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## Educating clinician scientists once again—a societal need

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## EDITORIAL:

# Educating clinician scientists once again— a societal need

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Paul Starr wrote a definitive history of American Medicine.<sup>1</sup> He details patterns in our culture, economy, and politics that shaped medicine throughout our history. In the early days after the Revolutionary War, the popularity of herbalists and home remedies equaled physicians. Any man with an education could call himself a physician. Apprenticeship and self-education were the prevalent methods of learning. At the turn of the twentieth century, medicine experienced a consolidation of power. Johns Hopkins University opened a medical school in 1893 as a graduate program grounded on a convergence of science, research, and hospital practice. The laboratory brought discoveries in biology, chemistry, and physiology.<sup>2</sup> Doctors cared for patients in the morning and spent the afternoons in the laboratory doing experiments to find new therapies for the very patients they had seen earlier in the day. This became the dominant model of medicine with the publication of the Flexner Report.<sup>3</sup> At that time, the physician was the only expert in the basic sciences. Doctors were clinician-scientists.

Medical education today mimics medical education from 100 years ago. Preclinical training includes basic sciences, but doctors are no longer basic science researchers. Why do we demand that doctors master basic sciences by rote memorization? Students find this mind-numbing, and memorizing for the test actually stunts critical thinking.<sup>4</sup> We should view the basic sciences through the lens of clinical utility and revisit them during clinical education, striving to integrate disparate bodies of knowledge.

Paul Starr devoted the second half of his book to the rise of corporations in medicine. He asked a haunting question: “Another key issue will be the boundary between medical and business decisions; when both medical and economic considerations are relevant, which will prevail and who will decide?” In my daily clinical practice, insurance companies practice medicine.<sup>5</sup> The motivation and evidence for corporate misconduct in the healthcare industry is overwhelming.<sup>6-18</sup> Medical education must adapt to this new reality.

Perhaps the most important change needed is to train clinician-scientists once again. For the physician of today and tomorrow, our laboratory is the National Library of Medicine. We go to the laboratory by logging onto a computer. Graduating medical students need to understand and conduct critical appraisal of clinical research at the point of care. Evaluating scientific reports and being able to use that information in the context of patient care is essential. Given the importance of this skill, the relative distribution of time devoted to practicing this skill in medical school is unfortunately small. When doctors are able to independently evaluate the quality of evidence, they will regain their cultural authority as scientists, and their social standing within corporations, to advocate for our patients.<sup>19</sup>

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