



# Spread your wings: illuminating nature and nurture in personalized medicine

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Illustrated through a harmonious collection of geometric poly art and 3D digital media, the artworks in “Spread Your Wings: Illuminating Nature and Nurture in Personalized Medicine” highlight the complex duality of nature and nurture in the physiologic manifestations of diseases in patients. The collection also elucidates how personalized medicine can help improve patient health outcomes.

In *Figure 1*, the colorful forest scenery represents the diverse environmental factors of nature that affect the health of patients, such as cardiovascular diseases, and the DNA double helix ladder represents the genetic manifestations. For example, atherosclerosis and heart disease outcomes are a complex interplay of both genetic family histories of cardiac predispositions and environment factors, such as diet and exercise. Considering the diverse outcomes of patient health influenced by both nature and nurture can impact healthcare providers’ decision-making.

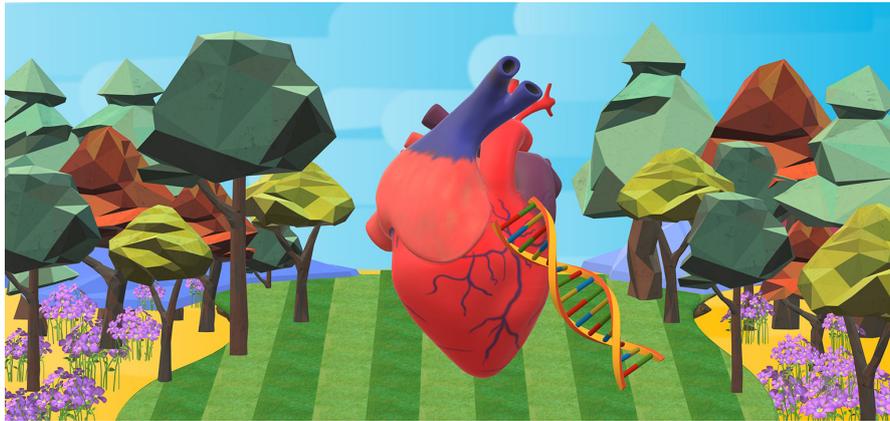
In *Figure 2*, illustrates the juxtaposition of the heart and brain, representing decisions that incorporate emotions immersed in empathy, as well as logical decision-making that embraces clinical reasoning while delivering patient care. The flourishing tree in the center, with the helical DNA structure wrapped around its trunk and roots, is emblematic of a patient and his or her unique genetics and health. This underlines the importance of personalized medicine and the balance of compassion and empathy—as elucidated by the heart emblematic of emotion—and problem-solving and clinical knowledge—as elucidated by the brain emblematic of reason. Caring for diverse patients

in a personalized way, depicted by the diversity of colors in the emblematic artworks above, illuminates the meaning of patient-centered care.

Like the wings of a butterfly, the metamorphosis of enhanced patient care emerges from the nurturing cocoon of personalized medicine. The bright colors in both artworks furthermore highlight the optimism and hope for medicine’s future and progress in enhancing patients’ quality of life. The dichotomy of the figures draws attention to the importance of body, mind, and human spirit, as physicians, healthcare providers, patients, and their families work together to encompass clinical reasoning and empathy in patient care. Emerging from the roots of genetics and taking flight into the living world, the artworks thus depict the integrated salience of nature and nurture in personalized medical decision-making, promoting optimal patient-centered care for both our current and future generations beyond.

## Author’s Statement

Kathleen H. Miao and Julia H. Miao graduated from Cornell University with BAs in Biological Sciences. Dedicated to caring for their patient communities, Julia and Kathleen enjoy engaging in their passions for humanistic medicine through patient advocacy, research, and visual art narratives. Their photography and artworks have been featured and displayed in galleries and exhibits across the country. Both authors contributed equally to the artworks and writing of the article.



**Figure 1** Forest of life.



**Figure 2** Wings of metamorphosis.

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## Footnote

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*Ethical Statement:* The authors are accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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