CASCADIA POPULATION HEALTH RESEARCH AND INNOVATION:

CCBHC UPDATE AND FINDINGS

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THE PROBLEM…

People with a mental illness die **20-30** years earlier than the general population

~65% of adults with a mental illness have at least one chronic condition

1 in 5 adults with a mental illness have a co-occurring substance use disorder

Sources: *Lancet*; SAMHSA; NYSOMH

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HISTORY

- Cascadia was selected to participate in Certified Community Behavioral Health Center (CCBHC), with three demonstration sites in Oregon
- April 2017 to July 2019
- Comprehensive mental health and substance use disorder services to traditionally underserved individuals, with an emphasis on **improved approaches to physical health and substance use disorder treatment**

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CCBHC: AN OPPORTUNITY FOR STATE-WIDE TRANSFORMATION

- Access
- Workforce – Recruitment and Retention –> Skills, Wages
- Coordination of Care
- Building the Continuum of Care

- **Data Analytics**
- **Population Health Research and Innovation**
  - ***Understanding the needs of the clients we serve in order to provide programs and services that make the most difference***
- Medication Assisted Treatment (MAT) to address the opioid epidemic

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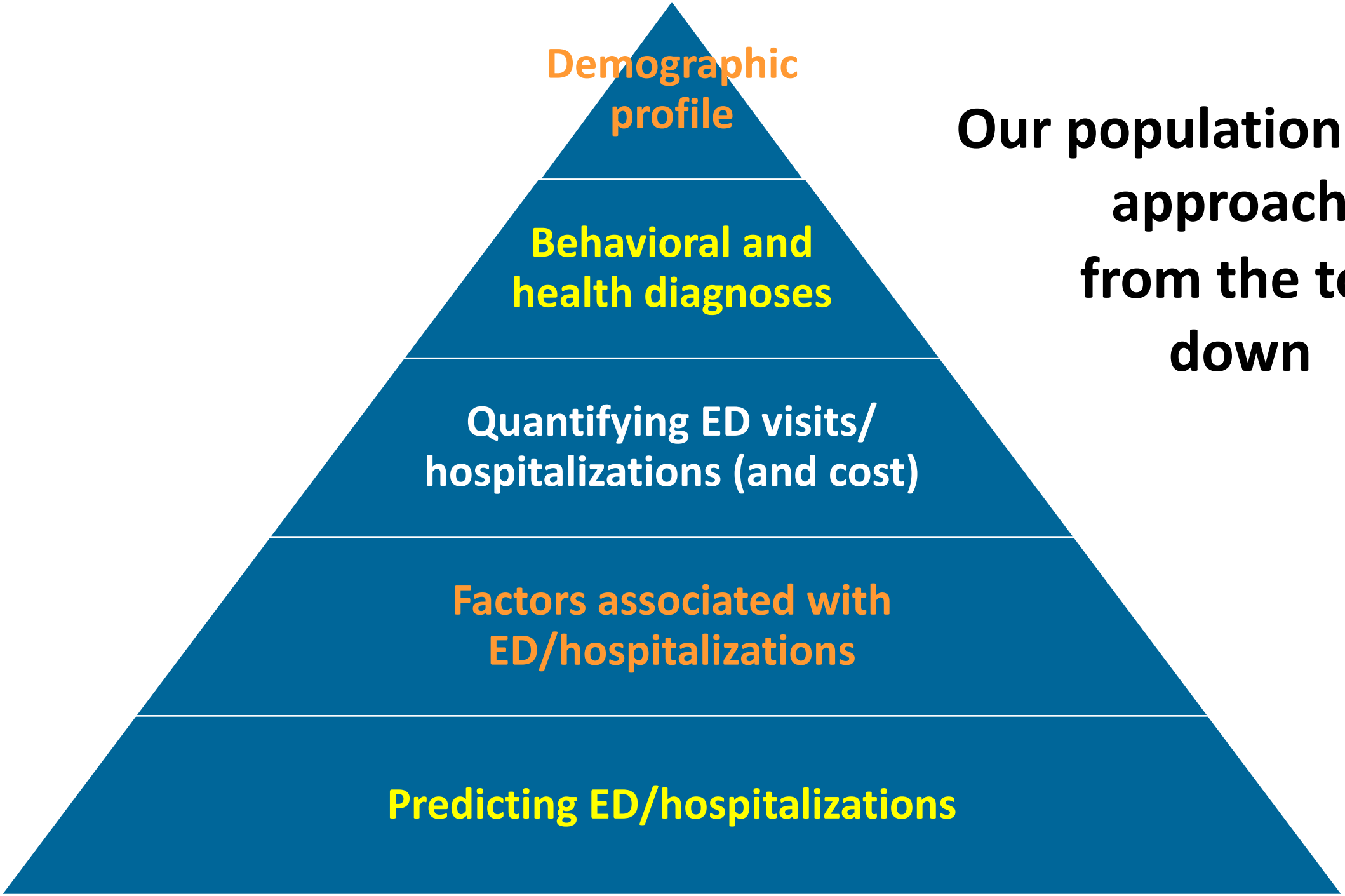
INNOVATION – THE BEGINNING

