HAMPSHIRE COLLEGE

A Prevalence Study of Folk Remedy Use by the Middle-Appalachian Elderly

Nicole Brynes

Background

Introduction

Complementary and alternative medicine (CAM) has become increasingly popular across the United States in recent years.[1,2] However, the popularity of non-allopathic medical practices began thousands of years ago with Traditional Chinese Medicine, Ayurvedic Medicine, and many others. Nearly every culture with any degree of isolation has developed its own version of medical healing. Some are more herb-based, some are more energy-based, and some are more in line with Western principles of 'science,' but all share a common goal – to heal the diseases of patients and promote wellness.

Many previous studies have shown an increasing rate of CAM use throughout the last two decades within the general U.S. population. Surprisingly, this occurs even as the use of gathered herbs and the traditional methods of healing passed down orally between generations dwindles and is nearly extinct in many places. However, some small, isolated locations in the U.S. still practice CAM in numbers far greater than the rest of the country. These are often rural regions with less access to healthcare, and often, these places have a strong tradition of non-allopathic healing – these areas include Native American reservations,[3] enclaves with high populations of Mexican-Americans[4] and rural Appalachian communities.[5]

This study seeks to determine the current state of folk remedy and complementary and alternative medicine use (CAM) in middle and southern Appalachia, a region known for its history of unique local herb use, as well as its isolation – mostly due to the mountainous terrain – among senior citizens. Senior citizens' perception of doctors' feelings towards CAM and folk remedies is also examined in the study. These factors are especially important to document in the face of decreased isolation and rurality as the internet and better roads herald a new level of contact between West Virginia and the rest of the U.S.

Definition of CAM

This study defines CAM as a broad range of treatments that are not encompassed under the umbrella of 'Western' or allopathic medicine. These therapies are often based on folk remedies or non-allopathic healing practices from all over the world. Some originate in China, India or Africa, and many originate in poor and/or rural areas where licensed physicians are either unavailable or too expensive (a notable exception is in Traditional Chinese Medicine, which was historically practiced by Chinese people of all economic backgrounds). In the past four decades, CAM in the U.S. has spread to even the most middle class of settings - the suburb.[6] CAM therapies are rarely prescribed by a licensed physician, and those which, by their very nature, will likely never be

trademarked by a pharmaceutical company. These include herbs, infusions, prayer, faith healing, energy healing, chiropractic, and acupuncture. Alternative medicines are often used (at least in this country) in conjunction with western treatments, such as biomedicines. CAM treatments are increasingly scientifically tested, but when they are tested in well-designed studies, they are often found to be no more effective than placebo.[7] However, they play an important role in medical care for many people, especially in rural areas. In this study, the terms "folk remedy" and "CAM" are used interchangeably, though many national studies use these as separate terms.

Differing Definitions and Opinions of CAM

Many scientists have researched the nature of alternative medicine, folk remedies, and complementary therapies. Each of these categories is broad, hard-to-define, and widely debated as to its effectiveness. Increasingly, CAM and Western medical remedies overlap – as some types of CAM are proven effective by scientific tests, they are incorporated by Western physicians. The National Center for Complementary and Alternative Medicine (NCCAM) defines CAM as "a group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine."[8] This definition, like many, is vague enough to encompass most therapies commonly considered as CAM, but does not provide practical guidelines to make a list of CAM therapies for, say, a study.

Some prior studies have attempted to categorize *all* CAM therapies used across a large area of the United States, while others focused on specific subpopulations of potential CAM users, including specific states, sociodemographic groups, and patients with various illnesses.[9-12] Nearly all of these studies commented on the difficulty of defining CAM, usually because the nature of what falls into the categories of "alternative" or "complementary" medicine is coming under much public and medical scrutiny as more studies show the benefits – or, at least, lack of harmful side-effects – of certain types of CAM, as well as the lack of efficacy of other varieties of non-allopathic remedies.

Many large-scale studies prefer vague definitions of CAM, emphasizing its difference from "allopathic" and "mainstream" medicine: "[CAM] is generally accepted to be the integration of nonallopathic methods into preventative or acute health care;" several other studies, acknowledging the difficulty of producing a precise, comprehensive definition of CAM, accepted NCCAM's definition or something similar.[9,10] Other major studies, especially those examining long-term trends over multiple prior studies, have failed to provide their own definition.[11,12]

The more specific the definition of CAM, the clearer a study is in defining its scope – a broad, general definition may be important in talking broadly about

CAM, but for applicability and reproducibility of a study, a specific list of remedies must also be furnished. Because many large-scale studies have defined CAM too broadly, they often use identical definitions of CAM, but their results vary widely due to differing operational definitions of CAM – differing lists of remedies and therapies yield varying results. For example, a widely-cited study of the use of CAM among the general population in the U.S. found that 42% of U.S. citizens use CAM, while another study, using a comparable definition of CAM, found that less than 10% of U.S. citizens used complementary therapies.[1,13] The former defined CAM as any methodology that was non-allopathic and non-self-administered, whereas the latter defined CAM as any methodology that was non-allopathic. The difference in these studies lies in the operational definitions, rather than the broad, stated definition of CAM – though the broad definitions may sound similar, the lists of remedies considered alternative must be defined as well. Thus, the importance of defining CAM clearly, and including specific therapies in the definition, cannot be underscored enough.

