Original Publication   🔓 Open Access

The Community Health Advocacy Initiative: A Longitudinal Experiential Curriculum in Community Engagement for Preclerkship Medical Students

Emma Anselin, MD, MPH*, Dakota Chisholm, PgD, Karen Sheehan, MD, MPH, Ashti Doobay-Persaud, MD

*Corresponding author: eanselin@luriechildrens.org

Abstract

Introduction: Community partnership is a key strategy for addressing the social determinants of health and achieving health equity. There are few examples of curricula for undergraduate medical education that teach all, rather than self-selected, medical students to collaborate with community members to improve health. We describe the design and implementation of the Community Health Advocacy Initiative (CHAI) curriculum, a new yearlong educational program for medical students at Northwestern University's Feinberg School of Medicine. **Methods:** CHAI aimed to fill the curricular gap in social determinants of health education by providing medical students with the knowledge and skills to improve the health of patients through collaborations with community partners. This longitudinal curriculum included structured faculty mentorship and an applied community experience. **Results:** The CHAI curriculum was delivered to 164 second-year medical students in academic year 2021-2022. Faculty mentors rated most students as meeting expectations for application of community partnership principles and demonstration of professionalism. Qualitative analysis of faculty mentor comments demonstrated that medical students exhibited positive outcomes in engaging with community organizations, overcoming barriers, developing feasible and impactful goals, and advancing their own knowledge and skills. **Discussion:** Implementing a community health curriculum for all medical students is feasible and represents an important model for teaching about the importance of community partnerships in addressing the social determinants of health.

Educational Objectives

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

1. Describe the impact of social and community environments on patient health.
2. Explain the need to go beyond the clinical setting and into the community to improve patient health.
3. Examine opportunities to improve community health using publicly accessible community health data and information from key stakeholders.
4. Develop a logic model and SMART (specific, measurable, achievable, realistic, and time-bound) objective to engage with community health partners, policies, and programs.
5. Identify community partners and collaborate respectfully with them to improve health using an assets-based lens.

Introduction

It is well known that health outcomes are primarily driven by the social, economic, and environmental conditions in which patients live, with clinical care contributing only 20% to patient health.[1] These social determinants of health (SDH) must be addressed in order to achieve health equity, and community partnership is critical to this work.[2,3] The Institute of Medicine convened a committee in 2016 to establish a framework for educating health professionals on the SDH and concluded that curricula must include an emphasis on building equitable dynamic partnerships with communities.[4] Thus, medical schools are tasked with preparing medical students not only to identify and document the SDH but also to mobilize community resources and

develop partnerships to address the complex social problems that contribute to health disparities.[5,6]

Community-engaged education is one model that fulfills this goal by providing medical students with learning experiences shaped by community partners and aligned with local community needs.[4,7-10] This model incorporates elements of service learning, experiential learning, and transformative learning.[4] Community-engaged education benefits medical students, collaborating partners, and the community itself.[11] Students develop increased knowledge of health inequities and community context, improved attitudes about working with underserved communities, and new skills in partnership building and teamwork.[8,12,13] Students also report that involvement in longitudinal community service leads to increased empathy, humility, and communication skills.[14,15] This positions students to more effectively build trust with patients and address their health-related social needs. For community partners, community-engaged curricula uplift community expertise and center community-identified needs.[11] Community organizations have also identified that teaching medical students about the SDH and community assets is aligned with their mission.[16] Ultimately, community-engaged education aims to drive transformative change in the SDH and promote a more healthy community environment.[9,11]

A key principle of community-engaged education is that learning activities are codeveloped with community-based organizations.[9] Ideally, community partners are equal participants in the design, implementation, and evaluation of a curriculum.[17] This collaboration distinguishes community-engaged education from community-based education, which involves learning opportunities in the setting of community without the input of community members.[7,9,10] Bidirectional communication and shared decision-making between academic and community partners ensure that community-engaged curricula are responding to the priorities of the community and strengthening existing community assets.[9]

Some institutions have developed curricula that address the SDH through community-engaged experiences. Buckner, Ndjakani, Banks, and Blumenthal have published on the yearlong Community Health Course at the Morehouse School of Medicine, during which all first-year medical students conduct a community health needs assessment, participate in community service activities, and plan a health promotion intervention.[18] At the Georgetown University School of Medicine, the service-learning program places first-year medical students with community-based advocates who guide them in creating an asset map and a community-based project over the course of a semester.[19]

