DEPARTMENT OF HEALTH AND HUMAN SERVICES NATIONAL INSTITUTES OF HEALTH NATIONAL CENTER FOR COMPLEMENTARY AND INTEGRATIVE HEALTH

NATIONAL ADVISORY COUNCIL FOR COMPLEMENTARY AND INTEGRATIVE HEALTH MINUTES OF THE SEVENTY-FOURTH MEETING June 5, 2020

NACCIH Members Present

Dr. Belinda Anderson, West Long Branch, NJ Dr. Todd Braver, St. Louis, MO Dr. Lynn DeBar, Seattle, WA Dr. Anthony Delitto, Pittsburgh, PA Dr. Roni Evans, Minneapolis, MN Dr. Diana Fishbein, University Park, PA Dr. Joel Greenspan, Baltimore, MD Dr. Richard Harris, Ann Arbor, MI Dr. Kendi Hensel, Fort Worth, TX Dr. Tammy Born Huizenga, Grand Rapids, MI Dr. Jean King, Worcester, MA Dr. Benjamin Kligler, Washington, DC Dr. John MacMillan, Santa Cruz, CA Dr. Wolf Mehling, San Francisco, CA Dr. Eric Schoomaker, Bethesda, MD Dr. Lynne Shinto, Portland, OR Dr. Justin Sonnenburg, Stanford, CA Dr. Barbara Timmermann, Lawrence, KS Dr. Gloria Yeh, Boston, MD I. **Closed Session**

The first portion of the seventy-fourth meeting of the National Advisory Council for Complementary and Integrative Health (NACCIH) was closed to the public, in accordance with the provisions set forth in Sections 552b(c)(4) and 552b(c)(6), Title 5, U.S.C., and Section 10(d) of the Federal Advisory Committee Act, as amended (5 U.S.C. Appendix 2).

A total of 183 applications were assigned to NCCIH. Applications that were noncompetitive, not discussed, or not recommended for further consideration by the scientific review groups were not considered by Council.

Council agreed with staff recommendations on 99 scored applications, which requested \$39,780,659 in total costs.

II. Call to Order and Brief Review of Council Operating Procedures

The open session convened at 10:15 a.m., with all members participating virtually. Dr. Partap Khalsa, NACCIH Executive Secretary, called the meeting to order. The minutes of the February 2020 Council meeting were approved unanimously.

Dr. Khalsa announced that members of the public would not be able to present comments orally at this virtual meeting. Instead, public comments could be submitted in writing, by email or postal mail, to Dr. Khalsa (<u>partap.khalsa@nih.gov</u>) or to NCCIH, and will be included in the meeting minutes. Comments must be submitted within 15 days of the meeting and limited to 750 words.

III. NCCIH Director's Welcome and NCCIH Report

NCCIH Director Dr. Helene Langevin welcomed Council members and guests. She announced several staff arrivals, including a new program director, Dr. Hye-Sook Kim, in the Basic and Mechanistic Branch of the Division of Extramural Research (DER), and several staff departures. Dr. Langevin congratulated Dr. Alex Chesler, who has been promoted to tenured senior investigator in the Division of Intramural Research and noted that NIH Director Dr. Francis Collins has received the 2020 Templeton Prize. The budget table now includes specific numbers in the operating plan for FY 2020, showing an increase in total research grant funding from FY 2019 to FY 2020. FY 2021 numbers are still tentative.

Highlights of recent NCCIH-funded research include:

- A paper from Dr. Chesler's group on a novel technique for identifying classes of neurons in the trigeminal ganglion *in situ*. One of the findings was that cells innervating the meninges are the same as those that convey the sensation of itch. This work may have implications for understanding pain.
 - A study by Drs. David Levinthal and Peter Strick on innervation of the stomach, focusing on descending (brain to gut) parasympathetic and sympathetic signals. This research helps to scratch the surface in understanding the gut-brain conversation.
 - A pilot study from Dr. Peter Wayne's laboratory at Brigham and Women's Hospital of qi gong for persistent postsurgical pain in breast cancer patients. The authors examined measurements in multiple domains to prepare for selection of outcomes for a future randomized trial.
 - A study of yoga in middle-aged women with urinary incontinence, focusing on how patients feel about their ability to perform yoga poses and their observed success in performing them. Symptom reduction was positively correlated with self-efficacy but not with observer ratings.

