

21st Century Care: Redesigning Care at Denver Health

Models of Care for High-Need Patients

National Academy of Medicine

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Acknowledgements and Disclaimers



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- The contents of this publication are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services or any of its agencies.
- The analysis presented was conducted by the awardee. Findings may or may not be consistent with or confirmed by the independent evaluation contractor.
- The Colorado Multiple Institutional Review Board determined this project to be Quality Assurance, Not Human Subject Research.

Denver Health and Hospital Authority



Level One Care For ALL

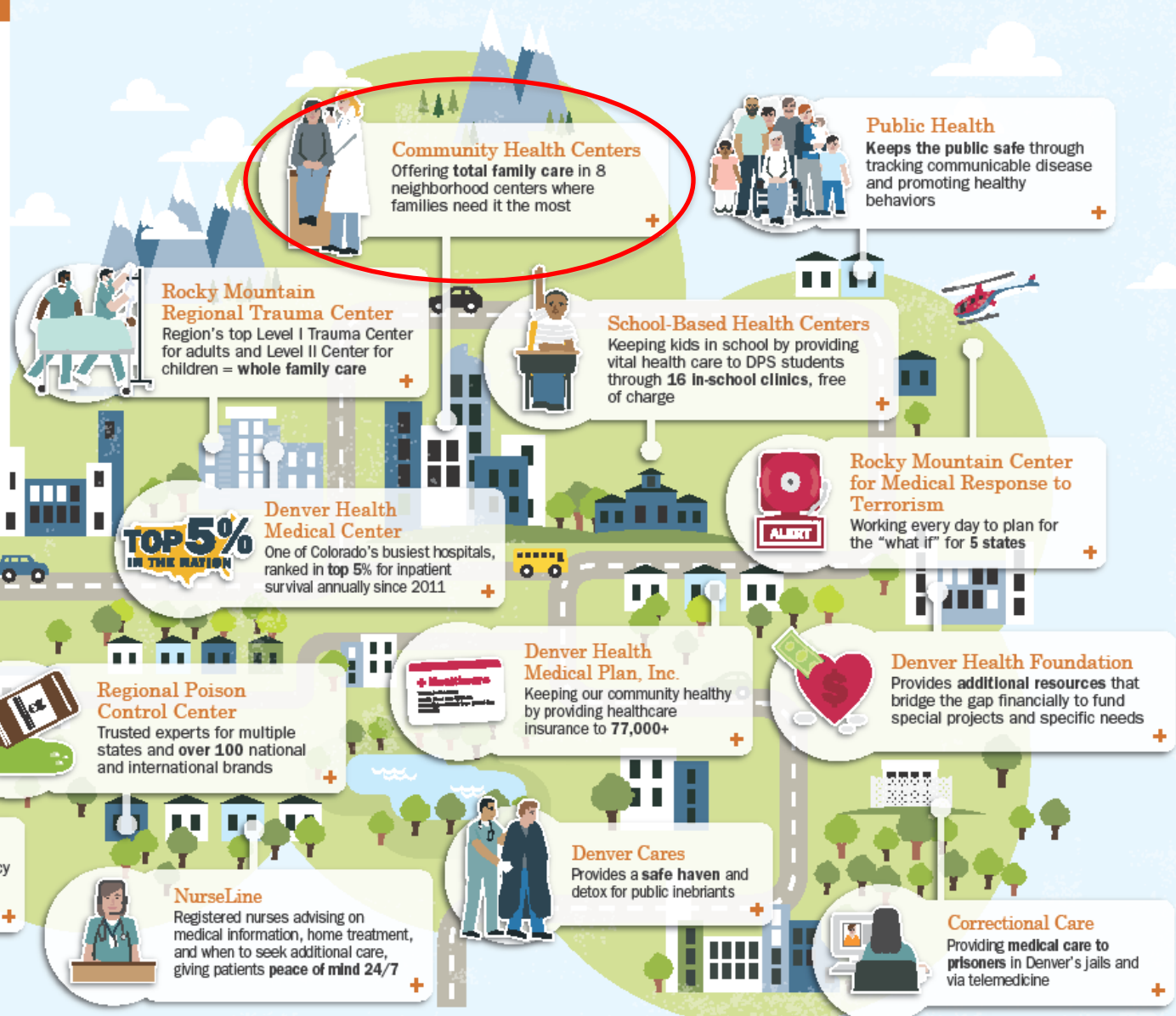
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Denver Health

An innovative healthcare system that is a model of success for the nation.

