP and the structured interview of the HCPs, were conducted through pre-tested structured questionnaires. The SP methodology was designed to observe and document the actual practice of STI care given by the HCPs whereas the interviews were intended to collect information on the HCPs’ knowledge about quality care of STIs as per NACO guidelines.

A total of 300 SP visits and 260 structured interviews were conducted for allopathic HCPs (Categories 1-4), and 125 simulated patient visits and 65 structured interviews were conducted for non-allopathic practitioners (Category 5). Thus the total sample size for this study included 425 SP visits and 325 HCPs interviews. Before starting the data collection, the investigators were trained in methods of data collection, using the survey instruments, basic facts of HIV/AIDS and management of common problems related to the study in order to ensure uniform approach to data collection.

**Key findings**

*Key findings of SP visits (Categories 1 to 4)*

Practice of history taking: The proportion of HCPs who had asked about history of recent sexual practice ranged from 56% among allopathic HCPs in government settings to 68% HCPs engaged in private practice.

Practice of physical examination: The proportion of HCPs who exposed the genital area fully during the physical examination was highest among government HCPs in private settings (10.7%). None of the allopathic HCPs in government settings either exposed the genital area fully or retracted the foreskin. The practice of milking the penis to check for urethral discharge and retracting the foreskin was highest among allopathic HCPs employed in private institutions (30.7% and 34.7% respectively).
Practice of diagnosis/treatment: It was observed that up to 9.3% of allopathic HCPs prescribed medicines recommended by National AIDS Control Organization (NACO) for management of urethral discharge syndrome.

Practice of patient education: The proportion of HCPs who recommended condom use was highest among those engaged in exclusive private practice (16%) and lowest among allopathic HCPs in government settings (5.3%). Advice on partner treatment was given by 2.7% government doctors in government settings and 4% government doctors in private settings.

Key findings of SP visits (Category 5)

Practice of history taking: A total of 62.3% ayurvedic practitioners and 72.9% homeopathic practitioners asked the SPs about recent sexual exposure.

Practice of physical examination: The proportion of non-allopathic HCPs who exposed the genital area fully was 7.8% among ayurvedic practitioners and 4.2% among homeopathic practitioners. A total of 19.5% ayurvedic practitioners and 14.6% homeopathic practitioners checked for urethral discharge during the SP visits.

Practice of patient education: Consistent condom use was recommended by 7.8% ayurvedic practitioners and 14.6% homeopathic practitioners while 1.3% and 2.1% of them respectively advised SPs about partner treatment.

Key findings of structured interview (Categories 1 to 4)

Knowledge of history taking: The proportion of allopathic HCPs who said that they would enquire about recent sexual contact ranged from 61.5% among government doctors in private settings to 70.8% HCPs employed in private institutions.

Knowledge of physical examination: At least 80% HCPs said that they would expose genital areas completely while at least 56.9% said that they would milk the penis. The proportion of HCPs who said that they would retract the foreskin to check for lesions underneath ranged from 43.1% among government doctors in government setting and HCPs engaged in private practice each to 56.9% HCPs employed in private institutions.
Knowledge of diagnosis/treatment: The proportion of HCPs who listed medicines for treatment of urethral discharge as per NACO guidelines ranged from 6.2% for doctors employed in private institutions to 24.6% for government doctors in private settings.

Knowledge about patient education: Up to 7.7% HCPs said that they would advise consistent condom use while a range of 58.5% and 80% said that they would recommend partner treatment.

*Key findings of structured interview (Category 5)*

Knowledge of history taking: A total of 77.5% ayurvedic practitioners and 88% homeopathic practitioners said that they would enquire about recent sexual exposure to a patient with urethral discharge. The corresponding figures for taking history on onset and duration of symptoms were 27.5% and 28% respectively.

Knowledge of physical examination: The proportion of non-allopathic HCPs who said that they would expose the genital area fully during physical examination was lower than those who said that they would retract the foreskin and milk the penis. For example, 12.5% ayurvedic practitioners said that they would expose genital area fully while 62.5% of them said that they would milk the penis to check for urethral discharge.

Knowledge of patient education: None of the non-allopathic HCPs said that they would either advise on consistent condom use or partner treatment.

**Gaps between knowledge and practice of HCPs**

Allopathic practitioners (Categories 1 to 4): Although 95% allopathic HCPs reported that they would conduct physical examination for all STI cases, only 28.3% HCPs actually did so during SP visits. Similarly, while 68% allopathic HCPs spontaneously stated that they would recommend partner treatment, only 1.7% HCPs had actually recommended it to the SPs. The same pattern was observed even for giving advice on consistent condom use.

