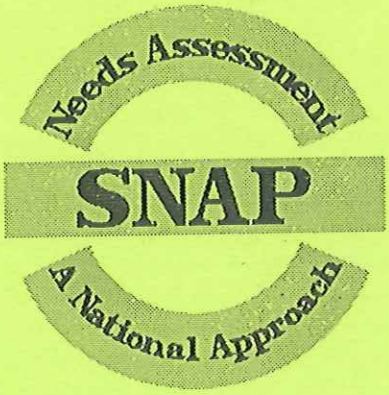
Scottish Needs Assessment Programme



STI SERVICES IN SCOTLAND

Scottish Forum for Public Health Medicine
69 Oakfield Avenue
GLASGOW
G12 8QQ
Tel: 0141 330 5607
Fax: 0141 330 3687

FOR REFERENCE ONLY

Health Promotion Library Scotland
Health Education Board for Scotland
The Priory, Canaan Lane
Edinburgh EH10 4SG
Tel: 0645 125 442 Fax: 0131 536 5502

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Scottish Needs Assessment Programme

STI SERVICES IN SCOTLAND

Dr G Scott (Chair)	Consultant Physician Department of GUM Edinburgh Royal Infirmary
Dr A Noone (Co-ordinator, Editor)	Consultant Epidemiologist SCIEH
Dr D Breen	Consultant in Public Health Medicine Dumfries & Galloway Health Board
Dr S Cameron	Clinical Virologist, Regional Virus Laboratory, Ruchill Hospital
Dr S Carr	SCMO Centre for Family Planning and Sexual Health Glasgow
Dr B Davis	SMO Scottish Office Department of Health
Dr D Goldberg	Deputy Director SCIEH
Dr G Hart	Assistant Director MRC Medical Sociology Unit
Mr P Knight	Information Services Division
Dr S Lawson	Consultant Gynaecologist Scottish Office Department of Health
Mrs S McDonald	Health Adviser Dundee Royal Infirmary
Dr V McGregor	Clinical Services Manager Lothian Brook Advisory Centre
Dr W Ross	General Practitioner Inverness
Dr C Thompson	Consultant in GUM Victoria Hospital, Kirkcaldy
Dr H Young	Director Scottish *Neisseria gonorrhoeae* Reference Laboratory

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Further copies of this report are available from Jackie Gregan, SNAP, 69 Oakfield Avenue, Glasgow G12 8QQ, tel. 0141 330 5607.

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FOREWORD

The SNAP Working Group was set up as a result of a discussion which took place at a meeting of Scottish Consultants in Public Health Medicine (Communicable Disease and Environmental Health) and representatives of the Public Health Policy Unit of the Scottish Office in 1995. Dr David Breen, one of the group, reported to that meeting that he had undertaken a brief survey of all Scottish Health Boards which examined surveillance of STIs and collected some information about service provision. He found that there were wide variations in the available services, uneven or absent standards of care and no consistent approach to surveillance and service review. He proposed to the meeting that services for STIs should be the subject of an urgent review by a Scottish Office Planning Group especially since these services had not been reviewed for 30 years. As there were a large number of planning groups active at that time it was suggested that the review should be undertaken by a SNAP Working Group. The remit of this SNAP Working Group therefore differs from that of other SNAP groups in that it focuses on the operational delivery of services rather than taking a strategic view of health and health care needs associated with STIs.

CONTENTS

EXECUTIVE SUMMARY

Background and Objective

There is evidence that the incidence of sexually transmitted infections (STIs), which result in much acute and chronic morbidity, has been increasing recently. Specialist services for STIs in Scotland were last reviewed in 1973. This review was undertaken to examine the overall provision of STI services in health boards and to recommend principles which would ensure a high quality of service for all the population.

Definition

The following STIs were considered:

- genital *chlamydia trachomatis* infection
- non-specific urethritis (NSU)
- genital herpes
- genital warts
- gonorrhoea
- hepatitis B and Human Immunodeficiency Virus (HIV) infections
- syphilis
- trichomoniasis

Methods

The SNAP Working Group reviewed routine data sources on STIs in Scotland to ascertain the burden of infection. They undertook ad-hoc surveys of genitourinary medicine (GUM), family planning, gynaecology and microbiology departments, health advisers working in GUM clinics and a sample of GPs to examine workload, clinical practice and resources available for STI services.

Key results

Good data are now available on the incidence of STIs seen in GUM clinics, but few data are available from other locations where patients with STIs are seen viz., general practice, family planning clinics and gynaecology departments. Routine data on tests undertaken for STIs are incomplete.

Nationally, access to specialist STI services is uneven. Gaps were identified in southern Scotland, island boards and outlying towns.

Practice in the screening, investigation, treatment, management and follow-up of patients varies between and within health service locations. There are few formal arrangements for liaison with GUM departments in the management of patients thought to have STIs

Resources for contact tracing are largely unavailable outside GUM departments.

General practitioners identified their own need for training and advice in the investigation and management of their patients with STIs.

The SNAP survey of laboratories highlighted inconsistent and, sometimes, inappropriate laboratory testing practices.

The results suggest that many improvements in STI services could be achieved by a redirection of resources towards more effective and efficient practices rather than through the commitment of new resources.

RECOMMENDATIONS

Local strategy for STI prevention and management

Health boards should examine the need for services for the prevention and management of STIs in the light of their local circumstances. Planning to meet the needs is appropriately undertaken within the framework of a Sexual Health Strategy Group.

The needs of persons at increased risk of STIs e.g. gay men and sex workers should be specifically addressed

A GUM led service

In each board a GUM department should be the source of expert advice and should have responsibility for setting standards for investigation and management of STIs and for the training of non-specialist health professionals. A GUM led service should be provided to rural and island boards on an outreach basis.

Clinical Standards

National protocols for screening, investigation, treatment and follow up of persons with STIs and their partners should be developed as a matter of urgency. These should be implemented in all health care settings where patients with STIs are seen.

It is particularly important to address the prevention, control and management of *Chlamydia trachomatis* infection.

Clinical care should be audited.

Contact Tracing Services

Contact tracing services, usually based in the GUM department, should be available for follow up of all patients with STIs, wherever they are managed. In rural boards such services would be widely available from a suitable base.

The needs of general practitioners and the primary care team

The needs of general practitioners and the primary care team for training and advice on the investigation and management of patients with clinical evidence of STIs should be addressed.

The feasibility and cost of developing 'STI kits' to facilitate patient management should be examined.

Laboratory Services

Protocols should be developed for laboratory investigation of STIs which cover all aspects from the appropriate specimen to acceptable testing algorithms.

Surveillance and audit

Laboratories should report to their local boards and SCIEH on a regular basis, on tests undertaken.

Key performance indicators of Services for Sexual Health should be developed and used by the health boards for monitoring services.

Public and professional users

A review of users' views on services should be undertaken periodically.

Health Boards should ensure that public and professional users are fully informed about local services. Particular attention should be paid to making GUM services accessible and acceptable to a range of users.

1. INTRODUCTION

1.1 Sexually transmitted infections (STIs) are an important cause of morbidity in Scotland and worldwide. The World Bank's 1993 World Development Report 'Investing in Health' attributed well over half of the 'disability adjusted life years' lost through infectious diseases in 'established market economies' to STIs, including Acquired Immune Deficiency Syndrome (AIDS)[1].

1.2 Data now available for 1995 suggest a recent upturn in the incidence of STIs presenting to genitourinary medicine (GUM) clinics in Scotland[2]. This follows a period of declining incidence which began in the mid 1980s. The sequelae of STIs, which include AIDS, infertility, pelvic inflammatory disease and cancer, contribute to the burden of distress and disability and associated high health care costs.

1.3 Genital infection with *chlamydia trachomatis* is now a common infection with severe and costly long term health consequences (see Box).

1.4 Patients with STIs or their sequelae may present to any one of several health service professionals and locations, the most important of which are: GUM clinics providing specialist STI services, general practitioners (GPs), family planning (FP) clinics, and gynaecologists.

1.5 Specialist services for advice on and treatment of STIs, based in dedicated clinics, were established throughout Britain in 1917. These open-access clinics, which provide confidential services, have made a valuable contribution to the control of STIs as the epidemiology of these infections has changed in the decades since the clinics opened.

1.6 Specialist STI services (now known as GUM services) were last reviewed in Scotland in 1973[4]. The Monks Committee which examined GUM services in England in 1988 recommended that health districts should give priority to the development of these services[5].

1.7 The 1992 'Health of the Nation' report for England and Wales identified sexual health as one of five priority action areas to improve the nation's health, specifying targets to be achieved[6]. Sexual health is not included in priorities for health in Scotland[7].

1.8 The uneven provision of STI services within health boards in Scotland and the lack of coordination of those services which do exist have been recognised for some time by those working in the field. A review of these services is long overdue.

Genital *Chlamydia trachomatis* infection - a case study of the impact of STIs

Genital infection with *Chlamydia trachomatis*, a common STI, provides a useful case study of the impact of STI in Scotland. In 1995, 10% of all diagnoses made in GUM clinics were of chlamydial infection. There were 778 cases diagnosed in men and 771 cases diagnosed in women. It is estimated that these cases represent only 10% of all prevalent chlamydial infections[3]. A sizeable proportion of the infected population is asymptomatic (about 70% in females, 20-30% in males). Many patients with associated conditions e.g. epididymitis, salpingitis may present in other clinics e.g. urology, gynaecology. Based on the estimate of 10% of prevalent infections seen in GUM clinics the prevalence of chlamydial infection is of the order of 15,000 infected persons in Scotland. This has potentially serious consequences for the health of those who are infected. It is estimated that the number of women treated as hospital inpatients in 1995 as a result of chlamydial disease was about 2000 (80% of all cases of pelvic inflammatory disease, 75% of all cases of tubal infertility and 40% of ectopic pregnancies).

2. OBJECTIVES OF THE REPORT

This review was undertaken by a multidisciplinary working group with the following remit:

- To estimate the magnitude of STI problems in Scotland.
- To survey the provision of STI services with respect to accessibility, diagnostic facilities, treatment, control, contact tracing, and preventive measures.
- To make recommendations as to how the need for STI services within Scotland can best be met, while leaving issues of local implementation to health boards.

3. SCOPE OF THE REPORT

3.1 STI services considered are those for the prevention and treatment of sexually transmitted infections, the main infections being:

- genital *chlamydia trachomatis* infection
- non-specific urethritis (NSU)
- genital herpes
- genital warts
- gonorrhoea
- hepatitis B and Human Immunodeficiency Virus (HIV) infections
- syphilis
- trichomoniasis

Services for persons with HIV infection and hepatitis B which are based in specialist infectious disease units are not included.

3.2 Sexual Health as defined by the World Health Organisation[8] includes:

- The capacity to enjoy relationships and express sexuality without guilt or shame.
- The capacity to control fertility.
- Freedom from disorders which compromise health and sexual or reproductive function.

The wide range of services implied by this definition was not within the brief of the group.

4. DATA SOURCES AND METHODS

4.1 Clinical data from GUM clinics, routinely sent to the Information and Statistics Division (ISD) were reviewed.

4.2 Between January and March 1996, members of the SNAP Working Group undertook ad-hoc surveys of GUM, family planning, gynaecology and microbiology departments, health advisors working within GUM departments and a sample of GPs. These covered workload, clinical practice and staff and resources in the period April 1994 to March 1995, and were designed not to make excessive demands on respondents. Response rates to these surveys are provided in Table 1. The questionnaires are available from the SNAP office. These surveys generated an enormous amount of information on the organisation of services and clinical practice. Only those findings which highlight inadequacies in the former and inconsistencies in the latter are included in this report.

4.3 Relevant published and unpublished literature was searched.

Table 1
Working Group Surveys: response rates

Department/Group	Questionnaires sent	Questionnaires returned	Response rate
GUM	14	14	100%
Family Planning	15	13	87%
Gynaecology	140	65	64%
Health Advisers	10	7	70%
General Practitioners	488	261	53%
Consultants in Public Health Medicine	15	13	87%
Microbiology	27	23	85%

5. THE SIZE OF THE PROBLEM

5.1 Data from the 1994 UK study of Sexual Attitudes and Lifestyles[9], which included a small sample (1809 persons) from Scotland, suggest that the prevalence of risk behaviours for STIs is comparable with that of regions outside Greater London (Tables 2a and b).

