

Rhetoric and Information Design for Complementary and
Alternative Medicine on the Internet: The CAM “Communication Gap” in Consumer
Health Information (eHealth)

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Abstract

Chronic medical conditions affect about 50% of the adult population in the United States (CDC, 2015), and demand for Complementary and Alternative Medicine (CAM) is on the rise, especially among people with chronic pain and illness. Many CAM users choose not to discuss it with their doctors, and increasingly, Americans look to the Internet for health information. These trends underscore the importance of accessible, authoritative consumer health information (eHealth). The philosophies and practices of CAM, nontraditional in Western biomedicine, add another dimension to health communication challenges. Using the user experience design (UX) concept of personas, this study explored CAM rhetoric and information design found on major health insurance websites in Minnesota. It examined the need for improving health communications to enhance patient understanding and decision-making about CAM modalities and ultimately help improve patient involvement in their own health and well-being.

Introduction

Few things are as important to people as their health, yet Americans are far from healthy. In the United States, chronic medical conditions are the leading cause of death and disability. Recent statistics from the Centers for Disease Control and Prevention (CDC) report that chronic health issues impacted about half of all adults, and most health care spending in 2006—eighty-four percent—was for the 50% of the population that have one or more chronic medical conditions (CDC, 2015). Along with chronic health conditions comes chronic pain, which has a profound debilitating effect the longer it goes untreated. In addition to burdening our health care system, chronic issues greatly affect the lives of those who suffer and their families. According to the Integrative Pain Center of Arizona (IPCA), "After a while, pain wears a person down, draining their energy and sapping their motivation. They sometimes attempt to limit social contact in an effort to reduce stress and to decrease the amount of energy they have to spend. Eventually, many people with chronic pain develop depression-like symptoms" (IPCA, 2015, para. 3).

Complementary and Alternative Medicine (CAM) for chronic health issues

To deal with chronic medical conditions and chronic pain, many people in the United States are considering medical treatment outside of standard Western biomedical care, popularly called Complementary and Alternative Medicine (CAM). CAM modalities include but are not limited to homeopathic treatment, acupuncture, and naturopathy; nonvitamin, nonmineral dietary supplements; deep-breathing exercises; yoga, tai chi, and qi gong; massage; and chiropractic or osteopathic manipulation. Often rooted in ancient healing traditions, CAM is used globally for both chronic conditions and overall wellness.

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In fact, CAM is used by more than 30% of people in the United States and 40% of people in developed and developing countries around the world (Ben-Arye & Visser, 2012; Clarke, Black, Stussman, & Barnes, 2015). For people with chronic medical conditions, CAM use is even higher.

This explains why, as a technical communicator, I chose to investigate CAM pages on health insurance websites, through the lens of a persona with a chronic health condition. One cannot overstate the important role of accessible, authoritative consumer health information (eHealth) about Complementary and Alternative Medicine. Much information about CAM is available online. Authorities such as the NIH National Center for Complementary and Integrative Health (NCCIH); the Center for Integrative Medicine at the University of Maryland School of Medicine (CIM); and the University of Minnesota Center for Spirituality & Healing maintain robust eHealth databases citing research and explaining concepts and practices in detail, with content suited to medical practitioners, students, and patients. On the other end of the spectrum, thousands of CAM clinics have their own websites; the exact number is difficult to assess because there is no national system for credentialing CAM practitioners and local governments determine credentials required in their jurisdictions (NCCIH, 2013). Yet, CAM concepts and practices used for thousands of years in other parts of the world are still unfamiliar in Western culture, and types of CAM such as acupuncture and Chinese medicine are based in an Eastern worldview, which compromises their use and effectiveness in the United States.

Health insurance companies are a vital source of health information on CAM

Based on the sheer number of CAM users in the United States and the percentage of our population living with chronic health issues, CAM-related content on health insurance websites is a critical topic for technical communicators and designers. CAM use for people with chronic health issues correlates strongly to having health insurance coverage, so health insurance websites are a logical first step for people searching for eHealth content on CAM. Insurers, like employers, have a vested interest in promoting wellness in their clients through the most effective and economical means. CAM content may well influence patient understanding and decision-making, prompt patient-provider discussions, and ultimately help improve patient safety and well-being.

Of all the people looking for health information online, those dealing with chronic health issues and chronic pain are the most desperate for relief. "In my experience, the majority of people don't usually turn to CAM for acute issues. The chronic health population has often exhausted its resources in Western medicine, and I have often found that this patient population is frequently seeking out CAM modalities," says Elizabeth Hopfenspirger, DNP, MSN, RN, FNP-BC, PMHNP-BC (personal interview, April 2015). Not surprisingly, studies show that people with chronic health conditions use CAM "two to five times as much as those who are not chronically ill" (Myers, 2014, para. 9).

CAM Definitions Do Not Really Explain CAM

CAM is “non-standard treatment” from the biomedical perspective, and the cultural differences between Eastern-based CAM and traditional Western biomedicine are profound. In the United States, CAM is often practiced alongside Western or biomedicine, instead of as an alternative, and the term Integrated Medicine (IM) recognizes this blend.

The National Institutes of Health (NIH) definition of CAM reads, “Complementary and Alternative Medicine (CAM) is the term for medical products and practices that are not part of standard care. Standard care is what medical doctors, doctors of osteopathy, and allied health professionals, such as nurses and physical therapists, practice” (NIH Medline Plus, 2014). The CDC defines CAM as “A group of diverse health-care systems, practices, and products not presently considered to be part of conventional medicine.” (CDC, 2004). The description provided by the NCCIH classifies CAM into categories including whole medical systems, mind-body medicine, biologically based practices, manipulative and body-based practices, and energy medicine. Whole medical systems are ancient health systems such as Ayurveda from India and traditional Chinese medicine (TCM) — ways of healing that existed long before conventional Western medicine came about.

While CAM philosophies may not be well understood in our culture, Western doctors recognize some CAM modalities and these treatments are working their way into mainstream use. *NIH Medline Plus* magazine mentioned CAM for the alleviation of chronic pain: "When it comes to chronic pain treatment, many people find adding

complementary or alternative medicine (CAM) approaches can provide additional relief. These may include tai chi, acupuncture, meditation, massage therapies, and similar treatments" (NIH, 2011, para. 7).

