Evidence-Based Practices Estimates Webinar Series

ESTIMATING POPULATIONS FOR FSP, IPS, and CSC IMPLEMENTATION

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Webinar Series

1. **Introduction & Methods Overview – October 28**

You are here

2. **FSP and IPS Model – October 31**

3. **Justice-Involvement, ACT/FACT Model – November 4**

4. **CSC for FEP Model & Considerations for Interpretation of Estimates – November 6**

with thanks to DHCS for sponsoring this series and project

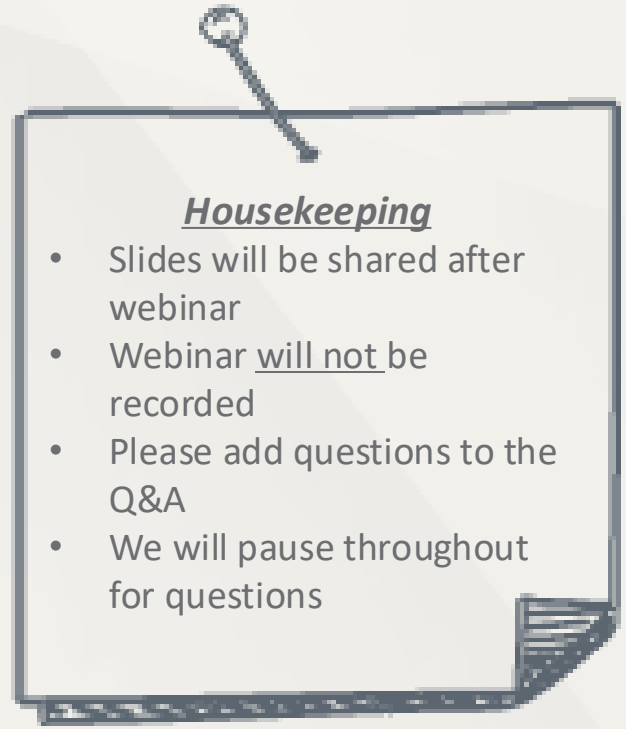
Introduction & Methods Overview

For estimating Uninsured + Medi-Cal individuals who may have clinical need for EBPs

CalMHSA

Agenda

- Objectives, background and EBP overview
- Methods for calculating base and target populations
- Preview of data sources for calculating clinical need
- Introduction to techniques used for FSP and CSC for FEP modeling
- Data Snack: Thinking in distributions
- Considerations for interpretation of estimates
- Q&A



Keep in mind...

This will get complicated....

Because estimating clinical need and planning new services using publicly available data is complicated!

Model Objectives

Background & Objectives

To assist BHPs with completing their BHSA Integrated Plan, DHCS commissioned CalMHSA to estimate Medi-Cal + uninsured populations that may have a clinical need for the following:

Full-Service Partnerships (FSP) and the following sub-categories within FSP:

- Assertive Community Treatment (ACT)
  - Forensic Assertive Community Treatment (FACT)
- FSP Intensive Case Management (ICM)
- Individual Placement and Support Supported Employment (IPS)
- Coordinated Specialty Care for First Episode Psychosis (CSC FEP)

Estimating clinical need ≠ who will access the service

BHSA is Designed to Serve a Broader Population

People eligible for Medi-Cal

People who are uninsured or not eligible for Medi-Cal

BHSA Expansion

BHSA and BH-CONNECT EBP Policies are Related

BHSA EBP Policy

- County Behavioral Health Plans (BHPs) are required to spend 35% of annual allocated BHSA funding on FSPs
- Full-Service Partnership Programs must include ACT, FACT, ICM, IPS and High-Fidelity Wraparound (HFW)
- BHPs must provide CSC for FEP as part of Behavioral Health Services and Supports – Early Intervention programs

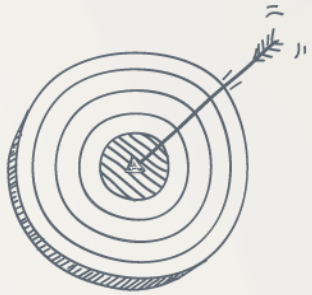
BH-CONNECT EBP Policy

- BHPs have the option to cover ACT, FACT, IPS, and/or CSC for FEP and Clubhouse Services under Medi-Cal as bundled services
- BHPs are required to implement HFW under Medi-Cal
- BHPs have the option to implement Enhanced Community Health Worker (CHW) and Clubhouse Services under Medi-Cal

Source: DHCS BHSA and BH-CONNECT EBP Overlap (Updated August 2025); EBP Policy Guide

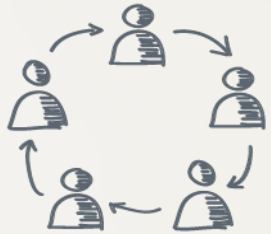
BHSA and BH-CONNECT are Complementary

Similar mission



Designed to meet the behavioral health needs of the most vulnerable Californians living with significant behavioral health needs

Serve the same priority populations



Focused on bolstering services for:

- People experiencing or at risk of homelessness
- People involved in the justice system
- Children and youth involved in the child welfare system