Our goal is to translate analyses into improvements in accordance with the health care quadruple aim:

- Improved health outcomes and health equity
- Reduced cost to the system of care
- Patient quality and satisfaction
- Provider well-being

DESIGN INTEGRATED, HOLISTIC PROGRAMS AND SERVICES TO ADDRESS THE TRUE NEEDS OF INDIVIDUALS AND COMMUNITIES



Our population health approach, from the top down

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METHODOLOGICAL OVERVIEW

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- **Psychiatric Diagnoses**
- **Demographics**
- **Housing Status**
- ED visits (pre-manage)
- Inpatient Admissions (pre-manage)

health share
Health Share of Oregon

- **Overall Costs**
- Demographics
- ***ED visits***
- ***Inpatient Admissions***

CareOregon

- **Medical Diagnoses**
- **Detailed Costs**
- Demographics
- ***ED visits***
- ***Inpatient Admissions***

Note: When possible, analyses were replicated across all three data sets to ensure consistent findings.

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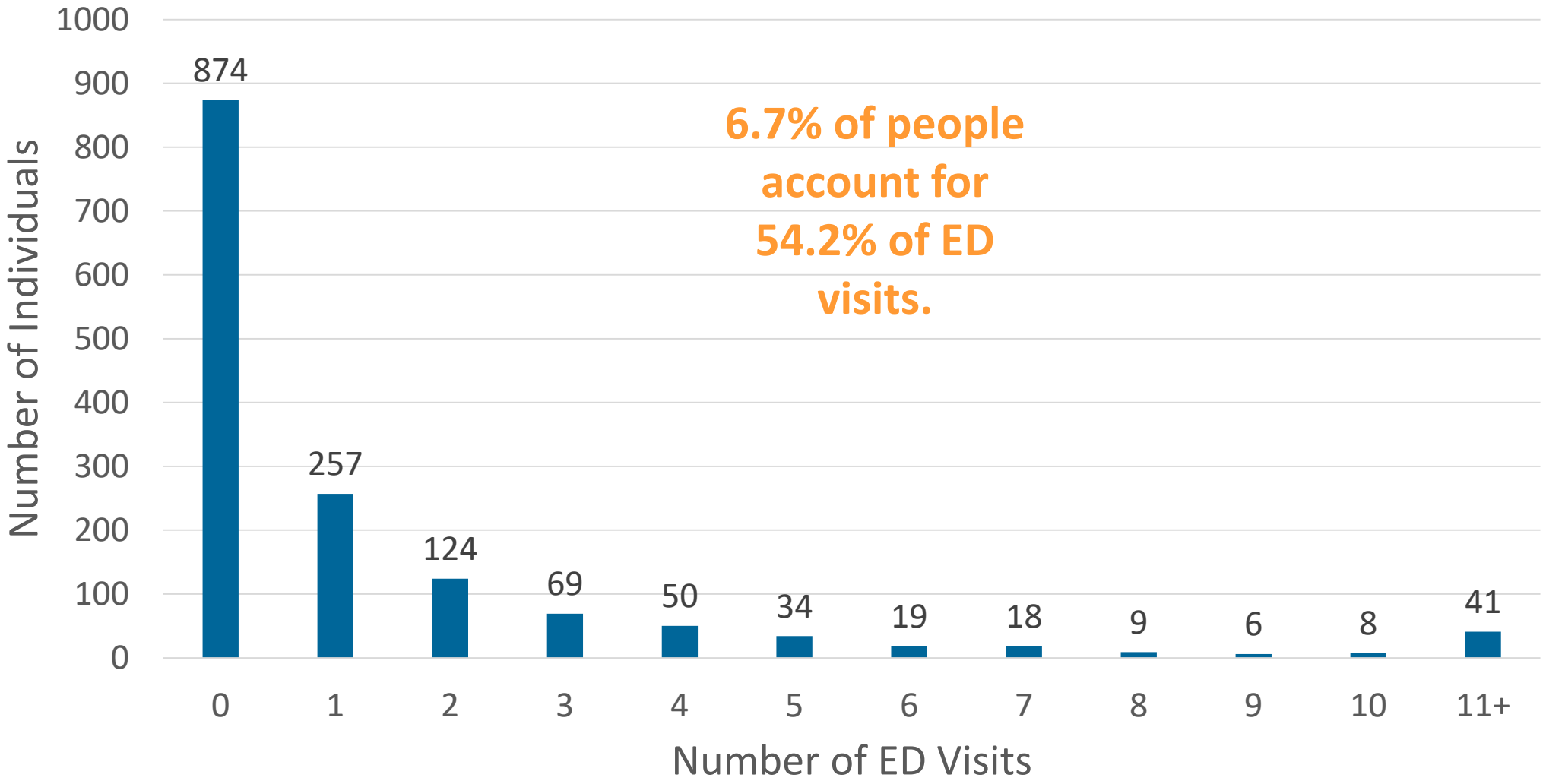
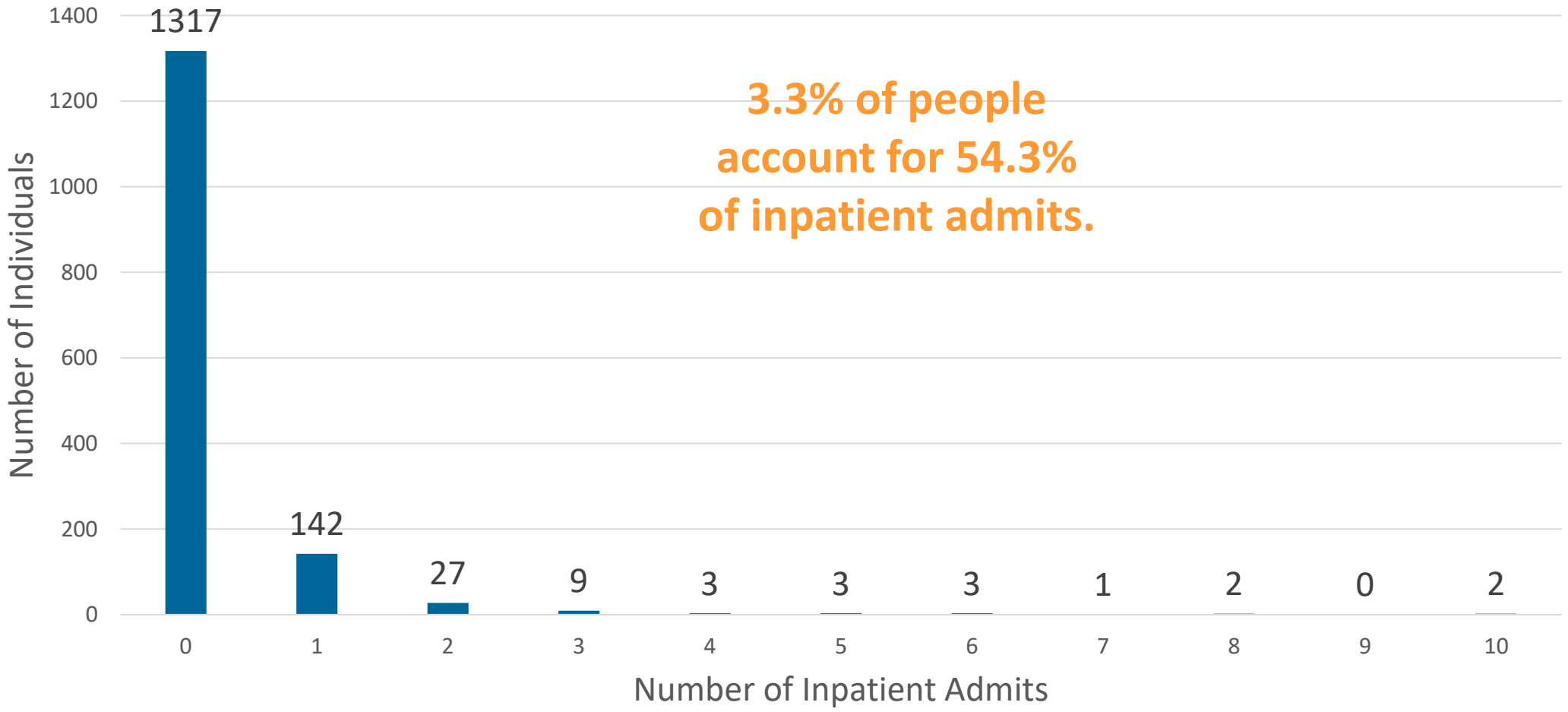
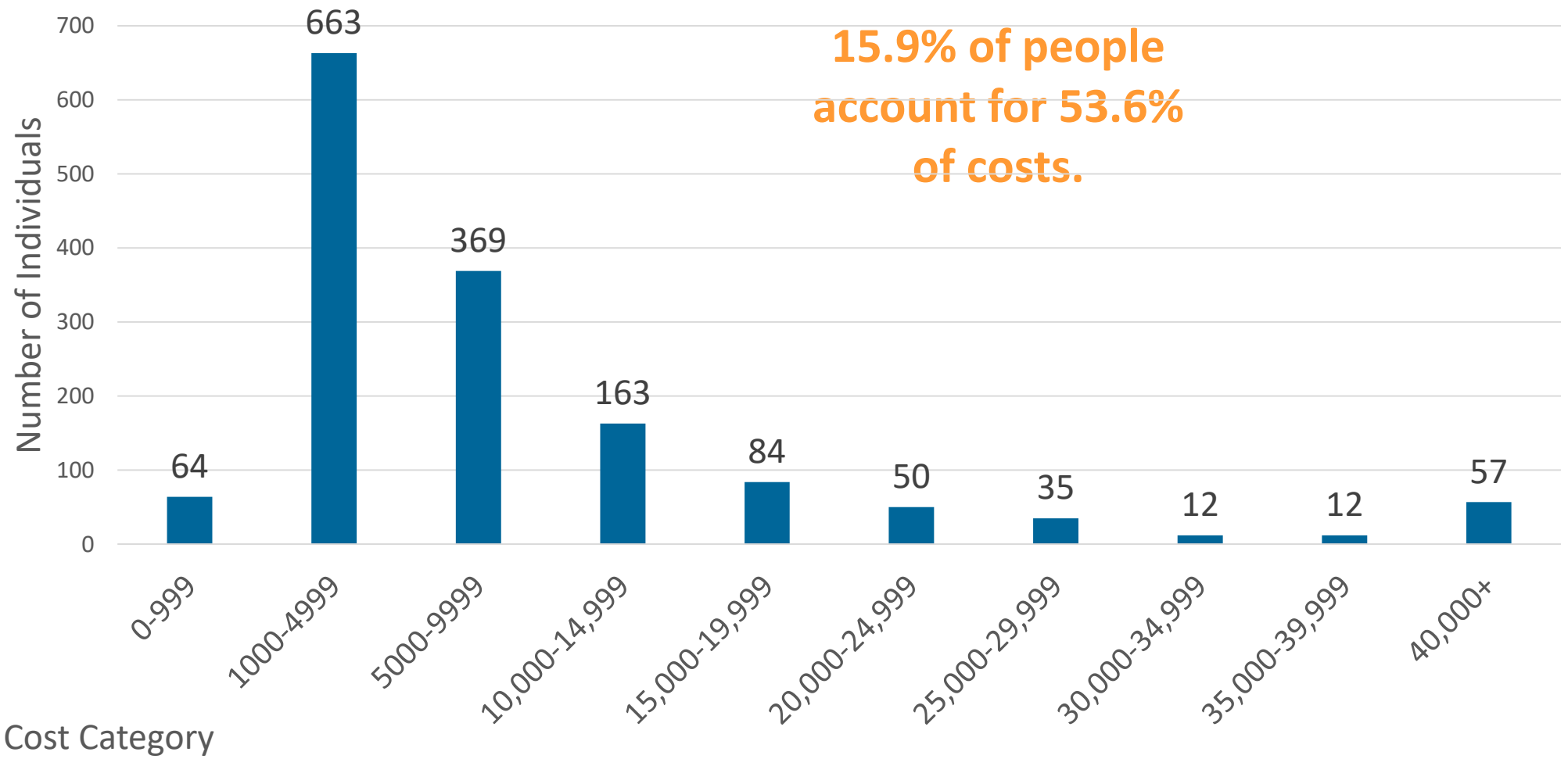
NON-BEHAVIORAL ED UTILIZATION - OVERVIEW



