

# Central Lancashire Online Knowledge (CLoK)

| Title    | Politics ahead of patients: The battle between medical and chiropractic professional associations over the inclusion of chiropractic in the American Medicare System   |
|----------|--|
| Туре     | Article  |
| URL      | https://clok.uclan.ac.uk/id/eprint/32735/  |
| DOI      | https://doi.org/10.3138/cbmh.330-022019  |
| Date     | 2019   |
| Citation | Young, Kenneth (2019) Politics ahead of patients: The battle between<br>medical and chiropractic professional associations over the inclusion of<br>chiropractic in the American Medicare System. Canadian Bulletin of Medical<br>History, 36 (2). pp. 381-412. ISSN 0823-2105 |
| Creators | Young, Kenneth   |

It is advisable to refer to the publisher's version if you intend to cite from the work. https://doi.org/10.3138/cbmh.330-022019

For information about Research at UCLan please go to <a href="http://www.uclan.ac.uk/research/">http://www.uclan.ac.uk/research/</a>

All outputs in CLoK are protected by Intellectual Property Rights law, including Copyright law. Copyright, IPR and Moral Rights for the works on this site are retained by the individual authors and/or other copyright owners. Terms and conditions for use of this material are defined in the <u>http://clok.uclan.ac.uk/policies/</u>

| 1  | Politics ahead of patients: the battle between medical and chiropractic professional                |
|----|---|
| 2  | associations over the inclusion of chiropractic in the American Medicare system                     |
| 3  |   |
| 4  | ABSTRACT  |
| 5  | Healthcare professions struggling for legitimacy, recognition, and market share can                 |
| 6  | become disoriented to their priorities. Healthcare practitioners are expected to put the            |
| 7  | interests of patients first. Professional associations represent the interests of their members.    |
| 8  | So when a professional association is comprised of healthcare practitioners, its interests may      |
| 9  | differ from those of patients, creating a conflict for members. In addition, sometimes              |
| 10 | practitioners' perspectives may be altered by indoctrination to a belief system, or                 |
| 11 | misinformation, so that a practitioner could be confused as to the reality of patient needs.        |
| 12 | Politicians, in attempting to find expedient compromise, can value a "win" in the legislative       |
| 13 | arena over the effects of that legislation. These forces all figure into the events that led to the |
| 14 | acceptance of chiropractic into the American Medicare system. Two healthcare systems in a           |
| 15 | political fight lost sight of their main purpose: to provide care to patients without doing harm.   |
| 16 |   |
| 17 | KEYWORDS  |
| 18 | Healthcare policy, Medicare, Chiropractic, X-ray, Radiology, American Medical Association           |
| 19 |   |

20

### **INTRODUCTION**

21 The classical version of the Hippocratic Oath contains a well-known sentiment: "First do no harm."<sup>1</sup> The oath set forth an idea that has become integral to healthcare professions, 22 23 that the interests of patients supersede those of the practitioners. Medical physicians, chiropractors and others continue to administer a version of it upon graduation.<sup>2</sup> Yet, in 24 25 struggling for legitimacy, recognition, and market share in a fee-for-service structure, 26 professions can become disoriented to their priorities. Professional associations, which 27 represent the interests of their members, who in this case are health practitioners, find that 28 sometimes those interests conflict with the interests of their members' patients, or the public 29 at large. In addition, sometimes practitioners' perspectives may be altered by indoctrination 30 to a belief system, or misinformation, so that a practitioner could be confused as to the reality 31 of patient needs. These forces all figure into the events leading to the acceptance of 32 chiropractic into the American Medicare system. I believe this paper is the first scholarly 33 work do explore these events. Themes of professionalization, professional identity, and 34 legitimacy figure prominently. Chiropractic sought legitimation through wider acceptance by 35 policymakers and other healthcare providers, and they wanted a share of the aged care 36 market. Organized medicine sought to protect the public from what they considered a danger 37 to public health, and they fought to control government reimbursement services. Legislators 38 acted as they usually do, by weighing public opinion and lobbyist influence, then taking the 39 expedient action. In the end, chiropractic was accepted into Medicare, but not to the degree 40 they had hoped. Organized medicine inserted a "poisoned pill" into the legislation at the last 41 minute, hoping to derail the entire process, but it did not work as anticipated. Legislators 42 scored a victory, though, by passing a popular bill expanding Medicare with much more than 43 just the addition of chiropractic. Richard Nixon, who was helped to re-election in 1972 by its 44 passage, called it "landmark legislation that will end many old inequities and will provide a

45 new uniform system of well-earned benefits for older Americans, the blind and the
46 disabled."<sup>3</sup> All participants in the chiropractic portion of the Medicare expansion process
47 focused on their own interests rather than those of their patients and some patients were
48 harmed, physically, mentally, and/or financially.

49 The [REDACTED] University Human Research Ethics Committee approved this 50 research (approval number 2012/152). This paper draws on a variety of primary sources of 51 information, including interviews with several key figures involved in the events described 52 herein as well as their contemporaneous writings in professional publications, the 53 Congressional Record, and one audio recording. I also utilized secondary sources like books, 54 newspapers and journal articles accessed in public and private archives.

55 The history of health care in the United States of America (USA) involves disparate 56 forces, including government, insurance companies, pharmaceutical and medical device 57 manufacturers, doctors' groups, and professional associations. Emphasis on health promotion 58 and consumerism have also affected policy decisions. There has been no unified national 59 policy on healthcare in the USA, but rather many policies on various aspects of healthcare. 60 This patchwork has resulted in entrepreneurship and research that has offered exceptional 61 care to some, but not all, and it carries a massive economic cost. Healthcare spending in the USA is more than twice per capita the amount in the UK, and the overall outcomes are not as 62 63 good. All the American government provider systems arose after a private insurance system 64 was well-established, and were shaped to support that private system, with the fee-for-service 65 model that was economically advantageous for doctors, hospitals, and medical groups. One of the most influential organizations in consolidating this structure was the American 66 67 Medical Association (AMA) which had successfully opposed all forms of nationalized healthcare.<sup>4</sup> 68

69

Medical professional associations, including the AMA, have long been influential in

American healthcare.<sup>5</sup> In the mid-19<sup>th</sup> Century, a wide variety of 'irregular" health 70 71 practitioners competed on a market basis with "regular" or orthodox physicians for patients. 72 Many medical treatments at this time were either without effect other than placebo; others were simply dangerous.<sup>6</sup> This disorganized environment led a group of physicians to draft a 73 74 set of ethical and educational standards for practitioners. The document became the 1847 75 Code of Medical Ethics of the AMA. It was a public proclamation that formed the basis of 76 the fiduciary relationship between patients and practitioners. In exchange for the 77 responsibility of ensuring trust in the uniform standards of skills and behaviour for physicians 78 as well as acting in the public interest, it claimed autonomy for the profession.<sup>7</sup> But 79 Sociologist Tracey Adams cites the fluidity in the definition of 'public interest' and notes 80 changes in response to public demand over time. She also acknowledges incomplete 81 understanding as to the true motivations of professions invoking the concept of public 82 interest. Whether used in earnest or cynically to gain power and status, the social contract made the professional association more powerful.<sup>8</sup> Physicians were allowed to determine 83 84 standards of skills and behaviour that one must demonstrate in order to become and remain a 85 physician, and even the scope of what is considered medical practice. The 1847 pact formed 86 the base on which were built the ideas of self-regulation and monopoly power which would 87 eventually impact all alternative systems, including chiropractic, once it was founded in 88 1895. Sociologist and authority on professionalism Eliot Freidson noted that exclusivity of 89 membership and special expertise supported by professional associations helped create public 90 acceptance of a profession's self-regulation.<sup>9</sup> The social pact could only be subsequently 91 altered from within the association, and transgressors could be banished and left without its protections.<sup>10</sup> 92

Alternative healthcare systems, which by definition were outside medical associations
like the AMA, were viewed as rivals, marginalized with rhetoric, disparaging labels, and

95 later, legal action. Chiropractors were only one group among many, including osteopaths, 96 homeopaths and Christian Scientists, who were called "quacks" and denigrated in various publications.<sup>11</sup> Beginning in 1870, organized medicine, led by the AMA, began to use its 97 98 power in order to suppress these alternative systems. Legislators were lobbied to pass laws 99 regulating the practice of medicine. Medicine became defined as provision of any type of 100 healthcare by any type of practitioner. In 1906, the AMA was able to ensure that licensure was granted only to graduates of schools approved by their Council of Medical Education.<sup>12</sup> 101 102 Thus, alternative practitioners could be prosecuted for practicing medicine without a licence. 103 This was the beginning of a hegemonic process continued by the AMA for decades.

104 Professional autonomy is often moderated by government regulation. But calls for 105 oversight have often come from within a profession. Regulation brings legitimation and 106 additional enforcement mechanisms for exclusivity of access. That is, the public assumes that 107 regulated practitioners are competent, and the profession can limit entry to its ranks, which 108 can help ensure competence of practitioners. It can also decrease competition. This has been 109 seen frequently with healthcare, where medical professional associations and the state work 110 together, limiting the ability of alternative practitioners like homeopaths, botanical healers, apothecaries and others to provide services designated as "medical."<sup>13</sup> 111

A number of other factors also assisted medicine's rise to dominance. Medical anthropologist Hans Baer characterizes the hegemony of the AMA as a class issue, involving a coalition of interests with a common goal: "The emerging alliance around the turn of the century between the AMA, which consisted primarily of elite practitioners and medical researchers based in prestigious universities and the industrial capitalist class, ultimately permitted biomedicine to establish political, economic, and ideological dominance over rival medical systems."<sup>14</sup>

119

Scientific advancement, such as with inoculations, meant that patients became less

120 likely to understand how treatments worked, yet nonetheless were able to benefit from those 121 treatments. Matthew K. Wynia, long-time Director of the AMA Institute for Ethics and 122 Center for Patient Safety, posits that over time this led to pride, paternalism, loss of empathy 123 and reduced standards of customer service in the medical profession. The growth of scientific 124 medicine also achieved so many successes in cures and treatments that arguments against medical control of healthcare seemed almost ridiculous.<sup>15</sup> Hubris and power combined to lead 125 126 to a sense of entitlement. The AMA began to believe its judgment was infallible, and that the 127 state was its enforcement arm.

