

Implementing Integrative Health in Your Practice, Part III: Complementary and Integrative Health

Complementary and Integrative Health (CIH) is an important element of an integrative approach to care.

Key Points

1. CIH can come up in a number of ways during an Integrative Health visit. As a care team member, you may wish to suggest certain approaches, and at other times you may be advising against them. The key, regardless of your opinion on a given approach, is that you can have a helpful conversation about them with your patients.
2. Keep the EASY criteria (Effects, Accessibility, Safety, You) in mind as you discuss CIH with patients.
3. Always remember to ask people where they are getting their information about CIH. Become more familiar with those sources of information yourself. In addition, ask your colleagues where they get their information about CIH as well.
4. Know who offers CIH at your facility and in your community. Learn more about their qualifications and skill sets. Firsthand experience is always best, so it may be worth arranging to interview or have a visit with them yourself.
5. There are reputable online resources for many CIH resources, such as mindfulness and tai chi.

Introduction

Even though CIH approaches are receiving more attention and gaining in popularity, most clinicians have limited training about how to incorporate them into practice. This overview is designed to provide some guidance with that. It features three patient narratives, each designed around common scenarios you may encounter when exploring how CIH might fit into a person's Integrative Health Plan. These three patients, who are progressively more complex include:

1. Lee, a healthy 34-year-old body builder who wants to optimize his self-care practices and prevent future health issues.
2. Frederick, a 56-year-old gardener with a number of chronic problems. He is a big fan of supplements and wants advice about them.
3. Annie, a 70-year-old nurse who tries to manage her care almost exclusively with CIH approaches.

CIH Fundamentals

The philosophies of one age have become the absurdities of the next, and the foolishness of yesterday has become the wisdom of tomorrow.

-William Osler, MD

Various sections of the *Passport to Whole Health*, written for the VA as part of its effort to promote its Whole Health approach, are relevant for integration and overall use of CIH wherever you might practice. Before reading the rest of this overview, you are encouraged to review Chapter 14 of the [Passport to Whole Health](#), entitled “Introduction to Complementary and Integrative Health Approaches.” That chapter defines CIH and provides a background on its use. It introduces the “Spectrum of CIH” and the EASY criteria as well. Those tools are used to create PHPs for the patient narratives featured below.

The [Passport to Whole Health](#) also introduces the 5 general categories of complementary approaches. Certain chapters discuss the various CIH approaches in five different categories in more depth:

- Chapter 4, “Mindful Awareness” covers a number of mindful awareness exercises, and Chapter 12, “Power of the Mind,” explores 10 different mind-body approaches.
- Chapter 5, “Moving the Body,” discusses yoga, tai chi, and qi gong.
- Chapter 15, “Biologically-Based Approaches: Dietary Supplements,” provides key information on dietary supplements, including how to read supplement labels and issues related to supplement safety.
- Chapter 16, “Manipulative and Body-Based Practices,” has information on massage, osteopathy and chiropractic care.
- Chapter 17, “Energy Medicine: Biofield Therapies” introduces approaches like Healing Touch, Reiki, and Therapeutic Touch, among others.
- Finally, Chapter 18, “Whole Systems of Medicine” introduces Chinese medicine (with a special emphasis on acupuncture) and naturopathy. It also provides some details about homeopathy and Ayurveda.
- Note too that each of the “Professional Care” overviews on the [University of Wisconsin Integrative Health website](#) also features CIH research that is relevant for specific conditions.

Here are some highlights to remember as you make your way through the narratives in this overview.

- While these narratives are couched in the conventional model of having one clinician gathering data and making recommendations, the truth is that **Integrative Health Care requires a full team, and everyone whom a patient encounters in his/her care is ideally a team member.** How can responsibilities be divided, so that no one clinician feels overwhelmed?
- **Many patients use, or are interested in, CIH.**

- It is important that you **have a sense of your personal beliefs about these approaches** and that you can provide informed advice to people about their use.
- **“Take it EASY” (Effects, Accessibility, Safety, You) can be a useful guide** for deciding whether or not to use a given CIH approach.

Part of working with CIH is dealing with the differences of opinion that inevitably come up when complementary approaches are discussed. For more on this, check out [“How Do You Know That? Epistemology and Health.”](#)

Meet the Patient: Lee

Lee is a 34-year-old man who is interested in trying more CIH approaches. A dedicated personal trainer and body builder, he is a semiprofessional kickboxer who also works as a personal trainer at a local health club. Overall, he is quite healthy, aside from occasional shoulder and wrist pain that flares up after he lifts weights. His father died of a myocardial infarction (MI) at 52, and he wants to do all he can to avoid having the same thing happen to him.

Lee completes his Personal Health Inventory (PHI), and it is striking how well he is doing overall with his self-care. None of his clinicians feel he is rating himself more highly than he should; he is incredibly fit, seems quite happy, and has an almost contagious excitement when he talks about being healthy. Some highlights are:

Lee gives himself 5/5 on all the Vitality Signs (physical health, mental health, and how it is to live his life).

When asked, “What do you live for? What matters to you? Why do you want to be healthy?” Lee answers:

What do you live for? What matters to you? Why do you want to be healthy?

I want to be the best I can in all areas of my life. I work out a lot, I have a strong faith, and I really focus on my diet. I have a great sex life, love my job, and have a lot of good friends. I want to be healthy in every way possible, because it means I can live life to the fullest. And, I want to have better luck than my dad. He died at 52, and I want to live twice that long... or die trying.

He gives himself a 5 out of 5 on all the self-care and professional ratings on the second page of the PHI, except for Mind and Emotions, where he rates himself a 4 out of 5. He is up to date with all his Professional Care, and he reports no high-risk behaviors.

Lee’s answers to the reflection questions make it clear he is interested in CIH:

Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

Honestly, what I have right now is what I want. Not perfect, but I am really doing my best. I was in bad shape a few years ago. I just don’t want to lose my momentum.

Are there any areas you would like to work on? Where might you start?

I am drawn to the dark blue circle with "Prevention" and "Complementary Approaches." I want to see what else I can do to protect my heart. Want to be sure I am eating right and taking supplements that help, and that I am not missing anything.

During the first part of his clinical visit, Lee elaborates some more.

- He exercises at least 2 hours daily, 6 days a week.
- He has a boyfriend, also a kickboxer. He plans to propose to him sometime in the coming year.
- He is taking fish oil supplements, whey protein, creatine, and a multivitamin. He adds wheat grass to his smoothies and also eats a few protein bars a day. He does not use anabolic steroids.
- His diet is quite good, with lean meats, plenty of fruits and veggies, reasonable amounts of fiber, and limited junk food. He avoids caffeine, including in energy drinks.

Lee seems friendly, earnest, and a bit intense. He is clearly very open-minded about CIH. It is clear he is worried, as he notes, about having a heart attack at a young age like his father.



MINDFUL AWARENESS MOMENT

Now that you have read about Lee, what do you notice in terms of your own feelings and judgments? Do you like Lee? Do you think you can help him? Are there any aspects of his care where you feel particularly confident? Where you feel uncertain?

Lee's primary concern is well-being. He has a few health concerns, but his main goals are to optimize his health and prevent future problems. Do his goals strike you as unusual, compared to your typical clinic visits? Which CIH approaches might be useful for Lee? What other suggestions would you make to him, based on your initial impressions?

Lee: CIH Options

In considering how to discuss CIH with Lee, it can help to consider each of the 5 different CIH categories, one at a time. Each one can be assessed using the EASY criteria. Lee's clinician decides to do this with an eye to the latest research findings available on [PubMed](#), which is part of the National Library of Medicine website administered by the National Institutes of Health (NIH).

1. Biologically-Based Approaches for Lee

Lee is taking whey protein and creatine, which are ergogenic supplements. That is, they are designed to support body-building and athletic performance. He is also taking fish oil, 2 gm daily, and adding wheat grass to his diet. He pays \$60 per month for his multivitamin but wonders if he needs it.

Whey Protein. Lee's clinician does a quick PubMed search using the search term "whey protein," as illustrated in Figure 1. Her search yields thousands of results. By sorting findings according to "Best Match" she finds an article entitled, "Supplemental Protein in Support of Muscle Mass and Health: Advantage Whey."¹ The abstract notes that "...whey protein has been found to stimulate muscle protein synthesis to a greater degree than other proteins such as casein and soy." It also notes that higher-protein diets do indeed promote gains in muscle mass with resistance training.

To read in more depth, Lee's clinician narrows the search. She uses "whey protein supplementation" as a search term and selects additional criteria in the column on the left side of the page. (See the screen capture, Figure 2, below.) Under "Article types," she selects "Review" and "Systematic Review." She chooses "5 years" to narrow down the search in terms of "Publication dates," and she selects "Humans" under "Species" to exclude animal studies." 25 articles were found. If a more detailed search were needed, she could also have selected "Show additional filters" and chosen "Languages" (to review only articles in English) or other "Search Fields."

