THE EFFECTIVENESS OF AN INTERDISCIPLINARY CARE TEAM: AN INTEGRATIVE REVIEW

An Integrative Review

Submitted to the

Faculty of Liberty University

In partial fulfillment of

The requirements for the degree

Of Doctor of Nursing Practice

By

Lindsey Marie Ellingford

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Lynchburg, VA

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Scholarly Project Chair Approval:

Dr. Tonia Kennedy, EdD, MSN, RN, NI, BC Date:

ABSTRACT

As health care is ever growing and changing, demands for interdisciplinary care team collaboration are crucial for collective competence and team performance across settings. In healthcare facilities across the county, interdisciplinary care teams are made up of multiple disciplines. The following is an integrative review with a purpose to determine if the existing literature supports the implementation of an interdisciplinary care team in the healthcare environment. After completion of this integrative review, the author concluded there should be a standardized tool in the healthcare system to guide the creation and implementation of an interdisciplinary care team. The Jerry Falwell Library at Liberty University was searched, and databases included: Consumer Health Database, PubMed, Cochran Library, EBSCO, and CINAHL. Parameters of the search included peer-reviewed articles published in the English language within the past five years. A total of 1,116 results were identified; 16 articles were used in the literature review. The articles were leveled using Melnyk's level of evidence and the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) was used as a guide to support the reporting of this integrative review.

Keywords: multidisciplinary team, integrative team, interdisciplinary team, interprofessional team, or healthcare team.

Dedication

I would like to dedicate this to my three beautiful children, Hudson Ives age 13, Denver Tuck age 11, and Henlee Reign age 8. For they are my world.

Acknowledgments

I would like to acknowledge my sisters who traveled this educational journey with me as well as Dr. Tonia Kennedy. Without each of these positive influences and supporters I would not be where I am today.

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List of Abbreviations

Agency of Healthcare Research and Quality (AHRQ)

American Association of Colleges of Nursing (AACN)

American Psychology Association (APA)

Collaborative Institutional Training Initiative (CITI)

Doctor of Nursing Practice (DNP)

Institutional Review Board (IRB)

Interdisciplinary care team (IDT)

Integrative review (IR)

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA)

Quality and Safety Education for Nurses (QSEN)

World Health Organization (WHO)

SECTION ONE: FORMULATING THE REVIEW QUESTION

Introduction

As health care is ever growing and changing, demands for interdisciplinary care team collaboration are crucial for collective competence and team performance across settings. In healthcare facilities across the country, interdisciplinary care teams are made up of multiple disciplines. However, due to cultural norms and educational backgrounds, interprofessional team members may have difficulty with effective communication and collaboration for successful implementation. This integrative review (IR) examined whether there is strong enough evidence in the literature to support the implementation of an interdisciplinary care team in a healthcare setting.

Interdisciplinary care teams have been studied to determine their effectiveness during bedside rounding. However, Heip et al. (2022) conducted a review including qualitative studies, which was the first of its kind, to explore the feasibility of interdisciplinary care teams and differences in definitions. Walton et al. (2019) focused more on the perceptions and challenges of interdisciplinary care teams for bedside rounding. Another study focused on the reduction of the number of days a patient spends in the hospital setting, the reduction of cost of the hospital stays, and ways an interdisciplinary care team can be effective (Agency for Healthcare Research and Quality, 2017).

In 2010, the World Health Organization (WHO) released a framework for action in interprofessional education and collaborative practice. Collaboration in health care has been proven to improve the quality of patient outcomes and decrease morbidity and mortality rates (Bosch & Mansell, 2015). Healthcare professionals in Spain have prioritized multidisciplinary care teams since the adoption of the Primary Health Care Reform Act in 1985. This act was

inspired by the Alma-Ata Declaration and increased the responsive capacity of primary care services, ensured equal access, and improved the efficiency of the healthcare system through expanding the scope of multidisciplinary teams (World Health Organization, 2022). Since the introduction of interprofessional teams, Spain has seen continuous improvement in the management of noncommunicable diseases including diabetes mellitus and chronic obstructive pulmonary disease (World Health Organization, 2022). There is an underwhelming amount of data on the use of multidisciplinary teams in the United States.

Using the Institute of Medicine's (2003) competencies for nursing, Quality and Safety Education for Nurses (QSEN) defined competencies for nursing and their proposed targets in knowledge, skills, and attitudes for each competency. As one of the six competencies, QSEN defined teamwork and collaboration as the ability to function effectively within nursing and inter-professional teams. These teams foster open communication, mutual respect, and have a culture of shared decision making to achieve quality patient care outcomes (QSEN, 2022).

Defining Concepts and Variables

This integrative review researched the existing literature on the impact of interdisciplinary care teams on improving patient care outcomes. An interdisciplinary team may be comprised of at least two of the following: a physician, advanced practice provider, registered nurse, social worker, respiratory therapist, occupational therapist, and/or administrative staff (Heip et al., 2020). Ineffective teamwork and communication increase the risk of adverse patient outcomes from a lack of coordination and collaboration (Rosen et al., 2018). Not all healthcare facilities across the country have implemented an interdisciplinary care team during patient rounding. Evidence supports the increased collaboration among healthcare providers through interdisciplinary care team rounding to decrease the overall length of the patient's hospital stay

(regardless of their diagnosis), lower the rates of hospital-acquired conditions unrelated to the admitting diagnosis, and decrease overall mortality rates (Heip et al., 2020).

