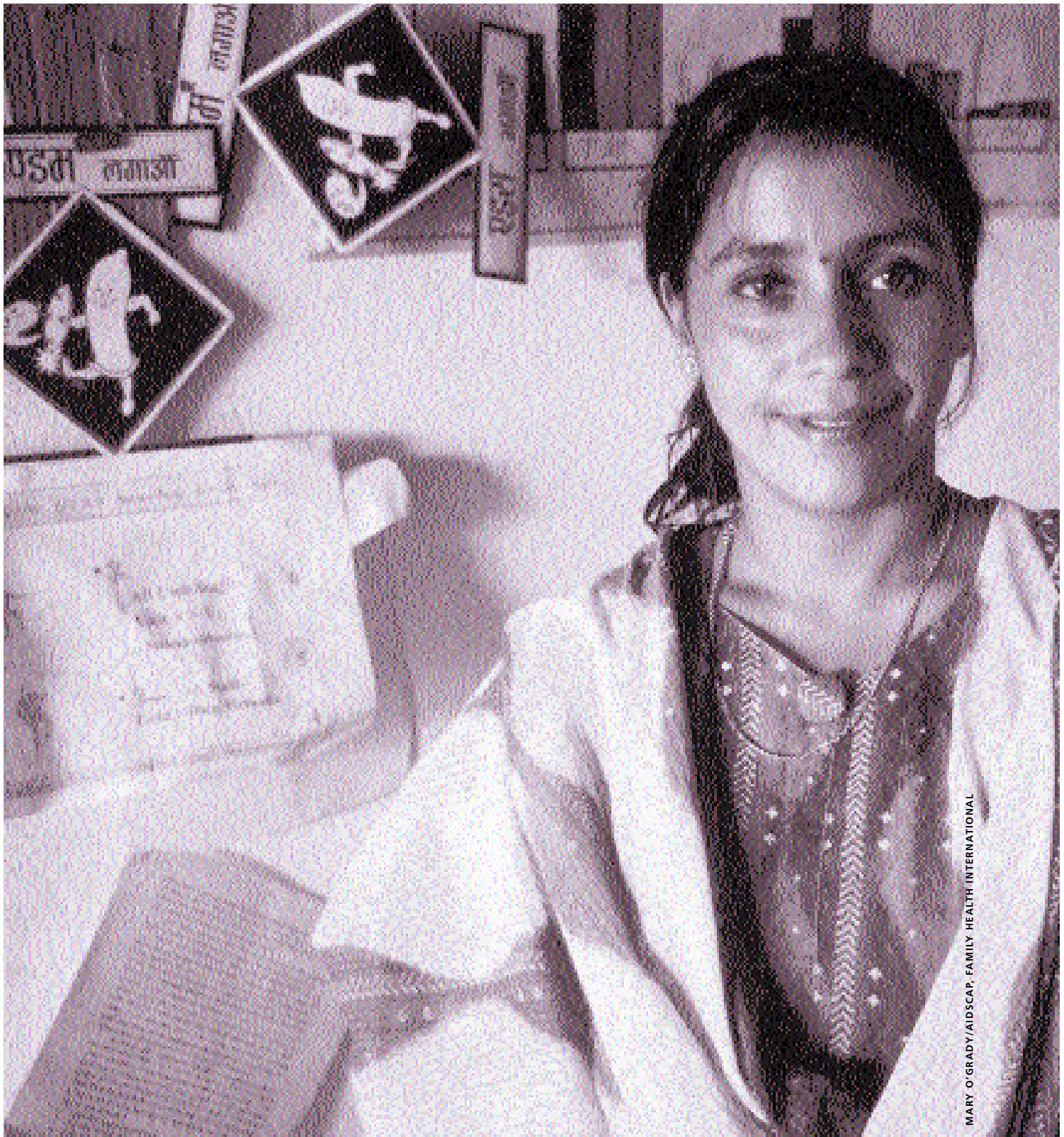


In resource-constrained settings, a local drug seller can play a pivotal role in selling and dispensing essential drugs to the public in need and thus play an important dual role in furthering STI and HIV prevention.



MARY O'GRADY/AIDSCAP, FAMILY HEALTH INTERNATIONAL

A YOUNG HIV PREVENTION OUTREACH WORKER IN NEPAL REFERS WOMEN TO PHARMACISTS WHO CAN PRESCRIBE TREATMENTS FOR SEXUALLY TRANSMITTED INFECTIONS BASED ON THEIR TRAINING IN STI DIAGNOSIS AND TREATMENT.

CHEMISTS SERVING THEIR COMMUNITIES TO PREVENT SEXUALLY TRANSMITTED INFECTION TRANSMISSION IN NEPAL

282	INTRODUCTION
282	BACKGROUND
285	AN ALTERNATIVE STI SERVICE DELIVERY OPTION: NEPAL'S COMMUNITY CHEMIST
287	A PILOT INTERVENTION TO STRENGTHEN DISPENSING PRACTICES OF COMMUNITY CHEMISTS
295	LESSONS LEARNED AND BEST PRACTICE CRITERIA
300	WHAT IS NEXT FOR NEPAL?
300	AUTHORS
301	ACKNOWLEDGEMENTS
301	REFERENCES

CHEMISTS SERVING THEIR COMMUNITIES TO PREVENT SEXUALLY TRANSMITTED INFECTION TRANSMISSION IN NEPAL

INTRODUCTION

Since 1994 the Himalayan Kingdom of Nepal has been the focus of a number of innovative HIV/AIDS and sexually transmitted infection (STI) interventions with funding from U.S., European and multilateral development agencies. International and local nongovernmental organizations (NGOs) have also committed significant resources to HIV-prevention initiatives—all in collaboration with the national HIV control strategy.

Nepal is recognized as a nation well situated for a potential HIV/AIDS pandemic in Asia. Sandwiched between China and India, Nepal remains a nation of limited economic opportunities, with an undeveloped national infrastructure. Nepal's economy is intertwined with that of its southern neighbour, India, in trade, employment and regional migration. Such migration includes the ongoing flow of male labourers and the trafficking of young women from the hills of Nepal to the large urban centres of India, including for commercial sex.

While HIV prevalence continues to grow at an alarming rate in pockets of southern Asia, a number of organizations actively work to prevent a national health catastrophe in Nepal. One of these, the Nepal Chemists and Druggists

Association—the nation's largest membership association of retailers—has tested an STI/HIV prevention model that may be relevant to other health providers, health service associations, national-level pharmacy organizations or retail-sector organizations interested in community-level STI/HIV prevention. This case study examines the country context, the epidemiology, the pilot project, the results and the lessons learned and best practices from the Nepal Chemists and Druggists Association's STI/HIV/AIDS Prevention Education Strengthening Initiatives for Chemists Project, which was implemented from January 1995 to December 1996 in Nepal's Central Development Region.