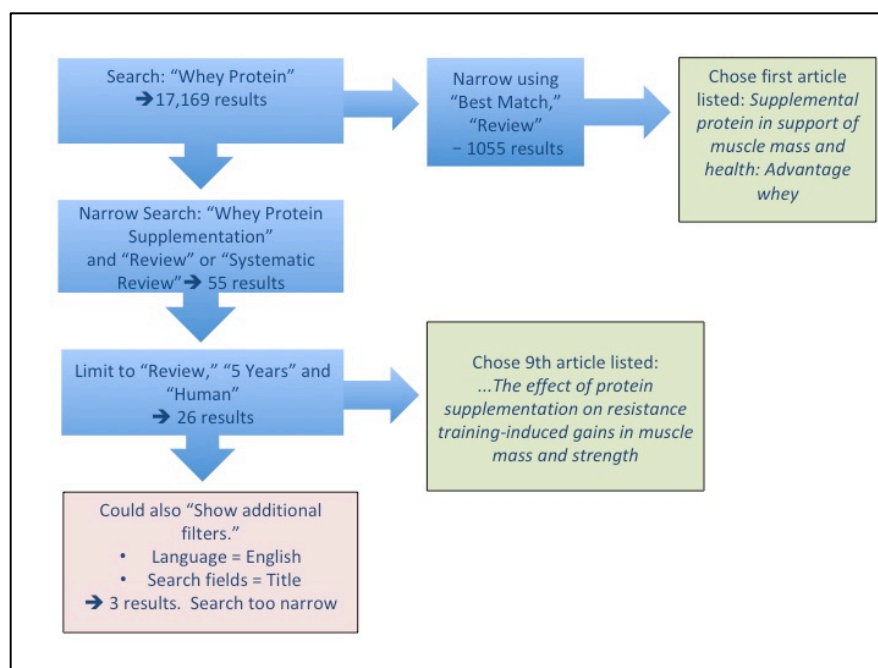
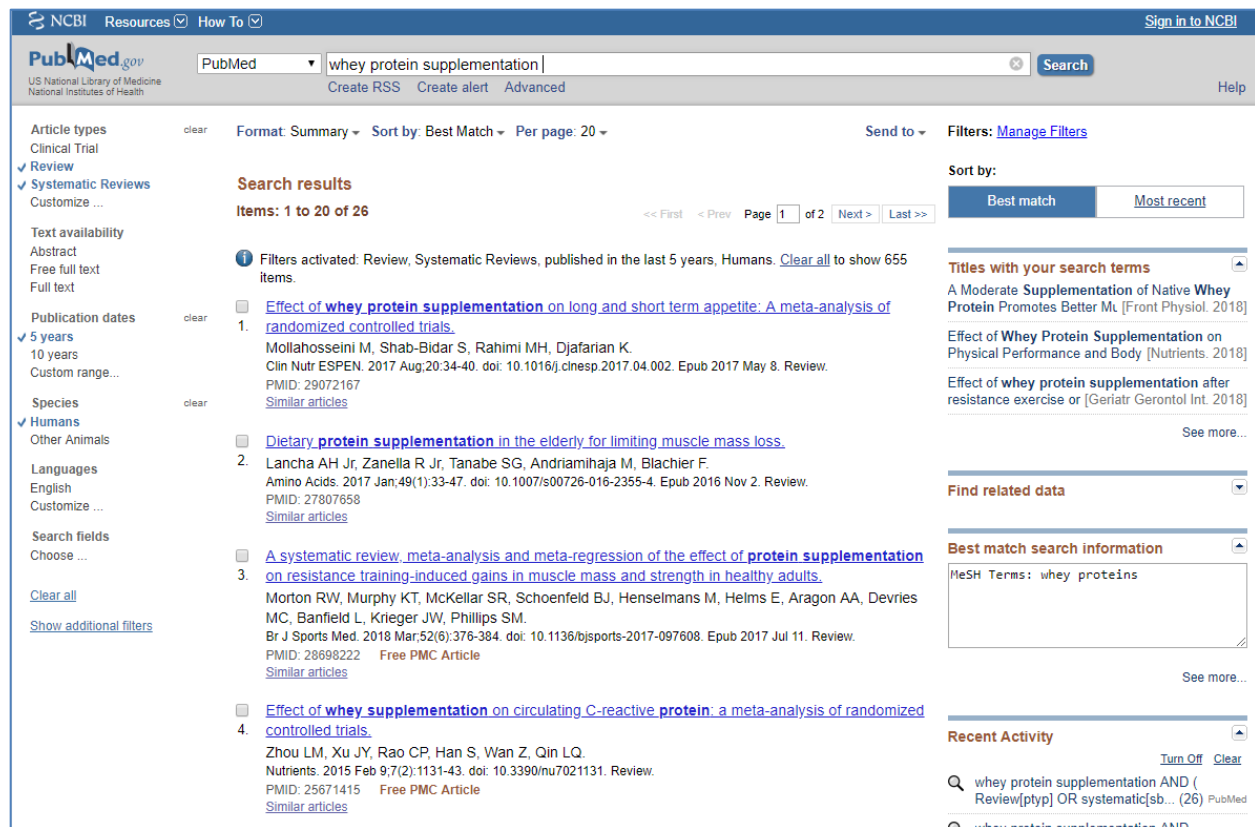


Figure 1. PubMed Search Flow Chart- Whey Protein Supplements



The screenshot shows a PubMed search interface. The search term is "whey protein supplementation". The results are sorted by "Best Match" and show 26 items. The first three results are visible:

- Effect of whey protein supplementation on long and short term appetite: A meta-analysis of randomized controlled trials.**
Mollahosseini M, Shab-Bidar S, Rahimi MH, Djafarian K. *Clin Nutr ESPEN*. 2017 Aug;20:34-40. doi: 10.1016/j.clnesp.2017.04.002. Epub 2017 May 8. Review. PMID: 29072167 [Similar articles](#)
- Dietary protein supplementation in the elderly for limiting muscle mass loss.**
Lancha AH Jr, Zanella R Jr, Tanabe SG, Andriamihaja M, Blachier F. *Amino Acids*. 2017 Jan;49(1):33-47. doi: 10.1007/s00726-016-2355-4. Epub 2016 Nov 2. Review. PMID: 27807658 [Similar articles](#)
- A systematic review, meta-analysis and meta-regression of the effect of protein supplementation on resistance training-induced gains in muscle mass and strength in healthy adults.**
Morton RW, Murphy KT, McKellar SR, Schoenfeld BJ, Henselmans M, Helms E, Aragon AA, Devries MC, Banfield L, Krieger JW, Phillips SM. *Br J Sports Med*. 2018 Mar;52(6):376-384. doi: 10.1136/bjsports-2017-097608. Epub 2017 Jul 11. Review. PMID: 28698222 [Free PMC Article](#) [Similar articles](#)

Additional filters and options are visible on the left and right sides of the interface.

Figure 2. Screen Capture of PubMed Search

One of the articles with the most potential is a 2018 article entitled “A Systematic Review, Meta-Analysis, and Meta-Regression of the Effect of Protein Supplementation on Resistance Training: Induced Gains in Muscle Mass and Strength in Healthy Adults.” It reports that protein intakes at amounts greater than 1.6 gm/kg per day do not lead to any additional muscle mass gains with resistance training, which is useful information to guide Lee in terms of his questions about protein “dose.”²

When “Whey Protein Safety” is searched, no concerning articles come up, and one article even notes that the “Whey2Go” randomized controlled trial found whey protein lowers blood pressure and improves lipids and endothelial function in people with mild hypertension.³ In other words, whey protein may offer Lee the additional benefit of lowering his cardiovascular risk. Of course, it is important to remind Lee that simply eating high-protein foods in general could suffice. He can get protein not only through meat, but through a number of plant sources as well.

Creatine. Creatine (as opposed to “creatinine”) is naturally found in muscle cells and helps them produce energy during exercise via ATP production. There are many theories regarding its mechanism of action, but how it works is not completely clear.⁴ A 2018 review that came up after a search of “Creatine Supplementation” concluded that it is safe and “effective for particular settings” such as short-duration, high-intensity resistance training.⁵ Most creatine studies have only been done short term, however. It is not clear that creatine helps people do

better in sports. Overall, it seems to be safe for short-term use, though it should not be used in high doses in people with renal conditions.⁶

Fish oil. Lee read that fish oil could prevent heart attacks, and since his father had one at such an early age, he figures it is worth it for him to take. He chose to take fish oil supplements instead of eating fish, because the fish oil in capsules is micro-distilled, which means it has less heavy metal content than the fish themselves.

In a PubMed search, Lee's clinician found one 2017 review that concludes there are cardiovascular disease (CVD) benefits of fish oil, and specifically the benefits of the omega-3 fatty acid docosahexaenoic acid (DHA), are heavily dependent on dose.⁷ However, a 2018 meta-analysis that included nearly 78,000 people for an average of 4.4 years did not find benefits of taking approximately 1 gm daily of omega-3s for any subgroups. Lee is currently not taking the 500 mg of total DHA that previous studies recommend, so even if the 2018 study is not taken into account, he is probably not taking enough fish oil to get much benefit.