Non-allopathic practitioners (Category 5): Just as among allopathic HCPs, there were significant differences between knowledge and practices of various components of STI
care among non-allopathic practitioners also. For example, although 81.5% non-allopathic HCPs stated that they would inquire about recent sexual exposure, only 66.4% asked the SPs about it. A reverse pattern was observed for giving advice on consistent condom use. None of the non-allopathic HCPs spontaneously said that they would advise consistent the use of condoms but 10.4% of them advised the SPs about it.
Despite major advances in health care, some infectious diseases continue to be a cause of major concern. HIV/AIDS is perhaps the most significant of these emerging disease concerns all over the world. In India, the infection now prevalent all over the country.

More than 75% of HIV infections in the country are reported to occur through unsafe sexual practices. The preventive strategies commonly adopted for STIs are also applied for prevention and control of HIV infections. Successful implementation of STI strategy, consisting of early detection and treatment of STIs and promoting safer sex practices, is critical for the success of HIV/AIDS prevention.

Prevention activities by the Kerala State AIDS Control Society

The first HIV positive person in Kerala was identified in 1987 and the State AIDS Control Society was established towards the end of 1993 to prevent and control the spread of HIV infection in the state. The initial activities included ensuring blood safety in the state, training of public sector health care providers in syndromic management of sexually transmitted infections (STIs), strengthening public STI clinics and providing counselling services in these clinics. Training programmes for medical practitioners in quality STI care have been conducted in Kerala. The main focus of these training programmes was on syndromic case management of STIs including giving advice on (a) compliance with full course of treatment/follow-up, (b) consistent condom use and (c) partner treatment.

Partners

The Department for International Development (DFID) has been supporting Kerala State AIDS Control Society (KSACS) through the National AIDS Control Organisation for
carrying out targeted interventions among certain sub population groups. Those populations at high-risk of HIV infection such as commercial sex workers, men having sex with men, prisoners, etc. had been identified and a multi-pronged strategy was used to reduce their risk. The activities of targeted interventions included intensive behaviour change communication mainly through peer educators, provision of STI treatment services, condom promotion and counselling wherever necessary. The targeted interventions were implemented by non-governmental organizations (NGOs) since they could win the trust of the marginalised groups of people and develop a better rapport with them.

**Health Care Provider Survey (HCPS)**

As a part of the impact assessment project, the health care provider survey (HCPS) was implemented among the health care providers (HCPs) in Kerala. This survey was designed to gather information about health care providers’ actual knowledge and practices about STI care including history taking, physical examination, diagnosis/treatment and counselling. All the HCPs (including allopathic practitioners, ayurvedic practitioners, homeopathic practitioners and RMPs), who were the first point of contact for STI patients, were included in this study. Since this was the first survey of its kind in the State, it was treated as a baseline study for STI case management by the HCPs.

**Methodology**

**Objective**

The main objective of the Kerala Health Care Provider Survey was to provide assessment of STI case management by various categories of HCPs with regard to their actual practice and knowledge about it.

**Indicators for gathering information**

The sub-indicators, against which information was gathered, were (a) history taking, (b) physical examination, (c) diagnosis/treatment and (d) risk reduction counselling. Standard practice for history taking included inquiring about present symptoms, onset/duration of symptoms and recent sexual contact. The recommended guidelines for physical examination included full exposure of the patient’s genital area for complete visual...
examination, milking the penis to check for white discharge and examining for lesions under foreskin by retracting foreskin in case of uncircumcised patients.

The standard treatment for STI was assessed based on the medicines (compositions) recommended by NACO. Risk reduction counselling included giving advice on consistent and correct use of condom and partner treatment. Advice on partner treatment included either dispensing medicine through the patient for his sexual partner(s) or advising the patient to get his partner treated.

Methods for data collection

The method for the study was designed jointly by Kerala State AIDS Control Society (KSACS), C-Graf, FHI and other stakeholders. It included gathering information through two major components: (a) Simulated Patient (SP) visit to HCPs immediately followed by exit interview of these SPs, and (b) interview of HCPs using a structured interview schedule.

SP method: A male, who was well trained to simulate as a STI patient, visited a HCP for consultation and said that he had urethral discharge for two to three days. He did not volunteer any other information but answered all the queries of the HCP’s. He also complied with instruction for physical examination, but refused to take injections or oral medicines under the doctor’s supervision during the visit. The SPs observed the details about HCP’s queries and practices regarding history taking, physical examination, diagnosis/treatment and counselling related to condom use and partner treatment. As soon as the SP had concluded his visit, the exit interviewer conducted the exit interview using a pre-tested, structured questionnaire to document the SP’s experiences. This provided a detailed account of the HCP’s actual practice of STI case management.

