

# Developing a community-based educational program for older persons

Brian J. Gleberzon, DC\*

*Chiropractic pedagogy is recognizing the importance of community-based education. This article describes the manner in which a series of community-based presentations were developed, specifically targeting the elderly. With support from both the Ontario Ministry of Health and the Ontario Chiropractic Association, presentations were developed that primarily addressed the three areas of greatest concern to older persons: osteoporosis, osteoarthritis and injury prevention. The primary objectives of the presentations were to dispel any myths that older persons may have had about osteoporosis and osteoarthritis, and to suggest ways to safety-proof their homes. Additional topics discussed were exercise, nutrition and the role of chiropractic in geriatric health care. Twenty-five presentations were conducted at twelve different community centers. Presentations were conducted by chiropractic interns. The results of pre and post-surveys suggest that the primary objectives of the program were successfully met. (JCCA 2001; 45(1):18-25)*

KEY WORDS: chiropractic, community, elderly, osteoporosis, geriatric.

*La formation en chiropratique reconnaît l'importance de l'éducation dans la communauté. Le présent article décrit la façon dont a été élaborée une série de présentations données dans la communauté et destinées aux personnes âgées. Ces présentations, appuyées par le ministère de la Santé de l'Ontario et l'Association chiropratique de l'Ontario, portaient sur les trois grandes préoccupations des personnes âgées, soit l'ostéoporose, l'arthrose et la prévention des blessures. L'objectif principal était de dissiper tout mythe à l'égard de l'ostéoporose et de l'arthrose et de suggérer des façons de sécuriser le domicile. D'autres sujets ont fait l'objet de discussion, notamment l'activité physique, la nutrition et la place de la chiropratique en gériatrie. Vingt-cinq présentations ont été données par des internes en chiropratique dans douze centres communautaires. Les résultats des enquêtes menées avant et après les présentations semblent indiquer que les objectifs principaux ont été atteints. (JACC 2001; 45(1):18-25)*

MOTS CLÉS : chiropratique, communauté, personnes âgées, ostéoporose, gériatrie.

\* Assistant Professor, Division of Chiropractic Sciences, Canadian Memorial Chiropractic College, 1900 Bayview Avenue, Toronto, Ontario, M4G 3E6. Phone 416-482-2340.  
Office: Tel: 416-482-4476, Fax: 416-482-9233. E-mail: bgleberzon@cmcc.ca  
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## Introduction

Chiropractic pedagogy is recognizing the importance of community-based education. This approach allows students to more intimately interact with various groups of individuals, developing a more egalitarian rapport with them. This is in contrast to the more hierarchal relationship of traditional clinic-based or lecture-based settings. This article describes the manner in which a series of community-based presentations were developed, specifically targeting the elderly.

The presentations primarily addressed the three areas of greatest concern to older patients: Osteoporosis, osteoarthritis and injury prevention. These areas of concern were identified by a facilitated focus group. The primary objectives of the presentations were to dispel any myths that older persons may have had about osteoporosis and osteoarthritis, and to suggest ways to safety-proof their homes, in order to prevent potential injuries and preserve their Activities of Daily Living (ADLs). Additional topics discussed were exercise, nutrition, and the role of chiropractic in geriatric health care.

Twenty-five presentations were conducted at twelve different community centers. Presentations were conducted by chiropractic interns. The results from pre and post-presentation surveys suggest that the primary objectives were successfully met.

## Method

In recognition of the International Year of the Older Person, the Ontario Ministry of Health, Senior's Secretariat, solicited grant applications for community-based presentations that targeted seniors and emphasized such themes as education, wellness, and safety. The application from the Canadian Memorial Chiropractic College for Ministry funding was accepted. The presentations were also sponsored by the Ontario Chiropractic Association. Fourth year chiropractic students (interns) were invited to volunteer for the project. Seven students were selected from the group of applicants, based on their previous experience with older persons and their public speaking abilities. Those students with limited exposure or previous experience were selected, in order to augment their skills in these areas.