The Wake Forest School of Medicine recently implemented a longitudinal health equity curriculum for third-year medical students that incorporates several experiential activities designed in partnership with community organizations.[13]

However, most undergraduate medical programs that incorporate community engagement are offered to self-selected students or include discrete time-limited community-based experiences.[20,21] This is true for the community-engaged curricula currently published in *MedEdPORTAL*. Bernstein, Ruffalo, and Bower describe a community medicine curriculum for a family medicine clerkship that includes a community-based experience, but this is a onetime experience rather than a longitudinal interaction with a community partner.[22] Chung, Kahn, Altshuler, Lane, and Plumb describe a monthlong advocacy elective that incorporates a collaborative advocacy project with a community agency, but this elective is only offered to a small number of trainees.[23]

The Community Health Advocacy Initiative (CHAI) curriculum is an educational program at the Northwestern University Feinberg School of Medicine that aims to fill the curricular gap in SDH education by providing all medical students with longitudinal, mentored, community-engaged learning. The goal of CHAI is to teach medical students the knowledge and skills to improve the health of patients through collaborations with community partners. We define advocacy broadly as working to drive systemic change to improve the health of patients, recognizing that advocacy can occur at the level of clinic, community, or policy. Community engagement is a central component of effective advocacy training. After a pilot year that included mostly classroom-based didactics, CHAI was redesigned to focus on experiential learning around community partnership. CHAI provides a framework for giving every medical student a community-engaged learning experience that is sustainable over time, responsive to community priorities and resources, and aligned with the student's own interests. In the following sections, we describe the curriculum as it was implemented in academic year (AY) 2021-2022.

Methods

Curriculum Design
Students in the CHAI curriculum were grouped based on their longitudinal clinics, known as education-centered medical homes, or ECMHs.[24] The ECMH was a 4-year ambulatory experience based in existing primary care clinics. Students were assigned to an ECMH at the beginning of medical school, typically in groups of four. Each group was also assigned a faculty mentor with experience in community health—hereafter referred to as CHAI

mentors. The curriculum was delivered to second-year students (M2s) over three phases: planning, implementation, and handoff. During the planning phase, M2s were guided through developing a community health proposal in the form of a logic model and a SMART (specific, measurable, achievable, realistic, and time-bound) objective to be achieved over the following 4 months. Students received formal instruction in this phase with a lecture given by the CHAI leadership team. During the implementation phase, M2s researched community health needs, formed community partnerships, and developed interventions. They met regularly with their faculty mentor in order to receive support and feedback. Finally, during the handoff phase, M2s completed a final status update, in the form of a video, to summarize their achievements, challenges, and next steps. This status update was watched and reviewed by the rising M2s in the same ECMH as well as by CHAI mentors.

Mentor Selection and Training

Forty faculty members were recruited and trained to mentor each group. This cohort included both medical and nonmedical faculty with experience in community health, including community-engaged health intervention, community-level advocacy, and community-based participatory research. Faculty were identified based on their relationships with the Program in Public Health or the Center for Community Health at the Feinberg School of Medicine as well as the Magoon Institute for Healthy Communities at Lurie Children's Hospital. The role of CHAI mentors was to provide content expertise, facilitate community partnership using existing networks, and assist with assessment of student progress. Faculty were recruited who had experience working with communities to improve health, an understanding of basic public health concepts including principles of community engaged practice, and skills in applying evidence-based literature. CHAI mentors completed a training consisting of a lecture on the curriculum's goals and guiding principles (Appendix A). This lecture was delivered by a member of the CHAI leadership team. All mentors received 10 hours of teaching credit as part of their promotion portfolios and were acknowledged with a teaching pin.

Curriculum Phase 1: Planning

All M2s were introduced to the CHAI curriculum in August 2021. Students were asked to meet within their ECMH groups to select a community health topic that was relevant and meaningful to their clinic population. All groups were paired with a CHAI mentor with expertise in their selected topic by early October. The CHAI team made its best effort to link student groups with faculty members specializing in the medical field that encompassed their chosen topic. In October, all students received an asynchronous lecture from a member of the CHAI leadership team on the overarching goals of CHAI and the process of developing logic models and SMART objectives (Appendix B). Students were expected to schedule one to two meetings with their CHAI mentor by the end of November to discuss their project goals and strategies. Students submitted a draft of their logic model and SMART objective in mid-November. A final version was due 2 weeks later after incorporating CHAI mentor feedback.

