Super-Utilizers and 30-day Readmissions at CCRMC

USING THE DATA TO UNDERSTAND THE PATIENT POPULATION AND DESIGN THE INTERVENTIONS

Sara Levin, MD
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Safety Net Systems Need to Examine Their Data on Readmissions

* May not be an optimal quality indicator for a safety net population
* The burdens of mental illness, poor social support, poverty, marginalization impact the unplanned readmissions
* Readmission rates as a quality indicator may penalize systems that care for poor or vulnerable populations
* Readmits are driven by factors unrelated to “medical care” interventions.

Why Readmissions?

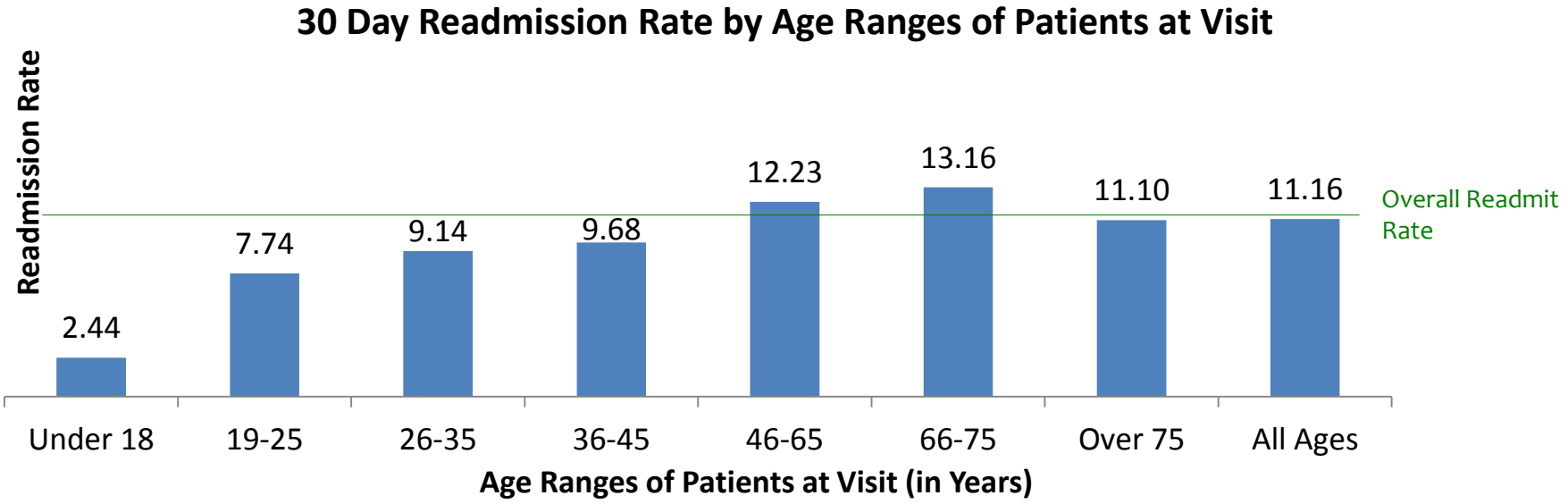
* If our population is different, how do our interventions and measures need to be different?
* Need to understand what our readmissions represent
* Improved discharge planning and care coordination is a good goal

What Is Our Readmission Rate?

*11.2

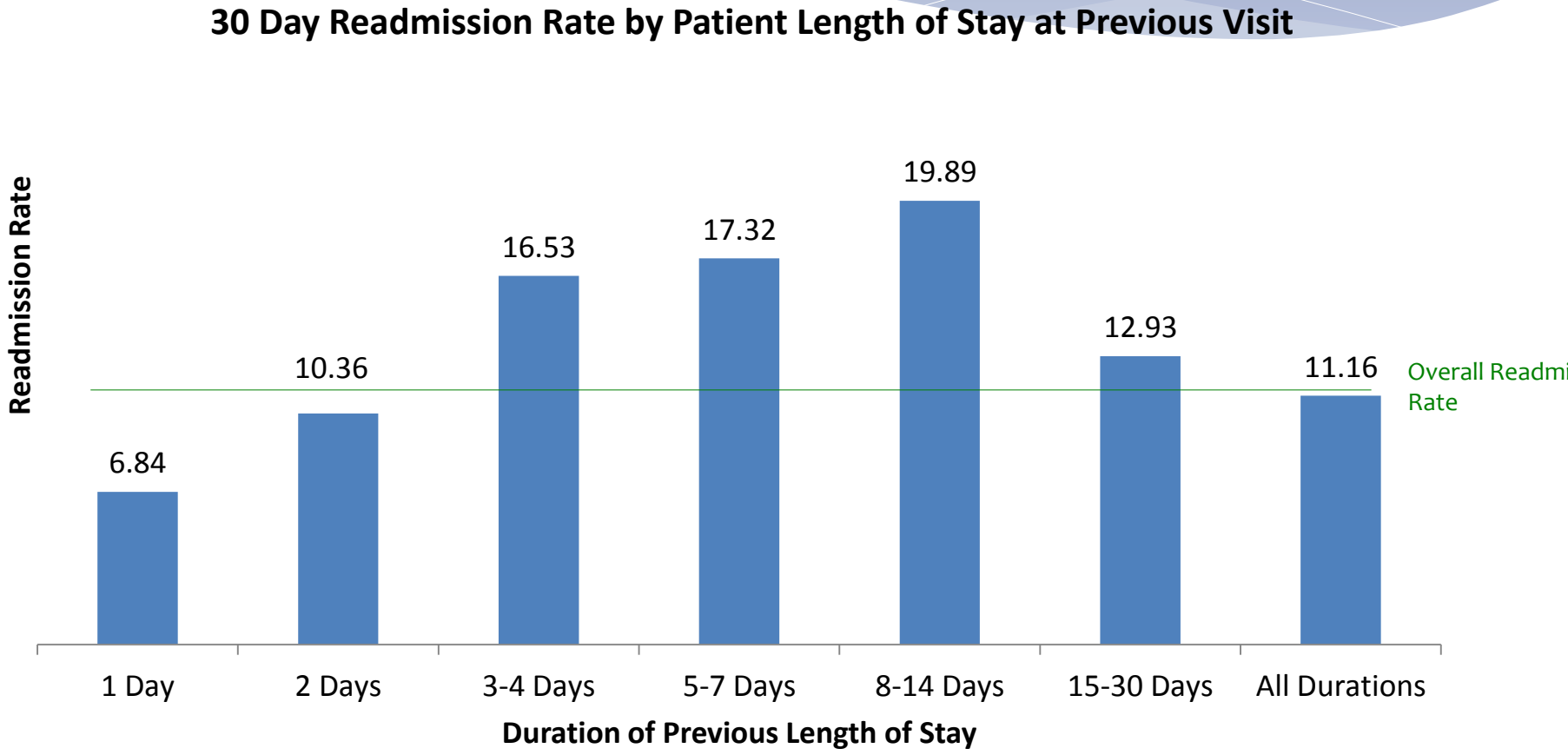
* Includes all-cause medical, surgical, critical care, gynecology admissions; excludes psych, OB, duplications
* Two metrics are presented: Rates, calculated by visit (~16000 visits) and percentages of patients who readmitted during study period (~11000 patients)
* For July 2008-June 2011:
  * **11.2 per 100 discharges at risk for readmission**
  * **10% of patients have 30-day readmit 1 or more times during study period.**