A focus group was convened in order to identify areas of particular concern to the target audience, and to establish the best method of disseminating information. The focus

group was comprised of a content-expert facilitator, four students, six senior members of the community and the project coordinator. A notice was placed on a senior's internet site indicating that any interested seniors community group could request a presentation. Twelve different community centers contacted the project supervisor (the author) and presentations were scheduled throughout the academic 1999–2000 year.

Pre- and post-presentation surveys were given to each member of the audience, and the responses were analyzed.

## Results

### *Information gathered from the focus group and planning sessions*

The focus group revealed that the primary areas of concern among older patients were issues related to osteoporosis, osteoarthritis and injury prevention. Underpinning these areas of concern was the desire by older patients to retain their independence, and to maintain their ADLs.

It was decided by the project supervisor and the involved interns that the optimal manner of communicating the information to the target audience would be by a presentation that consisted of slides, anatomical models and hand-outs, followed by a question-and-answer period. Two posters, which captured the more relevant concepts from the presentations, were developed and donated to each presentation site. (Figures 1 and 2)

### *Survey results*

A pre- and post-survey was given to each person who attended a presentation (Figures 3 and 4). Even though the number of questionnaires completed and returned were low ( $N = 16$ ), the survey results suggested that the primary objectives of the presentations were successfully met.

When asked, 15 of 16 (94%) respondents stated that they attended the presentation for general interest, with only one person indicating it was for specific health concerns. Nine of 16 respondents (56%) considered themselves *somewhat* informed about the topics to be discussed, with only 3 respondents stating they felt they were *well* informed. All 16 respondents indicated that they felt injury prevention was *very* important, and all but one respondent felt that exercise was *very* important.

