Hospital Readmissions and Community Health

Meghan Donohue
Clinical Outcomes Analyst
Qualis Health

Advancing Healthcare
Improving Health

QUALIS HEALTH™

One of the nation's leading healthcare consulting organizations, partnering with our clients across the country to improve care for millions of Americans every day

www.qualishealth.org

Our Mission

To generate, apply and disseminate knowledge to improve the quality of healthcare delivery and health outcomes

Our Vision

To be recognized for leadership, innovation and excellence in improving the health of individuals and populations.

Our Values

Integrity & Professionalism
Collaboration
Stewardship

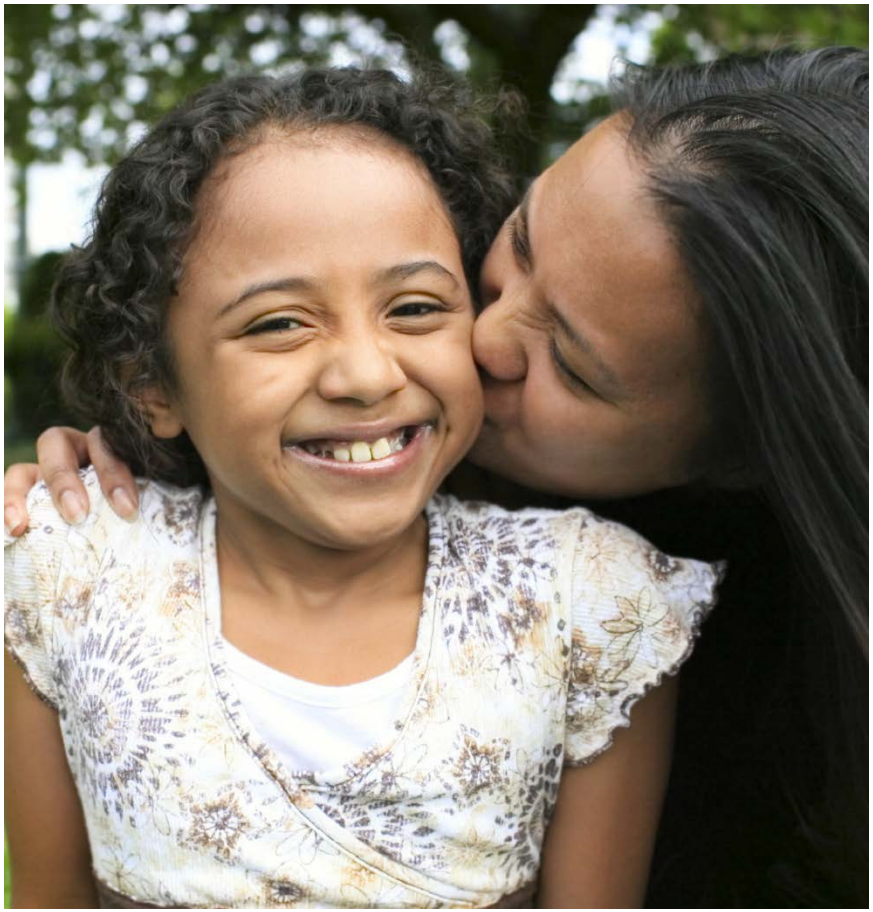
Organizational Focus

In our efforts to add value to the healthcare system, we will emphasize:

Promoting efficiency and reliability in care delivery

Supporting care coordination and improving care transitions

Leveraging health information technology to improve care



Objectives

- Explore uses of data in hospital readmission reduction efforts
- Discuss improvement ideas and ongoing projects that meet unique patient needs as identified through data

How Well Do You Know The Data?

Which of these is NOT in 10 diagnoses with the most Medicaid readmissions nationwide?

A. COPD

B. Diabetes

C. Heart Failure

D. Pneumonia

E. Pregnancy Complications

How Well Do You Know The Data?

How many of the top 10 Medicaid readmission diagnoses relate to behavioral health?

