The Lancet Oncology: Major report sets out how to accelerate cancer research and care, delivering on US Cancer Moonshot initiative

October 31, 2017 (embargoed until 6:30 p.m. ET) – A fundamental shift in how cancer research is conducted and how cancer care is delivered in the USA is required in order to deliver on the US Cancer Moonshot initiative, according to a major new report published today in *The Lancet Oncology* journal.

The report sets out a detailed roadmap to deliver on the Blue Ribbon Panel recommendations, including a focus on prevention, a new model for drug discovery and development, a vast 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 emphasizes the importance of addressing health disparities in all recommendations.

*The Lancet Oncology* Commission on Future Research Priorities in the USA is authored by over 50 leading oncologists in the USA, including members of leading US cancer organisations, and sets out 13 key priority areas, each with measurable goals, to focus the US$2 billion of funding released to the National Cancer Institute as part of the 21st Century Cures Act.

It highlights how technological advances, including understanding and mapping pre-cancer biology and the rapid adoption of big data, as well as new collaborations across industry, patient groups, academia, government and clinical practice will be critical to advancing research, and ultimately improving patient care.

The Commission will be launched on November 1st at an event on Capitol Hill, Washington, DC and presented on November 3rd at the United Nations Association of New York Humanitarian Awards, where former Vice President Joe Biden is being honoured for his work on improving cancer outcomes as part of the US Cancer Moonshot Initiative.

Professor Elizabeth Jaffee, President-elect of the American Association for Cancer Research (AACR) and co-Chair of the Commission from Johns Hopkins University School of Medicine, Baltimore, USA, says: “The US 21st Century Cures Act provided nearly US$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 prioritising the best research to benefit patients.” [2]

Professor Chi Van Dang, Ludwig Institute for Cancer Research, New York and The Wistar Institute, Philadelphia; and co-Chair, says: “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 prioritise across technology, clinical research, public health and drugs policy to achieve this goal.” [2]

Commenting on the Commission, Gregory Simon, President of the Biden Cancer Initiative, says the report “provides a roadmap to change the course of cancer in our lifetime—a journey in which we should actively participate. Patients, caregiver, doctors, researchers, nurses, and scientist 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 highlights 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 up new opportunities for precision-based cancer prevention. The need to move towards targeted screening will also be important.

Professor Scott Lippman, University of California San Diego Moores Cancer Center, co-author, says: “Past efforts to prevent cancer have been limited and sometimes hindered by serious and substantial disparities. A one-size-fits-all strategy does not work. That’s the premise of precision medicine and it should be for prevention efforts as well, such as screenings, which should be tailored by age, risk, demographics and other factors. Colorectal screening, for example, is extremely poor in Latinos, especially of low income, but there are new programs that overcome language and social barriers to boost breadth and success. Obesity research is crucial given the growing global epidemic and promise of recent work in special energetics, sedentary behaviour and meal timing. These strategies will have a great effect on minimising morbidities and mortality from cancer in future generations.” [2]

Data sharing and patient-centred priorities will be critical to advancing research and improving care. The report strongly supports developing data systems that allow patients to input their own personal data for use by the cancer community and, in return, provide outputs to patients that allow them 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 have been approved for marketing by the US Food and Drug Administration in the past two to three years, but this continues at immense costs, with hundreds of drugs failing in clinical trials. Bringing a single new therapy to the market is estimated to cost US$2.6 billion. Among the Commission’s recommendations is the need for an overhaul of the drug discovery process so that projects can be discontinued earlier in the clinical development phase, and to transform how academia, industry and clinical groups collaborate to vastly improve efficiencies.

Patients with cancers that were once lethal are now living longer with cancer as a chronic condition, meaning that guidelines must be developed to address the long-term health care needs of patients while undergoing therapy and of survivors. Finally, patient outcomes are greatly affected by racial, cultural, and socioeconomic background and there is a need both to better understand the context of care, and ensure equitable access to care that is financially sustainable for the individual and society.

Professor Jeffrey Peppercorn, Massachusetts General Hospital, Harvard Medical School, Boston, co-author, says: “As we make advances in cancer care, one of our priorities must be to ensure that all patients who may benefit have access to high quality care. We need to better understand and address costs of cancer care and disparities in care in the U.S. and internationally. This is an exciting time in cancer care and research and we need to make sure that the oncology community comes together, working beyond national borders whenever necessary, to accelerate global effort to control cancer and improve the lives of patients.”[2]

Clifford Hudis, CEO of the American Society of Clinical Oncology (ASCO) and former Chief of Breast Medicine at Memorial Sloan Kettering Cancer Center, New York, and co-author, says: “Although clinical
research has been challenged by reduced support as well as regulatory and administrative burdens, we have recently seen truly remarkable progress across a range of malignancies. The blueprint laid out by the BRP and this Commission should help us prioritize our efforts to accelerate meaningful clinical advances in the next 4-5 years. The provisions provide an opportunity for cancer investigators, federal agencies, universities and research institutes, and private philanthropic supporters worldwide to direct their investments and help the global community meet the ambitious goal of delivering ten years progress in half that time. The time for action is now.”

Full list of Commissioners:
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