

**Title:**

The Origins of the Field of Medical Education Research

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**Funding Sources:**

Social Sciences and Humanities Research Council of Canada (#410-2008-0227)  
Connaught New Staff Matching Grant (University of Toronto)

# The Origins of the Field of Medical Education Research

## **Purpose**

This paper answers two related questions: When did the education of doctors become a subject for scientific inquiry? What were the political and economic contexts, the worldviews, structures and events, that enabled the emergence and development of medical education research at that time and in that manner?

## **Method**

A detailed, concurrent, chronological textual analysis, with triangulation between textual form and contents, was conducted 2006-2008. The primary texts were the complete volumes of the *Journal of Medical Education* (then the only journal in its field), 1955-1959. Texts were analysed within a theoretical framework grounded in the literature on interdisciplinary fields.

## **Results**

In 1955 the academic medical community was just awakening to the possibility of medical education research; by 1959 it was institutionalized. Major factors contributing to its emergence included: the increasing importance of scientific research generally; money for medical education research; the explosive growth of scientific knowledge; growing calls for public accountability of medical education.

## **Conclusions**

Many factors led to the emergence of medical education research in the late 1950s within a particular socio-historical context. The nature of research in this field, which is currently the subject of debate, is also of necessity historically situated and contingent, drawing on its roots in this era. A historical understanding will inform further analysis of the events, structures and worldviews that underpin the definition(s) of legitimate knowledge production within the field of medical education research.

## The Origins of the Field of Medical Education Research

There is an extensive literature on the history of education, including histories both of medical education<sup>1-4</sup> and of education research.<sup>5</sup> However, the history of the much younger field of medical education research (MER) has not yet been the subject of systematic academic inquiry. We do not yet know how or why MER emerged as a field of study, nor do we understand the influences that enabled it to develop in particular ways and not in others. These questions have been made particularly relevant by ongoing debates about the appropriate nature of MER<sup>6-8</sup> and analyses<sup>9-11</sup> of struggles within the field. In order to situate these debates in their historical contexts, we have been investigating the early history of MER; as a first step, we have focussed the core publication of the field as it emerged – the *Journal of Medical Education* (now *Academic Medicine*) – in order to identify when the field originated and why it began at that time.

## Introduction

### Historical and Theoretical Background

There is a common misidentification of Abraham Flexner's 1910 report, which reconceptualized and restructured North American medical schools, as an example of MER. However, although Flexner was knowledgeable about education and enthusiastic about research within medical schools, he did not suggest in his report that this research effort be expanded to include the study of the educational enterprise. He advocated progressive, even radical, ideas, but did not set up systems that could test them in the medical context.<sup>12</sup> This absence of the idea of research as applied to medical education continued after Flexner's report at least until World War II; this notion is, for example, also absent from the standard histories of North American medical education of that

period.<sup>1,4</sup> Although many organizations related to medical education and medical practice existed or were created during that era, such as the Association of American Colleges (AAMC), the American Medical Association (AMA) and the Liaison Committee on Medical Education (LCME), these were predominantly concerned with regulation, funding and other administrative matters rather than with research. Even in 1950, nearly half a century after Flexner's report, it was still possible for a university trustee to write that, compared to medicine, "medical education is still virgin terrain waiting for equally meticulous inquiry into the art of effective teaching of its materials".<sup>13</sup> The small amount of literature relating to the history of MER seems to date the field's beginnings to the mid-1950s. Bussigel *et al*'s study of innovation in medical education hints at a "research agenda related to medical education"<sup>14</sup> at Western Reserve Medical School in the 1950s. Miller's description of the field, based in part on his personal experiences, also situates its origins in that era.<sup>15</sup> Hitchcock specifies further that the first "funded, sustained effort to improve teaching and learning in medical schools"<sup>16</sup> began in 1955; furthermore, his recent oral history of early medical educators comprised subjects who all started in the field in the late 1950s and early 1960s.

