Report on bioterrorism in the United States

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The Primary Care Informatics Working Group (PCIWG) of the American Medical Informatics Association (AMIA) held a special session on 4 November 2001 in Washington, DC, to address information technology requirements for effective primary care bioterrorism surveillance and rapid response. Presentations were made on bioterrorism and the ability of primary care physicians in the United States (US) to provide essential surveillance.

- Jon Temte, MD PhD, Chairman of the Wisconsin Influenza Pandemic Planning Executive Committee presented the keynote session on ‘Creating complete surveillance’, emphasising the complexity and challenges of medical surveillance for agents that may mimic common illnesses (e.g. anthrax vs flu).
- Julie Pavlin, MD MPH, Major United States Army, Chief, Department of Field Studies Walter Reed Army Institute of Research reviewed the ‘National electronic disease surveillance system’ and its relevance to primary care physician surveillance.
- John Loonsk, MD MPH, Associate Director for Informatics, Center for Disease Control and Prevention reviewed the public health needs and responsibilities in surveillance and response.
- Mike Bainbridge, BMedSci BM BS MRCGP CompBCS, Chair of the Primary Health Care Specialist Group of the British Computer Society demonstrated how UK general practitioners (GPs) are able to implement, within 24 hours, bioterrorism surveillance utilising in-place Electronic Medical Records (EMRs) and infrastructure.

Key points

- Primary care providers are our nation’s ‘front line forces’ for bioterrorism surveillance, detection and immediate care, accounting for approximately 113 visits per 1000 population per month, contrasted with 13 emergency department visits per 1000 population per month and one admission to an academic-medical-centre hospital per 1000 population per month.¹
- Our hospitals and emergency departments, frequently at the limits of their capacity now, could not possibly assume the task of evaluating the general population with flu-like syndromes for anthrax or for other conditions that may first present as abnormal epidemics of common symptoms.
- Testing every patient for anthrax with flu-like symptoms and no other risk factors would entail enormous unnecessary cost.
- Effective bioterrorism surveillance is a complex task with multiple approaches including mechanistic, laboratory and sentinel surveillance.
- Volunteer reporting of surveillance data is problematic, especially if the condition (e.g. anthrax) does not appear, or if the reporting process involves significant time and resources outside the normal practice of the physician.
- In the UK, 98% of the GPs have access to an electronic clinical record system at the point of care, as contrasted with the US where approximately 5% of family physicians are using such technologies.
- The PCIWG has developed, over the past two years, a National Strategic Plan in Primary Care Informatics which calls for standards-based EMRs in every physician’s office.²
- The National Alliance for Primary Care Informatics (NAPCI) has endorsed the vision statement that ‘Every primary care provider will use information technology that includes electronic health records with the ability to access and communicate needed clinical information to achieve high-quality, safe and affordable health care’.³

¹NAPCI members: Agency for Healthcare Research and Quality, Ambulatory Pediatrics Association, American Academy of Family Physicians, American Academy of Pediatrics, American Medical Informatics Association, International Medical Informatics Association Working Group 5: Primary Care, North American Primary Care Research Group, Society of General Internal Medicine, Society of Teachers of Family Medicine and WONCA.
Recommendations

1 Every primary care physician in the US must be provided now with information on bioterrorism surveillance and detection using our current resources, especially in anticipation of the flu season, in order both to provide appropriate care and also to avoid enormous unnecessary panic and healthcare expense.

2 Every primary care physician in the US must have and use a fully functional EMR with standardised clinical data for current and future domestic surveillance against biological, chemical and nuclear weapons on civilian populations.
   a Those EMRs must ‘fit’ the primary care environment to be effective.
   b The data obtained must be available for epidemiological surveillance regionally and nationally while protecting patient confidentiality.
   c Relevant expert knowledge and decision support at the point of care must be linked to the EMR.
   d Development of such EMRs requires a national commitment to defining standards to which industry can respond.
   e Primary care acquisition and implementation of such EMRs requires funding mechanisms.

3 The PCIWG offers its expertise to work with all healthcare organisations, public health officials, the Department of Defense, other agencies, vendors, payers and the public (our patients) to assist in the development of a comprehensive and integrated plan.

4 We are faced with the opportunity to create global standards and/or to adopt appropriate standards in place to enable global surveillance of bioterrorism.

Such an infrastructure will then allow for epidemiological studies of many conditions, as well as interventions and outcomes, thereby profiting the world population’s health and wellbeing.

ACKNOWLEDGEMENT

This paper is also due to be published in the Journal of the American Medical Informatics Association.

REFERENCES


2 The National Strategic Plan in Primary Care Informatics is in its final stage of editing, will be broadcast to all members of the Primary Care Informatics Working Group, and then will be finalised to be presented to the AMIA board for endorsement, before publication.

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Accepted November 2001