

Current routine statistics in the United Kingdom: room for improvement?

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SUMMARY A substantial number of problems are associated with the present notification system on sexually transmitted diseases. Since a comprehensive and uniform system is vitally important to all clinicians in indicating changes in disease incidence and patterns, some modifications are proposed to make the system of more direct clinical relevance.

Introduction

Clinicians working in genitourinary medicine have always rightly considered that their prime role is that of patient care. The completion of the quarterly returns (SBH 60) for the Department of Health is often viewed as an unnecessary additional burden that serves little purpose and is only of use to health service administrators. This is unfortunate, since if clinicians were to take a more active part in the process, indicate their requirements, and become the innovators and not the servants of the notification system it could become more appropriate and of practical use in patient management.

The Venereal Disease Regulations of 1916 allowed for the provision of a free and confidential service under the auspices of local authorities. At that time only syphilis, gonorrhoea, and chancroid were defined as venereal diseases. Returns were made originally on a VD (R) form, which was eventually replaced by the SBH 60 in 1971 (figure). The SBH 60 is returned every three months to the chief medical officers of England, Northern Ireland, Scotland, and Wales. These figures are collated and appear in the annual reports of the respective medical officers and in the *British Journal of Venereal Diseases*. Last year, in an attempt to make the data more rapidly available, a report was published by the Academic Department of Genitourinary Medicine at the Middlesex Hospital Medical School, the Communicable Disease Surveillance Centre, and the Communicable Diseases (Scotland) Unit.¹ This report also described the development and changes that have occurred in the notification system since its inception.

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Problems associated with the current system

There are a substantial number of problems associated with the current reporting system. In this paper, these are reviewed and probable and possible solutions suggested; issues are considered at two levels—pragmatic and ideal.

GENERAL PROBLEMS

Patients versus cases

The present convention is to notify numbers of cases as opposed to numbers of patients. This means that a patient can reappear several times in the published statistics for one year; they may have more than one disease diagnosed at the same time or they may contract one or more diseases on separate occasions during the year. Finally, there may be difficulty in differentiating between a reinfection, which should be counted as a new case, and a relapse, which should not.

The effect of this practice is that the number of diagnoses made, and thus cases reported, misrepresents the size of the problem and leads to an overestimate of persons affected. This has practical implications for the organisation of the service and health education for STDs, since it is not known whether these diseases are as common as supposed or whether they mainly occur in a definable high-risk section of the population.

Surveys have attempted to differentiate patients from cases. A study of all new patients attending the clinic at the Royal Victoria Hospital, Belfast, during 1969 showed that there were 2093 diagnoses among 1753 patients, a patient-to-case ratio of 0.84:1.² Another study in Scotland reported a ratio of 0.7:1 for women,³ and in England similar work indicated 78% more cases than persons.⁴ This latter study also showed that only 55% of the patients had one disease or diagnosis and thus constituted only a single case,

DEPARTMENT OF HEALTH AND SOCIAL SECURITY
**Return for the quarter ended 30.4.81 to be made by
 PHYSICIANS IN CHARGE OF TREATMENT CENTRES**
 SEXUALLY TRANSMITTED DISEASES

Name and address of Centre:

FORM SBH 60

		TOTAL	MALE	FEMALE
PART A NEW CASES OF SYPHILIS				
A1	Primary			
A2	Secondary			
A3	Latent in the first 2 years of infection			
A4	Cardio vascular			
A5	Of the nervous system			
A6	All other late and latent stages			
A7	Congenital aged under 2 years			
A8	Congenital aged 2 years and over			
	TOTAL OF LINES A1 to A8			
PART B NEW CASES OF GONORRHOEA				
B1.1	Post-ubertal infections			
B1.2	Lower genital-urinary tract infections			
B1.3	Mouth and throat infections			
B1.4	Eye infections			
B1.5	Upper genital tract complications			
B1.5	Systemic complications			
	TOTAL OF LINES B1.1 to B1.5			
B2	Pre-ubertal infections			
B3	Ophthalmia neonatorum			
	TOTAL OF LINES B1 to B3			
PART C NEW CASES OF OTHER GENITAL INFECTIONS				
C1	Chancroid			
C2	Chlamydiae			
C3	Chlamydiae Venereum			
C4	Gonococcal infections			
C5	Non-specific genital infection			
C6	Non-specific genital infection with arthritis			
C7	Trichomoniasis			
C8	Candidiasis			
C9	Scabies			
C10	Pubic lice (pediculosis pubis)			
C11	Herpes simplex			
C12	Warts (condylomata acuminata)			
C12	Molluscum contagiosum			
	TOTALS OF LINES C1 to C12			
PART D NEW CASES OF OTHER CONDITIONS				
D1	Other venereal diseases			
D2	Other conditions requiring treatment in the centre			
D3	Other conditions not requiring treatment			
D4	Other conditions referred elsewhere			
	TOTAL OF LINES D1 to D4			
	GRAND TOTAL OF PARTS A, B, C & D			

		TOTAL	MALE	FEMALE
PART E AGE GROUPS OF NEW CASES SYPHILIS (lines A1 and A2)				
	AGE GROUP			
1.	Under 16			
2.	16 to 19			
3.	20 to 24			
4.	25 to 29			
5.	30 to 34			
6.	35 to 44			
	45 and over			
	TOTAL OF LINES 1 to 6			
GONORRHOEA (line B1)				
	AGE GROUP			
1.	Under 16			
2.	16 to 19			
3.	20 to 24			
4.	25 to 29			
5.	30 to 34			
6.	35 to 44			
	45 and over			
	TOTAL OF LINES 1 to 6			

		TOTAL	MALE	FEMALE
PART F LOCALITIES IN WHICH INJECTIONS TOOK PLACE PRIMARY & SECONDARY SYPHILIS (lines A1 and A2)				
	1.			
	2.			
	3.			
	TOTAL OF LINES 1 to 3			
POST PUBERTAL GONORRHOEA (line B1)				
	4.			
	5.			
	6.			
	TOTAL OF LINES 4 to 6			

		TOTAL	MALE	FEMALE
PART G CONTACT ACTION AND DIAGNOSES SYPHILIS				
	1.			
	2.			
	3.			
	4.			
	5.			
	6.			
	TOTAL			
GONORRHOEA				
	1.			
	2.			
	3.			
	4.			
	5.			
	6.			
	TOTAL			

PLEASE REFER TO ACCOMPANYING NOTES

Signed

Physician in charge of treatment centre

FIGURE Form SBH 60 for notification of sexually transmitted diseases.

that 39% had two or three diseases or diagnoses, and that 8% of the patients had four or more diagnoses and accounted for 22% of the total cases.

Two solutions to this problem would be: (a) to count patients rather than cases, or alternatively both; and (b) to develop a standard approach in differentiating new infections from relapses or recurrences. One way is to agree a time interval between initial treatment and the return of symptoms in conjunction with the history of exposure. This is of particular importance in non-specific urethritis (NSU) and, to a lesser extent, in gonorrhoea.

Sexual orientation of patients

Current notification is by classification of male and female cases. This convention potentially ignores the site of infection and the sexual orientation of patients. The inclusion of homosexuals with both urethritis and proctitis in the male figures for gonorrhoea, non-specific genital infection (NSGI), and syphilis results in useful information about those at high risk being lost. It also distorts the male-to-female ratios in terms of contact tracing.

The study into homosexually acquired infection carried out by the British Co-operative Clinical Group indicates that the proportion of homosexuals attending clinics in the United Kingdom with primary or secondary syphilis has risen between 1971 and 1977 from 42% to 54% of all cases.⁵ Over the same period the proportion of homosexually acquired cases of gonorrhoea has risen from 9.8% to 10.9%. It would be preferable if such data were to become available routinely rather than through repeated "ad hoc" surveys.

