



September 7, 2012

Dr. James Buehler, Director
Public Health Surveillance and Informatics Program Office
Centers for Disease Control and Prevention
1600 Clifton Rd
Atlanta, GA 30333

RE: Public Health Surveillance and Informatics Program Office (PHSIPO) (proposed) Draft FY13 - FY16 Strategic Plan

Submitted via email to: Julie Zajac: cgv7@cdc.gov.

Dear Dr. Buehler,

On behalf of AMIA (the American Medical Informatics Association), I am pleased to submit these comments in response to the above-referenced request for comments. AMIA thanks the Department of Health and Human Services and the Centers for Disease Control and Prevention (CDC) Public Health Surveillance and Informatics Program Office (PHSIPO) for issuing this Draft Strategic Plan (Plan) which seeks broad input on a range of topics.

AMIA is an unbiased, authoritative source within the informatics community and the healthcare industry. AMIA members – 4,000 informatics professionals – belong to a world-class informatics community where they actively share best practices and research for the advancement of the field. As the voice of the nation's top biomedical and health informatics professionals, AMIA plays a leading role in moving basic research findings from bench to bedside, evaluating interventions across communities, assessing the effects of health innovations on public policy, and advancing the field of informatics.

AMIA is the professional home for biomedical and health informatics and is dedicated to the development and application of informatics in support of patient care, public health, teaching, research, administration, and related policy. AMIA seeks to enhance health and healthcare delivery through the transformative use of information and communications technology. AMIA's members advance the use of health information and communications technology in clinical care and clinical research, personal health management, public and population health, and translational science with the ultimate objective of improving health. Our members work throughout the health system in various clinical care, research, public health, academic, government, and commercial organizations. AMIA's Public Health Informatics Workgroup includes many AMIA members who have worked with CDC on a variety of public health systems issues, including public health reporting, health information exchange, laboratory

information systems, and core competencies for public health informaticians, among others. AMIA also helps train informatics professionals and developed the standards and curriculum for the American Board of Medical Subspecialties (ABMS) certification of physician informaticians.

We appreciate the recognition of the importance of informatics and prior creation of the Public Health Surveillance Program Office (PHSPO) and the Public Health Informatics and Technology Program Office (PHITPO). AMIA is encouraged by the CDC's recent efforts to directly connect public health surveillance and informatics, by combining PHSPO and PHITPO as a single office in December 2011, as the proposed PHSIPO. We appreciate CDC's efforts to establish PHSIPO's vision, identify key priorities, and define strategies to advance the science and practice of public health surveillance and informatics.

AMIA applauds the CDC's ongoing efforts regarding public health informatics professionals and encourages CDC to continue to reach out to various stakeholders and organizations. We encourage and look forward to a more collaborative, ongoing relationship between CDC and AMIA. AMIA has an established and successful track record in convening multi-disciplinary stakeholders and leaders in public health, surveillance and informatics to discuss critical issues facing the fields. For example, in 2001 AMIA hosted the meeting that led to the publication of a focused and concise Public Health Informatics (PHI) agenda,¹ and we hosted a follow-up PHI conference in 2011.² Each meeting produced a rich body of work outlining the tasks ahead for the profession to address in collaboration with CDC as well as state and local public health leadership.

AMIA is pleased to see that CDC has created a home for informatics where it can support surveillance, a key function of public health. PHSIPO as proposed to coordinate with other program areas within CDC is very important. This was a key finding from our meeting that strong leadership was needed and we are hopeful that PHSIPO can provide national leadership for PHI. We therefore offer the following comments to strengthen the strategy of PHSIPO.

