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Making the Case for History in Medical Education

David Jones, Jeremy Greene, Jacalyn Duffin, and John Warner

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Abstract:

Historians of medicine have struggled for centuries to make the case for history in medical education. They have developed many arguments about the value of historical perspective, but their efforts have faced persistent obstacles, from limited resources to curricular time constraints and skepticism about whether history actually is essential for physicians. Recent proposals have suggested that history should ally itself with the other medical humanities and make the case that together they can foster medical professionalism. We articulate a different approach and make the case for history as an essential component of medical knowledge, reasoning, and practice. History offers essential insights about the causes of disease (e.g., the non-reductionistic mechanisms needed to account for changes in the burden of disease over time), the nature of efficacy (e.g., why doctors think that their treatments work, and how have their assessments changed over time), and the contingency of medical knowledge and practice amid the social, economic, and political contexts of medicine. These are all things that physicians must know in order to be effective diagnosticians and caregivers, just as they must learn anatomy or pathophysiology. The specific arguments we make can be fit, as needed, into the prevailing language of competencies in medical education.

Keywords:

History of medicine

Medical education

Medical Schools

Competencies

Medical Humanities

What is the future of the history of medicine at medical schools? It is now possible to see both a crisis and an opportunity. When the American Association for the History of Medicine surveyed 174 medical schools in the United States and Canada in 2008, it found that 98 “had no indication of history” and that another 19 might not have had any as well. While 51 schools did have “some indication of history of medicine offerings,” it was hard to find information and the programs generally were not well organized.¹ Historians at medical schools have found themselves competing with medical ethics and the medical humanities for a share of the shrinking pool of faculty positions, curricular hours, grant support, and other resources. Such concerns exist as part of the broader angst about the crisis in the humanities, a crisis well demonstrated by the 2013 report from the American Academy of Arts and Sciences.²

At the same time, there are reasons for considerable optimism. History of medicine continues to be a thriving academic enterprise, with excellent work by faculty and graduate students at many universities. It has achieved impressive popular interest, with two histories of medicine -- *The Emperor of All Maladies* and *The Immortal Life of Henrietta Lacks* -- becoming runaway bestsellers.³ Many physicians remain interested in medical history, despite all the forces that have pulled history of medicine and medical education in different directions.⁴ The American Association of Medical Colleges (AAMC) has formally recognized the importance of the medical social sciences by inserting a new section on Critical Analysis and Reasoning Skills into the 2015 MCAT (Medical College Admission

Test). Efforts are now underway to expand this precedent and encourage both the LCME (Liaison Committee on Medical Education) and ACGME (Accreditation Council for Graduate Medical Education) to add medical humanities and social sciences (including history) into the competencies required of medical students and residents.⁵

The simultaneous perception of crisis and opportunity presents historians of medicine with a challenge. Is history relevant and useful for medical students and physicians, as well as for nursing, public health, and all health-related fields? Instead of simply answering “of course,” scholars need to think carefully about this question. Historians of nursing have already been working on this: the American Association for the History of Nursing began disseminating guidelines on *Nursing History in the Curriculum* in 2001.⁶ For historians of medicine to continue to engage with health professionals and their education, we will need to craft careful and specific arguments about where and why history is relevant, and about how history content can be integrated into curricula and other training venues. In a world where many interests make demands for curriculum time and attention, historians of medicine need a more aggressive strategy.

This is not a challenge that all historians have to take on, even though success should have spillover effects that benefit the field more broadly. After all, one thing nearly all historians of medicine share the desire to represent our field to the multiple audiences, including other historians, social scientists, policy makers, journalists, and clinicians -- all of whom should find an understanding of the

medical past relevant and compelling. Many historians of medicine are busy enough on undergraduate campuses, where the field is increasingly popular, or at public health schools, where the scholarly interests of historians and social epidemiologists often align more naturally. However, for the historians of medicine who work on medical campuses, and the others interested in engaging clinicians, it is essential that the case for relevance be made, and made well. Moreover, many of the arguments about the relevance of history of medicine for medical education can also be used to make the case for why nurses, public health professionals, undergraduates, and historians more generally (i.e., academic historians in other fields) ought to take history of medicine seriously.

A historical review shows that this is not a new mission: historians of medicine have strategized to create a role for history in medical schools for centuries. They have made many valuable arguments about the possible contributions of history. We believe that even stronger arguments can be made. Current developments in the education of medical students and other health professionals also present new opportunities for historians to make arguments that will resonate more powerfully with educational priorities. We make the case for history, not just as a non-specific model of fostering professionalism, but as an essential component of medical knowledge, reasoning, and practice. Historical analysis contributes essential insights to our understanding of disease, therapeutics, and institutions--things that all physicians must know in order to be effective, just as they must learn anatomy or pathophysiology.

We focus here on the role of history in medical schools in North America. While the substance of our arguments can be applied to other forms of health education (i.e., osteopathy, pharmacy, nursing, public health), or to other areas, the politics and opportunities faced by historians of medicine differ in their details in North America, Europe, and elsewhere, in terms of institutional support, regulatory regimes, and the relationship of history of medicine to the medical humanities more broadly (a movement that can be both an opportunity and a threat for historians of medicine). With North America in mind, we offer specific advice about how to couch the case for history of medicine in the language of competencies, a system that has become the coin of the realm in medical education in the United States and Canada.

The present crisis and opportunity require historians of medicine to take an affirmative stance, not a defensive posture. History can and should have an important role to play. It can help to shift the knowledge, culture, and practice of medicine, but only if historians develop and deploy careful arguments and work to make those arguments heard.