This work draws on the understanding that social phenomena, while presented as "natural", are inevitably the effects of a multiplicity of particular histories, worldviews, and structures.<sup>17</sup> One social phenomenon which has been extensively studied is the development of scientific disciplines; such disciplines do not simply arise but rather are the products of many institutional, cultural, and other historical factors.<sup>18-23</sup> Interdisciplinary fields, such as the field of MER, have been less-well studied, but there is a growing literature which has begun to document the unique sociohistorical factors that

contribute to their individual creation and growth.<sup>24,25</sup> Despite this limited literature, it is clear that complex phenomena like the establishment of legitimate fields of interdisciplinary scientific research occur over time and in multiple locations.<sup>24,25</sup> It would be unlikely, therefore, to ever identify a specific date, place, or person to which (or to whom) one could reasonably attribute the foundation of a discipline or field.

### **Research Questions**

The goal of our study was to attempt a broad understanding of the establishment of MER, analysing its emergence as the result of a confluence of particular events and social forces. Specifically we asked:

- When did the education of doctors become a legitimate, or even possible, subject for scientific inquiry?
- What were the political and economic contexts, the worldviews, structures and events, that enabled the emergence and development of MER at that time and in that manner?

### **Method**

The analysis of written material to elucidate histories, contexts and worldviews is part of a long humanities and social sciences tradition of analyzing social phenomena represented in texts.<sup>17</sup> As in many scientific fields, the primary texts within MER are the contents of its journals. Journal articles, which are beginning to be used as texts for the analysis of scientific fields,<sup>26,27</sup> present a number of advantages for capturing changing ideas within a developing field. The large number of these texts allows the creation of an extensive corpus for analysis. They are authored by many stakeholders, primarily but not

always researchers, throughout and beyond the field and may therefore represent a multiplicity of ideas and points of view. They influence, by their placement in influential journals, other members of the field, helping to form their ideas; these other members may in turn write or present in “response” – agreeing, disagreeing, or modifying, but building on what has come before. Finally, they represent what was thought *at the time* and in context, rather than more recent retrospectively edited views of what was thought during that era. We therefore conducted a textual analysis of MER’s scientific journals.

### **Selection and Analysis of Primary Texts**

Both the limited academic literature<sup>2,14</sup> and descriptions from practitioners<sup>15,16</sup> indicated that MER might have originated during the 1950s. We note that all of our data is in English and that it is primarily of American, Canadian, or British origin; we therefore cannot confirm that MER was not already flourishing in other cultures and in other languages. However, since in the 1950s the *Journal of Medical Education* (*JOME*; now *Academic Medicine*) was believed to be “the only journal exclusively devoted to problems of medical education”,<sup>28</sup> this journal became the focus of our research. *JOME* was (and is) the official publication of the Association of American Colleges (AAMC), a leading institutional actor in North American medical education. While the *Journal of the American Medical Association* (*JAMA*) also published a number of articles related to medical education every year in the 1950s, these represented a small percentage of its contents. As the lone dedicated medical education journal until the foundation of the *British Journal of Medical Education* (*BJME*; now *Medical Education*) in 1966, the *JOME* developed an international reputation in the field, such that by 1966 the

introductory editorial of the newly-founded *BJME* could state that “[i]t is difficult to overrate the service that that journal has rendered to medical education everywhere.”<sup>29</sup>

Our primary texts for this study were therefore the complete contents of *JOME* (twelve issues and one to two supplements per year) beginning in 1955. We intended to collect data chronologically in five-year increments until we had adequately documented the origins of the field of MER. We also planned to potentially move backwards in time if concurrent analysis showed that MER was already established at the time of the earliest texts that had been collected (i.e. in 1955), but we did not find this to be the case. Concurrent analysis indicated that the first five years of material (1955-1959) gathered from *JOME* comprised a rich data set that extensively addressed our research questions. We therefore paused our data gathering and analysis after the December 1959 issue.

We conducted a detailed, concurrent, chronological analysis of these texts, beginning with the January 1955 issue, focussing on themes related to the conceptualization of medical education as a research field. We analysed both the contents of articles (i.e. the explicit statements contained within the individual texts being analysed) and their form (i.e. structural changes within the format of the journal as well as changes in the academic institutions and structures on which it reported). Triangulation between these two types of data (contents and form) further enriched the analysis. The textual analysis encompassed editorials, commentaries, reviews, letters to the editor, minutes of AAMC meetings, and other such expository texts, as well as the sections of research reports (e.g. introductions, literature reviews, conclusions) that indicated the contexts within which their authors situated themselves. Our analysis process was iterative, allowing re-analysis of earlier texts as themes emerged more clearly from later works.