Although the proposed Plan describes a variety of important aims in line with the current agenda for public health informatics, there are several areas that could be enhanced. These include 1) attention to business processes and user-centered design techniques to improve the design, implementation, and adoption of surveillance systems; 2) greater emphasis on dissemination and translation of PHI research

¹ Yasnoff WA, Overhage JM, Humphreys BL, LaVenture M, Goodman KW, Gatewood L, Ross DA, Reid J, Hammond WE, Dwyer D, Huff SM, Gotham I, Kukafka R, Loonsk JW, Wagner MMA national agenda for public health informatics J Public Health Manag Pract. 2001 Nov;7(6):1-21. <http://www.ncbi.nlm.nih.gov/pubmed/11713752>

² Massoudi BL, Goodman KW, Gotham IJ, Holmes JH, Lang L, Miner K, Potenziani DD, Richards J, Turner AM, Fu PC An informatics agenda for public health: summarized recommendations from the 2011 AMIA PHI Conference. J Am Med Inform Assoc. 2012 Sep 1;19(5):688-95. Epub 2012 Mar 6. <http://www.ncbi.nlm.nih.gov/pubmed/22395299>

into practice; 3) greater emphasis on the governance of surveillance systems and public health data; 4) clarify the role of Centers of Excellence going forward; and 5) the addition of a strategy for creating a bidirectional communication infrastructure to bridge clinical and public health.

An Emphasis on Business Processes, End Users, and Workflow

The Plan addresses the role of PHSIPO in managing large surveillance systems, creating the infrastructure for surveillance capacity, supporting the adoption of meaningful use, and developing innovative tools and systems for surveillance in the future. These are important responsibilities for a division in charge of surveillance and informatics. However, the road to adoption and effective use of surveillance and information systems in clinical and public health requires change management. Information systems and processes must meet the needs of end users, which includes but may not be limited to personnel within CDC, state health agencies, local health departments, hospitals, and clinics. Consistently AMIA members have demonstrated through their multi-disciplinary research in clinical and public health informatics that the design, development, implementation, and use of information systems requires a focus on 1) context of use, 2) workflow redesign, and 3) information needs. However, the Plan does not address these aspects of informatics and AMIA strongly believes that these issues must be represented.

Groups such as the Public Health Informatics Institute emphasize the use of business process analysis techniques to elicit end user information needs and workflow requirements during the design, development, and implementation phases of an information system's lifecycle. Further, the first three recommendations from the 2011 PHI agenda meeting centered on the need for greater use of business process and user-centered techniques. We therefore recommend that PHSIPO add language to Strategic Goals 1 and 2 that recognize the importance of business process analysis and user-centered design approaches to PHI development. For example, when discussing the National Notifiable Diseases Surveillance System (NNDSS) redesign, the Plan should recognize the role that various stakeholders play in reporting notifiable diseases and how the redesign will factor in their information needs and roles. Physicians, nurses, and health information management personnel in hospitals and clinics complete case reports of notifiable diseases for submission to local health departments. User-centered design and business process analysis methodologies will identify how clinical medicine personnel contribute to the NNDSS. This input will strengthen the final, redesigned NNDSS and support a crucial step in the surveillance process – gathering data from front-line clinicians. These methods will further enhance NNDSS' support for workflow and end user information needs at local, state, and CDC levels.

Greater Detail and Emphasis on Dissemination and Translation

Language in Strategic Goal 3 suggests that PHSIPO will address sharing of knowledge on cross-cutting issues. Disseminating knowledge as well as translation of surveillance and informatics research into public health practice is an important role for PHSIPO. The division will be uniquely aware of best practices and emerging research from the Informatics R&D Laboratory as well as its partners, including states, academia, and AMIA. While the language suggests that PHSIPO will disseminate knowledge and best practices, the Plan lacks details on how PHSIPO envisions achieving this component of the goal.

We suggest that the Plan be revised to identify strategies for increasing the dissemination of public health informatics knowledge and translation of research into practice. Previous informatics-related divisions within CDC have sponsored special issues of academic as well as practitioner peer-reviewed journals, such as the *Online Journal of Public Health Informatics*. PHSIPO also recently produced a number of very well written articles in *Morbidity and Mortality Weekly Report*. These sorts of activities could go a long way towards achieving Strategic Goal 3. Furthermore, the sponsorship of a special journal issue would be an easily measureable and achievable performance indicator. Other ideas to stimulate dissemination and translation include virtual meetings like the recent Public Health Informatics Model Best Practices event (<https://cdc.6connex.com/portal/MBP/login>); workshops or co-located events associated with major surveillance or informatics conferences; and the creation of practical tools for use by state and local health departments such as the PHI Profile Toolkit.³

Governance of Public Health Data and Systems

In 2001 the first national agenda for public health informatics called for “coherent governance,” and the attendees outlined specific recommendations on how to achieve this goal. For example, the 2001 agenda called for a national body to “ensure that information needs of users can be solicited, negotiated, and formalized to ensure that states and localities move forward together.” These issues were again discussed in 2004.⁴ During the AMIA PHI Conference in 2011, the attendees expressed concerns that the previous recommendations had not yet been implemented in the decade between meetings.