BACKGROUND

HIV and STIs in Nepal Nepal's first AIDS case was detected in a foreign visitor in 1988. By early 1993, the Nepal government reported a total of 124 HIV infections. As of January 1995, this number had increased to 235 infections, and in December 1996, Nepal's National Centre for AIDS and STD Control (NCASC) reported a total of 468 HIV infections and 82 AIDS cases in the country. The majority of infections are detected in people aged

20 to 29, and sexual transmission is the predominant mode of transmission.

Nepal's HIV/AIDS coordination agency, the NCASC, has maintained a national HIV sentinel surveillance (HSS) system since 1991. Through 1996, HSS data indicated relatively low HIV prevalence (averaging one per cent or less) among the highest risk groups (STI patients). Since then, a study by the NCASC and the European Union's University of Heidelberg STD/HIV Project reported an HIV prevalence of 0.2 per cent among women attending antenatal clinics in four urban sites. The Nepal Red Cross reported the 1996 HIV-prevalence rate among blood donors to be close to 1/1000 (39/42,500), a three-fold increase over the rate calculated from the previous year's blood donor data. With these trends, the Nepal data suggest that the HIV epidemic in Nepal is growing, but at a slower rate than HIV epidemics in other regions of South and South-East Asia.

Based on Nepal's limited data, HIV projections for Nepal indicate up to 10,000 HIV infections as of late 1994, increasing to 15,000–20,000 in 1996. Estimates for 2000 among the adult population range from a conservative projection of 22,012 to a moderate projection of 44,024 and a high scenario of 88,047.

Like its HIV surveillance system, Nepal's collection and reporting of STI data remain weak. Prior to the threat of HIV/AIDS, Nepal's public health system had paid little attention to the epidemiology of STIs. As a result, no national STI reporting or surveillance system is in place. However, a number

of project-based surveys show high STI rates among high-risk groups, particularly female sex workers. STIs reported in Nepal include both ulcerative and non-ulcerative STIs: gonorrhoea, syphilis, chancroid, genital herpes, genital warts and granuloma inguinale. Urethritis and genital chlamydial infection are commonly reported by both public and private clinics. The common term for all STIs (ulcerative and non-ulcerative) is "bhiringi."

Health care delivery in Nepal: the traditional approach Nepal is ranked as one of the world's most impoverished countries. With a 1996 population of 21 million, Nepal is growing at a rate of 2.4 per cent per year. Per capita income is US\$200, and the nation's literacy rate is 28 per cent. Nepal's economy is largely rural and agricultural, and 91 per cent of the population resides in rural areas. The country's health care delivery system inversely reflects its national urban-rural bias. Nepal's urban minority—particularly those living in the capital city of Kathmandu—have access to the nation's highest quality health services. Kathmandu and the major cities of Biratnagar, Birgunj, Nepalgunj, Pokhara, Mahendranagar, Bhairahawa, Butwal and Bharatpur offer a range of government and private-sector curative and preventive care services. In 1996 Nepal had a total of 114 hospitals, 4,848 hospital beds and 852 licensed physicians. Although theoretically there is one physician per 25,000 population, in reality, more than 95 per cent of physicians practice exclusively in urban areas. To help meet the needs of the rural majority, the Ministry of Health operates health posts and sub-health posts staffed by

paramedics, staff nurses, nurse-midwives and other community health workers.

Overall, Nepal's rural primary health care is substandard. Management is weak, staff shortages continue, employees are under-skilled, and the system is plagued with grossly inadequate equipment and budgets. In addition, the government often experiences acute shortages of essential drugs in the rural areas. Rural patients travel long distances by foot or public transport to reach a health post and, once there, wait hours for service. The ratio of health posts is one per 27,450 population.

Public use of government health facilities in Nepal is generally high because most people cannot afford private-sector services. Private practitioners do offer services in clinic settings, but the only patients using these services are those able to afford the clinician fee plus laboratory and treatment costs. In general, men and women seeking STI services in the public sector visit these providers only as a last resort. Few patients seek routine STI treatment in health posts or district hospitals. The government's best quality STI services are provided by venereological/dermatological specialists working in the skin/VD departments in central or regional hospitals, but even these facilities fail to attract large numbers of patients. Generally, cases seen in the skin/VD clinics are difficult-to-treat patients. Patients able to afford quality services prefer to visit a specialist in a private clinic.

In Nepal men and women with STI symptoms prefer to seek services in informal or private settings. These may include a private venereologist, a general practitioner,

a chemist or an informal practitioner. Some prefer to self-treat or to seek advice from friends or relatives and use allopathic medicines, herbal medicines or other home remedies. Many Nepalese women ignore their STI symptoms and continue living with chronic STIs.

STI health-seeking behaviour A number of donor-funded HIV/AIDS and STI projects have conducted qualitative and quantitative research on issues of STI/HIV knowledge, attitudes, related practices and associated health-seeking behaviour among those at risk.

In 1994 the Kathmandu-based organization New ERA conducted a baseline study of female sex workers (FSWs) and their clients working along Nepal's major national highway to survey STI/HIV knowledge, attitudes and practices. Key findings showed that of clients visiting an FSW in the previous year, 68 per cent reported making such visits on at least three occasions. Thirty-four per cent of the clients reported condom use during their most recent sexual contact, and 35 per cent of FSWs reported condom use during their most recent sexual encounter with a client. Three-quarters of the clients and 53 per cent of the FSWs understood HIV transmission. Only one-third of the clients, but more than half of the FSWs, claimed no knowledge of a measure of protection from HIV. Among those reporting exposure to condom advertisements, 57 per cent of the clients and 31 per cent of the FSWs were aware of the protection condoms provide against STIs. Sixteen per cent of clients reported using condoms with their wives, and half of them

said they used condoms with other female sexual partners. More than three-quarters of the clients and 55 per cent of the FSWs reported seeking treatment when they experienced STI symptoms. For both clients and FSWs, the preferred source of treatment identified was a private clinic or a chemist shop (pharmacy).

In 1996, the NCASC's University of Heidelberg STI/HIV Project conducted an ethnographic study of community perceptions and attitudes toward STIs and HIV/AIDS among labourers, students, police, health personnel, businessmen, rickshaw pullers and housewives in two district capitals. The study found a high awareness of "bhiringi" and HIV/AIDS among the respondents, as well as an understanding of the role of multi-partner sex in the transmission of HIV. Respondents were also queried on where they preferred to seek treatment for "bhiringi." Overwhelmingly, chemists, shopkeepers and paramedical providers were identified as the preferred treatment source. These services were reported to be more friendly and convenient. Only in the event of unsuccessful treatment did respondents seek hospital-based services.

Another study performed by New ERA in 1995, *A Qualitative Study of Chemists Shops on the Land Transportation Routes from Naubise to Janakpur and Birgunj*, assessed the quality and quantity of STI services provided by chemists in 34 chemist shops serving rural-highway clients. The chemists reported that approximately 60 per cent of their STI customers in the previous month were male and 40 per cent

were female. Sixty-eight per cent of STI customers would visit the chemist shop without a physician's prescription. Chemists reported dispensing a variety of drug treatments for STIs, including quinolones, penicillin, norfloxacin and alkalizing agents for genital discharge, and antiseptic ointment, penicillin injection, norfloxacin, ampicillan and ciprofloxacin for genital sores. Half of the chemists reported providing advice or counselling to their STI customers, including advice on proper condom use.

