Humanities and the Pipeline: uncovering the hidden curriculum of pre-medical education

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Some Definitions:

• **Humanities**: Learning concerned with human culture, especially literature, history, art, music and philosophy

• **Humanism**: Devotion to human interests or welfare

• **Humane**: Characterized by sympathy with or consideration for others; compassionate; benevolent

• **Humanitarian**: Concerned with or seeking to promote human welfare
History

THE OLD HUMANITIES
AND THE NEW SCIENCE

By
SIR WILLIAM OSLER, B.T., M.D., F.R.S.

WITH INTRODUCTION BY
HARVEY CUSHING, M.D.

BOSTON AND NEW YORK
HOUGHTON MIFFLIN COMPANY

The Riverside Press Cambridge
1920
The Two Cultures and the Scientific Revolution
The atmosphere of the liberal-arts college is being poisoned by premedical students. It is not the fault of the students, who do not start out as a necessarily bad lot. They behave as they do in the firm belief that if they behave any otherwise they won't get into medical school.

Lewis Thomas MD
Advice to the Deans of Medical Schools

Any applicant who is self-labeled as premed should have his dossier place in a third stack of three.

Pay more attention to the success of students in the non-science disciplines.

Get rid of the MCAT.

Restore Classical Greek.

Summer volunteer work at the local hospital will not be held against students, nor will it help with admissions.

Give colleges much more say about who goes to medical school.

Lewis Thomas MD
Curiosity

The number of humanities courses taken in the premedical curriculum is not what matters, what matters is curiosity.

“Medical education itself suppresses the expression of curiosity...”

Faith Fitzgerald M.D.
My organic chemistry professor walked into the class and said: “There are 150 students sitting in this classroom today. By the end of the semester, half of these seats will be empty.”

I chose not to take any writing-intensive courses. I’m not a very good writer and even though I would like to improve, I don’t want to risk lowering my GPA.

There were so many interesting humanities seminars I would have liked to take but I didn’t have room in my schedule with all the pre-med requirements.

If I didn’t have my music I would have gone crazy as a pre-med. My a cappella and chamber music groups really saved me.

How different it would be if your organic chemistry professor came in and said: “This material is challenging but it’s also fascinating. We are here to help you learn.”

Pre-meds are so stressed out!
“Many pre-med students see value in the humanities (both on their own and in preparation for medicine), but are reluctant to take humanities courses, due to:

1. **Time:** fitting into a schedule that is already saturated with pre-med requirements. Some pre-meds are able to major or minor in humanities subjects, but most do not. Many pre-med students end up dropping humanities-oriented passions such as playing an instrument, acting, drawing, or reading about history.

2. **Potential GPA Killers:** humanities courses can represent very challenging material and ways of thinking (and perhaps more ambiguous grading) than “science” courses.”
Is there a disconnect?

What we say we value:

Well-rounded applicants from varying disciplines and backgrounds;

Humanism, compassion

What we do:

Almost every U.S. med school requires the same courses, and the same credits/semester hours in Biology, Chemistry, and Physics (AAMC 2017)

A few med schools explicitly require coursework in the humanities and social sciences, but a majority merely “recommend” exposure to humanities or social science courses.

Revision of MCAT in 2015 - social and behavioral aspects of health
Is there a disconnect?

Signs of diversification of majors among medical school applicants, but vast majority of pre-med students continue to major in Biology or Chemistry

Social science and humanities majors still among the lowest numbers of applicants
Challenging Traditional Premedical Requirements as Predictors of Success in Medical School: The Mount Sinai School of Medicine Humanities and Medicine Program

David Muller, MD, and Nathan Kase, MD

Abstract

Purpose
Students compete aggressively as they prepare for the MCAT and fulfill traditional premedical requirements that have uncertain educational value for medical and scientific careers and limit the scope of their liberal arts and biomedical education. This study assessed the medical school performance of humanities and social science majors who omitted organic chemistry, physics, and calculus, and did not take the MCAT.

Method
The authors compared and contrasted the academic outcomes of 85 Humanities and Medicine Program (HuMed) students at Mount Sinai School of Medicine with those of their 606 traditionally prepared classmates for the 2004–2009 graduating classes. The authors analyzed basic science knowledge, clerkship performance, humanism, leadership, community service, research fellowships, distinctions, and honors.