The Safety-Net Readmit Population: YOUNGER

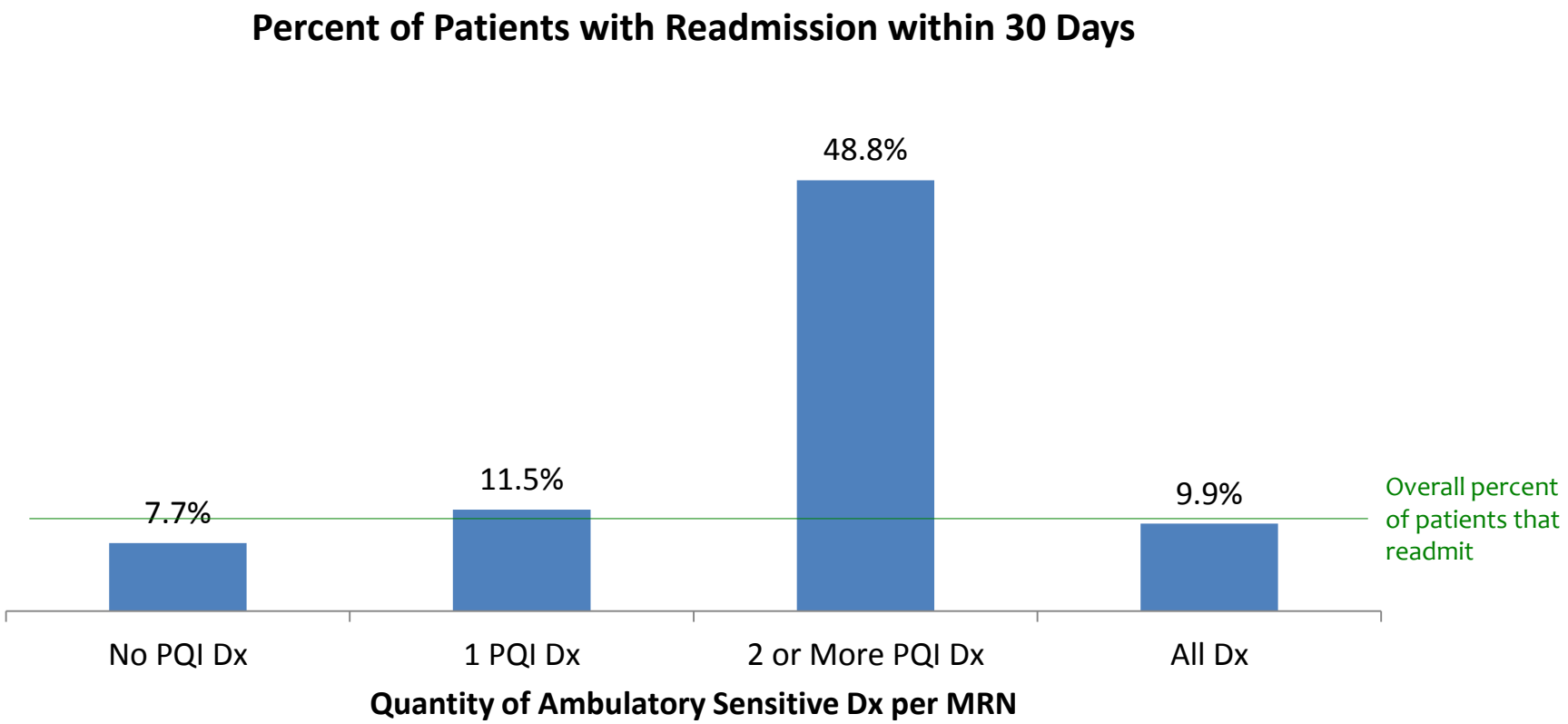


Number of Admissions by Age								
Patient Age at Visit	**Under 18**	**19-25**	**26-35**	**36-45**	**46-65**	**66-75**	**Over 75**	**All Ages**
Number of Admissions	127	893	1843	2315	8097	1744	1785	16804

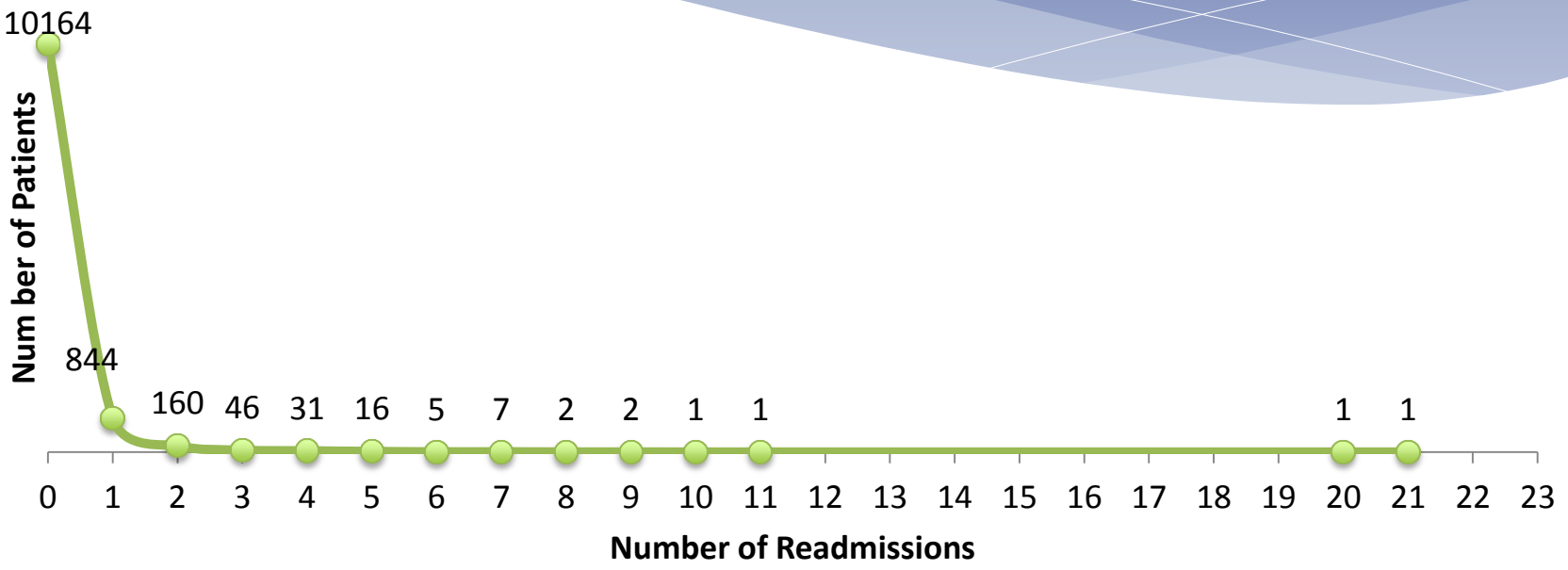
The Safety-Net Readmit Population: SICKER



