

The Community Hospital Journey Towards Personalized Medicine: Examples from a National Program

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Learning Objectives

- Explain the importance of the role community hospitals will play in a new era of personalized medicine and the changes required to meet that challenge
- Identify key areas in the hospital that will be affected by personalized medicine and specific information, tools and resources hospital leaders will need to assess, plan and prepare for these changes



Overview of Panel Presentations

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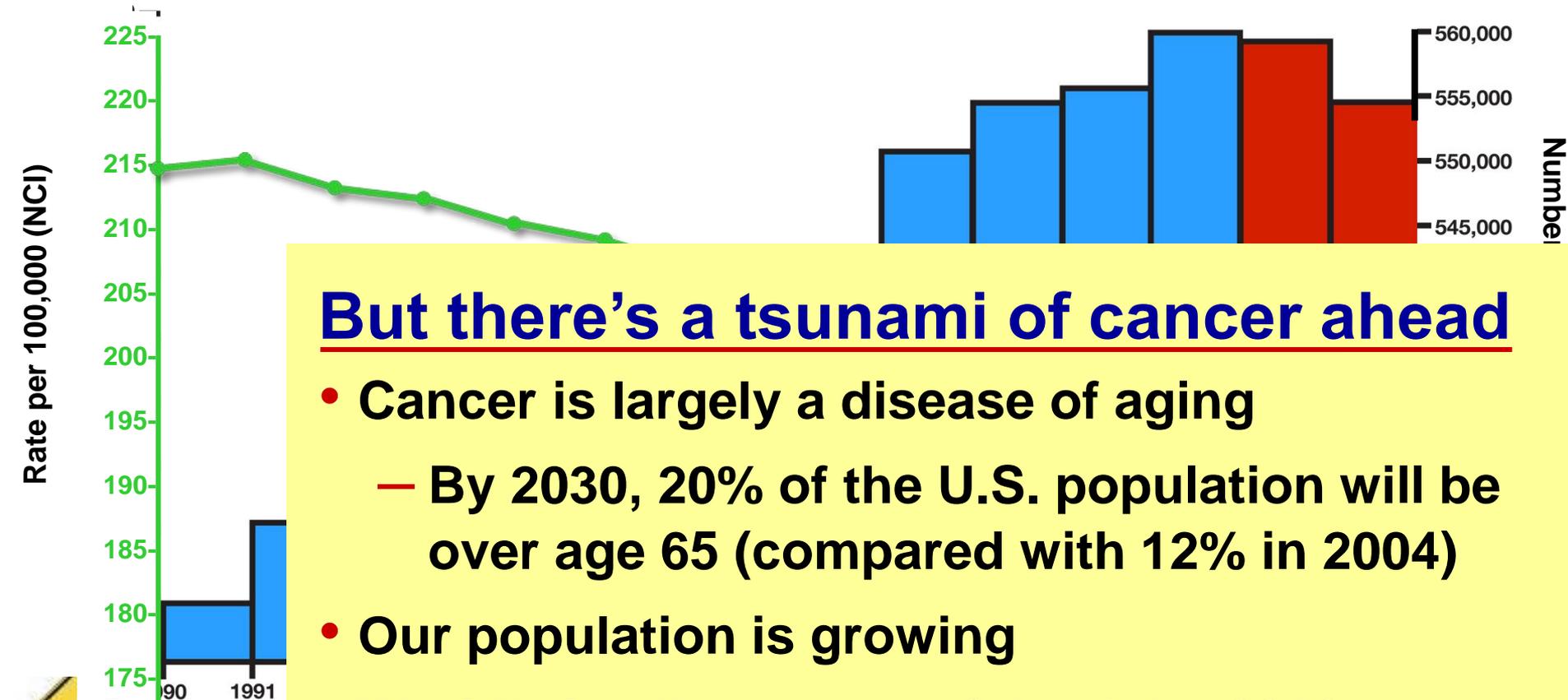
- Overview of a national community-based research program and how it supports personalized medicine
- Review of scientific developments in molecular medicine
- Discuss experiences of two healthcare organizations
- Describe health system and management challenges



Reversing the Curve: Cancer Deaths Decline

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But there's a tsunami of cancer ahead

- Cancer is largely a disease of aging
 - By 2030, 20% of the U.S. population will be over age 65 (compared with 12% in 2004)
- Our population is growing
- World's leading cause of death by 2010