Curriculum Phase 2: Implementation

From December 2021 to February 2022, M2s implemented their community health project with the guidance of their CHAI mentors. Students met with their mentors at least three times during this period: 2 weeks after the implementation start date, in the middle, and 1 week before the end. CHAI mentors leveraged their existing community connections to help students identify and meet with potential community partners and plan project activities. The goal was for CHAI mentors to introduce students to partners with whom the mentors already had a trusting relationship. Students and mentors were provided with the following guidelines for project implementation:

- Research best practices related to your topic area.
- Identify community partners who are already working in this space in Chicago.
- Schedule a virtual or in-person visit with a community organization to learn about its work.
- Create a deliverable of your choosing—examples include:
  - Piloting or implementing a portion of your logic model.
  - Leading a presentation or training session.
  - Sharing a literature review with your community partner.
  - Convening partner organizations and facilitating a meeting.
  - Developing an educational curriculum.
  - Raising awareness about your topic.

Curriculum Phase 3: Handoff

In February 2022, M2s developed a 3- to 5-minute PowerPoint presentation describing their project and summarizing their accomplishments. They were provided with a learning guide (Appendix C) and a PowerPoint template (Appendix D) to structure their presentation. Four students from each group recorded the presentation on Zoom. The recording was watched by the group's CHAI mentor and the first-year students (M1s) in the same ECMH, who would be starting CHAI the following year. The goal of this presentation was to provide the rising M2s with concrete next steps so that they could take over the project and continue strengthening the community partnership, thus

promoting sustainability from year to year. Students were also given the option of choosing a different health topic and project if they did not think the current project had ongoing value.

Evaluation Strategy

Medical students were evaluated by the CHAI mentors. During the planning phase, the CHAI mentors reviewed the logic model and SMART objective with a structured assessment form (Appendix E). After viewing the final presentations in the handoff phase, mentors assessed their group's application of community partnership principles and professionalism, as well as the quality of their video presentation (Appendix F). Groups were rated on a 6-point scale (1= *target for improvement*, 3 = *meets expectations,* 6 = *exceeds expectations*). The end-of-year assessment also included open-ended questions where mentors offered positive observations and suggestions for improvement. Finally, in response to the video presentation, the M1s completed a reflection consisting of short-answer questions about the group's efforts to that point and next steps (Appendix G). These reflections were also reviewed and assessed by CHAI mentors (Appendix H).

We conducted qualitative data analysis of faculty's open-ended responses using emergent thematic analysis. First, two researchers (Emma Anselin, Dakota Chisholm) reviewed more than half of the open-ended responses in order to develop a preliminary set of codes. After two iterations, a codebook was developed. This codebook was then used to code all free-text responses. Researchers met to review coding discrepancies and arrive at consensus.

This study was approved by the Northwestern University Institutional Review Board (STU00210378).

Student Advisory Board/Project Committee

During AY 2021-2022, a group of four M2 students was formed as a student advisory board to review and inform the CHAI curriculum. Student advisory board participants cited an interest in public health, community health, and curricular elements, as well as a desire to make CHAI better in future iterations, as reasons for wanting to get involved with the board and planning process. Input from the student advisory board was used to make several curricular changes for AY 2022-2023.

Results

The CHAI curriculum was delivered to the entire second-year medical school class in AY 2021-2022, consisting of 164 students divided into 40 groups. CHAI projects addressed a wide range of community health topics, as shown in Figure 1.

