



Piloting Library-Led Interprofessional Education: Lessons from the Cockpit

Jordan L. Ford, MLIS, MS^{a*}; Kay Strahan, MSLIS, AHIP^b; Lindsay Blake, EdD, MLIS, AHIP^c

^aInstructor/Outreach Services Librarian, University of Arkansas for Medical Sciences, Little Rock, AR, [0009-0003-8668-7383](tel:0009-0003-8668-7383) 

^aAssistant Professor/Northwest Campus Librarian, University of Arkansas for Medical Sciences Northwest Regional Campus, Fayetteville, AR, [0000-0003-1242-3177](tel:0000-0003-1242-3177) 

^aProfessor/Clinical Services Coordinator, University of Arkansas for Medical Sciences, Little Rock, AR, [0000-0002-8234-8611](tel:0000-0002-8234-8611) 

Cite as: Ford JL, Blake L, Strahan K. Piloting Library-Led Interprofessional Education:Lessons from the Cockpit. *Hypothesis*. 2026;38(1). doi:10.18060/29233



CC BY-NC 4.0 DEED
Attribution-NonCommercial 4.0 International

Ford, Strahan, Blake. All works in *Hypothesis* are licensed under a [CC BY-NC 4.0 DEED Attribution-NonCommercial 4.0 International](https://creativecommons.org/licenses/by-nc/4.0/). Authors own copyright of their articles appearing in *Hypothesis*. Readers may copy articles without permission of the copyright owner(s), as long as the author(s) are acknowledged in the copy, and the copy is used for educational, not-for-profit purposes. For any other use of articles, please contact the copyright owner(s).

Abstract

Introduction: Interprofessional Education (IPE) is a core component of health professions training, supporting collaboration across disciplines to improve health outcomes. At the University of Arkansas for Medical Sciences, IPE is scaffolded through seven required workshops aligned with the Institute for Healthcare Improvement's Quadruple Aim. While clinical teamwork is emphasized in the existing curriculum, librarians identified a gap in consumer health information training, essential for patient engagement and shared decision-making.

Experience: Three librarians collaborated across two campuses to create IPE workshop scenarios modeled on funding opportunities from the Network of the National Library of Medicine. The workshops tasked interprofessional student teams with designing grant proposals using National Library of Medicine resources. Two of the scenarios were delivered four times between spring 2024 and spring 2025. Evaluation used adapted questions on IPE competencies, peer reviews, and open-ended responses to assess student learning outcomes.

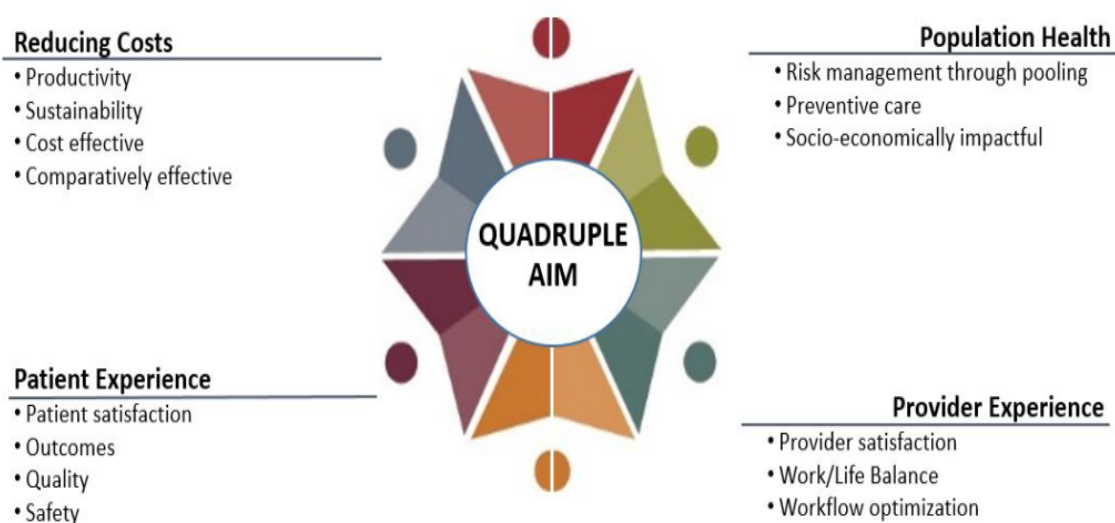
Discussion: A total of 230 students participated across four workshops, representing the Colleges of Health Professions, Medicine, Nursing, Pharmacy, and Public Health. Most participants agreed or strongly agreed that the workshop improved their attitudes toward IPE and enhanced their learning. Qualitative feedback highlighted the importance of consumer health information in future practice, particularly for patient communication. A one-way ANOVA revealed a significant difference in perceptions of effective use of time, with Medicine and Health Professions students rating lower than Nursing, Pharmacy, and Public Health students ($p = 0.012$). Limitations included the absence of pre/post data and challenges implementing one scenario due to curricular and facilitation constraints.