Table 2a Sexual risk behaviour among heterosexuals

Percentage of men and women reporting 3 or more heterosexual partners in the last two years, by region of Britain[9].

Region	% Men	% Women
North	9.2	3.2
North West	12.2	2.6
Yorkshire/Humberside	12.5	4.7
West Midlands	9.6	3.3
East Midlands	11.4	5.0
East Anglia	8.6	3.2
South West	12.8	5.2
South East	10.9	4.6
Greater London	18.9	7.4
Wales	10.7	2.2
Scotland	11.8	4.9

Table 2b Sexual risk behaviour among heterosexuals

Percentage of men and women reporting 'unsafe'* sex in the last year[9]

Region	% Men	% Women
North	7.6	2.4
North West	6.4	3.4
Yorkshire/Humberside	5.4	3.4
West Midlands	4.5	4.3
East Midlands	5.9	5.6
East Anglia	3.5	2.6
South West	6.0	6.2
South East	6.7	3.6
Greater London	6.0	4.3
Wales	6.3	2.4
Scotland	6.0	4.5

* Two or more heterosexual partners in last year but never used a condom in that time

5.2 Ideally, data on the incidence and prevalence of STIs are best obtained from population surveys using sufficiently sensitive and specific laboratory tests. Very few such data are available.

5.3 Data on the numbers of infected individuals diagnosed are indicators of the size of the problem. However, only individuals with certain STIs, e.g. males with gonoccocal urethritis, are highly likely to be symptomatic and seek treatment. Others, e.g. persons with chlamydial infection, may be asymptomatic, or may fail to recognise the significance of mild symptoms, and are unlikely to come to the attention of health services. Nonetheless, data on health service utilisation are the best indicators of the size of the 'STI problem' currently available.

5.4 Ideally data should be obtained from:

- all the locations where patients with STIs are treated, viz. GUM clinics, GP surgeries, family planning clinics, gynaecology departments

- laboratories

Data are routinely available on GUM clinic attendances, and some data are available on the results of laboratory tests. Limited data are available from general practice (see 5.6.1).

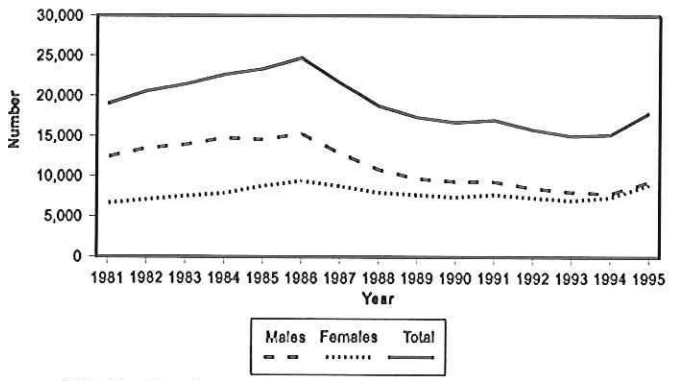
5.5 GUM Clinic attendances

5.5.1 Data on attendances at GUM clinics are biased towards symptomatic disease and against groups who do not attend these clinics. They do not indicate the full extent of the problem. Trends over time in the GUM clinic data represent real changes in the incidence and prevalence of STIs in Scotland only if the behavioural risk status and the proportion of the population attending GUM clinics have remained stable. There is evidence that the distribution of risk behaviours for STIs of attenders is skewed towards the high risk end of the risk behaviour spectrum[10]. Data from GUM clinics therefore are likely to represent an important component of the burden of STI.

5.5.2 The total number of new cases of STIs seen at GUM clinics has declined considerably since 1986 (figure 1).

A total of 16,540 new cases (8566 in males and 7974 in women) was reported in 1995[11]; these represent an increase of nine percent (1317/15223) over the number in 1994[12]. The male:female ratio of new cases has decreased from 2:1 in 1983 to 1:1 in 1995 probably due to increasing use of clinics by women. A further 15,999 attendances at GUM clinics were by patients who had 'other (non-STI) conditions or other conditions not requiring treatment.'

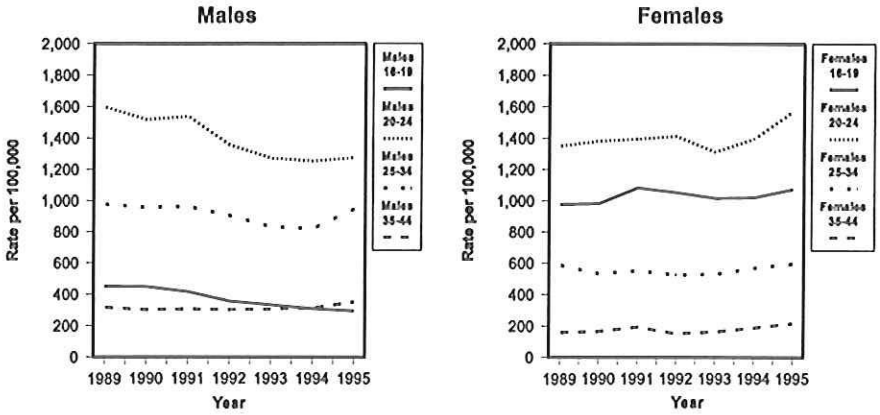
Fig. 1 All sexually transmitted diseases, new cases seen at GUM clinics, Scotland, 1981-1995



Source: ISD, Scotland

5.5.3 Age specific rates have fallen over time but it remains the case that the highest rates occur in males and females aged 20-24 years; very high rates are also found in young females (16-19 years- figure 2).

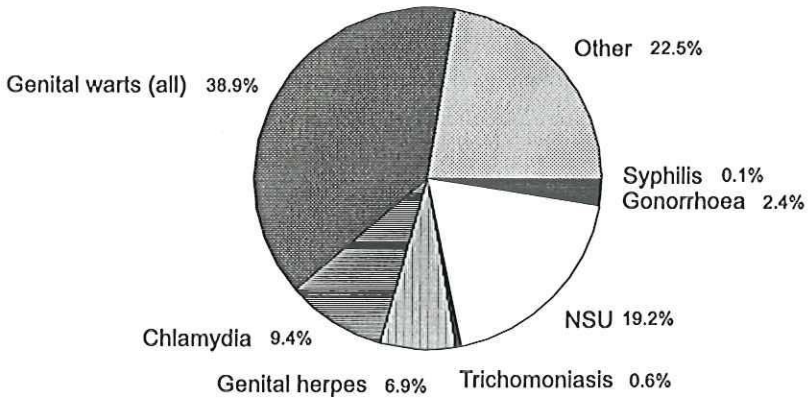
Fig. 2 New cases of sexually transmitted diseases seen at GUM clinics
Age specific rates by gender, 1989-1995



Source: ISD, Scotland

5.5.4 The proportions of cases attributed to each infection are shown in figure 3. Chlamydial infection and NSU together account for nearly 30% of new cases seen.

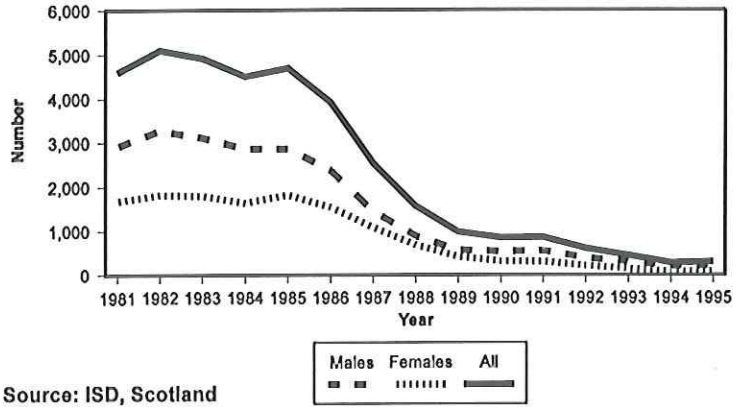
Fig. 3 New cases of sexually transmitted diseases seen at GUM clinics, Scotland, 1995
Selected Infections



Source: ISD, Scotland

5.5.5 The number of new cases of gonorrhoea reported declined considerably between 1983 and 1994, but the numbers of new cases in both males and females in the first three quarters of 1995 already exceed the totals for 1994 (figure 4).

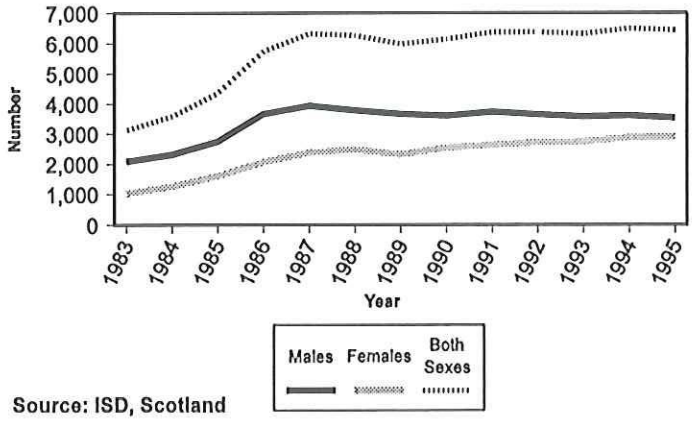
Fig. 4 *N. gonorrhoeae* - new cases seen at GUM clinics, Scotland, 1981-1995



Source: ISD, Scotland

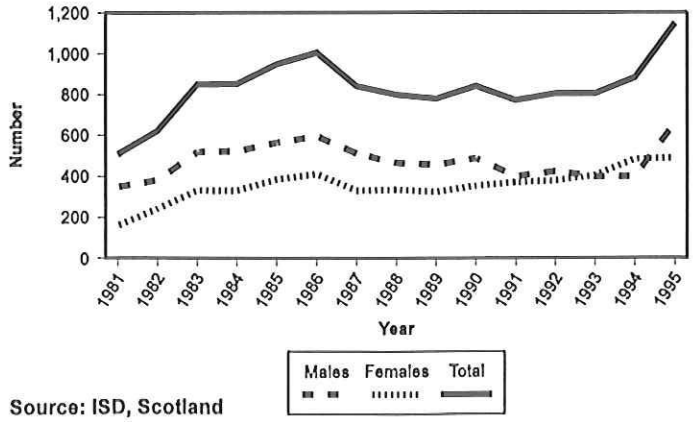
5.5.6 The number of new cases of genital warts has remained at approximately the same level since the second half of the 1980s (figure 5), while the number of new cases of genital herpes increased in 1995 (figure 6). There is evidence of an increase in the numbers of cases of genital herpes in females relative to males. These changes may be due to one or more of a number of factors - a relative increase in females attending GUM clinics, increased ascertainment of cases including more laboratory testing of women and referral to GUM clinics, or a real increase in incidence of disease in women.

Fig. 5 Genital Warts - new cases seen at GUM clinics, Scotland, 1981-1995



Source: ISD, Scotland

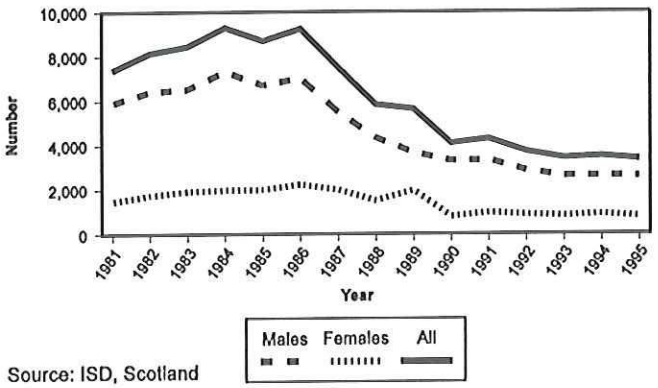
Fig. 6 Genital Herpes - new cases seen at GUM clinics, Scotland, 1981-1995



Source: ISD, Scotland

5.5.7 The numbers of new cases of chlamydial/non-specific genital infection diagnosed in males and in females have remained approximately constant for the last three years (figure 7).

