

University of Colorado College of Nursing
Anschutz Medical Campus
Evidence Table

Melnyk, B.M & Fineout-Overholt, E. (2023). Hierarchy of evidence for intervention questions. Evidence-Based Practice in Nursing & Healthcare, 5th edition. Philadelphia, PA: Wolters Kluwer Health. p. 21 box 1.3 and p.118-145.

Garrard, J. (2022). Health Sciences Literature Review Made Easy, 6th ed. Burlington, MA: Jones and Bartlett Learning.

PICOT question: For Itinerant Public Health Nurses (PHNs) in the State of Alaska, how does participation in a professional development series impact capacity building and confidence to provide public health services in remote communities?

Levels of Evidence: I-VII (Melnyk, 2023 text p. 21)

Entering citations in descending order of strength of evidence (i.e. systematic review and meta-analysis of RCTs, LOE 1, followed by LOE II citations, etc.). Not all articles will have elements for each column of the evidence table, put NA in the column. Put information in the table in your own words and relate the findings back to your PICO(T) question. Do not plagiarize the article.

Author, Year, Title, Journal	LOE	Aim/Purpose (e.g. hypothesis, research questions, QI or EBP purpose statement)	Theoretical framework for study (e.g. pathophysiology; practice model; change theory, nursing theory, etc)	Design/ Instruments/ Interventions <i>Research methods; QI; EBP interventions</i>	Sample and Setting information	Variables studied	Data Analysis Methods (e.g. what analysis was used; report statistical findings; p value. Include information such as NNT, CI, effect size when appropriate)	Relevant findings	Strengths /Limitations	Overall Strength / Quality of the article/study based on biases, concerns with methodology, etc.
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Kett et al., (2023). Competencies, Training Needs, and Turnover Among Rural Compared With Urban Local Public Health Practitioners: 2021 Public Health Workforce Interests and Needs Survey. <i>American Journal of Public Health</i> .	III	This study explored differences between rural and urban training needs and competencies intended for local health departments. The study examined relationships with turnover comparing rural and urban local health departments, and how supportive training methods can improve workforce retention within rural health departments.	N/A	Cross-sectional study using the 2021 Public Health Workforce Interest and Needs Survey. Survey administered by de Beaumont Foundation and the Association of State and Territorial Health Officials. A cross-sectional study was useful for gathering information from rural health departments vs urban, and from the survey responses, gathering how training needs and skillset needs might vary between the occupational settings.	Study included 29,751 individual local public health staff that represented 47 state health departments in the U.S. Number of urban healthcare workers included in study was: 24,906, and rural healthcare workers was 4,845. Participants were categorized in tiers: • Nonsupervisory staff (tier 1) • Managers, supervisors, executives (tier 3) 742 local health departments were reflected in the sample size.	Independent Variable: Rural-Urban Public Health Department Dependent variables: 1.) training needs, 2.) skills (like ability to describe benefit of strategic planning in community & the ability to share importance of engaging community members in program design and implementation), 3.) turnover risk, COVID-19 impact on job. *Jurisdictional characteristics included: % population unemployed, persons in poverty, and persons older	• Multivariable logistic regression used for adjusted odds ratio in comparison between rural vs urban skill proficiencies and training needs. • Likert scales used to assess skill proficiency from respondents during interview. • Analysis included descriptive statistics and x2 test for bivariate analyses between each outcome and rural–urban location followed by other staff, organizational, and community characteristics. • Fully adjusted models, displaying coefficients for all analyses, along with 95% confidence	Both tier 1 and 2/3 rural staff reported lower proficiency than urban staff in almost all skills measured, and the training needs aligned with responses indicating low proficiency. Rural health department staff described challenges with improving population health in communities with limited resources. This study highlights the existing challenges rural nurses face with limited opportunities to establish partnerships to address the higher	Strengths: • Large study size and inclusion of Region 10 (Alaska, Idaho, Oregon and Washington). • Advances knowledge and understanding for future studies focused on staff development and specialized training for rural health departments. Weakness: • Significantly more participants included in urban group than rural representation. • Biases and limitations from self-reports that seek to understand training needs and competencies from responses. • Because of design, unable to	Strength from the implications for training rural health department staff (like Alaskan Itinerants), and distinguishing training needs for rural health staff to learn more about data-based decision making, and justice, equity, diversity and inclusion in remote care settings. The study demonstrates strengths & weaknesses unique to providers and their experiences with rural healthcare. The findings convey the need for specialized workforce training and competencies specific to the provision of rural health care.