The Wheel of History

Physicians and historians have long struggled to define a role for history in medical education. There is much we can learn from the remarkable continuity of the concerns, obstacles, and solutions that have arisen. Since classical times, physicians and medical students have turned to history in pursuit of both pragmatic

knowledge and professional inspiration.⁷ René Laennec, for instance, used his 1804 medical school thesis to defend the continuing relevance of Hippocrates to medical practice.⁸ In the eighteenth century, however, new ideas about the value of the history of medicine began to appear. German medical schools fostered the study of history as a way to understand the development of medical knowledge so that practitioners would understand what methods had been useful in the past and which had led them astray. Scholars also worked to situate the history of medicine within the broader currents of history. In his five volume *Versuch einer pragmatischen Geschichte der Arzneikunde* (*Essay on a Pragmatic History of Medicine*, 1792-1803), Kurt Sprengel described the many contributions of the history of medicine: it revealed the development of the human mind; it promoted a better understanding of medical knowledge; it fostered a sense of civic responsibility; and it taught students to find value in ideas that might seem strange, a way of teaching them intellectual modesty and tolerance.⁹ Instead of entering into debates with dead physicians, historians sought to distill valuable lessons for living physicians.

Over the decades that followed, German scholars reiterated and refined these arguments, whether offering history as an antidote to hubris or arguing that medical history was a valuable epistemological tool that could advance physicians' understanding of the etiology of disease through the study of historical pathology.¹⁰ Similar arguments emerged in France, England, and the United States. Thomas Jefferson, for instance, hired his personal physician, Robley Dunglison, to teach

medicine -- and its history -- at the University of Virginia, based on the belief that “the student should learn something of the earlier progress of the science and the art.”¹¹

Physicians’ attitudes towards their history began to change in the late nineteenth century. As laboratory science rose to prominence, French and German medical researchers worked to purge medical knowledge of *Naturphilosophie*.¹² They turned instead to new knowledge derived from the natural sciences. When German medical knowledge became the model for American reformers in the 1870s and 1880s, the pedagogical shift crossed the Atlantic. Biomedicine, a modernist endeavor, favored historical narratives that emphasized rupture over continuity. This rupture transformed relationships between physicians and their history. Medical history no longer seemed directly relevant to medical knowledge and practice. Doctors increasingly used the past as a foil to highlight the triumphs of medical progress. The past, however, was not abandoned. Medical history offered a set of philological, nostalgic, and political tools to reinforce a continuity of tradition and clinical authenticity in the face of rapid technological and epistemological change.¹³

The founding faculty of the Johns Hopkins University School of Medicine embodied this modernist paradox. Even though they explicitly emulated the pedagogic models of German biomedical science, John Shaw Billings, William H. Welch, and William Osler also sought what John Warner has called the “rehumanisation of medicine.” “Representing medical history as a partial antidote

to excessive reductionism, specialisation, commercialism and cultural disintegration," Warner argues, "they cultivated an ideal of the 'gentleman-physician' well versed in the classic liberal arts."¹⁴ These elite physicians made a vigorous case for history. Osler was especially interested in how history could be taught amid the "everyday work of the wards" in order "to train insensibly the mind of the student into the habit of looking at things from the historical standpoint."¹⁵ Welch's commitment to the value of history, in turn, led to the founding of the Institute for the History of Medicine in 1929.

Eugene Cordell, who became the president of the Johns Hopkins Historical Club (established in 1890), offered a careful case for history in 1904. He emphasized six potential contributions:

"1. It teaches what and how to investigate."

"2. It is the best antidote we know against egotism, error and despondency."

"3. It increases knowledge, gratifies natural and laudable curiosity, broadens the view and strengthens the judgment."

"4. It is a rich mine from which may be brought to light many neglected or overlooked discoveries of value."

"5. It furnishes the stimulus of high ideals which we poor, weak mortals need to have ever before us; it teaches our students to venerate what is good, to cherish our best traditions, and strengthens the common bond of the profession."

“6. It is the fulfillment of a duty -- that of cherishing the memories, the virtues, the achievements, of a class which has benefited the world as no other has, and of which we may feel proud that we are members.”¹⁶

While he was as willing as any other to celebrate medicine’s luminaries, or to mine the past as a trove of forgotten discoveries, Cordell was more interested than Osler and his peers in exploring the embarrassing history of failures and paths not taken. “It is probable,” Cordell suggested, “that we may learn equally as much from the follies, omissions and failures of the past as from its successes and achievements. Experience will always be fallacious and judgment difficult, and it is not likely that error can ever be avoided. It is well for us to realize that the future may pluck many a feather from even our ambitious wings, who plume ourselves on our attainments.”¹⁷ Convinced of the essential importance of the field, Cordell believed that history of medicine “should be taught in no desultory fashion, but as thoroughly as any other,” with a professor at every university, required courses with 16 to 20 lectures, and rigorous exams. He looked forward to the day when medical schools would be judged by their attention to history and the field would hold “a front rank in the curriculum.”¹⁸

If Cordell’s vision did not come to fruition over the century that followed, much of the work that has been done to make the case for history of medicine has nonetheless followed his lead, even if unacknowledged. Writing on the eve of World War II, Henry Sigerist, who succeeded Welch at the Institute of the History

of Medicine at Hopkins, described how history could give students a broader vision of the role of doctors in society and empower them to take deliberate social action. "The study of history is not a luxury," Sigerist explained: "History determines our life. Whatever situation we face is the result of historical developments and if we want to act consciously and intelligently we must be aware of developments and trends."¹⁹ Erwin Ackerknecht, who held the second chair in the history of medicine in the United States (at the University of Wisconsin), explained that a fundamental epistemological relationship existed between medicine and history, "insofar as history too tends to be a science and yet remains an art."²⁰ History could therefore contribute to both the scientific and humanistic ambitions of medicine.

