

# THE REAWAKENING OF COMPLEMENTARY AND ALTERNATIVE MEDICINE AT THE TURN OF THE TWENTY-FIRST CENTURY: FILLING THE VOID IN CONVENTIONAL BIOMEDICINE

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*“The secret of [caring for] the patient, is in caring for the patient.”*

Francis W. Peabody<sup>1</sup>

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1. Francis W. Peabody, *The Care of the Patient*, 88 JAMA 880 (1927), quoted in KENNETH M. LUDMERER, *TIME TO HEAL: AMERICAN MEDICAL EDUCATION FROM THE TURN OF THE CENTURY TO THE ERA OF MANAGED CARE* 20 (1999).

## I. INTRODUCTION

In a survey published in 1993 in the *New England Journal of Medicine*, Eisenberg reported that thirty-four percent of responders consulted a practitioner of Complementary & Alternative Medicine (CAM) in 1990.<sup>2</sup> In a follow-up paper he reported that by 1997, that number had increased to 42.1%.<sup>3</sup> In absolute population numbers, that increase meant that an additional twenty-three million Americans per year availed themselves of CAM.<sup>4</sup> The most common conditions for which Americans sought CAM treatment were musculoskeletal, allergic, and gastrointestinal ailments.<sup>5</sup> Yet during this same period of time, traditional biomedicine achieved great accomplishments in the diagnosis and treatment of many serious medical conditions. There were improvements in non-invasive medical imaging,<sup>6</sup> endoscopic surgery,<sup>7</sup> and interventional cardiology<sup>8</sup> to name but a few. AIDS, once an inevitably fatal disease with a two-year survival of only twenty-five percent,<sup>9</sup> is now a manageable, chronic ailment.<sup>10</sup> So why, during a period of time when biomedicine is arguably at its technological height, are tens of millions of Americans turning towards CAM, a practice predominantly deemed by biomedicine to be unconventional and ineffective?

This paper offers two related explanations for this phenomenon. The first is the diminution of “caring” within the practice of biomedicine. This is, in part, a byproduct of those great

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2. David M. Eisenberg et al., *Unconventional Medicine in the United States*, 328 *NEW ENG. J. MED.* 246, 248 (1993).

3. David M. Eisenberg et al., *Trends in Alternative Medicine Use in the United States, 1990-1997*, 280 *JAMA* 1569, 1571 (1998).

4. *Id.*

5. *Id.* at 1572.

6. See, e.g., S. W. Atlas, *MR Angiography in Neurologic Disease*, 193 *RADIOLOGY* 1 (1994).

7. See, e.g., Wendy K. Winer, *Laparoscopic Procedures: Innovation and Complication*, 21 *TODAY'S SURGICAL NURSE* 15 (1999).

8. See, e.g., A.J. Moss et al., *Improved Survival with an Implanted Defibrillator in Patients with Coronary Disease at High Risk for Ventricular Arrhythmia*, 335 *NEW ENG. J. MED.* 1933 (1996).

9. *OXFORD TEXTBOOK OF PALLIATIVE MEDICINE* 1123 (Derek Doyle et al. eds., 2d ed. 1999).

10. Ronald H. Goldschmidt & Betty J. Dong, *Treatment of AIDS and HIV-Related Conditions: 2000*, 13 *J. AM. BOARD OF FAM. PRAC.* 274 (2000).

accomplishments made in technological and scientific biomedicine. The second reason is an increasingly better educated and perceptive patient population,<sup>11</sup> which recognizes the ineffectiveness of biomedicine in treating certain, primarily chronic, conditions. Both reasons have a number of associated factors, and this paper attempts to explore those factors within a historical, philosophical, legal, and economic framework.

This paper is written in six sections. Section II lays the framework for the analysis, discussing the nature of caring within health care, the philosophical explanation of scientific change as proposed by Thomas Kuhn, and offers an analogy as to how seemingly incomparable paradigms can coexist in nature. Section III begins the historical analysis, tracing the development of medicine and its evolution into the scientific and technological profession of modern biomedicine. This section discusses the collision with alternative practices in the nineteenth century and how biomedicine emerged as the dominant health care paradigm. Section IV discusses the modern era of medicine, looking from both the physicians' and the patients' perspective, which provides the petri dish that has allowed CAM to flourish in the past decade. Lastly, Section V recommends an integrative health care system and discusses some of the barriers, both legal and otherwise, which interfere with both humanism in biomedicine and the inclusion of CAM.

## II. OF CARING, KUHN, AND COMPOUNDS

### A. *The Concept of Caring within Health Care*

One hallmark of a paradigm is its vocabulary. Understanding the vocabulary is important to understanding the paradigm. Biomedicine seeks curing; the repair of some anatomical or physiological abnormality.<sup>12</sup> CAM seeks healing; a holistic view of generalized wellness.<sup>13</sup> "A patient may be healed without . . . being cured."<sup>14</sup> One

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11. See Sidney M. Wolfe, Editorial, *Direct-to-Consumer Advertising—Education or Emotion Promotion?*, 346 NEW ENG. J. MED 524, 524 (2002).

12. MICHAEL H. COHEN, *COMPLEMENTARY & ALTERNATIVE MEDICINE* 9 (1998).

13. *Id.*

example is a terminally ill cancer patient who has accepted death. Alternatively, a patient may be cured without being healed, as is seen in post-cholecystectomy syndrome.<sup>15</sup> Because of its emphasis on curing, biomedicine often looks at the disease rather than the person.<sup>16</sup>

Medicine has a long tradition of caring, stemming from the teachings of Hippocrates.<sup>17</sup> Caring is implicit and necessary in both biomedicine and CAM.<sup>18</sup> What is caring? In Latin, the word is *cura*, from whence came the English word “cure.”<sup>19</sup> In its simplest form, it is the recognition that the patient is a fellow human being.<sup>20</sup> More complex,

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14. *Id.*

15. Post-cholecystectomy syndrome refers to the persistence of right upper quadrant abdominal pain after removing the gallbladder for gallstones. 1 SLEISINGER & FORDTRAN'S GASTROINTESTINAL AND LIVER DISEASE 980-81 (Michael Feldman et al. eds., 6th ed. 1998).

16. Eric J. Cassell, *The Sorcerer's Broom: Medicine's Rampant Technology*, 23 HASTINGS CENTER REPORT 32, 36 (1993). “We value the preservation of structure over the preservation of function. We value the body over the person, we value survival over maximum function, and length of life over quality of life.” *Id.* at 35.

17. The concept of Hippocratic caring is often quoted in the literature. See, e.g., MARTIN L. GROSS, THE DOCTORS: A PENETRATING ANALYSIS OF THE AMERICAN PHYSICIAN AND HIS PRACTICE OF MEDICINE 320 (1966) (“After Hippocrates, the physicians were taught the ‘Hippocratic Corpus,’ which stressed not only the importance of clinical observation but the vital human relationship between healer and patient.”). The early Greek healers were itinerant craftsmen. Hippocrates, as evidenced by his writings, sought to elevate healing into an art and a profession. MEDICINE: A TREASURY OF ART AND LITERATURE 36 (Ann G. Carmichael & Richard M. Ratzan eds., 1991). Examples can be seen in both the overall tone and the specifics (such as *primum non nocere*) of his Oath. See SOURCE BOOK OF MEDICAL HISTORY 14-15 (Logan Clendening ed., Dover Books 1960) (1942). Other examples include his Prognostics (where the ill may be reassured by the knowledge and presence of the physician; *id.* at 20) and Decorum (“the physician must have at his command a certain ready wit, as dourness is repulsive both to the healthy and to the sick.” MEDICINE: A TREASURY OF ART AND LITERATURE, *supra* at 36). In sum, his writings formed “the nucleus of the moral philosophy” which established the humanity of the Greek physicians. SHERWIN B. NULAND, DOCTORS: THE BIOGRAPHY OF MEDICINE 24 (1988).

18. Ian Morrison, *The Future of Physicians' Time*, 132 ANNALS INTERNAL MED. 80, 82 (2000).

19. WILLIAM S. HAUBRICH, MEDICAL MEANINGS 56 (1997).

20. See Peter A. Gorski, *Caring Relationships: An Investment in Health*, 115 PUB. HEALTH REP. 144, 147 (2000). Dr. Gorski describes three elements to what he calls “a relationship-based approach to healing;” namely, the patient’s ownership of the illness, the practitioner’s commitment to the patient, and the two “shar[ing] a belief in a healing force between the healer and the healed.” *Id.*

it is the transference reaction that occurs between the physician and patient that leads to healing.<sup>21</sup> It is part of the art of medicine, outside of the scientific and technological aspects of alleviating abnormal physiology, and is arguably as important in effective treatment.<sup>22</sup> It is what the physician offers even when he can offer nothing more. It is a nebulous concept. Just as the end-of-life care literature describes suffering as what is left over when the pain is removed,<sup>23</sup> caring is what remains when science and technology is removed. The role of caring in biomedicine has diminished in the past fifty years, much to the detriment of both the profession and patients.<sup>24</sup>

### B. *Thomas Kuhn and the Structure of Scientific Revolutions*

In 1962, Thomas Kuhn published his landmark monograph describing the historical development of scientific thought as a system of revolutionary change marked by paradigmatic shift.<sup>25</sup> A paradigm is defined as “a shared set of assumptions about the world, by which individuals define the parameters of their reality and their investigation of this reality.”<sup>26</sup> One example is the common law, which Kuhn called a body of “accepted judicial decision[s].”<sup>27</sup> He theorized that science exists in two periods, normal science and revolutionary science.<sup>28</sup> During normal science, the “shared set of assumptions”

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21. See OXFORD TEXTBOOK OF PALLIATIVE MEDICINE, *supra* note 9, at 1107. I often referred to this in patient’s charts as the “therapeutic alliance.”

22. See generally Daniel E. Moerman and Wayne B. Jonas, *Deconstructing the Placebo Effect and Finding the Meaning Response*, 136 ANNALS INTERNAL MED. 471 (2002).

23. “Suffering may have a different connotation. The conundrum was eloquently put by a former Minister of Health of Cameroon, Dr. Victor Ngu, who described suffering as ‘. . . what is left after you take the pain away.’” OXFORD TEXTBOOK OF PALLIATIVE MEDICINE, *supra* note 9, at 85-86.

24. See GROSS, *supra* note 17, at 320-23.

25. THOMAS S. KUHN, *THE STRUCTURE OF SCIENTIFIC REVOLUTIONS* (3rd ed. 1996).

26. COHEN, *supra* note 12, at 1.

27. KUHN, *supra* note 25, at 23. An example of a paradigm shift particular to the common law can be seen in Chief Judge Lemuel Shaw’s opinion in *Brown v. Kendall*, 60 Mass. (6 Cush.) 292 (1850), developing the concept of negligence. KENNETH S. ABRAHAM, *THE FORMS AND FUNCTIONS OF TORT LAW*, 50-52 (1997).

