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Teaching Big in Texas: Team-Based Learning for Professionalism Education in Medical Schools

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Medical school enrollments continue to increase in America, making large classes more impersonal and less desirable. Shifting education to more efficient small-group teaching sessions is now valued by almost all medical educators. But large numbers of small student groups often require large numbers of trained faculty facilitators. For many years the University of Texas Medical School at Houston has offered a robust ethics and professionalism (E&P) curriculum that consists of both lectures and facilitated small-group sessions. Certain topics, however, such as professionalism, social justice and resource allocation, and social determinants of health, were not given adequate attention and we knew they would be better addressed through a project rather than a lecture; we wanted students to go beyond mere comprehension of the material and have the opportunity to analyze and apply the information they were receiving. Therefore, we replaced the lecture series with three team-based learning (TBL) sessions to address these subjects and ease the demand on faculty for facilitating the small-group sessions.

TBL was created by professor Larry Michaelsen when his business classes became too large for available faculty to cover and has been a trend in medical education in the last five years. However, we could find no instances in the literature of TBL use to teach E&P in American medical schools.

TBL is an instructional strategy that engages students by giving them the opportunity to wrestle with new concepts and learn new materials through an assigned task or project. For example, in learning how best to approach the allocation of scarce resources such as organs, students would first read selected source material. Then, in small groups they would be asked to grapple with determining which one of six very different patients is the most appropriate recipient of a donated kidney and why. The component parts of TBL are, in order, the creation of learning objectives, a preclass reading assignment, a graded “readiness” quiz before the session, an assigned group project, reports from the groups, and finally a wrap-up session led by the course faculty [1]. The readiness quizzes guarantee that students are familiar with the materials in advance of the assignment, and the structure provides a mechanism for efficiently conveying information to large groups.

We decided to incorporate TBL techniques into two places in the curriculum: in an exercise for incoming first-year students and in the second-years’ three ethics and professionalism sessions. In the first exercise, students in the next incoming class

who have read *Medical Professionalism in the New Millennium: A Physician Charter (the Physician Charter)* [2] will be divided into small groups and instructed to draw a life-size physician on butcher paper that illustrates the attributes, attitudes, and actions of a professional. For example, a physician might be depicted holding a small balance scale, demonstrating her commitment to justice in health care delivery. When this exercise was done with second-year students, large ears were drawn on one depiction, representing the physician's responsibility to listen to the patient at all times. The drawings will be hung around the room and selected representatives from the groups will present their work to the class.

The second-year students' E&P course is divided into three modules: one on professionalism, one on the social determinants of health, and one on justice in resource allocation. The preclass reading assignment is the Physician Charter. The objectives of the professionalism session are to define professionalism; identify the attributes, attitudes, and actions that make a medical professional; and apply the Physician Charter principles to cases. Students were also asked to identify the three most important obligations physicians have towards their patients and to society. The class of 240 students is divided in half, with a course co-director for each group of 120 students. These two groups are then subdivided into 30 TBL groups of 4 students each. The student TBL groups wrestle with and must make recommendations in four case scenarios involving a physician who gives wrong information to colleagues about a patient, a research ethics dilemma, a case of physician impairment, and a professional boundary violation. Each of the course co-directors then leads his or her half of the full class in a discussion of the four cases, and, at the conclusion, gives a wrap-up lecture.

The second session addresses the social determinants of health, a topic that heretofore had not been covered in any depth. The objectives of this session are defining and understanding determinants and their relationship to health disparities, putting the determinants into context, and considering ways to mitigate health disparities by altering susceptibility to social determinants. The preclass assignment is to watch the critically acclaimed segment "In Sickness and in Wealth" [3] from the PBS program *Unnatural Causes*, which discusses numerous examples of how environmental factors affect people's health behaviors, opportunities, and outcomes. The class groups are then given demographic and health information on one of Houston's poorest neighborhoods and asked to design a pilot program to address one social factor—e.g., low high school graduation rates, lack of nutritious food—that affects health, describe how their project would impact the health of the community, and identify the necessary resources to launch their project and any barriers, including legislative obstacles, that would be likely to affect the success of the project. Groups present their projects to the full class and field questions from their classmates.

In the third and last session, students are asked to grapple with resource allocation and the justice principle. While we built justice into case examples used to teach these issues, we did not think that they presented a concrete enough illustration of

some of the concerns facing our health care system. We wanted students to analyze different ways in which health care resources can be allocated; to be able to balance the costs and benefits of preventive, acute, and tertiary care; and to identify the trade-offs that have to be made in distributing health care. Students are assigned three different source materials to familiarize them with concepts of justice and the US health care system—one on the Affordable Care Act, one on resolving ethical conflicts more generally, and one about teaching justice to medical students [4-6]. To facilitate this session we acquired a license to the NIH/University of Michigan CHAT, a computer program that allows the user to create a hypothetical group insurance plan, and programmed our options to mimic the essential health benefits of the Affordable Care Act. Each TBL group is allocated a limited budget and has to rank which services are most important to them, first individually, then as a group representing the city, and decide the level of benefit (e.g., Platinum, Gold) that the recipients receive. The faculty facilitators ask the various groups to tell the class which benefits they decided were most important and why and then ask the other groups to respond.

These TBL sessions provide students with opportunities to grapple meaningfully with some of the more problematic issues in ethics and professionalism that they will face as physicians. Student feedback over the three years we have used these modules has been generally positive, although it requires facilitators who are flexible and comfortable leading large group discussions. Ideally, a truly interactive TBL session would have far fewer students per group to allow more individual student contribution and evaluation. However, we do believe that by halving the class size, dramatically reducing the number of facilitators, and introducing the proven educational elements of TBL, considerable progress has been made in reducing the “big” in Texas teaching.

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