By the 1960s, history of medicine had established footholds -- full time professors, departments, or graduate programs -- at nineteen North American medical schools.²¹ It had found important allies in libraries with significant collections in the history of medicine, including the National Library of Medicine, the Institute for the History of Medicine, the College of Physicians of Philadelphia, the New York Academy of Medicine, the Countway Library of Medicine, the Osler Library of the History of Medicine, the Wangenstein Historical Library, the Historical Medical Library at Yale, the Clendening History of Medicine Library, and others. The basic arguments, however, remained the same. In 1966 the Macy Foundation and the National Library of Medicine hosted a conference to assess the state of the field. George Rosen led the discussion of what history should be taught to medical students. By showing how medicine changed over time, history offered

perspective on current trends and helped physicians cope with future change.²² In his commentary at the conference, Charles Rosenberg argued that “the only case for a compulsory course is one based on a belief that the physician should somehow have a broader feeling for the place of medicine in society, a greater sensitivity to the alternatives that might exist.”²³ Amid all the discussions at the Macy Conference, the arguments for history remained quite modest: history taught perspective, humility, and openness to change.

Efforts to extend the reach of history into medical school curricula, however, were easily undermined by the widespread perception that history of medicine was an antiquarian affair taught by aging academics once they had lost their ability to innovate. The chair of the Department of the History and Philosophy of Medicine at the University Kansas, physician and historian Robert Hudson, criticized fellow historians in 1970 for their overemphasis on ancient history, especially Greek and Egyptian texts. “History for history’s sake,” Hudson complained “is no more acceptable to the current urbane student than the approach in basic science that uses a lecture on muscle metabolism limited to the professor’s own pet enzyme.” History needed to be made relevant for the student, so that they might more easily absorb its insights. “Think of it as teaching by suppository,” Hudson quipped; “the essential ingredients are inserted but without the bitter after-taste.”²⁴ Guenther Risse tried to make the case in 1975 by arguing that historians could make valuable links between past and present. The actual content mattered little, as long as the

teaching emphasized how history could inform physicians' understanding of contemporary social contexts and ethical questions.²⁵

Over the past twenty years, historians of medicine have made the case for history with renewed vigor. Much of their writing, however, repeats these earlier arguments: history demonstrates that medical knowledge and practice are products of specific social contexts, which have changed over time and will continue to do so. By focusing attention on the social contexts of medicine, history emphasizes the human relationships between patients and doctors that are at the core of the medical enterprise.²⁶ John Warner emphasized salutary effects on student psychology, especially "the sense of participating in a changing tradition (with both the subversion and reassurance it can bring)."²⁷ Susan Lederer, Ellen More, Joel Howell, and Jacalyn Duffin, channeling Ackerknecht, have emphasized the parallels between the craft of history and medicine, both of which operate as semiotic disciplines.²⁸ Duffin has also argued that history of medicine needed to be recognized as an important scholarly pursuit in its own right: "medical history is a research discipline as compelling as any of the basic and clinical sciences."²⁹ Howard Kushner has picked up a different (but still old) thread, "applied medical history." By analyzing the construction of disease syndromes, history could suggest testable, novel hypotheses to biomedical researchers. Citing work by historians on flu, cigarettes, or PANDAs, Kushner and Leslie Leighton have suggested that "there are appropriate and compelling reasons to create a collaborative environment to bring the two professional cultures of medical history together."³⁰ In 2012 Jonathan

Fuller and Margaret Olszewski surveyed Canadian medical schools. Despite historians' now familiar arguments (e.g., history contextualizes practice, reveals contingency and fallibility of knowledge, fosters humility, complements bioethics, instills humanity, improves history-taking, trains critical thinking, contributes to professional identity), medical schools still had not recognized or implemented the full potential of history of medicine.³¹

As this brief survey of discussions of the role of history in medical education reveals, there are surprising continuities from Cordell's time (and before) to the present. History offers perspective on medical knowledge and practice, suggesting humility where confidence too often exists. It re-humanizes medicine in the face of scientific reductionism and demonstrates that medicine is fundamentally social, an encounter between two (at least) humans, each embedded in social, economic, and political contexts. It socializes students into the profession, imparting its ideals while simultaneously sensitizing them to the socialization imposed on them. And, in some cases, it can be a source of clinically useful information.

Persistent Obstacles

The striking continuity of arguments on behalf of the value of history in medicine has been paralleled by an equally striking continuity of barriers to its implementation. Some are structural. Osler complained in 1902 about "the present crowded stated of the curriculum" that left little time for formal courses in history.³² Others are more cultural. Cordell bemoaned the general loss of interest in history:

“we of this age are too much carried away with the rage for novelty.”³³ Sigerist surveyed the field in 1939 and claimed that few places outside of Johns Hopkins took history seriously. Three problems were widespread: “1. lack of time [in the curriculum]; 2. lack of personnel; 3. lack of funds.”³⁴ Writing a decade later, Owsei Temkin placed some of the blame on historians: although they all agreed about the importance of history at medical schools, they could not agree about its form and content.³⁵ A generation later, Lester King, commenting on Rosen’s presentation at the Macy conference in 1966, asserted that the most basic problem for the field was that “we cannot seriously maintain that it makes ‘better’ doctors in any practical sense.”³⁶

These writings also make clear that there was never a “golden age” in which history of medicine was fully supported and funded in North American medical schools. Instead, as the institutional foothold of history waxed and waned, historians always decried the current state of affairs. Cordell reported in 1904 that only three of fourteen schools surveyed had a course, “a shocking neglect, an inexcusable apathy.” At Harvard lectures had been attempted, “but ‘no great interest was shown’ and they were discontinued.”³⁷ In 1939 Sigerist found history at 70% of medical schools, but it was often of low quality. He hoped that North American schools would assume responsibility for the field as the coming conflict threatened Europe: “We who have the privilege of living under infinitely better conditions have the duty to carry on and to keep the torch of medical humanism burning.”³⁸ Yet eight years later Ackerknecht remained pessimistic. Knowledge of

history of medicine among practitioners and the general public “seems at a low ebb”: misunderstanding of basic facts about Lavoisier, Schilling, or Servetus was widespread; students lacked the language skills needed to read the classics; and old knowledge no longer had practical value.³⁹