The Safety-Net Readmit Population: SICKER



The Safety-Net Readmit Population: SMALLER



* Conclusion: The majority of patients do not readmit. In our safety population 1% of patients readmitted more than 2 times in the study period. 2.5% of patients account for 50% of readmission visits.

On Cost - Superutilizers

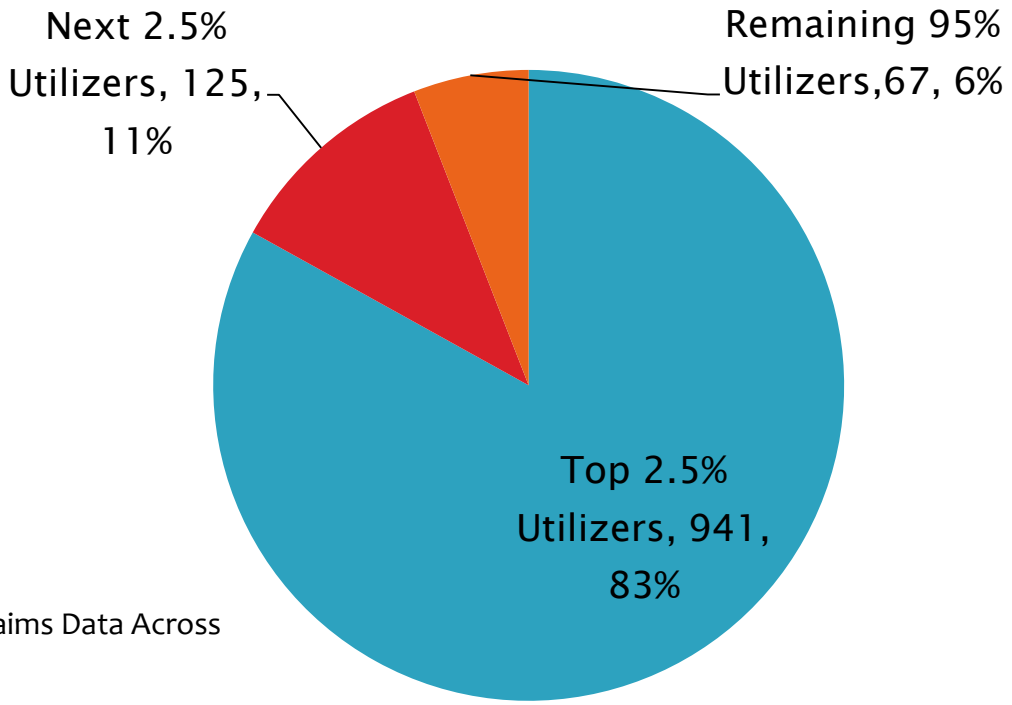
Patient Distribution	Percent of Total Charges
Top 0.1 Percentile = 124 Patients	12 %
Top 1 Percentile = 1235 Patients	36 %
Top 2.5 Percentile = 3126 Patients	50 %
Top 5 Percentile = 6177 Patients	61 %
Top 10 Percentile = 12354 Patients	73 %

*Data from 2010 Calendar Year Claims Data Across CCHP/CCRMC/HC Delivery

Superutilizers – On Readmissions

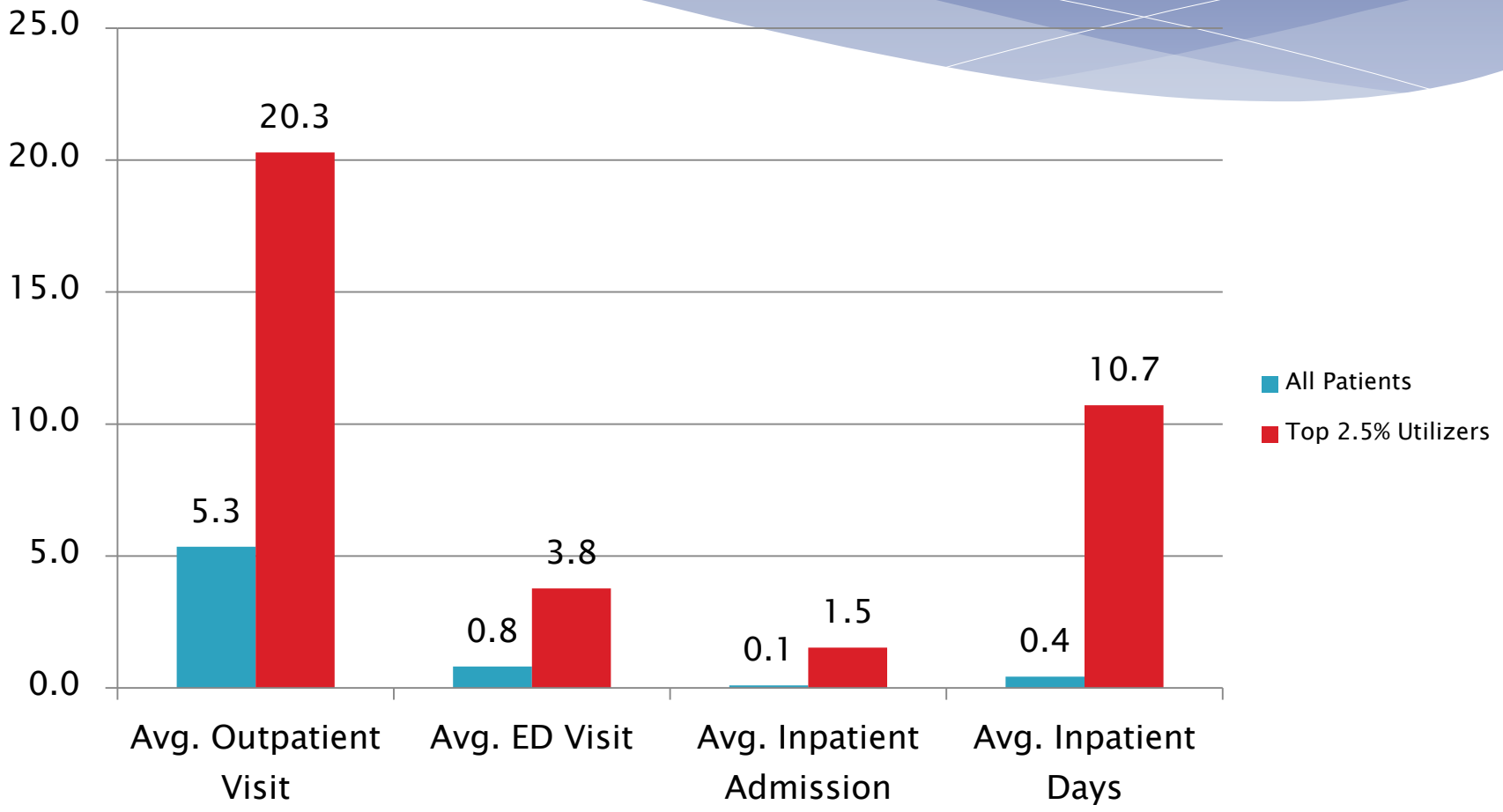
* Top 2.5% utilizers responsible for 83% of Readmissions
  (941 out of total 1133 Readmissions were accounted for by top 2.5% of patients)