NON-BEHAVIORAL INPATIENT ADMITS - OVERVIEW



OVERALL COSTS - OVERVIEW



Predicting Overall HSO Costs Across a 14-Month Period Based on Psychiatric Diagnosis

Trauma, SUD-Alcohol, and Bipolar 1 Disorder predict greater overall costs.

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SUMMARY: PREDICTING UTILIZATION AND COST

Trauma-related disorders contribute to more:

- Non-behavioral ED utilization
- HSO costs
- 646 shared individuals with a trauma diagnosis - Huge opportunities exist

Alcohol contributes to more:

- ED utilization
- Inpatient admissions
- Overall costs –Alcohol is key contributor to $$

Chronic pain diagnoses contribute to more:

- ED utilization
- Inpatient admissions

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TRAUMA PLAYS A PIVOTAL ROLE

Those with a trauma-related diagnosis are:

- **53%** more likely to be diagnosed with **hypertension**
- **62%** more likely to be diagnosed with **asthma**
- **49%** more likely to be diagnosed with **low back pain**
- **76%** more likely to be diagnosed with **COPD**

This is true even after controlling for age, gender, and other psychiatric risk factors

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INTEGRATED CARE

Did CCBHC (and our introduction of primary care) contribute to a reduction in ED utilization?

What are the cost reduction implications of such efforts?