CAM is often less expensive than biomedicine because high-technology interventions are usually not involved. It is also more democratic in its approach, in that both the patient and the practitioner play an important role in the healing process. An article in the journal *Women's Studies in Communication* reviewed and illustrated the tenor of CAM, in contrast with a biomedical perspective, where patient involvement can be minimized to taking medication as prescribed. "This approach to medicine is seen as a health care option that addresses and overcomes the communicative and psychological weaknesses of traditional Western medicine" (Willard, 2005, p. 116, BWHBC, 1998: Northrup, 1994, 2001).

People with Funds, Knowledge, and Health Coverage Choose CAM

North Americans opt for CAM if they can afford it. According to CDC National Health Statistics Report Number 79, in 2012 33.2% of the adult population in the United States, or 3 in 10 adults, used some type of CAM — with greater use among people with higher incomes and education levels (CDC, 2015). In fact, trends from 2002 to 2012 show upswings in CAM use among those with private insurance, and downward trends in the 10-year span among the uninsured. (Clarke, Black, Stussman, & Barnes, 2015). Thus, CAM use in the United States is tied to higher incomes, higher levels of education, and

insurance coverage. In “The Role of Health Care Communication in the Development of Complementary and Integrative Medicine,” Ben-Ayre and Visser cited a study in Texas that revealed how education plays a major role in whether a patient discusses CAM with their doctor — something critical to the patient decision-making process. “Aiming to further understand the CAM doctor–patient communication gap, Zhang et al. compared perspectives of 69 healthcare providers and 468 patients in Texas, and concluded that lack of knowledge and unfamiliarity with CAM modalities might prevent important patient–provider discussions. Noteworthy, is that college-educated patients were about three times more likely to discuss CAM than their counterparts” (Ben-Ayre & Visser, 2012, p. 364). This indicates a communication gap tied to education.

Instead of Talking to Doctors, Many Online Americans Turn to eHealth Sites

The CAM communication gap related to income and/or gender can be seen in a survey conducted in 2010 by NCCIH and AARP, which showed that while adults over 50 are high users of CAM (more than 50% self-reported in the survey), they are less likely to discuss CAM with their doctors. In fact, 67% of survey respondents who used CAM did not talk to their doctors about it. Of the most common reasons cited for using CAM, 73% of respondents said they used it to reduce or treat pain. Additionally, 14% cited the Internet as a source of CAM information — a significant increase from 10% in 2006. (NCCIH, 2011).

In fact, the Internet is a growing source of health information for many Americans, at least those with health insurance. Among adults aged 18–64, 58.7% of those with private

health insurance coverage used the Internet for health information in the past 12 months compared with 31.3% of those on Medicaid and 33.3% of those with no insurance coverage (Cohen & Adams, 2009). In this 2009 study, using the Internet for health care information was also tied to being employed and having a higher income.

It is also true that having one or more chronic health issue makes Americans who are already online even more likely to turn to health websites. A Pew Research Study titled “The Diagnosis Difference” reported that statistically as a group people with chronic health conditions tend to be older and have less education than the general population — factors associated with being offline. But, for adults who are already online, living with a chronic health condition is independently tied to “key health related activities” including a greater likelihood than other online adults to:

- Gather information online about medical problems, treatments, and drugs.
- Consult online reviews about drugs and other treatments.
- Read or watch something online about someone else’s personal health experience (Fox & Duggan, 2013, p. 1) .

Identifying the CAM Communication Gap Online

As studies and surveys indicate, people with less education are less likely to discuss CAM with their doctors (Ben-Arye & Visser, 2012). People over 50 are very likely to use CAM, but are also less likely to discuss it with their doctors (NIH, 2007). Those living with chronic health conditions are much more likely to use CAM (Myers, 2014). And, online adults who already use the Internet and who also suffer from chronic health

conditions have a greater likelihood than healthy online adults to go online "to gather information on medical problems, treatments, and drugs" (Fox & Duggan, 2013, p. 1). These points indicate a critical CAM communication gap during doctor visits —and show that the Internet is a significant resource for CAM information.

Methodology

To review CAM rhetoric and information design on health insurance websites, I selected two major health insurers in Minnesota based on market share and enrollment statistics provided by the Henry J. Kaiser Family Foundation (Kaiser Family Foundations, 2013). Using the classic user experience design (UX) concept of personas as an investigation methodology, I searched Web pages for each site using search terms "complementary and alternative medicine," "acupuncture," and "back pain," and evaluated the results based on a persona and audience-centered heuristics. I focused most on acupuncture as an example due to its being a helpful treatment for chronic low-back pain (NCCIH, 2014), largely accepted as safe, and a type of CAM based in a non-Western worldview.

Long used by web developers and communicators as a guide to connect with website visitors, personas and scenarios provide key insight into how site visitors think and how they are likely to respond to content given what you know about them. "Even better than heuristics... is reviewing through your personas and the conversations they want to have with your web site," says Janice (Ginny) Redish, Ph.D., the author of *Letting Go of the Words: Writing Web Content That Works* (Redish, 2011). To the data available about

CAM use and chronic health sufferers in the United States, I added cultural and technical considerations guided by a map developed for international technical communication.

The Getto-St. Amant Map for International Technical Communication Design

To be effective, web content for CAM directed at a Western culture should address both *technological* issues related to web use by different user segments, and *cultural* issues related to concepts and practices that are nontraditional in Western biomedicine. I developed my persona using a map developed by Guiseppe Getto and Kirk St. Amant specifically for international technical communication design. In “Designing Globally, Working Locally, Using Personas to Develop Online Communication Products for International Users” published in 2014 in *Communication Design Quarterly*, the authors explored how the UX concept of personas could be an effective tool when evaluating the needs of users from other cultures (Getto & St. Amant, 2014). They pointed out how extending digital products and services to an international audience requires translation and localization — both extremely time-consuming and costly — and suggest more efficient, streamlined, and effective online interfaces are those that consider cultural factors

to anticipate how individuals in other cultural contexts use different technologies to engage in a range of online activities. Such a mechanism, however, would need to include more than just demographic information on who these international users are (e.g. ethnicity, language use, gender, etc.). Rather, such an approach would need to anticipate the context in which the technology was being used (see

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van Reijssowould and de Jager, 2011) and the attitudes individuals have toward using the technology (Getto & St. Amant, 2014, p. 29).