Rationale for Conducting the Review

Collaboration in health care can be the difference between high-quality and poor patient outcomes (AHRQ, 2017). Several studies, including one by Malhotra, Yang, and Feng, (2022), have described compelling evidence to support the development and implementation of an interdisciplinary team. Some of the research, such as the article from Seaton et al. (2021), provides insight into the perceptions of healthcare providers regarding interdisciplinary care teams. The understanding of healthcare provider perceptions helps to support the impact an interdisciplinary care team can make in a hospital setting. The purpose of this literature review is to determine if interprofessional care teams improve patient outcomes. Heip et al. (2020) reported interprofessional teams allow for more comprehensive and coordinated care approach from providers, which reduces the likelihood of errors, enables faster treatment implementation, improves efficiency, boosts morale, ensures consistency, and reduces hospital costs/complications.

The successful implementation of an interprofessional collaborative team requires alignment with the healthcare culture and local healthcare needs within a community. The review of literature provides a critical assessment of current evidence-based practice, which assists to define the program design and supports the implementation of an interdisciplinary care team across healthcare facilities in the country.

Review Question

Does the literature support the implementation of an interdisciplinary care team to improve patient care outcomes?

Formulate Inclusion and Exclusion Criteria

Studies were considered if an interdisciplinary team was identified; at least more than one discipline made up of any combination of a physician, advanced practice provider, registered nurse, social worker, respiratory therapist, occupational therapist, or administrative staff. Studies of interest included those of hospitalized patients and if the facility utilized an interdisciplinary care team model. Outcomes of interest included whether the interdisciplinary care team, compared to standard patient rounds, improved team member satisfaction and patient care outcomes. Studies were excluded if they were not peer-reviewed, were older than five years, if patients were not in a hospitalized setting, and did not include an interdisciplinary care team framework.

Conceptual Framework

An integrative review is also known as researching the research. IRs require methodological rigor supported by a detailed framework. The framework for this integrative review was guided by Whittemore and Knafl (2005). The five-stage research synthesis followed was: (a) problem formulation, (b) data collection or literature search, (c) data evaluation, (d) analysis and interpretation, and (e) presentation of results (Whittemore & Knafl, 2005). The first step was to identify a problem, and, in this review, the problem identified was healthcare facilities across the country have yet to implement the use of an interdisciplinary care team during patient rounding. The subsequent steps, steps two through five in this integrative review framework involve conducting a literature search, evaluation of the data, analysis of the data, and presentation of the review. The goal of this integrative review is that facilities, when considering current and future protocols, will initiate an interprofessional team to positively impact the populations they serve.

SECTION TWO: COMPREHENSIVE AND SYSTEMATIC SEARCH

Search Organization and Reporting Strategies

Conducting a comprehensive and systematic search of the literature for an integrative review includes, "defining in detail all databases, search terms, limiters, eligibility (inclusion/exclusion), and criteria used, and describing any additional search methods" (Toronto & Remington, 2020, p. 22). The Jerry Falwell Library at Liberty University was searched, and databases included: Consumer Health Database, PubMed, Cochran Library, EBSCO, and CINAHL. Parameters of the search included peer-reviewed articles published in the English language within the past five years. Keywords used were "multidisciplinary team", "integrative team", "interdisciplinary team", "interprofessional team", or "healthcare team". A total of 1,116 results were identified; 16 articles were used in the literature review.

Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) is used as a guide to support the reporting of systemic reviews to assess the potential benefits and harms of a healthcare intervention (Moher et al., 2009). The four-phase flow diagram was used throughout this integrative review to support the data obtained. Please refer to Appendix D for the PRISMA diagram which identifies the articles identified, whether included or excluded, and the reasons for exclusions.

SECTION THREE: MANAGING THE COLLECTED DATA

Clearly defined search strategies are critical to the literature review process and must be clearly documented (Whittemore & Knafl, 2005). A comprehensive review of the literature summarizes the existing research to place it into context and highlights findings to add to the existing body of knowledge regarding interdisciplinary teams. The inclusion of a variety of studies from a broad ranging spectrum of viewpoints, quality, and rating ensures a diverse

literature sampling is utilized (Toronto & Remington, 2020). Studies were analyzed by their methods, level of evidence, sample size, and findings. The literature matrix includes two level-one articles (Heip et al., 2022; Wei et al., 2022), one level-two article (Varpio et al., 2018), four level-three articles (Davidson et al., 2022; Lin et al., 2022; Reed et al., 2021; Seaton et al., 2021), zero level-four articles, five level-five (Best & Williams, 2019; Ross et al., 2020; Sukhera et al., 2022; Witt et al., 2020; Yann et al., 2022), zero level-six, and four level-seven (Barrow & Gasquoine, 2018; Malhotra et al., 2022; McLaughlin et al., 2020; Walton et al., 2019).

Information Sources

The Jerry Falwell Library at Liberty University was searched, and databases included: Consumer Health Database, PubMed, Cochran Library, EBSCO, and CINAHL. Toronto and Remington (2020) encourage the use of a variety of studies from a broad ranging spectrum of viewpoints and quality, and rating to be included in an integrative review. This author assessed the levels of evidence for the research articles using Melnyk's levels of evidence (see Appendix A).

Eligibility Criteria

During the eligibility screening of the literature, studies were considered if an interdisciplinary team was identified; and at least more than one discipline comprised of any combination of a: physician, advanced practice provider, registered nurse, social worker, respiratory therapy, occupational therapy, or administrative staff needed to be included to account for interdisciplinary. Studies were not considered if an interdisciplinary team was not identified. This writer followed the guidelines of an integrative review as described by Toronto and Remington (2020). Studies of interest included those of hospitalized patients and if the

facility utilized an interdisciplinary care team model. Outcomes of interest included whether the interdisciplinary care team, compared to standard patient rounds, improved team member satisfaction and patient care outcomes. Studies were excluded if they were not peer-reviewed, were older than five years (2019-2023), if patients were not in a hospitalized setting, and if the studies did not include an interdisciplinary care team framework.

