



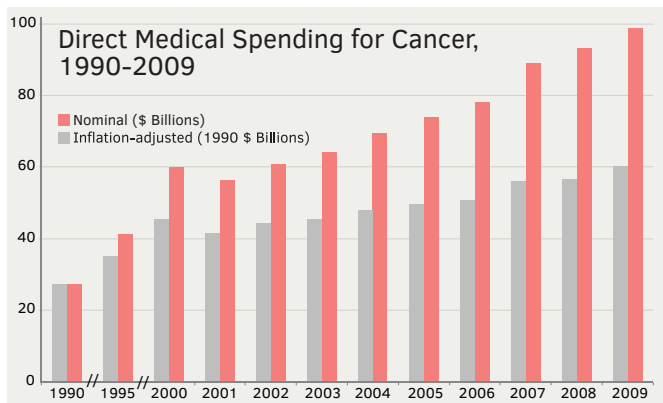
Newsletter of the Survivorship, Outcomes And Risk Program at MSK

High Price of New Drugs Brings Attention to Cost of Cancer Care

SOAR Investigators Study Cost and Value of Interventions in Oncology

In 2014, 6 of the 7 new drugs approved for adult cancer indications were priced above \$100,000 for a year of therapy. Is this too expensive? Are the benefits of these drugs worth their high prices? If the market is willing to pay these prices now, how will next year's new drugs be priced?

The price of new drugs in oncology has dominated recent headlines, and the cost of cancer care in general is a subject of great concern – to clinicians, payers, and above all to patients and their families. By one set of estimates, direct medical spending for cancer increased from about \$27 billion in 1990 to more than \$90 billion in 2008, a more than two-fold increase even after adjusting for inflation (see chart). With median household income at \$52,000 and most health insurance covering 80% or less of the cost of treatment, it is no wonder that medical expenses have become the leading cause of personal bankruptcy in the US.



Source: Elkin and Bach, JAMA 2010

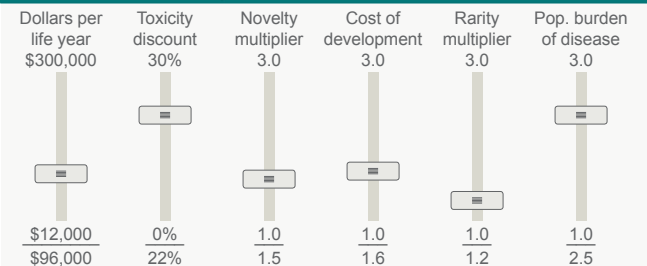
Motivated by the sky-rocketing cost of new cancer drugs and questions about their value, **Peter Bach** (Health Outcomes), created the DrugAbacus, a web-based tool to explore drug prices. A DrugAbacus user decides how heavily to weight specific attributes of a drug – its clinical benefit, toxicity, novelty, cost of development, and the rarity and burden of disease. The DrugAbacus shows how the price changes as the weight on each component changes (see images). For example, if the novelty weight were doubled from 1.0 to 2.0, the monthly price of ipilimumab (Yervoy), a first-in-class drug for melanoma, could increase from less than \$14,000 to more than \$27,000 per month. Ipilimumab is currently priced at almost \$40,000 per month.

Bach has been studying cancer drug prices and reimbursement for almost a decade. He has published numerous commentaries questioning the value of highly priced

new drugs and offering strategies to help control cost growth in general and Medicare spending in particular. In October 2012 he co-authored an op-ed in the *New York Times* explaining MSK's decision not to include the angiogenesis inhibitor ziv-aflibercept (Zaltrap) in its formulary for treating metastatic colorectal cancer. At that time, the drug was marketed at twice the price of its leading competitor, bevacizumab (Avastin). The maker of ziv-aflibercept halved the drug's price less than a month later.

Evaluating the cost of an intervention relative to its health benefit is the goal of cost-effectiveness analysis. CEA is a formal part of coverage and reimbursement decisions in several countries, but is often criticized in the US as a move toward health care rationing. Describing the role of CEA in decision making, **Elena Elkin** (Health Outcomes), who has studied the cost-effectiveness of cancer drugs and other health care interventions, said "the point of CEA is not to say that something is or is not affordable, or should or should not be covered, but to help consumers and policymakers see the additional 'bang for the buck' of a more expensive, more effective intervention." With Bach's DrugAbacus and other tools, US policymakers may finally be ready to consider methods for estimating the value of new drugs. In July ASCO published a conceptual framework to assess the value of cancer treatment options. In October the National Comprehensive Cancer Network is expected to release a cost-effectiveness tool that compares cancer drugs by their costs, benefits and side effects.