The Getto and St. Amant map (Figure 1) holds exciting implications for developing different personas for CAM-related health information website development and review. It could also be used with other products or services that originated in a non-Western culture, but is being presented to a Western audience.

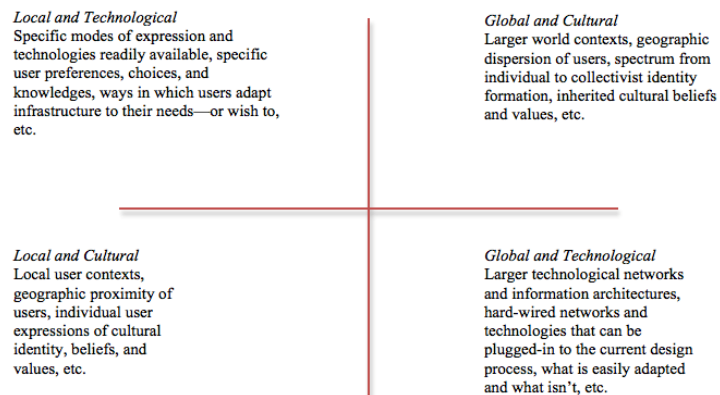


Figure 1: A map of the four contextual areas/factors communication designers need to consider when developing personas of users who are located in other cultures.

Fig. 1: (Getto & St. Amant, 2014, p. 34)

For the purposes of my investigation, I developed a similar map with cultural and technological factors as they related to health information online and CAM (Fig. 2). In the modified map that I created for my investigation, the quadrants correspond to quadrants important in explaining CAM to North Americans. Cultural and technological

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ALTERNATIVE MEDICINE ON THE INTERNET**

factors at play include background, worldview, sociodemographics, CAM knowledge (or literacy), web literacy, and English literacy or education level. A web savvy, college-educated patient or practitioner looking for the latest acupuncture-related research has very different needs and expectations from a user without a clear concept of what acupuncture is, how long it has been used, and what to expect during an appointment.

<p><i>Local and Technological</i> Web literacy and behavior of the user segment: Web navigation skills. Goals and expectations of site visitors age 50+, high school educated, with broadband Internet access and social Web 2.0 skills (Facebook) For adults who are already online, living with a chronic health condition makes them more likely than healthy online adults to gather medical information on the Internet.</p>	<p><i>Global U.S. and Cultural</i> CAM literacy: Demographic and geographic disbursement of users and the general knowledge about particular CAM modalities in the United States. Expectations of CAM based on prevalence in popular culture, new research on CAM impacting the health community at large</p>
<p><i>Local and Cultural</i> English literacy and psychographic information: Individual expressions of the site visitor and what is important to them, i.e. general information about CAM for a specific condition or in-depth research. English language literacy and reading levels. Beliefs about biomedicine and CAM. Personal health concerns</p>	<p><i>Global U.S. and Technological</i> Web literacy in the United States: Educational attainment represents one of the most pronounced gaps in Internet access. A recent study showed that 43% of adults who have not completed high school used the Internet, versus 71% of high school graduates—and 94% of college graduates (Zickuhr & Smith, 2012).</p>

Fig. 2: A map of contextural areas/factors to consider when developing personas for this study of CAM information on health insurance websites. Based on the Getto, St. Amant map for developing personas for online communication for different cultures.

Local and Technological Factors (Fig. 2)

My persona-based investigation is for an online U.S. adult living with a chronic medical condition but who is not disabled or otherwise limited in using the Internet. The demographic is age 50+, high school educated, with broadband Internet access and social web 2.0 skills (Facebook). This cohort of online adults with chronic health issues is more likely to look for health information on the Internet (Fox & Duggan, 2013).

Global U.S. and Technological Factors (Fig. 2)

Internet access use depends on education. According to a Pew Research Report in 2012 entitled “Digital Differences,” educational attainment represents one of the most pronounced gaps in Internet access. At the time of the study, some 43% of adults who have not completed high school used the Internet, versus 71% of high school graduates—and 94% of college graduates (Zickuhr & Smith, 2012). For the sake of this investigation, and Global U.S. and Technological Findings are for factors that would exist for all Internet users, regardless of education level.

Global U.S. and Cultural Factors (Fig. 2)

The upper right quadrant of the map takes into account some of the cultural differences between Western culture and the Asian-based CAM rhetoric. The pioneering research work of Dutch social psychologist Geert Hofstede resulted in four cultural dimensions that can be used to characterize Western (American) culture (Varner & Beamer, 2010). Hofstede’s research, which was conducted at the request of the international firm IBM and published in 1980, identified four cultural dimensions that form the basis of cultural

comparisons: individualism versus collectivism, power distance, uncertainty-avoidance versus uncertainty-tolerance, and masculinity versus femininity (Varner & Beamer, 2010). Taking U.S. cultural dimensions into consideration makes it easy to understand why Americans are likely to use CAM, avoid discussing it with their doctor, and access health information online provided they have Internet access. People in the United States are also likely to view “healing” as something a doctor does, versus a doctor/patient collaboration. Cultural characteristics in Asian culture include a collaboration between the patient and doctor — a key facet of Chinese medicine including acupuncture.

Edward Hall, another cultural researcher, theorized about communication in cultures as being either “high-context” or “low-context.” One rhetorical difference between language in the United States and in Asian cultures is that U.S. culture is seen as “low-context” preferring messages that are “explicit, direct, and encoded entirely in words” (Varner & Beamer, 2010, p. 101). Asian culture and Chinese medicine in particular are just the opposite. Visuals are beneficial and necessary to explain concepts according to acupuncturist Christian Fetsch, LAc, MSTCM, FABORM, Natural Health & Fertility Center, Minneapolis, MN (personal interview, April 2015).

Local and Cultural Factors (Fig. 2)

The bottom left quadrant of the map addresses local and cultural factors, including the population demographics and cultural background. My persona is White of European descent and lives in rural Minnesota. He has little contact with people of Asian descent and little knowledge about CAM or acupuncture, except what he has heard on television.

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Population note: According to U.S. Census data more than 85% of the population in Minnesota is White. Although Asians are the fastest-growing ethnic group in Minnesota, with an increase of more than 50% from 2000 to 2010, the Asian population in Minnesota totaled about 4% in 2013 (Boyd, 2013).

