Health systems science peer reviewed articles

Enjoy the following sample of articles as we continue to expand this library of peer-reviewed articles.

COVID-19 pandemic


This perspective addresses how health systems science may improve medical education around uncertainty, particularly in relation to the COVID-19 pandemic.

Greenhouse AR, Goldstein RS, Bradley CD, Spell NO, Spicer JO, George MR. Student-faculty co-creation of experiential learning in health systems science. Medical Teacher. DOI: 10.1080/0142159X.2021.1994936

This paper outlines a patient outreach initiative co-developed by medical students and faculty during the early phases of the COVID-19 pandemic and integrated into a new experiential health systems science elective beginning May 2020. Students called patients identified as high-risk for adverse health outcomes and followed a script to connect patients to health care and social services. Subsequently, this initiative was integrated into the required third-year primary care clerkship.

Faculty development


This study assesses participants’ perceptions of the long-term impacts of the Teachers of Quality Academy, a medical school faculty development program designed to prepare faculty to both practice and teach health system science.
Graduate Medical education


This research abstract explores a multi-institutional study of implementing health systems science in graduate medical education. This paper suggests that GME learning environments rather than specialties are the determining factor in whether faculty observe specific HSS skills in the workplace.

Health systems science

Li L, Ray JM, Bathgate M, Kulp W, Cron J, Huot SJ, Wong AH. Implementation of simulation-based health systems science modules for resident physicians. BMC Medical Education. 22, Article number: 584 (2022)

This study, which was funded by an Accelerating Change in Medical Education Innovation grant, found that simulation-based scenarios can be feasibly applied for learner groups across different residency training programs. Simulations were conducted in a virtual learning environment, but future work can include in-person and actor-based simulations to further enhance emotional reactions and the reality of the case scenarios.


This study illuminates systems-related roles medical students at four schools with health systems science curricula envisioned as part of their future physician identity and highlights past/present experiences and future-oriented considerations shaping identification with such roles. The authors’ findings support practical strategies to support professional identity formation inclusive of systems engagement.

This qualitative study explores graduate medical education faculty observations of residents exemplifying successful practice across health systems science domains to inform targets for undergraduate medical education training and assessment.


This study evaluates the effectiveness of health systems science curricula by using a large dataset to link medical school graduates to internship Milestones through collaboration with the Accreditation Council for Graduate Medical Education.


This paper proposes a framework for the twenty-first century physician that includes an expectation of new competency in health systems science, creating ‘system citizens’ who are effective stewards of the health care system.


This article describes health systems science and highlights a schema crosswalk between health systems science and systems-related national competency recommendations, accreditation standards, national and local curricula, educator recommendations, and textbooks. It also articulates six rationales for the use and integration of a broad health systems science framework within medical education.


This perspective explores student receptivity challenges to health systems science, including the marginalization of health systems science coursework, infancy of the health systems science field, relative nascent of curricula and educators, heterogeneity of pedagogies, tensions in students’ perceptions of their professional role, and culture of health systems science integration. The authors
call for the reexamination of five issues influencing health systems science receptivity including student recruitment processes, faculty development, building a health systems science academic “home,” evaluation metrics, and transparent collaboration between medical schools.

Quality improvement


This article explores how often quality improvement project results presented locally are eventually disseminated through national/international presentation or peer-reviewed journal publication.

Systems-based practice


This paper identifies five areas of focus necessary to further evolve systems-based practice including comprehensive systems-based learning content, a professional development continuum, teaching and assessment methods, clinical learning environments in which system-based practice is learned and practiced, and professional identity as systems citizens.