A. One

B. Two

C. Three

D. Four

E. Five

Top Ten National Medicaid Readmission Diagnoses

Principal Diagnosis for Index Hospital Stay	Readmissions	% of total	Readmission rate
Mood disorders	41,600	6.2%	19.8%
Schizophrenia	35,800	5.3%	24.9%
Diabetes with complications	23,700	3.5%	26.6%
Other complications of pregnancy	21,500	3.2%	8.4%
Alcohol-related disorders	20,500	3.0%	26.1%
Early threatened labor	19,000	2.8%	21.2%
Congestive heart failure	18,800	2.8%	30.4%
Septicemia	17,600	2.6%	23.8%
COPD	16,400	2.4%	25.2%
Substance-related disorders	15,200	2.2%	18.5%
Total of Top 10	**230,200**	**34.1%**	**20.0%**

Hines, ALs, et al. "Conditions With the Largest Number of Adult Hospital Readmissions by Payer, 2011." HCUP Statistical Brief #172. April 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at: www.hcup-us.ahrq.gov/reports/statbriefs/sb172-Conditions-Readmissions-Payer.pdf.

Key Population Groups

Mental Health Management

- Antidepressant initiation and continuation
- Follow-up after hospitalization for mental illness

Prenatal and Antenatal Care

- Timeliness of prenatal care
- Percent completion of recommended prenatal care visits
- Postpartum care

Chronic Disease Management

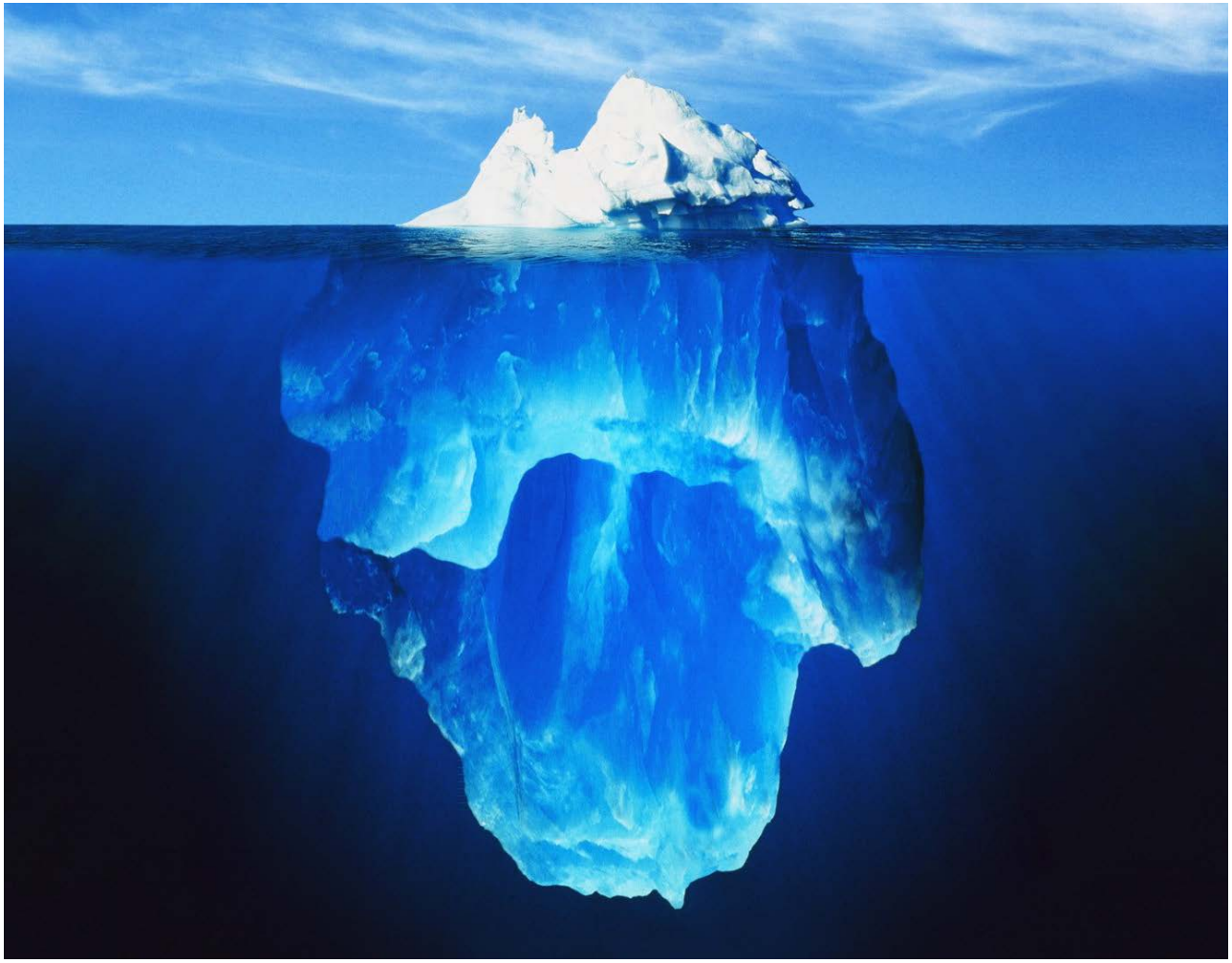
- Comprehensive diabetes care
- Monitoring of persistent medications

