NAM Nurse Scholar Project: National Nurse Workforce Readiness for Radiation Emergencies and Nuclear Events

- Nurses will be critical to an effective public health response to any RAD/NUC event and to supporting national security. Despite this certainty, little is known regarding the capabilities of US nurses to respond following a large scale radiation release.
- Detailed Search Strategy/Senior Research Librarian at the NAM Center for Research
  - Embase, PubMed/Medline, Scopus, and Web of Science, using a modified Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)
  - Inclusion Criteria: must address nurses or nurse readiness/willingness for radiation emergencies and/or nuclear events
  - (1979-2018) in order to capture three sentinel global radiation disaster events
- International Literature
RESULTS: Are nurses ready and willing to respond to an RAD/NUC event?

• Systematic grading of the 62 manuscripts included in this review revealed a range of levels of evidence from II to V, with the majority of the studies III or IV (low evidence).
• Thematic analysis revealed wide variation regarding focus of inquiry.
• Studies addressed themes related to nurse readiness but did not measure readiness itself.
• Robust metrics for measuring readiness were absent.
• Empirical evidence related to nurse readiness is predominately descriptive in nature and address the roles and responsibilities nurses *would* need to fill but our review failed to provide quantitative attestation to support that nurses *are able and willing* to serve in these roles.

- Cross sectional study using online Radiation Nuclear Survey (RNS)- a questionnaire derived from previously published studies (Veenema, et. al, 2008; Chaney, et. al, 2018) and input from SMEs in radiation and nuclear emergency preparedness (Coleman & Kneble).
- Partnership with AACN and OADN, 3,301 surveys sent over 2 weeks in May 2018
  - AACN = 880 members schools
  - OADN = 2,421 members schools and individuals
  - Participation was voluntary and anonymous
- Response Rate-Overall, 20.6%
  - AACN, 71.5%
  - OADN, 2.1%
- 605 respondents elected to provide a zip code (optional)
- Analysis: Qualtrix Research Suite
SON Demographics and Programs Offered

Nursing Degree Programs Offered as Reported by Respondents

Survey Respondent Role at School of Nursing

Respondents Role in Pre-licensure Programs (n=677)
- Dean or Director: 23.2% (157)
- Associate Dean or Associate Director: 10.2% (69)
- Faculty Member involved in Curriculum decisions: 43.6% (295)
- Faculty member with little involvement in curriculum decisions: 17.0% (115)

Respondents Role in Graduate Level Programs (n = 674)
- Dean or Director: 17.8% (120)
- Associate Dean or Associate Director: 8.0% (54)
- Faculty Member involved in Curriculum decisions: 30.3% (204)
- Faculty member with little involvement in curriculum decisions: 26.0% (175)
Radiation/Nuclear Emergency Preparedness

• 75.1% of respondents teach zero hours or less than one hour of radiation/nuclear emergency preparedness

  Respondents teaching zero hours or less than one hour- why is it not being taught?
  – Inadequate time in the curriculum, 26.4%
  – Topic not mandated in BS or MS Essentials document, 18.8%
  – Thematic Analysis
    • Never occurred to teach radiation/nuclear content, 20.7%
    • Not sure why their school did not teach radiation/nuclear content, 22.6%
    • Not important and or no perceived risk of this event, 10.4%

• 31.3% indicated:
  – This topic is not important or relevant to our school
  – No perceived risk of this type of event for our area
  – Topic is not relevant to nurses

• Nursing Roles and Responsibilities addressed in under 1 hour or not addressed at all:
  – Preparedness and training of nurses for nuclear power plant accident, 80.5%
  – Community distribution plan for Potassium Iodine (KI) distribution to appropriate populations and alerting system, 84.0%
  – Radiation response functional roles for nurses, 78.3%
  – Decontamination options, 76.1%
  – Nursing management of patient with radiation sickness, 77.3%
What would it take to add to curriculum?

• Course content developed by experts made available for free to schools to adopt, 18.0%
• Requirement added to essentials for BSN, MSN education, 17.7%
• NCLEX licensing exam included questions specific to radiation/nuclear emergencies, 17.0%
• Mandated by SON accrediting bodies, 15.4%
• Mandated by their State Board of Nursing 13.2%
• Funding available to develop course content and course faculty, 10.5%
• Only 100 respondents (4.8%) said it would take a “radiation/nuclear event occurs on US soil” for them to include this content in their curriculums.
SONs Level of Preparedness for Radiation Emergencies and Nuclear Events

Radiation/nuclear emergency preparedness is important 92.5%
Our nursing school has a rad/nuc disaster plan 12.5%
Our school has tested or drilled for a rad/nuc emergency 6%
Our faculty know what to do for a rad/nuc emergency 9.7%

- 295 respondents located within 50 mile EPZ of nuclear facility
  - 53% did not know they were within 50 mile EPZ when in fact they were.
  - 10.5% answered ‘No perceived risk of this type of event for our area’.
  - Perceived Risk vs. Actual Risk
Veenema, T.G., Couig, M.P., Lavin, R.P., Abir, M., Casey-Lockyer, M., Gable, A., Margolis, G. *Analysis of Nurse Specific Roles in Federal Radiation and Nuclear Disaster Planning Documents*