While themes were allowed to emerge from the texts, we also focussed on collecting specific categories of data that would be necessary in order to answer our specific research questions. These categories were established *a priori* based on our research questions as well as on our understanding of sociohistorical processes. They included: evidence of the conceptualization of medical education as a research object; evidence of the evolution of that conceptualization; key individuals in that process and the disciplines/fields from whence they came to MER; and changes (e.g. in society, in medicine, in medical education) that allowed and/or promoted the creation of the field at that time.

### **Secondary Texts**

References in the primary texts to important articles published earlier in *JOME* were followed up and a manual search for other potentially relevant articles published in *JOME* between 1950 and 1954 was also carried out. Other potentially informative journal articles and books referenced in the *Journal of Medical Education* between 1955 and 1959 were also collected when available at any Canadian university library (and thus available to us through interlibrary loan). Major medical journals, particularly *JAMA* which, as mentioned above, regularly published education-related articles in the 1950s, were searched for articles related to medical education from the period under study. The texts thus gathered were used to further explore themes generated from the primary texts as well as to provide background and/or collateral information.



## **Ethics & Timecourse**

This study was formally exempted from ethical review by the University of Toronto's Research Ethics Board. The research documented in this study took place between 2006 and 2008.

## **Results**

### **The Origins of MER**

Our analysis indicates that while in 1955 the academic medical community was just awakening to the possibility of MER, by 1959 it was already an institutionalized entity. Evidence for this change can be found within the evolving structures of the increasingly research-oriented *JOME* and AAMC Annual Meeting research sessions as well as via changes in the AAMC's committee structure and constitution. Texts published within *JOME* indicate that by 1959 there were educators who were aware of and encouraging the creation and growth of MER, researchers who were committed to furthering it, and medical schools that were encouraging it.

### *Changes in the Structure of JOME*

One of the most useful sets of indicators of the possibility and scope of MER over the course of the late 1950s that emerged during our study were the significant changes in the structure of *JOME* in that era. Changes to the journal actually date back as far as 1950, when its name was changed from one reflecting an official publication of an administrative body (*Journal of the Association of American Medical Colleges*) to one felt to be more appropriate for an academic publication (*Journal of Medical Education*).<sup>30</sup> This concern with an outwardly scholarly appearance was even more apparent in 1958, when *JOME* arranged to be published by the University of Chicago Press to “further

enhance the Journal's role as a scholarly publication of international prestige in medical education.”<sup>31</sup> The frequently-published refrain, beginning in 1954, that *JOME* was “the only journal devoted exclusively to medical education”<sup>32</sup> can also be linked to this legitimating tendency.

Parallel changes took place with respect to the nature and presentation of *JOME*'s contents. For example, the number of articles it published increased significantly<sup>33,34</sup> and its overt concern with the quality of the articles it was publishing also became more prominent.<sup>35-37</sup> Meanwhile its emphasis on non-academic content decreased markedly, such that by 1959 previously important sections like ‘College News’ and ‘Audio-Visual News’<sup>34,37</sup> had been replaced by ‘Datagrams’<sup>38</sup> (two pages of raw research data awaiting analysis<sup>39</sup>) and ‘Abstracts from the World of Medical Education’<sup>40</sup> (summaries of published experiments and other worldwide medical education developments<sup>28</sup>). In 1959 *JOME* also boosted its international research content by printing the official proceedings of the first Conference of the Association for the Study of Medical Education, on “Experiment in Medical Education,” that had been held in London in 1958.<sup>41</sup> The proportion of pages specifically devoted to research and scholarship increased gradually from 37.6% in 1955 to 69.1% in 1959. Again, such changes reflect *JOME*'s shift from being a journal concerned with the practice and administration of medical education and with the news of its institutions to being a research journal.