128 The hegemonic process helped lead to the disappearance of some alternative 129 therapies, but many still exist. Of all the complementary and alternative (CAM) health 130 professions, only American osteopathy took the route of eliminating its alternative practices 131 and beliefs. This resulted in the AMA removing its cultism label from osteopathy in 1961. 132 The AMA even extended membership to osteopaths and allopathic residency programmes 133 accepted osteopathic graduates. But the tradeoff for osteopathy was that by the 1970s it had 134 lost its unique identity in America and was virtually indistinguishable from medicine.<sup>16</sup> 135 Several authors have touched on the chiropractic episode, but little historical analysis 136 has been undertaken. Two contemporaneous authors and chiropractic supporters, AMA whistleblower William Trever and chiropractor Chester Wilk, adopted a position of outrage 137 138 at the tactics of the medical opposition to chiropractic, and both related much first-hand 139 information in their books. Wilk later became the main plaintiff in a successful anti-trust 140 lawsuit against the AMA.<sup>17</sup> Trever included reproductions of internal AMA and state-based 141 medical group memos as well as correspondence with legislators. Some of these documents 142 were also used as exhibits in Wilk's suit. But neither author related the specific details of the Medicare episode.<sup>18</sup> Peterson and Wiese in *Chiropractic: An Illustrated History*, sociologists 143 144 Holly Folk, Susan Smith-Cunnien and Walter Wardwell, and historian J. Stuart Moore only

145 briefly mention Medicare in their histories.<sup>19</sup>

None of the above sources explain the legislative manoeuvring that resulted in the outcome. None provide the details of how the traditional use of radiography in chiropractic enabled the AMA to develop the x-ray clause for the legislation, the mechanism by which the scope of practice was limited. A brief background on the traditional chiropractic healthcare paradigm is necessary for context.

151

## THE ORIGINS AND DEVELOPMENT OF CHIROPRACTIC

152 Although manual manipulation of bones and joints as a healing art has existed for 153 centuries, the particular method that came to be called chiropractic originated in the USA in 154 1895. For the first few decades of the its existence, chiropractic considered itself alternative 155 rather than complementary to medicine, and some in the profession still do. The traditional 156 chiropractic ideology or practice paradigm was a form of vitalism. Daniel David Palmer, 157 known as D.D., was a Canadian-born merchant and self-styled "magnetic" healer living in 158 Davenport, Iowa at that time. Palmer credited a mysterious force that he called Universal 159 Intelligence, essentially a form of god, as responsible for life and health. This force manifested in humans as "Innate Intelligence" in the brain, and was transmitted as "nerve 160 161 impulses" down the spinal column through nerves to all the organs and body parts. Therefore, 162 if a vertebra was slightly out of place, a state he called "subluxation", it could impinge 163 nerves, alter the flow of the impulses, and create ill health. D.D. held the opinion that 95% of 164 disease was caused by subluxated vertebrae and the remaining 5% by subluxated peripheral 165 joints, such as the elbow or ankle.<sup>20</sup> Palmer began teaching his new theory to others almost 166 immediately, including to his son Bartlett Joshua Palmer, known as B.J. After D.D. suddenly 167 departed Iowa for the west coast in 1902, B.J. assumed responsibility for the school his father had started, asserting himself as leader of the budding profession. In 1910 he made a decision 168 169 that would have repercussions more than half a century later by incorporating x-ray into

170 chiropractic as a way to prove subluxations.<sup>21</sup>

Through the mid-20<sup>th</sup> century, chiropractic took steps toward professionalization. 171 172 Kansas and North Dakota were the first states to license chiropractors and by 1963 all but two states had chiropractic legislation, although scopes of practice varied.<sup>22</sup> The National 173 174 Board of Chiropractic Examiners was established in 1961, and the Federation of Chiropractic Licensing Boards in 1968.<sup>23</sup> The Council on Chiropractic Education, formed in 1935 by the 175 176 National Chiropractic Association (forerunner to the ACA) in an effort to standardize 177 chiropractic education, was accredited by the Department of Health, Education and Welfare in August 1972.<sup>24</sup> Reforms led to the decline in numbers of teaching institutions from 42 in 178 179 1930, most with 18-month courses, to 15 in 1963, all with 4-year courses. These efforts seem 180 to have been taken in a sincere effort to gain legitimacy. Donning the mantle of orthodoxy in 181 organizational structures must also have made chiropractic more palatable by a wider swath of legislators. 182

Like other CAM professions, chiropractic has a schism that it has not yet reconciled.<sup>25</sup> 183 184 The two main groups of chiropractors have often been referred to as "straights" and "mixers." 185 This division reflected an emphasis on treatments employed. Straights used manual 186 manipulation or "adjusting" of the spine for all ailments. Mixers "adjusted" as well, but also used heat, cold, ultraviolet, massage techniques, and other ancillary measures not including 187 188 drugs and surgery. In this paper, I change the focus of the division from treatment methods to 189 aetiology of disease. Broadly, some within the profession hold to the traditional idea that 190 subluxations are the predominant influence on health, and often radiography is considered the primary tool for detecting this "lesion."<sup>26</sup> This group will be referred to as traditional or 191 192 vitalistic chiropractors. The other group will be referred to as biomedically-oriented 193 chiropractors. Generally, they believe in germ theory, the utility of vaccinations, judicious 194 use of diagnostic imaging, and other mainstream healthcare tenets. They focus on manual

therapy for biomechanical conditions, view themselves as complementary rather than
alternative, and seek integration with overarching health systems. In my opinion, it is more
important to understand the paradigm a healthcare practitioner applies to health and disease
than to focus on treatment methods. The overall paradigm is more revealing of a
practitioner's comprehension of diagnosis, science, and evidence, and therefore gives greater
insight into the differences in the chiropractic factions.

201 These groups do not neatly divide into the two main professional associations in the 202 USA, the American Chiropractic Association (ACA) and International Chiropractors 203 Association (ICA). There is overlap of health paradigm in both membership populations, 204 although the ICA tends to have more traditionalists in its leadership and constituents, and the 205 ACA more biomedicals. In the 1960s, the ACA had about twice as many members as the 206 ICA. There were also "independents" who belonged to neither group, and in this group the 207 paradigm varied as well. For purposes of this paper, the predominant paradigm of each 208 association will be used in the understanding that uniformity of opinion did not exist, but 209 tendencies did.

210

# THE AMA'S EFFORTS TO CONTAIN AND ELIMINATE CHIROPRACTIC

211 By the 1960s, most alternative health systems in the USA had either disappeared, like 212 Thompsonians and naprapaths, had been marginalised into insignificance like Christian 213 Scientists and naturopaths, or been incorporated into medicine like osteopaths. Chiropractors, 214 however, retained their independence, and had gained a small but consistent part of the 215 healthcare market. About 10% of Americans and Canadians have used their services.<sup>27</sup> 216 Chiropractic became a particular target of the AMA. The AMA's methods were many and 217 varied. They printed and distributed thousands of anti-chiropractic brochures to schools, 218 colleges, medical practices and organizations. They sent fake prospective student applications 219 to chiropractic colleges in order to expose weaknesses in the education system. They wrote

letters to professional journals and popular magazines, lobbied legislators at the local, state,
and federal levels to try to exclude chiropractic, and they pressured members of influential
committees.<sup>28</sup>

223 In 1963, the AMA formed a Committee on Quackery to "[determine] the true nature 224 of chiropractic and its practitioners, and to inform the medical profession and the public of its findings."<sup>29</sup> The product of this investigation was a pamphlet, entitled *Chiropractic: The* 225 226 Unscientific Cult. In setting the tone for the Committee, the AMA House of Delegates issued 227 the following statement: "Either the theories and practices of scientific medicine are right and 228 those of the cultists are wrong, or the theories and practices of the cultists are right and those of scientific medicine are wrong."<sup>30</sup> In 1967, H. Doyl Taylor, secretary of the Committee on 229 Quackery and a leading figure in AMA efforts on chiropractic, spoke at a "quackery 230 231 workshop" held at Ball State University in Indiana, framing the discussion with this 232 statement: "As you know, [chiropractic] is a cult, about as far removed from scientific medicine, the diagnosis and treatment of human illness as it is possible to get."<sup>31</sup> The 233 234 ridiculing nature of these words de-legitimised chiropractors in the structure of the argument. 235 It portrayed the AMA as representing the norm and chiropractic as deviant. Sociologists 236 Yvonne Villanueva-Russell and Susan Smith-Cunnien asserted that by defining chiropractic as "deviant" and using derogatory terms like "unscientific cult," the AMA could frame itself 237 as mainstream, reasonable, and scientific, for its own social and political benefit.<sup>32</sup> 238 239 Despite acknowledging that a variety of practice paradigms existed within chiropractic, the AMA's focus remained on the vitalistic chiropractors.<sup>33</sup> Some of the 240 241 statements by the Committee on Quackery seem political or adversarial, rather than clinically detached: "With the establishment of the Committee on Quackery, in 1964, extensive study 242 243 was made to determine exactly what chiropractic is and where it is most vulnerable to public exposure."<sup>34</sup> Trever expresses it this way: "the Committee lacked sufficient 'scientific proof' 244

to back their slanderous campaign."<sup>35</sup> Because of the extreme measures to ensure secrecy at 245 246 the AMA, the totality of the information that the Committee obtained on chiropractic practices is not known.<sup>36</sup> However, the examples they cited were damning for chiropractic. 247 248 The pamphlet included reproductions of advertisements claiming cures for various diseases 249 including cancer and mental illness. Chiropractors were quoted making statements against the 250 utility of vaccinations. Repeatedly noted was an epistemology invoking appeal to authority; the "authority" was usually either D.D. or B.J. Palmer. The Unit Plan also denigrated 251 chiropractic educational standards, which were, in fact, inferior to those of medicine.<sup>37</sup> It 252 253 further stated: "The prime mission of the Committee on Quackery at its founding was to be, 254 first, the containment of chiropractic, and, ultimately, the elimination of chiropractic as a health hazard."<sup>38</sup> Part of the plan was to influence legislative bodies.<sup>39</sup> It stated that "the 255 Medicare-Medicaid rules on chiropractic [must be] drawn as tightly as possible."<sup>40</sup> The Unit 256 257 *Plan* described ghost-writing policy statements and distributing publications on behalf of 258 various "independent" bodies such as the American Federation of Labor-Congress of 259 Industrial Organizations (AFL-CIO) and the Consumer Federation of America in order to lend the weight of ostensible support from respected organizations to their message.<sup>41</sup> The 260 AMA sponsored multiple regional conferences called "Health Quackery – Chiropractic" over 261 a period of five years. They attempted to derail accreditation of chiropractic schools. Doctors 262 263 and hospitals were forbidden from granting chiropractors any privileges including receiving 264 referrals of patients for x-rays or blood tests. The Unit Plan did concede that after 265 chiropractic ceased to exist, chiropractors, with their manual skills, might be able to be retrained "to serve as another extension of the physician's hands."42 266 267 At this point it could be argued that the AMA and other medical associations genuinely believed that they were acting in the public interest, fulfilling their fiduciary duty 268

as they saw it, by attempting to limit public access to chiropractors, whom they viewed as

