

Viewpoint

Spotlight: An Interview with NCCIH Director, Dr. Helene M. Langevin, on Whole Person Health

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Abstract: In an ongoing series of spotlight interviews, *Challenges* Advisory Board Member and Nova Institute for Health Fellow, Alan C. Logan, meets with thought leaders, scientists, scholars, healthcare professionals, artisans and visionaries concerned about health at scales of persons, places and the planet. Here in the inaugural interview, the Director of the National Institutes of Health, National Center for Complementary and Integrative Health, Dr. Helene Langevin, responds to a set of questions posed by *Challenges*. Dr. Langevin discusses the emerging concept of whole person health, and in particular, how the concept intersects with the grand and interconnected challenges of our time.

Keywords: flourishing; integrative medicine; public health; personalized medicine; community health; planetary health; health inequities; non-communicable diseases; social determinants of health; Anthropocene Syndrome



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1. Introduction

Challenges is a unique interdisciplinary journal dedicated to integrating diverse scholarly discourse related to the grand challenges currently facing our societies and the planet at-large. To this end, the journal will begin regular spotlight interviews that will cut across disciplines, professions, and perspectives. In collaboration with the Nova Institute for Health, for our spotlight interviews, we will be seeking out individuals with remarkable experience and wisdom, querying them on their work, experiences and ideas, and how they might help break down silos in the promotion of health and flourishing at scales of persons, places and the planet.

Since many parts of the contemporary planetary health movement—the notion that the health of individuals, communities and the planet cannot be uncoupled—emerged from the environmental and holistic health movements of the 1970s–1980s, there is an enduring historical link between what is now better described as integrative medicine, and planetary health. With this in mind, *Challenges* Advisory Board Member and Nova Institute for Health Fellow, Alan C. Logan, was honored that Dr. Helene M. Langevin, the Director of the National Institutes of Health (NIH), National Center for Complementary and Integrative Health (NCCIH), agreed to be the subject for the inaugural interview (henceforth known as the Nova Interview).

Dr. Langevin earned a medical degree from McGill University, Montreal, and completed her residency in internal medicine and fellowship in endocrinology and metabolism at The Johns Hopkins Hospital in Baltimore, Maryland. In addition, Dr. Langevin completed a postdoctoral research fellowship in neurochemistry at the MRC Neurochemical Pharmacology Unit in Cambridge, England. After serving as Director of the Osher Center for Integrative Medicine at Brigham and Women's Hospital and Harvard Medical School, and Professor-in-Residence of medicine at Harvard Medical School, from 2012 to 2018, Dr. Langevin accepted the post as Director of the NCCIH in 2018. In addition to handling

an agency with a USD 150 million budget, Dr. Langevin coordinates and collaborates with other research institutes and federal programs on research related to integrative health.

2. The Nova Interview

Nova: What were the motivations that led you to pursue a degree at McGill University School of Medicine?

Dr. Langevin: Well, it's actually pretty simple. I come from a family of doctors. My father was a doctor, and so was my grandfather. Today, I have several cousins, nieces and other relatives who are doctors. Even from a young age I never thought of doing anything else. On the other hand, my interest in holistic thinking and integrative health stems from my mother. She was trained as a nutritionist, and also is somebody who really has a lot of common sense about living a healthy life. She passed on that wisdom. She's now a basically healthy 91 years old. She grew up on a farm during the depression among people who had to solve problems like growing food and staying warm in the Canadian winter. So, between these two things, generations of doctors in the family, and a wise mother who has thrived through healthy food and a healthy mindset, is what kind of led me this way.

Nova: Speaking of integrative health, it might mean different things to different people. How do you define integrative health?

