

## **ABSTRACT: 2019 ELAM Institutional Action Project**

**Project Title:** Aligning Faculty Development with Health Care Transformation and Health Systems Science Education

**Name and Institution:** Maya Hammoud, MD, MBA, University of Michigan

**Collaborators and Mentors:** Katie Zurales

**Topic Category:** Faculty Development

**Background:** Health care in this country is in need of major transformation in order to achieve improved patient outcomes, greater cost-efficiency, and better health for all populations. This requires that health care providers acquire new knowledge and skills in Health Systems Science (HSS), including quality, safety, and high-value care, as well as improvement, population health, policy, informatics, teamwork, leadership, change management, and systems thinking. Many medical schools and some residency programs began introducing new required competencies for learners in HSS. A major barrier to teaching and implementing these competencies is the lack of faculty support and expertise in these domains. By understanding faculty perceptions of HSS as well as gaps in faculty knowledge at Michigan Medicine, my project aims to align faculty development efforts with the needs of the medical school and the health system.

**Purpose:** To understand faculty's perceptions of the importance of HSS education and identify gaps in their HSS knowledge in order to design and implement appropriate faculty development programs in HSS, with the ultimate goal of creating a community of educators who can develop the next generation of physicians competent in HSS.

**Methods:** After meeting with stakeholders to discuss the need for HSS training, a survey based on established HSS competencies was developed and administered to University of Michigan Medical School clinical faculty. Faculty were asked the extent to which they agreed that medical students and residents graduated with HSS knowledge (marker of current state), the importance of HSS for graduating medical students and residents (marker of future state), and perception of their own HSS knowledge. A gap analysis was performed to find the difference between the current and future states of medical student, resident, and faculty HSS knowledge in order to guide HSS faculty development efforts.

**Results:** Of 1560 surveys sent, 245 responses were collected. Gap analysis comparing faculty perception of graduating medical students' current HSS knowledge versus importance of that knowledge for graduating medical students implies that medical students have global HSS knowledge deficits. The largest deficits were in systems thinking (32% difference) and change management and advocacy (34% difference) and the smallest in clinical informatics (13% difference) and teamwork (15% difference). A similar analysis assessing current and future states of resident knowledge also implies global deficits, with the largest in healthcare policy and economics (36% difference) and change management and advocacy (37% difference) and the smallest deficits in teamwork (12% difference) and clinical informatics (12% difference). Faculty's perception of their own HSS knowledge compared to importance of the domain for graduating residents showed the largest gaps in healthcare policy and economics (35% difference). The smallest gaps were seen in leadership (8% difference) and teamwork (4% difference).

**Discussion:** Overall, faculty perceive HSS to be important to teach trainees, but gaps in expertise hinder their ability to teach others. Exploring why teamwork has the smallest gaps between current and desired state, can help direct faculty development efforts to target those with large gaps such as healthcare policy and economics. Once implemented, these programs can be used as best practices for other institutions integrating HSS into medical education.

# Aligning Faculty Development with Health Care Transformation and Health Systems Science Education

Maya Hammoud, MD, MBA, Katie Zurales

## Background

Health care in this country is in need of major transformation in order to achieve improved patient outcomes, greater cost-efficiency, and better health for all populations. This requires that health care providers acquire new knowledge and skills in Health Systems Science (HSS), including quality, safety, and high-value care, as well as improvement, population health, policy, informatics, teamwork, leadership, change management, and systems thinking. Many medical schools and some residency programs began introducing new required competencies for learners in HSS. A major barrier to teaching and implementing these competencies is the lack of faculty support and expertise in these domains. By understanding faculty perceptions of HSS as well as gaps in faculty knowledge at Michigan Medicine, my project aims to align faculty development efforts with the needs of the medical school and the health system.

## Purpose

- Understand faculty's perceptions of the importance of HSS education
- Identify gaps in faculty HSS knowledge in order to design and implement appropriate faculty development programs in HSS
- Create a community of educators who can develop the next generation of physicians competent in HSS

## Methods

### 1 Stakeholder Meeting

Met with key leadership to discuss need for HSS training

### 2 Survey Development & Distribution

Developed survey based on established HSS competencies and administered to University of Michigan Medical School clinical faculty. Inquired about understanding of HSS and perceptions of the subject.