Challenges for Improving Cancer Outcomes

- **Access**

- 85% of cancer patients seek care in the communities where they live
- Quality cancer care and research opportunities out of reach for many with healthcare disparities

- **Quality**

- Cancer care not well coordinated
- Adherence to evidence-based guidelines needs improvement

- **Research**

- Limited research and readiness for personalized medicine in the community setting
- Human Genome only sequenced in 2003 – very new science



Research limited - *Especially in Community Settings*

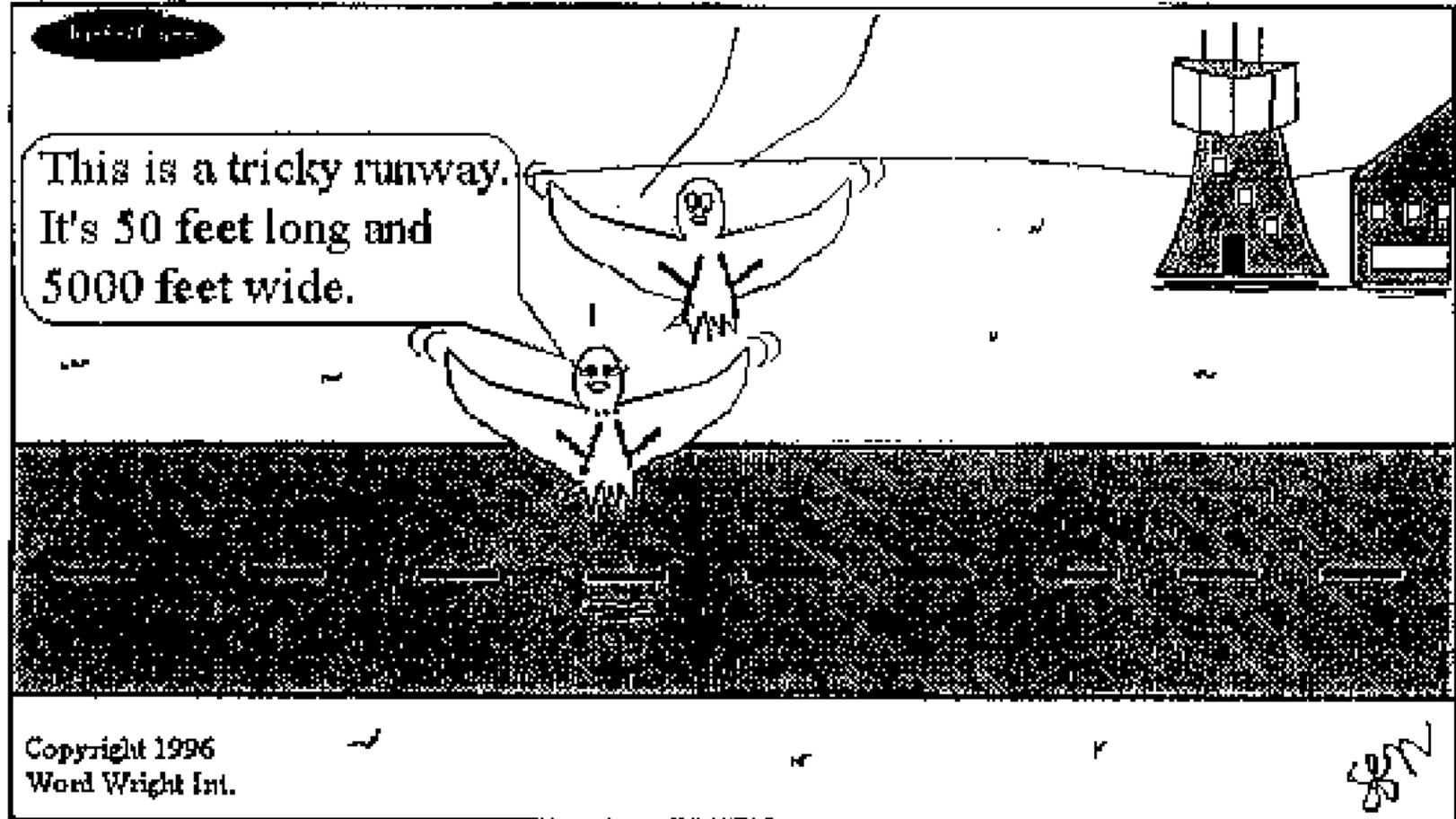
- Only 3% of adult cancer patients are accrued to clinical trails (*60% for children*)
- Only 5% of tissue collected is able to be analyzed at the molecular level.
- New Science ➡ overwhelming volume of complex data
 - Specimen data, Patient data
 - Proprietary data systems – interface challenges
 - No system in place to collect, aggregate, analyze and distribute data



