NACCHO
National Association of County & City Health Officials
The National Connection for Local Public Health

13-02

STATEMENT OF POLICY

Applied Epidemiology Competencies

Policy

The National Association of County and City Health Officials (NACCHO) strongly supports incorporating applied epidemiologist competencies into governmental health departments for use in position descriptions, job analysis, hiring, evaluation, capacity assessment, and compensation, as well as academic curricula used by schools of public health to train epidemiologists.

Justification

Epidemiology capacity is essential to assure implementation of core public health functions at the local level, including the ten essential public health services, and must include sufficient competency of personnel.[1] Over a two-year period from 2004 to 2006, the Council of State and Territorial Epidemiologists (CSTE) and the Centers for Disease Control and Prevention (CDC) convened a diverse panel of experts to develop the Competencies for Applied Epidemiologists in Governmental Public Health Agencies. These competencies outline the knowledge, skills, and abilities that epidemiologists working within all levels of government should possess.[2]

Epidemiology is the key scientific underpinning of public health practice[3] and with the consistent decline in local public health workforce capacity since 2010,[4] retaining sufficient competency among the epidemiology workforce is vital. NACCHO's 2015 Local Epidemiology Capacity Assessment found that 34% of local health department epidemiologists have an MA in epidemiology; 14% have an MPH with a different focus; 18% have a bachelor's degree; and 18% have a doctoral degree (PhD or MD). Despite this highly educated workforce, the need for additional training was identified across a wide variety of topics and competencies.[5] CSTE's 2017 Epidemiology Capacity Assessment (ECA) identified that for state-level epidemiologists, "the greatest training priority was in analytics, defined as informatics and the application and translation of public health data."[6] In addition, the ECA found that, despite changes in the number of epidemiologists, there were no statistically significant changes in the percentage of jurisdictions reporting substantial-to-full capacity in any of the program areas, suggesting that simply hiring additional staff is insufficient to achieve hoped-for improvements. Rather, there is a need to place greater emphasis on hiring epidemiologists with specific skillsets to attain capacity goals and providing training to develop and maintain skill in emerging areas.

The Competencies for Applied Epidemiologists are a four-tiered structure, ranging from competencies expected of an entry-level master's epidemiologist to those of a senior PhD scientist. The competencies consist of eight skill domains, with subsections in each domain. The Competencies for Applied Epidemiologists can be used as a framework to develop a career

ladder for local and state governmental epidemiologists. They can be incorporated in job analyses, job descriptions, and salary structures for hiring, and provide a structure for assessing gaps and building epidemiology capacity. Adoption of these competencies to create positions ranging from entry- to supervisory-level with appropriate compensation could facilitate building epidemiology workforce capacity and retention. Further, demonstration of a sufficient, qualified epidemiology workforce that meets accepted competency standards is a required element[7] across multiple domains in public health accreditation.

Finally, incorporation of the Competencies for Applied Epidemiologists into undergraduate or graduate public health curricula accredited by the Association of Schools and Programs of Public Health is essential to aligning epidemiology skills attained during academic training with those required by state and local public health departments for their epidemiology workforce. The competencies can be further integrated across current and future continuing education opportunities, such as courses offered by the various TRAIN learning networks.

References

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2. Council of State and Territorial Epidemiologists. (2008). CDC/CSTE Applied Epidemiology Competencies. Retrieved Jan. 9, 2020, from https://cdn.ymaws.com/www.cste.org/resource/resmgr/Workforce/CompleteAECDocument.pdf.

3. Haveman-Nies, A., Jansen, S. C., van Oers, J. A. M., & van 't Veer, P. (2011). Epidemiology in Public Health Practice. *American Journal of Epidemiology*, 174 (7), 871–872.

4. National Association of County and City Health Officials. (2016). 2016 National Profile of Local Health Departments.

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6. Council of State and Territorial Epidemiologists. (2017). 2017 Epidemiology Capacity Assessment Report. Atlanta, GA

7. Public Health Accreditation Board. (2013). Public Health Accreditation Board Standards and Measures. Retrieved Jan. 9, 2020 from https://www.phaboard.org/wp-content/uploads/2019/01/PHABSM_WEB_LR1.pdf

Record of Action

Proposed by Epidemiology Workgroup with Workforce and Leadership Development Committee
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