Smaller, more region- or population-specific studies often have the freedom to choose their own, sometimes less-broad definitions of CAM and home remedies. Some mirror or even repeat the NCCAM definition verbatim[14-16]:

> Complementary and alternative medicine (CAM) can be defined as all health care resources to which people have recourse other than those intrinsic to biomedicine and its specific theoretical and practice models.[17]

Some studies shied away from mention of CAM *per se* and asked participants only questions about specific categories of CAM, allowing them to define their use of CAM on their own:

> What, if any, over-the-counter medications have you taken for your pain in the past 2 weeks? [...] What, if any, herbal/alternative therapies have you used to treat your pain in the last 2 weeks? [...] What treatments other than medications have you used to treat your pain in the last 2 weeks?[18]

> Sometimes when people feel ill or bad, they don't go to a doctor or hospital, instead, they treat themselves at home. When you are not feeling well, do you ever use any home or traditional remedies such as herbs, herbal teas, garlic, honey, vinegar, lemon juice to treat your illness?[19]

Still other studies chose to avoid the issue altogether and mention only a specific type of CAM, such as medicinal herbs or "nonprescription, nonproprietary" remedies.[4,5]

Some elements of CAM definitions have changed with the opinions of the general public with regards to CAM over the years. One study commented on the change in the terminology of CAM and its significant changes throughout recent decades:

> Toward the end of the 1980s, when the surveys [on CAM] first started to appear [in scientific journals], the tone was cautious if not alarmist. Authors referred to "unproven," "nonproven," or "questionable" therapies. In the early 1990s, the

> mood changed to one of defense, reflected in the literature by such terms as "unorthodox," "nonorthodox," "unconventional," "nonconventional," and even (misleadingly) "nontraditional" medicine.[20]

The difficulty of defining CAM remains a problem, more for researchers looking at categorizing the broad field encompassing *all* CAM use, but also a challenge for researchers working on smaller projects. The definition of CAM remains important to imbue significance in the general study of CAM itself – without a definition answering the question of "what is CAM?," the study of CAM disintegrates into the study of particular remedies of interest. Due to the changing nature of CAM, studies asking about specific categories of CAM will likely retain more significance over the next few decades, while definitions of the remedies that constitute CAM will likely change significantly. Though debates over the definition of CAM are obviously ongoing, this study will concern itself more with the use of home remedies, and less with a comprehensive view of CAM, although a definition is attempted (see Methods).

History of Folk/Home Remedies in the United States

The determining factor in deciding which therapies are 'alternative' and which are 'allopathic' or 'conventional' has changed drastically over the past century. Many therapies that are currently called 'alternative' were prescribed by physicians less than a hundred years ago.[21] Over the past fifty years, physicians increasingly prescribe medicines that have been carefully tested by pharmaceutical companies, government agencies and private laboratories around the globe. Improvements in pharmacology research, as well as increases in use of regulatory agencies such as the Food and Drug Administration, have allowed physicians the luxury of knowing which medicines are shown to work better than a placebo most of the time, and which therapies are actively harmful to patients.[22]

In the 1960s and '70s, just a few decades since physicians had started shunning what are now called folk or home remedies, scientists saw a drastic increase in use of CAM by average Americans across the country, including folk remedies and herbal medicine. Herbal therapy use also increased significantly in the 1990s.[12] In the early 1990s, the Office of Alternative Medicine (now NCCAM) was opened at the National Institutes of Health (NIH), which lent some measure of public support and credibility towards the study of complementary and alternative medicines.[20]

Many physicians are adverse to the use of alternative medicine, especially those who are not working as family practitioners or psychiatrists.[23] Only about 33 - 39% of U.S. patients using CAM tell their physicians about all therapies they or their dependents use, though this figure may change soon as a result of new programs for education about CAM in medical schools.[1,17,24] In one study profiling cases of pediatric CAM use, over 50% of parents were willing to discuss

their child's CAM use, but parents reported their children's physicians asking about CAM less than 10% of the time. [24] Clearly there is a communicational disconnect between physicians and patients, with each expecting the other to initiate discussion about CAM.

CAM Use in the General U.S. Population

The majority of U.S. residents are not using complementary or alternative therapies, though the percentages are certainly increasing over time.[1,2,20] Current estimates of U.S. CAM use range from 8-42% nationwide, depending on the latitude of the definition of CAM used.[1,2,13,20,25] A study by Ni, Simile, and Hardy cited this peculiar aspect of CAM studies:

> Although all CAM studies refer the CAM to those health care practices that are not currently an integral part of conventional medicine, what are and are not included in the current "conventional" health system is not only unclear but also rapidly changing caused by the impact of new research findings on health care providers' practice patterns.[26]

During the 1990s, use of several varieties of CAM, including "herbal medicine, massage, megavitamins, self-help groups, folk remedies, energy healing, and homeopathy" increased dramatically, from 34% to 42% nationally.[1] The same study found that the total yearly U.S.-wide visits to alternative practitioners exceeded – and were nearly twice as many as – the total annual visits to "all US primary care physicians."[1]

One meta-analysis attempted to categorize all studies of CAM use in the U.S. as of 2001, and found that almost all large-scale studies done at that time showed that the users of complementary and alternative medicine are generally "in higher-income brackets, better educated, and of middle age."[20] However, the same study offers words of caution as well:

> The general-use surveys tend to be skewed toward sampling the more affluent end of the consumer market. Relatively little is known about patterns of use among the less affluent or minority ethnic groups in society. It is possible that the actual pattern of use of CAM therapies is bimodal, with peaks of usage at the more affluent and less affluent ends[...] This hypothesis is partially confirmed by a few small-scale surveys of low-income groups.[20]

Though many national studies have found that higher education corresponds strongly with use of CAM, other research of specific ethnic, age, and socioeconomic groups shows that there are certainly other predictors of CAM use within subgroups of the general U.S. population:

> There is no doubt that people have been turning increasingly toward complementary and alternative therapies during the past decade both for self-care and use of alternative practitioners. The new users may reflect a middle-age, middle-class movement but it is clear that use by ethnic groups predates recent trends.[20]

Though many national studies have shown that the middle class utilizes the most CAM,[1,2] the U.S. contains many places in which ethnicity and cultural, historical roots form the basis for use of locally popular types of CAM.