When the AAHM surveyed the field in the 1950s, it found organized courses at 47% of US schools (37 of 79) and all seven Canadian schools, with required courses at 20 and 6 schools respectively. But the authors acknowledged that such a crude count said little about substance.⁴⁰ When Genevieve Miller redid the survey in 1969, she found that the numbers had slipped to 45% of US schools and 39% of Canadian schools, a decline that was especially frustrating given the dynamism of the field itself in the 1960s.⁴¹ Hudson presented these findings in the *Annals of Internal Medicine* in an article entitled “Medical History -- Another Irrelevance?” He offered a grim prognosis, with natural science content increasingly dominating medical school curricula.⁴² Advocates for history offered two different visions. The American Osler Society, founded in 1977, turned to history for an exemplar of professionalism. It was “dedicated to memorialize and perpetuate the just and charitable life, the intellectual resourcefulness, and the ethical example of Sir William Osler.”⁴³ In 1990 a group of activist-historians established the Sigerist Circle to provide a forum for critical historical scholarship in pursuit of progressive social policy.⁴⁴ The two societies reflected very different visions of the contributions that history could make, but they were both firmly convinced of its relevance.

Competing Proposals

It is striking to see such stability over time in both the core arguments for the history of medicine and the key obstacles against it. Historians remain as frustrated by their marginal position in medical education in the twenty-first century as they were in the twentieth century. But something about medical history keeps people engaged, despite all the currents that continue to separate it from the mainstream of medical education. This durability is a real accomplishment in a field as obsessed with novelty as medicine. What can be done to harness this enduring interest more productively? Several proposals have been made in recent years, each of which picks up on different claims of relevance and would take the field in different directions within medical education.

The debates are most visible with regards to professionalism, an area in which many deans understand that history, along with other humanities and social sciences, can make a valuable contribution. What does professionalism mean, and how can history teach it? Charles Bryan and Lawrence Longo emphasize how history can foster two modes of professionalism, “nostalgic” and “activist.” Past physicians, notably Osler, provided a role model of grace and humility. Others, such as Sigerist, demonstrated social activism. Why did these two forms of professionalization matter? Bryan and Longo worried about “a takeover (seen by some as hostile, and by others as inadvertent) of professional virtues and values by government and capitalism.” By celebrating a tradition of exemplary physicians, nostalgic history “fosters a sense of belonging and solidarity as members of a

profession, not a trade." By tracing traditions of public service and social justice, history "promotes activist professionalism, fostering a sense of civic responsibility and opposition to excessive commercialism."⁴⁵ Daniel Sokol has similarly argued that history of medicine can be taught to demonstrate and inculcate high standards of professionalism and medical ethics.⁴⁶

Another proposal has taken a more functional approach to professionalism. David Doukas, Laurence McCullough, and Stephen Wear have organized the PRIME initiative, the Project to Rebalance and Integrate Medical Education. They argue that training in the medical humanities broadly -- not just history -- can "promote humanistic skills and professional conduct in physicians." History, for instance, "helps medical students and residents to stand in the past so that what we now take for granted, which is usually invisible, becomes visible and therefore open for critical appraisal. History also teaches that medicine is a profoundly social enterprise requiring that the social dimensions of medicine be identified and critically appraised."⁴⁷ This enhanced awareness, in turn, will make physicians better professionals who make substantial contributions to patient care.

A third proposal, from Germany, shifts the focus away from nostalgic or instrumental professionalism and towards social theory. Igor Polianski and Heiner Fangerau implemented a medical humanities curriculum at the medical school at Ulm grounded in science studies, with discussions of paradigms, discourses, biopolitics, and postmodern sociology of medicine. They try to capture students' attention not with promises of professionalization, but by intellectual engagement:

“The widespread prejudice among medical students that the history of science is merely an exercise in memorization, that medical ethics is an emphatic moral sermon, that some humanities courses are like coffee breaks, is countered directly.”⁴⁸ They report that their students value this “harder” approach to the medical humanities.

A New Synthesis

Medical students can be a tough audience for the medical humanities. They approach the knowledge taught to them with one eye firmly on the bottom line: is this knowledge relevant for their future as practitioners (or more immediately, on the Board exams)? Students have an uncanny ability to parse the curriculum and divine what parts of their coursework will be more or less represented on their medical boards and other assessments, regardless of what their professors say. They quickly figure out the “hidden curriculum” of what is and is not necessary to pass courses, survive on the wards, and get through their licensing exams. Medical school faculty members, meanwhile, have a different bottom line: how to allocate limited time in the curriculum. The consequence of these forces is the same. Both groups triage their attention to the topics that seem most immediately relevant. Historians of medicine who want space in the curriculum have no choice but to remake the case for history’s relevance within the current priorities of medical education. And this, we believe, is entirely doable.

While we see value in the long-standing arguments and in the recent proposals, we suggest a different approach, one that harnesses aspects of the other proposals but places its emphasis elsewhere. We recognize, as the PRIME initiative does, that competencies are a key aspect of medical education for the time being, and that history needs to make its case through their language. However, we should not let a single narrow focus on one competency -- professionalism -- define the value of all that we do. Moreover, it will likely be difficult to produce convincing evidence that history teaching can produce more professional, humane, or empathic physicians.⁴⁹ Second, while we share Polianski and Fangerau's ambition to increase the sophistication of social science teaching in medical schools, we do not think that social theory is the path most likely to succeed in North American medical schools. Instead, we believe that historical analysis can contribute to medical education in exactly the same ways as anatomy, biochemistry, or pathophysiology: as a fundamental component of medical knowledge. If this argument can be made visible through solid pedagogy, then the system of competencies can itself become a structure for demonstrating the value of history.