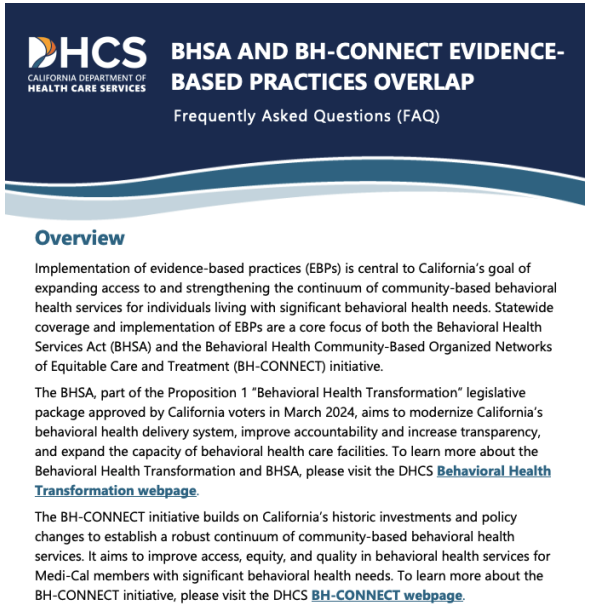
Strengthen investments in housing & workforce

BH-CONNECT allows for federal funding to support the workforce, while BHSA provides additional county-level and statewide investments

BH-CONNECT – Medi-Cal Only
BHSA – Medi-Cal ++

Source: DHCS BHSA and BH-CONNECT EBP Overlap (Updated August 2025)

More Guidance about BH-CONNECT and BHSA



DHCS CALIFORNIA DEPARTMENT OF HEALTH CARE SERVICES

BHSA AND BH-CONNECT EVIDENCE-BASED PRACTICES OVERLAP

Frequently Asked Questions (FAQ)

Overview

Implementation of evidence-based practices (EBPs) is central to California's goal of expanding access to and strengthening the continuum of community-based behavioral health services for individuals living with significant behavioral health needs. Statewide coverage and implementation of EBPs are a core focus of both the Behavioral Health Services Act (BHSA) and the Behavioral Health Community-Based Organized Networks of Equitable Care and Treatment (BH-CONNECT) initiative.

The BHSA, part of the Proposition 1 "Behavioral Health Transformation" legislative package approved by California voters in March 2024, aims to modernize California's behavioral health delivery system, improve accountability and increase transparency, and expand the capacity of behavioral health care facilities. To learn more about the Behavioral Health Transformation and BHSA, please visit the DHCS **Behavioral Health Transformation webpage**.

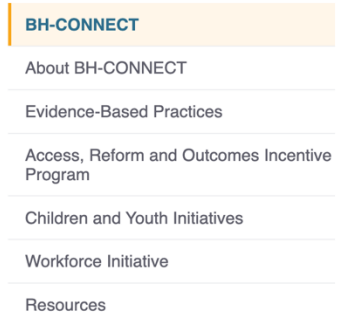
The BH-CONNECT initiative builds on California's historic investments and policy changes to establish a robust continuum of community-based behavioral health services. It aims to improve access, equity, and quality in behavioral health services for Medi-Cal members with significant behavioral health needs. To learn more about the BH-CONNECT initiative, please visit the DHCS **BH-CONNECT webpage**.

BHSA & BH-CONNECT FAQ

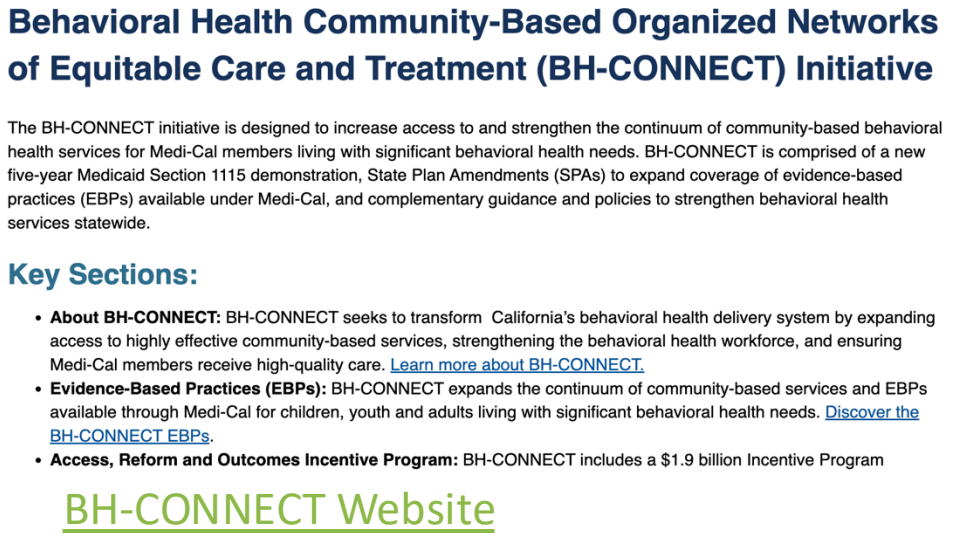
BH-CONNECT EVIDENCE-BASED PRACTICE POLICY GUIDE

Released May 2025

BH-CONNECT EBP Policy Guide



- **BH-CONNECT**
- About BH-CONNECT
- Evidence-Based Practices
- Access, Reform and Outcomes Incentive Program
- Children and Youth Initiatives
- Workforce Initiative
- Resources
- Opt-in to BH-CONNECT
- FAQs
- Contact Us



Behavioral Health Community-Based Organized Networks of Equitable Care and Treatment (BH-CONNECT) Initiative

The BH-CONNECT initiative is designed to increase access to and strengthen the continuum of community-based behavioral health services for Medi-Cal members living with significant behavioral health needs. BH-CONNECT is comprised of a new five-year Medicaid Section 1115 demonstration, State Plan Amendments (SPAs) to expand coverage of evidence-based practices (EBPs) available under Medi-Cal, and complementary guidance and policies to strengthen behavioral health services statewide.