Dr. Langevin: When I was at the University of Vermont (UVM) in the Department of Neurology, this was almost two decades ago, I led the first program in Integrative Medicine at UVM, and began to think seriously about what the word 'integration' means. For many at the time, integration was seen as taking complementary therapies and putting them together with conventional medicine. That made sense, of course. But it was also limited. By that definition the person's health care is still disconnected, still fragmented. You could have a cardiologist taking care of your heart, and a physical therapist taking care of your foot and, a nutritionist taking care of your diet, but it is still not a truly integrated effort. We need to think of integration in terms of caring for the whole person. So that's why I think the word "integration" means moving beyond seeing health through a lens of parts and bits. Our analytic approach to cellular and molecular medicine within separate organs has yielded many great discoveries, but we also need to "reassemble" and synthesize this information so that we can see the whole. The whole person.

Nova: Looking back to that graduation day at McGill, does it make sense to you that you would end up leading the world's largest agency devoted to integrative health?

Dr. Langevin: If somebody told me at graduation that I was going to be the director of a center for integrative health at NIH, it would have been unimaginable for me. First of all, in 1978 there really wasn't a formal institutional structure around complementary and integrative health, so it would have been hard to imagine for anyone. But, on another level it does make sense. When I graduated from medical school, I decided not to do a clinical internship right away, as I had an interest in research and had the opportunity to do a postdoctoral fellowship in England. The focus of my research was the hypothalamus, the small part of the brain that acts as the interface between the brain and the body. It plays a central role in virtually all of the most basic aspects of daily life—appetite, sleep, temperature regulation, metabolism, reproductive function, and even emotional behavior. So, I was fascinated by the idea of doing research on the conductor of the orchestra, the conductor of the whole brain and body interface. Even though what we knew about the hypothalamus in the 1970s was more limited than it is now, it was obvious to me that it was really a place of integration. So, my little hypothalamus research back in 1978 helped to form the basis of my integrative thinking. The other area that I was fascinated with was interoception, the idea that the nervous system is continuously sensing and integrating messages from within the body. Although it wasn't a new idea at the time, it was starting to pick up pace. Research on interoception has waxed and waned, but today it is an exciting area with broad implications for integrative health. It involves multi-sensory integration, shapes bodily awareness and associated emotions. At NCCIH, we have emphasized the need for a greater understanding of the way interoception underpins

therapeutic approaches that are typically considered complementary, such as meditation or acupuncture.

Nova: Your education, training and research brought you to have a special interest in pain management. How has that particular focus allowed you to have far-reaching appreciation for health approaches that are beyond the conventional?

Dr. Langevin: It has. As a physician, I was discouraged by the lack of options for pain management. There was very little for clinicians to do other than write prescriptions and maybe send the patient to a physical therapist. And at the time, physical therapy was geared more towards orthopedic rehabilitation. Of course, physical therapy has really evolved since then, but at the time I had to start looking elsewhere, and that's how I ended up studying acupuncture. I was intrigued by the possibility of looking at a patient from a completely different diagnostic framework. You take the same information from the same patient, the same signs and symptoms, but you organize them differently and collate them into a whole. You see the issues they are having from a completely different perspective. That really jolted me out of my assumptions. I thought I knew how to examine a patient and take a medical history. But Traditional Chinese Medicine was showing me that one can take a history in a completely different way. In general, I think it is fair to say that if you think that there's only one way to look at a problem then you're probably wrong. So, yes, working in the pain field allowed me to appreciate and try and better understand healing from the wisdom of indigenous cultures and from different healing systems that have been in place for thousands of years.

Nova: Has a special focus on pain allowed you to see that pain can also be experienced in communities, and even larger scales. In other words, has your journey from McGill to Harvard and onward to the NIH, with a focus on pain management, allowed you to see that pain can also be observed at larger scales, and that pain has metaphorical relevance to health?