Fig. 7 *Chlamydia trachomatis*/non specific genital infections - new cases seen at GUM clinics, Scotland, 1981-1995

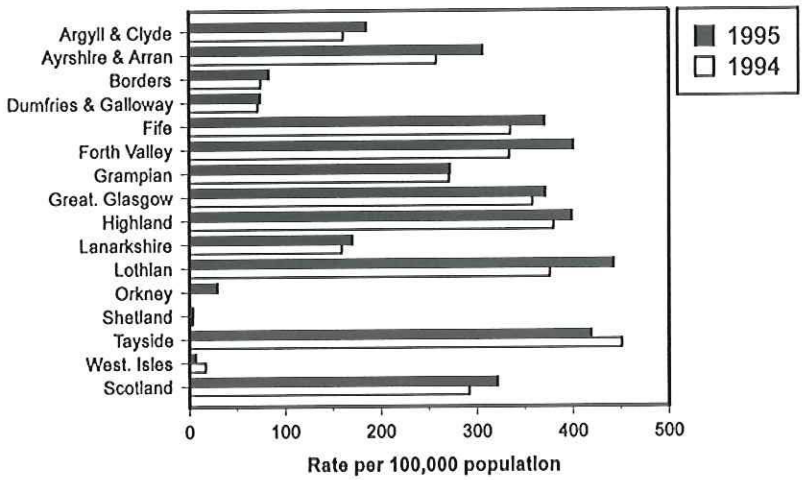


Source: ISD, Scotland

5.5.8 The rate of new STI cases seen at GUM clinics varies widely between health boards. Very low rates are reported in those health boards which have limited clinic services (figure 8). The extent to which residents are seen at GUM clinics within their own health boards also reflects GUM clinic availability (table 3, page 10).

Fig.8 All sexually transmitted diseases - new cases seen at GUM clinics, Scotland, 1994/1995

Rate per 100/000 population: by health board



Source: ISD, Scotland

Table 3 All Diagnoses[1] reported at clinics; by area of residence and health board area of treatment;1995

Area of residence	Scotland Number	Scotland Rate per 100,000 pop.	Health board of treatment: Argyll & Clyde	Ayrshire & Arran	Dumfries & Galloway	Fife	Forth Valley	Grampian	Greater Glasgow	Highland	Lanarkshire	Lothian	Tayside	Western Isles	Independent Cornton Vale
Scotland	**32181**	**626.5**	**571**	**1678**	**189**	**2098**	**2103**	**2561**	**8977**	**1260**	**922**	**8131**	**3439**	**-**	**252**
Argyll & Clyde	1599	369.5	514	5	-	-	6	-	1035	4	-	4	1	-	30
Ayrshire & Arran	1990	527.6	43	1668	-	2	8	-	226	-	-	6	-	-	37
Borders	176	165.7	-	-	-	-	-	1	3	-	-	170	2	-	-
Dumfries & Galloway	211	142.7	-	-	188	-	-	-	16	-	-	3	-	-	4
Fife	2478	704.8	-	1	1	2052	27	6	19	2	-	133	226	-	11
Forth Valley	2057	751	1	-	-	6	1960	-	50	-	-	36	-	-	4
Grampian	2750	516.1	-	-	-	3	3	2520	7	186	-	10	7	-	14
Greater Glasgow	7014	768.7	13	2	-	6	32	2	6811	9	-	44	5	-	90
Highland	1101	528.6	-	-	-	1	3	6	13	1047	-	16	14	-	1
Lanarkshire	1759	313.4	-	-	-	3	16	2	759	-	920	36	4	-	19
Lothian	7774	1016.7	-	2	-	10	47	5	25	4	2	7652	2	-	25
Orkney	10	50.3	-	-	-	-	-	5	-	5	-	-	-	-	-
Shetland	4	17.3	-	-	-	-	-	2	-	-	-	2	-	-	-
Tayside	3255	822.8	-	-	-	15	1	12	12	1	-	19	3178	-	17
Western Isles	3	10.3	-	-	-	-	-	-	1	2	-	-	-	-	-
England	190	..	-	1	1	28	28	22	20	7	-	65	11	-	7
Other UK	14	..	-	-	-	-	3	-	-	-	-	5	1	-	5
Rest of the World	62	..	2	-	-	1	20	-	13	7	-	17	2	-	-
Not known	1011	..	-	-	4	41	5	12	9	1	-	930	6	-	3
All areas	**32670**	**..**	**573**	**1679**	**194**	**2168**	**2159**	**2595**	**9019**	**1275**	**922**	**9148**	**3459**	**-**	**267**

1 Includes other (non-STD) conditions, HIV infections (1st presentation) and AIDS (1st presentation)

Excludes HIV infections (subsequent presentation), AIDS (subsequent presentation) and codes introduced 01.04.96 not previously recorded.

Source: ISD(D)5

5.5.9 An improved data collection system was implemented in GUM clinics throughout Scotland in April 1995. This is based on a 'patient episode' rather than 'diagnosis' centred return and includes additional data items such as first part of the postcode, injecting drug use and recent travel. The revised data collection form is attached at Appendix 1.

5.6 Data from general practice

5.6.1 General practice data are necessary to ascertain the numbers of patients who attend their GP with STI. Data collected through the Scottish Continuous Morbidity Recording (CMR)[13] system by sentinel practices are not robust enough to provide this information accurately, routinely or comprehensively. Special surveys are required to supplement these data.

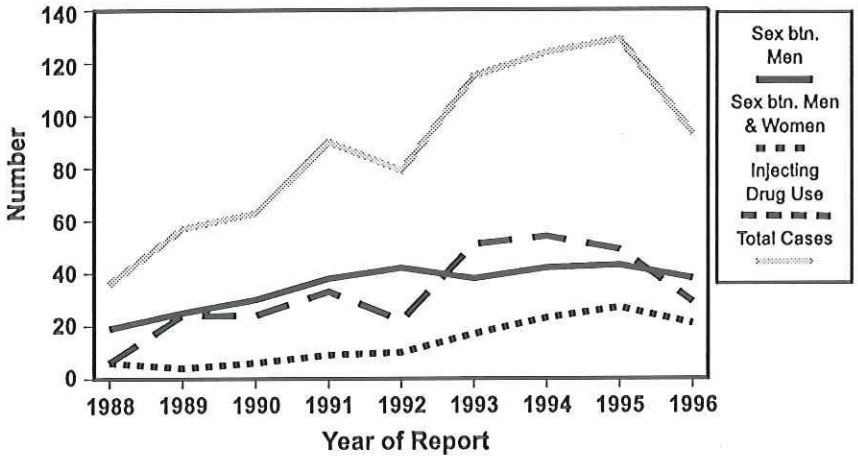
5.6.2 From the SNAP survey of GPs it is estimated that a GP sees 4 men and 8 women each year with genitourinary signs and symptoms suggestive of an STI, resulting in estimates of 14,000 and 27,000 episodes of STI in men and women respectively. It is probable that not all the women will, in fact, have an STI. The estimated figures will include some men and women who are subsequently referred to GUM clinics. Nevertheless, the data suggest that a large proportion of patients with STIs, and relatively more females than males, are investigated and treated by their GPs for STIs.

5.6.3 Follow up was undertaken of positive laboratory test results for *Chlamydia trachomatis* infection on specimens received from GPs in the Lothian region in 1995. This indicated that only 13% of the patients from whom the specimens were obtained had attended GUM clinics for contact tracing and follow up; thus, 87% of these patients would have been managed entirely in primary care[14], although it is possible that some may have been referred to GUM clinics and failed to attend.

5.7 Data from surveillance of HIV infection and AIDS

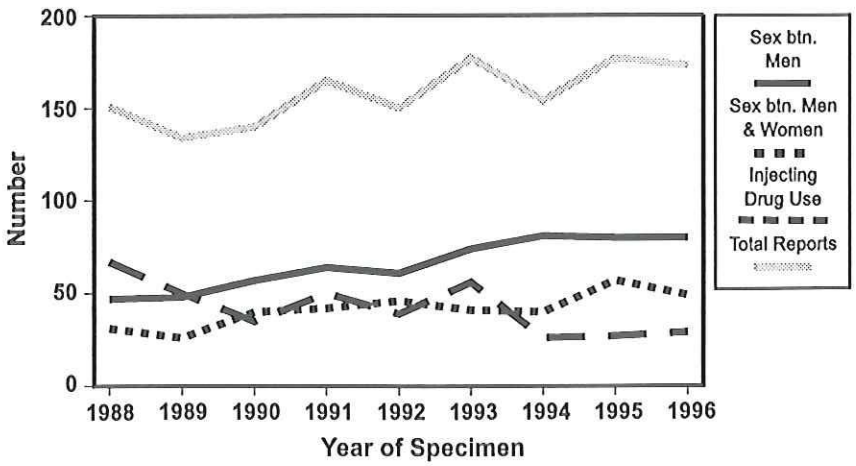
5.7.1 The number of cases of AIDS reported rose between 1988 and 1995 both overall, and in persons infected through the three main routes viz., sex between men, sex between men and women and injecting drug use (figure 9a). However, these cases represent the late stages of HIV infection. The total number of new reports of HIV infection has also risen as have the numbers of reports of infection resulting from sex between men and from sex between men and women (figures 9a and b). While not all these reports represent very early infection, trends in reports of positive HIV antibody tests more accurately represent the current situation with respect to ongoing transmission than trends in AIDS case reports.

Fig. 9a Trends in AIDS cases*, 1988-1996



* Source: Scottish Centre for Infection and Environmental Health

Fig. 9b Trends in HIV Infection reports, 1988-1996



5.7.2 Table 4 shows the numbers and average annual incidence rates per 100,000 resident population (1993) of HIV infection and AIDS case reports for Scotland, Greater Glasgow, Lothian, and 'all other' health boards for the period 1990 to 1996. The total numbers and rates are higher for Greater Glasgow and Lothian than for 'all other boards'. But it is clear that the transmission of HIV infection is continuing to occur in health boards outside the major metropolitan areas of Scotland. Moreover, a sizeable proportion of those infected with HIV present when they already have symptoms; of 31 first presentations with HIV infection or AIDS to GUM clinics between 1st April and 30th September 1995, eight persons had symptomatic infection and a further nine had AIDS[2].

Table 4
Reports of HIV infection and AIDS cases, 1990-1996. Numbers and average annual incidence rates/100,000, resident population, Scotland and selected health boards*

	HIV infection		AIDS cases	
	number	rate/100,000	number	rate/100,000
Scotland	1136	22.2	705	13.8
Greater Glasgow	253	27.6	152	16.6
Lothian	427	56.6	312	41.4
Other Boards	456	13.2	241	7.0

* HIV infection reports by health board of residence where available, otherwise by health board of report. AIDS cases by health board of report.

Source: SCIEH

5.8 Laboratory Reporting

5.8.1 Laboratory recording of positive and negative tests, as an indicator of the incidence and prevalence of STIs, is subject to a number of biases:

- variations in clinicians' testing practices,
- the need for laboratory confirmation of the STI diagnosis,
- clinician and patient awareness/suspicion of STIs,
- laboratory test procedures and protocols,
- reporting practices.

5.8.2 SCIEH receives data on the number of infections reported by laboratories. These data are known to be incomplete. The SNAP survey of laboratories found that of 23 laboratories responding to the survey, 10 did not report some or all of their isolates to SCIEH.

5.8.3 A total of 368,445 tests for STIs were carried out between April 1994 and March 1995 by the 23 microbiology laboratories. These laboratories serve 95% of the Scottish population and all the GUM clinics except those in Dumfries and Galloway. Not all respondents were able to provide all the data requested (see footnote to figure 12, page 21). Complete data for April 1994 to March 1995 on numbers of positive tests by source of specimen were obtained for the SNAP survey from laboratories serving Highland and Lothian (see 11.6). Extracting the data for this period was not possible elsewhere usually due to lack of suitable software. Therefore representative national data on the numbers of new cases of laboratory confirmed STIs were unavailable.

6. THE CURRENT SITUATION

6.1 Organisation of services

6.1.1 Most dedicated STI (GUM) clinic services in Scotland are consultant led. A GP led service exists in Dumfries and Galloway. Some boards e.g. Borders, Argyll and Clyde obtain GUM services from neighbouring boards.

6.1.2 Health advisers based in GUM clinics have a remit to undertake contact tracing and health promotion throughout the community.

