

## Newsletter of the Survivorship, Outcomes And Risk Program at MSKCC

### One Year After the Storm: Safeguarding Our Data from Natural Disasters

#### MSKCC Protects Research Resources and Plans for the Future

On October 29, 2012, the mid-Atlantic coast was struck by one of the most savage storms in recent history. Segments of New York City's outer boroughs, Long Island, the New Jersey shore and other parts of the tri-state area were devastated by strong winds and rain, which caused over 100 storm-related fatalities in the US and more than \$50 billion in damage to property, transportation and critical infrastructure.

During the storm, patient safety was the highest priority at MSKCC and other medical centers in the region. But equally imperiled were the research resources of these institutions, including laboratory equipment, animals and vast troves of digital information. One year later, we have an opportunity to reflect on the lessons learned and precautions we can take to safeguard our data and research infrastructure against future threats.

In Manhattan, the greatest concern was flooding from rising sea levels, with swells exceeding 13 feet in some areas. Fortunately, MSKCC's physical plant was spared any damage, even when the East River crested its banks. When the storm hit, Ravi Chander, a Systems Administrator in the Department of Epidemiology and Biostatistics, was stranded at home in New Jersey, and he worried about the department's computer servers in the basement of 307 E. 63rd St. "If it flooded," Chander said, "the equipment would be ruined and we would lose our servers." Chander knew, however, that there was never any risk of losing departmental data, which was saved on the servers at MSKCC's New Jersey Data Center (NJDC).

But the situation was perilous at the NJDC in Lyndhurst. The NJDC is the primary digital storehouse for MSKCC's clinical and research data systems, including departmental servers and the Clinical Research Database (CRDB). While staff and patients at the hospital's main campus in New York breathed a sigh of relief, the Information Systems team at the NJDC watched flood waters come up to their front door, potentially threatening the center's emergency generator. Michael Paulison, Manager in the Enterprise Back-up and Recovery Division of the Department of Information Systems described the seriousness of the situation. "The data center was in a mandatory evacuation area, but local authorities allowed MSKCC staffers to stay behind at their own risk. Everyone who was needed volunteered to stay,"

said Paulison. By sheer luck, the water stopped short of disabling the generator, and the 2450 servers and 18 million gigabytes of data at the NJDC survived intact.

New York University and its Langone Medical Center were not as lucky as MSKCC. In addition to patient evacuations and major disruption of clinical activities, NYU research facilities suffered extensive damage in Hurricane Sandy. As a result of flood waters, power outages and the failure of back-up generators, researchers lost decades of data and tissue samples, hundreds of lab animals, and millions of dollars in equipment.

So what did MSKCC learn from the storm? In response to Hurricane Sandy, the generator at the NJDC is being raised two feet to protect it from future flood waters. In addition, MSKCC has multiple layers of protection and back-up to safeguard digital resources in the event of a power failure. "Disaster recovery at MSKCC is not new. We have been practicing this for over twenty years," Paulison said. The hospital conducts routine data recovery tests and maintains a disaster recovery site in Manhattan which serves as

a second data center. Because this site is smaller and has more limited capabilities than the NJDC, the hospital is now allocating space for a new data center in Middletown, NJ. The new center will serve as the primary disaster recovery site and replace the NJDC in Lyndhurst,

which will become an active back-up site. Paulison said that a second data center was already being planned, but last year's storm accelerated the design and construction of the Middletown facility, with completion now expected in 2016.

MSKCC's current practices maximize data safety and minimize the risk of loss, with routine back-up and replication procedures. And recent equipment upgrades have improved the speed at which data can be saved and restored, for example reducing a back-up time from 25 hours to just minutes. But scientific advances pose new challenges to the computing infrastructure. Paulison said that Information Systems has been preparing for a dramatic increase in data storage needs associated with genomic research. "Genome datasets are large, complex and valuable," said Paulison. His division is researching ways to efficiently and securely integrate online active data storage with archiving and retrieval functions to serve this growing area of clinical activity and research.

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### MSKCC Hosts South Asian Health Conference

#### Meeting Addresses Health Disparities and Needs in South Asian Immigrant Communities



On September 20<sup>th</sup>, the Immigrant Health and Cancer Disparities Service hosted a day-long symposium, *South Asian Health: From Research to Practice and Policy*. The event brought together clinicians, researchers, policymakers and community members to identify research gaps and set priorities for improving the health of South Asian immigrant communities in the US. Keynote speakers addressed cancer and cardiovascular disease among South Asians and India's experience with smokeless tobacco. The meeting was organized by **Francesca Gany** (Immigrant Health and Cancer Disparities) and the South Asian Health Initiative, and supported by a grant from the National Institute on Minority Health and Health Disparities.

Clockwise from top left: Community forum panelists **Jennifer Leng** (Immigrant Health and Cancer Disparities) and Sapna Pandya; keynote speaker Prakash Gupta; speakers Arun Garg, Latha Palaniappan, Arun Chockalingam; a working group discussion.