AN ALTERNATIVE STI SERVICE DELIVERY OPTION: NEPAL'S COMMUNITY CHEMIST

Nepal's non-formal health delivery sector offers an important alternative health delivery channel for the treatment and prevention of STIs. With at least 8,000 chemist shops nationwide, Nepal's retail pharmaceutical sector boasts a chemist shop–customer ratio of 1:2,600. Large numbers of chemist shops are found in urban communities, and most rural communities have at least one chemist shop.

In a Nepali village, people tend to first go to the neighbourhood chemist for family health services. A chemist shop is convenient, friendly and more affordable than other health services, and it provides timely service. The local chemist dispenses drugs with a prescription or directly, based on his or her knowledge of allopathic medicine. Often the community chemist is the first and only point of encounter for modern health care in a Nepali village.

To become a registered chemist, one must successfully complete a 72-hour, 21-day

continuing education programme, “Orientation Course for Drug Retailers and Wholesalers,” managed by the Nepal Chemists and Druggists Association (NCDA) on behalf of the Ministry of Health’s Department of Drug Administration (DDA). This course is open to secondary school graduates and provides basic pharmaceutical knowledge, including common drugs, drug storage and management, drug doses, proper dispensing practices, adverse reactions and contraindications, and drug ethics/law. The course does not address issues of sexuality, safer sex or STI prevention and treatment. As sexuality and sex education have only recently been integrated into Nepal’s secondary school curriculum, the majority of the country’s estimated 21,500 chemists have limited understanding of STIs and sexuality issues.

Approximately 65 per cent of Nepal’s chemists are full-time chemist shop owner-operators. These chemists serve customers on a full-time basis and are usually assisted by a spouse, sibling or other immediate family members. Rural chemist shops operate for 10 to 12 hours per day, and urban chemist shops are usually open up to 15 hours per day, with several shifts. Generally the primary chemist is available during the busy early morning hours and the late afternoon or evening. Often female chemists or assistants work the slack mid-day sales period. This time slot, when the chemist’s wife is available at the sales counter, is usually the preferred time for women to visit a chemist shop.

About 35 per cent of Nepal’s chemists work the profession in a “moonlighting” capacity during the afternoon and evening hours after

the close of their day-jobs at local health posts, hospitals or NGO clinics, where they may work as paramedics, nurses or physicians. As these “chemist-providers” have completed specialized public health training, they are regarded as Nepal’s most highly skilled chemists. However, many still lack basic training in STI prevention. Moreover, while the chemist-providers are working at their full-time jobs, their pharmacies are staffed by family members or employees who may or may not have any public health or chemist training.

Rural chemist shops in Nepal sell a stock of general allopathic medicine. Approximately 23 per cent of the medications are produced domestically, with the remainder imported from India. Chemist shops sell complementary health and nutrition products and maintain the distinction of being the primary sales outlet for condoms (including the Nepali socially marketed condom brands *Dhaal* and *Panther*, as well as other Asian imports).

Chemist shops are generally located in commercial centres nationwide. In small urban communities, chemist shops are usually located near government health facilities and transport-commercial hubs (bus stations, rickshaw stands or the central bazaar). In rural communities, the shops are found in the central bazaar or alongside a main access road or walking trail. Chemist shops remain open 7 days a week and are known to provide a variety of services, including drugs by or without prescription, informal advice and counselling and consultation-examination.

Chemist “consultations” are free of cost to the customer (the chemist’s remuneration being the profit from drug sales), thereby

making a visit to the chemist more affordable than a consultation with a private doctor. In a larger urban community, a physician or paramedic will often operate a small clinic inside or adjacent to a popular chemist shop.

The retail drug business offers a lucrative business opportunity in Nepal. When government drug supplies run out at the community health post, the chemist is the only available source of allopathic medicine in the area. Chemist shops in mountainous regions often serve a vast geographical area, with a multitude of customers from distant mountain villages. Not surprisingly, retail drug management is both a financially rewarding and popular occupation. Shop owners often serve a dual role as health provider and commercial/social leader in Nepali villages.

The chemist shop in Nepal remains a unique public health service delivery site. It serves as a private-sector alternative to government services, with a reliable drug distribution network and accessible, consumer-friendly services. However, although health sector policy makers recognize the opportunities and advantages of Nepal's retail drug sector, a number of weaknesses and constraints remain to be addressed. A Nepali chemist's first priority is his or her business interests: maximizing sales and profit. Chemists have the reputation of over-dispensing medicines to ignorant customers and selling ineffective medicines and health products. Nepali chemists often fail to use opportunities to educate their customers at the shop counter, such as sharing simple health-promotion messages or actively promoting the sale of inexpensive socially marketed condoms.

A PILOT INTERVENTION TO STRENGTHEN DISPENSING PRACTICES OF COMMUNITY CHEMISTS

Recognizing the need and the potential for improving chemists' dispensing of STI medications and STI/HIV prevention services to Nepal's high-risk communities, the Nepal Chemists and Druggists Association joined forces with the NCASC and Family Health International's AIDS Control and Prevention (AIDSCAP) Project in 1995 to pilot an intervention, the "STD/HIV/AIDS Prevention Education Strengthening Initiatives for Chemists Project." The NCDA project was one of numerous targeted interventions in a mutually-reinforcing HIV-prevention strategy managed by AIDSCAP with funding from the United States Agency for International Development (USAID).

The primary objectives of the NCDA project were to strengthen the role of chemists in the prevention and control of STIs, including HIV/AIDS, particularly as educator, emergency case manager and condom promoter to customers at risk.

Also recognizing the potential role of chemists in STI/HIV prevention and control, the NCASC and the Department of Drug Administration (DDA) provided the NCDA the authority to pilot an untested approach, the training of chemists in the government-sanctioned STI case-management method. In 1994 the NCASC completed and distributed its first national STI case-management guidelines. The Nepal Medical Association (NMA) was one of the first national health organizations to develop a training curriculum for physicians based on the national guidelines. The NMA

training package and the lessons learned from training physicians served as the starting point for developing a practical approach to train community chemists.

Developing the curriculum The NCDA began by appointing a project steering committee, or technical advisory group (TAG), to guide the development and technical quality of the training curriculum and programme. While the NCDA had more than a decade of experience managing its 21-day drug orientation course, the association lacked specific expertise to develop and manage an STI-prevention and treatment initiative. The TAG was appointed at project start-up and continued to serve in a critical advisory role throughout the life of the project. TAG membership included:

- the director of the Department of Drug Administration
- the director of the National Centre for AIDS and STD Control
- the president of the Nepal Medical Association
- Nepal's senior dermatologist/venereologist
- the senior professor of pharmacology from the national university
- additional supportive physicians
- training/curriculum specialists
- AIDSCAP's STI advisor
- AIDSCAP programme management staff
- NCDA staff and member-volunteers.

