To protect public health and national safety, AMIA recommends that the federal government dedicate technologic resources and medical informatics expertise to create a national health information infrastructure (NHII). An NHII provides the underlying information utility that connects local health providers and health officials through high-speed networks to national data systems necessary to detect and track global threats to public health. AMIA strongly recommends the accelerated development and wide-scale deployment of electronic public health surveillance systems, computer-based patient records, and disaster-response information technologies. Such efforts hold the greatest potential to protect our citizens from disaster and to deliver the best health care if disaster strikes.

While meeting the acute needs of today, this initiative will begin laying the groundwork for a NHII that will continue to serve the health needs of the nation—a lasting endowment for future generations. Establishing an NHII requires thoughtful strategic planning and strong inter-agency leadership. Work on key components of the NHII must begin immediately. These key components include:

- **Strategic planning and coordination.** There must be a central coordinating entity that can quickly inventory existing public- and personal-health initiatives and develop a strategy to fashion a national system to protect Americans against health threats of various types, including biological, chemical, nuclear, and physical. The short-term strategy must be part of a framework for a permanent infrastructure that serves public health, patient care, and research.

- **Connectivity and communications.** Local, regional, and national coordination cannot exist without efficient, instantaneous communication. Public health services must be linked using secure connections to the Internet as an immediate top prior-
ity. AMIA recommends federal government funding to guarantee high-speed, dedicated access to the Internet for all public and private health care facilities and related organizations. Minimum-level workstations should be required, and adequate tools and training should be provided.

- Standards. Effective communication among local, community, state, and federal facilities require the use of standards. Health care messaging standards should be used for data interchange. A common vocabulary standard and required data elements for public health surveillance databases are required to enable effective sharing of data. Without a common vocabulary, data from local systems cannot be analyzed to detect emerging health threats. Government coordination and support for consensus standardization and low-cost distribution of common vocabularies for health event detection, prevention, and intervention are a fundamental aspect of an NHII.

- Resource databases. An up-to-date, central, Internet-based health resources directory containing information about available resources—knowledge, physical, and human—is vital to providing the timely information needed to manage any public health crisis. The national health resource directory would include information about physical resources, such as health care organizations, safety facilities, and environmental agencies; human resources, including physicians, nurses, and public health and support personnel; organizational resources, such as emergency medical services, county and city law enforcement agencies, and other emergency-response groups; and knowledge resources ranging from clinical guidelines to extensive clinical decision support algorithms related to threat vectors. Local health authorities must be trained in use of the directory to effectively derive maximal benefit when responding to national health threats.

- Public health surveillance systems. Effective public health practice and decision making depend on timely information, much of which is not readily available. Information about patients with clinical conditions of public health importance, symptoms compatible with prodromes of serious infection or exposure, health behaviors, and environmental risk factors must be collected, transmitted, aggregated, analyzed, and utilized for prompt decision making. Whether the health threat is biological, chemical, or nuclear, early detection and rapid response are essential. Existing public health systems in place and under development should be adapted to meet the current needs. Implementation of public health system initiatives such as the National Electronic Disease Surveillance System and Health Alert Network must be accelerated to meet the acute threat posed by bioterrorism.

- National identifiers. National identifiers for providers, insurers, businesses, and individuals are required by the Health Insurance Portability and Accountability Act (HIPAA) of 1996. The privacy provision of HIPAA that protects confidential health information has been finalized. In the face of the acute crisis, the work on identifiers should be accelerated so that effective epidemiologic data can be gathered and analyzed and appropriate health care services delivered where needed.

AMIA is an organization of professionals who operate at the interface between health care and computer and information science. Our leadership and members are capable and willing to contribute to solving the acute situation while laying the foundation for a lasting infrastructure to manage health information for the benefit of patients and the public.