Key Sections:

- **About BH-CONNECT:** BH-CONNECT seeks to transform California's behavioral health delivery system by expanding access to highly effective community-based services, strengthening the behavioral health workforce, and ensuring Medi-Cal members receive high-quality care. Learn more about BH-CONNECT.
- **Evidence-Based Practices (EBPs):** BH-CONNECT expands the continuum of community-based services and EBPs available through Medi-Cal for children, youth and adults living with significant behavioral health needs. Discover the BH-CONNECT EBPs.
- **Access, Reform and Outcomes Incentive Program:** BH-CONNECT includes a $1.9 billion Incentive Program

BH-CONNECT Website

DHCS

For training and technical assistance needs or questions, please email bhcoe.info@dhcs.ca.gov

English

Behavioral Health Centers of Excellence

Behavioral Health

Centers of Excellence (COE) Resource Hub

https://bhcoe.dhcs.ca.gov/

Behavioral Health Services Act County Policy Manual

7. BHSA Components and Requirements

A. Behavioral Health Services and Supports

A.1 Behavioral Health Services and Supports Expenditure Guidelines

Counties are required to allocate 35 percent of their total local Behavioral Health Services Act (BHSA) allocations for Behavioral Health Services and Supports (BHSS).[1] BHSS categories include:

- Children's, Adult, and Older Adult Systems of Care
- Outreach and Engagement

BHSA County Policy Manual

Clinical Need Estimates...

Background & Objectives

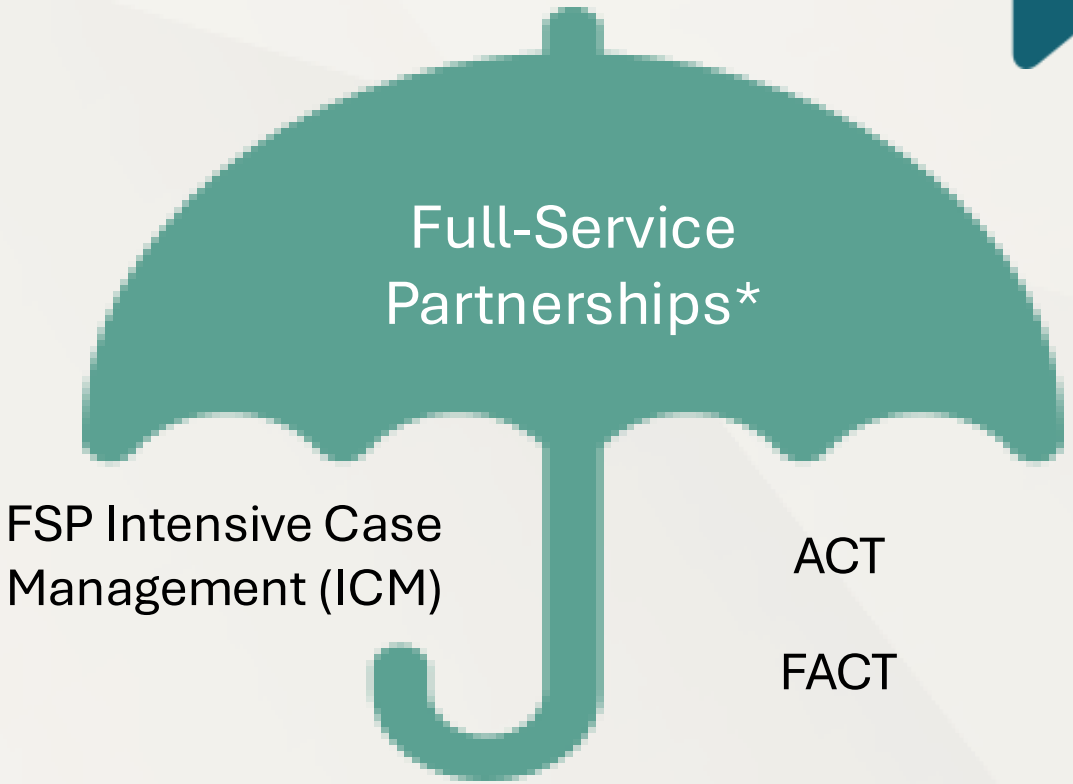
DHCS requested clinical need estimates for the following EBPs: FSP, ACT, FACT, FSP ICM and CSC for FEP

Evidence-Based Practices: FSP

EBP Overview

Target Population

Adults living with serious mental illness (SMI) who have moderate to significant functional impairment (e.g., difficulty performing daily tasks) and continuous high service needs (e.g., co-occurring substance use disorder, risk of hospitalization or emergency/crisis care)



Source: BHSA County Policy Manual

*Other FSP continuum services not included in the scope of this project

Evidence-Based Practices: IPS

EBP Overview

Target Population

Working-age adults (16+) living with a serious behavioral health disorder who need help obtaining or maintaining employment

Individual Placement & Support

Competitive Employment

Integrated Services

Systematic Job Development

Worker Preferences

Rapid Job Search

Time-Unlimited Supports

Benefits Planning

Zero Exclusion

Source: IPS Employment Center

IPS can be offered as part of FSPs or as a standalone program

Evidence-Based Practices: CSC for FEP

EBP Overview

Coordinated Specialty Care for First Episode Psychosis

Target Population

People presenting with or at risk for first episode psychosis

NIH National Institute of Mental Health

Source: National Alliance on Mental Illness

Remember…

Data is a clue not a conclusion

These estimates are meant to aid with program planning and implementation

They do not identify who you will serve

Population Overview

Methods for Base Population

What is our base population?

People eligible for Medi-Cal

People who are uninsured or not eligible for Medi-Cal

among this base population…

Who is in our target population?

People who are living with SMI (FSPs)
People who are living with SMI/SUD (IPS)
People experiencing or at risk of FEP (CSC)

among this target population…

Who has clinical need?