AMIA believes that the Plan does not adequately address governance of the substantial and growing PHI infrastructure. We are pleased that the Plan includes discussion and describes the myriad of PHI systems and assets within federal, state, and local levels, and the list of responsibilities suggests that PHSIPO will play a leadership role for “cross-cutting issues...within and beyond CDC.” The PHI agenda calls for broader governance, including a national coordinating agency, to champion, convene, monitor and facilitate PHI for the nation. We are encouraged by the language in the Plan that PHSIPO will “develop cross-cutting guidelines for public health surveillance and informatics to help solve shared problems.” We are also delighted to see that the Plan establishes a role for PHSIPO in aligning health information standards and architectures, which were key components of both the AMIA 2001 and 2011 agendas for PHI. However, the language in the Plan stops short of outlining a clear strategy for governance beyond standards for interoperability.

We recommend that CDC enhance the current language in the Plan to emphasize leadership and informatics approaches across the spectrum of surveillance activities and initiatives especially with respect to standards, architectures, systems, data collection processes, data analysis, and public access to

³ Public Health Informatics Institute. 2009. “Public Health Informatics Profile Toolkit.” Available at: <http://www.phii.org/resources/view/150/Public%20Health%20Informatics%20Profile%20Toolkit>

⁴ Yasnoff WA, Humphreys BL, Overhage JM, Detmer DE, Brennan PF, Morris RW, Middleton B, Bates DW, Fanning JP. A consensus action agenda for achieving the national health information infrastructure. *J Am Med Inform Assoc*. 2004 Jul-Aug;11(4):332-8. Epub 2004 Jun 7. Review.

information on the health of the community. All of these areas require coordination and leadership at the national level, and PHSIPO is in a unique position to provide much needed governance across the increasingly complex array of surveillance methods and systems fueled by the maturity and growth of information technology and big data. When revising the Plan, we urge CDC to consider strengthening the language concerning governance and to provide additional details.

Centers of Excellence

The organizational chart included with Appendix A Plan includes an item labeled “Centers of Excellence (Centers)” under the proposed Division of Informatics Practice, Policy and Coordination. However, the definition and roles of PHSIPO Centers of Excellence are not provided in the body of the Plan. AMIA is disappointed that existing Centers of Excellence in Public Health Informatics experienced a 90% cut in funding during FY2012. We urge CDC to consider additional investments in current and/or new Centers that would help assure and advance the science and practice of surveillance and informatics.

Existing Centers, and the Centers that preceded them, have produced a significant body of algorithms, system functions, interface designs, interoperable components, open source modules, and evidence that supports many of the other goals of PHSIPO.⁵⁻⁶ We urge CDC to review and leverage prior and ongoing work accomplished by the Centers. The Centers have further developed important stakeholder collaboratives that span local and state health departments across the U.S., leading to advancements in PHI practice at the local level. For example, in cooperation with the Center at Indiana University, the Indiana State Department of Health is leveraging the State’s health information exchange organizations (there are 5) to receive a significant portion of its notifiable disease cases. When received via an exchange, case data are integrated into the State’s NEDSS and made available to the respective local health departments.

These examples highlight important work that supports achievements of PHSIPO’s goals. Yet the Plan is silent on whether Centers will exist in the future, and, if they do exist, what roles they will play in helping PHSIPO achieve its goals. We suggest that detail be added under Goal 3 to define a vision for current and future Centers of Excellence and how the Centers will help PHSIPO achieve its goals.