SECTION FOUR: QUALITY APPRAISAL

Research of the literature yielded many commonalities and themes amongst the articles. As illustrated in Appendix A, there is overwhelmingly positive evidence to support the implementation of an interprofessional collaborative team protocol during patient rounds. Underlying themes of the literature review included enhanced centeredness and the quality of care delivered, and team collaboration when interprofessional teams performed collaborative patient rounds.

McLaughlin et al. (2020) reported characteristics of high-performing interprofessional teams including student pharmacists to round out interprofessional collaboration. Wei et al. (2022) presented strong evidence for organizations who developed and implemented successful interprofessional collaborative teams. Individually, the research provides a guide that may be used when developing an interprofessional collaborative team to enhance bedside rounds (Wei et al., 2022). Collectively, the evidence is compelling and supports the creation of an interprofessional collaborative team at healthcare facilities across the country. A table of evidence is provided in Appendix A.

Sources of Bias

Sources of bias can and do occur at any stage when researching. Therefore, researchers should identify potential sources of bias: selection bias, measurement bias, attrition bias, and/or

performance bias, and the method of assessing the risk of bias should be transparent and reproducible (Toronto & Remington, 2020). When conducting an integrative review, individual studies need to be assessed for risk to determine the strength of the evidence (Toronto & Remington, 2020). Melnyk's Level of Evidence was used to assess the quality of each article throughout the integrative review (Melnyk & Fineout-Overholt, 2015).

Most of the studies were not randomized and used small sample sizes that lacked controls, which made it challenging to generalize the findings. Most of the studies reviewed current, scholarly literature to positively guide their efforts; one study by Witt-Sherman et al. (2020) used studies ranging from 1995 to 2019 to conduct a review of interprofessional collaboration evidence to build and support resources.

Internal Validity

Validity refers to the closeness of the study results in approximation to the truth. Internal validity is demonstrated when the researcher of the study obtains their results through use of proper scientific methods. When bias occurs, the validity of the individual study results is compromised and leads to a biased IR, and the results can also be over- or underestimated of the actual effects (Toronto & Remington, 2020). External validity allows for generalizations or applicability of the results, and therefore bias may be present (Toronto & Remington, 2020). Knowing the need for internal validity for this research, the risk of introducing bias was present in this review. However, Melnyk’s leveling and critique framework was used to mitigate this potential risk (Appendix A).

Many types of studies were selected for this integrative review and include a range of Melnyk’s leveling from one to seven. In quantitative research studies, bias affects the reliability and the validity of the findings. Trustworthiness in qualitative research studies is determined by

the study's transferability, credibility, dependability, and confirmability (Toronto & Remington, 2020). Positive studies include Davidson et al. (2022), where qualitative research was performed to determine the perceptions of patient advocates and how they play a role in interprofessional collaborative practice.

Reporting Guidelines

This author was led by the PRISMA guideline to report the review findings and improve the review's transparency and quality (Toronto & Remington, 2020). Various evidence levels were retrieved and utilized during this integrative review: two level-one articles, one level-two, four level-three, zero level-four, five level-five, zero level-six, and four level-seven (Melnyk & Fineout-Overholt, 2015). The PRISMA flow diagram for the integrative review may be found in Appendix D.

SECTION FIVE: DATA ANALYSIS AND SYNTHESIS

Toronto and Remington (2020) referred to the data analysis and synthesis stage of an integrative review as challenging stages. Through data analysis and synthesis, the researcher can gain a better understanding of the topic and disseminate the evidence from the literature sources (Toronto & Remington, 2020). The information obtained from the literature was synthesized with vigilant attention during all stages of the review. The thematic synthesis was developed during the data analysis stage and guided the organization of the Results section.

Descriptive Results

There are no clearly established guidelines to structure the reporting of results in an integrative review (Toronto & Remington, 2020). However, many reviewers include a comprehensive description of the literature, which was used throughout the current review. Characteristics reported may include the methodological design, country of origin, and date

range of the included literature (Toronto & Remington, 2020). Therefore, Melnyk's level of evidence table was utilized to review each article utilized to support the literature review (Appendix A).

Synthesis

Several themes emerged throughout the integrative review process, including practice and improvement areas, education, and high-quality patient care outcomes. The importance of an interdisciplinary care team in the healthcare setting yielded strong evidence, as discussed in the research outcomes of Yann et al. (2022) and Best and Williams (2019). Reed et al. (2021) discussed the collaborative learning environment and positive culture an interdisciplinary care team can bring to a healthcare environment, along with Lin et al. (2022) and Varpio et al. (2018). Walton et al. (2019) identified benefits and challenges to implementing an interdisciplinary care team, which can aid those who are identifying the importance of these teams and plan implementation based on the research provided.

Practice and Improvement Areas

Davidson et al. (2022) highlighted practice and improvement areas and the need to develop a relevant tool for use in primary care settings to promote the patient's role in interdisciplinary care teams. Patients who are actively involved in their healthcare and interdisciplinary care team feel heard and valued (Davidson et al., 2022). Sukhera et al., (2022) reported how interprofessional teams can hold tension among the members due partly to implicit biases within the team. Implicit bias can reflect larger social, physical, organizational, and historical contexts. Such biases may influence communication, trust, and how collaboration is enacted within larger contexts which can be studied with further research (Sukhera et al., 2022). Implicit bias can impact healthcare provider's behaviors through unequal treatment of

people based on race, ethnicity, gender identity, sexual orientation, age, disability, health status, and/or other individual characteristics (Shah & Bohlen, 2023). Wei et al., (2022) research reported organizational structure, climate, and culture are significant barriers to interprofessional care team effectiveness and suggests these are not 'permanent structures' that can be overcome.