Based on our experience teaching history of medicine to undergraduates, graduate students and medical students at several institutions, with a collective experience of many decades, we have found myriad ways in which history can make essential contributions to medical knowledge. Our approach begins with a

series of specific claims that have self-evident plausibility and relevance for medicine:

- The burden of disease changes over time. A thorough understanding of disease (something that all doctors should have!) includes knowledge of the non-reductionist mechanisms that can account for these changes over time (e.g., social determinants of disease).

- What counts as disease -- definitions, diagnostic practices, and social meanings -- is historically contingent. Physicians need to appreciate the factors that account for how definitions of disease change over time, and their consequences.

- Medical therapeutics, and understandings of their efficacy, are dynamic. Good medical care depends on an understanding of the changing values and evidence reflected in claims of therapeutic success.

- Medical knowledge is produced through specific social, economic, and political processes. History provides critical perspective on the contingency of knowledge production and circulation, fostering clinicians' ability to tolerate ambiguity and make decisions in the setting of incomplete knowledge.

- Health inequalities, in both the burden of disease and in treatment access and outcome, have persisted for millennia. History offers essential perspective about the causes of inequalities and possible solutions.

- Medicine has influenced -- for worse and for better -- how race, ethnicity, gender, sexuality, and class are understood and managed. History offers robust tools for understanding these dynamics.

- Medical education, research, and practice take place across disparities in status and power. History demonstrates how and why this has happened.

- Medical technologies exist as part of broader social systems. History shows that innovation is not always progress, that technologies have unanticipated costs and consequences, and why improvements are not always implemented.

- The roles of physicians, their professional structures, and the social contexts of practice change over time. Understanding this history helps physicians navigate their shifting environments.

- Hospitals, medical schools, and health care systems are the byproduct of a long series of political struggles and compromises. History explicates the current structures, their limitations, and prospects for reform.

- Health-seeking behaviors have changed significantly over time. Historical perspective allows physicians to be more effective as they work within this dynamic, pluralistic medical marketplace.

- Medicine is one of many societal responses to disease in individuals and populations (e.g., nursing, public health, social work, religion, etc.). History offers perspective on the changing role of medicine in society.

- Historical study has shown how individuals' experiences of their bodies have changed over time (and across culture). Physicians cannot assume a universal experience of health or disease.

- Ethical dilemmas in medical research and practice change over time.

History reveals the specificity of social, economic, and political forces that shape ethical judgments and their consequences.

This list is meant to be suggestive, and it is far from exhaustive. It is a series of talking points for anyone who wants to make the case for history's role in medical education. A historian, asked by a dean of medical education why history matters, could respond with any of these arguments. Any one of them can be the basis for an informal teaching session or a lecture. Together they provide an outline of possible courses. The list also highlights possible areas of research for students who want to engage more seriously with the history of medicine.

Claims about the relevance of history can also be cast in a more thematic approach, clustering around five core themes for the history of medicine:

(1) **Disease changes over time**, not just definitions of disease and diagnostic practices, but also the underlying burden of disease. A thorough understanding of disease includes knowledge of mechanisms that can account for both the determinants of the changing burden of disease and the shifting categories and meanings that shape the impact of disease on individuals and society.

(2) **Medicine is a product of history**, meaning that medical knowledge, technology, and practices are produced, implemented, and evaluated in specific social, economic, and political systems. History facilitates critical perspective on the contingency of knowledge production and circulation. It demonstrates that

medical innovations are not always progress; instead, they often have unanticipated costs and consequences. Good medical care recognizes the changing values and standards of knowledge that have shaped our shifting understanding of therapeutic efficacy. This recognition fosters clinicians' ability to tolerate ambiguity and make decisions in the setting of incomplete knowledge.

(3) **Health inequalities persist** with respect to both the burden of disease and treatment access and outcome. Populations become vulnerable because medical education, research, and practice take place amid disparities in status and power. History offers key analytical perspective on the intersection of biological and social processes in the categories of race, ethnicity, gender, sexuality, and class, and offers essential perspective about the causes of persistent inequalities and about possible solutions

(4) **Health care systems are in constant flux**, including the roles of physicians, their institutions, and the social contexts of practice. Each component -- the profession, medical schools, hospitals, and public health -- is the result of a long series of political struggles and compromises. Patients, meanwhile, exhibit complex health-seeking behaviors in a dynamic, pluralistic, medical marketplace. History explicates the current structures, their limitations, and prospects for reform.

(5) **Ethical dilemmas in medical research and practice are contingent** to specific historical and social contexts. History reveals the specificity of social, economic, and political forces that shape ethical judgments and their

consequences. It provides an important approach for understanding and teaching medical ethics.

Taken together, these specific arguments about the history of medicine and the themes that they reflect demonstrate the undeniable value of history to medical theory and practice. History does not just convey an attitude towards medical knowledge and practice (e.g., recognizing its contingency, an antidote to hubris). Instead, historical analysis -- alongside molecular biology or pharmacology -- can make fundamental contributions to our understanding of disease and therapeutic efficacy. The traction of each argument might vary from school to school, depending on local personnel, institutional mandates, and funding arrangements. Nonetheless this list demonstrates the breadth, relevance, and importance of insights from the history of medicine.

This list of arguments for the relevance of medical history is both longer and more specific than those offered by past historians. It reflects the ways in which historians have refined their understanding of the dynamics of medical knowledge and practice as the field of history of medicine developed over the twentieth century. By showing the number of crucial insights that history can offer, it makes it more difficult for skeptics to dismiss history of medicine as window dressing for gentlemanly physicians. As Rudolf Virchow famously pointed out in 1848, "Medicine is a social science, and politics nothing but medicine at a larger scale." Historical analysis remains a uniquely powerful means to highlight the relevance of social science to medical research and clinical practice.

