

Influenza and the 'spotter' general practitioner

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SUMMARY. *The title 'spotter' practitioner has come to refer particularly to influenza surveillance. Worldwide, a variety of surveillance schemes have been developed, influenced by local health care systems. In the United Kingdom general practitioners can contribute to the Royal College of General Practitioners' weekly returns service or to national or regional schemes. Scotland has had a national system since 1971, supplemented by weekly laboratory returns and local employment and school absenteeism records. Further sources of information about morbidity and their validity need to be explored as does the contribution of new technological developments. However, the prime source — the general medical practitioner — should not be neglected.*

Introduction

AS the usual first point of medical contact for patients the general practitioner has a key role in providing information about patterns of infection. Data from general practitioners complement other sources of information, for example, laboratory returns and school and employment absenteeism records. In addition, mortality increases substantially in a year when influenza is prevalent so that the numbers of deaths from influenza and related conditions, for example, pneumonia, are also worthy of study.

Influenza is almost impossible to control, although it is now 54 years since the causal virus was first isolated.¹ However, despite the lack of preventive and therapeutic success, attempts may be made to lessen the severe and often disruptive effects of influenza on the population by effective surveillance, health planning and education. It is important to monitor the progress and impact of the disease in order to provide an early warning to the national and international community; to allow for the planning of emergency measures, for example, suspending non-urgent admissions to hospitals; and to allow time for appropriate vaccines to be manufactured.

The 'spotter' system has developed in a variety of forms in different countries. In the United Kingdom the term 'spotter' has evolved for a general practitioner who provides information about changes in the occurrence of influenza which he observes in the course of his medical practice (the term 'sentinel practitioner' is commonly used in the rest of Europe). The practitioner reports nationally to the weekly returns service of the Royal College of General Practitioners² or locally to a coordinator, such as, a community physician, a university department of general practice or a microbiology laboratory.³ When collaborating with a laboratory he may also send appropriate specimens to confirm the clinical findings.

In different countries the administrative procedures and legislation involved in disease surveillance vary with the health

care system, the organization of the health services and the extent of cooperation between the health authorities.^{4,5} Most schemes require the prompt identification and notification of specified infectious diseases by general practitioners, laboratory services or health institutions.⁶⁻⁹

For an influenza 'spotter' system to meet its primary objective, the rapid identification of new cases of influenza presenting to primary care physicians, the definition of a case must be simple and normally cannot depend on laboratory confirmation. The clinical diagnosis presents little problem in severe cases during epidemics and pandemics;¹⁰ the consistency of the clinical aspects, the large numbers of persons presenting with similar features and the predominance of influenza viruses over other aetiological agents of respiratory morbidity make the diagnosis straightforward and reliable. Despite the variety of symptoms in individual patients, clinical descriptions of influenza remain constant from year to year and from observer to observer.

Influenza surveillance is either carried on throughout the year as part of a wider system or as a specific scheme for this condition. In the latter case the scheme is usually initiated when the World Health Organization's network of over 100 national collaborating centres for influenza report that influenza virus activity can shortly be expected.

Schemes outside the UK

There are long established traditions of morbidity registration and reporting which reflect the geographical and demographic differences within some countries. These traditions can result in difficulties in making schemes sensitive to changes in the patterns of infectious diseases in the community. In order to improve these systems new techniques are being introduced.¹¹⁻¹³ The aim of all the different systems is to provide epidemiological information on a regular basis in a form which is of value to the health services.¹⁴

Since 1970 the Netherlands' continuous morbidity registration sentinel stations have forwarded weekly returns to the Netherlands Institute of Primary Health Care.¹⁵ These returns include clinical and demographic data, not only on communicable diseases but also on numbers of selected prescribed drugs and laboratory tests performed. The geographical distribution and population sizes of the participating practices, based on a biennial census, are taken into account and the results compared with those of the total population of the Netherlands. Influenza is the only communicable disease to have been included since the inception of the scheme and the data collected are used at both a national level and at an international level by periodic reporting to the World Health Organization.

An exciting innovation in France is the recent improvement of the monitoring of communicable diseases by the use of a computer network. The national notification system depends on compulsory reporting by all physicians of any disease on a list fixed by decree. Apart from the information supplied by reference laboratories and the National Health Laboratory Service, there is no mandatory system for the surveillance of unlisted diseases or conditions.^{11,12} In October 1984, the Directorate-General of Health and the National Institute for Health and Medical Research in cooperation with 'sentinel' general practitioners and the public health services began to monitor selected communicable diseases.¹⁶ Each reporting unit has been supplied with a telecommunications computer terminal which enables prompt notification not only of target diseases — in-

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fluenza, viral hepatitis, measles, male urethritis, mumps, gastroenteritis and the acquired immune deficiency syndrome — but also of additional information on other conditions of importance. The national centres for influenza report the numbers of laboratory confirmed cases of influenza and parainfluenza weekly and those supplying the data are updated by weekly electronic bulletins displayed on the network. The French health care system is item-of-service based and patients are not registered with a specific practice. Hence the reporting and notification of communicable diseases is based on disease episodes.

