

Report Targets Acceleration of Cancer Research to Meet Moonshot Goals

A consensus report in the October 31 issue of *The Lancet Oncology* outlined steps needed to effect a “fundamental shift” in the ways cancer research is conducted and cancer care is delivered in the United States in order to meet the goals of the Cancer Moonshot initiative. The report included a detailed roadmap to deliver on National Cancer Institute (NCI) Blue Ribbon Panel recommendations, including a focus on prevention, a new model for drug discovery and development, a broad expansion of patient access to clinical trials, and an emphasis on targeted interventions to improve cancer care for underserved groups, specifically children, cancer survivors, and minority groups. The report emphasized the importance of addressing health disparities in all recommendations.

The *Lancet Oncology* Commission on Future Research Priorities in the United States, which issued the report and will pursue additional initiatives and analyses, includes more than 50 leading U.S. oncologists, many of whom are leaders from cancer organizations and professional societies. A number of SNMMI members served as commissioners and contributed to development of the report. They include SNMMI immediate-past-president Sally Schwarz, MS, RPh, BCNP; SNMMI past-president Hossein Jadvar, MD, PhD, MPH, MBA; David Mankoff, MD, PhD; Martin G. Pomper, MD, PhD; and Richard Wahl, MD.

The report set out 13 key priority areas, each with measurable goals, on which to focus the \$2 billion of funding released to NCI as part of the 21st Century Cures Act. The report highlighted the ways in which technological advances (including understanding and mapping precancer biology and rapid adoption of big data as well as new collaborations across industry, patient groups, academia, government, and clinical practice) will be critical to supporting research and improving patient care. The activities of the commission were launched on November 1 at an event on Capitol Hill (Washington, DC) and were presented, along with the first report, on November 3 at the United Nations Association of New York Humanitarian Awards, where former Vice President Joe Biden was honored for his work on improving cancer outcomes as part of the U.S. Cancer Moonshot initiative.

Elizabeth Jaffee, MD, from Johns Hopkins University School of Medicine (Baltimore, MD), is cochair of the commission. She said “The U.S. 21st Century Cures Act provided nearly \$2 billion in funding to accelerate cancer research, but strategic allocation of resources will be crucial to accelerate research, treatment, and ultimately patient care. This commission maps an ambitious path ahead to guide researchers, funders, industry, and policy makers in prioritizing the best research to benefit patients.”

Chi Van Dang, MD, PhD, scientific director of the Ludwig Institute for Cancer Research (multiple locations) and the Wistar Institute (Philadelphia, PA), also a commission cochair,

said “The cancer research community has embraced the extraordinary opportunity of the Moonshot initiative with remarkable energy. To ensure that cancer research in the USA continues to be world-leading, it is imperative that investment is concentrated into specific research areas. The commission identifies key areas to prioritize across technology, clinical research, public health, and drugs policy to achieve this goal.”

Commenting on the commission, Greg Simon, president of the Biden Cancer Initiative, said the report “provides a roadmap to change the course of cancer in our lifetime—a journey in which we should actively participate. Patients, caregivers, doctors, researchers, nurses, and scientists all need to embark on the course of action proposed by the report, without delay. Time is of the essence, and so action must be taken now.”

The commission highlighted the importance of cancer prevention, including the development of a premalignant cancer atlas to identify small changes in healthy tissue at the earliest stages of cancer development, opening new opportunities for precision-based cancer prevention. The need to move toward targeted screening was also cited as important. Data sharing and patient-centered priorities will be critical to advance research and improve care. The report strongly supported development of data systems that allow patients to input personal data for use by the cancer community, which would, in return, provide outputs that allow patients to identify the most scientifically sound clinical trials for which they might be eligible. The ultimate goal is to align research and care “in a seamless continuum such that all patients have access to clinical trials as part of standard care and their clinical course and experience informs future research.”

An unprecedented increase in the number of therapies has been approved for marketing by the U.S. Food and Drug Administration in the past 3 years but has been accompanied by tremendous costs, with hundreds of drugs failing in clinical trials. Bringing a single new therapy to the market is estimated to cost \$2.6 billion. Among the commission’s recommendations was the need for an overhaul of the drug discovery process so that projects can be discontinued earlier in the development phase. The commission also recommended strategies to transform the ways in which academia, industry, and clinical groups collaborate to improve efficiencies.

The commission addressed the need to assess and plan for the long-term requirements of the increasing numbers of patients who are now surviving cancer treatments with chronic conditions. The report also cited the need to better understand the context of care in diverse racial, cultural, and socioeconomic groups and to ensure equitable access to care that is financially sustainable for the individual and society.

The complete report is available in Jaffee et al., Future cancer research priorities in the USA: A *Lancet Oncology* Commission (*Lancet Oncol.* 2017;18[11]:e653–e706).