

# The Interprofessional Standardized Patient Experience: An Effective Interprofessional Education Activity for Prelicensure Health Professional Students

Jared Van Hooser, PharmD\*, Ryan M. Harden, MD, Molly Vail, MD, Samantha Friedrichsen, MPH, Dalerie Lieberz, DPT, PhD, Sue Mattson, DNP, Emily Onello, MD

\*Corresponding author: [jvh@d.umn.edu](mailto:jvh@d.umn.edu)

## Abstract

**Introduction:** For future success in the modern health care environment, health professions students require effective interprofessional education experiences to develop their perceptions of other professionals on the health care team. The Interprofessional Standardized Patient Experience (ISPE) is an interprofessional education activity for prelicensure health professional students in nursing, pharmacy, physical therapy, medicine, social work, and occupational therapy. **Methods:** The ISPE involved collaboration among students to conduct a subjective interview. Students from six health care professions individually interviewed a simulated patient while being observed by students from other professions. A structured faculty-guided debriefing session followed the comprehensive interview process. Students completed a voluntary pre- and post-ISPE survey with interprofessional questions and feedback on the activity. Descriptive statistics were used to analyze individual responses. Differences in student opinions by student profession and by the number of professions present were examined using chi-square tests. **Results:** Over 4 consecutive academic years, 1,265 students completed the ISPE, and 1,028 completed the pre- and post-ISPE surveys. Analysis of the survey responses indicated that the ISPE enhanced student awareness of the functions of an interprofessional team and increased student knowledge of the roles of different health care professions. Students rated the ISPE as a valuable experience. Differences were noted in some of the measures by profession and group size. **Discussion:** A single ISPE had a significant impact on prelicensure students' perceptions. The ISPE is a novel and effective approach to interprofessional education that students appreciate.

## Keywords

Interprofessional Collaborative Practice, Case-Based Learning, Simulation, Standardized Patient, Interprofessional Education

## Educational Objectives

By the end of this activity, learners will be able to:

1. Demonstrate an improved awareness of the functions of an interprofessional team.
2. Express an increased knowledge of the roles and responsibilities of different health care professions.
3. Demonstrate an enhanced understanding of interprofessional health care.

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## Introduction

With the changing health care environment and increased complexity of patients, interprofessional collaborative practice (IPCP) has become imperative. A team-based approach to patient care is necessary to effectively manage complex and chronic patient care needs, as a single disciplinary approach is costly, unsafe, and ineffective.<sup>1</sup> Research underscores that patients with complex and multifaceted health conditions often necessitate the involvement of health care providers from a variety of professions.<sup>2,3</sup> This interprofessional approach is crucial in addressing the diverse and complex needs of these patients effectively.

Moreover, evidence from numerous studies confirms that IPCP directly contributes to improved patient outcomes.<sup>4-7</sup> These studies highlight how collaborative practice among health care professionals from different professions can lead to more

comprehensive and well-rounded patient care. The benefits of IPCP go beyond patient outcomes. They include enhanced patient satisfaction, increased patient acceptance of treatment plans, and improved job satisfaction and well-being among health care team members.<sup>8</sup>

The World Health Organization (WHO), a global leader in health care, has called for more collaborative action and defines collaborative practice in health care as occurring when “multiple health workers from different professional backgrounds provide comprehensive services by working with patients, their families, carers and communities to deliver the highest quality of care across settings.”<sup>9</sup> Creating a collaborative care environment necessitates that health care professionals first undergo interprofessional education (IPE). WHO emphasizes the importance of this approach, defining IPE as a process where “students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes.”<sup>9</sup> This education equips health care providers with the essential skills and knowledge needed for effective teamwork in a collaborative practice setting.

The Interprofessional Education Collaborative (IPEC) separates interprofessional collaboration into four fundamental competencies: values and ethics, roles and responsibilities, communication, and teams and teamwork.<sup>10</sup> These competencies are essential for fostering IPCP. To maximize the effectiveness of IPE training, it is imperative to synchronize educational models with these competencies, ensuring that health care professionals are equipped with the necessary tools for successful collaboration.

