

An Examination of the Perceived Importance and Skills Related to Policies and Policy Making Among State Public Health Injury Prevention Staff

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ABSTRACT

Objective: The purpose of this research is to use the Public Health Workforce Interests and Needs Survey to assess in greater detail state injury prevention staff perceptions of policy development and related skills and their awareness and perception of "Health in All Policies" (HiAP).

Design: The Public Health Workforce Interests and Needs Survey gauged public health practitioners' perspectives on work-place environment, job satisfaction, national trends, and training needs, and gathered demographics on the workforce. This study utilizes data from the state health agency frame only, focusing solely on those permanently employed, central office staff in injury prevention. Respondents were sampled from 5 paired Health and Human Services regions.

Setting/Participants: Approximately 25 000 invitations were sent to central office employees. The response rate was 46% (n = 10 246). The analysis in this article includes only injury prevention employees with programmatic roles, excluding clerical and custodial staff, providing us with a total of 97 respondents. When weighted, this resulted in a weighted population size of 365 injury prevention workers.

Main Outcome Measures: The main outcome measures include demographics, responses to understanding of and skill levels related to policy development, and perceptions of HiAP public health trend.

Results: State injury prevention workers reported lower policy-making skill but had an overall appreciation of the importance of policies. In general, state injury prevention workers heard of HiAP, thought there should be more emphasis on it, but did not think that HiAP would have an impact on their day-to-day work.

Conclusions/Implications for Policy and Practice: Efforts are needed for all state injury prevention workers to become better skilled in policy development, implementation, and evaluation in order to become stronger injury prevention advocates and role models.

KEY WORDS: injury prevention, policy, state workers

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More than 6 authors are listed as the de Beaumont Foundation believes in collaboration as a tool to produce important work. These authors are part of a writing group focused on PH WINS that brings together researchers in workforce, MCH, and public health practitioners in an effort to understand and provide practical applications to the needs of the state governmental public health workforce. Each member of the team provided an invaluable perspective to this research.

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Policy development is 1 of the 3 core functions of public health as well as a key component of the National Public Health Performance Standards that are used for accreditation of public health departments.¹ Policy-making skills are included in the

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Core Competencies for Public Health and are a required part of the curriculum for public health schools and programs to receive Council on Education for Public Health accreditation.²

The role of policy development in public health has gained importance with the emergence of the “Health in All Policies” (HiAP) perspective, which is an approach to systematically assess public policies across sectors that takes into account the health and health systems implications of decisions, seeks synergies, and avoids harmful health impacts to improve health.^{3,4} It is a focus on the consequences of broad-ranging public policies on health determinants and aims to improve the accountability of policy makers for health impacts at all levels of policy making.^{3,4}

For the injury prevention field, policies and resulting laws have led to great successes. This is critical since in the first half of life, more Americans die from violence and injuries than from any other cause, including cancer, human immunodeficiency virus, or the flu (<https://www.cdc.gov/injury/about/index.html>). However, deaths are just the tip of the iceberg as every year millions of people are injured and live but can be faced with lifelong mental, physical, and financial issues (<https://www.cdc.gov/injury/about/index.html>). Examples of important laws that have saved many lives include mandatory seat belt laws, pool fencing laws, drinking and driving laws, smoke detector laws, and more.⁵ Policies are an important way to achieve injury prevention intervention goals and have been said to be particularly effective since they are designed to affect large numbers of individuals or institutions at once.⁶ In fact, it has been shown that legislation and regulation, especially in reference to unintentional injuries, are the most effective interventions for injury prevention.⁵ Injury prevention also greatly benefits from HiAP, since the preponderance of injury-related policies needs to be addressed through sectors outside the immediate control of public health officials, placing a greater burden on public health professionals to have skills in influencing policy development.