Readmission Distribution



*Data from 2010 Calendar Year Claims Data Across CCHP/CCRMC/HC Delivery System

Superutilizers - Where Is The Utilization?



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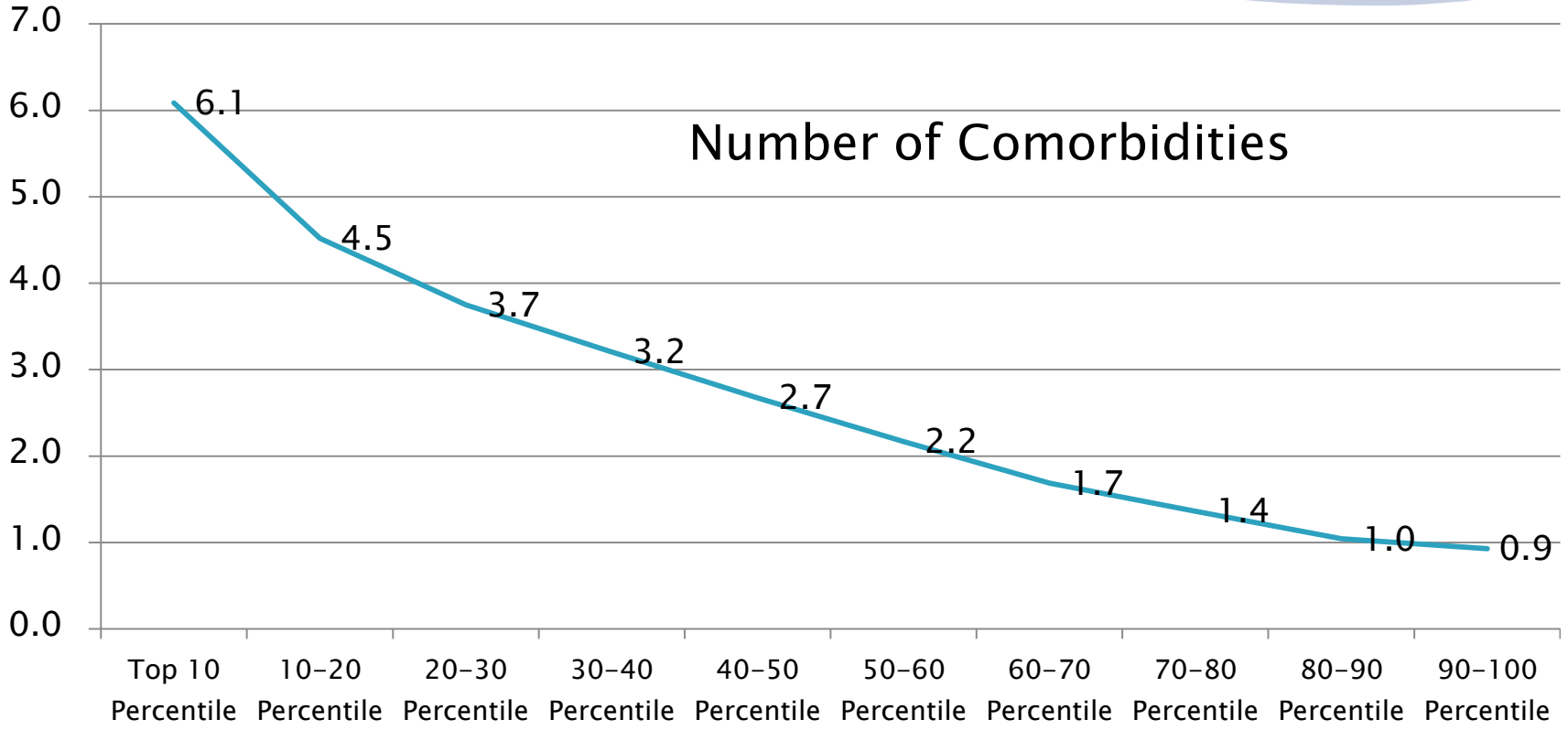
Superutilizers - On Burden of Disease



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Conditions of Vulnerability

Two physicians and one epidemiologist asked:

* Can we explain the drivers of readmission rate in the safety-net population based on what we see day-to-day in this small population?