Dr. Langevin: We need to better understand pain and suffering beyond just a very narrow sense, beyond a specific lesion on the body, to include families, communities, and society at-large. And let's not forget the planet. I mean, our entire planet is suffering right now. And I think we can "feel" this, consciously or unconsciously, when in the presence of urban blight, or environmental destruction, such as a forest that's clear cut and decimated, or a polluted lake devoid of fish. Indigenous cultures are shouldering the burden of this pain, especially those that have a close connection to nature as part of their cultural heritage. So, I have really become very interested in the mutual interdependence of people and the health of the planet's natural systems. This is a line of thinking that the Nova Institute is embracing, and I applaud that. I think that, as we witness the problems that we're experiencing along the continuum of individuals, communities, society, and the larger environment, it becomes obvious that we will not thrive, unless the environment thrives, and vice versa. If human health and planetary health are inextricably linked, then human suffering and planetary suffering are linked also. I mean, that's the conclusion that I'm increasingly drawn to.

Nova: It seems that few are aware that vaccine pioneer Jonas Salk was mostly supportive of the emergent holistic health movement in the 1970s and 1980s. In 1977, he said "we are entering into a new Epoch in which holistic medicine will be the dominant model," and he distinguished holistic health from medicine, the latter he said "refers to the repair of ailing parts, but health is the properly functioning whole" [1]. Perhaps we aren't in that Epoch just yet, but your agency's Whole Person Health initiative appears to support Salk's view.

Dr. Langevin: There are certain people in communities and societies who are visionaries. I think Jonas Salk was one of those individuals. Throughout human history we have had many such prophets. One that influenced me personally was Fritjof Capra, the author of *The Tao of Physics* [2]. Dr. Capra wrote that "Physicists do not need mysticism and mystics do not need physics, but humanity needs both". Capra suggested that, even though they may be examining things very differently, an atomic physicist and an Eastern

mystic were really seeing the same thing. But his central argument, at least for me, and the Whole Person Health initiative, is that everything is connected. Biology and medicine have been slow to recognize this, and to incorporate the insights that have already occurred in other fields, including, astronomy, particle physics, and ecology. These have clearly helped us understand the way every part influences the whole, and the whole influences every part. But biology and medical sciences have not quite caught up with this kind of thinking yet, and are still struggling with the strong pull of reductionism compounded by all the built-in silos that act to limit the fields of medicine and biology.

Another important visionary was Anton Antonovsky who coined the term “salutogenesis” in his book *Health, Stress and Coping* [3]. While most of the focus in health sciences is still directed at models of disease and risk factors for disease, salutogenesis concerns itself with the creation of health. Antonovsky viewed health as dynamic, sitting on a continuum, and he placed a sense of “coherence” at the core of salutogenesis. This describes a person’s ability to draw on internal and external resources to move in a coherent way toward health. Antonovsky was mainly talking about psychological coherence, but I think this principle can apply to physiology as well—and coherence is really another word for integration. That’s a large part of the whole person health perspective, that there is recognition of a bidirectional health/flourishing-to-disease continuum that goes across psychological and physiological domains, one that is influenced by negative factors, such as stress, poor diet, sedentary lifestyle, and positive factors, such as self-care, physical activity, healthy diet, social support and psychological assets such as optimism.

But it’s not just about the individual. I think we should be looking for that sense of coherence in our society in working towards whole societal health and planetary health. Silos are still a problem, and we need a coherent strategy in our work towards understanding the factors that influence the whole health of a person, and whether or not individuals and communities thrive. We’re finding that a lot of people throughout NIH are very responsive to this idea. There is a group at NIH, the Trans-NIH Resilience Working Group, which was set up to coordinate and harmonize a resilience research agenda across NIH, and NCCIH recently led a workshop along with many other NIH Institutes and Centers on the development of research methods to study complex interconnected systems and multicomponent interventions to advance research on whole person health.

Nova: In 1980, at the beginning of the holistic health movement, health policy scholars Howard Berliner and J. Warren Salmon stated that its inattention to larger socioeconomic problems was the Achilles heel of the movement. They argued that the focus on the individual—at the expense of a focus on “*the society from which the pathology has arisen*”—was a major limitation of what is now integrative health [4]. Forty years on, do you still see this as an enduring problem? Some argue that integrative medicine, at least in clinics throughout North America, is largely the domain of the privileged. What would you say to reassure critics who might suggest the term Whole Person Health continues a tradition of minimizing the social, economic and commercial determinants of health?

