

## **Key Environmental Health Competencies for Rural Primary Care Providers**

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## **Environmental Competence**

- Environmental competence refers to the ability of both public and private health providers and policymakers to be responsive to the constellation of physical, social, and economic environments in which patients and populations live

Ahern and Hendryx (2008)

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## **Why Rural Environmental Health?**

- Providing rural health care that considers environmental determinants of health, environmental impact on health, and outcomes attributed to environmental issues is complex due to the need for providers to be competent not only in social and health sciences, but also in environmental health concepts.

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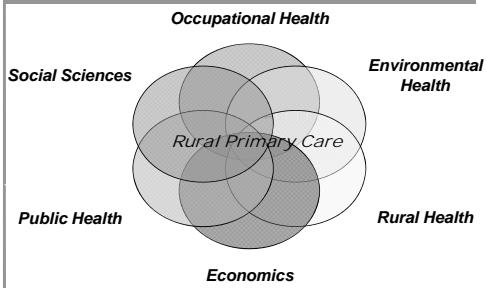
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## **Rural Primary Care Providers and Environmental Competency**



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## **Why Rural Environmental Health?**

- Health care providers in rural communities must be able to assess individual risks and community environmental needs, perform diagnosis, plan for intervention and management, and develop evaluation strategies.

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## **Why Rural Environmental Health?**

- Few health care providers are trained in environmental health conditions and history taking, even though poor environmental quality is estimated to be directly responsible for approximately 25% of all preventable ill health in the world, and the total costs of environmentally attributable diseases in American children alone are estimated at \$54 billion dollars annually.

National Environmental Education Foundation. Pediatric Environmental History Primer. (retrieved from <http://www.neef.org>)

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### ***Why Competency Based Education?***

- Most professions have moved away from learning objectives as a framework for education and training programs and now express learning needs in the form of competency statements, an expression of what a professional should be able to do rather than an expression of what a program will provide.

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### ***Why Environmental Health Competencies?***

- Because of the risks inherent in rural communities, from the physical environment including hazards and terrain, to social and occupational risks, all health providers in rural areas need to be competent in environmental health care.
- Diseases caused by environmental exposures may have nonspecific symptoms or manifest themselves as common health problems, making environmental competency vital for correct diagnosis, referral and intervention.

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### ***Why Environmental Health Competencies?***

- Basic knowledge and concepts that may emerge as necessary for rural providers include environmental assessment and referral, environmental advocacy within communities, risk communication, legislative and regulatory impact
- Specific sub-competencies in these areas that might emerge could be environmental history taking, evaluating exposure histories, environmental infrastructure and resources, and knowledge of reporting requirements.

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## Study Aims

- The purpose of this study is to develop and validate a comprehensive competency guide for use by rural primary care providers in the provision of environmentally competent care to rural people (Phase One).

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## Study Aims

- Experts in education and environmental health will review the competency guide for clarity and content validity (Phase Two).
- Future study will identify existing environmental health clinical practice guidelines for each competency with the ultimate goal of development of a *Compendium of Key Environmental Health Competencies and Guidelines for Rural Primary Care Providers*.

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## Phase One ~ Development of the Key Environmental Competencies for Rural Primary Care Providers

- Gathered existing, discipline specific competencies developed by a variety of entities including departments of environmental and public health, professional organizations, education organizations, and others.
- Exhaustive web searches, literature searches and key informant contacts used to identify existing competencies.

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## Phase One ~ Development of Competencies - *continued*

- Literature searches
  - PubMed
  - CINAHL
  - Cochran Library
  - ScienceDirect
  - Social Work Abstracts
  - Social Work Abstracts Plus
  - MEDLINE
  - POPLINE
  - TOXNET
- Database searches
  - Global Health Database in OVID
  - Ebsco Host
  - Lexis-Nexis
- Google and Google Scholar searches were also included.

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## Search Terms Used

- **MeSH terms and keywords:**
  - environmental health competencies
  - environmental health guidelines
  - public health competencies
  - rural health competencies
  - rural health care
  - occupational health competencies
  - EMT competencies
  - nursing competencies
  - dental competencies
  - dietetic competencies
  - medical competencies
  - social work competencies
- **MeSH and keywords:**
  - public health AND competencies
  - environmental health AND competencies
  - rural health AND competencies
  - rural health care AND characteristics
  - social work AND competencies
  - occupational AND environmental competencies
  - environmental illness

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## Phase One ~ Development of Competencies - *continued*

- 12,000 hits on terms
- Narrowed to approximately 300 that met initial decision rules for inclusion
  - Document refers to a specific discipline of interest in this project (medicine, nursing, nurse practitioner, physician's assistant) or to a field of interest (public health, environmental health, occupational health)or
  - Document describes assessment or evaluation of competencies within disciplines of interest.
  - Further narrowed for resource materials to include only documents that include competencies designed/or validated by experts.

