

# **Innovative Uses of Open Health Data: New York's Early Experiences and Future Directions**

**Erika Martin, PhD MPH**

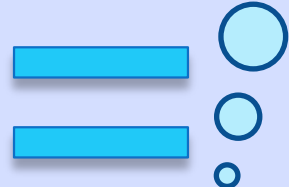
**Rockefeller Institute of Government & University at Albany**

**NYS Health Innovation Challenge Luminary Talks**

**Albany, NY**

**October 15, 2014**

# Open data's lofty promise



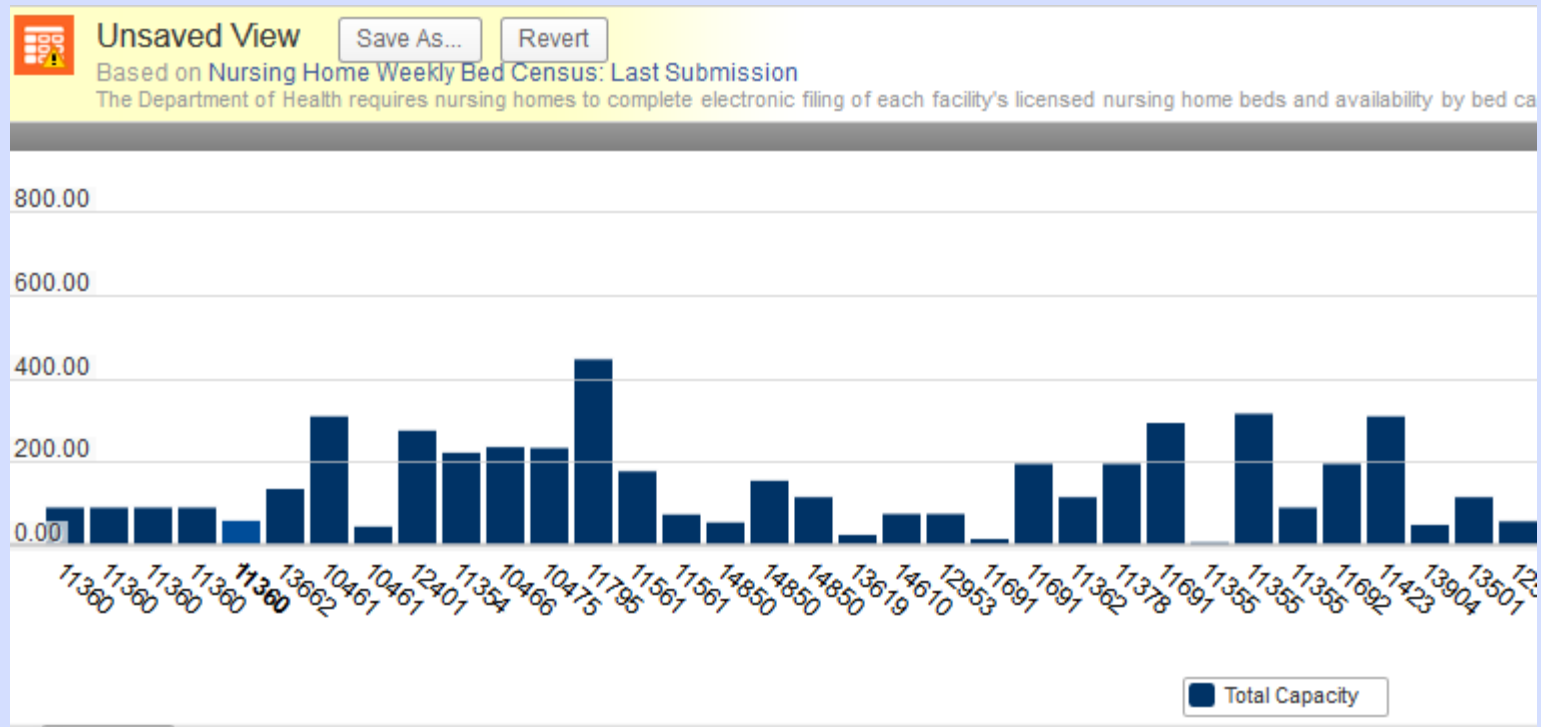
# How open data has already made a difference in New York