Using Analytics to Identify Population Groups

Sample cuts:

- Age
- Race
- Geography
- Condition
- Discharge destination
- Time trends

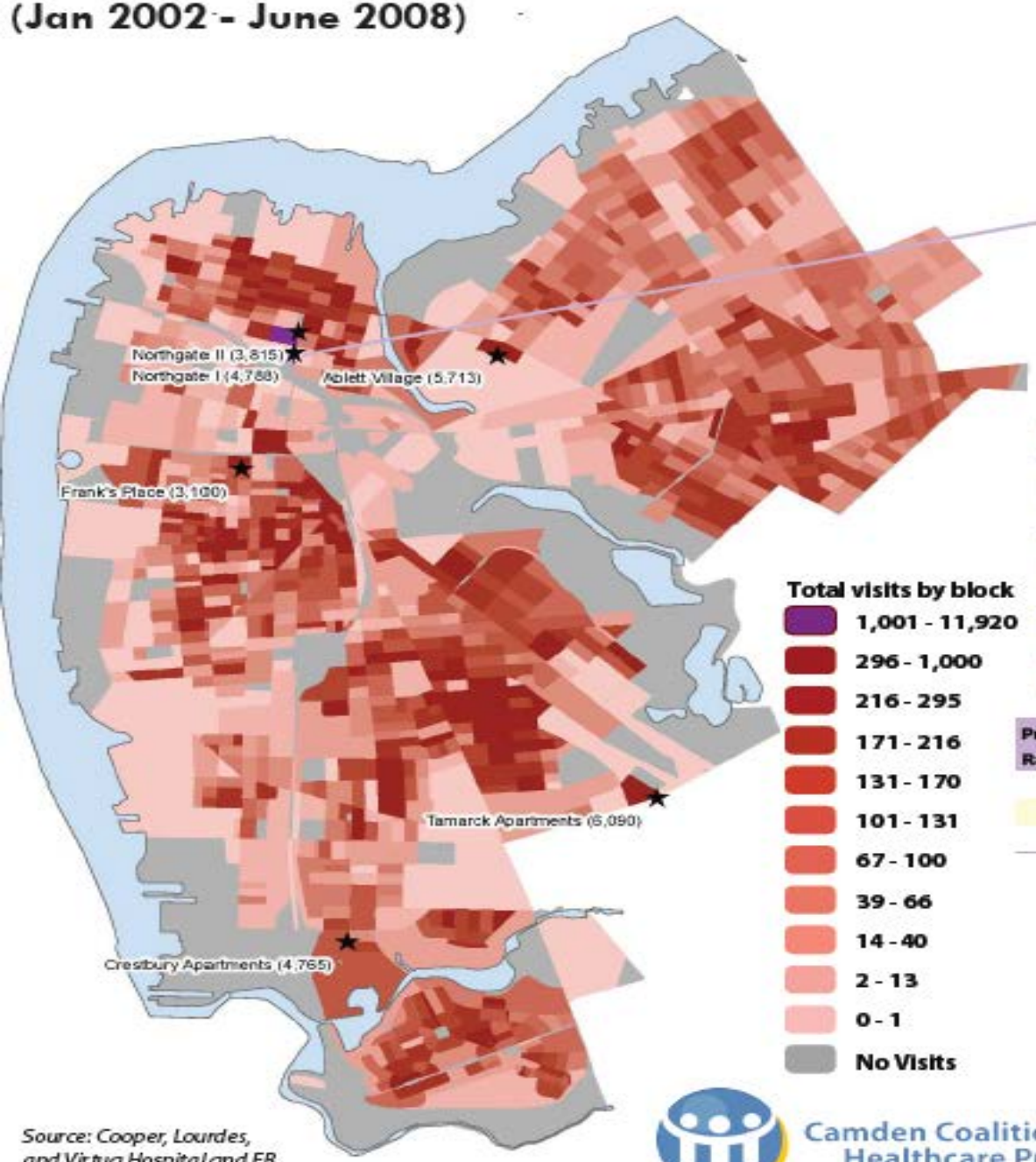
Now What?