Historians and the Tyranny of Competencies

In his essay on the “tyranny of diagnosis”, Charles Rosenberg argued that the bureaucratic necessities of modern administrative systems (e.g., hospitals, insurers, etc.) exert a powerful influence on how doctors conceptualize and operationalize disease.⁵⁰ Medical educators now experience a subset of this problem, the tyranny of competencies. Over recent decades, driven by a range of forces, competencies have emerged as the guiding philosophy for the design of educational systems, especially in the highly regulated environments of health care.⁵¹ Whether articulated by educational associations or professional societies, medical students, residents, and practitioners face a bewildering array of competencies that they must acquire through training.

Similar drives towards specification and standardization have not (yet) swept graduate training in history (or the social sciences, humanities, and sciences more broadly). Historians often are not merely skeptical about but actively bristle at the competency-based approach to pedagogy. Perhaps heeding the prescient insights of Max Weber, social scientists are suspicious of the “iron cage” of bureaucratic rationality that competencies seem to represent. Some medical educators have also pushed back against competencies, arguing that while they might be useful for the biomedical sciences and clinical medicine, they are not appropriate for the medical humanities and social sciences.⁵² Despite such objections, competencies persist, at least for the moment, as an organizing principle in medical education.

As a result, when historians want to engage with medical education, they cannot ignore competencies. While individual historians can and should continue to define what they feel to be important for their own research, and continue to maintain their own goals, there is a pragmatic urgency to engage with the shifting world of competencies (e.g., “How I Learned to Stop Worrying and Love the Competencies”?). Historians can define an ambitious agenda for history at medical schools, the value of which should speak for itself, and they can show how history can satisfy the competencies that accreditation agencies have set. As long as historians do not sell short the contributions of history, there is no shame in working within the system of competencies. This investment will facilitate our efforts to engage with educators, deans, credentialing bodies, and accreditors of Continuing Medical Education (CME). The good news is that it is not difficult, and does not require the sale of our humanistic souls. With some careful thinking, the kind of historical scholarship that we already do can be worked into the emerging competency structures, even fitting some that are currently not well covered by other areas of medical training.

In principle, competency-based approaches to medical education are simple, even tautological: medical education should train physicians to be at least marginally proficient in the things that physicians need to do, hence the “competence” rubric. The catch -- and the nub of the argument currently splitting the field of medical humanities -- lies in the structure of competencies.

Competency systems typically require metrics for assessing goals and outcomes of

education, ideally accompanied by a form of evidence production. This expectation allows educators to determine whether a given educational intervention is likely to move students along the path of developing skills in the particular competency.

The competency agenda in medical education has been pushed from a variety of institutions in medical education, including the Liaison Committee for Medical Education (LCME), the Accreditation Council for Graduate Medical Education (ACGME), and the Liaison Committee for Graduate Medical Education (LCGME).⁵³ The Association of American Medical Schools (AAMC) has recently taken on a coordinating role and attempted to standardize the plethora of competency regimes that now circulate in the world of medical education. After analyzing at least 153 different lists of competencies from different institutions, AAMC has produced a more coherent system of eight domains and 58 competencies (see Figure 1).⁵⁴ The domains -- patient care, knowledge for practice, practice-based learning and improvement, interpersonal and communication skills, professionalism, systems-based practice, interprofessional collaboration, and personal and professional development -- map onto broader projects of medical education as it has taken shape over the past century. A similar approach characterizes the CanMEDS approach of the Royal College of Physicians and Surgeons of Canada, in which “petals” of competencies expressed as “roles” overlap and cluster around the central nugget of “Medical Expert”: Communicator, Collaborator, Advocate, Professional, Manager, Scholar (see Figure 2).⁵⁵

We believe that the many arguments we make for the relevance of history in medical education can be translated into the new language of competencies: this is a task of making competencies serve historians, and not vice versa. There is no need to restrict the relevance of history to the domain of “Professionalism” (Domain 5). One could just as easily argue that historical perspective provides a crucial element for “Knowledge for Practice” (Domain 2), specifically in Competency Area 2.5: “Apply principles of social-behavioral sciences to provision of patient care, including assessment of the impact of psychosocial and cultural influences on health, disease, care seeking, care compliance, and barriers to and attitudes towards care.” Critical analysis about how and why diseases change over time can fit into “Practice-Based Learning and Improvement,” specifically 3.10: “continually identify, analyze, and implement new knowledge, guidelines, standards, technologies, products, or services that have been demonstrated to improve outcome.” Historical analysis is crucial to understanding the reason why Domain 7, “Interprofessional Collaboration,” became a problem to address in the first place. Historical perspective on the development of our fragmented health care system provides crucial insights into the challenges of “Systems-based Practice” (Domain 6). Without being tied to any single competency domain, history is relevant for developing skills in many domains -- and with some thought and appropriate modesty, it can be shown to be important for all.⁵⁶

It is also possible to make the case that regulators need to extend the existing language of competencies and formulate additional competencies that

history can teach. This might include deeper understanding of professional roles and values, for instance appreciating the nature of illness and suffering as well as the goals and limits of medicine. History can inform decision making, whether by helping students to tolerate ambiguity in clinical scenarios or demonstrating how to appraise clinical management from a historical perspective. It grants insight into the current structure of health care systems, something that can enable deliberate reform. By providing examples of successful and unsuccessful medical research, patient-doctor communication, physician behavior, or health care reform, it can contribute to the acquisition of more traditional competencies. And it can inspire students to elicit and write patient histories worthy of a historian (and physician).

However, as with many things in medical education, nothing is constant but change. Even though competencies were not formally implemented by ACGME until 2013,⁵⁷ new frameworks have already begun to appear. The Milestone Project defines a series of developmental milestones that trainees will follow: initial skills provide a foundation for subsequent skills that accumulate in a progressive order. The milestones provide a “learning roadmap” for this process.⁵⁸ Another initiative takes a more pragmatic approach and defines “entrustable professional activities” (EPAs), such as performing a history and physical exam or recognizing a patient who requires emergent care, that trainees must master before the graduate from medical school, from internship, or from residency.⁵⁹ The proliferation of accreditation frameworks might seem daunting and demoralizing: why bother with competencies, if they are already old news? Why even attempt to tailor history to

the language of milestones or EPAs, if those too will be replaced in a few years time? The situation is not actually as bad as seems. These systems interconnect in many ways: the milestones, for instance, simply put competencies into linear sequences, while EPAs group competencies together and apply them to specific clinical tasks. As a result, any effort that historians invest to gain fluency in competencies will be applicable when historians are asked to engage with milestones or EPAs.