Child injury prevention specialists have strongly supported the need to use HiAP to develop, mobilize, and implement child injury prevention action plans and ensure that child injury prevention is a part of any local HiAP initiative.⁷ This approach uses a cross-sector coalition of decision makers to develop action plans, allowing each sector to look at its decision-making process to incorporate prevention considerations in policy, and have sector representatives champion adoption of the plan within respective agencies, sectors, and businesses. For example, the sectors of transportation and land use are important in the development of injury prevention interventions for children related to motor vehicle injury

prevention and keeping streets safe. These sectors should be partners in prevention efforts.⁷

The experience and knowledge of public health professionals is critical to effective advocacy for health change in reducing injury morbidity and mortality.⁸ For example, public health injury prevention staff can be strong advocates for effective health policy change, resulting in lower injury-related morbidity and mortality.^{9,10} Guidance exists that allows such advocacy within prohibitions against lobbying with Federal or other funding. For example, state and local public health injury prevention staff can engage in efforts such as participating in town meetings, conducting public forums, or helping to develop an issue brief on a particular injury topic.⁸ Also, the Centers for Disease Control and Prevention has addressed the issue of allowable advocacy (see https://www.cdc.gov/grants/documents/anti-lobbying_restrictions_for_cdc_grantees_july_2012.pdf).

Injury Prevention Planning and Policy Tools

Injury prevention workers have access to several planning and policy tools to help them develop programs and initiatives and show effectiveness of policy-related interventions. For example, the Haddon Matrix has long been used as a planning tool for the development of injury prevention interventions and its components include the host, agent of injury, and the physical and social environment that interact over time to cause injury (pre-event, event, and postevent).¹¹ This Matrix is supported by the original 3 Es of injury prevention known as education, engineering, and enforcement, with the latter being greatly related to laws and policies.⁹ The Spectrum of Prevention model is also an important tool in injury prevention. It includes 6 levels of increasing scope for developing multifaceted injury prevention initiatives.¹² The levels, from least to greatest scope include strengthening individual knowledge and skills, promoting community education, educating providers, fostering coalitions and networks, changing organizational practices, and the last and highest level of influencing policy and legislation.¹² Injury prevention workers can work in all levels through educational outreach and partnership development. Also, Frieden’s Health Impact Pyramid applies to injury prevention interventions as it emphasizes broader social factors and making default decisions healthy/safe to decrease injuries.¹³

Although it is clear that policy skills are very important for injury prevention workers, there has not been a broad-based exploration of these workers’ perceived importance and skill levels related to policies and policy making to determine whether continued

successes in the field will occur. Therefore, the purpose of this study is to examine these issues among state injury prevention workers utilizing the Public Health Workforce Interests and Needs Survey (PH WINS) population.¹⁴

Methods

Sampling and broader survey methodology have been published elsewhere.¹⁴ In brief, PH WINS was fielded in fall 2014 to gauge public health practitioners' perspectives on workplace environment, job satisfaction, national trends, and training needs, and to gather demographics on the workforce. PH WINS was fielded in 3 frames—a nationally representative frame of state health agency staff; staff from a group of large, urban local health departments; and staff from other, smaller local health departments. This study utilizes data from the state health agency frame only, focusing solely on those permanently employed, central office staff. For PH WINS, respondents were sampled from 5 paired Health and Human Services regions. Approximately 25 000 invitations were sent to central office employees. After accounting for invalid e-mail addresses and staff who had left their positions, the response rate was 46% ($n = 10\,246$). Balanced repeated replication weights were used to construct robust variance estimators and account for the complex sampling design at both the state and regional levels. As a result, weighted percentages will be presented in this article.

The PH WINS instrument primarily comprises previously used or validated questions. It draws heavily from the Centers for Disease Control and Prevention's Project Officer Survey, the 2009 Epidemiology Capacity Assessment, the Federal Employee Viewpoint Survey, the Public Health Foundation Worker Survey, and the Job in General Scale.¹⁵⁻²⁰ Questions were added relating to training needs and awareness of national trends. Comprehensibility and accessibility of the survey instrument were assessed through cognitive interviews with state and local health department employees, with special emphasis on newly constructed questions and scales.

The data reviewed in this article are based on the 3 policy-related questions and responses to PH WINS and are categorized in a similar manner as described by Castrucci et al.⁴ This article focuses solely on the state governmental public health workforce. Excluded from these analyses were employees in program areas other than injury and those with nonprogrammatic roles such as clerical and custodial staff, providing us with a total of 97 respondents. When weighted, this resulted in an estimated population size of 365.