Takeaways: Librarian-led workshops addressed a curricular gap by integrating consumer health information into IPE. Despite challenges in implementation and assessment design, results demonstrate the value of librarian involvement in health professions education. The model is transferable to other IPE programs and expands the evidence base for librarian roles in advancing interprofessional learning.

Introduction

Interprofessional education (IPE) is quickly becoming a foundational element of the health sciences curricula, preparing future health professionals to work collaboratively across disciplines to improve healthcare delivery. The World Health Organization (WHO) defines IPE as occurring “when students from two or more professions learn about, from, and with each other to enable effective collaboration and improve health outcomes”¹. The WHO emphasizes, “Once students understand how to work interprofessionally, they are ready to enter the workplace as members of the collaborative practice team. This is a key step in moving health systems from fragmentation to a position of strength”¹. Health sciences IPE is supported by the Interprofessional Education Collaborative (IPEC), a consortium of 22 national health professions associations. The IPEC established four competencies necessary for success in interprofessional work: values and ethics, roles and responsibilities, communication, and teams and teamwork². These competencies form the foundation of interprofessional learning environments to support team-based care, shared decision-making,

and more collaborative health systems. Interprofessional Education at the University of Arkansas for Medical Sciences (UAMS) is integrated across the curricula and structured to align with the Institute for Healthcare Improvement's Quadruple Aim framework: improving population health, enhancing the patient experience, reducing per capita healthcare costs, and improving the work-life balance of healthcare providers, as seen in Figure 1³. The university's IPE program is coordinated through the UAMS Office of Interprofessional Education and supports students from multiple colleges and regional campuses in progressing through a scaffolded learning model including exposure, immersion, and competence phases. *Figure 1: Quadruple Aim Framework*³



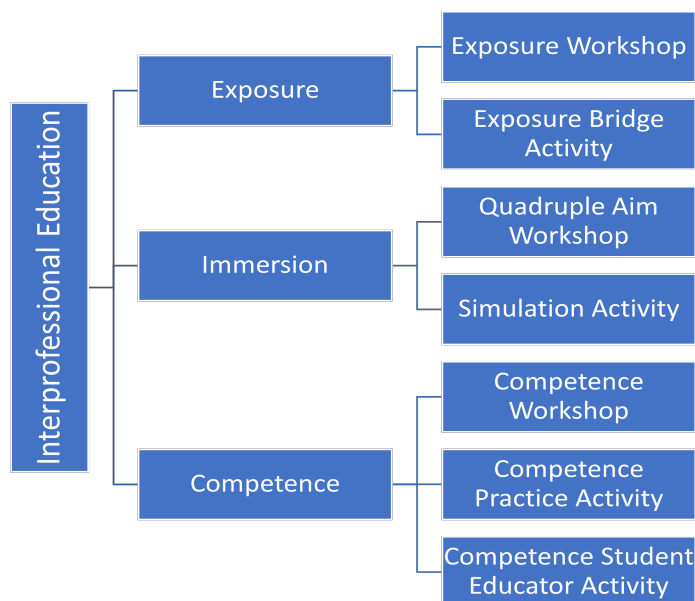
This article describes the rationale, development, and implementation of the consumer health information (CHI) IPE Quadruple Aim Project (QAP) workshops, librarian-led sessions designed to build interprofessional competencies through a focus on CHI. By centering these workshops on trusted, evidence-based resources and the Quadruple Aim framework, the initiative demonstrates how librarians can play a critical role in advancing IPE. This project demonstrates the ability of librarians to integrate CHI into health professions training and offers a model for incorporating librarian expertise into team-based educational strategies. Currently, there is very little literature on librarians working in health sciences interprofessional education, and these studies focus on either health literacy or attitudes of librarians towards IPE^{4,5}.