Education

Reed et al. (2021) reported a collaborative learning environment supports the creation of a culture of interdisciplinary care teams which enhances patient care and improves healthcare outcomes. Malhotra et al. (2022) reported the applicability of addressing gaps in interdisciplinary care teams in the healthcare setting through education. Rawlinson et al. (2021) identified gaps in practice at the system, organizational, inter-individual, and individual levels. The gaps identified at the system level include inadequate reimbursement policies and/or payment mechanisms, lack of political support, and lack multidisciplinary approaches in training. At the organizational level, gaps include human resource limitations, lack of training and organizational support, inefficient data systems, and space and access constraints. At the inter-individual level, poor communication, desire to protect territory/professional identity, lack of common goals and team cohesion, and culture were a few of the gaps identified. Finally, at the individual level, doubts regarding the benefits, resistance to change, and concerns about patient confidentiality were the gaps mentioned (Rawlinson et al., 2021).

McLaughlin et al. (2020) reported a growing body of evidence highlighting the importance of designing practice models to achieve interdisciplinary care that is patient-centered and effective. Ross, Meakim, and Stacy (2020) encouraged the use of TeamSTEPPS within prelicensure education to develop teamwork and attitudes in interdisciplinary care teams. TeamSTEPPS is an evidence-based initiative from the Agency of Healthcare Research and

Quality (AHRQ) aimed at optimizing patient outcomes through the improvement of communication and teamwork skills. The teamwork tools created by AHRQ have been used to develop highly successful teams and can be used as a guided framework in prelicensure education to provide foundational knowledge, skills, and abilities from an early stage in their upcoming professional practice. Finally, Barrow & Gasquoine (2018) reported protocols developed to standardize practice and increase the effectiveness of teamwork in healthcare.

High-Quality Patient Outcomes

The final theme identified was the importance of quality patient care outcomes after the implementation of interprofessional care teams in healthcare settings. Heip et al. (2022) reported positive data that showed improvement in patient centeredness, quality of care, and team collaboration with the implementation of interdisciplinary bedside rounds. The data included evidence of interprofessional teams improving patient participation and supporting patient empowerment by increasing patient centeredness of care. Quality of care is also improved as the study suggests that structured rounding reduces time, increases efficiency, focuses on patient goals, and prevents omissions (Heip et al., 2022). Seaton et al. (2021) also provided research results which emphasized opportunities for frequent, informal communication appeared essential for interprofessional collaboration to occur which strengthens the interprofessional care team, resulting in positive patient outcomes. Witt Sherman et al. (2020) research resulted in positive outcomes regarding the relationship between interprofessional communication and knowledge, skills, and attitudes of healthcare providers.

Ethical Considerations

This author submitted the project to the Liberty University Institutional Review Board (IRB), which responded with an email stating the project was exempt. The student archived the

email from the IRB and included it as Appendix B. This author also completed the Collaborative Institutional Training Initiative (CITI) training where the focus includes courses in ethics, research, meeting regulatory requirements, responsible conduct of research, and research administration. Appendix C includes a copy of the CITI training certificate.

SECTION SIX: DISCUSSION

Implications for Practice

After completion of this integrative review, the author concluded there should be a universally accepted standardized tool in the healthcare system to guide the creation, implementation, and sustainability of an interdisciplinary care team. High functioning interdisciplinary care teams are essential for the delivery of high value healthcare and have been associated with decreased workloads, increased efficiency, improved quality of care, improved patient outcomes, and decreased provider burnout/turnover (American College of Physicians, 2024). Optimal interdisciplinary care teams should foster mutual trust, physical and psychological safety, clarify roles and expectations, practice effective communication, and track a set of shared measurable goals (American College of Physicians, 2024).

Dissemination

This author will submit the integrative review to Scholar's Crossing at Liberty University for publication after defense. A presentation to colleagues will also be provided during a faculty meeting at Joyce University. There is also the potential for future submissions for poster presentations at conferences to continue to share the knowledge gleaned and encourage the inclusion of an interdisciplinary care team in healthcare settings.

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Appendix A: Melnyk's Level of Evidence Table

Author (year)	Study Purpose/ Objective(s)	Design, Sampling Method, & Subjects	LOE*	Intervention & Outcomes	Results	Study Strengths & Limitations
Article 1 Heip, T., Van Hecke, A., Malfait, S., Van Biesen, W., & Eeckloo, K. (2022). The Effects of Interdisciplinary Bedside Rounds on Patient Centeredness, Quality of Care, and Team Collaboration: A Systematic Review. *Journal of patient safety*, *18*(1), e40–e44. https://doi.org/10.1097/PTS.0000000000000695	Explore available evidence on the effects of interdisciplinary bedside rounds on patient centeredness and the quality of care and team collaboration.	Systematic Review PubMed, Web of Science, and Cochrane databases were searched, and 33 articles were critically reviewed and assessed with the Downs and Black checklist	Level 1	Interdisciplinary bedside round has potentially a positive influence on patient centeredness, quality of care, and team collaboration, but because of a substantial variability in definitions, design, outcomes, reporting, and a low quality of evidence, definitive results stay uncertain.	IBR could result in an improvement of patient centeredness, quality of care, and team collaboration.	Limited data as there is not one standardized definition and use of IBR

