

REVIEWS

The synergistic effect of collaborative interprofessional research in health care

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ABSTRACT

Background/objective: Interprofessional research collaboration is receiving increasing attention in the healthcare disciplines. The faculties creating interprofessional educational experiences for students are discovering that they have educational, clinical, and research experiences in common and are seeking opportunities to conduct collaborative research in mutual areas of interest. In this paper, issues of interprofessional research collaboration are discussed, as are barriers and strategies to minimize those barriers.

Methods: The authors present research cases that reflect interprofessional collaboration. The examples that are discussed are (a) a research project entitled “UNITED in Faith, Health, and Strength: Pioneering Faith-centered, Community-based Advance Care Planning with African American Churches” conducted by faculty in nursing, public health, medicine and a doctoral student at Johns Hopkins University; and (b) a research project entitled “Relation of Olfaction and Cognition Measures to Screening for MCI” conducted by faculty and students representing nursing, pharmacy, and occupational therapy at Shenandoah University.

Results/conclusion: Collaborative research proved to be valuable in addressing healthcare practice issues of concern to faculty in multiple disciplines and provided opportunities for synergistic scholarship across disciplines.

Key Words: Collaboration, Interprofessional, Research, Health care

1. INTRODUCTION

In 2005 the Committee on Facilitating Interdisciplinary Research, commissioned by the Committee on Science, Engineering and Public Policy (COSEPUP) of the National Academy of Sciences, defined interdisciplinary research (IDR), also referred to interprofessional research, as “a mode of research by teams or individuals that integrates information, data, techniques, tools, perspectives, concepts, and/or theories from two or more disciplines or bodies of specialized knowledge to advance fundamental understanding or to solve problems whose solutions are beyond the scope of a

single discipline or field of research practice”.^[1,2]

Interprofessional research has made substantial progress over the past decade, in line with globalization and the worldwide expansion of university international relationships. There has been evidence of sustained growth of interprofessional research in many countries.^[3-5] The value of collaborative research in health care has been well documented, even during the COVID era.^[6] As noted by Bansal et al. (2019),^[3] “collaborative research has the capabilities for exchanging ideas across disciplines, learning new skills, access to funding, higher quality of results, radical benefits, and personal

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factors such as fun and pleasure” (p. 137).

2. BACKGROUND

2.1 Why interprofessional research is important in healthcare

Research is a foundational requirement for the growth and viability of a health care profession, and interprofessional collaboration in research is one means of achieving this requirement. The problems that must be solved in the modern era are complex, and solutions may not be available if an individual member of one professional group is working alone. Whether in clinical practice, research or education, schedules may be overloaded with deadlines and daunting requirements, making the prospect of conducting research by oneself an overwhelming proposition to ponder. The support needed to conduct interprofessional research includes mentoring of faculty and students in the research process and in collaborative research; networking opportunities with other disciplines; research support, including statistical consultants, editing services and Information Technology; meeting and workspace; and funding for data collection and analysis. It is the interpersonal aspects of collaborative team functioning that are addressed in the case studies presented in this paper.

2.2 Perceived and real barriers to the conduct of collaborative research

While useful in the conduct of research, collaborations can also be a source of problems. In some instances collaborations are not initiated due to the unwillingness of potential team members to share experiences or existing data or to work together for the benefit of the team rather than as individuals.^[7] Collaborations are often compromised because of lack of clarity among team members about what and when to publish, as well as discontent with a slowly responding or unreliable member.^[3] Also noted by Bansal and colleagues, miscommunication can be related to “different understandings about science, vocabulary, or methods. Each . . . researcher has their own perspective of working; for example, some prefer verbal agreements while others prefer written contracts. Some researchers are in favor of publishing every new finding while others prefer a single large publication after compilation of whole data” (page 137).

At the beginning of the process for each team described below, team members agreed that credit and authorship would be based on the level and amount of each member’s contribution to the manuscript to be produced; it was determined that each team would produce one manuscript that reflected the outcomes of the study. Leadership of the sharing of data and experiences was based on the team member chosen

because of prior collaborations and mentorship of other researchers. What and when to publish was also negotiated by the team members at an early team meeting. Study conclusions reflected the members’ discussion of the themes and the implications of the findings for health care professionals’ research collaboration. There was not an issue with any of the team members being unreliable; each was dependable and respected the commitment made at the beginning of the project.