People living with functional impairments and high clinical service needs (FSP)
People with employment needs (IPS)
People experiencing or at risk of FEP (CSC)

What is our base population?
Data sources

Methods for Base Population

Indicator	Data Source
Medi-Cal Eligible adults & youth	DHCS Dual Status Eligibility estimates by age group (summed by age group, regardless of status)
Uninsured adults and youth who might qualify for Medi-Cal (<= 250% FPL)	US Census Bureau Small Area Health Insurance Estimates
Serious Mental Illness rates	-DHCS MHP estimates for Network Certification -Diagnosis-based alternative estimate from RAND study

Key:

Source among Medi-Cal population

Source among full population (i.e., mixed payer) where Medi-Cal was unavailable

What is our base population?

Uninsured Data Source Options

Methods for Base Population

		Pros	Cons
1	US Census Small Area Health Insurance Estimates	-Relies on modeling using administrative data+surveys -Available by age, sex, race/ethnicity, and income	-Lack of more recent data available
2	California Health Interview Survey	-Many available stratifications	-Less stable for small jurisdictions -Self-reported status
3	California Simulation of Insurance Markets	-Relies on modeling several data sources	-Data availability is challenging -Lack of more recent data
4	Robert Wood Johnson Foundation County Health Rankings	-Readily available at county-level	-Uses older data sources (through 2019) -Self-reported status

What is our base population?

Age Groupings

Methods for Base Population

DHCS June 2024 Medi-Cal Eligible Estimates

Sum for FSP base (19-64)

	Age 0-18	Age 19-44	Age 45-64
Statewide	4,987,429	5,386,919	2,858,450

Source: DHCS June 2024 Medi-Cal Eligible Estimates

SAHIE Uninsured $\leq 250\%$ FPL

FSP base (19-64)

	Youth 0-18	Adults 19-64
Statewide	165,415	1,191,137

Additional age categories available: Under 65, 18-64, 40-64, 50-64, 21-64

Source: 2022 US Census Bureau Small Area Health Insurance Estimates

Due to meaningfully different rates of FEP by age, age-specific estimates were generated for CSC models (12-17, 18-25, 26-40, 41-64)

More details on that methodology will be described in Webinar 4

Who is in our target population?
SMI prevalence estimates

Methods for Base Population

Current DHCS Prevalence

- Differs by County BHP
- Pre-ACA methodology that may not capture changing behavioral health environment
- May capture indicators associated with SMI and not fully capture relevant diagnoses

Ranges from 4 to 9%

Diagnosis-Based Prevalence

- Based on estimates of adults who would be served in the county SMHS system
- Encompasses anxiety, bipolar disorders, schizophrenia, major depressive disorders, trauma, and other mental health diagnoses

5.9% for each County BHP

Source: Eberhart, Nicole K., Rachel M. Burns, Federico Girosi, Shannon D. Donofry, Jonathan H. Cantor, Roland Sturm, and Ryan K. McBain, Funding the Service Gap for Adult Outpatient Mental Health Services in California: A Simulation-Based Cost Analysis of Specialty Care. Santa Monica, CA: RAND Corporation, 2025. https://www.rand.org/pubs/research_reports/RRA3489-1.html.

Who is in our target population?
Diagnosis-Based SMI Prevalence

Methods for Base Population

Estimates Number of Adults who would be served in SMHS

- Schizophrenia disorders
- Bipolar disorders
- Major depressive disorders
- Anxiety disorders
- Other mental health diagnoses

Estimated individuals based on

- Global Burden of Disease estimates
- Literature reviews
- EHR data from 8 CA BHPs

Explored various iterations

- Weighted averages (DHCS+diagnosis-based)
- Varying denominator sources
- Statewide percentage applied to all BHPs

556,226 estimated adults (19-64) from RAND methodology

9,436,814 Medi-Cal + Uninsured adults (19-64)

Who has clinical need?

Defining Indicators for each EBP

Methods for Base Population

- Expert clinician review to collect target populations for each EBP & primary indicators
  - Overview & Clinical Need (31 components)
  - By Service Component/Team Role (11 components)
- Executive clinician review for additional clarification and approval
- Review by epidemiologist to clarify components

Informed by:

- DHCS Policy Guides
- BHIN
- COE guidance where available
- SAMHSA, literature on EBP fidelity

Who has clinical need?
FSP EBPs Simulation Model Data Sources

Preview of Data Sources

IPS Indicators
- Unemployment rate
- Estimate of those with a disability who are looking for work
- Individuals with an SMI who are employed and need assistance maintaining employment (assume/estimate 10% maintain employment)

Functional Impairment Indicators
- Supplemental Security Income (SSI) rates
- Proportion with disability due to:
  - Challenges with daily living tasks
  - Self-care
  - Cognition

High Service Need Indicators
- SUD prevalence rates (DHCS)
- HMIS utilization rates
- PIT homelessness rates
- Psychiatric EMS visit rates
- ED discharges due to psychiatric care rates
- Inpatient psychiatric hospitalization rate
- Arrest rates
- Probation rates
- Recidivism rate among formerly incarcerated (estimated 6.7% SMI)

Data sources and definitions will be explored in Webinar 2

Any Questions?

