

## HEALTH SYSTEMS SCIENCE EXAMINATION

### FREQUENTLY ASKED QUESTIONS

Beginning August 15, 2019, the Health Systems Science (HSS) subject examination will be available to all medical schools for administration.

HSS is the third pillar of medical education. It is defined as the principles, methods and practice of improving quality, outcomes, and costs of health care delivery for patients and populations within systems of medical care.<sup>1</sup> HSS curricula include coverage of important content areas, such as health care structures and processes, high-value care, patient safety, quality improvement, teamwork, leadership, clinical informatics, population health, social determinants of health, health care policy and economics, and systems thinking. An understanding of the content areas within HSS is required to create a physician who understands how to translate basic and clinical sciences—the other two pillars of medical education—into excellent patient care.

Developing tools and curricula to aid in the teaching of new content in this critical and growing area is an integral part of the American Medical Association “Accelerating Change in Medical Education” initiative. Driving innovation through a consortium of 37 medical schools, the initiative brings together medical education leaders who are working to transform medical education. Visit [changemeded.org](http://changemeded.org) to learn more.

## Ordering and administering the examination

### 1. How does a school order and administer the HSS Examination?

Medical schools may order the examination beginning August 13, 2019, via the NBME Subject Examination Ordering System in the NBME Services Portal (NSP)

<https://nsp.nbme.org>. Please select the appropriate purpose code as described in the “At-a-Glance” document, as well as FAQ #4 in this section.

Please see the “At-a-Glance” document for ordering instructions and contact your school’s executive chief proctor (ECP) or user account administrator (UAA) to order this examination and/or to request access to scoring feedback.

For more information, please consult:

[nbme.org/PDF/SubjectExams/QuickStartGuideToWebBasedExamDelivGeneric.pdf](https://nbme.org/PDF/SubjectExams/QuickStartGuideToWebBasedExamDelivGeneric.pdf)

**2. How much time will be allotted to complete the HSS Examination?**

The initial administration of this 100-item examination will take approximately 2 hours and 45 minutes to complete (15 minutes to review the tutorial and 150 minutes to complete the test questions).

**3. Is there a fee for schools that want to administer the HSS Examination?**

The fee for ordering the HSS Examination is \$46 per exam. As a special introduction, there will be no fee charged for schools that order and administer the examination before June 30, 2020.

**4. How do schools determine when to administer the HSS Examination in order to support institutional program evaluation?**

Timing of the administration of the examination should reflect your institution’s purpose for assessing students on HSS content. In order to obtain useful information for research and evaluation purposes, please select purpose codes that align with your use of the examination and avoid using non-specific codes such as “Other.” This could include “End of Course/Program/School/Year” codes. Following are some examples of scenarios and corresponding purpose codes to select when ordering the examination.

- If your institution wants to establish a baseline level of knowledge to guide curriculum development, your school may elect to administer this examination prior to instruction or early in the academic program. When ordering in this

scenario, please select purpose code “**Before Training/Instruction**” (for pretest administrations or assessment/curriculum development and benchmarking).

- If your institution wants to track student performance over time, the examination may be administered during instruction to monitor progress. When ordering in this scenario, please select purpose code “**During Training/Instruction**” (for routine curriculum monitoring and evaluation within the academic year), and “**End of Year,**” or “**End of School/Program,**” as appropriate.
- If your institution wants to measure more immediate changes in performance, the examination may be administered prior to a specific clerkship, educational intervention or curriculum modification and then again upon completion of the clerkship, intervention or curricular change. When ordering in this scenario, please select purpose code “**Before Training/Instruction**” for the initial administration, and then select “**End-of-course/clerkship**” (for post-test administrations following curricular intervention).

**5. Will schools have access to review test content before administering the examination?**

Medical school faculty or other medical education staff will be able to preview the examination using the free online NBME Exam Review Services (NERS) available through the NBME Services Portal (NSP) under a non-disclosure agreement. Please contact your medical school executive chief proctor (ECP) to set up a proctored preview of the HSS examination.