A solution to the problem of classification would be to separate urethritis, proctitis, and syphilis in the homosexual male from infection in the heterosexual male. This would allow for differentiation by sexual preference and an identification of the site of infection. A compromise would be to separate infections into heterosexual (male/female) and homosexual. This would result in loss of information about the site of infection.

"Other conditions requiring treatment in the centre" (D2) and "other conditions not requiring treatment" (D3)

Thirty-five per cent of all cases seen in clinics in the United Kingdom fall into the two categories of D2 and D3. It is known that many physicians will include patients who come for check-ups and those treated epidemiologically for gonorrhoea and NSGI, psychosexual problems, and minor complaints as either D2 or D3. That over one-third of all cases seen in clinics are classified in this way means that the categories are vague and are a potential "dumping" ground.

To solve this problem the two categories of D2 and D3 could be made more exact if they were subdivided or if new categories for epidemiological treatment (see later), check-ups, et cetera were created.

GONORRHOEA

Diagnosis

Physicians are using different routine tests for establishing the diagnosis of gonorrhoea; these are microscopy and culture, microscopy alone, and no tests at all. A survey of clinic practices carried out in 1976 and 1977 asked physicians what methods of diagnosis they would apply in patients presenting with genital symptoms.⁶ Smears and cultures were performed routinely in nearly all the clinics (97%) attended by women but physicians were more selective about the use of cultures on a routine basis in clinics attended by men (81% of clinics). In some clinics the diagnosis, treatment, and notification were on empirical or clinical grounds.

There are technical reasons why cultures are used less frequently in men, but failure to do so can still result in false-negative results on microscopy. Ideally, all doctors should be encouraged to use both microscopy and cultures in male and female patients. Failing this, a diagnosis should not be established unless the organism is seen or grown by one of these two tests.

NON-SPECIFIC URETHRITIS

Diagnosis

There are two factors concerned in the problem of diagnosis of NSU: (a) the criteria used by physicians to establish a diagnosis of NSU on microscopy vary in terms of the number of leucocytes per high power field (hpf); the most commonly applied criterion of between one and five leucocytes per hpf was used in 66% of clinics in England and Wales⁷; and (b) centres able to diagnose chlamydial urethritis have no option but to return such cases as NSU even though, by definition, the disease is no longer non-specific.

Non-specific urethritis (NSU) is the commonest notified disease category and yet the one with the most inexact diagnostic criteria, a fact which is bound to be reflected in the returns. There is little to be gained from arguing about whether the use of 1-5 leucocytes, as used in most clinics, is too low. The main point is that one physician's "case" of NSU is not necessarily another's. It is extremely unsatisfactory that no accepted criteria exist for diagnosing and notifying NSU. The following solutions are suggested:

(a) A standard criterion should be established for making the diagnosis of NSU—perhaps ≥ 10 leucocytes/hpf ($\times 1000$). If a universal standard is

not acceptable, physicians should indicate the criterion used in their own clinic in the majority of instances; this would allow symptoms and signs as well as microscopical findings to be taken into consideration;

(b) If in the future more centres have facilities for culturing chlamydia, then a separate category should be created for "chlamydial urethritis." The logical extension of this would be to classify urethritis by aetiological agent.

NON-SPECIFIC GENITAL INFECTION

Diagnosis

Until the end of 1970 physicians were asked to notify non-specific infections in male patients only under the category of non-gonococcal urethritis (NGU). In 1971 the category was widened to include NSGI, so that for the first time women with non-specific infections and homosexuals with non-specific proctitis could be included. Despite the imperfections of diagnosing NSU in male patients, as highlighted above, all physicians acknowledge that the disease exists. This is not so for NSGI in women and non-specific proctitis in homosexual men.⁷ Centres able to diagnose chlamydial infections in women have no option but to return such cases as NSGI. The same applies to other specific infections such as vaginitis due to *Corynebacterium vaginale*.

