

The Age of Scientific Wellness: Why the Future of Medicine Is Personalized, Predictive, Data-Rich, and in Your Hands

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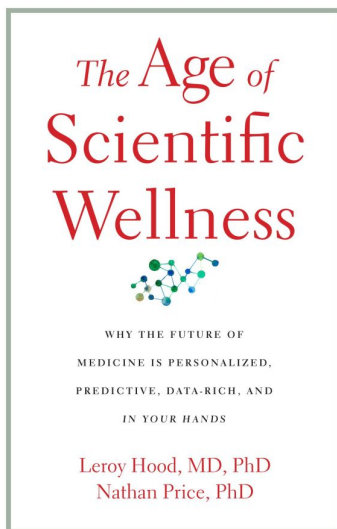
Authors: Leroy Hood, MD, PhD; Nathan Price, PhD

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The premise of this book is to advocate for preventing or even reversing a disease process before it becomes a chronic or terminal illness. The authors, a physician with a PhD in biochemistry (Leroy Hood) and a political scientist with expertise in big data in biology and medicine (Nathan Price), collaborated to share this work on scientific wellness. Despite a desire to focus on prevention, many primary care clinicians end up treating disease when symptoms occur. The authors refer to this approach as “a model that is really ‘sickcare’ rather than ‘healthcare’” (p. 1). They describe a transition phase in the progression from wellness to disease in which physicians and/or patients can intervene to change the trajectory. Hood and Price use the P4 theory to describe how health care should be: predictive, preventive, personalized, and participatory.¹⁻³ The text is built around this theory, integrating a detailed explanation of how it translates to practice and how it can be accomplished. One intriguing and thought-provoking chapter contrasts biological aging and *chronological* aging, including how to measure both. The authors discuss the difference between “lifespan” (time spent alive/functioning) and “healthspan” (time spent in a healthy state). The text suggests how physicians can use properties of the blood and individual genetics to help deliver precision care specific to each patient and thereby enhance wellness.

The authors provide practical ideas the reader could use immediately. They also effectively address potential barriers and pitfalls with this approach to health care. For instance, this method is currently available, but only to a select few with financial resources. They ask how the system can embrace the advantages of this type of care, including cost savings, and make it accessible to everyone. In Chapter 4, they address a potential patient barrier: How do we get patients to engage in their health care? They advocate to start by “mak[ing] the invisible visible” (p. 121). “By sharing more information with patients, we can move these important metrics into the realm of conscious awareness. That alone would represent a massive shift in how we care for ourselves and think about our health and well-being” (p. 121). A common example of how clinicians are using this approach is with A1cs to help diagnose prediabetes, which is engaging patients in their current health care to prevent a devastating disease. The authors effectively draw in the reader with descriptions of the vast opportunities the P4 model offers if the system would invest in the time, research, and energy to make change happen.

This is a well-written work that is easy to read. The chapters are organized by subject in a logical sequence. The illustrations help reinforce the key points. For readers who are unfamiliar with the P4 theory of health care, this book uses cutting edge material to explain it thoroughly. The book captures the reader’s attention and piques curiosity. At the same time, some segments that delve deeply into the biology seemed unnecessary to get the points across. These segments, while brief, were a bit difficult to get through. However, the



authors provided sufficient repetition of the main points to highlight them for the reader without becoming too redundant. The concrete examples, such as Alzheimer’s disease and the effect of neuroplasticity (pp. 160–162), really capture the reader’s attention and enable clinicians to imagine what they may be able to do for their patients and for their own health.

The authors do address concerns that have been raised about using this approach, including “cost, data privacy, lack of racial inclusion, government control of surveillance technologies, corporate intrusion into personal health data, genetic discrimination and complexities of analyzing big data” (p. 124). One item they do not address is the time that would be required for primary care clinicians to include this approach in their preventive health visits, which already are time-limited and full of must-do items. However, as a primary care physician myself, I still find this data very intriguing and think it would be worth figuring out how to incorporate this model.

This book is certainly worth the time and cost. Because primary care clinicians are well-positioned to engage patients in preventive care and shared decision-making, they are the most appropriate audience for this work. The authors make a compelling case that could change how clinicians and leaders think about the future of health care delivery. I recommend this text, particularly for the undergraduate medical education setting. It could help develop physicians who actively emphasize prevention so that the system can move away from merely treating disease to keeping people well.

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