Recognizing the significant benefits of and necessity for IPCP, educational institutions have been motivated to incorporate IPE within their curricula. It has become more common than not for health professional schools and colleges to provide some form of IPE opportunity to their students.<sup>11</sup>

The Interprofessional Standardized Patient Experience (ISPE) provides an opportunity for students from various professions to collaborate during their didactic curricula. During the 2001-2002 academic year, the ISPE began as a 5-year grant-funded collaboration between a private Catholic college and a state university, initially involving only nursing, medicine, and pharmacy students. Over the next 10 years, students from the programs of social work, physical therapy, and occupational therapy joined the ISPE.

Our ISPE adds to the field of *MedEdPORTAL* publications<sup>12-23</sup> by uniquely amalgamating elements that, while present individually

in other ISPEs and other IPE activities, have not been combined in a single ISPE publication to date. This particular ISPE is distinguished by its integration of health professions students from six health care fields, notably, the inclusion of occupational therapy and social work. Having evolved over more than 2 decades, it has been continuously refined and adjusted. We offer a comprehensive analysis, presenting data over 4 academic years, rather than from a single ISPE session. Additionally, we include a larger number of student responses, adding to the ISPE’s value and uniqueness in the literature.

## Methods

### ISPE Background

The ISPE was a low-stakes formative assessment activity in which prelicensure students from the six different aforementioned health care professions individually interviewed a simulated patient (SP) while being observed by students from other professions within the ISPE. Following the interviews, a facilitator led an interprofessional debrief. The ISPE was required by courses within the curricula of six different professions. The learners participating in the ISPE comprised second-year graduate students from pharmacy, medical, occupational therapy, and physical therapy programs, alongside both graduate and undergraduate students from social work and senior-year undergraduate students from nursing.<sup>24-26</sup> The nursing program, due to its larger enrollment, was represented by two students in each ISPE session. In contrast, all other professional programs had a single student representative per session. To try to maintain an equal number of participants across sessions, there were instances when a student was required to participate in the ISPE twice during their academic program. This measure was taken to increase the number of professions represented at each session. Thus, each ISPE session had up to seven learners and six professions present. In instances where a student participated in the ISPE for a second time, it was on a voluntary basis.

The ISPE’s main focus was on displaying the patient interview skills of health care professionals from different professions, highlighting their roles and responsibilities, and stressing the significance of interprofessional teams in enhancing patient care. While an initial care plan was discussed, the ISPE recognized the diverse levels of knowledge among learners and did not prioritize developing the most suitable care plan.

### ISPE Case Development

The interprofessional faculty team met annually to review cases. Building cases with appropriate professional perspectives that met the needs of all programs involved was critical. Collaboratively developing cases promoted interprofessional

faculty team building and assisted with facilitation across professions.<sup>27</sup> The ISPE was not case dependent. It required a realistic patient case scenario for students to collaborate; however, developing student competence related to the patient diagnosis was not the aim of the ISPE. The cases involved outpatient clinic visits addressing a range of frequently encountered patient concerns and conditions, further complicated by factors like inadequate health insurance coverage. The case provided in Appendix A featured an older adult with congestive heart failure (CHF).

#### Training and Scheduling

Many of the SPs participated in the ISPE for years before the data were collected for this publication. SPs were initially recruited from pools of SPs at our institutions who had been involved in other simulations and from colleagues of the faculty who met the patient demographics of the case. Each SP received their assigned case script before the start of the semester. There was no specific SP educator involved; rather, medical school faculty were dedicated to training new SPs one-on-one regarding the case scenario before their scheduled ISPE. Detailed SP instructions were included in the case (Appendix A), which was designed for SP training. Training sessions for new SPs were typically conducted over a duration of 120 minutes. Additionally, new SPs, prior to participating in the live ISPE experience, were offered the opportunity to sit in on an ISPE session as a silent observer. The pool of SPs included eight to 10 individuals, and scheduling was based on their availability. The case description included possible questions for the SP to ask different students. For example, in the CHF case, it was suggested that the SP ask the social worker about an advanced directive. The case included suggestions for divulging information based on the provider and the questions asked. For example, the SP was instructed to reply that they were taking “a purple liquid for sleep” if asked about over-the-counter medications (Appendix A).

A staff member was appointed as a scheduler to set up the SP's schedule and the faculty facilitators of the ISPE. Programs had to reserve a block of time for interprofessional collaboration when the ISPE could be scheduled. Staff assigned to the ISPE tasks coordinated faculty facilitators, SPs, student calendars, and room availability. Every effort was made to assign a student from each health care profession to every session, though this was not always achievable due to the differing sizes of each program.

