

HEALTH SYSTEMS SCIENCE AREA OF CONCENTRATION

In response to rapidly rising healthcare costs, inefficiencies and payment reform, new healthcare delivery models are continually developed to implement improved care at a lower cost. This creates a rapidly evolving healthcare environment, in which the expected role and knowledge base required of a physician changes just as rapidly. Currently, traditional undergraduate medical education does not provide adequate structure or depth to prepare future physicians to interface competently with systems-level issues. Thus, medical schools have developed “health systems sciences” curricula in response to these external pressures, student interest, and initiatives of the American Medical Association. Although there is no standardized curriculum, health systems science encompasses areas necessary to deliver high quality, value-based care (e.g. healthcare financing, health system/quality improvement, health policy). We intend to educate interested students in core aspects of this dynamic field to provide them with an adaptable framework for understanding complex and relevant issues in healthcare. Development of such a curriculum at Pitt Med in the form of an Area of Concentration in Health Systems Science (AOC-HSS) will propel it to the forefront of medical education, prepare future physician-leaders of health systems, and attract high-caliber students interested in systems-level change.

GOALS

In adherence with UPSOM’s scholarly project expectations, students will pursue a scholarly project related to health systems science (HSS). In addition, with faculty guidance, students will choose from a variety of activities in which to participate that will enhance the breadth and depth of their understanding of the various facets of HSS that impact clinical practice.

Progress in health care education requires the development of unique, interdisciplinary modalities that have not been emphasized or united often enough in traditional medical school curricula. Therefore, the AOC-HSS will strive to provide education on health care delivery, interdisciplinary approaches to achieving greater quality at lower cost, and systems-level solutions to improve patient care.

The flexibility for each student to personalize their AOC-HSS program is intended to foster participation and interest. Students will meet individually with an AOC co-director to discuss a tailored plan for earning the required AOC-HSS credits. Continued engagement in activities and maintained interest are necessary to complete the program in good standing and to receive the AOC-HSS certificate at graduation.

Figure 1. Potential topics for HSS-AOC Curriculum

Proposed Core Components of a Health Systems Science Curriculum			
<p>Politics and Law</p> <ul style="list-style-type: none"> -Law & Medicine Interactions -Public Health Infrastructure -State & Federal Budgeting Processes 	<p>Quality & Safety</p> <ul style="list-style-type: none"> -Medical Error -Quality Metrics -Quality Improvement 	<p>Health Policy</p> <ul style="list-style-type: none"> -History of US Health Policy -State vs Federal Policy Impacts -Malpractice & tort law 	<p>Structure of Healthcare Systems</p> <ul style="list-style-type: none"> -Healthcare Finance -Care Management Models -Information Technology

CREDITS

Students are expected to achieve 150 credits prior to graduation in order to complete the program. At least some credits must be earned each year that students are enrolled in the AOC-HSS. Furthermore, at least 10 credits must be earned from the Didactic Learning, Experiential Learning, and Research categories below.

Category	Activity	Credit
Didactic Learning	Health Policy Mini-Elective	Mandatory
	Lunch Talks or Dinner Events	25/Month
	Monthly Journal Club or Current Events Discussion	2/Hour
	Third- and Fourth-Year Electives	2/Hour
Experiential Learning	Conferences (attending; presenting)	2/Hour; Variable
	Governmental Hearings	2/Hour
	Internships	25/Week
	Annual Capstone Trip to Capitol Hill	25/Attendance
	Scholarly Project	2/Hour
Other	As approved by AOC co-director	Variable
Total Required		150

Credits that are weighted by hour may be accumulated for multiple hours of participation in the specified activity. Other activities may be considered for credit following discussion with the AOC co-directors and determination of appropriate credit equivalence.

COMPONENTS & ACTIVITIES

1. ***Didactic Learning***: Students will be able to participate in a variety of educational experiences aimed at enhancing the breadth and depth of their understanding of and skills in health systems science.