### Sample Survey Questions:

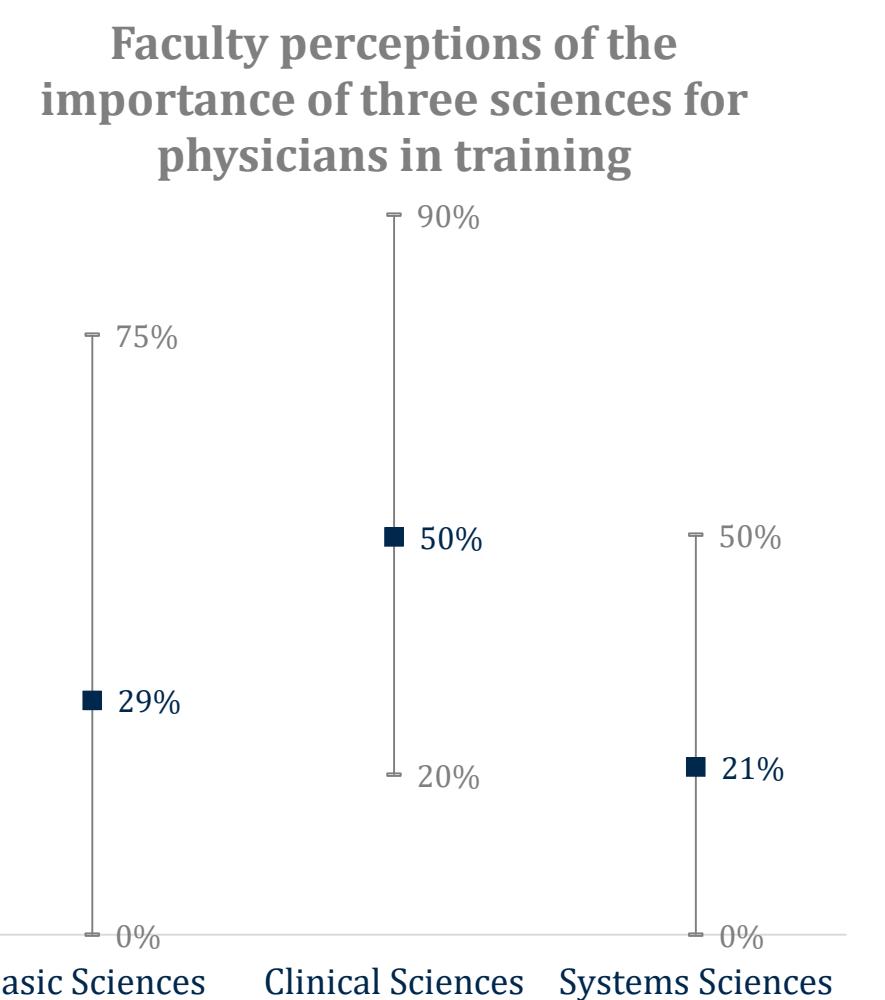
<b>CURRENT STATE: RESIDENTS</b>		
Please indicate how much you agree with this statement: Residents of US programs are graduating with the knowledge and skills in this HSS domain: Systems Thinking		
Strongly Disagree	Neutral	Strongly Agree
<b>DESIRED STATE: RESIDENTS</b>		
Please indicate how important you think that residents graduate with the knowledge and skills in the following HSS domain: Systems Thinking		
Not important	Moderately Important	Extremely Important
<b>CURRENT STATE: FACULTY</b>		
Please rate your own knowledge and skills in the following HSS domain: Systems Thinking		
Terrible	Average	Excellent

### 3 Gap Analysis

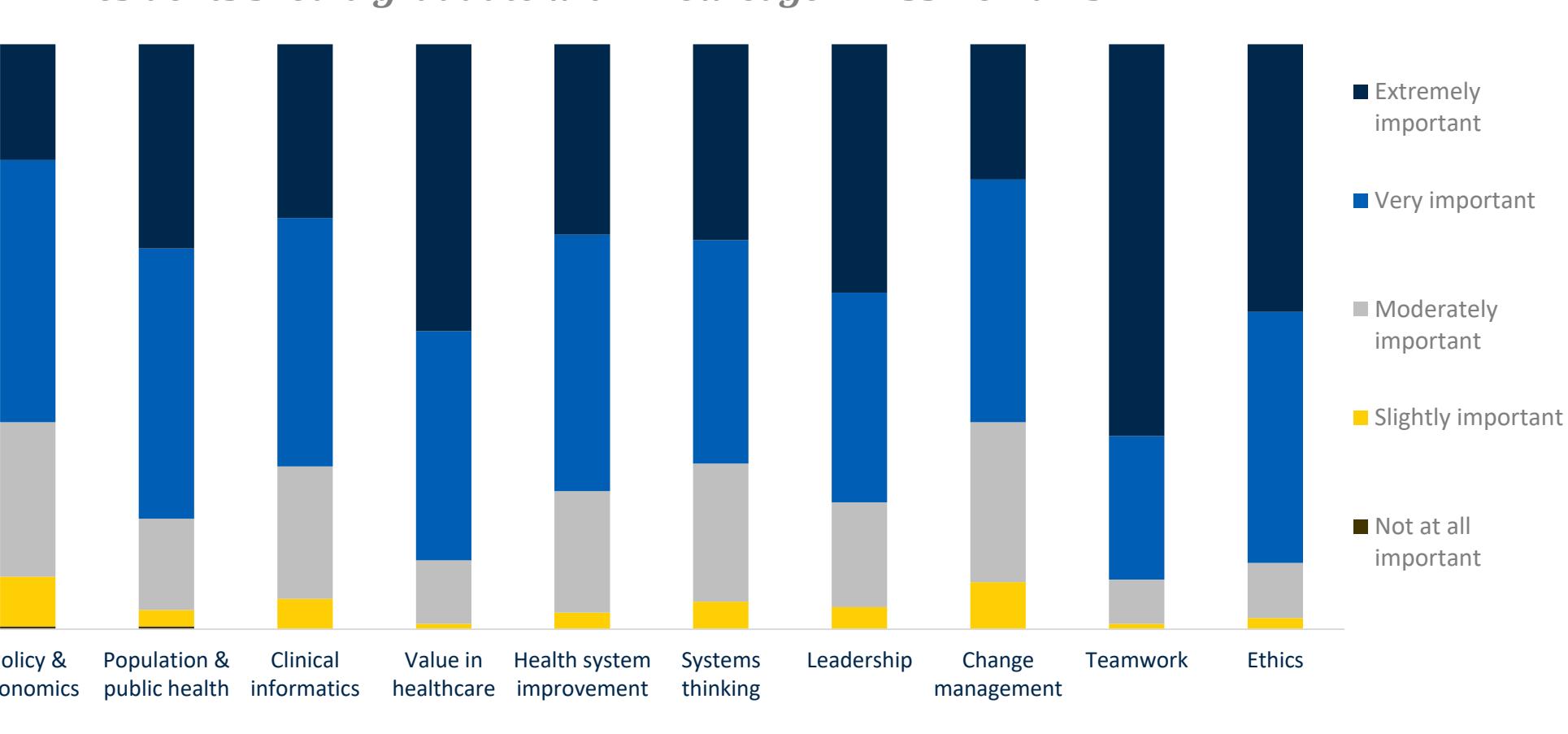
Compared differences in faculty's perception of current and desired states of medical student, resident, and faculty HSS knowledge.