Interview method: A sample of HCPs visited by the SPs was interviewed after a gap of at least one week. Such scheduling was done in order to eliminate any possible linkage by HCPs between SP’s visit and the interviews. The structured interview was conducted by a team consisting of a social scientist and a MBBS doctor. In case the HCPs did not respond spontaneously to some queries, the interviewers probed further in order to find out if the HCPs missed stating some points. Thus, the structured interviews collected information on both, spontaneous and probed responses of HCPs. Compilation of these information
provided a clear assessment of the knowledge about STI case management among the HCPs. Spontaneous responses were considered for reporting as they were more likely to lead to practice. The probed responses were analysed in order to reinforce them through training of the HCPs, if they were conducted at a later date.

**Sampling**

Selection of districts: Indicators for selecting a representative sample of the districts included: (a) topographical location and characteristics, (b) religious and cultural factors, (c) social groups and (d) industry/business concentrations. Based on these criteria, five districts were selected for the survey. These included Allapuzha and Pathanamthitta (South Kerala), Ernakulam (Central Kerala), and Wayanad and Kasargode (North Kerala).

Sample groups: The HCPs were selected from five major Categories:

**Category 1:** Government employed allopathic practitioners in government settings (govt. – govt.);

**Category 2:** Government employed allopathic practitioners in private settings (govt. – pvt.);

**Category 3:** Allopathic practitioners employed in private health care facilities or institutions (pvt. – inst.);

**Category 4:** Allopathic practitioners having their own private clinics (pvt. – pvt.); and

**Category 5:** Non-allopathic practitioners practicing any indigenous system of medicine such as Ayurveda, Homeopathy, Traditional Ayurveda and Registered Medical Practitioners (Ayur-Homeo). HCPs in this Category were further divided into two groups: Group 1 included qualified practitioners of Ayurveda, Siddha and Traditional Ayurveda (Ayur) and Group 2 included qualified practitioners of Homeopathy (Homeo).

Though NACO guidelines for STI case management were not relevant for non-allopathic practitioners, they were included in this study at the request of the KSACS because a large number of STI patients seek STI care from such HCPs. All the HCPs were either observed or interviewed in their respective clinical settings.
Sample universe: Sources for identifying the sample universe included:

1. The Directorate of Health Services (DHS) provided the list of Government hospitals, taluk hospitals, Public Health Centres. Medical colleges, mobile health units, and women and child health hospitals were excluded from the survey.

2. Pharmaceutical companies such as Cipla, Wellcome and Ranbaxy provided data on HCPs working in private settings including non-allopathic practitioners. Thus the universe of allopathic HCPs in all Categories included all HCPs available through such listing in all the 5 districts.

3. District professional bodies of alternative systems of medicine such as ayurvedic Medical Association of India, Association of Practicing Homeopaths provided the list of all non-allopathic HCPs.

4. Other sources such as taluk officer, post offices and other concerned officials provided the list of non-qualified private practitioners in each district. Non-allopathic HCPs in Category 5 were selected from only one randomly selected taluk in each of the 5 districts because the number of such HCPs was very large in each district, and it was difficult to reach out to the total universe of HCPs spread across the district.

The final sample size for each district was as shown in Table 1.

<table>
<thead>
<tr>
<th>HCPs Category</th>
<th>SP visit</th>
<th>HCPs’ interview</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Allopathy (Categories 1 to 4)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Government doctors in Government service settings (Govt-govt)</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>2. Government doctors in their private practice settings (Govt-pvt)</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>3. Doctors employed in private institutions (Pvt-inst)</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>4. Doctors doing own private practice (Pvt-pvt)</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td><strong>Non-allopathy (Category 5)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Non-allopathy practitioners of alternate systems of medicines and RMPs (Ayur-Homeo)</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>Total across all (five) categories per districts</td>
<td>85</td>
<td>65</td>
</tr>
</tbody>
</table>
Sample size

SP visits: The SPs visited a total of 300 allopathic HCPs in Categories 1 to 4 and 125 non-allopathic HCPs in both groups of Category 5 (Table 2).

<table>
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<tr>
<th>District</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
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<th>Group 2</th>
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<td>15</td>
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<td>15</td>
<td>15</td>
<td>17</td>
<td>8</td>
<td></td>
<td>85</td>
</tr>
<tr>
<td>Total</td>
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<td>75</td>
<td>75</td>
<td>75</td>
<td>77</td>
<td>48</td>
<td></td>
<td>425</td>
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</tbody>
</table>

HCP interviews: A total of 260 allopathic and 65 non-allopathic practitioners were interviewed using a structured questionnaire. Just as for SP visits, non-allopathic HCPs for interview were also sub-divided into two groups. The details are given in Table 3.