After the presentation, 15 of 16 respondents reported

Figure 1

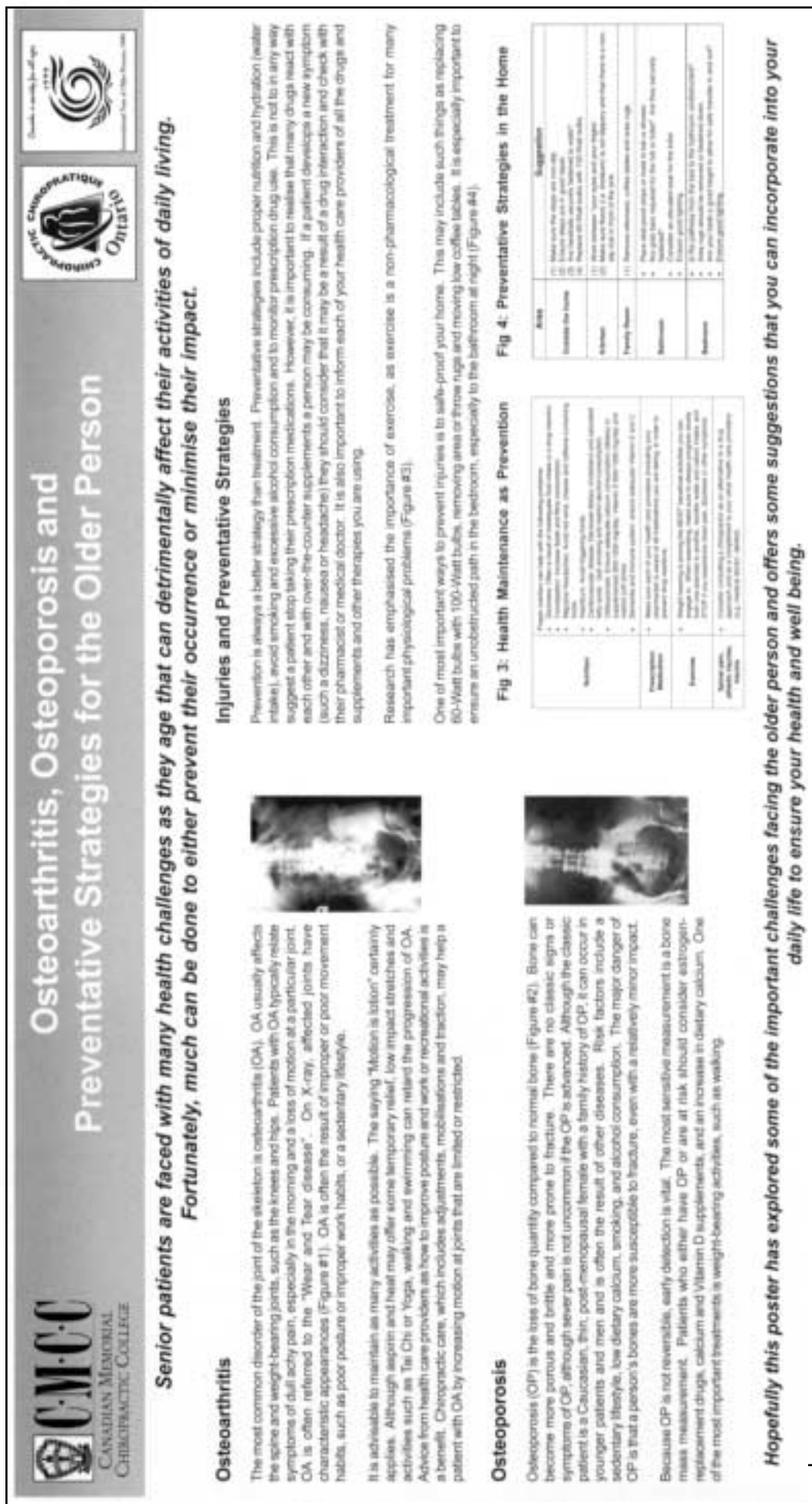


Figure 2



# Chiropractic Care of the Older Patient



## Introduction

More and more people today are consulting Complementary and/or Alternative Medicine (CAM) practitioners. The most commonly utilized CAM practitioners are chiropractors (1, Figure 1).

Chiropractic, classified as a primary contact health care profession, is a branch of the healing arts that predominantly deals with problems of the locomotor system, encompassing the spine, pelvis and extremities. It is a drugless, holistic, hands-on approach to treatment. The majority of chiropractors treat spinal and other joint dysfunctions by manual adjustments (manipulation).

Chiropractic emphasizes the importance of the anatomical relationship between spinal joints, as this is a factor in pain patterns, general biomechanical functions and may negatively impact peripheral nerves. In clinical practice, chiropractors have observed that if spinal or appendicular joints are not in their optimum anatomical position (often referred to as a chiropractic subluxation), the joint, joint capsule, surrounding ligaments and muscles and the related neurological structures will be adversely affected. This can result in pain, reduced range of motion and possibly impaired function of the organs and other structures to which the facilitated nerves travel. In the geriatric patient, activities of daily living are often encumbered by aberrant spinal biomechanics.

The purpose of a chiropractic adjustment is to restore the optimal and normal biomechanical position of these joints. This results in reduced pain, improved function of the joint, reduced swelling in the area, and can allow the neurological system to operate at its fullest potential.

## Chiropractic Education

After completing a minimum of three years of undergraduate studies, prospective chiropractors must complete a four-year (minimum 4200 hours) program at an accredited chiropractic college. The curriculum includes courses such as anatomy, physiology, pathology and clinical diagnosis, similar to a medical program. However, whereas a medical student would be instructed in surgical techniques and pharmacology, chiropractic students receive instruction in hands-on therapies such as soft-tissue techniques, mobilizations and spinal manipulative therapy (Figure 2). At the Canadian Memorial Chiropractic College (CMCC), 725 hours are allocated to this content.