In June 1986 the Swiss 'sentinella' were initiated to gather reliable epidemiological data on health problems in primary health care, with influenza being one of the seven conditions registered (Van Casteren V, personal communication). Sentinel schemes for influenza also exist in Finland and the German Democratic Republic.

The health system in the USA is complex and services are provided by state governments and the private sector. Surveillance of communicable diseases began in 1878.⁸ Fifty years later all states were collecting annual summaries of specific communicable diseases. Since 1961 the Centers for Disease Control in Atlanta have centralized data on communicable diseases and periodically revise data collection procedures. The notification and reporting of communicable diseases are the responsibility of the primary care physician and the laboratory as well as of the hospital and school authorities. The distribution of medical manpower is uneven with a preponderance in urban areas and, as there are no specific patient registration requirements, the number of notifications from a practice may not reflect the true incidence of disease.^{17,18} To date the 38 practices of the Ambulatory Sentinel Practice Network in the USA and Canada have not included influenza among the primary care problems studied.¹⁹

Schemes in the UK

Since 1962 the RCGP has maintained a weekly return service based at its Birmingham research unit.²⁰ General practitioner volunteers record and classify all diagnoses made using the RCGP diagnostic index. The 40 participating practices with a population base of 242 000, 0.5% of the national population, are distributed reasonably representatively in England and Wales but not in Scotland or Northern Ireland. New cases of certain specified diagnostic codes are notified on a weekly basis to Birmingham, and 'epidemic influenza' and 'influenza-like illness' have been included since 1966. Denominator data from the practices' age-sex registers permit the calculation of incidence rates. Rates for 'influenza-like illness' and 'epidemic influenza' are published each week in the Office of Population Censuses and Surveys' *Monitor*. The number of participants in the scheme is currently being increased.

The Surrey University morbidity network, which reports on a wide range of morbidity, including influenza, was initiated in 1974 and covers approximately 1% of the population of England. There is also a regional scheme in Oxford involving 40 doctors (Mayon-White R, personal communication).

Since December 1985 a network of 28 Welsh practices serving 200 000 people and coordinated by the Public Health Laboratory Service, has started to report communicable diseases, including influenza (Palmer S, personal communication).

In Scotland a 'spotter' system for influenza surveillance had evolved by 1971. Initially, surveillance was performed using several sources of data but it has gradually formalized into a scheme based on general practitioner 'spotters', laboratory returns and absences from schools and specific places of employment. The returns are collated by the Communicable Diseases (Scotland) Unit. In 1986-87, 124 practices in 11 of Scotland's

15 health boards reported and a population of 657 000 was covered, a mean of 16% of the total estimated populations of the participating health boards.

The Scottish example illustrates the various facets involved in a general practice based surveillance system. At present the scheme concentrates on influenza and therefore operates for less than half the year. It is usually initiated in late November, based on information from the World Health Organization on approaching influenza virus activity and on past local experience. Recruitment of the unpaid volunteers is carried out annually by a local coordinator (usually a community medicine specialist), the same practices and geographical areas tending to participate each year. The 'spotters' report weekly by telephone to their coordinator the numbers of new cases of 'influenza-like' illness seen during the preceding week in the course of their general medical practice; the coordinator then reports the weekly returns to the Communicable Diseases (Scotland) Unit by telephone. Practice list sizes are used to calculate incidence rates. No firm case definition of 'influenza-like illness' is supplied nor is any validation of a spotter's weekly counts attempted. The scheme terminates annually when the Director of the unit and the coordinators consider the influenza season to have ended, usually in early April.

The routine, regular and systematic dissemination of surveillance information to both the providers of data and all interested users is essential. In Scotland information on influenza is disseminated in *Communicable Diseases Scotland Weekly Report* and in local bulletins produced by community medicine specialists in some health boards.

Discussion

We have described the development and current use of the 'spotter' general practitioner with particular reference to influenza. Because of its primary health care system, the UK has an inherent advantage in the use of 'spotters' for morbidity surveillance. Virtually everyone is registered with a general practitioner and thus the population at risk for each individual practitioner is known. With the increased availability of practice age-sex registers and the computerization of family practitioner committees and primary care divisions, age-sex incidence rates can be calculated. This contrasts with most other countries where patients are not registered with a general practitioner, thereby precluding the calculation of practitioner or area specific age-sex incidence rates.

