

## PHSSR Dissertation Grantee Examines the Value of Workforce Training

*Results suggest nation's investments in preparedness training  
produce tangible benefits*

More training generates more preparedness, according to PHSSR dissertation grant recipient Jim Bellamy, who successfully defended his dissertation for the PhD in Health Systems Research at the University of Arkansas for Medical Sciences in December. Dr. Bellamy's completed dissertation research makes him among the first PHSSR investigators to rigorously study the impact of workforce training in public health on a broad, national basis. He also is one of the first investigators to make use of a novel data source from TRAIN (TrainingFinder Real-time Affiliated Integrated Network), one of the nation's most widely used web-based learning management systems for public health professionals.

Workforce training for practicing public health professionals has become an increasingly important strategy for expanding the reach and effectiveness of public health programs, particularly given that many public health workers do not earn formal degrees in public health. The federal Affordable Care Act expanded federal investments in workforce training significantly through the Public Health Training Centers program and other initiatives. Evidence concerning the effectiveness and impact of public health workforce training, however, has been limited.

Dr. Bellamy's research used person-level course enrollment and completion data from the TRAIN system to construct community-level measures of the volume of and scope of courses completed across the U.S. during 2005-2008. He focused specifically on emergency preparedness courses, given the importance of this domain of practice in public health settings. Not surprisingly, he found wide variation across states and communities in the take-up of these courses, and significant growth over time in course completion. Bellamy then linked the training take-up data with measures of recommended preparedness activities implemented by local health departments, as reported on the periodic National Profile of Local Health Departments survey conducted by the National Association of County and City Health Officials during the same timeframe. These measures included activities such as conducting preparedness exercises and drills, updating local emergency preparedness plans, and assessing the preparedness skills of workers.

The analysis examined whether increases in the volume and scope of emergency preparedness training in the community were associated with increases in agency implementation of recommended preparedness activities. Dr. Bellamy used instrumental variables analysis to control for the fact that the demand for training is higher among agencies with gaps in their existing preparedness capabilities, a phenomenon that might otherwise lead to erroneous inferences about the impact of training. After addressing this source of bias, the study found that higher training take-up led to significantly higher rates of preparedness implementation among local health departments.

The results suggest that the nation's investments in preparedness training produce tangible benefits in terms of agency performance, ultimately leading to greater risk protection for the public. Whether this training-performance relationship exists in other domains of public health activity remains an area for future research. Dr. Bellamy is a faculty member in the Nuclear Medicine program at UAMS, and plans to continue his academic career there now that his PhD is complete. His dissertation co-chairs included Dr. John Wayne at the UAMS College of Public Health and Dr. Glen Mays at the University of Kentucky.