6.1.3 It would appear that few, if any, formal arrangements exist for the use of similar/identical protocols, for training, or for coordination of care between clinical services, e.g. GUM, FP, gynaecology, which are managed independently of each other.

6.2 Resources

6.2.1 GUM Clinic Services

The SNAP survey of GUM departments identified a number of geographic gaps in the availability of specialist services (e.g. in southern Scotland, island boards, outlying rural towns e.g. Stranraer and Oban). The same 'gaps' were reported by the SNAP survey of Consultants in Public Health Medicine (CPHM). GPs in these areas also reported that clinics were not always accessible by public transport nor open at times which were convenient for patients (table 5).

Table 5

Survey of general practitioners: accessibility and availability of GUM clinics				
		Number of GPs reporting that clinics were:		
Health Board*	Number of GPs responding	Accessible by public transport	Open	Accessible and open
AA	19	18	17	16
AC	12	7	6	6
BR	10	6	8	5
DG	11	5	5	4
FF	16	15	14	14
FV	9	8	8	7
GG	39	37	36	35
GR	28	22	23	20
HI	21	12	13	19
LN	20	18	14	13
LO	41	36	37	33
OSW	8	0	0	0
TY	24	17	18	15
Total	260	201	199**	177

* AA: Ayrshire & Arran, AC: Argyll & Clyde, BR: Borders, DG: Dumfries & Galloway, FF: Fife, FV: Forth Valley, GG: Greater Glasgow, GR: Grampian, HI: Highland, LN: Lanarkshire, LO: Lothian, OSW: Orkney, Shetland & Western Isles, TY: Tayside

** 1 blank

Source: SNAP Working Group Survey

Other deficiencies identified in some areas by GUM clinicians were: too few (i.e. less than two) clinic sessions per week (three health boards), no evening clinics (three health boards), lack of consultant cover at some sessions (seven health boards), no 24 hour telephone answering service (five health boards).

6.2.2 The available laboratory services were, in general, favourably commented on by the users. 'Turn round' times for test results were deemed acceptable in most instances and consultant microbiologist advice was easily available. The gaps in laboratory services were in those areas which were geographically inaccessible i.e. island boards, rural areas and outlying towns. A few GPs identified the need for 'STI diagnostic kits' including a check list of information about which specimens to take and the necessary equipment for doing so.

6.2.3 Deficiencies in the staffing and availability of the health advisory service within GUM departments were reported by GUM clinicians and by health advisors. Five boards have no health advisory service and two utilise staff outposted from a neighbouring board. Satellite GUM clinics are not always covered by health advisers. A lack of contact tracing services for patients managed by GPs was identified, and the same is likely to be true of other non-GUM service locations.

7 PREVENTION

7.1 Prevention and health education should ideally occur at the population and community levels (national, local health board, clinic or practice, within communities e.g. gay men, sex workers), as well at the level of the individual at the time of the contact with a health professional.

7.2 National health education initiatives were not examined in any detail for this report. The Health Education Board for Scotland's (HEBS) work, which is determined by priorities set by government policy, is focused in 1996 on HIV/AIDS but recognises that this has to be placed within the wider context of sexual health (personal communication - Graham Robertson, Deputy General Manager, HEBS). Programmes in 1996/97, directed at the general public but with an emphasis on youth, address the need for sexual health education. A very useful set of leaflets "What do you know about..." provide information on GUM services and specific STIs and is available from HEBS for use in GUM and FP clinics, and in GP surgeries. But the use made, within a consulation or otherwise, and the effectiveness of such written material has not been evaluated.

7.3 A randomised controlled trial of the effectiveness of teacher-led sex education is being undertaken in secondary schools in Scotland by the Medical Research Council Medical Sociology Unit in Glasgow over the five-year period 1996-2000.

7.4 Health Education programmes at health board level were not reviewed for this report.

7.5 The limited availability of specialist health advisory services outwith GUM clinics suggests that sexual health education at the individual level may not be as intensive as it could be.

7.6 Health professionals may well be uncomfortable communicating with their patients about sexual health. The extent to which ongoing training programes for the primary care team (e.g. "Helping People Change", "Motivational Intervention") address this area is not known.

7.7 It should be noted that sexual health promotion may be undertaken outside health care settings e.g. in schools, clubs, prisons.

8 MANAGEMENT OF PATIENTS WITH STIS

8.1 Within GUM departments

8.1.1 All GUM clinics adopt a policy of opportunistic screening for infection with *Chlamydia trachomatis, Neisseria gonorrhoeae* and *Treponema pallidum* (syphilis), regardless of the reason for clinic attendance. This is justified on the grounds that a significant number of unsuspected cases, especially of chlamydial infections, are diagnosed. This is particularly the case when the presenting symptoms are those of another STI, e.g. genital warts. GUM clinicians are also in agreement on the treatment and management of these diseases. Given that this consensus exists, the provision of appropriate protocols for screening, investigation and management of STIs in other settings e.g. general practice, gynaecology, should be relatively straightforward.

8.1.2 All GUM clinics offer hepatitis B vaccine to gay men but only a minority offer vaccination against hepatitis A as recommended by the Department of Health[15]. A number of clinics fail to offer hepatitis B vaccination to intravenous drug users, patients with multiple partners including commercial sex workers and sexual partners of individuals belonging to specific risk groups.

8.2 Within general practice

There was evidence from the SNAP survey of GPs and from another recent survey of Scottish GPs that the investigation of men and women with symptoms of an STI is less than adequate and that practice varies widely. Of GPs seeing men with urethritis, only 44% took a swab for *Neisseria gonorrhoeae* and 35% for *Chlamydia trachomatis*, although the proportions increased to 82% and 63% for GPs who treated the patients themselves[16]. Good practice requires that all sexually active men with urethral discharge and dysuria should have the appropriate laboratory investigations regardless of the setting in which they are seen. The proportions of GPs in the SNAP survey who requested tests for *Chlamydia trachomatis* and *Neisseria gonorrhoeae* on endocervical swabs from women with signs and symptoms of an STI were 80% and 46% respectively. Inconsistent and ineffective management of patients in general practice has also been reported in a survey of urban GPs in England who treated patients with herpes virus infections[17] and genital warts[18]. The involvement of other members of the primary care team and, in particular practice nurses, was not addressed in this survey. Clearly the management of STIs involves several disciplines within the team.

8.3 Within gynaecology departments

The SNAP survey revealed wide variation in the investigation of patients presenting with problems which could be associated with STIs. The proportion of departments reporting that they did not routinely test for any STI in patients presenting (a) for TOP, (b) with infertility, (c) with pelvic inflammatory disease and (d) with acute abdominal pain were 12/64, 16/64, 1/64, and 10/64 respectively. Written protocols for the investigation of patients with pelvic inflammatory disease were available in only 9/64 gynaecology departments.

8.4 Within Family Planning Clinics

Some groups of patients attending family planing clinics may be at increased risk of STIs and both they and their partners may benefit from diagnosis and treatment if infection is found to be present. There was no consensus between clinics across health boards on the investigation of female patients for STIs. The proportions of departments reporting that they did not routinely test for any STI in women a) being fitted with an IUD, b) being referred for TOP, or c) reporting infertility were 5/13, 9/13 and 11/13 respectively.

8.5 Other hospital departments

At one Scottish hospital a retrospective study was undertaken of positive laboratory reports of genital chlamydia infection in women during a six month period in 1990. A total of 22 such reports were identified. Hospital records could only be located for 15 of these. There was no record of treatment for four women, only three sexual partners received therapy, and none of the women were referred to a GUM clinic. Most of the women had been seen initially in accident and emergency departments (personal communication - A Reid).

9. REFERRAL TO GUM CLINICS

9.1 Overall GPs refer less than half their patients to GUM clinics for treatment and follow up. In the SNAP survey the proportions of GPs who referred all their male and female patients with signs and symptoms of STI to GUM clinics without undertaking any treatment were 44% and 11% respectively. The proportions who treated all their patients themselves were 27% (male patients) and 26% (female patients). Referral rates vary widely and are lower in areas lacking GUM services or where they are inaccessible.

9.2 Preliminary data from GUM clinics for April to September 1995 show that 60% of new attendances were self referred or resulted from contact tracing and partner notification, while 32% of patients were referred by GPs (table 6). It is possible that some persons attending for contact tracing do so at a GP's suggestion.

Table 6 **Source of referral by diagnosis**

New patient episodes[1] treatment commencing in period 1 April - 30 September 1995

Source of referral	Diagnostic group								
	Syphilis	Gonorrhoea	Chlamydia	Genital herpes	Genital warts	Trichomoniasis /bacterial vaginosis	NSU/NSGI	HIV - first presentation	All diagnostic groups
Total [1]	**7**	**179**	**805**	**597**	**3680**	**48**	**1617**	**21**	**6954**
Contact tracing /partner led	-	34	129	14	209	8	124	2	**520**
Self-referral	5	94	360	342	1778	23	996	14	**3612**
General practice	2	42	184	190	1435	10	385	1	**2249**
Family planning /well woman clinic	-	1	21	12	78	1	18	-	**131**
Other hospital department	-	4	87	26	108	2	46	4	**277**
Armed forces	-	2	11	3	13	-	13	-	**42**
All other sources [2]	-	1	13	10	59	4	35	-	**122**

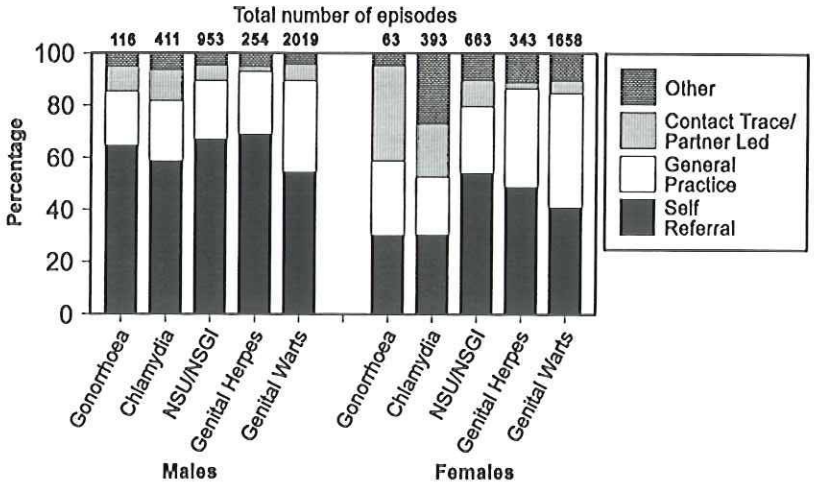
[1] Includes cases where source of referral was not recorded.

[2] Comprises other GU clinic, obstetrics/gynaecology, urology, prisons, social work, others.

Source: ISD(D)5

Referrals from other sources (including family planning and gynaecology) accounted for 8% of all new episodes. The proportions of men and of women diagnosed with gonorrhoea, chlamydial infection, NSU/NSGI, genital herpes and genital warts who are referred from different sources is shown in Figure 10. Men are more likely to 'self-refer' to GUM clinics than women when suffering from any of these infections, though the exact proportions vary with the infection.

Fig. 10 Source of referral to GUM clinics*, selected diagnoses, by gender



* New patient episodes treatment commencing in period 1 April - 30 September, 1995

9.3 Formal arrangements exist in some areas, e.g. Lothian, for referral of women with STIs by gynaecologists to GUM clinicians for follow up and contact tracing but such arrangements are by no means universal. Furthermore, not all women who are referred attend the clinic. From 1991 to 1995, in Edinburgh, only 56% (496/892) of women referred from gynaecology attended the GUM clinic (personal communication - Gordon Scott). While some may have moved or attended elsewhere it appears that even where arrangements exist women are reluctant to attend a GUM clinic.

10 CONTACT TRACING

10.1 Contact tracing and partner referral accounted for 8% of new cases diagnosed in GUM clinics during April to September 1995 (table 6).

10.2 Health advisers, based in GUM clinics, have a remit to undertake contact tracing throughout the community, but the numbers in post are insufficient to meet the need for this service.