To solve these problems those who believe in the existence of NSGI in women and non-specific proctitis in homosexual men as primary disease entities should be encouraged to suggest acceptable and reproducible criteria for establishing the diagnosis. Until this is done, it would seem best to accept that these two diseases do not exist as separate entities and that they should be deleted from the SBH 60. This would mean that notification would only be carried out for NSU in men with the possible division into heterosexual and homosexual as previously mentioned.

If in the future more centres have facilities for culturing chlamydia and other organisms, then separate categories should be created for infections of this nature in female patients, and genital infection should be classified by aetiological agent.

EPIDEMIOLOGICAL TREATMENT

Gonorrhoea

Some physicians who use epidemiological treatment (treatment given to named contacts after a history of exposure but without or in advance of confirmatory pathological findings) for contacts of gonorrhoea will notify these as cases of gonorrhoea even though microscopy or cultures or both give negative results, whereas other doctors will notify these patients as "other conditions requiring treatment in the centre" (D2).⁸

NSGI

Some physicians use epidemiological treatment of female contacts of men with NSU on the basis of a contact history or in selected instances such as reinfection or regular partnership. This seems a reasonable and pragmatic approach to an ill-defined and ill-understood problem. Physicians who use epidemiological treatment for contacts who are not suffering from non-specific infection will return these cases as D2 in two-thirds of clinics and as C4 in the other third.⁹

Syphilis, trichomoniasis, and candidosis

As with gonorrhoea and NSGI, some consultants are making returns for treated contacts of patients with syphilis, trichomoniasis, and candidosis under these disease headings without an established diagnosis.¹⁰

Thus, consideration should be given to the creation of separate notification categories for cases in which the diagnosis is not substantiated but the patient is treated epidemiologically. The removal of such cases from the D2 category would go some way to making it more exact, as previously suggested.

COMPLICATIONS OF GONORRHOEA

The SBH 60 allows for the notification of certain complications of gonorrhoea—namely eye, upper genital tract, and systemic infections. This categorisation ignores lower genital tract complications such as Bartholinitis. Gonococcal salpingitis will be notified as an upper genital tract complication (B1.4). However, cases of salpingitis caused by other organisms or being non-specific will tend to be returned as "other conditions requiring treatment in the centre" (D2). Since most cases of salpingitis are nongonococcal in origin there will be no record of the number of such cases.

To solve these problems lower genital tract complications of gonorrhoea should be added as a category to the SBH 60; ideally, the commonest complications should be specifically listed. Since salpingitis is an important complication of non-specific and chlamydial infection as well as gonorrhoea, it should be listed separately and the aetiological agent stated, if known.

OPHTHALMIA NEONATORUM

At present the SBH 60 only provides for recording cases of ophthalmia neonatorum due to gonorrhoea. It should be notified, according to aetiological agent, as gonococcal, chlamydial, and "other."

HERPES GENITALIS

In two-thirds of clinics in England and Wales a virus culture service is available, but in the remaining

clinics diagnosis and thus notification is on clinical grounds alone.¹¹ Thus, the SBH 60 should be modified to show whether the diagnosis is made on clinical grounds alone or confirmed by culture.

MISCELLANEOUS POINTS

Age groupings

At present age is only categorised in patients with syphilis or gonorrhoea. It has been suggested that the age groupings should apply to all diseases but especially to "other conditions not requiring treatment" (D3). This would give some indication of those using the service and reflect the effect of health education—for example, which age groups are coming for check-ups and whether they are in fact the groups most "at risk."

Contact tracing

As pointed out previously, it would be desirable to categorise infections as male, female, and homosexual, and this should be extended to contact tracing information, since at present there is no record of homosexual contacts. Using male-to-female ratios as an indicator of effectiveness of contact tracing is of limited value when homosexual cases are included as male.