Hotspotting

www.HealthcareHotspotting.com

Inpatient and Emergency Room Visits in Camden, NJ (Jan 2002 - June 2008)



Source: Cooper, Lourdes, and Virtua Hospital and ER billing data Jan 2002-June 2008

Northgate I Public Housing

	Visits	Patients	Charges	Receipts	Collected
Cooper	3,172	749	$42,144,097	$4,994,658	12%
Lourdes	811	337	$7,848,809	$1,028,611	13%
Virtua	805	331	$1,742,467	$345,092	20%
2005	838	370	$10,834,420	$1,269,373	12%
2006	738	355	$6,867,995	$881,549	13%
2007	790	369	$7,979,262	$901,181	11%
ED	3882	978	$6,150,592	$864,019	14%
Inpatient	906	408	$45,584,781	$5,504,342	12%
Total	4,788	1,070	$51,735,374	$6,368,361	12%

Primary Diagnosis		
Rank	ED	Inpatient
1	abdominal pain (789.0)	live birth (V3X.0)
2	acute URI NOS (465.9)	chest pain (786.5)
3	chest pain (786.5)	congestive heart failure NOS (428.0)

Camden Coalition of Healthcare Providers

Change what you know. Know what to change

CamConnect.org

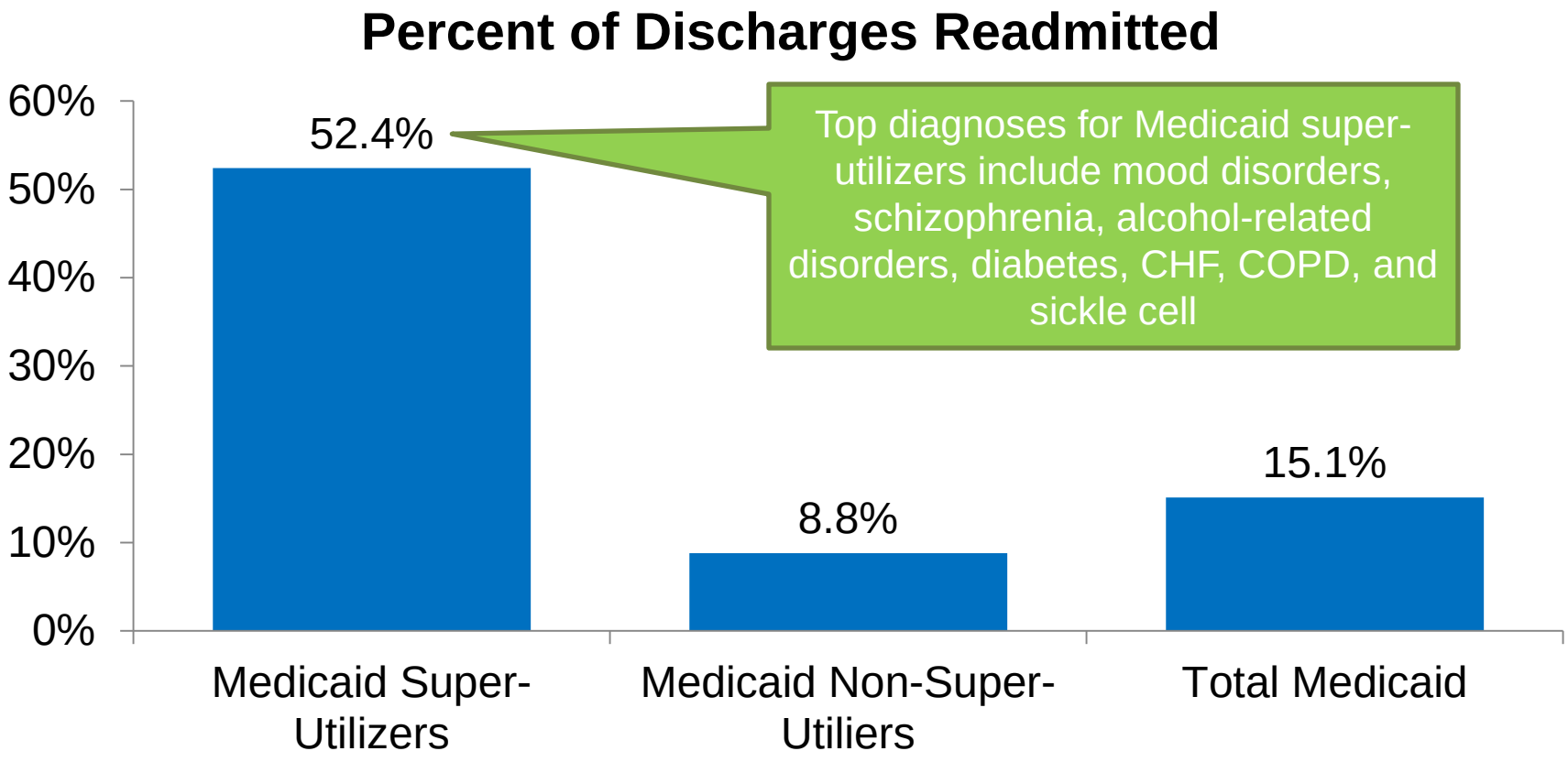
How Well Do You Know The Data?