Making the Case: Different Ways to Teach History at Medical Schools

Exactly how history can be implemented will depend on many factors: the structure of the curriculum at the medical school, the interests of the relevant course directors, and availability of historians of medicine for teaching. Faculty who want to create or expand offerings in the history of medicine need to determine what key points they want to convey, develop a strategy that will work within their local curriculum, and make their case. There is no consensus in the field about what a standardized curriculum would look like, or what their best way to teach might be. The traditional approach for much of the twentieth century was to offer a series of lectures that reviewed the historical development of medical theory and practice.⁶⁰ Those courses have generally disappeared and been replaced by varied approaches that target key themes or concepts of relevance to contemporary medical practice. Pedagogic practices vary enormously. Small group tutorials, centered around a particular problem (e.g., health care reform), clinical

case, or historical vignette (e.g., the Tuskegee Syphilis Study), are popular. Even though lectures are falling out of favor in medical schools, and in universities more broadly, they need not be abandoned: they remain a valuable (and cost-effective) way of teaching history. The narrative structure, casts of characters, and moral tension of many important historical events can still capture the attention of students who would never attend to a 50-minute discourse on molecular signaling pathways.

In medical schools with a strict policy on problem-based learning (PBL), historians have devised interesting strategies to convey the message. One method is to help out in the perennial struggle to find enough tutors by volunteering to do so. At McMaster University, the cradle of PBL, Hannah Professor and physician-historian Charles G. Roland was able to encourage the students in his groups to consider the historical aspects of every case even as he helped them learn the clinical and physiological material. Some schools have even fashioned historical PBL cases, for instance using Rudolf Virchow's investigation of typhus in Silesia to teach about the social determinants of disease or about the origins and dilemmas of colonialism and global health. A 1996 survey of PBL tutors and students at two medical schools uncovered surprising willingness to incorporate historical information in the PBL sessions; consequently, short additions and questions were added to the tutor guides for every case in every year -- enhancing the "reach" of the problems into the area of humanities and satisfying the interest of the non-historian tutors and hopefully their students.⁶¹

Many different approaches have been developed at North American medical schools. One approach, “infiltrating the curriculum,” inserts historical content (whether lectures or tutorials) into preclinical courses or clinical rotations and offers background or perspective. Jacalyn Duffin has described her use of this approach at Queen’s University in detail.⁶² Similar methods have been implemented elsewhere, for instance at Emory University and the University of Michigan.⁶³ Yale University School of Medicine has had both stand-alone lectures in the history of medicine as well as other lectures integrated into courses on anatomy, physiology, genetics, and professional responsibility, and some lectures are followed by discussions in which the medical school class breaks down into small groups with historians as facilitators. The University of Oklahoma College of Medicine requires its second year students to take a course in the medical humanities; one option is a course on history of medicine.⁶⁴ Harvard Medical School had a similar arrangement (history as one of several choices) for many years; starting in 2007, however, historians and medical anthropologists teamed up to teach a required first year course on social medicine and global health. While there is little explicit historical content, the course is structured around the key themes that we have described in this paper: the changing burden of disease, the social determinants of health, the contingency of medical knowledge and practice, and the complex meanings of therapeutic efficacy. Hopkins similarly uses historical cases to teach students about health disparities, social determinants,

critical approaches to the medical literature, and other topics, often having to infiltrate other courses to do so.

McGill University has long had a required month-long course in the fourth year on social medicine, with a substantial history of medicine component. The faculty recently succeeded in augmenting this with a series of lectures on history and medical anthropology in the pre-clinical years.⁶⁵ When the University of Kansas ended its required course on the history of medicine, the course director managed to re-introduce some of the content into some of the basic science blocks, only to find that this approach was far more successful with the students.⁶⁶ The College of Physicians and Surgeons at Columbia University had no formal history curriculum, but a historian co-opted the bioethics section of the course on clinical practice and used a historical approach to teach classic topics such as death and dying, confidentiality, and human subjects research.⁶⁷

This is just a partial listing of history of medicine teaching at American medical schools: many other schools have tried these kinds of approaches. The list does not even capture every kind of teaching opportunity at these schools. Many history of medicine programs also offer elective teaching to third- and fourth-year students. Many support students who seek to do a scholarly concentration or honors thesis in history of medicine. These kinds of teaching are easy to introduce, as they make no demands on the formal curriculum; they depend only on the engagement of the faculty and the interests of each cohort and students. And many

schools offer advanced training in the history of medicine -- some with full funding -- through M.D.-Ph.D. programs.

While some historians have created programs by presenting formal proposals to deans of medical education (and then often lobbying tirelessly for months or years), others have succeeded by keeping an eye out for whatever opportunities happen to arise. One strategy is to recognize topics that other courses are struggling to cover. At one medical school, for example, student demand for instruction about nutrition that was largely missing from the medical curriculum created an opening for medical historians to help fill the gap by offering a lecture followed by small group discussions that included the sociocultural context for eating disorders and obesity. At another school, conversation with the head of the first-year reproductive block revealed that she was actively looking for faculty members who could teach about the different meanings of “sex” and “gender,” gender disparities in health and health care, and the complexity of sex determination and intersex. This opened the door for a historical literature that engaged the students, covered the material in a sophisticated way, and satisfied a series of different competencies (e.g., social sciences applied to clinical care, communication with patients from diverse backgrounds, fostering sensitivity to diversity, and recognizing the ambiguity and uncertainty that is common in clinical care). The success of that lecture, in turn, helped to build audiences for the visibility of medical history among students, other course heads, and led to further conversations with the dean of medical education. Similarly nuanced lectures have

been given about race, poverty, health care reform, and other politicized topics that often become points of conflict between faculty and students. Inroads that begin with individual lectures and workshops can build audiences for elective courses, independent research projects, and other educational opportunities that feature history of medicine.