During the last year of study, each student must complete a one-year internship treating patients, under the direct supervision of an experienced chiropractic clinician (Figure 3). Each student must then pass both national and provincial board examinations before they can receive a licence to practice. Within the core curriculum of the CMCC, there is a 20-hour course in geriatric studies. The course emphasises areas such as psychosocial changes of ageing, normal vs. pathological ageing and reviews those conditions most prevalent in the geriatric population (osteoarthritis, osteoporosis, Alzheimer's, etc).

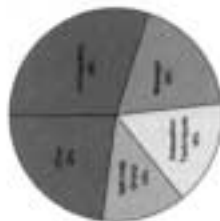


Figure 1: Total Visits to CAM Practitioners in 1997



Figure 2: Chiropractic motion palpation



Figure 3: Chiropractic student treating a patient, observed by licensed chiropractic clinician

Students are then instructed as to how to modify the selected chiropractic treatment protocol, depending on the clinical condition, to ensure patient safety while achieving the highest possible positive therapeutic outcome measures. Preventative strategies are provided. Guest speakers include content experts such as a geriatric psychologist and rheumatologist (3).

## Presenting Complaints

In chiropractic clinical practice, the most common presenting chief complaint by an older patient, just as in the population in general, is uncomplicated mechanical spinal pain, predominantly of the cervical or lumbar spine. Other common presenting complaints include reduced mobility (often the result of degenerative arthritis), injuries sustained from athletic or recreational activities are often successfully managed with chiropractic treatment. Beneficial effects of chiropractic care for somato-sensory dysfunctions are reported anecdotally, and are currently the focus of research. Moreover, symptoms of depression may often be alleviated by the amelioration of pain and dysfunction.

## Chiropractic Treatment

Although there is some variation in the practice of chiropractic, the majority of practitioners utilize hands-on manipulation of the spine and other affected joints. Some chiropractors also utilize physiotherapeutic modalities such as interferential current and ultrasound for pain relief and inflammation reduction. Many low force techniques, such as the use of an instrument called an activator, may be substituted for hands-on adjusting when treating patients with certain clinical conditions, such as advanced osteoporosis (3,4).

Studies sponsored by various government agencies have demonstrated the cost effectiveness, safety and high degree of efficacy of chiropractic care (2). Studies have concluded that the relative material risks, mostly associated with manipulation of the cervical spine, are that one significant event may occur in between 1 000 000 to 3 000 000 patients (not per adjustment) (5).

## A Multi-Disciplinary Approach

Many patients cannot be provided, or respond poorly to, pharmacological interventions. Others do not meet the requirements of, or could not physically tolerate surgical procedures. In such cases, a referral to a chiropractor for the co-management of a number of clinical conditions may be in the best interest of these patients.

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**Figure 3**  
**Pre-Presentation Survey Instrument**

<p>Before the Presentation, please answer the following questions. Please Check ALL answers that may apply:</p>
<p><b>1</b> What was the main reason to come to this presentation</p> <ul style="list-style-type: none"> <li>a. General interest.</li> <li>b. Specific health concerns.</li> <li>c. Accompanying a friend.</li> <li>d. Other reason. Please specify:</li> </ul>
<p><b>2</b> You consider yourself:</p> <ul style="list-style-type: none"> <li>a. Well informed about the topics of osteoporosis, osteoarthritis and injury prevention.</li> <li>b. Somewhat informed about the topic.</li> <li>c. Minimally informed about the topic.</li> <li>d. Having almost no information about the topic.</li> </ul>
<p><b>3</b> How important do you think injury prevention is:</p> <ul style="list-style-type: none"> <li>a. Very important.</li> <li>b. Somewhat important.</li> <li>c. A bit important.</li> <li>d. Not important.</li> </ul>
<p><b>4</b> How important do you think exercise is to your health?</p> <ul style="list-style-type: none"> <li>a. Very important.</li> <li>b. Somewhat important.</li> <li>c. A bit important.</li> <li>d. Not important.</li> </ul>

that the presentation was either *very* informative ( $N = 10$ ) or *somewhat* informative ( $N = 5$ ). Only one person felt that the presentation was only *a bit* informative. None of the respondents indicated that they felt the presentation was *not at all* informative. Of particular relevance to the presenters, 13 of 16 (81%) respondents indicated that the presentation was *very* understandable, with the remaining respondents reporting that the presentation was *somewhat* understandable.