The UAMS IPE curriculum consists of seven core activities, each mapped to interprofessional learning objectives and designed to be relevant across disciplines and scopes of practice. All IPE activities are completed in small groups consisting of a mixture of students from various colleges and programs. Each activity includes two to four faculty facilitators and topic experts to help guide student learning. For each of the seven activities, students choose from a variety of topics offered online or in-person throughout the year. The two UAMS campuses hold in-person sessions, while online sessions contain a mix of students from both. Completion of the seven core activities is required for graduation from all academic programs, with the timing according to degree length (e.g., four years for medical students vs. 18 months for physician assistant students). These seven core activities include:

1. Exposure Workshop: students are introduced to the key concepts of IPE and core themes like patient-centered care, health literacy, and social determinants of health. This session lays the groundwork and expectations for the remaining activities.
2. Exposure Bridge Activity: students participate in a shared learning opportunity, such as watching and discussing a documentary, to apply IPE concepts in a reflective setting with guided discussion.
3. Quadruple Aim Workshop: student teams develop and present mock grant proposals to support a quality improvement project aimed at improving one or more of the Quadruple Aim framework concepts.
4. Simulation Activity: students engage in immersive, realistic scenarios to practice team-based collaboration in a controlled setting.
5. Competence Workshop: students collaborate on case-based team workshops to develop care plans or concept maps.
6. Competence Practice Activity: students participate in real-world service-learning or experiential opportunities, such as health fairs, community clinics, interprofessional rounds, or research teams, followed by reflection and verification of participation.
7. Competence Student Educator Activity: students demonstrate proficiency in IPE concepts through co-facilitating exposure and immersion workshops or by providing health education to a community audience and writing a reflection paper on the experience⁶.

The activities are dispersed among the scaffolding, as seen in Figure 2.

Figure 2: UAMS Interprofessional Education Components



Although these activities cover various clinical and team-based experiences, librarians identified a gap in instruction on CHI. Despite the increasing role that publicly available

health information plays in shaping patients' understanding, preferences, and care-seeking behaviors, students across health disciplines rarely receive instruction in how to evaluate or recommend trustworthy consumer-facing resources. This omission limits their preparedness for patient engagement and shared decision-making, especially among patients who rely on online or community-based information sources.

Experience

It is common practice for the IPE Office to solicit project ideas from the campus community and broader community partners for the immersion and competence levels of IPE instruction. Librarians at UAMS have long supported student and provider access to evidence-based resources and have contributed to IPE as facilitators, but their involvement in designing the content of workshops had previously been limited. Recognizing the institutional gap and librarians' expertise in CHI resources, three librarians developed Quadruple Aim Project (QAP) workshop scenarios that offer student teams an opportunity to explore and apply National Library of Medicine (NLM) and Network of the National Library of Medicine (NNLM) resources in the context of Quadruple Aim goals.

The project was a collaboration between librarians on two campuses: one librarian from the Northwest Arkansas Regional Campus and two librarians from the main campus in Little Rock. Librarians at each campus separately led the workshop scenarios to in-person learners. This cross-campus model reflects the structure of the broader IPE program, which engages students from both locations in shared learning experiences. The QAP workshop activity was selected because it encourages students to develop practical solutions that align with patient- and systems-level outcomes, a framework that ties in well to the NNLM funding opportunities used to guide this project. The QAP workshops walk students through the creation of Specific, Measurable, Achievable, Relevant, and Time-bound (SMART) goals as part of the process of applying for grant funding. These goals are uniquely structured to be effective and translate across many different disciplines⁷. Each QAP workshop is structured around one scenario. Student groups progress through two rounds, developing SMART goals that address the scenario from two different perspectives.

The objective of this project was to provide students with the opportunity to build interprofessional competencies through the creation of health outreach projects that incorporate NLM resources and address at least one of the four Quadruple Aim goals. To this end, NNLM grant funding opportunities were utilized as a template for the project because they require the use of NLM resources in project outreach. The librarians worked together to develop three new IPE QAP scenarios focusing on CHI resources, technology for the provision of CHI resources, and CHI resources for special populations.

Librarians created the workshop scenarios to assist students in recognizing CHI resources and providing these resources and better health information literacy for their patients. The scenarios were modeled after funding opportunities offered by the NNLM Region 3, which spans Arkansas, Kansas, Missouri, Louisiana, Texas, Oklahoma, and Nebraska. The first scenario, based on the Health Information Outreach Award, asked students to create SMART goals focused on improving awareness of CHI resources in the community during round one and then for health care providers during round two. The second scenario, based on the

Health Technology and Program Kit Award, focused on health technology and asked students to create SMART goals focused on providing technology to access CHI resources within the community during round one and then to health care providers during round two. The third scenario, based on the Native American Health Information Outreach Award, was tailored to Northwest Arkansas's large Marshallese population. It asked students to create SMART goals focused on providing access to CHI resources for the Marshallese population living in Northwest Arkansas in round one and then to health care providers for this population in round two. The three scenarios can be found online using the link provided in the Data Availability Section.