10.3 Health Advisers in different health boards differed in the ways in which they undertook contact tracing of partners of patients with syphilis, gonorrhoea and chlamydial infection with respect to which patients were followed up, the methods used for follow up, the time period within which partners were contacted and the persistence with which contact tracing was undertaken. Disease specific contact tracing protocols are currently under development by the Scottish Group of Health Advisers.

10.4 Contact tracing of patients with STIs by GPs responding to the SNAP survey was inadequate, 68% reporting that they simply 'advise patients that their partner needs treatment'; a further 28% advised that the patient's partner should attend a GUM clinic for contact tracing.

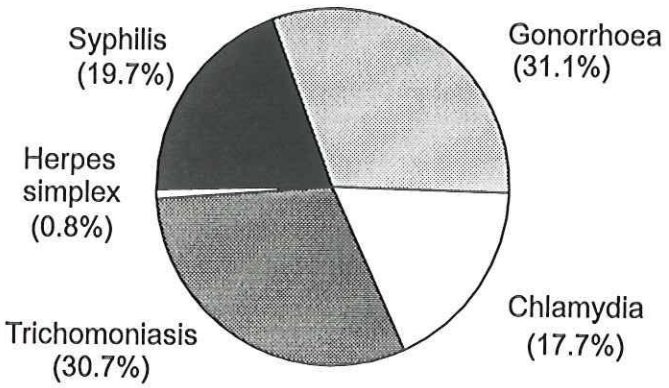
10.5 Few data were available on contact tracing arrangements within family planning and gynaecology departments. Data from Edinburgh where arrangements for referral from gynaecology exist (see para 9.3) show that 51% (259/507) of contacts of women who were referred to the GUM clinic attended the clinic and in 68% (176/259) chlamydia/NSU was diagnosed (personal communication - Gordon Scott). The contacts of women referred to GUM also need encouragement to present for investigation and treatment.

11. LABORATORY SERVICES

11.1 Laboratory data include only patients for whom clinicians request a test and are likely to be biased towards patients attending GUM clinics and other non general practice settings, towards patients with more severe disease, and towards groups of patients (e.g. pregnant women) and specimens (e.g. high vaginal swabs) which are routinely screened for STIs.

11.2 A total of 368,445 tests for STIs were carried out in the twelve month period April 1994 to March 1995 by the 23 microbiology laboratories in Scotland which responded to the SNAP questionnaire. These laboratories serve 95% of the Scottish population and all the GUM clinics except that in Dumfries and Galloway. They include requests from all community and hospital sources including GPs, gynaecologists, urologists, GUM, family planning and antenatal clinics. Data by health board are based on the location of the testing laboratory. The distribution of test requests by infection sought (figure 11) is different to that for new cases seen at GUM clinics (see figure 3, page 10). For example, far more tests are performed (usually inappropriately on HVS specimens) for gonorrhoea, which is relatively rare, than for chlamydial infection which is relatively common. This suggests that some infections, e.g. those due to *Chlamydia trachomatis*, are underdiagnosed. This has implications for treatment and follow-up.

Fig.11 Requests for STD tests by type of infection: April 1994 - March 1995

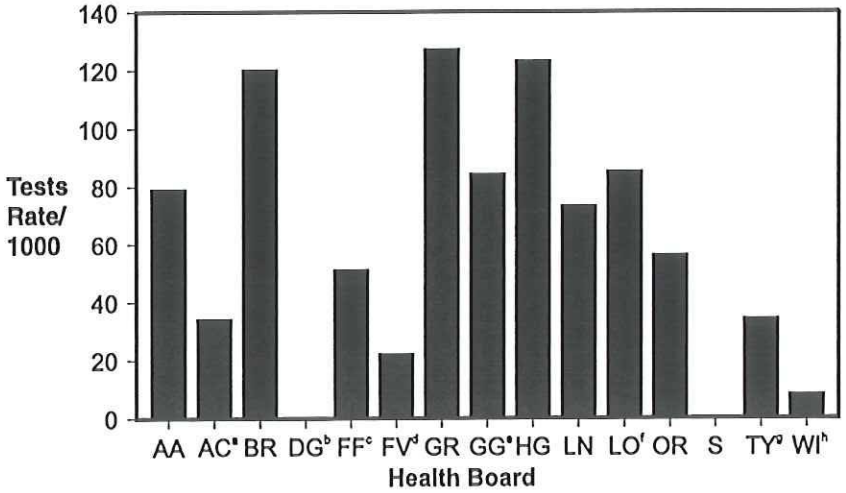


Total STD tests 368,445

Source: SNAP Working Group Laboratory Survey, 1996

11.3 In the SNAP survey, the test rates for all STI and for individual infections were examined by health board (figures 12 - 17 - see also notes to figure 12). Overall (figure 12) rates vary from 8/1000 population in the Western Isles to 127/1000 in Grampian.

Fig. 12 Requests for all STD tests by Health Board*

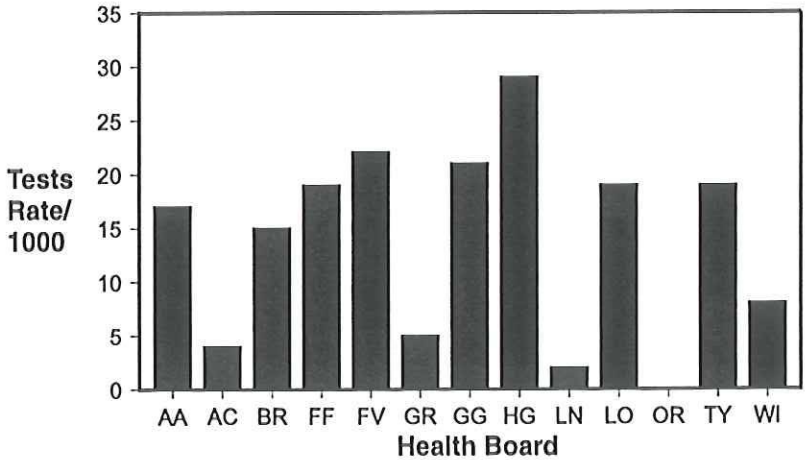


* Notes:
1. Data refer to period April 1994 - March 1995.
2. AA = Ayrshire & Arran, AC = Argyll & Clyde, BR = Borders,DG = Dumfries & Galloway, FF = Fife, FV = Forth Valley, GR = Grampian,GG = Greater Glasgow, HG = Highland, LN = Lanarkshire, LO = Lothian,OR = Orkney, SH = Shetland, TY = Tayside, WI = Western Isles.
3(a) AC - quantitative data from Vale of Leven Hospital, not Royal Alexandria Hospital, Inverclyde Hospital (b) DG - nil return. (c) FF data not available for sources other than GUM, GP. (d) FV - quantitative data for syphilis only, (e) nil return from Victoria Infirmary (f) LO - nil return from Western General Hospital, no quantitative data from St. John's Hospital. (g) TY - No quantitative data from Perth Royal Infirmary, therefore excludes all chlamydia tests. (h) WI - Quantitative data for syphilis only.
4. S-HB, O-HB served by Grampian.

Source: SNAP Working Group Laboratory Survey, 1996

Test rates for syphilis (figure 13) reflect routine testing of antenatal women. This does not appear to be routine practice in Argyll and Clyde, Grampian and Lanarkshire.

Fig. 13 Requests for Syphilis tests by Health Boards*

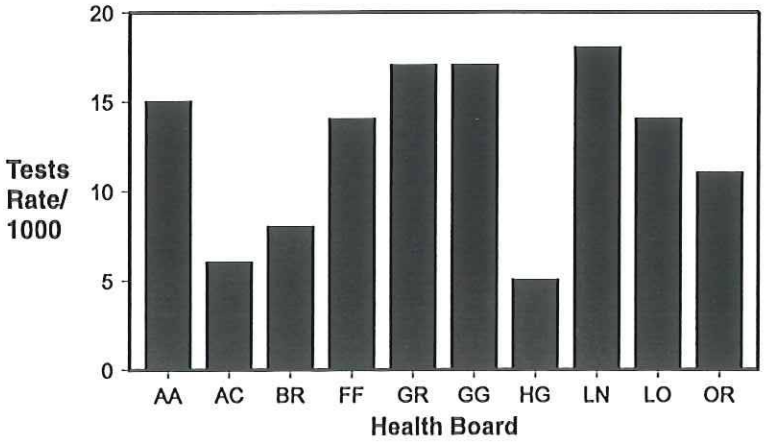


* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

Rates of testing for *Chlamydia trachomatis* infection are low in Argyll and Clyde, Borders and Highland health boards (figure 14).

Fig. 14 Requests for tests for *Chlamydia trachomatis* by Health Boards*

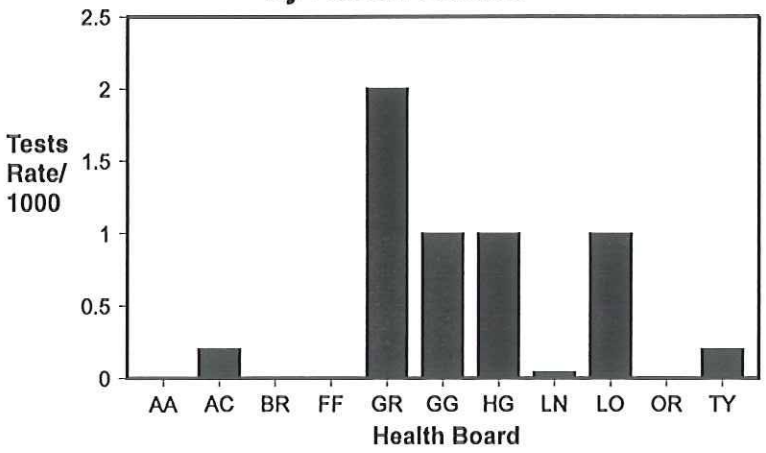


* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1998

The rates of testing for *Herpes simplex* (figure 15) are 20-50 times less than those for other less common infections.

Fig. 15 Requests for tests for *Herpes simplex* by Health Boards*

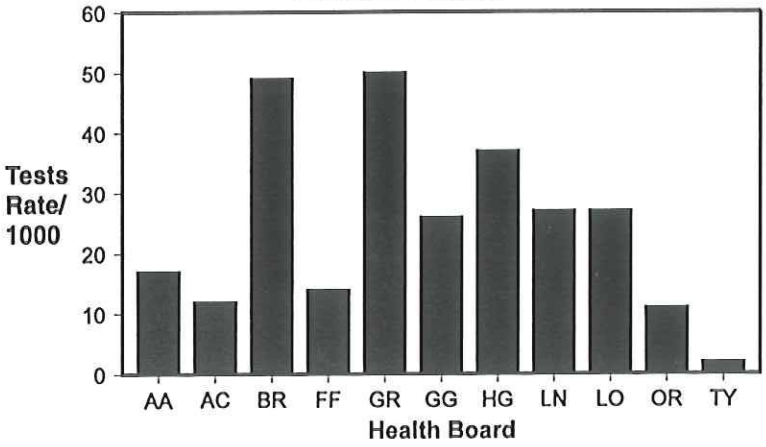


* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1998

Routine testing of all HVS for *Neisseria gonorrhoeae* and *Trichomonas vaginalis* infections may account for high test rates for these infections in some boards (figures 16,17). However, culture for *Neisseria gonorrhoeae* if required is more appropriately performed from an endocervical swab specimen.

