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## Fulfilling the Vision of Environmental Public Health Tracking

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Franklin Delano Roosevelt noted that the “success or failure of any government in the final analysis must be measured by the well being of its citizens. Nothing can be more important to a state than its public health; the state’s paramount concern should be the health of its people”<sup>1</sup> (p96). In public health practice, we use surveillance to gather the necessary data to measure the health of the population.. We analyze and interpret these data to understand trends in diseases and their risk factors and to inform the actions we take to protect the health of people across our nation.

This issue of the Journal of Public Health Management and Practice highlights the work of the Centers for Disease Control and Prevention (CDC) and its partners in the National Environmental Public Health Tracking Program (Tracking Program). The Tracking Program extends the principles of public health surveillance to environmental health by collecting, integrating, analyzing, and interpreting data from environmental hazard monitoring and human exposure and health effect surveillance through its National Environmental Public Health Tracking Network (Tracking Network) ([www.ehptracking.cdc.gov](http://www.ehptracking.cdc.gov)). The program was developed to address the findings and recommendations of the Pew Environmental Health Commission’s 2000 report *America’s Environmental Health Gap: Why the Country Needs a Nationwide Health Tracking Network*<sup>2</sup>. This report highlighted a lack of basic data and information needed to better understand links between environmental hazards and chronic diseases, which currently account for 7 out of 10 deaths in the United States<sup>3</sup>. Now in its 13<sup>th</sup> year, the Tracking Program has built local, state, and national infrastructure and capacity to bring together data from diverse sources to allow a more comprehensive assessment of our nation’s environmental health status, improve our understanding of the role of the environment in disease, and address emerging issues such as the health impacts of climate change.

The articles in this issue have been organized into three major categories: national program overview; technology; and science and data. The underlying theme is putting data and technology to work in environmental public health practice, reflecting the basic purpose of tracking to drive public health decision-making and action. Overview articles by Charleston, et al<sup>4</sup>, Qualters, et al<sup>5</sup> and Kearney, et al<sup>6</sup> describe how CDC laid the groundwork and

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systematically built a standards-based Tracking Network; how the Tracking Program and Network have been used to drive public health actions; and how, as the Tracking Program matured, publications focused more on science, research, policy and practice than network development and collaboration. Subsequent articles provide specific examples of technological advancements and application of data in science and practice.

Major advances in information technology have occurred since CDC with its partners first laid out a Vision for the Tracking Network<sup>7</sup>. More than a decade ago, “cloud computing”, “crowd sourcing” and “mobile apps” were not terms in everyday vernacular. In their text on an informatics approach to public health surveillance, Lombardo and Buckeridge point out that that “for surveillance systems to be useful, they must adapt to the changing environment in which they operate and accommodate emerging public health requirements...”<sup>8(p xix)</sup>. They also note that “users requirements must have a higher priority than solutions that are technologically exciting”<sup>8(p xx)</sup>. The Tracking Program is committed to implementing the right technological advancements to enhance the Tracking Network. The articles in this issue that describe such enhancements demonstrate approaches that are mindful of user needs and the ultimate goal of the Tracking to drive public health decision-making and action to improve health<sup>9,10,11</sup>. While Wall, et al<sup>9</sup> describes an enhancement at the national level to simultaneously display metrics for multiple data types, Wong, et al<sup>10</sup> and Jordan, et al<sup>11</sup> discuss state level enhancements and document their subsequent impact.

In “*Blueprint Version 2.0: Updating Public Health Surveillance for the 21<sup>st</sup> Century*”, Smith, et al<sup>12</sup> described the overall goal of surveillance as “providing actionable health information to public health staff, government leaders, and the public to guide public health policy and programs”<sup>12(p232)</sup>. The concept of data to information to action is reflected in the mission statement for the Tracking Program and is demonstrated by the articles in the Science and Data section of this issue<sup>13,14,15,16,17,18,19,20</sup>. For example, in New York City, tracking infrastructure, data and expertise supported responses to local environmental issues such as point sources of air pollutants, restaurant inspections, and rodent control<sup>20</sup>. The individual state and local activities comprise lessons learned for other environmental health agencies seeking approaches and solutions to similar problems.

## Conclusion

The Tracking Program is in its adolescence and continues to mature. Technology, science, and data have advanced since the Pew Commission first issued its report. The Program and its Tracking Network have evolved with those advancements. The articles here highlight the significant progress achieved in moving environmental public health tracking forward and how it is measuring and protecting the health of our citizens.

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