In terms of fish oil safety, while there is some concern about doses of 2-15 gm of combined omega 3s causing increase bleeding risk, the European Food Safety Authority has not found that doses of fish oil under 5 gm have ever caused bleeding problems. In general, side effects of omega-3 supplements are mild and mostly tie into dyspepsia and related symptoms.⁸

After discussing where the research stands, Lee decided to keep taking his fish oil, recognizing that while it was not clear how much it would help him prevent heart disease, he also wanted to take it for its other potential benefits, such as effects on inflammation in general and on mood, especially since he has not experienced any adverse effects while taking it.

Wheatgrass. Searches on PubMed for "Wheat grass," "Wheat grass supplementation," or even the Latin name, "*Triticum aestivum*," are not revealing in terms of using wheatgrass as a dietary supplement. However, the term "wheatgrass" as a single word provided a few useful studies. One 2017 trial found that wheatgrass supplementation at 3.5 gm daily for 10 weeks resulted in improved lipid panels in a group of 59 women with hyperlipidemia.⁹ A 2015 review noted a gap between basic science (in vitro) findings, which show that wheatgrass may be helpful for cancer prevention and as an antioxidant, versus human studies which to date do not show evidence of clinically significant benefits, largely because the research simply has not been done today.¹⁰ Fortunately, wheatgrass seems to be quite safe.

Multivitamins. Many people take multivitamins, but it is not clear that they are beneficial. The Physicians' Health Study II trial did not find that daily multivitamins reduced cardiovascular events, heart attacks, stroke, or cardiovascular mortality over 10 years.¹¹ It is not clear that a multivitamin would benefit someone like Lee, who has a healthy diet rich in fruits and vegetables (not to mention vitamin-fortified protein bars which he eats daily). Fortunately they tend not to be associated with adverse events,⁶

For many patients, it can be helpful to check for drug-supplement or supplement-supplement interactions. While Lee is not taking medications, this still worth considering. See the resources in Chapter 15 of the [Passport to Whole Health](#) for more information.

2. Manipulative and Body-Based Practices for Lee

Lee notes that he has pain in his right shoulder, left wrist, and sometimes his lower back after a day where he does heavy lifting. He also has significant muscle soreness after a kickboxing tournament. Lee might benefit from therapeutic massage or from manual therapy, such as chiropractic. He may also benefit from yoga, which can serve as a great complement to his intense fitness routine and has shown promise for health issues such as low back pain; it is not clear he is doing enough to maintain flexibility. The Whole health tool, “[Yoga](#)” and Chapter 16 of the [Passport to Whole Health](#) have more information on the benefits of massage and manual therapy.

3. Energy Medicine.

Research is limited, but many energy medicine studies report decreased stress levels and increased energy in people who receive treatments, regardless of their underlying diagnoses. (Chapter 17 in the [Passport to Whole Health](#) has more information and for a research summary.) This is an option that could be considered, but Lee does not have a strong interest in it at this time.

4. Whole Systems of Medicine

Chinese medicine, Ayurveda, and other healing systems emphasize prevention of disease versus merely treating it after it arises. However, in the U.S., it is more common for these sorts of CIH approaches to be used for treatment, rather than prevention. It would be worth discussing these with Lee to gauge his interest. Acupuncture, which is one of several interventions used in Chinese medicine, might help with his muscle pain. There is increasingly strong evidence favoring its use for low back pain and other pain problems (see Chapter 18 in the [Passport to Whole Health](#), as well as the [UW Integrative Health website](#) for materials on pain), but it may be that Lee would prefer to start with massage, for which there is less research but also a suggestion of potential benefits, as outlined in Chapter 16 of the [Passport to Whole Health](#).

5. Mind-Body Approaches

It is striking that the only self-care circle in the PHI that Lee gave himself less than a 5 out of 5 on was Mind and Emotions. When asked to elaborate, Lee explains that he would like to be “more focused,” and that he needs to “slow down and catch a breath” more often. He feels like his workouts are a good chance to focus his mind, which is why he spends a lot of time exercising. He is not sure he could do a seated meditation, noting that “the more my body slows down, the more my mind speeds up.” He acknowledges he is great at taking action, but not always able to pause, slow down, or rest.

Lee’s Personal Health Plan: Prevention and Focus

As he reviews the different areas of the Circle of Health with his clinician, Lee notes he wants to focus first on Professional Care. Who can help him optimize his health and help him keep his heart healthy? A few discussion topics and suggestions come up during his visit:

- Lee’s clinician **acknowledges his strengths**, including his commitment to wellness, his level of physical fitness, and his willingness to keep exploring options.



- Lee is asked to **focus more on why he wants to be “at his best.”** What does it allow him to do? How does it shape his future? He tells his clinician that his dream is to be an athletic trainer for a college sports team, and to eventually marry and have children. He does not want to be like his dad, who “always watched us play as kids, but never joined in.” He wants to be a triathlete, but says he has to get better at swimming before he can do so.
- He is pushing his body hard with his workouts and kickboxing. He is asked to consider whether or not he might be **over-training**. Can he cross-train in a way that would be less likely to cause the chronic muscle soreness? Lee is not willing to work out less. He believes a lot of the pain actually comes from the kickboxing, and he does not consider it to be a problem, so much as a natural consequence of doing what he enjoys.
- **Massage therapy** is certainly reasonable to help with his sore shoulder, low back, and other areas. He is given information about options.
- He could benefit from bringing in **mind-body approaches**.
 - This includes doing a **body scan** exercise once a day. This might be one way to help him be more focused. He is interested in learning more, and he is willing to meet with someone who can teach him how to do a body scan and other meditation exercises. Lee is given a copy of the “Body Scan” tool from Chapter 4 of the [Passport to Whole Health](#), as well as links to some of the online guided meditation resources listed at the end of the chapter.
 - If Lee finds the body scan helpful, his clinician will discuss the possibility of taking a meditation class with him at a future visit. Lee is given the Integrative Health Patient Handouts, “[An Introduction to Mindful Awareness](#)” and “[Seated Meditation](#).”
 - His clinician gently reminds him that often the people who benefit most from such practices are those who say their mind just “doesn’t slow down that way,” as Lee put it. It is similar to working out— you do not expect to be as strong as you want when you are first beginning. Practice is required.
- As Lee’s provider gets to know him more, the intent will be to talk more about his **stress levels**. Lee claims he manages stress, but this is not conveyed in his body language. His **blood pressure** is slightly elevated, and various options for managing this (medications, stress reduction, and dietary changes, for example) will be broached by his primary care provider. (For more information on options, see the “[Integrative Approaches to Hypertension](#)” tool on the Integrative Health website.)
- In terms of **dietary supplements**, Lee seems to be doing relatively well. All of his supplements are reasonable to take, but some of the following changes could be beneficial:
 - He understands that his **fish oil** may not be as helpful as he hoped, and he could consider stopping it in the future. His clinical team reminds him that he is doing a great job as far as overall risk factors and lowering his risk with many of his lifestyle choices.
 - He will **continue the whey protein**, recognizing that protein from food in general might be another good option
 - He is interested to hear about research findings indicating creatine mainly helps resistance training in the short term. He will try **going off creatine** for a couple of weeks to see if he notices a difference.



- He likes and plans to **continue the wheatgrass**, recognizing it is likely safe even though little is known about efficacy.
- On reflection, he feels he is getting enough nutrients through his diet and his protein bars. He will **stop his expensive multivitamin**.
- Lee is happy to have his lipids checked, along with a few other **labs**. He is **reassured that he is already doing many positive behaviors that his father did not do** (e.g., his father struggled with obesity and smoked 2 packs a day) and this reduces Lee’s chances of having a heart attack at a young age. His clinician offers him the chance to talk with a mental health provider more about his fears of dying young like his father did. He says he will consider it.
- Lee will **follow up in 4-6 weeks** with one of the nurses on the team with an update on how he is doing. He will come in for a **blood pressure check** in 3 months; it is clear that the slight elevation caught his attention.

Lee’s choices around his CIH care are summarized in Table 1.

Table 1. A Summary CIH-Related Elements of Lee’s Personal Health Plan (PHP)

Element of PHP	Research Support (+, +/-, or -)	Comments
Whey protein	+	Consider protein via food too
Creatine	+/-	Will do a trial without
Fish oil	-	Wants to continue despite data
Wheatgrass	+/-	Safe, he prefers to take
Multivitamin	-	Will stop
Therapeutic Massage	+	Will give it a try
Yoga	+	Less enthused, but will consider
Acupuncture	+	Will try if massage not helpful
Stress management and relaxation	+	Important to clinician, who wants to explore his mental health further
<i>Lee is also focusing on his strengths and being encouraged to focus more on why he wants his health. He will emphasize body scans and could consider biofeedback for his blood pressure in the future.</i>		

All in all, both Lee and his clinician feel they made ground during his Integrative Health visit, and both feel that they continue to work together help Lee’s Integrative Health plan evolve over time.

Meet the Patient: Freddy

Frederick (who prefers to go by Freddy) is a 56-year-old gardener and father of five. After 10 years of being seen at his primary care clinic, he finally felt comfortable mentioning to his primary provider that he is “taking quite a few supplements.” After that, he has been encouraged to bring everything he is taking with him to his medical visits. Freddy’s clinicians find it daunting to discuss his supplement use, because he shows up for visits with a shoe box containing well over a dozen different products.