It could be argued that these were internal changes, perhaps reflecting changes in the *Journal*'s leadership that were somehow divorced from the views of the AAMC and of the American medical education establishment. However, the Journal's leadership over the years coincided with senior leadership positions in American medical education. Its

editors-in-chief and members of its editorial board included Presidents and Secretaries of the AAMC and national and local opinion leaders such as the Dean of Yale Medical School, the Chair of Medicine of the College of Physicians and Surgeons of Columbia University<sup>37</sup> and many other Deans and senior academics. Changes in the *Journal* were also brought to a vote at the AAMC annual meetings, which were widely attended by senior leadership. Finally, the material available in *JOME* indicates that its changes were occurring in parallel with changes in the AAMC and in the thinking of its leadership. As the official journal of the AAMC, *JOME* published a large amount of institutional material about that organization (e.g. minutes of discussions at annual meetings, descriptions of committee structures, changes in official documentation). This material reveals several administrative changes in the AAMC and its constituent structures in the era under study that coincided with, and pointed to, an increasing conception of medical education as an object of research.

#### *Changes at the AAMC*

The detailed reports in *JOME* of the agendas and minutes of the AAMC's Annual Meetings indicate that these meetings began to include research components in 1955. That year there were, for the first time, sessions entitled "Reports on experiments in medical education".<sup>42</sup> Many of those reports were also later published in *JOME* and clearly consisted of research output. The number of such research talks increased substantially between their first appearance in 1955 (nine talks) and 1959 (nineteen talks). In the latter part of the decade these were also supplemented by a list of papers that could not be fit into the meeting but were "read by title only";<sup>43</sup> in 1958, the first year that the journal printed an official call for papers for the conference,<sup>44</sup> there were so many

submissions that thirty-four papers had to be listed in this way in addition to the twelve presented at the conference.<sup>43</sup> Research talks were scheduled as part of the general programs of the conferences rather than within special research programs, as part of the same agendas as (and not conflicting with) the administrative meetings. By 1959 there were so many research talks at the three-day conference that for the first time two sets of simultaneous sessions were held in order to fit them all in.<sup>45</sup> <sup>45</sup> Thus while the final institutionalization of a separate research program (the Research In Medical Education (RIME) component of modern AAMC meetings) did not occur until the 1960s,<sup>46</sup> the progression of the research component of these meetings over the 1950s clearly illustrates an increasing awareness of, and emphasis on, research in medical education.

This increasing attention to MER in this era can also be seen in changes in the AAMC's committee structure and constitution. For example, the Committee on Teaching Institutes and Special Studies (created in 1953) became the Committee on Educational Research and Services in 1955 and then the Committee on Research and Education in 1957.<sup>37</sup> By 1959 this committee's mission included the "accumulation of information about all aspects of medical education"<sup>37</sup> and it offered a range of consultative services.<sup>37</sup> Its goals went beyond conducting research to stimulating research agendas in schools and other organizations.<sup>37</sup> The work of this committee was in keeping with the evolving mission of the AAMC itself, as reflected in policy documents from the late 1950s published in *JOME*. For example, while the 1953 revision of the AAMC Constitution makes no mention of MER and names the AAMC's sole objective as being "the advancement of medical education",<sup>35</sup> a new statement of 'The objectives of the Association of American

Medical Colleges' (which had been formally "adopted by the Executive Council"<sup>47</sup>) was published in *JOME* in 1959. This called for:

the improvement and advancement of medical education by developing increasingly effective means of selecting the most able students for the study of medicine, by encouraging experimentation in curriculum development and medical teaching methods, by supporting experimentation, studies, and programs aimed at improving the ability of students to learn and teachers to teach<sup>48</sup>.

This change in its formal strategic documents represents, at least in part, a new research agenda that was being put forth in *JOME* by and for the AAMC.

### *Textual Evidence of Early MER*

The clues to the beginnings of MER from structural changes in *JOME* and in the AAMC are paralleled by explicit textual evidence from the contents of the documents published in *JOME* between 1955 and 1959. These include explicit statements about the field's novelty and growing importance as well as descriptions of the beginnings of the MER enterprise within medical schools. Besides the increasing amount of research content *per se*, there were many editorials, commentaries, reprinted speeches and other documents describing the existence of exciting new research directions and educational experiments as well as growing enthusiasm for MER.