270 dangerous. Their later actions became more ethically questionable.

271

# THE INCLUSION OF CHIROPRACTIC IN MEDICARE

In 1964, Lyndon Johnson won the presidency; his agenda included improving 272 healthcare.<sup>43</sup> However, concessions had to be made to medical special interest groups, 273 274 including coverage for physician outpatient services as well as hospital visits for both general 275 and specialty practitioners. Physicians were given total freedom in diagnosis, treatment and 276 prescription of medications. The fee-for-service model was retained, and people were able to see whichever doctor they wanted.<sup>44</sup> The bill with these provisions became the first iteration 277 of Medicare, and it passed with AMA approval in 1965,<sup>45</sup> resulting in improved health and 278 well-being for many people across the country.<sup>46</sup> Medicare quickly became popular, and 279 280 other health professions, including chiropractic, optometry, social work, and eight others 281 requested inclusion. Congress opened an investigation into the possibility of expanding Medicare.<sup>47</sup> In 1967, Wilbur Cohen, the Secretary of Health, Education, and Welfare (HEW), 282 283 was tasked with undertaking the study.

284 The government required the health professions to provide evidence of legitimacy. 285 The Federation of Chiropractic Licensing Boards (FCLB) oversaw chiropractic licensing. 286 Chiropractor Richard E. Vincent represented the FCLB in testimony to the House Ways and Means Committee, assuring Congress that there were professional standards as well as a 287 mechanism for upholding them.<sup>48</sup> However, the assessment process turned out to be neither 288 289 straightforward nor transparent. According to sociologist and HEW committee member 290 Walter Wardwell, the report essentially had been written before the committee even met.<sup>49</sup> 291 He also related that pressure was applied to members of the committee to adopt the AMA 292 position. Wardwell later revealed all the anti-chiropractic documents and verbal 293 recommendations from AMA members that he had received as a member of the committee.<sup>50</sup> 294 Sociologist Catherine Biggs has indicated that in Canada, the government responded

| 295 | to the tension between the popularity of chiropractic services and the opposition of the                 |
|-----|--|
| 296 | powerful medical lobby by calling for a Royal Commission or equivalent to study the matter.              |
| 297 | In Canada's case, the government reports provided rationales for including chiropractic in               |
| 298 | state-funded healthcare. <sup>51</sup> Not so in the USA. The final HEW report issued 28 December        |
| 299 | 1968 recommended that chiropractic not be included in Medicare, concluding:                              |
| 300 | Chiropractic theory and practice are not based upon the body of basic                                    |
| 301 | knowledge related to health, disease, and health care that has been widely                               |
| 302 | accepted by the scientific community. Moreover, irrespective of its theory,                              |
| 303 | the scope and quality of chiropractic education do not prepare the                                       |
| 304 | practitioner to make an adequate diagnosis and provide appropriate                                       |
| 305 | treatment. <sup>52</sup>   |
| 306 | Upon receiving news of the report, the chiropractic professional associations                            |
| 307 | responded with a White Paper, accusing Congress of a biased process and attempting to                    |
| 308 | clarify what they perceived as mischaracterizations of the profession. Congress dismissed it             |
| 309 | as invalid.53 The two main chiropractic associations, the ACA and ICA, embarked on a                     |
| 310 | political pressure campaign. It was comprised of three elements: working to amalgamate the               |
| 311 | two associations, letter writing to Congress, and lobbying through personal connections.                 |
| 312 | Being faced with a larger, better funded, and more politically connected lobbying                        |
| 313 | organization in the AMA, it was of paramount importance for chiropractic to present a                    |
| 314 | unified front to the world. In addition, experience had taught chiropractors that state and              |
| 315 | federal panels insisted on a single body of representation. ACA member James Cox                         |
| 316 | remembers: "I've testified in my state of Indiana before House and Senate committees. If you             |
| 317 | go in there split, you know what they say: 'You get it together and then you come back.'"54              |
| 318 | This created the impetus to join the two chiropractic professional associations. The ICA had             |
| 319 | about 4000 members. <sup>55</sup> They were overt in their advocacy of a traditional, vitalistic view of |

320 chiropractic and wanted the legislation to consider only the treatment of vertebral

321 subluxation.<sup>56</sup> The ACA had about 7500 members, and tended to be more biomedically-

322 oriented. The ACA's position was that chiropractors should be reimbursed for all the services

323 that they provided, not just for attending to vertebral subluxations. These services varied state

324 to state, depending on the licensure regulations, but included therapeutic ultrasound,

325 electrotherapy, massage techniques, and rehabilitation protocols.<sup>57</sup>

326 The ICA insisted that the ACA agree to a definition of chiropractic known as the "Chicago scope of practice."58 It focused on spinal subluxations as the cause of all disease, 327 328 with radiography for subluxation detection. Contemporaneous articles in chiropractic 329 magazines included promotion of x-ray imaging for subluxation analysis by ICA 330 chiropractors. For example: "It enables him to see inside and through the living body, 331 pinpointing with accuracy, the health problem areas... This aid is necessary in visualising the misalignments of the spinal column..."59 The strength of this belief can be seen in its 332 333 longevity and the language used by some of its proponents. In 1977, Leon R Coelho, chair of 334 the ICA Radiation Control Committee and director of the Roentgenology Department of the 335 Palmer College of Chiropractic wrote an article entitled "If spinography is dead, so is 336 chiropractic" in an ICA publication and included the following: Spinography is an imperfect system. Chiropractic is an imperfect 337 338 system, yet growing and surviving in an imperfect world. But do you know 339 something? IT IS THE BEST OF ALL SYSTEMS OF WHICH WE ARE 340 CONSCIOUS. HAVE FAITH IN IT, NOURISH IT, LOVE IT, because it 341 is all part of something much greater than us, and that something, within itself, is perfection. [All emphasis original.]<sup>60</sup> 342 343 In contrast, ACA members published articles on the mainstream use of the x-ray for 344 pathological diagnosis and railed against the idea of using ionising radiation as a screening

tool for all patients.<sup>61</sup> The ICA model for the radiographic visualization of subluxations was 345 346 denigrated by ACA chiropractors including Joseph Howe, who noted that normal anatomical 347 asymmetry, minor variations in osseous architecture, slight changes in patient position during 348 radiography, and the physics of the x-ray beam all invalidated the idea that "subluxations" 349 could be identified and quantified on radiographs. The tiny misalignments claimed by some chiropractors to be lesions causing disease were due either to illusion or imagination.<sup>62</sup> The 350 351 schism in chiropractic was particularly stark on the use of the x-ray. The potential merger of the two chiropractic associations failed again.<sup>63</sup> 352

353 The ICA and ACA submitted separate statements to the government. The ICA 354 requested reimbursement for spinal x-rays and spinal adjustments only. The ACA statement 355 acknowledged the usefulness of standard physical examination and diagnostic tests and also 356 discussed "subluxation," but as a biomechanical dysfunction, rather than a vitalistic entity, and without the necessity of radiography to identify.<sup>64</sup> The ACA statement also invoked the 357 358 idea of freedom of choice in health care and requested recognition of states' rights in regard 359 to scope of practice. That is, the ACA argued that Medicare legislation should reimburse for 360 whatever services chiropractors were licensed to provide in each state, rather than be limited 361 to adjusting spinal subluxations as the ICA advocated. This limit was viewed as overriding a state's right to determine the scope of practice for chiropractors.<sup>65</sup> HEW denied this argument 362 363 in 1969, citing lack of evidence for the effectiveness of chiropractic treatment and asserting 364 that their responsibility for the "safety and welfare of beneficiaries" allowed HEW to 365 determine the services to be reimbursed.<sup>66</sup>

366 Because the two chiropractic associations portrayed chiropractic differently, the AMA 367 was able to choose a portrayal of chiropractic that could serve to bolster its position opposing 368 Medicare coverage for chiropractors. Hoyt B. Duke of the ACA recognised this, writing that 369 the rigidity of the ICA's position and the infighting that it caused were making chiropractic

vulnerable to attack by the AMA.<sup>67</sup> There is no indication that either the ICA or ACA were
acting cynically or simply playing for power; they both sincerely believed that their position
was the correct one. The ICA believed that they were preserving chiropractic more truly to
the founder's ideals. The ACA was less concerned with tradition and was trying to move
chiropractic into a new phase of existence, embracing a more scientific approach to
healthcare.