The first question relates to perceptions of the importance of 2 policy-related skills to the day-to-day work of injury prevention specialists. Also assessed was self-reported ability to perform the skill (or not). These skills are "influencing policy development" and "understanding the relationship between a new policy and many types of public health problems." Gaps in knowledge refer to those who rated an item as somewhat/very important but also indicated that they were "unable to perform" or were a "beginner" at the skill. No gaps in knowledge or proficiency were defined as a self-reported rating of "proficient" or "expert" for those daily work tasks that were somewhat or very important. We also assessed knowledge of, comfort level with, and impact of new national trends on the injury workers' daily work utilizing the HiAP items.

Descriptive analysis with frequencies and weighted percentages were calculated. All analyses were conducted using STATA 14.0. PH WINS was deemed exempt by the Chesapeake institutional review board.

Results

Of the 7261 state public health programmatic employee respondents to the PH WINS survey, 1.3% were injury prevention workers ($N = 97$). Demographic responses from the survey are found in Table 1. The greatest proportion of workers were between the ages of 26 and 50 years, did not have a public health degree, were in nonsupervisory positions, and had worked in public health for 6 to 20 years.

Table 2 shows weighted perceptions of HiAP for injury prevention workers. The majority of injury prevention workers had heard of HiAP and believed that there should be more emphasis on it (57.8% and 62.26%, respectively). Also, the majority of respondents perceived HiAP to be somewhat or very important to public health (79.37%). However, only about 34% (33.55%) of injury prevention workers reported that HiAP would have a fair amount or great deal of impact on the daily work they do.

Table 3 shows the weighted percentages of injury prevention respondents who reported (1) the importance of influencing policy development to their day-to-day work; (2) the skill level (unable to perform/beginner vs proficient/expert) of those workers who reported influencing policy development as important to their day-to-day work; (3) the importance of understanding the relationship between a new policy and public health problems; and (4) the skill level of those who found the competency to be important to their day-to-day work. Injury prevention workers reported high levels of importance of both influencing policy development and understanding the

TABLE 1
Estimated Demographic Characteristics of Injury Prevention Specialists Employed at the Central Office Location, Public Health Workforce Interests and Needs Survey 2014

Job Category	Injury Prevention Specialists (Unweighted N = 97)	Injury Prevention Specialists (Weighted N = 365)
	Unweighted Frequencies	Weighted Percentages (95% CI)
Variables		
Years in public health practice		
0-5 y	32	31.51 (18.87-47.63)
6-20 y	44	53.24 (39.64-66.38)
≥21 y	17	15.25 (8.18-26.67)
Supervisory status		
Nonsupervisor	48	62.78 (37.85-82.37)
Supervisor	48	37.22 (17.63-62.15)
Age		
≤25 y	5	3.93 (1.49-10.01)
26-50 y	53	64.97 (48.81-78.3)
≥51 y	37	31.09 (18.4-47.45)
Public health degree		
Yes	35	40.05 (28.46-52.88)
No	62	59.95 (47.12-71.54)

Abbreviation: CI, confidence interval.

relationships between a new policy and public health problems in their day-to-day work, yet lower skill levels.

Discussion

This current study finds that injury prevention workers may benefit from having a greater knowledge of and skills in policy making. Also, there shows need for a better understanding of the HiAP among injury

TABLE 3
Estimated Importance and Skill Levels for Policy Items Reported for Injury Prevention Workers, Public Health Workforce Interests and Needs Survey, 2014 (Weighted N = 365)

Policy Questions	Policy Item "Influencing Policy Development" Weighted Percentages (95 CI)	Policy Item "Understanding the Relationship Between a New Policy and Many Types of Public Health Problems" Weighted Percentages (95 CI)
	How Important is this item in your day-to-day work?	
Not/Somewhat unimportant	20.76 (10.21-37.63)	18.53 (9.77-32.32)
Somewhat/Very important	79.24 (62.37-89.79)	81.47 (67.68-90.23)
What is your current skill level for this item? ^a		
Unable to perform/ Beginner	49.59 (31.82-67.47)	37.41 (26.35-49.97)
Proficient/Expert	50.41 (32.53-68.18)	62.59 (50.03-73.65)

Abbreviation: CI, confidence interval.