OUR AREAS OF FOCUS

-  **Clinical Care**
Highest quality, low cost provider*
-  **Education**
Academic center teaches the next generation of healthcare workers.
-  **Research**
Ongoing, leading-edge research



**TOP 5%
IN THE NATION**

Improve access and achieve Triple Aim: better care, smarter spending, healthier people

Enhanced clinical services through redesigned health teams (~\$9m)

- Clinical pharmacists
- Behavioral health consultants
- RN care coordinators
- Patient navigators
- Social workers
- Specialized high intensity teams

Enhanced health information technology (~\$9m)

- Population segmentation/patient risk stratification
- 3M™ Clinical Risk Groups (CRGs)
- eTouch Services

Administration and Evaluation (~2m)

- Rapid Cycle Evaluation NOT Research

CMMI Award

2012

3 years

\$19.8 million

Risk Stratification Approach

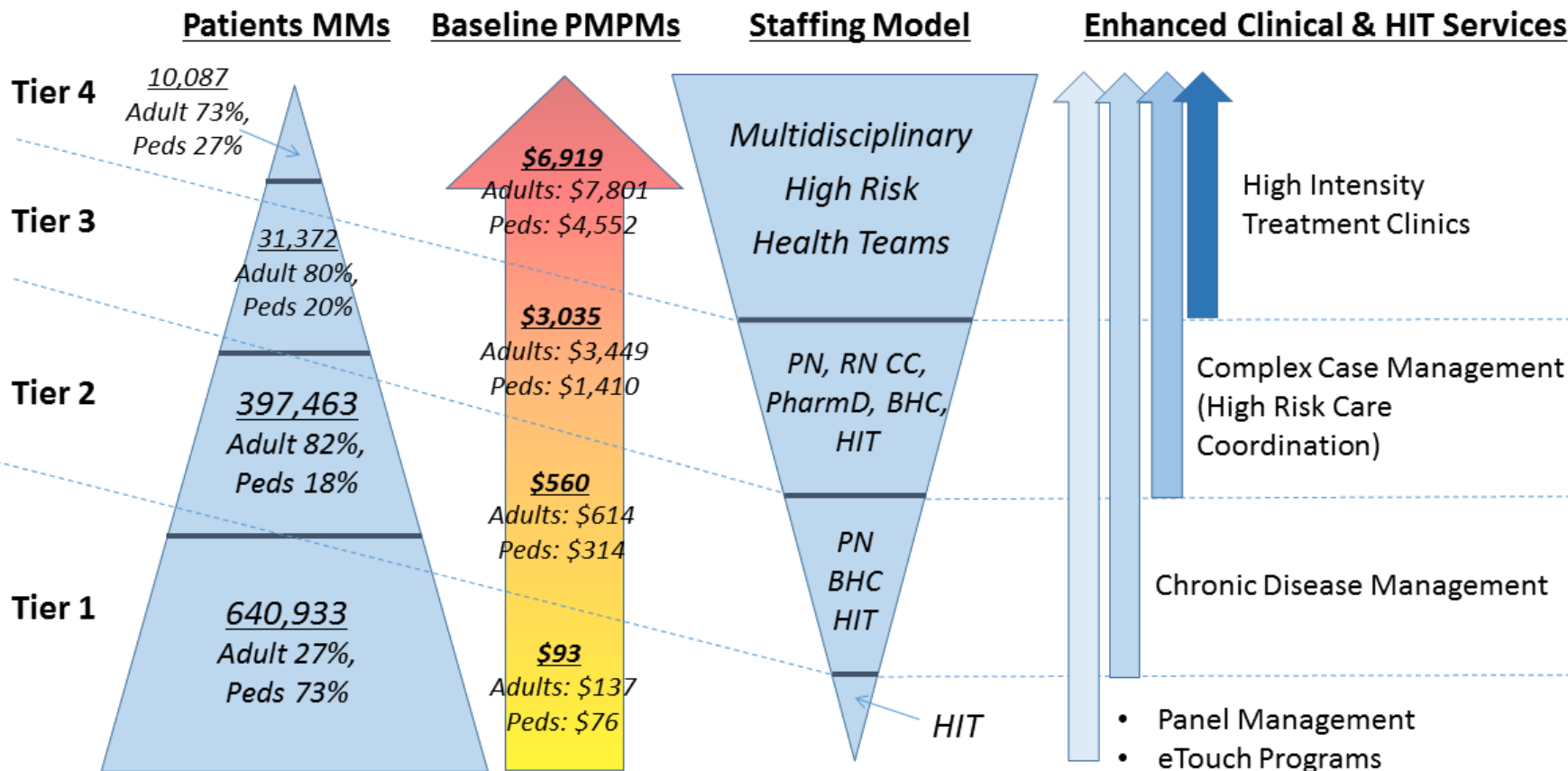
- Incorporated 3M Clinical Risk Groups (CRGs), based on prior research experience: 9 strata of risk
- Every CRG assigned to 1 of 4 “Tiers” by clinicians and data analysts
- Additional criteria used to over-ride CRG-assigned tier:
 - CSHCN Registry (ICD-9 and pharmaceutical based)
 - Some mental health diagnoses
 - History of premature birth: mother targeted for intervention
 - High hospital or ED use (whether empanelled patient or not)