End-of-year faculty assessment forms from all 40 faculty were reviewed for descriptive statistics. The majority of students obtained a rating of 3, indicating that they met the benchmark for both application of community partnership principles to address the SDH and demonstration of professionalism. The distribution of faculty ratings is shown in Figure 2.
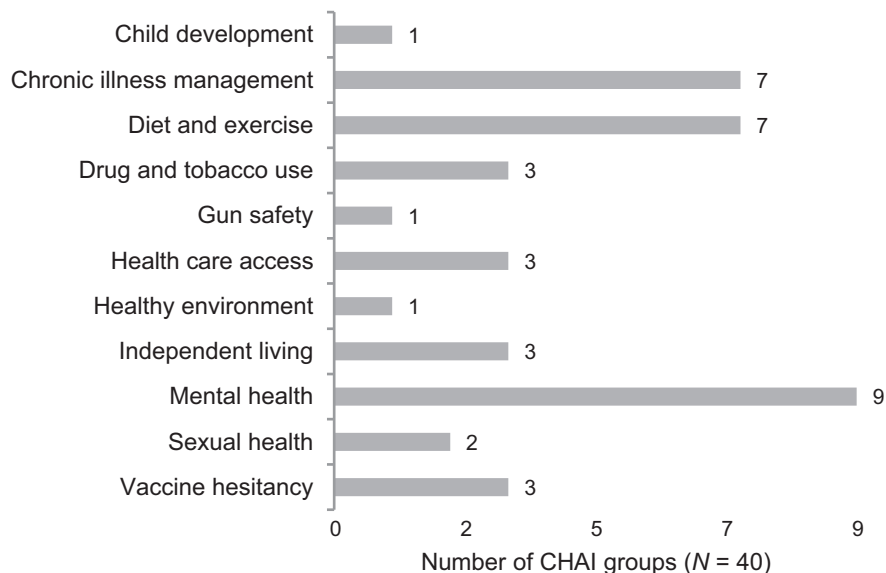

Figure 1. Community health topics chosen by Community Health Advocacy Initiative (CHAI) student groups.
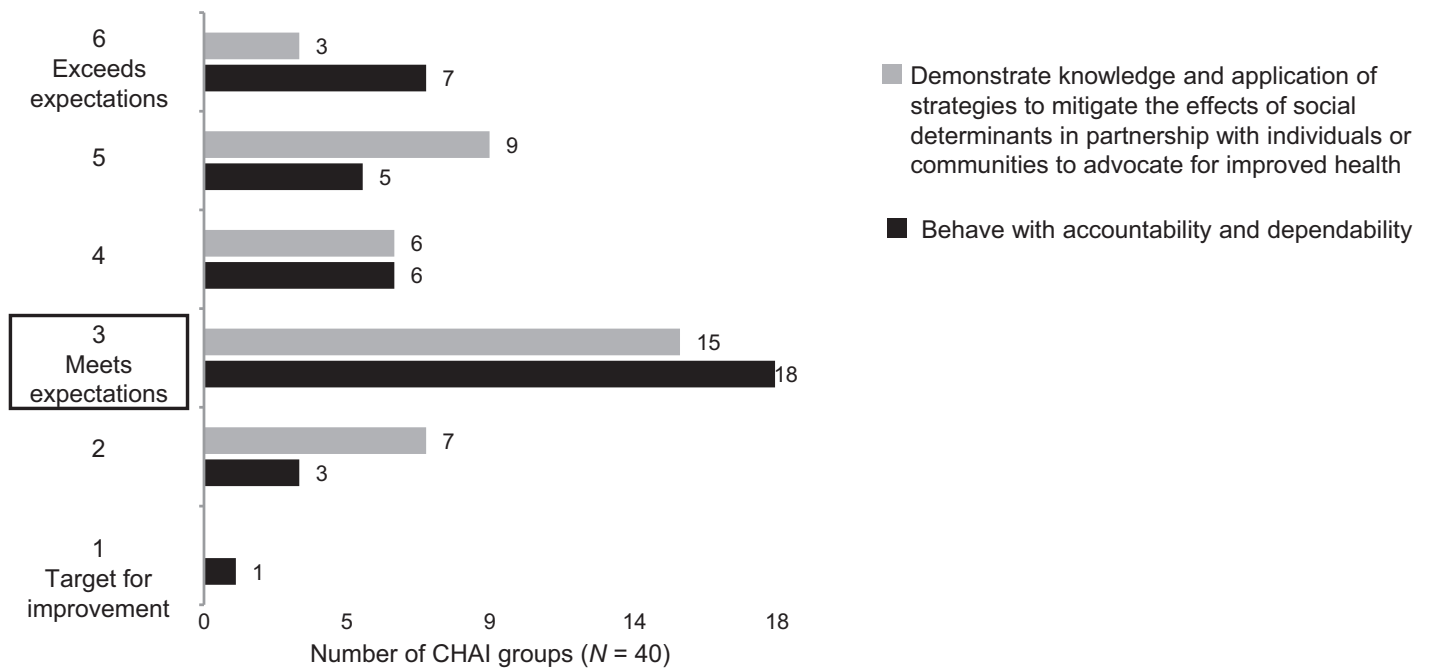
Figure 2. Faculty mentor rating of Community Health Advocacy Initiative (CHAI) students at end-of-year assessment on a 6-point scale.