- ❑ Emergency response to Hurricane Irene
- ❑ Local school wellness policies
- ❑ Advancing New York University's medical school curriculum
- ❑ Hot-spotting disparities in cost, quality, and clinical outcomes

-- Martin, Helbig, Shah *JAMA* 2014

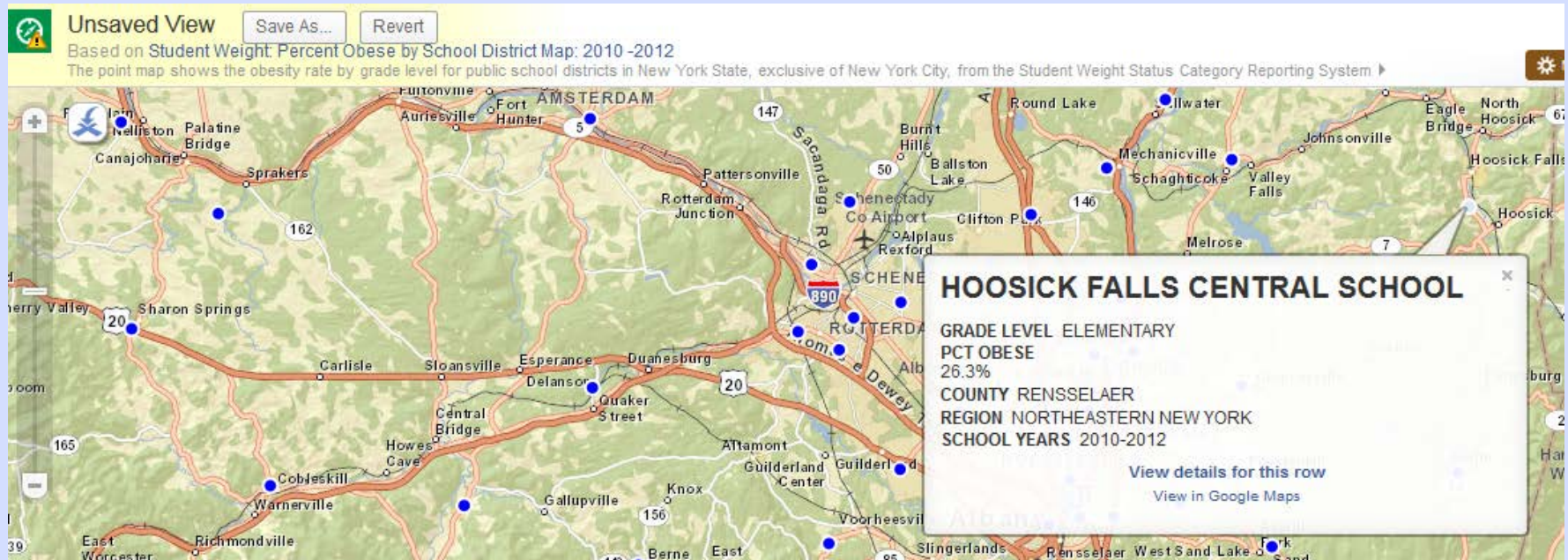
# Emergency response to Hurricane Irene

- ❑ Nursing Home Weekly Bed Census
- ❑ Data refreshed weekly



# Local school wellness policies

- ❑ Student Weight Status Category Reporting System
- ❑ Capabilities to explore data visually and embed live maps into news articles



# Advancing New York University's medical school curriculum

- ❑ Statewide Planning and Research Cooperative System
- ❑ De-identified and without extensive data use agreements

## NYU and ACE Clinical Data Resources for education and research projects

A foundational aspect of the NYU ACE program and the Health Care by the Numbers Curriculum is the use of authentic clinical data from both our local EMR and open data resources. We have developed two new educational clinical data tools for this project, both of which are freely and publicly available:

### New York State SPARCS Data

The NYU ACE version of the NYS SPARCS database includes patient-level data on over 2.5 million inpatient discharges seen at 227 NY hospitals in 2012. The site lets you explore by DRG code, providers, or hospitals. Data extracts are downloadable for projects and research studies.