376 The two chiropractic professional associations did cooperate on other lobbying 377 efforts. David D. (Dave) Palmer, grandson of founder D.D. Palmer, was the president of the 378 Palmer College of Chiropractic in the late 1960s and early 1970s. As such, his assent was 379 considered necessary for consensus on any strategic chiropractic-wide project. Palmer met 380 with ICA President William Day, ACA President Gerald Brassard, and other influential chiropractors in 1970 to discuss the "intensified Medicare-inclusion plan."<sup>68</sup> It included an 381 382 organized letter writing operation to encourage Congressional Representatives and Senators 383 to support including chiropractic in the Medicare expansion bill. The sample letters 384 distributed by the chiropractic associations highlighted the benefits of chiropractic and also 385 appealed to sensitive areas in American politics: market freedom and American Exceptionalism.<sup>69</sup> American Exceptionalism was expressed by sociologist and political 386 387 theorist Seymour Lipset as: liberty, egalitarianism, individualism, populism, and laissez-faire. 388 Lipset noted that even before the rise of the neoconservatives, which started with President 389 Ronald Reagan, the USA had lower rates of taxation, a less developed welfare state, and fewer government-owned industries than other industrialised nations.<sup>70</sup> The idea of freedom 390 391 in the healthcare marketplace attained similar enshrinement and this was also present in the chiropractic community.<sup>71</sup> Chiropractors argued that the AMA and government policies were 392 393 restricting peoples' freedom to choose the health care provider that they desired. William 394 Day wrote, "It is the birth-right of every American citizen to have the right to choose his own

particular type of health care, and it is our duty to make it possible for them to have the
opportunity to choose chiropractic!"<sup>72</sup> The goal was to have 10,000 letters sent from
chiropractors and patients. Ultimately, at least a million letters went out.<sup>73</sup> Because of this
popular support, many House Members introduced bills on the subject. Congressman Wilbur
Mills, who had been instrumental to the passage of Medicaid legislation, noted that this had
influenced the decision to include chiropractic.<sup>74</sup>

401 William Scott (Bill) Day was a particularly influential figure in the lobbying effort. 402 Day had been a Washington State Representative from 1959-1969 before being elected to the State Senate from 1969-1980.<sup>75</sup> He was a graduate of the Palmer School (1947), and the son 403 404 of two Palmer graduates. He took over the clinic in Spokane, Washington that his parents 405 started, and his son Tim, also a Palmer graduate, has operated it since Day's death in 1984. 406 Day helped ensure that traditional chiropractic was legislated as the scope of practice in Washington.<sup>76</sup> He also supported the traditional paradigm for chiropractic in Medicare, 407 408 testifying to that effect as Legislative Chairman of the ICA in front of the Senate Finance 409 Committee on September 16, 1970, along with other representatives of the ICA and ACA.<sup>77</sup> 410 Steve Renner also attended the Palmer school, and was employed in Day's clinic from 411 1976 - 1982. He recalled discussing the matter with Day: "[Bill] became friends with 412 Washington State's two U.S. Senators, Henry Jackson and Warren Magnuson. These two 413 were high-ranking Democrats in Congress. So because Bill was subluxation-based and his 414 connections with Jackson and Magnuson is how chiropractic became included in Medicare [sic]."78 Richard Vincent, an ACA chiropractor and president of the FCLB at the time, recalls 415 416 the situation similarly: "Bill Day was President of the [Washington] State Senate. Magnuson 417 was the Senator from Washington to Federal Government, and he was chair of the 418 Appropriations Committee, powerful. He was a driving force on healthcare. Now this is my 419 personal opinion: the influence that Bill Day had on Senator Magnuson was what drove the

subluxation [focus of the legislation]."<sup>79</sup> Day's perspective, as president of the ICA, was
transmitted to the federal legislature through Senators Jackson and Magnuson. It limited
chiropractic to the Chicago definition, that is, spinal subluxation relief requiring routine
radiography to detect subluxations. Later, in December 1972, Palmer issued a statement
disavowing the indiscriminate or routine use of x-rays, but affirming the remainder of the
"Chicago definition" of chiropractic.<sup>80</sup>

426 The Congressional debate on chiropractic was robust. Influential Senator Ted 427 Kennedy opposed including chiropractic in Medicare. He cited cases of chiropractors 428 overstating their abilities to cure serious disease, like cancer, causing patients to avoid seeing 429 medical doctors, with tragic results. But other Senators countered that all health care 430 professions had a small percentage of incompetent or fraudulent practitioners. State regulation, under which licensing/registration boards were established and maintained, was 431 432 considered adequate to protect the public in those professions and so it should be for chiropractic as well.<sup>81</sup> A few legislators related positive personal experience with a 433 434 chiropractor, but freedom of choice proved to be a particularly powerful argument regarding 435 healthcare in Congress. Most legislators agreed that the government should not tell citizens that they could not go to a chiropractor instead of a medical doctor if that was their choice.<sup>82</sup> 436 As sociologist Paul Starr noted, Americans were not willing to submit to the 437 judgement of experts, even in the realm of healthcare.<sup>83</sup> In fact, there was little evidence of 438 439 clinical effectiveness on which legislators could base a judgement. There were case anecdotes 440 from the publications of the professional associations and patient testimonials in pamphlets, advertisements, and the letters to Congress. These "success stories" did not contain the level 441 442 of clinical detail to be publishable in peer-reviewed journals. The first randomized controlled trial of chiropractic was not published until 1990.<sup>84</sup> The AMA gleaned evidence against 443 chiropractic similarly, from advertisements, anecdotes of patients harmed by chiropractors, 444

and by the investigation the AMA did into chiropractic education.<sup>85</sup> 445

446 The bill expanding Medicare was debated in the U.S. Congress for two years, passing in 1972, and it included chiropractic.<sup>86</sup> It contained 144 changes in welfare and health 447 448 benefits, and was estimated to cost \$5 billion. Its effects were vast, including coverage for chronic renal disease, disabled people under 65, a Chiropractic was a very small part.<sup>87</sup> 449 450 According to the New York Times (NYT), the House members of the conference committee 451 wanted to delay inclusion of chiropractic in favour of another study of it, but Senate members 452 wanted inclusion. Political "horse trading" ensued and the House yielded to the Senate in 453 exchange for unknown concessions on other matters. In addition, the NYT reported that some 454 sources said Wilbur Mills was annoyed at the AMA, and others indicated he "was tired of standing up almost alone to the pressure of the chiropractors."<sup>88</sup> The AMA took action to try 455 456 to neutralize chiropractic's inclusion just before final passage of the bill in Congress by 457 leveraging the idea that "subluxations" were the cause of disease. Medical doctor Stephen 458 Barrett, a leading figure in the fight against chiropractic for decades, wrote to the AMA and 459 suggested that they bring a lawsuit, to "present to the court the impossibility of writing regulations to pay for something that did not exist." But he recalled receiving no response.<sup>89</sup> 460 461 Instead, the AMA decided to try to amend the legislation just before passage. AMA EFFORTS TO LIMIT THE UTILITY OF MEDICARE FOR 462

463

# **CHIROPRACTORS**

464 After the House and Senate each pass their versions of a bill, any differences between 465 the two are reconciled in a conference committee. This committee is usually composed of 466 senior members of the House and Senate committees that originally considered the bill. 467 Amendments may be introduced during the conference committee, and after consensus is achieved, the final version of the bill is produced for a vote in both the House and Senate. 468 469 This is a straight yea or nay vote; no further amendments are allowed on any bill that has

470 been through conference committee. If passed, it is sent to the President to sign into law or to471 veto.

| 472 | According to Stephen Barrett, wording from the AMA was inserted during the                            |
|-----|---|
| 473 | conference committee.90 The specific clause allowed reimbursement to chiropractors only for           |
| 474 | manual manipulation of spinal subluxations that had been documented by x-ray. No other                |
| 475 | services were covered, nor was the cost of taking and interpreting the radiographs                    |
| 476 | themselves. Thirty years after the Medicare legislation passed, Barrett recalled the episode:         |
| 477 | A few weeks after the law was passed, Doyl Taylor, head of the AMA                                    |
| 478 | Department of Investigation told me that when chiropractic inclusion                                  |
| 479 | appeared inevitable, the "subluxation" language was inserted with the hope                            |
| 480 | of preventing chiropractors from actually being paid. The idea's originator                           |
| 481 | thought that because chiropractic's traditional (metaphysical)  |
| 482 | "subluxations" were visible only to chiropractors, this provision would                               |
| 483 | sabotage their coverage. <sup>91</sup>  |
| 484 | The NYT reported on this amendment made during conference committee, but gives                        |
| 485 | no attribution to any person(s) for the change. <sup>92</sup> The amendment effectively nullified the |
| 486 | practical utility of reimbursement for chiropractic services, and may have been another factor        |
| 487 | that allowed the House to accede to the inclusion of chiropractic in Medicare. At this point in       |
| 488 | the Medicare expansion process, any legislator objecting to one element in this massive and           |
| 489 | popular bill would have had to vote against the entire bill, a politically unwise move. The           |
| 490 | final bill, including the amendment to chiropractic, passed in both Houses. On 30 October,            |
| 491 | just a few days before the presidential election of 1972, President Richard M. Nixon signed it        |
| 492 | into law.   |

493 The regulations in the bill had been narrowly formulated so that chiropractors were494 considered "physicians" for the purpose of radiographically diagnosing and manually treating