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## Phase One ~ Development of Competencies - *continued*

- Consensus conference held in March 2009 with 10 experts from environmental health, public health, rural health, and specific key disciplines to develop the Key Environmental Competencies for Rural Primary Care Providers.
- Conference was managed by a skilled facilitator, using a consensus model to guide interactions.

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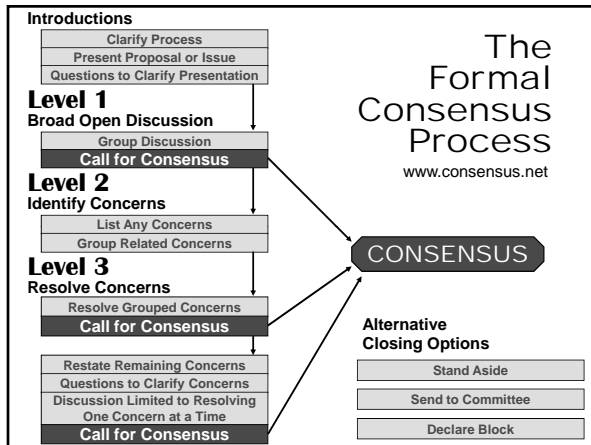
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## Phase One ~ Results

- A draft of the competency guide was developed at the March conference.
- The experts are currently working to resolve any outstanding issues and approve final competency document.
- Final result will be the *Key Environmental Competencies for Rural Primary Care Providers*, which will be validated in Phase Two of this study.

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**Phase Two ~ Competency Guide Validation**

- Survey experts in environmental and rural health to clarify and validate a list of competencies and sub-competencies
- The specific aims of Phase Two are:
  - Identify competencies and sub-competencies that need to be modified to improve clarity.
  - Ensure that sub-competencies are linked to the appropriate competency.
  - Identify competencies and sub-competencies that should be added to or omitted from the competency guide.

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**Phase Two ~ Competency Guide Validation**

- Study participants will be asked to complete a web based survey.
- They will be instructed to read each item on the survey and rate for clarity, appropriateness, and applicability to multiple disciplines.
- Opportunity to comment on missing competencies will be provided.

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## **Phase Two ~ Competency Guide Validation Data Analysis**

- Response frequencies to each survey item will be tabulated.
- Because multiple experts will be assessing a given item, the quantitative rating procedure for items will use percentage agreement (frequencies) among the environmental and rural health experts.
- Criterion for both clarity and content validity will be set at 80% agreement. This percentage agreement criteria is based on the general consensus among behavioral scientists as 70% being necessary, 80% being adequate, and 90% being good.

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Topf, M. (1986) Three estimates of interrater reliability for nominal data. Nursing Research, 35:253-5.



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## **Phase Two ~ Competency Guide Validation Data Analysis**

- WVRHRC Investigators will review both the statistics for each item and all comments provided by respondents. This input will be used to refine the competency guide.
- The refined guide, along with the agreement statistics and comments will be reviewed by the experts from Phase One of the study prior to dissemination.

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## **Dissemination of Competencies**

- WVRHRC website (<http://wvrhrc.hsc.wvu.edu/>)
- Consensus conference participants (leaders in the field)
- Respondents to content validity survey
- Other Stakeholders
- Rural Health Research Gateway
- Directors of all State Offices of Rural Health via email policy briefs
- Expert Work Group and Research Network-Users Group will advise the WVRHRC on additional dissemination methods

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## ***Future Impact***

- Work with education policy making organizations (AAMC, AACN, etc.) to evaluate additional dissemination techniques for their constituencies
- Evaluate potential methods to integrate competencies into current education standards for schools preparing entry level practitioners with a rural health focus
- Work with professional organizations to disseminate the competencies for use in the development of education programs for practicing professionals
- Development of compendium of key guidelines for environmental health competency for rural primary care providers

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## ***Our future dream.....***

- Development of searchable database of potential physical environmental risks, including hazards, terrain, and the built environment, and social and occupational risks at the level of zip code for use by rural primary care providers in the provision of environmentally competent care to rural people.

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## ***Final Thought.....***

- "When the earth is sick and polluted, human health is impossible.... To heal ourselves we must heal our planet, and to heal our planet we must heal ourselves."  
— **Bobby McLeod** (*Koorri activist, aboriginal*)

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## **Contact Information**

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