Freddy grew up on a farm and his grandparents would give him natural remedies, like elderberry syrup for a sore throat or echinacea for colds, whenever he got sick. Now, Freddy

has his own acreage, including a huge garden. In addition to taking a number of commercial products, he likes to grow medicinal herbs himself. Smiling, he jokes, “I promise I only grow herbal remedies that are legal!”

Freddy has a long problem list, and his approach over the years has been to try to match each diagnosis he is given with a dietary supplement he can take. He also takes several additional supplements, not for any specific diagnosis, but for “prevention and wellness.” Fortunately, Freddy is very organized, and in addition to giving his clinician a completed PHI prior to his visit, he also provides the following list to accompany his box of supplement products:

1. Glucosamine Sulfate, 500 mg three times daily for joint pain
2. Melatonin, 3 mg at bedtime for sleep
3. Saw palmetto, 160 mg twice daily for prostate enlargement
4. Milk thistle, 140 mg three times daily for liver protection (he has a history of hepatitis C)
5. Garlic, 1 gm daily for blood pressure and high cholesterol
6. Yohimbe, 500 mg daily for erectile dysfunction
7. Ginseng, 500 mg daily for immune support and energy
8. Rhodiola, 170 mg twice daily for immune support and energy
9. St. John’s wort, 300 mg three times daily for depression
10. Red rice yeast extract, 600 mg twice daily for high cholesterol

Freddy’s PHI includes the following highlights:

Vitality Signs: Freddy gives himself 3/5 for Physical and Mental Well-Being, and a 4/5 in terms of “How is it to live your day-to-day life?”

Under “What do you live for? What matters to you? Why do you want to be healthy?” he writes:

What do you live for? What matters to you? Why do you want to be healthy?

I care about my family and friends. I want to live a long and healthy life so I can have fun with them as long as possible. Want to be able to keep up with my garden until I am at least 95.

He rates himself a 3 out of 5 on most of the ratings on the second page of the PHI, with a few exceptions:

He gives himself a 4 out of 5 on Professional Care. When asked about this, he notes that he is up to date on his screening and preventive needs and likes his care team, but he does worry about taking supplements and medications at the same time.

He gives himself a 5 out of 5 on Surroundings. He loves his home and garden, and he and his wife have invested a lot of time in them over the years, so this feels like a strength to him.

He gives himself a 2 out of 5 on Physical Activity because his arthritis limits his activities.

His answers to the final reflection questions are as follows:



Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

Happier. Right now, I get down sometimes. I would have less pain, so I can walk farther and garden more. I would do more volunteer work.

Are there any areas you would like to work on? Where might you start?

I want to keep feeling good with my arthritis and mood and everything else, and I want to take care of myself by doing things as naturally as I can. I do NOT want to take medications if I can avoid them.

Freddy explains that he prefers to avoid medications because his grandfather died of bleeding complications related to taking a “blood thinner.” He took nonsteroidal anti-inflammatories for years for his joint pain, and he developed a gastric ulcer. He believes that supplements are safer because they are more natural, and he distrusts the pharmaceutical industry. Freddy’s main physical activity comes from gardening, and the majority of what he eats is food he grows himself. He keeps chickens for eggs and meat, and he hunts as well.

Freddy is happy to talk about his supplements, but he has been frustrated in the past because people he has seen have either “tried to push me to take medications I don’t want” or “don’t know as much as I do about the different supplements.” When asked where he obtains his information, he tells you he goes to some different websites, and he also subscribes to some newsletters. He has also learned about a number of the supplements he takes from fellow gardeners, in addition to information passed down from his grandparents. He has been encouraged to get counseling or physical therapy to help with some of his health issues, but he says he is not interested in that, because he has to drive so far whenever he has a medical visit.



MINDFUL AWARENESS MOMENT

Reflect for a moment on how you feel about Freddy’s use of dietary supplements. Do you feel irritated that he prefers not to use medications? Concerned? Curious? Uncertain about how to proceed? It is not uncommon for clinicians to feel, at times, like they know less than their patients about herbals, minerals, and other products.

Where could you go for more information? Who else on the team might be able to help?

Freddy: CIH Options

Freddy might ultimately find some benefit for his various health conditions through other CIH approaches than dietary supplements. For instance, acupuncture might help him with some of his arthritis pain, as might various body-based therapies like osteopathy. Mind-body approaches could help with his insomnia and depression, as well as with other areas. The same may be true for other approaches. However, his highest priority is to focus on supplements so that is where his clinician agrees to focus initially as he works with Freddy to create a PHP.

It may be that if the clinician can offer helpful guidance with the supplements, it will serve as the basis for stronger trust. The end result might be that Freddy will be willing to explore other options, such as being more active, working with a therapist (perhaps via telehealth), or even trying medications, if the supplements do not prove to be helpful. Freddy is an easy-going guy, and it is clear respects his care team and is open to their guidance.

Freddy's clinician plans to ask for help from a pharmacist colleague to go over how his supplements might interact with each other, as well as to review their overall safety. In the meantime, he wants to be able to build trust by offering some initial advice. Because he knew Freddy was coming in and had seen his list of supplements in his chart, he took an extra 10 minutes before the visit to review what the [Natural Medicines website](#) had to say about several of Freddy's supplements. Operated by pharmacists and others with dietary supplement expertise, this website is available by subscription. Many institutions have subscriptions through their medical libraries. The site has printable clinician and patient handouts, including handouts in Spanish and French.

In terms of the EASY (Effects, Access, Safety, You)) criteria, Freddy's clinician focused mainly on efficacy and harms. For costs, if Freddy did not know them in detail, the clinician (and his colleagues) could have simply looked up prices of various products online by searching for "natural products wholesale" online and searching on one of the suggested sites for the products Freddy is using. Freddy spends about \$250 a month on supplements beyond what he grows in his garden, which is a substantial portion of his monthly income. In terms of Freddy's opinions about his supplements, there is little doubt; he has invested a lot of time and energy into learning about supplements, and he is quite attached to the one he is taking.

The following are highlights from what Freddy's primary care team learned about each of Freddy's supplements using the Natural Medicines website and other resources. The data below is primarily derived from Natural Medicines monographs, with some other specific studies added when appropriate.

1. Glucosamine Sulfate.

- Glucosamine is an amino acid sugar, commonly found in joint cartilage.
- It is primarily taken to help with osteoarthritis (OA), often in combination with chondroitin (which is rated as "Possibly Effective" for OA).
- It comes in 3 forms: glucosamine hydrochloride (the most common), glucosamine sulfate (what Freddy takes), and N-acetyl glucosamine. The 3 are not equal, and more studies

have shown favorable results with glucosamine sulfate, though some head-to-head trials find them to be equivalent.

- Glucosamine sulfate is rated as “Likely Effective” for OA. It seems to improve pain symptoms in people with knee OA by roughly 30-40% and functionality by 20-45%, though not all studies have found favorable results. A 2018 review of 61 trials found that glucosamine was superior to acetaminophen but inferior to celecoxib in treatment of knee OA.¹² A 2017 review with individual patient meta-analysis concluded that there is no evidence to support using glucosamine for hip or knee OA.¹³
- Even more favorable studies indicate it may not help as much with hip OA.
- It does not seem to improve flare-ups or to be as useful for OA that is more severe or has been present for longer periods of time.
- It has been found to be extremely safe in trials lasting up to 3 years.

2. Melatonin.

- Melatonin is a hormone produced in the pineal gland of the brain. Levels depend on exposure to light or darkness.
- Melatonin is especially useful for people with circadian rhythm disorders, jet lag, and sleep issues related to shift work.
- It is rated as “Possibly Effective” for primary insomnia. It seems to shorten time until a person falls asleep by an average of about 12 minutes. Larger studies suggest it may lengthen sleep time an average of 8 minutes and improve sleep quality based on both subjective and objective measures.
- How much melatonin affects secondary insomnia (insomnia due to other conditions, such as depression or dementia) is unclear; evidence is conflicting.
- It may be most helpful for insomnia in older people who are deficient in melatonin.
- Melatonin has been found to be safe in studies lasting up to 6 months, and smaller studies show it is safe for 2 years when given IV (which is a less common way for it to be administered). No studies indicated it causes any serious adverse effects, including when used long-term.¹⁴ It occasionally causes nausea, dizziness, and headache. It is rated as “Possibly Unsafe” in pregnancy. It should be used with caution in children, since research in younger populations is limited.
- There are a few possible drug interactions that have occurred in isolated case reports and animal studies, including with anticoagulants, seizure medications, diabetes medications, blood pressure medications (where it may actually raise pressure a few points, versus lowering it when taken without medications), and other sedatives including alcohol and benzodiazepines. It may make the effects of methamphetamine worse, and may stimulate the immune system, so it should be used with caution in people taking immunosuppressant drugs. Fluvoxamine raises melatonin levels and may lead to much higher levels of sedation when taken with melatonin supplements. Contraceptives may also do this to a degree. Melatonin theoretically may increase levels of medications metabolized in certain cytochrome P450 systems as well, including 1A2 and 2C19.
- Doses for melatonin range from 0.3 mg to 10 mg (and beyond). Extended release forms are available and may be worth a try if immediate release forms are not showing benefit.