28. KUHN, *supra* note 25, at 5-6.

defines the understood world.<sup>29</sup> Scientists work within that paradigm and attempt to expand their knowledge.<sup>30</sup> Sometimes, however, the observations are anomalous to the theories. Subsequently, there is a period of uncertainty and acrimony, which Kuhn describes as “crisis.”<sup>31</sup> This crisis is followed by a revolution where a new theory is suggested.<sup>32</sup> The period of uncertainty and acrimony continues until the majority of the profession accepts that the new theory better explains the observations.<sup>33</sup> Now the paradigm shifts to become the dominant theory. The classic example of this is in cosmology. In the eighteenth century, planetary movements were described within the paradigm of Newtonian physics.<sup>34</sup> As methods of observation became more sophisticated, it became apparent that some planetary motion was not consistent with the explanations of Newton. A revolution occurred when Einstein wrote his Theory of Relativity.<sup>35</sup> Over time, scientists were able to demonstrate that Relativity explained the observed anomalies. The paradigm shifted and Relativity was accepted as the dominant theory.<sup>36</sup>

Kuhn’s philosophy is sociological. It explains the behavior of *people* within the scientific community. Viewing the development of medicine in this light, particularly with the application of scientific methodology to medicine,<sup>37</sup> one can see how one paradigm had to prevail in the battle for dominance that occurred during the nineteenth century.

### *C. Compounds and the Coexistence of Countervailing Paradigms*

Is biomedicine the “right” paradigm? Are the explanations of anatomy and physiology the “only” explanation for the functioning of the human body? Can the same phenomenon be explained on two different levels and can both be correct? Although a complete discussion of these philosophical and scientific issues are beyond its

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29. *Id.* at 5.

30. *See id.* at 23-34.

31. *See id.* at 66-91.

32. *See id.* at 66.

33. *Id.* at 144-52.

34. KUHN, *supra* note 25, at 39.

35. *Id.* at 39-48, 74, 98-102.

36. *See id.* at 66.

37. *See* Lester S. King, III, *Medical Sects and Their Influence*, 248 JAMA 1221, 1224 (1982).

scope, this paper does beg these questions and some explanation must be given to justify the resurgence of CAM as more than mere desire for caring without substantive curing. This subsection offers an analogy that may be helpful in understanding how two apparently contradictory paradigms may coexist simultaneously and both be correct. For example, despite the discussion in subsection B, all motion need not be explained by Relativity. Grossly observable motion, such as seen during a game of billiards, is sufficiently explained by Newtonian physics.<sup>38</sup> In effect, these two paradigms exist within one another as if an onion, with Relativity residing in the center and Newtonian physics covering the outside.<sup>39</sup> There may be other layers that we have not yet observed or understood. Kuhn offered one such example. His hypothetical involved asking two scientists to explain the behavior of a single atom of helium: one a physicist, the other a chemist. The chemist saw the helium atom as a molecule because he explained its behavior within the paradigm of the kinetic theory of gases. The physicist said the helium atom was not a molecule because it did not display a molecular spectrum.<sup>40</sup>

Consider a less rarefied example. Drop this paper straight down on a table. The paper remains on the table, it does not fall through to the floor. This observation is easily explained. The paper is solid, the table is solid. The table is stronger than the paper and does not collapse from the weight. This observation is explained by Newtonian physics.<sup>41</sup> But is that the only explanation? The paper and the table are both made up of molecular compounds which are bound by chemical bonds. When the paper is dropped, it remains on the table because the molecular bonds of the table are of sufficient strength to maintain integrity. The paper, too, remains whole because of the integrity of its molecular bonds. Now “view” these objects on a molecular level; both are comprised of a lattice of molecules held

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38. The behavior of billiard balls can be explained by Newton’s Second Law of Motion, which explains how objects change in motion and direction when an external force is applied. See, e.g., *Newton’s Three Laws of Motion*, at <http://csep10.phys.utk.edu/astr161/lect/history/newton3laws.html> [hereinafter *Newton’s Three Laws of Motion*] (last visited Apr. 17, 2004).

39. See KUHN, *supra* note 25, at 98-99.

40. *Id.* at 50-51.

41. This action is explained by Newton’s Third Law of Motion which provides that “for every action there is an equal and opposite reaction.” *Newton’s Three Laws of Motion*, *supra* note 38.

together by electrostatic forces.<sup>42</sup> The seemingly “solid” paper and “solid” table are actually one-third to one-half empty space.<sup>43</sup> But that is not the end of the explanation. The paper and the table are also comprised of atoms, bound by atomic forces. The paper remains on the table because the strong atomic bonds maintain structural integrity in the same fashion as did the molecular bonds. However, atoms are comprised of primarily empty space.<sup>44</sup> Therefore, under a quantum mechanics paradigm, these two apparently “solid” objects are comprised of more than ninety-nine percent empty space.<sup>45</sup> And yet the paper remains on the table. All three paradigms are correct with regard to today’s state of knowledge. Each distinctly describes the observed phenomenon. Yet one paradigm describes the objects as entirely solid while another describes them as virtually all space!

Additionally, two of the paradigms allow for “treatment.” Suppose one wished to refinish the table. The process can be accomplished as a solid phenomenon involving Newtonian physics by sanding off the old finish and applying a new layer of paint. The process can also be accomplished within the paradigm of molecular theory by stripping the paint using a chemical compound that breaks the ionic bonds between the wood and the old paint.<sup>46</sup> Then the table is repainted, a process where new molecular bonds are established between paint and wood.<sup>47</sup> What cannot be described, or utilized at this time, is a quantum mechanics paradigm of refinishing old tables. But that neither means that this possibility does not exist, nor that it may be a highly effective method of refinishing furniture in the future.<sup>48</sup>

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42. WILLIAM H. REUSCH, AN INTRODUCTION TO ORGANIC CHEMISTRY 19 (1977).

43. P. W. ATKINS, PHYSICAL CHEMISTRY 727 (1978).

44. Lawrence Berkley Nat’l Lab, *The Modern Atom Model*, available at [http://www.particleadventure.org/particleadventure/frameless/modern\\_atom.html](http://www.particleadventure.org/particleadventure/frameless/modern_atom.html) [hereinafter *Modern Atom Model*] (last visited Apr. 17, 2004).

45. *Modern Atom Model*, *supra* note 44.

46. University of Minnesota Technical Assistance Program, *Paint Stripping*, at <http://www.mntap.umn.edu/paintstrip.htm> (last visited Apr. 17, 2004).

47. Stephen Mann Furniture Co., *Furniture Restoration and Repair*, at [http://antiquerestorers.com/Articles/furniture\\_restoration\\_repair.htm](http://antiquerestorers.com/Articles/furniture_restoration_repair.htm) (last visited Apr. 17, 2004).

48. Imagine the incredulity of an eighteenth century cabinet maker brought to modern times and exposed to a demonstration of a chemical paint stripper “magically” removing the old finish.

### III. A HISTORICAL PERSPECTIVE ON THE DEVELOPMENT OF BIOMEDICINE

Like precursor cells maturing in the bone marrow, history develops in a continuum rather than discrete steps. However, when those cells are viewed on a bone marrow biopsy slide, it is helpful to delineate specific periods of development in order to obtain understanding.<sup>49</sup> History, too, benefits by this type of categorization. For the purposes of this paper, the historical evolution of biomedicine is delineated into four eras: (1) the Era of Galen, (2) the First Revolution (Knowledge), (3) the Second Revolution (Efficacy), and (4) the modern Era of Commodification. This section discusses the first three eras.

#### A. *The Era of Galen*

Galen was a Roman physician who lived in the second century, A.D.<sup>50</sup> His principles, based upon the teachings of Hippocrates, determined the paradigm that dominated medicine until the nineteenth century.<sup>51</sup> Consistent with the empiric nature of science at that time, his theories of diagnosis and explanations of disease grew out of painstaking observation of natural phenomena.<sup>52</sup> Since little could be done to change the course of disease, physicians became expert at diagnosis and prognosis through these observations. For example, in *De Locis Affectis, Book II*, in a fashion reminiscent of Sherlock Holmes,<sup>53</sup> Galen diagnoses pleurisy in the region of the right lower lobe of the lung resulting in sympathetic inflammation of the liver and describes how that leads to referred pain in the region of the

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49. See WILLIAMS' HEMATOLOGY 27 (4th ed. 1990).

50. MEDICINE: A TREASURY OF ART AND LITERATURE, *supra* note 17, at 49.

51. *Id.*

52. NULAND, *supra* note 17, at 45. Where CAM seeks to explain its theories scientifically, it uses observation, much like the modern science of geology. Ted J. Kaptchuk & David M. Eisenberg, *The Persuasive Appeal of Alternative Medicine*, 129 ANNALS INTERNAL MED. 1061, 1062 (1998).

53. The creator of Sherlock Holmes, Arthur Conan Doyle (1859-1930), was a physician. He based Holmes' power of observation and deduction on one of his instructors in medical school, Dr. Joseph Bell. MEDICINE: A TREASURY OF ART AND LITERATURE, *supra* note 17, at 321.

right shoulder.<sup>54</sup> Mind you, there was nothing Galen could do to change the course of the ailment, but the patient appeared reassured from the knowledge alone.<sup>55</sup> The time spent with the patient, the long inquiry into the concerns of the patient required by history-taking, and the reassurance of knowledge are recurrent themes in the empathetic caring that comprises some of the art of medicine encompassing the Hippocratic tradition.<sup>56</sup>

It is interesting to note how Galen's theories are similar to the theories of acupuncture. Both involve vitalism; acupuncture describes the energy as qi,<sup>57</sup> Galen wrote about humors.<sup>58</sup> He proposed four different humors: blood, lymph, black bile, and yellow bile.<sup>59</sup> He further delineated physiology into faculties and activities involving these humors.<sup>60</sup> Illness occurred when the humors, like qi,<sup>61</sup> were imbalanced as a result of scarcity or overabundance.<sup>62</sup> The imbalance may have either internal or external etiologies.<sup>63</sup> Treatment consisted of rebalancing humors by prescribing opposite therapy.<sup>64</sup> This was the birth of allopathic medicine.<sup>65</sup> Additionally, he used pulse diagnosis in a fashion similar to that used in acupuncture; describing the quality of the pulse in significantly more detail than is used in modern medicine.<sup>66</sup>

54. *Id.* at 49-51. Pain radiating to the shoulder from diaphragmatic irritation has since been referred to Kehr's sign, after the physician who described it seventeen hundred years later. SEYMOUR I. SCHWARTZ ET AL., *PRINCIPLES OF SURGERY* 1378 (4th ed. 1984).

55. *MEDICINE: A TREASURY OF ART AND LITERATURE*, *supra* note 17, at 51.

56. *See supra* note 17 and accompanying text.

57. Can also be spelled "chi."

58. Ted J. Kaptchuk, *Acupuncture: Theory, Efficacy, and Practice*, 136 *ANNALS INTERNAL MED.* 374, 375 (2002).

59. C. G. CUMSTON, *THE HISTORY OF MEDICINE* 157 (1987).

60. *Id.* at 158-59.

61. Kaptchuk, *supra* note 58, at 375-376.

62. *Id.*

63. *Id.* at 162.

64. For example, if too hot and moist, which he called "bilious," then prescribe cold and dry. *Id.* at 168.

65. Allopathy comes from the Greek [*allo-* meaning "other" and *pathos* meaning "suffering"] and refers to "[a] method of treating disease with remedies that produce effects antagonistic to those caused by the disease itself." *STEDMAN'S MEDICAL DICTIONARY* 30 (26th ed. 1995). The term was coined by Samuel Hahnemann to contrast his concept of homeopathy. WILLIAM S. HAUBRICH, *MEDICAL MEANINGS* 103 (1997).