Article 2 Seaton, Jones, A., Johnston, C., & Francis, K. (2021). Allied health professionals' perceptions of interprofessional collaboration in primary health care: an integrative review. *Journal of Interprofessional Care, 35*(2), 217–228. https://doi.org/10.1080/13561820.2020.1732311	To explore the perceptions of allied health professional regarding interprofessional collaboration in primary health care.	Integrative Review Three electronic databases and a manual search of the Journal of Interprofessional Care. The Crowe Critical Appraisal Tool was used.	Level 3	Future research should avoid reporting on allied health professionals in primary health care collectively, and isolate data to the individual professions. Direct observational methods are warranted to investigate whether allied health professionals' perceptions of interprofessional collaboration align with their actual clinical interactions in primary health care settings.	Five themes: (1) shared philosophy; (2) communication and clinical interaction; (3) physical environment; (4) power and hierarchy; and (5) financial considerations	CCAT scores were of moderate methodological quality and average score was 65%
Article 3 Wei, Horns, P., Sears, S. F., Huang, K., Smith, C. M., & Wei, T. L. (2022). A systematic meta-review of systematic	To identify facilitators, barriers, and outcomes related to IPC's and help healthcare professional and organization to develop and implement successful IPC strategies	Systematic reviews meta-reviews were evaluated from January 2010 to December 2020 from PubMed, Cochrane, PsycINFO, and CINAHL	Level 1	Major outcomes related to patients, healthcare professionals, and organizations. The facilitators, barriers, and outcomes are mutually interrelated. Highly effective collaboration is a process from	Organizational structure, climate, and culture are significant barriers to IPC and suggests these are not 'permanent structures.'	Summarized but not specifics provided. Not specific to a particular health system.

reviews about interprofessional collaboration: facilitators, barriers, and outcomes. *Journal of Interprofessional Care, 36*(5), 735–749. https://doi.org/10.1080/13561820.2021.1973975				relationship building to working together and collaborating. Improving IPC requires organizational, teams, and individuals' combined efforts. When highly effective collaborations occur, all stakeholders can benefit – organizations, professionals, and patients.		
Article 4 Davidson, A.R., Zigori, B.D., Ball, L., Morgan, M., Gala, D., Reidlinger, D.P. (2022). Family carers' experiences and perceived roles in interprofessional collaborative practice in primary	To determine perception of patient advocates and how they play a role in the interprofessional collaborative practice	Constructivist grounded theory focus group study. 17 public and private patient advocates of patients with chronic diseases in primary care were researched from July-August 2020	Level 3	Findings have highlighted several specific research and practice improvement areas. The most pressing need is for policy makers to support the development of a relevant tool for use in primary healthcare settings that establish and promote the patient role in IPCP.	Patient roles in the IPC are on a dynamic spectrum and influenced by individual and broader determinants.	Limited number of participants and no defined tool

care: A constructivist grounded theory study. *Health Expectations, 30*(6), 5775-5785. https://doi.org/10.1111/hsc.14009						
Article 5 Yann, F., Tan, K., Rao, J., Lim, W. S., Xin, X., Cheng, Q., Lum, E., & Tan, N. C. (2022). Viewing interprofessional collaboration through the lens of networked ecological systems theory. *Journal of Interprofessional Care, 36*(6), 777–785. https://doi	To examine nurses' and physicians' experiences and perceptions of IPC barriers and facilitators from a systems perspective	Qualitative design Data was collected between April 2019 and March 2021for a total of 55 healthcare providers in the study	Level 5	Patient-, disease-, and systems-related knowledge played an important role in facilitating IPC. Macrosystemic entrenchments such as interprofessional composition of ward rounds emerged as a significant barrier.	NEST can serve as a framework to elucidate how systems in complex healthcare settings created IPC barriers and facilitators	Interruption during the COVID-19 pandemic

.org/10.1080/13561820.2021.2007864						
Article 6 Best, S. & Williams, S. (2019). Professional identity in interprofessional teams: findings from a scoping review. *Journal of Interprofessional Care, 33*(2), 170–181. https://doi.org/10.1080/13561820.2018.1536040	To examine the extent, range, and nature of research activity within the area of research connecting professional identify and interprofessional teams	Scoping review of the literature CINAHL, Proquest, Medline, Scopus, EBSCO, and Cochrane Review were searched and a total of 482 papers were identified	Level 5	Analysis of the papers highlights three key areas of interest: the creation of professional identity; challenges and barriers to professional identity; and implications for leadership and management.	Three cross-cutting themes were identified; the role of others, the social nature of professional identify, and identity mobilization	Limited number of papers (16) ended up meeting all criteria set out for examination and there is a lack of primary research studies
Article 7 Malhotra, A., Yang, C., & Feng, X. (2022). Application of constructivism and cognitive flexibility theory to build a comprehensive, integrated,	To design the CIM-IPEP curriculum	Collaboration between multiple higher education Universities and colleges and review of the literature to identify best practices that align with current education standards IOM literature regarding	Level 7	To address these gaps, a novel comprehensive, integrated, and multimodal interprofessional education and practice (CIM-IPEP) curriculum involving students from pharmacy, medicine, psychology, and nursing professional degree programs was created.	A diversity-enhanced curricula was created that aligns with Health Professions Accreditation Collaborative	Does not mention the total number of reviews that took place

multimodal interprofessional education and practice (CIM-IPEP) program. *Journal of Interprofessional Care, 36*(3), 428–433. https://doi.org/10.1080/13561820.2021.1900802		pedagogical methods for implementing IPEP				
Article 8 Ross, J. G., Meakim, C., & Stacy, G. H. (2020). Outcomes of Team STEPPS Training in Prelicensure Health Care Practitioner Programs: An Integrative Review. *Journal of Nursing Education*	Review of the current state of the science related to the quantitative literature exploring outcomes of Team STEPPS training in prelicensure health care practitioner students' education	Whittemore's and Knafl's integrative review method was used as a guide to review quantitative research studies CINAHL and PubMed databases were queried without limits on dates. Nine quantitative research studies were identified and included in the review	Level 5	The available literature suggests that using TeamSTEPPS within prelicensure education supports the development of teamwork knowledge and attitudes in interdisciplinary health care practitioner students. Most of the reviewed studies focused on nursing and medical students; thus, further research is needed on allied health care practitioner students.	Team STEPPS within prelicensure education supports the development of teamwork knowledge and attitudes in interdisciplinary health care practitioner students	Limited number of research articles were used

