

# Impacting public health by affecting individual health: A focus group study with chiropractic students after an international clinical experience

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*Purpose: To describe chiropractic students' perceptions of their future role in public health following an international service-learning experience.*

*Methods: Four, 60-minute focus groups were held with 17 upper-level students from 1 U.S. chiropractic college after a mentored clinical experience in 4 international settings. Two investigators analyzed the transcribed focus group interviews.*

*Results: We identified 3 themes where chiropractic students emphasized the public health contributions of chiropractors, usually through one-on-one interactions with patients. The primary theme was the **prevention and treatment of spine and musculoskeletal conditions***

*Objectif : Décrire la façon dont les étudiants en chiropratique perçoivent leur futur rôle dans la santé publique suite à une expérience d'apprentissage par le service menée à l'échelle internationale.*

*Méthodologie : À la suite d'une expérience clinique encadrée dans 4 établissements reconnus à l'échelle internationale, on a tenu quatre séances de discussion de 60 minutes avec 17 étudiants inscrits au programme d'études supérieures d'un collège de chiropratique des É-U. Deux investigateurs ont examiné les transcriptions des entrevues avec les groupes de discussion.*

*Résultats : Voici les trois points sur lesquels les étudiants en chiropratique ont insisté en parlant de l'apport des chiropraticiens à la santé publique, habituellement au moyen de rencontres personnalisées avec les patients. Premier point : les soins chiropratiques contribuent à la **prévention et le traitement des troubles de la colonne vertébrale et des affections musculosquelettiques**. Deuxième point : les*

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through chiropractic care. Next, chiropractors might improve patients' **access to health services** through screenings, referrals, and monitoring acute and chronic conditions. Lastly, **patient education** could help patients manage spinal health and make lifestyle modifications.

Conclusion: Incorporating service learning strategies within chiropractic curriculum may increase student awareness and participation in public health activities.

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KEY WORDS: chiropractic; public health; focus group; education

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## Introduction

Professional identity formation is the process through which a student transforms into a practitioner by the internalization of professional values, beliefs, and obligations.<sup>1,2</sup> Medical professionals recognize that developing an identity as a physician is as important for student growth as gaining knowledge and mastering clinical skills.<sup>3</sup> The formation of a professional identity within chiropractic is less well-understood, particularly as it relates to aspects of the practitioner role beyond the delivery of chiropractic techniques. One such area of professional identity formation for chiropractors is in our developing role as public health advocates.<sup>4,5</sup>

Public health is defined as “the science and art of promoting health, preventing disease, and prolonging life through the organized efforts of society”<sup>6</sup>. Doctors of chiropractic (DCs) are encouraged to engage in public health initiatives.<sup>4,5,7</sup> However, DCs and chiropractic students alike demonstrate a limited awareness of the public health concerns faced by patients.<sup>8-10</sup> While chiropractic accrediting bodies specify public health competencies<sup>11</sup>, the impact of didactic coursework on students' attitudes toward and engagement in public health work is not well understood<sup>12</sup>.

Derby and colleagues<sup>13</sup> noted that participation in an international service learning experience (SLE) contrib-

chiropraticiens facilitent l'**accès aux services de santé** en faisant des dépistages, en dirigeant des patients vers des ressources appropriées et en surveillant les troubles aigus et chroniques. Enfin, le troisième point : l'**information au patient** peut l'aider à prendre en charge sa santé vertébrale et à modifier son mode de vie.

Conclusion : L'intégration de stratégies d'apprentissage par le service au programme d'études en chiropratique peut permettre de mieux sensibiliser l'étudiant et d'accroître sa participation à des activités de santé publique.

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MOTS-CLÉS : chiropratique; santé publique; groupe de discussion; information

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uted to the development of a professional identity as a DC for some students, but it is unclear whether such training may also influence students' perceptions of themselves as public health advocates. Our previous survey showed differences in the intention to provide counseling on public health topics between chiropractic students who did or did not participate in a SLE, but did not assess the students' development of a professional identity that includes a public health perspective.<sup>14</sup> The purpose of this follow-up study was to explore the perceptions of chiropractic students toward their future role in public health following participation in an international SLE.

## Methods

We have described the research methods for this project elsewhere.<sup>15</sup> Briefly, focus group methodology allowed for multiple interviews, with participants who were knowledgeable about their personal views of the SLE, and in a time-efficient manner.<sup>16</sup> The collegiate Institutional Review Board approved this study (IRB Assurance # X2012-9-14-B). All participants signed a written informed consent document.