- **Health Policy Mini-Elective (Mandatory)**: The health policy mini-elective will provide students with a basic understanding of the U.S. healthcare system: the major stakeholders, the role of the US government, and the policies that link them all together. Through a lecture- and discussion-based format, this course-series will cover cornerstone topics such as healthcare financing and social determinants of health, while also providing a flexible course schedule that can adapt to the rapidly evolving healthcare landscape. The course will also introduce students to the language of health policy and give students a framework to understand how institutional, state, and federal-level policies impact patients and providers. With this foundation, students can build upon their knowledge of health systems through subsequent AOC-HSS events and activities. In doing so, students will be better prepared to utilize and leverage their positions as healthcare experts to work towards a more just and equitable system for all.
- **Monthly Journal Club or Current Events Discussion**: The conversation at these events will be centered around recently published research in academic journals or notable current events pertinent to health systems science. If possible, topics can be chosen according to student interest, with faculty mentors able to suggest especially seminal or timely topics at their discretion. These dialogues will be split into three sections: an opening lecture, conversations in small groups to provide a safe space for student participation and discussion, and a large group conversation to solidify learning points.
- **Lunch Talks, Dinner Events**: Many groups at Pitt Med hold educational lunch talks regarding various aspects of health systems science. Confirmed attendance of these lunch talks will also provide AOC-HSS scholars with additional opportunities to learn about health systems science and perhaps cover topics that we do not delve as deeply into.
- **Third- and Fourth-Year Electives**: This is a preliminary list of electives that AOC-HSS scholars can potentially take to gain insight into systems-level issues in healthcare and attain first-hand exposure to the clinical ramifications of such problems.
 - Changing Science, Changing Society (MSELCT 5700)
 - Child Advocacy (PEDS 5524)
 - Cultural Competency (FM 5485)
 - Health Care Among Underserved Populations (MED 5601)
 - Indian Health Service (FM5420)
 - Integrated Care Across the Lifespan (PSYC 5468)
 - Medical Leadership, Management and Administration (FM 5910)
 - Public Health Field Practicum (MSELCT 5858)
 - Street Medicine-Operation Safety Net (MED 5925)

2. **Experiential Learning:** Students will be able to participate in a variety of educational experiences aimed at enhancing the breadth and depth of their understanding of and skills in health systems science.

- **Conferences:** Students will be encouraged to attend conferences focusing on aspects of HSS, including the following:
 - American Medical Association House of Delegates
 - Pennsylvania Medical Society House of Delegates meeting
 - American College of Physicians
 - American Pediatrics Association
 - ...and other professional advocacy organizations

Attendance and/or presentation at conferences will be reviewed by students' faculty mentors and the AOC-HSS co-directors.

- **Local Governmental/Congressional Hearings:** The vast majority of local governmental and Congressional hearings are open to the public. Should the opportunity present itself, AOC-HSS scholars can attend these hearings to learn about leading developments in health systems science from expert testimony. Such hearings also represent one aspect of the interface between physician advocates and legislators, which emphasizes the importance of AOC-HSS scholars developing effective policy communication skills over the course of their participation in the AOC-HSS.
- **Internships:** Internships will provide AOC-HSS scholars a longitudinal, hands-on experience with the application of AOC-HSS principles. Preliminary examples of options for internships include the following:
 - Interning with a local area politician and writing a policy brief on a healthcare issue
 - Interning at Pitt's Institute of Politics on the Committee on Health and Human Services or the Committee on Public Safety & Emergency Preparedness.
 - Interning at the UPMC Health Plan/Wolff Center
 - Interning over the summer at Pittsburgh's Jewish Healthcare Foundation
- **Annual "Capstone" Trip to Capitol Hill:** Interested AOC-HSS scholars will be encouraged to travel to Washington D.C. as part of the Changing Science, Changing Society elective. Scholars will participate in activities related to a pre-selected topic of interest (e.g., insurance reform, pharmaceutical policy).