Some of these documents originated from within the leadership of the AAMC. For example, in his 1958 Presidential Address to the AAMC (as published in *JOME*), Lowell Coggeshall from the University of Chicago stated that they were "experiencing an educational ferment in medicine impressive in substance, quality, and foresight"<sup>49</sup> that included experimental research; John Z. Bowers, a former medical school Dean and editor of *JOME* as of 1957, asserted confidently in a 1959 editorial that the "sweep of

experimentation in medical education circles the globe”.<sup>28</sup> Bowers acknowledged that interest in MER was a relatively new phenomenon, noting in another editorial that while Ward Darley, then Executive Director of the AAMC and previously President of that organization, had “been a staunch advocate of the need for fact-finding studies [...] for a time it seemed that he was a voice crying in the wilderness [...]”.<sup>39</sup> In Bowers’s opinion, things had recently improved such that “[t]he pace of development in medical education today seems to be rather similar to that in missiles and rocketry. We too recognize that progress is based upon sound research, whether in medical education or celestial mechanics.”<sup>39</sup> Similar, Darley himself noted in another article that there was a “growing interest and concern for medical education”<sup>50</sup> across the United States that he felt was “long overdue”.<sup>50</sup>

Many educators now regarded as key figures in twentieth-century medical education, but not strongly affiliated with the AAMC and *JOME* in the 1950s, were also involved with MER at this stage in its development. These included George Miller and his colleagues at the University of Buffalo<sup>16</sup> (who presented seminal work in Faculty Development in the research portions of the 1956 and 1957 AAMC Annual Meetings<sup>51,52</sup> and published it in *JOME*<sup>53</sup>) and Thomas Hale Ham of Western Reserve University<sup>54</sup> (who presented at the first set of AAMC research report sessions in 1955<sup>42</sup>). Among these figures, Hale Ham in particular went beyond publishing accounts in *JOME* of his own “experimental approach in medical education”<sup>55</sup> (which he also referred to as “a research method”<sup>55</sup>) to commenting explicitly in the 1950s on the state of MER. He wrote and spoke extensively about the need and growing enthusiasm for MER, noting in 1958 that the “research approach in medical education is evident in many schools of medicine”<sup>56</sup> and urging in

1959 that “continuing research in medical education is as essential to this field as to any other”<sup>57</sup> He and his colleagues at Western Reserve also commented in *JOME* that since “[r]esearch in medical education appears to be as greatly needed here as it is in other fields of endeavor [...] consideration is being given to the establishment at the school of medicine of an adequately staffed division of educational research.”<sup>58</sup> They even put forward a novel proposal in 1958: that within a medical school, “[r]esearch in education of medical students could become a subject for investigation for members of the faculty”.<sup>58</sup>

Other early forays into MER were carried out and documented in *JOME* by practicing medical educators and researchers from across the United States (and occasionally Canada and Europe). These other *JOME* authors also recognized and commented on the emergence of MER in the late 1950s. As one pointed out in 1959, “[m]ost current discussions of medical education are highlighted by references to the recent ferment, experimentation and change which are taking place in medical schools throughout the United States”<sup>59</sup>. Such references began to be routinely made in print, with phrases like “[a]ll of us are aware of the considerable ferment which now characterizes medical education”<sup>60</sup> becoming quite commonplace in articles printed in *JOME* at the end of the 1950s.

### **Why Did MER Emerge in that Particular Place and Time?**

The material published in *JOME* in the latter half of the 1950s provides ample evidence that by 1959 the concept of MER was becoming widespread within the medical education community. This happened seventy-five years after the founding of the Association of

American Medical Colleges<sup>61</sup> and decades after Flexner's report. So why was the field of MER created at this time rather than any other?