[Go to SPARCS](#)

### NYU Virtual Practice and Virtual Patient Panels

This site contains a fictitious health care group that consists of three practices:


- Mott Community Practice – Patient population and payer mix is similar to a city hospital in NYC.
- Women's Medical Group – Patient population is mix of city and private NYC patients.
- University Practice Associates – Patient population and payer mix is similar to private practice in NYC.

[Go to the Practice](#)

The data for the providers and patients in this practice were created by aggregating: problem lists and visit types from de-identified EMR data; payer and demographics from SPARCS; patient-level lab data, measurements from NHANES. Though they reflect real metrics and are totally authentic, these virtual patients have been significantly manipulated and combined with unrelated sources to create this practice data.

# Hot-spotting disparities in cost, quality, and clinical outcomes

- ❑ Statewide Planning and Research Cooperative System
- ❑ Capabilities to manipulate data directly in the platform



**crain's health**  
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a daily newsletter on the business of health care

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This is the first edition in a new Pulse Extra series, comparing the costs of common procedures at hospitals in the greater New York area. All data were obtained from the New York State Department of Health. Costs cover conditions of moderate severity for 2011, the most recent year available.

Top five	Median cost	Median charge	% markup	Bottom five	Median cost	Median charge	% markup
<b>HIP JOINT REPLACEMENT</b>							
St. Barnabas Hospital	\$46,612	<b>\$104,194</b>	124%	Metropolitan Hospital Center	\$17,646	<b>\$20,720</b>	17%
NYU Hospitals Center	\$31,378	<b>\$103,725</b>	231%	Jacobi Medical Center	\$17,108	<b>\$20,703</b>	21%
Hudson Valley Hospital Center	\$42,777	<b>\$101,236</b>	137%	Kings County Hospital Center	\$18,507	<b>\$18,783</b>	1%
Woodhull Medical and Mental Health Center	\$86,730	<b>\$101,087</b>	17%	Bellevue Hospital Center	\$11,716	<b>\$15,436</b>	32%
Memorial Hospital for Cancer and Allied Diseases	\$47,076	<b>\$100,957</b>	114%	Lincoln Medical and Mental Health Center	\$14,124	<b>\$14,251</b>	1%

# My own surgical decision-making: professional misconduct database

**Health Data NY**

Open.ny.gov | Health Data NY | Health.ny.gov | Developers | Help

**Professional Medical Conduct Board Actions: Beginning 1990**  
 The Professional Medical Conduct Board Actions data consist of all public actions taken against physicians, physician assistants, specialist assistants, and medical professional

Name	Address	License Number	License Type	Year of Birth	Effective Date	Action
3135 Keller, Richard J	Metropolitan Detention Center P.O. Box 329002 Brook	189502	MD	1956	05/15/2014	License surrender
3136 Kelley, Colin T	Address redacted	239895	MD	1962	10/17/2012	License revocation.
3137 Kelley, Shannon T	209 Stasko Drive Syracuse, New York 13209	003782	RPA		10/07/1996	License surrender
3138 Kellogg, Vernon S	Address redacted	122108	MD	1947	05/18/2011	License revocation.
3139 Kelly, John P	17-52 Francis Lewis Boulevard Whitestone, NY 1135	007491	RPA	1971	01/19/2011	Censure and reprimand with \$20
3140 Kelly, Joseph L	309 Freemason Street Apartment 2 Norfolk, Virginia 2	168682	MD	1957	05/18/2001	License surrender
3141 Kelly Jr, Francis William	1695 Saltvale Road Wyoming, New York 14591	181785	MD	1947	04/03/2007	License suspension for thirty-six
3142 Kelly Jr, Francis William	1695 Saltvale Road Wyoming, New York 14591	181785	MD	1947	04/12/2006	Censure and reprimand with prot
3143 Kelly Jr, Francis William	1695 Saltvale Road Wyoming, New York 15491	181785	MD	1947	10/23/2000	Censure and reprimand
3144 Kelly Jr, Francis William	1695 Saltvale Road Wyoming, New York 14591	181785	MD	1947	08/27/2003	License suspension for two years