And Hypothesized:

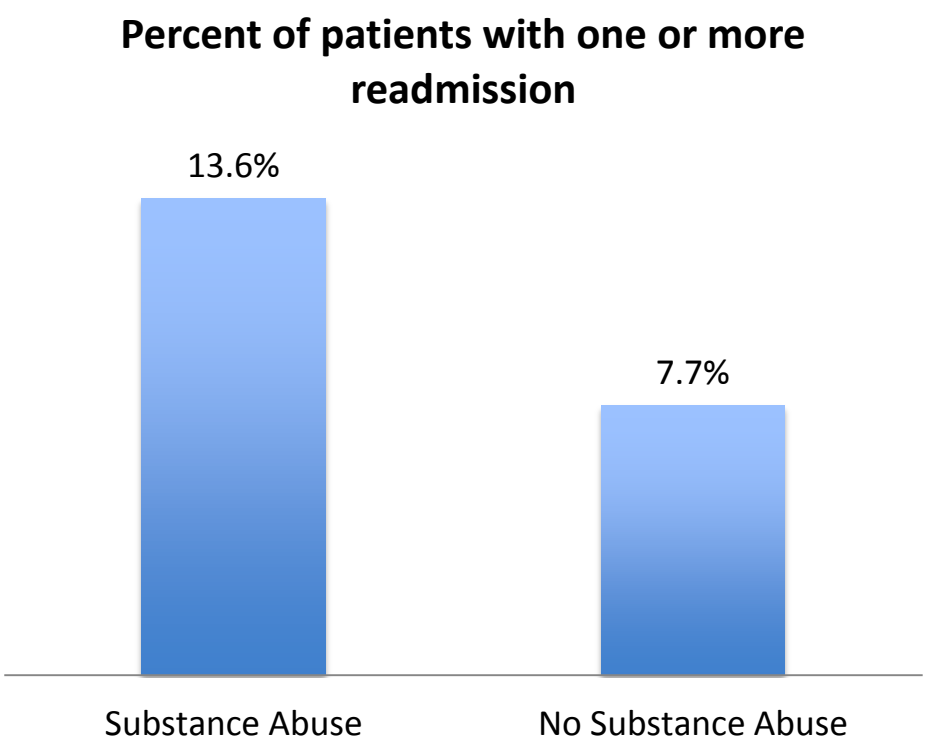
* We can define "conditions of vulnerability" that are driving the readmission rate on this population based on clusters of ICD-9 codes that communicate vulnerable states.

Conditions of Vulnerability

* We defined 5 “conditions of vulnerability” by clusters of ICD-9 codes:
  * End-of-life
  * Frailty
  * Substance Use
  * Mental Illness
  * Chronic Pain/Immobility

Conditions of Vulnerability: Substance Use

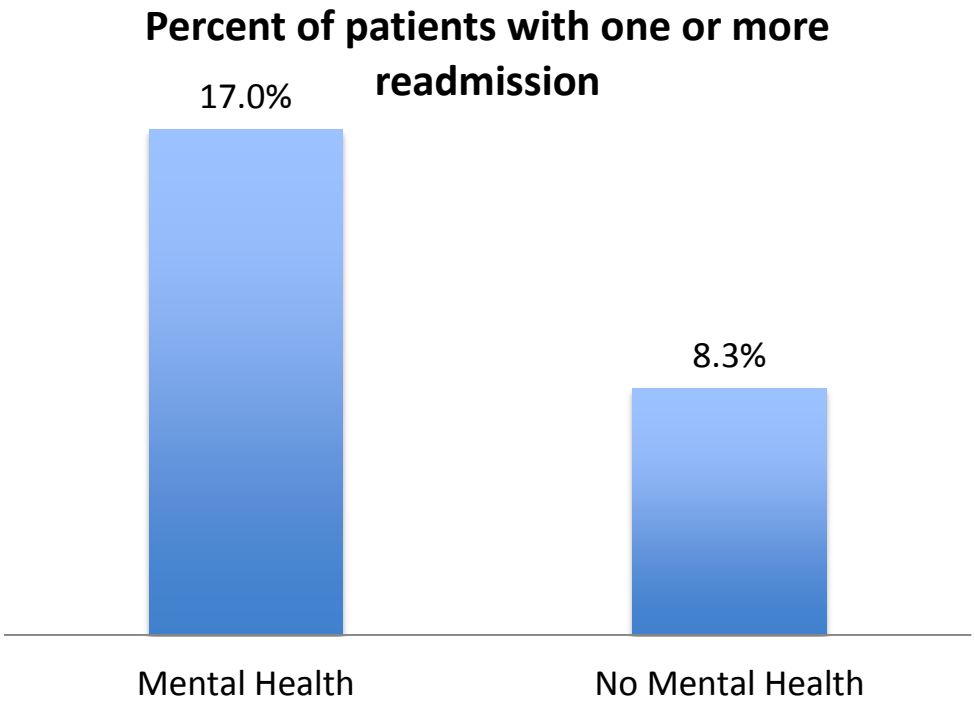
38% of Patients with Substance Abuse Diagnosis



- Alcohol/drug-induced psychosis
- Opioid, Methamphetamine, Cocaine, other drug abuse
- Alcohol Abuse
- Alcohol or Drug Withdrawal
- Esophageal Varices
- Ascites
- Hepatitis (alcoholic)
- Cirrhosis (alcoholic)
- Toxic ingestions

Conditions of Vulnerability: Mental Illness

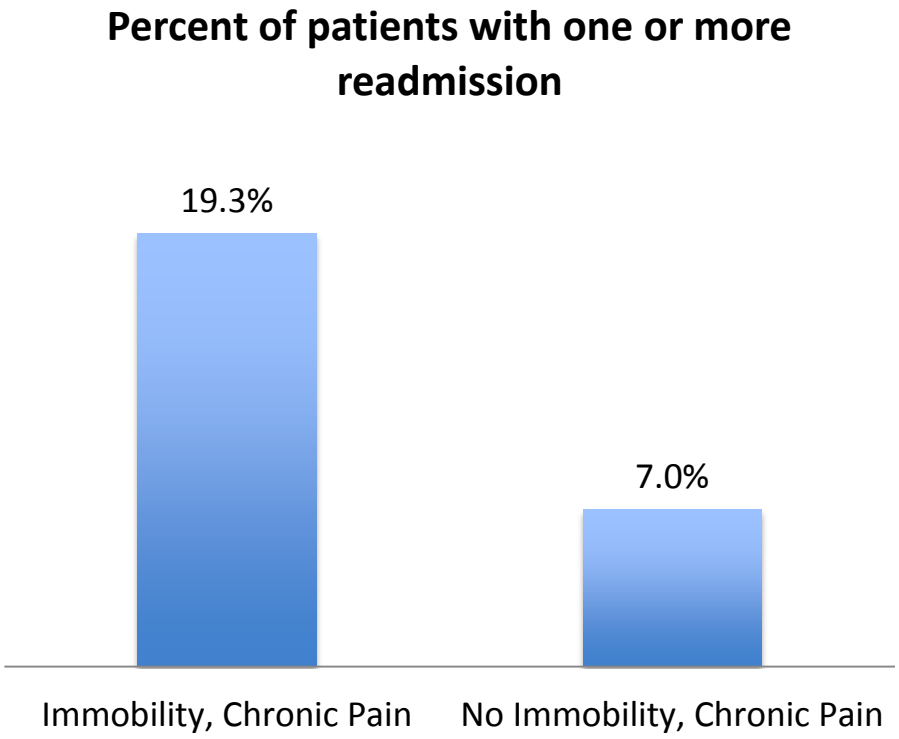
18% of patients have at least one diagnosis associated with Mental Illness