Dr. Langevin mentioned that grant applications for two NCCIH-led Requests for Applications (RFAs) are under review this summer, one on emotional well-being research networks, and one on Pragmatic and Implementation Studies for the Management of Pain to Reduce Opioid Prescribing (PRISM), part of the NIH HEAL (Helping to End Addiction Long-TermSM) initiative. The Foundation for the National Institutes of Health will provide funding support for a music and health project jointly sponsored by NCCIH and the National Institute on Aging. NCCIH also has, among many active FOAs two active RFAs on mechanisms underlying modulation of the glymphatic-lymphatic system.

Recent events of note include virtual steering committee meetings of the NIH Health Care Systems Research Collaboratory and the Pain Management Collaboratory and a virtual town hall on the NCCIH strategic planning process, sponsored by the International Congress on Integrative Medicine and Health (ICIMH). Future events to be held virtually include an Integrative Medicine Research Lecture by Dr. Helen Burgess of the University of Michigan, "Lighting Up Our Lives: How Light Influences Our Mental and Physical Health," on June 30; a public strategic planning town hall on July 1; a hot topic webinar on interoception on July 15; and a HEAL Initiative myofascial pain workshop on September 16-17. Other future events include a natural products roundtable in early August and a workshop on cannabinoids and pain on October 23.

Dr. Langevin acknowledged the profound sadness of the events of the past week and of the racially based injustice plaguing American society. NCCIH is very sensitive to the issue of health disparities and is committed to working with institutes and centers (ICs) across NIH, particularly the National Institute on

Minority Health and Health Disparities, to address them. Dr. Langevin said that giving this problem the attention it deserves will require a concerted effort and that she wants the NCCIH community to be one that does not stand idle in the face of tragedy.

Discussion: Dr. Kligler commended NCCIH leadership for their commitment to finding a way to address the current crisis involving racism and social disparities. Dr. Harris noted that it is not easy to find funding opportunities for minority-based research and suggested that the current protocol for inclusion of minorities in research may not be adequate. Dr. Langevin agreed with Dr. Harris's comment and stated that NIH is ramping up efforts in this area and efforts to help minority investigators.

Dr. Schoomaker said that the mission of NCCIH is particularly important for minority citizens, many of whom come from cultural backgrounds that align with the use of practices NCCIH studies. He said that NCCIH staff have been outstanding in pushing for good research and great policy advice. Dr. MacMillan raised the issue of the education and training of minority graduate students and postdoctoral fellows, including financial concerns, and said that scientists need more discussion and training on how to participate in conversations with students and postdocs and work with them effectively. Dr. Emmeline Edwards, director of the DER, highlighted the efforts of NCCIH program director Dr. Della White. Since Dr. White joined NCCIH a year ago, she has increased NCCIH's participation in programs focused on disparities and training programs that provide supplements for minority applicants.

IV. NIH and NCCIH Response to the Public Health Emergency (COVID-19)

NCCIH Deputy Director Dr. David Shurtleff began by echoing the concerns regarding health disparities by noting that health inequities in our society have had an impact on COVID-19 with counties that have a predominantly black population having three times the rate of COVID-19 cases and six times the deaths as counties with a predominantly white population.

Thanks to virtual technologies, NIH has been able to continue to process grant applications during the pandemic and to work to provide funding opportunities to support COVID-19 research. Substantial funding has come to NIH through the Coronavirus Aid, Relief, and Economic Security (CARES) Act.

NIH is deeply concerned about the health and safety of people involved in NIH research and the effects of the COVID-19 emergency on the biomedical enterprise. Much research, especially clinical research, has been extensively disrupted. NIH is using urgent and emergency competitive revisions to enable researchers to pivot to research focused on COVID-19 and to help researchers recover from the disaster. The Office of Management and Budget has authorized Federal agencies to use maximum flexibilities in administering research on or affected by COVID-19. Details on NIH flexibilities and guidance on human subjects research are given at grants.nih.gov/faqs#/covid-19.htm. Guidance on animal research is given at olaw.nih.gov/covid-19.htm.

NCCIH has been working closely with the NIH Office of Extramural Research to support the grantee community, particularly clinical researchers, who are the most impacted. Staff are working with study teams and offering informed guidance. For large-scale trials, input has been sought from experts from Data and Safety Monitoring Boards. It may be too soon to know how the pandemic will affect some projects, but NCCIH encourages grantees to contact their program directors about their concerns.