Modeling Options for FSP EBPs and CSC

	Literature-based Incidence and Prevalence	Simulation Modeling	Historic Administrative or EHR Data
+	• Useful when local data are limited • Leverages large, population-based, peer-reviewed studies	• Captures overlapping needs and local context • Leverages information from multiple datasets • Flexible to test and calibrate	• Grounded in real service utilization patterns • Naturally incorporates program & funding capacity
–	• Limited to what has been published in literature • Limited local specificity • Requires assumptions about population comparability	• Requires assumptions about indicator relationships • Limited to publicly available data sources • Inherits limitations of underlying data sources	• Underestimate given people who aren't seeking services aren't captured • Not publicly available

FSP EBPs Model Overview

Challenges

- Few studies in the literature that estimate SMI populations with clinical need for FSPs
- Unique BHP context should be reflected

Solution
Simulation Modeling

Solution
Simulation Modeling

Create synthetic population

Simulate if each indicator is present for each person in the synthetic population based on population rates

Sum total meeting FSP/IPS criteria and scale to population

Compare simulation population rates to input rates for validity

CSC for FEP Model Overview

Challenges

- Several studies estimating incidence of FEP by age – which to choose?
- Studies with different settings, populations, payer mix

Solution

Literature-based FEP incidence rates

+

Model to combine study estimates

Solution

Model to combine literature-based FEP incidence rates

Collect estimates of FEP incidence rates by age

Combine in a mixed effects model to generate age-specific incidence rates

Apply rates to estimated population uninsured + Medi-Cal for each age range

What We're Estimating Follows a Distribution

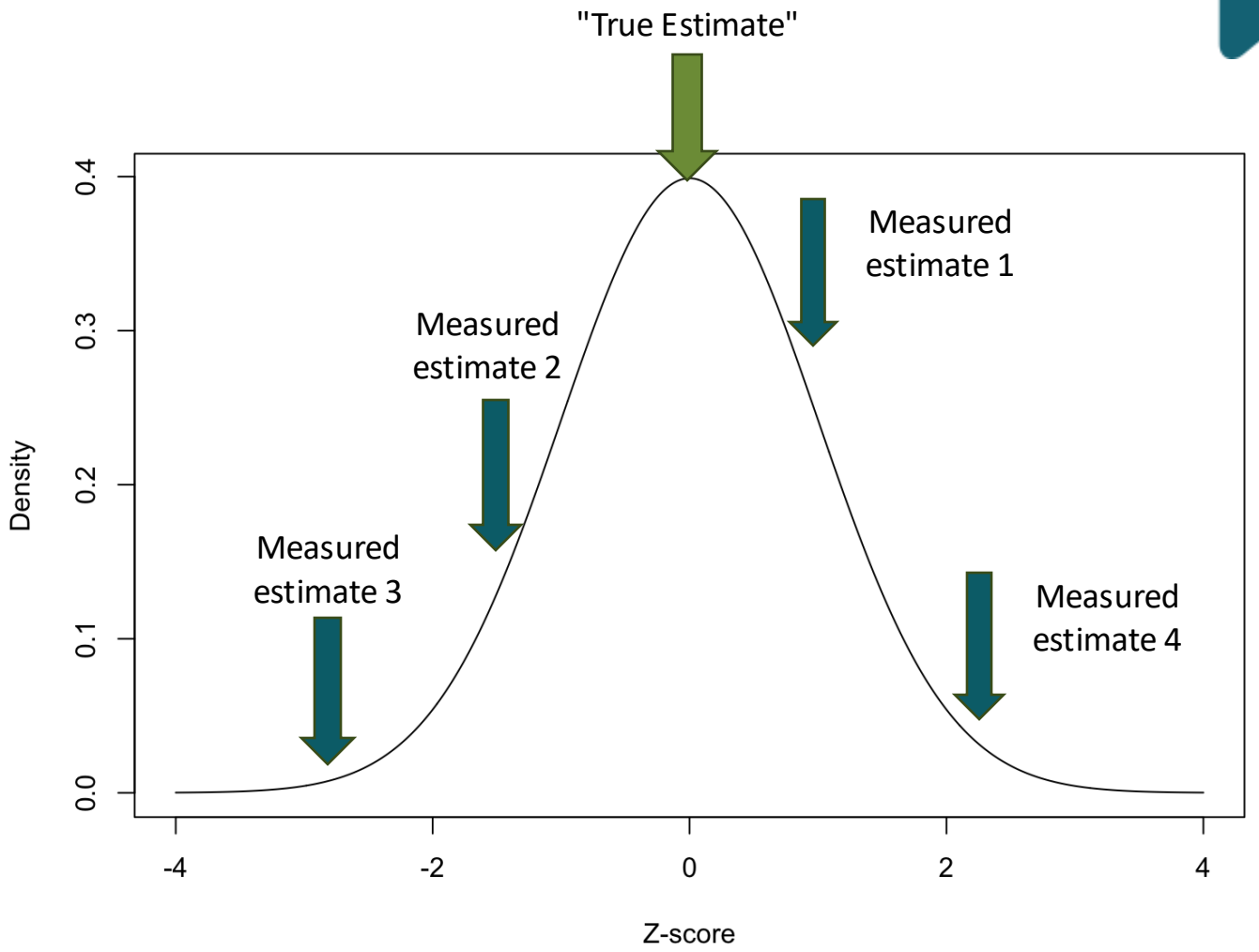
We're looking for one estimate...

But everything we measure depends on:

- Time of measurement
- Population it's being measured in
- How it's being measured
- Other underlying factors

Distributions help us visualize:

- Range of plausible values given what we measured
- Acknowledge realistic uncertainty
- The "most common" result through the average/mean