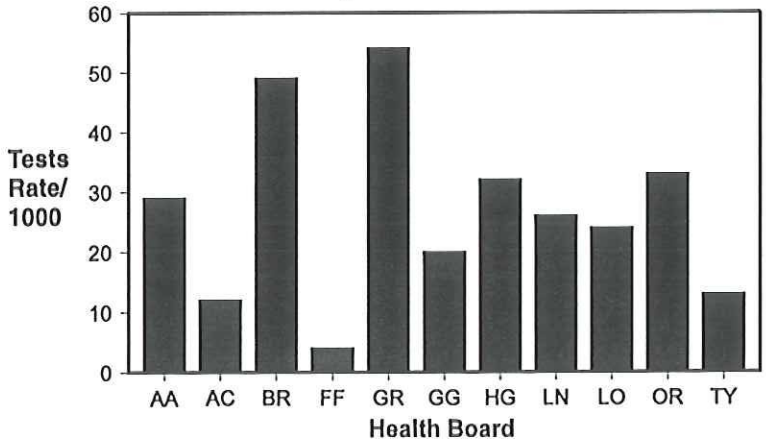
Fig. 16 Requests for tests for *N. gonorrhoeae* by Health Boards*



* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1998

Fig. 17 Requests for tests for *Trichomonas vaginalis* by Health Boards*



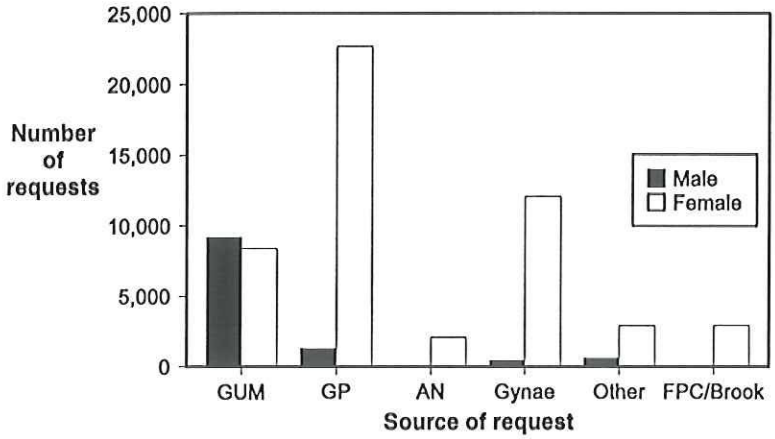
* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1998

11.4 Source of test

The numbers of tests requested by GUM clinicians, GPs and others varies with the infection sought (figures 18-21). The largest numbers of all tests for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, and *Trichomonas vaginalis* are carried out on specimens received from GPs (figures 18-20). A large number of tests for *Neisseria gonorrhoeae* are carried out (inappropriately) as part of routine testing of HVS specimens.

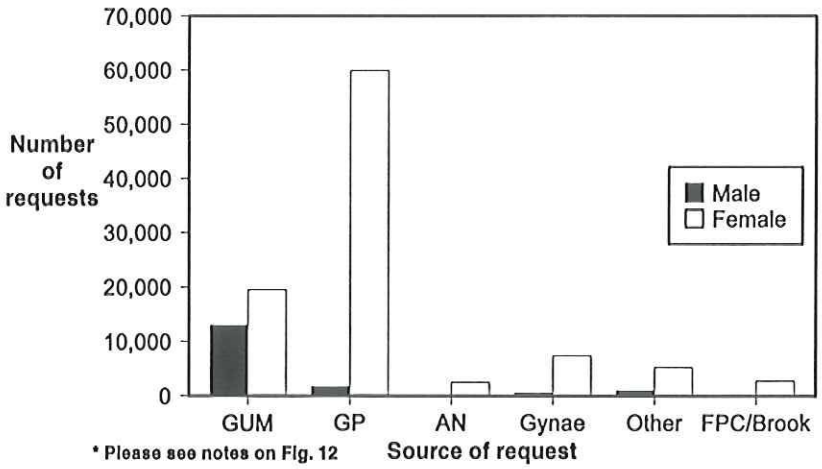
Fig. 18 Requests for tests for *Chlamydia trachomatis* by source*



* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

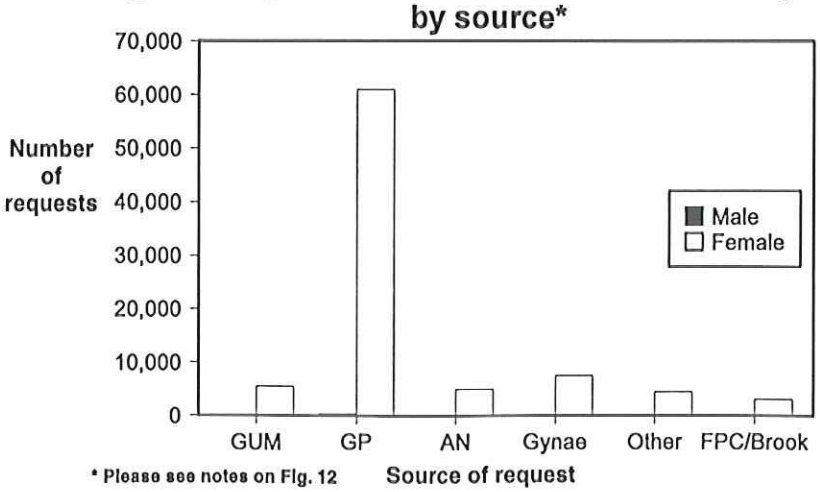
Fig. 19 Requests for tests for *N. gonorrhoeae* by source*



* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

Fig. 20 Requests for tests for *Trichomonas vaginalis* by source*

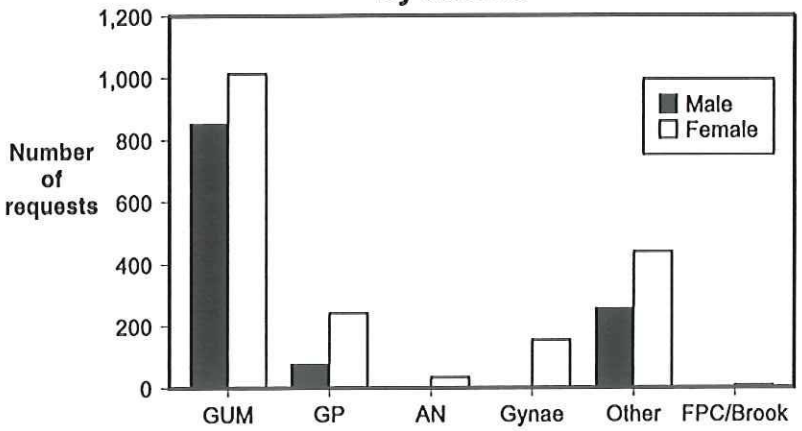


* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

The majority of requests for tests for herpes are from GUM clinicians (figure 21). This could be due to one or more of the following: more referrals of these patients to GUM, lack of suspicion of the diagnosis by GPs, GP management without laboratory testing and lack of availability of a suitable transport medium for virus isolation.

Fig. 21 Requests for tests for *Herpes simplex* by source*



* Please see notes on Fig. 12

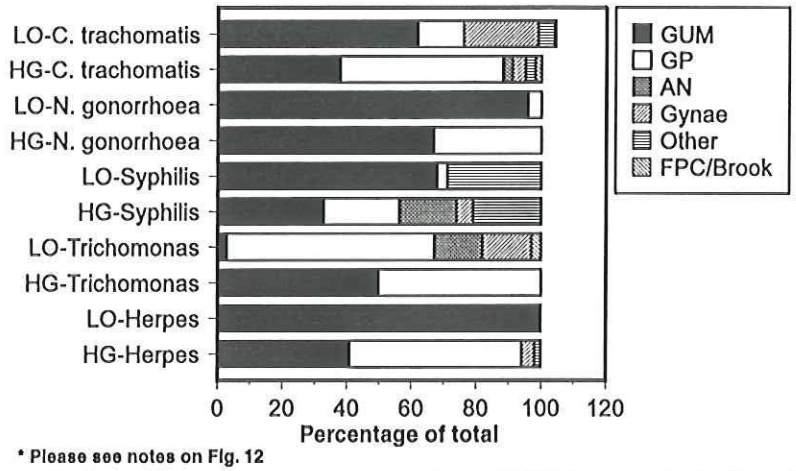
Source: SNAP Working Group Laboratory Survey, 1996

11.5 There was a wide variation between GUM clinics in the rates of testing of rectal and pharyngeal swabs from men for *Neisseria gonorrhoeae* suggesting that homosexually acquired gonorrhoea may be being under-diagnosed in some areas.

11.6 Source of positive tests

Only two laboratories, in Highland and Lothian health boards, were able to supply SNAP with numbers of positive tests, and their data are not necessarily representative of all of Scotland. The highest proportion of all positive tests for *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Treponema pallidum* and *Herpes simplex* were from GUM clinics (figure 22). In each case the proportion was higher for Lothian, a predominantly urban region, than for Highland, a more rural area, indicating that in rural areas GPs have an important role to play in the management of these STIs.

Fig. 22 All positive tests*, percentage by source: Lothian and Highland



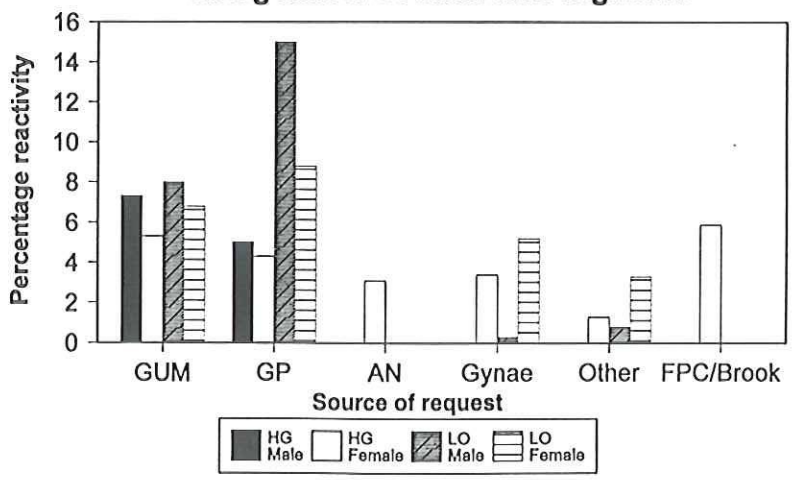
* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

11.7 Proportion of all tests which are positive, by source of request

The positivity rates for *Chlamydia trachomatis* infection in male and female patients of GPs in Lothian are higher than the positivity rates in males and females attending GUM clinics. (figure 23)

Fig. 23 *Chlamydia trachomatis* positivity* by source and gender: Lothian and Highland

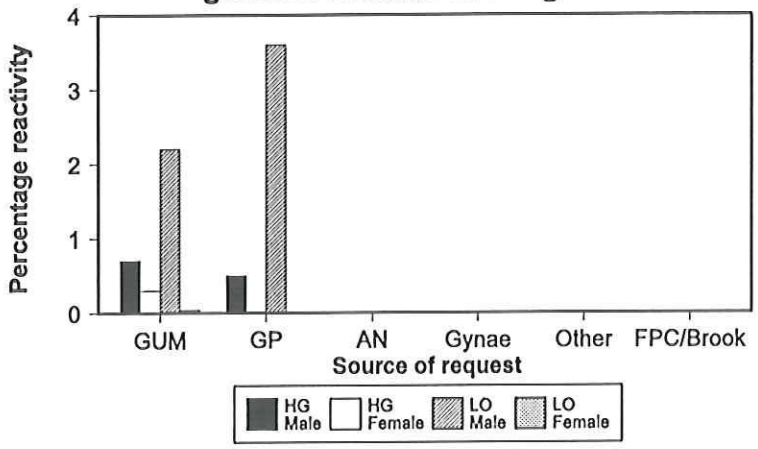


* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

The positivity rate for gonorrhoea in male patients of GPs in Lothian is higher than that in males attending GUM clinics (figure 24), reflecting the "dilution" effect of intensive case finding in GUM clinics.

Fig. 24 *N. gonorrhoeae positivity by source and gender: Lothian and Highland**



* Please see notes on Fig. 12

Source: SNAP Working Group Laboratory Survey, 1996

11.8 Summary of results of the SNAP Working Group survey of laboratories:

- There is a wide variation between health boards in the rates of testing for STIs.
- Current laboratory testing for STIs does not reflect the incidence of these infections but is distorted by inappropriate screening practices.
- Most positive tests for STIs are on specimens from patients attending GUM clinics.
- Men and women with chlamydial infection and gonorrhoea are often identified in general. practice.

12 SPECIALIST SERVICES FOR PERSONS AT INCREASED RISK OF STIS

12.1 Gay men

There is a great deal of evidence that gay men are at increased risk of STIs. Over one third of 1245 gay men recruited to a survey in gay bars in Glasgow in 1996 reported unprotected anal intercourse in the last year[19], one third reported a lifetime history of an STI and one in ten had had an STI in the previous year. Only 44% had been vaccinated against hepatitis B and only 47% had had an HIV test. Overall, 32% (818) of all reports of HIV infection and 41% (341) of all AIDS cases reported in Scotland by 31st December 1996 have been in gay men. Since 1988, the annual incidence of AIDS has been higher in gay men than in any other group. One quarter of the cases of gonorrhoea and three of the seven cases of syphilis reported in the period April to September 1995 were acquired through sex between men. Laboratory data suggest under-recognition of rectal gonorrhoea. Gay men are a population at considerable risk of STIs, including HIV, and require targeted efforts in terms of delivery of GUM and health promotion services.