Bidirectional Communication to Bridge Clinical and Public Health

The Plan currently contains a gap with respect to the source of most surveillance data – front-line physicians and other clinicians who directly care for patients and populations. Public health surveillance largely relies on secondary access to data captured during routine care delivery processes within clinics

⁵ http://www.cdc.gov/osels/ph_informatics_technology/coe.html

⁶ Husting EL, Gadsden-Knowles K. The Centers of Excellence in Public Health Informatics: Improving Public Health through Innovation, Collaboration, Dissemination, and Translation. *Online J Pub Health Inform.* 2011;3(3). Available at <http://ojphi.org/htbin/cgiwrap/bin/ojs/index.php/ojphi/issue/view/357/showToc>.

and hospitals. The Plan does not acknowledge this fact nor does it recognize the challenges clinicians often encounter when trying to capture and document the data necessary to meet the needs of 1) clinical workflow and decision-making processes to support care delivery; 2) administrative demands placed upon them by institution administrators, payers, and regulators to monitor performance, quality, safety, and costs; and 3) public health agencies who need the data to monitor and implement community-level interventions aimed at improving health outcomes. Some data necessary for public health are more easily captured from routine care processes (e.g., chief complaints in emergency departments) than other data (e.g., temperature which must be manually entered by a nurse) using electronic health record systems. Informatics can provide more effective and efficient ways of capturing data, such as automating the identification of notifiable diseases based on laboratory data. However, public health should more openly recognize the challenges facing front-line clinicians and incorporate their difficulties and needs into the design and implementation of surveillance systems.

In addition, many front-line clinicians negatively perceive public health agencies because the agencies generally ask health care providers for data but rarely provide feedback on the health status of the community. Recent research noted that the predominant form of communication to clinicians from public health is via electronic newsletters or postal mailings sent on a monthly basis.⁷ These notices largely go unnoticed by busy clinicians because the information and knowledge from public health, which can be extremely valuable and useful to care delivery processes, is communicated outside of clinical workflows. Therefore, a bidirectional communication infrastructure is needed to integrate feedback and knowledge to front-line clinicians. An example is provided by Hripcsak et al.⁸ where abnormalities observed by the state health department can trigger alerts within a clinical EHR system, making clinicians aware of community-level health and changing provider laboratory testing behavior. Another example can be found in Gamache et al.⁹ We suggest that the current Plan include more detail about how PHSIPO will support, either through development or as a facilitator, the creation of a bidirectional communication infrastructure that enables two-way exchange of information and knowledge between clinical and public health.

⁷ Dixon, BE. The Perceived and Real Value of Health Information Exchange in Public Health Surveillance [Dissertation]. Indianapolis, Indiana: Indiana University; 2011. Available at <http://hdl.handle.net/1805/2626>

⁸ Wu WY, Hripcsak G, Lurio J, Pichardo M, Berg R, Buck MD, Morrison FP, Kitson K, Calman N, Mostashari F Impact of integrating public health clinical decision support alerts into electronic health records on testing for gastrointestinal illness. *J Public Health Manag Pract.* 2012 May-Jun;18(3):224-7. <http://www.ncbi.nlm.nih.gov/pubmed/22473114>

⁹ Gamache R, Stevens KC, Merriwether R, Dixon BE, Grannis SJ. Development and Assessment of a Public Health Alert Delivered through a Community Health Information Exchange. *Online J Pub Health Inform.* 2010; 2(2). Available at <http://ojphi.org/htbin/cgiwrap/bin/ojs/index.php/ojphi/issue/view/323/showToc>.

Concluding Comments

As a source of informed, unbiased opinions on policy issues relating to the national health information infrastructure, uses and protection of clinical and personal health information, and public health considerations, AMIA appreciates the opportunity to submit these comments. Again, we thank CDC for issuing this request for comments. Please feel free to contact me or Meryl Bloomrosen, AMIA's Vice President for Public Policy at Meryl@amia.org at any time for further discussion of the issues raised here.

Sincerely,

A handwritten signature in black ink on a light pink background. The signature is cursive and appears to read "Kevin Fickenscher, MD".

Kevin Fickenscher, MD

President / CEO