New ISPE facilitators were required to read and know the cases, as well as to understand the student preparation information, door instructions, facilitation and debriefing guide, and pre- and postsurveys. Next, new facilitators observed several ISPE

sessions, then co-led several sessions, and subsequently ran several ISPE sessions with an experienced facilitator observing and providing feedback after the sessions were over. The number of sessions involved in new facilitator training varied based on faculty comfort level and previous experience with facilitation; regardless of comfort level and previous facilitation experience, each of the aforementioned steps was required.

#### Space, Equipment, and Time Logistics

Two rooms were ideal for the ISPE but not essential. A simulation room with an observation window worked well for the patient simulation portion of the experience. The SP sat on one side of the window, and students took turns entering the patient room to conduct their subjective exam while the other students listened and watched. If an observation room was not available, the patient was seated at the front of the room, and students took turns sitting opposite the patient during their portion of the interview. The second room was used for debriefing. Voluntary surveys were used to collect data from students before and after the ISPE.

Each ISPE lasted 90-120 minutes, with half or more of this time allocated specifically for the debriefing session. In alignment with our institution's academic calendar and program schedules, the ISPEs were strategically arranged on Friday afternoons at 1 pm, 2 pm, and 3 pm throughout the academic year. The same SP portrayed the patient role across all three sessions each Friday afternoon. Depending on the sizes of programs at other institutions, it may be necessary to modify the days and number of ISPE sessions to align with specific needs.

To facilitate smooth transitions and timely commencement of each session, we scheduled two facilitators each Friday. One facilitator was responsible for the 1 pm and 3 pm ISPE sessions, while the other handled the 2 pm session. This arrangement ensured that while one ISPE session was in the debrief phase, the next session could begin as scheduled without delay.

#### Preparing Students

Students needed no specific training other than coursework related to subjective history taking. Students were provided with their assigned date and time, the location of the ISPE, and the ISPE preparation information (Appendix B).

#### Facilitating the ISPE

After students arrived and attendance was taken, the faculty facilitator oriented the students to the activity based on standards for briefing in simulation,<sup>28</sup> offered the optional presurvey, facilitated the ISPE, shared the door instructions for the case (Appendix C), and, using the ISPE facilitation and debriefing

guide (Appendix D), led the debriefing session. During the ISPE, each student was given approximately 5 minutes to perform a subjective interview with an SP. Students were instructed to focus on the questions most relevant to their profession. They were encouraged not to repeat questions asked by other students but could expand on topics. Once all students had completed a portion of the interview, the group discussed the case. The interprofessional debrief was facilitated by a faculty member who followed a guide and a set of questions based on best practices for simulation debriefing.<sup>29</sup> Students were allowed to respond to and offer their professional perspectives on each query. Debriefing questions included how the students felt during the experience and their primary concern for the patient. Facilitators prompted students to develop an interprofessional care plan based on the subjective data collected, acknowledging the varied levels of knowledge among learners. Students shared their perceptions of their own profession's roles and responsibilities and reflected on past interprofessional experiences. Additionally, they identified the benefits of interprofessional collaboration, discussed barriers to collaborative care, and proposed strategies to overcome obstacles. After the debriefing session, they completed the optional postsurvey before dismissal.

#### Survey Design and Data Collection

From September 2015 to May 2019, 1,265 prelicensure health profession students (392 nursing, 144 occupational therapy, 230 pharmacy, 179 physical therapy, 240 medicine, and 80 social work) participated in the ISPE as a requirement of their respective programs. In 2020, the ISPE was transitioned from an in-person activity to an online format due to the COVID-19 pandemic.

An anonymous and voluntary survey was administered using Qualtrics and completed by students immediately before and after the IPSE (Appendices E and F). No benefit or penalty was associated with either completing or not completing the survey. We used survey data only used from students on their first ISPE. Survey data were excluded if a student indicated prior ISPE participation, as their familiarity with the activity might have resulted in feedback that did not accurately reflect the experiences of first-time participants. Respondents were included only if they had completed both the pre- and postsurveys.