- Severe Mood Disorders
- Anxiety Disorders
- Psychoses
- Somataform

Conditions of Vulnerability: Chronic Pain, Immobility, Obesity

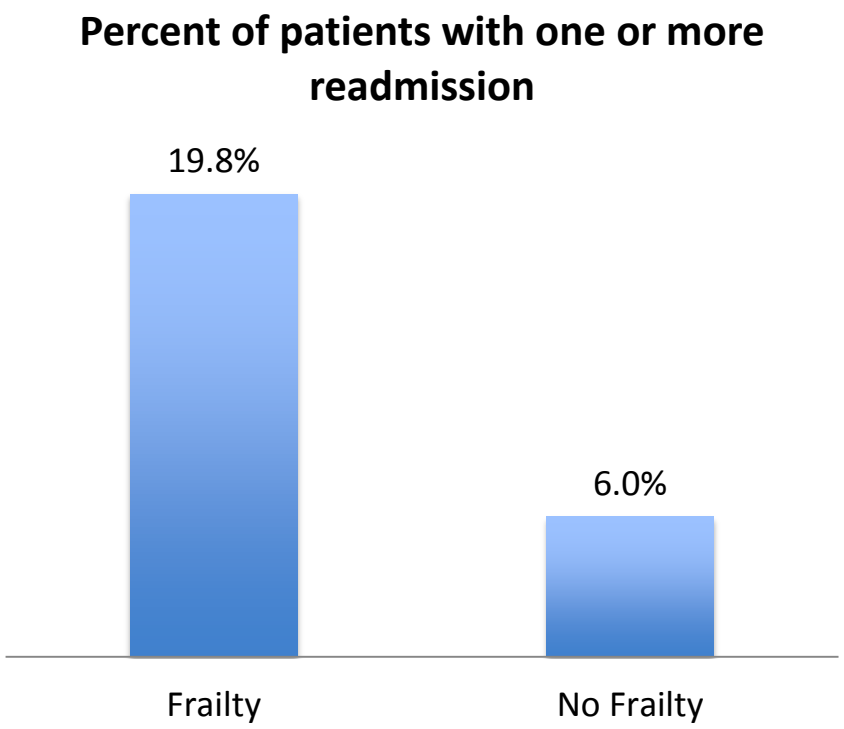
24% of patients have Chronic Pain/Immobility/Obesity



- Chronic pain syndromes
- Pressure ulcers in non-paraplegic
- Osteomyelitis, chronic
- Fistulas, intestinal, entero, vesicular
- Chronic, Non-Healing Wound
- Morbid Obesity

Conditions of Vulnerability: Frailty

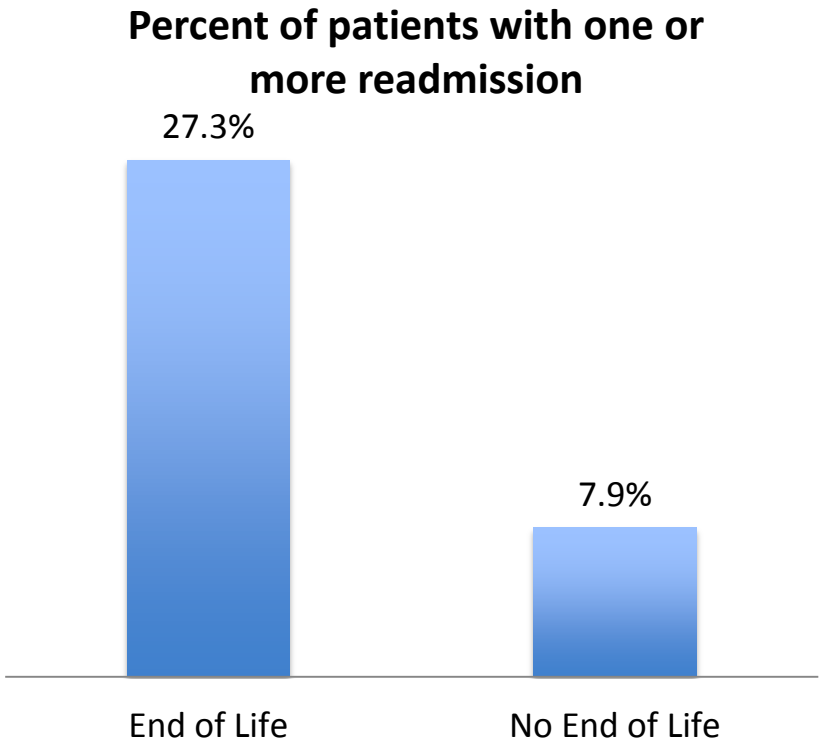
28 % of patients have at least one diagnosis associated with Frailty



- Poisoning by Rx Meds
- Dehydration
- Metabolic disorders
- Electrolyte disorders
- Delirium/Dementia
- Senility
- Failure to thrive
- Cachexia

