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Public Health Nursing in Mississippi: Changes in Context and Practice

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Abstract

Current standards and competencies guiding public health nursing (PHN) practice promote population-focused practice, but few studies have examined the extent to which change toward this type of practice has occurred. A cross-sectional, mail-back survey was conducted among public health nurses in Mississippi to examine recent changes in their practice, contextual factors related to population-focused practice, and recommendations for improving practice and educational preparation for practice. The survey response rate was 54% (n=150 [of 277]). Participants were predominantly female (95%), White (85%), 46 years or older (62%) and held an associate degree in nursing (69%). Most experienced nurses (n=106, 70%) reported perceived practice changes compared to five years prior, but did not consistently report changes toward greater population-focused practice. Participants reported funding decreases and negative effects on practice stemming from the nursing shortage. Recommendations for improving practice conditions included increasing resources, improving workplace environment and management practices, changing the focus of services, and promoting awareness of public health and PHN. Recommendations for improving education included providing more clinical experiences in public health settings and increasing financial supports and distance learning options. Additional research is needed to determine the nature and characteristics of population-focused PHN as practiced in Mississippi and elsewhere.

Keywords: community health nursing, cross sectional studies, Mississippi, nursing education, nursing shortage, public health, public health administration, survey research

Public Health Nursing in Mississippi: Changes in Context and Practice

Over the past decade, prominent organizations and initiatives have conceptualized contemporary public health practice as population-focused. Recommendations for public health practice emphasize performance of core functions and essential services at a population level.[1] Public health performance standards seek to ensure optimal provision of the essential services to communities and populations.[2] Competencies for public health professionals describe desirable skills, knowledge, and attitudes for protecting and promoting population health.[3] Concurrently, documents guiding public health nursing (PHN) practice have incorporated a population focus.

Guidelines from national nursing organizations state that PHN is a population-focused practice grounded in the performance of core functions.[4,5] Public health nursing competencies specify how nurses apply population-focused principles within the context of practice that encompasses individuals, families, populations, and systems.[6] Seminal work by the PHN Section of the Minnesota Department of Health describes interventions for population-focused PHN and defines population-focused PHN as a practice with five characteristics: it focuses on entire populations, is grounded in assessment of the population's health status, considers the broad determinants of health, emphasizes all levels of prevention, and intervenes with communities and systems as well as families and individuals.[7]

Guidelines and competencies for population-focused PHN are intended to direct practice, but very little is known about the extent to which PHN practice is actually becoming more population-focused. Only two studies conducted in the U.S. have examined PHN practice to determine if it is population-focused. Results from a study in California indicated that public health nurses performed individual-level interventions much more frequently than community or system-level interventions and that nurses perceived themselves to be better prepared for individual-level practice than for population-focused practice.[8] In contrast, findings from a study of public health nurses in Wisconsin indicated a shift from individual-level practice to more population-focused practice.[9] Research with public health nurses in Canada and the United Kingdom has identified contextual factors within and outside of public health agencies that influence adoption of population-focused practice, such as mandates for particular types of services[10] and education and training.[11] Findings from these few studies suggest regional variation in population-focused practice and the need for further exploration of factors that may influence it.

The purpose of this study was to describe recent changes in PHN practice in Mississippi. Research questions addressed the following: 1) to what extent public health nurses in Mississippi perceive that their practice has changed compared to 5 years prior to the study, 2) how support for PHN has changed, 3) if the nursing shortage has affected PHN practice in Mississippi, 4) what community, health care system, public health system, professional, and organizational factors are associated with PHN practice change, and 5) whether PHN practice in Mississippi has become more population-focused. This study was conducted as part of a larger study comparing public health nursing practice in two states. This paper will present results from Mississippi only.

Methods

Conceptual Framework

The study was guided by a conceptual framework for transition in practice described by Kelly.[12] Kelly's model indicates that transition in practice is understood only by examination of the context in which it takes place. According to Kelly, context includes the health care system, and professional, organizational, and community factors that influence what and how public health nurses practice. These categories of influences were used in data collection instruments and interpretation of findings.