Appalachian Folk Remedy Problems and Contraindications

Of the many types of CAM used commonly in the Appalachians, the only types that typically cause significant problems with drug interactions are the edible/potable variety, as well as any that are absorbed by the body in other ways. Though CAM as a whole has a reputation for having fewer side effects than allopathic medicines, this is sometimes not the case. Some studies have found respondents using potentially damaging remedies, including yellowroot, pennyroyal and jimsonweed.[5,27] In many cases, the potential of the remedy for harm, like many allopathic drugs, is present only when the remedy is abused, though some herbs are nearly always harmful. Other research has shown that home remedies, like unregulated and illegal street drugs, may be laced with contaminants and potentially harmful substances, such as "aminopyrine, phenylbutazone, dexamethasone, prednisone" and others.[22] Many remedies that are used in the Appalachian region have potentially serious side-effects, some when used at all, and some only when abused. In one case study, chemical burns were seen on an infant treated with topical vinegar to bring down a fever.[28]

In some cases, the varieties of CAM that some call poisonous may only be toxic in large doses, in particular combinations with other drugs or remedies, or when used without proper education and knowledge of the remedy – much like many prescription medications. One example of such a plant is yellowroot, which contains a chemical that is "anti-inflammatory, astringent, hemostatic, antimicrobial, anticonvulsant, immunostimulant, uterotonic and can produce a transient drop in blood pressure."[29] These are powerful effects, and in small doses may be useful, though a large drop in blood pressure could be lethal. Even chamomile tea, widely regarded as a safe and calming brew, can occasionally be fatal in people with allergies to "members of the *Compositae* family."[22]

Potential CAM-allopathic drug interactions can be highly problematic, or even fatal. While some drug-herb effects may simply lessen the effect of the drug, others may cause significant and possibly lethal side effects. Some herb/drug interactions are reported to possibly cause "spontaneous bleeding from the iris," hypotension, arrhythmias, stroke, "delayed emergence from general anesthesia," or even death.[30] As the providers of medical advice, physicians must be allowed access to information about patient health, lifestyle, and ingested substances in an effort to avoid potentially harmful situations. Similarly, physicians must actively seek this information from patients.

Physician Awareness of CAM Use

Though some estimates show that over 40% of US residents use CAM, those who do are often reluctant to tell physicians about their use; only around 30% of CAM users tell their doctors.[1,2] Thus, one can presume that over 20% of the patients that U.S. doctors are seeing are using some form of CAM and not telling their doctors. Many patients, however, are more willing to tell their alternative practitioners about the results of their biomedical treatments than tell their physicians about any alternative treatments they may be taking.[17] This problematic situation has resulted in sometimes tragic outcomes profiled in case studies with titles such as "Life-threatening hyponatremia provoked by alternative treatment," "Natural Therapies – when ignorance is not bliss!!," and "An unusual case of baboon syndrome due to mercury present in a homeopathic medicine." Many researchers and physicians are currently looking for ways in which to improve upon the current system.[7] Medical schools are increasingly including classes on CAM methods and therapies and ways in which to talk to patients about their use of CAM.[31,32] It is hoped that the increase in CAM education for new physicians will result in better communication between patients and their doctors about CAM use.

History of Folk Remedy Use in Middle and Southern Appalachia

Some studies show that CAM rates in rural and poor regions tend to be higher than the national average, especially in regions with low access to healthcare and significant historical traditions of folk remedy use.[5,19,33] Though research has consistently shown rates of CAM use in rural Appalachian regions to be between 10 and 40 percent higher than in the general U.S. population, some studies have attributed this difference to poor sampling and bias of the investigators and the respondents, certainly a potential problem in small-scale, low-budget studies.[20]

Regardless, the southern Appalachian mountain region – the focus of this study – has a long and interesting history of home remedy use. While the area is known for its wide variety of flora and fauna, many parts of the region are also known for their isolation and poverty.[34] In the late 1960s, the government released a pamphlet detailing the identification, collection, and preparation of various southern-Appalachian medicinal plants and herbs in an attempt to boost the faltering local economy.[35] In fact, as Anthony Cavender writes in his survey of Appalachian food-as-medicine, the American pharmaceutical industry was primarily built on the plants found in the southern Appalachian mountains[21,36]. Additionally, a handful of non-herbal forms of CAM originate in the U.S. South and Appalachians, including chiropractic, a widely popular form of CAM across the U.S.[37]

Many studies have highlighted the differences in medical practices between rural and isolated regions in the Appalachian Mountains and more urban locations, especially focusing on differences in values and medicinal focus. Traditional values in the mountains may have been characterized by the following beliefs, according to an 1970's overview of the Appalachian mountains and the so-called "mountaineers" resident there by Tripp-Reimer and Friedl: 1) "Humans are inherently evil, a characteristic essentially immutable." 2) "[A] human is subjugated to nature." 3) The time frame valued is the present, and "being" is valued over "doing." 4) Relationships with "kin and close friends [are] most significant," with an emphasis on "personalized relationships."[38,39] These differences may make for collisions of belief-systems when confronted with doctors trained in standard allopathic medicine, and those who have not had significant prior exposure to traditional Appalachian communities.

Like Traditional Chinese Medicine (TCM), Ayurveda, Traditional Tibetan Medicine and others, Appalachian traditional medicine was developed as an all-encompassing *alternative* to Western medicine as it stands in the U.S. today. Though Appalachian medicine lacks the tens of centuries of history, it shares many important aspects with far older traditions of healing. In many ways, Appalachian medicine reflects a version of these traditions still in its youth – a unique medical trajectory that reflects the culture and practice of its highly-isolated region of origin. Like many practitioners of Ayurveda and Traditional Tibetan Medicine, Appalachian healers received information and knowledge about healing and remedies orally, generally from parent to child.[38] As recently as 40 years ago, "less than 10% of the population [of West Virginia was] in settlements greater than 2500 persons."[38] This represents an incredibly rural and isolated population, with little access to health care. Such an environment gave way to an entire set of medical beliefs singular to the region. Traditional Appalachian medical care usually deals with a patient's blood – its characteristics ("thick/thin, good/bad, or high/low") describe the cause of various ailments.[38,40] Practitioners of Appalachian health care are usually "granny midwi[ves], [...] herbalist[s], or [...] faith healer[s]."[38]