The survey asked students to provide details about their ISPE session, including the professions represented, the facilitator's profession, and the patient case scenario, as well as assessing students' opinions regarding the experience and the learning objectives. Students indicated their level of agreement with statements regarding whether the ISPE enhanced awareness of the functions of an interprofessional team, changed their

knowledge of the roles and responsibilities of different health care professions, and was a valuable part of their professional training and should continue, as well as whether the participation of different health professional students in their group enhanced their understanding of interprofessional health care (all rated on a 5-point Likert scale ranging from *strongly disagree* to *strongly agree*). Students also reported whether they had completed the ISPE previously. The University of Minnesota Institutional Review Board and College of St. Scholastica Institutional Review Board both deemed further review of this project not necessary.

Survey responses were summarized using descriptive statistics. Differences in students' opinions about the activity by student profession and the number of professions in their group were examined using chi-square tests (strongly agree vs. all other response options). We considered *p* values < .05 statistically significant in all tests, and SAS version 9.4 (SAS Institute) was used for the analysis.

#### Results

The ISPE contained a pre- and postsurvey, and the postsurvey completed by students was used to determine the extent to which the ISPE experience helped achieve the objectives. A total of 1,028 health professional students' ISPE survey responses were analyzed, yielding an 81% response rate (Table 1). Table 2 displays the students' responses to the following prompt: "Regarding today's interprofessional experience, indicate your opinion of the following...." Nearly all students (94%) agreed or strongly agreed that the ISPE enhanced their awareness of an interprofessional team's functions and increased their understanding of interprofessional health care. The majority of students (83%) agreed or strongly agreed that the ISPE changed their knowledge of interprofessional roles and responsibilities. Ninety-three percent of students reported that the ISPE was a valuable part of their professional training and should continue. Most students (93%) agreed or strongly agreed that different health professional students' participation in their group enhanced their understanding of interprofessional health care.

**Table 1.** Students Completing the Interprofessional Standardized Patient Experience and Survey by Student Profession, 2015-2019

Student Health Profession	No. (%)
Medicine	193 (19)
Nursing	319 (31)
Occupational therapy	104 (10)
Pharmacy	195 (19)
Physical therapy	131 (13)
Social work	86 (8)
Total	1,028 (100)

**Table 2.** Student Responses to “Regarding Today’s Interprofessional Experience, Indicate Your Opinion of the Following...” (N = 1,028)

Item	No. (%)				
	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
It enhanced my awareness of the functions of an interprofessional team.	44 (4)	3 (0)	13 (1)	330 (32)	638 (62)
It changed my knowledge of the roles and responsibilities of different health care professions.	39 (4)	25 (2)	114 (11)	411 (40)	439 (43)
This experience is a valuable part of my professional training and should continue.	41 (4)	9 (1)	19 (2)	241 (23)	718 (70)
The participation of different health professional students in my group enhanced my understanding of interprofessional health care.	42 (4)	7 (1)	21 (2)	236 (23)	722 (70)

Less than 7% of students disagreed or strongly disagreed with the prompts.

There were statistically significant differences in students’ opinions by student profession. Specifically, nursing students had the highest proportion strongly agreeing the course enhanced their awareness of the functions of an interprofessional team (72%), while medical and occupational therapy students had the lowest proportions (50% and 53%, respectively;  $p < .001$ ). More pharmacy and nursing students strongly agreed that the ISPE changed their knowledge of the roles and responsibilities of different health care professions (51% and 52%, respectively), as compared to occupational therapy students (27%;  $p < .001$ ). Social work and nursing students were the most likely to strongly agree that the experience was a valuable part of their professional training and should continue (79% and 78%, respectively), as compared to only 54% of medical students ( $p < .001$ ). Lastly, nursing students were the most likely to strongly agree that the participation of different health professional students in their group enhanced their understanding of interprofessional health care (78%), as compared to 60% of medical students and 63% of occupational therapy students ( $p < .001$ ).

Overall, the survey responses were not significantly impacted by the faculty facilitator or the specific case scenario used; however, the perceived value of the ISPE did vary by the number of professions present (Table 3). Most ISPE groups included students from at least five of the six health professions (67% of students, 688 of 1,028), and 88% of students reported their case groups contained students from at least four of the six health professions. The most common combinations in a group were all six professions (28%), all professions except for social work (20%), and all professions except for physical therapy (9%). When examining differences in the student opinions by the number of student professions in the student’s group, generally, groups with five out of six of the student professions reported the most favorable responses. In contrast, groups with all six or four or

fewer student professions reported less favorable responses. Two questions varied significantly: “It enhanced my awareness of the functions of an interprofessional team” ( $p = .004$ ) and “This experience is a valuable part of my professional training and should continue” ( $p = .01$ ).