<table>
<thead>
<tr>
<th>District</th>
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<td>65</td>
<td>40</td>
<td>25</td>
<td></td>
<td>325</td>
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</table>

Survey instruments: Three types of instruments were designed for the survey. These included (a) structured interview schedule for exit interview of SPs, (b) structured interview schedule for allopathic practitioners (Categories 1 to 4), and (c) structured interview
schedule for non-allopathic practitioners (Category 5). These tools were designed to assess the practice and knowledge of HCPs about STI case management. All the instruments were finalized for the main survey after field-testing during the pilot study and subsequent technical review by experts.

Survey team: There were two survey teams consisting of: (a) a SP and a social science researcher who was the exit-interviewer (EIr) and (b) a qualified allopathic doctor and a social science researcher who jointly interviewed the HCPs. The two teams functioned independently without the knowledge of existence of the other group. This was extremely important to maintain complete confidentiality of SPs visits to the HCPs.

Training: Two training sessions were conducted before the pilot study – one for the SP and EIr and another for the interview team. The SPs’ training focused on developing skills for narrating a STI complaint – urethral discharge – convincingly and ways to handle sensitive or problem situations, if any, during his visit to the HCP. The EIr’s training focused on interviewing skills and documenting SP’s experiences accurately in the structured questionnaire without allowing their personal biases and assumptions. The training of interview team focused on interview techniques, non-threatening and culturally sensitive ways of probing and eliciting information on STI case management including related advice to the patients. Sensitisation on STIs/HIV was basic to training of the entire research team.

Pilot study: The pilot survey was conducted in Kollam District. This study covered five taluks under the direct supervision and support of the supervisors. The purposes of the pilot study were (a) to field test the skills of the research team, (b) to pre-test the tools for data collection, (c) to determine whether STI specialists and other specialists needed to be included in the study universe, and (d) to assess the appropriateness of field plan to implement the major study.

As result of the pilot study experience, three major changes were made in the survey design:

- To include STI specialists who were first point of contact for STI patients. This was because the STI patients were referred to STI specialists in hospitals where they were available;
To exclude specialists such as cardiologists, ophthalmologists, surgeons, pediatricians, etc., as they were not likely to be the first point of contact for STI patients; and

To allow SPs to carry a fabricated laboratory report for the HCP’s perusal if he/she so desired. This was because the pilot study had revealed that a large number of HCPs did not want to prescribe treatment without laboratory test results.

Main survey

A total of six field teams consisting of SPs and EIr, and HCP interviewers were involved in the main survey, which was conducted during November 1999 to July 2000. The data was coded for data-entry after scrutiny by the supervisors. A two-key data entry programme was designed and the database developed. A panel of HCPs had developed a standard regimen of recommended medicines, their dose and duration of treatment for various STIs. The analysis of the data was done using SPSS package.
Key findings of SP visits

This section briefly describes the major findings of the SPs' visits to all categories of HCPs, which indicated the HCPs' practice of STI case management.

Findings of SP visits to allopathic practitioners (Categories 1-4)

Practice of history taking

The minimum recommended standards of practice for history taking of a STI patient include inquiring about (a) present symptoms and nature of symptoms, (b) onset and duration of symptoms, and (c) recent sexual contacts. Detailed below is the analysis of the observations made by SPs, which is also illustrated in Figure 1.
The proportion of HCPs who asked about onset and duration of symptoms ranged from 56% allopathic HCPs in government settings to 72% among HCPs engaged in own private practice. History of recent sexual exposure was asked by 56% HCPs in government setting, 66.7% government doctors in private settings, 64% HCPs employed in private institutions and 68% engaged in exclusive private practice.

Thus, an average of 95.7%, 64.7% and 63.7% allopathic HCPs in the four categories elicited history of present symptoms, onset and duration of symptoms and recent sexual exposure respectively.

**Practice of physical examination**

Minimum recommended standards of practice for physical examination of male STI patients require that the HCPs (a) ask the patients to undress so that the genitals are fully exposed, (b) examine patients for urethral discharge by milking the penis and (c) examine for genital lesions after retracting foreskin in uncircumcised males. A total of 28.3% HCPs did a physical examination on the SPs. Figure 2 shows percentage of HCPs who practiced various aspects of physical examination of STI patients.

None of the government HCPs in government settings did partial or full physical examination of the SPs. The proportion of HCPs who had asked the SPs to expose their
genitalia fully was less than the proportion who retracted the foreskin to check for lesions underneath. For example, a total of 9.3% HCPs employed in private institutions ensured full exposure of genitalia while 34.7% of them retracted the foreskin. Similarly, 4% and 20% allopathic HCPs engaged in own private practice exposed genital area fully and retracted the foreskin respectively. A larger proportion (30.7%) of HCPs employed in private institutions milked the penis to check for urethral discharge as compared to other allopathic HCPs.

Thus, an average of 6% HCPs exposed genital area fully, 20.3% HCPs retracted the foreskin and 18.7% HCPs milked the penis to check for urethral discharge.