66. *See SOURCE BOOK OF MEDICAL HISTORY*, *supra* note 17, at 42-45. The significance of Galenic pulse diagnosis was instrumental in forming the basis for

Galen taught the importance of first diagnosing the cause of disease prior to undertaking therapy. Like Hippocrates, he stressed how premature therapy aimed at the wrong site could be dangerous.<sup>67</sup> Therefore, a physician would spend copious amounts of time observing and interviewing the patient in order to arrive at the correct diagnosis. As discussed above,<sup>68</sup> this is caring. This tradition of painstaking diagnosis persisted until technology allowed physicians to become more “efficient.”<sup>69</sup>

Although Galen’s teachings formed the philosophical basis of medicine until the nineteenth century,<sup>70</sup> scientific and philosophical developments of the sixteenth and seventeenth centuries began to question his substantive theories. In 1637, René Descartes proposed dualism.<sup>71</sup> This philosophy emphasized a separation between mind and

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Hahnemann’s theory of homeopathy in the nineteenth century. Because thermometers were not available, “fever,” the symptom associated with inflammation (infection), was diagnosed by taking the patient’s pulse, not his temperature. In Hahnemann’s time, it was known that intermittent fever (malaria) was cured by cinchona bark. Cinchona is quinine, which has similar cardiovascular effects as the cardiac antiarrhythmic drug quinidine. See A.G. GOODMAN & L.S. GILMAN, *THE PHARMACOLOGICAL BASIS OF THERAPEUTICS*, 768-774 (6th ed. 1980). When an asymptomatic Hahnemann took cinchona he developed the same symptoms and tachycardia as intermittent fever. He then proceeded to describe his theory of “like treats like,” never recognizing he merely suffered the adverse effects of an overdose of quinine. King, *supra* note 37, at 1223.

67. CUMSTON, *supra* note 59, at 165.

68. See *supra* notes 17-24 and accompanying text.

69. See GROSS, *supra* note 17, at 77-81. In 1930, the average general practitioner saw approximately fifty patients per week. By the 1960s, that number had increased to 169, with the busiest twenty-five percent seeing upwards of 200 patients in a week. *Id.* at 18.

70. Mark Twain (1835-1910), a frequent commentator on the state of American medicine in the nineteenth century, wrote in 1890 that “Galen could have come into my sick-room at any time during my first seven years . . . and stood my doctor’s watch without asking a question. . . . Whereas if [he] should appear among us today, he could not stand anybody’s watch.” K. Patrick Ober, *The Pre-Flexnerian Reports: Mark Twain’s Criticism of Medicine in the United States*, 126 *ANNALS INTERNAL MED.* 157, 162 (1997). However, Galen has not completely left medicine. Medical schools continue to teach the four signs of inflammation described by Galen: rubor, calor, tumor, and dolor. LEWIS THOMAS, *THE YOUNGEST SCIENCE* 240 (1983).

71. Douglas A. Drossman, Editorial, *Gastrointestinal Illness and the Biopsychosocial Model*, 22 *J. CLINICAL GASTROENTEROLOGY* 252, 252 (1996).

body and was inconsistent with the holistic paradigm.<sup>72</sup> Ambrose Paré advanced surgical technique.<sup>73</sup> Sydenham wrote on one of the few known cures of the day, cinchona, also known at the time as Peruvian or Jesuits' bark.<sup>74</sup> Probably most influential, however, in leading to the paradigm shift away from Galenic physiology was William Harvey's work on the circulation of blood through the heart and vessels.<sup>75</sup> Scientific methodology was beginning to instill itself into what previously was only empiric observation.<sup>76</sup>

One other factor must be described to set the stage for a paradigmatic shift. Despite the advances in knowledge of anatomy and physiology, medical *therapy* remained brutal, barbaric, and mostly ineffective.<sup>77</sup> Physicians were unlikely to change the course of disease, except perhaps to worsen it. One example is the care given to George Washington, whose death from acute bacterial epiglottitis<sup>78</sup> was likely hastened by hypovolemic shock, caused by bloodletting approximately half his circulating blood volume.<sup>79</sup>

#### B. *The First Revolution: The Introduction of Science and Technology*

The first revolution in biomedicine occurred in the nineteenth century, when the great physicians of that time began to apply scientific principles to medicine and call for more rigorous standards in

72. *Id.* at 252-53.

73. CUMSTON, *supra* note 59, at 269.

74. SOURCE BOOK OF MEDICAL HISTORY, *supra* note 17, at 202. Cinchona, which contains the active compound, quinine, is used to treat malaria. HAUBRICH, *supra* note 65, at 46.

75. CUMSTON, *supra* note 59, at 294-296. Galen believed in a complex system of circulation more akin to irrigation than pumping. NULAND, *supra* note 17, at 48.

76. *See* King, *supra* note 37, at 1224.

77. Ober, *supra* note 70, at 158.

78. Acute bacterial epiglottitis is an infection involving the tissue that protects the glottis (windpipe) from the esophagus. The most serious complication is airway obstruction and resultant death. *See* III ROSEN & BARKIN ET AL., EMERGENCY MEDICINE: CONCEPTS AND CLINICAL PRACTICE, 2736-42 (3rd ed. 1992).

79. David M. Morens, *Death of a President*, 341 NEW ENG. J. MED. 1845, 1847. The approximately 2400 ml of blood let from President Washington represents over forty percent of his blood volume and would lead to Class IV shock, which is a "preterminal event [causing] dea[th] within minutes." AMERICAN COLLEGE OF SURGEONS, ADVANCED TRAUMA LIFE SUPPORT COURSE 60 (1989).

the education of their colleagues. However, it was economics, supported by politics and the legal system, which truly shaped the revolutionary change in medicine. This period of approximately one hundred years, roughly paralleling the nineteenth century, is appropriately marked by two events: the birth of Oliver Wendell Holmes in 1809<sup>80</sup> and the death of Sir William Osler in 1919.<sup>81</sup>

Dr. Holmes, father of Justice Oliver Wendell Holmes, Jr., was a dynamic force in nineteenth century medicine. He is as known for poetry and humanism as he is for medicine.<sup>82</sup> Dr. Holmes epitomized the application of scientific methodology to biomedicine and the conflict with alternative practitioners.<sup>83</sup> Sir William Osler was a Canadian physician, further trained in Europe, who as its first professor of Internal Medicine, helped develop Johns Hopkins University into a major medical institution.<sup>84</sup> His magnum opus, *The Principles and Practice of Medicine*, written in 1892, was the authoritative textbook for decades.<sup>85</sup> Both men brought an approach to medicine involving application of scientific principles tempered with the humanism of caring. However, Dr. Osler's approach represented the changes that occurred in medical education.

Medicine in the first half of the nineteenth century was an interesting profession. Although initially all states had licensure laws, these laws had been repealed in the response to the anti-monopolistic sensibilities of Jacksonian democracy.<sup>86</sup> Just about anyone could, and did, practice medicine in that day.<sup>87</sup> By the 1840s, which was about the time Holmes was achieving his stature, four major groups had emerged.<sup>88</sup> The first group was the elitists; comprised of men like

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80. Boston Medical Library, *Highlight of the Month, Oliver Wendell Homes*, at <http://www.countway.med.harvard.edu/bml/oliverholmes.html> [hereinafter *Highlight of the Month, Oliver Wendell Homes*] (last visited Apr. 17, 2004).

81. *Sir William Osler*, at <http://schwinger.harvard.edu/~terning/bios/Osler.html> [hereinafter *Sir William Osler*] (last visited Apr. 17, 2004).

82. King, *supra* note 37, at 1223.

83. For example, in 1842 Holmes wrote an essay on homeopathy entitled "Homeopathy and Its Kindred Delusions." *Id.*

84. *Sir William Osler*, *supra* note 81.

85. NULAND, *supra* note 17, at 401. The sixteenth and final edition was printed in 1947. *Id.*

86. Lester S. King, *IV. The Founding of the American Medical Association*, 248 *JAMA* 1749, 1749 (1982).

87. King, *supra* note 37, at 1222.

88. King, *supra* note 86, at 1750.

Holmes,<sup>89</sup> who had been educated at university-associated medical schools, either in the United States or in Europe.<sup>90</sup> They were the upper crust of the “regulars,” physicians so named because they practiced in accordance with longstanding medical tradition<sup>91</sup> and comprised the leadership of organized medicine, as represented by the state medical societies.<sup>92</sup> The next group was also considered “regulars”; however, these physicians obtained their education from one of the proprietary medical schools<sup>93</sup> of the time or through reading and an apprenticeship,<sup>94</sup> much as how one became a lawyer during the same time period.<sup>95</sup> The third group constituted the “irregulars,” those who followed the alternative sects prevalent at that time.<sup>96</sup> Examples of those practices include Hahneman’s homeopathy and Thomson’s

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89. Lester S. King, *VI. Medical Education: The AMA Surveys the Problems*, 248 JAMA 3017, 3018 (1982).

90. *Id.*

91. King, *supra* note 86, at 1750.

92. *Id.*; see also Lester S. King, *V. ‘Old Code’ of Medical Ethics*, 248 JAMA 2330, 2330-2332 (1982).

93. The term “proprietary medical schools” refers to those schools where the income of the instructors was directly dependent upon the fees paid by the students. King, *supra* note 89, at 3021. Their impetus for development was that during the early nineteenth century, licensure could be obtained either through examination by the medical society or by having a diploma from *any* medical school. *Id.* at 3019. Since there were essentially no standards for medical education, licensing by graduation was easier than by examination. *Id.* at 3019. For example, in New York in 1820, thirty-eight doctors were licensed by graduation while “three times that number were examined and licensed by censors of the state and county societies.” King, *supra* note 86, at 1750. By 1846, only eight or ten were licensed by examination, and 246 doctors achieved their medical license through the M.D. degree. *Id.* Although the course of instruction was two years, the curriculum consisted of only eight months of lectures, for which the student had to purchase tickets for each lecture twice. King, *supra* note 37, at 1320. Purchase was the operative word because there were no transcripts and no requirements for attendance. *Id.* The instruction was predominately didactic because most schools had no access to clinical instruction. King, *supra* note 89, at 3019-20. There were no academic prerequisites and standards were so bad that even at venerable Harvard, written examinations were not given because “most of the students could not write well enough.” GROSS, *supra* note 17, at 371.