Participants and Procedures

Eligibility criteria for the study included part-time or full-time employment as a public health nurse in Mississippi, RN licensure, and job responsibilities that entailed provision of PHN services at the local level in a staff or program coordination role. The public health system in the state of Mississippi is organized into nine public health districts. Public health nurses in these districts report to a chief district nurse in each district. The nine chief district nurses provided counts of eligible public health nurses working in each district. A corresponding number of survey packets and reminder cards were prepared for each district. The survey packet included a cover letter that described the study and confidentiality protections, a paper survey, and a stamped self-addressed envelope. Following approval by the Health Sciences Institutional Review Board (IRB) at the sponsoring university, the packets and reminder cards were distributed to the chief district nurses by the second author at a presentation at the state health department offices in April 2005. The presentation included a description of the study, the participant recruitment plan, and a short training on the protection of human subjects in research required by the IRB. Following the meeting, the chief district nurses distributed the survey packets to public health nurses in their districts. The chief district nurse also provided a reminder card to all public health nurses one week after the packets were distributed. Chief district nurses were not informed as to whether nurses completed the survey or not. The surveys were anonymous, and completion implied informed consent to participate.

Survey Instrument

The survey used in this study was nearly identical to one created for a previous study of public health nurses in Wisconsin.[9] The original survey was based on information gathered by the second author in a two-round Delphi survey of 19 experts in PHN practice and education. Experts were chosen randomly from membership lists of the Association of State and Territorial Directors of Nursing and the Association of Community Health Nurse Educators. Experts provided information on the qualities of public health nursing practice change and major factors influencing that change. The survey booklet for this study included eight multiple choice questions, seven open-ended questions, eight demographic

questions, and three questions with multiple-scaled response sets using 4-point or 5-point Likert-type scales. Public health nurses with five or more years of experience in their local health department were asked to provide responses to all survey questions. Less experienced public health nurses were asked to provide responses to the open-ended questions and demographic questions.

Study Variables

Variables for this study included PHN experience (experienced = five or more years with current employer/less experienced = less than five years with current employer), years employed as a public health nurse, changes in agency funding for PHN, size and type of effect the national nursing shortage had on participants' agencies, types of PHN services provided, and demographic variables. Whenever nurses were asked about changes in practice or practice environment, they were asked to compare current conditions to five years prior. Ten variables addressed changes in time providing essential public health services, and 22 variables addressed changes in health care, organizational, professional, community, and public health system factors that influence PHN. Fifteen variables addressed changes in work focus. Two of the work focus variables were used as indicators of individual-focused, as opposed to population-focused, practice: more focused on individuals and more focused on direct services. Five of the work focus variables were used as indicators of population-focused practice: more in partnership with organizations, more focused on facilitation, more focused on entire community, more in partnership with professionals, and more focused on prevention. These five variables were also summed to create an outcome variable for population-focused practice. Additional outcome variables included formal change in job description or duties (yes or no); extent of change in PHN work (0-4 scale, not at all-dramatic); and change in ability to contribute to improved public health or reduced health disparities (0-2 scale, same-decreased-increased). Extent of change in PHN work and change in ability to contribute were dichotomized in the analysis.

Data Analysis

Returned surveys were scanned and downloaded to a Microsoft Excel database using the Teleform® automated data processing system. Data were transferred into STATA 8.2 (StataCorp®, 2005) for statistical analysis. Random data checks were conducted to verify the accuracy of the data download and transfer. Descriptive analysis of the survey data included frequencies and means. The distribution of PHN work time was calculated by prorating work time data to a 40-hour work week and averaging weekly time over the subset of experienced public health nurses. Bivariate analysis

methods included Pearson χ2, Fisher's exact, and regression. Ordinary least squares regression and logistic regression were used in bivariate models to examine 1) changes in work focus as predictors of job change, extent of change in work, and ability to contribute to improved public health, 2) changes in factors influencing PHN as predictors of job change, extent of change in work, and ability to contribute to improved public health, and 3) changes in factors influencing PHN as predictors of population-based practice. Variables that produced statistically significant findings in bivariate models were combined in multivariate regression models.

Data from open-ended questions were transcribed into a Microsoft Word file. A content analysis was conducted for each question following methods described by Miles and Huberman.[13] The second and third author read and coded the transcripts independently and then met to review coding, resolve differences, and assign final codes to the data. QSR N6 software (QSR International Pty Ltd.®, 2002) was used to organize and manipulate the data for further analysis.

Results

The response rate for the survey was 54% (*n* = 150 [of 277]). Demographic characteristics and recommendations for improvement are presented for the entire sample. Analyses of PHN practice are based on 106 respondents (70%) that met the criterion for "experienced public health nurse".