In our analysis of mentors' positive observations, we identified eight overarching themes: overcoming challenges, clarity, community partnership, professionalism, impact, learning, next steps, and feasibility. All themes are shown in Table 1, along with representative quotes. Regarding the theme of clarity, mentors reported that student groups developed clear and focused project goals. For feasibility, mentors discussed how students chose goals that were manageable and realistic, even when addressing complex health issues. Within the theme of community partnership, mentors described how student groups recognized the need to partner with the community to address their health issue, identified community organizations serving their patient population, and made plans to develop relationships with these organizations:

- "They successfully identified community partners with excellent representation from different parts of the city and ethnic diversity."
- "They also appropriately acknowledged that they need to identify additional community partners."

Regarding suggestions for improvement, we identified four overarching themes: clinical context, community partnership, professionalism, and measurement. Representative quotes are shown in Table 2. Two themes overlapped between positive observations and suggestions for improvement: community partnership and professionalism.

All four students on the student advisory board reported having generally good experiences with their CHAI projects in AY 2021-2022. They suggested starting CHAI earlier in the academic calendar so that students could begin working on the project as M1s. From this discussion, the idea of having a CHAI team leader was also born, with students reporting that there was already a natural team structure forming within each of their groups. On a systems level, the student advisory board expressed that the school could demonstrate interest in CHAI by carving out time in the curriculum specifically for this curricular program.

Discussion

National organizations have emphasized the need for medical schools to teach health professionals to address the SDH through building equitable and bidirectional relationships with community partners.[4] Yet the majority of SDH curricula are classroom based, while those offering community engagement are often time limited or offered to select groups of students.[20] This curriculum demonstrates that it is feasible to implement community-engaged learning experiences for all medical students. Based on faculty mentor assessment, student groups successfully used logic models and SMART objectives to develop project goals that were clear and realistic. Participating students also learned the

Table 1. Emergent Themes From Faculty Mentor Positive Observations

Theme	Definition	Sample Quote
Overcoming challenges	References to students identifying and mitigating barriers	"[A] strength of this group is understanding the challenges they may face in design and implementation of this project. Finding the right community partner(s) is difficult as is designing an adequate system for patient follow-up."
Clarity	References to students having clearly defined goals	"I can see you really understand the assignment and have clear short and long term goals."
Community partnership	References to student efforts to engage with community partners	"The students were able to learn about some really wonderful community organizations that serve the area in which their clinic is located."
Professionalism	References to student professionalism, initiative, and positive group dynamics	"Excellent group dynamics—everyone contributed and participated with all aspects of the gun safety project."
Impact	References to impact of student project on patient outcomes	"Their work helped our clinic understand our patient views toward the COVID vaccine in a way that we have already used to benefit patient care."
Learning	References to students advancing their knowledge or skills through the project	"Secondarily, a benefit is to the students themselves, gaining skills in motivational interviewing and assisting patients in behavior change."
Next steps	References to students developing concrete next steps for continuation of the project	"You came up with a list of next steps that will move the project forward and set up next year's cohort for success."
Feasibility	References to students establishing realistic goals	"I thought the group did a great job taking a big project and narrowing it down to some actionable steps."

importance of developing community partnerships to address the SDH, identified community programs relevant to their chosen health issue, and began developing relationships with these organizations. This curriculum teaches trainees to extend their mindset beyond the clinical setting to include the community context that shapes a large part of patient health outcomes.

While equitable community partnership is a central goal of this curriculum, it also presents significant challenges. Due to schedule limitations and other educational demands, many student groups were not able to meet with community partners. The student advisory board emphasized that lack of curricular time was an important barrier to meeting with community organizations. Future iterations of the curriculum will include more dedicated time within the M1 and M2 schedules. In addition, the curricular team intended that CHAI mentors would introduce students to their existing community partners, acknowledging that students might not have the time on their own to establish a trusting relationship with a new organization.