As noted by Smeltzer et al. (2014),^[8] other perceived and real barriers to the conduct of collaborative interprofessional research include the following:

- 1) Faculty’s lack of understanding of the mission of the institution and specific expectations of their role(s) as faculty in the institution; this includes role differences between junior (untentured or tenure track) and senior faculty (tenured) with regard to workload;
- 2) Lack of organizational efforts to facilitate research in general;
- 3) Heavy workloads, with focus on teaching, especially in light of increasing online teaching, high course enrollments, need for new course preparation, guidance required by students with regard to written assignments, students’ expectation that faculty will respond to emails quickly;
- 4) Lack of the institution’s valuing of clinical practice and limited opportunities for research in one’s clinical setting;
- 5) Lack of faculty’s personal confidence in one’s ability to conduct research;
- 6) Lack of time available in relation to other responsibilities.

Gunaldo et al. (2021)^[9] approached the issue of barriers to the conduct of collaborative research from the perspective of determining the effectiveness by focusing on the reproducibility, replicability and generalizability of the findings. While these are not the foci of this article, they are issue which should be addressed in order to strengthen best practices regarding the development, implementation and evaluation of interprofessional research such as that reported in this narrative.

Suggested Solutions to Perceived and Real Barriers. Dealing with perceived and real barriers to the conduct of collaborative interprofessional research is a complex issue. Suggested solutions cited by Smeltzer et al. (2014)^[8] include the following:

- 1) Focusing on the congruence among teaching, practice, service and scholarship;
- 2) Enhancing collaboration between PhD and DNP prepared faculty (and in other health disciplines with research and practice tracks) and willingness to assist non-doctoral faculty engaged in the research process;

- 3) Providing protected work periods and learning to say “no” to other projects during that protected period;
- 4) Establishing turn-around times for the evaluation of student work, responsiveness to student emails, and team member contributions.

2.3 Exemplars of interprofessional collaborative research

Two exemplars of interprofessional collaborative research are presented to highlight the value of the process. Common aspects of each exemplar are cited here:

- a) The teams worked online after an initial meeting face to face at which roles were defined and assignments made with regard to the project
- b) A deadline for completion of the project, noted in a written agreement, met the criteria of the funding institution
- c) Regular dates were then set for “check-in” meetings at which team members responded to the lead researcher’s queries, shared relevant experiences, and resolved issues with regard to data collection
- d) Team members individually generated themes from the data which was collected and suggested refinements to one another
- e) The lead researcher drafted the manuscript, with team members offering editing as needed and assistance with the selection of the journal to which the manuscript would be submitted.

Team members also critiqued the abstract, which was submitted to an appropriate professional conference; members also served as a “dress rehearsal audience” for the team member who was to do the presentation.

“UNITED in Faith, Health and Strength: Pioneering Faith-centered, Community-based Advance Care Planning within African American Churches” exemplifies synergy through interprofessional collaborative research. The 2016 Johns Hopkins University Discovery Award Team was comprised of faculty from the Schools of Nursing, Medicine, and Public Health. A community partner nursing faculty member was invited to join the team because of her interest in spirituality and her prior collaboration with public health faculty on projects focused on spiritual care and palliative care research. The project had an overarching goal to reduce disparities in advanced illness, palliative and end-of-life care via evidence-based programs. An initial step was a mixed methods study of beliefs and practices among a local sample of members of community-based churches. The team members worked online to define their roles on the project and to support the faculty member who collected data. The team members also generated themes from the data and supported the lead member in drafting the manuscript of the study, which was

submitted to relevant professional journals. Project outcomes consisted of presentations at a national meeting of the Center to Advance Palliative Care, a poster presentation at the International Conference on Communication in Health Care, and a manuscript published in *Palliative and Supportive Care*.^[10]

A second example of collaborative research was a pilot study conducted by researchers representing nursing, pharmacy, and occupational therapy, along with a graduate student in nursing and a graduate student in pharmacy from Shenandoah University. Novice researchers such as pharmacy and nursing students were an essential component of the research team.

The team developed a noninvasive, easy to use screening method for the early detection of individuals with mild cognitive impairment. The project provided opportunities for such scholarship activities as completion of a research study; receipt of a research grant; presentations at the Shenandoah University Creative Scholarship Day and at the Sigma Theta Tau International Rho Pi Chapter Research Day; and a publication by the group.^[11] The Shenandoah University research team met in the same room at the same scheduled time every two weeks for four years. The team believed this strategy of meeting together worked to facilitate collaboration for this team and project. Everyone on the team was involved in each aspect of the project from idea to writing the manuscript. The research project was presented at the home university and at other national conferences as well.

3. CONCLUSION

It is the interpersonal aspects of interprofessional collaboration that are reflected in the Johns Hopkins University and Shenandoah University studies recounted here and which undergird excellence in interprofessional research. These interpersonal aspects include strong working relationships, shared purpose, adequate time, useable technology, role clarity and role modeling for students, and cultural respect, as noted by Van Wormer et al. (2012).^[12] Both of these exemplar studies reflect the power of addressing the perceived and real barriers to the conduct of collaborative research. These projects were completed prior to COVID. It is useful to cite the implications of this pandemic for future interprofessional research collaboration.