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						than 25 years with less than a high school diploma, race and ethnicity.	intervals included in study. Rural tier 2/3 staff had significantly lower odds of reporting proficiency in “Use valid data” (AOR 5 0.70; 95% CI 5 0.53, 0.93) and significantly higher odds of having a training need in this area (AOR 5 1.46; 95% CI 5 1.10, 1.55).	incidence of risky behaviors and poor health outcomes. Demonstrates the need for continuing education that focuses on population-health response and services.	establish causality. • Unclear differences between tier 1 and tier 2/3 groups and the relationship to findings.	“Opportunities to leverage rural staff competencies in systems thinking and community partnership.” (p. 698) Kett, P. M., Bekemeier, B., Patterson, D. G., & Schaffer, K. (2023). Competencies, Training Needs, and Turnover Among Rural Compared With Urban Local Public Health Practitioners: 2021 Public Health Workforce Interests and Needs Survey. <i>American Journal of Public Health</i> (1971), 113(6), 689–699. https://doi.org/10.2105/AJPH.2023.307273
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McCullough et al., (2022). Nursing in a different world: Remote area nursing as a specialist – generalist practice area. The Australian Journal of Rural Health.	VI	This study explores the scope and skills required of remote community health nurses and investigates what training background and continuing education can improve community engagement and connection from nurses practicing in remote areas.	Constructivist grounded theory	Qualitative Research using grounded theory to shape understanding about remote community health nurses and nuances of role and responsiveness in community care. Using telephone interviews (between 2014-2017), expert reference group and informal feedback from remote nurses attending conferences, the study explores actions and interactions used in remote care, and what factors enhanced or inhibited services in the delivery of remote healthcare services. The qualitative research is guided by the nursing narrative & experience in remote care, which can positively impact the design and	This study took place in Australia and included 24 nurses (13 nurse practitioners, and 11 registered nurses) that provided care to remote communities (defined by the study as populations between 150 to 1,500 people). A snowball method was used for recruitment. Half of the nurses included in the study had extensive history working in rural healthcare settings.	1.) “Lack of knowledge and skill” as confounding factor for remote nurse’s’ capacity & ability to provide primary health care. 2.) “Working alone” as a variable to responsibility and autonomy in practice 3.) “Experience” of remote nurse as a variable for how knowledge and skill increase health resources in remote communities.	From the qualitative research, Symbolic Interactionism (SI) theory was used to analyze remote nurse interviews, translating the unique needs of remote nurses through their experiences providing care in rural areas. Using Constructivist Grounded Theory (CGT), analysis related key information drawn from participant interviews and provided recommendations for improving experience and practice of remote nurses.	• Remote nurses face unique challenges in the provision of care and could benefit from specialized professional development and ongoing education to assist with nuances of their role. • For nurses providing care in remote areas, even those with knowledgeable experience, many felt ill-equipped to address topics on health promotion and community engagement. • Nurses working in remote communities are uniquely positioned and can benefit	Strengths: • Expert reference group • Academic oversight • Peer-reviewed Limitations: • Small sample size • No differential analysis between study participants that were nurse practitioners with advanced degrees and those that were registered nurses.	The “remote nurse” description and geographic isolation represented in this study are relatable to the unique role of itinerant public health nurses (PHNs) in the State of Alaska, and the focus for this DNP evaluation project. Both the size of the study group and the extensive geographic territory covered are relevant to Alaska PHNs. The findings justify actions that increase staff education, supportive supervision, and trainings that relate to remote roles—and relevance to the Alaska itinerant
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				outcome of an intervention.				from ongoing skill development, and training as a “generalist”. • Exploring how to increase knowledge and competency that encompasses cultural awareness, health education practice in the context of remote communities. • Enlightens the question on how to provide professional development opportunities for remote nurses and the knowledge of how to increase availability of community resources and access.		PHN practice and scope. The nursing theory demonstrates understanding on how to build capacity for remote nurses through professional development and competency. McCullough, K., Bayes, S., Whitehead, L., Williams, A., & Cope, V. (2022). Nursing in a different world: Remote area nursing as a specialist–generalist practice area. <i>The Australian Journal of Rural Health</i> , 30(5), 570–581. https://doi.org/10.1111/ajr.12899
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EBP Table NURS 6109_Claire Geldhof