I used all four quadrants of the map to build the persona of Carl B., a fifty-five-year-old RV autoworker with chronic back pain, a common complaint in his industry. According to the NIH Low Back Pain Fact Sheet, back pain is, “the most common cause of job-related disability and a leading contributor to missed work days. In a large survey, more than a quarter of adults reported experiencing low back pain during the past 3 months” (NIH & National Institute of Neurological Disorders and Stroke, 2014, para. 1). Carl is of Eastern European (German and Norwegian) heritage, lives in southern Minnesota, and works at a factory in northern Iowa. Carl had physical therapy for rehab after the initial sprain and has used bed rest and painkillers for occasional pain ever since. His work subsequently promoted him from line assembly to an RV road tester and final inspector, where he is not required to lift heavy components. However, his job still requires significant mobility. Additionally, Carl suffers stiffness and occasional severe low back pain during fishing trips and after completing seasonal yard work. On five occasions in the past decade, Carl has used muscle relaxants and narcotics for pain. Carl has little or no prior knowledge of acupuncture or CAM, but he heard on TV that it might be useful for back pain. In keeping with his user segment he has not discussed acupuncture with his doctor. (Fig. 3).

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Carl B.
RV/motor home autoworker
Quality Control Supervisor
Age: 55
Location: Southern Minnesota, USA

Web literacy and behavior: Has broadband Internet access. Uses social media/Facebook and email
English literacy and reading level: High school graduate; Native English speaker
CAM literacy: Carl only knows acupuncture "is Asian and involves needles"
Health issue: Chronic back pain since a work-related injury 11 years ago

Background:

In 2004, RV autoworker Carl B. experienced a back injury while installing sidewalls onto motor homes during assembly. He recovered without surgery, but has experienced chronic lower back pain for 11 years. Carl now works in quality control, which requires bending but no lifting, however his chronic back pain is exacerbated by long days on his feet, both indoors during final inspection and outdoors observing RV road tests.

While watching TV, Carl heard about CAM and acupuncture as a therapy that has shown some promise in reducing inflammation and chronic back pain. While he did not discuss acupuncture with his doctor, Carl visited his health insurance website to determine coverage (acupuncture is covered; co-pay required) and to learn more about this type of CAM and what it entails.

Goals:

After determining his coverage and co-pay, Carl searched his health insurance website for the following information:

- What is acupuncture?
- Will acupuncture help my back pain?
- How long has acupuncture been around?
- What happens during acupuncture?
- Does it hurt?
- Why and how does acupuncture work?
- Are there any risks or safety concerns I should know about?

Keywords: acupuncture, Chinese acupuncture, back pain, complementary and alternative medicine

Fig 3. Persona

Carl is interested in acupuncture, a type of CAM that is frequently used to alleviate low back pain. The NIH "Low Back Pain Fact Sheet" lists acupuncture as a treatment and states the following:

Acupuncture is moderately effective for chronic low back pain. It involves the insertion of thin needles into precise points throughout the body. Some practitioners believe this process helps clear away blockages in the body's life force known as Qi (pronounced chee). Others who may not believe in the concept of Qi theorize that when the needles are inserted and then stimulated (by twisting or passing a low-voltage electrical current through them) naturally occurring painkilling chemicals such as endorphins, serotonin, and acetylcholine are

released. (NIH & National Institute of Neurological Disorders and Stroke, 2014, para. 55).

Persona-based Searches and Audience-based Heuristics

Using this persona as a guide, I reviewed two health insurance websites (both top insurers in Minnesota) and looked for answers to the following questions:

- What is acupuncture?
- Will acupuncture help my back pain?
- How long has acupuncture been around?
- What happens during acupuncture?
- Does it hurt?
- Why and how does acupuncture work?

Keyword searches included “acupuncture,” “Chinese medicine,” “back pain,” and “complementary and alternative medicine.” I applied relevant audience-centered heuristics for older adults to the web pages. Many of these heuristics were developed by Dana Chisnell and Ginny Redish in 2005, after they conducted a comprehensive review of research about older adults and the Web for AARP (Chisnell & Redish, 2004).

To improve my understanding of Chinese medicine and acupuncture as they differ from biomedicine and typical Western views about health and healing, I interviewed Craig A. Hassel, Ph.D, Graduate Faculty at the University of Minnesota's Center for Spirituality & Healing, and a Cultural Wellness Center Fellow; along with experienced acupuncturist Christian Fetsch, LAc, MSTCM, FABORM, Natural Health & Fertility Center, Minneapolis, MN. "Health and wellness are about our responses to subtle patterns. We

make inappropriate responses because we are unaware. To make acupuncture more effective, we have to change our own thinking," says Craig Hassel, Ph.D. "We've been conditioned into a dependency model where we 'go in to get fixed.' We rely on experts. We don't see it as our responsibility. What I'm talking about is a shift from contemporary Western thought to a more Eastern thought" (Personal interview, April 2015).

Findings

Following are the findings of this review of two of Minnesota's largest health insurers through the lens of my persona, Minnesota resident Carl B. The findings are not intended to be an exhaustive review of the related information presented on these websites. Instead, they serve as indicators of relevant technological and cultural factors that would likely impact someone like Carl, an older adult with a chronic health condition, who is looking for eHealth information about a specific type of Complementary and Alternative Medicine. The findings also can serve as the basis for further study using personas as investigative methodology, and for using a map such as the one developed by Getto and St. Amant map (Figure 1) for CAM-related health information — or any other products or services that originated in a non-Western culture and are presented to a Western audience.

Health Insurance Website #1 — Blue Cross and Blue Shield of Minnesota

Blue Cross and Blue Shield of Minnesota (BCBS MN) is the largest insurer in the state, with a market share of 57% according to the Henry J. Kaiser Family Foundation (Kaiser Family Foundation, 2013). After verifying that acupuncture is covered by his policy at BCBS of MN, Carl continues to search the site for information about acupuncture and TCM.

From the home page, my persona Carl finds an overwhelming 422 hits for acupuncture, no hits for TCM, Chinese medicine, complementary and alternative medicine, or CAM. Instead of sifting through the 422 hits, Carl notices a link for "Making Health Decisions" under a tab for "Live Healthy." Upon clicking that link he finds an explanation of how Blue Cross has a lot of knowledge available about health. This page also has box labeled "How Do I..." and one of the links under that box is for "use online health and wellness resources." This link lands Carl at BCBS MN's Health Encyclopedia, with a clickable alphabet at the top. Carl clicks "A" for Acupuncture and finds the link at position 12.