Results
There were no statistically significant differences between the groups in clerkship honors other than psychiatry (HuMed students outperformed their peers, \( P < .0001 \)) or in commencement distinctions or honors. Although HuMed students were significantly more likely to secure a scholarly-year mentored project \( (P = .001) \), there was no difference in graduating with distinction in research \( (P = .281) \). HuMed students were more likely to have lower United States Medical Licensing Examination Step 1 scores \( (221 \pm 20 \text{ versus } 227 \pm 19, P = .0039) \) and to take a nonscholarly leave of absence \( (P = .0001) \). There was a trend among HuMed students toward residencies in primary care and psychiatry and away from surgical subspecialties and anesthesiology.

Conclusions
Students without the traditional premedical preparation performed at a level equivalent to their premedical classmates.
Some Questions:

Does being well-versed in the humanities make a person more humane? Or conversely, does a single-minded pursuit of the science make a person less humane?

What do we value in medicine and medical education? What are we trying to “make”? (humanism? compassion? competence? curiosity? scientific excellence? “well-roundedness”)

If you were to completely revise pre-med requirements, what would they look like?
RIGIDITY OF THE PREMED PATH

PREMEDICAL STUDENTS FREQUENTLY EXPRESS HOW CHALLENGING IT IS TO JUMPSTART ON THE PREMED CURRICULUM (i.e., COURSES, EXPERIENCES, VOLUNTEER HOURS, ETC.) AS WELL AS EXPLORE NON-ACADEMIC VENTURES THAT THEY FEEL ARE IMPORTANT SUCH AS VOLUNTEER WORK IN THE COMMUNITY AND SOCIAL JUSTICE. IN THIS SENSE, MANY STUDENTS EXPRESS FEELINGS OF ISOLATION, PRESSURE, AND FRUSTRATION THAT DID NOT ALIGN WITH THE STRENGTHS NEEDED TO COMPETE IN A PRESTIGIOUS MEDICAL PROGRAM. A MAJORITY OF STUDENTS REPORTED STRETCHING THEIR TIME TO BALANCE ALL TOGETHER Hobbies AND EXPERIENCES SUCH AS PEOPLE RELATED TO MEDICINE OR ARTS, BECAUSE THEY WOULD SIMPLY FELT BAD TO MISS OUT ON THEM. IN ONE STUDENT’S OPINION, MANY STUDENTS HAVE EXPRESSED THE BELIEF THAT THE PATH AND THE REQUIREMENTS IMPERSONALIZE, DEPRESS, AND DISTANCE STUDENTS FROM EACH OTHER. STUDENTS REPORTED FEELING LIKE THEIR PERSONALITY MAY BE COMPROMISED IF THEY DO NOT MEET THE IDEAL PREPAREDNESS They BELIEVE TO BE ABLE TO SUCCESSFULLY PREPARE. IN SHORT, THE PREPAREDNESS REQUIREMENTS OF MEDICAL SCHOOLS ARE WIDELY STRESSED AMONG STUDENTS, AND THEY FEAR THAT THIS PREPARES THEM TO BE LESS DISTINCTIVE AND LESS ABLE TO CONVEY THEIR UNIQUE HABITS AND CHARACTER.

I feel like we need to have more important courses. At last, a list that prepares you for real medicine, you know? A lot of people are exposed to science courses who don’t change courses or have a common denominator with lot of curriculums. You’re kind of on your own for the most part. I’m so focused on what the med school needs and you’re just thrown it in the most? [W]... But I think medicine is more important in that space. Most medical schools say they want well-rounded people. Most well-trained people are set apart from people, but do we actually do more to the experience is getting in a little bit more? We’ve been a little bit more. I think my GPA is a little bit more. Time. I want to be there. I’m just trying to get straight A’s like I was, I used to cut through it. I used to do that, you know what I mean? [W] I don’t know if I’m really happy doing it. I’m really happy doing it. I’m really happy doing it. I’m really happy doing it. I’m trying to get straight A’s, but I used to cut through it in my life and that’s how I do it. I specifically tried harder. If there are really3

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