495 a "subluxation" but not in any wider definition. Specifically, they were not "physicians" 496 under U.S.C. 1395x (s)(3), the part of the law that provided reimbursement for taking x-rays. 497 Reimbursement was also not given for physical exam or other diagnostic procedures.<sup>93</sup> 498 Medicare reimbursed radiographs if a medical doctor ordered them, but the AMA forbade medical doctors and hospitals at the time from accepting referrals from chiropractors.<sup>94</sup> 499 500 Chiropractors were licensed in all fifty states to take radiographs. But if they performed their 501 own radiography, chiropractors would either have to absorb the cost themselves or ask 502 patients to pay for them. Therefore this legislation caused potential financial harm to patients. 503 Members of the ICA greeted the news of inclusion in Medicare with short-lived jubilation until they realized they would not be reimbursed for the mandated radiography.<sup>95</sup> 504 505 But within the ACA, it caused an immediate division of opinion. Some members thought 506 Medicare should be abandoned, rather than submitting to the codification in law of such a 507 narrow scope of practice. Joseph Howe was an outspoken ACA member involved with the 508 internal politics of the situation. He assessed the legislative outcome as deleterious and 509 expressed his opinion to the leadership: "I said throw it back. Please don't tie us in to that 510 idea of subluxation being the only thing we do. But they didn't [throw it back]. I think, 511 personally, it's my opinion that Medicare has been a detriment to the profession from the beginning."96 However, the new law brought prestige, legitimation, and gave access to a new 512 513 cohort of patients, even if chiropractors received inadequate reimbursement for those in that 514 cohort. Ultimately, the ACA leadership decided to accept it, hoping that it might be 515 broadened in the future.<sup>97</sup> James Winterstein, long-time president of National College of 516 Chiropractic, and an ACA member at the time, acknowledges the dilemma: "I was supportive 517 of inclusion of chiropractic medicine in the Medicare program, but not in the way it was statutorily developed [limiting the scope of practice to spinal subluxation relief and requiring 518 519 x-rays]. That view was shared by most so called "mixers" of the time. We all thought,

520 however that this was the beginning that that as a profession we would be able to change the 521 language to provide a far better functioning statute for the profession and our profession."<sup>98</sup>

522

# THE CHIROPRACTIC SOLUTION TO MEDICARE REQUIREMENTS

523 Chiropractors had many different definitions of vertebral subluxation, mostly tiny 524 changes in position, not acknowledged as real by the medical community and unable to be reliably identified on radiographs by different chiropractors.<sup>99</sup> The ACA called for a meeting 525 526 to standardize the definition of radiographically demonstrable subluxations. The meeting took 527 place in Texas in November 1972 and became referred to as the Houston Conference. Within 528 the ACA there existed a group of chiropractors with a special interest in diagnostic imaging. 529 They undertook additional training as well as written and oral certification exams in order to 530 achieve the Diplomate of the American Chiropractic Board of Radiology (DACBR). These 531 "chiropractic radiologists" were called upon at the Houston Conference.<sup>100</sup>

The radiographic demonstration of subluxation was imaginary to at least some involved in the Houston Conference. There were deep misgiving and arguments on the subject. Many of the participants considered the "subluxation" to be a functional lesion of joint motion, rather than a displacement. For these chiropractors, there were no vitalistic implications of "the cause of all disease", but rather "subluxation" was a biomechanical dysfunction amenable to a variety of manual methods, of which chiropractic adjustments were only one.<sup>101</sup>

The new Medicare requirement ran counter to safety guidelines on the use of x-rays in requiring all patients to be radiographed. Joseph Howe wrote: "To demand that there be radiological evidence of vertebral subluxation in order to justify chiropractic treatment is irresponsible. It is totally contradictory to proper radiological health procedure which demands a clinical reason for any application of ionizing radiation to a human being."<sup>102</sup> The x-ray requirement even seemed nonsensical to some legislators. Senator Mike Gravel

545 recognized that the AMA had put in place a requirement that ran counter to best medical 546 practice. He wrote that the law "imposes an improper interference with the work and judgment of the Chiropractor. It does not guarantee the health and well-being of the patient; 547 in fact, it may endanger it."<sup>103</sup> The idea that there was no safe dose of ionizing radiation, 548 549 called the linear, no-threshold (LNT) model, had been introduced to the world by Herman Muller at his Nobel Prize acceptance speech in 1946.<sup>104</sup> Although there have been challenges 550 to this model, <sup>105</sup> and it has never been fully accepted in the chiropractic community, <sup>106</sup> it 551 became the dominant model in the ensuing decades. By 1956 the National Academy of 552 553 Sciences (USA) had adopted it. Then, within a few years this paradigm "had transformed governmental regulatory agencies in many countries, including recommendations of the 554 UN."107 The National Council on Radiation Protection and Measurements (NCRP) issued 555 radiation protection standards in 1954, which were revised in 1957 and 1958.<sup>108</sup> The 1958 556 557 edition introduced the risk/benefit calculation to the application of ionizing radiation, which later evolved into the ALARA (As Low As Reasonably Achievable) principle.<sup>109</sup> Despite 558 this, formal training in radiation safety was spotty in medicine.<sup>110</sup> However, by the time of 559 the Medicare expansion in 1972 the potential hazards of x-rays, even at low, diagnostic 560 561 doses, had been well-publicized, and should have been known to chiropractors, physicians, and legislators involved in the issue. There is evidence that this in fact was known in the 562 563 medical community; a letter from the Lehigh Valley Committee Against Health Fraud, a 564 group of health professionals including Stephen Barrett, to the United States Senate Finance Committee stated that they considered chiropractic x-rays to be "window dressing" and "a 565 radiation hazard."<sup>111</sup> This statement acknowledges both the understanding of the potential 566 567 danger of low levels of ionizing radiation, as well as the fact that x-rays should not be used in the absence of clinical justification. In light of the comments above, key figures in both the 568 569 medical and chiropractic communities did understand the safety issue and spoke out about it.

570 It therefore seems more likely that the issue was ignored rather than unknown.

571 Despite concerns, the attendees at Houston Conference decided to comply with the 572 ACA leadership and tried to find a way to make the new legislation workable. Chiropractor 573 and DACBR James Cox recalled: "While I felt apprehension about taking the program [the 574 limited scope of practice as defined in Medicare] as it was... the consensus out of my 575 profession and out of the ACA was that it was the proper step to take, so I supported that, because that's what my profession wanted to do."<sup>112</sup> The DACBR solution was to use 576 577 various medically recognized vertebral displacements and postural changes like 578 spondylolisthesis and scoliosis, calling them "subluxation" purely to meet the Medicare 579 requirement of radiographically documenting a positional change in one or more vertebrae in order to justify reimbursement for treatment.<sup>113</sup> James Winterstein remembered: "ACA 580 581 developed a "Medicare Manual" [the Basic Chiropractic Procedural Manual] and Joe Howe 582 and I wrote the section on radiography mostly at the kitchen table at my home office in West 583 Chicago, Illinois. In the manual we defined "subluxation" and showed examples and drew radiographs from my practice as evidence for the various types of subluxation."<sup>114</sup> Joseph 584 Howe added: "We came up with seventeen classifications, which was just foolishness, 585 frankly."115 These were political, not clinical definitions of subluxation. The DACBRs and 586 587 likely the ACA leadership knew that their "subluxations" were not the ultimate cause of 588 disease. Irradiating patients in order to document these subluxations ran counter to the 589 individual risk/benefit appraisal that should have been performed on each patient when 590 considering the use of x-rays. But, chiropractors were then able to document their "lesion" as 591 required by the law. The ACA published the "subluxations" in the Manual as well as in other media.<sup>116</sup> They also paid for several members to travel around the country giving 592 presentations disseminating the system.<sup>117</sup> Some ACA members like Joseph Howe were 593 594 uncomfortable with the situation, but participated nonetheless: "Jim Winterstein and I

developed slides of all those things. We made it up in a carousel [for slide presentation] and
we set out, a group of us, to teach that across the world. Something I have regretted ever
since."<sup>118</sup> Chiropractors had found a way to make the legislation workable, although they
knew it was ethically questionable.

Another potential harm to patients never mentioned by either side is the fact that in a proportion results from any type of diagnostic study there will be an anomalous result, often a false-positive, that requires further investigation. This often causes anxiety and further cost for patients needing additional studies, as was noted in the debate around mammography for breast cancer screening.<sup>119</sup>

604 Even under these dubious circumstances, inclusion in Medicare was a significant 605 achievement for chiropractic. In 1972, few inroads had been made towards government 606 reimbursement for chiropractic services anywhere in the world, nor were there chiropractors 607 on staff in government hospitals. This event influenced contemporaneous registration and 608 reimbursement inquiries on chiropractic in several countries, but at least one, New Zealand, 609 stated that they "did not consider the formula applied in USA to be appropriate for their 610 area."<sup>120</sup> The places where chiropractic has had the best success with integration into 611 government provision of healthcare are Denmark, Switzerland, and Canada. In those 612 countries, chiropractors in subsequent decades decided largely to abandon traditional 613 paradigms. Consequently, they are reimbursed equivalently with other practitioners. In 614 addition, those countries, and particularly Alberta in Canada, have the highest utilization rates for chiropractic, about twice that of other areas.<sup>121</sup> The first government investigation of cost-615 616 effectiveness for chiropractic was a study in Canada on low-back pain in 1993; it reported positive findings.<sup>122</sup> However, evidence for improved patient outcomes from chiropractic 617 treatment based on the radiographic demonstration of chiropractic subluxations or postural 618 619 changes has never been documented in a peer-reviewed, indexed journal.

