Differentiating “Integrative” from “Complementary”, “Alternative” and “Unconventional”: A Textual Analysis of the Terms and Meanings in the Peer-Reviewed Literature

By

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Abstract

This study investigates the discourse surrounding the changes in terms used to describe unconventional medicine in North America. A textual analysis was conducted on the most highly-cited unconventional medicine-related literature published from 1970-2013. Five commonly-used terms were identified as follows: “complementary and alternative”, “complementary”, “alternative”, “unconventional” and “integrated/integrative”. Two major themes emerged from the data analysis. Authors using the first four terms tended to define them by what is not conventional medicine and stressed that the purpose of their research was purely the pursuit of knowledge. Comparatively, authors using the fifth term sought to advocate for the integration of unconventional and conventional medicines. This emergence of two groups may explain why certain stakeholders within this field may be choosing to use terms which attract interest from both groups. Furthermore, since the two groups have unique agendas, the potential tension between them will serve as an interesting phenomenon to further explore.
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Integrative Therapy Compared to Conventional Medicine

Medical pluralism has persisted throughout the Western world despite the efforts of physicians to formalize, legalize, and legitimize their form of health care as “conventional medicine” and thereby relegate all other forms of healing or health care to an “other” category. Despite this, it is currently estimated that more than 70% of North Americans have tried at least one form of unconventional medicine (Barnes, Powell-Griner, McFann, & Nahin, 2004; Eisenberg et al., 1998; PHAC, 2008), collectively spending billions of dollars each year (Esmail, 2007; Nahin, Barnes, Stussman & Bloom, 2009). In addition, many unconventional practitioners are increasingly being added into conventional health care systems, likely as a result of growing patient pressures (Ramsay, 2009). These “other” practitioners have been referred to variously as “unorthodox”, “unconventional”, “alternative” and “complementary” over time (Dalen, 1998; Ernst & Fugh-Berman, 2002). It is precisely the changes in these terms and their meanings that is the subject of this inquiry. Exploring this discourse with a focus on the factors, individuals and groups that were instrumental in these changes, gives insight into the social dynamics between groups of “other” practitioners and physicians practising “conventional” medicine.

Through the use of textual analysis, the focus of this study was identifying the shifts in how non-physicians and their practices have been identified in the peer-reviewed literature published between 1970 and 2013. The research question is as follows: how have the terms used to refer to unconventional medicine changed over time and who contributed to these changes?
CHAPTER 2

2.0. Literature Review

In order to focus on the discourse of medical therapies outside of “conventional medicine”, it is important to review what constitutes “conventional” medicine and how the term “conventional” is used in this study. Beyond discussing the nomenclature and meanings associated with “conventional” and “unconventional” medicines, this literature review also provides a brief history of medical pluralism and the theory of professions. Four different perspectives relevant to the theory of professions were proposed to frame this study, including Thomas Gieryn’s (1983) boundary work demarcating science from non-science, Andrew Abbott’s (1988) system of professions and jurisdictional vacancy theory, Randall Collins (1990) and Anne Witz’s (1992) concept of occupational closure, and Donald Light’s (1995, 2000) theory of countervailing powers, where only the first theory directly underpinned this work.

2.1. Nomenclature and Meaning: Designations of Medicines

2.1.1. “Conventional” Medicine

In recent times, with the proliferation of health care practitioners vying for recognition in modern health care systems, definitions of care have been contested (Wiseman, 2004). Various terms have emerged to name the type of medicine practised by physicians including: “orthodox”, “allopathic”, “modern”, “scientific”, “bio-”, “evidence-based”, “Western”, “mainstream”, and “conventional”, each preceding the word “medicine”, and any synonyms of “medicine” if applicable (Silenzio, 2002; Wiseman, 2004). For the purpose of this study, it is important to select a relatively neutral term without obvious negative or positive connotation. “Orthodox” suggests that any type of medicine outside of its confines is incorrect or unacceptable. Cassileth,
Lusk, Strouse, and Bodenheimer (1984) argue that the opposite to the term “orthodox”, “unorthodox”, is synonymous with “ineffective” and is associated with therapies that are both unproven and fraudulent. Furthermore, Ramsey (1999) argues that the term “unorthodox” is “mildly pejorative”.

The term “allopathic” appears to be a name used primarily by some unconventional practitioners (i.e. homeopaths), and may not be a well-known term among conventional practitioners (Wiseman, 2004). “Modern” lacks clarity since what constitutes “modern” changes at different time points in history (Wiseman, 2004). Finally, the terms “scientific”, “bio-”, and “evidence-based” imply that all the therapies used by physicians are verified by scientific evidence. Given the widespread acknowledgement that not all practices in any system of medicine are entirely supported by scientific evidence (Miettinen, 2001; Smith, 1998), not to mention the debates around what constitutes “science” and/or “evidence” (Miettinen, 2006), these terms appear to be inherently problematic. Furthermore, from a historical standpoint, it would be incorrect to use any of these three terms in reference to a time period in which medicine was not founded upon true scientific principles, yet a dichotomy between conventional and unconventional practitioners existed. The term “Western” was not selected simply due to the fact that this study only focusses on the Canadian and American health care systems, and thus all the health care practices being investigated are practiced in a “Western” context. “Mainstream” while also a good candidate for use, was not selected due to the fact that its opposite, “non-mainstream”, is not a commonly used term in the literature.

The word “conventional” was chosen to frame this study due to the fact that it is both widely understood, common in the literature and a relatively neutral way to refer to the politically dominant system of medicine at any point in time (Ernst & Fugh-Berman, 2002). For
the purpose of this study, “conventional medicine” is defined as “medical interventions that are taught extensively at US [and Canadian] medical schools and generally provided at US [and Canadian] hospitals” (Dalen, 1998).

2.1.2. “Unconventional” Medicine

It is difficult to define the terms used to refer to medical therapies commonly excluded from conventional medicine (Gevitz, 1995). In the last 50 years, there has not been a single, agreed upon overarching name given to unconventional systems and its practitioners even among the conventional medical community. A vast array of terms has been used to describe therapies outside of conventional medicine. These include the following: “irregular”, “unorthodox”, “unscientific”, “quack”, “fringe”, “folk”, “alternative”, “adjunctive”, “alternative and complementary”, “complementary and alternative”, “complementary”, “integrated”, “integrative”, “non-mainstream”, and “unconventional”, each preceding the word “medicine”, and any synonyms of “medicine” if applicable (Dalen, 1998; Ernst & Fugh-Berman, 2002). With the exception of the terms “complementary” “integrated”, “integrative”, “non-mainstream”, and “unconventional”, the use of all other terms suggests a lack of neutrality regarding the effectiveness of these therapies (Dalen, 1998). The words “complementary”, “integrated”, and “integrative”, focus attention on the type of relationship between conventional medicine and “other” therapies and thus were not considered useful candidates for a generic term to refer to therapies not generally considered part of conventional medicine (Boon, Verhoef, O'Hara, Findlay, & Majid, 2003; Rosenthal & Lisi, 2014; Snyderman & Weil, 2002; Zollman & Vickers, 1999). “Non-mainstream” was not selected simply because it has not been as commonly used as “unconventional” in the literature. “Unconventional medicine” was chosen because it serves as
the term most neutral and naturally opposite to the term “conventional medicine”, and can be used to accurately refer to therapies not considered to be “conventional” during any time period.

Similar to the word “conventional”, the word “unconventional” was chosen to frame this study due to the fact that it is also widely understood, common in the literature, and a relatively neutral way to refer to the politically dominant system of medicine at any point in time (Ernst & Fugh-Berman, 2002). For the purpose of this study, “unconventional medicine” is defined as “medical interventions that are not taught extensively at US [and Canadian] medical schools and generally not provided at US [and Canadian] hospitals” (Dalen, 1998; Eisenberg et al., 1993).

Regardless of the term used to describe unconventional medicine, that term still remains difficult to define (Eisenberg, 1993; NCCAM, 2008; Wieland, Manheimer, & Berman, 2011). This difficulty arises due to multiple factors which revolve around the fact that a large number of very different unconventional systems and practitioners exist, and thus, any given term must encompass a wide range of practices and beliefs (Eisenberg et al., 1993). This difficulty can also be highlighted by the fact that a certain therapy, while used as part of conventional medicine for one health condition, may be considered unconventional medicine if used for a different health condition. For example, treating heavy metal poisoning with chelation therapy is considered conventional in nature, however, this same therapy when used in the treatment of atherosclerosis is considered unconventional (Wieland et al., 2011). Additionally, it is worthwhile to mention that unconventional systems arise from different histories, schools of thought, and geographic regions of the world.

Regardless of the term used to name unconventional therapies, the definition remains forever dynamic (O’Connor et al., 1997; Wieland et al., 2011) and needs to account for a broad range of different unconventional therapies numbering into the hundreds (CCMF, 2015; Hafner,
Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

Barrett, & Jarvis, 1993; Segen, 1998). To further complicate matters, during the last 15 years alone, some previously unconventional therapies have since been integrated into medical school curricula. Furthermore, they have also since been provided in combination with conventional treatments by physicians at both clinics and hospitals, at which point technically they should be excluded from the categorization of unconventional medicine (Wieland et al., 2011). Thus, it is clear that devising a term with a definition that successfully encompasses all medical therapies found outside of conventional medicine is both complex and dynamic.

2.2. Medical Pluralism: A Brief History

This section of the literature review provides a brief history of medicine in three subsections: medicine before the nineteenth century, the regulation and professionalization of medicine with an emphasis on science, and finally, the revival of unconventional medicine. Though each subsection focusses on a different time period in medicine, medical pluralism has persisted throughout medical history and continues to exist today.

2.2.1. Medicine Before the Nineteenth Century

Many unconventional practitioners and members of the general public were displeased with the formalization of professional physician guilds which began in the seventeenth century (Cruess & Cruess, 2000; Krause, 1999). These guilds forcefully sought to dominate both the authority and economy of disease management, while referring to all other healers who failed to meet their standards as “quacks”. This segregation between formalized, “elite” physicians and all other practitioners underscored the beginning of tension between professional ideas and the formalization of medicine (Kaptchuk & Eisenberg, 2001).
The eighteenth century was a period known as the "Golden Age of Quackery" (Porter, 1999), because the medical marketplace was greatly pluralistic, as the division between "conventional" and "unconventional" medical practitioners remained both poorly defined and policed (Bivins, 2007; Porter, 1988), despite attempts made by physician guilds to dominate the provision of health care. It has been argued that unconventional practitioners sought to protect themselves from physicians’ attempts at occupational closure by also organizing and formalizing their own professional guilds, and these unconventional practices flourished successfully right until before the twentieth century (Bivins, 2007; Jonas, Eisenberg, Hufford, & Crawford, 2013).

Healers who promoted medical therapies that were deemed incredible by physicians were referred to as quacks by the medical guilds, regardless of whether their proposed therapies possessed any true medicinal properties. While the word “quackery” is now defined as “the promotion of unproven or fraudulent medical practices”, and a “quack” is described as a “fraudulent or ignorant pretender to medical skill” or “a person who pretends, professionally or publicly, to have skill, knowledge, or qualifications he or she does not possess” (Costello & Costello, 2013), in a time where there was no modern scientific knowledge, practitioners of that time could not be thought of in the same way as those of modern day.

Quackery in times prior to modern medical professionalization should not be considered as comparable to the unconventional medicine of today, as those typically deemed to be quacks were neither peripheral figures by default nor did they necessarily advocate for alternative or oppositional systems of medicine. Similarly, physicians of this time did not necessarily promote reliable therapies either, but instead promoted “heroic” medicine practices such as the use of mercury or bloodletting, which provided good reason to avoid physicians of the time (Gad, 2009). As a result, unconventional practitioners enjoyed a heightened appeal among the public
approaching approximately between 1830 and 1870, fueled by the distaste for harsh drugs and a detached bedside manner of conventional physicians. Throughout this time, conventional practitioners focused on trying to understand the human body as a “purely mechanical construct”, with less emphasis on the humanistic components of care (Whorton, 2006).

2.2.2. The Regulation and Professionalization of Medicine as Science

Throughout the nineteenth century, increased efforts were made by physicians to regulate and professionalize medicine (Porter, 1988). During this period of medicalization and pharmaceuticalization (Abraham, 2010), the concept of “official” medicine was established. It was at this time when professional advocates of conventional medicine in countries including Britain, France and Germany progressively employed the scientific foundation of their field as a means of professionalising the discipline of medicine, while differentiating themselves from a sustained market competition inclusive of homeopaths, mesmerists and naturopaths among other unconventional practitioners (Jütte, 1999; Jütte, 2001).

Shortly after the 1870s, the enthusiasm for unconventional medicine began to diminish, as new advancements were made in drug therapy, surgery, and public health, following the development of the germ theory of disease. Despite this, from 1892 to 1901, three new unconventional health systems established schools throughout the United States and began to graduate practitioners of osteopathy, chiropractic, and naturopathy (Baer, 1989; Whorton, 1986, 2006). It was during this time when a shift could be seen in how unconventional practitioners promoted their therapies. Unlike the quacks of the previous century who engaged in entrepreneurial, showy self-promotion, these practitioners instead adopted a greater serious self-presentation (Loudon, 1987). Perhaps sensing that the public felt some ambivalence about the
recent advances in surgeries, vaccines and drugs associated with conventional medicine, these
groups promoted drugless healing and their public support grew temporarily (Whorton, 1986),
however, this would all change in the coming years.

For the thirty years following 1900, a major expansion of research in biomedicine took
place in the United States and Canada (Sigerist, 1934). An influential report written by American
science administrator and politician Abraham Flexner was written during this time. The 1910
Flexner Report called for the reformation of medical schools which sought to enact higher
admission and graduation standards, and ensure that the methods of diagnosing and combattin
disease would be based on science (Flexner, 1910; Hiatt & Stockton, 2003; Stahnisch &
Verhoef, 2012; Whitehead, 2013). It has been argued that when researching his report, Flexner
viewed unconventional therapies as competition to conventional medicine of the time. Doubting
the validity of all other types of medicine other than that which was based on scientific evidence
of the time, he asserted in his report that medical schools either drop courses in unconventional
medicine from their curriculum or face losing their accreditation (Beck, 2004; Stahnisch &
Verhoef, 2012).

By 1916, the Flexner report, among other things, had helped to establish biomedical
science as the standard for legitimizing and funding conventional medicine. In the years
following the report, many unconventional medicine-oriented colleges, which taught therapies
such as Thomsonianism and homeopathy, closed permanently (Jonas et al., 2013). Proponents of
these changes in conventional medicine argued that medical education was based upon a far
more science-based foundation and that physicians were capable of preventing and treating
disease more effectively than ever before (Whorton, 1986, 2006). Due to the reformation of
conventional medicine across North America, unconventional practitioners and their healing
systems encountered three main types of outcomes. Some practitioners such as naturopaths and homeopaths had their numbers severely diminished, while others, such as Thomsonian healers, disappeared entirely (Eisenberg et al., 2001). Others challenged the medical establishment by winning legal battles to continue their existence like chiropractors, who secured their right to practice by becoming licensed in several US states. An early example is the licensing of Washington chiropractors in 1919 (Whorton, 1986). The third outcome involved adopting components of conventional medicine in order for their practices to become more widely accepted among conventional practitioners such as osteopaths who aligned their teachings with conventional practices of the day (Eisenberg et al., 2001). While nearly all unconventional schools provided in the Flexner report eventually closed, the American Osteopathic Association was successful in bringing some of its osteopathic schools into compliance with the report’s standards, allowing them to remain open (Gevitz, 2009). Despite many unconventional practitioners failing to gain official or regulated status, they continued to provide the public with their therapies, however, more so in secrecy to evade detection by conventional groups (Eisenberg et al., 2001; Wertz & Wertz, 1989).

2.2.3. The Revival of Unconventional Medicine

The first half of the twentieth century celebrated the isolation and amelioration of life-saving hormones, sulfa drugs, and other antibiotics, and conventional medicine established its position as the Western world’s dominant form of health care (Starr, 1982; Freidson, 1970; Winnick, 2005). Despite the fact that the majority of unconventional systems of medicine did not entirely disappear, many were practiced in relative obscurity during this time (Acknerknecht, 1982). However, this all changed shortly after the first half of the twentieth century. While the
threats of infectious diseases and other acute illnesses were reduced (Poland & Jacobson, 2001) and the average lifespan of the general population increased significantly (CDCR, 1999), through public health interventions, an increase in the prevalence of chronic diseases (inclusive of arthritis, diabetes, cancer, and heart disease) occurred partially as a result of a gradually aging population. This ultimately placed great pressure on the conventional medical system (Whorton, 2006). Many have argued that because of the rise in chronic illness and increased costs in health care, the general public of the Western world began to re-embrace medical pluralism, which is a phenomenon that continues to exist today (Pescosolido & Boyer, 2001).