To better guide curriculum development, the TAG next identified a curriculum development committee to actually draft the tailored curriculum focused on the needs of Nepali chemists. Using the Nepal Medical Association's

field-tested "STD Case Management Training Package for General Practitioners" as the base, NCDA's Curriculum Development Committee began a lengthy process of developing and refining a comprehensive but understandable curriculum for community chemists with secondary- or post-secondary-school education. The draft curriculum was reviewed and critiqued by the TAG, revised and translated from English into Nepali. Finally, the curriculum was pretested with a group of 20 chemists in Kaski district, which is outside the project intervention area.

The pretest of the draft training package was a critical step in curriculum development. Material understood by health care workers was not understood by chemists. The chemists also found the language of STIs—primarily sexual terms and descriptions—difficult to comprehend and discuss freely. Following the pretest, the curriculum was again revised and organized into a training package complete with training workbook, modules, overheads and a handout manual.

NCDA's training aimed to strengthen the dispensing practices of chemists in STI-treatment services and prevention education utilizing the Ministry of Health's official national STI case-management guidelines. The syndromic approach recommended in these guidelines allows health care workers during a single visit to effectively manage patients who have STI symptoms without sophisticated laboratory tests, specialized skills or equipment.

The NCDA initially identified the syndromic approach section of the curriculum as "The Three Major STI Syndromes and

Medicines.” Members of the TAG representing Nepal’s medical community felt that the proposed curriculum presented the authority of prescription. To satisfy the concerns of the medical community, the Ministry of Health and the NCDA negotiated a compromise among all the concerned parties with a change in the title of the session to “Three Major STI Syndromes and Medicine Prescribed by Doctors.” Effectively, this was a simple but workable compromise between the physician’s rule of prescription and the NCDA’s motto of training.

Training of trainers To manage a training programme covering a 450-kilometre-long geographical area in the Central Development Region, the NCDA hired a project coordinator from within its own ranks. A full-time administrative assistant also was hired. Everyone else who assisted in project implementation was hired as a short-term consultant or provided voluntary assistance free-of-charge to the project. The core NCDA trainers were a team of three “master trainers” with years of pharmaceutical and orientation-training experience.

Initially, all the trainers lacked specific STI-training expertise. This is because the NCDA felt it best to develop the capabilities of its own membership to deliver training among NCDA peers at the district level to ensure the sustainability of this education programme within its association.

Prior to the launch of the field training, the NCDA master trainers organized a four-day “training of trainers” (TOT) residential workshop to orient and train new “novice trainers.” Key topics in the TOT curriculum

included training methodology, curriculum content and practice training sessions. The majority of the novice trainer candidates were chemist-providers and NCDA zonal branch leaders from the Central Development Region. The NCDA’s objective was to train these local leaders to serve as peer trainers alongside the master trainers throughout the pilot project.

Planning Planning and logistics management were crucial to the success of the field training. The NCDA began by conducting a survey of all potential chemist participants to be invited to the workshops. While the NCDA zonal branches maintain membership lists for their respective zones, the NCDA felt it necessary to update these lists and also to identify other chemists (non-NCDA members) serving the public in the intervention communities.

The chemist survey provided the information needed to effectively plan the training workshops. It enabled NCDA to:

- locate appropriate training sites (halls, hotels or public buildings)
- identify transportation options
- schedule training sessions in accordance with local needs (considering weather conditions, holidays and local business standards).

The curriculum The NCDA’s final training curriculum was developed with the primary objective of improving the dispensing practices of chemists in STI treatment services and STI/HIV-prevention education. The final approved curriculum covers seven major topics in a two-day training format.

SIDEBAR 1

Outline of the Nepal Chemists and Druggists Association Curriculum

Unit 1 Introduction To Workshop

- Part A
 - Introduction to the Project
 - Objective of the Training
 - Part B
 - Objective of the Introduction Session
 - Group Introductions
 - Introduction to Curriculum
 - Ground Rules
 - Pretest
-

Unit 2 Introduction To Sexually Transmitted Infections

- Male and Female Reproductive Anatomy
 - What Are STIs?
 - Signs and Symptoms of STIs
 - STI Syndromes
 - Consequences of STIs
 - Relationship Between STIs and HIV/AIDS
-

Unit 3 Introduction To HIV/AIDS

- What Is HIV/AIDS?
 - How HIV Is Spread and How It Is Not Spread
 - Signs and Symptoms of HIV/AIDS
 - Some Facts About HIV/AIDS
 - Why the Focus on Chemists
 - The Wildfire Exercise
-

Unit 4 Communication Skills And Health Education

- Part A
 - Attitudes and Beliefs
 - Behaviours that Can Make a Client Feel Uncomfortable
 - Communicating Effectively with Clients
 - Part B
 - Basic Health Education Messages (The 4 Cs)
 - Ways to Improve Patient Compliance
 - Reasons for Noncompliance with Drug Treatment
 - Ways to Improve Clients' Health Consciousness
 - Assisting Clients with Partner Notification
-

Unit 5 Three Major STI Syndromes and Drugs Doctors Prescribe to Treat Them

- Part A The Three Major STI Syndromes
1. Urethral Discharge in Men
 2. Vaginal Discharge in Women
 3. Genital Ulcer Disease in Men and Women
- Part B Drugs Prescribed for the Treatment of STIs
- Part C Contraindications and Potential Side Effects
- Part D A User's Guide to Client Education Checklists
-

Unit 6 Condoms And Social Marketing

- Advantages and Disadvantages of Condoms
- Correct Condom Use and Condom Demonstration
- Shelf Life of Condoms
- What Is Social Marketing?
- The Social Marketing Approach
- The Role of Chemists in Social Marketing
-

Unit 7 Ethical And Correct Drug Dispensing Practices

- Inappropriate Behaviours Related to Drug Use
- Inappropriate Behaviours of Drug Retailers and Wholesalers
- Inappropriate Behaviours of Consumers
- The Problems of Antibiotic Resistance
- Consequences of Antibiotic Resistance
- Factors that Encourage Inappropriate Drug Dispensing Behaviours
-

Unit 8 Closing

- Post-test
- Evaluation
- Certificate
- Closing
-

In addition to improving chemists' dispensing practices, the training package seeks to encourage the individual chemist to improve the quality of health education communication provided to his or her STI customers and to other non-STI pharmacy customers. The chemists learn to stress the "Four Cs."

SIDEBAR 2

The Four Cs

Compliance

Educating customers on the importance of completing the entire dispensed treatment.

Counselling/education

Providing basic information on STI/HIV transmission.

Contract Tracing

Encouraging STI customers to inform their sexual partners of a suspected STI and to seek immediate treatment.

Condom

Educating customers about condoms and condom use.