This is of course not a question of direct causation that can be proven empirically. A in-depth analysis of the breadth of American culture and society in the 1950s and its implications for medical education and for MER is also beyond the scope of this paper. Nonetheless, it is worth giving the question some consideration, at least from the perspective of the authors who were publishing in the *Journal* – from the words of the individuals who were both creating and living through this transformative period. Some self-reflective writers addressed this question directly in articles and reports, particularly in introductory statements. Some introduced ideas which they did not themselves link to conceptions of MER, but which, with the perspective of history, seem to be connected to changes in the field. There can, of course, be no single or even comprehensive answer to the question of ‘why did this happen at this time and in this manner?’, but an overview of some possible factors is presented here.

### *The Importance of Scientific Research*

The 1950s in the United States are well-known to have been a time of the glorification of scientific research and of scientific progress. The perception of research in that era can be summed up by a statement published in *JOME* in 1958 from a dedication speech for a new medical research building: that “no age has been dedicated, as ours is dedicated, to an aggressive and organized attack upon the areas of ignorance and to the advancement of knowledge”<sup>62</sup>. This ethos was at least as apparent to the medical education community as to any other, especially since within the post-Flexnerian medical school the emphasis on research was heightened even further; the medical school was felt to have a



“fundamental obligation for the advancement of knowledge”<sup>63</sup>. Another contemporary source noted more specifically that “[b]y the end of the Second World War the importance of medical research, and the special competence of the medical school faculties in this field, were becoming [...] broadly and fully appreciated”<sup>63</sup>. Bowers also commented on the importance of scientific research, noting that it “has been the dominant theme in [...] medical schools since World War II”<sup>64</sup>, although he did not explicitly link this scientism to the rise of research within medical education.<sup>64,65</sup>

#### *Availability of Money for MER*

Bowers also remarked on the large amounts of money newly available for scientific research in the 1950s.<sup>64,65</sup> Within this broader funding context, some private funding specifically for MER also became available in. Both the Kellogg Foundation and the Commonwealth Fund began to support MER; as Bowers wrote, “[v]ery generous grants by these good friends have supported the establishment of a program for research in medical education at the [AAMC] headquarters in Evanston”.<sup>39</sup> The Commonwealth Fund, as well as running a program of travel fellowships for medical educators,<sup>66</sup> also supported Hale Ham’s research program at Case Western.<sup>58</sup> Another funding organization, the Markle fund, subsidized AAMC activities such as *JOME*<sup>32</sup> and the mid-century survey of American medical schools.<sup>63</sup> Of these three funding bodies, the Commonwealth Fund appears to have created a distinctive leadership role for itself within MER. As that Fund’s Executive Associate until 1959, Lester J. Evans had more power than most to help create and shape the field through financial means as well as via the publishing and speaking he did about the need for MER.<sup>67</sup> As a results of these

monetary and rhetorical efforts, Bowers credited Evans in *JOME* as having successfully “put across ‘research in medical education’”.<sup>68</sup>

### *Accreditation Policy Changes*

Another factor which may have affected the development of MER was the major accreditation policy change that took place in American medical education in 1925. No experimentation in medical education would have been possible in the United States between 1910 and 1925 since the licensing bodies had adopted “rigid, detailed regulations”<sup>64</sup> mandating the content and form of medical education. “In 1925 it was agreed, in a treaty between the licensing groups and medical educators, that medical schools would be allowed to experiment in medical education without penalty to their graduates.”<sup>64</sup> As part of this process the regulatory bodies also shifted “the responsibility of the faculty of each school continually to re-evaluate its curriculum”<sup>64</sup> onto the medical schools, which was thought to have further encouraged experimentation.<sup>56</sup> It is not clear why this was not broadly acted upon until the 1950s, although one might speculate that the depression (as Bowers alluded to in 1959)<sup>64</sup> and World War II may have played roles in this delay. Nonetheless, one could argue that the 1925 policy change was a structural enabler of the changes that occurred in MER several decades later.