Beginning in the 1950s, a movement began which involved the promotion of whole foods and dietary supplements, ultimately changing the way the public viewed food. Instead of thinking of food as something that simply kept them alive, there was also an expressed interest in using food as a therapeutic agent (Whorton, 2006). The 1960s marked a time of environmentalism, which promoted alternative health movements. These movements advanced from a grass-roots revival reacting against environmental destruction, unhealthy diets and excessive consumerism during the 1960s (Fulder, 1996). It has been argued that unconventional practitioners profited from such counter-culture movements of this time, as their natural ways of healing were in line with the movements’ call for a return to an increasingly “natural way of life”. Non-physician practitioners, also during this time, had been rebelling against the authority of the medical establishment, which may have further aligned them with the environmentalist movements (Cant & Sharma, 1998; Whorton, 2006).

During the 1970s there was a major revival of unconventional medicine all across Europe and North America (Cant & Sharma, 1998; Albrecht, Fitzpatrick, & Scrimshaw, 1999). This revival included the popularization of indigenous therapies from abroad and an increase in the
use of spiritual healers. Additionally, therapies that were once popular prior to the formalization of medicine such as chiropractic, osteopathy, and naturopathy, experienced rejuvenation and regained popularity in the 1970s (Cant & Sharma, 1998).

This concludes the literature review, as the 1970s marks the chronological starting point of this study. An exploration of unconventional medicine from 1970 until present day is found in the discussion section of this paper.
CHAPTER 3


3.1. An Introduction to the Theory of Professions

As a social group, physicians have sought to set the standard for the provision of healthcare, while simultaneously ignoring or trying to suppress other social groups who challenge their dominance, or who disagree with and/or fail to meet their standards (Winnick, 2005). Unconventional practitioners are often categorized as a single group regardless of origin, school of thought, medical effectiveness, or value to the public (Kaptchuk & Eisenberg, 2001; Keshet, 2010). As a result, unconventional practitioners who may have well-developed health systems capable of providing effective therapies are often categorized alongside other unconventional practitioners who are providing fraudulent or dangerous therapies. Independent groups of unconventional practitioners have also struggled to assert dominance in resistance to conventional medicine, but also in relation to other groups of unconventional medical practitioners. To explain this phenomenon, a series of perspectives relating to the theory of professions can be employed.

Theories about how groups of health care practitioners form, evolve and interact provide helpful context when trying to understand the discourse of unconventional practitioners. In 1970, Elliot Freidson described a profession as a socially negotiated status which is known as the professional dominance perspective. According to Freidson, the key to understanding a profession is its influence on social structures and sanctions on behaviour, with these factors far outweighing the good intentions and skills of individual members (Freidson, 1970). He argues that professionalization is achieved in two stages. The first is by demonstrating that members of
the occupation perform valuable work reliably, such as through the provision of quality education, licensing and the formation of an association. The second is by achieving the conferral of autonomy, which must be granted by society publicly recognizing the value of the work and service orientation of the profession’s members (Freidson, 1970).

In contrast, Magali Larson asserts that professions are highly dependent on the incorporation of bureaucracies. Unlike Freidson who explains that the formation of a profession is supported by quality work, Larson argues that professions are instead concerned with the establishment of a high social status and a dependence on a market in which to sell their services (Larson, 1977). She explains that professions must be able to produce a “commodity” in the form of a recognizably distinct service on the market, in order to establish their superiority among competing service providers. Larson also argues that professionalization takes place in two stages: First, professions must successfully dominate the market with the services they provide, and second they must collectively mobilize to gain a high social status (Larson, 1977). Thus, together both Freidson and Larson’s theories can be combined to argue that professions are socially negotiated statuses which emerge as a result of actions members take to obtain and remain at a professional status. In terms of conventional and unconventional practitioners, these theories suggest the need for each group to develop a distinctive scope of practice in order to advance their goals and interests in the healthcare market successfully.

Following this original work on the theory of professions, various perspectives have been introduced by different scholars to elaborate on these ideas. Initially, four different perspectives to describe, evaluate, and understand the process of becoming a profession and maintaining professional status were considered as possible theoretical frameworks for the study including: Thomas Gieryn’s (1983) perspective of scientific rhetoric boundary work; Andrew Abbott’s
Gieryn’s Perspective of Scientific Rhetoric Boundary Work

Gieryn argues that the characteristics of science, in part, reflect scientists’ ideological efforts to distinguish and demarcate their work and its products from non-scientific intellectual enterprises. His focus, in particular, is on scientists’ boundary work which has the purpose of constructing a social boundary distinguishing some intellectual activities as “non-scientific” (Gieryn, 1983). Gieryn argues that science can be used as a form of intellectual authority, when scientific knowledge is widely accepted in society as the preferred truth in describing reality. Finally, he argues that science is not a single entity, but instead the boundaries of science are dynamic and ambiguous, as scientists construct their boundaries in response to challenges from different obstacles in pursuing authority and material resources (Gieryn, 1983). Therefore, according to Gieryn, conventional practitioners could use “science” as evidence for the effectiveness of their therapies, labeling unconventional practitioners as unscientific, as a way to attempt to exclude them from the health care market. Unconventional practitioners may argue that scientific evidence does not necessarily equate to effectiveness, but they may also define their practices as scientific in order to gain approval from conventional practitioners. Applying Gieryn’s perspective focusses the inquiry to explore if and how conventional and unconventional practitioners utilize the rhetoric of science to their advantage (or disadvantage) when describing their practices and those of others.
3.1.2. Abbott’s Jurisdictional Vacancy Theory

Abbott’s jurisdictional vacancy theory defines professions as “exclusive occupational groups applying somewhat abstract knowledge to particular cases” (Abbott, 1988). Abbott explains that professionalization is a multidirectional process, where certain activities associated with a profession are cast off, elaborated upon, or defined as the core of a profession. He argues that a profession’s success in achieving exclusive autonomy over work activities is dependent on inter-professional competition, meaning that professions cannot be studied in isolation of one another (Abbott, 1988). Therefore, Abbott’s theory can be used to examine how conventional and unconventional practitioners refer to one another. The way they describe their own profession could reflect their wish to control the provision of particular services, while their naming of other professions could reflect a wish to prevent these professions from providing specific kinds of services. Abbott’s perspective suggested a focus on how conventional and unconventional practitioners operate in relation to one another within the professional field, which was assumed to might have been helpful for the analysis.

3.1.3. Collins and Witz’s Concept of Occupational Closure

Collins (1990) and Witz (1992) have both written about the concept of occupational closure. This concept was originally outlined by Max Weber (1968), and can be explained as the process by which occupational groups prohibit persons they perceive as unsuitably qualified from performing their work. It has been argued that the strategy of occupational closure is one way occupational groups seek to achieve exclusive control over their services (i.e. market control) and create a divide between those who are members of the group or profession and those who are not (Freidson, 1989; MacDonald, 1985). A profession has been defined as a type of
occupation whose members control recruitment, training, the nature of their work, and how this work is to be performed and evaluated (Freidson, 1989). Membership is required to gain entry to a profession, and specific criteria – such as graduating from a university program or passing a series of examinations – must be met in order to gain this membership. This concept is relevant in evaluating the strategies employed by conventional medical groups in their attempts to maintain legitimacy and monopoly over their services, but also relevant to unconventional groups in their attempts to gain legitimacy and acquire increased power through attempts to enact occupational closure of their own. Additionally, this concept is also valuable in highlighting the strategies of occupational closure employed by unconventional practitioners which can potentially challenge legitimized, conventional healthcare provision. For example, various unconventional practitioners have sought to professionalize themselves, in order to acquire control and autonomy over their work in the healthcare market (Witz, 1992). Applying the concept of occupational closure, would have been helpful to illuminate the strategies practitioners use (especially with respect to naming of themselves and others) in attempting to achieve benefits such as a higher symbolic status in health care, a strong sense of legitimacy among the general public and coverage by government-funded insurances. However, those themes did not appear strongly in the subsequent analysis.

3.1.4. Light’s Theory of Countervailing Powers

Light’s theory of countervailing powers refers to the ways in which a profession uses its resources to gain control over other competing professions. Light (1995, 2000) explains that one should regard all groups of health practitioners as one of many countervailing powers in society. Each one of these groups are said to have different cultures, goals and interests which are all in
tension with those of another group. While each group seeks to fulfill its own agenda, each group’s success will be dependent on two factors: their degree of organization, and their quantity of resources (Light, 1995, 2000). More importantly, he argues that this success is constantly dynamic, and those groups which gain dominance over the others slowly produce imbalances, excesses, and neglects that offend or threaten other groups and alienate the larger public, which can result in action being taken against them (Light, 1995, 2000). Therefore, with respect to this study, Light’s perspective can be used to view conventional and unconventional practitioners as two groups of countervailing powers. It highlights that these two groups likely have different interests, cultures, and goals, and these agendas may be at odds with one another. Furthermore, Light’s perspective can be used to explain how one group may gain dominance by subordinating the other groups who may eventually assemble to address such resulting inequalities. Applying Light’s perspective to the literature would focus attention on whether any evidence in the texts suggests that practitioners’ naming of other groups promotes their ability to increase their own and/or decrease others’ organization and resources, but this turned out not to be a major theme found in the data.

3.2. Application of Gieryn’s Theory

Gieryn’s (1983) perspective highlighted the need to investigate whether and how conventional and unconventional practitioners may utilize the rhetoric of science to their advantage (or disadvantage) in naming themselves and one another. For example, in introducing or changing a term, did the author(s) appear to use science as an intellectual authority in order to construct a social boundary distinguishing one profession’s work as (more) scientific? Did the use of the term seem to distinguish other professions’ work as less or non-scientific? Gieryn’s
theory guided the decisions made when conducting the textual analysis as described in Chapter 4.
CHAPTER 4

4.0. Method

4.1. Study Design: Textual Analysis

The re-popularization of therapies, systems of thought and practitioners that were considered to be outside the purview of conventional medicine beginning in the 1970s led to great controversy in the next few decades, as well as great changes to the role unconventional medicine and its practitioners played in health care in North America. During this time, a wide variety of terms evolved to describe unconventional health practitioners and their roles in the health care system. These terms and their meanings make up the discourse of unconventional medicine, and the method used to study this phenomenon is described in this chapter. This chapter also includes the study’s research objectives, found in section 4.2.

Textual analysis is one form of content analysis, a group of techniques useful for analysing and understanding collections of text (Tesch, 1990; Weber, 1990). Content analysis, as a form of qualitative research, involves specific attention paid to a text’s content and circumstantial meaning, focussing on language characteristics as communication (Budd, Thorp, & Donohew, 1967; Lindkvist, 1981; McTavish & Pirro, 1990; Tesch, 1990).

A researcher conducting a textual analysis seeks to identify hidden meanings, as well as unquestioned patterns and accentuations of texts with the intent of gaining a deep comprehension of the context in which the text is produced. In this sense, textual analysis focusses on the text as a “cultural artifact”, and recognizes issues surrounding the reasons behind the production of the written work and the intended audience of the text being analysed. Textual analysis enables a focus on repeated patterns, placing, striking imagery, style and tone, as examples of items which allow researchers using this procedure to elicit “the structures of meanings and the
configurations of feelings on which this public rhetoric is based” (Hall, 1975). In other words, conducting a textual analysis privileges the researcher to evaluate the implicit and explicit reasons for the production of a text, the intended audience of the text, and the importance of the text in context of the issue at hand. By performing a textual analysis of a text, Hall (1975) argues that one should be able to “indicate in detail why one rather than another reading of the material seems to the analyst the most plausible way of understanding it”, hence illustrating why textual analysis is powerful.

4.2. Research Objectives

The overall purpose of this research study is to conduct a textual analysis, identifying the shifts in how unconventional systems (and their practitioners) have been described over time in the peer-reviewed literature applicable to Canada and the United States from 1970 to 2013. The specific objectives of this study are two-fold:

1. to identify changes in the naming of unconventional medicine over time in the peer-reviewed medical literature and;
2. to conduct a textual analysis to explore how changes in the naming of unconventional medicine occurred and who contributed to them.

4.3. Summary of Data Collection

In designing the methods, this study adopted a six-stage textual analysis model based on Klaus Krippendorff’s (2013) components of content analysis design outlined in the fourth chapter of his book *Content Analysis: An Introduction to its Methodology*. These six stages encompassed the entire textual analysis protocol, beginning with defining what constitutes a
relevant text, and concluding with explaining the findings and implications of the analyzed texts, and are as follows: unitizing, sampling, coding, reducing, inferring and narrating. A flowchart illustrating Krippendorff’s components of content analysis is depicted in Figure 1, Appendix B.

4.4. Unitizing: Defining Relevant Texts

Unitizing serves to help the researcher decide what data should be observed and analyzed (Krippendorff, 2013). The data collected for the detailed literature search were the texts of publications found in the peer-reviewed literature. Publications found in the peer-reviewed literature were chosen for analysis, because these articles serve to communicate discussions and controversies concerning researchers’ and practitioners’ understanding of the unconventional-medicine field (Keshet, 2009). Therefore, an analysis of peer-reviewed articles allows one to gain insight into how experts in the field of conventional and unconventional medicine interpret and influence different ideas and opinions brought up by their peers. An analysis of the peer-reviewed literature also facilitates the ability to follow the dominant medical discourse, which focuses on publications which have been widely read, cited and/or influential, within which terms and meanings of terms pertinent to this study’s research objectives can be expected to change.

As it is important that analyses of this kind be rigorous in determining an indicative body of literature, the Scopus database was selected as the platform for the detailed literature searches. Scopus, as opposed to other electronic databases, was selected for three major reasons: coverage of unconventional medicine-related disciplines, comprehensiveness of article indexing, and search tool effectiveness. The Scopus database is most comprehensive in its coverage of scientific, technical, medical, and social scientific literature (Salisbury, 2009), which makes it
Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

particularly ideal in recovering unconventional medicine-related peer-reviewed articles. In contrast, Web of Science, another database that is arguably just as comprehensive as Scopus in certain ways, primarily focuses on life and health sciences, which may limit the searches based on the fact that this study’s subject area spans numerous disciplines (Salisbury, 2009). In terms of coverage, the Scopus database is the biggest abstract/citation database of peer-reviewed literature, currently housing 53 million records, including coverage of the entire MEDLINE and EMBASE databases (Burnham, 2006). Scopus is also more comprehensive with regards to its cited reference counts, exceeding that of Web of Science (Salisbury, 2009).

The Scopus database was searched from 1970 to 2013, to reflect the revival period of unconventional medicine, where all search term results were reviewed to assess when each term was most popularly used in the peer-reviewed literature.

Detailed literature searches were conducted using the Scopus database to identify and evaluate changes in the naming of unconventional medicine in peer-reviewed articles. Detailed literature search terms, for Scopus included the following words and phrases: “adjunctive”, “alternative”, “alternative and complementary”, “complementary”, “complementary and alternative”, “complementary and integrated/integrative”, “folk”, “fringe”, “integrated/integrative and complementary”, “integrated/integrative”, “irregular”, “non-mainstream”, “quack”, “unconventional”, “unorthodox”, and “unscientific”, each preceding the word “medicine”, and any synonyms of “medicine” if applicable. These terms were selected because they had been identified as being used to represent unconventional medicine synonyms in the literature (Dalen, 1998; Ernst & Fugh-Berman, 2002). Careful attention was paid to the coding of search terms that share words. For example, a search of “alternative medicine” included all publications found when a search of “complementary and alternative medicine” was
performed, thus this search required a different coding strategy in comparison to a search term that does not share any words. A complete coding strategy is outlined in the next section, as well as in Table 1, Appendix A.

4.4.1. Inclusion and Exclusion Criteria for Searches

Articles were selected for further review in this study if they met all of the following criteria: (1) they were obtained from the peer-reviewed literature and; (2) they were applicable to the Canadian or American health care setting; and (3) they were published in English. For criteria (2), this included Canadian or American publications, but also any other English-language publications as they may have influenced the North American health care system (e.g., are highly-cited in the Canadian or American literature). There were no explicit criteria surrounding articles that were excluded from this study.

4.4.2. Detailed Literature Searches Method

An advanced search in the Scopus database was performed for each term all on September 11, 2014. Searches were all conducted on the same day to ensure consistency between results for all terms as citation counts continually fluctuate. It should be noted that all tables and figures pertaining to these detailed literature searches are therefore also based on the data retrieved as of this same date.

Following each Scopus search, the first 50 article titles (or all, if there were less than 50 articles) were read to ensure that the search was retrieving relevant literature. If the vast majority of search results contained articles pertaining to the subject of unconventional medicine but used only the exact term being searched, and there were a sufficient amount of articles recovered, the
“analyze results” function at the top of the page was selected and “Year” results were exported as a Microsoft Excel file. If search results pertained to unconventional medicine, but did not use the exact search term as aforementioned in the search standard, the coding was changed accordingly to promote more accurate search results. If the search results of a term did not reflect articles that related to unconventional medicine, it was omitted from the study altogether.