However, this was not always possible if mentors' partners did not align with the chosen project or did not have the capacity to take on a new project. Similar curricula have instead relied on a few established partnerships with organizations to provide community-engaged experiences.[16,22,23]

As CHAI evolves, we are working towards a model in which community partners are equitably involved in the design, implementation, and evaluation of the curriculum. We recognize that it takes time to develop trusting, bidirectional relationships with community-based organizations. We developed the handoff process so that groups could make progress on their project with the same organization from year to year, thus strengthening this relationship. In the current iteration of CHAI, students are also given several months at the beginning of their project to meet with community partners before developing an intervention. Students are encouraged to incorporate the priorities of community partners into their logic model and SMART objective and to communicate with partners about the implementation

Table 2. Emergent Themes From Faculty Mentor Suggestions for Improvement

Theme	Definition	Sample Quotes
Clinical context	Suggestions related to connecting the project to the clinical setting	"The services you identified are excellent, but what about developing a process to ensure that patients are actually following up with those services and able to get enrolled?"
Community partnership	Suggestions related to deeper engagement with community partners	"It would have been nice to know the depth of involvement you had with the partners identified." "When facing difficulties with contacting community organizations, consider other ways you can get in touch and/or other organizations that you may be able to collaborate with."
Professionalism	Suggestions related to student professionalism	"Would recommend increased communication with CHAI mentor and reaching out proactively."
Measurement	Suggestions related to measuring the impact of the project	"Determine how you will measure and collect data on what this partnership could bring."

Abbreviation: CHAI, Community Health Advocacy Initiative.

process. One important limitation of our curriculum is that communication with community partners is largely left up to the students, with guidance from faculty mentors, and so, the success of this collaboration is variable depending on student motivation and time. In the future, we hope to formalize partnerships with a group of community-based organizations so that CHAI projects are consistently codeveloped and coassessed.

This curriculum aims to shift students' frame of mind beyond the clinical setting, yet several student groups chose to center their project within the clinic. For example, 12 student groups described screening patients for a particular social need as one of their project goals. Along these lines, students have reported confusion about the intersection between CHAI and quality improvement. This may reflect that both curricula emphasize project planning and management skills to execute SMART objectives. In addition, it may indicate the challenge trainees face in understanding that many of the determinants of health and well-being lie outside of clinical care and at the level of community conditions, thus underscoring the need for dedicated community engagement curricula. We have already modified curricular positioning and material to clarify the differences.

One limitation of our evaluation approach is that it does not assess the impact on learner attitudes or behaviors after the curriculum has ended. In the future, we plan to measure the impact of CHAI on students' knowledge, behavior, and attitudes related to community engagement and the SDH over time. Our evaluation also does not look beyond learning outcomes to assess whether the curriculum has an impact on the clinic, the community partners, or the SDH. An important future direction is evaluating short-term and long-term outcomes for the community organizations that work with students on their projects. We hope to solicit formal feedback from community partners about their experience participating in the curriculum. Ideally, community organizations will also be involved in determining how students projects are assessed. Finally, we are interested in learning more about the experience of CHAI mentors.

Overall, this curriculum has taught students about the importance and challenge of partnering with community organizations, the role of community context in shaping patient outcomes, and the steps for developing a community health project. Faculty mentors have observed that students gain valuable skills in identifying and engaging with community organizations. Other medical schools can use this model to guide students in learning the importance of community partnership in addressing the SDH.

Appendices

A. Mentor Training.pptx

B. Logic Model and SMART Objective.pptx

C. Final Presentation Learning Guide.docx

D. Final Presentation Template.pptx

E. Logic Model and SMART Objective Assessment.docx

F. End-of-Year Assessment.docx

G. M1 Final Presentation Reflection.docx

H. Assessment of M1 Reflections.docx

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

Emma Anselin, MD, MPH: Assistant Professor of Pediatrics, Northwestern University Feinberg School of Medicine; ORCID: https://orcid.org/0009-0001-7303-8224

Dakota Chisholm, PgD: Community Engagement Program Coordinator, Institute for Public Health and Medicine and Northwestern University Feinberg School of Medicine

Karen Sheehan, MD, MPH: Professor of Pediatrics, Medical Education, and Preventive Medicine, Northwestern University Feinberg School of Medicine

Ashti Doobay-Persaud, MD: Associate Professor of Medicine and Medical Education, Northwestern University Feinberg School of Medicine

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