With the cooperation of colleagues in occupational medicine it has been possible to develop surveillance systems for particular subgroups of the population who may be indicators of specific viral activity. For example, an upsurge in school absences without a concomitant rise among postal workers may indicate influenza B activity. However, these returns are only based on total aggregated absences from work and not specific self-reported diagnoses, owing to the organizational, validity and confidentiality problems of relaying such data to a third party. Thus the information may be distorted by Christmas holidays, adverse weather or other epidemic infections, such as parainfluenza. These returns must, therefore, be interpreted in conjunction with those from the 'spotters' and the laboratories and with the coordinators' local knowledge. Figure 1 illustrates the variety of sources used to monitor influenza in a year of high activity. The National Health Service is the second biggest employer in Europe, but its staff are still a relatively untapped source of morbidity information. In the UK the historically close links between the general practitioner and the medical officer of health, and his community medicine successor, have allowed the creation of both formal and informal networks of communicable disease surveillance. The authors are currently exploring other indicators of influenza activity in the community. Among these

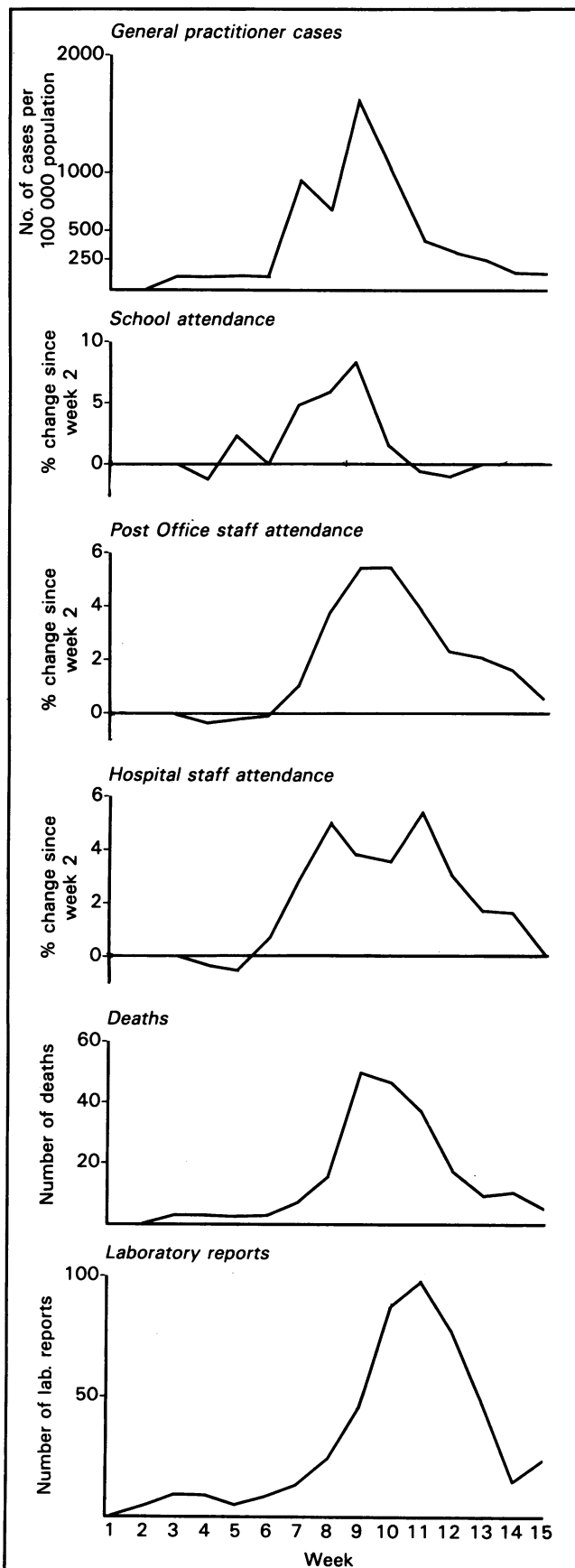


Figure 1. Results of surveillance of influenza in Glasgow over a 15-week period in 1976.

are the sales patterns of aspirin and paracetamol by pharmaceutical wholesalers.

Developments in technology are now available which could be exploited. France has already initiated a communicable diseases network using the computer programme MINITEL.²¹ G-PASS (general practice administration systems for Scotland) has been developed to provide a comprehensive administration system for general practice in Scotland²² and morbidity coding for the system is presently being explored. When this coding is available the 170 practices who already use the system will be a valuable resource. Since 1984 Fife health board has been monitoring all notifiable disease in their area using a computer.²³ Their programme allows the identification of patients with similar features such as common organisms, locations and/or periods of onset. The routine, regular and systematic dissemination of surveillance information to those providing the original data should be a *sine qua non* of any system. Electronic mail has the advantages of both the telephone and the ordinary mail, that is, immediacy and hard copy, and in addition, messages can be sent and received at any time.

The sustained cooperation of the participating general practitioners is an essential part of any scheme and an increasing proportion of principals in general medical practice have had an epidemiological element to their vocational training. Coordination and collaboration between the various agencies managing surveillance schemes which were originally designed for other purposes are essential to permit a comprehensive overview of all communicable diseases in the UK.

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