**Practice of giving prescription for urethral discharge**

NACO has recommended syndromic case management for treatment of STIs and given its guidelines along with the recommended drugs. The proportion of HCPs who prescribed drugs as per NACO guidelines during SP visits ranged from 2.7% among HCPs employed in private institutions or engaged in private practice each to 9.3% HCPs in government settings. Figure 3 shows the STI prescription practices of HCPs among allopathic practitioners.
For the purpose of this study, an expert team of STI specialists from Kerala was formed by KSACS to give its opinion regarding the effectiveness of medicines prescribed by the HCPs. According to this expert team, the proportion of HCPs who prescribed effective medicines to the SPs ranged from 58.3% government doctors in private settings to 77.3% HCPs employed in private institutions.

**Patient education**

Minimum recommended guidelines for patient education related to STIs include counselling on (a) treatment compliance, (b) consistent and correct use of condoms, and (c) simultaneous treatment of sexual partner(s). Figure 4 shows the actual practice of allopathic HCPs in Categories 1 to 4 with regard to patient education.

The proportion of HCPs who advised the SPs about treatment compliance was higher than those who recommended partner treatment. For example, a range of 14.7% doctors in government settings to 36% HCPs employed in private institutions advised the SPs to complete the full course of treatment whereas 2.7% doctors in government settings and 4% government doctors in private settings suggested partner treatment. None of the HCPs either employed in private institutions or engaged in own private practice advised treatment of the SP’s sexual partners. Up to 16% allopathic HCPs advised consistent use of condoms.
Thus, an average of 26% HCPs advised for treatment compliance, 11.7% recommended consistent use of condoms and 1.7% HCPs suggested partner treatment.

Findings of SP visits to non-allopathic practitioners (Category 5)

The SPs visited a total of 125 non-Allopathic HCPs. Of these, 77 HCPs belonged to Group 1 (Ayur), which included practitioners of Ayurveda, Siddha and Traditional Ayurveda and 48 HCPs were from Group 2 (Homeo), which included qualified Homeopathy practitioners.

Practice of history taking

Figure 5 shows the history taking practices of non-allopathic HCPs as per the minimum recommended guidelines for history taking for STI case management by NACO. Specifically, it was observed that about 62% Ayurvedic practitioners and about 73% homeopathic practitioners asked the SPs about history of recent sexual exposure.

An average of 97.9%, 60.8% and 66.4% non-allopathic HCPs asked about present symptoms, onset and duration of symptoms and history of recent sexual exposure respectively.
Practice of physical examination

Up to 4.2% non-allopathic HCPs practiced all the three standard elements of physical examination of a STI patient (Figure 6).

A total of 7.8% ayurvedic practitioners asked the SPs to fully expose their genital area while 16.9% retracted foreskin and 19.5% milked penis for urethral discharge. The corresponding practice among homeopathic practitioners as 4.2%, 22.9% and 14.6% respectively. This means that an average of 6.4% non-allopathic HCPs exposed the genital area fully, 19.2% retracted the foreskin and 17.6% milked the penis.

Practice of giving prescription for urethral discharge

It was recognized that non-allopathic practitioners were less likely to prescribe medicines for STIs as per NACO guidelines. An effort was however made through the SP approach to assess their practices of dispensing medicines for STIs. It was observed that 17% Ayurvedic practitioners and 56.3% homeopathic practitioners asked the SPs to buy medicines from the clinic itself. A total of 52% Ayurvedic practitioners and 56% homeopathic practitioners
informed the SPs about the dose and duration of the medicines while 26% Ayurvedic practitioners mentioned the drug dose in the prescription slip itself.

**Practice of giving patient education**

The actual practice of patient education among non-allopathic HCPs was as shown in Figure 7.

![Practice of patient education for STIs among non-allopathic HCPs](image)

It was observed that 7.8% Ayurvedic practitioners and 14.6% homeopathic practitioners advised the SPs about consistent condom use while 1.3% Ayurvedic practitioners and 2.1% homeopathic practitioners recommended partner treatment.

An average of 24.8% non-allopathic HCPs advised the SPs to complete the course of treatment, 10.4% had recommended consistent condom use while 1.6% advised partner treatment.
Key findings of HCPs’ interview

Structured interviews of HCPs were conducted in order to assess their knowledge about key indicators of STI case management and compare it with NACO guidelines. These indicators were the same as for SP visits and included history taking, physical examination, prescription practices and risk reduction counselling. During interview, the spontaneous and probed responses of the HCPs were recorded separately. In this section, the analysis of spontaneous responses only has been included.

Findings of allopathic HCPs’ interviews (Categories 1-4)

Profile of HCPs

The profile of 260 allopathic HCPs in Categories 1 to 4 who were interviewed for the study was as shown in Figure 8. A total of 54.2% allopathic HCPs who were interviewed had the basic MBBS degree. Majority of the government HCPs in government settings
and HCPs engaged in private practice who participated in the survey through interviews and SP visits did not have a post-graduate degree.