Each advanced Scopus search of unconventional medicine-related terms contained slightly different parameters as each term presented its own unique challenges with regard to coding. All searches were limited to “Article Title” only, then further limited to just “journals” as the “Source Type” [(LIMIT-TO(SRCTYPE, "j")), and just “English” as the “Language” [(LIMIT-TO(LANGUAGE, "English"))], published between 1970 and 2013 [“PUBYEAR > 1969” and “PUBYEAR < 2013”], based on the inclusion criteria for this study. From these results, all “Erratum” results were excluded from the “Document Type” [(DOCTYPE, "er"))] because such entries contained journal names which may include search terms in the article titles. The words “medicine” and “therapy” were chosen as they were the two most commonly used words accompanying the search terms, yet did not have secondary definitions (unlike the word “approach”, for example) that were likely to skew search results. Other words, such as “cure”, “health”, “healing”, and “remedy” did not comparatively yield a significant quantity of relevant results. Furthermore, the words “medicine” and “therapy” were used in searches without the use of asterisks (*) because Scopus automatically retrieved articles titled with the words in singular and plural forms. One exception to this search strategy was that the word “therapy” was not used in the search related to integrated/integrative medicine because it retrieved many unrelated articles.
As a result, initial advanced searches were all coded identically and adhered to the following standard search code:

(TITLE("[TERM] medicine" OR "[TERM] therapy") AND PUBYEAR > 1969 AND PUBYEAR < 2014 AND (LIMIT-TO(LANGUAGE, "English")) AND (LIMIT-TO(SRCTYPE, "j")) AND (EXCLUDE(DOCTYPE, "er")))

A screenshot of a sample advanced search in Scopus is shown in Figure 2, Appendix B.

Search terms, final search code parameters, coding explanations, and number of articles recovered are listed alphabetically in Table 1, Appendix A. Searches that required additional coding to account for exclusions and limitations all evolved from the standard search code above based on the results recovered. Justification for the parameters and search strategies used are provided in the following paragraphs.

With respect to justifying the search code used in conducting an advanced search for each term on Scopus, most terms followed a standard code. These terms are those coded with no exclusions or limitations beyond those associated with the inclusion and exclusion criteria of the study. The standard code is identical to that mentioned two paragraphs earlier. The terms that followed a standard search code included the following: “adjunctive”, “folk”, “unconventional”, “unorthodox”, “fringe”, “quack”, “unscientific”, “irregular”, and “non-mainstream”. The remaining terms all included at least one of the following words within the term: “alternative”, “complementary”, or “integrated/integrative”. Based on these results, these search terms retained the standard code, but also included additional coding to exclude the one or two words not included in the term through the use of a “NOT” clause. For example, the term “complementary
and alternative” was coded to exclude the word “integrated/integrative” in any of the titles of articles recovered, while the term “complementary” was coded to exclude the words “alternative” and “integrated/integrative” in any of the titles of articles recovered. This coding was justified by the fact that certain combinations of these three words (i.e. “complementary and alternative”) recovered their own sample of articles, and therefore represent a unique term. Since combinations of these words were all searched separately, it was imperative that duplicates were screened out using this method of search coding.

Search terms containing more than one word, were written out twice per search code in the following format (using the example of “complementary and alternative”):

1. “complementary and alternative”, which accounts for searches containing “complementary and alternative”
2. “complementary alternative”, which accounts for searches containing “complementary alternative”, “complementary/alternative”, “complementary-alternative”, and “complementary & alternative”

The words “integrated” and “integrative” were coded separately, as opposed to together as “integrat*”, to prevent article titles including words used out of context, such as “integrating” and “integration”.

Because these search codes excluded any existing terms comprised of all three words, the following search was performed:

(TITLE("alternative" AND "complementary") AND (TITLE("integrated" OR "integrative"))) AND (LIMIT-TO(SRCTYPE, "j")) AND (EXCLUDE(DOCTYPE, "er"))
This particular search only yielded 82 results, and takes into consideration any term which utilizes the words “alternative”, “complementary”, and “integrated/integrative” in all possible combinations. No bias existed towards the use of any one particular combination, and none of the 81 articles received any high number of citations comparable to articles recovered when these terms were searched alone. This suggested that no such commonly used unconventional medicine-related term comprised of all three words exists.

Since all search terms that followed a standard code (i.e. did not include the three high-article yielding words) were searched without the exclusion of these three words, the results of these searches were scanned manually and none of these terms were found to be commonly used in combination with any of these three words.

4.4.3. Duplicate Article Screening

The quality of the Scopus search codes with respect to screening for duplicates was evaluated to ensure that each search retrieved a mutually exclusive collection of articles. The total number of relevant articles retrieved from all searches, excluding duplicates, was found to be 7012 by performing a search that combined all relevant search codes, each separated by an “OR” clause. In comparison, the total sum of all relevant articles tabulated in Table 1, Appendix A is 7016. Thus, only 4 articles were found to be duplicated between all searches, meaning more than 99.9% of articles were results mutually exclusive to only one search.

4.5. Sampling: Developing a Technique

The next step of this study identified an appropriate sample of peer-reviewed articles (Krippendorff, 2013), retrieved from the Scopus searches. Sampling allowed the researcher to
limit observations/analysis, in cases where it was impractical to analyze all texts relevant to the study (Krippendorff, 2013). The product of all the final Scopus searches resulted in over 7000 peer-reviewed articles and it would have been impossible to read and analyze each of them. Considering that the goal was to identify and further analyze articles that have influenced the unconventional medicine-related discourse, here we limited our sample to those articles which had acquired the largest number of citations per search term. Such articles are likely to have a significant impact on the discourse relevant to this study, as a high number of citations suggest that these articles have influenced many people. A list of the most highly-cited articles from each advanced search was collected for further review, by selecting the “Cited by” function following each search. Search terms that did not recover more than 20 items were not included, as these articles were not highly-cited, and it was unlikely that any trends regarding the change of these terms could be identified with certainty given the minimal amount of data available.

Next, using the lists of highly-cited articles recovered from the advanced searches of each unconventional medicine-related term collected in the sampling stage, the abstracts/summaries, or portions of the body of these most highly-cited papers were read to assess their relevance to the research question (i.e., compared with the inclusion criteria). In the case of primary research articles, the introduction and discussion of each paper were always read first as these two sections were the portions of the articles most commonly containing definition-related information. The methods section was also read as some authors chose to discuss the definition or issues relating to the definition they used within this section. In the case of commentaries, editorials or review articles with less defined sections, the entire article was read when retrieving definition-related information. While review of the articles acquired focused on those that were the most highly-cited, particular attention was also paid to other potentially influential articles.
found in these papers’ reference lists. These articles revealed additional peer-reviewed sources which were retrieved or verified through additional hand-searches on the aforementioned databases and were subsequently evaluated for inclusion criteria. For example, while a source (e.g., a website) was not identified in the highly-cited searches, it may still have been highly-referenced, and therefore, highly-influential; such a source was included in the collection of influential sources for further review. This process was repeated until no new influential papers/sources were identified. Lastly, these articles were described by the term or terms used to describe unconventional-medicine, year of publication, and number of citations acquired. This data is found in Table 2, Appendix A.

Throughout this entire stage, it was important to consider what role each paper included in this study played in influencing a term or meaning of a term. At any step throughout this entire search process, certain initial search terms were removed and other new search terms were added, each on a case-by-case basis depending on search result outcomes. Following each search performed on a key term (and all subsequent hand-searches that follow), a flow chart was constructed to represent the findings, as shown as Figure 3, Appendix B.

4.6. Coding: Applying the Theory of Professions

Coding refers to bridging the gap between texts and the reader’s reading of them. In this stage, coding categories were developed from the data and guided by questions influenced by the theories of professions discussed in Chapter 3. According to Krippendorff (2013), “researchers can avoid simplistic formulations and tap into a wealth of available conceptualizations” by deriving categories from established theories.
As the influential articles were collected in the sampling stage, they were coded. In this coding stage, the texts of the articles collected were analyzed to obtain phrases, sentences, or paragraphs of text that supported the developing themes and investigated the debates present in the selected data set. Considering that there was not a large quantity of text being analyzed, a bibliographic program was not required for this study in order to systematically analyze complex phenomena hidden in unstructured texts.

A series of questions relating to this study’s underpinning theories of professions were used to guide the coding process, including both the development of the content categories, and the subsequent acquisition of phrases, sentences or paragraphs of text that supported these developed themes.

General Guiding Questions

- What are all the commonly-used unconventional medicine-related terms?
- What are the approximate time periods during which each unconventional medicine-related term gained/remained popular?
- Who was the intended audience of this article?
- What was the authors’ definition of the term?
- Did the author or authors justify the use of the term they used?
- What other terms were being used, and by whom, at the time during which the author or authors introduced their term?
- What was the “general” or most common definition of each unconventional medicine-related term? Are there any terms with interchangeable definitions or meanings?
- What group/type of author made use of each term?
Was each common unconventional medicine-related term used consistently?

Was each common unconventional medicine-related term used purposefully?

What, if declared, was the author’s (or group of authors’) purpose of using the term they selected?

Did subsequent publications which made use of this term also adopt the original influential article’s definition and/or meaning of the term?

Did one term eventually dominate over the other, and what were the reasons for these events?

The coding process involved separating texts into separate content categories based upon possible themes identified during the initial reading of each of the articles (Krippendorff, 2013). To achieve this, all influential articles were re-read multiple times as necessary. During this re-reading, the relevant texts of each influential article were screened and separated based on common themes evolving from the articles. These themes were then compared to the theories which underpin this study. This was done to draw on these perspectives to help interpret the reasons for the identified changes in unconventional medicine-related terms and/or the meanings of terms.

4.7. Reducing: Representing the Volume of Texts

Reducing the data helps researchers to efficiently represent large volumes of data, ultimately reducing the diversity of text to what matters through summarizations (Krippendorff, 2013). Following the initial collection of text excerpts, an evaluation was made to determine whether the originally developed themes were an accurate representation of the study. Therefore,
existing themes may have been removed, and new themes may have been developed based on the excerpts acquired. This process was repeated until all themes had been satisfactorily developed and all excerpts were adequately indicative of each theme.

Once all text excerpts were appropriately categorized within a theme or series of themes, different excerpts within the same theme were re-read again for evidence of idea duplication. Similar-themed excerpts that had evidence of idea duplication, meaning that they were all expressing the same idea but using different words, were reduced. This process of reduction involved eliminating the similar-themed excerpts that presented the idea less eloquently, leaving behind only the few excerpts of texts that best presented each idea within each theme (Krippendorff, 2013). Additionally, this reduction process also served to summarize the most prominent ideas derived from a coding of the texts, hence reducing the text to what comprises of the most important ideas within each theme, as a secondary purpose (Krippendorff, 2013). These few texts were indicative of the larger volume of texts acquired for this study, and therefore, could be retained as the exemplars used in interpreting the findings of the textual analysis.

4.8. Inferring: Finding Hidden Meanings

Inferring refers to identifying what unobserved phenomena means, refers to, entails, provokes or causes, supported by evidence found within the text (Krippendorff, 2013). Keeping the previously mentioned general guiding questions in mind, this involved examining how the texts in each article were organized and presented and what specific “angle” the authors’ were taking. Additionally, the general “mood” of the text was taken into account, where careful attention was paid to concepts either depicted prominently, unimportantly or omitted altogether, allowing the researcher to identify authors’ presuppositions and subtexts (Huckin, 1995). Upon
reading an article, the background of the authors who wrote each article acquired in the first step was considered. This involved understanding how their article reflected their professional or academic affiliations, as well as evaluating the outcomes and impacts associated with writing such an article. To accomplish this, a search of each senior author was conducted on Google to identify whether any information could be gleaned from sources such as faculty, clinic/hospital, or even personal webpages. These sources were cross-checked against the affiliations denoted on the author’s publication to ensure the same person was identified online.

4.9. Narrating: Interpreting the Findings

Lastly, narrating makes the researcher’s findings understandable to everyone else. This stage involved describing the practical significance of the results and how the contributions made by our study impacted the existing literature previously published within this subject area (Krippendorff, 2013). Certain questions that were kept in mind during this process were as follows:

- How and to whom should these research results be made available?
- How will the answers to the research questions be presented for publication? (i.e. using numerical arrays, graphical demonstrations, computed indices, etc.)
- What kinds of conclusions can be drawn from the results? (i.e. expected advances in theoretical knowledge regarding professions, recommendations for actions among conventional and/or unconventional medical practitioners, etc.)
- What uncertainties remain and/or larger issues emerge following the completion of this textual analysis?
CHAPTER 5

5.0. Results

5.1. Prevalence of Unconventional Medicine-Related Terms in Article Titles

Following the final searches and coding of each unconventional medicine-related term it was found that five terms, preceding the words “medicine” or “therapy”, yielded articles relevant for further analysis. As mentioned earlier, a flowchart depicting the complete breakdown of the articles searched, screened and analysed is shown in Figure 3, Appendix B.

In terms of total articles published between 1975 and 2013, “complementary and alternative” was by far the most commonly used term. This was followed by “complementary” as the next frequently used term, closely followed the term “alternative”. “Integrated/integrative” was a much less commonly used term and “unconventional” even less so, as shown in Figure 4, Appendix B. All other search terms searched resulted in fewer highly-cited articles (See Table 1, Appendix A). It should be noted that the terms “integrated” and “integrative” were combined and referred to as one term, and will be referred to as “integrated/integrative” for the remainder of this thesis. This was because there was generally no consensus on what, if any, minor differences exist between these labels, in addition to the fact that multiple sources stated that the two are synonymous (Boon et al., 2003; Rees & Weil, 2001; Xu & Chen, 2008).

The most highly-cited articles recovered from the searches of these five terms were included for further review. These terms were chosen because a sufficient quantity of articles were cited highly enough to suggest that the papers associated with each term were influential and could be used to establish general trends associated with the changes and meanings of the respective terms. The results of the search terms “adjunctive” and “folk” were not included for further review due to the fact that both searches recovered articles irrelevant to the study. The
articles using the term “folk” were more closely related to traditional or indigenous medicines, while the vast majority of articles using the term “adjunctive” focused on adjunctive conventional medicines, hence both these terms were not synonymous with the term “unconventional” and were, therefore, excluded from the remainder of this study. The articles recovered from searches including the combined terms “alternative and complementary” or “complementary and integrated/integrative” were not considered for further review, as the most highly-cited articles for each term received very few citations in comparison to the more highly-cited terms. This suggests that these combinations of terms were not commonly used in the literature, despite the fact that the individual words within these terms were very prevalently used. Lastly, the searches of the terms “irregular” and “non-mainstream” yielded no articles at all, and therefore, no texts from these searches existed for further review.

Following the completion of all Scopus searches, the five unconventional medicine-related terms yielding articles meeting the study’s inclusion criteria were selected for further review. In some cases, search terms were not used synonymously with unconventional medicine in older articles, hence all five terms were screened by date until the year of use pertaining to unconventional medicine was found. One publication was screened out from the articles using the term “complementary”, and one publication was screened out from the articles using the term “integrated/integrative”. As a result, the order of the first instances of these terms being used with respect to the meaning of unconventional medicine, is as follows: “alternative” (1975), “unconventional” (1980), “complementary” (1984), “integrated/integrative” (1992), “complementary and alternative” (1994).

No articles recovered from Scopus that had titles including one of the five commonly used unconventional medicine-related terms were published prior to 1975. The number of
publications associated with each of the five terms per year between 1975 and 2013 is shown in Figure 5, Appendix B. “Alternative” was the solely used term between 1975 and 1983, and remained the predominantly used term until 1990 and again between 1997 and 1999. The use of the term “complementary” increased in the early to mid-1990s, and its use has remained relatively consistent up until 2013. The use of the combination term “complementary and alternative” increased sharply beginning in 2000, and continues to be the most commonly used term up to 2013. The use of the term “integrated/integrative” began in the late 1990s, and its use has since slowly increased each year. “Unconventional” is a term used generally less frequently than the other four terms, though its use has been continuous between 1980 and 2013. Its use experienced a small rise between the mid-1990s until the early 2000s.

5.2. Trends Associated with the Analysis of Unconventional Medicine-Related Term Definitions

Following the Scopus searches, the 20 most highly-cited articles associated with the five aforementioned terms selected for further review were acquired. The full journal article citation and number of times each article was cited is provided in Table 2, Appendix A. Each of the 100 articles were read closely once each to determine the following: whether the article’s content was related to the study; if the authors included a definition for the unconventional medicine-related term they used in the article’s title, and if yes, the definition they provided; any references authors provided for the definition of the term they used or whether they self-defined the term; and whether the term was used consistently and purposefully throughout the paper. These data are shown in Table 3, Appendix A. Most of the 20 articles recovered from each of the five unconventional medicine-related term searches were relevant to this study. A few articles were
omitted if they did not relate to the field of unconventional medicine, while a few other articles were omitted as they focussed too specifically on one unconventional therapy without making reference to the field as a whole. Omitted articles from the 100-publication sample are indicated in **Table 2, Appendix A**. A full summary of all the definitions provided in the 100 peer-reviewed unconventional medicine-related articles per term is provided in **Table 4, Appendix 4**, which is discussed in further detail in the next sections. Note that all the papers are presented in a numbered list in **Table 2, Appendix A**, from most cited to least cited, by term.