Acupuncture—Website #1, Page #1 (Figs. 4, 5, 5.5)

**Local and technological findings based on "AARP Audience-Centered
Heuristics: Older Adults" (Chisnell & Redish, 2004):**

- Acupuncture page with dense text (1,300 words) requires significant vertical scrolling (Chisnell & Redish, 2004, pgs. 1, 3) (Fig. 4)
- Use of complex terminology; reading level inappropriate for education level (Chisnell & Redish, 2004, p. 4) (Fig. 5.5)

Global and technological findings based on "AARP Audience-Centered

Heuristics: Older Adults" (Chisnell & Redish, 2004):

- Unclear links; Under "Related Items, Diseases and Conditions" list reads, "Art, Dance, and Music," and "Ayurveda," neither of which are diseases or conditions. (Chisnell & Redish, 2004, p. 4) (Fig. 4)

Local and cultural findings based on SME interviews:

- Alarming first sentence focuses on needles rather than basic tenets of acupuncture; "Acupuncture is the practice of puncturing the skin with needles at certain anatomical points in the body to relieve specific symptoms associated with many diseases." (Fig. 4)
- No visual or audio files to aid comprehension of a culturally unfamiliar topic (Fig. 4, 5, 5.5)
- Western dependency model; no mention of patient involvement in healing (Fig. 4, 5, 5.5)

After much scrolling, Carl also learns that acupuncture has been shown by the National Institutes of Health to be useful in relieving low back pain, among other conditions.

There are several mentions of risk involving acupuncture needles, including mentions of heating of needles, soreness, and pain during treatment.

SME commentary:

According to acupuncturist Christian Fetsch, LAc, MSTCM, FABORM, Natural Health & Fertility Center, Minneapolis, MN, " To understand what acupuncture is like, patients really need to experience it. Only this experiential knowledge will even begin to cover the complexities of everything that is going on. Reading about acupuncture will not be particularly helpful. A face-to-face visit with the practitioner is the best introduction. Barring that, a video with visuals would be very useful to explain the concepts and the process." Fetsch adds, "Lots of people in Western culture are afraid of needles. Focusing on needles in acupuncture is not necessary and many patients do not wish to see them. While there is little or no pain as needles are inserted, some 'buzzing' sensation is both normal and desired. So, while people usually feel the needles, they do not need to dwell on them. Monofilament needles are simply the tools acupuncturists use to achieve a desired result. Explaining Qi is much more important" (personal interview, April 2015). In fact, there are few risks involved with acupuncture needles when administered by a qualified professional.

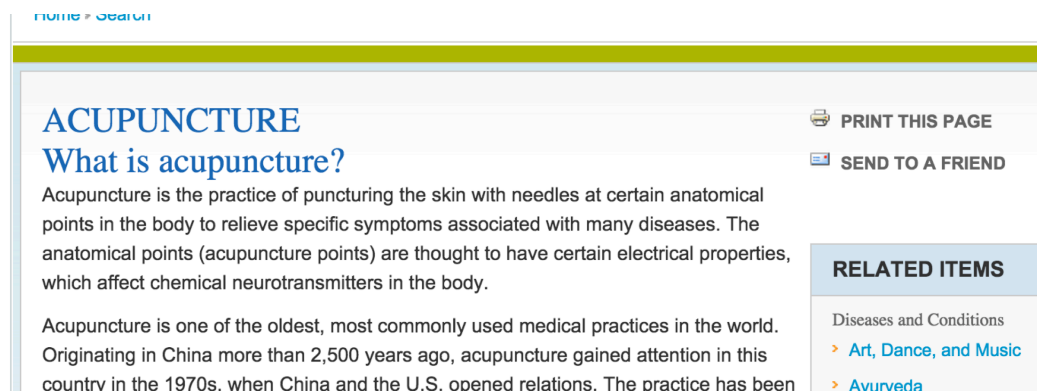


Fig. 4: 1,300-word scrolling page on acupuncture begins with mention of needles. (BCBS MN, 2015) Retrieved from <http://healthandwellness.bluecrossmn.com/Library/Encyclopedia/85,P00171>

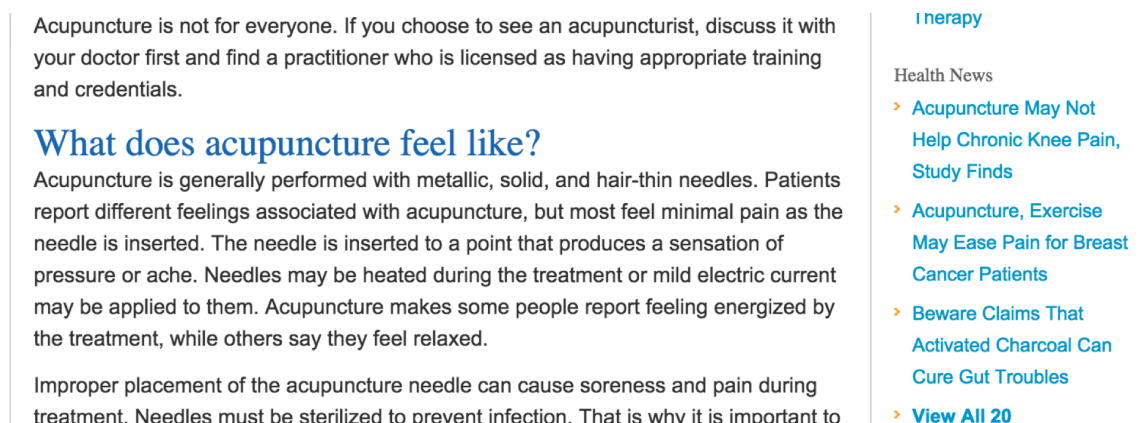


Fig. 5: No visuals or audio files are provided to facilitate understanding. Further discussion of needles focuses on improper placement/risk of treatment. (BCBS MN, 2015) Retrieved from <http://healthandwellness.bluecrossmn.com/Library/Encyclopedia/85,P00171>

Attention has been focused on the following theories to further explain how acupuncture affects the body:

- **Conduction of electromagnetic signals.** Evidence suggests that acupuncture points are strategic conductors of electromagnetic signals. Stimulating these points enables electromagnetic signals to be relayed at greater-than-normal rates. These signals may start the flow of pain-killing biochemicals, such as endorphins, or release immune system cells to specific body sites.
- **Activation of the body's natural opioid system.** Considerable research supports the claim that acupuncture releases opioids, synthetic or naturally-occurring chemicals in the brain that may reduce pain or induce sleep. These chemicals may explain acupuncture's pain-relieving effects.
- **Stimulation of the hypothalamus and the pituitary gland.** Joined at the base of the brain, the

Fig. 5.5: Western dependency model reinforced; use of complex terminology; reading level inappropriate for education level. (BCBS MN, 2015) Retrieved from <http://healthandwellness.bluecrossmn.com/Library/Encyclopedia/85,P00171>

Introduction to Chinese Medicine—Website #1, Page #2 (Fig. 6)

The little bit of information about Qi (chee) on the acupuncture page does not add to what Carl learned on TV. He notices a link to an article at right, labeled "An Introduction to Chinese Medicine." Here, Carl learns about the "Five Devils" in Chinese medicine, and that "Disease results when internal or external causes attack, weaken, or impede your chi's natural flow." (Fig. 6)

Local and technological findings based on "AARP Audience-Centered

Heuristics: Older Adults" (Chisnell & Redish, 2004):

- Dense text requires significant vertical scrolling (Chisnell & Redish, 2004, pgs. 1, 3) (Fig. 6)

Global and technological findings based on "AARP Audience-Centered

Heuristics: Older Adults" (Chisnell & Redish, 2004):

- Use of inconsistent terminology "We qi," "Wei chi," and "Chi" (Chisnell & Redish, 2004, p. 4) (Fig. 6)
- Unclear links; Under " Diseases and Conditions" list reads, "Acupuncture" and "Chinese Medicine", neither of which are diseases or conditions. (Chisnell & Redish, 2004, p. 4) (Fig. 6)

Local and cultural findings based on SME interviews:

- "Five Devils" concept, akin to the Greek humors in humorism, can be difficult for Westerners to understand and can be mistakenly interpreted as evil or satanic. (Fig. 6)
- No visual or audio files to aid comprehension of a culturally unfamiliar topic. The pairing of "Five Devils" alongside "neglect" and "unhealthful lifestyle" read as decadence in Western culture. (Fig. 6)
- Use of inconsistent terminology "We qi," "Wei chi," and "Chi" could confuse someone from a Western culture (Fig. 6)

SME commentary:

According to acupuncturist Christian Fetsch, the five devils in Chinese medicine are not evil in the Western sense of the word, but can be easily misunderstood in Western culture. He says, "the Five Devils in Chinese medicine are not evil. They are really more akin to the humors in humorism, the medicine system used by

ancient Greeks that was holistic in nature. In Western culture, the word devil has satanic connotations. I have spoken with U.S. Christians who would not use acupuncture solely due to this terminology. This is a shame because evil is not the meaning in either culture" (personal interview, April 2015).

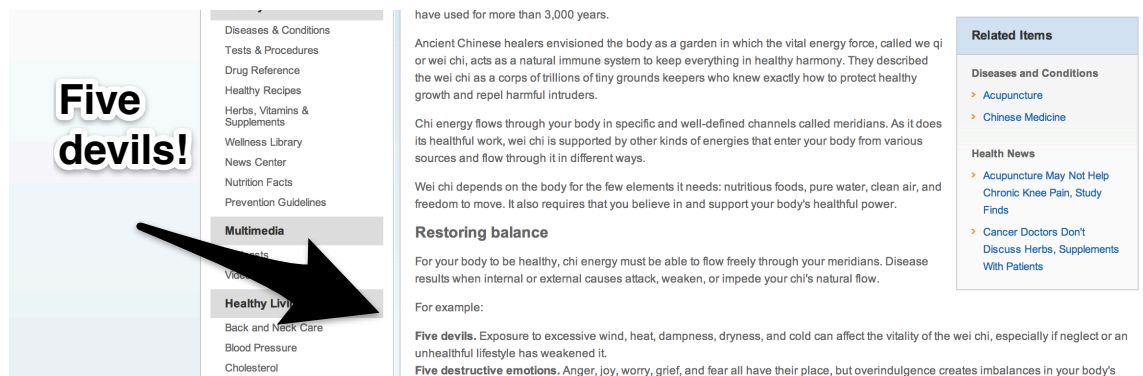


Fig. 6: "Five devils" concept can be mistakenly interpreted by Westerners as evil or satanic. (BCBS MN, 2015) Retrieved from <http://healthandwellness.bluecrossmn.com/RelatedItems/1,1893>

Alternative and Complementary Medicine Quiz—Website #1, Page #3 (Fig. 7)

BCBC of MN includes a quiz for potential users of CAM that gives the user a chance to test their knowledge about differing modalities. The quiz is unlikely to be useful to a user such as persona Carl, who is researching one type of CAM and already may be confused by additional terminology.

Local and technological findings based on "AARP Audience-Centered Heuristics: Older Adults" (Chisnell & Redish, 2004):

- Use of inconsistent terminology. Heading for CAM is reversed on the quiz; instead of "Complementary and Alternative Medicine" it reads

"Alternative and Complementary Medicine" (Chisnell & Redish, 2004, p. 4) (Fig. 7)

Global and cultural findings that reflect the fact that patient users are unlikely to research more than one type of CAM at a time:

- Use of inconsistent terminology. Discussion of "ayurvedic medicine" and "naturopathy" could confuse someone researching "acupuncture" (Fig. 7)

Alternative and Complementary Medicine Quiz

Many people swear by alternative and complementary therapies. Find out more about these treatments by taking this quiz.

1. "Alternative medicine" and "complementary medicine" mean the same thing.

A. True

B. False

2. One of the central principles of complementary and alternative medicine is that the body heals itself.

A. True

B. False

3. Homeopathy is a form of complementary/alternative medicine that uses extremely small amounts of certain substances to promote healing.