21st Century Care: Population Health “Tiered” Delivery of Enhanced Care Management Services



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Notes: Baseline period is July 2010 through June 2011. This initial "proof of concept" tiering algorithm was implemented by Milliman using CDPS predictive modeling tool thresholds to define tiers. Tier sizes were pre-determined according to estimated resource capacity. The attributed managed care population was identified through membership files, whereas the fee-for-service population was selected at a single point in time at the beginning of the time period and fixed for the duration. All attributed individuals were tiered. MM: Member months, PMPMs: Per member per month, PN: Patient Navigator, RN CC: Nurse Care Coordinators, PharmD: Clinical Pharmacist, eTouch: Health Text Messages Programs. Grant tiers (Beta version).

Population Health Model

Panel Management

Tier ≥ 1 Patients

e-Touch Programs

- Diet support
- Flu vaccine reminders
- Well child visit reminders
- Appointment reminders

Pediatric Recall

Integrated Behavioral Health

Clinical Social Work

Care Management for Chronic Disease

Tier ≥ 2 Patients

Pediatric Asthma Home Visits

Pediatric Asthma Recall

Diabetes/Hypertension Management

Pharmacotherapy Management

Transitions of Care Coordination

Complex Case Management

Tiers $\geq 3-4$ Patients

Enhanced Care Teams

- Patient Navigators
- Nurse Care Coordinators
- Clinical Pharmacists
- Behavioral Health Consultants
- Clinical Social Workers

High Intensity Treatment Teams

Tier 4 Patients

Intensive Outpatient Clinic

Children with Special Health Care Needs Clinic

Mental Health Center of Denver

Goal to achieve practice transformation by integrating new staff with existing staff to provide team-based care, especially to high opportunity patients

Intensive Outpatient Clinic (aICU)