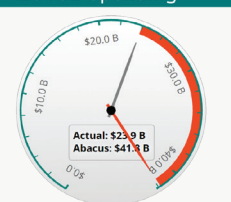
Modifiable Price Components



Above: DrugAbacus users assign weights to different components of a drug's total price.

Right: The dial shows total projected and actual spending on the 54 drugs in the DrugAbacus based on the user-assigned weights to the drug price components.

2015E Spending



New Provocative Questions for 2015 and 2016 Funding Cycles

NCI Initiative Supports Research on Unsolved and Understudied Problems in Cancer

NCI is accepting proposals to address 12 new questions in cancer research. The requests for applications, posted earlier this year, represent the most recent phase of NCI's Provocative Questions initiative, launched in 2011 by former NCI director, Harold Varmus. About \$40 million will be awarded for up to 40 new R01 and 20 new R21 grants over the next two years.

Several of the most recent Provocative Questions (PQs) may be especially relevant to SOAR investigators, including the following three:

- > **PQ-2** What molecular mechanisms influence disease penetrance in individuals who inherit a cancer susceptibility gene?
- > **PQ-3** How do variations in tumor-associated immune responses contribute to differences in cancer risk, incidence, or progression?
- > **PQ-12** What methods and approaches induce physicians and health systems to abandon ineffective interventions or discourage adoption of unproven interventions?

Since its inception, the Provocative Questions initiative has awarded 188 grants with more than \$70 million in dedicated funding, according to NCI's Center for Strategic Scientific Initiatives. The program was initially conceived as a way to stimulate research on major unsolved or understudied problems in oncology. According to the most recent RFAs, proposed research must be likely to yield far- or broad-reaching advances in our understanding of a problem. Unlike many other NIH extramural funding programs, emphasis in the Provocative Questions initiative is on "the novelty and significance of the concepts to be explored with a relaxed requirement for preliminary data."

SOAR investigator **Lee Jones** (Medicine) received an R01 in 2014 through the Provocative Questions initiative for his study, "Dose and Mechanisms of Exercise in Breast Cancer Prevention."

Current PQs and application requirements are described in RFA-CA-15-008 (R01) and RFA-CA-15-009 (R21). Applications for the next funding cycle are due on October 29th. Applications will also be accepted next June and October.

SOAR Grants

Peter Bach (Health Outcomes) received an award from Kaiser Permanente to develop a strategic plan for an institute for pharmaceutical pricing.

Francesca Gany (Immigrant Health & Cancer Disparities) received an R01 from the National Institute of Nursing Research for “Taxi HAIL (Health Access Interventions for Longevity).”

Jennifer Hay (Psychiatry & Behavioral Sciences) received an R01 grant from the National Cancer Institute for “‘Don’t Know’ Responses to Risk Perception Questions: Identifying Mechanisms and Solutions.”

Talya Salz (Health Outcomes) received an R03 grant from the National Cancer Institute for “Do Cardiovascular Risk Factors Modify the Cardiotoxicity of Lymphoma Treatments?”

Jamie Ostroff (Psychiatry & Behavioral Sciences) and Megan Shen (Weill Cornell Medical College) received an R03 grant from the National Cancer Institute for “Empathic Physician Communication and Stigma in Lung Cancer Patients.”

Anthony Yu (Medicine) received an award from the American Heart Association for “Long-Term Cardiovascular Impairment Associated With Trastuzumab Cardiotoxicity.”

SOAR Seminar



Immaculata De Vivo, Harvard Medical School, presented *Telomeres and Human Health: What We Know So Far* on June 16th.

SOAR Honors

- ★ **Jaya Satagopan** (Biostatistics) was named a Fellow of the American Statistical Association.
- ★ **Jonine Bernstein** (Epidemiology) was appointed to the Scientific Advisory Board of the Radiation Effects Research Foundation in Hiroshima, Japan.