Appalachian medicine, unique in its own right, is and was often used to treat medical conditions that are not widely recognized by Western medicine. Anthony Cavender describes these conditions:

> *High blood*, which refers to the notion of having an abnormally high volume of blood; the seemingly rare belief in *liver grown disorder*, which refers to the belief that an infant's liver will adhere to its spine if the infant is left in a supine position for too long; [...] *sugar*, which refers to the belief that eating sugar products over a lengthy period leads to the abnormal accumulation of sugar particles in the blood[... and] *nerves* [..., which refers to a disorder including the following symptoms]: sense of inadequacy and nonassertiveness, haplessness, absence of social protest, easy startle response, and somatic nonspecificity.[41-43]

At least three out of four of these conditions are similar to recognized conditions in Western medicine – "high blood" is similar to high blood pressure, "sugar" is reminiscent of diabetes, and "nerves" could be linked to anxiety, depression and other mental disorders. However, the Appalachian treatments are quite different for each of these conditions than those given in Western medicine, sometimes acting in directly the opposite way in comparison to Western treatments.[38]

Such a long history of Appalachian folk remedy production caused a partially-fictitious, partially-accurate view of the Appalachians as a place where "the inhabitants [...] are extraordinarily knowledgeable of and dependent on wildcrafted medicinal plants."[21] Early studies of residents of the Appalachian Mountains, however, perpetuated the belief in "the Appalachian South as a culturally retarded region characterized by outmoded beliefs and behaviors," which colors the public's views of the area even today.[41] However, many studies of the area show that use of home remedies is, indeed, higher in the central and southern Appalachians than it is even in other rural areas.[5,19] Studies of regions that are not specifically Appalachian reveal far lower percentages of rural, poor residents using CAM therapies.[44] Thus, as rural regions in the Appalachians become more urban and less isolated, there is great interest in documenting any changes in home remedy use.

CAM Use Among the Appalachian Elderly

Little research has been done on the current levels of CAM use in Appalachia as a whole. Still less research has gone into the very narrow field of CAM use among the Appalachian elderly. Of the few studies that have been done, many show that Appalachian or rural senior citizen use of home/folk remedies is higher than the current national use, ranging from 49% to nearly 100% of respondents.[5,14,21] Other studies have typically shown that use of CAM among the U.S. elderly is higher than the national average of use, ranging from 41 to 84% (see Table 1.1).[20,45] A study on the CAM usage of rural elderly residents of Montana and North Dakota showed that, while slightly higher than national averages, CAM use is nearly the same as some of the higher estimates of national use.[2,15]

Some national, large-scale studies of CAM use, most notably Eisenberg et al.'s studies in 1993 and 1998, show that middle-aged, middle-class suburbanites are the most likely to use CAM.[1,2] However, other studies caution against assuming that these studies reflect the status quo, especially in light of several subsequent studies showing high use of CAM among the elderly and variability in the research methodologies[33,46-48]: "The age distribution is more complex than it appeared to be in the national surveys. The [...] elderly are also significant users of CAM modalities."[20]

Though herbal remedies are the most publicly-acknowledged form of CAM use in rural areas, others are also common in Appalachia. These include chiropractic and craniosacral therapy, both of which have historical roots in the area.[37] These widespread forms of CAM, originating in or near Appalachia, are rarely mentioned with any special note in studies profiling the CAM use of middle and south Appalachian communities.

Table 1.1: Surveys of Elderly CAM Usage (taken from Wootton & Sparber's 2001 study)[20]

Author(s) and date of publication	***Sample, description, and response***	***Focus***	***Types of CAM Usage***	***General Findings***
Astin et al., 2000	728; elderly on Blue Cross/ Medicare Random sample 51% response	Utilization	Herbs Chiropractic Massage Acupuncture	41% use 80% reported benefit
Johnson, 1999	175; convenience sample of elderly Rural women	Utilization	Spiritual Vitamins Herbs Music Humor Diet	84% use with Western medicine 16% only CAM 23% told M.D.
Pourat et al., 1999	223; elderly Koreans Random 74% response	Predictors of use of Traditional healers	Traditional Healers	Predictors: arthritis, lung disease, pain, availability of insurance, and strong social ties
Wyatt et al., 1999	699; convenience sample of elderly patients with cancer 73% response	Utilization	Exercise Herbals Spiritual Healing	33% use CAM Users were more optimistic––self-report
Coleman et al., 1995	101; convenience sample of caretakers of patients with Alzheimer's disease	Utilization	Vitamins Health foods Herbals "Smart pills" Home remedies	55% of caretakers tried at least one CAM to improve memory 25% used CAM for behavioral problems

Notable Characteristics of the Appalachian Elderly

Though many studies have shown that rural and elderly populations tend to use more complementary and alternative remedies than their urban counterparts, these numbers do not give an accurate look at the more specific populations within Appalachia.[20] Unlike many other populations in the U.S., parts of southern Appalachia are so isolated that they have had the chance – over the past several hundred years – to develop a unique culture that permeates throughout the region.[21] Though the image of the rural, isolated Appalachian townships hidden between massive mountain ranges may be fading as mountaintops are razed for coal and the internet and television become mainstays of every home, many places in this region are still much the same as they were several decades ago.[51] Many mountain roads are still too treacherous for supply-laden eighteen-wheelers to cross, and the average rural West Virginia farmer still earns more than the average working citizen.[52]

The elderly population in these regions often still remembers the days when a vast majority of local residents lived off of subsistence farming and herb-gathering. Some still take part in herb-collection, though a vast majority purchase their herbs and home remedies from suppliers.[21] The economic conditions in rural areas can also contribute to higher home remedy use – "Since home remedies are less expensive then [sic] prescription medications, some of these older adults opt to use these remedies in combination with or in lieu of prescription drugs."[53]