94. King, *supra* note 89, at 3018.

95. ROBERT STEVENS, *LAW SCHOOL: LEGAL EDUCATION IN AMERICA FROM THE 1850S TO THE 1980S* 24 (1983).

96. King, *supra* note 86, at 1750.

botanical medicine,<sup>97</sup> which later was absorbed into Eclecticism.<sup>98</sup> The fourth group was the “quacks and charlatans.”<sup>99</sup>

Regulation at the beginning of the century, though minimal, was primarily administered by the state medical societies.<sup>100</sup> These societies were founded upon the principles of European guilds.<sup>101</sup> Legislatures deferred to these societies the responsibility of licensure,<sup>102</sup> although most control was dictated by the economic market.<sup>103</sup> Law was only involved to a limited degree; for example, only a licensed physician could use the courts to collect medical fees.<sup>104</sup>

The repeal of licensure in the laissez-faire atmosphere of Jacksonian democracy significantly weakened the influence of the societies.<sup>105</sup> In 1844, New York, which had passed the first medical licensure law in 1760,<sup>106</sup> repealed its medical licensure statute.<sup>107</sup> As a result, medicine could be practiced by anyone who hung out a shingle, trained or not. Furthermore, although the societies continued to license their members, the utility of that license, and the resulting influence of the societies, was questionable.<sup>108</sup> The societies recognized that the fix to their predicament would not come from the legislature.<sup>109</sup> In response, the New York State Medical Society felt it was time for medicine to organize on a national level. One member, Dr. Nathan Davis, offered a resolution at the state society meeting to establish a national convention in Philadelphia, whereby representatives of the varying

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97. King, *supra* note 37, at 1221-23.

98. PAUL STARR, *THE SOCIAL TRANSFORMATION OF AMERICAN MEDICINE* 54 (1982).

99. King, *supra* note 92, at 2331.

100. In the eighteenth century, medicine could be said to be a trade, regulated by the market. *See generally* Nissa M. Strottman, Note, *Public Health and Private Medicine: Regulation in Colonial and Early National America*, 50 *HASTINGS L.J.* 383 (1999). The elite practitioners formed medical societies along the lines of guilds, as would any trade. *Id.* at 393. As such, they established their own means of self-regulation including testing and licensing. *Id.*; King, *supra* note 86, at 1749-50.

101. King, *supra* note 86, at 1749.

102. Strottman, *supra* note 100, at 393-94.

103. *Id.* at 384.

104. *Id.* at 394.

105. King, *supra* note 37, at 1222.

106. Strottman, *supra* note 100, at 394.

107. King, *supra* note 86, at 1750.

108. *Id.* at 1749.

109. King, *supra* note 89, at 3018.

state medical societies could meet to discuss their mutual predicament and offer suggestions for improving standards within the profession.<sup>110</sup> In 1846, that meeting occurred, and the National Medical Association was formed.<sup>111</sup>

At their next annual meeting, the organization changed its name to the American Medical Association (“AMA”).<sup>112</sup> Although the AMA was initially established ostensibly to address medical education, their mandate was broad and sought to both advance medical knowledge and improve the welfare of the American physician.<sup>113</sup> Founded by the “regulars,” they viewed the threat from their poorly trained colleagues and “irregulars” to be almost on par with that of the “quacks.”<sup>114</sup> The AMA set about regaining control of medicine on two fronts. It sought the removal from practice those of inferior quality, namely the poorly trained “regulars,” “irregulars,” and “quacks,” by reestablishing licensure under the aegis of the medical societies.<sup>115</sup> They also sought improvement in medical education by increasing standards and closing the proprietary medical schools.<sup>116</sup>

The “regulars” followed the new paradigm of scientific biomedicine, which developed out of the great scientific advances of the mid-

110. King, *supra* note 86, at 1750-51. Dr. Davis is said to be the “father of the AMA.” *Id.*

111. *Id.* at 1749.

112. King, *supra* note 89, at 3017.

113. King, *supra* note 86, at 1749. This mandate can be seen in its founding resolution: “*Resolved*, That it is expedient for the Medical Profession of the United States, to institute a *National Medical Association*, for the protection of their interests, for the maintenance of their honour and respectability, for the advancement of their knowledge, and the extension of their usefulness.” *Id.* (quoting CODE OF MEDICAL ETHICS OF THE AMERICAN MEDICAL ASSOCIATION (1847)).

114. King, *supra* note 89, at 3018. Or as one physician declared, “The rifest and rankest quackery of this land, is the quackery of half-educated graduates in medicine.” *Id.*

115. When licensure was reestablished at the end of the century (as is discussed subsequently), the medical societies no longer were statutorily designated to establish standards. However, they maintained their influence well into the twentieth century because, by law, “a third of the states required that medical board members be appointed from persons nominated by medical societies.” Timothy Stoltzfus Jost, *Oversight of the Quality of Medical Care: Regulation, Management or the Market?*, 37 ARIZ. L. REV. 825, 829 (1995).

116. See STARR, *supra* note 98, at 118-121.

nineteenth century.<sup>117</sup> Semmelweis introduced the concept of antiseptics in the prevention of puerperal fever by the simple act of hand washing in Vienna in 1847.<sup>118</sup> Surgery was revolutionized in 1846 when Dr. William Morton, a dentist, introduced general anesthesia.<sup>119</sup> The barbaric practices of blistering, bleeding, and purging were strongly criticized.<sup>120</sup> Along with these discoveries came a paradigmatic shift in the application of scientific methodology to biomedicine. Holmes studied rudimentary statistics while in Paris, and Jacob Bigelow emphasized the need for evaluating the evidence of effective therapy.<sup>121</sup> This resulted in the shift from observational science, still a hallmark of CAM today,<sup>122</sup> to present-day evidence-based medicine and its basis upon Bayesian probability statistics.<sup>123</sup>

One significant technological advance deserves further discussion. In 1816, René Laennec invented the stethoscope by rolling a “quiere of paper” into a tube so that he might listen to the heart of a young lady because Victorian sensibilities prevented him from using the traditional practice of applying one’s ear to the patient’s bare chest.<sup>124</sup> Its importance here is that this marked the first time technology placed a barrier between the physician and patient and interfered with the humanistic bond that furthered healing.<sup>125</sup> The act of applying one’s ear to another’s naked chest is quite intimate and serves to further the bond between doctor and patient.

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117. King, *supra* note 37, at 1223; NULAND, *supra* note 17, at 390-391; CUMSTON, *supra* note 59, at 380.

118. NULAND, *supra* note 17, at 247. Interestingly, Holmes was working on the same problem independently, once writing that the likely cause of puerperal fever was the medical and nursing staff who worked on the maternity ward. SOURCE BOOK OF MEDICAL HISTORY, *supra* note 17, at 605.

119. NULAND, *supra* note 17, at 287. Holmes was involved here as well. A daguerreotype, c. 1852, showing a demonstration of anesthesia at the Massachusetts General Hospital, depicts Holmes in the lower right hand corner of the operating field. MEDICINE: A TREASURY OF ART AND LITERATURE, *supra* note 17, at 156.

120. Lewis Thomas, *Medicine’s Second Revolution*, in SCIENCE 84: FIFTH ANNIVERSARY ISSUE 93, 94 (American Association for the Advancement of Science ed., 1984).

121. King, *supra* note 37, at 1224.

122. Kaptchuk & Eisenberg, *supra* note 52, at 1063.

123. See generally Steven N. Goodman, *Toward Evidence-Based Medical Statistics. 2: The Bayes Factor*, 130 ANNALS INTERNAL MED. 1005 (1999).

124. NULAND, *supra* note 17, at 220.

125. THOMAS, *supra* note 70, at 57.

By the last quarter of the nineteenth century, medicine was in a period of crisis ripe for a Kuhnian paradigmatic shift. The AMA began to achieve its goals and the medical societies had regained their prominence by reestablishing licensure, first with Texas in 1873, and eventually enacting statutes in all existing states by the end of the century.<sup>126</sup> Many of the proprietary medical schools lost favor because their graduates were unable to obtain licenses.<sup>127</sup> One example of this problem is the case of Frank Dent, an Eclectic physician practicing in West Virginia.<sup>128</sup> Dr. Dent challenged an 1882 West Virginia licensure statute requiring graduation from an acceptable medical school, or being “grandfathered” by achieving ten years of practice by 1881.<sup>129</sup> Dr. Dent, having graduated from the American Medical Eclectic College of Cincinnati, Ohio, was denied licensure for neither having an acceptable diploma nor satisfying the grandfather clause.<sup>130</sup> The U.S. Supreme Court subsequently affirmed his conviction for unlawful practice.<sup>131</sup>

Licensure was not the only method the AMA used to overcome the “irregulars.” The organization also approached the problem as an issue of medical ethics.<sup>132</sup> An early example is how the AMA dealt with homeopathy. While other sects were floundering, homeopathy continued to grow in practice and achieved a significant amount of respect and following.<sup>133</sup> The AMA responded by passing a resolution in 1876 making it unethical for its members to associate with these “irregulars.”<sup>134</sup> Although the battle between the AMA and homeopathy eventually became moot because of society’s general disillusionment with homeopathy, coupled with organized medicine absorbing the field in 1903,<sup>135</sup> this strategy of attempting to force out

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126. Jost, *supra* note 115, at 828.

127. STARR, *supra* note 98, at 118.

128. *Id.* at 106.

129. Dent v. West Virginia, 129 U.S. 114, 115 (1889).

130. *Id.* at 118.

131. *Id.* at 128.

132. King, *supra* note 92, at 2329.

133. *Id.* at 2332-33. This was in some part because most of the early homeopaths were “regularly” educated physicians with an M.D. degree. *Id.* at 2331.

134. *Id.* at 2332.

135. GROSS, *supra* note 17, at 457.

alternative practitioners by making association with its members unethical continued well into the twentieth century.<sup>136</sup>

Contemporaneous to the AMA's attempt to ban the "irregulars" through rules of ethics and monopolistic control of licensure was its strategy for improving medical education.<sup>137</sup> The elitists viewed medical education in the European tradition, whereby a student first obtained a baccalaureate degree and then went on to study medicine. This was possibly best exemplified in America at The Johns Hopkins University and by its chief of Internal Medicine, Sir William Osler. Dr. Osler taught medicine as both a science and an art.<sup>138</sup> He was deeply steeped in the humanistic side of medicine.<sup>139</sup> He helped build Johns Hopkins into the great institution it is today and widened the gap between the proprietary medical colleges and the university-based medical schools.

During the latter quarter of the nineteenth century, simultaneous with its ousting of "irregular" practitioners, the fledgling AMA also sought to improve quality by establishing committees to investigate medical education.<sup>140</sup> Recognized problems included weakening of the preceptor experience, reduced standards from the proprietary medical schools, and the lack of affiliation with hospitals and other sources of patients.<sup>141</sup> These early committees recommended increased prerequisites before beginning medical studies, lengthening and broadening the didactic part of medical education, and improving the clinical experience.<sup>142</sup> These efforts resulted in the blossoming of some of the great medical institutions in America, such as Johns Hopkins.<sup>143</sup> The death knell to the private medical college did not fully occur, however, until the turn of the century when the AMA invited a

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136. See, e.g., *Wilk v. American Medical Association*, 719 F.2d 207 (7th Cir. 1983) (holding that the systematic activities of organized medicine, including the AMA among others, against chiropractic violated the Sherman Antitrust Act).

137. King, *supra* note 92, at 2330-32.

138. GROSS, *supra* note 17, at 371.

139. Stephen G. Post et al., *Physicians and Patient Spirituality: Professional Boundaries, Competency, and Ethics*, 132 ANNALS INTERNAL MED. 578, 578 (2000). However, despite Osler's appreciation of the significance of spirituality and humanism in healing, he preferred to delegate this aspect of patient care to the chaplain, a practice that continues to this day. *Id.*

140. King, *supra* note 89, at 3018.

141. *Id.* at 3018-19.