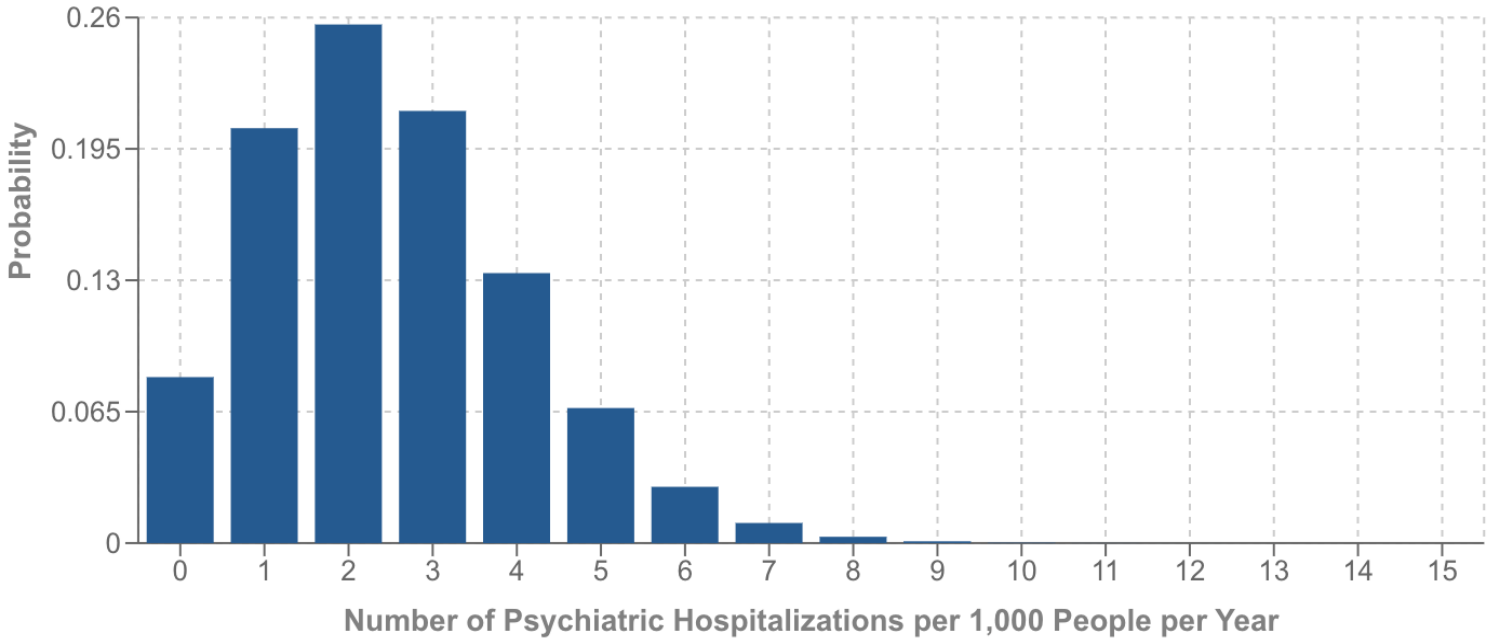
Outcomes Follow Different Distributions

Scenario: Psychiatric hospitalizations in a population

Key Attributes:

- Hospitalizations are rare events
- Most people have none
- People can have more than 1 hospitalization

Distribution: Poisson



NOTE: These are sample data for illustrative purposes.

Interpretation: Most people have 0-3 hospitalization (highest bars), and several people have more than 3 in 1 year. Many hospitalizations are rare.

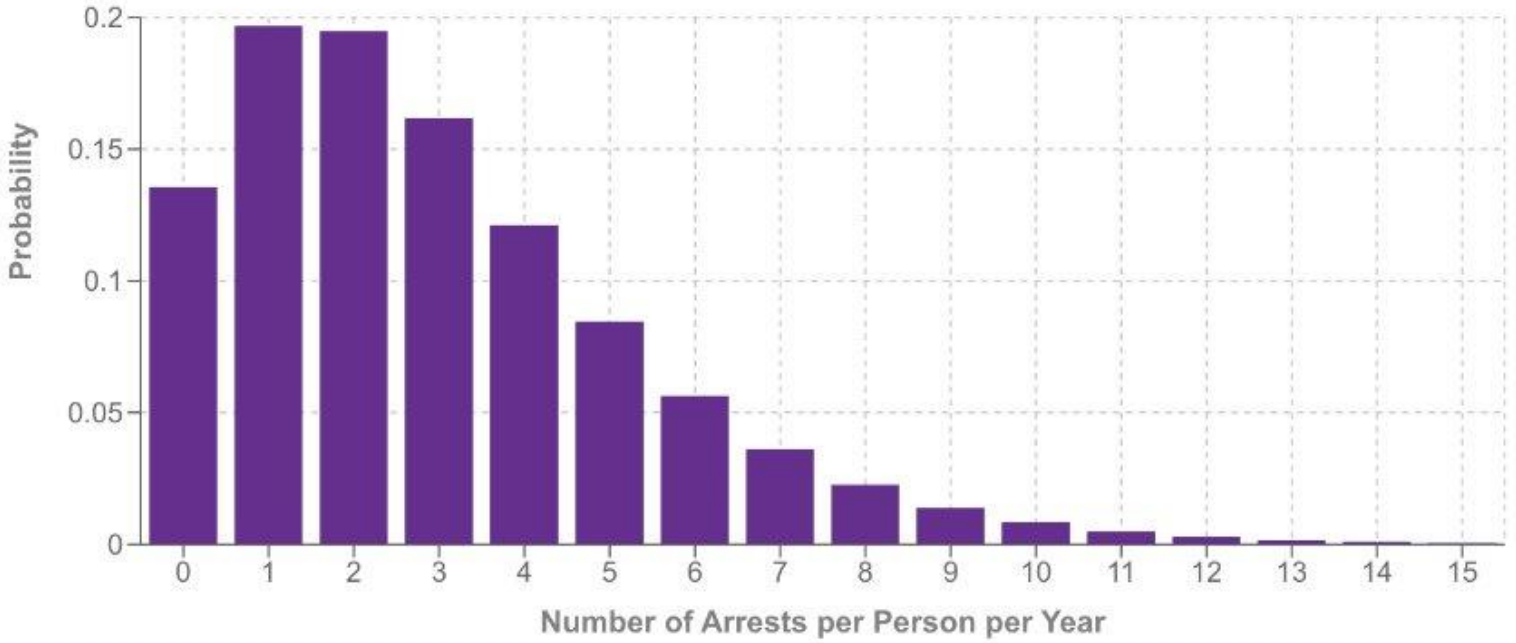
Outcomes Follow Different Distributions

Scenario: Number of arrests per person living with SMI

Key Attributes:

- People can be arrested multiple times
- Some are never arrested, while others might be arrested multiple times
- Shows a bit more variability than Poisson

Distribution: Negative Binomial



NOTE: These are sample data for illustrative purposes.