Folk remedies in these regions are widely varied, depending significantly on the area. Most rural people will sooner use a local plant over a foreign import. In Texas, migrant farmworkers, often from rural areas in Mexico, use folk remedies such as lime, chaparral, cactus and orange tree flower, which are rarely – if ever – used in the rural Eastern United States.[4] However, in the Appalachian mountains, many people use or have used locally picked or grown herbs, including horehound, yellowroot, catnip and witch hazel, all of which are native to the area.[5]

Recent research has found that Appalachian senior citizens perceive certain significant barriers to health care access. These included issues with out-of-town travel for care, the high cost of health care, "inaccurate diagnoses" of illnesses, lack of doctors settling down in the area, the unfortunate state of the roads and the dearth of needed specialists.[53] These issues in obtaining health care may be relevant to the increased use of CAM and folk remedies among the rural elderly.

Another notable characteristic of those living in rural parts of the Appalachian mountains is the high prevalence of conservative Christian religion.[54] This may have a significant effect on use of faith-based remedies, such as laying on of hands, faith healing and prayer, as opposed to traditional

allopathic medical care, though there is a notable dearth of studies on this subject. Also, a local "alienation from national society" and a reliance on traditions of home remedy use makes residents even more likely to select folk remedies over allopathic care.[55,56]

Little to no data currently exist categorizing the physician perspective on Appalachian folk remedies, or patient folk remedy use. Several studies have shown that patients are not willing to share their CAM use with physicians, though statistics specific to rural and elderly populations are not currently known. In addition, many doctors currently working in rural areas are themselves from a rural area – many times the doctors have been born and raised in the same rural location in which they practice.[57] Thus, rural physicians may be more able and willing to discuss folk remedies used in a given rural area, as they may have personal familiarity with those used in the area. In conclusion, the current state of patient-physician communication about folk remedies and other forms of CAM is currently unknown. No prior research has been done to answer this particular question in the rural southern or middle Appalachian mountain region.

Weakness in Previous Research

Though a great deal of research has been done on CAM use nationally, as well as CAM use in particular states or populations, very little has been done in the middle-Appalachians. Physicians from all over the U.S. clearly need to know more about the types of CAM being used by their patients. Many large-scale, well-funded previous studies have been biased towards the wealthier subsection of Americans, and may overlook or entirely ignore those who live in poverty and/or rural areas.[20] Because rural areas, by definition, house fewer people, larger studies often over-select urban and suburban populations. One national meta-study argues for a bimodal economic distribution of CAM use (high use among both poorer and richer populations), despite larger studies' findings that money and education are the best indicators of CAM use:

> Higher-income groups are willing to use disposable income for CAM products and services in addition to using conventional health care. Lower-income groups and those with their own traditions of healing, self-medicate with CAM or use folk methods and healers often as a substitute for conventional care.[20]

Though broad, national studies are useful in finding which types of alternative medicines the average American is using, these do not provide the sort of information useful to a small-town doctor who wishes to know which potentially harmful herbal remedies his patients may be ingesting. In the same way, large-scale studies do not show physicians the specifics of their region of practice. Many places, especially in the isolated, rural and poor parts of the U.S.,

have their own brands of CAM, sometimes found nowhere else, and national studies are nearly useless in determining the CAM used in small areas.

Additionally, many other studies ask about CAM use, but very few determine whether or not patients are informing their physicians of their folk remedy or CAM use. The few studies that do ask about physician-patient interaction with regards to CAM use rarely ask the reasons that patients are not telling their doctors about their alternative therapy use.[17] Thus, this highly relevant data has never been collected for any rural populations across the U.S.

Furthermore, rural physicians are at risk of losing touch with current research, due to their location, as well as their far larger workloads relative to their urban counterparts.[58] This loss of contact makes it especially important that rural physicians, as well as their patients, are given the necessary information to make the right choices to help citizens of rural regions.

Many studies limit themselves to particular varieties of home remedies, usually herbal ones.[4,5] Few studies have categorically defined the varieties of CAM and folk remedies used in the rural parts of the Appalachian Mountains. This significantly decreases the weight of these studies as a whole, since local physicians and public health officials need to know the full extent of local CAM use to properly address personal and widespread issues with CAM use, as well as the well-being of their patients.

The handful of studies that *have* been done in the past 30 years focusing on rural Appalachian communities have contained some serious methodological flaws. Many "studies" in the 1970s were not scientifically rigorous, often using case studies to infer usage by all people the Appalachian region. Studies in the late 1980s were more rigorous, but sometimes continued to use stereotypes of Appalachian residents to form their questions, rather than unbiased, clinical questions.[5,59] For example, a study by Lang et al. used questions that "[fail] to distinguish between the ideal and the real or [...] between theory and application of belief" – in essence, the questions assumed that if respondents believed the Devil "could" cause illness, they were pegged as believing that <u>all</u> illness is caused by the Devil and determined to be undereducated and likely to use magicoreligious means to rid themselves of illness.[41] Studies in the 1990s and beyond have, as a whole, tended towards a less biased overview of CAM use in the Appalachians, though few have been in that region done since the early part of the decade.

Areas for Further Study

Further study needs to be done on the CAM-related issues in rural middle-Appalachian communities for several reasons: 1) The current prevalence and type of CAM and folk remedy use in this region is unknown. 2) Respondent disclosure of CAM use to allopathic physicians is unknown. 3) Reasons for disclosure or lack

thereof must be determined. 4) Respondent impression of physician attitude towards CAM should be calculated. 5) The sociodemographic characteristics of the rural elderly in middle Appalachia must be identified.

Knowledge of the regional types of CAM and remedy use will be beneficial to better physician advising. In addition, any public health warnings on particularly harmful types of CAM, or those that interact with commonly used prescription medications can be better designed.