NIH is engaged in a public-private partnership (Accelerating COVID-19 Therapeutic Interventions and Vaccines; ACTIV) to develop vaccines and an initiative to improve COVID-19 testing (Rapid Acceleration of Diagnostics; RADx). RADx includes a component on underserved populations, called Rapid Acceleration of Diagnostics for Underserved Populations (RADx-UP). NCCIH is involved in RADx-UP, which will accept and fund applications on a rapid timeline.

NCCIH has two COVID-19 funding opportunities, one on natural products and one on stress management/self-care strategies that can be performed remotely. In addition, NCCIH is working closely with other NIH ICs on trans-NIH funding opportunities related to social, behavioral, and economic impacts of COVID-19 in vulnerable populations.

NIH has created an online portal (<u>grants.nih.gov/grants/rfi/rfi.cfm?ID=107</u>) where the public can submit COVID-19 research concepts. This portal provides an opportunity for those not necessarily funded by NIH or familiar with the funding process to provide ideas and information, which will be reviewed by experts.

Discussion: Dr. Fishbein pointed out that researchers whose clinical trials have been suspended may not be able to finish their studies if they cannot receive additional funds to recruit new participants. Dr. Shurtleff explained that funds are currently coming from individual ICs, but additional funding might become available later. Researchers should consult their program directors and also look at COVID-19-related funding opportunities to see if any are appropriate for their projects.

Dr. Schoomaker said that NCCIH staff have done a remarkable job in getting access to funding despite the small size of the Center. Dr. Langevin said that as a newcomer to NIH, she has been impressed with how hard everyone is working, especially in the current very urgent situation. Dr. Schoomaker said that NCCIH staff have done a marvelous job of magnifying the impact of NCCIH beyond its size.

Dr. Langevin acknowledged the anguish of the research community and said that NCCIH is sympathetic to all investigators and will do everything possible to help. Dr. Edwards explained that DER and Office of Clinical and Regulatory Affairs staff are working together to provide coordinated help and advice to clinical investigators. Dr. Khalsa explained that NIH is handling applications for competitive revisions in response to COVID-19 and applications for administrative supplements for existing grantees on expedited timelines. NIH appreciates the urgency the investigative community is facing.

In response to a question from Dr. King about how Council can help NCCIH move forward in getting needed resources, Dr. Shurtleff said that what Council members already do to champion and support NCCIH and make their voices heard in the research and policy communities is helpful. Academics can raise issues in ways a Federal agency cannot. Dr. Langevin said that Council members play a key role as NCCIH's voice to the research community and the community's voice to NCCIH.

In response to a question from Dr. Khalsa about resuming research on manual therapies, Dr. Kligler said that just as clinical care is resuming in careful ways, so can research. However, the time for recruitment may be longer because fewer people can be studied at any one time. Dr. DeBar said that it has been interesting to watch the acceleration of telehealth in response to the pandemic, but face-to-face contact and touch therapies remain important. She said that the social and economic effects of COVID-19 need to be studied, particularly in terms of outcomes such as well-being and pain. Dr. Harris suggested that innovative research could be done on self-care versions of touch interventions, such as self-acupressure guided by an app. Dr. Yeh noted that the pandemic has shown that much can be done through remote and virtual modalities. This could be expanded through remote collection of data, for example with wearables.

Dr. Evans said that the risk/benefit ratio for some interventions changed midstream because of COVID-19. She also noted that remote strategies may be advantageous in some situations. Dr. Schoomaker said that the military has long used telehealth and that younger people may prefer it for sensitive interactions such as psychological and psychiatric care. Dr. Hensel said that data are being gathered on COVID-19 risks associated with osteopathic manipulation, including effects of reopening clinics. Dr. Fishbein pointed out that telehealth may not be able to reach high-risk underserved populations where people may not have Internet access or devices. Research to address this issue is needed. Dr. Shurtleff explained that upcoming trans-NIH activities on social, behavioral, and economic aspects of health will include digital health. Dr. DeBar said that some interventions, such as immersive types of guided imagery for pain management, can be tailored to individuals very effectively using virtual telehealth modalities.