142. *Id.* at 3019.

143. STARR, *supra* note 98, at 115.

previously unknown schoolteacher to undertake an extensive survey of medical education.

In 1906, the AMA invited the Carnegie Foundation to survey medical education in the United States.<sup>144</sup> The Carnegie Foundation chose a private school headmaster by the name of Abraham Flexner to undertake the investigation.<sup>145</sup> The Flexner report was published in 1910 and was a scathing attack on the quality of medical education.<sup>146</sup> It resulted in the transformation of medical education into its present-day curriculum of two years of basic sciences followed by two years of clinical instruction.<sup>147</sup>

Yet throughout these turbulent times, medicine continued its Hippocratic tradition of caring.<sup>148</sup> A symbol of this tradition is a well-known Victorian painting, *The Doctor*, which was an AMA icon well into the twentieth century.<sup>149</sup> Lewis Thomas, former Dean of Yale Medical School and Chancellor of Memorial Sloan-Kettering, describes the physician, depicted at the sick child's bedside, as "combining, all at once, concern, compassion, intelligence, understanding, and command."<sup>150</sup> He further notes:

The child's parents are in the background, the father looking at the doctor with an expression of total trust . . . . [The doctor] is engaged in the ancient art of medicine. This means, at its essence, that he is *there* contributing his presence, providing whatever he can in the way of hope and understanding.<sup>151</sup>

Thomas goes on to say that the picture is illusory because the physician is powerless in changing the course of the illness.<sup>152</sup> This was

144. *Id.* at 118.

145. *Id.*

146. LUDMERER, *supra* note 1, at 3. Abraham Flexner went on to become the secretary of the Rockefeller's General Education Board where he was able to further his goals of improving medical education by disbursing millions of dollars of charitable funds to medical schools. *Id.* Interestingly, John D. Rockefeller had become interested in medicine because one of his chief advisors, Frederick Gates, read Osler's *Principles and Practices of Medicine*, while on vacation at Lake Liberty, New York, in 1897. C.S. Bryan, *Mr. Gates' Summer Vacation: A Centennial Remembrance*, 127 ANNALS INTERNAL MED. 148, 148 (1997).

147. GROSS, *supra* note 17, at 371-73.

148. Thomas, *supra* note 120, at 94.

149. GROSS, *supra* note 17, at 3.

150. Thomas, *supra* note 120, at 93.

151. *Id.*

152. *Id.* at 93-94.

eloquently stated by Martin Gross, who wrote, “Our medical ancestor suffered, we are told, from a surfeit of love [but] a dearth of ability.”<sup>153</sup>

By 1910, a number of events had happened that shaped the paradigm of biomedicine. Through the work of the AMA, organized medicine was able to achieve its goal of dictating the licensure requirements necessary to practice.<sup>154</sup> Courts, as evident in *Dent v. West Virginia*,<sup>155</sup> readily supported those requirements. Alternative practitioners, because they did not share the scientific paradigm that had become the mainstay of medicine, became subordinate to biomedicine through legislative and legal support.<sup>156</sup> Caring, however, remained an essential tool of the physician’s little black bag.<sup>157</sup> It was not until the next revolution in medicine that the role of caring in the delivery of health care was further limited, which set the scene for the reemergence of CAM in the United States.

### C. *The Second Revolution: The Era of Efficacy*

The second revolution in medicine was sociological, not scientific. Assuredly, biomedicine advanced in leaps and bounds. In a Kuhnian sense, though, these advancements were evolutionary in nature. The paradigmatic shift here was from the doctor as “counselor-healer” to “scientist-healer.”<sup>158</sup> This was the era of efficacy, roughly traced from the introduction of insulin in the 1920s<sup>159</sup> to the present day. It has been written that prior to this time, a patient had only a fifty-fifty chance of benefiting from an encounter with a physician.<sup>160</sup> In this new

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153. GROSS, *supra* note 17, at 3.

154. Jost, *supra* note 115, at 830.

155. 129 U.S. 114 (1889).

156. See, e.g., Jost, *supra* note 115, at 830. “True external control over the medical profession was largely absent during this period. Attempts . . . were rebuffed first by fierce professional opposition and then by the legislatures and courts . . .” *Id.*

157. “[H]is black bag contained nothing but morphine and magic, but his presence alone reassured his many patients.” *Jacket notes* to THOMAS, *supra* note 70.

158. GROSS, *supra* note 17, at 3. Actually, the paradigmatic shift is better described, as will be demonstrated, as “scientist-businessman-healer.” *Id.* at 21.

159. Insulin was extracted by Banting and Best and first administered to a patient in 1922, saving the patient’s life. A.G. GOODMAN & L.S. GILMAN, *THE PHARMACOLOGICAL BASIS OF THERAPEUTICS*, 1497 (6th ed. 1980).

160. GROSS, *supra* note 17, at 3-4.

era, efficacious and proven life-saving therapy existed. Dr. Thomas writes of his exhilaration in being able to cure pneumococcal pneumonia<sup>161</sup> with anti-sera, and diabetic ketoacidosis<sup>162</sup> with insulin during his internship in 1937.<sup>163</sup> Yet at the same time, he describes an incident where a treatable illness was ignored, and the patient died, because the medical staff was so excited by the scientific blood smear findings of malaria that they forgot to treat the patient with quinine.<sup>164</sup> Biomedicine grew logarithmically, with the development of antibiotics, vaccines, improved surgical technique, and a multitude of other innovations that have led to the highly technical form of biomedicine we have today.<sup>165</sup> Yet these advancements were not without cost.

For a variety of reasons, the new paradigmatic physician as “scientist-businessman-healer”<sup>166</sup> has been seen as losing the humanism and compassion that previously constituted the Hippocratic ideals that led to the “vital human relationship between healer and patient.”<sup>167</sup> Some of the reasons for this transition include the selection process for doctors,<sup>168</sup> burgeoning medical technology and the increased technical nature of practice,<sup>169</sup> and the assembly-line aspects of medical practice involving greater frequency of office visits.<sup>170</sup> The net result has been a diminution in the humanistic aspects of biomedicine that constitute simple caring. Medicine has sought to remedy some of these problems with increased emphasis on humanism in both undergraduate medical

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161. Caused by the organism *streptococcus pneumoniae*, this is the commonest etiology for community-acquired pneumonia. ROBERT M. WACHTER ET AL., HOSPITAL MEDICINE 479 (2000).

162. Diabetic ketoacidosis, or as it is commonly referred to, DKA, is a metabolic disorder that occurs from the lack of insulin in patients who are dependent upon insulin replacement. Untreated, it is fatal. Even with treatment, mortality ranges from 2% to 5%. *Id.* at 896.

163. THOMAS, *supra* note 70, at 43-45.

164. *Id.* at 48-50. Following the patient's death, one physician broke out his copy of Sir William Osler's *Textbook of Medicine*, which stated it was negligent to allow a patient to die from malaria without being treated with quinine. *Id.* at 49.

165. This statement is as applicable to this generation as it was to Lewis Thomas'. See Joseph Herman, *The Good Old Days*, 352 LANCET 1930, 1930 (1998).

166. GROSS, *supra* note 17, at 21.

167. *Id.* at 320.

168. *Id.* at 327.

169. *Id.* at 317.

170. *Id.* at 77-79.

education<sup>171</sup> and professional practice.<sup>172</sup> However, as the following section demonstrates, the present system of health care delivery is prejudicial to caring within the practice of biomedicine, despite the good intentions of providers.

Simultaneously, biomedicine continued to fight CAM, seeing it as both a threat to the profession and to patients. Homeopathy and the cults of the nineteenth century having grown quiet, the latest threats were seen from osteopathy and chiropractic. In the 1950s and early 1960s, the AMA considered osteopathy to be quackery and the association of its members with osteopathic physicians to be unethical behavior.<sup>173</sup> This attitude continued toward chiropractic well into the 1980s.<sup>174</sup>

Thus by 1990, when Eisenberg performed his first survey, the leading paradigm of the American health care system was the delivery of technological biomedicine, with less emphasis on the humanistic side of medicine. CAM, evidenced to be extremely popular by Eisenberg, was at best ignored and at worst fought by the medical establishment.

#### IV. THE MODERN ERA: MEDICINE IN THE 1990s AND BEYOND

The diminution of caring within biomedicine is due to both internal and external factors.<sup>175</sup> External factors include economic and social change within modern society.<sup>176</sup> Internal factors are often the effects of these changes, especially technology.<sup>177</sup> The net result is that biomedicine has been shaped into an industry driven by demands for

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171. Anne Stephenson et al., *Teaching Professional Development in Medical Schools*, 357 LANCET 867, 868 (2001).

172. See Jordan J. Cohen, *Remembering the Real Questions*, Keynote Address at the American College of Physicians' Annual Session (Mar. 22, 1997), adapted in 128 ANNALS INTERNAL MED. 563 (1998).

173. GROSS, *supra* note 17, at 455-56; COHEN, *supra* note 13, at 21.

174. See *Wilk v. American Medical Association*, 719 F.2d 207 (7th Cir. 1983), cert. denied, 467 U.S. 1210 (1984), on remand, 671 F. Supp. 1465 (N.D. Ill. 1987), aff'd 895 F.2d 352 (7th Cir. 1990) (holding that the AMA's actions regarding chiropractic violated federal antitrust laws).

175. Herman, *supra* note 165, at 1930.

176. *Id.* at 1931.

177. *Id.*

productivity and quality, measured primarily in terms of outcomes, whereby caring has been de-emphasized.<sup>178</sup> This section analyzes the modern health care industry from the standpoint of both physicians and patients.

#### A. *The Doctors*

In 1998, Senator Daniel Patrick Moynihan published an article in *Academic Medicine* entitled, *On the Commodification of Medicine*.<sup>179</sup> His thesis was that health care had become a commodity and that outcomes were determined by costs.<sup>180</sup> Although a complete discussion of the ramifications of the commodification of medicine is beyond the scope of this paper, two aspects bear discussion as they relate to the discouragement of caring within the physician-patient relationship. The first is the revolutionary reorganization of the delivery of health care into an industry.<sup>181</sup> The second is the system of physician payment and its chilling effect on reemphasizing humanism in the delivery of health care by biomedical practitioners.

Timothy Jost analogizes the components of the health care industry to manufacturing.<sup>182</sup> He compares medical decision-making to design and the implementation of those decisions (i.e., diagnostic testing and treatment) to production.<sup>183</sup> The problem occurs when external forces look to streamline costs. These trends have led to a bureaucratic model of health care, “structured hierarchically and . . . governed by specific, impersonal rules.”<sup>184</sup> This setting is not very receptive to extended office visits, with the attendant decrease in physician efficiency (as measured by the number of patient encounters per day), in the interest of improved “caring”; especially since caring is an

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178. Morrison, *supra* note 18, at 80-82.

179. Daniel Patrick Moynihan, *On the Commodification of Medicine*, 73 *ACAD. MED.* 453 (1998). He attributed the creation of the term to Monsignor Charles J. Fahey of Fordham University, who testified in front of the Senate Committee on Finance in April of 1994. *Id.* at 456.

180. *Id.* at 456.

181. Jost, *supra* note 115, at 836.

182. *Id.* at 842.