Participant Characteristics

Public health nurses were predominantly female (*n* = 143, 95%), White (*n* = 127, 85%), and 46 years or older (*n* = 93, 62%). The majority of participants had an associate degree in nursing (*n* = 104, 69%). Most participants worked exclusively in rural areas (*n* = 104, 69%). The demographic characteristics of the sample are displayed in Table 1. Bivariate analyses of age and other demographic variables indicated several statistically significant associations. Older participants were significantly more likely to be White than younger participants (χ2 = 8.037, *df* = 1, *p* = .005) and were more likely to have completed a diploma program in nursing (*Two-sided Fisher's exact* = .0001). In the subset of experienced public health nurses, the significance of associations between age and race (*Two-sided Fisher's exact* = 0.01) and age and diploma education (χ2 = 22.998, *df* = 1, *p* = .000) persisted.

Characteristics of PHN Practice

Most experienced public health nurses reported long tenures with their current agency. Eighty-three percent (*n* = 88) had been employed 10 years or longer, and 56% (n = 59) had been employed 15 years or longer. Experienced participants reported dwindling support for PHN practice. Seventy-four percent (n = 78) reported decreased funding for PHN compared to five years ago, and 64% (n = 68) reported a moderate or great decrease in resources for PHN. Experienced participants also reported substantial reductions in support for the public health infrastructure, with 70% (n = 75) reporting a moderate or great decrease in support.

Most participants reported that their agency was affected by the national nursing shortage, with 52% (*n* = 55) reporting a considerable or dramatic effect and 26% (*n* = 28) reporting some effect. Half of the participants (*n* = 53) reported four or more effects of the nursing shortage on their agency. The most common effects of the shortage were positions left vacant (*n* = 76, 72%), positions take longer to fill (*n* = 70, 66%), and change in priorities for PHN services (*n* = 57, 54%).

On average, public health nurses spent the largest percentage of their work time providing family health services. The average percentage of time spent in this area was 41%, followed by communicable disease prevention and control (28%), emergency preparedness and planning (13%), chronic disease prevention (9%), injury prevention (4%) and environmental health (4%).

Changes in Context and Practice

Most experienced public health nurses (*n* = 63, 59%) reported a formal change in their job duties in the past five years. Almost all of the experienced participants described sizeable change in their work in the past five years, with 35% (*n* = 37) reporting some change and 59% (*n* = 63) reporting considerable or dramatic change. Half of the experienced nurses (*n* = 53) reported an increased ability to contribute to improved public health or reduced health disparities compared to five years ago.

Participants were asked to indicate changes in the amount of time spent providing ten essential public health services compared to five years ago. For all ten services, at least 40% of participants reported no change. Public health nurses most frequently reported more time linking to personal health services (*n* = 44, 42%), educating people about health issues (*n* = 37, 35%), and ensuring workforce competence (*n* = 37, 35%). Services that were reported most frequently as receiving less time were conducting research (n = 48, 45%), developing policies (*n* = 34, 32%) and mobilizing community partnerships (*n* = 32, 30%).

Means for types of change in work focus are displayed in Table 2. In general, there was not strong agreement that the focus of PHN work had changed. Only three types of changes had means of 3.0 or greater, indicating strong agreement with a change in work focus: work that required a greater breadth of skills, work that was more complex, and work that was more focused on prevention and health promotion,. Four of the five work focus variables that constituted population-focused practice had means less than 3.0.

In contrast, there was strong agreement among participants that numerous community, public health, health care system, organizational, and professional factors had changed (Table 3.). In each of these categories, there were one or more factors with means of 3.0 or greater, indicating at least moderate change compared to five years prior. Overall, 9 of 22 factors that influence PHN had means that were 3.0 or greater. Factors that were perceived to have changed considerably included salary disparities for public health nurses relative to other nurses, use of local health department resources for emergency preparedness/bioterrorism, community concerns about terrorism, emphasis on cost control in the health care system, and emphasis on providing reimbursable services. Two organizational factors suggestive of population-focused practice (more focus on community assessment and planning, more use of national public health performance standards) had means at or below the scale mean, indicating negligible change compared to five years prior.

In bivariate regression models, some changes in work focus or changes in factors influencing PHN were significant predictors of job change or ability to contribute to improved public health. However, no multivariate models produced statistically significant findings. Similarly, some changes in factors influencing PHN were significant predictors of population-focused practice in bivariate models, but no multivariate models produced significant findings.

Recommendations for Improving PHN Practice and Education

Both more and less experienced nurses provided recommendations for improving PHN practice and education. Their recommendations for improving practice encompassed four themes related to organizational factors: increasing resources; improving the workplace environment and management practices; changing the focus of services; and promoting awareness of public health and PHN.