**5.2.1. Provision of a Definition**

Whether authors provided a definition of the term used in the article’s title appeared to vary based on the unconventional medicine-related term. While the majority of authors of articles using the terms “complementary and alternative” and “integrated/integrative” in their title typically provided a definition of their respective term, the majority of authors of articles using the terms “complementary”, “alternative” and “unconventional” did not. The authors of the papers titled with the terms “complementary and alternative”, “complementary” and “unconventional”, generally speaking, included a reference source with the definition of the term presented in their paper. In contrast, authors of the papers titled with the term “integrated/integrative” and “unconventional”, more frequently self-defined the term provided in their paper. Finally, it should also be noted that some articles, regardless of term used, provided more than one definition of the term they used in their paper.
5.2.2. Term and Definition Use: Consistency

Here we identify an author’s use of a term to be consistent if the unconventional medicine-related term selected in the article’s title was used solely, and never in place of any other unconventional medicine-related term, throughout the entire paper. The use of a term was still considered to be consistent if the author explained the difference between or preference for their term selected versus another unconventional medicine-related term, but proceeded to use their selected term throughout the rest of the paper.

The vast majority of authors who included the term “complementary and alternative” in their title also used this term consistently throughout their articles. In contrast, the vast majority of authors who included the term “complementary” in their title used many other unconventional medicine-related terms interchangeably with their originally selected term. Terms used in the title of the paper listed in order from the most to the least consistently are as follows: “complementary and alternative”; “alternative”; “integrated/integrative” and “unconventional” (equally consistent); and “complementary”.

The number and consistency of definitions provided varied greatly by term. For example, the majority of the papers titled with the combination term “complementary and alternative” used similar or identical references in defining the term. In contrast, while the majority of the articles using the term “integrated/integrative” also defined their term, each of these papers provided a different reference or self-defined definition. Finally, the articles using the terms “complementary”, “alternative” and “unconventional” defined their respectively used terms less frequently altogether. It should also be noted that it was often the case that a definition applied to one of four terms, including “alternative”, “unconventional”, “complementary” and “complementary and alternative”, by one author was often applied as the definition to another
term by another author. The observed exception to this was with regards to the term
“integrated/integrative” which was less frequently defined as synonymous with any other term,
in comparison to the other four terms.

5.2.3. Term and Definition Use: Purposefulness

We identify that a term was used “purposefully” when authors either explicitly stated that
they chose to use a certain term (usually providing an accompanying reason as well), or when
authors implied that they were using a certain term by, for example, explaining why they chose
not to use another term, or by making a comparison to another term identifying a preference for
or difference between the terms provided. If authors provided referenced sources for the
definition of the terms they used in their papers, these articles were retrieved and a comparison
was made between whether the original and referenced articles applied their definition to the
same unconventional medicine-related term.

Generally speaking, it was found that if an author used an unconventional medicine-
related term consistently, this did not help to predict if they also used the term purposefully. In
contrast, if an unconventional medicine-related term was used purposefully by authors in their
article, this was a good indicator that the authors also included relevant discussion surrounding
the definition of their selected term and/or other unconventional medicine-related terms.

It should also be noted that the authors using the terms “complementary and alternative”
and “complementary”, generally speaking, defined their respective terms with a definition
originally used to define another unconventional medicine-related term in the referenced source
provided in their paper. In comparison, authors using the terms “alternative”,
“integrated/integrative” and “unconventional”, generally speaking, defined their respective terms
with a definition originally used to define the same unconventional medicine-related term in their referenced source. Also, in the case of all unconventional medicine-related terms, with the exception of “integrated/integrative”, more than half of the authors did not use their title term purposefully in the paper.

5.3. Understanding the Use of Unconventional Medicine-Related Terms and Their Definitions

Upon completing the analysis in section 5.2, it became clear that the term “integrated/integrative” was not necessarily synonymous with the other four unconventional medicine-related terms. While the definitions and use of the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” were often interchanged and similar, the use and definition of the term “integrated/integrative” clearly differed.

The senior authors of articles titled with the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” and the senior authors of articles titled with the term “integrated/integrative” medicine were also mutually exclusive of each other. Despite no overlap of authors between these two groups, there was much overlap of authors within each group. Authors including David Eisenberg, Edzard Ernst and Alastair MacLennan, as examples, were found as authors in multiple highly-cited unconventional articles using the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative”. Authors including Andrew Weil, Tracy Gaudet, Victoria Maizes, and Iris Bell, as examples, were found as authors in multiple highly-cited articles using the term “integrated/integrative”. This suggests that there is a group of distinct authors who use the terms “alternative”,

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A number of commonalities existed between the senior authors of both groups. Nearly all senior authors held faculty or research associate positions at an academic institution and/or a directorship at a university or government-affiliated centre. Furthermore, nearly all senior authors either worked within a “conventional” academic institution setting such as the Faculty of Medicine at Harvard University, in the case of David Eisenberg, or worked within a centre studying “unconventional” medicine within a “conventional” academic institution, such as the Centre for Integrative Medicine, at the College of Medicine, University of Arizona, in the case of Andrew Weil. These results suggest that the discourse within the peer-reviewed literature is largely driven by conventional medical practitioners and researchers trained at “conventional” universities. Unconventional practitioners rarely contributed as authors to the most highly-cited publications within the peer-reviewed literature. Despite these similarities in author characteristics, differences were found to arise upon evaluating the discourse used by these authors in their publications.

As a result of the great overlap identified in the definitions and use of the four terms, excluding “integrated/integrative”, the 20 most highly-cited articles from these 80 papers were reviewed again and compared against the most highly-cited articles titled with the term “integrated/integrative”. Subsequent sections focus on the themes that emerge as a result of this finding.
5.3.1. “Alternative”, “Unconventional”, “Complementary” and “Complementary and Alternative” Medicine

The terminology used to refer to this group evolved over time, with “alternative” being the first term to be used, followed by the terms “unconventional”, “complementary”, and then “complementary and alternative”. One group of authors explained that the term “alternative” is pejorative, suggesting that this change is reflective of a greater openness to understand this field as opposed to treating it with hostility. They stated:

“To speak of "alternative" medicine is [...] like talking about foreigners-both terms are vaguely pejorative and refer to large, heterogeneous categories defined by what they are not rather than by what they are. The analogy is apt: the current worldwide trend away from suspicion and hostility between “orthodox” and “alternative” medicine towards investigation, understanding, and consumer protection can be compared with the process by which Europeans have learnt to view each other as partners rather than foreigners. This shift in attitude is evident in the BMA's [British Medical Association’s] recent publication, Complementary Medicine: New Approaches to Good Practice, and in the use of the term “complementary” rather than “alternative”. We welcome this new spirit and believe it will benefit patients.” (Fisher & Ward, 1994)

Barnes, Bloom, and Nahin (2008) distinguished between “complementary” and “alternative”, choosing to use “complementary and alternative” to help encompass both types of therapies:
“[Complementary and alternative medicine] covers a heterogeneous spectrum of ancient to new-age approaches that purport to prevent or treat disease. By definition, [complementary and alternative medicine] practices are not part of conventional medicine because there is insufficient proof that they are safe and effective. Complementary interventions are used together with conventional treatments, whereas alternative interventions are used instead of conventional medicine”.

Some authors chose to use the term “unconventional”, expressing their awareness of the inconsistency in which authors used the terms “alternative”, “complementary” and “complementary and alternative”, to avoid confusing the reader. Druss & Rosenheck (1999) stated:

“The current nomenclature reflects several potentially contradictory notions of the relationship between these 2 systems of care. The term alternative medicine implies that these treatments are substituting for conventional therapies, whereas the term complementary medicine suggests that the 2 are used in conjunction. Complementary and Alternative Medicine, the name used by the new center at the National Institutes of Health overseeing research in the area, appears to acknowledge both possibilities. To avoid the potential service use implications of these terms, we use the term unconventional medicine, the label used in the first national survey of these forms of care, throughout this article.”
Despite this discussion, all authors expressed concern that it was difficult to identify a label that accurately and adequately captured what they were trying to express. This was best summed up by Kappeuf et al. (2000) as follows:

“There is no flawless definition of unconventional medicine. Distinctions between “alternative” and “complementary” prove to be unclear and artificial. Sociological definitions such as a system of health care which lies for the most part outside the mainstream of conventional medicine or practices neither taught widely in U.S. medical schools nor generally available in U.S. hospitals refer to what unconventional methods are not rather than to what they are.”

It was evident that there was little consistency when using or defining these terms and that overall, they appeared to be used quite interchangeably to refer to the same general concept.

5.3.2. “Integrated/Integrative” Medicine

“Integrated/integrative” was a unique term that was used and defined unlike the other four commonly-cited terms. The first thing that many authors made clear to the reader was that “integrated/integrative” medicine is not synonymous with the other four terms. This term was defined somewhat less consistently, comparatively to the other four terms, though this may be attributable to the fact that it is also a relatively newer term to be used in the literature. Boon et al. (2003) explained that no single definition of “integrative medicine” will likely be agreed upon unanimously, however, a novel understanding of said term that gains more wide-spread acceptance may be obtained by evaluating others’ attempts to define it. This acceptance in order
Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

to reach consistency similar to that of defining unconventional medicine, understandably, is something that takes time considering the difficult nature of defining such a term. This plethora of definitions for “integrated/integrative” medicine is best summed up by Hsiao et al. (2006), who explained the following:

“Proponents of integrative medicine, such as Andrew Weil, view it as a paradigm shift, replacing the biomedical paradigm. On the contrary, some [complementary and alternative medicine] practitioners have viewed integrative medicine as conventional medicine’s “co-optation” of [complementary and alternative medicine]. Still others view integrative medicine as a component of the patient-centered care movement. Although some claim that integrative medicine is more cost-effective and safe than conventional medicine or [complementary and alternative medicine] alone, lack of clarity and consensus about what constitutes integrative medicine has impeded evaluation of these hypotheses.”

Although the definitions of “integrated/integrative” medicine differ, it should be noted that no author has proposed any other widely-used synonym to this term. This suggests that the authors using the term “integrated/integrative” are doing so purposefully and consciously to refer to a definition with a specific meaning.
5.4. “Alternative”, “Unconventional”, “Complementary” and “Complementary and Alternative” Medicine: An Analysis of Terms Defined by “What they are Not”

Defining terms by “what is not” comprises one of two major themes within this study. The definitions of four terms – “alternative”, “unconventional”, “complementary” and “complementary and alternative” – can generally be described as “what is not” definitions. Within the literature, it was found that authors who used any or all of these terms in their articles only ever defined their said term in relation to conventional medicine. Authors consistently attempted to explain that the definition of these terms comprised of something that was not conventional medicine.

Beyond the overarching theme of defining by “what is not”, there were four subthemes that emerged when reviewing the definitions associated with these four terms used by this group of authors as follows: (1) framing the therapies or interventions in question as a group or list; (2) therapies or interventions that are not taught/used in conventional medical settings; (3) therapies or interventions used to meet demands that are not met by conventional medicine; and (4) therapies or interventions that lack safety and effectiveness. These four subthemes are further reviewed in the following sections.

5.4.1. Sub-theme 1: A List or Group of Items

The first sub-theme that emerged was the fact that many authors either defined or used their terms in reference to a list or group of therapies or interventions. For example:

“Alternative health care use, a dichotomous measure, was operationalized as used within the previous year of any of the following treatments: acupuncture, homeopathy,
herbal therapies, chiropractic, massage, exercise/movement, high-dose megavitamins, spiritual healing, lifestyle diet, relaxation, imagery, energy healing, folk remedies, biofeedback, hypnosis, psychotherapy, and art/music therapy.”

(emphasis added) (Astin, 1998)

“The most common [complementary and alternative medicine] interventions/therapies included in the surveys, in order of most common inclusion, were chiropractic care, acupuncture, herbal medicine, hypnosis, massage therapy, relaxation techniques, biofeedback, and homeopathic treatment. [Complementary and alternative medicine] interventions/therapies such as chelation therapy, energy therapies, qi gong, tai chi, yoga, high-dose vitamins, and spirituality/prayer for health purposes were less commonly included.” (emphasis added) (Barnes et al., 2004)

Though these lists or groups of items were not typically definitions themselves, they often defined the parameters of use of these therapies in studies such as the ones from the quotes provided above. Often this list or group of therapies or interventions were accompanied with a given definition, serving as an explanation of how the authors had constructed the lists.

Furthermore, authors using these terms often expressed the difficulty associated with trying to provide an accurate list of therapies or medical systems which could be classified as “alternative”, “unconventional”, “complementary” and “complementary and alternative”:

“The lack of specificity and inconsistent definitions of [complementary and alternative medicine] contribute significantly to this variability. [Complementary
and alternative medicine] often is not defined in prevalence studies or is defined so broadly as to include all treatments received outside of a hospital. Thus the inclusion of counseling, group therapy, and other activities more appropriately counted as mainstream, as well as wellness regimens, self-help efforts, home remedies, and other non-[complementary and alternative medicine] activities in respondents’ answers distort the actual extent of [complementary and alternative medicine] utilization.” (emphasis added) (Ernst & Cassileth, 1998)

“Even the term complementary medicine is not entirely satisfactory, lumping together as it does a wide range of methods with little in common except that they are outside the mainstream of medicine.” (emphasis added) (Fisher & Ward, 1994)

In addition to defining these terms as an actual list of therapies, some authors simply defined or referred to these terms as therapies not part of conventional medicine, as shown in the next section.

5.4.2. Subtheme 2: Therapies or Interventions that are Not Taught/Used in Conventional Medical Settings

The second theme was about the list of therapies or interventions being included on the list because they were not taught or used in conventional medical settings. The best example of this is the definition of the term “unconventional therapies” provided in Eisenberg et al.’s (1993) study, which is also the most highly-cited definition among the 80 papers (Angell & Kassirer, 1998; Astin, 1998; Astin, Marie, Pelletier, Hansen, & Haskell, 1998; Boon et al., 2000;
In this article, the authors state:

“Here we defined unconventional therapies, as medical interventions neither taught widely at U.S. medical schools or generally available in US hospitals” (emphasis added)

Similarly, a few studies (Barnes et al., 2008; Newton, Buist, Keenan, Anderson, & LaCroix, 2002; Ni, Simile, & Hardy, 2002; Tindle, Davis, Phillips, & Eisenberg, 2005) cited the National Centre for Complementary and Alternative Medicine’s (NCCAM) definition of the term “complementary and alternative medicine”, which is also in line with this theme and is as follows:

“a group of diverse medical and Healthcare systems, practices, and products that are not presently considered to be part of conventional medicine” (emphasis added)

Beyond identifying these terms by what is not included within conventional medicine, some authors also referred to these terms as therapy demands not met by conventional medicine, which is the focus of this next subsection.
5.4.3. Subtheme 3: Therapy Demands that are Not Met by Conventional Medicine

The third subtheme that emerged was describing these as therapies or interventions being used to meet demands not met by conventional medicine. A good example of this is with another highly-cited definition (Ernst & Cassileth, 1998; Ernst, Rand, & Stevinson, 1998; Ernst, 2000; Molassiotis et al., 2005; Söllner et al., 2000) provided by Ernst et al. (1995). These authors defined the term “complementary medicine” as follows:

“Diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine” (emphasis added)

Some authors tried to account for the reasons why patients turned to unconventional therapies, as shown in the following quotes:

“Patients want to maximize their chances for survival. Patients with advanced disease turn to [complementary and alternative medicine] for hope after conventional treatment fails; others seek to control or cure the disease and extend survival or improve their quality of life and manage symptoms.” (emphasis added) (Richardson, Sanders, Palmer, Greisinger, & Singletary, 2000)

“It is not known what motivates people to use alternative medicine. The failure of standard health care, changes in the health care delivery system, patients’ need for autonomy, or a preference for “holistic” or “natural” therapy, and chronic health
problems have all been suggested as contributing factors. Cultural differences, varying beliefs about medicine, and the marketplace are also likely to affect the availability and use of alternative medicine.” (emphasis added) (Burstein, Gelber, Guadagnoli, & Weeks, 1999)

“Patients seem to be satisfied with the use of [complementary and alternative medicine], even if they do not see any obvious benefit from it. A wide range of reasons contribute to the use of [complementary and alternative medicine], and perhaps the concept of ‘hope’ is fundamental in each one of these reasons.” (emphasis added) (Molassiotis et al., 2005)

Lastly, some authors tried to account directly for what patients perceived conventional medicine was lacking, as evidenced by the following quotes:

“That users of alternative health care are more likely to report having had a transformational experience that changed the way they saw the world lends partial support to the hypothesis that involvement with alternative medicine may be reflective of shifting cultural paradigms regarding beliefs about the nature of life, spirituality, and the world in general. As suggested by Charlton, a subset of individuals may be attracted to these nontraditional therapies because they find in them an acknowledgment of the importance of treating illness within a larger context of spirituality and life meaning.” (emphasis added) (Astin, 1998)
The extent of use of alternative medicines and alternative therapists, as shown by our data, raises one final important question: what induces people to spend large amounts on alternatives to allopathic medicine? Ernst suggests that alternative medicine provides benefits which are lacking in the normal doctor-patient encounter. These include time, empathy, personalisation, expectation of a cure in chronic disease states, counselling, and a general emphasis upon health rather than disease. It is a public health responsibility to determine at what cost these benefits are obtained; it is also important to examine why, and how, conventional medicine has seemingly failed to provide them.” (emphasis added) (MacLennan, Wilson, & Taylor, 1996)

While within this subtheme authors were seeking to identify the reasons why the patients seek unconventional therapies and their practitioners, and understand what patients feel conventional medicine lacks, in the next section authors sought to discuss the general lack of research associated with unconventional medicine.