Dr. Langevin thanked members for their comments. The COVID-19 pandemic is a huge challenge, she said, but crises have the potential to be sources of innovation and creativity. The many ideas discussed—ranging from health care disparities to taking advantage of technology—have the potential to make people better equipped to take care of themselves.

V. Recognition of Service

Dr. Langevin recognized the three Council members whose terms end in July 2020—Drs. DeBar, Greenspan, and King—and thanked them for their service.

After the lunch break, Dr. Langevin mentioned that the group had extensively discussed mindfulness interventions during lunch, and Dr. Schoomaker led a brief mindfulness activity.

VI. Concept Clearance: Administrative Supplements for Validation Studies of Analytical Methods for Dietary Supplement Constituents

Dr. Adam Kuszak of the NIH Office of Dietary Supplements (ODS) presented a concept for administrative supplements to support single-laboratory validation studies of analytical methods for the identification and/or quantification of dietary ingredients or constituents or their metabolites. The methods to be validated must be in use in the parent award. This is a proposed reissuance of an existing funding opportunity, which would be expanded to include approaches for natural product identification and establishing reproducibility. ODS will fully fund approved proposals; no budget contributions from NCCIH are requested. Dr. Kuszak noted that NCCIH and ODS share the goal of ensuring the integrity of natural products used in research. NCCIH has been an important partner in previous work on method validation, and the majority of previous awards have been to NCCIH-funded investigators.

Discussion: In response to questions, Dr. Kuszak explained that this concept was presented for clearance under the recently adopted policy of ensuring that all funding opportunities receive council consideration. One example of an approach for natural product identification is fingerprint analytical profiles, which can be used to quantify the similarity or difference between two preparations. The funding opportunity is open to both traditional and innovative approaches but focuses on evaluation studies, not method development. The main form of dissemination is publication in the peer-reviewed literature.

A motion to approve the concept was passed with 16 votes in favor and 1 abstention.

VII. NCCIH Strategic Plan (2021-2026)

Status Update

Mary Beth Kester, director of the NCCIH Office of Policy, Planning, and Evaluation, explained that despite the COVID-19 emergency, NCCIH is still on track with the original timeline for developing the 2021-2026 strategic plan. A Request for Information (RFI) has been issued to solicit input for the strategic planning process, and responses are currently being accepted. A few responses have been received, the deadline for submissions is set for July 13, and outreach efforts are ongoing. The ICIMH town hall was held virtually on May 8, with about 260 attendees and more than 60 questions or comments. NCCIH's own public town hall will be held on July 1.

NCCIH Objectives and Strategies 2021-2026: Building a Path to Whole Person Health

Dr. Langevin explained that in early NCCIH strategic plans, there was an interest in exploring many paths, including research on a variety of complementary approaches. However, determining the best ways to study complex interventions proved difficult, and some studies did not bear fruit. Later, NCCIH focused on mind and body approaches, natural products, and symptom management, and put much effort into methods development, especially for rigorous pragmatic trials. The rigor of grant applications increased, but topics became less diverse. NCCIH hopes now to carefully begin exploring new paths within the context of whole person health, without abandoning areas already being funded.

Dr. Langevin reviewed concepts for the new strategic plan that she had presented at the September 2019 Council meeting, including:

- Emphasizing the primary therapeutic input—dietary, psychological, or physical—of approaches being studied rather than the distinction between complementary and conventional
- Expanding the concept of integration to include whole person health and to promote a balance between synthesis and analysis in research
- Approaching health in a holistic way, with a focus on the full continuum between health and disease, including health restoration and positive aspects of health such as resilience, stamina, and well-being, as well as disease prevention and symptom management.

Dr. Langevin discussed the possibility of supporting research on "whole health systems," that is, multimodal approaches that are linked together by an underlying theoretical foundation and diagnostic framework. Traditional Chinese medicine is an example of a whole health system. These systems are of interest in themselves and may also illuminate blind spots in conventional medicine and diagnostic patterns. Research areas in need of development regarding whole health systems include:

- Testing the reliability and validity of complementary diagnostic systems
- Developing and improving phenotypic measurements
- Defining treatment protocols for complementary interventions and systems and establishing their fidelity and reproducibility
- Developing, refining, and testing clinical research models for multimodal interventions.