The curriculum provides detailed information on the three most common STI syndromes in Nepal: urethral discharge in men, vaginal discharge in women and genital ulcers in men and women. The chemists are introduced to the Nepal-specific syndromic flow charts adapted by the NCASC from the World Organization's (WHO's) standard STI flow charts. The training sessions includes information about common

etiologies and complications, instructions on the use of the flow chart, a clinical slide show and simple case-study discussions.

The NCDA training workshop also introduces chemists to the national STI case-management guidelines. Chemists are advised to sell only the drugs recommended in the guidelines to their STI customers. When in doubt about a physician's STI treatment prescription, the chemist is urged to consult the national guidelines as the definitive treatment protocol. Another important message included in the training package is a section on professional ethics and the obligation of chemists to refer customers to a qualified physician or health care provider when in need.

Training participants Over the two-year project, the NCDA trained a total of 579 chemists who participated in 22 two-day workshops in the Central Development Region. The chemists trained represented a majority of the chemists situated alongside Nepal's major cross-country highway, as well as key chemists located close to bus stops and urban health facilities or in high-risk urban communities in Nepal's busy cross-border towns.

Of the total chemists trained, 89 per cent were male and 11 per cent female. Sixty-nine per cent work as full-time chemist-owners, and approximately 31 per cent fill dual roles as full-time health care providers in the formal health care system and part-time chemists in a shop.

While the NCDA target was the private, non-formal health sector, it is important to

note that the government health system was a direct beneficiary of NCDA's skills development programme. Twenty-two per cent of the training workshop participants were full-time Ministry of Health staff.

Evaluation of the NCDA pilot: a simulated client survey Since few chemist STI intervention projects have been attempted in developing countries and even fewer studies have been conducted to assess the impact of such interventions, a determination was made during project design to conduct an external evaluation of the NCDA pilot. New ERA, a Kathmandu-based non-profit research organization with long experience in social and public health research, was contracted to manage this evaluation on behalf of the NCDA and AIDSCAP. The simulated client method of data collection (or "mystery shopper") approach was used to assess changes in chemists' dispensing practices, condom promotion, partner notification and physician referral for the syndromic treatment of men with urethritis.

Due to the nature and sensitivity of the subject matter, all parties agreed that a direct survey methodology would be an ineffective means of assessing the intervention. The simulated survey provided an alternative method of gathering information on sensitive issues in difficult field settings. Pre- and post-intervention surveys were conducted in late 1995 and early 1997 respectively. Ten research staff served as the simulated clients. Their job was to visit chemist shops and to meet only with male chemists to seek treatment for complaints representative of urethral discharge.

Each simulated client was trained to "act out" the same scenario during each visit. The simulated client conversation guideline was the following:

I am a married male. About 2 weeks ago I had unprotected sex with a "friend." One week ago I noticed a thick white discharge from my penis. I have also experienced a pain and burning sensation while passing urine. I do not have any sores or itching. I have had sex with my wife since this contact with my "friend."

The simulated clients were instructed to purchase all of the medications and items (condoms or other pharmaceutical items) recommended by the dispensing chemist, but were specifically instructed to request only part of the recommended dosage. The simulated clients were also instructed to avoid any and all injections or physical examinations. The researchers were trained to carefully monitor the chemist's reactions to determine whether the chemist was at all suspicious of the "mystery shopper."

Immediately after the chemist-client interaction, the simulated client was interviewed by a research colleague in a private location using a semi-structured questionnaire. Information recorded in the questionnaire included:

- the name of the drugs dispensed
- the price of the drugs
- the drug doses
- the chemist's reaction to the request to purchase an incomplete treatment
- any encouragement to purchase a condom

- any other questions asked by the chemist of the client's symptoms
- further communication concerning treatment, condom promotion, partner notification, advice on STI/HIV or referral to a physician.

A total of 160 chemist interactions were included in the survey. New ERA selected its baseline survey chemists from a stratified random sample generated from the NCDA's list of targeted chemists and shops. Chemists identified for the post-survey were those included in the baseline survey and positively identified as NCDA trainees by NCDA

records/photo documents. Due to the timing of the training workshops, chemists included in the post-survey had been trained by the NCDA anywhere from one to nine months prior to the survey.

New ERA analyzed the data using the Statistical Package for the Social Sciences (SPSS). Data on the drugs sold to the simulated clients were coded according to antibiotic and non-antibiotic categories. The appropriateness of the dispensed drugs was then determined according to the NCASC and WHO treatment guidelines.

The simulated client survey found that

SIDEBAR 3

Key Findings of New ERA's Simulated Client Survey

- About 81 per cent of the chemists in both the baseline and follow-up surveys suggested medications to treat STIs.
- Approximately 45 per cent of the chemists in the post-survey suggested the correct medications and correspondingly correct dosages for urethral discharge, compared to less than 1 per cent in the baseline survey.
- In the baseline survey only 14 per cent of the chemists suggested condom use to their customers. This increased to 23 per cent in the follow-up evaluation. The proportion of chemists actually selling condoms remained low, with no change after the training.
- While only five per cent of the chemists in the baseline survey suggested STI treatment for sexual partners, after training partner referral increased to approximately 21 per cent.
- Only three per cent of the chemists in the baseline survey advised their customers to consult a physician if not cured by the recommended STI treatment. Following training, physician referral increased to 16 per cent.
- The average cost of the suggested medications decreased from 193 rupees in the baseline survey to 137 rupees in the evaluation survey.
- Chemists' retention of the training curriculum content and the prevention education messages substantially decreased after a period of three months following the training. This suggests a need for refresher and complementary training initiatives by the NCDA.

the proportion of the chemists recommending the correct drugs or treatment regimen to a client with complaints of urethral discharge increased from less than one per cent to 45 per cent. This is a particularly important result because effective STI treatment has been shown to reduce the transmissibility of HIV. Clearly the training also had a positive impact on chemists' communication and counselling of customers. At the same time, the training had little impact on the sale of condoms along with STI medication.

Overall, the results indicate that STI services provided by community chemists can be significantly strengthened with targeted, short-term training interventions. As a professional network and support organization for retail chemists nationwide, the NCDA has an obligation to continue providing its continuing education in STI treatment and prevention. Moreover, the NCDA and the chemist community play a crucial role in the response to HIV/AIDS in Nepal.

LESSONS LEARNED AND BEST PRACTICE CRITERIA

The Nepal Chemists and Druggists Association's experience as a significant STI and HIV/AIDS prevention partner in Nepal has been an enormous challenge for the association. From the beginning, the NCDA used every opportunity to test approaches, implement revised activities, and then stop and assess its small successes as well as its failures. The following summary of key lessons learned by the NCDA and associated best practices should be considered by any organization planning an educational intervention with retail drug sellers.

Promoting STI/HIV/AIDS Prevention through Non-Clinical Service Outlets

Case management of STIs exclusively through clinical settings is not possible in a resource-constrained nation such as Nepal. Using the NCDA's network of community-level retail drug sellers to manage STI cases at the first point of encounter proved to be a successful alternative.