In each workshop scenario, the students were provided with brief sample projects for brainstorming purposes and required to use one or more NLM resources in their proposal. Each scenario addressed three of the Quadruple Aim goals set by the Institute for Healthcare Improvement. Population health improvement was of primary interest, but patient experience and reducing costs goals were also addressed in the process. The workshops were taught on the main campus twice in the spring 2024 semester and once in the fall 2024 semester, and on the Northwest Regional Campus, once in the spring 2025 semester to students in all five health sciences colleges (Health Professions, Medicine, Nursing, Pharmacy, and Public Health).

The IPE Office typically administers the Interprofessional Competencies Attainment Survey (ICCAS) in all activities but had recently stopped due to student feedback on the length of the evaluations⁸. Post-workshop evaluations for QAP workshops were changed to ICCAS-adapted questions that related back to the IPEC's four core competencies of values and ethics, roles and responsibilities, communication, and teams and teamwork. The evaluation contained eight questions pertaining to the core competency areas (two per competency), three questions about the learning activity used, nine questions looking at the workshop approach to QAP, and four open-ended questions. These open-ended questions focused on the effect of the QAP experience, how students may apply their learning, if they would be interested in implementing their project, and any additional comments. Students were also required to complete peer reviews of three team members from professions other than their own in their six-person group. Data from the session evaluations were downloaded by the IPE Office from Survey Monkey and deidentified before being passed on to the librarian team for analysis. IPE data is determined as not human subjects research by the UAMS Institutional Review Board as part of an ongoing quality improvement project for the Office of Interprofessional Education. Data were analyzed using the IBM Statistical Package for the Social Sciences (SPSS).

Discussion

The open-ended questions revealed that students enjoyed the new QAP scenarios, and faculty were noted to verbally agree with this assessment. However, there were some bumps in the road. When the workshops were submitted for approval, the librarians discovered the special populations scenario required students to first complete a cultural humility training. The additional time requirement was not feasible for all programs, so the scenario had to be tabled for another time. The scenario for the provision on CHI resources was taught three times. The health technology workshop scenario was taught once; it was not repeated due to the

difficulties facilitators had in explaining the options students had when brainstorming ideas to fit the topic. Many groups discussed how to provide access to CHI resources but failed to include a technology component as the grant scenario/funding opportunity required. The librarians elected to set aside the scenario to prioritize introducing students to CHI resources instead of specific technologies that may help deliver it.

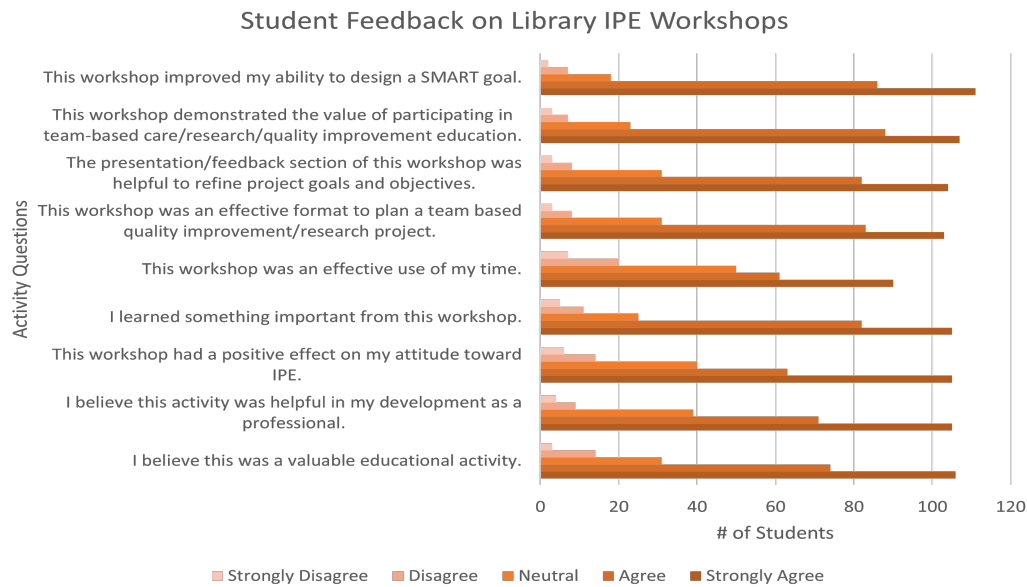
Despite these issues, the librarians taught four workshops and examined both quantitative and qualitative data from the combined feedback. Though the health technology workshop was slightly different, it was included in the overall statistics as the post-test evaluations were the same. Post-test results from the four workshops taught by librarians from spring 2024 to spring 2025 were analyzed using IBM SPSS Statistics (Version 29) to determine frequencies. An analysis of variance, or ANOVA, was run to look for any significant differences between colleges on any activity question.