Bekemeier et al., (2019). Data, capacity-building, and training needs to address rural health inequities in the Northwest United States: a qualitative study. <i>Journal of the American Medical Association: JAMA</i> .	VI	The study examined rural, local health departments in Alaska, Idaho, Oregon and Washington and used qualitative interviews to advise current training needs for remote providers uniquely positioned to engage with projects orienting around community health strategies. Challenges spawning from lack of education and understanding of how to use existing data to contest health inequities highlights future	N/A	Qualitative descriptive study using semi-structured phone interviews. Participants were first recruited by email invitation and then were later followed with a phone interview using open-ended questions from an interview guide protocol shared by a SHARE-NW study investigator. Sub-research from SHARE-NW University of Washington School of Public Health and endorsed by the Equity Advisory Committee. Bi-weekly meetings with study investigators to perform data review and analysis from interviews. This study cites the Performance of Routine Information System Management	28 participants were interviewed individually or in small groups for 30–60 minutes between February-March 2018. Participants were determined from their positions in AK, ID, OR, WA where they were recruited based on engagement with public health data useful for decision-making in rural communities. Other inclusion criteria were the participants who worked in rural health, or for an organization serving remote communities with healthcare needs.	Variables included: (1) perceived primary health disparities in their community, (2) how their agencies currently track and monitor disparities, (3) challenges for their agencies in accessing data on disparities, and (4) how participants communicate and display data on health disparities. (high, medium, low, or no need) related to understanding and tracking health disparities. Training topic variables included (a) understanding health disparities, (b)	• Content analysis was used to draw out themes from coded interview transcripts. • Representative quotes were compiled to narrate themes and relevant findings. • First-half of interview questions related to health disparities in respondent's community and the data sources used in work. • Second-half of interview was soliciting training topics that would be useful for health disparities. • Final section of interview devoted to open-ended questions that ask about use of data visualization as part of job and	The focus on rural healthcare and the distinct challenges of addressing health inequities in remote communities highlights the need for specialized training and capacity building for rural healthcare providers. Focus areas for enhanced training needs included how to analyze and access data to monitor and address health disparities. Discussion about the uniqueness of remote healthcare access/provision and how	Strength: • Equity Advisory Committee used for review, feedback process with peers, study protocol, comparative findings to other studies. Weakness: • Very small sample size with limitations on demographics represented. • Recruitment for participant process presents challenges with bias based on referral selection. • Nursing not represented in characteristics of study participants. • Limited focus on tribal communities—specifically in Alaska where obtaining sampling can be very challenging	• Findings inspire how specific training for rural healthcare providers and leaders can stimulate better communication, connections, and access to care in remote areas. • The quality of the study was weakened by the limited data on tribal participants as it relates to this DNP project. • There is strength in the opportunities provided from narratives documented from the themes (p. 828, table 2). Bekemeier, B., Park, S., Backonja, U., Ornelas, I., & Turner, A. M. (2019). Data, capacity-building, and training needs
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		opportunities for staff development in rural public health efforts.		(PRISM) framework for its potential usefulness in rural healthcare settings. Public Health Activities and Services Tracking (PHAST) model is noted in this study for its utility to assure adequate data access, and local “capacity building” in using data for decision-making.		tracking and monitoring disparities, (c) analyzing disparities data, and (d) displaying disparities data.	outreach to illustrate health disparities.	data, expertise, on how to analyze and support data are often limited.	with vast number of tribes and geographic isolation. • Historic injustices related to data collection impact understandings of narratives	to address rural health inequities in the Northwest United States: a qualitative study. Journal of the American Medical Informatics Association : JAMIA, 26(8–9), 825–834. https://doi.org/10.1093/jamia/ocz037
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