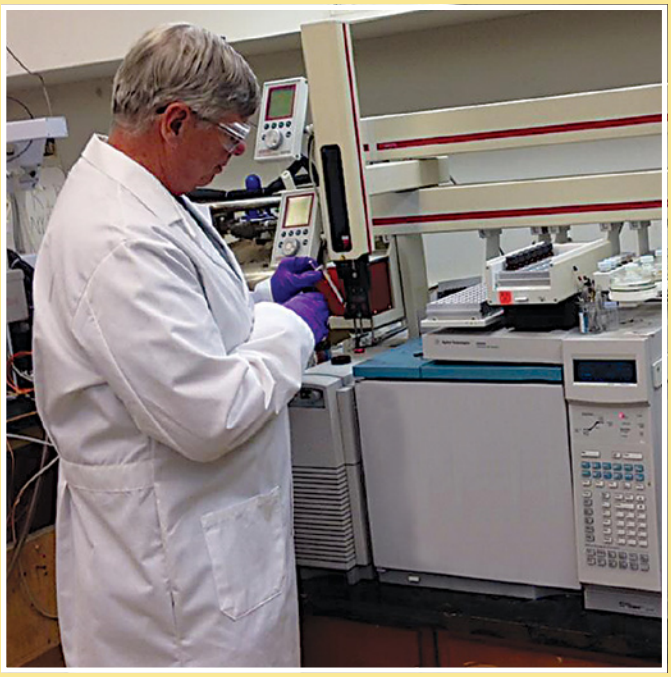
Innovations in Labs Demonstrate Increases in Efficiency and Effectiveness

Environmental health is an important component of public health, but it takes creativity and vision to recognize a new opportunity to bring the two together in the laboratory.

Maine's Division of Public Health Systems maintains its LRN-C laboratory within its Health and Environmental Testing Laboratory (HETL). As part of the LRN, they have the capacity to test for chemical agents in environmental and biological samples, including testing for cyanide in blood. However, the bulk of the lab's work involves testing for contaminants in water. Dr. Jim Eaton, a chemist with the HETL, recognized the potential environmental application of the CDC methods for analyzing cyanide in blood. Dr. Eaton began hypothesizing, testing, adapting, and developing a new procedure.

But changing laboratory methods is no small feat, particularly when the testing is part of federally required reporting to ensure the health of citizens. Dr. Eaton and the HETL staff worked with the Environmental Protection Agency (EPA) to develop a data validation plan. Part of that validation included testing the method at three different labs. Through his LRN-C training, Dr. Eaton had established good relationships with scientists from other network labs. He reached out to colleagues in two other states and both were very willing to help test the new method. After analyzing the data, Dr. Eaton and his colleagues determined that not only was the new method effective, it produced less waste and required less time and money than other methods approved by EPA.



Dr. Jim Eaton analyzes samples in the Health and Environmental Testing Laboratory

Once the validity of the method was established, EPA accepted and published it, allowing adoption by other states, and enabling them to more efficiently use their resources as they strive to protect public health and the environment.