3. Saw palmetto (*Serenoa repens*)

- Saw palmetto is also known as the American dwarf palm tree. It is common on the U.S. Atlantic coast.
- Saw palmetto supplements are made from the plant's berries.
- Natural Medicines (and many other reviews) now rate saw palmetto as "Possibly Ineffective" for benign prostatic hyperplasia (BPH). A number of studies have found mild to moderate improvement in urinary symptoms, but the larger, better-quality studies have had less favorable results.¹⁵ Saw palmetto is less effective than the drug finasteride with reducing prostate size or prostate-specific antigen (PSA) levels.
- It may not have benefit until it has been taken for 1-2 months.
- Saw palmetto has been safely used in studies lasting up to 3 years. It should not be used in pregnancy (and it is not clear why pregnant women would ever want to use it).

4. Milk thistle (*Silybum marianum*)

- Data for milk thistle use with hepatitis C is conflicting. Some studies show improvements in liver function tests and liver histology; other studies do not show that it improves hepatitis C virus RNA levels or other lab indicators.
- As side note, milk thistle *is* rated as "Possibly Effective" for type 2 diabetes, where it has been found to lower hemoglobin A1c by 1 to 1.5% when taken over 4 months.
- Milk thistle is quite safe, including in studies where it is taken for up to 4 years.

5. Garlic (*Allium sativum*).

- Garlic is rated as "Possibly Effective" for decreasing atherosclerosis. Studies indicate reduced rates of progression and decreased arterial calcification.
- Findings related to lipids vary, but garlic seems to reduce total cholesterol levels by 15 points on average and low-density lipoprotein (LDL) by 6, and only in people whose levels are elevated. It must be taken for at least 8 weeks to have these effects.
- Garlic modestly reduces blood pressure in people with hypertension, by an average of 7-9 mm Hg systolic and 4-6 mm Hg diastolic.
- Garlic is a food. Supplements have been taken for up to 7 years without significant safety concerns. There are some unsubstantiated claims that garlic in high doses may put pregnancies at risk (this has not been found to be true when it is consumed in the levels eaten in foods).

6. Yohimbe (*Pausinystalia yohimbe*).

- Yohimbe is an evergreen tree native to central and western Africa. Its bark is used as an aphrodisiac and for various types of sexual dysfunction.
- Its active chemical component, yohimbine, is beneficial for erectile dysfunction, but no studies have verified that the yohimbe tree bark is itself.
- **Yohimbe is rated as "Possibly Unsafe."** It has been associated with arrhythmias, heart attacks, agitation, and seizures. However, at standard doses, yohimbine, its active ingredient, does seem to be safe. It is recommended that this supplement be used only under close medical supervision.

7. Ginseng (Panax- or Chinese- ginseng).

- There are many different herbs that are referred to as ginseng. Freddy takes *Panax ginseng*, also known as Chinese or red ginseng. There is also American ginseng, *Panax quinquefolius*, which is a different species with different effects. Siberian ginseng is not in the ginseng family at all; the FDA now requires that it be referred to as “Eleuthero” instead.
- Ginseng is an adaptogen, which means it is taken to help improve resistance to stress and as a means for improving overall well-being.
- *Panax ginseng* is rated as “Possibly Effective” for cognitive performance in Alzheimer’s disease, pulmonary function testing in COPD, prevention of colds and flu, and fatigue in multiple sclerosis. It also shows promise for erectile dysfunction at doses of 1400 to 2700 mg daily.
- Ginseng seems to be safe when used for up to 6 months. It can cause insomnia and a smattering of other rare adverse effects. It may be that after 6 months, it can have hormone-like effects. It is probably not safe to use in pregnancy, and it can be harmful to infants. Safety for use in older children is not certain.

8. Rhodiola (*Rhodiola rosea*).

- Rhodiola grows in cold regions at high altitudes in Europe and Asia. It is reputed to have been used by the Vikings when they wanted energy to go pillaging.
- Like ginseng, rhodiola is an adaptogen, used to enhance athletic, cognitive, and sexual performance. Evidence is rated as “Insufficient” for all potential uses of rhodiola, but Natural Medicines notes that preliminary research shows rhodiola might decrease fatigue in stressful situations. It may also help with anxiety and depression, but more research is needed.
- Rhodiola seems to be safe when taken for 6-10 weeks; studies have not looked at taking it for longer periods. It may cause dizziness or dry mouth.

9. St. John’s wort (*Hypericum perforatum*).

- St. John’s wort extracts are rated as “Likely Effective” for depression. They work better than placebos and as well as low-dose tricyclic antidepressants (TCAs). They seem to be as effective as selective serotonin reuptake inhibitors (SSRIs) for improving mood, decreasing anxiety, and reducing insomnia related to mild or severe depressive episodes. A few studies in psychiatric care settings have not found clear benefit.
- St. John’s wort also has shown promise in treating menopausal symptoms.
- St. John’s wort is rated as “Likely Safe” when used orally and appropriately, based on studies lasting up to 12 weeks, and even a few studies lasting up to a year. The longer studies found it to be better-tolerated than medications, including SSRIs or TCAs.
- Rarely, St. John’s wort can cause side effects like insomnia, vivid dreams, agitation, and GI symptoms.
- St. John’s wort does affect the cytochrome P450 system, and has a large number of potential interactions with medications, including triptan drugs, alprazolam, barbiturates, contraceptives, cyclosporine, digoxin, fenfluramine, fentanyl and other opioids, fexofenadine, finasteride, statin drugs, protease inhibitors, ketamine, methadone, nifedipine, omeprazole, phenytoin, verapamil, warfarin, zolpidem, and pretty much all antidepressant medications.



- St. John's wort is not recommended in pregnancy or lactation, but it has been used in kids over age 6 with no adverse effects in studies lasting up to 8 weeks.

10. Red yeast rice (*Monascus purpureus*).

- This is produced when rice is fermented with a specific type of yeast.
- Red yeast contains lovastatin and other “statin”-like chemicals. Because of strong legal and political pressures, supplements that contain these substances in significant quantities are considered to be “unapproved drugs” in the U.S. Some products have all the statin-like compounds removed and are thus ineffective; others are “illegal” but contain sufficient quantities to have an effect.
- Red yeast rice extract is “Likely Effective” for the treatment of hyperlipidemia. Cholesterol drops by 11-23% and LDL by 22-34% when 1-5 gm daily are taken over a period of up to 6 months. High-density lipoprotein (HDL) is increased, and triglycerides decrease. It may take a few months before taking red rice yeast extract has these effects.
- Red yeast rice products have been found to be safe in studies lasting for up to 4.5 years, but because they contain statin-like compounds, they may have side effects similar to statin drugs (though these seem to be rare).

A Closer Look at Red Yeast Rice. One of Freddy's clinicians was curious about red yeast rice extract and wanted to look at the product Freddy was taking in greater detail. Using the [NIH Office of Dietary Supplements Dietary Supplement Label Database](#), he was able to look up Freddy's specific product's label and see information about serving size (dose per tablet) and other ingredients in the tablets. It is also possible to go to a wholesaler's or manufacturer's website to look up a particular supplement's label.

Since Freddy brought his supplements with him to the appointment, the members of his clinical team, and in particular one of the pharmacists, was able to evaluate the supplement using the “Reading Supplement Labels” tool from Chapter 15 of the [Passport to Whole Health](#).

On review of this particular supplement, most—but not all—criteria were met.

- Manufacturer's name, address, and expiration date were on the label and the product was not expired. Lot number was also present.
- The font is legible.
- The label makes no health claims. It simply reads, “Nutritional support.”
- Two capsules yield 1200 mg of organic red yeast rice. There are no other active ingredients (which Freddy may or may not have been aware of, depending on how closely he read the label). It is clear the container originally held 60 capsules, enough for a month's supply.
- The dose is consistent with typical doing recommendations, which are usually in the range of 1200 mg daily
- There are no third-party certifications from groups like the U.S. Pharmacopoeia on the label. (This is not a deal breaker, but it is reassuring when these are present.)
- Freddy pays around \$17.00 out of pocket monthly for this product, which is fairly standard.



- It is NOT clear that this product contains monocolin K, which is statin-like compound found in most compounds. For this reason, it is challenging to be able to reassure Freddy that this supplement is effective. (Certainly following his lipid levels over time will offer some insights.)
- This is not an herbal product per se (it is a yeast and not plant-based), so while the Latin name of the red yeast is provided, there is no mention of standardization, which plant parts were used, or how the compound was standardized; such information should be available for herbal supplements.

All of this information was shared with Freddy, and then it was time for him and his team to generate some goals related to his PHP.

Freddy's Personal Health Plan: Supplement Guidance and Beyond

Freddy's provider took time to have a somewhat lengthy discussion about his dietary supplements, since this was his highest priority. Note that if someone has a complex list of supplements that are unfamiliar to you, it is perfectly acceptable to ask them to set up a subsequent visit to go into them in more detail. (This buys you time to do a little more research.) If possible, you also might refer them to someone with additional Integrative Medicine training or enlist the help of a pharmacist who is skilled in working with supplements.