Interpretation: Although most people have 0-2 arrests, some have 5 or more.

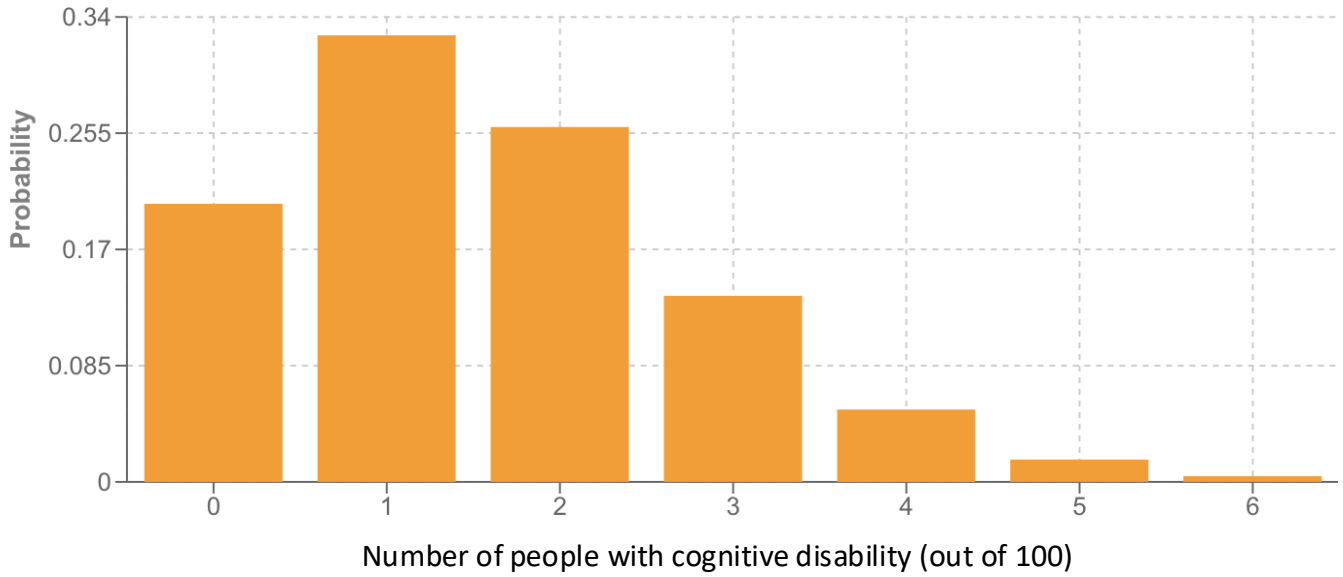
Outcomes Follow Different Distributions

Scenario: Percentage of people living with a cognitive disability in a population of 100 people

Key Attributes:

- Each person either is or is not living with a cognitive disability
- There is a measure probability that can be applied

Distribution: Binomial



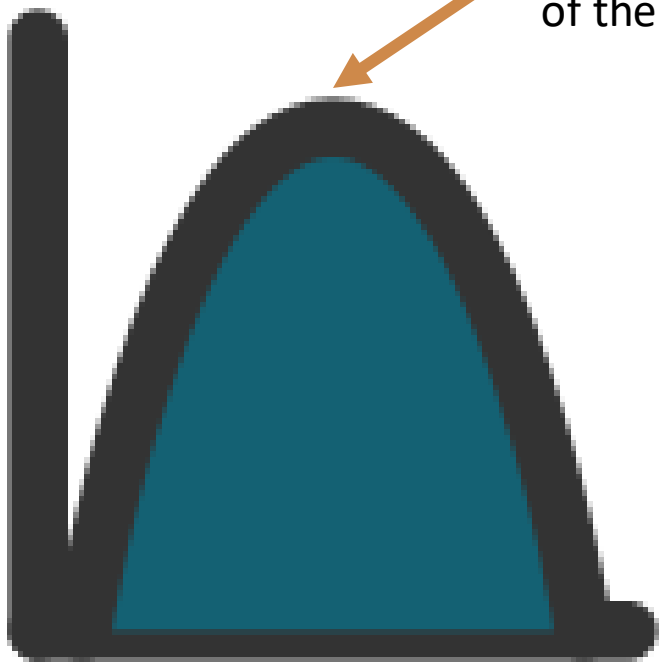
NOTE: These are sample data for illustrative purposes.

Interpretation: With 100 people and a 1.6% prevalence, it's most common to see 0-3 people living with a cognitive disability. The most likely outcome is 1 or 2 people.

How do we handle uncertainty?

95% Credible Intervals: Based on the model and available data, estimates the range in which the value is expected to fall with 95% probability

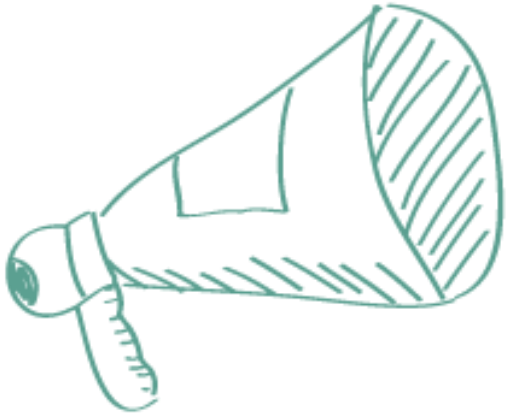
Average: Where the estimate fell in most of the simulations



Low: 5th percentile of where estimates fell in simulations

High: 95th percentile of where estimates fell in simulations

Any Questions?