^a Assessed for individuals who report importance as somewhat/very important.

prevention workers in terms of the importance of HiAP on the impact of their work. We found that injury prevention workers report that they understand the importance of policy skills and yet perceive their skill levels to be lower. This could be due to state injury prevention workers' understanding the roles policies have had on the field of injury prevention throughout the years; however, they lack confidence in their ability to serve as change agents. Castrucci et al⁴ also showed that those staff in environmental health, maternal and child health, communications, and all other areas had greater odds of having the

TABLE 2
Perceptions of HiAP Among Injury Workers, N = 97, Weighted N = 365, Public Health Workforce Interests and Needs Survey 2014

Question	Response Choices	Percentage Results (CI)
How much have you heard about HiAP?	A little/A lot	57.8 (36.26-76.73)
	Nothing at all/Not much	42.2 (23.27-63.74)
How much emphasis should there be on HiAP? ^a	More emphasis	62.26 (40.07-80.28)
	Less/About the same emphasis	37.74 (19.72-59.93)
To what extent will HiAP impact your day-to-day work? ^a	Fair amount/Great deal	33.55 (18.98-52.11)
	Not at all/Not too much	66.45 (47.89-81.02)
How important are HiAP to public health? ^a	Somewhat/Very important	79.37 (66.56-88.14)
	Not important/Somewhat unimportant	20.63 (11.86-33.44)

Abbreviations: CI, confidence interval; HiAP, Health in All Policies.

^a Analysis limited to those who have heard of HiAP (N = 72, weighted N = 282).

competency (meaning the respondents who felt the skill was somewhat/very important to their day-to-day work *and* they were proficient or expert at it) of understanding the relationship between a new policy and many types of policy problems than those staff in chronic disease and injury.

As stated earlier, it is not that the field has neglected the importance of policies on injury prevention. In fact, the core competencies developed for injury and violence prevention professionals include policy skills as a major component (http://www.npaih.org/images/epicenter_docs/injuryprevention/data/Competencies.pdf). Core competency 7 is the ability to stimulate change related to injury and/or violence prevention through policy, enforcement, advocacy, and education. The learning objectives for this competency provide more specifics such as identifying gaps in policies and laws; identifying potential partners and opponents in influencing policies, laws and regulations; having the ability to work together with advocacy/survivor groups (ie, mothers against drunk driving); and understanding how policy change can have positive or negative effects on injury and/or violence outcomes.

To further address skill gaps, more emphasis should be placed on policy development and evaluation at the federal, state, and local levels for injury prevention professionals. The 10 funded National Center for Injury Prevention and Control's Injury Control Research Centers (www.cdc.gov/injury/erpo/icrc/index.html) offer opportunities for skill development that could be expanded to perhaps reach broader audiences as does the summer program offered by the Johns Hopkins Center for Injury Research & Policy. In addition to the Injury Control Research Centers, the National Center for Injury Prevention and Control could make available additional webinars and trainings related to policy development and especially HiAP and could develop a train-the-trainer approach where state-level workers could be trained and work with their local counterparts to become more proficient. While schools and colleges of public health are important avenues for education and training, not all injury prevention professionals have or are receiving degrees in public health, nor take classes in these programs. However, these schools and colleges could partner with state programs to link educational opportunities for state staff. Examples include streamed professional presentations, free webinars, and in class or online summer programs and institutes.

Two of the 10 great public health achievements of the 20th century were related to injury prevention—motor vehicle safety and workplace safety.²¹ These achievements were made possible by leveraging policy and regulations to increase uptake of new knowledge

Implications for Policy & Practice

- The success of several injury prevention efforts has involved policy changes and enforcement, and state injury prevention workers should be among the strongest advocates.
- Continued gains, given reductions in the size and funding of the public health workforce, will rely on policy and regulatory interventions.
- Without proper training, the likelihood of maintaining the gains that have been achieved or forging new gains is small.
- Continuing to ensure that the injury prevention field can have successes on the basis of policy and regulatory changes will require investment to ensure that the policy skills and capabilities of state injury prevention workers are developed and enhanced.

and innovations in protecting human lives and health that contributed to environments in which health could be prioritized. Therefore, continued growth in policy development knowledge and skills is essential for injury prevention workers.

Limitations of this research include that the responses are derived from a cross-sectional survey that shows associations and not predictions. However, the findings are suggestive of training needs in the injury prevention area. Also, the results have been weighted to state injury prevention workers for comparability.