183. *Id.*

184. *Id.* at 834. “[M]edical practitioners increasingly view themselves as businessmen engaging in commerce rather than as professionals . . .” *Id.* at 840.

aspect of health care that is difficult to prove cost-effective.<sup>185</sup> When health care is reduced to the most efficient way of producing “widgets” and analyzed along a number of parameters, often how the “widgets” feel about the process is granted relatively little weight within the analysis.<sup>186</sup>

Just as the health care industry has created a system that grants lesser weight to the nebulous qualities of compassion and caring, this system has also created a repayment schedule that results in little financial incentive to provide these services. In the 1980s, in response to the rapid increase in Medicare payments, Congress initiated a variety of measures to constrain costs.<sup>187</sup> Significant concerns included the lack of fiscal restraint within the Customary, Prevailing, and Reasonable (“CPR”) fee-based system of reimbursement and the relatively lesser recognition of cognitive services when compared to procedural services.<sup>188</sup> The Consolidated Omnibus Budget

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185. That may be changing. Studies of nurse practitioners have demonstrated lower costs in testing, treatment, and medication. Lori B. Andrews, *The Shadow Health Care System: Regulation of Alternative Health Care Providers*, 32 HOUS. L. REV. 1273, 1285 (1996). Additionally, CAM practitioners are less likely to be sued for malpractice because of the dynamic of their patient relationship. Kristen J. Josefek, *Alternative Medicine’s Roadmap to Mainstream*, 26 AM. J. L. & MED. 295, 309 (2000). As this section demonstrates, the cost-containment processes within the health care industry during the past fifteen years have not been conducive to caring. It is only recently that quality assessment programs are being reformed and have started to look more at process rather than only outcome. Jost, *supra* note 115, at 835.

186. An excellent and sometimes tragic example of this is how insurance companies ration psychiatric care by only approving a minimal stay, often only a few days, for serious psychiatric illness. This results in overmedicating a patient because there is no time for effective psychotherapy. “Let’s say you have a child who’s been depressed for six weeks and overdoses . . . the insurance company may only approve three to four days’ hospitalization. You can’t do much for a kid in three to four days.” Dr. David Keith, chief of Child and Adolescent Psychiatry at SUNY Upstate Medical University, *quoted in* James T. Mulder, *Children Needing Care Left Out in the Cold*, SYRACUSE POST-STANDARD, Apr. 7, 2002, at A-9; *see also* Andrews-Clarke v. Travelers Insurance Co., 984 F. Supp. 2d 49 (D. Mass. 1997) (where decedent, an alcoholic, unable to obtain authorization for inpatient detoxification/rehabilitation, committed suicide. The court held that the subsequent malpractice action was preempted by ERISA.).

187. Bruce Sigsbee, *Medicare’s Resource-Based Relative Value Scale, a de facto National Fee Schedule: Its Implications and Uses for Neurologists*, 49 NEUROLOGY 315, 315 (1997).

188. *Id.*

Reconciliation Act of 1985<sup>189</sup> directed the Health Care Financing Administration (“HCFA”)<sup>190</sup> to develop a new repayment system based upon the value of physician work product.<sup>191</sup> HCFA contracted with Hsia and his colleagues at Harvard to develop the Resource-Based Relative Value Scale (“RBRVS”) as a mechanism to pay physicians.<sup>192</sup> On January 1, 1992, HCFA implemented this system on a nationwide scale.<sup>193</sup> RBRVS entails a highly complicated and subjective system of billing tied into Evaluation and Management (“E/M”) codes published in the *Current Procedural Terminology* (“CPT”).<sup>194</sup> The eventual fee code is predicated upon three scales comprised of the history, the physical, and the complexity of decision-making.<sup>195</sup> The system is skewed so that higher billing is achieved by asking about more symptoms and examining more body parts, even if performed superficially or are immaterial and redundant.<sup>196</sup> Although

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189. Consolidated Omnibus Budget Reconciliation Act, Pub. L. No. 99-272 (1985).

190. HCFA is now known as the Centers for Medicare and Medicaid Services (CMS). John K. Iglehart, *The Centers for Medicare and Medicaid Services*, 345 NEW ENG. J. MED. 1920, 1920 (2001).

191. Sigsbee, *supra* note 187, at 316.

192. James V. Maloney, *A Critical Analysis of the Resource-based Relative Value Scale*, 266 JAMA 3453, 3453 (1991).

193. *Id.* Although RBRVS was initially only intended to be applicable to federal reimbursement, managed care and a number of insurers have adopted this scale as a universal standard, in effect creating a de facto national fee schedule. Sigsbee, *supra* note 187, at 320.

194. Mitchell S. King et al., *Expert Agreement in Current Procedural Terminology Evaluation and Management Coding*, 162 ARCHIVES INTERNAL MED. 316, 316 (2002). This system is so subjective and complex that a recent study demonstrated that even experts with an average of ten years experience only agree 58.7% of the time. *Id.* at 317-19.

195. *Id.*

196. See Thomas J. Zuber and Douglas E. Henley, *A Guide to the New Office Evaluation and Management Codes for 1992*, 45 AM. FAM. PHYSICIAN 703, 705 (1992). Take, for an example, a detailed office visit for an established patient (Code 99214). This requires *documenting* two out of the following three components: detailed history, detailed physical examination, and moderate complexity decision-making. *Id.* at 706-07. Much of the history-taking, such as past, family, and social history is redundant and already contained in the record. *Id.* at 704. The physical examination can consist of an extended examination of only one organ system, e.g., the circulation. *Id.* HCFA guidelines suggest that this encounter will take twenty-five minutes. *Id.* at 705. However, an experienced physician can perform a 99214 visit in less time. Compare this to a 99214

time is used as a guideline, it is only a controlling factor when counseling or coordination dominates (i.e., greater than fifty percent) the visit.<sup>197</sup> This can lead to relatively lower billing for a complicated therapeutic and disposition problem that does not necessarily require a large degree of objective data collection.<sup>198</sup> Lastly, this system requires extensive and time-consuming documentation, which is not part of the reimbursed service.<sup>199</sup> Add to this group practices and managed care organizations stressing cost reduction by providing more services in less time because of decreasing physician reimbursement for these services (despite increasing overhead), and one sees that the commodification of the health care industry discourages caring.<sup>200</sup> Not surprisingly, one author has described this process as the “‘hamster model’ of physician reimbursement.”<sup>201</sup>

This problem of reimbursement disproportionate to time spent combined with the general dissatisfaction of both patients and physicians with the “hamster model” may be fueling the innovation of luxury primary care.<sup>202</sup> With luxury primary care, physicians charge patients an annual fee in addition to submitting standard insurance claims for services rendered.<sup>203</sup> This permits physicians to see less patients per day, spending more time per patient.<sup>204</sup> By freeing up their

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counseling visit where twenty-five minutes of face-to-face time must be spent. Mary Lou Bowers, *Billing for Length of Time of Physician Services under Medicare*, ONCOLOGY NEWS, Sept.-Oct. 2001, at 8. As Zuber and Henley noted, “counseling, coordination or care and nature of the presenting problem are considered contributory factors. These factors play a lesser role in determining the level of evaluation and management services. . . . Whether the physician completes [the encounter] in five minutes or fifty minutes is not important for coding purposes.” Zuber & Henley, *supra*, at 706-07. This is not to say that physicians do not provide caring and counseling during an office visit. This merely reiterates that the payment system is not designed to encourage this.

197. Zuber & Henley, *supra* note 196, at 705.

198. For example, consider a well-known, established elderly patient who may have recently had a complete physical examination but is now predictably having difficulty completing activities of daily living secondary to the aging process.

199. Zuber & Henley, *supra* note 196, at 708.

200. Morrison, *supra* note 18, at 81.

201. *Id.* at 80.

202. Troyen A. Brennan, *Luxury Primary Care – Market Innovation or Threat to Access?*, 346 NEW ENG. J. MED. 1165, 1165 (2002).

203. *Id.*

204. *Id.*

schedule, physicians can provide “amenities” not commonly seen in modern practice, such as accompanying a patient to a specialist.<sup>205</sup>

Another obstacle to caring, outside of the financial disincentives, has been the advent of technology within biomedicine. In the early nineteenth century, a physician diagnosed heart disease by placing his bare ear on the patient’s naked chest. In the early twentieth century, he used a stethoscope, but he held that stethoscope with his bare hand against his patient’s naked chest for a prolonged period of time, moving the patient through a variety of positions designed to intensify and diminish heart tones.<sup>206</sup> Today, he refers the patient for an echocardiogram.<sup>207</sup>

Although technology per se does not preclude humanism it does allow the physician to avoid it. The humanistic side of medicine is not easy; it is time consuming and can be uncomfortable to the practitioner.<sup>208</sup> Take for an example the diagnosis of a myocardial infarction (heart attack). How simple it is to merely see the telltale signs on the electrocardiogram rather than taking a history and performing a physical. Technology allows us to dehumanize disease by looking at the cause rather than its effect on the person. In *The Sorcerer’s Broom*, Eric Cassell wrote about the attractiveness of technology because it has precision, excitement, power, and certainty.<sup>209</sup> He notes how technology “epitomizes the twentieth century ideal of knowledge—scientific, objective, and existing seemingly separate from humankind.”<sup>210</sup> But technology allows the practitioner to hide from the discomfort of the human condition and focus upon the technical aspects of care.<sup>211</sup> This results in “shrink[ing]

205. *Id.* at 1165-66.

206. For example, to diagnose aortic regurgitation, the physician would have the patient “sit up, lean forward, exhale completely and hold his breath in expiration.” BARBARA BATES, A GUIDE TO PHYSICAL EXAMINATION, 155 (2d ed. 1979).

207. *See, e.g.*, WILLIAM T. BRANCH, OFFICE PRACTICE OF MEDICINE 52 (3d ed. 1994) (“Two-dimensional echocardiography is of inestimable value in evaluating valv[ular heart disease].”). For an excellent essay on the humanistic representation made by the low-tech stethoscope, see Bonnie Solomon, *What the Stethoscope Said*, 135 ANNALS INTERNAL MED. 56 (2001).

208. *See generally* Stephenson et al., *supra* note 171.

209. Cassell, *supra* note 16, at 36.

210. *Id.* at 38.

211. *See id.* at 34. “EKGs, X-ray machines, monitors, CAT scanners, magnetic resonance imaging machines, and PET scanners are all imaging devices that distance physicians from the sick person.” *Id.* at 39.

the clinical problem until it is not that of a particular sick person, but of an organ.<sup>212</sup> Ultimately that leads to the displacement of caring from the biomedical paradigm.<sup>213</sup>

Despite these problems, biomedicine has been increasingly cognizant of the role of caring and CAM in America. More and more medical schools are offering classes in CAM.<sup>214</sup> The American College of Physicians has taken Eisenberg's data to heart and has started to offer lectures on CAM during its Annual Convention and is presently running a series of articles about CAM techniques within its flagship journal, the *Annals of Internal Medicine*.<sup>215</sup> The National Institutes for Health has established the Office of Alternative Medicine.<sup>216</sup> Humanism has enjoyed a reawakening in medical education.<sup>217</sup> Unfortunately, for the reasons described above, a physician wishing to offer more humanistic services remains hindered by the cost-containment system.