A. True

B. False

4. Herbal medicine and acupuncture are treatments used in naturopathy.

A. True

B. False

5. Ayurvedic medicine, which originated in India, promotes controlled breathing as one element of treatment.

Related Items

Diseases and Conditions

- > [Ayurveda](#)
- > [Home Page - Complementary and Alternative Medicine](#)
- > [Online Resources - Complementary and Alternative Medicine](#)
- > [View All 18](#)

Pediatric Diseases and Conditions

- > [Alternative Therapy for Cancer](#)

Articles

- > [Talking with Your Doctor About Alternative Medicine](#)

Fig. 7: Grouping all types of CAM in a quiz could cause confusion; heading for CAM is reversed. (BCBS MN, 2015) Retrieved from <http://healthandwellness.bluecrossmn.com/InteractiveTools/Quizzes/40,CompMed>

Health Insurance Website #2 — HealthPartners®

After verifying that acupuncture is covered by his policy at HealthPartners, the third largest insurer in Minnesota, with a market share of 12% according to the Henry J. Kaiser Family Foundation (Kaiser Family Foundation, 2013), Carl looks for information about treating back pain with acupuncture. From the home page, Carl finds a link labeled "Health & Well-being," which leads him to a page with information about common concerns, including "Back Pain."

Back Pain—Website #2, Pages #1 and #2 (Figs. 8, 9, and 10)

One of Carl's most important questions is "Will acupuncture help my back pain?" On the link for "Back Pain," Carl finds an interactive mini-site with pages for "First-Time Pain," "Repeat Pain," and "Persistent Pain." Each page has differing information with text on self-care, exercise, posture and sleeping, medicine, stress management, physical therapy, imaging x-ray, surgery, etc. Neither "Acupuncture" nor "CAM" is listed in any area for back pain. However, the page on acupuncture has "low back pain" listed as a health condition for which acupuncture may be useful. There is no link back to the "Back Pain" area.

Global and technological findings that could impact any U.S. user looking for consistent information about acupuncture and CAM:

- Back Pain pages do not list "acupuncture" as a treatment option in any area (Fig. 8)

- "Acupuncture" page lists "low back pain" as one of the health conditions for which acupuncture may be helpful (Fig. 10)

Local and cultural findings based on SME interviews:

- No visual or audio files to aid comprehension (Fig. 9)
- Western dependency model; text reads "acupuncturists believe" when in reality beliefs about "chi" have been held for centuries and are the beliefs of millions of people. No mention of patient involvement in healing (Fig. 9)

SME commentary:

According to acupuncturist Christian Fetsch, "Visuals are key in explaining acupuncture to Westerners. Chinese pictographs have a wide meaning, not just one word, and many of them are rooted in nature. For example, images of wells, springs, streams, rivers, and oceans are all used, along with other images for earth, fire, and wind. Nothing is intrinsically 'bad' or 'good.' Words alone often do not do justice to powerful concepts that the patient should understand for the best medical outcome. That is why I often include visuals in explaining these ideas" (personal interview, April 2015).

Back pain

Back pain is a common condition that will be experienced by most Americans at some point during their lifetime. Depending on the type of back pain you have, you may have different options for prevention, treatment and recovery.

First-Time Pain
"I've never had back pain before."

Repeat Pain
"I feel good most of the time, but the pain keeps coming back."

Persistent Pain
"I live with pain all the time."

Back pain is usually not serious. Though it may hurt a lot, it typically improves quickly, and most people will see significant improvement in two to four weeks. In rare cases, back pain can be a sign of a serious medical problem. If you have any of [these symptoms](#), call your doctor right away.

Although it is common, there are many myths about the causes and treatment of back pain. Here's information to help you know what to expect with your back pain care.

Myth: Back pain is usually disabling.
Fact: Back pain can be intense, but it is rarely serious or disabling. In fact, 7 out of 10 people typically get better in 2 weeks. Nine out of 10 typically get better in 4 to 6 weeks with or without treatment.

Myth: Rest – and not working – is the best medicine for back pain.
Fact: Early movement and return to all your usual activities, including work, usually

Decision Support

Find care for back pain
Learn about how to get care for your back.

How to use your benefits
Call Nurse Navigator ¹
7am-7pm CST, Monday-Friday
952-883-5000
800-883-2177
952-883-5127 (TTY)

Talk about care options
Call CareLine ¹
24 hours a day
612-339-3663
800-551-0859
952-883-5474 (TTY)

Interactive tools

[Back exercises](#)
Three quick exercises to help stretch your back.

[Dealing with stress](#)

Fig. 8: HealthPartners mini-site for back pain does not mention acupuncture on any of its screens. (HealthPartners, 2015) Retrieved from <https://www.healthpartners.com/public/health/back-pain/>

What is acupuncture?

Acupuncture is a form of Chinese medicine that has been practiced for centuries. It's based on the theory that energy, called chi (say "chee"), flows through and around your body along pathways called meridians.

[Acupuncturists](#) believe that illness occurs when something blocks or unbalances your chi. Acupuncture is a way to unblock or influence chi and help it flow back into balance.

Acupuncture is done by putting very thin needles into your skin at certain points on your body. This is done to influence the energy flow. Sometimes heat, pressure, or mild electrical current is used along with needles.

What happens during acupuncture?

Your acupuncture provider will give you an exam and ask questions about your pain and how well you are functioning. He or she will also ask about your overall health.

Then your provider will look for the places (called points) on your body to access the chi that is blocked or not flowing right.

Fig. 9: Text reinforces Western dependency model with "acupuncturists believe" and no mention of patient involvement. (HealthPartners, 2015) Retrieved from <https://www.healthwise.net/healthpartners/Content/StdDocument.aspx?DOCHWID=aa77639spec>

What is acupuncture used for?

People use acupuncture to relieve pain and treat certain health conditions. You can use it by itself or as part of a treatment program. Studies have found promising results for the use of acupuncture to treat nausea and vomiting related to pregnancy, chemotherapy, and postsurgery pain. Acupuncture also may be useful for:

- [Stroke rehabilitation](#), which involves relearning skills that a person lost because of brain damage from a [stroke](#).
- **Headache.**
- **Menstrual cramps.**
- [Tennis elbow](#).
- [Fibromyalgia](#), or widespread pain and tenderness of muscle and soft tissue.
- [Myofascial pain](#), caused by spasm in the muscles.
- **Low back pain.** For people who have low back pain, acupuncture may help decrease pain and increase activity. Some studies show that acupuncture reduced pain and disability related to back problems more than usual treatment.^{1, 2}
- [Carpal tunnel syndrome](#), or pressure on a nerve in the wrist that results in tingling, numbness, weakness, or pain of the fingers and hand.
- [Asthma](#), or inflammation in the tubes that carry air to the lungs, resulting in periodic episodes of difficulty breathing, wheezing, chest tightness, and coughing.
- [Drug addiction](#). Acupuncture may help reduce symptoms of [withdrawal](#) after a person stops taking a drug he or she is

Fig. 10: Acupuncture listed for "back pain" in one part of site but not in another.