, *59*(11), 610-616. https://doi.org/10.3928/01484834-20201020-03						
Article 9 Reed, K., Reed, B., Bailey, J., Beattie, K., Lynch, E., Thompson, J., Vines, R., Wong, K. C., McCrossin, T., & Wilson, R. (2021). Interprofessional education in the rural environment to enhance multidisciplinary care in future practice: Breaking down silos in tertiary health education. *The Australian Journal of*	To enhance cross-discipline communications, improve knowledge and clarity of roles and improve patient care and outcomes	Mixed-methods evaluation 120 students participated in the evaluation	Level 3	Creating a collaborative learning environment creates a culture of multidisciplinary care, enhancing patient care and improving outcomes. The rural interprofessional learning model is an effective interprofessional educational approach, which can be repeated, refined and improved for continual professional development.	Increased understanding of the contributions of other disciplines in enhancing patient care, team approaches, cross-discipline communication and a need to engage in collaborative care in future practice	Smaller sampling pool. Rural IP learning model can be repeated, but needs refined and improved for continual professional development

Rural Health., *29*(2), 127–136. https://doi.org/10.1111/ajr.12733						
Article 10 Witt Sherman, D., Flowers, M., Alfano, A. R., Alfonso, F., De Los Santos, M., Evans, H., Gonzalez, A., Hannan, J., Harris, N., Munecas, T., Rodriguez, A., Simon, S., & Walsh, S. (2020). An integrative review of interprofessional collaboration in health care: Building the case for	To conduct a review of IPC to evaluate evidence and build support and resources	Integrative review CINAHL, Medline, Eric, Pubmed, Psych Info Lit., and Google Scholar were searched between 1995 and 2019. 216,885 articles were identified, 32 articles were used.	Level 5	Challenges to interprofessional collaboration are openly addressed and solutions proposed through the best thinking of the university administration and faculty. IPC in health care education is the clarion call globally to improve health care.	Outcomes were positive with IPC and KSA's	Only 18 articles met inclusion criteria

university support and resources and faculty engagement. *Health care (Basel, Switzerland)*, *8*(4), 418. doi: 10.3390/healthcare8040418						
Article 11 Lin, Y.P., Chan, L.Y.C., & Chan, E. (2022). Tenacious team, precarious patient: A phenomenological inquiry into interprofessional collaboration during ICU resuscitations. *Journal of Advanced Nursing*, *78*(3), 847–857. https://doi.org/10.1111/jan.15071	To explore lived experiences of IPC among ICU nurses, doctors, and respiratory therapists in managing resuscitation in the ICUs	Descriptive phenomenological design, underpinned by Husserl's philosophy 16 ICU professional participated in individual, semi-structured, in-depth interviews. Findings were analyzed using Colaizzi's 7-step analysis	Level 3	Findings call for enhanced team training initiatives encompassing the interprofessional team, with an emphasis on collective leadership.	4 main themes developed; ruminating about professional boundaries, rallying the IP conflicts, responding to IP conflicts, and reaching collective leadership	Small participant sampling

Article 12 Barrow, M.J., & Gasquoine, S.E. (2018). Encouraging interprofessionall collaboration: The effects of clinical protocols. *Journal of Clinical Nursing.*, *27*(19-20), 3482–3489. https://doi.org/10.1111/jocn.14591	To consider characteristic of protocol documents influence of care delivery and potential to facilitate greater IPC	A close reading rubric was developed by the researcher and a tabulation of the coding analysis Authorship, person or group responsible, stated document purpose, target readers, particular subjects, care pathways, and legislation or policy statements were reviewed	Level 7	Protocols have been developed to standardize practice and increase the effectiveness of teamwork.	The many protocols developed to standardize practice may constrain collaboration in healthcare settings by diminishing a nursing voice and create nursing silos	Non-specific regarding data pull
Article 13 Varpio, L., Bader, K. S., Meyer, H. S., Durning, S. J., Artino, A. R., & Hamwey, M. K. (2018). Interprofessional healthcare teams in the military: A scoping literature	To identify empirical evidence for IPC and identify gaps in the evidence that need to be addressed	PubMed, EMBASE, PsychInfo, ERIC, DTIC.mil, and the NYAM Gray Lit. database was searched without restriction 675 articles were identified and 559 remained for final review. 46 qualitative and quantitative articles were reviewed in	Level 2	Analyses identified three themes (i.e., effective communication, supportive team environments, shared role understanding, and equity among team members) related to successful MIHT collaborations and five related to unsuccessful MIHT collaborations (i.e., inability to develop team cohesion, lack of	Three major themes were related to IPC success; effective communication, supportive team environments, and a shared role understanding and equity among team members	Research was performed focusing on the military branch and not broad spectrum of healthcare

review. *Military Medicine*, *183*(11-12), e448–e454. https://doi.org/10.1093/milmed/usy087		four phases. 21 articles had inter-rater reliability of Kappa 0.83		trust, ineffective communication and communication breakdowns, unaddressed or unresolved conflicts, and rank conflicts).		
Article 14 McLaughlin, J. E., Bush, A. A., Rodgers, P. T., Scott, M. A., Zomorodi, M., & Roth, M. T. (2020). Characteristics of high-performing interprofessional health care teams involving student pharmacists. *American Journal of Pharmaceutical Education*, *84*(1), 7095. https://doi.org/10.56	To identify key themes of interprofessional models	Interviews were conducted using two pre-established frameworks and reviewed qualitatively 6 pharmacists from 4 Area Health Education Centers had 60-minute interviews conducted	Level 7	At the level of the individual, the themes of communication, respecting and understanding roles, and individual characteristics emerged. Three themes identified in a previous study failed to emerge in the interviews: leadership and management; personal rewards, training and development; and clarity of vision.	Themes emerged at the organizational or healthcare system level and at the level of the team and at the level of the individual	Small sampling size