The following are the main ways that Freddy will be changing his supplement use as part of his PHP:

1. **Glucosamine Sulfate.** Freddy understands that research does not clearly show benefits, but he feels it has helped him, and he wants to continue it. He will keep taking the sulfate form, just in case it is more helpful. His clinician is comfortable with that, given its safety profile.
2. **Melatonin.** Seems to be quite safe, and Freddy finds it helps a little. He could consider increasing his dose by a few milligrams per day.
3. **Saw palmetto.** Again, Freddy understands that this has not shown much evidence of effect in the research, but his experience is that his urinary symptoms, especially his nocturia, are much better when he takes it. Given that it is safe, his clinician agrees this is fine, but that Freddy should call if any of his symptoms are getting worse.
4. **Milk thistle.** Also, not clearly helpful. Freddy's liver function has been stable. Freddy will let his team know, but he is thinking he might stop this one, based on his discussion today.
5. **Garlic.** Safe, and likely helpful, and Freddy agrees to routine labs to make certain his cholesterol numbers are staying in range. He will follow his blood pressures as well, with a home monitor.
6. **Yohimbe.** Freddy's clinician is more emphatic about not taking this, given the risk and the limited efficacy data. Since data for *Panax ginseng* for erectile function is better, the clinician suggests that an alternative would be to bump up the dose of that to 2000 mg daily, which is the minimum dose found to be helpful in the latest research. Freddy is interested making this change. He also notes he has been considering taking another supplement for sexual function, *Epimedium* (also known somewhat disconcertingly as "horny goat weed"). He will inform his care team if he makes this or any other changes in what he is taking.

7. **Chinese Ginseng.** This will be continued and increased, as noted in the discussion about yohimbe, above.
8. **Rhodiola.** Again, despite the lack of evidence, this seems to be safe, and Freddy prefers to continue it.
9. **St. John's wort.** Freddy is not worried about the potential drug interactions given he is not taking any other medications at this point. He is willing to talk with the pharmacist about interactions between his different supplements. (A quick review on the part of his primary care provider in the past revealed no major concerns.) Freddy agrees to call if he feels his depression is worsening, particularly if he has thoughts of suicide, though he has not had suicidal ideation in over 10 years.
10. **Red yeast rice extract.** Freddy was surprised to hear that his supplement may not contain the active ingredients that actually have the lipid benefits. He plans to call the supplement manufacturer to learn more. He agrees he will explore medication options if his numbers increase at all when they are checked again in 6 months.

Despite the fact that this discussion about supplements has taken most of the visit time, the clinician does gently point out that Freddy keep in mind that there are other approaches that might be helpful too. These can be discussed in future visits. Psychotherapy, more activity, physical therapy, yoga, and biofeedback (for the blood pressure) are all options. Nutritional changes—e.g., an anti-inflammatory diet—may also be helpful. See the [“Nutrition”](#) overview.

Freddy's choices around his CIH care are summarized in Table 2.

Table 2. A Summary CIH-Related Elements of Freddy's Personal Health Plan (PHP)

Element of PHP	Research Support (+, +/-, or -)	Comments
Glucosamine sulfate	+/-	Safe, but efficacy unclear
Melatonin	+	Helpful, safe overall
Saw palmetto	-	Safe, wants to continue despite unclear efficacy data
Milk thistle	-	Quite safe, benefit unclear; he wishes to continue
Garlic	+	Small benefits, safe
Yohimbe	-	Will stop—not safe
Ginseng (Chinese)	+	Replace
Rhodiola	+/-	Will try if massage not helpful
St. John's wort	+	Multiple medication interactions not a concern for this patient
Red yeast rice	+/-	Safe overall, efficacy depends on brand
<p><i>Freddy's clinical team plans to move beyond a PHP that is built around dietary supplements during some of his next visits, as it is clear he could also potentially benefit from a number of other CIH approaches, including yoga, nutritional changes, and a variety of mind-body options (e.g., biofeedback and meditation).</i></p>		

Now that he has realized that his clinical team genuinely supports him, and because he appreciates the discussion about his supplements, Freddy says he will be happy to keep additional options in mind. He sets up a follow up visit as he leaves the clinic, and he will be setting up a visit with a Health Coach.



BEFORE YOU MEET ANNIE: A MINDFUL AWARENESS MOMENT

Pause for a moment to reflect on what came up for you as you read about Annie.

- What thoughts arose? Do you find yourself focusing on what you will and will not want to recommend based on all the therapies she is using? Are you considering which areas you do and do not feel comfortable advising her about?
- What feelings came up? Are you bothered—or irritated—by her mistrust of Western medicine? Are you overwhelmed by the sheer volume of topics you could potentially discuss with her? Are you happy that she is being so open-minded?
- What do you need to learn more about in order to offer her helpful advice?
- How can you approach your visit with Annie in a way that honors your perspectives as well as hers?
- Are there additional therapies—conventional or CIH—you are considering at this point besides the ones she is already trying? Is she already using too many? How do you make that decision?

Meet the Patient: Annie

Annie, a 70-year old retired nurse, is one of the 11,000 women who served in the Vietnam War. She tells her surgical team she prefers to avoid “Western medicine” if she can. Recently, however, the need to have a hip replacement for severe osteoarthritis brought her into the “conventional” health care system. She has a lot of questions about CIH.

Aside from the hip concerns, Annie feels she is fairly healthy. She is using different CIH approaches for each of her medical diagnoses.

- She has mild **hypertension**, which she says she controls **using coenzyme Q10 and relaxation** exercises.
- She has been meditating for over 35 years (using **transcendental meditation**) to manage anxiety.
- She is **overweight**, with a Body Mass Index (BMI) of 28, but she calls herself a “happy fat person.” She eats organic foods and exercises 180 minutes a week. In addition, she goes to **yoga** class 3 times weekly.



- She has been happily married to her husband of 51 years, Krishna. His family is from Southern India, and he introduced her to **Ayurvedic medicine**. She describes herself as “a *kapha dosha*, through and through.” (*Kapha dosha* is one of the Ayurvedic mind-body types, as describe in Chapter 18 of the [Passport to Whole Health](#).) She tailors her diet to reduce *kapha*.
- Annie prefers to avoid prescription medications. She takes **turmeric** for aches and pains, **ginger** for nausea, and **valerian** for sleep.
- She lost a son in Afghanistan, and she continues to “hold his memory and the grief of his loss.” She worked extensively with a **grief** counselor in the past and feels that she is doing as well as can be expected with this.
- Annie has a team of complementary medicine providers whom she sees regularly. She has seen an **acupuncturist** for 10 years to help with her arthritis, takes a few constitutional remedies recommended by her **homeopath**, and sees a **chiropractor** on the rare occasion when she has back pain. She also has a **naturopath** who prescribes her supplements and offers some unconventional screening tests.
- As one of the earliest members of the American Holistic Nurses Association, Annie has been a long-time practitioner of **Healing Touch**. She used to offer it to patients in the hospital where she worked, and she still will occasionally use it to treat clients in her home.
- She uses a **bioidentical hormone cream** to help with hot flashes that she still gets on occasion.

Annie is excited to complete a PHI noting “It’s about time someone started asking more of these questions!” In terms of the first written question about Meaning, Aspiration, and Purpose, she writes:

What do you live for? What matters to you? Why do you want to be healthy?

I care about my family and friends. I want to live a long and healthy life so I can have fun with them as long as possible. Want to be able to keep up with my garden until I am at least 95.

She rates herself 5/5 on all of the Vitality Signs on the first page. She also rates herself quite high in most of the self-care categories on page 2, giving herself a 5 out of 5 for her current state on all the components of self-care except for 2 of them.

The first of those is Recharge. Annie gave herself a 2 for “Recharge” but wants that to be a 5 like all the others. She explains this is because her sleep has not been as good since she went through menopause. She is wondering if other supplements, besides valerian, would be helpful. Sometimes she has nightmares about her son’s death.

The second self-care rating that stands out is “Spirit and Soul.” She gave herself a 4 and wants to be at a 5. When asked this, she explains she has been doing Transcendental Meditation since the 1960s and considers herself very spiritual, but she always feels there is room for improvement in this area. She would like to meditate even more regularly and go on spiritual retreats more often.

Her answer to the Professional Care question is also striking. When asked why she rated herself a 2 out of 5, she explains, “I have never really liked going to the clinics or hospitals. No offense, but I always get the feeling I am being disapproved of when I tell people about my supplements and the different therapies I am trying outside of Western medicine. I did my deliveries with a midwife back in the day, and I still see a naturopathic doctor who uses thermography for my breast cancer screening. And by the way, I might be willing to consider a blood pressure pill if nothing else will work, but I tend to have a lot of side effects whenever I take medications.”

Annie’s answers to the last two PHI questions are in keeping with what she has already mentioned:

Now that you have thought about what matters to you in all of these areas, what is your vision of your best possible self? What would your life look like? What kind of activities would you be doing?

Happier. Right now, I get down sometimes. I would have less pain, so I can walk farther and garden more. I would do more volunteer work.

Are there any areas you would like to work on? Where might you start?

I want to keep feeling good with my arthritis and mood and everything else, and I want to take care of myself by doing things as naturally as I can. I do NOT want to take medications if I can avoid them.