Soon after HIV/AIDS was reported in Nepal, public health planners in Nepal recognized the importance of promoting STI case management through all potential public and private-sector channels. In resource-constrained settings, a local drug seller can play a pivotal role in selling and dispensing essential drugs to the public in need and thus play an important dual role in furthering STI and HIV prevention.

Forging Linkages for Efficient Programme

Delivery It would have been impossible for the NCDA to conduct this pilot project alone. To succeed the NCDA had to adopt a strategy for strengthening the association's relations with knowledgeable groups already working in the sector. These included NGOs, other health professional organizations, government organizations and Nepal's top STI experts. The NCDA worked very hard to cultivate its relationships with the Nepal Medical Association and national STI specialists by directly involving them in programme planning, curriculum development, pretesting and field-based training.

Project resources were used strategically and effectively by NCDA project planners and managers. The NCDA also contributed

significant resources—particularly senior-level volunteers—from within the association during the development and implementation stages. In addition, the NCDA tapped a variety of high quality material and technical assistance resources for use in curriculum development and training. Instead of “reinventing the wheel,” the NCDA adapted materials developed by the Nepal Medical Association, NGOs and association colleagues. The NCDA relied heavily on the contributions of public health educators and practitioners experienced in STI and HIV control during the design and monitoring phases of the project. Likewise, at project completion the NCDA shared its final training curriculum with the National Health Training Center and other health-sector associations and projects interested in STI syndromic management.

Adding Value through International Technical Assistance Programme planning and content development was shaped and influenced by hands-on technical assistance from international STI experts. AIDSCAP’s STI advisor and other seasoned professionals were crucially important in guiding the technical content, evaluation techniques and the application of complementary experiences from other Asian countries.

Sanctioning the Syndromic Approach Nationally The sanctioning and promotion of the national STI case-management guidelines by the Ministry of Health, the WHO, the Nepal Medical Association and other national public health leaders paved the way for NCDA to pilot a new and innovative approach to private-sector STI-service delivery.

Giving Full Consideration to Professional Interests As the NCDA is a professional, membership organization comprised of a variety of members from the pharmaceutical business community, it was vital that association and membership interests and priorities were given careful consideration in programme design. At the local level, chemists can serve as influential leaders on issues of health, commerce and social welfare. At the national level, change in association leadership can have a positive or negative effect on programme strategies and association investments. For example, a newly elected association president may consider STI training to be insignificant in regard to an association’s business interests. Issues such as these must be addressed in programme design and over the longer term for effective and sustainable programme implementation.

Using Marketing and Attention to Detail to Attract Training Participants Initially, it was extremely difficult to cultivate much enthusiasm among community chemists to participate in a two-day training workshop on STIs and HIV/AIDS. Sitting in a training hall for two days means a significant loss of sales. Once the NCDA’s training reputation was established, however, the training was regarded as a valuable skill-building opportunity. In some districts the NCDA had a waiting list of interested candidates.

For training workshops to be successful, it is essential that close attention be given to each and every aspect of a workshop in addition to technical content. Such aspects include session scheduling, start-up time, the availability of public transport or need for accommodation,

proper lighting and air conditioning, the need for back-up power, refreshments, quality materials as hand-outs, and other attractive educational materials and giveaways.

Targeting Content Culturally Acceptable to the Community At the completion of the pilot project, the NCDA convened a special workshop for all the active novice trainers to assist the association in finalizing the end-of-project training package. Participants revealed that the two most important training modules were: (1) the one on STI syndromes; and, (2) the “Wildfire” Exercise. The module on STI syndromes provided the core technical content of the workshop, while the wildfire exercise served as the essential “ice-breaker.” This simple exercise opened the chemists to the “reality” of STI transmission and awakened them to the reality of STIs and HIV in Nepal. With this understanding, training participants were able to put the remainder of the workshop into an appropriate perspective.

Improving Training Quality through Pictorials and Visual Aids The NCDA had never used supplementary communication materials, colour slides, films or visual aids in its 21-day basic training course for chemists. To reduce costs, the materials for the STI training were presented in a black-and-white text with simple overheads and condom demonstration displays. Over the course of the project, NCDA added a number of supplementary reproductive health aids, flip charts and a short colour slide presentation of actual STI clinical cases. These new communication materials and aids were instrumental in capturing participants’

interest and adding reality to the training. The colour pictorials/illustrations were particularly helpful to the full-time chemists who lacked opportunities to examine patients first hand, and exemplified the phrase “A picture can say a thousand words.” In future, the NCDA plans to expand its training package with a colour photo/illustrative section identifying the common STIs.

Promoting Condom Sales and Use Chemists in Nepal have been involved in the sale of the national socially-marketed condom, *Dhaal*, for the past 20 years in support of the national family planning programme. Initially the chemist curriculum included a full session on the condom, including: (1) advantages and disadvantages of condoms; (2) proper condom use; (3) an interactive condom demonstration; and, (4) a discussion on the benefits of social marketing and the Nepal Contraceptive Retail Sales (CRS) Company’s role in managing this national effort.

The results of the simulated client survey and the reaction of the participants both demonstrate a need to further strengthen the condom curriculum. The linkages between use of condoms and disease prevention were not fully understood, even by the more experienced chemist-providers. Improved understanding of these linkages can be promoted by making at least two changes: distinct improvements in the condom curriculum and the active participation of social marketing experts in the training.

In Nepal, it is recommended that the Nepal CRS Company managers/salespersons fully participate in each and every workshop

as condom resource persons. The Nepal CRS Company can also make better use of the workshops from a marketing and sales perspective. Besides serving as a resource on condoms, CRS representatives can provide special condom marketing products to each of the participants and later follow up the training with individual promotional sales visits.

Considering Gender and Other Sensitive

Topics The distribution of female chemists in Nepal's Central Region ranges from 30 per cent in some districts to less than 5 per cent in the more conservative districts along the Indian border. In some communities, it is not acceptable for a woman to work alone in a retail shop serving male customers. Programme planners were not sure how male and female chemists would interact with one another in workshops focused on sensitive issues such as sex, condoms and STIs, so NCDA arranged both single-sex and mixed-sex workshops.

The results were very interesting. The dynamics of the mixed groups provided the best overall learning environment. In the single-sex sessions, for example, it was often difficult to convince the male or female participants to focus on the content of the condom discussion and demonstration sessions. With mixed groups, the participants were more serious and focused on the subject matter. Once these group dynamics were recognized, every effort was made to maximize the number of female participants to improve the gender balance.

Training Immediate Family Members In a small community, local women know the best time to visit a chemist shop to purchase

personal items or seek sensitive advice—when the chemist's wife is sitting at the sales counter. As many shop owners employ their wives, sisters or brothers to assist with drug sales, it is essential to try to train all key sales staff (from one family). However, the training of family members representing the same drug retail establishment presents its own challenges. For example, an elder brother's presence severely limits a younger sister's ability to fully absorb and later apply sensitive sexual subject matter. It is therefore preferable to train immediate family members separately.