3. **Scholarly Project:** Students, with the guidance of their mentors, will be required to craft a scholarly project (SP) based on their specific interests within the field of health systems science. The goal of a mentored SP will be for students to engage with the information they learn from the didactic components of the program and their own experiential learning. Accordingly, students' choice of SP will range from quantitative research testing specific hypotheses to qualitative research to generate theories to policy briefs based on systematic reviews of literature. No matter their choice, the process of completing a rigorous SP of publication quality will teach students how to think creatively about systems-level issues, critically analyze health data and current policy, and contribute to the legislative process. Students will be encouraged to present their completed SP at academic conferences and/or directly to legislators through the appropriate channels.

TIMELINE

Scholars will participate in AOC-HSS throughout the four years of their medical training. Students may enroll at any point, although students will typically begin by the end of MS1 or beginning of MS2. Below is an example of a chronological outline highlighting typical milestones of the AOC-HSS:

Year	Milestones
MS1	<ul style="list-style-type: none">▪ Submit an online declaration form to Student Affairs.▪ Participate in AOC-HSS activities on joining (earlier if desired).▪ Meet with an AOC-HSS co-director to create a personalized plan.▪ Secure a faculty mentor for a scholarly project.▪ Summer research in HSS, if desired.
MS2	<ul style="list-style-type: none">▪ Keep attending AOC-HSS experiences.▪ Keep a record of all AOC-HSS activities in a dedicated AOC log.▪ Keep a record of anything produced (e.g., policy brief, letter to the editor, etc.) in a portfolio along with AOC log.▪ Submit a scholarly research project proposal.▪ Start the proposed research.▪ Meet with the selected faculty mentor once per semester.▪ Meet with an AOC-HSS co-director to discuss your progress.
MS3	<ul style="list-style-type: none">▪ Keep attending AOC-HSS experiences, as time allows.▪ Keep a record of all AOC-HSS activities in a dedicated AOC log.▪ Keep a record of anything produced (e.g., policy brief, letter to the editor, etc.) in a portfolio along with AOC log.▪ Meet with the selected faculty mentor once per semester.▪ Meet with an AOC-HSS co-director to discuss your progress.
MS4	<ul style="list-style-type: none">▪ Keep attending AOC-HSS experiences, as time allows.▪ Keep a record of all AOC-HSS activities in a dedicated AOC log.▪ Keep a record of anything produced (e.g., policy brief, letter to the editor, etc.) in a portfolio along with AOC log.▪ Complete the scholarly research project and complete the final report by February.▪ Review the recorded AOC-HSS experiences with an AOC-HSS co-director to ensure that all completion requirements have been satisfied.▪ Attend the AOC-HSS graduation and receive the certificate.

EVALUATION OF SCHOLARS

Every year, AOC-HSS co-directors will review the progress of the student. Any areas of concern will be discussed among the AOC-HSS Steering Committee (the AOC-HSS co-directors and student coordinators).

- The AOC-HSS co-directors will require a biannual update regarding AOC-HSS scholars' progress and scholarly projects.
- The AOC-HSS co-directors will award the AOC-HSS scholars with a certificate conditional upon satisfactory completion of AOC-HSS requirements and goals.

EVALUATION OF FACULTY & THE AOC-HSS PROGRAM

At the end of each year, AOC-HSS scholars will complete an AOC evaluation form to be reviewed by the AOC-HSS Steering Committee, as well as by the UPSOM Office of Medical Student Education.

RECRUITMENT&ACCEPTANCEAOC-HSSSCHOLARS

- A description of the AOC-HSS will be given to prospective students and a description will be posted to UPSOM's website
- AOC-HSS scholars will answer questions and distribute information during Second Look, the activity, fair, and during orientation.
- Students will apply to the AOC-HSS using the standard application form and a short personal statement. The AOC-HSS Steering Committee will review applications and issue acceptances.

AOC DIRECTORS

Allison S. DeKosky