Write down your best guesses for the following three national readmission rates:

_____	_____	_____
Total Medicaid Readmit Rate	Medicaid Readmit Rate for Super-Utilizers*	Medicaid Readmit Rate for Non-Super-Utilizers

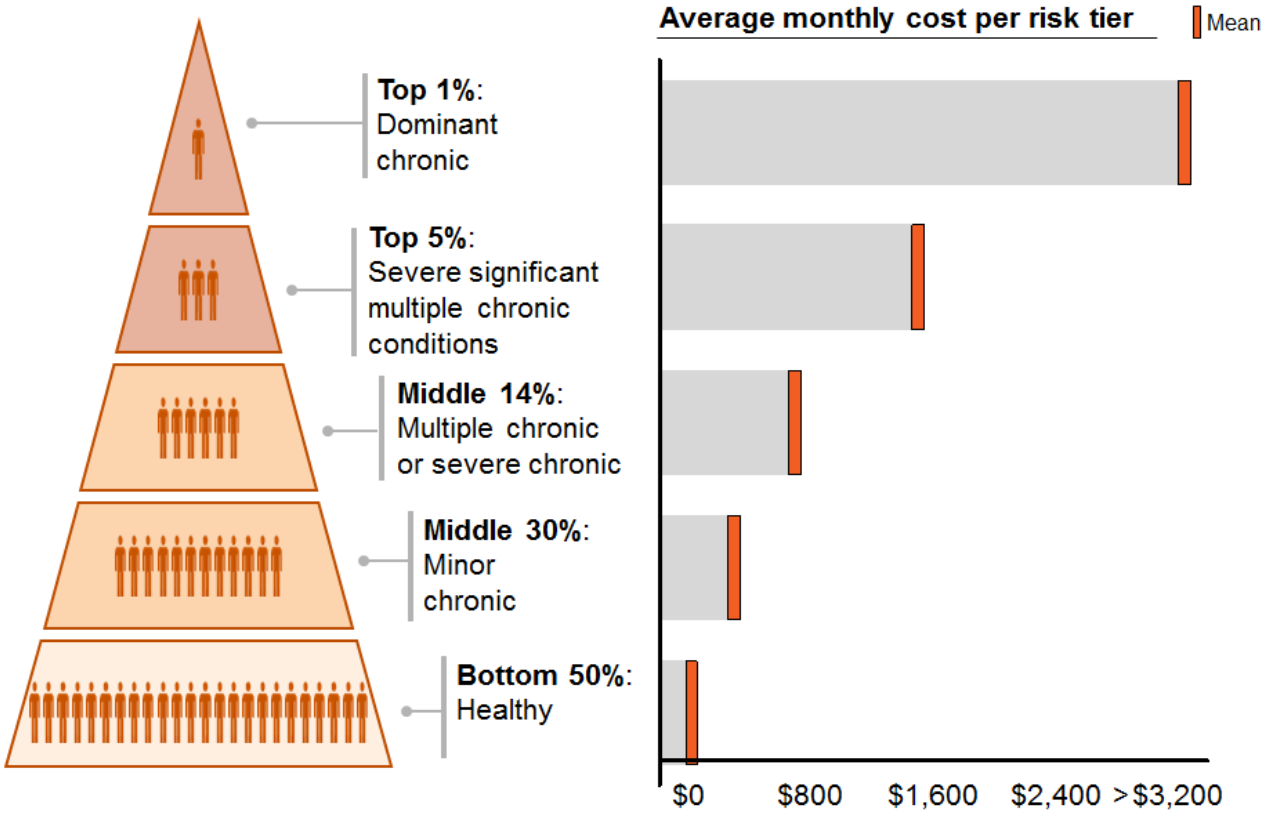
*Super-Utilizers defined as individuals with 3 or more hospitalizations during a single calendar year