References

1. Centers for Disease Control and Prevention. National public health performance standards. <http://www.cdc.gov/nphps/documents/raudsep-nphps-overview.pdf>. Accessed August 30, 2016.
2. Council on Education for Public Health. <http://ceph.org/criteria-procedures/>. Accessed August 30, 2016.
3. World Health Organization Health in All Policies. http://www.euro.who.int/__data/assets/pdf_file/0007/188809/Health-in-All-Policies-final.pdf. Accessed August 30, 2016.
4. Castrucci BC, Leider JP, Sellers K. Perceptions regarding the importance and skill at policy development among public health staff. *J Public Health Manag Pract*. 2015;21(suppl 6):S141-S150.
5. Doll LS, Bonzo SE, Mercy JA, Sleet DA, eds. *Handbook of Injury and Violence Prevention*. New York, NY: Springer; 2007.
6. Vernick JS. Injury prevention policy forum. *Inj Prev*. 2006;12:382-384.
7. Gilchrist J, Smith KD. The national action plan for child injury prevention—webinar III 2013. <https://www.childrendefinesafetynetwork.org/sites/childrendefinesafetynetwork.org/files/EDCNAPPolicy111813.pdf>. Published November 18, 2013. Accessed May 16, 2017.
8. American Public Health Association. *APHA Legislative Advocacy Handbook—A Guide for Effective Public Health Advocacy*. Washington, DC: American Public Health Association.
9. Christoffel T, Gallagher SS. *Injury Prevention and Public Health: Practical Knowledge, Skills and Strategies*. Gaithersburg, MD: Aspen Publication; 1999.
10. Liller KD, ed. *Injury Prevention for Children and Adolescents*. Washington, DC: American Public Health Association; 2012.
11. National Committee for Injury Prevention and Control. *Injury Prevention—Meeting the Challenge*. New York, NY: Oxford University Press; 1989.

12. Cohen L, Swift S. The spectrum of prevention: developing a comprehensive approach to injury prevention. *Inj Prev*. 1999;5:203-207.
13. Mack KA, Liller KD, Baldwin G, Sleet D. Preventing unintentional injuries in the home using the Health Impact Pyramid. *Health Educ Behav*. 2015;42(1S):115S-122S.
14. Leider JP, Bharthapudi K, Pineau V, Liu L, Harper E. The methods behind PH WINS. *J Public Health Manag Pract*. 2015;21(6):S28-S35.
15. Centers for Disease Control and Prevention. *2009-2010 National Adult Tobacco Survey*. Atlanta, GA: Centers for Disease Control and Prevention; 2011.
16. Boulton ML, Hadler J, Beck AJ, Ferland L, Lichtveld M. Assessment of epidemiology in state health departments, 2004-2009. *Public Health Rep*. 2011;126(1):84-93.
17. Centers for Disease Control and Prevention. *CDC's Technical Assistance & Service Improvement Initiative: Summary of Assessment*. Atlanta, GA: Centers for Disease Control and Prevention; 2011.
18. Office of Personnel Management. *Federal Employee Viewpoint Survey Results*. Washington, DC: Office of Personnel Management; 2014.
19. Public Health Foundation. *Public Health Workforce Survey Instrument*. Washington, DC: Public Health Foundation; 2010.
20. Ironson GH, Smith PC, Brannick MT, Gibson WM, Paul KB. Construction of a Job in General Scale: a comparison of global, composite, and specific measures. *J Appl Psychol*. 1989;74(2):193-200.
21. Centers for Disease Control and Prevention. Ten great public health achievements in the 20th century. <https://www.cdc.gov/about/history/tengpha.htm>. Accessed December 19, 2016.

Erratum

In the article, From Theory to Practice: A 2-Year Demonstration of the Community-Centered Health Home Model, that published in the November/December supplement of the *Journal of Public Health Management and Practice*, there was a typo.

On page S47, the first section head should have read “The CCHH Model” rather than “The CCHM Model.” Similarly, the first sentence in this section should have read “CCHH not CCHM.”

The online version has been corrected. We regret the error.

Reference

1. Mor K, Riccardo J. From Theory to Practice: A 2-Year Demonstration of the Community-Centered Health Home Model. *J Public Health Manag Pract*. 2017;S23(6):S47-S53.