



Nursing and Geography

- History of Geography and Nursing
 - Florence Nightingale
 - World War II
 - Nursing faculty and access to clinical experiences
- First published article by on nursing distribution in 1980
- Present day multidisciplinary specialties working together to influence healthcare outcomes

Lundy, K. S., & Janes, S. (2001). *Community health nursing: Caring for the public's health*. Sudbury, MA: Jones and Bartlett.
Tomblin, B. (1996). *G. I. nightingales: The Army nurse corps in World War II*. Lexington, KY: The University Press of Kentucky
Vreeland, E. M. (1955). What regionalization means for nursing. *Nursing Outlook*, 3(4), 215-217.

Langwell, K. M., Wilson, S. D., Deane, R. T., Black, R. A., & Chui, K.-f. (1980). Geographic distribution of certified nurse-midwives. *Journal of Nurse-Midwifery*, 25(6), 3.



Nursing and Geographic Information Systems (GIS)

- The intradisciplinary approach of GIS and nursing is in its infancy to evaluate healthcare outcomes and access
- GIS should be considered by nurse scientist to evaluate the environment and its effects on individual, community, societal healthcare outcomes.



Healthcare Access

- Five dimensions of Healthcare Access by Penchansky and Thomas
 - Availability
 - Accessibility
 - Affordability
 - Acceptability
 - Accommodation

Penchansky, R., & Thomas, J. W. (1981). The concept of access: Definition and relationship to consumer satisfaction. *Medical Care*, 19(2), 127-140.



Data Sources

- GIS affords researchers the ability to integrate spatial information from a wide variety of heterogeneous sources and to precisely measure distance into a single framework
- Data sources
 - Primary: psychometric or econometric
 - WebGIS
 - Secondary: external sources
 - Administrative data, location data, commercial data

Apparicio, P., Abdelmajid, M., Riva, M., & Shearmur, R. (2008). Comparing alternative approaches to measuring the geographical accessibility of urban health services: Distance types and aggregation-error issues. ,



Quantitative Methods

- Provider to Population Ratios (Availability)
- Travel Impedance to Nearest Provider (Accessibility and Availability)
- Kernel Density Methods (Availability)
- Gravity Models (Accessibility and Availability)
- Two-Step Floating Catchment Area (Accessibility and Availability)

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Qualitative Methods

- Provides richer understanding of the patient experience.
- Decreases risk for aggregation errors.
- Sociospatial Grounded Theory (Acceptability and Accommodation)
- Participant Observation (Accommodation)
- Geo-ethnography (Accommodation and Acceptability)



Questions?



Thank you