5.4.4. Subtheme 4: A Lack of Research on Safety, Efficacy and/or Effectiveness

The final sub-theme encompasses the idea that these therapies lack academic research surrounding their safety, efficacy and/or effectiveness. In other words, these authors defined “complementary”, “alternative”, complementary and alternative” or unconventional” medicine as therapies not having sufficient evidence for use. One example of such a definition was provided by Barnes et al. (2008) as shown below:
“By definition, [complementary and alternative medicine] practices are not part of conventional medicine because there is insufficient proof that they are safe and effective.” (emphasis added)

Another example of a definition conforming to this subtheme was provided by Kappauf et al. (2000) as follows:

“But providers, methods and modes of diagnostics, treatment and/or prevention, for which, without sound evidence, specificity, sensitivity and/or therapeutic efficacy is commonly claimed in respect to a definite medical problem.” (emphasis added)

Many authors who used the terms “alternative”, “unconventional”, “complementary” or “complementary and alternative” stated explicitly about the need to rigorously evaluate these therapies. Often, they called for a greater amount of research and funding to be allocated to this area of study, to ensure that these therapies and interventions met a certain standard of safety and efficacy. Examples of this are shown below:

“In light of these observations, we suggest that federal agencies, private corporations, foundations, and academic institutions adopt a more proactive posture concerning the implementation of clinical and basic science research, the development of relevant educational curricula, credentialing and referral guidelines, improved quality control of dietary supplements, and the establishment of postmarket
surveillance of drug-herb (and drug supplement) interactions.” (emphasis added) (Eisenberg et al., 1998)

“What most sets alternative medicine apart, in our view, is that it has not been scientifically tested and its advocates largely deny the need for such testing. By testing, we mean the marshaling of rigorous evidence of safety and efficacy, as required by the Food and Drug Administration (FDA) for the approval of drugs and by the best peer-reviewed medical journals for the publication of research reports.” (emphasis added) (Angell & Kassirer, 1998)

Similarly, other authors explained the need to ensure that conventional practitioners could support patients’ safe and appropriate use of unconventional medicines in practice and research, as shown below:

“Subsequently, if health care professionals are to effectively support individuals in making informed, safe, and appropriate choices, it is critical that they develop greater awareness of the nature of, potential efficacy of, and reasons for patients’ use of unconventional self-care approaches.” (emphasis added) (Astin, 1998)

“The extraordinary increase in herbal therapy use between 1997 and 2002 highlights the urgent need to evaluate the risk/benefit profile associated with individual dietary supplements and their interactions with prescription and over-the-counter drugs, and invites further research on whether incorporating explicit questioning of dietary
supplement use into all patient encounters improves patient safety.” (emphasis added) (Tindle et al., 2005)

“Future studies need to determine whether Americans are using multiple [complementary and alternative medicine] therapies for the same health problem and, if so, clinical trials are needed that examine the effectiveness of single vs. multiple [complementary and alternative medicine] therapies. Finally, these survey data underscore the need for continuing efforts to rigorously evaluate the safety, efficacy, mechanism, and cost-effectiveness of [complementary and alternative medicine] therapies used by the American public.” (emphasis added) (Tindle et al., 2005)

Finally, there has been some debate about whether one should even attempt to differentiate therapies into two categories (“conventional” vs. “alternative”, “unconventional”, “complementary” or “complementary and alternative”):

“It is time for the scientific community to stop giving alternative medicine a free ride. There cannot be two kinds of medicine — conventional and alternative. There is only medicine that has been adequately tested and medicine that has not, medicine that works and medicine that may or may not work. Once a treatment has been tested rigorously, it no longer matters whether it was considered alternative at the outset. If it is found to be reasonably safe and effective, it will be accepted. But assertions, speculation, and testimonials do not substitute for evidence. Alternative treatments
should be subjected to scientific testing no less rigorous than that required for conventional treatments.” (emphasis added) (Angell & Kassirer, 1998)

To summarize, main subthemes emerged as a result of analyzing this set of highly-cited articles using terms defined by “what is not”. The first subtheme revolved around the fact that unconventional medicine was often defined by a list or group of therapies not part of conventional medicine. The second subtheme similarly related to the fact that unconventional medicine was often literally defined as a set of therapies or interventions not taught and/or used in conventional medical settings. The third subtheme related to the idea that unconventional medicines included therapy demands not met by conventional medicines, where authors tried to account for the reasons why patients may choose to use unconventional medicine, as well as account for what they believed patients felt conventional medicine was lacking. The fourth subtheme included the idea that unconventional medicines are therapies for which there was a lack of peer-reviewed research on their safety and effectiveness. Here, authors tried to make a case for how to further research these therapies in order to determine their safe or appropriate uses among patients. Lastly, all themes collected for this study were evaluated by the year in which the respective article was published. No significant changes in the appearance or disappearance of any of these four themes occurred over this study’s timeframe, however, it should be noted that all peer-reviewed articles from which themes were extracted were published in or after 1993.

In the next section, an analysis of the terms defined by “what is” is presented, where similarly, four main subthemes also emerged within this set of literature.
5.5. “Integrated/Integrative” Medicine: An Analysis of Terms Defined by “What is”

In contrast, the term “integrated/integrative” was generally defined by authors using “what is” language and this indicates the second of two major themes within this study. Within the literature, it was found that authors who used this particular term in their articles typically only ever defined this term so that it could exist independently, as opposed to the terms defined by “what is not” which were defined in relation to another term. Authors provided various definitions and references to express that integrated/integrative medicine was independent of conventional medicine.

There were four sub-themes that could be identified from among this group of authors exclusively using the term “integrated/integrative”. Beyond the overarching theme of defining by “what is”, the four subthemes that emerged when reviewing the definitions associated with “integrated/integrative” were as follows: (1) a new model or system of healthcare; (2) the combination of aspects of both conventional and unconventional medicine; (3) accounting for the whole person; and (4) preventative maintenance of health. These four subthemes are further reviewed in the following sections.

5.5.1. Subtheme 1: A New Model or System of Healthcare

The first theme relating to the term “integrated/integrative” involves promoting a new model or system of healthcare. Many authors who used this term advocated for fundamental changes to the conventional healthcare system.

One pair of authors defined “integrative medicine” as follows:
“Integrative medicine is not a radical movement, but it can produce major change. Its point is to position medicine in such a way that it can continue to build on its fundamental platform of science and at the same time reposition itself to create a health care system that more broadly focuses on the well-being of patients as well as practitioners.”

(emphasis added) (Snyderman & Weil, 2002)

Authors who wrote about the term “integrated/integrative” advocated for a change to be made to the healthcare system or model in numerous ways. One author commented on the need for a fundamental change to happen in medical education:

“The intent of the Program in Integrative Medicine at the University of Arizona is to influence the direction of medicine by creating a new model of medical education grounded in the commitment of practitioners to engage in their own process of health and healing.” (emphasis added) (Gaudet, 1998)

Other authors advocated for a different way in which physicians practice, and suggested improvements that could be made to the current conventional medicine model:

“We believe that the health care system must be reconfigured to restore the primacy of caring and the patient-physician relationship, to promote health and healing as well as treatment of disease, and to take account of the insufficiency of science and technology alone to shape the ideal practice of medicine.” (emphasis added) (Snyderman & Weil, 2002)
“For integrative medicine to flourish and provide solutions to our current healthcare crises will take systemic change. It will require a commitment to focus on prevention and health promotion, to embrace new providers, and new provider models. And to honor the therapeutic relationship and the bond that forms when a trained provider and patient will require a shift in focus. Technology, including electronic medical records that enhance interdisciplinary communication and teamwork, will be a necessary driver. To provide healthcare that is both high tech and high touch, more integrative medicine providers will have to be trained. The emphasis of this training will be to learn to facilitate healing.” (emphasis added) (Maizes, Rakel, & Niemiec, 2009)

This subtheme relating to a new model of care recurred frequently in the discussions of authors using the term “integrated/integrative”, and is intertwined with the next three subthemes including the next subtheme which focusses on authors who asserted that integrated/integrative medicine involves the thoughtful combination of aspects of both conventional and unconventional therapies.

5.5.2. Subtheme 2: Combining Aspects of both Conventional and Unconventional Therapies

The second theme was about combining aspects of both conventional and unconventional therapies. The vast majority of authors wrote about how integrated/integrative medicine encompassed the combination of various and positively-perceived aspects of conventional medicine and unconventional medicine which they believed could complement one another to form a new and improved system of health care. This included a criticism of the reductionist
form of conventional medicine-based research, and the need to use research strategies that depict the optimal therapeutic ability of unconventional therapies.

This theme is exemplified by Weil’s (2000) definition of “integrative medicine”, which is as follows:

“The challenge is to sort through all the evidence about all healing systems and try to extract those ideas and practices that are useful, safe, and cost-effective. Then we must try to merge them into a new, comprehensive system of practice that has an evidence base and also address consumer demands. The most appropriate term for this new system is integrative medicine.” (emphasis added)

Here, Sundberg, Halpin, Warenmark, and Falkenberg (2007) explained how their integrative medicine model incorporated both the conventional and unconventional practitioners and therapies:

“The [integrative medicine] model was aimed towards delivering a patient-centred mix of conventional and complementary medical solutions in the individual case management of patients with subacute to chronic, low back pain or neck pain. It was characterised by the active partnership of a general practitioner with knowledge of [complementary therapies], and a team of selected [complementary therapy] providers with knowledge of biomedicine. The general practitioner served as the gatekeeper with the overall responsibility for the medical management of the patient in
the [integrative medicine] model, i.e. in accordance with the Swedish regulatory framework for providing conventional primary care.” (emphasis added)

A specific example of this subtheme was exemplified by studies commenting on how integrated/integrative medicine is the combination of Western medicine and a specific form of traditional medicine, such as traditional Chinese medicine. This was exemplified by Wang et al.’s (2012) definition shown below:

“Integrative medicine is a relative new discipline which attempts to combine [complementary and alternative medicine] with Western medicine. As Western medicine has been developed based on the scientific method, integrative medicine, therefore, combines the latest modern scientific advances with the most profound perspectives of [complementary and alternative medicine] to regain and preserve health. In China, the integrative medicine mainly refers to the integrated traditional Chinese and Western medicine.” (emphasis added)

Some authors explained more broadly about how “integrated/integrative” medicine included numerous perceived strengths taken from what both conventional and unconventional medicine offers. This is exemplified by the following:

“We believe that the health care system must be reconfigured to restore the primacy of caring and the patient-physician relationship, to promote health and healing as well as treatment of disease, and to take account of the insufficiency of science and
technology alone to shape the ideal practice of medicine. The new design must also incorporate compassion, promote the active engagement of patients in their care, and be open to what are now termed complementary and alternative approaches to improve health and well-being.” (emphasis added) (Snyderman & Weil, 2002)

Other authors specifically stated that this idea of combining conventional and unconventional therapies needed to be supported by scientific evidence, as shown below:

“A tenet of integrative medicine is that the sources of good medical practice can be conventional and/or [complementary and alternative medicine]. Valuing scientific evidence as a method to augment societal understanding of human life and health, integrative medicine recognizes that good medicine must always be based in good science that is inquiry driven and open to new paradigms.” (emphasis added) (Bell et al., 2002)

“A published case study of communication has shown that [integrative medicine] panel members representing a wide range of theories of health and healing were able to communicate easily with one another, when they limited themselves to the scientific language of biomedicine.” (emphasis added) (Sundberg et al., 2007)

Lastly, many authors also explained that in order to properly integrate conventional and unconventional practices, there would be a need to develop curriculum to teach conventional practitioners how to practice and promote integrative medicine. Examples of this are as follows:
“The challenge of the clinical education is to develop a model that shifts the orientation from one of disease to one of healing. The goal is to teach the art of integration, not simply the strengths and weaknesses of alternative practices, or new protocols to add into our current model of healthcare. The Integrative Medicine Clinic is a place to begin this discourse. Emphasis is on the establishment of rapport with patients; efficiently taking a history that includes the emotional, psychological, and spiritual aspects of patients' lives; careful listening; assessment of patients' belief systems; and presentation of treatments in ways that increase the likelihood of successful outcomes.” (emphasis added) (Gaudet, 1998)

“This model is not one focused on alternatives, although alternatives are used, but one focused on healing, attention, and the valuing of life, while remaining committed to good science that is open to new paradigms.” (emphasis added) (Gaudet, 1998)

“But the primary purpose of the program in integrative medicine is to develop new models of education that will eventually be used in medical schools […] Our fellows get a unique educational experience, and the fellowship provides a living laboratory for the development of curriculum and methodology for medical schools of the future.” (emphasis added) (Weil, 2000)

Beyond identifying these terms by the combining of conventional and unconventional medicine, many authors made it clear that this thoughtful combination also takes into account
other defining characteristics of integrated/integrative medicine, such as accounting for the whole person as shown in the next subsection.

5.5.3. Subtheme 3: Accounting for the Whole Person

The third theme identified pertaining to the definition of the term “integrated/integrative” is that of accounting for the whole person. Another idea that was discussed frequently in these articles was taking into account the different “dimensions” of a patient, including their biological, psychological, sociological and spiritual factors, in this new integrative medical model. Furthermore, many of these authors argued that by taking into account all these factors, this would improve the clinician’s quality of practice.

A good example of this theme was the definition of “integrative medicine” provided by Bell et al. (2002) as follows:

“Integrative medicine represents a higher-order system of systems of care that emphasizes wellness and healing of the entire person (bio-psycho-socio-spiritual dimensions) as primary goals, drawing on both conventional and [complementary and alternative medicine] approaches in the context of a supportive and effective physician-patient relationship.” (emphasis added)

Another example of this theme emerging was in the definition provided by Maizes et al. (2009), as follows:
Definitions abound, but the commonalities are a reaffirmation of the importance of the therapeutic relationship, a focus on the whole person and lifestyle—not just the physical body, a renewed attention to healing, and a willingness to use all appropriate therapeutic approaches whether they originate in conventional or alternative medicine.” (emphasis added)

Some authors emphasized the idea of incorporating all the “dimensions” of a person when practicing integrated/integrative medicine as follows:

“Integrative medicine can be defined as an approach to the practice of medicine that makes use of the best-available evidence, taking into account the whole person (body, mind, and spirit), including all aspects of lifestyle. It emphasizes the therapeutic relationship and makes use of the rich diversity of therapeutic systems, incorporating both conventional and complementary/alternative approaches.” (emphasis added) (Kligler et al., 2004)

“All factors that influence health, wellness and disease are taken into consideration, including mind, spirit and community, as well as body. These multiple influences on health have been firmly documented in the literature but are not often recognized as important in medical practice. Conventional medical care tends to focus on the physical influences on health. An integrative approach also addresses the importance of the nonphysical (eg, emotions, spirit, social) influences on physical health and disease.” (emphasis added) (Maizes et al., 2009)
Other authors emphasized the importance of using this “whole person” model to promote patient-centred care and the idea that the healing potential can be stimulated within the patient. Examples of this are shown below:

“Patient-centered care is a fundamental component of practicing integrative medicine; [patient-centered care] has a movement in its own right and has been the subject of multiple meetings. Its hallmark is to customize treatment recommendations and decision making in response to patients’ preferences and beliefs.” (emphasis added) (Maizes et al., 2009)

“Integrative Medicine, then, shifts the orientation of medicine to one of healing rather than disease, engaging the mind, spirit, and community as well as the body. The integrative approach is based on a partnership of patient and practitioner within which conventional and alternative modalities are used to stimulate the body's innate healing potential. It is committed to the practice of good medicine, whether its origins are conventional or alternative, and recognizes that good medicine must always be based in good science that is inquiry-driven and open to new paradigms. It neither rejects conventional medicine nor uncritically accepts alternative practices.” (emphasis added) (Gaudet et al., 1998)

In addition to authors expressing that integrated/integrative medicine better accounted for the whole person by addressing multiple factors associated with the patient and promoting patient-centred care and healing potential, the next subtheme highlights another important
defining characteristic of this term: the preventative maintenance of health in patients and physicians alike.

5.5.4. Subtheme 4: Preventative Maintenance of Health

The fourth theme associated with the definition of the term “integrated/integrative” is regarding the preventative maintenance of health. The last theme frequently discussed by authors of these articles was regarding shifting the focus towards preventative health in patients and physicians alike, alongside health promotion, as opposed to waiting for and treating disease once it has developed.

Snyderman & Weil (2002) provide a definition of “integrative medicine” to exemplify this theme below:

“In addition to providing the best conventional care, integrative medicine focuses on preventative maintenance of health by paying attention to all relative components of lifestyle, including diet, exercise, stress management, and emotional well-being.”