# Institute of Medicine Declares Cancer Care Delivery System “In Crisis”

The cancer care delivery system in the US is ill equipped to meet the needs of an aging population and growing number of cancer patients and survivors. This is the fundamental conclusion of the Institute of Medicine’s recent report, *Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis*. The report, issued by the IOM Committee on Improving the Quality of Cancer Care: Addressing the Challenges of an Aging Population, identifies numerous problems in the current system, including failure to deliver evidence-based, patient-centered care; rising costs that impair access and create disparities; and a shortage of skilled cancer care providers.

The report offers a conceptual framework for improving the quality of cancer care, noting in particular the need for patient engagement, a coordinated workforce, integrated health information technology systems and translation of evidence into clinical practice. Specific recommendations include development of a national system for quality reporting, collection of a common set of patient reported outcomes, and increased attention to the needs of older adults and individuals with multiple comorbid conditions.

The IOM committee reviewed the Institute’s previous recommendations for improving the quality of cancer care, published in 1999. Their critical review identified a number of areas where progress had not been made, for instance in health care costs. SOAR investigator **Mary McCabe** (Survivorship), a member of the committee that produced the current report, said that gaps in progress made the case even stronger for change and improvement, prompting “crisis” in the title of the report. “We wanted to show an urgency to implementing the recommendations since we can’t afford business as usual with respect to costs, new models of health care delivery, quality, and training of the health care work force,” McCabe said.

## Mark your calendar

<b>November 21</b> 11:00AM ZRC-105	<b>SOAR Seminar</b> Mark E. Robson, MD Memorial Sloan-Kettering Cancer Center
<b>December 3</b> 4:00PM M-107	<b>SOAR Seminar</b> Eva Grunfeld, MD, DPhil, FCFP Cancer Care Ontario and the Ontario Institute for Cancer Research
<b>February 28</b>	<b>New York City Epidemiology Forum</b> Icahn School of Medicine, Mount Sinai Hospital (abstracts due December 6th)

## SOAR Grants

**Tim Ahles** (Psychiatry & Behavioral Sciences) was awarded an R01 grant from the NCI for *Cognition in Older Breast Cancer Survivors: Treatment Exposure, APOE, and Smoking*. This collaborative study with City of Hope Cancer Center focuses on the risks of cognitive decline in older breast cancer survivors. The study will explore associations among cognitive reserve, apolipoprotein E, smoking history and therapeutic exposures to identify risk factors for cognitive decline after breast cancer treatment.

**Allison Lipitz-Snyderman** (Health Outcomes) was awarded a grant from the United Hospital Fund for her study *Adverse Events in Cancer Care: Development of a Medical Record-Based Screening Tool to Detect Adverse Events in Cancer Care*. The goal of this study is to create a low-burden screening tool for identifying adverse events in medical records. This represents a first step in assessing the burden of adverse events in cancer care, and will inform subsequent efforts to identify high-risk patients, prioritize areas for improvement and develop quality measures for surveillance and policy initiatives.

**Emily Tonorezos** (Medicine) was awarded a grant from the American Institute of Cancer Research for *Diet and Insulin Resistance in Survivors of Childhood Cancer*. The study will test the effect of diet and exercise on weight loss and cardiometabolic markers in adult survivors of childhood acute lymphoblastic leukemia.

## SOAR Honors

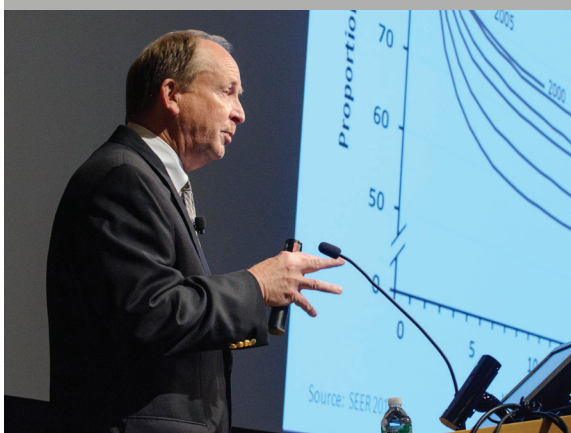
**Colin Begg** (Epidemiology and Biostatistics) was named Editor-in-Chief of the journal *Clinical Trials*, starting January 2014.

**Jonine Bernstein** (Epidemiology) was appointed to a three-year term on the US Environmental Protection Agency Science Advisory Board’s Radiation Advisory Committee.

## Recent Seminars



**Christopher Amos**, Director of the Center for Genomic Medicine at Dartmouth presented “Integrative analysis of lung cancer susceptibility identifies novel histology-dependent effects” at the SOAR Seminar on October 3<sup>rd</sup>.



**Les Robison**, Chair of Epidemiology and Cancer Control at St. Jude Children’s Research Hospital presented, “Long Term Outcomes Among Adult Survivors of Childhood Cancer” at the President’s Research Seminar Series on October 30<sup>th</sup>.



**Ross Prentice**, biostatistician at the Fred Hutchinson Cancer Research Center presented “The Women’s Health Initiative: History, Contributions and Ongoing Research” at the SOAR Seminar on October 31<sup>st</sup>.

*Did you know?*

MSKCC backs up  
**250,000,000**  
computer files  
every night.

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