When asked if they would try to utilize any of the suggestions to safety-proof their homes, 13 of 16 respondents

**Figure 4**  
**Post-Presentation Survey Instrument**

<p>After the presentation, please answer the following questions.</p>
<p><b>1</b> Did you find the presentation:</p> <ul style="list-style-type: none"> <li>a. Very informative.</li> <li>b. Somewhat informative.</li> <li>c. A bit informative.</li> <li>d. Not at all informative.</li> </ul>
<p><b>2</b> Were the concepts understandable?</p> <ul style="list-style-type: none"> <li>a. Very understandable.</li> <li>b. Somewhat understandable.</li> <li>c. A bit confusing.</li> <li>d. Very confusing.</li> </ul>
<p><b>3</b> There were many suggestions made for injury prevention. Do you think you will try to:</p> <ul style="list-style-type: none"> <li>a. Use all or most of the suggestions.</li> <li>b. Use only some of the suggestions.</li> <li>c. Use very few of the suggestions.</li> <li>d. Use none of the suggestions.</li> </ul>
<p><b>4</b> On the topics of osteoporosis and osteoarthritis, do you feel that:</p> <ul style="list-style-type: none"> <li>a. You know a lot about the topics because of the presentations.</li> <li>b. You learned very little at the presentation.</li> <li>c. You knew a lot before the presentation and learned very little today.</li> <li>d. You knew a lot before the presentation and learned a lot more.</li> </ul>
<p><b>5</b> How important do you think exercise is to your health:</p> <ul style="list-style-type: none"> <li>a. Very important.</li> <li>b. Somewhat important.</li> <li>c. A bit important.</li> <li>d. Not important.</li> </ul>

indicated they would try to use *all* or *most* of the suggestions. One respondent indicated that he or she would use some of the suggestions. Two persons did not respond to

the question. Lastly, 14 of 16 respondents indicated that they either *knew a lot about the topic because of the presentation* ( $N = 9$ ) or *knew a lot before the presentation and learned a lot more during it* ( $N = 5$ ).

## Discussion

Mootz and Haldeman recently wrote that “for health professions students to understand the natural history of health-related events over time and to achieve the goal of collaborative practice, curricula must be community oriented”.<sup>1</sup> This approach may enable chiropractic students to develop important clinical skills that they may not otherwise have had an opportunity to develop during their internships. Moreover, because patients may not seek out guidance for the management of specific health care concerns, a community-based presentation may be better able to bring to a target audience information on these areas of concern.

The importance of chiropractic geriatric education is becoming more and more apparent.<sup>2</sup> Demographic studies indicate that this group of individuals are the fastest growing segment of the population,<sup>2,3</sup> and they are expected to comprise a disproportionately larger percentage of a practitioner’s portfolio.<sup>4</sup> Currently, about 12% of the American population is over the age of 65, and this number is expected to climb to 22% by the year 2030.<sup>2,3</sup> The fastest growing segment of the population is comprised of those over the age of 80 (the old old), with the number of American centenarians expected to increase 11-fold by the year 2050, when they are predicted to number over 800,000.<sup>5,6</sup> As Killinger et al. opined; “Our nation must recognize that health care is becoming primarily *geriatric* health care and will remain so for quite some time”.<sup>7</sup>

## Injury prevention and wellness promotion

The emerging focus in health care away from what Coulter<sup>8</sup> described as a compartmental, disease-based approach towards a model advocating prevention, health promotion, and wellness, parallels the tenets traditionally embraced by chiropractic philosophy.<sup>9</sup>

Injury prevention is of vital concern for health care providers. Falls and fractures are a leading cause of morbidity and mortality among older patients.<sup>10</sup> Death due to falls is the sixth leading cause of death in older patients, and the leading cause of death due to injury.<sup>10,11</sup> About one-third of community-dwelling seniors fall once a year, and this

rises to 50% for those over the age of 80 years.<sup>10–13</sup> The fall rate is even higher in nursing homes,<sup>12</sup> suggesting that these institutions may best benefit from presentations on injury prevention.