The suggested modifications to the notification systems are summarised in the table.

Discussions and consultation on the present system

Early in 1978 an informal study group on information on STDs was set up in an attempt to define the needs for information systems in this field and to improve existing systems. The original membership was Dr N S Galbraith (chairman), Dr P Kitchener, Dr E Dunlop, Dr R D Catterall, Dr H Tillet, Dr A E Wilkinson, and Professor M W Adler.

The Medical Society for the Study of Venereal Diseases (MSSVD) held a meeting in October, 1978, entitled "Statistics of Sexually Transmitted Diseases—What we Get and What we Need." Papers were presented by Professor M W Adler, Dr L Cohen, Dr N S Galbraith, and Dr C B S Schofield and were followed by a discursive but constructive discussion. It was felt that routine statistics should apply to the whole of the United Kingdom and that the form SBH 60 required modification. In view of this, Dr J A N Emslie, consultant epidemiologist at the Communicable Diseases (Scotland) Unit, Dr G Gilray (Scottish Home and Health Department), Dr D J Sloane (Department of Health and Security, Northern Ireland), and Dr Mary Sibellas (Department of Health) were invited to join the Special Information Study Group. This group met again in January 1979 and agreed that eventual changes in the SBH 60 would be necessary but that these should be

TABLE Summary of suggested modifications to notification of sexually transmitted diseases

Problems	Solutions	
	Pragmatic	Ideal
General	Count patients rather than cases or both Differentiate new infections from relapses Separate heterosexuals and homosexuals	Make categories of "Other conditions requiring treatment in centre" (D2) and "Other conditions not requiring treatment" (D3) more exact and ? subdivide
Gonorrhoea	Uniform diagnostic tests	
Non-specific urethritis	Indication of criterion in use (clinical and microbiological)	Universal standard criterion (eg, 10 leucocytes/hpf \times 1000) Classify urethritis by aetiological agent (eg, <i>Chlamydia trachomatis</i>)
Non-specific genital infection	Women: delete as a category Passive homosexuals: as for women	Women: define with standard and reproducible criterion Classify infection by aetiological agent Passive homosexuals: as for women
Epidemiological treatment of gonorrhoea, non-specific genital infection, syphilis, trichomoniasis and candidosis	Epidemiological treatment as a separate entity	
Complications	Addition of lower genital tract complications for gonorrhoea Salpingitis as separate entity	Salpingitis classified by aetiological agent
Ophthalmia neonatorum	Classify as "gonococcal," chlamydial," and "other"	Classify infection by aetiological agent
Herpes genitalis		Indication of diagnosis on clinical grounds alone or with confirmation by culture
Miscellaneous	Contact tracing information to categorise into heterosexual and homosexual	Age groupings for all diseases or "D3" alone

carried out only after consultation with all venereologists and an evaluation of different diagnostic and notification procedures. Because some people could not attend the meeting all consultants in charge of clinics in the United Kingdom were asked to comment by the use of a postal questionnaire prepared by the author and based on observations outlined in this paper. One of the most frequent comments made by those completing the questionnaire was that they had enough trouble completing the current form, because of lack of clerical assistance, and that any modifications might add to this workload. It was also felt that even though some of the changes were desirable they were not practicable at present. Full results of this survey can be obtained from the author.

Conclusions

There is general agreement that there is a need to work towards a better system. If this system is to be successful it will need to be done in consultation with all practising physicians. It is suggested that a pilot study should be carried out to assess the value of the changes that are felt to be necessary and the practical problems that clinics might encounter when filling in revised forms. Ideally, this should combine different sized clinics throughout the country.

A comprehensive and uniform notification system is of vital importance to all clinicians in that it indicates changes in disease incidence and patterns. Hopefully the notification system can be modified so as to be of more direct clinical relevance.

I would like to thank the Special Study Information Group for their help in formulating and clarifying the ideas contained in this paper.

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