During structured interviews, nearly 80% allopathic HCPs reported that they treated one or more male STI patient in the month prior to the survey. Of these, 26.2% said that they treated 3 to 5 male patients, 11.6% reported to have treated 6 to 10 male patients and 4.6% stated that they had seen more than 10 male patients during the same period. A total of 48% allopathic HCPs reported to have treated female STI patients during the same month. Of these, 11.9% said that they treated 1 female STI patient while 21.6% reported to have treated more than five female STI patients during the month prior to the survey.

Knowledge of history taking

During the interview, the HCPs were asked about various aspects of history taking which they would inquire from a STI patient. Figure 9 illustrates the responses of allopathic HCPs in each of the four categories.

![Figure 9. Knowledge of history taking for STIs among allopathic HCPs](image)

It was observed that more than 87.7% allopathic HCPs in the four categories said that they would ask about presenting symptoms while more than 84% stated that they would also ask about onset and duration of symptoms. The practice of enquiring about recent sexual history was reported by fewer HCPs. It ranged from 61.5% government employed
HCPs in private settings to 70.8% HCPs employed in private institutions. Thus, the average spontaneous responses for enquiring about history of present symptoms was 93.9%, for onset and duration of symptoms it was 90.8% and for eliciting history of recent sexual exposure it was 65.8%.

Knowledge of physical examination

A total of 95.8% HCPs said that they would do a physical examination for a STI patient. The knowledge of allopathic HCPs in Category 1 to 4 about various components of physical examination of STI patient was as illustrated in Figure 10.

The reported practice, which indicated knowledge, of exposing the genital area fully was greater than that of retracting the foreskin to check for lesions underneath. At least 80% allopathic HCPs in the four categories said that they would ensure full exposure of genital area in order to aid thorough physical examination. A total of 43.1% government HCPs in government settings and HCPs engaged in own private practice each, 44.6% government employed doctors in private settings and 56.9% HCPs employed in private institutions said that they would retract the foreskin during physical examination of a male STI patient. The practice of milking the penis to check for urethral discharge ranged from 56.9%
among allopathic doctors engaged in private practice to 67.7% HCPs employed in private institutions. Thus an average of 82.7% HCPs said that they would ensure full exposure of the genital area, 46.9% said that they would retract the foreskin while 62.7% stated that they would check for urethral discharge.

**Knowledge of diagnosis and treatment**

**Basis of treatment**

Syndromic approach for STI case management has been designed to ensure early and complete treatment of STIs and to enhance treatment compliance. Table 4 shows the responses of allopathic HCPs in Categories 1 to 4 with regard to their preference for diagnosis and treatment of STIs.

<table>
<thead>
<tr>
<th>Basis of treatment</th>
<th>% of HCPs in Category</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical examination only</td>
<td></td>
<td>10.8</td>
<td>16.9</td>
<td>7.7</td>
<td>12.3</td>
<td>11.9</td>
</tr>
<tr>
<td>Syndromic case management only</td>
<td></td>
<td>55.4</td>
<td>52.3</td>
<td>55.4</td>
<td>43.1</td>
<td>51.6</td>
</tr>
<tr>
<td>Etiological</td>
<td></td>
<td>13.8</td>
<td>10.8</td>
<td>21.5</td>
<td>18.5</td>
<td>16.2</td>
</tr>
</tbody>
</table>

It was observed that majority of the government doctors irrespective of their setting and HCPs employed in private institutions said that they preferred to treat STI cases using syndromic approach. The same response was given by 43.1% HCPs engaged in private practice. A total of 16.2% allopathic HCPs indicated preference of treatment only after an etiological diagnosis was made.

**Opinion of HCPs on syndromic case management (SCM)**

Practice of syndromic case management of STIs is presumed to be dependent on HCPs own opinion and attitude towards the SCM itself. Table 5 shows the opinion of allopathic HCPs with regard to SCM of STIs.

A total of 38.5% government HCPS in government settings said that SCM had a better follow up. Allopathic HCPs in all categories said that SCM had a risk of over treatment. A
large number of HCPs in private settings said that SCM was ideal for the current limitations in infrastructure.

*Treatment practices*

All the HCPs were asked about the medicines they normally prescribed for treatment of common STIs. Table 6 shows details of HCPs who listed medicines for treatment of STIs that cause urethral discharge that were as per NACO guidelines.

