WHAT WAS TRIED?

Through a 1-year academic record-enhancing postbaccalaureate pre-medical (PBPM) programme, we introduced HSS to the 25 student cohort during their first biomedical science course and evaluated for curriculum feasibility and student satisfaction. The HSS thread incorporated asynchronous free online modules produced by a national group of HSS educators, followed by a required graded reflection at the end of the training. Over 10 weeks, students watched online modules entitled “What is Health Systems Science?” and “What are Social Determinants of Health?”, followed by a module on “How Systems Thinking Applies to Healthcare”, a webinar presentation on “Contextual Medical Errors”, and concluded with a module on the Social Determinants of Health. PBPM students submitted their required reflections (worth 5% of their total course grade), which asked them to recall the applicability of HSS to medicine, what skills they learned, and how they would apply those skills as a patient advocate.

WHAT LESSONS WERE LEARNED?

Incorporating HSS into our PBPM programme was well received by the postbaccalaureate students, as reported by 100% of student reflections and a desire to learn more about HSS. Students found HSS content easily relatable to themes in medicine, reported a clearer understanding of social determinants of health, and expressed increased motivation in becoming patient advocates by volunteering in our student-run free clinics, which we have implemented for the remainder of the programme. We found our curriculum intervention feasible and appealing to students because the resources were publicly available, high quality, and validating of personal experience.

We learned that pipeline PBPM programmes provide an optimal environment to introduce premedical students to HSS content. First, PBPM students are highly committed to becoming successful patient advocates before applying to UME. Second, pipeline PBPM programmes can leverage applied learning experiences through student-run free clinics. Our HSS pipeline programme provides expanded options for students to interact with patients while simultaneously preparing for systems-based practice and honing their skills to improve the future of healthcare delivery.

The primary objective for pipeline PBPM programmes is to better prepare premedical students for medical school admissions and make them stronger applicants. Premedical students often have limited opportunities to meaningfully engage with patients in clinical settings. Hence, we found incorporating HSS into their preparation for medical school more justifiable for forging their professional identity as future physicians and as patient advocates.

WHAT PROBLEM WAS ADDRESSED?

First problem. Less privileged sixth form (high school) students get fewer opportunities to undertake extracurricular academic activities that will enhance their competitiveness for entry into medical schools.

Second problem. Restricted access to healthcare settings because of the COVID-19 pandemic meant that sixth form students were unable to obtain medicine-related work experience.

Third problem. Learning research skills is an important part of medical training. It is challenging for students to find research projects to participate in, and many students wishing to participate in research projects are unable to do so. Research opportunities for students became even more limited during the COVID-19 pandemic.
pandemic, as laboratory and departmental occupancy levels were restricted.

Fourth problem. Genetics tests and treatments are becoming an increasingly common part of medical practice, but medical students’ knowledge of genetics is often poor. Medical students’ knowledge of neurology, including epilepsy, is also often poor.

Fifth problem. There are no up-to-date epilepsy gene databases; creating one will help accelerate mechanistic/therapeutic discovery in epilepsy.

2 | WHAT WAS TRIED?

A Medline search for studies reporting genes associated with epilepsy revealed ~10,000 abstracts, which were manually screened to identify relevant abstracts and extract data from them. Students were invited to perform the manual screening and data extraction. Headmasters of three schools—a fee-paying school, a ‘typical’ state school and a state school with a higher-than-average number of students from an economically deprived background—were contacted to publicise the project amongst their sixth form students. The project was also publicised amongst medical students by word-of-mouth. Over 60 students from multiple schools and universities in different cities took part. Detailed written instructions explaining genetic and epilepsy concepts were created and then optimised based upon feedback from a focus group of students. An introductory YouTube video was created by a medical student. Sixth form students were invited to live virtual tutorials. Manual curation was performed using an online systematic review tool (www.sysrev.com). An administrative team (comprised of three medical students, supervised by a senior clinical lecturer) performed live audits of students’ initial responses and provided individualised feedback. The extracted data were collated by a medical student into an online database (www.liverpool.ac.uk/D3RE/SAGAS; to be described in a separate publication, which will have all the students listed as co-authors).

3 | WHAT LESSONS WERE LEARNED?

Aspiring/current medical students are able to learn about advanced genetic and medical terminologies and successfully apply them in data-mining research. Such large-scale online-only projects enable many students from multiple institutions in different cities to participate in research, even during a pandemic. Live audit of participants’ early results and providing individualised feedback is feasible and aids student education and research efficiency. About 90% of students felt that their understanding of genetics, epilepsy and research improved. Sixth form students felt that their applications to medical school would be strengthened. Participation and completion rates were lowest for sixth form students from the state school with a higher-than-average number of pupils from an economically deprived background. In future, there should be more strenuous outreach/support to less privileged students.

DOI: 10.1111/medu.14765

Students receiving pages on their patients: A pilot

1 | WHAT PROBLEMS WERE ADDRESSED?

Third-year clerkship medical students (MS3’s) require direct participation and immersion in the clinical workplace to develop into physicians. Dornan et al.’s framework of clinical workplace learning describes this as ‘supported participation’, a process where ‘workplace affordances’ provide students supervised opportunities to engage in the clinical environment. However, because communication between healthcare team members primarily occurs through pages sent directly to resident physicians, internal medicine MS3’s at our institution have reported feeling ‘peripheral’ and ‘out of the loop’ regarding their patients’ care. MS3’s cite missed communication about their patients leading to missed opportunities to participate in patient care. To the authors’ knowledge, few—if any—institutions have a program to address this gap.

2 | WHAT WAS TRIED?

For 4 months of the medicine clerkship at a large tertiary care site, we implemented a pilot program (MS3-CC) where first-call pages received by the first-call physician were ‘carbon copy’ paged (cc’d) to the MS3 who was following that patient. This resulted in the student receiving a copy of all medical and care coordination pages about their patient.