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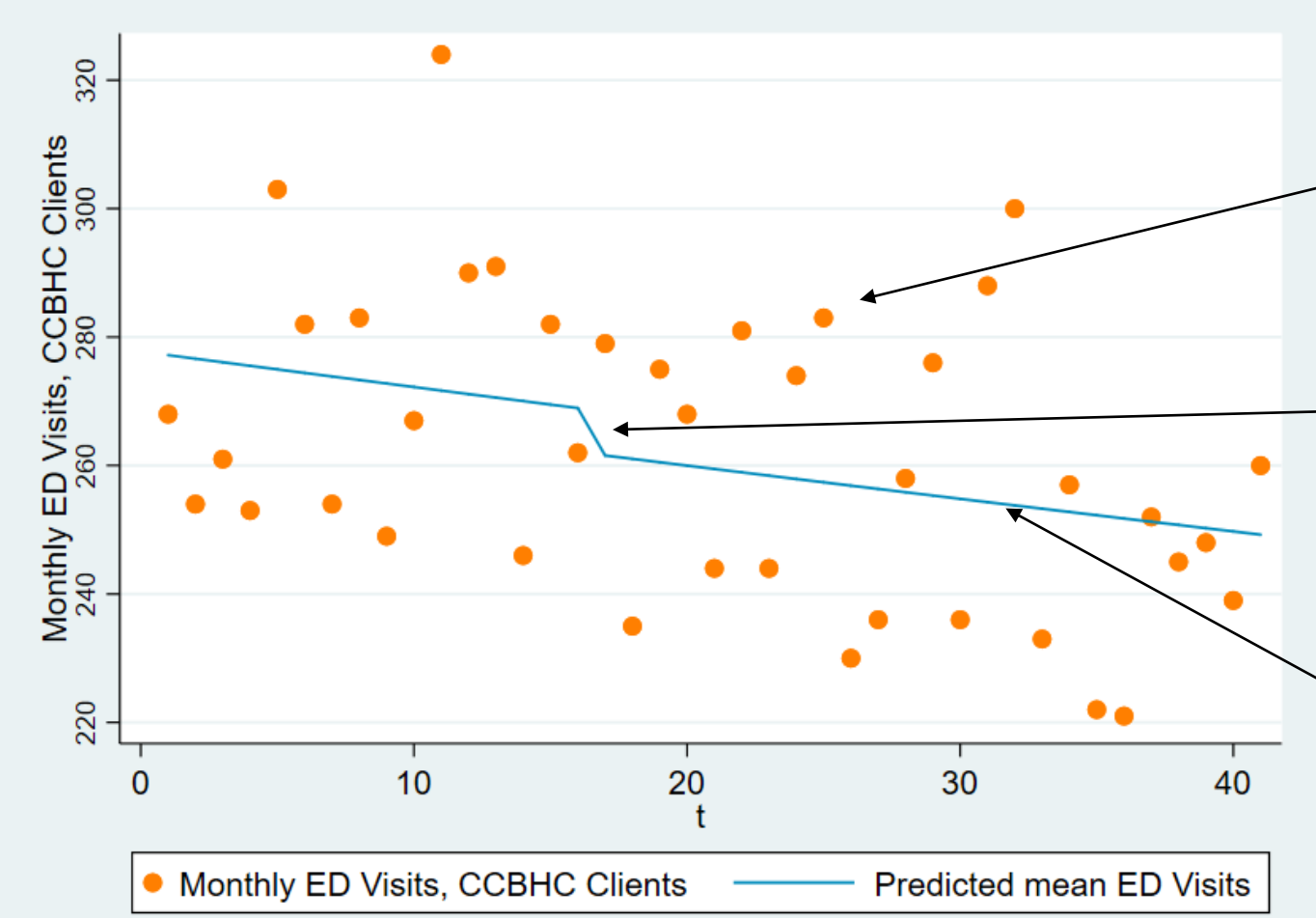
CCBHC CLIENTS: TOTAL MONTHLY ED VISITS



Model-predicted values for monthly ED visits among CCBHC clients

April 2017 ongoing

Smoothed prediction line

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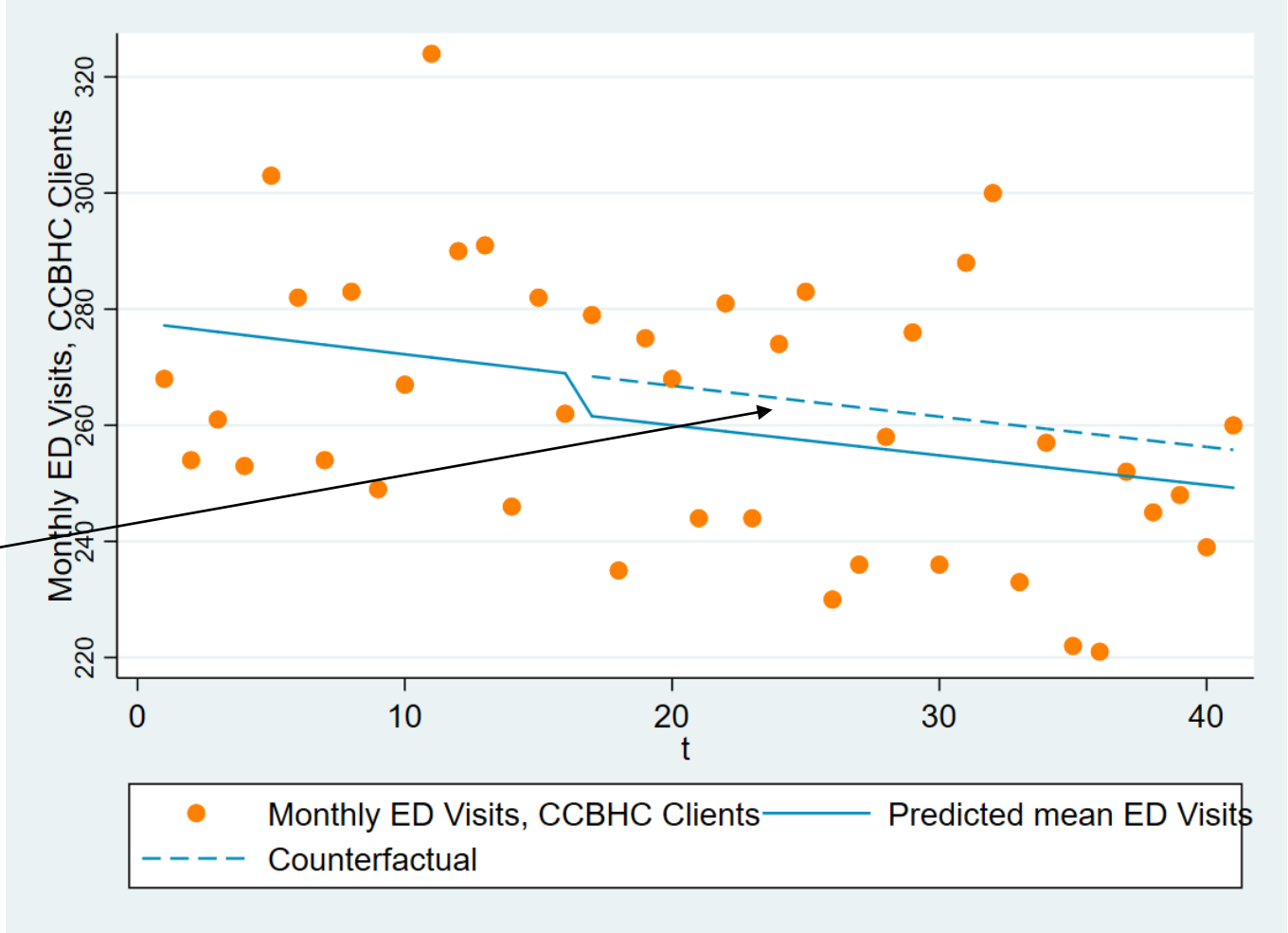
CCBHC CLIENTS: PREDICTED OUTCOMES WITHOUT CCBHC