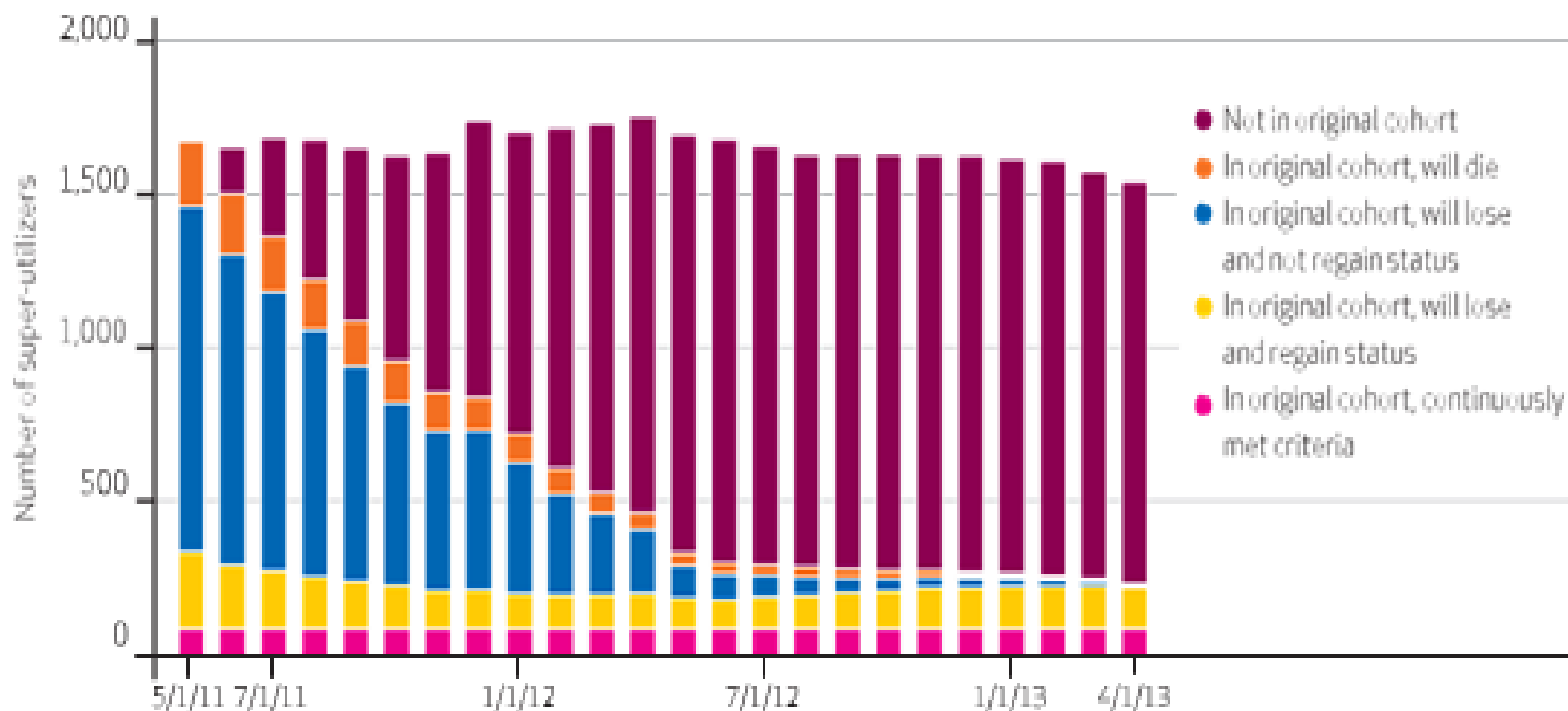


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- Targeted to adults with multiple, potentially avoidable, inpatient admissions within a year
- Serves as the patient's medical home and has a much smaller panel size
- More robust staffing model – dedicated social worker and navigator, more generous provider, RN, HCP and clerical ratios per patient
- A range of care coordination/care transition services are provided according to a care plan that captures the following domains: Medical, Psychiatric, Medications, Substance Use/Abuse, Social
- Also have contract with Mental Health Center of Denver