Along those lines, Annie would appreciate more guidance about her overall approach to her care, including advice from her care team regarding the various treatment approaches she is using. To sum up, these include (in alphabetical order):

- Acupuncture
- Ayurveda
- Bioidentical hormones
- Chiropractic
- Dietary supplements: Coenzyme Q10, ginger, turmeric, valerian
- Healing Touch
- Homeopathy
- Naturopathy
- Relaxation exercises (mainly breathwork)
- Thermography for breast cancer screening
- Transcendental Meditation
- Yoga

Annie: CIH Options

Patients like Annie can be inspiring, because they are open-minded, dedicated to their self-care, and pretty savvy about health in many areas. It can also be a challenge to take care of someone who has strong biases against using conventional medicine and yet are asking someone who practices conventional medicine for support; that is not actually putting the

“integrative” in complementary and integrative health. However, Annie is taking the time to share about what she is doing, and she *is* integrating to some degree, in that she is following through with the hip replacement surgery. She also said is willing to consider blood pressure medications. And she understands the system, having been a nurse for several decades.

To discuss CIH with Annie, her clinician used a few different resources. *Integrative Medicine* is a popular, evidence-based textbook. The fifth edition will be released in 2021. It is available online and has dozens of chapters focusing on integrative approaches to a number of different conditions. It also has a number of chapters that feature practice tools.

Additional information related to Annie’s CIH approaches was gathered by searching the [University of Wisconsin Integrative Health](#) and reviewing materials on some of Annie’s various diagnoses. These included the sections on “[Hypertension](#),” “[Achieving a Healthy Weight](#),” “[Recharge](#),” “[Anxiety](#),” “[Coping With Grief](#),” and “[Menopause](#).” [Natural Medicines](#) was used to get additional information about her dietary supplements.

If time is limited for a visit with a patient like Annie, it is reasonable to ask her to return for follow up so that there will be additional opportunity for a more in-depth discussion with one or more team members. Referring to an Integrative Health provider, if one is available, can also be helpful, but most clinicians can at least lay some groundwork and help Annie fine-tune a Personal Health Plan. Remember, Whole Health takes a village; enlist the support of everyone on the team.

The clinician explored how Annie’s various CIH approaches measure up in terms of the EASY criteria, and learned the following:

1. Biologically-Based Approaches

Bioidentical hormones. The Integrative Health “[Menopause](#)” tool goes into more depth about various options. The *Integrative Medicine* textbook does as well.¹⁶ The following information was helpful to gather:

- The main hormones used are estrogen (usually as estradiol) and progestogens (usually progesterone). Sometimes, women may also take other hormones, like testosterone.
- Whether or not compounded remedies work better remains controversial. The term “bioidentical” can be confusing, because many prescription remedies do in fact use the same hormone molecules that are found in the body.
- The recommendation remains to use the lowest possible dose of estrogen for the shortest duration, ideally in the form of a patch, which may be less likely to contribute to clots. Annie understands the risk of thromboembolism.
- Progesterone therapy should also be given at least 10-14 days per month to a woman who still has her uterus (like Annie) or who has endometriosis. That will prevent growth of the endometrial lining or of endometriosis tissue. Annie prefers to take 100 mg nightly, because she forgets to take it if she only takes it for 2 weeks a month. She finds that it helps her sleep and has been told sedation is in fact one of its side effects. Annie pays about \$40 monthly to have her hormone medications be prepared by a compounding pharmacy. She finds hormone replacement to be very helpful. “I would be crazed without it,” she says.

Dietary Supplements. (This information is primarily from the [Natural Medicines](#) website and the *Integrative Medicine* textbook.)

1. Coenzyme Q10 (CoQ10)

- Also known as ubiquinone, this vitamin K-like compound is used for hypertension, as well as congestive heart failure (CHF) and other cardiac concerns.
- It is rated as “Possibly Effective” for cardiovascular mortality, CHF, fibromyalgia, diabetic neuropathy, migraines, and many other diagnoses. Data is conflicting with regard to hypertension.
- It has been found to be safe in studies lasting up to 5 years. It has been used safely in pregnancy after 20 weeks’ gestation, but there is limited data for earlier in pregnancy.
- Annie takes 300 mg a day, which is the dose that seems to be effective. Note that some products only contain 30 mg per capsule.
- CoQ10 at 300 mg daily can cost anywhere from \$15-\$25 per month or more.

2. Ginger (*Zingiber officinale*)

- Ginger is commonly consumed as a food. It is rated as “Possibly Effective” for dysmenorrhea, morning sickness, post-operative nausea and vomiting, and symptoms of vertigo.
- It is also useful as an anti-inflammatory and can lead to some symptom improvements in osteoarthritis (at a dose of 500-1000 mg daily).
- It can take a few months before its anti-inflammatory effects are seen.
- Ginger is extremely safe, though there are some debates about how much can be safely taken during pregnancy. Over 5 gm daily can cause more gastrointestinal side effects. It is unclear how much ginger has anticoagulant effects in vivo, but it is best to stop it a week before surgery (and Annie was advised to do so by her anesthesiologist).

3. Turmeric (*Curcuma longa*).

- Turmeric, like ginger, is a food. It is entirely possible to cook with it more versus taking it as a supplement and still have the same benefits.
- It is rated as “Possibly Effective” for allergic rhinitis, depression, hyperlipidemia, and pruritus. It also has that rating for osteoarthritis, though it may take 2-3 months to begin to have benefit. After that, it is comparable in effects to taking ibuprofen 400 mg 2-3 times daily.
- Turmeric tends to be quite safe in trials lasting up to 8 months. Doses of up to 2.2 gm a day have been studied and found to be safe. (Annie takes 2 gm daily, as 500 mg capsules.) It is safe in pregnancy in the amount consumed as food.
- It seems to be absorbed better if consumed with black or white pepper or when taken with food in general.
- Turmeric is relatively inexpensive.

4. Valerian (*Valeriana officinalis*)

- Valerian is used for sleep-related issues. It is rated as “Possibly Effective” for insomnia. Natural Medicines notes “Meta-analyses show that taking valerian significantly increases the chance of having improved sleep quality by 37-80% compared to placebo.”

- It may take several days or even up to 4 weeks before it starts to have an effect. It is extremely safe taken up to a month, but safety data for taking it for longer periods are not available. A typical dose is 400-900 mg 2 hours before bed. (Annie takes 700 mg, but she finds it works best 1 hour before bed for her.) For more information on Valerian and other supplements for sleep, refer to the tool, "[Botanical Medicines to Support Healthy Sleep and Rest.](#)"
5. Homeopathic remedies
- As noted in Chapter 18 of the [Passport to Whole Health](#), homeopathic remedies are highly dilute. While there is significant controversy about whether or not they are effective, there is little doubt that they are safe.
 - Annie is currently taking a homeopathic called Dulcamara 30c. Dulcamara is a remedy derived from woody nightshade. The "30c" means that the original supplement was diluted to 1/100 strength, and then the resultant solution was diluted to 1/100 strength again, and so on for 30 total dilutions. At this concentration, it is unlikely that any of the original substance remains.

2. Manipulative and Body-Based Practices

Chiropractic. Annie uses chiropractic care for occasional bouts of back pain. There is increasingly good evidence supporting the use of spinal manipulation therapy for this, as noted in Chapter 16 of the [Passport to Whole Health](#), Chapter 67 of the *Integrative Medicine* textbook, and the "[Low Back Pain](#)" overview in the UW Integrative Health website.

Yoga. As noted in Chapter 5 of the [Passport to Whole Health](#) and in the "[Physical Activity](#)" overview, yoga has a number of potential health benefits. There are no contraindications for Annie using it, so long as she feels stable despite her joint pain and it does not make the pain worse. For more information see, "[Yoga.](#)"

3. Energy Medicine

Healing Touch. Annie is an avid practitioner of this biofield therapy. Chapter 17 of the [Passport to Whole Health](#) has more information on what it is and guidance for what to keep in mind when discussing these therapies. Some research supports Healing Touch for improving anxiety and stress levels during chronic care, or for overall well-being. It is quite safe, though not typically paid for by most insurers. Annie has documented hundreds of hours during her 4 years of training in this modality and practiced it on hundreds of people, and she has never seen an adverse effect.

4. Whole Systems of Medicine

Ayurveda. Even though Annie's primary provider is not an expert in Ayurveda, he is able to gather enough information from various resources to know that her diet would be considered quite healthy by most dietitians. For more on Ayurveda, refer to Chapter 18 of the [Passport to Whole Health](#). People can use the search terms "What is my dosha quiz" online to learn more about their own Ayurvedic constitutional profile.

Naturopathy. Annie's naturopathic physician has been prescribing her dietary supplements and her homeopathic remedies, which were discussed previously. Naturopathy is described in some detail in Chapter 18 of the [Passport to Whole Health](#).

Acupuncture. Annie swears by her acupuncture sessions, and with its excellent safety profile (when offered by qualified individuals) and overall strong research support, it is certainly reasonable for her to use it. It may be that Annie will need to continue to pay out of pocket for her sessions. For more information, refer to Chapter 18 of the [Passport to Whole Health](#).

