

Electronic Media and Emerging Zoonoses

As indicated by the term “emerging,” the principal challenge in following emerging diseases is their extremely dynamic epidemiology. Changes in these diseases or the pathogens causing them cannot be followed through standard texts and journals. The traditional mode of reporting an outbreak in a peer-reviewed journal several months after it occurred or in a textbook one or more years later is not appropriate. Weekly publications of the World Health Organization and reports from national ministries of health are more reliable but are still limited by delays in data acquisition, processing, editing, and production. To avoid such delays, some weekly publications are now being distributed electronically.

In response to the need for quick dissemination of information, several electronic sites specifically tailored to information in the fields of infectious diseases, emerging diseases, and zoonoses have become available. Some have subspecialized to a single disease, animal, vector, or pathogen. Most combine zoonotic and non-zoonotic diseases (e.g., mosquito-transmitted diseases) or emerging and nonemerging diseases. Even though they provide quality control, better sites urge users to verify the source of individual reports. Moreover, as the number of electronic sites has grown, data have become more and more diffuse, and users are unable to access and collate materials that appear over time.

Computer programs can facilitate data access by storing and indexing reports according to country, pathogen, vector, and animal reservoir. The University of Tel Aviv has developed a computer software program for information, diagnosis, and disease simulation that incorporates the status of infectious diseases (zoonotic and others) in all countries. This program includes information published in print and electronically. The program can generate a ranked differential diagnosis for rash and fever following a tick bite in Uganda or present the biology, bacteriology, epidemiology, therapy, clinical features, historical background, and current status of tularemia in Norway. The program—Global Infectious

Diseases and Epidemiology Network (GIDEON, CY Informatics, Ltd, Ramat Hasharon, Israel)—also contains modules for the identification and characterization of pathogens and the pharmacology and usage of antiinfective drugs and vaccines. The program incorporates 319 infectious diseases; however, even though the GIDEON program is updated through quarterly diskettes, its information is not adequate during disease outbreaks. In this case, therefore, electronic communication is complementing, rather than replacing, traditional communication media.

Various communication media have advantages and deficiencies. Data presented in a textbook, on the Internet, or in a software program may have unlimited scope. In contrast, data presented in journals and government reports are generally narrow, focused, and targeted to a specific readership. Major journals and texts benefit from peer review and documentation of sources. The availability of electronic media and software is limited by access to hardware, user training and sophistication, and in some situations, adequate electricity and telephone services.

Even though electronic communication has become an inevitable and irreplaceable adjunct to the field of emerging diseases, many problems remain in the areas of data access, credibility, standardization, and ease of use.

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