<b>Name</b>	563 Grand Medical, P.C.	<b>Effective Date</b>	09/29/2010
<b>Address</b>	563 Grand Street Brooklyn, NY 11211	<b>Action</b>	Revocation of certificate of incorporation.
<b>License Number</b>	196275	<b>Misconduct Description</b>	



# My own surgical decision-making: SPARCS for hospital volume and outcomes

- ❑ Sorted by:
  - ❑ Facility (Hospital for Special Surgery)
  - ❑ Procedure (Hip & Femur Procedures)
  - ❑ Attending (License # 208586)
- ❑ Important outcomes:
  - ❑ Total cost
  - ❑ Length of stay
  - ❑ Volume
- ❑ “Curiosity” outcomes
  - ❑ Demographics
  - ❑ Insurance

The screenshot shows the SPARCS web application interface. At the top, there are navigation links for 'Open.ny.gov', 'Health Data NY', 'Health.ny.gov', 'Developers', and 'Help'. Below this is a yellow banner with 'Unsaved View' and buttons for 'Save As...' and 'Revert'. The main content area is titled 'Based on Hospital Inpatient Discharges (SPARCS De-Identified): 2012' and includes a subtitle: 'The Statewide Planning and Research Cooperative System (SPARCS) Inpatient De-identified dataset contains discharge level detail on patient characteristics, diagnosis, and procedure.' Below the title is a table with columns for 'APR DRG Code', 'APR DRG Description', and 'APR MDC'. The table contains 12 rows of data, all with an APR DRG Code of 309 and an APR MDC of 08. The description for all rows is 'HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT'. The table is sorted by volume, with the first row having a volume of 1 and the last row having a volume of 12.

	APR DRG Code	APR DRG Description	APR MDC
1	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
2	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
3	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
4	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
5	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
6	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
7	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
8	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
9	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
10	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
11	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08
12	309	HIP & FEMUR PROCEDURES FOR NON-TRAUMA EXCEPT JOINT REPLACEMENT	08

# Future possibilities with open health data

- ❑ Using easily accessible data for exploratory analyses
  - ❑ Formulating research questions and hypotheses
  - ❑ Conducting pilot research
- ❑ Conducting cross-boundary research
  - ❑ Layering geographic data from different domains
  - ❑ Source of inputs for mathematical models
- ❑ Generating summary statistics for community planning and presentation to stakeholders
  - ❑ Easily accessible visualizations
  - ❑ Aggregate measures of community health

-- Martin, Helbig, Birkhead, *J Public Health Manag Pract* 2014

-- Interviews with key stakeholders, summer 2014

# Maintaining the momentum

- ❑ Actively engage wide variety of stakeholders
  - ❑ Promote awareness and encourage data use
  - ❑ Improve data release strategies and platform functionality
  - ❑ Cultivate the emerging open data ecosystem
  
- ❑ Build public health agencies' capacity to release data
  - ❑ Maintain sustained leadership
  - ❑ Promote cultural shift to break down data silos within state agencies
  - ❑ Ensure adequate financial resources
  - ❑ Make available information technology
  - ❑ Partner with experienced organizations