Student comments at the conclusion of the postsurvey following the ISPE experience included the following:

- “This experience was excellent at bringing in a light to what other healthcare professionals do and how they can assist with holistic patient care. It made me develop a greater respect for the unique, individual knowledge and expertise each field brings to a case.”
- “This experience really opened my eyes to the responsibilities and approaches of different professions, and I think it also helped me gain a new understanding and respect for interprofessionalism.”
- “I thought this was a very beneficial and important experience to have during my graduate learning. It helped me to further learn about the different types of questions, different professions as a patient and how we can better collaborat[e] on this information. I think it was very important to learn about the roles of each healthcare professional more deeply.”

### Discussion

A single ISPE session had a profound positive impact on prelicensure health professional students. The literature indicates that while students generally recognize the value of IPE, there is dissatisfaction with implementation.<sup>30</sup> However, student perceptions of the ISPE were very positive: 93% agreed or strongly agreed that it was a valuable part of their professional training and should continue. Eight out of every 10 students agreed or strongly agreed that the ISPE changed their knowledge of the roles and responsibilities of different health care professions (Table 2). Over 90% of students agreed or strongly agreed that the ISPE enhanced their awareness of the

**Table 3.** Student Responses to “Regarding Today’s Interprofessional Experience, Indicate Your Opinion of the Following…” by Number of Professions Present (N = 1,028)

Item and Responses	No. (%)				p
	3 or Fewer Professions (n = 119)	4 Professions (n = 221)	5 Professions (n = 398)	All 6 Professions (n = 290)	
It enhanced my awareness of the functions of an interprofessional team.					.004 <sup>a</sup>
Strongly agree	70 (59)	138 (62)	271 (68)	159 (55)	
All other responses	49 (41)	83 (38)	127 (32)	131 (45)	
It changed my knowledge of the roles and responsibilities of different health care professions.					.35
Strongly agree	47 (40)	86 (39)	182 (46)	124 (43)	
All other responses	72 (60)	135 (61)	216 (54)	166 (57)	
This experience is a valuable part of my professional training and should continue.					.01 <sup>a</sup>
Strongly agree	76 (64)	147 (67)	301 (76)	194 (67)	
All other responses	43 (36)	74 (33)	97 (24)	96 (33)	
The participation of different health professional students in my group enhanced my understanding of interprofessional health care.					.11
Strongly agree	77 (65)	149 (67)	296 (74)	200 (69)	
All other responses	42 (35)	72 (33)	102 (26)	90 (31)	

<sup>a</sup>p < .05, p values from chi-square tests.

functions of an interprofessional team and that the participation of different health professional students in their group enhanced their understanding of interprofessional health care. Furthermore, the proportion of students ranking interprofessional experiences during their health career training as very important increased by 14% after just one ISPE session. The positive impact of this 2-hour afternoon project on students from all professions is impressive and shows this project to be worthwhile. The favorable feedback from students on this ISPE, despite reported dissatisfaction with IPE implementation,<sup>30</sup> can be attributed to the longevity of the program. Having been established for over 2 decades, with most facilitators participating for more than 5 years and some for over 10, there is a sense of familiarity and ease in the logistics and facilitation. This established comfort likely translates to the students, offering a more positive experience compared to sessions led by a facilitator stepping in for a single activity.

It is common to assess student perceptions and attitudes regarding IPE as evidence that the learning is valid under the assumption that positive opinions and beliefs concerning IPE at the prelicensure stage are desirable for enhancing future collaboration.<sup>31-33</sup> Student satisfaction with and valuing of their experience with IPE learning activities are a concern if fostering positive attitudes is desired. The results of our educational activity indicate that students are more likely to be satisfied when four to five professions participate in the ISPE and more likely to be dissatisfied when more or fewer occupations join. Striving to involve an ideal number of professions could optimize the student experience. While two or more professions working

together may be the definition of IPE, the ISPE was ideal with four or five professions, yet still a valuable experience with three or six professions represented. Further research should consider how the number of professions involved impacts IPE learning activities.

While the overall feedback was positive, there were significant differences in opinions among students by profession. These differences could be attributed to multiple factors. First, the differences may have stemmed from the varying stages of students within their respective curricula and their understanding of their future roles in their professions. Second, the extent of each student’s exposure to IPE and IPCP likely varied. We did not determine whether the activity was the student’s first, second, or subsequent exposure to IPE, nor did we assess the extent of their prior experience with IPCP.