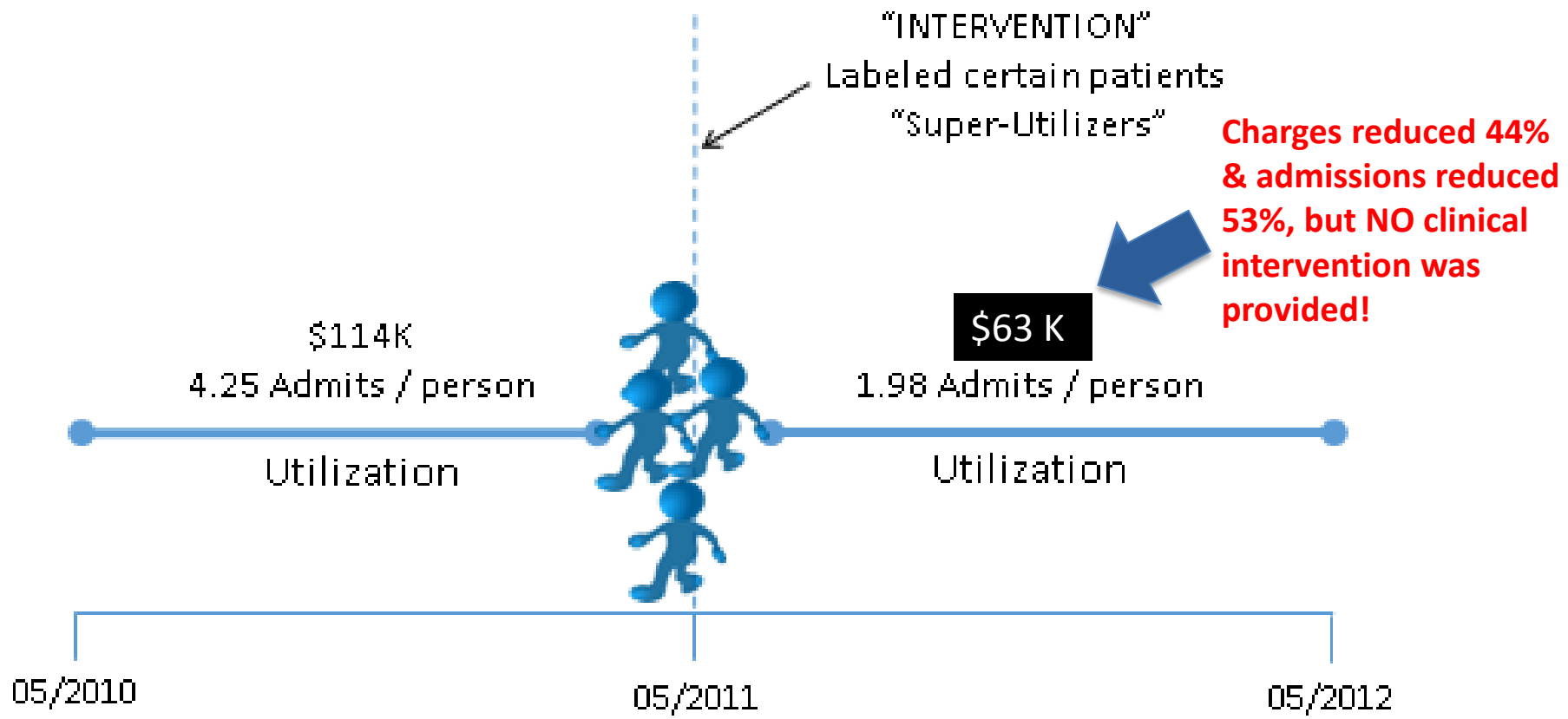
“Super-Utilizers” are Stable in Number, BUT Individual Turn-Over is High

Population And Individual-Level Analyses of Adult Super-Utilizers in Denver County, Colorado, May 1, 2011–April 30, 2013



DATA NOTES: Authors’ analysis of data from the data warehouse of Denver Health. NOTES “Not in original cohort” is people who became super-utilizers after the study period began (members of all other categories were in the original cohort). “Will die” is people from the original cohort who died during the study period; some people who died also permanently or temporarily lost super-utilizer status. “Will lose and not regain status” is people from the original cohort who stopped being super-utilizers and did not regain that status during the study period. “Will lose and regain status” is people from the original cohort who stopped being super-utilizers and did regain that status during the study period. “Continuously met criteria” is people who met the criteria for super-utilizers throughout the study period. Some people classified as “not in original cohort” also died, permanently or temporarily lost super-utilizer status, or both during the study period. However, these super-utilizer status changes were not tracked. Only status changes affecting the original cohort are shown in the exhibit.

Cost Savings Analysis: Why can't we simply compare utilization/costs of before and after program enrollment?



This natural tendency for high-utilizing patients to become less high-utilizing over time is known as "regression to the mean".

Total Cost of Care Analysis: Sample (“Mocked-Up”) Data



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