620 In 1979 the U.S. House of Representatives held hearings on overexposure to 621 diagnostic x-rays. Herman Olsen, president of the ACA, authored a submission representing 622 both his organization and the ICA, urging the elimination of the mandate for x-rays. The 623 General Accounting Office, a non-partisan bureau of analysts for the U.S. government, also 624 submitted the following statement regarding the chiropractic x-ray requirement: "Since the x-625 ray serves no medical benefit... the patient is unnecessarily exposed to hazardous radiation 626 solely to fulfil an administrative requirement. The cost of the x-ray can be an expensive burden to the Medicare beneficiary as well."<sup>123</sup> But, this attempt to change the legislation 627 628 failed. The x-ray requirement was not removed from the Medicare regulations until 1 January 2000, when components of the Balanced Budget Act of 1997 were enacted.<sup>124</sup> Chiropractors 629 630 remained reimbursable only for manual manipulation to remove spinal "subluxations," but the subluxations could be documented by means other than x-ray.<sup>125</sup> 631

632

# CONCLUSION

633 This episode highlights an inherent conflict of interest in professional associations 634 that represent registered healthcare practitioners. Although the associations are bound to 635 protect and promote the interests of their members, not the public, the boards of professional 636 associations are largely comprised of professionals who are ethically bound to protect the public.<sup>126</sup> The events described herein demonstrate that the focus by both organized 637 638 chiropractic and organized medicine was not solely on public interest but rather more heavily 639 on the interests of their respective professions. It shows the distortion of perspective that may 640 result during a "turf war", in which two professions fight for, *inter alia*, public status and 641 healthcare dollars, with inadequate consideration of the patients receiving their services. 642 During this conflict, the stakes were high on both sides. Organized medicine framed

643 its position as protectors of the public from the "rabid dogs" and "killers" that were
644 chiropractors.<sup>127</sup> Biggs portrayed this episode as a critical junction in the legitimization and

645 economic survival of chiropractic as a profession. Recognition under Medicare raised 646 chiropractic's status and failure to be included would have meant that the cohort of Medicare patients may have gone on to receive services from other practitioners, like 647 physiotherapists.<sup>128</sup> But it had negative effects for the profession, as well. It reinforced the 648 traditional chiropractic belief system and it did not conform to radiation safety guidelines.<sup>129</sup> 649 650 All the professional associations involved in this battle lost sight of the civic duty that 651 comes with being a healthcare provider. The AMA decided to bet that the altering the 652 Medicare legislation would make it useless to chiropractors, but they lost the wager because 653 chiropractors found a way to work within the limits of the legislation. The AMA did not 654 adequately consider the consequences in the event that they lost.

Within chiropractic, the ICA had long promoted the use of x-rays for subluxation analysis, although there was, and still is, little evidence to support that belief. This meant that the scope of the legislation posed no ethical problem for them, but they were unhappy about the lack of reimbursement. Some chiropractors in the ACA, though, compromised their values on requiring clinical justification for the use of ionising radiation. The ACA advocated for a system that they did not really believe in so that they could gain the political "win" of becoming providers for Medicare patients.

662 For its part, the state took the expedient course. Legislators responded to the weight of 663 popularity of chiropractic, rather than clinical evidence for its effectiveness. They also 664 responded to strong emotions attached to the patriotic argument of freedom of choice. At 665 least one Senator has indicated that the change requiring radiography of all chiropractic Medicare patients inserted into the conference committee report was considered insignificant 666 in the scheme of the overall bill.<sup>130</sup> Few Senators or Representatives would have been willing 667 to vote against Medicare expansion because of a change to one element in one part of the bill, 668 669 a large and popular piece of legislation.

670 Both medical and chiropractic professional associations put politics ahead of patients, 671 and the state took a course of compromise, trying to please everyone and ending up pleasing no one. The damage from decades of x-rays being unjustifiably used on the Medicare 672 population has not been quantified, but is certain to exist. It manifested in several ways: in 673 674 potential damage to patients' health, the financial cost of x-rays, and by causing stress as well 675 as further diagnostic testing for patients with false-positive x-ray results. All parties, 676 including most importantly patients, would have benefitted if those involved in the battle for 677 chiropractic inclusion in Medicare had looked to evidence-based practice paradigms and 678 patient-focused care as their main objectives.

- 679
- 680 Notes
- 681

<sup>1</sup> This is actually not word for word in the Oath, although the sentiment is. The phrase is: "I will keep them [the sick] from harm and injustice." Michael North [translator], "Greek Medicine – Hippocratic Oath," National Library of Medicine, 2002, available at: https://www.nlm.nih.gov/hmd/greek/greek\_oath.html, (accessed 30 April 2019).

<sup>2</sup> J. Keith Simpson, Barrett Losco, and Kenneth J. Young, "Development of the Murdoch Chiropractic Graduate Pledge," *Journal of Chiropractic Education*, 2010, *24*, 175-86.

<sup>3</sup> Richard D. Lyons, 'Nixon Signs \$5-Billion Bill Expanding Social Security', *New York Times*, 31 October 1972, 1.

<sup>4</sup> Rosemary A. Stevens, "History and Health Policy in the United States: The Making of a Health Care Industry, 1948–2008," *Social History of Medicine*, 2008, *21*, 461-83; Robin Bunton and Roger Burrows, "Consumption and Health in the 'Epidemiological Clinic' of Late Modern Medicine," in *The Sociology of Health Promotion: Critical Analyses of Consumption, Lifestyle and Risk*, ed. Robin Bunton, Sarah Nettleton, and Roger Burrows (London: Routledge, 1995); Rene I. Jahiel, "Health Care System of the United States and Its Priorities: History and Countries," *Croatian Medical Journal*, 1998, *39*, 3-10; Miriam J. Laugesen, *Fixing Medical Prices: How Physicians Are Paid* (Cambridge, MA: Harvard University Press, 2016), 69.

<sup>5</sup> Jenny M. Lewis and Mark Considine, "Medicine, Economics and Agenda-Setting," *Social Science & Medicine*, 1999, *48*, 393-405.

<sup>6</sup> Charles Vincent, "Medical Harm: A Brief History," in Charles Vincent, *Patient Safety*, 2<sup>nd</sup> ed. (John Wiley & Sons, Ltd, 2010), 3-8.

<sup>7</sup> Matthew K. Wynia, "The Short History and Tenuous Future of Medical Professionalism: The Erosion of Medicine's Social Contract," *Perspectives in Biology and Medicine*, 2008, *51*, 565-78.

<sup>8</sup> American Medical Association, *Code of Ethics of the American Medical Association*,
(Philadelphia: American Medical Association, 1848).

<sup>9</sup> Eliot Freidson, *Professional Dominance: The Social Structure of Medical Care* (New York: Atherton Press, 1970), 18; Eliot Friedson, "Theory of Professionalism: Method and Substance," *International Review of Sociology*, *9*, 117-29.

<sup>10</sup> Wynia, "Medical Professionalism."

<sup>11</sup> Abraham Flexner, Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching: Bulletin No. 4 (New York: The Carnegie Foundation for the Advancement of Teaching, 1910); American Medical Association, Nostrums and Quackery (Chicago, II: American Medical Association, 1872); Anon., "Chiropractors -- Healers or Quacks? Part 1: The 80-Year War with Science," Consumer Reports, 1975, 40, 542-47; Terri A. Winnick, "From Quackery to Complementary Medicine: The American Medical Profession Confronts Alternative Therapies," Social Problems, 2005, 52, 38-61; James Harvey Young and Stephen Barrett, "A Historian's View of Quackery in 1974," Quackwatch (blog), 2016, available at:

https://www.quackwatch.org/13Hx/humbug.html, (accessed 30 November 2017).

<sup>12</sup> James G. Burrow, *Organized Medicine in the Progressive Era: The Move Toward Monopoly* (Baltimore, MD: Johns Hopkins University, 1977), 58.

<sup>13</sup> Tracey L. Adams, "Professional Regulation in Canada: Past and Present," *Canadian Issues*, 2007, 14-16.

<sup>14</sup> Hans A. Baer, "The American Dominative Medical System as a Reflection of Social

Relations in the Larger Society," Social Science & Medicine, 1989, 28, 1103-12.

<sup>15</sup> Wynia, "Medical Professionalism."

<sup>16</sup> James C. Whorton, Nature Cures: The History of Alternative Medicine in America

(Oxford: Oxford University Press, 2002), 239-40; Norman Gevitz, *The D.O.s: Osteopathic Medicine in America* (Baltimore: Johns Hopkins University Press, 1982), 145.

<sup>17</sup> Susan Getzendanner, "Chester A. Wilk V. American Medical Association," in *76 C 3777*,
ed. United States Court of Appeals Seventh Circuit (1987).

<sup>18</sup> William Trever, *In the Public Interest* (Los Angeles, CA: unknown, 1972); Chester Wilk,
"Chiropractic in Medicare," *Chiropractic Speaks Out: A Reply to Medical Propaganda, Bigotry, And Ignorance,* (Park Ridge, IL: Chester Wilk, 1973), 74-82.

<sup>19</sup> Dennis Peterson and Glenda Wiese, *Chiropractic, an Illustrated History* (St. Louis: Mosby Year-Book, 1995); Holly Folk, *The Religion of Chiropractic: Populist Healing from the American Heartland* (North Carolina: University of North Carolina Press, 2017); J. Stuart Moore, *Chiropractic in America* (Baltimore, MD: Johns Hopkins University Press, 1993), 115, 129-30, 144; Walter I. Wardwell, *Chiropractic : History and Evolution of a New Profession* (St. Louis: Mosby-Year Book, 1992); Susan L. Smith-Cunnien, "The campaign against chiropractic, 1961 – 1976: Chiropractic as enemy," *A Profession of One's Own*, (Lanham, MD: University Press of America, 1998), 85-113.

<sup>20</sup> Daniel David Palmer, *The Chiropractor's Adjuster: Textbook of the Science, Art and Philosophy of Chiropractic for Students and Practitioners,* (Portland, OR: Portland Printing House Company, 1910), 96.

<sup>21</sup> Bartlett Joshua Palmer, *Our Masterpiece* (Davenport, IA: Palmer School of Chiropractic, 1966); Palmer, *The Chiropractor's Adjuster*, 14-16.

<sup>22</sup> Peterson and Wiese, *Chiropractic, an Illustrated History*, 180.

<sup>23</sup> Federation of Chiropractic Licensing Boards, *History of Regulation*, available at: http://directory.fclb.org/About/HistoryofRegulation.aspx, (accessed 24 April 2019).

<sup>24</sup> Council on Chiropractic Education, "History," available at: <u>http://www.cce-usa.org/history.html</u>, (accessed 24 April 2019).