Strengthening Programmes through

Evaluation The use of external evaluation to assess the effects of the NCDA pilot prevention project has proved to be an invaluable asset. The results of the simulated client survey have provided the implementing agency, the managing agency, the donor and Nepal's Ministry of Health with essential information to lend critically important support to the approach. The evaluation findings also served to legitimize the value of the NCDA pilot in the eyes of the national public-health community. Perhaps most important, the data provided clear information on the constraints of the curriculum and directions for future improvements, including the strengthening of key sections of the curriculum, increased use of the local novice trainers and the need for frequent follow-up/refreshers training.

From an ethical perspective, the application of a special evaluation component provided the NCDA with the necessary ammunition to overcome vocal criticism of the effort by a group of public health sceptics. While the

health ministry sanctioned use of the approach among trained community chemists, a group of centrally-based physicians lobbied within their own ranks to discourage the training of non-physicians in STI case management. The evaluation results served to further strengthen support for a role for alternative providers in Nepal's disease prevention efforts.

Expanding Continuing Education STI treatment, condom promotion and chemist–customer communication are difficult topics for community-based chemists. Further improvement of chemists' skills to effectively address these issues will require a commitment by the NCDA to: (1) manage follow-on training for chemists who have participated in the two-day workshops; and, (2) introduce the subject matter into the basic orientation course for new chemists. Nepal's Department of Drug Administration needs to seriously consider the integration of the STI curriculum into the NCDA's 21-day "Orientation Course for Drug Retailers and Wholesalers" as a new minimum requirement.

At the completion of the pilot project, the NCDA recognized they had failed to achieve one of their primary objectives: to integrate key elements of the STI syndromic approach into their basic 21-day orientation course. In terms of effectiveness and impact, the NCDA experience is a reminder of the importance and role of organizational and personal priorities in the design and management of innovative or risky programmes. Setting reachable objectives and maintaining a programmatic focus on meeting them needs full consensual agreement and consistent effort.

Forging Good Community Relations to Gain Higher Profit The STI guidelines offer the consumer a more cost-effective and effective treatment. The results of the simulated client survey show that after training, the average selling price of the recommended STI treatment regimen decreased by 40 per cent. While initially chemists following the guidelines may experience lower profit margins, in time successful treatment and improved customer relations provide a new quality of care to the community. Over time, good dispensing practices enhances one's reputation and role as a preferred referral site, which ultimately improves business profits. It pays to be a trusted and reliable community chemist in Nepal.

Filling a Service-Delivery Gap In Nepal and other resource-constrained settings, it makes sense to identify all potential channels for strengthening education, communication and effective service delivery for STIs and HIV/AIDS. Training community chemists to provide improved, simple, curative care services benefits the community. Improved services lead to increased demand and therefore an improved supply of essential drugs to a community. The provision of quality drug dispensing and health education services by chemists known and trusted in a local community is a *sustainable* best practice and an effective alternative to Nepal's rural public health care dilemma.

WHAT IS NEXT FOR NEPAL?

The NCDA project has demonstrated that community chemists can play an effective role in treating and preventing STIs in resource-constrained settings. The NCDA pilot exemplifies a potential intervention for non-formal community health care workers who can become active caregivers or agents of change in preventing the spread of disease and managing care. Much more can and will be done in the future to strengthen the skills of Nepal's private-sector community chemists.

Likewise, other groups or sectors who can play critically important community health roles need encouragement through similar interventions. Nepal's non-formal community health care workers outside of the chemist community include informal health practitioners, ayurvedic doctors, female midwife/practitioners and "jhakaris," or traditional medicine men. These community health care providers come with a variety of formal and very informal education and experiences, but serve essential roles among specific ethnic groups. In some communities, the female midwife/practitioners are the first reference point for local health care prior to the chemist. In other communities, the informal health practitioner is considered the local medical expert and may be the preferred service point for disenfranchised individuals.

Another related group that could be trained in STI/HIV prevention and care is the medical manufacturers'

"detail men." In Nepal and neighbouring nations, these medical representatives or salesmen represent the hundreds of drug and medical supply houses operating in the countries. They also can be encouraged to deliver basic health and STI-prevention messages to chemists and retail shops as part of their regular sales visits, which could, in turn, enhance their sales and value to their customers.

Other caregiving groups who could be trained include paramedics, community medical assistants and nurses. In Nepal and other countries, many of these professional groups support a national association. Training could be arranged at the local level (taking the training to the trainee) or as part of annual professional meetings or conferences.

Finally, it is important to consider the next steps for chemists. With a solid understanding of the syndromic approach to STI treatment, chemists offer real potential for a complementary intervention: STI prepackaged therapy. In Nepal there are plans to begin an STI prepackaged therapy pilot programme in the near future. This new approach will build upon the innovative initiative by the NCDA among Nepal's community of chemists, which resulted in a qualitative benefit to the whole nation.

AUTHORS

Joy S. Pollock, AIDSCAP/Nepal, AIDS Control and Prevention (AIDSCAP) Project, Family Health International, Kathmandu, Nepal
Mahesh P. Pradhan, Nepal Chemists and Druggists Association, Kathmandu, Nepal

ACKNOWLEDGEMENTS

Special thanks go to the National Centre for AIDS and STD Control, the Department of Drug Administration and the United States Agency for International Development's Mission in Nepal for encouraging the NCDA and Family Health International/AIDS CAP to implement this pilot project. Special recognition also goes to those who individually contributed to the design, management and evaluation of this project.

In Nepal: Dr. Benu B. Karki and Dr. Bal Krishna Suvedi of the National Centre for AIDS and STD Control; Dr. Ram Kumar Shrestha, Ministry of Health, retired; Dr. Asfaq Sheik, Department of Drug Administration, retired; Mr. Om Lal Shrestha, NCDA Past President; Mr. Pradeep Shrestha, Mr. Suresh Pradhan and Mr. Gopu Shrestha, NCDA; Dr. Kumud K. Kafle, Department of Clinical Pharmacology, Institute of Medicine, Tribhuvan Teaching Hospital; Mr. Shibesh Regmi, Mr. Sanjaya Acharya, Mr. Sidhartha Tuladhar and Mr. Bharat Ban of New ERA; Ms. Molly Gingerich, Ms. Pancha K. Manandhar and Mr. Matthew Friedman of USAID/Nepal; and Ms. Asha Basnyat, Mr. Bholu Shrestha and Ms. Prava Chhetri of FHI/Nepal.

Outside Nepal: Dr. Doris Mugrditchian, New York, NY, USA; Mr. Stephen J. Mills, FHI/Asia Regional Office, Bangkok, Thailand; and, Dr. Gina Dallabetta and Dr. Peter Lampthey, AIDSCAP and HIV/AIDS Prevention and Care Department, Family Health International, Arlington, Virginia, USA.