88/ajpe7095						
Article 15 Sukhera, J., Bertram, K., Hendrikx, S., Chisolm, M. S., Perzhinsky, J., Kennedy, E., Lingard, L., & Goldszmidt, M. (2022). Exploring implicit influences on interprofessional collaboration: A scoping review. *Journal of Interprofessional Care*, *36*(5), 716–724. https://doi.org/10.1080/13561820.2021.1979946	To understand the current landscape of implicit biases influence on IPC practice	A search of Medline, Scopus, CINAHL, ERIC, EMBASE, and PsychInfo was carried out 159 studies were identified, an iterative process was performed in three phases of descriptive and interpretive analysis	Level 5	Implicit biases are under-explored regarding IPCs but team members can adapt to these biases	Implicit biases influence IPC in dynamic and intersecting ways	
Article 16 Walton, V.,	To identify benefits and challenges to the effective use of	Surveys were conducted with frontline	Level 7	Clinicians recognize the benefits of IBRs	Themes emerged of "being on the same page",	Small sampling size of 77

Hogden, A., Long, J. C., Johnson, J. K., & Greenfield, D. (2019). How do interprofessional healthcare teams perceive the benefits and challenges of interdisciplinary ward rounds. *Journal of Multidisciplinary Healthcare, 12,* 1023–1032. https://doi.org/10.2147/JMDH.S226330	interdisciplinary ward rounds.	professionals in two acute care and two rehabilitation wards.		and have the desire and willingness to participate in them. Careful consideration is required to implement IBR changes in an organizational context and culture.	"focusing on patients", and "holistic care planning"	participants

Appendix B: IRB Approval

LIBERTY UNIVERSITY.
INSTITUTIONAL REVIEW BOARD

August 5, 2024

Re: IRB Application - IRB-FY24-25-37 THE EFFECTIVENESS OF AN INTERDISCIPLINARY CARE TEAM: AN INTEGRATIVE REVIEW

Dear Lindsey Ellingford and Tonia Kennedy,

The Liberty University Institutional Review Board (IRB) has reviewed your application in accordance with the Office for Human Research Protections (OHRP) and Food and Drug Administration (FDA) regulations and finds that your study does not meet the definition of human subjects research. This means you may begin your project with the data safeguarding methods mentioned in your IRB application.

Decision: No Human Subjects Research
Explanation: Your study/project is not considered human subjects research because (1) it will consist of quality improvement activities, which are not "designed to develop or contribute to generalizable knowledge" according to 45 CFR 46. 102(l).

Please note that this decision only applies to your current application. Any modifications to your protocol must be reported to the Liberty University IRB for verification of continued non-human subjects research status. You may report these changes by completing a modification submission through your Cayuse IRB account.

For a PDF of your IRB letter, click on your study number in the My Studies card on your Cayuse dashboard. Next, click the Submissions bar beside the Study Details bar on the Study Details page. Finally, click Initial under Submission Type and choose the Letters tab toward the bottom of the Submission Details page.

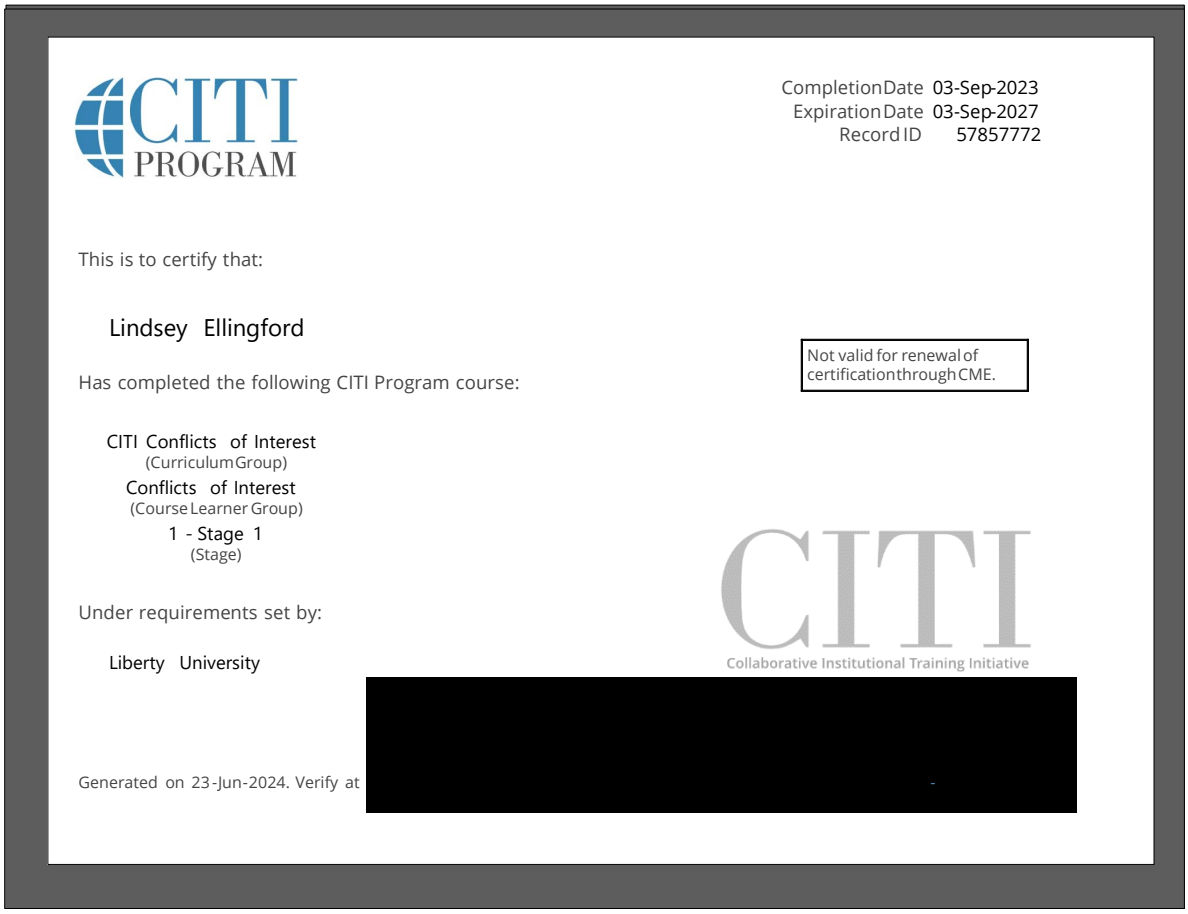
Also, although you are welcome to use our recruitment and consent templates, you are not required to do so. If you choose to use our documents, please replace the word *research* with the word *project* throughout both documents.