<sup>25</sup> Tracey L. Adams, "Chiropody/Podiatry: Interprovincial Differences in Profession Formation," *Canadian Bulletin of Medical History = Bulletin Canadien d'Histoire de la Médecine*, 2017, *34*, 364-92; Anne Taylor Kirschmann, "Making Friends for 'Pure' Homeopathy: Hahnemannians and the Twentieth-Century Preservation and Transformation of Homeopathy," in *The Politics of Healing: Histories of Alternative Medicine in Twentieth-Century North America*, Robert D. Johnson, ed., (New York: Routledge, 2004), 29-42.
<sup>26</sup> Kenneth J. Young, "Evaluation of publicly available documents to trace chiropractic technique systems that advocate radiography for subluxation analysis: a proposed genealogy", *Journal of Chiropractic Humanities*, 2014, *21*, 1, 1-24.
<sup>27</sup> Dana J. Lawrence and William C. Meeker, "Chiropractic and Cam Utilization: A Descriptive Review," *Chiropractic & Osteopathy*, 2007, *15*, 2; Peter J. H. Beliveau et al.,

"The Chiropractic Profession: A Scoping Review of Utilization Rates, Reasons for Seeking Care, Patient Profiles, and Care Provided," *Chiropractic and Manual Therapies*, 2017, 25, 35. <sup>28</sup> Trever, *In the Public Interest*; Wilk, *Chiropractic Speaks Out*; H. Thomas Ballantine, Jr., "Will the Delivery of Health Care Be Improved by the Use of Chiropractic Services," *New England Journal of Medicine*, 1972, 286, 237-42; Anon., "Reports and Comments," *Medical Care and Research Review*, 1970, 27, 310-23; "A Call to Arms," *Journal of the American Medical Association*, 1971, 217, 959; "In the Wisdom of Congress," *Journal of the American Medical Association*, 1970, 211, 1002-3.

<sup>29</sup> American Medical Association Department of Investigation, *Chiropractic: The Unscientific Cult* (Chicago, 1966), 3.

<sup>30</sup> American Medical Association Department of Investigation, *Chiropractic: The Unscientific Cult*, 3.

<sup>31</sup> H. Doyl Taylor, *Quackery Workshop* (Muncie, Indiana: Ball State University, 1967),
 Audio recording 02 August 1967, available at:

http://libx.bsu.edu/cdm/singleitem/collection/HistAudioRe/id/213/rec/1, (accessed 20 September 2017).

<sup>32</sup> Yvonne Villanueva-Russell, "Chiropractors as folk devils: published and unpublished news coverage of a moral panic", *Deviant Behavior*, 2009, *30*, 2, 175-200; Susan L. Smith-

Cunnien, A Profession of One's Own : Organized Medicine's Opposition to Chiropractic

(Lanham: University Press of America, 1998), 87.

<sup>33</sup> William Trever, *In the Public Interest* (Los Angeles: Scriptures Unlimited, 1972), 25-26,
61;

<sup>34</sup> Joseph A. Sabatier et al., *Memorandum*, in Trever, *In the Public Interest*, notes for chapter
2.

<sup>35</sup> Trever, *In the Public Interest*, 2.

<sup>36</sup> Trever, *In the Public Interest*, 2.

<sup>37</sup> American Medical Association Department of Investigation, *Chiropractic: The Unscientific Cult*, 9-12.

<sup>38</sup> H. Doyl Taylor, *Unit Plan for the AMA Committee on Quackery* (unknown, May 17, 1974), 1.

<sup>39</sup> Taylor, Unit Plan, 1.

<sup>40</sup> Taylor, *Unit Plan*, 3.

<sup>41</sup> This opposition by working-class groups sets the fight for American Medicare coverage apart from the fight for Canadian Medicare coverage. Support from working-class organizations was crucial to the success of chiropractic in Ontario. (Catherine L. Biggs, *No Bones About Chiropractic? The Quest for Legitimacy by the Ontario Chiropractic* 

Profession, 1895 to 1985, (Ph.D., University of Toronto, 1990), 348-350.

<sup>42</sup> Taylor, *Unit*, 5; AFL-CIO, "AFL-CIO Fact Sheet on Chiropractic," *Journal of the American Medical Association*, 1970, *214*, 1095-6.

<sup>43</sup> Theodore R. Marmor, *The Politics of Medicare*, 2<sup>nd</sup> ed., (Hawthorne, NY: Aldine Transaction, 2000), 46.

<sup>44</sup> Carl F. Ameringer, *The Health Care Revolution: From Medical Monopoly to Market Competition*, (Berkeley: University of California Press, 2008), 55.

<sup>45</sup> Marmor, *The Politics of Medicare*, 77.

<sup>46</sup> Social Security Administration, *The History of Medicare*, available at:

https://www.ssa.gov/history/tally65.html, (accessed October 30, 2016); Centers for Medicare

& Medicaid Services, "Medicare and Medicaid: Keeping Americans healthy for 50 years,"

The Medicare Blog, available at: https://blog.medicare.gov/2015/07/27/medicare-and-

medicaid-50-year-anniversary/ (accessed 01 November 2016); Karen Davis and Roger

Reynolds, "The impact of Medicare and Medicaid on access to medical care," in Richard N.

Rosett (ed.), *The Role of Health Insurance in the Health Services Sector*, (Washington, D.C.: National Bureau of Economic Research, 1976), 391-436.

<sup>47</sup> Mollyanne Brodie, Elizabeth C. Hamel, Mira Norton, "Medicare as reflected in public opinion", *Journal of the Amererican Society on Aging*, 2015, *39*, 2, 134-41.

<sup>48</sup> Richard E. Vincent, telephone interview with the author, January 21, 2016.

<sup>49</sup> Wardwell, *Chiropractic*, 164.

<sup>50</sup> Wardwell, *Chiropractic*, 165.

<sup>51</sup> Biggs, No Bones About Chiropractic, 357-365.

<sup>52</sup> Cohen, Independent practitioners under Medicare, 68.

<sup>53</sup> Wilbur J. Cohen, *Independent Practitioners under Medicare: A Report to Congress (1968)*, available at: <u>https://www.chirobase.org/05RB/HEW/hew00c.html</u>, (accessed 01 May 2019). I could not access the original documents, but found these reproductions and have no reason to doubt their veracity.

<sup>54</sup> James Cox, interview with the author, 24 October 2015, Minneapolis, USA.

<sup>55</sup> Wardwell, *Chiropractic*, 166.

<sup>56</sup> Cohen, Independent Practitioners Under Medicare, 75.

<sup>57</sup> Wardwell, Chiropractic, 166; Cohen, Independent Practitioners Under Medicare, 75.

<sup>58</sup> Palmer College of Chiropractic, "Palmer: an official statement of policy," *The Digest of* 

Chiropractic Economics, (November/December 1972), 48-49.

<sup>59</sup> International Chiropractors Association, "X-ray training vital to chiropractor,"

International Review of Chiropractic, 1970 Pre-convention edition of the quarterly review, 5.

<sup>60</sup> Leon Coelho, R., "If Spinography Is Dead, So Is Chiropractic," *International Review of Chiropractic*, 1977, 8-11.

<sup>61</sup> Joseph W. Howe, "Letter to the Editor," *Digest of Chiropractic Economics*, July/August 1971, 4.

<sup>62</sup> Joseph W. Howe, "Some considerations in spinal x-ray interpretation", *Digest of* 

Chiropractic Economics, September/October 1970, Supplement, B-C.

<sup>63</sup> Hoyt B. Duke, "Statement before National Congress of Chiropractic State Presidents, 5 June 1971", *The ACA Journal of Chiropractic*, July 1971, 15-20.

<sup>64</sup> Cohen, *Independent Practitioners Under Medicare*; United States Senate, "Proceedings and debates of the 92<sup>nd</sup> Congress, Second Session," *Congressional Record*, (Washington, DC, October 5, 1972), 118, 159.

<sup>65</sup> United States Senate, "92<sup>nd</sup> Congress, Second Session," 118, 159.

<sup>66</sup> "HEW Response to Chiropractic 'White Paper' on the Report 'Independent Practitioners under Medicare'," available at: <u>https://www.chirobase.org/05RB/HEW/wp01.html</u>, (accessed 01 May 2019). Again, I could not access original documents, but found this reproduction.
<sup>67</sup> Duke, "Statement," 15-20.

<sup>68</sup> W. Luckey, "Leaders to meet at Parker seminar," *Digest of Chiropractic Economics*, (January-February 1970), 4.

<sup>69</sup> Hoyt B. Duke, "Argues for Chiropractic in Medicare Program," *Des Moines Register*, 08 December, 1970, 6; American Chiropractic Association, 'Freedom of choice under Medicare: how to get it!," *Corbin Times Tribune*, 31 August, 1971, 7.

<sup>70</sup> Seymour Martin Lipset, *American Exceptionalism: A Double-Edged Sword*, (New York: W.W. Norton, 1996), 19.

<sup>71</sup> G.D. Parrott, "By virtue of truth", *The ACA Journal of Chiropractic*, July 1970, 35-41;

Frank A. Rogers, "The American Medical Association: Yesterday, Today, and Tomorrow," *The Journal of the Louisiana State Medical Society*, 1981, *133*, 129-35.

<sup>72</sup> William S. Day, "ICA elects Dr. William S. Day President 1970-71," *The Digest of Chiropractic Economics*, (September/October 1970), Supplement, H-51.

<sup>73</sup> Three sources stated three different numbers; Fineberg said one million, Taylor three million and Wardwell twelve million. H.I. Fineberg, "Reports of Officers: Chiropractic and Medicare", *New York State Journal of Medicine*, (January 1, 1971), 79-80; Taylor, *Unit Plan*,

3; Wardwell, Chiropractic, 166.

<sup>74</sup> United States Senate, "92<sup>nd</sup> Congress, Second Session," 118, 159.

<sup>75</sup> Legislative Information Center, *Members of the Washington State Legislature 1889-2011* (Olympia, WA 2011).

<sup>76</sup> Day, "ICA elects," H-51.

<sup>77</sup> United States Senate "Hearings before the Committee on Finance, 91<sup>st</sup> Congress, 2<sup>nd</sup>
 Session on H.R. 17550", *Social Security Amendments of 1970* (Washington, DC 1970), 569.
 <sup>78</sup> Steve Renner, email to the author, 18 February 2016.

<sup>79</sup> Vincent, interview.

<sup>80</sup> Palmer College of Chiropractic, "Palmer: an official statement of policy," *The Digest of Chiropractic Economics* (November/December 1972), 48-49.