12.2 Sex Workers

In Scotland, this group, already at increased risk of STIs, faces an additional risk of HIV infection since a proportion of sex workers, or their clients, are injecting drug users. Specialist services for sex workers have been operating in Glasgow since 1988, and in Edinburgh since 1990. The Glasgow services, run jointly by health and social services, provide general medical services, condoms and needle and syringe exchange, hepatitis B vaccination and cervical screening[20]. Nearly 90% of the 551 women who made 17554 visits between 1992 and 1994 were injecting drug users. Syptomatic STIs were seen infrequently. The Edinburgh service provides outreach GUM clinics and has been used by over 470 women since 1990. The 367 STI screens have yielded 18(5%) cases of chlamydia, 1 (0.3%) case of gonorrhoea, 14(4%) cases of genital warts, and 8(2%) cases of genital herpes (personal communication - Gordon Scott). Both models of service illustrate that appropriate, accessible clinic facilities for this group are well used. While the incidence of STIs in this group appears to be low at present it is clearly important to monitor the situation continually and to ensure that preventive, advisory and treatment services for STIs are always easily available for sex workers.

12.3 Prisoners

Medical services within prisons are provided mainly by general practitioners. Medical services for women's sexual health are provided only at Cornton Vale Prison for remand and long stay female prisoners. The clinical experience of medical staff is of few presentations of prisoners with STI. There is a need to carry out a formal assessment of the requirements for STI treatment and prevention services for male prisoners while in prison and on release, especially for young offenders who, it is known, are highly sexually active[21].

13 THE EFFECTIVENESS OF CURRENT PRACTICE

13.1 The inconsistency of current practice in the investigation and management of patients with STIs seen in a variety of clinical settings outside GUM clinics indicates that there is great scope for improving health care and achieving greater value for money. However, common, written protocols based on an expert consensus on effective and cost-effective practices are not available in Scotland, although the SNAP Working Group is aware of some ongoing research.

13.2 Contact tracing is not carried out in a formal manner outwith GUM clinics. This is likely to result in asymptomatic infection remaining untreated and continuing transmission of infection to sexual partners.

13.3 The investigation and management of patients who may have chlamydial infections serves as a case study of the need for protocols which guide practitioners in delivering quality STI services to their patients. No consensus is available on which groups of patients should be tested for this infection, knowledge of which specimens should be taken is inadequate, consensus is lacking on appropriate algorithms for screening and confirmation, and guidance is required on effective and cost-effective treatments, 'test of cure', contact tracing and referral to specialist STI services. There is convincing evidence from Scandinavian countries and from the United States that the introduction of screening results in a reduction in the prevalence of infection and the incidence of sequelae[22,23,24]. The prevention of *Chlamydia trachomatis* infection is now recognised to be very important both in the United States and in the United Kingdom. Recommendations for 'The Prevention and Management of *Chlamydia trachomatis* Infection' were published in the United States in 1993[25] and this area has been identified as a priority by the Chief Medical Officer of the Department of Health[26]. A recent publication of the Royal College of Obstetricians and Gynaecologists addresses some of these issues in relation to the prevention of pelvic inflammatory disease, at least 44% of which is estimated to result from *Chlamydia trachomatis* infection[27]. National guidance on screening for *Chlamydia trachomatis* is awaited.

13.4 The SNAP survey showed that laboratory testing was inconsistent with current epidemiology and best clinical practice, especially with respect to the diagnosis of STI in women. Chlamydial infection is highly prevalent in sexually active women; gonorrhoea is not. Yet only 42,639 tests for *Chlamydia trachomatis* compared to 77,907 diagnostic tests for *Neisseria gonorrhoeae* were carried out on specimens received from sources outwith GUM clinics. Moreover, the vast majority of diagnostic tests for *Neisseria gonorrhoeae* were based on an inappropriate specimen, i.e. a high vaginal swab. It is estimated that the yield of positive test results froma high vaginal swab is one third that obtained by testing all endocervical swabs[28]. If laboratories did not culture for gonococcal infection unless specifically requested by the clinician, and only if an endocervical swab specimen was submitted, approximately £554,000 (77907 tests at £7 per test) could be directed towards appropriate testing. Transfer of some of these resources could be used to increase the diagnosis of chlamydial infection and consideration should be given to the use of newer tests for *Chlamydia trachomatis*, e.g. ligase chain reaction, with improved sensitivity over existing methods. This example suggests that adoption of 'best practice' might sometimes be achieved through the redirection of resources and may not require large amounts of additional investment.

14 THE VIEWS OF THE PUBLIC AND PROFESSIONAL USERS

14.1 The 'Patients Charter'[29] emphasises the need to seek the patients' views on health services. Surveys have been undertaken by one or two GUM departments, but there are few published reports on 'user' views. A recent in-depth study carried out in Bristol[30] concluded that the level of overall satisfaction with GUM services of public 'users' was high but that specific areas of unmet need (e.g. facilities, clinic organisation) existed. The same study identified the need for effective communications to meet the information requirements of the public and professionals regarding local GUM services.

14.2 GUM clinics provide confidential specialist services for individuals with STIs. Yet men and women advised to attend or referred to these clinics by GPs, family planning clinics and gynaecology departments fail to attend. The public user's reluctance to attend GUM clinics needs to be addressed.

14.3 There is some evidence that health professional 'users', i.e. those who need to refer patients to GUM clinics, have poor knowledge about the services which are provided and about the circumstances in which referrals would be beneficial to their patients. More seriously, perhaps, they sometimes view their patients' attendance at GUM services as stigmatising to their patients[31].

15 IMPLICATIONS FOR SERVICES

15.1 Organisation of services

15.1.1 It is recommended that health boards examine the need for services for STIs in relation to their own local circumstances and develop a strategy to implement these services. The specific needs of groups at increased risk of STIs and/or with special needs for services, in particular gay men and sex workers, should be considered. Such a review would appropriately be included within the remit of a Sexual Health Strategy Group in boards where such groups exist.

15.1.2 GUM clinicians are specialists in the magagement of STIs. It is appropriate that they should take the lead in the treatment and management of patients with STIs. It is recommended that a model is adopted whereby a fully staffed and equipped GUM service serves as the focal point of STI services in the health board area, provides expert advice, sets standards for investigation and treatment to be achieved in all settings, undertakes training of non-STI health care professionals who treat patients and co-ordinates the implementation of agreed national protocols for the investigation and management of patients with STI problems and their partners (see 13.2).

15.1.3 GUM led services are also recommended for island and rural boards based on the model of a joint family planning/GUM service with outreach supervision and training from a GUM department, and regular visiting by GUM clinicians to deal with 'problems'. Trained nurses would be essential staff in such units undertaking a wider range of tasks than their counterparts on the mainland. They would, for example, be trained to carry out all health advisory duties.

15.1.4 Contact tracing is an essential component of the management of STIs. Currently, all contact tracing is carried out by GUM-based health advisers, but it would be desirable to train community-based health advisers, working in GUM clinics, combined sexual health clinics or GP surgeries/health centres, who could undertake contact tracing in the wider community. A possible model would require the laboratory to inform the community-based health adviser of positive test results where contact tracing is required, leading to liaison with the relevant clinician in undertaking follow up. Adequate numbers of health advisers, support from GUM clinics and agreed protocols would need to be available.

15.2 Health Education and Health Promotion

The SNAP Working Group did not attempt to review sexual health promotion activities in depth, but is cognisant of the important role it has in primary prevention of STIs. It is important that the need for effective (evaluated) strategies at national and local levels is recognised. The development and evaluation of preventive strategies targeted at young people and preventive interventions in GUM clinic and GP surgery settings should have high priority.

15.3 Clinical Standards

15.3.1 Common protocols for the investigation and management of STIs, based on the best information available on effectiveness and cost-effectiveness, are urgently required. These should cover investigation, treatment, counselling about avoidance of STIs, follow up and contact tracing. They should contain information about screening and investigation of patients whose presenting symptoms are suggestive of an STI, those who present with possible STI-associated problems (e.g. TOP, infertility, PID) and other groups e.g. antenatal patients. Protocols should be applicable in all the locations where patients are seen and should identify the circumstance under which referral to GUM clinics should be made. A multidisciplinary working group including GUM, gynaecology and family planning clinicians should develop protocols as a matter of urgency.

15.3.2 In the SNAP survey many GPs identified their need for guidance on the laboratory investigation, management and follow up of patients with STI. This should be addressed through their continuing medical education, and the dissemination of protocols devised for clinical and laboratory aspects of patient management, and contact tracing of sexual partners. This is particularly important for outlying towns and rural areas where GPs will necessarily play a greater role in patient management than in central urban areas. In these areas the training of GPs with a specialist interest in the management of STIs should be considered. The feasibility and cost of providing GPs in all areas with 'STI kits,' containing all they need to investigate patients who they think might have an STI, should be examined.

15.3.3 The prevention, control and management of *Chlamydia trachomatis* infection, a common infection with serious sequelae, should be specifically addressed as a matter of urgency. A consensus statement is required on which groups should be screened for this infection and about the optimum treatment and management strategies, including contact tracing.

15.3.4 Following the introduction of common protocols, continuing audit of practices in the investigation and management of STIs should be undertaken in all locations where patients are seen.

15.4 Laboratory Services

Agreed protocols are required for the laboratory investigation of STIs which covers every stage from the taking of the appropriate specimen to the diagnostic test and appropriate testing algorithms. The use of molecular techniques, with their increased sensitivity, should be addressed. Consideration should be given to the possibilities of sending specimens to the laboratory by post.

15.5 Service review and surveillance

Key performance indicators of STI services - their availability and accessibility, clinical practice and contact tracing, laboratory performance, health promotion and client satisfaction - should be developed so that boards have a measure of the quality of STI service received by their residents. Some work in this area is already available in the document 'Goals, indicators and targets for the management of STIs - Guidelines for purchasers and others[32].

15.5.1 The system for the collection, analysis and reporting of data from GUM clinics which was implemented in April 1995 will provide comprehensive information on the epidemiology of STIs as they present to these clinics. These data should be reviewed regularly and their implications for STI control should made clear to all relevant agencies.

15.5.2 All laboratories undertaking diagnostic tests for STIs should provide data on STI tests to their local boards and to SCIEH (with due attention to issues of patient confidentiality) and should be provided with the computer hardware and software necessary to do this.

15.6 The views of users

15.6.1 Boards should ensure that public and professional users are fully informed about all local STI services. Particular attention should be paid to making GUM clinics acceptable to a range of users.

15.6.2 All departments providing services should periodically review users' views of the services they provide.

16 THE WAY FORWARD

16.1 The SNAP working group believes that many of the recommendations made in this report could be achieved without financial cost through improvements in organisation, communication and practices by the disciplines involved.

16.2 A national multidisciplinary group should be constituted to consider, consult widely on and act on the recommendations of this report.

16.3 A proposal should be made to the Scottish Intercollegiate Guidlines Network (SIGN), that the management of *Chlamydia trachomatis* infection be included in the SIGN programme.

16.4 Models of good practice should be developed for all health care locations e.g. general practice, family planning and gynaecology.