With these considerations in mind, Dr. Langevin proposed slightly modifying the three scientific objectives (Objectives 1-3) in the current strategic plan to these new versions:

- Objective 1: Advance fundamental science and methods development relevant to complementary therapies.
- Objective 2: Advance research on the integration of complementary and conventional care and integrative approaches to physiology, pathophysiology, and treatment.
- Objective 3: Foster research on health promotion and restoration, disease prevention, and symptom management.

Dr. Langevin asked for Council input, particularly on the topics of analysis and integration, whole person health, whole health systems, and therapeutic input vs. therapeutic effect.

Council Discussion

Dr. Kligler said that NCCIH is moving in the right direction but expressed concern that using the word "whole" in two very different contexts (whole person health and whole health systems) might lead to confusion. He explained that the Department of Veterans Affairs (VA) looks at whole health in a somewhat different way, focusing on the person who is living a whole, healthy life and moving toward what they care about in life, rather than on health vs. disease. For some people, whole health means

focusing on treating a disease, but for others, such as those who are dying, the focus is more on the concepts of healing, wholeness, and well-being. Dr. Schoomaker recommended including social factors because of their importance to overall well-being and focusing on function as well as symptoms. He explained that research on people with pain has shown that improving contextual factors such as sleep, mood, activity, and function can lead to increased well-being even if the intensity of pain, as reported on self-rating scales, does not change.

Dr. Hensel noted that osteopathic medicine fits the definition of a whole health system. She also expressed concern about the difficulty of studying complex health practices that involve much individual variation among practitioners. Dr. Delitto said that breaking the barriers to access to care among underserved populations could be "low-hanging fruit" for studies of complementary health care. Dr. King suggested that research that focuses on resilience and well-being may need to include consideration of communities as well as individuals because people's support systems are very important.

Dr. Evans recommended that the social component of the biopsychosocial model should receive more emphasis and suggested that this is an area where NCCIH could play a leadership role. Dr. Kligler noted that the fields of psychology and sociology have developed ways of measuring well-being that are applicable to health research. Dr. Yeh expressed approval for using the concept of healing rather than health vs. disease; often, doctors cannot cure patients but can alleviate their suffering. Dr. DeBar drew Council's attention to the book *The Patient as Agent of Health and Health Care* by Dr. Mark Sullivan, which discusses shifts in the way to approach care and includes concepts such as health despite disease. Dr. Harris said that shifting to research with a whole person emphasis would require team science, which in turn requires funding opportunities that enable experts in different fields to work together as a unit. Dr. Sonnenburg questioned whether interventions should move outside NCCIH's purview as they transition from complementary to conventional. He asked whether NCCIH wants to stay on the cutting edge regarding interventions such as diet. Dr. Schoomaker said that supporting a team science approach would be consistent with the fourth objective in the current NCCIH strategic plan, which focuses on fostering a community of people who are doing research. Some career development awards, such as mid-career awards, could be devoted to developing meta-leadership skills and building effective teams.

Dr. Greenspan commented that health and disease have been thought of as opposites, but there is a need to reconceptualize what we think is important in healthy lives. It would be valuable for NCCIH to push NIH toward more integration, systems, and teams, he said. Dr. Fishbein pointed to diversity-oriented and training opportunities as ways to promote fundamental integration and transform the field.

Dr. Sonnenburg drew attention to the challenges to research on holistic and multimodal topics. It is difficult to design good studies of complex interventions. If multiomics approaches are used, costs increase and cohort sizes decrease, which limits power and the ability to examine individual responses. Changes may also be needed in the review process for grant applications, he said. Traditional review groups may want to see single mechanisms or outcomes.

Dr. Kligler questioned whether traditional randomized controlled trial designs are the best way to study complex interventions; pragmatic and real-world studies may be needed. Dr. Shinto suggested that observational studies may also be a useful tool for studying complex interventions. Dr. DeBar agreed that observational studies should be considered, but many factors make their design and interpretation difficult. She added that she is impressed with the breadth of NCCIH's work despite its small size, and she encouraged partnering with other agencies in projects involving social impact and community approaches. Dr. Sonnenburg suggested it would be exciting for NCCIH to partner with other agencies on some of the research opportunities described in the new 2020-2030 Strategic Plan for NIH Nutrition Research.