<sup>81</sup> United States Senate, "92<sup>nd</sup> Congress, Second Session," 118, 159. In reality,

licensing/registration boards have little scope to act on their own and usually require a complaint to be made by a member of the public or of the profession. They are reactive rather than proactive, so someone has to be negatively affected by the actions of a healthcare provider before a licensing/registration board acts.

<sup>82</sup> Ameringer, *The Health Care Revolution*, 55-58; United States Senate, "92<sup>nd</sup> Congress, Second Session," 118, 159; Peter Morrison, "Adjusting the Role of Chiropractors in the United States: Why Narrowing Chiropractor Scope of Practice Statutes Will Protect Patients," *Health Matrix*, 2009, *19*, 2, 493-537.

<sup>83</sup> Paul Starr, *The Social Tranformation of American Medicine* (Cambridge, MA: Basic Books, 1982), 17.

<sup>84</sup> T. W. Meade et al., "Low Back Pain of Mechanical Origin: Randomised Comparison of Chiropractic and Hospital Outpatient Treatment," *BMJ : British Medical Journal*, 1990, *300*, 1431.

<sup>85</sup> AMA Department of Investigation, *Chiropractic: The Unscientific Cult*, (Chicago: American Medical Association, 1966).

<sup>86</sup> Blumenfield and Stevens, "How to play the Medicare game," *Digest of Chiropractic Economics*, September/October 1974, 76-77.

<sup>87</sup> Robert M. Ball, "Social Security amendments of 1972: summary and legislative history,"

in Bulletin (Washington, D.C.: Social Security Administration, 1973).

<sup>88</sup> Richard D. Lyons, "7 Years of Lobbying Finally Brings Chiropractic under the Umbrella of Medicare," *New York Times*, 19 November 1972, 55.

<sup>89</sup> Stephen Barrett, email to the author, 02 May 2019.

<sup>90</sup> Stephen Barrett, "Medicare Chiropractic Billing Policies Revised," (blog, 02 October

2004), available at: <u>https://www.chirobase.org/19Insurance/mc2004.html</u>, (accessed 25 August 2016).

<sup>91</sup> Barrett, *Medicare Chiropractic Billing Policies*. I emailed Stephen Barrett to find out if there was anyone else who might know who had the idea for the x-ray requirement, and who made the decision to try to get it into the bill. He responded by email on 05 May 2019, stating that the youngest member of the Committee on Quackery died in 2017 and he thought that they were all now dead.

<sup>92</sup> Lyons, "7 Years," 55.

<sup>93</sup> Public Law 92-603: Social Security Amendments of 1972; Social Security Administration,
"Medicare final regulations published", *Federal Register*, 39, 155 (August 9, 1974), 1-3.
<sup>94</sup> U.S. Court of Appeals for the Seventh Circuit, (07 February 1990), *Chester A. Wilk, James W. Bryden, Patricia B. Arthur, Michael D. Pedigo v. American Medical Association,*

available at: <u>http://law.justia.com/cases/federal/appellate-courts/F2/895/352/46788/</u> (accessed December 13, 2016).

<sup>95</sup> M. Butler, "Congress passes chiropractic Medicare', *Today's Chiropractic* (October/November 1972), 20.

<sup>96</sup> Joseph W. Howe, interview with the author 25 October 2015, Minneapolis, USA.

<sup>97</sup> Cox, interview.

<sup>98</sup> James Winterstein, email to the author, 17 November 2015.

<sup>99</sup> United States Senate "Hearings before the Committee on Finance, 91st Congress, 2<sup>nd</sup>

Session on H.R. 17550", Social Security Amendments of 1970 (Washington, DC 1970), 454.

<sup>100</sup> Joseph W. Howe, "A Contemporary Perspective on Chiropractic and the Concept of

Subluxation," The ACA Journal of Chiropractic, 1976, 10, S165-S69.

<sup>101</sup> Howe, interview.

<sup>102</sup> Joseph W. Howe, "The Chiropractic Concept of Subluxation and its Roentgenological Manifestations", *Journal of Clinical Chiropractic*, 1973, *1*, 1, 64-70.

<sup>103</sup> Mike Gravel, "Chiropractic Article", *International Review of Chiropractic*, October 1973,
26, 5, 4, 20.

<sup>104</sup> Hermann J. Muller, "Nobel Lecture," paper presented at the Nobel Prize Ceremony,Stockholm, Sweden, 1946.

<sup>105</sup> Edward J. Calabrese, "Muller's Nobel Lecture on Dose-Response for Ionizing Radiation:
Ideology or Science?," *Archives of Toxicology. Archiv für Toxikologie*, 2011, 85, 1495-8.

<sup>106</sup> Paul A. Oakley and Deed E. Harrison, "Radiogenic Cancer Risks from Chiropractic X-

Rays Are Zero: 10 Reasons to Take Routine Radiographs in Clinical Practice," Annals of Vertebral Subluxation Research, 2018, 20, 48-56.

<sup>107</sup> Calabrese, 'Muller's Nobel Lecture."

<sup>108</sup> National Council on Radiation Protection and Measurements, "Basic Radiation Protection Criteria: Recommendations," (NCRP: Washington, D.C., 1971).

<sup>109</sup> A. Brodsky et al., "History of the Medical Uses of Radiation: Regulatory and Voluntary Standards of Protection," *Health Physics*, 1995, *69*, 783-823.

<sup>110</sup> J. Samuel Walker, *Permissible Dose : A History of Radiation Protection in the TwentiethCentury* (Berkeley: University of California Press, 2000), 81-82.

<sup>111</sup> H. William Gross, *Letter* to the U.S. Senate Finance Committee from the Lehigh Valley

Committee Against Health Fraud, 15 February 1972.

<sup>112</sup> Cox, interview.

<sup>113</sup> Cox, interview.

<sup>114</sup> Winterstein, email.

<sup>115</sup> Howe, "Chiropractic and Medicare."

<sup>116</sup> Joseph W. Howe and James Winterstein, "Radiologic manifestations of spinal

subluxations", in R.C. Schafer, (ed.) Basic Chiropractic Procedural Manual, 1st Edition

(Arlington, VA: American Chiropractic Association, 1973, VI-1-40.

<sup>117</sup> Blumenfield and Stevens, "How to play the Medicare game"; Cox, interview.

<sup>118</sup> Howe, "Chiropractic and Medicare."

<sup>119</sup> Barron H. Lerner, "To See Today with the Eyes of Tomorrow: A History of Screening
Mammography," *Canadian Bulletin of Medical History = Bulletin Canadien d'Histoire de la Médecine*, 2003, 20, 299-321.

<sup>120</sup> J. C. Teece, H.C. Sheath, and C.P. Hudson, *Report of Committee of Inquiry into the Question of the Registration of Chiropractors*, (Sydney: State Government of New South Wales, 1973); John M. J. Jens et al., *Victoria: Report Upon Osteopathy, Chiropractic, Naturopathy*, (Melbourne: Joint Select Committee [Osteopathy, Chiropractic and

Naturopathy], 1975); B.D. Inglis, Betty Fraser, and B.R. Penfold, *Chiropractic in New Zealand: Report of the Commission of Inquiry*, (Auckland: House of Representatives, 1979). <sup>121</sup> Chad Kulak, "Market Research Shows Positive News" *InTouch*, February 2017, 1-3; Dana J. Lawrence and William C. Meeker, "Chiropractic and Cam Utilization: A Descriptive Review," *Chiropractic and Osteopathy*, 2007, *15*, 2; Barry Kim Humphreys et al., "Are Swiss Chiropractors Different Than Other Chiropractors? Results of the Job Analysis Survey 2009," *Journal of Manipulative and Physiological Therapeutics*, 2010, *33*, 519-35; Barry Kim Humphreys and Cynthia K. Peterson, "The Swiss Master in Chiropractic Medicine Curriculum: Preparing Graduates to Work Together with Medicine to Improve Patient Care," *Journal of Chiropractic Humanities*, 2016, *23*, 53-60.

<sup>122</sup> Pran Manga et al., "The Effectiveness and Cost-Effectiveness of Chiropractic Management of Low-Back Pain," (Ontario: Ontario Ministry of Health, 1993).

<sup>123</sup> United States Congress, Unnecessary Exposure to Radiation from Medical and Dental X-Rays Hearings before the Subcommittee on Oversight and Investigations of the Committee on Interstate and Foreign Commerce, House of Representatives, Ninety-Sixth Congress, First Session, July 24 and 31, 1979, Serial - House, Committee on Interstate and Foreign Commerce, No. 96-46 (Washington: U.S. Govt. Print. Off., 1979).

<sup>124</sup> June Gibbs Brown, *Chiropractic Care: Controls Used by Medicare, Medicaid, and Other Payers*, (Atlanta: Office of the Inspector General, Department of Health and Human Services, United States, 1998).

<sup>125</sup> Department of Health and Human Services Office of the Inspector General, *Chiropractic Services in the Medicare Program: Patient Vulnerability Analysis, 2005,* available at: http://oig.hhs.gov/oei/reports/oei-09-02-00530.pdf, (accessed December 15, 2016). <sup>126</sup> Simpson, Losco, and Young, "Development of the Murdoch Chiropractic Graduate
Pledge"; Marshall Deltoff, "One Profession--One Oath? A Survey of the Disparity of the
Chiropractic Oath," *Chiropractic History*, 1988, 8, 21-25.

<sup>127</sup> Joseph A. Sabatier, "Chiropractors," paper presented at the Chiropractic Workshop,

Lansing, MI, 10 May 1973.

<sup>128</sup> Biggs, "No Bones About Chiropractic?," 324.

<sup>129</sup> Howe, "The Chiropractic Concept of Subluxation,' 64-70; E.S. Credlin, "A scientific test

of the chiropractic theory: the first experimental study of the basis of chiropractic

demonstrates that it is erroneous," American Scientist, 1973, 61, 5, 574-80.

<sup>130</sup> Gravel, "Chiropractic Article," 20.