There were a total of 230 responses from the four workshop sessions with 68 students in January 2024, 72 students in March 2024, 50 students in November 2024, and 40 students in February 2025. Since students are required to do the evaluation to receive credit for the workshop, all responses were complete and able to be included. The breakdown by college includes:

- 107 College of Health Professions students
- 58 College of Medicine students
- 23 College of Nursing students
- 27 College of Pharmacy students
- 15 College of Public Health students

The librarians focused on nine workshop evaluation questions that related most to the topic of the workshop and two open-ended questions that asked about how the workshop content affected participants and how they will use the information in their future practice. The evaluation questions can be viewed using the link provided in the Data Availability Section. As shown in Figure 3, the majority of students agreed or strongly agreed with all questions pertaining to the workshop topic. Colleges were compared across all questions using a one-way ANOVA. The only question showing significance among the colleges dealt with the workshop being an effective use of time. The Colleges of Health Professions ($M=3.70$) and Medicine ($M=3.72$) showed significantly lower scores than their counterparts from the Colleges of Nursing ($M=4.48$), Pharmacy ($M=4.15$), and Public Health ($M=4.25$) ($p = 0.012$).

Figure 3: Student Post-Workshop Evaluation (activity questions)



Looking across the open-ended questions, students had many positive comments about IPE and how it will help them in the future. They looked forward to how they can apply information learned about CHI resources to their patients and/or work (See Table 1). Not all students enjoy participating in IPE activities; however, this is mostly related to the requirement of completing IPE activities and not a reflection upon the workshops' content. While students select scenarios of interest for the IPE workshops, some students wait until late in the semester and are unhappy with the remaining scenarios. Also, as previously noted, the workshop on technology provision for the use of CHI resources was not well received. Many students found the topic confusing, which led to more time spent explaining how to approach the topic than exploring the CHI resources.

Table 1: Student feedback from open-ended evaluation questions.

Student Feedback	Date and Title of Scenario
“This experience widened my knowledge and awareness of the importance of CHI and the role we play in ensuring that clients are able to access these resources for better health outcomes.”	November 1, 2024: Consumer Health Resources
“I learned about the medline [sic] plus tool, which I plan to share with future patients. We also discussed the value of printed information for patients from a reliable source, and I hope to implement that in some capacity as well in my future practice.”	November 1, 2024: Consumer Health Resources
“I intend to provide the resources we spoke about to my patients. I also value the insight IPE and quadruple aim have given me into other professions.”	January 12, 2024: Health Technology
“I enjoyed this activity. It helped me think about how access to more resources is not only needed for patients but also for health providers.”	March 24, 2024: Consumer Health Resources
““It has been nice to communicate with other future professionals in a low stakes environment to get to know everyone’s perspectives and goals and educate about occupational therapy.”	February 24, 2025: Consumer Health Resources

Takeaways

The librarians encountered two specific problems in this project, both stemming from their dual roles as educators and researchers. These problems centered around the content of workshops and the lack of pre- and post-test data from the evaluations. While neither of the problems was completely resolved, the team did find a way to work around them. The librarians learned valuable lessons while working to overcome these issues and were able to incorporate CHI resources and library services into the university IPE curriculum.

The first problem centered around the content of the second and third workshops. The scenario looking at the provision of technology to the community and health providers for the use of finding and using CHI resources turned out to require more in-class facilitation/training than was feasible in the time given. During the first run of the workshop, librarian facilitators quickly realized that the students did not understand that they were not looking at providing information resources but rather technology to access these resources. Given the difficulty of the workshop content for participants and the diminished focus on CHI, the librarians decided not to try to facilitate the scenario again.

The workshop scenario focusing on CHI training for the Marshallese population and healthcare providers for this population in Northwest Arkansas was never presented. When the workshops were approved, it was discovered that teaching the curriculum would require students to take cultural humility training. Since this training is not provided in a standardized way to students across the health sciences colleges, it could not be assumed that students had taken the training. This meant that the training would need to be either incorporated into the workshop itself or given as pre-work. Given the limits set on student hours by each professional program, this plan was deemed to be beyond the ability of the IPE Office to

mandate. This made the teaching of the special populations workshop impractical in the IPE setting.