Super-Utilizers Driving Readmit Rate



Jiang, HJ, et al. “Characteristics of Hospital Stays for Nonelderly Medicaid Super-Utilizers, 2012.” HCUP Statistical Brief #184. November 2014. Agency for Healthcare Research and Quality, Rockville, MD. Available at: www.hcup-us.ahrq.gov/reports/statbriefs/sb184-Hospital-Stays-Medicaid-Super-Utilizers-2012.pdf.

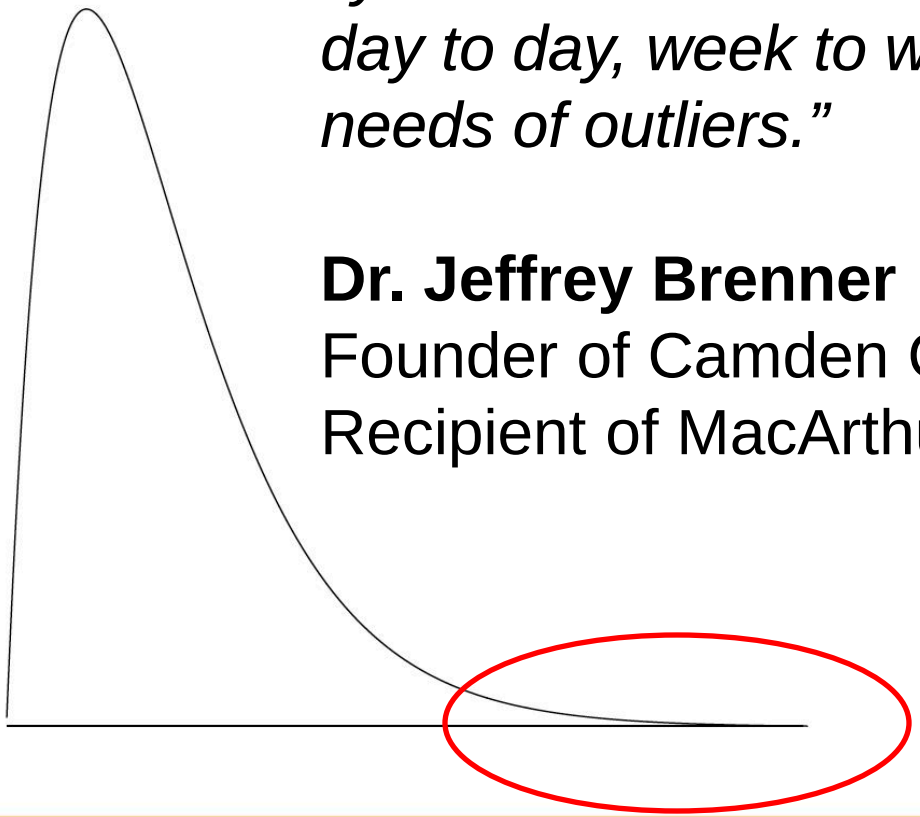
Services Not Targeted Toward Individual Needs