The Center for the Advancement of Interprofessional Education (CAIPE) research group has, during this challenging COVID time, sought to inform and inspire new ways of continuing interprofessional research. For example, there has been increased emphasis on the enhancement of online data collection methods (telephone, interviews, emails, instant messaging or chat rooms, digital diaries, social media

analyses, digital ethnographies, and videoconferencing).^[6] Interprofessional Research. Global (IPSR.Global) formed a COVID-19 taskforce to shed light on additional proposed recommendations for research teams. They include (a) diversity in research team composition; (b) inclusivity of various

academic disciplines, practitioners/clinicians, learners, service users, community members, and civil society; and (c) theoretical relevance of the research that is conducted.^[13]

CONFLICTS OF INTEREST DISCLOSURE

No potential conflict of interest was reported by the authors.

REFERENCES

- [1] National Academy of Sciences, National Academy of Engineering, and Institute of Medicine. Facilitating Interdisciplinary Research. Washington, DC: The National Academies Press; 2005. <https://doi.org/10.17226/11153>
- [2] Hager K, St. Hill C, Prunuske J, et al. Development of an interprofessional and interdisciplinary collaborative research practice for clinical faculty. *Journal of Interprofessional Care*. 2016; 30(2): 265-267. PMID:26934068 <https://doi.org/10.3109/13561820.2015.1092951>
- [3] Bansal S, Mahendiratta S, Kumar S, et al. Collaborative research in modern era: Need and challenges. *Indian Journal of Pharmacology*. 2019; 51(3): 137-139. PMID:31391680 https://doi.org/10.4103/ijp.IJP_394_19
- [4] Whitby S, Dando M, Shang L. Dual-use research needs international oversight. *Nature*. 2022; 609(7929): 895. PMID:36167995 <https://doi.org/10.1038/d41586-022-03011-0>
- [5] Barchi F, Kasimatis SM, Merg JF. Fostering IRB collaboration for review of international research. *American Journal of Bioethics*. 2014; 14(5): 3-8. PMID:24766110 <https://doi.org/10.1080/15265161.2014.892168>
- [6] Sy M, O'Leary N, Nagraj S, et al. Doing interprofessional research in the COVID-19 era: A discussion paper. *Interprofessional Care*. 2020; 34(5): 600-606. PMID:32718262 <https://doi.org/10.1080/13561820.2020.1791808>
- [7] Green BN, Johnson CD. Interprofessional collaboration in research, education and clinical practice: Working together for a better future. *Journal of Chiropractic Education*. 2015; 29(1). PMID:25594446 <https://doi.org/10.7899/JCE-14-36>
- [8] Smeltzer SC, Sharts-Hopko NC, Cantrell MA, et al. Nursing doctoral faculty perceptions of factors that affect their continued scholarship. *Journal of Professional Nursing*. 2014; 30(6): 493-501. PMID:25455331 <https://doi.org/10.1016/j.profnurs.2014.03.008>
- [9] Gunaldo T, Lockeman K, Kirkpatrick A, et al. Advancing interprofessional education research: The need for a systematic approach. *Journal of Interprofessional Care*. 2022.
- [10] Sloan DH, Gray TF, Harris D, et al. Church leaders and parishioners speak out about the role of the church in advance care. planning and end-of-life care. *Palliative and Supportive Care*. 2020; 19: 322-328. PMID:33118897 <https://doi.org/10.1017/S1478951520000966>
- [11] Kirkpatrick MA, Combest W, Newton M, et al. Combining olfaction and cognition measures to screen for mild cognitive impairment. *Neuropsychiatric Disease and Treatment*. 2006; 2(4): 565-570. PMID:19412504 <https://doi.org/10.2147/ndt.2006.2.4.565>
- [12] VanWormer A, Lindquist R, Robiner W, et al. Interdisciplinary collaboration applied to clinical research: An example of remote motoring in lung transplantation. *Dimensions of Critical Care Nursing*. 2012; 31(3): 202-210. PMID:22475710 <https://doi.org/10.1097/DC.C.0b013e31824e0307>
- [13] Lackie K, Najjar G, El-Awaisi A, et al. Interprofessional education and collaborative practice research during COVID-19 pandemic: Considerations to advance the field. *Journal of Interprofessional Care*. 2020; 34(5): 583-586. PMID:32838595 <https://doi.org/10.1080/13561820.2020.1807481>