Predicted outcomes if CCBHC had not occurred



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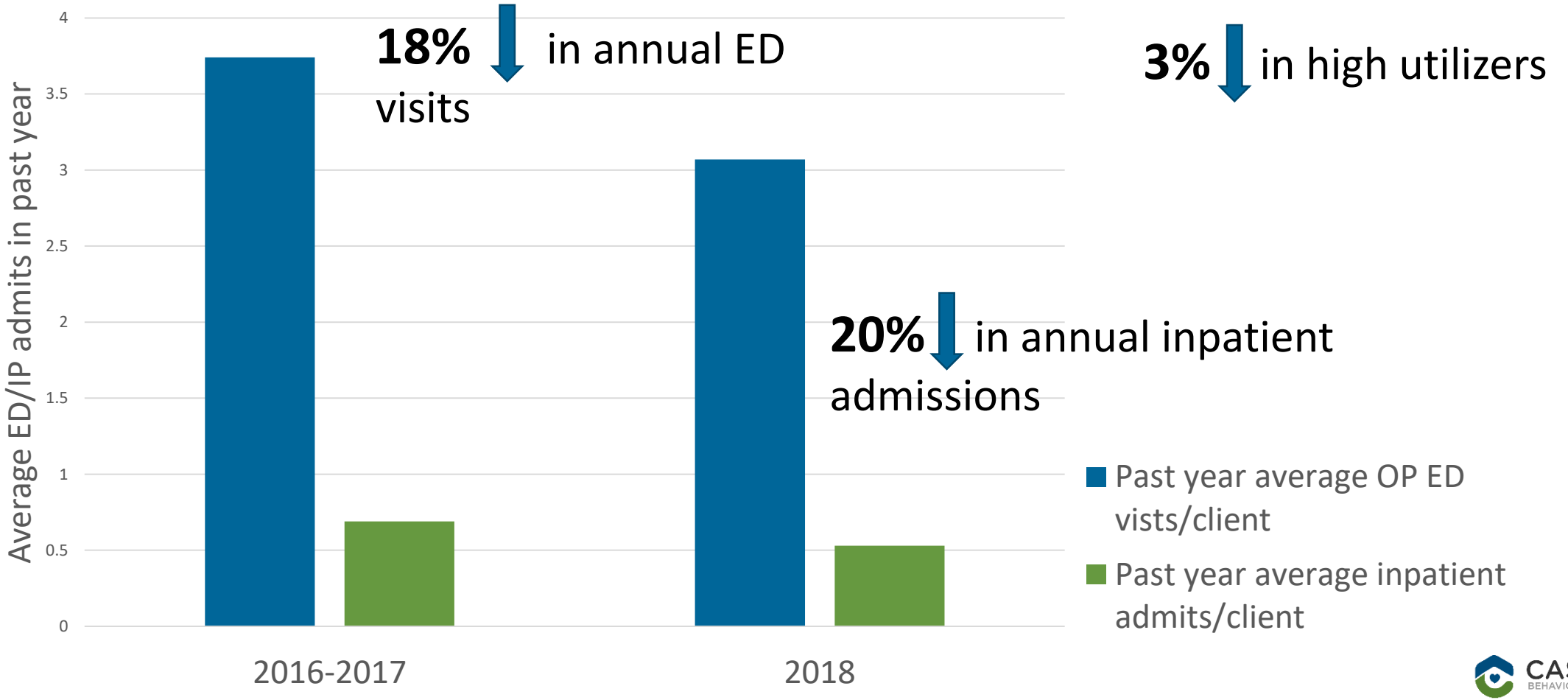
CHANGE IN ED VISITS AND IP ADMITS