### B. The Patients

The great improvements in efficacy of biomedicine have been a double-edged sword in that patients of a generation ago were much more likely to accept the infallibility of medicine and live with their conditions. Patients did not question the care they received and were very tolerant of even bad care.<sup>218</sup> Today's patients are increasingly

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212. *Id.* at 36.

213. This displacement in caring may very well be affecting the health of the physician as well as his patient. Physicians, who traditionally "died with their boots on," have been taking disability retirement in greater numbers than previous generations. D. Ainge, *Increased Physician Disability Claims Causing 'Crisis' High Utilization of Disability Insurance May Leave Physician groups Fewer Options in the Future*, 42 MED. GROUP MGMT. J. 80 (1995). High percentages of internal medicine residents (physicians in postgraduate training resulting in board certification in Internal Medicine) are reporting depression, cynicism, and decreased humanism. Virginia Collier et al., *Stress in Medical Residency: Status Quo after a Decade of Reform?*, 136 ANNALS INTERNAL MED. 384, 388 (2002).

214. See Miriam S. Wetzel et al., *Courses Involving Complementary and Alternative Medicine at US Medical Schools*, 280 JAMA 784 (1998) (Seventy-five out of the 125 U.S. medical schools offer 123 courses involving CAM).

215. *E.g.*, Kaptchuk, *supra* note 58.

216. Josefek, *supra* note 185, at 296.

217. Stephenson et al., *supra* note 171, at 868.

218. GROSS, *supra* note 17, at 7.

better educated and sophisticated.<sup>219</sup> They see biomedicine curing, or at least beneficially affecting, a number of serious, and previously incurable, conditions.<sup>220</sup> Yet many conditions, especially chronic ones, remain poorly responsive to biomedical treatments. Examples include chronic musculoskeletal pain, allergies, and gastrointestinal complaints. Not surprisingly, these constitute the major reasons why patients are seeing CAM practitioners.<sup>221</sup>

One example of such a condition is Irritable Bowel Syndrome (“IBS”). IBS is a chronic condition manifested by abdominal pain, bloating, and diarrhea and/or constipation.<sup>222</sup> Prevalence is estimated to be ten percent within the general population, with a predilection for women.<sup>223</sup> Although not fatal, its effect on quality of life is estimated to be comparable to that of diabetes or dialysis-requiring kidney disease.<sup>224</sup> The outcome of biomedical therapy for IBS remains poor, despite significant knowledge of the pathophysiological findings of inflammation and increased motor responsiveness in the gut.<sup>225</sup> One interesting finding about the condition is the high occurrence of childhood sexual abuse, as high as fifty percent in some studies, in those suffering from the condition.<sup>226</sup> Despite this high incidence of psychological trauma, biomedicine has oft dismissed the mind-body connection and has insisted that the cure will be found by determining the pathophysiological etiology.<sup>227</sup> The physiological model has led to therapy, but not without danger. Alosetron was temporarily withdrawn from the market after the FDA reported that the medication had caused a number of cases of ischemic colitis, necessitating surgery.<sup>228</sup> Despite the obvious mind-body connection,

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219. Andrews, *supra* note 185, at 1312.

220. See *supra* notes 9-10 and accompanying text.

221. Eisenberg et al., *supra* note 3, at 1572.

222. Nicholas J. Talley, *Serotonergic Neuroenteric Modulators*, 358 LANCET 2061, 2061 (2001).

223. *Id.*

224. *Id.*

225. *Id.* at 2061-62.

226. B.B. Toner & D. Akman, *Gender Role and Irritable Bowel Syndrome: Literature Review and Hypothesis*, 95 AM. J. GASTROENTEROLOGY 11, 13 (2000).

227. Drossman, *supra* note 71, at 252.

228. Talley, *supra* note 221, at 2064. On June 7, 2002, in response to considerable patient demand, the Food and Drug Administration allowed Alosetron to be prescribed on a restricted basis. About IBS, *Lotronex Publications*, available at <http://www.aboutibs.org/Publications/lotronex.html> (last visited Apr. 17, 2004).

biomedicine is often remiss in addressing that issue. One paper advocated excluding from medical trials of IBS therapy patients whom have a history of abuse or psychiatric disorder, so as to not affect the results of the study.<sup>229</sup> Unfortunately CAM has also had mixed results in addressing the problem of IBS.<sup>230</sup> It is likely that effective therapy will be holistic and multifactorial involving a variety of integrative modalities.<sup>231</sup>

Additionally, the paradigms behind CAM are attractive to people because they appeal to the cultural beliefs and behaviors inherent in the human experience.<sup>232</sup> Biomedicine has a long history of referring to Cartesian dualism, often calling symptoms unexplainable by science as psychosomatic, such as the example of IBS discussed above.<sup>233</sup> But CAM, “unlike . . . biomedicine, does not marginalize or deny human experience; rather, it affirms patients’ real-life worlds.”<sup>234</sup> CAM appeals to the spirituality in people,<sup>235</sup> a phenomenon presently reawakening in biomedicine as well.<sup>236</sup>

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229. Francis Creed, *The Relationship between Psychosocial Parameters and Outcome in Irritable Bowel Syndrome*, 107 AM. J. MED. 74S, 78S (1999).

230. See, e.g., D.L. Diehl, *Acupuncture for Gastrointestinal and Hepatobiliary Disorders*, 5 J. ALTERNATIVE & COMPLEMENTARY MED. 27 (1999) (showing no statistically significant improvement); A. Bensoussan, *Establishing Evidence for Chinese Medicine: A Case Example of Irritable Bowel Syndrome*, 64 ZHONGHUA YI XUE ZA ZHI 487 (2001) (showing improvement with Chinese herbal therapy but no difference between standard herbal therapy and individualized therapy); P. Tovey, *A Single-blind Trial of Reflexology for Irritable Bowel Syndrome*, 52 BRIT. J. GEN. PRACTICE 19 (2002) (having no effect).

231. A position biomedicine is increasingly reaching, albeit with reluctance, regarding CAM’s role in multi-disciplinary therapy. See A. Villaneuva et al., *Update in the Therapeutic Management of Irritable Bowel Syndrome*, 19 DIGESTIVE DISEASE 244, 244 (2001).

232. Kaptchuk & Eisenberg, *supra* note 52, at 1061.

233. Drossman, *supra* note 71, at 252-53.

234. Kaptchuk & Eisenberg, *supra* note 52, at 1063.

235. *Id.*

236. See Post, *supra* note 139.

## V. RECOMMENDATIONS FOR MEDICINE IN THE TWENTY-FIRST CENTURY: A CALL FOR INTEGRATIVE HEALTH CARE

This paper offers one explanation for the reemergence of CAM at the turn of the twenty-first century. Namely, the historical development of biomedicine as a scientific and technological paradigm, coupled with present-day economic realities, has led to the attenuation of caring within biomedicine. Patients, while becoming increasingly educated and sophisticated about the limitations of biomedicine in treating certain chronic conditions, are frustrated with this trend and are turning to alternatives. The question presented is, Where does health care go from here?

One answer is to integrate the two paradigms in the delivery of health care. This is inherent in the term “complementary” as contained in CAM.<sup>237</sup> But this will not occur without problems. A thorough discussion of those problems is beyond the scope of this paper, and in fact, entire books have been written on the subject.<sup>238</sup> This section merely serves as an introduction to the topic and makes a few suggestions as to solutions. Broadly speaking, barriers to integrative medicine include those within the culture of medicine and those external to the profession, primarily legal, regulatory, and economic.

Within the profession, biomedicine should continue to recognize the need for compassion, humanism, and caring within the efficacy and tradition of medicine. Attention should be directed toward determining what traits are conducive to these qualities, as well as shaping medical education in a way that does not quash these attitudes.<sup>239</sup> But equally important, the payment system needs to change so that the exercise of humanism and caring is both encouraged and reimbursed. There is evidence to suggest that this is cost effective.<sup>240</sup> One possible improvement would be to change the physician payment system from its present complex and confusing system of RBRVS to hourly billing, as is done with most every other

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237. Michael H. Cohen & David M. Eisenberg, *Potential Physician Malpractice Liability Associated with Complementary and Integrative Medical Therapies*, 136 ANNALS OF INTERNAL MED. 596, 596 (2002)

238. See, e.g., COHEN, *supra* note 13.

239. Stephenson et al., *supra* note 172, at 868-70.

240. H.E. Book, *Is Empathy Cost Efficient?*, 45 AM. J. PSYCHOTHERAPY 21 (1991).

profession and trade. This would allow those physicians who gravitate toward a holistic and humanistic approach to patient care to schedule fewer patients in a day while spending more time with each patient.<sup>241</sup>

Biomedicine should continue to acknowledge the recognized and potential efficacy of CAM practices and should encourage research and referral. Physicians and medical students, who as a group are demonstrating greater interest in CAM,<sup>242</sup> should be further exposed to and educated by their institutions, societies, and professional organizations on the efficacy of CAM in the treatment of certain conditions. This in turn should create in physicians a duty to refer to CAM practitioners those patients who would be benefited, just as physicians today refer patients to physical therapists and counselors.<sup>243</sup> Physicians have a duty to refer a patient to a specialist when required.<sup>244</sup> Failure to do so would be a deviation from the standard of care, and if that was the proximate cause of injury, liability in medical malpractice.<sup>245</sup>

The private law of malpractice interacts with integrative practice on two fronts. First, the duty to refer is only applicable where the therapy is the, or at least a, standard of care. As CAM is further studied, taught, and integrated within the medical community, then that

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241. An alternative is to pay physicians less salary for this decrease in productivity. However, there are problems with this alternative. Overhead averages almost two-thirds of a physician's office billing. See, e.g., Wisconsin Medical Society, available at <http://www.wismed.org/government/s-medicaidreimb.htm> (last visited Apr. 17, 2004). From a business viewpoint, what is important is a physician's ability to generate fees, rather than his or her cost in salary. However, this option is occasionally offered. See Michael H. Cohen, *Toward a Bioethics of Compassion*, 28 IND. L. REV. 667, 686 n.107 and accompanying text (1995).

242. Wetzell, *supra* note 214, at 786.

243. COHEN, *supra* note 12, at 111.

244. There is actually no per se duty to refer a patient. Rather, that duty is inherent within the duty of due care based upon the physician/patient relationship. *Keir v. United States*, 853 F.2d 398, 413 (M.D. Tenn. 1988). In other words, a physician's duty to act within the standard of care would necessitate referring a patient where the physician cannot provide that standard. Imagine the hypothetical where a patient presents to a family physician with a knee injury requiring surgery. The physician chooses to treat the patient conservatively and there are resulting damages. The physician would not be liable in malpractice for failing to refer to an orthopedic surgeon; rather his liability would be for failing to provide the surgical intervention, which would be necessitated by a referral since family physicians do not operate on people's knees. See also *Rios v. Bigler*, 847 F. Supp. 1538 (D. Kan. 1994).

