

Infusing Undergraduate Research in Social Sciences/ Public Health, Health Promotion, and Behavioral Sciences

I. Public Health, Health Promotion, and Behavioral Sciences

- a. Gimpel N, Kindratt T, Dawson A, Pagels P. Community action research track: Community-based participatory research and service-learning experiences for medical students. *Perspect Med Educ*. 2018 Apr;7(2):139-143. doi: 10.1007/s40037-017-0397-2. PMID: 29374389; PMCID: PMC5889376.
 - i. Description of Research Project: Developing the Community Action Research Track (CART) to integrate population medicine, health promotion/disease prevention and the social determinants of health into the medical school curriculum through community-based participatory research (CBPR) and service-learning experiences
 - ii. Course format and size: optional 4-year service-learning experience for medical students interested in community health; 146 students
 - iii. Student's role:
 1. Completing pre-clinical and community medicine electives
 2. Completing seven community health lectures and four online trainings
 3. Completing 80 hours of service learning
 4. Some students participating in a 9-week intensive CBPR training program where students gain advanced CBPR knowledge
- b. Vela, M.B., Kim, K.E., Tang, H. et al. *Innovative Health Care Disparities Curriculum for Incoming Medical Students*. *J GEN INTERN MED* 23, 1028–1032 (2008). <https://doi.org/10.1007/s11606-008-0584-2>
 - i. Description of Research Project: Addressing health disparities issues through a research lens based on what they were exposed to when serving vulnerable communities
 - ii. Course format and size: Teaching modalities included didactic lectures, small group discussions, off-site expeditions to local free clinics, community hospitals, and clinics, and student-led poster session workshops; Total of 64 students
 - iii. Student's role:
 1. Becoming aware of personal biases regarding racial and ethnic minorities
 2. Committing to addressing health disparities through research and knowledge learned from the curriculum
- c. Freeman, J., & Dobbie, A. (2005). *Teaching medical students research while reaching the underserved*. *Fam Med*, 37(5), 315-7.
 - i. Description of Research Project: Working with different community partners to address healthcare disparities in underserved communities
 - ii. Course format and size: A 12-session Summer Research Institute (SRI) anchors the program, providing students with background knowledge for designing and implementing a community-based research project; 13 students
 - iii. Student role:
 1. Students complete written assignments and present oral project reports during weekly progress meetings
 2. During the final week, students present their findings to the staff at their community site when possible and during a public seminar offered to medical school faculty, staff, and interested community members

II. Research-Based Course Activities

- a. Use a bulleted list to describe specific course activities that can be infused into your undergraduate courses. Use subheadings to indicate the level of research (e.g., exposure, skill-building, intensive). In your description of the course activity, be sure to include sufficient detail so the novel reader is clear about the type of course (e.g., large lecture, lab-based required, elective), and estimated enrollment. Consider including diagrams, flowcharts, etc.
- b. Creating a systematic or scoping review manuscript on a research topic of interest to the student. This activity could be integrated as part of a large lecture course in any discipline. Students should be divided into groups of 3-8

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members to carry out the tasks as required by the protocol. The involvement of a research librarian along with the course director/student preceptor is recommended.

- i. Introduction to the PRISMA framework (exposure)
 1. Students will be exposed to the different steps of screening articles based on inclusion and exclusion criteria, along with the recommended strategy to report outcomes based on listed criteria
- ii. Introduction to the PICOT question framework (exposure)
 1. Students will acquire the skills to develop suitable research questions to guide the scoping/systematic review
- iii. Introduction to the Arksey and O'Malley framework (exposure)
 1. Students will be exposed to the York methodology developed by Arksey and O'Malley in 2005 which delineates the different steps of the review
- iv. Search strategies and literature searches in collaboration with research librarians (skill-building)
 1. Students will be able to find relevant literature to inform their paper and build on their research questions. They will
 2. be guided on the write-up of their background sections
- v. One-on-one appointments to develop search strategy for selected databases (intensive)
 1. Students will create a list of databases to search with the librarian for a comprehensive number of search terms that are compatible with the inclusion/exclusion criteria
- vi. Initiation of data extraction plans (skill building)
 1. Students will be mentored on data tabulation after search strategy is completed. They will also be guided on how to analyze extracted data based on the principles of critical appraisal.
- vii. Strategy for data synthesis, analysis of subgroups, and reporting of major findings
 1. Students will be able to critically report results based on guidance from major frameworks and selected risk of bias tool
- viii. Final dissemination plan
 1. Students gather with course director/preceptor, librarians, and other colleagues for a final decision on data dissemination

III. Assessing Undergraduate Research and Inquiry Activities

- a. Part 1 of Systematic/Scoping Review Protocol
 - i. Review Questions (10%)
 - ii. List of databases to search & search strategy for one database (5%)
 - iii. PRISMA and Arksey and O'Malley framework (5%)
 - iv. Inclusion/Exclusion criteria including types of study design (10%)
- b. Part 2 of Systematic/Scoping Review Protocol
 - i. Data extraction plan (5%)
 - ii. Data tabulation (15%)
 - iii. Strategy for data synthesis & analysis of subgroups (10%)
 - iv. Dissemination plan (10%)

IV. Additional Resources

a. Faculty Resources

- i. Arksey and O'Malley (2005): <https://www.tandfonline.com/doi/abs/10.1080/1364557032000119616>
- ii. PRISMA framework: <http://www.prisma-statement.org/?AspxAutoDetectCookieSupport=1>

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iii. Systematic VS. Scoping review:

<https://bmcmedresmethodol.biomedcentral.com/articles/10.1186/s12874-018-0611-x>

b. Student Resources

i. Guidance on systematic reviews: <https://pubmed.ncbi.nlm.nih.gov/23925575/>

V. Contact Dr. Lea Sacca (lsacca@health.fau.edu) for additional information about this course/discipline area.