The need to bolster organizational resources to support public health nurses was the predominant theme related to improving PHN practice. Poor compensation was frequently mentioned; nurses indicated that they were paid less than nurses from the private sector and stated that higher salaries were necessary to recruit new nurses to public health.

Nurses also cited the need for increasing the number of staff to respond to the PHN workload and protect the health of the public. Many nurses reported feeling overworked and ineffective because they were responsible for providing services in multiple counties.

The second theme related to recommendations for practice change included work environment and management issues. Participants cited a need for nursing leaders at the local, district, and state level who could be strong advocates for PHN. Nurses wanted better communication between supervisors and staff nurses, and they wanted a more prominent role in organizational decision-making.

The third theme related to improving practice revolved around the focus of public health services. Nurses identified the need to increase prevention and health promotion activities, target high-risk populations, and conduct more population-focused activities such as preventive health screenings in all age groups. Some nurses wanted to broaden services to meet more needs within the community. Although the majority stated that services needed to be population-focused, some nurses identified the need for more one-on-one time with clients to improve the quality of care.

The fourth theme for improving PHN practice related to awareness of public health. The respondents indicated that the general public did not have a clear understanding of public health or PHN functions and recommended educating the public. One nurse stated, “If the public was aware of how great our responsibility is to protect them, they may support us more.” In addition to lack of public awareness of the PHN role, nurses reported a lack of respect for the PHN profession from public health administrators. Nurses wanted more positive feedback on their contributions and specific recognition from state government for their work. In addition to making recommendations for improving PHN practice, participants suggested strategies for improving PHN education. Their recommendations are presented in Table 4.

Discussion

This is the first study to examine population-focused PHN in a southern state. Results from this study with Mississippi public health nurses did not provide strong evidence of a shift from individual-level to population-focused practice. Nurses did not consistently report aspects of population-focused practice, such as facilitating assessment and planning, focusing on the entire community, and partnering with other organizations and other professionals. Participants reported only one practice change that might reflect a shift to population-focused nursing, focusing more on prevention and health promotion. In comparison, public health nurses in Wisconsin reported practice that, compared to five years prior, was

more in partnership with other organizations and other professionals, more focused on facilitation, and more focused on the entire community.[9] When asked about time spent providing essential public health services, the percentage of Mississippi nurses reporting an increase in time spent was highest for an essential service that is primarily individual-level, linking people to needed services. Approximately one-third of participants reported spending *less* time on two services that are strongly population-focused, developing policies and mobilizing community partnerships. On average, participants spent the largest percentage of their work time providing family health services, another area that is more individual-level than population-focused. The focus on individual-level interventions may reflect perceived competencies. Public health nurses do not report even minimal competency for performing most of the essential public health services,[14] and they have low confidence that they are adequately prepared to intervene at the community and systems levels.[8] In addition, the ability of public health nurses to engage in population-focused practice is dependent on organizational commitment to supporting population-focused practice.[15] In the current study, participants indicated that organizational factors reflecting population-focused practice (focus on community assessment, use of national public health performance standards) had changed little in the previous five years.

Although a shift to population-focused practice was not evident, results indicated that nurses perceived a number of changes in their work or work environment, particularly related to declines in resources for PHN. Participants reported decreased funding for PHN and reduced support for the public health infrastructure. Among the diverse factors influencing PHN, factors specifically related to financial matters, such as increased emphasis on reimbursable services and cost control, were consistently rated as changing to a moderate or great extent. The factor which had changed to the greatest extent was increased disparity in salaries for public health nurses, and participants described how low salaries contributed to poor staff morale and limited the pool of applicants for PHN positions. A large proportion of participants indicated that the nursing shortage had led to position vacancies in their agency, and some participants reported that their agencies had insufficient staff to effectively serve the public. Nationally, vacancies in PHN positions are common, and competitive pay has been identified as the key strategy for addressing the PHN shortage.[16]

Another prominently reported change was increased focus on bioterrorism and emergency preparedness. Nurses identified extensive community concern about terrorism and reported diversion of public health resources to emergency preparedness. Emergency preparedness and planning constituted a sizeable portion of PHN work time, trailing only family health and communicable disease prevention. The development of PHN competencies related to disaster preparedness is an important step toward improving the capacity of local health departments to manage disaster response and recovery.[17]