Dr. Khalsa reminded Council members that NCCIH encourages them, both individually and in conjunction with organizations, to submit comments in response to the strategic planning RFI. This is a great way for individuals or organizations to provide direct input into the strategic planning process, and NCCIH takes this input very seriously.

Dr. Langevin asked Council members for their thoughts on whether the term "whole health systems" should include multimodal interventions that do not have an underlying theoretical framework. Dr. Schoomaker suggested that it would be unnecessarily controversial to say that something cannot be studied because it does not fit a narrow definition of a whole health system. Dr. DeBar argued against eliminating the whole health system concept, which NCCIH is uniquely qualified to study. Dr. Hensel said that multimodal approaches that consist of a combination of modules of individual interventions seem fundamentally different from whole health systems with distinct philosophies. Different terminology may be needed for these two types of combined approaches.

Dr. Schoomaker said that "whole" and "systems" are key concepts, but a system might involve psychosocial outcomes as well as health. Dr. Evans said that the topic is extremely complex, and there's a need for a structure that provides space for the complexity. Dr. King recommended using simple terms that are easily understood. Dr. Braver said that in addition to being cutting edge and bold, it is also important to be methodologically rigorous. As NCCIH gets involved in studying more complex approaches, measurement and design issues become critical, he said, and rigor could easily be lost.

Dr. Langevin asked whether Council members thought that NCCIH should stick with natural products and mind and body research and not go into whole person health. Dr. Hensel said that as long as simpler research on single modalities is still possible, whole person health could also be part of NCCIH's portfolio. Dr. Langevin clarified that research on individual modalities would still be funded. Dr. Yeh said that seeing the synergies between modalities is important. If research is limited to whole health systems that have an established diagnostic framework, some types of discoveries would be missed.

Dr. Mehling said that multimodal interventions and whole health systems are fundamentally different; unlike multimodal interventions, whole health systems have a historical basis, and they don't address social aspects of health or disparities. Both terms could be used because they describe different types of approaches. Dr. Kligler raised the issue of the VA's extensive use of the term "whole health system" to describe a model of care that it is using. A Google search for this term primarily brings up links to the VA, which could be a problem if NCCIH intends to use the same term with a different meaning. Dr. Delitto said that a strategic plan should be aspirational and that NCCIH's proposed plan qualifies, both in terms of research on multimodal approaches and the whole body discussion.

Dr. Shurtleff and Dr. Langevin thanked Council members for the thoughtful and extensive discussion.

VIII. Adjournment

Dr. Khalsa repeated the instructions given earlier on how to submit a public comment and thanked staff members who had worked behind the scenes to make this virtual meeting possible. The meeting was adjourned at 3:30 p.m.

IX. Public Comments

Hello Partap,

Please add the text below to the public comment section of today's meeting. Thanks! Sara

Suru

I agree that using the term "whole" is thorny for multiple reasons. I would like to suggest instead that NCCIH use a phrase such as "integrative" or "comprehensive". For instance, an "integrated systems approach" or a "comprehensive health system". This way you can define it precisely the way you want to, plus the term integrative has the added bonus of connoting integrative medicine.

I would also like to suggest that as you begin widening the scope, that you initially limit it to studies of well established, theoretically based systems such as TCM or Ayurveda. Otherwise you will get hundreds of application from teams of reductionist scientists who don't really understand the integrative approach. For instance a yoga researcher and a diet researcher that team up to propose a yoga and diet intervention. Although both may be an expert in their field, they won't really comprehend 'whole person health' the same way that a trained Ayurveda practitioner does. The Ayurveda person might design a study that on the surface is similar to what the yoga and diet experts propose, but will likely have key differences that are based on their deeper understanding.

Finally, I think it would be really cool to see studies that focused specifically on TCM/Ayurveda methods of diagnosing people, and identifying what the underlying mechanisms are related to the diagnosis. Such studies might be easier to design than efficacy RCTs, and would likely yield valuable information that would be of interest to the wider medical community.

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Dear Dr. Khalsa,

Greetings and hope you are staying safe from corona.

The advisory council meeting was an eye opener. Thank you and Dr. Langevine for delving into this difficult topic.

I work at Bet Israel Deaconess Med Ctr in the field of perioperative cognition and hemodynamics and I have two R01s one from NIGMS and another from NIA. I am a newcomer to NCCIH. My personal and professional travels have led me here over the last eight years.