(emphasis added)

Here, authors explained that one of the hallmarks of the integrative medical model is the idea that prevention of disease is more ideal than the treatment of it:

“Moving prevention and control strategy forward” is a national macrohealth policy, which well adapted to the new medical model, “physiological-psychological-social-environmental” model. It means that the focal point of medicine will be transferred
from treating disease to health care, and disease prevention will be paid more attention to. Therefore, the policy of “prevention first” will be carried out instead of traditional ideological concept “treatment is more major than prevention.” (emphasis added) (Wang & Xiong, 2012)

“Integrative medicine represents a broader paradigm of medicine than the dominant biomedical model. It comes from a growing recognition that high-tech medicine, although wildly successful in some areas, cannot address the growing epidemics of chronic diseases that are bankrupting the US domestic economy, and that health promotion and prevention are vital to creating a healthier society.” (emphasis added) (Maizes at al., 2009)

“Integrative medicine emphasizes tending to the health of the body rather than waiting for the development of disease. One benefit of [complementary and alternative medicine] modalities is that they can be used to address symptoms at an earlier stage of a disease process, when from an allopathic perspective they may still be barely discernable.” (emphasis added) (Maizes at al., 2009)

Interestingly, one author explained that the model of integrative medicine allows for the promotion of healing, even when a cure for disease is not available:

“This Integrative Medicine teaches physicians to understand the subtle and complex interactions of mind, body, and spirit, and to know how to interpret them in health and
disease. This is done in large part through a commitment by the practitioner to their own inner exploration. Learning to distinguish between healing and curing, physicians come to understand that healing is always possible, even when curing is not.” (emphasis added) (Gaudet, 1998)

Lastly, authors also emphasized that preventative maintenance of health also incorporated the idea of teaching physicians to care for themselves. These authors advocated for the idea that medical schools should encourage the student to lead more healthy lifestyles. The following quotes highlight this idea:

“Practitioners of integrative medicine should exemplify its principles and commit themselves to self-exploration and self-development. It is difficult to facilitate health and healing in others if we have not explored how to do this for ourselves. Medical training should encourage self-reflection that results in health for the learner. Integrative medicine believes that this “heal the healer” approach is the most efficient method of empowering professionals to develop an understanding of the self-healing mechanism.” (emphasis added) (Maizes et al., 2009)

“Conventional medical education has neglected the health and well-being of the physician: physical, mental, emotional, spiritual. By the end of their training, physicians often feel that the compassion and spirit which drew them to medicine has been drained. The [Integrative Medicine] Fellowship is designed to attend to that spirit, facilitating change within the physician. […] To support this process,
Fellows have no clinical responsibilities during their first two months. They begin the Fellowship with a three day retreat led by a psychologist and Zen teacher. These retreats are continued throughout the year for one and a half days per month. Additionally, one half-day per week is spent in reflection.” (emphasis added) (Gaudet, 1998)

“Finally, fellows are encouraged to develop their own health and wellness during their training by attending to their own diets, exercising, practicing stress reduction, and doing reflective inner work. The word physician comes from the Latin word for teacher. Physicians should be teaching people how to avoid getting sick in the first place, and they can do this most effectively by modeling health for their patients. One of the strongest indictments against the present system of medical education is that it makes it extremely unlikely that people will come out of it with healthy lifestyles. The executive director of the program, Tracy Gaudet, MD, notes that every healthy instinct she had going into medical school was extinguished by the time she finished her residency. This must change.” (emphasis added) (Weil, 2000)

In summary, four subthemes emerged as a result of this analysis. The first subtheme related to a new model or system of healthcare, and overwhelmingly was present in almost all the articles found within this group. Here, many authors sought to advocate for fundamental changes to conventional medicine, including within medical education and the way physicians practice. The second subtheme associated with this set of literature included combining aspects of both conventional and unconventional medicine. This was a hallmark of defining “integrated/integrative” medicine, where many authors argued that a scientific approach should
lead this integration between the two types of medicines. The third subtheme involved accounting for the whole person, which encompassed the idea that a patient contains multiple “dimensions”, such as a biological, psychological, sociological and even spiritual dimension, and each needs to be addressed when caring for them. The fourth subtheme to emerge was regarding the preventative maintenance of health. Not only did this include the prevention of illness in patients before the development of disease, but also included the idea of teaching medical students and physicians to take care of themselves in school and practice respectively. Lastly, all themes collected for this study were evaluated by the year in which the respective article was published. No significant changes in the appearance or disappearance of any of these four themes occurred over this study’s timeframe, however, it should be noted that all peer-reviewed articles from which themes were extracted were published in or after 1998.
CHAPTER 6

6.0. Discussion

6.1. Summary of Analysis

To our knowledge this is the first study that employs textual analysis to seek to understand how the meanings associated with unconventional medicine-related terms have changed over time in the peer-reviewed literature. We were surprised to find that four out of five terms selected for further analysis – “alternative”, “unconventional”, “complementary” and “complementary and alternative” – were frequently defined and/or used interchangeably by the authors who used these terms. While we expected to find an evolution in the use of these terms over time, instead, the use and definition of the fifth term, “integrated/integrative”, was so unique that it would not be correct to categorize it as synonymous with the other terms as we had originally assumed when embarking on the study. Furthermore, another interesting finding was the fact that all subthemes from the two major themes remained consistent over time. Three key findings from this study warrant discussion:

The first key finding is that there are two distinct groups of authors in the literature: those that use a term defined by “what is not” (i.e. “alternative”, “unconventional”, “complementary” and “complementary and alternative”), and those that use terms defined by “what is” (i.e. “integrated/integrative”). We identify a fundamental difference in stance between these two groups of authors. Authors defining terms by “what is” seek to thoughtfully combine aspects of these medicines and implement systemic change in the healthcare system, while authors defining terms by “what is not” generally do not seek to make changes in the sociopolitical positioning of unconventional medicine.
The second key finding is the importance of scientific rhetoric. Despite all their differences, authors in both groups focussed on the importance of science in defining unconventional medicine by any label. While authors defining unconventional medicine-related terms by “what is not” used scientific rhetoric to justify the need for further peer-reviewed research surrounding the safety and efficacy of these therapies, authors defining terms by “what is” used this rhetoric to identify that their integration strategy was dependent on scientific evidence. Regardless of how these two groups of authors used the rhetoric of science, it was evident that each used the idea of science to differentiate their work from that which is non-scientific. Of the four theories of professions presented in Chapter 3 that were used to provide guidance in conducting the coding aspect of the textual analysis, it was here that Thomas Gieryn’s (1983) work was the most useful in understanding the study findings, especially the second key finding.

Lastly, the third key finding is that conventional medicine maintains its dominance over unconventional medicine. Here, we argue that authors using terms defined by “what is not” strived to be the leading authorities in the peer-reviewed research of unconventional medicine, as many authors explained that members of conventional medicine should be responsible for exploring the safety and effectiveness of unconventional therapies. Furthermore, the authors using the terms defined by “what is” strived to be the leading authorities in the practice of integrated/integrative medicine, as conventional practitioners here served as the “gatekeepers” to how an integrative medical model should be run, including serving as the decision makers regarding how and what unconventional practices are integrated.
6.1.1. The Divide between “What is Not” and “What is”

Initially, it was expected that each of the five terms (“alternative”, “unconventional”, “complementary”, “complementary and alternative”, and “integrated/integrative”) were referring to the same group of therapies, and that authors used one term over another to make specific and intentional arguments about how they wished to shape the discourse. In fact, this was not at all the case, as one group of authors used the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” relatively interchangeably (including mixing and matching definitions and terms), while another group of authors specifically used the term “integrated/integrative”. Authors using the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” generally did not appear to pay great attention to the specific term or definition they were using to define unconventional medicine, however, it was always in reference to something defined by “what is not”. In contrast, authors using “integrated/integrative” always used and defined the term in reference to “what is”. This observation indicated that there are two distinct discourses relating to the subject of unconventional medicine.

This identification of two unique and separate discourses has implications for how these terms are interpreted. Authors who chose to use the terms defined by “what is not” appeared to position themselves as objective bystanders who were separate and distinct from the field of unconventional medicine and their practitioners. Oftentimes, these authors stressed that the purpose of conducting research in this area was purely the pursuit of knowledge. This included knowledge about what types of unconventional medicine patients use, how and why patients use it, as well as understanding what patients perceive to be lacking in conventional medicine and what motivates them to consult unconventional therapies to fill this void. Authors in this
category often called for further academic (and often clinical) research on unconventional therapies and their systems of health including: determining the safety and efficacy or effectiveness of unconventional therapies, and evaluating the economics of unconventional medicine.

In contrast, authors who chose to use the term “integrated/integrative” appeared to seek to advocate for, or promote, the integration of unconventional and conventional medicines. Frequently, these authors explicitly stated a goal of reforming the healthcare system as it exists today. This idea of healthcare reform was often referred to by authors as a new model or system of healthcare which seeks to reconfigure how medicine is taught in school and practiced in clinics. These authors described a reform that involves incorporating the aspects of both conventional and unconventional medical therapies into a comprehensive model that is the most useful, safe and cost-effective, as well as accounts for the whole person in practice, which involves providing patient-centered care, by addressing the many “dimensions” of a patient (i.e. biological, psychological, sociological and spiritual) and stimulating a patient’s healing potential. This proposed reform was also described as focusing on promotion and maintenance of health through disease prevention. This aspect of the reform described by the authors in this group involves preventing disease in the patient, but also teaching medical students and practitioners how to lead healthier lives in their education and practice settings. This key finding closely aligns with the findings of Rosenthal & Lisi (2014) who conducted a study seeking to evaluate the components of a number of integrative medicine-related definitions believed to have the most frequent use and impact, and found similar integrative medicine-related themes.

Furthermore, proponents of integrated/integrative medicine arguably take an additional step to relate their proposed novel model of healthcare as a solution to a global health crisis.
Major health reports published by the Lancet Commission and the World Health Organization, among other influential agencies argue that the global health situation in the twenty-first century is in crisis. In essence, they argue that health systems worldwide struggle to meet population demands as healthcare becomes more complex and expensive, and places additional strain on healthcare staff (Frenk et al., 2010; Van Lerberghe, 2008). As this type of discourse is also commonly found in articles published by proponents of an integrative medical model, here we argue that these authors are positioning their proposed changes as a solution to a major issue in the dominant discourse that strongly argues that professional education, and therefore, healthcare practice, both have not kept pace with modern health issues (Frenk et al, 2010).

Given that there appears to be very little overlap between the groups of authors described above, some stakeholders appear to be seeking to combine the two groups of terms in a way to attract members from both groups. For example, the National Center for Complementary and Alternative Medicine (NCCAM) (formerly named as the Office of Alternative Medicine (OAM)), changed its name to the National Center for Complementary and Integrative Health (NCCIH) in December 2014 (NCCAM, 2014). The NCCIH engaged in extensive consultation before revealing the new name, which appears to deliberately signal openness to funding studies from researchers and practitioners in both the “complementary” and “integrative” groups. This kind of deliberate combination of one or more of the terms “alternative”, “complementary”, “complementary and alternative” and “unconventional” with the term “integrated/integrative” is also increasingly being seen in peer-reviewed journal names (i.e. Journal of Complementary and Integrative Medicine [http://www.degruyter.com/view/j/jcim], Alternative and Integrative Medicine [http://esciencecentral.org/journals/alternative-integrative-medicine.php]), practitioner associations (i.e. Association of Complementary and Integrative Physicians of British Columbia.
Though stakeholders may not actively be aware of the implications of combining terms from each group, it is likely that they may receive feedback that shapes their naming decisions in one way or another. For example, the NCCIH invited public comment on a proposed name change (from NCCAM to NCCIH) prior to formally changing the centre’s name (NCCAM, 2014). This allowed for both the members associated with the group defining their terms by “what is not” as well as the group defining their terms by “what is” to voice their interests in how the centre should be named. The NCCAM explains the reasoning behind why they removed the term “alternative” and added the word “integrative” as follows:

“Large population-based surveys have found that the use of “alternative medicine”—unproven practices used in place of conventional medicine—is actually rare. By contrast, integrative health care, which can be defined as combining complementary approaches into conventional treatment plans, has grown within care settings across the nation, including hospitals, hospices, and military health facilities. The goal of an integrative approach is to enhance overall health, prevent disease, and to alleviate debilitating symptoms such as pain and stress and anxiety management that often affects
patients coping with complex and chronic disease, among others. However, the scientific foundation for many complementary approaches is still being built” (NCCAM, 2014).

As a result of this name change, it could be argued that a greater opportunity is now provided for researchers in both the “what is” and “what is not” group to make research applications to the NCCAM, thus increasing the centre’s appeal to all its stakeholders.

6.1.2. The Use of Scientific Rhetoric for Legitimacy

Gieryn (1983) explains that the reference to science can be used as a form of intellectual authority, a perspective that became widely evident upon analysing the highly-cited articles using terms defined by both “what is not” and “what is”. Despite the significant differences that exist regarding how these two groups refer to unconventional medicine, one commonality was both groups’ use of scientific rhetoric to legitimize their interests.

Authors using the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” tended to use scientific rhetoric most when appealing for a need for academic research of safety and efficacy or effectiveness of unconventional therapies. Authors expressed the importance that science played in testing the safety and efficacy or effectiveness of unconventional therapies (Angell & Kassirer, 1998; Eisenberg et al., 1998; Tindle et al., 2005). Furthermore, the authors made frequent reference to items associated with the scientific process, including clinical trials (Tindle et al., 2005) and peer-reviewed medical journals (Angell & Kassirer, 1998). For example, Eisenberg et al. (1998) called for academic institutions to implement further “clinical and basic science research” regarding unconventional therapies, while Angell and Kassirer (1998) stated that unconventional medicine has not been
“scientifically tested”, and argue that such therapies should undergo “scientific testing” equally rigorous to that required for conventional medicines.

It can be shown that the authors used the rhetoric of science to distinguish their work from non-scientific intellectual activities. They used the idea of science, including the literal use of the words “science” and “scientific”, to depict how they planned to objectively make decisions with regards to the research of unconventional medicine. Gieryn (1983) states that the use of scientific rhetoric in this way assumes that science carries its own intellectual authority, exemplified by how the authors justified their studies, but also sought to justify future studies of unconventional medicine, by using scientific rhetoric.

The perspective of scientific rhetoric was also very pronounced when reviewing the “what is” literature. Snyderman and Weil (2002) explained that the point of integrative medicine is to align medicine so as to allow for it to continue building on its “fundamental platform of science”. Bell et al. (2002) argued that it is mandatory that integrative medicine be based in “good science”, and that it values “scientific evidence” as a way of enhancing the understanding of health societally. Finally, Sundberg et al. (2007) explained with regard to an integrative medicine clinic involved in their study, that integrative medicine members comprised of many different theories of health/healing, could easily convey information with one other, when they restricted communication to the “scientific language of biomedicine”.

Interwoven into virtually all subthemes was the idea that “integrated/integrative” medicine has to be fundamentally shaped by scientific evidence, though this is most pronounced in the second subtheme about combining aspects of both conventional and unconventional therapies (Bell et al., 2002; Gaudet, 1998; Snyderman & Weil, 2002; Sundberg et al., 2007).
Within the sociological literature surrounding unconventional medicine, there are multiple perspectives on the idea of conventional medicine’s use of scientific rhetoric. Barry (2006) argues that the call from within conventional medicine for more evidence of unconventional medicine’s efficacy via trials (specifically randomized controlled trials), is also a political means of “controlling the threat posed by alternative medicine”. This author also argues that certain aspects of the scientific process such as using a trial to separate a treatment from the patient, the provider and the settings in which the therapy is provided may make sense in conventional medicine, but neglects the fact that certain unconventional healing systems make use of keeping these components together. Furthermore, it has been acknowledged that many unconventional therapies are complex individualized treatments which create many limitations when testing them using a traditional scientific model (Long, Mercer, & Hughes, 2000). Berg & Mol (1998) argue that despite a rhetoric of standardization through evidence-based medicine guidelines, there exists huge variation within conventional medicine, and thus conventional medicine has not truly standardized a method which assesses all medical therapies (conventional or unconventional) equally.

Kelner, Wellman, Welsh, and Boon (2006) and Winnick (2005) argue that this myth of “scientific unity” could be considered to play a role in conventional medicine’s exclusionary strategy. It is suggested that authors’ promotion of conventional medical dominance via scientific rhetoric can be demonstrated in two ways: firstly, the “what is not” literature is framed to highlight conventional medicine’s authority to lead and set the standards for research that tests the safety and effectiveness of unconventional medical therapies, and secondly, the “what is” literature is framed to highlight conventional medicine’s authority to selectively incorporate
unconventional therapies into an “integrative medical model” based on the results of their scientific research conducted.