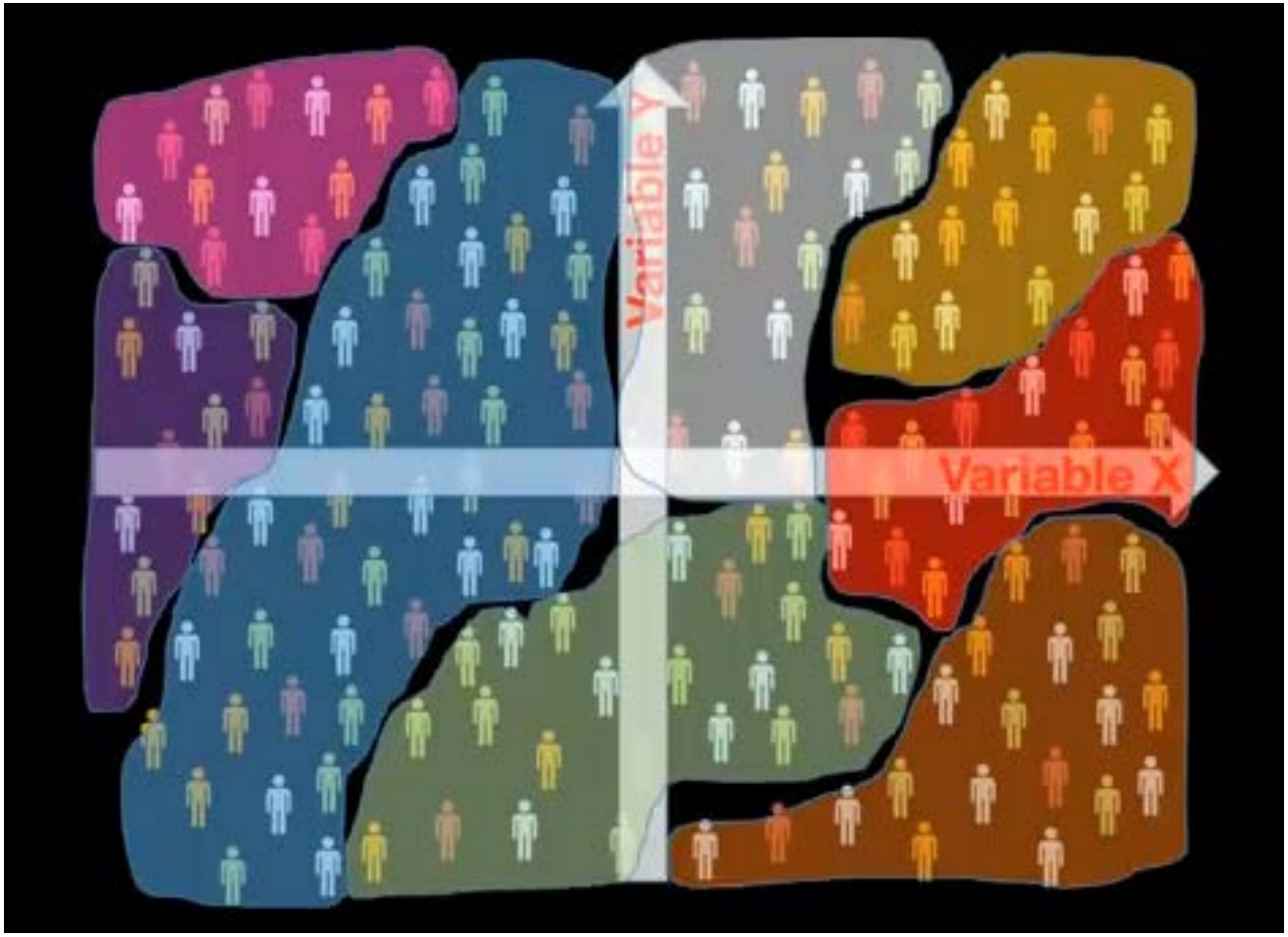
Definitions

*"Hotspotting is not making maps. Hotspotting is the strategic use of data to focus in on **outliers**, and most of our public systems do a terrible job of responding to the day to day, week to week, month to month needs of outliers."*

