No system of data collection can be comprehensive or complete. Not all patients seek advice, the correct diagnosis may not always be made, and the illness may not be reported. There are also limitations to each source of data. Death registrations may show trends in the incidence or severity of these infections that may kill but are only as accurate as the information provided by the certifying doctor allows.[2] While statutory notifications provide trends of clinically diagnosed illness,[3] sometimes over many decades, the list is currently limited to 29 diseases and many diagnosed cases are not notified.[4] Voluntary reporting by most medical microbiologists in Britain of laboratory data provides more extensive information on proved diagnoses,[3] but microbiological examination is often not requested for many patients suffering from the more common infectious diseases. Furthermore, the sample tested may be biased—as in the case of rubella, which is more likely to be investigated in women of childbearing age. The Hospital Activity Analysis is another source of data about infections that require admission to hospital, but outpatient data are limited to clinics for genitourinary medicine and chest diseases. These sources of data provide information about some infectious diseases but are inadequate to identify trends in those that are seen only by general practitioners.

Further data on new episodes of illness seen in a sample of general practices are collected with both the morbidity statistics from general practice studies[5] and the continuous weekly returns service.[6] They provide the only reliable data for diseases such as mumps, herpes zoster, chickenpox, and rubella, and are, with weekly total death registrations, the earliest indication of an impending influenza epidemic.[7] As well as the national weekly returns system there are several local general practitioner reporting systems, including one in Guildford that uses electronic transfer for reporting.

The new French system of reporting by general practitioners has been developed jointly by the Direction Générale de la Santé, the Institut National de la Santé et de la Recherche Médicale, and the Unité de Recherches Biomathématiques et Biostatistiques of the University of Paris.[1] Each general practitioner electronically transfers data to the coordinating centre using the ordinary telephone network and terminals supplied by the Direction Générale des Télécommunications to all telephone subscribers at no additional charge. Currently over 250 general practitioners report to the centre the number of new cases of measles, mumps, acute urethritis in men, influenza, and viral hepatitis seen each week; none of these diseases is on the list requiring statutory notification. The easy method of reporting uses a simple program that prompts for the disease to be reported, states the criteria under which that disease should be included, and requests certain disease specific information. General practitioners can report through any terminal at any time of day or night and undertake to do so at least once a week. Additional information may be sent by the doctor or requested by the centre using the electronic mailing system. Any general practitioner in the network can receive at any time weekly surveillance bulletins that are displayed in an imaginative series of formats including graphs, histograms, and serial maps. The network also distributes information from other sources—including the number of statutory notifications, current epidemiological news, and administrative notices such as immunisation schedules—and allows access to databases such as Medline. The number of reporting practitioners is to be increased to 600, and paediatricians and chest physicians are to be included. Soon reporting of viral hepatitis will include microbiological confirmation of type, epidemiological forecasting will be developed, and users other than those at the centre will have access to the database.

The French system is easy for general practitioners to use and provides regular feedback. But French patients do not register with a general practitioner and so doctors do not keep age-sex registers—thus no practice denominators are available and rates are expressed as cases per reporting general practitioner. Regional and national rates are extrapolated using as denominators the total number of registered practitioners and data on the age and sex populations in a region. Bias could therefore be introduced by differing workloads among doctors or by patients consulting more than one reporting doctor. Few practitioners have computers, and so problems of incompatibility have not arisen. This is largely because the government has been prepared to provide adequate resources for the development—not only financially but also by marrying epidemiological knowledge with computer and telecommunication expertise.

The policy decision by the Direction Générale des Télécommunications to issue terminals to all subscribers made this development possible. The Direction Générale de la Santé recognised the opportunity and took the initiative at the right time. Britain is to some extent hampered by the development of independent computing systems that have mushroomed in practices without effective national guidance. If reporting from general practice is to achieve its full contribution towards surveillance of communicable disease in Britain a coordinated and carefully planned approach with adequate resources is essential now.

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1 Valeron A-J, Bouvet E, Garner Ph, *et al*. A computer network for the surveillance of communicable diseases: the French experiment. *Am J Public Health* (in press).
2 Alderson MR, Bayliss RIS, Clarke CA, Whitfield AGN. Death certification. *Br Med J* 1983;287:444-5.
3 Galbraith NS. Communicable disease surveillance. In: Smith A, ed. *Recent advances in community medicine*. Edinburgh: Churchill Livingstone, 1982:127-41.
4 Haward RA. Scale of undernotification of infectious diseases by general practitioners. *Lancet* 1973;i:873-5.
5 Royal College of General Practitioners, Office of Population Censuses and Surveys, and Department of Health and Social Security. *Morbidity statistics from general practice 1981-1982*. London: HMSO, 1986. (Series MB5 No 1.)
6 Fleming DM, Crombie DL. The incidence of common infectious diseases: the weekly returns service of the Royal College of General Practitioners. *Health Trends* 1985;17:13-6.
7 Tillett HE, Spencer I-L. Influenza surveillance in England and Wales using routine statistics. *J Hyg (Camb)* 1982;88:83-94.

## Correction

### Reproduction and work

We regret that a few words were accidentally omitted from this leading article by Professor W R Lee and Dr Elizabeth C McCloy (13 December, p 1521). The final sentence of the first paragraph should have read: "Those factors that are suspected of impairing reproductive function in men or women may affect either reproductive or sexual functioning of the adult or exert an effect on development at any stage after implantation."