If you have any questions about this determination or need assistance in determining whether possible modifications to your protocol would change your application's status, please email us at [redacted]

Sincerely,

G. Michele Baker, PhD, CIP
Administrative Chair
Research Ethics Office

Appendix C: CITI Training



CITI PROGRAM

Completion Date 03-Sep-2023
Expiration Date 03-Sep-2027
Record ID 57857772

This is to certify that:

Lindsey Ellingford

Not valid for renewal of certification through CME.

Has completed the following CITI Program course:

CITI Conflicts of Interest
(Curriculum Group)
Conflicts of Interest
(Course Learner Group)
1 - Stage 1
(Stage)

Under requirements set by:

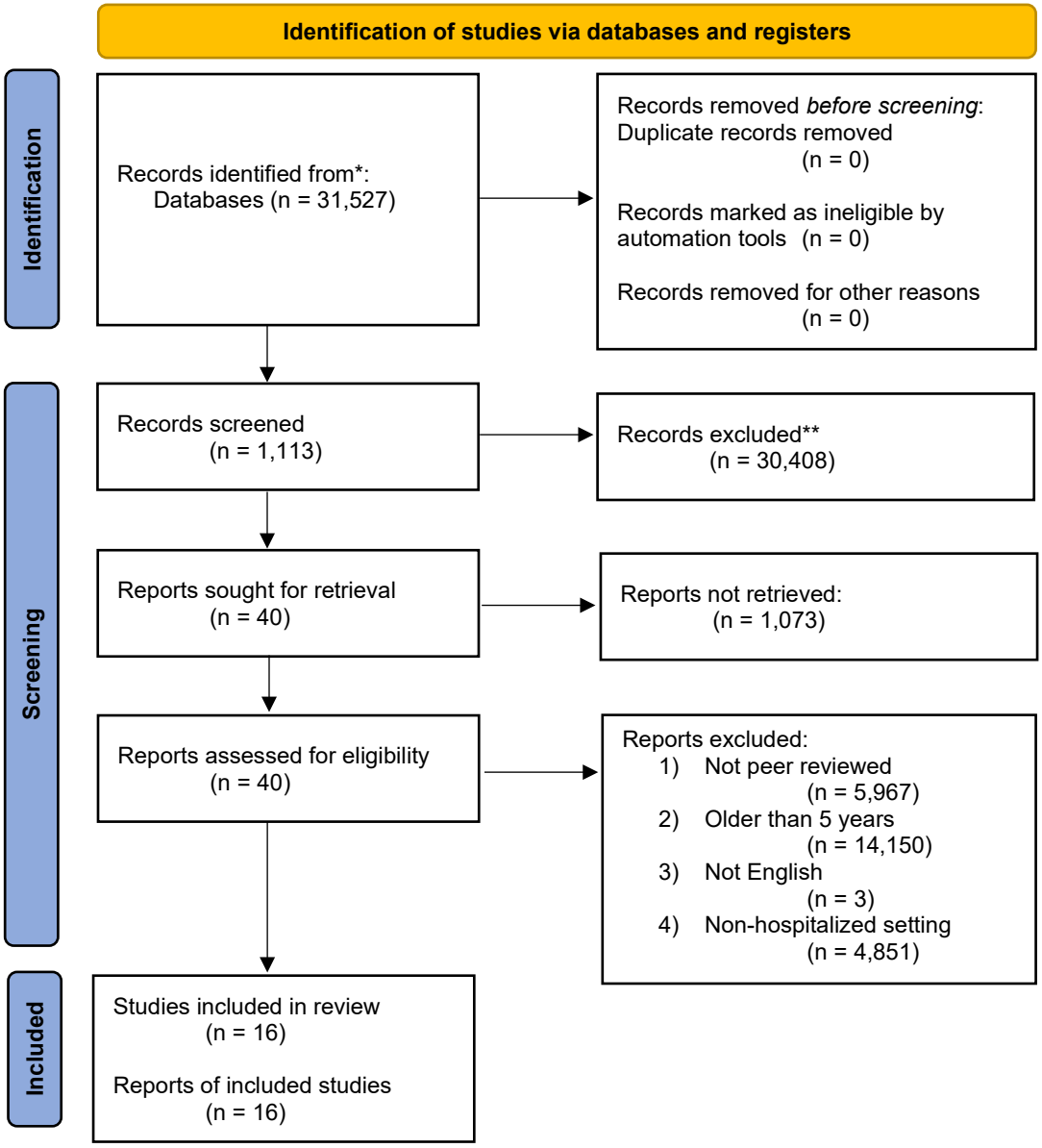
Liberty University

CITI
Collaborative Institutional Training Initiative

[redacted]

Generated on 23-Jun-2024. Verify at

Appendix D: PRISMA Diagram



From: Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD, et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. BMJ 2021;372:n71. doi: 10.1136/bmj.n71