## Results

Of 1560 surveys sent, 245 responses were collected. Overall, faculty believe HSS is important for residents and medical students to learn, but some domains were viewed more favorably than others. Gap analysis showed that faculty perceive all stakeholders to have global HSS knowledge deficits, including medical students, residents, and faculty themselves.

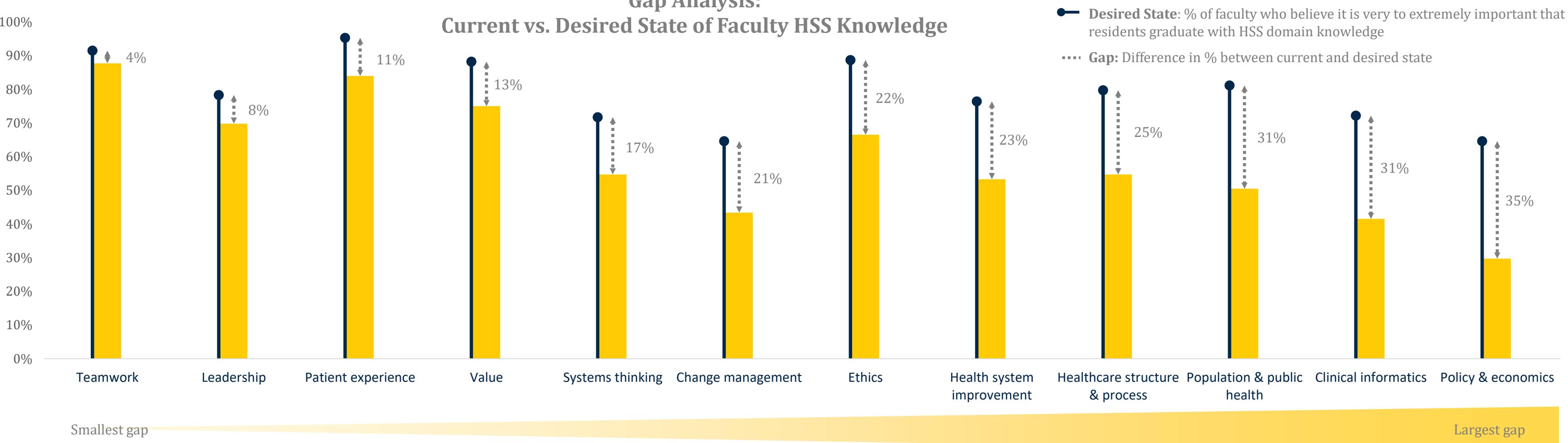


### Residents should graduate with knowledge in HSS Domains



Legend:  
█ Current State: % of faculty who rate their own knowledge as good to excellent  
█ Desired State: % of faculty who believe it is very to extremely important that residents graduate with HSS domain knowledge  
--- Gap: Difference in % between current and desired state

### Gap Analysis: Current vs. Desired State of Faculty HSS Knowledge



## Conclusions and Impact

- Faculty perceive HSS as important for trainees, but gaps in expertise hinders their ability to teach others.
- Exploration of domains with the largest gaps, such as policy and economics, may help direct faculty development efforts to target those domains
- Once implemented, these programs can be used as best practices for other institutions integrating HSS into medical education.