16.5 Preventive and treatment services for STIs should be considered within the broader framework of sexual health.

17 REFERENCES

1. World Bank. World Development Report 1993 - Investing in Health. Oxford University Press 1993.
2. Information and Statistics Division. NHSiS. Genitourinary Medicine Statistics Scotland. Six month report 1995. Edinburgh 1996.
3. Simms I, Catchpole M, Brugha et al. Epidemiology of genital *chlamydia trachomatis* in England and Wales. Genitourinary Medicine 1997; 73: 122-6
4. Scottish Home and Health Department, Scottish Health Services Council. Sexually Transmitted Diseases. Edinburgh: HMSO 1973.
5. Monks A. Report of the Working Group to examine workloads in GUM clinics. Department of Health 1988.
6. Department of Health. The Health of the Nation. London: HMSO 1992.
7. The Scottish Office. Scotland's Health: A Challenge to us all. HMSO. Edinburgh, 1992.
8. World Health Organisation. Geneva 1974.
9. Johnson AM, Wadsworth J, Wellings K et al. Sexual Attitudes and Lifestyles. Blackwell Scientific Publications 1994.
10. Johnson AM, Wadsworth, Wellings et al. Who goes to sexually transmitted disease clinics? Results from a national population survey. Genitourinary Medicine 1996; 72: 197-202.
11. Information and Statistics Division. NHSiS. Unpublished data.
12. Information and Statistics Division. NHSiS. Sexually Transmitted Disease Statistics. New cases seen at Genitourinary medicine Clinics in Scotland 1994. Edinburgh 1995.
13. Information and Statistics Division. NHSiS. Continous Morbidity Recording in General Practice. Project Overview. Revised November 1996 (unpublished).
14. Ross DC, Sutherland S, Coia J. Genital *Chlamydia trachomatis* infections in primary care. Brit Med J 1996;313:1192-3.
15. Department of Health, Welsh Office, Scottish Office Department of Health, DHSS (Northern Ireland). 1996 Immunisation against Infectious Disease. HMSO, London 1996.
16. Ross JDC. How much sexually transmitted disease is not seen by genitourinary physicians. Genitourinary Medicine 1995;7:333.
17. Wooley PD, Chandiok S. Survey of the management of genital herpes in general practice. Int J STD & AIDS. 1996; 7: 206-11.
18. Estcourt CS, Higgins SP, Hall J et al. Patients with genital warts: how are they managed by general practitioners? Int J STD & AIDS 1996; 7: 221-3.
19. Hart G, Flowers P. A survey of gay men's sexual behaviour in Glasgow. MRC Medical Sociology Unit., Glasgow. 1996.
20. Carr S, Goldberg DJ, Elliott L et al. A primary health care service for Glasgow street workers - 6 years' experience of the ' Drop-in Centre', 1989-94. AIDS Care 1996; 8: 489-97.
21. Bird AG, Gore SM, Burns SM, Duggie JG. Study of infection with HIV and related risk factors in young offenders institutions. British Medical Journal 1993; 307: 225-31.
22. Hermann B, Egar M. Genital Chlamydia trachomatis infections in Uppsala County, Sweden, 1985-1993: Declining rates for how much longer? Sexually Transmitted Disease 1995;22:253-260.
23. Scholes D, Stergachis A, Heidrich FE et al. Prevention of Pelvic Inflammatory Disease by screening for cervical chlamydia infection. N Eng Journal of Medicine 1996;334:1362-6.
24. Hillis SD, Wasserheit JN. Screening for chlamydia - a key to the prevention of Pelvic Inflammatory Disease. N Eng Journal of Medicine 1996;334:1399-01
25. Centers for Disease Control. Recommendations for the prevention and management of *Chlamydia trachomatis* infections. MMWR 1993;42:No R-R12.
26. Anon. Infertility linked to rapid spread of infectious disease. The Times 12 November 1996.
27. The Prevention of Pelvic Infection. Editor Templeton A. RCOG Press 1996.
28. Bhattachanyga MN, Jephcott AE, Morton RS. Diagnosis of gonorrhoea in women: comparison of sampling sites. British Medical Journal 1973; 2: 748-50.
29. Department of Health. The Patient's Charter. 2nd Edition 1995.
30. Evans D, Farquhar C. Identifying and addressing user views in genitourinary medicine: a report of in depth research in Bristol and District. Institute of Health Policy Studies, University of Southampton. 1995.
31. McClean HL, Reid M, Scoular A. "Healthy Alliances?" - other sexual health services and their views of genitourinary medicine. Genitourin Med 1995; 71:396-9.
32. Association for Genitourinary Medicine. Goals, indicators and targets for the management of sexually transmitted diseases. Guidelines for purchasers and others. 1993.

APPENDIX 1

New cases seen at Genito-Urinary Medicine Clinics ISD(D)5 (rev 01.04.95) Medical In Confidence

Clinic Name _____

Clinic Code 1-5 [ ][ ][ ][ ][ ]

PATIENT DETAILS

Date of first attendance 6-11 [ ][ ][ ][ ][ ][ ]

GUM Clinic Case Reference Number

[ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ][ ] 12-25

Sex 26 [ ]

Ethnic Group 27 [ ]

Age 28-29 [ ][ ]

Postcode district (outcode only) 30-33 [ ][ ][ ][ ]

OR

Area of residence 34 [ ]

Source of referral 35-36 [ ][ ]

DIAGNOSIS

Condition 1 [ ][ ][ ][ ][ ][ ] 37-42

Condition 2 [ ][ ][ ][ ][ ][ ] 43-48

Condition 3 [ ][ ][ ][ ][ ][ ] 49-54

Condition 4 [ ][ ][ ][ ][ ][ ] 55-60

Condition 5 [ ][ ][ ][ ][ ][ ] 61-66

Location acquired 67 [ ]

Acquired homosexually 68 [ ]

Acquired by injecting drug use 69 [ ]

CONTACT ACTION

	Male	Female
Number sought (for all diagnoses)	70 [ ]	71 [ ]
Number seen at this clinic (for all diagnoses)	72 [ ]	73 [ ]
Number seen elsewhere (for all diagnoses) (eg other clinics, GP surgeries etc)	74 [ ]	75 [ ]

Number of confirmed diagnoses of:

Syphilis (A1-A8)	76 [ ]	77 [ ]
Gonorrhoea (B1-B3)	78 [ ]	79 [ ]
Chlamydia (C4.1A-C4.1C)	80 [ ]	81 [ ]

Abbreviated Notes for Completion

(see ISD(D)5 Instruction Manual for full instructions)

Source of referral codes

Self-referral	SF
Partner	PL
General Practitioner	GP
Obstetrics/gynaecology	OG
Urology	UR
Other GUM clinic (transferred in)	GU
Other hospital department	OH
Family planning/Well Woman clinic	FP
Contract tracing (health advisor initiated)	CT
Armed Forces	AF
Prisons	PR
Social Work (incl. residential social work)	SW
Other	OT
Not known	NK

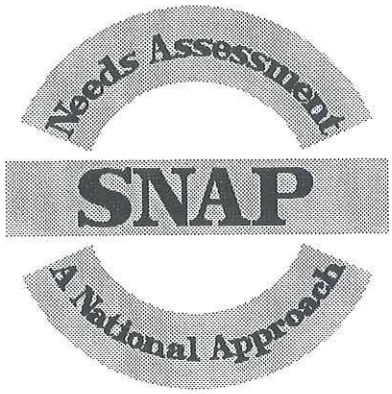
Location Acquired codes

Clinic town	1
Elsewhere within HB area	2
Elsewhere within Scotland	3
Elsewhere within UK	4
Outwith UK	5
Not applicable	8
Not known	9

Ethnic Group codes

White	0
Black Caribbean	1
Black African	2
Black Other	3
Indian	4
Pakistani	5
Bangladeshi	6
Chinese	7
Other ethnic group	8
Not known	9

Scottish Needs Assessment Programme



STI SERVICES IN SCOTLAND

Scottish Forum for Public Health Medicine
69 Oakfield Avenue
GLASGOW
G12 8QQ
Tel: 0141 330 5607
Fax: 0141 330 3687

Scottish Needs Assessment Programme

STI SERVICES IN SCOTLAND

Dr G Scott (Chair)	Consultant Physician Department of GUM Edinburgh Royal Infirmary
Dr A Noone (Co-ordinator, Editor)	Consultant Epidemiologist SCIEH
Dr D Breen	Consultant in Public Health Medicine Dumfries & Galloway Health Board
Dr S Cameron	Clinical Virologist, Regional Virus Laboratory, Ruchill Hospital
Dr S Carr	SCMO Centre for Family Planning and Sexual Health Glasgow
Dr B Davis	SMO Scottish Office Department of Health
Dr D Goldberg	Deputy Director SCIEH
Dr G Hart	Assistant Director MRC Medical Sociology Unit
Mr P Knight	Information Services Division
Dr S Lawson	Consultant Gynaecologist Scottish Office Department of Health
Mrs S McDonald	Health Adviser Dundee Royal Infirmary
Dr V McGregor	Clinical Services Manager Lothian Brook Advisory Centre
Dr W Ross	General Practitioner Inverness
Dr C Thompson	Consultant in GUM Victoria Hospital, Kirkcaldy
Dr H Young	Director Scottish *Neisseria gonorrhoeae* Reference Laboratory

July 1997

EXECUTIVE SUMMARY

Background and Objective

There is evidence that the incidence of sexually transmitted infections (STIs), which result in much acute and chronic morbidity, has been increasing recently. Specialist services for STIs in Scotland were last reviewed in 1973. This review was undertaken to examine the overall provision of STI services in health boards and to recommend principles which would ensure a high quality of service for all the population.

Definition

The following STIs were considered:

- genital *chlamydia trachomatis* infection
- non-specific urethritis (NSU)
- genital herpes
- genital warts
- gonorrhoea
- hepatitis B and Human Immunodeficiency Virus (HIV) infections
- syphilis
- trichomoniasis

Methods

The SNAP Working Group reviewed routine data sources on STIs in Scotland to ascertain the burden of infection. They undertook ad-hoc surveys of genitourinary medicine (GUM), family planning, gynaecology and microbiology departments, health advisers working in GUM clinics and a sample of GPs to examine workload, clinical practice and resources available for STI services.

Key results

Good data are now available on the incidence of STIs seen in GUM clinics, but few data are available from other locations where patients with STIs are seen viz., general practice, family planning clinics and gynaecology departments. Routine data on tests undertaken for STIs are incomplete.

Nationally, access to specialist STI services is uneven. Gaps were identified in southern Scotland, island boards and outlying towns.

Practice in the screening, investigation, treatment, management and follow-up of patients varies between and within health service locations. There are few formal arrangements for liaison with GUM departments in the management of patients thought to have STIs

Resources for contact tracing are largely unavailable outside GUM departments.

General practitioners identified their own need for training and advice in the investigation and management of their patients with STIs.

The SNAP survey of laboratories highlighted inconsistent and, sometimes, inappropriate laboratory testing practices.

The results suggest that many improvements in STI services could be achieved by a redirection of resources towards more effective and efficient practices rather than through the commitment of new resources.

RECOMMENDATIONS

Local strategy for STI prevention and management

Health boards should examine the need for services for the prevention and management of STIs in the light of their local circumstances. Planning to meet the needs is appropriately undertaken within the framework of a Sexual Health Strategy Group.

The needs of persons at increased risk of STIs e.g. gay men and sex workers should be specifically addressed

A GUM led service

In each board a GUM department should be the source of expert advice and should have responsibility for setting standards for investigation and management of STIs and for the training of non-specialist health professionals. A GUM led service should be provided to rural and island boards on an outreach basis.

Clinical Standards

National protocols for screening, investigation, treatment and follow up of persons with STIs and their partners should be developed as a matter of urgency. These should be implemented in all health care settings where patients with STIs are seen.

It is particularly important to address the prevention, control and management of *Chlamydia trachomatis* infection.

Clinical care should be audited.

Contact Tracing Services

Contact tracing services, usually based in the GUM department, should be available for follow up of all patients with STIs, wherever they are managed. In rural boards such services would be widely available from a suitable base.

The needs of general practitioners and the primary care team

The needs of general practitioners and the primary care team for training and advice on the investigation and management of patients with clinical evidence of STIs should be addressed.

The feasibility and cost of developing 'STI kits' to facilitate patient management should be examined.

Laboratory Services

Protocols should be developed for laboratory investigation of STIs which cover all aspects from the appropriate specimen to acceptable testing algorithms.

Surveillance and audit

Laboratories should report to their local boards and SCIEH on a regular basis, on tests undertaken.

Key performance indicators of Services for Sexual Health should be developed and used by the health boards for monitoring services.

Public and professional users

A review of users' views on services should be undertaken periodically.

Health Boards should ensure that public and professional users are fully informed about local services. Particular attention should be paid to making GUM services accessible and acceptable to a range of users.