New Approaches Are Needed

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Hospital announces launch of Personalized Medicine - 2009

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MGH to use genetics to personalize
cancer care

The Boston Globe



**Boston Globe
March 3, 2009**

Mass. General's decision to make genetic testing standard represents a major step in personalizing cancer treatment. (Pat Greenhouse/Globe Staff File 2004)

By Stephen Smith
Globe Staff / March 3, 2009

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Cancer doctors at Massachusetts General Hospital plan within a year to read the genetic fingerprints of nearly all new patients' tumors, a novel strategy designed to customize treatment,



NCI Launches Research Program for Community Hospitals - 2007

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The screenshot shows the homepage of the NCI Community Cancer Centers Program. At the top, there is a red header with the National Cancer Institute logo and the text "National Cancer Institute" and "U.S. National Institutes of Health | www.cancer.gov". Below the header is a blue banner with the text "NCI COMMUNITY CANCER CENTERS PROGRAM" and a search bar with a "GO" button. A navigation menu below the banner includes links for "NCCCP HOME", "ABOUT NCCCP", "PILOT GOALS", "RELATED PROGRAMS", "NCI RESOURCES", and "CONTACT US". On the left side, there is a "Quick Links" section with a link to "NCI Director's Message". The main content area features a large red headline that reads "Community access to the latest science" and two photographs: one of a woman in a white lab coat and another of a woman and a man smiling.

<http://ncccp.cancer.gov/>



NCI Interest in Community Hospitals

- Access to large numbers of patients
 - including disparate populations
- Greater potential for coordinated care across continuum
 - with screening, longer term follow up, and support systems
- Increased ability to offer expert cancer care
 - many clinical trials today can be offered in community settings
- Community based research opportunities
 - adoption/adaption in different settings
- Value of research-ready community cancer centers
 - external linkages and data sharing essential for personalized medicine