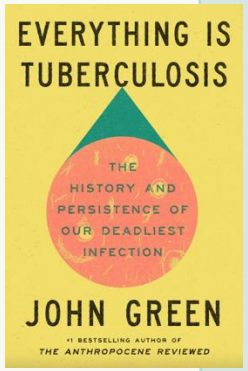


"All models are wrong, but some are useful"
-George E. P. Box

In absence of BHP-specific data, these estimates incorporate prior knowledge from the literature or unique county contexts while also capturing uncertainty to inform BHP planning.

CalMHSA

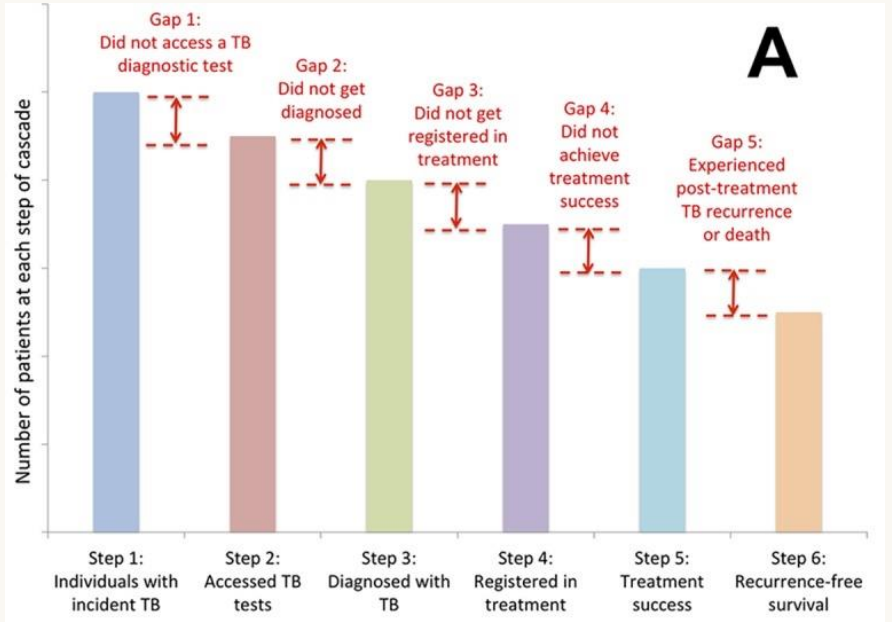
Clinical Need ≠ Served

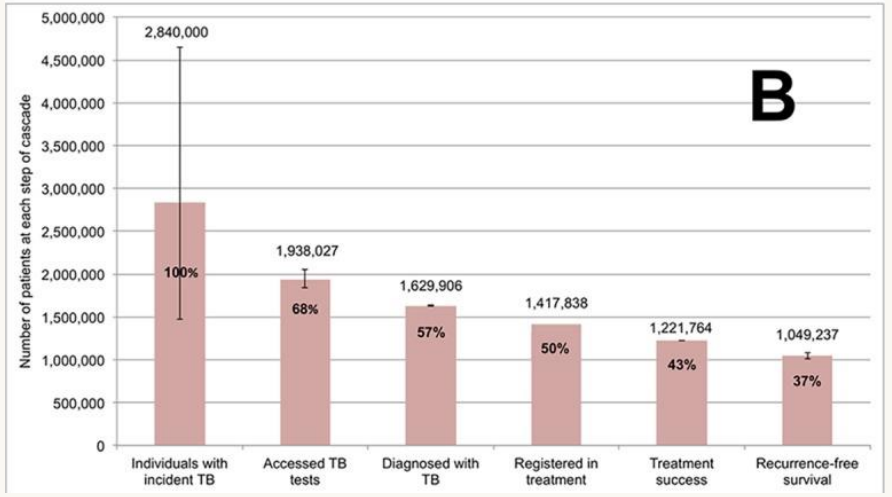


Many people who qualify for an intervention may not access it.

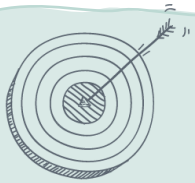
Only 43% of those eligible for TB treatment were successfully treated.

TB Care Cascade – General Model (A) and for people with any form of active TB in India, 2013 (B)





Source: Subbaraman et al. 2019



Estimated Population ≠ Served Population

Multiple contributing factors affect the subset of individuals who will access and use these services

Individual Factors*

Not able to access services (e.g., incarceration, hospitalization)

Refusal or inability to engage

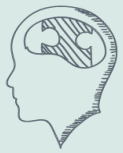
Mismatch with available FSP model (e.g., prefers lower-intensity care)

System Factors*

FSP funding available (e.g., 35% of BHSA funds)

Provider shortages/workforce limitations

Program capacity & fidelity constraints



Served Population

Estimated Population with clinical need reduced by Individual Factors and/or System Factors

*The listed components serve as examples and are not comprehensive of all contributing factors.

Webinar Series

Overview of Webinar Series

1. **Introduction & Methods Overview – October 28**
2. **FSP and IPS Model – October 31** *What's next*
3. **Justice-Involvement, ACT/FACT Model – November 4**
4. **CSC for FEP Model & Considerations for Interpretation of Estimates – November 6**

Thank You!

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Questions about the estimates from DHCS or the BHSA IP process?
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CalMHSA