Disclosure rates for CAM are necessary for their measure of the number of patients in the region who are using potentially harmful types of CAM and not telling their health care providers. Also, identification of the attributes of patients who are not informing their health care providers may be useful to local physicians in targeting questions about CAM.

Determining reasons for lack of disclosure of CAM will help physicians improve their communication with patients in the future. Knowledge of the reasoning behind lack of discussion of CAM allows researchers to target future studies at means of alleviating these communication problems.

A patient's impression of his or her physician's feelings towards CAM and home remedies may lend insight into potential reasons behind patients' unwillingness to talk about home remedies – maintaining neutrality or a positive demeanor towards CAM may make patients more likely to talk about their use.[17]

The characteristics of the rural elderly are important to determine, for they show physicians, both new and old, more information that may not have been previously available about the population with which they are (or will be) working. In addition, knowledge about the habits and attributes of the current elderly residents of middle and southern Appalachia gives researchers valuable information to prepare future studies on this population.

Improvements in This Study

Many prior large-scale studies focused on wide ranges of people, often so much so that all meaning to local doctors and residents is lost. This study seeks to remedy some of these problems by focusing its survey on a small group of senior centers clustered within the Northeastern part of West Virginia (see Fig. 1.1). The elderly were selected as the population for this study because of the lack of current studies focusing on their use of CAM.

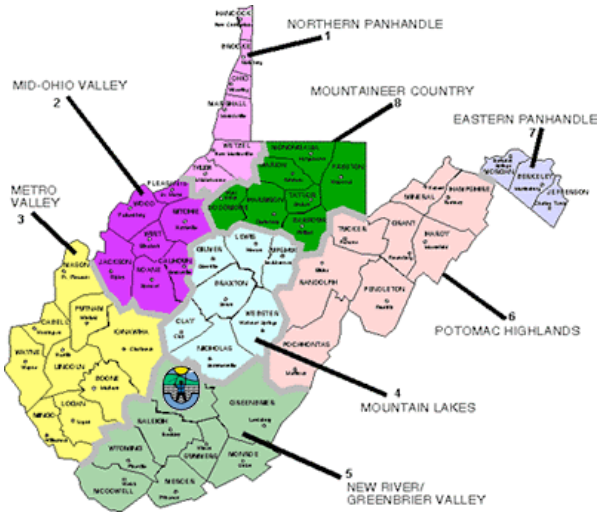

Figure 1.1: Map of West Virginian counties by region.[60] The counties chosen for this study are those labeled Mountaineer Country, Potomac Highlands, and Eastern Panhandle.

The format of this survey improves upon previous versions because of its broad range of questions. Many small-scale studies choose to limit their study to a very few pieces of information.[4,5,9] However, this study uses a survey with fifteen questions, six of which identify this group's demographic information, and nine of which ask specific questions about CAM use. In addition, respondents are given the opportunity to add their own opinions on alternative medicine and folk remedies in two open ended questions.

Also, many previous studies have not included faith-based remedies, such as laying on of hands, prayer, and faith healing. These are presumably an important part of many rural residents' medical treatment regimen, since rural residents of Appalachia have been found to have a high prevalence of conservative religious beliefs.[54]

In conclusion, this study has attempted to address many of the deficits of previous studies, and should build upon the currently available information on CAM use. The study has three main goals: (1) To categorize CAM/folk remedy use in rural, Appalachian northeastern West Virginia among senior centers. (2) To determine whether senior citizens among this group tell their doctors about their use of folk remedies/CAM, and if not, why not. (3) To determine patients' perceptions of local doctors' relationships both with them and with CAM/folk remedies. The results of this research should be of particular use to physicians practicing in northeastern West Virginia and similar regions as well as anyone with an interest in the folk remedy use of the elderly population of this region.

References

1. Eisenberg DM, Davis RB, Ettner SL, Appel S, Wilkey S, Van Rompay M, Kessler RC. Trends in alternative medicine use in the United States, 1990-1997. *JAMA*. 1998;280(18):1569-1575.
2. Eisenberg DM, Kessler RC, Foster C, Norlock FE, Calkins DR, Delbanco TL. Unconventional Medicine in the United States: Prevalence, Costs, and Patterns of Use. *N Engl J Med*. 1993;328:246-52.
3. Alvord LA, Van Pelt EC. The Scalpel and the Silver Bear: The First Navajo Woman Surgeon Combines Western Medicine and Traditional Healing. Bantam, 1999.
4. Poss J, Pierce R, Prieto V. Herbal Remedies Used by Selected Migrant Farmworkers in El Paso, Texas. *J Rural Health*. 2005; 21(2):187-91.
5. Cook C, Baisden D. Ancillary Use of Folk Medicine by Patients in Primary Care Clinics in Southwestern West Virginia. *South Med J*. Sept 1986; 79(9):1098-101.
6. McGuire MB. Ritual Healing in Suburban America. New Brunswick, NJ: Rutgers University Press, 1988.
7. Frenkel MA, Borkan JM. An Approach for Integrating Complementary-Alternative Medicine into Primary Care. *Fam Pract*. 2003; 20(3):324-32.
8. "What is complementary and alternative medicine?" 2002. National Center for Complementary and Alternative Medicine. 28 February 2008. <http://nccam.nih.gov/health/whatiscam/#sup2>.
9. Davis MP, Darden PM. Use of Complementary and Alternative Medicine by Children in the United States. *Arch Pediatr Adolesc Med*. Apr 2003; 157:393-6.
10. Oldendick R, Coker AL, Wieland D, Raymond JI, Probst JC, Schell BJ, Stoskopf CH. Population-Based Survey of Complementary and Alternative Medicine Usage, Patient Satisfaction, and Physician Involvement. *South Med J*. Apr 2000; 93(4): 375-81.
11. Rafferty AP, McGee HB, Miller CE, Reyes M. Prevalence of Complementary and Alternative Medicine Use: State-Specific Estimates From the 2001 Behavioral Risk Factor Surveillance System. *Am J Pub Health*. Oct 2002; 92(10):1598-1600.
12. Kessler RC, Davis RB, Foster DS., Van Rompay MI, Walters EE, Wilkey SA, Kaptchuck TJ, Eisenberg DM. Long-Term Trends in the Use of Complementary and Alternative Medical Therapies in the United States. *Annals of Internal Medicine*. Aug 2001; 135(4):262-8.
13. Paramore L. Use of Alternative Therapies: Estimates from the 1994 Robert Wood Johnson Foundation National Access to Care Survey. *J Pain Sympton Manage*. 1997; 13:83-9.