### *The Explosive Growth of Scientific/Medical Knowledge*

Another important impetus for change in medical education which was perceived in this era to have led to the study of the curriculum and its delivery was the need to deal with the explosion of medical knowledge over the course of the twentieth century.<sup>69</sup> The length of medical training had increased concomitantly<sup>64</sup> but not proportionately. As Israel Davidsohn, Chairman of Pathology at the University of Chicago, pointed out in the

*Journal* in 1955, “[t]he fact that time is getting shorter all along in proportion to knowledge adds attractiveness and urgency to experiments in medical education”<sup>70</sup>. The expanding knowledge base and resultant increases in “the complexity and length of the medical curriculum”<sup>71</sup> were also seen as contributed to increasing concern about (and incentive for research into) the medical school applicant selection process in order to identify “only young men and women of superior ability [who] could be expected to meet the demands imposed on them.”<sup>71</sup>

### *Accountability & Control*

The growing interest of the American public in medicine and medical education, coupled with an increasing awareness of medical school (and physician) accountability to that public, were also highlighted in *JOME* as motivations for experiment and change. It was pointed out that “[c]oncurrent with the focusing of public attention on the need for increased funds for medical schools comes need for a new appraisal of the product under discussion: the efficacy of the education offered.”<sup>72</sup> Medical educators were trying “to produce physicians in knowledge and quality calculated to meet the needs of a public expanding not only in numbers but in its desires for high standards of medical care.”<sup>63</sup> The AAMC seemed to respect the idea of public accountability, at least in print, but they wanted to control the work being done. “Because of this growing interest and concern for medical education [...],” Darley wrote in 1959,

I believe it to be imperative that medical educators attain a position from which they can play their part in guiding any momentum that may result. We must be able to keep any planning and action that affect our schools of medicine within reasonable balance and bounds.<sup>50</sup>

In his view, the way to maintain such self-regulatory control was to do any necessary research themselves and to become the “center in and around which information pertaining to medical education can concentrate.”<sup>50</sup>

### *Other Factors*

Other factors mentioned in the *Journal* which may have played a role in the emergence of MER include questions of training and licensing for foreign physicians<sup>73</sup> such as refugees from World War II and, slightly later, the Hungarian revolution, the influence of changes in medical education in Continental European countries such as Sweden<sup>74</sup> and France<sup>75</sup>, and changes to the American health insurance system which were affecting the nature and availability of teaching patients<sup>64,76</sup>. Local factors, and even an element of luck, were also seen to have played a significant role at individual medical schools such as Case Western<sup>77,78</sup>. The contributions of inspired individuals cannot be discounted. We should also take into account the general educational ferment in the university<sup>79</sup> that was just beginning in that era and that would blossom forth in the decades that followed. It must, however, be emphasized once again that these can only be possible/partial answers to the question of ‘why then?’, and that this list should therefore not be seen as exhaustive.

## **Conclusions**

Our findings indicate that medical education research emerged in the United States in the late 1950s in response to the convergence of a large number of socio-historical factors. These include the increasing importance of scientific research, the availability of funds for MER, the explosive growth of medical knowledge and concerns about accountability for, and control of, medical education. Unlike previously published personal or biographical accounts of this era,<sup>15,16</sup> our research shows the importance of linking the

emergence of MER to the wider socio-historical context which shaped its development. Recently the nature of knowledge production in MER has become the subject of debate, but analyses of this debate<sup>9-11</sup> have been missing a historical perspective on the development of MER. Just as its emergence was the product of socio-historical forces, current beliefs within the field of MER about the nature of knowledge and of research are, of necessity, historically situated and contingent. This paper is the first from a program of research that will enable us to begin to understand the sociohistorical development of this area of research (MER) that has come to exert a powerful influence on medical education in North America, Europe and, increasingly, the rest of the world.<sup>80</sup> Our growing historical understanding will inform further analysis of the events, structures and worldviews that underpin the definition(s) of legitimate knowledge production within MER.

### **Acknowledgements**

This research was funded in part by a grant from the Social Sciences and Humanities Research Council of Canada (Standard Operating Grant #410-2008-0227) held by Drs Kuper, Albert and Hodges and by a University of Toronto Connaught New Staff Matching Grant held by Dr Kuper.

### **Disclaimer**

A portion of the material in this paper was presented in preliminary form at the Association for Medical Education in Europe Annual Conference, Trondheim, Norway, August 2007.

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