245. *Rios*, 847 F. Supp at 1542.

standard will develop.<sup>246</sup> As of 2001, no court has held that a physician has an obligation to refer to a CAM practitioner.<sup>247</sup> Despite this, malpractice, or at least the threat of a malpractice action, has led to the reluctance of many physicians to refer to CAM practitioners.<sup>248</sup> This concern is based upon the misplaced fear that the patient suffering a bad outcome would sue over the decision to recommend alternative therapy.<sup>249</sup> That fear is unwarranted because as a general rule, referral in and of itself does not expose a physician to malpractice liability.<sup>250</sup> Liability for referral only occurs in the situation where the decision to refer to another practitioner is in itself negligent or the physician is directly supervising that other practitioner.<sup>251</sup>

Because of the absence of case law involving CAM practitioners, analysis of this issue is based upon physician referral to “conventional” practitioners. There is a “general rule of nonliability for referral” when one physician refers a patient to another physician.<sup>252</sup> This holds true even when the first physician continues to render care within his capacity.<sup>253</sup> The risk of vicarious liability does exist where the physician is required to maintain supervisory control over the allied professional.<sup>254</sup> However, in the case law involving situations outside of the operating room setting, liability is predicated upon the referring physician acting negligently in some way.<sup>255</sup> The test is whether the consulting practitioner can act independently.<sup>256</sup>

One example is *Joyce v. Boulevard Physical Therapy & Rehabilitation Center, P.C.*, where the court analogized a physical

246. COHEN, *supra* note 12, at 58-59.

247. Aimee Doyle, *Alternative Medicine and Medical Malpractice*, 22 J. LEGAL MED. 533, 540 (2001). A LEXIS search in December of 2003 revealed no subsequent cases.

248. Josefek, *supra* note 185, at 304.

249. David Studdert et al., *Medical Malpractice Implications of Alternative Medicine*, 280 JAMA 1610, 1611 (1998).

250. *Datiz v. Shoob*, 71 N.Y. 2d 867, 868 (N.Y. 1988).

251. Josefek, *supra* note 185, at 305.

252. Studdert, *supra* note 249, at 1612.

253. *Id.*

254. *Id.* at 1613.

255. *E.g.*, *Joyce v. Boulevard Physical Therapy & Rehabilitation Center, P.C.*, 694 A.2d 648, 657 (Pa. Super. Ct. 1997) (physician could be held liable for injuries sustained after physical therapist removed a patient’s knee immobilizer because physician was negligent in failing to instruct the therapist regarding limitations, where instruction was the standard of care).

256. *Joyce*, 694 A.2d at 657 nn. 6, 8.

therapist to a pharmacist because both must operate pursuant to a physician's prescription, and held that the referring physician would maintain vicarious liability.<sup>257</sup> But *Joyce* is not necessarily applicable to CAM practitioners, who independently evaluate and treat their clients. Although yet to be tested, the general rule of nonliability for referral would likely prevail in this type of situation.<sup>258</sup> Therefore, the "same commonsense considerations applicable to other referrals will be a reasonably reliable guide regarding acceptable practice[]" and physicians should not be concerned about any additional malpractice risk in referring to CAM practitioners.<sup>259</sup> As further research and education lead to the greater acceptance of CAM therapy as a safe and effective alternative in certain conditions, these alternatives will likely become an acceptable standard of care, necessitating the option of referral where indicated.<sup>260</sup>

Public law barriers to the integration of biomedicine and CAM need to be removed as well. A number of authors have discussed the regulatory impediments to integrative health care and have suggested

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257. *Id.* "[A physical therapist] cannot provide a service without a referral." *Flores v. Center for Spinal Evaluation and Rehabilitation*, 865 S.W.2d 261, 265 (Tex. App. 1993).

258. For example, where a physician refers to a massage therapist rather than a physical therapist. This is pure speculation, but a court may look at the dynamics of the relationship between the practitioners and analogize to conventional medical hierarchies. *See Joyce*, 694 A.2d at 656. Thus, the chiropractor and the acupuncturist would be "physician-equivalents" and the general rule of nonliability for referral would be applicable. *See Estate of Hannis by Hannis v. Ashland State General Hospital*, 554 A.2d 574, 578 (Pa. Commw. Ct. 1989) (holding that a family physician who referred the patient to an orthopedic surgeon had no further duty to follow the patient). But the massage therapist might be perceived as an allied health professional, akin to a physical therapist, and the referring physician would retain some degree of vicarious responsibility. *See Joyce*, 694 A.2d at 656-57.

259. Studdert, *supra* note 249, at 1614. In a recent article, Cohen and Eisenberg proposed a specific schema to evaluate malpractice risk, weighing the data on safety and efficacy of the proposed CAM technique and offering specific recommendations regarding counseling, documentation, and follow-up in order to manage that risk. Cohen & Eisenberg, *supra* note 237, at 596-601. In a follow-up article, the authors suggested that formalized credentialing would also be beneficial to reducing risk. David M. Eisenberg et al., *Credentialing Complementary and Alternative Medical Providers*, 137 ANNALS INTERNAL MED. 965, 971 (2002).

260. *See* sources cited and accompanying text *supra* note 259.

changes to remove these obstacles.<sup>261</sup> Suggestions include reevaluating the unauthorized practice of medicine doctrine, liberalizing state Medical Freedom Acts, and providing for third-party payment.<sup>262</sup>

Because legislatures often broadly define the practice of medicine,<sup>263</sup> CAM practitioners who practice at the limits of their scope-of-practice, but within their professional paradigm, may run afoul of the law and be charged with the unauthorized practice of medicine. In *Norville v. Mississippi State Medical Association*, an injunction was sought against a chiropractor accused of practicing medicine without a license for, inter alia, the adjunctive use of ultrasound, diathermy, and electrical muscle stimulation.<sup>264</sup> This was despite the wording of the Mississippi Chiropractic Licensing Statute which provided, in pertinent part, for a “procedure preparatory to and complementary to . . . adjustment of the articulations of the vertebral column.”<sup>265</sup> The Mississippi Supreme Court, in concluding that these modalities were prohibited from chiropractic application, stressed only the biomedical use of this therapy.<sup>266</sup> Although the injunction was dissolved on other grounds,<sup>267</sup> this case typifies the problem that can occur when a court looks at an issue from only the biomedical model, when there is overlap between biomedicine and CAM. One solution to this problem is to limit the statutory definition of unauthorized practice of medicine so that CAM practitioners, practicing within their paradigm, would not be in violation of the law.<sup>268</sup>

A second area of concern involves the chilling effect of charging licensed physicians who utilize CAM techniques with professional misconduct. The classic case is that of Dr. George Guess, whose license to practice medicine was revoked by the North Carolina Board of Medical Examiners for practicing homeopathy in conjunction with

261. See, e.g., COHEN, *supra* note 12, *passim*; Josefek, *supra* note 185, *passim*; Andrews, *supra* note 185, *passim*.

262. See generally COHEN, *supra* note 12.

263. See, e.g., NY EDUC. L. § 6521 (McKinney 2001) (“The practice of the profession of medicine is defined as diagnosing, treating, operating or prescribing for any human disease, pain, injury, deformity or physical condition.”).

264. *Norville v. Mississippi State Medical Association*, 364 So.2d 1084, 1085 (Miss. 1978).

265. *Id.* at 1086.

266. *Id.* at 1085-88.

267. Plaintiff failed to demonstrate the elements of irreparable harm or lack of an adequate remedy at law. *Id.* at 1091.

268. Andrews, *supra* note 185, at 1315.

biomedicine.<sup>269</sup> State Medical Freedom Acts (MFAs) provide that physicians who utilize CAM techniques are not per se engaged in professional misconduct.<sup>270</sup>

The development of these MFAs has encouraged the use of CAM within biomedicine.<sup>271</sup> But the MFAs are not without their problems. First and foremost, only nine states have enacted MFAs.<sup>272</sup> Second, they vary in their degree of protection. At one extreme is Washington's statute which protects the physician unless the practice is known to cause demonstrable harm.<sup>273</sup> On the other end of the spectrum is New York's, which only protects the physician when he is using known efficacious therapy.<sup>274</sup> Requiring efficacy is problematic because many CAM therapies either have not been proven to be efficacious by conventional scientific methodology or the data is published in foreign or otherwise unrecognized literature.<sup>275</sup>

Lastly, insurance carriers should be required to offer payment to all practitioners whose care has been shown to be efficacious to the condition covered.<sup>276</sup> For example, if an insurer covers rehabilitative services by a physical therapist, then reimbursement should also be offered to chiropractors and massage therapists. Although the issue is

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269. *In re Guess*, 393 S.E.2d 833 (N.C. 1990) *cert. denied*, 498 U.S. 1047 (1991).

270. *See, e.g.*, ORS § 677.190(1)(b) (Oregon 1999) ("For purposes of this subsection, the use of an alternative medical treatment shall not by itself constitute unprofessional conduct.").

271. *See* COHEN, *supra* note 12, at 92-95. In fact, following the *Guess* decision, the North Carolina legislature amended the state's medical unprofessional conduct statute. BARRY R. FURROW ET AL., *HEALTH LAW: CASES, MATERIALS, AND PROBLEMS* 107-08 (4th ed. 2001).

272. Alaska, Colorado, Georgia, Massachusetts, New York, North Carolina, Ohio, Oregon, Oklahoma, Texas, and Washington. Citizens for Health, *State Medical Freedom Legislation*, at <http://www.faim.org/states.htm> (last visited Apr. 17, 2004).

273. WASH. REV. CODE § 18.130.180.4 (2002) ("[T]he use of a nontraditional treatment by itself shall not constitute unprofessional conduct, provided that it does not result in injury to a patient or create an unreasonable risk a patient may be harmed.").

274. N.Y. EDUC. LAW § 6527(4)(e) (McKinney 2001) ("[T]he physician's use of whatever medical care, conventional or non-conventional, which *effectively* treats human disease") (emphasis added).

275. The legislative history behind New York's MFA provides for the use of these materials in the defense of a physician charged with unprofessional conduct so long as the data is based upon "sound science and empirical observation." COHEN, *supra* note 12, at 95.

276. *Id.* at 100.

contentious and controversial,<sup>277</sup> an increasing number of states are mandating insurance coverage of certain CAM practices.<sup>278</sup> Some insurers have voluntarily extended their coverage to CAM, satisfying patient demand and generating increased revenues.<sup>279</sup> Eisenberg, in the two surveys cited at the beginning of this paper, noted that approximately sixty percent of patients paid all the costs of care out-of-pocket.<sup>280</sup> He suggested that utilization of CAM would significantly increase if covered by insurance.<sup>281</sup>

## VI. CONCLUSION

In conclusion, CAM hibernated during the beginning of the twentieth century because the social, economic, and legal forces of the past 150 years led to biomedicine becoming the dominant health care paradigm. CAM reawakened in the 1990s because it filled a void in biomedicine; namely providing a more fulfilling and caring experience within the practitioner-patient relationship as well as offering an alternative form of therapy for certain conditions where biomedicine has not been very efficacious. Despite arguments over efficacy, it is clear that patients have expressed widespread interest in CAM and that biomedicine is starting to recognize that interest. Legal barriers to integrating CAM into modern health care should be removed in order to, if not hasten, at least not inhibit that process.

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277. *See id.* at 96-104.

278. Doyle, *supra* note 247, at 539.

279. *Id.*

280. Eisenberg et al., *supra* note 3, at 1573.

281. *Id.* at 1575.