5. Mind-Body Approaches

Transcendental Meditation. You may already know from the “[Mind and Emotions](#)” overview that Transcendental Meditation has shown promise and is very safe. Annie has found it to be helpful over the years for helping her manage her anxiety. As she puts it, “It doesn’t get rid of it, but it allows me to work with it.”

An Unconventional Diagnostic Approach: Thermography

Thermography. Thermography is actually a diagnostic, as opposed to therapeutic, approach. It is offered by some naturopathic physicians and chiropractors, as well as by some conventional health care professionals. People typically have to pay for it out of pocket. Annie has breast thermography yearly, as a way to screen for breast cancer.

Most clinicians are not familiar with thermography. At one point, Annie’s primary care provider decided to do some additional research and put the following in her chart:

- Thermography is more formally known as digital infrared thermographic imaging (DITI).
- Essentially, it looks for temperature differentials in breast tissue, based on the premise that breast cancers are more active and therefore warmer.
- Initial interest in thermography, which was introduced in the 1950s, waned in the 1970s, but now proponents argue that technological improvements have made it more useful.
- Proponents argue that thermography picks up early blood vessel formation by cancer tissue (which is warmer than normal breast tissue) and can therefore alert a woman to the need for closer follow up with mammography or other approaches.

The same provider who sees Annie explored how thermography did in terms of the EASY (Effects, Access, Safety, You) criteria for determining whether it is appropriate to use a given CIH approach. Those findings are outlined in Table 3.



Table 3. Using the EASY Mnemonic: The Example of Breast Thermography

EASY	What You Learn
<u>E</u> ffects	On the National Library of Medicine website, you find several recent systematic reviews that conclude that thermography cannot currently be considered a valid screening approach, ^{17,18} though many argue that it has potential. ¹⁹ A 2012 review found great variability in sensitivity (0.26-0.98) and specificity (0.08-0.81). ²⁰ This is quite a span, and makes it difficult to draw positive conclusions that it is an effective screening tool.
<u>A</u> ccess	You learn that Annie is paying \$200 out of pocket each year for her breast imaging.
<u>S</u> afety	The procedure itself is quite safe, with no radiation exposure. However, there is concern that Annie is using this instead of mammography, which is viewed by conventional medicine as the superior screening tool.
<u>Y</u> ou	Annie tells you she learned about thermography on a television talk show. As a nurse, she understands the controversies surrounding its use. She has done some reading herself on the Internet. Proponents (many of whom earn income by selling the test) view it as very helpful, ²¹ but skeptics are highly critical. ²²

Annie’s primary care used this information to explain to her that thermography is controversial. While some sources advocate it as a way to identify a potential cancer early, most breast cancer screening experts would opt for routine mammography. Annie says she will think about it and agrees to discuss this further at her next visit.

Annie’s Personal Health Plan: An Ongoing Negotiation

Ultimately, based on all this information, the following topics were discussed during Annie’s visit:

- The majority of her CIH choices seem quite **reasonable in terms of safety**. Her supplement doses are appropriate, and it does not seem like any of her therapies would be risky for her in any way. She agrees to stop her ginger 7-10 days prior to surgery.
- As a nurse, she is **happy to use the data to guide her choices**. For example, she was surprised to hear that CoQ10 is not clearly helpful for **blood pressure**, and she will review the “[Integrative Approaches to Hypertension](#)” tool on the UW Integrative Health website to get some other ideas. She will explore the Dietary Approaches to Stop Hypertension (DASH) diet as well as sodium and potassium intake. She might try garlic instead.
- **She intends to keep using all of her other therapies at this point**. She understands the status of the research on **homeopathy**, but because she finds it helpful and knows it is safe, she prefers to continue taking her homeopathic remedy.
- Annie appreciates the information about **thermography**. She has mixed feelings about stopping. When she expresses concerns about radiation exposure from mammography,

she is reminded that the radiation dose is equivalent to what a person receives on an international airplane flight.

- Annie is gently reminded that Integrative Health is just **as much about “internal work”** as it is looking externally for various therapists and supplements. She has good insight into this, and she is emphatic that she wants a key goal in her PHP to be devoting an additional 20 minutes daily to her **Spirit and Soul** pursuits.
- There are other options Annie could consider in the future, but at this time she is doing so much it would be important to gauge whether suggesting more is appropriate, versus perhaps simplifying things down. Possibilities include the following:
 - Black cohosh, another herbal remedy, might help with hot flashes.
 - Tai chi might also be useful for her osteoarthritis pain. Refer to [“Physical Activity”](#).
 - A more in-depth discussion of weight loss may not be well-received, but should nonetheless be considered at some point, given that many of her health problems could be tied into her being overweight.
 - She may benefit from listening to guided imagery CDs related to having surgery. For more information, check out the [“Guided Imagery”](#) Integrative Health tool.

Annie thanks her clinician for the visit, and says she really appreciates that he did not “read her the riot act” about what she is doing. “You know,” she says, “I respect that you are making sure I have good information to make my choices, even if you do not always agree with what I am doing.” She gives him a warm handshake. “I didn’t expect to have someone ‘in the system’ want to talk to me about these things. No one else ever has.”

Annie’s choices around CIH care are summarized in Table 4.

Table 4. A Summary CIH-Related Elements of Annie’s Personal Health Plan (PHP)

Element of PHP	Research Support (+, +/-, or -)	Comments
Bioidentical hormones	+/-	She will continue, based on subjective benefit
Coenzyme Q10	+/-	Helpful, safe overall
Ginger	+	Safe, wants to continue despite data
Turmeric	+	Quite safe; she wishes to continue
Valerian	+/-	Small benefits, safe. Prefers to keep talking
Homeopathy	-	Limited research support, but safe. Will continue
Chiropractic	+	Has proven helpful. She sees a VA chiropractor
Yoga	+	Will continue
Healing Touch	+/-	Quite safe, she values it highly as a practitioner
Ayurveda	+/-	Safe overall, efficacy depends on brand
Naturopathy	+/-	A variety of approaches; what Annie does is safe



Acupuncture	+	Explore getting it at the VA versus via self-pay
Transcendental Meditation	+	Has proven very useful to her
Breast thermography	-	Safe, utility unclear. She wants to continue
<i>Her team notes that Annie may also benefit from tai chi, a more structured approach to healthy eating, and guided imagery (especially before surgery). She will dedicate more time to her spiritual life as well.</i>		

Her clinician agrees that follow up would be helpful. Annie will call with an update on how she is doing (and what she is doing) after her hip surgery. She will also set up a physical examination visit, since it has been 10 years. She sighs when asked to do so, but she ultimately agrees. Annie's care team may find that when she is seen in the future, she will be more willing not only to share about what CIH approaches she is using, but also to explore conventional options too, as she comes to trust in the therapeutic relationships she has with her team members. Ideally her primary care team would be in communication/contact with her CIH providers.

In Summary

This overview features 3 very different patient narratives: 1) Lee, who is very gung-ho about self-care and wants to use CIH for prevention; 2) Freddy, who is very attached to his multiple dietary supplements and wants advice; and 3) Annie, who is using a huge array of CIH approaches and could use an evidence-based medicine perspective. As you work with people like the three of them, keep the following in mind:

- **Patients are voting with their feet.** They are using many therapies, whether those therapies are paid for by a third party or not. If you cannot give them good information, they will look elsewhere, and not all sources of information are reliable.
- It can be useful to **think of complementary approaches according to the 5 categories:** 1) biologically-based approaches, 2) manipulative and body-based therapies, 3) energy medicine (also known as biofield therapies), 4) whole systems of medicine, and 5) mind-body therapies. When you discuss various therapies, always circle back to the importance of self-care, and even more importantly, keep asking why their health is important to them in the first place (Meaning, Aspiration, Purpose). Choices around CIH are often very closely tied in with values and beliefs.
- **Keep access in mind.** Many sites find that if they offer a CIH approach (and cover its costs) without clear criteria about when a person can stop using it, they can develop a long wait list, which is not helpful.
- It is worth it to take a moment to **reflect on where you stand** related to all the therapies mentioned in this overview, as well as others you encounter. Regardless of your willingness to recommend a given complementary approach, it is important to be able to discuss it with your patients.
- Take time to **learn what therapies are available at your facility.** Learn which ones are not offered, as well. **Learn about practitioners in your local community.** Make certain you know what is covered by various types of insurance and what is not. When time is short, provide people with handouts and links so that they can learn more about a given therapy on their own time.



- **The EASY criteria (Effects, Access, Safety, You) can be helpful** when you are helping someone to determine whether or not to use a specific approach.
- While this overview did not include a narrative related to suggesting a CIH approach for someone who has never tried CIH before, all of what is shared still applies. You can ask such a person about their opinions and why they feel the way they do. Where do they get their information? As with anyone, you would construct a health plan that respects their goals and priorities and perhaps pushes the envelope for them a little.

Best wishes as you explore how these highly diverse and incredibly fascinating approaches fit into patient care!

Note: Please refer to the [Passport to Whole Health](#), Chapter 15 on Dietary Supplements for more information about how to determine whether or not a specific supplement is appropriate for a given individual. Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of adulterants, and the legitimacy of claims made by the manufacturer.

Author(s)

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