6.1.3. Conventional Medicine as the Leading Authority in Research and Practice of Unconventional Medicine

Many of the papers reviewed for this study imply, or directly state, the need for conventional medicine, often framed as scientific or evidence-based, to lead the decision making about the research and practice of unconventional medicines. In the case of the “what is not” literature (authors using the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative”), the authors appear to be promoting the idea that conventional medicine should assume the responsibility of determining what and how peer-reviewed research of unconventional therapies is conducted. Authors of the “what is” literature (authors using the term “integrated/integrative”), instead appear to serve as “gatekeepers” of integrative medical models and/or clinics, where both conventional and unconventional practitioners work together to combine different therapies and healing systems, however, under the condition that conventional practitioners assume the responsibility of managing and determining what and how unconventional therapies are integrated. As a result of this, even though both groups of authors may hold different viewpoints on the role of unconventional therapies and practitioners in conventional medicine, both groups appear to assume that they should have responsibility over determining the role unconventional medicine plays in healthcare.

Based on the “what is not” literature, many authors within this group have identified that a need exists for conventional researchers and practitioners to identify for themselves why patients are subscribing to unconventional medicines (Astin, 1998; Burstein et al., 1999;
MacLennan at al., 1996; Molassiotis et al., 2005; Richardson et al., 2000). Authors expressed their concern for patients who sought out medical treatment from unconventional practitioners suggesting that these therapies should not be used unless the scientific research deems them safe and effective (Angell & Kassirer, 1998; Astin, 1998; Eisenberg et al., 1998; Tindle, 2005). For example, Eisenberg et al. (1998) explained that academic institutions, federal agencies and private corporations should be responsible for the “quality control” and “surveillance” of various unconventional therapies, namely dietary supplements and herbs. Angell and Kassirer (1998) similarly agreed, advocating for the “marshalling of rigorous evidence of safety and efficacy” for unconventional medicines. This may imply that conventional medicine researchers lack trust in unconventional practitioners’ methods of determining the effectiveness of their own therapies. Astin (1998) explains that conventional practitioners should develop a greater awareness of unconventional therapies in order to better treat their patients, while Tindle et al. (2005) argue that clinical trials are needed to examine the effectiveness of single versus multiple unconventional therapies taken by patients.

This appears to imply that conventional practitioners have assumed the role of the leading authority on how safety and effectiveness of a therapy, conventional or unconventional, is tested and determined. Unsurprisingly, this idea of conventional practitioners and researchers assuming such a role is also found in the NCCIH. Here on the agency’s website, they explain that the centre’s mission as follows:

“The mission of NCCIH is to define, through rigorous scientific investigation, the usefulness and safety of complementary and integrative health interventions and their roles in improving health and health care” (NCCIH, 2015a).
Also, unsurprisingly based on our findings is the fact that the centre’s senior staffs are comprised of practitioners and researchers that all hold solely conventional health care professional and/or scientific training (or who fail to declare any training in a unconventional therapy) (NCCIH, 2015b).

This is all in contrast to the language used by authors categorized as belonging to the “what is” literature. As opposed to simply determining why patients were using unconventional therapies and whether they are safe or effective, many of these authors instead sought to address patients’ “therapy demands not met by conventional medicine”, sometimes advocating for the combination of conventional and unconventional therapies when providing patient care (Gaudet, 1998; Kligler et al., 2004; Maizes et al., 2009; Snyderman & Weil, 2002).

The results of our textual analysis suggest that these authors promote the idea that conventional practitioners should have control over the practice of integrated/integrative medicine, despite the fact that this is defined as a blending of certain conventional and unconventional therapies and models. Snyderman and Weil (2002) explain that the rationale of integrative medicine is to align medicine so as to allow for a better focus on the well-being of both the patients and the practitioners. Gaudet et al. (1998) argue that integrative medicine is a “partnership between the patient, and the practitioner”, where the latter makes use of both conventional and unconventional modalities. It can be assumed that here “practitioner” refers to those of the conventional group as the authors’ later state that integrative medicine “neither rejects conventional medicines nor uncritically accepts alternative practices”. Furthermore, Sundberg et al. (2007) explain that within their integrative medicine model, it was the general practitioner who served as the “gatekeeper”, tasked with the overall responsibility of managing the patient within the integrative medicine model. All of this language above appears to imply
that while the idea of integrative medicine is to combine conventional and unconventional therapies and practitioners, the caveat for the unconventional practitioners is that their conventional practitioner peers will assume the role of authority on how and what types of unconventional therapies are integrated.

This aligns with the findings from a study conducted by Hollenberg and Muzzin (2010). They found that conventional practitioners, while embracing of integrated/integrative medicine were observed to devalue unconventional medicine practitioner knowledge and choose conventional lines of evidence over that of unconventional. While the integrated/integrative medicine movement is, in a sense, a model that shares activities performed by conventional and unconventional practitioners independent of one another, it is primarily conventional medical practitioners that are endorsed to shape or plan to shape this integration (Gaudet, 1998; Maizes et al., 2009; Snyderman & Weil, 2002; Weil, 2000). Furthermore, many authors of the “what is” literature are seeking to develop integrated/integrative medicine curricula at conventional medical schools within a program that provides conventional practitioners with the opportunity to incorporate integrative medicine into their own practice as practitioners and/or medical schools at their home universities (Gaudet, 1998; Maizes et al., 2009; Snyderman & Weil, 2002). With regards to curricula, Weil (2000) argues that “integrative medicine” can “develop in a planned, thoughtful way, consistent with good science and ethics or it can develop haphazardly and recklessly”, suggesting that integrated/integrative medicine should develop in a conventional medical setting, according to these researchers. This is another example of the use of scientific rhetoric by authors considering that many describe the inclusion of therapies in integrated/integrative medicine curricula to be based on scientific evidence.
Thus, it is argued that conventional medicine assumes the role of an authority in two ways: the authors of the “what is not” literature serve as the leading voice, and decision makers in the peer-reviewed research community as to what unconventional medicines are studied and how they are studied, while the authors of the “what is” literature serve as the “gatekeepers” to how and what unconventional medicines are accommodated within an integrative health care model. These findings reinforce the theory put forth by Gieryn (1983), where both groups of authors seek to use the rhetoric of science to advance their agendas.

6.2. Study Considerations and Future Directions

6.2.1. Study Strengths

The design of this study allowed for the screening and retrieval of influential unconventional medicine-related articles in a systematic fashion, drawing on the expertise of a Faculty of Pharmacy liaison librarian. The selection of Scopus as the database used to recover the relevant literature allowed for the most effective recovery of articles across multiple disciplines of study. Advanced search codes within Scopus allowed for the vast majority of articles recovered by searches to be related to the topic of inquiry in this study. Coding of search terms also identified the most relevant terms authors used to describe the field of unconventional medicine, while simultaneously screening out irrelevant and unpopular terms and the vast majority of duplicate articles. Further analysis by closely reading the 20 most highly-cited articles of the five most common terms in the unconventional medicine literature, and sources on these articles’ reference list, arguably allowed for the textual analysis of a sample of articles highly indicative of the discourses surrounding each term or set of terms. Finally, the use of the
theories of professions served to provide sensitizing concepts that allowed for a deeper understanding of the discourse of unconventional medicine.

6.2.2. Study Limitations

Methodologically, one important limitation was with regards to potentially unaccounted themes in the most recently published literature. Because a time lag exists between the time peer-reviewed articles are submitted, accepted, and published and made searchable on the Scopus database it is possible that any recent themes that exist within the most recent timeframe (i.e. 2013 and the few years preceding it) may have been missed from this analysis. While this limitation cannot be entirely accounted for, efforts were made to search both online and gray literature sources to determine whether any information regarding the terms and/or meanings of unconventional medicine-related terms that was influential towards the end of this study’s timeframe existed and no new themes were identified.

With regards to this study’s findings, while the study method itself was designed to find the discourses present in the medical literature, it was found that the majority of the literature was dominated by conventional medical practitioners and researchers in both the “what is not” and “what is” discourses within the peer-reviewed literature. As a result of this, we were unable to gain a greater understanding into the discourse provided by unconventional practitioners, in terms of their labelling of themselves or of conventional practitioners. Though it was anticipated that members of conventional medicine would dominate the literature, the almost complete lack of voices from the unconventional practitioner/researcher community in the dataset was not expected. Had a more complete picture of the conventional and unconventional medicine discourses surrounding unconventional medicine been possible, a greater understanding of how
these two fields operate in relation to one another may have been gained. This would have then potentially allowed for stronger conclusions to be made surrounding the discourse of both groups, why (rather than just how) the unconventional medicine-related terms and meanings differed, and greater usefulness of Abbott (1988), Collins (1990) and Witz (1992), and Light’s (1995, 2000) theories of professions which focussed on the dynamic within and among different professional groups.

Furthermore, the voice of the patient was also not adequately identified within the findings of this study, as while some articles assessed patients’ views and uses of unconventional medicine, no studies directly surveyed patients regarding the use of the terminology associated with naming unconventional practitioners and their therapies.

6.2.3 Study Implications

The importance of this study lies in the fact that it has highlighted an underlying divide between authors who use language associated with the “what is not” and the “what is” unconventional medicine-related terms. This study presents an explanation for why a previously poorly understood tension exists between these two influential groups within conventional medicine. Sociologically, this study showcases an excellent example of how using Gieryn’s theory to frame our textual analysis proved very helpful. Through the use of this theory, we have shown that the scientific rhetoric used in the language produced by both “what is not” and “what is” authors demarcate the work of conventional medicine from that of unconventional medicine. Specifically, underpinning this study with Gieryn’s theory has illuminated two unique ways in which conventional practitioners (a form of scientist for the purpose of this study), have
constructed boundaries rooted in scientific rhetoric between themselves and the “others” categorized as unconventional medicine practitioners.

From a practical standpoint, this research has served to crystallize a debate that has been played out in the texts written by both groups of authors. Very different language use between these two author types suggests the possibility of an intra-professional dispute among this group of seemingly homogeneous conventional medicine members. This study will sensitize its audience to a greater awareness of naming surrounding unconventional medicine-related terms and how they may be interpreted by others within their field. This study can help to explain why academics or practitioners who work in an environment primarily consisting of supporters of “what is not” language but who use “what is” language (or vice-versa) may face criticism from their colleagues, or a lack of traction, with regards to their research or practice goals within the field of unconventional medicine. Lastly, this study’s finding of a clear dichotomy in language and meaning associated with “what is not” versus “what is” language provides a service to authors looking to continue (or begin) publishing their work in this field, helping them to identify that these five commonly-used unconventional medicine-related terms are not simply synonymous in meaning or definition.

6.2.4. Future Directions

Future studies should evaluate the discourse generated by unconventional practitioners and patients. This should include an investigation of the form of media unconventional practitioners use to create their discourses, and perhaps explore whether they have any interest in gaining a voice within peer-reviewed medical journals. Additionally, the voice of patients should be considered, as many may be completely unaware of or have different perceptions of the terms
and meanings behind different words or phrases used to describe or define unconventional medicine-related practitioners and their therapies. As a result, how patients interpret these terms, and whether this impacts their decisions associated with unconventional medicine should be explored.

Furthermore, this study only assessed the discourse of the peer-reviewed literature. Future studies should seek to evaluate the discourses found in other forms of media such as in the gray literature or the internet to determine whether our results are comparable and indicative of discourses found in other forms of media. By doing this, insight may also be gained into whether both “what is not” and “what is” authors engage in, if at all, using similar or different discourses outside the realm of the peer-reviewed literature. Understanding what and who leads the creation of discourses surrounding the naming of unconventional practitioners and their therapies present in other forms of media may also provide further insight into the profession dynamics between members of conventional and unconventional medicine.

6.3. Conclusion

In conclusion, this study has identified two major discourses relating to the labelling of unconventional medicine and their practitioners. The first major discourse involves the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative”, which authors have defined as a group of products or therapies that are not taught or used in conventional medical setting or schools, meet needs not met by conventional medicine, and as some would argue, have not been shown to be safe and effective or efficacious. We have described these as “what is not” definitions. The second major discourse involves the term “integrated/integrative”, which authors have all defined as a new model of health and wellness.
care that combines evidence-based unconventional products and therapies with conventional medicine (a “what is” definition). There was no change in these themes throughout the time period analyzed for this study.

This study has highlighted the challenges faced by authors in selecting from a plethora of terms which refer to a field that has very different and frequently contested definitions. Both discourses utilize scientific rhetoric in an attempt to legitimize their work in research and practice respectively. Authors using the terms “alternative”, “unconventional”, “complementary” and “complementary and alternative” are associating their work with a group of authors portraying themselves as separate from unconventional medicine and their practitioners, and who seek to serve as the leading authorities in the scientific research of such therapies. In contrast, authors using the term “integrated/integrative” are associating their work with a group of authors portraying themselves as proponents of a healthcare reform movement which thoughtfully combines both conventional and unconventional therapies supported by scientific evidence. Authors who may wish to actively dissociate themselves from the definitions and meanings of either group’s terms may need to seek out less commonly-used terms that may be more highly indicative of their work or stance towards unconventional medicine. Though it is evident from this study that conventional medical researchers and practitioners lead the discourse surrounding unconventional therapies in the peer-reviewed literature, a dichotomy exists between those who define unconventional medicine-related terms by “what is not” and those who define them by “what is”. An important consideration is the tension that exists between this first group who are primarily approaching the field from an academic research standpoint, versus this second group who are effectively activists interested in changing the present setup of the healthcare system and conventional medical practitioner education.
Ultimately, this study has served to identify the terms used to refer to unconventional medicine, and the differences in their definitions and meanings. Furthermore, this study also identified a dichotomy between two groups of conventional medicine practitioners - a phenomenon which will require ongoing investigation as the discourse continues to change across North America.
References


Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”


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Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”


Appendices
Table 1: Screening of Commonly Used Search Terms for Year of Use Pertaining to Unconventional Medicine

<table>
<thead>
<tr>
<th>Search Term (Preceding “Medicine” or “Therapy”)</th>
<th>Scopus Search Code</th>
<th>Explanation of Coding</th>
<th>Number of Articles Recovered</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complementary and Alternative Medicine/Terapy</td>
<td>(TITLE(“complementary and alternative medicine” OR “complementary alternative medicine” OR “complementary and alternative therapy” OR “complementary alternative therapy” AND NOT “integrative” AND NOT “integrated”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “integrative” or “integrated”, in order to prevent other combinations from being searched.</td>
<td>2814</td>
</tr>
<tr>
<td>Complementary Medicine/Terapy</td>
<td>(TITLE(“complementary medicine” OR “complementary therapy” AND NOT “alternative” AND NOT “integrative” AND NOT “integrated”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “alternative”, “integrative” or “integrated”, in order to prevent other combinations from being searched.</td>
<td>1758</td>
</tr>
<tr>
<td>Alternative Medicine/Terapy</td>
<td>(TITLE(“alternative medicine” OR “alternative therapy” AND NOT “complementary” AND NOT “integrative” AND NOT “integrated”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “complementary”, “integrative” or “integrated”, in order to prevent other combinations from being searched.</td>
<td>1708</td>
</tr>
<tr>
<td>Integrated/Integrative Medicine/Terapy</td>
<td>(TITLE(“integrative medicine” OR “integrated medicine” AND NOT “alternative” AND NOT “complementary”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “alternative” or “integrated”, in order to prevent other combinations from being searched.</td>
<td>455</td>
</tr>
<tr>
<td>Adjunctive†</td>
<td>(TITLE(&quot;adjunctive medicine&quot; OR &quot;adjunctive therapy&quot;)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, &quot;English&quot;)) AND (LIMIT-TO(SRCTYPE, &quot;j&quot;)) AND (EXCLUDE(DOCTYPE, &quot;er&quot;))</td>
<td>Standard Code‡</td>
<td>816</td>
</tr>
<tr>
<td>Folk†</td>
<td>(TITLE(&quot;folk medicine&quot; OR &quot;folk therapy&quot;)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, &quot;English&quot;)) AND (LIMIT-TO(SRCTYPE, &quot;j&quot;)) AND (EXCLUDE(DOCTYPE, &quot;er&quot;))</td>
<td>Standard Code‡</td>
<td>429</td>
</tr>
<tr>
<td>Alternative and Complementary</td>
<td>(TITLE(&quot;alternative and complementary medicine&quot; OR &quot;alternative complementary medicine&quot; OR &quot;alternative and complementary therapy&quot; OR &quot;alternative complementary therapy&quot; AND NOT &quot;integrated&quot; AND NOT &quot;integrative&quot;) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, &quot;English&quot;)) AND (LIMIT-TO(SRCTYPE, &quot;j&quot;)) AND (EXCLUDE(DOCTYPE, &quot;er&quot;))</td>
<td>Excludes titles containing &quot;integrative&quot; or &quot;integrated&quot;, in order to prevent other combinations from being searched.</td>
<td>116</td>
</tr>
<tr>
<td>Unconventional</td>
<td>(TITLE(&quot;unconventional medicine&quot; OR &quot;unconventional therapy&quot;)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, &quot;English&quot;)) AND (LIMIT-TO(SRCTYPE, &quot;j&quot;)) AND (EXCLUDE(DOCTYPE, &quot;er&quot;))</td>
<td>Standard Code‡</td>
<td>103</td>
</tr>
<tr>
<td>Complementary and Integrated/Integrative</td>
<td>(TITLE(&quot;complementary and integrated medicine&quot; OR &quot;complementary integrated medicine&quot; OR &quot;complementary and integrated therapy&quot; OR &quot;complementary integrated therapy&quot; OR &quot;complementary and integrative medicine&quot; OR &quot;complementary and integrative therapy&quot; OR &quot;complementary integrated medicine&quot; OR &quot;complementary integrated therapy&quot; AND NOT</td>
<td>Excludes titles containing &quot;alternative&quot; in order to prevent other combinations from being searched.</td>
<td>27</td>
</tr>
<tr>
<td>Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unorthodox</strong></td>
<td>(TITLE(“unorthodox medicine” OR “unorthodox therapy”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Standard Code‡</td>
<td>12</td>
</tr>
<tr>
<td><strong>Fringe</strong></td>
<td>(TITLE(“fringe medicine” OR “fringe therapy”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “alternative” in order to prevent other combinations from being searched.</td>
<td>8</td>
</tr>
<tr>
<td><strong>Integrated/Integrative and Complementary</strong></td>
<td>(TITLE(“integrated and complementary medicine” OR “integrated complementary medicine” OR “integrated and complementary therapy” OR “integrated complementary therapy” OR “integrative and complementary medicine” OR “integrative complementary medicine” OR “integrative complementary therapy” OR “integrative complementary therapy” AND NOT “alternative”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “alternative” in order to prevent other combinations from being searched.</td>
<td>12</td>
</tr>
<tr>
<td><strong>Quack</strong></td>
<td>(TITLE(“quack medicine” OR “quack therapy”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Standard Code‡</td>
<td>4</td>
</tr>
<tr>
<td><strong>Alternative and Integrated/Integrative</strong></td>
<td>(TITLE(“alternative and integrated medicine” OR “alternative integrated medicine” OR “alternative and integrated therapy” OR “alternative integrated therapy” OR “alternative and integrative medicine” OR “alternative integrative medicine” OR “alternative and integrative therapy” OR “alternative integrative therapy” AND NOT “complementary”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “complementary”, in order to prevent other combinations from being searched.</td>
<td>2</td>
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<td>Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---------------------------------</td>
<td>--------</td>
<td></td>
</tr>
<tr>
<td>Integrated/Integrative and Alternative</td>
<td>(TITLE(“integrated and alternative medicine” OR “integrated alternative medicine” OR “integrated and alternative therapy” OR “integrated alternative therapy” OR “integrative and alternative medicine” OR “integrative alternative medicine” OR “integrative and alternative therapy” OR “integrative alternative therapy” AND NOT “complementary”) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Excludes titles containing “complementary”, in order to prevent other combinations from being searched.</td>
<td>1</td>
</tr>
<tr>
<td>Irregular</td>
<td>(TITLE(“irregular medicine” OR “irregular therapy”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Standard Code‡</td>
<td>0</td>
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<tr>
<td>Non-Mainstream</td>
<td>(TITLE(“non-mainstream medicine” OR “non-mainstream therapy”)) AND PUBYEAR &gt; 1969 AND PUBYEAR &lt; 2014 AND (LIMIT-TO(LANGUAGE, “English”)) AND (LIMIT-TO(SRCTYPE, “j”)) AND (EXCLUDE(DOCTYPE, “er”))</td>
<td>Standard Code‡</td>
<td>0</td>
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<tr>
<td>TOTALS</td>
<td>--</td>
<td>--</td>
<td>7016 (excluding folk and adjunctive)</td>
</tr>
</tbody>
</table>