## Study context

At the time of this study, chiropractic students from the 3 Palmer College of Chiropractic campuses (Davenport,

Table 1.  
*Focus group interview schedule.*

<p><b>Opening question:</b> Please tell us who you are, where you went and how you decided to go on Clinic Abroad.</p> <p><b>Key questions:</b></p> <ol style="list-style-type: none"><li>1. How do you define public health?</li><li>2. As far as public health, what experiences during Clinic Abroad will help you keep people well as a chiropractor?<ol style="list-style-type: none"><li>a. Probing questions:<ol style="list-style-type: none"><li>i. Tell me about a time when you felt a patient needed to be screened for something other than a back, neck or joint problem?</li><li>ii. Thinking about your trip, what else besides the adjustment do you feel someone needed for their health?</li><li>iii. What experiences about Clinic Abroad will change the way you screen people for health problems?</li></ol></li></ol></li><li>3. It has been said that chiropractors are in a good position to improve public health. Can you describe how your trip may have altered your idea of public health?</li><li>4. How would you change Clinic Abroad to increase public health attitudes?</li></ol> <p><b>Ending questions:</b> (Summarize interactions) Is this an accurate summary of what we talked about? Have we missed anything?</p>
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West and Florida) could enroll in an optional SLE to provide chiropractic care to underserved populations in international settings under the mentorship and supervision of volunteer faculty.<sup>13,14</sup> Students self-financed their trips and earned clinical credits for graduation by providing patient care. SLEs lasted 12-20 days, varied by locale, used chiropractic equipment donated by the college, and were attended by 70-100 students annually. Students in this study travelled to 4 international sites [Fiji (n=5), Vietnam (n=1), Honduras (n=4), and India (n=7)] and reported delivering chiropractic services to a mean number of 113 patients of all age categories, in settings such as hospitals, clinics, community buildings, and schools<sup>15</sup>.

### *Participants*

We recruited a purposive sample of current students who completed a SLE in June 2011 or June 2012. Eligible participants included students of all genders and ethnicities who had travelled to any SLE location and who willing to participate in an audiorecorded group interview about their experiences in the program. The study was limited to students from the Davenport campus as the face-to-face focus groups were held in person, precluding enrollment

from the other campuses. The principal investigator (JCB) recruited 9<sup>th</sup> trimester students from 2 didactic courses, while 10<sup>th</sup> trimester students were recruited from among clinic interns at the academic health center. Approximately 25-30 students expressed interest in the study, with 17 students showing up to their scheduled sessions to participate. Participant demographics largely represented that of the college population with a mean age of 29.1 years, 59% male, 82% white, and 12% Hispanic.

### *Data collection*

The focus group interview schedule is presented in Table 1. The questions were informed by our previous survey<sup>14</sup> and a review of the literature on SLEs in the health sciences. We sought to understand how the SLE impacted student perceptions of the role of chiropractic in public health. Questions were refined through iterative feedback from both research staff and clinical faculty who participated in mock focus groups to assess the understandability of the questions and from chiropractic students who had participated in previous service-learning trips, who reviewed the questions to assess face validity.

Data collection included standard focus group tech-

niques.<sup>16</sup> We conducted 4 focus groups that included 60-minute structured conversations with 4 and 5 participants per group for students from 2011 and 3 and 5 participants per group for students from 2012. Sessions were held in a private conference room between morning classes as the most convenient time and location for students. Moderators completed an informed consent process with each student which stated participation was voluntary and students could skip any question or discontinue participation at any time. Participants also completed a de-identified demographic survey.

As the students were classmates known to one another, the importance of keeping each other's responses confidential was discussed as a group before the session and verbally agreed to by all participants. The moderator (JCB) led the discussion while the assistant moderator (SAS) took notes in which participants were identified by trip location, gender and seat position, but not by name or other personal identifier. Question order was not strictly followed, such as when topics were discussed earlier in the session. Sessions were documented on 2 digital audio recorders with anonymized, verbatim transcriptions completed by a professional transcriptionist not associated with the college. Participants received no financial compensation but were offered light snacks and donated college-related gifts (cost less than \$10) in appreciation of their time.

### Data analysis

Demographic data were analyzed with descriptive statistics. We used a modified classical approach to focus group analysis.<sup>16</sup> The data analysts included the principal investigator (JCB), a DC who was completing this study as a practicum project for a clinical research master's degree program, and a doctorally-prepared qualitative researcher (SAS) who had extensive experience in conducting focus group studies. The data analysts independently read each transcript as electronic documents and coded key passages and representative quotes using unique text colors.<sup>16</sup> The lack of previous research on this topic precluded the use of an a priori coding template, so the "editing style" of qualitative data analysis was used.<sup>17</sup> This process involved the analysts independently highlighting passages of the participants' words that stood out as meaningful, affixing preliminary codes to those passages based on the participants' discussion, and then coming together to