Dr. Jeffrey Brenner
Founder of Camden Coalition
Recipient of MacArthur Genius Grant



Key Concept:
Population Segmentation



Defining Actionable Population Segments

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1			Annual ED Visits												
2			1	2	3	4	5	6	7	8	9	10	11	12	13
3		1	43	6	2	1	1	135	5	232	4	1	2	208	4
4	I	2	4	51	2	1	23	45	239	39	170	105	130	27	20
5	n	3	5	3	31	2	175	4	74	24	76	72	62	22	27
6	p	4	18	1	111	2	7	3	25	16	53	82	52	8	154
7	a	5	61	29	17	67	32	10	30	1	4	6	1	1	1
8	t	6	61	23	10	44	35	18	145	7	1	2	1	5	1
9	i	7	27	2	5	3	23	37	58	3	3		4	1	
10	e	8		16	11	5	2	1		1	1	1		1	
11	n	9		23	13	12						2		4	5
12	t	10		26	16	4					3			4	1
13		11	32		2			4	2	1	2		2		1
14	S	12	1	3	7	30		2	4	1					2
15	t	13		8	12	4				1					3
16	a	14	24	7				2	2			3	1		1
17	y	15		3	3	1	21	1				2			1
18	s	16	2	7	4	2			1	2	1		1	1	1

1

2

3

4

Super-Utilizers: Not All Created Equal

ED Super-Utilizers	Inpatient Super-Utilizers
• Generally younger • More likely to visit ED for non-urgent conditions • Less likely to have outpatient PCP visits • More likely to have substance-abuse issues • More likely to be discharged AMA	• Generally older • More likely to have multiple chronic conditions and take multiple medications • More likely to have outpatient appointments with multiple specialists

How Are We Meeting the Needs of Different Population Segments?

ED Super-Utilizers	Inpatient Super-Utilizers

Case Example: North Carolina

Analytics identified individuals at risk for hospitalization and re-hospitalization. Intervention includes:

- Comprehensive medication management
- Face-to-face self-management education
- Timely post-discharge follow-up with multidisciplinary care team
- Home visit by care manager when indicated
- Tele-health management where indicated
- Care manager assistance with non-medical social service needs when indicated

Jackson, CT, et al. “Transitional Care Cut Hospital Readmissions for North Carolina Medicaid Patients with Complex Chronic Conditions.” *Health Affairs.* 32(8): August 2013.

Key Elements

- Identification of target population segment
- Interventions targeted toward specific population
- Interventions support patient medical, behavioral, and non-medical needs

Jackson, CT, et al. “Transitional Care Cut Hospital Readmissions for North Carolina Medicaid Patients with Complex Chronic Conditions.” *Health Affairs.* 32(8): August 2013.

NC Results

- 20% reduction in readmissions within one year for individuals in program
- NNT, high-risk group: 6
- NNT, very high-risk group: 3

- (In comparison, daily aspirin NNT=~1500)

Jackson, CT, et al. “Transitional Care Cut Hospital Readmissions for North Carolina Medicaid Patients with Complex Chronic Conditions.” *Health Affairs.* 32(8): August 2013.

Detailed How-To Hotspotting Guide

1. Introduction: What is Hotspotting?
2. Getting Started: Data and Documentation
3. Data Cleaning
4. Measurement
5. Using Diagnosis Codes
6. Visualizing Data
7. Spatial Analysis
8. Data-Driven Interventions

www.HealthcareHotspotting.com

Next Steps

- Discuss population segmentation with analytics group at your MCO
- Determine what your MCO is doing to address needs of ED and Inpatient super-utilizers

Q & A

Contact

Meghan Donohue
Clinical Outcomes Analyst
MeghanD@QualisHealth.org
206-288-2440