The second problem centered around the lack of expected data. Librarians had expected that the commonly used ICCAS would be used in the QAP workshops as they were in other IPE activities⁸. In the majority of IPE activities at UAMS, the ICCAS is delivered as a required pre- and post-test for IPE workshops in order for students to gain credit for the workshop. Based on previous student feedback, the IPE Office had shortened the requirements for evaluation of the QAP workshops by removing the pre-test and shortening the post-test substantially. Since the librarians had not coordinated with the IPE Office beforehand, it was too late to change the evaluations once this was discovered.

Looking back, the librarians would do a few things differently. The overall issue they observed was lack of communication with the Office of Interprofessional Education. As a result, the librarians lost an opportunity to measure change over time and created scenarios that could not be used. Earlier coordination and checking the evaluations before the workshops were taught could have avoided this. Moving forward, the librarians would standardize post-assessment tools and confirm implementation with all instructors well in advance. Still, students responded enthusiastically, and the course content resonated. The experience confirmed what the librarians suspected: librarians are well-positioned to lead interprofessional, cross-campus educational efforts—especially when those efforts center on CHI resources and information access.

Data Availability Statement

Data associated with this article are available in the Open Science Framework at <https://osf.io/gny4q/?view=9a83d2532af54fd4a62661c9a203c8cd>

Acknowledgements

We acknowledge and thank Wendy K. McCloud, Instructor and Interprofessional Education Manager, Misty Besancon, Program Administrator, and Dr. Kathryn K. Neill, Director, in the University of Arkansas for Medical Sciences (UAMS) Office of Interprofessional Education for their help in implementing this activity through educational platform and materials support, assessment of written reflections, and data collection. We also want to thank the faculty members who assist in facilitating the sessions.

CRedit

Term	Author Initials
Conceptualization	JF, KS, LB
Methodology	JF, KS, LB
Data Curation	LB
Formal Analysis	LB
Writing - Original Draft	JF, KS, LB
Writing - Review & Editing	JF, KS, LB

References

1. World Health Organization. Framework for action on interprofessional education and collaborative practice. Geneva: WHO Press; 2010. Accessed May 23, 2025. Available from: <https://www.who.int/publications/i/item/framework-for-action-on-interprofessional-education-collaborative-practice>
2. Interprofessional Education Collaborative. Core competencies for interprofessional collaborative practice: version 3. Washington (DC): Interprofessional Education Collaborative; 2023. Accessed May 23, 2025. Available from: https://www.ipecollaborative.org/assets/core-competencies/IPEC_3_2023.pdf
3. University of Arkansas for Medical Sciences. Quadruple Aim [Internet]. Little Rock (AR): UAMS Interprofessional Education Program. Accessed July 21, 2025. Available from: <https://ipe.uams.edu/about-us/quadruple-aim/>
4. Rapchak ME, Nolfi D, Turk M, Marra L, O’Neil CK. Implementing an interprofessional information literacy course: Impact on student abilities and attitudes. *JAMA*. 2018;106(4):464-470. doi:10.5195/jmla.2018.455
5. Hinrichs RJ, Bakker CJ, Brigham TJ, Ginier, EC, Stevens GA, Alpi KM. Exploring interprofessional collaboration and attitudes of health sciences librarians. *JMLA*. 2020;108(3):440-451. doi:10.5195/jmla.2020.804
6. University of Arkansas for Medical Sciences. The seven core IPE activities. Little Rock (AR): UAMS Interprofessional Education Program. Accessed July 21, 2025. Available from: <https://ipe.uams.edu/interprofessional-education-curriculum-framework/the-seven-core-ipe-activities/>
7. Doran GT. There’s a S.M.A.R.T. way to write management’s goals and objectives. *Manage Rev*. 1981;70(11):35–6. Accessed May 23, 2025. Available from: <https://community.mis.temple.edu/mis0855002fall2015/files/2015/10/S.M.A.R.T-Way-Management-Review.pdf>
8. Archibald D, Trumppower D, MacDonald CJ. Interprofessional collaborative competency attainment survey (ICCAS). Accessed May 23, 2025. Available from: <https://nexusipe.org/advancing/assessment-evaluation/interprofessional-collaborative-competencies-attainment-survey-iccas>