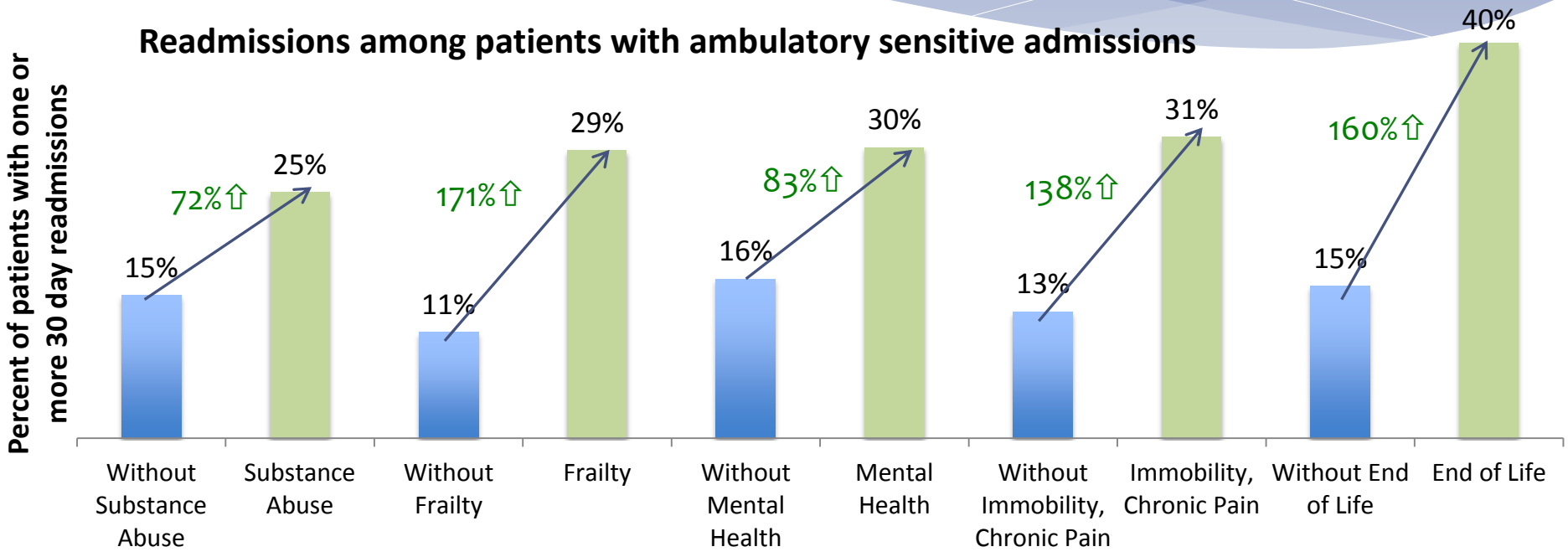
Conditions of Vulnerability: End-of-Life

10% of patients have at least one diagnosis associated with End of Life



- Malignant Pleural Effusion
- Malignant Pain
- Malignant ascites
- Neutropenia (Chemo-induced)
- Aspiration Pneumonia
- Malignancies of digestive systems and Respiratory systems
- Ovarian Malignancies
- Hematologic Malignancy
  - Not in remission

Conditions of Vulnerability Drive Readmissions in Patients Admitted with PQI Diagnoses



* Conclusion: Among patients with ambulatory sensitive admissions, a presence of a condition of vulnerability MARKEDLY increases risk of readmission for patient

Conclusions

* Conditions of vulnerability
  * more significant than any other single disease or demographic entity
* Using ICD-9 codes
  * indicators of basic needs instability exacerbated by illness
* Superutilizers
  * Understanding and defining the populations at-risk for becoming superutilizers can help us to design effective and compassionate interventions at the front end

Conclusions

* Ambulatory palliative care
* Superutilizer program – High Intensity Health Home (Camden Model?)
* Align and Integrate Mental Health, Behavioral Health and Physical Health services
* Coordinate with our Public Health, Health Plan and Community partners and integrate social services across the system and into health care delivery sites

PROACT

PROACT Team: Patient Touchstone

PROACT TEAM: Inpatient teams; Home Visit MDs; PROACT RN; Clinical Pharmacist; Case Mgmt; Coaching (CTI); SNF FNP

Warm Hand-offs/ active management

Primary Care Health Home

Based on risk level:

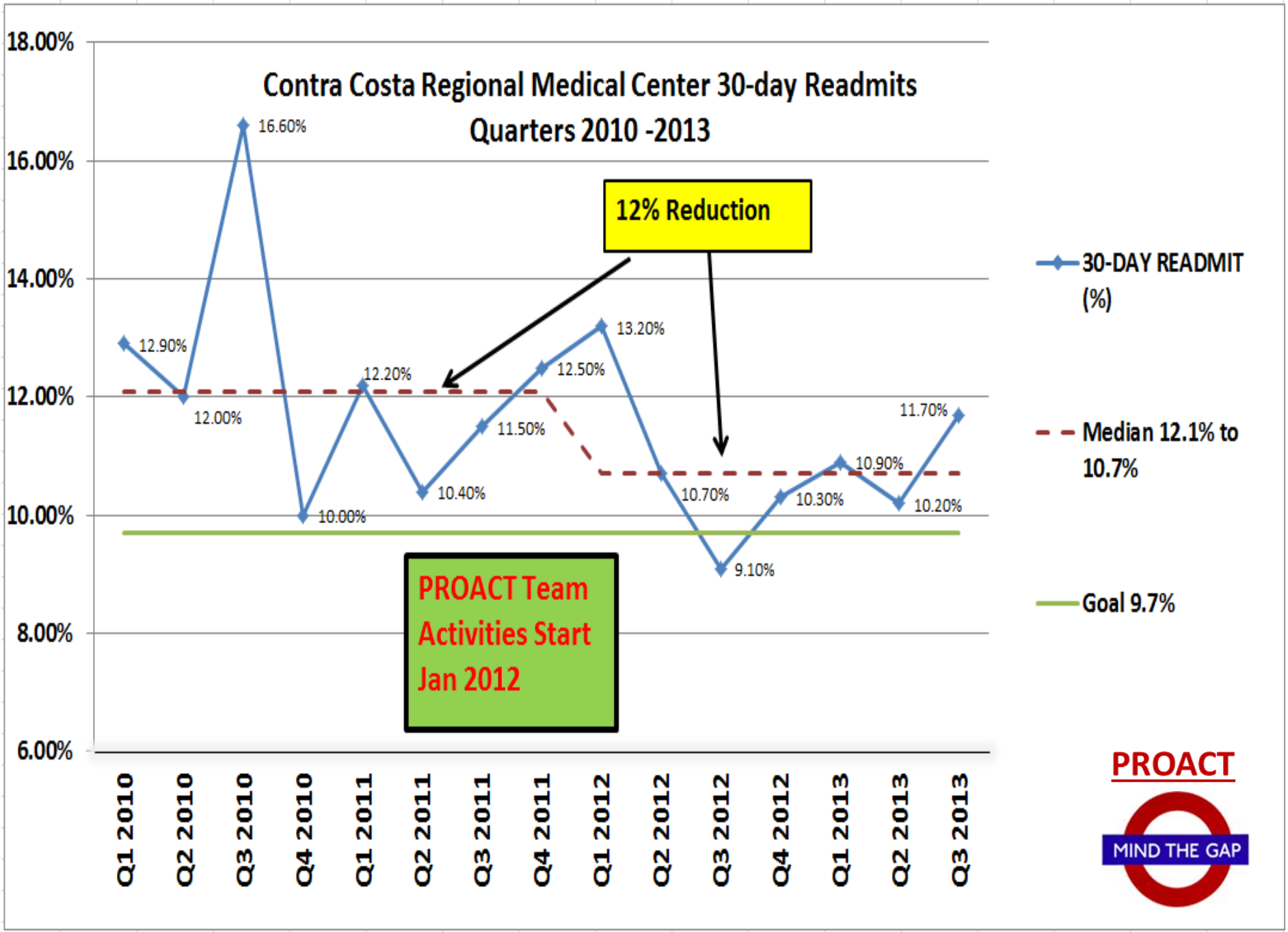
- Phone Visit<72hrs
- PROACT Clinical Pharmacist
- Coaching/Case mgmt.
- Home Health referral
- Home Visit MD
- High Intensity Health Home(?)