**6. Where should schools direct their questions?**

NBME staff can answer your questions or help solve a problem. Please contact NBME Subject Examination Services via email: [SubjectExams@nbme.org](mailto:SubjectExams@nbme.org) or telephone: (215) 590-9258.

## **Exam content**

**1. How was HSS Examination developed?**

This exam was developed according to the same rigorous protocols used to create other NBME exams. Earlier versions were pilot tested with a small number of schools. To ensure that the new version would reflect the most current HSS concepts and practice, a committee

of HSS thought leaders was convened in August 2018 to update the exam content outline. The results were shared with medical school faculty for review and feedback. The final version of the content outline reflects wide stakeholder input and serves as the foundation for the new exam that covers all of the identified content domains.

**2. Does the HSS Examination target a specific level of medical student?**

The overall purpose of the examination is to reflect medical student readiness for residency in HSS content, therefore ideally it would be administered towards the end of medical school completion. The subject matter experts geared the items toward students who have completed their core clerkships—family medicine, pediatrics, internal medicine, surgery, psychiatry and obstetrics/gynecology—or the equivalent. Schools, however, may choose to offer the examination at other points in the curriculum for different program evaluation purposes.

**3. How does this HSS Examination compare to established NBME subject examinations?**

Although health systems science is a new and evolving content domain, this examination was developed according to the same rigorous protocols used to create other NBME examinations. As with other NBME examinations, scoring and reporting will be handled by NBME staff using established processes. While the examination is developed to a high standard<sup>2</sup>, the new and evolving nature of HSS content and variability in coverage of this content across schools limits the use of this examination for summative decisions about student performance. Instead, examination scores, at least for the first few years of administration, are best used to provide formative feedback to students and faculty and guide program and curriculum development in HSS.

## **Score reporting and examination data**

**1. How will the HSS Examination be scored?**

After initial test administrations during the 2019–2020 academic year, NBME will provide schools with a roster of examinees and their interim total test percent correct scores. Once a sufficient number of schools and examinees have tested, NBME will perform key validation

to ensure that scored examination items perform appropriately. After key validation is completed, NBME will provide schools with performance feedback that includes a Score Interpretation Guide (SIG) with normative data, a roster of examinees with their final total test percent correct scores, descriptive statistics and total test score frequency distribution. In addition, if there are at least 10 examinees for a single test administration at a school, a content area summary report will also be provided. Finally, individual examinee performance profiles with a student SIG will also be provided.

**2. Are examination results designed for formative or summative purposes?**

As noted above, the examination is developed to a high standard, but the new and evolving nature of HSS content and variability in coverage of this content across schools limits the use of this examination for summative decisions about student performance. Instead, examination scores, at least for the first few years of administration, are best used to provide formative feedback to students and faculty and guide program and curriculum development in HSS.

## **Research and evaluation**

**1. Is research being conducted with HSS examination data?**

Yes. As with all NBME Subject Examinations, NBME may use results for research purposes. School-based curricular innovations focusing on the integration of HSS may be treated as interventions with aggregated, de-identified student performance data serving as outcome measures.

**2. Will research data be de-identified?**

Yes. De-identified performance data will be included in research studies.

<sup>1</sup> Skochelak SE, Hawkins RE, Lawson LE, Starr SR, Borkan JM, Gonzalo JD. *AMA Education Consortium: Health Systems Science*, Philadelphia (PA): Elsevier; 2016.

<sup>2</sup> Dekhtyar, M, Ross, LP, D'Angelo, J, Guernsey, J, Hauer, KE, Lawson, L, Pusic, MV & Hawkins, RE. (In press). *Validity of the Health Systems Science Examination: Relationship Between Examinee Performance and Time of Training*, American Journal of Medical Quality.

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