Dr. Langevin: Well, I can say that we’re working really hard on this because this is a critical issue that still has a long way to go to be properly addressed. Healthcare disparities and lack of equitable access to care, all types of care, including complementary care, is an enduring problem. The fact that people are still needing to pay out of pocket for many non-drug therapies, or not even therapy per se, but effective instruction for example, on nutrition on lifestyle interventions, is a problem. So many people need help, they need help with health literacy, and they need help continuing to sustain healthy behaviors. And where are they going to get this help, who’s going to help them with this? We can’t just assume that people are just going to do this on their own. And so, we are working very hard at NIH to address this problem by really working on a couple of different areas. One is what we call implementation science, which means studying how to take an intervention which we know is effective, and optimally deploy it in a “real world” health care setting. We know that opiates are still widely overprescribed for chronic pain, and that non-pharmacological

interventions should be first-line. How can a needed change in health care practice occur, such that the intervention is adopted, optimized and reimbursed? So, we're working, for example, with the Center for Medicare Services (CMS) to look at acupuncture for low back pain in older adults. We have a study that's ongoing right now through the HEAL Initiative, which is a large trans-NIH effort at NIH to attend to opioid addiction. So, there are funds specifically dedicated to this.

We're also continuing to really move the needle towards ensuring that the people who control access and reimbursement are informed by high quality data and information that determines the decisions that otherwise affect so many lives. Of course, we don't control reimbursement at NIH, but we can provide the right research and fund ideas that help determine what works and supports equitable access to effective therapies.

Related to that, we are really focusing on stress management because we think this is something that is key, especially because reports of stress among Americans is at unacceptably high levels. The combination of multiple socioeconomic and health crises is hitting people all at once. Unfortunately, there is a common perception that the available methods for managing stress are in the exclusive realm of the people with the most resources, the educated elites. This is untrue. There are accessible, simple tools, like relaxation techniques and breathing techniques, that people can use, once they've been instructed, for the rest of their lives to manage stress and help with sleep problems. So, we're really encouraging the kind of research that helps people with those tools, but also dissemination of this kind of information. What are the barriers to health literacy and the dissemination of information that we already know is based on good evidence? We just need to figure out how people can learn about these and other interventions, and implement them in their lives. Of course, we also need to simultaneously address the upstream drivers of stress as well as the barriers to whole person health—poverty, social inequities and injustice, racism, marginalization, and other well-known factors. But even if those issues were wiped away tomorrow, significant stress would still be a reality of life, as it always has been. It will continue to tax multiple bodily systems and contribute to acute and chronic disease. So, people need universal tools that they can use themselves to help them cope with stress on a daily basis.

Nova: You have said that, in the context of rapidly evolving technological advances in science and medicine, that you are concerned with “lost knowledge”. Historically, the holistic health movement has had an appreciation of Indigenous tradition and wisdom. Indeed, decades before the planetary health became a “bona fide” field with its own journals, international meetings—accelerated by the 2015 publication of the Rockefeller–Lancet Commission on Planetary Health [5]—the holistic health movement emphasized the Indigenous perspective that “*to harm the Earth is to harm the self*” [6]. Can you comment on your concerns about lost knowledge?

Dr. Langevin: Well, this is a topic that interests me profoundly. I have been fascinated with lost knowledge since the beginning of my research career when I was doing research on understanding the anatomy of the human hypothalamus. I came to realize that there was a robust literature on the hypothalamus that had largely been lost to history. In the first half of the 20th century some researchers had described the anatomy in detail. But in 1980, I was only able to find one living person who knew how to identify the many areas within the human hypothalamus under a microscope, Dr. Walle Nauta at MIT. And I was very fortunate to be able to meet with Dr. Nauta before he died, and to learn this information from him and put it into a paper which is one of the few links from this old knowledge to now. That is just one tiny example. It made me think of the sheer volume of knowledge that can get lost. We tend to think that the only thing that's important is the new and “current” scientific and medical literature. What's getting published right now is the latest and greatest, right? And a lot of times, what's in the old dusty books, the sort of material that gets forgotten, contains critical information and wisdom.