<table>
<thead>
<tr>
<th>NACO recommended drug for</th>
<th>% of HCPs in Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gonorrhoea</td>
<td>16.9 15.4 16.9 16.9</td>
</tr>
<tr>
<td>Non-gonococcal urethritis</td>
<td>10.8 7.7 9.2 9.2</td>
</tr>
<tr>
<td>Urethral discharge syndrome</td>
<td>16.9 24.6 6.2 23.1</td>
</tr>
</tbody>
</table>

The percentage of allopathic HCPs in all the four categories, who said that they would prescribe medicines as per NACO guidelines, was 17.7% for urethral discharge, 16.5% for gonorrhoea, 9.2% for non-gonococcal urethritis.

*Knowledge of patient education*

The reported practice of giving advice to STI patients on condom use was significantly lower than that of advising partner treatment or treatment compliance (Figure 11).
The reported practice of giving advice on consistent condom use ranged from 4.6% government doctors in private settings to 7.7% each among HCPs employed in private institutions and engaged in own private practice. More than 67.7% and 58.5% HCPs said that they would give advice on treatment compliance and partner treatment respectively. Thus, an average of 73.1% spontaneously stated that they would advise treatment compliance, while 6.5% of them said that their advice would include consistent condom use and 68.1% indicated that they would advise partner treatment.

Findings of interview of non-allopathic practitioners

A total of 65 non-allopathic HCPs were interviewed, of whom 40 HCPs were practitioners of ayurveda, siddha and traditional ayurveda (Group 1) and 25 HCPs were homeopathic practitioners (Group 2).

A total of 95% of ayurvedic HCPs and 96% homeopathic HCPs said that they treated one or more male STI patients during the month preceding the interview. About 58% ayurvedic practitioners and 56% homeopathic practitioners said that they also treated one or more female STI cases during the same month.
Knowledge of history taking

The knowledge of non-allopathic HCPs about history taking as derived from structured interviews was as shown in Figure 12.

![Figure 12: Knowledge of history taking for STIs among non-allopathic HCPs](image)

Unlike allopathic HCPs, the proportion of non-allopathic HCPs who said that they would inquire about recent sexual exposure was higher than those who stated that they would ask about onset or duration of symptoms. For example, 28% homeopathic practitioners said that they would ask about onset/duration of symptoms while 88% said that they would ask about recent sexual exposure if there was a history of urethral discharge. The average of non-allopathic HCPs who said that they would ask about history of present symptoms was 78.5%, about history of recent sexual contact was 81.5%. The average of non-allopathic HCPs who said that they would enquire about onset and duration of symptoms was 27.7%.

Knowledge of physical examination

A total of 63% ayurvedic HCPs and 82% Homeopathic HCPs said that they would conduct a physical examination. Figure 13 shows knowledge of non-allopathic HCPs related to physical examination.
The reported practice of exposing the genital area fully for examination of STI patients was lower than that of retracting the foreskin and milking the penis. For example, 12.5% ayurvedic practitioners and 20% homeopathic practitioners said that they would ensure complete exposure of genital area during physical examination while 62.5% and 84% of ayurvedic practitioners and homeopathic practitioners respectively stated that they would milk the penis.

The average of non-allopathic HCPs who said that they would expose genital area fully was 15.4%, while 55.8% and 70.7% of them said that they would retract the foreskin and milk the penis for urethral discharge respectively.

**Prescription practices**

A total of 87.5% ayurvedic practitioners and 92% homeopathic practitioners said that they would ask their patients to buy medicines from their clinic / hospital itself. All the non-allopathic HCPs stated that they would not give injections to their patients. Most of them did not report any problem in dispensing medicines for STI patients either due to short drug supply or non-availability of drugs in the market.
Knowledge of patient education

A total of 65% ayurvedic practitioners and 56% homeopathic practitioners said they would emphasize the need to complete the full course medication. None of the non-allopathic HCPs in either group said that they would advise their patients either on condom use or partner treatment (Figure 14).

The average of non-allopathic HCPs who said that they would advise completing the full course of treatment was 61.5%.
Gaps in knowledge and practice of HCPs for STI case management

The knowledge of HCPs was assessed through interviews and the practice was assessed through SP visits. During interviews, the spontaneous and probed responses of the HCPs were recorded separately. In this section, the difference between practice and spontaneous response as well as between practice and cumulative response (both spontaneous and probed) have been discussed.

Gaps in knowledge and practice of allopathic HCPs

Gaps in knowledge and practice of history taking

It was observed that there was significant gap between knowledge and practice of enquiring about onset and duration of symptoms and recent sexual exposure (Figure 15). For example,
although about 91% allopathic HCPs spontaneously said during the interview that they would ask the patients about onset and duration of symptoms only 64.7% actually inquired about it when the SPs visited them.

**Gaps in knowledge and practice of physical examination**

There were significant differences between knowledge and practice of allopathic HCPs related to physical examination. For example, while 97.3% allopathic HCPs stated that they would get the patients to expose their genitalia completely during a physical examination, only 6% actually practiced it during SP visits (Figure 16).