Mark your calendar

October 6-10	American Society of Human Genetics Annual Meeting Baltimore, MD
October 13 4:00PM M-107	SOAR Seminar Andrew Salner, MD Hartford Hospital
October 18-21	Society for Medical Decision Making Annual Meeting St. Louis, MO
October 31- November 4	American Public Health Association Annual Meeting Chicago, IL

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Food Insecurity in Cancer Patients

Study Examines Use of Hospital-Based Food Pantries

Nearly three-quarters of low-income minority cancer patients visiting hospital-based food pantries are food insecure, according to a study by **Francesca Gany** (Immigrant Health & Cancer Disparities). The study was published online in the *Journal of Community Health* in June.

Food insecurity is associated with poor medical care adherence, nutritional risk, financial strain and depression. Cancer patients may be especially vulnerable to food insecurity and its consequences due to disease-related metabolic changes, intensive treatment protocols and side effects. Recognizing these risks, the Immigrant Health and Cancer Disparities Service partnered with the Food Bank for New York City to establish hospital-based food pantries at five sites in New York. Patients identified as food insecure or who report a need for food support can receive weekly portions of shelf-stable milk, fruits and vegetables, grains, meats and non-meat proteins.

The study followed 351 food insecure patients with cancer who visited a pantry between October 2011 and January 2013. Patients visited the pantry more often if they were immigrant rather than US born, over age 50, had prostate cancer or were diagnosed with advanced-stage disease. In future studies, Gany and her colleagues will examine health outcomes associated with use of food pantries and other interventions aimed at reducing food insecurity in cancer patients.



NCCN Issues Smoking Cessation Guidelines

May Narrow Gap Between Research and Practice

The National Comprehensive Cancer Network has become one of the most prominent and trusted sources of clinical practice guidelines in oncology. It was therefore notable when the organization published its first ever guideline for smoking cessation in cancer patients earlier this year. The new guideline is especially relevant for the 15-30% of cancer patients and survivors who smoke and for the oncologists who treat them.

In a forthcoming commentary in the *Journal of Oncology Practice*, **Jamie Ostroff** (Psychiatry & Behavioral Sciences) applauded the new guideline. While 90% of oncologists routinely ask their patients about their smoking status and 80% advise patients to quit smoking, only 30-40% provide assistance – in the form of cessation medications and behavioral counseling – to help patients quit. Despite clear evidence of the effectiveness of these interventions, oncologists face numerous barriers to delivering smoking cessation treatment, such as lack of training in cessation treatment methods and lack of patient support resources. Ostroff and her co-authors hope that the NCCN guideline will close these gaps and facilitate the integration of tobacco cessation treatment into oncology practice.

The relationship between smoking and cancer risk was established more than 50 years ago and publicized in a 1964 report by the Surgeon General. The detrimental effects of smoking after cancer diagnosis have been demonstrated more recently. The Surgeon General's 2014 report was the first to conclude that in cancer patients and survivors, cigarette smoking increases overall and cancer-specific mortality and the risk of developing a second tobacco-related cancer.

MSK Cancer Alliance Expands

Lehigh Valley Health Network Will Partner with MSK

MSK is increasing its presence in the mid-Atlantic region with the addition of the Lehigh Valley Health Network, a health system in Pennsylvania, to the MSK Cancer Alliance. The collaboration was announced on August 4th.

LVHN's flagship hospital, Lehigh Valley-Cedar Crest, is located in Allentown. The network includes two additional campuses in Allentown, hospitals in Bethlehem and Hazleton, and physician practices and health clinics in five Pennsylvania counties.

LVHN is the second member of the MSK Cancer Alliance, following Hartford Healthcare which joined in 2014. Through the Alliance, MSK aims to bring advances in cancer care and research to patients treated in community settings. The hope is that LVHN and Hartford providers will gain from the knowledge and expertise of MSK clinicians and scientists. This may be especially important for the treatment of rare cancers. At the same time, MSK physicians will learn about the challenges facing community-based providers.

Membership in the MSK Cancer Alliance is also expected to increase clinical research opportunities at LVHN, in particular improving access to clinical trials. LVHN was previously part of the NCI's Community Cancer Centers Program and a member of the Moffitt Oncology Network.