I've also observed how lost knowledge can shift large scale focus within medical disciplines. For instance, my research and clinical interest in connective tissue and fascia was once the central domain of rheumatology. With the emergence of measurable immune

markers and immunology in the 1960s and 1970s, the connective tissue became secondary, and now you have entire departments of rheumatology where you don't see a single person who is interested in the actual tissues. Everybody's looking at immune cells and immune responses. I understand and appreciate why that is, but connective tissue essentially fell off the map of medicine. If you look at a current textbook of orthopedics or rheumatology, you're lucky to have a paragraph on connective tissue. So again, that's lost knowledge.

Now, those are just small examples within medicine. The knowledge that can be lost is immeasurable if we only focus on what's fashionable at the moment. Think of the knowledge transmitted orally through Indigenous cultures, knowledge and wisdom that was for so long not taken seriously by western scholars. Think of the knowledge about a single plant, its potential healing properties, or some kind of medicinal practice. Maybe the person who knew about this plant is no longer alive or the knowledge is not being transmitted, or the plants themselves are disappearing because the habitat is being decimated. We know we are losing biodiversity, and with it we are losing information, and potential. We are trying to address this at NCCIH. We are supporting researchers in ethnobotany who are interested in looking at medicinal plants, going to the environments where they live, finding these plants, and recording the knowledge. The aim is to gather information, codify it, digitize it, and make sure that we know about these plants, before the knowledge, and the potential, is lost forever. So, this is really important work.

The other type of knowledge that I think is being lost is the knowledge about health recovery and restoration. In the old days, if you read a textbook, or not even a textbook, say a novel, from the 18th or 19th century, you can read depictions of people recovering from illness. They focus on this convalescence period where, let's say, a person was recovering from pneumonia. It is a time when they're not yet well, and it might take them several weeks or even longer to get back to health. During that time tremendous attention is paid to what the person eats, what they do and how much they do. There is a focus on how much actual physical activity there is, and whether or not there is enough rest. There is acute awareness that the person could easily swing from recovery back towards illness and death. Of course, today we have antibiotics and other therapeutics, but we assume that everything's well once we have been treated, even though our microbiome has been decimated and full recovery has not yet taken place. I think we have lost knowledge about convalescence and its place in health restoration. The process of relearning is arduous but important. Limiting ongoing knowledge loss is therefore a matter of restoration and prevention for the future of our collective societal health.

Nova: Speaking of planetary health, it has been argued that since problems along the person, place and planet continuum are complex and integrated, the field of integrative health is uniquely positioned to educate and advocate on behalf of patients and communities—current and future—helping to safeguard health of person, place and planet. Do you agree with this sentiment?

Dr. Langevin: Absolutely, I think the field of integrative health has a tradition of appreciating complexity. The whole person health perspective underscores that we need to transform our approach to healthcare in the 21st century. It is time to fully recognize that our interdependence with one another, and with the natural world, should be part of health discussions, in the clinic, throughout communities and beyond. Climate change is a global threat. So is a massive loss of biodiversity.

We can learn so much from Indigenous cultures and healing systems that are rooted in awareness of the intricate relationships between humans and the entire web of nature. These approaches also focus on the mind, body and spirit. Importantly, if we seek to learn from other cultures, especially cultures that have been traditionally marginalized, we have to do it in a very respectful way. It is great to work with indigenous cultures to try to understand their traditional practices, but this can be a topic that's quite sensitive. Healing traditions can be quite sacred to Indigenous cultures, and we cannot assume that we can just show up and expect to have full immersion in a culture, and a form of suffering, that most westerners have not known. That's their tradition. What's more, cultural appropriation

and homogenization have been all too common. The level of human suffering, I think, has been profound. At the same time, we are all human together, and the more we can understand each other, and the universal threats we face together, the better.