(HealthPartners, 2015) Retrieved from

<https://www.healthwise.net/healthpartners/Content/StdDocument.aspx?DOCHWID=aa77639spec>

Complementary Medicine Quiz—Website #2, Page #3 (Figs. 11 and 12)

HealthPartners provides a quiz for potential users of Complementary Medicine that gives Carl a chance to test his knowledge about differing modalities. The quiz is unlikely to be useful to a user such as persona Carl, who is researching one type of CAM and may be confused by this blending of all modalities together. In addition Quiz "key points" and "answers" provide opposing views of safety, potentially confusing to an older adult.

Local and cultural findings:

- Inconsistent information. Key point 2 on the Quiz (Fig. 11) states that there is not much evidence from science on how safe CAM is or how well it works. Key point 3 on the Quiz (Fig. 11) states that acupuncture is thought to be safe.
- After taking the Quiz (Fig. 12), a Quiz answer states, "You're right...we don't always know how safe they are or how well they work."

The image shows a quiz interface with a dark blue header and a light blue navigation bar. The navigation bar contains six steps: 1. Get the Facts (checked), 2. Compare Options, 3. Your Feelings, 4. Your Decision, 5. Quiz Yourself, and 6. Your Summary. Callouts point to step 2 with the text 'Please answer every question' and 'It's important to read this', and to step 3 with the text 'Please answer every question'. The main content area is titled 'Get the facts' and contains two sections: 'Your options' and 'Key points to remember'. The 'Your options' section lists two bullet points: 'Add complementary medicine to your treatment or wellness plan.' and 'Use only standard medical treatment.' The 'Key points to remember' section lists four bullet points: 'Complementary medicine is a term used for a wide variety of health care practices that may be used along with standard medical treatment. It covers alternative health approaches, mind and body practices, and natural products.', 'Many forms of complementary, or nonstandard, medicine have been around for hundreds or even thousands of years. But often there is not much evidence from science on how safe they are or how well they work.', 'Some practices are thought to be safe. For example, most mind and body practices such as acupuncture, meditation, and yoga are very safe when used by healthy people with a well-trained professional.', and 'People often use complementary medicine to treat long-term health problems or to stay healthy.'

Fig. 11: Key points include conflicting information on bullet points 2 and 3. (HealthPartners, 2015) Retrieved from <https://www.healthwise.net/healthpartners/Content/StdDocument.aspx?DOCHWID=tx1097#zx369>

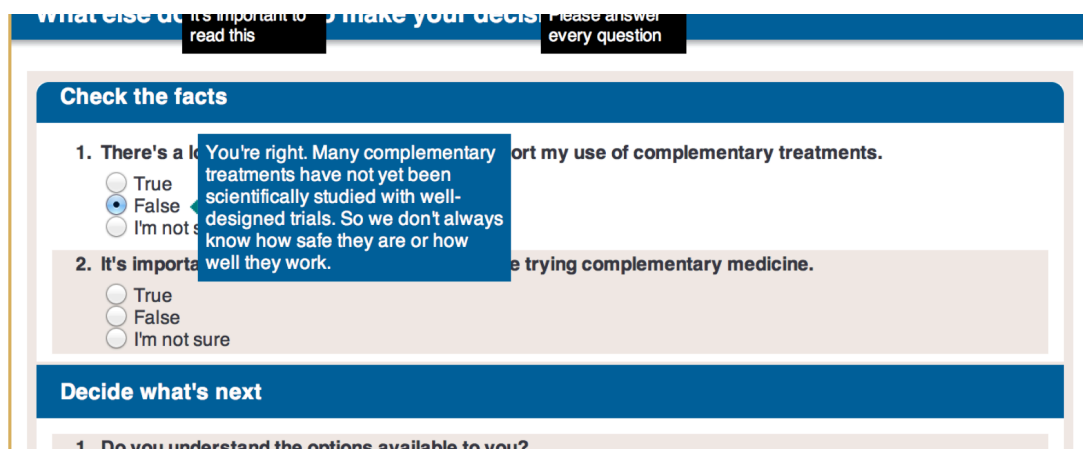


Fig. 12: Quiz answer reinforces that CAM is not safe. Does not clarify acupuncture is safe as on Fig 11. (HealthPartners, 2015) Retrieved from <https://www.healthwise.net/healthpartners/Content/StdDocument.aspx?DOCHWID=tx1097#zx3692>

Conclusion

Using the user experience design (UX) concept of personas, this study explored CAM rhetoric and information design found on major health insurance websites in Minnesota. It examined the need for improving health communications to enhance patient understanding and decision-making about CAM modalities and ultimately help improve patient involvement in their own health and well-being. According to the latest figures from the CDC, an overwhelming amount of health care spending is for "the 50% of the population that have one or more chronic medical conditions" (CDC, 2014). The sheer number of people affected and the burden of cost on our health care system make it important to explore different types of cost-effective care. Complementary and Alternative Medicine is popular throughout the United States, however SMEs interviewed for this research agree that for CAM modalities to be truly effective, people need to understand their own role in the healing process — a concept distinctly Eastern in

philosophy that is not present in our Western dependency model for health care. The results of this limited, persona-based investigation into the websites of two leading Minnesota health insurance companies show that, for older adults with chronic medical conditions, online CAM information contains both *technological* roadblocks related to web use, and *cultural* roadblocks related to concepts and practices that are nontraditional in Western biomedicine. As the arbiters of CAM information, health insurance companies can investigate the needs of different users through tools such as the map developed by Guiseppe Getto and Kirk St. Amant specifically for international technical communication design. Viewing eHealth information through this lens also highlights that "culture" applies to many different aspects of a web user's life. It is my hope that these findings will serve as a starting point for further study, and as signposts of a larger problem in communicating effectively about CAM in general, and acupuncture in particular, to engender health and wellness in the U.S. population.

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