14. Cuellar N, Aycock T, Cahill B, Ford J. Complementary and Alternative Medicine (CAM) Use by African American (AA) and Caucasian American (CA) Older Adults in a Rural Setting: A Descriptive, Comparative Study. *BMC Comp Alt Med*. 2003; 3(8): 1-7.
15. Shreffler-Grant J, Weinert C, Nichols E, Ide B. Complementary Therapy Use Among Older Rural Adults. *Pub Health Nurs*. 2005; 22(4):323-31.
16. Del Mundo, WFB, Shepherd WC, Marose TD. Use of Alternative Medicine by Patients in a Rural Family Practice Clinic. *Fam Med*. 2002; 34(3):206-12.
17. Adler SR, Fosket JR. Disclosing Complementary and Alternative Medicine Use in the Medical Encounter: A Qualitative Study in Women with Breast Cancer. *J Fam Practice*. June 1999; 48(6):453-8.
18. Vallerand, AH, Fouladbakhsh, JM, Templin T. Self-Treatment of Pain in a Rural Area. *J Rural Health*. 2004; 20(2):166-72.
19. Arcury TA, Preisser JS, Gesler WM, Sherman JE. Complementary and Alternative Medicine Use Among Rural Residents in Western North Carolina. *Comp Health Pract Review*. Apr 2004; 9(2):93-102.
20. Wootton JC, Sparber AS. Surveys of Complementary and Alternative Medicine: Part I. General Trends and Demographic Groups. *J Alt Comp Med*. 2001;7(2):195-208.
21. A. Cavender. Folk Medical Uses of Plant Foods in Southern Appalachia, United States. *J Ethnopharm*. 2006; 108:74-84.
22. Goldfrank L, Lewin N, Flomenbaum N. The Pernicious Panacea: Herbal Medicine. *Hosp Physician*. 1982; 18:64-83.
23. Gray RE, Fitch M, Greenberg M, Voros P, Douglas MS, Labrecque M, Chart P. Physician Perspectives on Unconventional Cancer Therapies. *J Palliat Care*. 1997; 13: 14-21.
24. Sibinga EMS, Ottolini MC, Duggan AK, Wilson MH. Parent-Pediatrician Communication about Complementary and Alternative Medicine Use for Children. *Clin Ped*. May 2004; 43(4):367-73.
25. Druss B, Rosenheck R. Association Between Use of Unconventional Therapies and Conventional Medical Services. *JAMA*. 1999; 282:651-6.
26. Ni HN, Simile CS, Hardy AM. Utilization of Complementary and Alternative Medicine by United States Adults. *Med Care*. 2002;40(4):353-358.
27. Anderson IB, Mullen WH, Meeker JE, Khojasteh-Bakht SC, Oishi S, Nelson SD, Blanc PD. Pennyroyal Toxicity: Measurement of Toxic Metabolite Levels in Two Cases and Review of the Literature. *Ann Intern Med*. 1996; 124: 726-34.
28. Korkmaz A, Sahiner U, Yurdakok M. Chemical Burn Caused by Topical Vinegar Application in a Newborn Infant. *Ped Derm*. 2000; 17(1): 34-6.

29. Foster S, Duke JA. *Field Guide to Medicinal Plants: Eastern and Central North America*. Houghton Mifflin, 1998. Yellowroot. Wikipedia. 13 Mar 2008 <http://en.wikipedia.org/wiki/Yellowroot>.
30. Smolinske SC. Herbal Product Contamination and Toxicity. *J Pharm Pract*. 2005; 18(3): 188-208.
31. Wetzel MS, Eisenberg DM, Kaptchuk TJ. Courses Involving Complementary and Alternative Medicine at US Medical Schools. *J Am Med Assoc*. 1998; 280:784-7.
32. Brokaw JJ, Tunnicliff G, Raess BU, Saxon DW. The Teaching of Complementary and Alternative Medicine in US Medical Schools: A Survey of Course Directors. *Acad Med*. 2002; 77:876-81.
33. Johnson JE. Older Rural Women and the Use of Complementary Therapies. *J Commun Health Nurs*. 1999; 16(4):223-32.
34. Crellin J, Philpott J. Herbal Medicine Past and Present, Trying to Give Ease. Vol. 1. Duke University Press: Durham, NC. 1989.
35. Krochmal S, Walters RS, Doughty RM. A Guide to Medicinal Plants of Appalachia. USDA Forest Service Research Paper NE-138. Upper Darby, Pennsylvania. 1969.
36. Price, ET. Root digging in the Appalachians. *Geographic Review*. 1960;50:1-20.
37. Gesler WM. The Place of Chiropractors in Health Care Delivery: A Case Study in North Carolina. *Soc Sci & Med*. 1988;26:785-92.
38. Tripp-Reimer T, Friedl MC. Appalachians: A Neglected Minority. *Nurs Clin N Amer*. 1977; 12(1): 41-54.
39. Kluckhohn F, Strodtbeck F. Variations in Value Orientations. New York: Row, Peterson & Co., 1961.
40. Snow L. High Blood is Not High Blood Pressure. *Urban Health*. 1976; 5: 54-5.
41. Cavender AP. Theoretic Orientations and Folk Medicine Research in the Appalachian South. *South Med J*. Feb 1992; 85(2): 170-8.
42. Vallerand AH, Fouladbakhsh JM, Templin T. The Use of Complementary/Alternative Medicine Therapies for the Self-Treatment of Pain Among Residents of Urban, Suburban, and Rural Communities. *Am J Pub Health*. June 2003; 93(6):923-5.
43. Ludwig AM, Forrester RL. The Condition of "Nerves." *J KyMed Assoc*. 1981; 79: 333-6.
44. Ludwig AM. "Nerves": A Sociomedical Diagnosis…of Sorts. *Am J Psychother*. 1982; 36: 350-7.
45. Astin JA. Why Patients Use Alternative Medicine: Results of a National Study. *JAMA*. 1998;279:1548-53.