Nova: The history of the holistic health movement and its transition to the contemporary integrative health professions has been undeniably associated with pseudoscience, outlandish claims and marketing overreach of products with little to no quality scientific support. Do these issues still concern you? Do you think the spread of misinformation and disinformation harms your work?

Dr. Langevin: Well, absolutely! Our mission, a vital part of our mission, is to really have a robust communication strategy where the highest quality information is disseminated to the public and other healthcare and scientific professionals. The public needs to know where the research stands, and where it is going, to know what we have in terms of evidence that either support or does not support various practices and interventions. It is so important that we disseminate information based on evidence and facts. The NCCIH doesn't work by different standards of evidence. Our standards are completely aligned with other institutes and centers throughout the NIH, and there is absolutely no difference in the amount of rigor that applies to this kind of research. We also recognize the threat of mis and disinformation, and there's a lot of it out there. This is why our communications team pays close attention to detail. We produce timely and important updates on our website, giving people the tools to better help them understand the many complex topics related to health. Our aim is to equip the public and empower individuals so that they are better able to sift through the information that they get from the media and around the internet.

Nova: You have said that “when fully realized, integrative health is whole person health”. It is hard to counter that claim. As such, and given that the work of your agency intersects with so many branches of medicine and science, could you envision an evolution of the agency wherein Whole Person Health is stated in the name? Is the word Complementary still relevant? With the Whole Person Health strategic plan, it might be easy for an outsider to see that NCCIH is evolving from, or perhaps outgrowing, a box that was confined to “complementary” medicine. So much of the work related to the agency, from green space and nature to belief systems and lifestyle, transcend the original efforts such as examining whether or not a particular botanical extract in standardized form might have value, etc. To be sure, the public needs a trusted agency that can help navigate a complicated landscape with many formulas and modalities, but the Whole Person initiative is filling in a larger void, and perhaps a much more important one. What are your thoughts?

Dr. Langevin: This is a good question. Maybe in the future, but I think right now we're well positioned with the name Complementary in the title. Of course, we are still evolving from the initial name change that occurred in 2014, which was to move away from the term alternative. That was a term that was no longer relevant, as the approaches that we study are not meant to be used instead of conventional care. But the term complementary, I think, is still relevant because health care is not completely integrated yet. But we're moving in that direction. Eventually, when there is no distinction between complementary and conventional, when everything is fully integrated, you know, perhaps, the term complementary could be dropped. But I don't think we're there yet. I think we're in a good position right now with NCCIH's name because it emphasizes the integration, but also recognizes that we still have some work to do. We certainly want to see complementary and integrative health research efforts move toward whole person health. We want to see health of the individual studied from biological, behavioral, social and environmental perspectives, and across family, community and population domains. What is undeniable is that the concept of whole person health is a major part of the NCCIH strategic plan through 2025, and you never know what's going to happen in the future.

Nova: In 1988, OMNI magazine asked well known personalities, some in science and medicine, about their own utopian thinking, or the world they would like to live in.

Contemporary research on utopian thinking indicates that it can be a healthy process, increasing both personal and social hope, yielding an abstract mindset that bridges the psychological distance between the status quo (“here and now”) and a better possible future. What type of world would you like to live in?

Dr. Langevin: I feel like somebody else has already done that for me and has imagined that ideal world. That person is Sir David Attenborough. I would recommend that everyone watch his recent film *A Life on Our Planet* (Netflix, also available in large part on YouTube). I would say I’ve watched it a half dozen times, and I’ve even transcribed some parts, especially the optimistic parts at the end where he describes the world that he, and I, would like to live in. He says, “*In this world, a species can only thrive when everything around it, thrives, too, . . . and if we take care of nature, nature will take care of us. We need to learn to work with nature, rather than against it. Humans have come this far because we are the smartest creatures that have ever lived. But to continue will require more than intelligence. It will require wisdom*”. I think to me, this is it. Because it links human health and planetary health in a way that is mutually interdependent, beneficial and synergistic. That’s it. I would like to live in that world, in a diverse world where everything and everyone, every living and inanimate thing, is in balance, the way it should be.

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