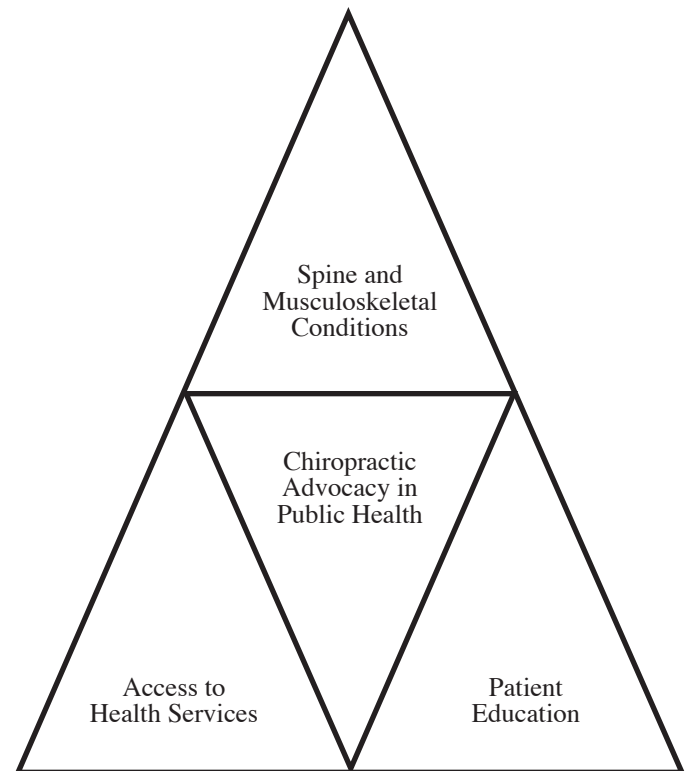


Figure 1.

*Key themes in chiropractic advocacy in public health.*

review jointly each coded transcript. The analysts would identify any areas of incongruity in their coding and discuss our differences until consensus was achieved.<sup>17</sup> Data analysis continued iteratively through each transcript, with continued consolidation of the coding framework toward a global analysis that identified the major themes presented here as findings.<sup>16,17</sup> Verbatim quotes are identified in the results by the gender and trip location of the participant (e.g., Male – India).

### Results

Our results first describe the challenges participants had in articulating a public health advocacy role for the chiropractic profession. We identify 3 themes where chiropractic students thought DCs might best impact public health: preventing and treating spine and musculoskeletal conditions, providing access to health services, and offering patient education (see Figure 1).

### **Defining a public health role for chiropractic**

Participants offered equivocating comments in their attempts to define public health (*I guess, I don't know*, Female – Fiji; *I don't know how to put it*, Male – Fiji; *I don't know how to describe it*, Female – Honduras). Others viewed the professions of chiropractic and public health as separate entities with differing priorities:

*I don't really think of public health having much of anything to really do with MDs, DOs, and DCs. I think we're healthcare and it's a little bit different.* (Male – India)

However, student awareness of public health issues were raised during the SLE through direct observations of health disparities between patients in the U.S. and the host countries:

*Public health to me includes the healthcare system, but also hygiene and sanitation, which were vastly different in the countries we were in versus America.* (Male – India)

*I didn't expect to see kids with decaying teeth.* (Female – Fiji).

While some students stated that DCs might participate in international or community-level public health initiatives, most agreed that their primary professional contributions to public health would come from providing chiropractic care to individual patients:

*We can affect public health by affecting individual health... Organizations have started to make large pushes in public education but, for the most part, chiropractors as individuals stand to make a difference in our immediate patient load and helping those patients to change on their health.* (Male – India)

### **Preventing and treating spine and musculoskeletal conditions**

Participants expressed enthusiasm for the role that DCs might play in the prevention and treatment of spine and musculoskeletal conditions. Some hypothesized that the

unavailability of chiropractic care in their host countries may have worsened the back conditions of these patients:

*I just put a little click in your spine, but extrapolate that 20 years down the road, you made a big difference. You just don't necessarily get to see it. But we saw the lack thereof I think.* (Male – Honduras)

Students thought DCs could help patients prevent back problems by recommending lifestyle modifications such as proper lifting, weight management, and physical fitness:

*Educate him on how to bend... and hopefully won't have back pain in the future...* (Female – Honduras)

In addition, chiropractors might also improve public health by addressing the chronic back conditions of their patients:

*If we can educate and keep them well-adjusted and inspire them to good health in the earlier years so that they aren't so debilitated... We know the ramifications of just subluxations and musculoskeletal problems. If we can help them early on with good posture, good stability... all these big problems that keep them so down (later in life), (these problems) won't even exist.* (Male – Honduras)

### **Access to health services**

Exposure to different healthcare settings during the SLE allowed students to serve patients both as a chiropractor addressing their spinal health and as an interdisciplinary team member. Students reflected that they could impact public health by providing access to general healthcare services in addition to spine care for patients with limited financial resources. The student who made the following comment had several heads nodding in agreement:

*If this person comes in and I'm the more affordable option and I can tell them for sure, you need to go to this person, then... you're helping healthcare in general... I never really had that view.* (Male – India)

Many students recognized the public health significance of monitoring their patients' new and existing



health problems. Through the communication challenges in these international settings, many students realized they should take comprehensive health histories, in addition to spine-focused evaluations, to screen their own patients for common conditions and potential “red flags” no matter how healthy a patient might appear:

*You had to ask questions, because you're thinking, "Okay. Do you need to refer them somewhere... because they're having chest pain?" But it ended up being GERD. So history... is very important. (Female – Honduras)*

### **Patient education**

Students identified such activities as serving as hospital staff, providing health talks or podcasts, and joining panel discussions on health topics as ways chiropractors could contribute to the public health of their communities. However, most thought DCs could best impact public health through one-on-one consultations and patient education on individualized health topics:

*If you spend an extra two minutes with that patient, look them in the eye, build that trust with them, then when you say, "I want you to lose ten pounds. It's going to help your back pain" I think they're going to be more willing to listen to you. (Female – Vietnam)*

The SLE sparked an interest in how patient education might occur with in community settings like the schools and fire stations where they provided care abroad. One student noted that a video playing in waiting rooms could inform patients about chiropractic care, how to prepare for an adjustment or other health topics (Male-India). Others commented that many patients had similar jobs (e.g., farming) and might benefit from group learning on occupational topics and through the use of visual aids:

*They were taught to bend over that way (from the waist) from the field work that they did, so they didn't know any better. We had a dry spine there, and I showed them what they're doing to themselves and if they could bend at the knees, what the spine does then, and this would help. They loved it. (Male – Fiji)*

### **Discussion**

This focus group study explored how engagement in an international SLE influenced chiropractic student perceptions on their future role as public health advocates. Previous research with chiropractic students who went on similar SLEs found an enhanced professional identity as doctors of chiropractic<sup>13</sup> and an expanded view of services chiropractors might provide toward disease prevention and public health<sup>14</sup>. The students who participated in this focus group study explored the possible contributions the chiropractic profession might make as advocates of public health. Students emphasized the practitioner role of prevention and treatment of spinal conditions of individual patients. However, insights gained through the SLE included opportunities to expand patient access to healthcare services and to offer community- or population-based educational programs to patients and other healthcare providers.

The key themes identified in this study (Figure 1) align with 3 public health initiatives of *Healthy People 2020* that are relevant to the chiropractic profession: impacting arthritis, osteoporosis and chronic back conditions; improving access to health services; and providing education and community-based programs.<sup>18</sup> Our findings also echo recommendations that doctors of chiropractic lead efforts to address public health through the early assessment, prevention and treatment of musculoskeletal disorders.<sup>4,19,20</sup> Problematically, many chiropractors are not familiar with national public health initiatives<sup>21</sup> which may signal a need for increased exposure to public health concepts during chiropractic education<sup>12</sup>. Evans and associates found that education programs to increase health promotion within a chiropractic teaching clinic are effective.<sup>22</sup> Our previous survey found significant differences in chiropractic students who completed a SLE with those who did not in their opinions on whether chiropractors should provide counseling services on public health topics.<sup>14</sup> Our current findings suggest that service learning also may at least increase student recognition of health promotion opportunities with their patients. However, research from other healthcare disciplines reveals students who are involved in public health activities during their education may or may not model this behavior after graduation.<sup>23,24</sup> More research is needed to understand how chiropractic education can increase public health involvement and advocacy of its future doctors.

Koh and colleagues advocated for interdisciplinary opportunities in public health, yet little is known about developing this perspective within chiropractic education.<sup>25</sup> Even though the chiropractic students who participated in these focus groups spoke readily about how their trip experiences gave them the opportunity to develop a scope of practice, collaborate within the local healthcare system, and provide chiropractic care with patients of all ages in varied settings, they did not identify initiating these activities outside of their future office setting unless probing questions were employed. Investigating pragmatic models of interdisciplinary collaboration in chiropractic education may prove fruitful to increase future public health involvement.

### Limitations

One limitation of focus group methodology is the potential influence of the moderator and participants on the discussions.<sup>16</sup> The moderating team worked together to offer all participants the opportunity to speak in session, reviewed main topics with participants at the end of the sessions to assess our understanding of meaning, and achieved consensus on the main themes presented here. Recruitment was another challenge, as many potential participants were unable to attend the groups due to course schedules and clinic duties. Other chiropractic students may hold different opinions about the role of chiropractors in public health.

### Conclusions

Chiropractic students involved in an international service learning experience identified 3 themes for their future engagement in public health activities:

- 1) preventing and treating spine and musculoskeletal conditions,
- 2) providing access to health services, and
- 3) offering patient education. Incorporating service learning strategies within chiropractic curriculum may increase student awareness and participation in public health activities.

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