30 NCCCP Hospitals in 2010

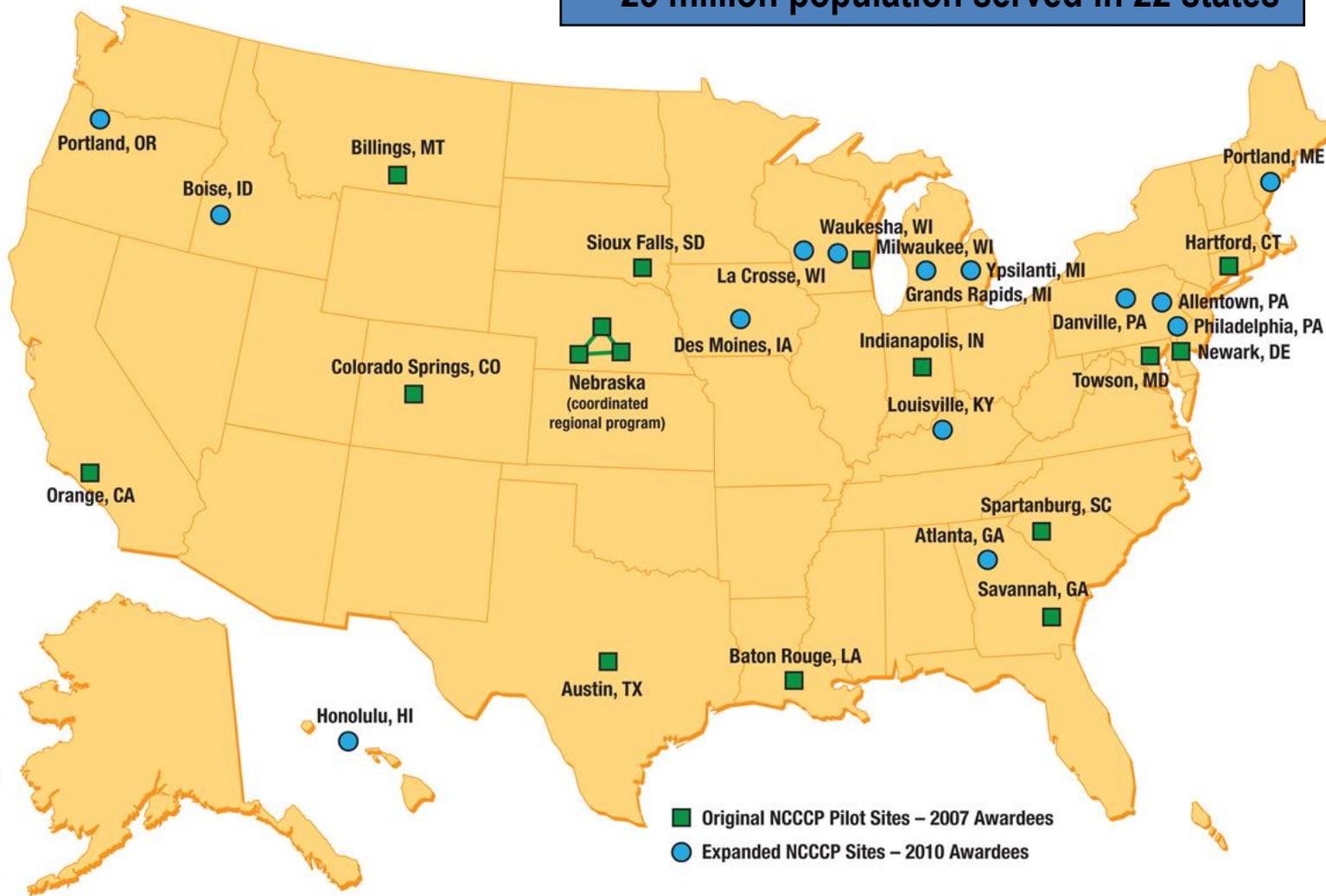
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NCI Community Cancer Centers Program

NCCCP Hospitals

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- 58,000 annual new cancer cases
- 23 million population served in 22 states



NCCCP Overview

- Public/private partnership
 - CEO and Institutional support/investment essential
- Promotes state-of-the-art cancer care
- Expands clinical trials and research infrastructure
 - Information Technology
 - Biospecimens
- Drives evidence-based coordinated care
- Focus on healthcare disparities
- Priority to disseminate information/tools to the broader hospital community