![Figure 16. Gaps between knowledge and practice of physical examination for STIs among allopathic HCPs](image)

The same pattern was observed for retracting the foreskin and milking the penis. About 96% and 95% allopathic HCPs said that they would retract foreskin and milk penis respectively. However, during the SP visits, only 20.3% and 18.7% HCPs retracted the foreskin and checked for urethral discharge respectively. The study also indicated that although 95.8% allopathic HCPs said that they would conduct physical examination for all STI cases, only 28.3% HCPs actually did so during SP visits.
Gaps between knowledge and practice of patient education

There were significant differences between the knowledge and practices of allopathic HCPs related to patient education. For example, although more than 99% allopathic HCPs stated that they would stress on treatment compliance whereas only 26% SPs reported having been given the same advice. Similarly, while 68% allopathic HCPs spontaneously stated that they would recommend partner treatment, only 1.7% HCPs actually recommended it to the SPs. The same pattern was observed even for giving advice on consistent condom use (Figure 17).

Findings of gaps between knowledge and practice of non-allopathic HCPs

Gap between knowledge and practice of history taking

There were significant differences between knowledge and practices related to history taking among both groups of non-allopathic HCPs. For example, although 81.5% non-allopathic HCPs stated that they would inquire about recent sexual exposure, only 66.4% asked the SPs about it (Figure 18).
A reverse pattern was observed regarding taking history of onset and duration of symptoms. Although only 27.7% HCPs spontaneously stated that they would inquire about onset/duration of symptoms, 60.8% actually asked the SP about it.

**Gaps between knowledge and practice of physical examination**

Just as among allopathic HCPs, there were significant differences between knowledge and practice of physical examination among non-allopathic HCPs.

**Gaps between knowledge and practice of patient education**

Unlike other components of STI care, it was observed that the actual practice of some components of patient education was higher than the knowledge among non-allopathic HCPs. For example, although none of the non-allopathic HCPs spontaneously said that they would advise consistent the use of condoms, 10.4% of them advised the SPs about it. On the other hand, 61.5% non-allopathic HCPs said that they would advise treatment compliance, but only 24.8% actually advised the SPs about it (Figure 19).
Figure 19. Gaps between knowledge and practice of physical examination for STIs among non-allopathic HCPs
Summary and recommendations

Allopathic HCPs (Categories 1 to 4)

The quality of care provided by the HCPs for different indicators of STI management varied significantly. For example, a high proportion of allopathic HCPs irrespective of their settings took the history of SPs as per the recommended guidelines. However, a significantly smaller number of HCPs in the same categories did physical examination as per the standard guidelines.

A similar variation was observed even during the structured interview of the allopathic HCPs. For example, the spontaneous response of HCPs, which indicated their knowledge about various STI care components was high for history taking whereas it was low for educating patients regarding consistent condom use.

The quality of care provided by different categories of HCPs also varied. Knowledge and practice related to quality care of STIs was higher among HCPs employed in private institutions than other allopathic HCPs. A higher number of government HCPs in private settings advised on partner treatment as compared to allopathic HCPs in other categories. A large number of the HCPs did not meet with the minimum recommended guidelines for practice of history taking and physical examination of STI patients, as indicated by SP visits.

Non-allopathic HCPs (Category 5)

The actual practice of various STI care components among non-allopathic HCPs had ranged from 72.9% for history of recent sexual contact among homeopathic practitioners to 1.3% with regard to partner treatment among ayurvedic practitioners. The spontaneous
responses about various STI care components by non-allopathic HCPs varied widely. For example, 88% of homeopathic HCPs said spontaneously that they would ask for history of recent sexual contact. But none of the ayurvedic practitioners and homeopathic practitioners said that they would give advice on consistent condom use and partner treatment.

Conclusions

All HCPs contacted for the survey were providing STI care to their patients at varying levels of quality of STI care. The quality of STI care given by all categories of HCPs was higher for some indicators as compared to the others. The knowledge level of all allopathic HCPs with regard to most components of STI care was higher than the level of their actual practice. Thus a wide gap was identified between their knowledge and practice.

Recommendations

Based on the major findings and conclusions about quality of care provided by various categories of HCPs to STI patients, it was recommended that:

- Training programmes for HCPs be organized for improving actual practices of STI treatment and care and not merely enhancing the knowledge.
- Steps be taken to ensure that the HCPs practise syndromic case management as the first line of option for all STI cases, which can then be supplemented by etiological diagnosis for those who were willing for laboratory tests.
- Steps be taken to improve the facilities, especially in the government settings, which could enhance the performance levels of HCPs in terms of providing quality care for STIs.
- All the HCPs from non-allopathic sectors provide STI care to patients, therefore there is a need to improve the quality of care provided by these HCPs.