In the United States, falls accounted for 14,000 deaths and 22 million visits to hospitals and physician’s offices in 1996.<sup>14</sup> The death rate attributable to falls increases with age,<sup>14</sup> and falls account for 90% percent of wrist, forearm and pelvic fractures.<sup>11</sup> Falls account for 250,000 hip fractures annually, and demographic projections indicate that this number may exceed 650,000 by the year 2050.<sup>10,15</sup> In the year following a hip fracture, mortality increases by 12%.<sup>11</sup>

Even in the absence of a fracture, a fall results in serious injury in 25% of all cases involving older persons.<sup>16</sup> The rate of falling increase with age, and the rate of injury is highest among the elderly.<sup>13</sup> Among the elderly who fall, the risk of hospitalization is 10 times greater and the risk of dying is 8 times greater as compared to children who fall.<sup>13</sup> In the United States, the overall economic burden of caring for older patients who fall and sustain an injury is estimated at \$12.4 billion.<sup>13</sup> Not surprisingly, it is estimated that one half of all older persons limit their activities in some way so as to avoid the risk of falling, thus imposing significant limitations on their pursuit of a higher quality of life.<sup>16,17</sup>

Education and other preventative programs aimed at reducing potential risk factors of falling among older patients has been shown to reduce the risk of falling by 7% to 12%.<sup>13</sup> A study from Australia sought to determine the cost-effectiveness of home assessment programs aimed at reducing fall-hazards in older patient’s homes.<sup>18</sup> Over a one year period, the researchers estimated the cost of the program to be \$172 per person. However, it was estimated that the cost-per-fall prevention was \$1,721 per person, and the cost-per-injury prevention was estimated at \$17,298. The investigators concluded that injury prevention programs aimed at “safety-proofing” a patient’s home are substantially cost-effective both in terms of health care savings and enhanced quality of life.<sup>18</sup>

## Osteoporosis and osteoarthritis

Osteoporosis (OP) and osteoarthritis (OA), which often occur concurrently, are significant health problems among older persons. Both conditions are leading causes of morbidity and place an enormous financial burden on health

care. In the United States, the direct and indirect costs of osteoporosis are estimated at \$10 billion annually.<sup>16,17</sup>

The presentations described in this study sought to provide important information about OA and OP. Topics included risk factors for their development, and preventative strategies such as exercise, strength training<sup>19</sup> and nutrition, as well as the potential benefits of chiropractic care.

### ***Other benefits of community-based presentations***

Combining relevant information about osteoporosis, osteoarthritis and injury prevention can provide an older person with practical strategies to maintain self-sufficiency. This follows Killinger's view who suggested: "Whereas a provider must be desirous of facilitating the patient's progress in terms of improved score on outcome assessments and return to normal ranges of motion, the patient's goal may be much more straightforward-independence".<sup>20</sup>

Lastly, exposing more people to chiropractic can further demystify its approach to health care, while simultaneously informing older persons about chiropractic and how it is uniquely suited to handle many of those clinical conditions that preferentially affect them.<sup>21</sup>

### **Conclusions**

Community-based presentations can help develop important interdisciplinary and social support networks. According to *Healthy People 2000*, "social support networks are of critical importance in promoting the health and independence of older adults".<sup>22</sup> Such programs also help "alleviate social isolation of the elderly by encouraging regular interactions with others in a setting that is non-threatening and pleasurable".<sup>22</sup>

As Goldzweig summed up "... good medicine means going beyond the walls of the operating room, the emergency room, and the examination room. It means going to the people before they end up in any of these "rooms" and helping them to change their lives in a way that will foster their health, their well-being and their happiness".<sup>23</sup>

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