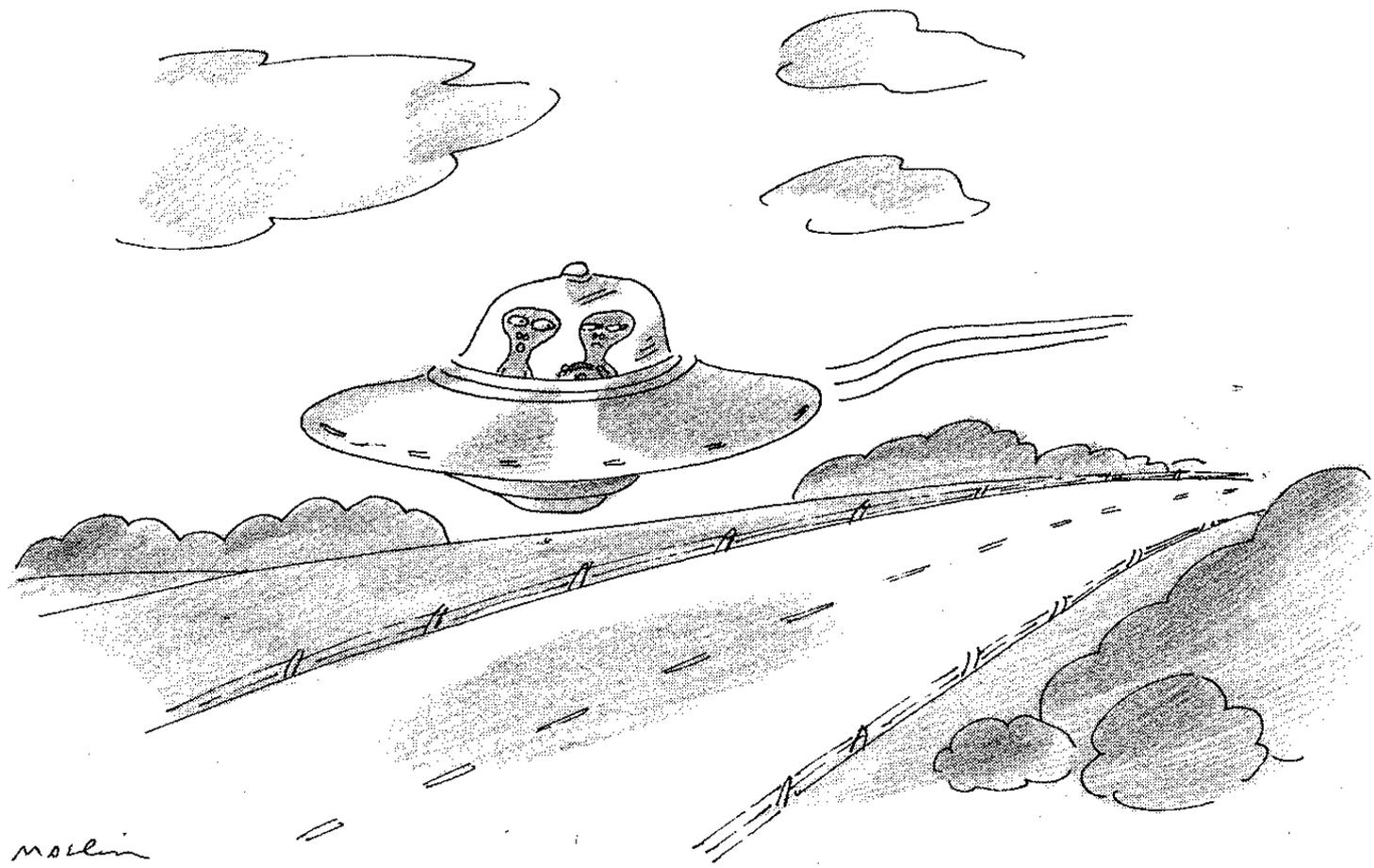
- Serves as a catalyst to prepare the healthcare delivery system for the new science of personalized medicine
- Brings community hospitals into a central role for personalized with their access to the population
- Offers a partnership model which is essential for personalized medicine – the NCCCP network
 - State of the art cancer care can't be offered in isolation
 - Providers must be linked to research networks
 - data exchange capabilities



New Technology Creates New Challenges

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“I think we just hit a flying squirrel.”



Preparing the Healthcare System for Challenges of Personalized Medicine

- **“We now have the technical ability to get the wrong answers with unprecedented speed. If we put the wrong stuff into the front end of our analytical pipeline, we will not only lose the war on cancer, we’ll pollute the scientific literature with incorrect data that will take us a long time to sort out. This is a crisis that requires “disruptive innovation.”**

Carolyn Compton, MD,Ph.D
Director, Office of Biorepositories & Biospeciman Research
National Cancer Institute , NIH



Conclusion

- Community Hospitals can and must be involved in cutting edge medicine
 - that is where the patients are!!
- We encourage education and exploration of opportunities.



Questions?



Suggested Reading

- Johnson, M; Clauser, S; O'Brien, D; Beveridge, J; Kaluzny, A., *Improving Cancer Care and Expanding Research in Community Hospitals: Lessons from the National Cancer Institute Community Cancer Centers Program.* Oncology Issues. January/February 2011
- Hamburg, M.; Collins, F; *The Path to Personalized Medicine.* New England Journal of Medicine, June 2010
- Silberman, S; *Libraries of the Flesh: The Sorry State of Human Tissue Storage.* Wired, May 2010
- Clauser, S.; Johnson, M.; O'Brien, D.; Beveridge, J.; Fennell, M.; Kaluzny, A., *A New Approach to Improving Clinical Research and Cancer Care Delivery in Community Settings: Evaluating the NCI Community Cancer Centers Program.* Implementation Science, September 2009
- Johnson, M; Clauser, S; Beveridge, J; O'Brien, D., *Translating Scientific Advances into the Community Setting: The National Cancer Institute Community Cancer Centers Program pilot.* Oncology Issues. May/June 2009
- Compton, C.; *Getting to Personalized Medicine: Taking Out the Garbage.* Cancer, August 30, 2007



DISCLAIMER



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