† The resulting articles for “folk” were more closely related to traditional or indigenous medicines, while the vast majority of resulting articles for “adjunctive” focused on adjunctive conventional medicines, hence both these terms were not synonymous with “unconventional” and were excluded from the remainder of this study.

‡ Terms denoted as a standard code are those coded with no exclusions or limitations beyond those associated with the inclusion and exclusion criteria of the study. The standard code is as follows: (TITLE([TERM] medicine” OR “[TERM] therapy”) AND PUBYEAR > 1969 AND PUBYEAR < 2014 AND (LIMIT-TO(LANGUAGE, "English")) AND (LIMIT-TO(SRCTYPE, "j")) AND (EXCLUDE(DOCTYPE, "er"))
Table 2: The 20 Most Highly-Cited Peer-Reviewed Articles for Five Commonly-Used Unconventional Medicine-Related Search Terms

<table>
<thead>
<tr>
<th>Term</th>
<th>20 Most Highly-Cited Articles Per Term</th>
<th>Number of Citations</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Cancer, 83(4), 777-782.</td>
<td></td>
</tr>
</tbody>
</table>
medicine by United States adults: Results from the 1999 national health interview survey. 
*Medical Care, 40*(4), 353-358.


Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

|-------------------|-----------------------------------------------------------------------------------------------------------------------------------|

**Articles excluded from sample:** #4, 15, 17, 19

Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”


### Integrated/Integrative

<p>| Articles excluded from sample: #7, 9, 12, 14, 15 | 2. Kligler, B., Maizes, V., Schachter, S., Park, C. M., Gaudet, T., Benn, R., ... &amp; Remen, R. N. (2004). Core competencies in integrative medicine for medical school curricula: A proposal. <em>Academic Medicine, 79</em>(6), 521-531. | 91 |</p>
<table>
<thead>
<tr>
<th>Unconventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=103</td>
</tr>
<tr>
<td>Articles</td>
</tr>
<tr>
<td>excluded from</td>
</tr>
<tr>
<td>sample: None</td>
</tr>
</tbody>
</table>


and designs. *Arzneimittel-Forschung, 45*(1), 88-92.


**Note:** Citation count for each article was recorded on September 11, 2014.
Table 3: Summary of Definition Use in Unconventional Medicine-Related Articles

<table>
<thead>
<tr>
<th>Term</th>
<th>Topic Relevant to Study</th>
<th>Definition Provided</th>
<th>Reference Cited for Definition Provided</th>
<th>Title Term Used Consistently</th>
<th>Title Term Used Purposefully</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complementary and Alternative</td>
<td>20</td>
<td>13/20 (65%)</td>
<td>11/20 (55%)</td>
<td>19/20 (95%)</td>
<td>5/20 (25%)</td>
</tr>
<tr>
<td>Complementary</td>
<td>19</td>
<td>8/19 (42%)</td>
<td>6/19 (32%)</td>
<td>7/19 (37%)</td>
<td>4/19 (21%)</td>
</tr>
<tr>
<td>Alternative</td>
<td>16</td>
<td>5/16 (31%)</td>
<td>5/16 (31%)</td>
<td>14/16 (88%)</td>
<td>1/16 (6%)</td>
</tr>
<tr>
<td>Integrated/Integrative</td>
<td>15</td>
<td>12/15 (80%)</td>
<td>4/15 (27%)</td>
<td>12/15 (80%)</td>
<td>11/15 (73%)</td>
</tr>
<tr>
<td>Unconventional</td>
<td>20</td>
<td>8/20 (40%)</td>
<td>3/20 (15%)</td>
<td>16/20 (80%)</td>
<td>5/20 (25%)</td>
</tr>
</tbody>
</table>
Table 4: Summary of All Definitions Provided in the Peer-Reviewed Unconventional Medicine-Related Articles by Commonly-Used Term

<table>
<thead>
<tr>
<th>Term</th>
<th>Paper #(#s)</th>
<th>Definitions Provided</th>
<th>Source</th>
<th>Self-Defined?</th>
<th>Frequency of Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAM-2, 6, 10, 20</td>
<td>CAM-2, 6, 10, 20</td>
<td>“Diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine.”</td>
<td>Ernst, E., Resch, K. L., Mills, S., Hill, R., Mitchell, A., … &amp; White, A. (1995). Complementary medicine — a definition. British Journal of General Practice, 45(398), 506.</td>
<td>No</td>
<td>4</td>
</tr>
<tr>
<td>CAM-4, 7, 11</td>
<td>CAM-4, 7, 11</td>
<td>“A group of diverse medical and health care interventions, practices, products, or disciplines that are not generally considered part of conventional medicine.” (Note: This is the current definition provided at the source website, however, slight variations in this definition exist between articles listed.)</td>
<td>National Institutes of Health, National Centre for Complementary and Alternative Medicine (NCCAM). (2008). Complementary, alternative, or integrative health: What’s in a name? Retrieved from website: <a href="http://nccam.nih.gov/health/whatiscam">http://nccam.nih.gov/health/whatiscam</a></td>
<td>No</td>
<td>3</td>
</tr>
<tr>
<td>CAM-8, 9</td>
<td>CAM-8, 9</td>
<td>“Medical interventions not taught widely</td>
<td>Eisenberg, D. M., Kessler,</td>
<td>No</td>
<td>5</td>
</tr>
</tbody>
</table>
---|---|---|
CM-6 | “Names given to a system of health care which lies for the most part outside the mainstream of conventional medicine.” | Downer, S. M., Cody, M. M., McCluskey, P., Wilson, P. D., Arnott, S. J., Lister, T. Yes 1 |
| CM-8, 9, 18 | “A broad domain of healing resources that encompasses all health systems, modalities, and practices and their accompanying theories and beliefs, other than those intrinsic to the politically dominant health system of a particular society or culture in a given historical period.” (Note: This is the current definition provided at the source website, however, slight variations in this definition exist between articles listed.) | Wieland, L. S., Manheimer, E., & Berman, B. M. (2011). Development and classification of an operational definition of complementary and alternative medicine for the Cochrane collaboration. *Alternative Therapies in Health and Medicine, 17*(2), 50-59. | No | 3 |
| CM-18 | “A system of health care which lies for | Downer, S. M., Cody, M.M., | No | 1 |
the most part outside the main-stream of conventional medicine.”

<table>
<thead>
<tr>
<th></th>
<th>CM-18</th>
<th>“Diagnosis, treatment and/or prevention which complements mainstream medicine by contributing to a common whole, by satisfying a demand not met by orthodoxy or by diversifying the conceptual frameworks of medicine.”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Alternative</th>
<th>AM-1, 2, 5</th>
<th>“Medical interventions not taught widely at U.S. medical schools or generally available at U.S. hospitals.”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>AM-12</th>
<th>“First, these treatments lack “sufficient documentation in the U.S. for safety and effectiveness against specific diseases and conditions.” Second, they are not “generally taught in U.S. medical</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>1</td>
</tr>
</tbody>
</table>
Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

| Integrated/Integrative | IM-1 | “A higher-order system of systems of care that emphasizes wellness and healing of the entire person (bio-psycho-socio-spiritual dimensions) as primary goals, drawing on both conventional and CAM approaches in the context of a supportive and effective physician-patient relationship.” | Bell, I. R., Caspi, O., Schwartz, G. E., Grant, K. L., Gaudet, T. W., Rychener, D., ... & Weil, A. (2002). Integrative medicine and systemic outcomes research: Issues in the emergence of a new model for primary health care. Archives of Internal Medicine, 162(2), 133-140. | Yes | 1 |
| IM-2 | “An approach to the practice of medicine that makes use of the best available evidence taking into account the whole person (body, mind, and spirit), including all aspects of lifestyle. It emphasizes the therapeutic relationship and makes use of both conventional and | Kligler, B., Maizes, V., Schachter, S., Park, C. M., Gaudet, T., Benn, R., ... & Remen, R. N. (2004). Core competencies in integrative medicine for medical school curricula: A proposal. | Yes | 1 |
| AM-16 | “A group of diverse medical and health care interventions, practices, products, or disciplines that are not generally considered part of conventional medicine.” (Note: This is the current definition provided at the source website, however, slight variations in this definition exist between articles listed.) | National Institutes of Health, National Centre for Complementary and Alternative Medicine (NCCAM). (2008). Complementary, alternative, or integrative health: What’s in a name? Retrieved from website: http://nccam.nih.gov/health/whatiscam | No | 1 |
complementary/alternative approaches.”

| IM-3 | “In addition to providing the best conventional care, integrative medicine focuses on preventive maintenance of health by paying attention to all relative components of lifestyle, including diet, exercise, stress management, and emotional well-being. It insists on patients being active participants in their health care as well as on physicians viewing patients as whole persons—minds, community members, and spiritual beings, as well as physical bodies. Finally, it asks physicians to serve as guides, role models, and mentors, as well as dispensers of therapeutic aids.” | Snyderman, R., & Weil, A. T. (2002). Integrative medicine: Bringing medicine back to its roots. *Archives of Internal Medicine, 162*(4), 395-397. | Yes | 1 |

| IM-4 | “The combination of conventional and nonconventional therapies best suited to treat a particular situation. This approach also relies heavily on the intrinsic, internal healing resources of the patient to overcome whatever problem may be confronting them.” | Girman, A., Lee, R., & Kligler, B. (2003). An integrative medicine approach to premenstrual syndrome. *American Journal of Obstetrics and Gynecology, 188*(5), S56-S65. | Yes | 1 |

| IM-10 | “A reaffirmation of the importance of the therapeutic relationship, a focus on the whole person and lifestyle—not just the physical body, a renewed attention to healing, and a willingness to use all appropriate therapeutic approaches whether they originate in conventional or alternative medicine.” | Maizes, V., Rakel, D., & Niemiec, C. (2009). Integrative medicine and patient-centered care. *Explore: The Journal of Science and Healing, 5*(5), 277-289. | Yes | 1 |
| IM-13 | “A new approach to medicine, one that is based on a model of health rather than disease, one that trains practitioners to take the time to listen, to value nutritional and lifestyle influences on health and illness, to offer treatments in addition to drugs and surgery; and to understand the innate potential of the human organism for self-repair and healing.” | Gaudet, T. W. (1998). Integrative medicine: The evolution of a new approach to medicine and to medical education. *Integrative Medicine, 1*(2), 67-73. | Yes | 1 |
| IM-16 | “Proponents of integrative medicine, such as Andrew Weil, view it as a paradigm shift, replacing the biomedical paradigm. On the contrary, some CAM practitioners have viewed integrative | Coulter, I. (2004). Integration and paradigm clash. In P. Tovey, G. Easthope, & J. Adams (Eds.), *The mainstreaming of* | No | 1 |
Running Head: DIFFERENTIATING “INTEGRATIVE” FROM “COMPLEMENTARY”, “ALTERNATIVE” AND “UNCONVENTIONAL”

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<td>IM-20</td>
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<td>No, except for Eisenberg's own paper</td>
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<td>UM-18</td>
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taught in medical schools and not usually recommended or provided by physicians.”

| Unconventional therapies for cancer: 1. Essiac. *Canadian Medical Association Journal, 158*(7), 897-902. | 19 and UM-20 are a series of articles using the same definition |
Appendix B: Figures

Figure 1. Krippendorff's Components of Content Analysis

Figure 2: Advanced Scopus Search Coding and Parameters

Scopus

Document search | Author search | Affiliation search | Advanced search

As you type Scopus offers code suggestions. Double click or press "enter" to add to advanced search.

Operators

AND
OR
AND NOT
PRE/W

Codes

ABS
AF-ID
AFFIL
AFFILCITY
AFFILCOUNTRY
AFFILORG
ALL

Code: TITLE

Name: Article Title

The title of an article

For Example:

Entering TITLE("neuropsychological evidence") will return documents with the phrase "neuropsychological evidence" in their title.

Advanced search examples:

ALL("heart attack") AND AUTHOR-NAME(smith)
TITLE-ABS-KEY( 'somatic complaint woman') AND PUBYEAR AFT 1993
SRCTITLE("field ornith") AND VOLUME(75) AND ISSUE(1) AND PAGES(63-66)
Figure 3: Overview of the Search, Screening and Analysis of Articles in Study

- Complete List of Scopus Search Terms
  - Terms Relevant to Study
    - "Complementary and Alternative" (2814)
    - "Complementary" (1758)
    - "Alternative" (1708)
    - "Integrative/integrative" (455)
    - "Alternative and Complementary" (116)
    - "Unconventional" (103)
    - "Complementary and Integrated/integrative" (27)
    - "Unorthodox" (14)
    - "Fringe" (12)
    - "Integrative/integrative and Complementary" (8)
    - "Quack" (4)
    - "Alternative and Integrated/integrative" (2)
    - "Unscientific" (2)
    - "Integrated/integrative and Alternative" (1)
    - "Irregular" (0)
    - "Non-Mainstream" (0)
  - Terms Not Relevant to Study
    - "Adjuvative" (816)
    - "Folk" (429)

- 7016 Articles Selected for Further Screening
- 0 Articles Selected for Further Screening
- 7012 Articles Following Duplicate Screening
- Terms Selected for Further Review
  - "Complementary and Alternative" (2814)
  - "Complementary" (1758)
  - "Alternative" (1708)
  - "Integrative/integrative" (455)
  - "Unconventional" (103)
- 20 Highest-Cited Articles from Each Term Recovered
  - "Complementary and Alternative" (20)
  - "Complementary" (19)
  - "Alternative" (18)
  - "Integrative/integrative" (15)
  - "Unconventional" (20)
- Relevant Highly-Cited Articles Following Separation by Meta-theme
  - "What is Not" (19)
  - "What is" (15)
Figure 4: Number of Publications Using Unconventional Medicine-Related Terms in Title from 1975-2013
Figure 5: Number of Publications with Unconventional Medicine-Related Terms in Title per Year from 1975-2013
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