Several issues related to workforce development emerged from the study. The sample demographics describe an aging, predominantly White PHN cohort in Mississippi, with educational preparation primarily at the associate degree level. There was somewhat more racial diversity among the younger, less experienced nurses; nonetheless, African-Americans were substantially underrepresented in the PHN workforce relative to their Mississippi population.[18]

Only 17% of nurses in this study had a bachelor degree, somewhat lower than the 25% reported by the Mississippi Board of Nursing[19] for all community health nurses and public health nurses in Mississippi. National nursing organizations have designated preparation at the bachelor level as a standard for public health nurses, but in practice, this standard is not being met; only 48% of community health nurses and public health nurses in the U.S. hold a bachelor degree.[20] Most associate degree programs provide very limited training in public health concepts and practice, but baccalaureate programs also lack substantial content in foundational public health topics such as epidemiology, public policy, and organizational theory.[8] Innovative AD-to-BS completion programs that focus on developing nurses as public health leaders are a promising approach to increasing population-focused competencies in the PHN workforce.[21]

Participants made multiple recommendations for improving PHN education that are relevant for all degree programs. Similar to findings from previous research,[22] public health nurses recommended that educational programs increase content on core public health concepts and PHN roles. A key recommendation was that programs provide multiple clinical experiences in genuine public health settings. However, when students have received limited or no coursework relevant to population-focused practice, appropriate clinical experiences in public health settings will necessarily be limited to interventions focused on individuals and their family members.[23] Other key recommendations specifically addressed graduate and continuing educations programs and called for flexible programs and distance learning options. Distance-based learning programs have the potential to reach a wide audience of public health nurses and are a critical strategy for advancing the competency of the PHN workforce.[24] However, participants in this study pointed out the importance of employer supports, such as tuition reimbursement and flex time for taking classes, for advancing the education of public health nurses.

Results from this research suggest several areas for further exploration. This study was conducted before Hurricanes Katrina and Rita devastated coastal Mississippi. The study could be replicated in a post-Katrina environment to compare perceptions of practice changes. More studies are needed to determine the characteristics of population-focused PHN. Studies that compare the use, performance, and experiences of public health nurses with different types of educational

preparation (associate vs. bachelor degree) can advance national dialogue on educational requirements for nurses working in public health settings.

Limitations

Although the response rate was acceptable for a mailed survey, the sample may not represent the population of Mississippi public health nurses. The survey questions were intended to capture elements of the concept of population-focused nursing, but further development of the concept and its measurement are warranted. Finally, this was a cross-sectional survey conducted before the public health emergency precipitated by Hurricanes Katrina and Rita. The environment for PHN and the perspectives reported here may have changed in the aftermath of these events.

Conclusion

This study adds to the small body of research describing characteristics of PHN practice and provided evidence that PHN practice in Mississippi in 2005 was not changing substantially toward the more population-focused practice in line with national guidelines of the time. Factors that may help to explain these results are poor financial support for public health services in Mississippi, the continuing shortage of nurses, and the state's heavy reliance on associate degree-prepared nurses who are likely to have limited training in population health concepts and skills. The dedicated and experienced public health nurses surveyed offered many recommendations for improvements in PHN practice and education that if enacted could help improve public health services in Mississippi.

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Table 1. Demographic Characteristics of Study Participants

	All		Experienced[1]		Less experienced	
	N = 150		n = 106 (70.67%)		n = 44 (29.33%)	
	#	%	#	%	#	%
Gender						
Female	143	95.33	100	94.34	43	97.73
Missing	4	2.67	4	3.77	0	0.00
Race/ethnicity						
White	127	84.67	92	86.79	35	79.55

	Black/Bi-racial	18	12.00	9	8.49	9	20.45
	Missing	5	3.33	5	4.72	0	0.00
Spanish language		3	2.00	0	0.00	3	6.82
Age							
	<25	2	1.33	0	0.00	2	4.55
	25-35	19	12.67	5	4.72	14	31.82
	36-45	33	22.00	20	18.87	13	29.55
	46-55	66	44.00	55	51.89	11	25.00
	56-65	26	17.33	22	20.75	4	9.09
	66+	1	0.67	1	0.94	0	0.00
	Missing	3	2.00	3	2.83	0	0.00
	45 years or under	54	36.00	25	23.58	29	65.91
	46 years or more	93	62.00	78	73.59	15	34.09
		All		Experienced[1]		Less experienced	
		N = 150		n = 106 (70.67%)		n = 44 (29.33%)	
		#	%	#	%	#	%
Education[2]							
	BSN[3]	26	17.33	20	18.87	6	13.67
	ADN[4]	104	69.33	68	64.15	36	81.82

