

— Equity — Access — Excellence —



Best Practice in Mathematics for the Health Sciences

Math Fest 2021

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August 6, 2021

High-Quality Mathematics Education for Nurses Task Force

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Current State of Math Education for Nursing

- Mathematics should be a tool, rather than a barrier, for safe, quality, and equitable nursing education that builds a strong workforce.
- Mathematical competency and effective quantitative reasoning skills are essential for safe nursing practice; need to align with current practice.
- Lack of mathematics recommendations from nursing and program accreditation organizations leads to significant instruction variation and repeated coursework.

Math and Statistics Education for Nurses

Convening

October 2019

Goals:

- Build connections among math education, nursing education, and nursing professional organizations.
- Develop a forward-thinking consensus on improving the quantitative education of nurses.

Attendees:

- American Mathematical Association of Two-Year Colleges (AMATYC)
- Bayer – Crop Science
- The American Statistical Association (ASA) • Bill and Melinda Gates Foundation
- CGFNS International
- The Charles A. Dana Center
- Delta College
- Ferris State University
- Mathematical Association of America (MAA) • National Association for Healthcare Quality (NAHQ) • National Council of State Boards of Nursing (NCSBN) • The National League for Nursing (NLN)
- The NROC Project
- Organization for Associate Degree Nursing (OADN) • Pennsylvania College of Health Sciences • Quality and Safety Education for Nurses (QSEN) • The University of Miami

Convening Recommendations

Recommendation 1: **Identify the quantitative skills and competencies** necessary for quality and safe nursing practice.

Recommendation 2: **Investigate the most appropriate sequencing** of mathematics, statistics, and nursing educational offerings to ensure students acquire essential quantitative skills and competencies for quality and safe nursing practice. Recommendation 3: **Incorporate**

recommendations and best practices in nursing, mathematics, and statistics education in the design of learning outcomes, instruction, materials, and assessments.

Recommendation 4: **Integrate learning experiences throughout** the nursing curriculum that provide learners an opportunity to develop sound quantitative reasoning, data reasoning, and clinical judgment.

Convening Recommendations

Recommendation 5: Include an ongoing **analysis and discussion of ethical and effective communication** of mathematical and statistical data, results, and recommendations.

Recommendation 6: Incorporate assessment measures that reflect changing licensure/certification requirements, integrate quantitative and data reasoning with components of clinical judgment, and **provide learners the opportunity for continuous improvement** (rather than serving only as a high-stakes benchmark for academic progression).

Recommendation 7: **Inform the community** through collaborative engagements and professional development opportunities that integrate best practices from nursing, mathematics, and statistics education.

Convening Recommendations Discussion

Series

To continue the conversation and our work around these recommendations, the High-Quality Mathematics Education for Nurses Task Force has been hosting a series of webinars to analyze, discuss, and plan next steps. Sessions are held from 3:00–4:00pm Central time on alternating Wednesdays, with the first session held on May 12. The first session provided an overview of the recommendations, and the subsequent seven sessions allow us to delve deeper into each recommendation.

- Primarily attended by higher ed math and nursing faculty.
- Identify key aspects of each recommendation, develop next steps, and prioritize strands of work.
- Identify leaders in the field to oversee various aspects of the

work

University of Texas at Austin
Charles A. Dana Center

To

Learn More...

- If you're interested in joining the "High-Quality Mathematics Education for Nurses" Google Group and connecting further, please follow this link: <https://groups.google.com/g/mathandnursing>. To request to join, be sure that you are logged into your Google account and click on "Ask to join the group." In your request, please include your name, institution, title, and connections to this work.
- https://www.utdanacenter.org/our-work/higher-education/collaborations/math_for-nurses
- <https://sites.google.com/view/mathfornurses/home>