REFERENCES

- Burathoki K. General Profile of STDs in Nepal, Country Report. Kathmandu, Nepal: Department of Health Services, Ministry of Health, 1995.
- Chin J, Dunlap D, Pyn H. The HIV/AIDS Situation in Nepal. Washington, DC: World Bank, 1994.
- Dallabetta G, Laga M, Lampthey P. Control of Sexually Transmitted Diseases: A Handbook for the Design and Management of Programs. Arlington, VA: Family Health International, 1996.
- Dallabetta G, Gerbase A, Holmes K. Problems, solutions and challenges in syndromic management of sexually transmitted diseases. *Sexually Transmitted Infections* 1998; 74(suppl. 1): S1–11.
- Family Health International, AIDS Control and Prevention Project: Final Report for the AIDSCAP Program in Nepal, August 1993 to July 1997. Arlington, VA: Family Health International, 1997.
- Family Health International, AIDS Control and Prevention Project. Final Report, Volume I. Arlington, VA: Family Health International, 1998.
- Family Health International, AIDS Control and Prevention Project. Making Prevention Work, Global Lessons Learned from the AIDS Control and Prevention (AIDSCAP) Project, 1991–1997. Arlington, VA: Family Health International, 1997. His Majesty's Government of

Nepal/Central Bureau of Statistics. 1996
Statistical Pocketbook. Kathmandu, Nepal:
Central Bureau of Statistics, National Planning
Commission, 1996.

His Majesty's Government of Nepal/
Department of Drug Administration,
UNICEF. Handbook for Drug Retailers
and Wholesalers, 1992. Kathmandu,
Nepal: DDA and UNICEF, 1992.

Kafle K, Madden J, Shrestha A,
Karkee S, Das P, Pradhan Y, Quick J.
Can Licensed Drug Sellers Contribute
to Safe Motherhood? A Survey of the
Treatment of Pregnancy-Related Anaemia
in Nepal. *Social Science and Medicine*
1996; 42:1577–1588.

Ministry of Health, Department of
Health Services, NCASC/University
of Heidelberg STD/HIV Project.
Assessment of Knowledge, Attitude
and Practice Concerning STD/HIV
in Selected Populations: Report of a
Study from Nepalgunj. Kathmandu,
Nepal: NCASC and University of
Heidelberg STD/HIV Project, 1996.

Ministry of Health, Department of
Health Services, NCASC/University
of Heidelberg STD/HIV Project. HIV/
Syphilis Prevalence Study in Pregnant
Women in Different Urban Areas of
Nepal, A Preliminary Report. Kathmandu,
Nepal: NCASC and University of
Heidelberg STD/HIV Project, 1996.
Ministry of Health, Department of

Health Services, NCASC/University of
Heidelberg STD/HIV Project: Perceptions
and Attitudes Concerning STD and AIDS
in Urban Centres of Nepal, Part I of a
Qualitative Study, Kathmandu, Nepal:
NCASC and University of Heidelberg
STD/HIV Project, 1995.

Ministry of Health, Department of
Health Services, NCASC/University of
Heidelberg STD/HIV Project. Perceptions
and Attitudes Concerning STD and AIDS
in Urban Centres of Nepal, Part II of a
Qualitative Study. Kathmandu, Nepal:
NCASC and University of Heidelberg
STD/HIV Project, 1996.

National Centre for AIDS and STD
Control. National STD Case Management
Guidelines. Kathmandu, Nepal: Department
of Health Services, NCASC, 1995.

National Centre for AIDS and STD
Control and Family Health International.
Final Report on Nepal HIV Surveillance
and Estimates Workshop. Kathmandu,
Nepal: NCASC and Family Health
International, AIDSCAP, 1997.

Nepal Chemists and Druggists Association
and Family Health International. Final
Report of the STD/HIV/AIDS Prevention
Education Strengthening Initiatives for
Chemists and Health Care Providers
Project. Kathmandu, Nepal: NCDA
and Family Health International/
AIDSCAP, 1996. Nepal Chemists and Druggists
Association and Family Health International.

NCDA/STD/HIV/AIDS Prevention Education Strengthening Initiative for Chemists and Health Care Providers Curriculum. Kathmandu, Nepal: NCDA and Family Health International/AIDSCAP, 1997.

Nepal Medical Association. Case Management of Sexually Transmitted Diseases: Training Package. Kathmandu, Nepal: NMA and Family Health International/AIDSCAP, 1996. New ERA. A Baseline Study of Commercial Sex Workers and Sex Clients on the Land Transportation Routes from Naubise to Janakpur and Birgunj. Kathmandu, Nepal: New ERA, 1995.

New ERA. A Qualitative Study of Chemist Shops on the Land Transportation Routes from Naubise to Janakpur and Birgunj. Kathmandu, Nepal: New ERA, 1995.

New ERA. A Baseline Study of Sexually Transmitted Disease (STD) Services Provided by Chemists in the Land Transportation Routes from Naubise to Janakpur to Birgunj. Kathmandu, Nepal: New ERA, 1996.

New ERA. Chemists' STD Drug Dispensing Behavior and HIV Prevention Communication: An Impact Evaluation of Training Using Simulated STD Patients. Kathmandu, Nepal: New ERA, 1997. New ERA. An Evaluation of Interventions Targeted to Commercial Sex Workers and

Sex Clients on the Land Transportation Routes from Janakpur and Birgunj to Naubise. Kathmandu, Nepal: New ERA, 1997.

Pradhan M. STD/HIV/AIDS: Chemists and the Community. Paper presented at the XIth International Conference on AIDS, Vancouver, Canada, 8 July 1996.

Pradhan M. Sexually Transmitted Disease: Alternative Services: Nepal Chemists and Druggists Association's Education and Training Program. Paper presented at the FHI/AIDSCAP Lessons Learned Workshop, Washington, DC, October 1997.

Pradhan M, Shrestha O, Basnyat A, Pollock J, Mugrditchian D. STDs and HIV, Chemists and the Community in Nepal. *Reproductive Health Matters*, 1996; 8:128–131.

Regmi S, Moktan P, Mugrditchian D, Pollock J. STDs and STD Health Seeking Behavior Among CSWs and their Clients and the Role of Chemist Shops as Sources of STD Treatment in Central Nepal. Paper presented at the 3rd International Conference on AIDS in Asia and the Pacific, Chiang Mai, Thailand, 17–21 September 1995.

Shrestha B, Burathoki K, Mugrditchian D. Nepal. In *Sexually Transmitted Disease in Asia and the Pacific*. Brown T, Chan R, Mugrditchian D, Mulhall B, Plummer D, Sarda R, Sittitrai W. eds. Armidale, New South Wales, Australia: Venereology Publishing Inc., 1998: 195–214.

Tuladhar S, Mills S, Acharya S, Pradhan M, Pollock J, Dallabetta G. The role of pharmacists in HIV/STD prevention: evaluation of an STD syndromic management intervention in Nepal. *AIDS*, 1998; 12 (suppl. 2):S81-87.

Valley Research Group. Study of Sexual Networking in Five Urban Areas in the Nepal Terai. Kathmandu, Nepal: Valley Research Group, 1993.