Another key barrier to the teaching of history of medicine at medical school is the availability of historians on the faculty. While some schools have several trained historians on their faculty, many have one or none. If few faculty are available, it might only be feasible to offer elective courses that reach a small number of students. Anyone who wants to propose a required course needs to have a plan for how the available faculty can manage a class of 100, 150, or even 200 students. Some do this through lectures. Others do this by conspiring with like-minded anthropologists, ethicists, or scholars in other fields of the medical humanities and social sciences to teach hybrid courses. Still others seek out clinicians who have nurtured an interest in history and can be interested and valuable partners for teaching history of medicine.

Historians of medicine need not fear competency-based curricula, any more than they need to fear the advent of small-group learning or the use of online course materials. Medical education since well before Flexner has been in constant reform, yet each reform has acknowledged the enduring value of historical thinking for physicians in training. The many arguments for the value of history can be adapted to the AAMC or CanMEDS taxonomy of competencies for medical

education, and presumably to whatever pedagogic taxonomies appear in the future. By mapping our list (or others' lists) of the arguments for history alongside the school's selected competencies, historians working on health science campuses can construct their own tailored approaches for making the case for history. Faculty with competency frameworks can also help historians make the case for CME accreditation at history of medicine meetings. If a school identifies deficiencies in its coverage of a certain competency, historians can readily find examples of successes and failures in these areas to illustrate their meaning and importance. A competency approach might even be helpful as part of continuing efforts to convince the AAMC to include questions about history teaching in the exit surveys given to graduating medical students in North America.⁶⁸ The AAHM is now beginning a process to engage with leaders of AAMC, ACGME and other accrediting authorities to explore how the role of history could be expanded.⁶⁹ Challenges here are myriad. The National Board of Medical Examiners could only put history content onto licensing exams if every medical school has a historian able to teach the material and there was consensus among historians about what a standardized curriculum might look like.

How can historians harness their experiences, develop a vision, and engage more effectively in medical education? Osler, in 1902, reached further back and quoted Thomas Fuller's 1639 *History of the Holy War*: "History maketh a young man to be old, without either wrinkles or grey hairs; privileging him with the experiences of age, without either the infirmities or inconveniences thereof."⁷⁰ The

original passage continues: "Yea, it not only maketh things past, present; but enableth one to make a rational conjecture of things to come. For this world affordeth no new accidents ... Old actions return again, furnished over with some new and different circumstances."⁷¹ This old answer argument still remains one of the best. Historians of medicine, however, cannot rely on such intuitive assertions of the wisdom of history. Instead, they can define precisely the contributions that history offers to medical history and practice, frame these, as needed, in the language of competencies, and engage with the ongoing reforms of medical education.

Endnotes:

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⁸ Jacalyn Duffin, *To See with a Better Eye: A Life of R.T.H. Laennec* (Princeton: Princeton University Press, 1998), 49-53.

⁹ Huisman and Warner, "Medical Histories," 6.

¹⁰ Huisman and Warner, "Medical Histories," 7. See also George Rosen, "The Place of History in Medical Education," *Bulletin of the History of Medicine*, 1948, 22: 594-629, 600-601.

¹¹ Richard J. Dunglison, "Preface," to Robley Dunglison, *History of Medicine from the Earliest Ages to the Commencement of the Nineteenth Century* (Philadelphia: Lindsay and Blakiston, 1872), iii. See also Rosen, "Place of History," 605. Dunglison taught a triumphalist narrative of the rise of rational medicine, from Hippocrates to his present, but abstracted a general principle relevant for every physician: "we ought to be very tardy in embracing any sect or system. The true means for the improvement of medical science are observation and reflection,

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¹⁷ Cordell, "Importance," 280. He continued: "He only is wise who realizes this fact, listens to the wholesome confessions of the past and is ever on his guard" (281).

¹⁸ Cordell, "Importance," 282.

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²⁹ Duffin, "Infiltrating the Curriculum: An Integrative Approach to History for Medical Students," *Journal of Medical Humanities*, 1995, 16, 155-174, 155. See also Duffin, "Lament for the Humanities"; Duffin, "Infiltrating the Curriculum: Triumphs and Disasters."

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³¹ Fuller and Olszewski, "Medical History." A recent discussion by an anesthesiologist and a student adds its own list of four: (1) physicians can learn valuable lessons from the past; (2) they need to document past events and allocate credit accurately; (3) they need to understand the nature of change and progress; (4) history can instill pride and foster professional identity. See Parth M. Patel and Sukumar P. Desai, "A Clinician's Rationale for the Study of History of Medicine," *Journal of Education in Perioperative Medicine*, 2014, 16, issue 4, available at http://jepm.seahq.net/VolXVI_IssueIV_Patel.pdf.

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- ³³ Cordell, "The Importance," 273.
- ³⁴ Sigerist, "Medical History," 657.
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- ⁴² Hudson, "Medical History," 956.

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⁶⁸ Duffin, "Lament for the Humanities."

⁶⁹ This is one of the tasks of the AAHM's Clio Initiative, launched in 2013. See "Clio Project," *Newsletter*, American Association for the History of Medicine, 2013, 102 (July), 5-6.

⁷⁰ Thomas Fuller, quoted in Osler, "A Note," 93.

⁷¹ Thomas Fuller, "To the Honourable" (6 March 1639), *The Historie of the Holy Warre* (Cambridge: 1640), A3 verso - A4.