46. Astin JA, Pelletier KR, Marie A, Haskell WL. Complementary and Alternative Medicine Use Among Elderly Persons: One-Year Analysis of a Blue Shield Medicare Supplement. *J Gerontol: A Biol Sci Med Sci*. 2000;55A(1):M4-M9.
47. Wyatt GK, Friedman LL, Given CW, Given BA, Beckrow KC. Complementary Therapy Use Among Older Cancer Patients. *Cancer Pract*. 1999; 7(3): 136-44.
48. Coleman LM, Fowler LL, Williams ME. Use of Unproven Therapies by People with Alzheimer's Disease. *J Am Geriatr Soc*. 1995; 43(7): 747-50.
49. Bartlome JA, Bartlome P, Bradham DD. Self-care and Illness Response Behaviors in a Frontier Area. *J Rural Health*. 1992;8:4-12.
50. Ricketts TC. "Preface." Rural Health in the United States. Ed. TC Ricketts. Oxford University Press: New York. vii-viii.
51. "Comcast West Virginia." Comcast. 8 April 2008. <http://www.comcastspecial.com/state/westvirginia/westvirginia.html>.
52. "State Fact Sheets: West Virginia." Economic Research Service. 2008. USDA. 8 April 2008. <http://www.ers.usda.gov/statefacts/WV.htm>.
53. Goins RT, Williams KA, Carter MW, Spencer SM, Solovieva T. Perceived Barriers to Health Care Access Among Rural Older Adults: A Qualitative Study. *J Rural Health*. 2005;21(3):206-13.
54. Humphrey RA. "Religion in Southern Appalachia." *Appalachian Mental Health*. Ed. SE Keefe. Lexington University Press of Kentucky. 1988. 36-47.
55. Arcury TA, Gesler WM, Preisser JS, Sherman J, Spencer J, Perin J. The Effects of Geography and Spatial Behavior on Health Care Utilization among the Residents of a Rural Region. *Health Serv Reasearch*. Feb 2005; 40(1):135-55.
56. Plaut T. "Cross-Cultural Conflict between Providers and Clients and Staff Members." Appalachian Mental Health. Ed. SE Keefe. Lexington University Press of Kentucky. 1988. 161-74.
57. Lang F, Thompson D, Summers B, et al. A Profile of Health Beliefs and Practices in a Rural East Tennessee Community. *J Tenn Med Assoc*. 1988; 81: 229-33.
58. "Facts About …Rural Physicians." Federal Office of Rural Health Policy. 1997. University of North Carolina, Chapel Hill. 8 April 2008. <http://www.shepscenter.unc.edu/research_programs/rural_program/phy.html>.
59. "Senior Centers in West Virginia." West Virginia Bureau of Senior Services. 2005. West Virginia University Center on Aging. 15 November 2007. <http://community.wvseniors.org/Links/Senior_Centers/>.

60. "Allegheny." North American River Runners, Inc. 14 April 2008. <http://images.google.com/imgres?imgurl=http://www.narr.com/images/wv.gif&imgrefurl=http://www.narr.com/allegheny.html&h=344&w=400&sz=37&hl=en&start=9&sig2=a_NWiIWYgdyyAqWUTz80oQ&um=1&tbnid=fnl4mEgzEP9fLM:&tbnh=107&tbnw=124&ei=tnwDSNOLI4voebDjvSI&prev=/images%3Fq%3Dwest%2Bvirginia%2Beast%26um%3D1%26hl%3Den%26client%3Dsafari%26rls%3Den-us%26sa%3DN>.
61. "West Virginia Elder Care Services." 101ElderCare.com. 15 November 2007. <http://www.101eldercare.com/elder_care/west_virginia_elder_care.shtml>.
62. "List of Eligible Rural Areas – West Virginia." Universal Service Administrative Company: Rural Health Care. 2005. 11 November 2007. <http://www.usac.org/rhc/tools/rhcdb/Rural/2005/result.asp>.
63. "West Virginia: Three rural definitions based on Census Places." Economic Research Service. 2007. Unites States Department of Agriculture. 14 March 2008. <http://www.ers.usda.gov/Data/Ruraldefinitions/WV.pdf>.
64. "Older Women Workers, ages 55 and over." Women's Bureau. 2008. United States Department of Labor. 14 March 2008. <http://www.dol.gov/wb/factsheets/Qf-olderworkers55.htm>.
65. "State & County QuickFacts – West Virginia." 2008. United States Census Bureau. 27 February 2008. <http://quickfacts.census.gov/qfd/states/54000.html>.
66. Miller, KK. "Demographic and Economic Profile: West Virginia." Rural Policy Research Institute. 2006. University of Missouri – Columbia. 2 March 2008. <http://www.rupri.org/Forms/WestVirginia.pdf>.
67. Orr RD. Responding to Patient Beliefs in Miracles. *South Med J*. Dec 2007; 100(12): 1263-6.
68. Sovine ML. "Mental Health Professionals." Appalachian Mental Health. Ed. SE Keefe. Lexington University Press of Kentucky. 1988. 223-39.
69. Rabinowitz HK. Caring for the Country: Family Doctors in Small Rural Towns. New York, NY: Springer, 2004.