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POTENTIAL FINANCIAL IMPACT

Assume:

1. Average cost per ED visit is **$1,233.00**
2. Time 1 per client ED visit average = **3.74**
3. Time 2 per client ED visit average = **3.07**

→ **- $826.11 per client cost saving from Time 1 to Time 2**

4. 2000 clients (in analysis) → **$1,652,220 TOTAL SAVINGS**
5. *Additional savings in reducing ED assessment, treatment and boarding*

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DRIVERS OF ED UTILIZATION

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MODELS OF ED UTILIZATION

Does ED utilization vary by important individual or healthcare-level factors?

- **Demographics**
- **Socioeconomics**
- **Health**
- **Engagement in healthcare**

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KEY DRIVERS OF ED VISIT

Social determinants of health

- Homelessness 40%

Mental health

- Trauma related disorder 37%
- No BH visit past month 12%

Physical health

- **COPD** 200%
- **Chronic pain** 68%
- **Hypertension** 82%

These can be successfully addressed in an outpatient community setting!

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POTENTIAL FINANCIAL IMPACT

	Low Back Pain	COPD	HTN
Ave. rate of ED visits	0.66432	0.59372	0.57939
Number of clients with Dx	764	157	499
Estimated total cost, ED	990.00	1,705.00	1,012.00
Total cost/10 mo per client	657.6768	1012.2926	586.34268
Cascadia total (HSO)	**$ 502,465.08**	**$ 158,929.94**	**$ 292,585.00**

Highest predicted rates of ED utilization, lowest cost, most people affected

Lowest predicted rates of ED utilization, low cost, BUT a substantial population affected

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CCBHC: DATA INTO ACTION

Efforts to improve health outcomes and reduce total cost of care for the healthcare system

- Prevention efforts – COPD, Pain, HTN
- Chronic disease management
- Trauma as a key driver
- Enhanced SUD approaches
  - MAT for opioids AND methamphetamines
- Additional approaches based upon the needs of those we serve

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CHRONIC PAIN PILOT - RESULTS

- Participants who attended at least 70% of the sessions scored lower on the depressive symptom, pain, and disability scales at baseline than the full panel of participants.
- Though weak, there was *positive* linear correlation between depressive symptoms and pain severity.
  - The intersection of mental and physical health

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CCBHC:
A BREAKTHROUGH OPPORTUNITY

CCBHC transforms the way in which behavioral health and addictions services are delivered to our communities

- Providing an integrated approach to behavioral healthcare → quality improvement *and* cost savings
- Improving access
- Addressing the opioid overdose epidemic
- Reducing ED utilization and hospital admissions
- Developing the behavioral health and addictions workforce
- **Creating better partnerships with communities in need**

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THANK YOU FOR YOUR DEDICATION TO OUR COMMUNITIES

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