How Will We Advance Human Health?

The University of Minnesota has an illustrious history of contributing to improvements in human health and well-being. Today, we possess unique strengths relevant to this challenge, not only in the health sciences, but throughout the University and in our partnerships with government, the private sector, and the nonprofit sector.

Among land grant universities, we possess a rare combination of leading scholars across three core scientific areas: academic medicine, veterinary medicine, and food production and delivery. We have a long and successful tradition of collaboration on medical device development with external organizations located in Minnesota. We have internationally recognized centers for the development of innovative health interventions; outstanding programs in the behavioral and social sciences focused on health risks and health promotion; and vibrant research programs in the humanities and social sciences exploring health in relation to social equity, human dignity, and quality of life.

In response to our Call for Ideas, the Provost’s Grand Challenges Research Strategies Team received more than 30 faculty idea submissions focused on advancing human health. Among these submissions, there was a strong consensus that we must not simply adapt to but rather drive and shape the changes that are transforming human health locally and across the globe.

Technological advances are enabling path-breaking approaches to disease prevention and treatment, ranging from nano-based medicine and interventions tailored to individual genomes to innovative models for promoting health and delivering care. At the same time, human health and well-being confront a host of new threats as well as persistent, serious problems of equity in the distribution of health and the organization of care. Interconnections among world populations foster the spread of new infectious agents that must be anticipated. Aging populations strain medical systems as well as the collective infrastructure of social and economic well-being. To respond effectively, we must strengthen our capacities for prevention and treatment; develop more effective ways of promoting physical, mental, and social health; ensure that the benefits of health promotion enhance social equity and human dignity; and develop new training models for health care professionals.

In this research forum, we will discuss key questions raised by faculty submissions, focusing on how to move from these separate and specific ideas to one or more coherent and integrative Grand Challenge Research initiatives to advance human health. The major themes that emerged from idea submissions in this area include:

- Promoting health through food and nutrition initiatives
- Personalizing treatment and prevention, tailoring medically “precise” interventions
- Developing innovative treatments for diseases
- Designing new models for health-related education and training
• Investigating and addressing new health risks and emerging challenges
• Strengthening efforts to advance brain health and related neuroscience
• Tackling health challenges related to social diversity, inequality, and inequity
• Preventing and controlling pandemics, outbreaks, new infectious diseases
• Innovating to ensure high levels of care and quality of life for aging populations

Summary by members of the Provost’s Grand Challenges Research Strategies Team, October 2015

For more on the GC Research process, visit strategic-planning.umn.edu