Future research avenues include evaluating the enduring effects of the ISPE on those who participated as students and are currently practicing professionals and implementing the ISPE among health care practitioners. Another key direction is to contrast the ISPE’s delivery methods, comparing in-person sessions prior to the COVID-19 pandemic with the current online format. While this comparison has been conducted within a uniprofessional subset,<sup>26</sup> expanding it to encompass all involved professions could offer a comprehensive understanding of the ISPE’s effectiveness across different delivery modes. This line of inquiry could also be valuable for other institutions, prompting them to examine how the transition in delivery formats due to the COVID-19 pandemic has influenced the fidelity and effectiveness of their IPE activities.

There are some limitations to be considered. One is that the survey relies on self-reported data, which may not always be completely accurate. It would be helpful for future research to find a way to measure educational gains more objectively. Another limitation is the lack of clarity regarding which component—the patient interviews or the group discussion—exerts a greater influence on students' perceptions and understanding. This ambiguity presents an opportunity for future research to explore these two critical elements of the ISPE experience. Additionally, the survey included health professional students from only two neighboring institutions, which may limit the generalizability of the findings.

Systematic reviews have summarized numerous barriers to the implementation and sustainability of IPE.<sup>34-36</sup> Despite these barriers, this ISPE has been developed and maintained as a novel and effective IPE activity since 2001. Even though grant funding expired over 15 years ago, the ISPE continues as a vigorous IPE activity involving multiple health care student professionals from two institutions. Furthermore, the ISPE exposes students to the IPEC's core competencies: values and ethics, roles and responsibilities, communication, and teams and teamwork.<sup>10</sup> This exposure is linked to our Educational Objectives. Specifically, increased knowledge about the roles within health care teams corresponds to the IPEC's roles and responsibilities competency. Improved awareness of the functions of an interprofessional team relates to the teams and teamwork competency. Lastly, enhanced understanding of interprofessional health care touches on the values and ethics and communication competencies. Implementing the ISPE in the curriculum of multiple undergraduate and graduate degree programs from multiple colleges has proved sustainable, valuable, and effective. The ISPE is an example of an efficient and effective IPE experience for inclusion in health care curricula.

In modern health care, IPCP is essential. Preparing practitioners for modern health care requires IPE. Novel and effective IPE is needed to prepare the next generation of health care practitioners. We have demonstrated that a single 2-hour interprofessional experience effectively enhanced students' awareness of the functions of an interprofessional team, changed students' knowledge of other professionals' roles and responsibilities, enhanced students' understanding of interprofessional health care, and was a valuable experience. Though the successful delivery of the ISPE requires both advanced planning and allotted faculty time, the ISPE itself requires relatively little curriculum time (2 hours), making it an appealing and time-tested option for other institutions that seek to enhance IPE for their students.

## Appendices

- A. ISPE CHF Case.docx
- B. Student Preparation Information for the ISPE.docx
- C. ISPE CHF Case Door Instructions.docx
- D. ISPE Facilitation and Debriefing Guide.docx
- E. Pre-ISPE Survey.docx
- F. Post-ISPE Survey.docx

*All appendices are peer reviewed as integral parts of the Original Publication.*

**Jared Van Hooser, PharmD:** Assistant Professor, Department of Pharmacy Practice and Pharmaceutical Sciences, University of Minnesota College of Pharmacy; ORCID: <https://orcid.org/0000-0001-8144-6511>

**Ryan M. Harden, MD:** Assistant Professor, Department of Family Medicine and Biobehavioral Health, University of Minnesota Medical School

**Molly Vail, MD:** Second-Year Family Medicine Resident, Duluth Family Medicine Clinic

**Samantha Friedrichsen, MPH:** Principal Data Scientist, Advanced Analytics, Blue Cross and Blue Shield of Minnesota

**Dalerie Lieberz, DPT, PhD:** Associate Professor, Department of Physical Therapy, The College of St. Scholastica

**Sue Mattson, DNP:** Associate Professor, Department of Traditional Undergraduate Nursing, The College of St. Scholastica

**Emily Onello, MD:** Assistant Professor, Department of Family Medicine and Biobehavioral Health, University of Minnesota Medical School

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## Ethical Approval

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