Connect to services:

- mental health
- specialty care
- addiction treatment
- hospice
- community support

PROACT Outputs

- Risk stratification tool applicable to our safety net population
- Assess every hospitalized patient for readmission risk
- Deliver a variable intensity care intervention upon discharge
  - Every patient discharged from CCRMC will receive a post-discharge contact within 72 hours of discharge to assess obstacles with discharge plan and assist with follow-up plan



PROACT

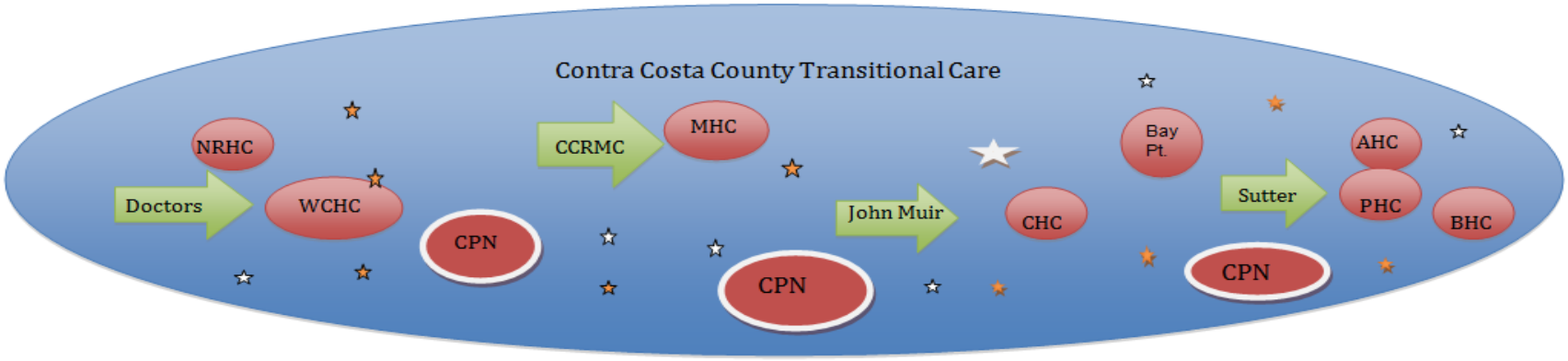
MIND THE GAP

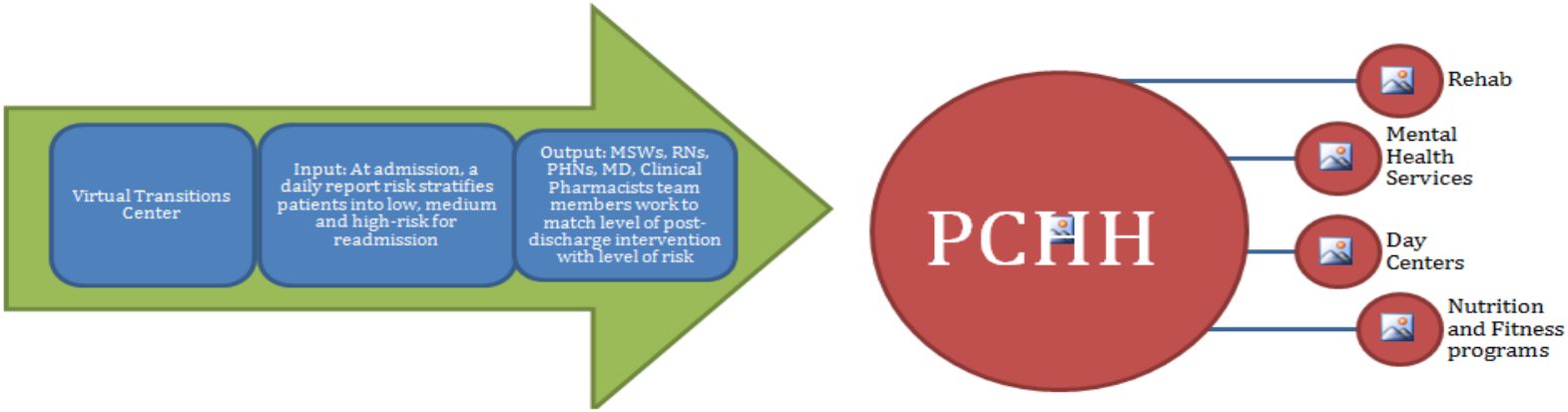
PROACT

Projected Savings from Readmissions Reductions

- $196K/Mo now! (12% reduction 30-day readmits)
- $327K/Mo when we reach goal of 20%
- $3.9 Mil/Yr

Contra Costa County Care Transitions (future state?)





The Transitional Care program can help meet institutional goals and can address many of the DSRIP categories as well as many of the evolving criteria for care coordination and delivery within the ACA:

- Improve care coordination between the hospital, the primary care health home, county agencies and community-based organizations (category 3)
- Target resources for at-risk populations and high-utilizers who often have co-existing substance use issues, mental illness or are obese, frail or near the end-of-life. (category 3)
- Serve as an alternative model to expand primary care in the post-discharge period. In addition to phone visits for every discharged patient, up to 1440 patients would receive home
- Reduce hospital readmissions and reduce reliance on ER and hospital care for chronic care needs by intensifying post-discharge care to match level of need.
- Improve patient experience measured by HCAHPS (category 3)
- Increase training of primary care workforce via residents involvement in long-term care rotation and the transitional care quality improvement program (category 1)
- Emphasize the importance of ongoing data collection and evaluation.