	Diploma	19	12.67	16	16.10	3	6.82
	Other	11	7.33	9	8.49	2	4.55
	Missing	3	2.00	3	2.93	0	0.00
Licensure[2]							
	RN	149	99.33	105	99.10	44	95.70
	Other	5	3.33	3	2.83	2	4.55
	Missing	1	0.67	1	0.90	0	0.00
Geographic area							
	Rural	104	69.33	74	69.81	30	68.18
	Suburban	15	10.00	9	8.49	6	13.64
	Urban	21	14.00	15	14.15	6	13.64
	Mixed	8	5.34	6	5.65	2	4.55
	Missing	2	1.33	2	1.89	0	0.00

[1]Employed at current agency since 1998 or earlier.
[2]Column totals may exceed 150, 100% because participants could select multiple responses.
[3]Bachelor of Science degree in nursing
[4]Associate degree in nursing

Table 2. Changes in PHN Work Focus[1]

Type of Focus		N = 106 Mean (sd)
Individual-focused		
	More focused on individuals	2.51 (.73)
	More focused on direct services	2.91 (.73)
Population-focused		
	More in partnership with organizations	2.49 (.64)
	More focused on facilitation	2.50 (.76)

	More focused on entire community	2.68 (.74)
	More in partnership with professionals	2.84 (.69)
	More focused on prevention	3.04 (.69)
Other		
	More crisis-driven	2.49 (.83)
	More focused on supervision	2.62 (.86)
	More focused on reimbursed services	2.64 (1.1)

	More focused on being a resource	2.76 (.65)
	More focused on vulnerable populations	2.92 (.65)
	More focused on grant-funded areas	2.94 (.68)
	Requires greater breadth of skills	3.11 (.72)
	More complex	3.24 (.71)
[1]1 - 4 scale, strongly disagree – strongly agree; scale mean 2.5		

Table 3. Changes in Influences on PHN[1]

Type of Influence		N = 106 Mean (sd)
Community		
	More movement of poor women into employment	1.99 (.75)
	More elderly people in community	2.47 (.91)
	More poverty in community	2.68 (.88)
	More diversity	3.02 (.84)
	More community concern about terrorism	3.28 (.82)

Public Health		
	More emphasis on priorities of state health plan	2.50 (.93)
	Less support for public health	3.10 (.82)
Health Care		
	More prevention/promotion services in managed care	2.19 (.73)
	Fewer public health providers caring for MA[2] participants	2.35 (.92)
	More private sector providers caring for MA participants	2.50 (.87)
	More problems with lack of access	3.01 (.89)

	More emphasis on cost control	3.22 (.82)
Organizational		
	More focus on community assessment and planning in LHD	2.28 (.76)
	More use of national public health performance standards	2.50 (.86)
	More use of technology in agency	2.68 (.91)
Type of Influence		N = 106 Mean (sd)
Organizational		

	Fewer resources for PHN	2.97 (.91)
	More emphasis on reimbursed services	3.21 (.87)
	More use of LHD resources for emergency preparedness	3.48 (.79)
Professional		
	More supervision of PHN by non-nurses	2.13 (1.09)
	More non-nursing personnel performing PHN duties	2.15 (.98)
	More problems due to nursing shortage	3.11 (.95)

	More disparity in PHN salaries	3.76 (.60)
[1]1 - 4 scale, not at all – great extent; scale mean 2.5 [2]Medicaid		

Table 4. Recommendations for Improving Education for Public Health Nursing

Level of Education • Recommendations	Representative Quotations
Basic • Include core public health content • Increase content on role of PHN • Require clinical rotation in PH setting	"The most basic public health course should be greatly enlarged. Most nurses do not have a clear understanding of what public health nursing is."
Graduate Education	"Allow time for online studies or flex time." "Less classroom, more field work."

• Increase financial support, such as tuition reimbursement • Increase student time in PH settings • Develop flexible graduate programs, including online options	"More on-the-job training, so to speak."
Continuing Education • Increase financial support • Allow time off to attend in-services • Offer in-services routinely • Provide incentives for employees • Provide Spanish classes • Cover core PH prevention concepts • Mandate CEU for RN license renewal • Offer university classes frequently	"Time off and financial assistance for people who want to increase their education." "Close clinics for in-services or rotate personnel to allow more nurses to attend." "Years ago we had quarterly in-services to learn and share. The state as a whole was then on the same page."