The difficulty seems to be, "How do you define health"? I do believe that Science and Spirituality can coexist and we should tap into this strength. Science is very definitive, repeatable and demonstrated to others as you know. However, this takes time. While spirituality one can experience wholistic health here and now. These ideas should be borrowed and tested in science as much as possible and we should develop the necessary tools.

In this context, may I suggest that the NCCIH team and advisory council along with audience like me should interact with the likes of Dalai Lama or Sadhguru. We recently did two sessions with Sadhguru. He seems to have crystal clarity and it is shaping up many people's lives. <u>https://youtu.be/w7irEcQHChw</u> <u>https://youtu.be/uLY9b0iJD0c</u>

Please see a glimpse of these videos below. I do think it will be outstanding to have this interaction to redirect science like you are all thinking and shape it for a better future.

I look forward to hearing from you.

Thanks and Have a nice day. Bala. Dear Dr. Khalsa,

Here some thoughts on Dr. Helene Langevin's talk on "Building A Path To Whole Person Health" and discussions afterwards:

1) Studying complex complementary & integrative medicine interventions is very challenging from the perspective of understanding and measuring the underlying mechanisms - and the connections between the mechanisms - for the benefits of isolated components of such complex interventions. However, it is essential to conduct such mechanistic studies to evaluate the active mechanisms behind each component so we can better understand, better design and better provide clinical and practical interventions for certain populations with certain conditions. Let's take yoga as an example; i) from the scientific perspective it is critical to study the active mechanisms of isolated components of a yoga practice (breathing, postures, relaxation, meditation, perhaps even yamas and niyamas) to then create a program for individuals based on their individual characteristics and conditions. A more "holistic" yoga for a healthy young, and perhaps only breathing or relaxation for an older adult with sleep apnea and who cannot perform yoga postures, etc.

2) Meanwhile, it is critical to study and design successful complementary & integrative medicine interventions through an "holistic approach" for maximized benefits for over-all quality of life, health and wellbeing - as often in nature there is never one component involved. Let's take that older adult with sleep apnea and inability to perform yoga postures, and add a healthy balanced meal plan (e.g., Mediterranean diet, Blue Zones diet, etc), movement of choice (walking), community & active social life, healthy relationships, and so on. We have a multi-modal approach.

It is important to study and design holistic interventions, and coordinate strategies and leverage resources in order to maximize the impact of such interventions on public health.

3) The question is how to design such multi-modal holistic approaches, and/or is it even possible considering diverse bio-individual factors (i.e. age, sex, genetics, body type, culture, career, activity levels, home/family/work environment among others). And more importantly, how to bring such multi-modal approaches into real life. The idea of holistic health should not be buried in studies, journal articles, etc. It is critical for the ideas and study results to be brought into practical use for building a healthy society. One idea in my mind: there are for instance health coaches who navigate individuals to figure out their health & wellness goals and assist them how to achieve those goals. Often the success comes when tailoring the programs to the individual's needs, and with consistency, not intensity.

As it is said, "There are many jackets in the market that are attractive and well made. But the best one is the one fits you".

4) Why not "Holistic Health instead of "Whole Person Health"? Or Bioindividual Health? The term "Whole Person" implies an arbitrary high standard - in my mind-. One needs to define "Whole Person" before deciding what makes a person a "Whole Person". What does the "Whole Person Health" cover? This term will have a loose definition based on the defining individual and the recipient individual. One may be eating a nutritionally balanced meal plan, incorporating movement & exercise, practicing sleep hygiene, practicing some form of mindfulness practice, having for instance acupuncture & massage sessions regularly, yet still may not be or feel "Whole" because perhaps they do lack balanced social life, a fulfilling career, healthy relationships, social life, spiritual life, etc. We can say "The person incorporates Holistic Health approaches", yet again, "may not feel as a Whole Person". Just a thought, I recently lost a dear friend, a

cancer patient who has been fighting for a long time. I wonder if she felt "Whole Person" at the time of her death. What is Whole Person" and what are "Whole Person Health" approaches?

We hereby certify that, to the best of our knowledge, the foregoing minutes are accurate and complete.

Partap Khalsa, D.C., Ph.D., D.A.B.C.O. Executive Secretary National Advisory Council for Complementary and Integrative Health Helene Langevin, M.D. Chairperson National Advisory Council for Complementary and Integrative Health