

Statewide Evaluation (SWE): Phase 2 Findings



Oakland

September 27, 2023



Office of Health Equity

The findings and conclusions in this report are those of the authors and do not necessarily represent the views or opinions of the California Department of Public Health or the California Health and Human Services Agency

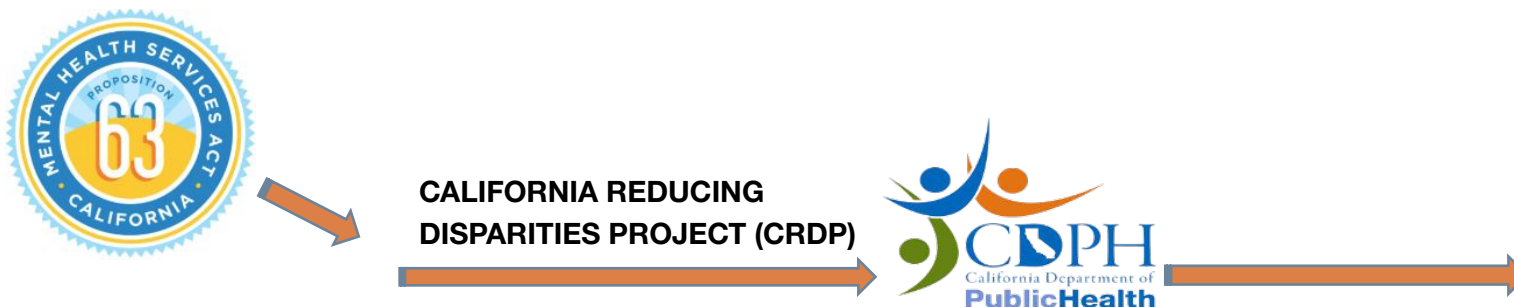


**Loyola
Marymount
University**

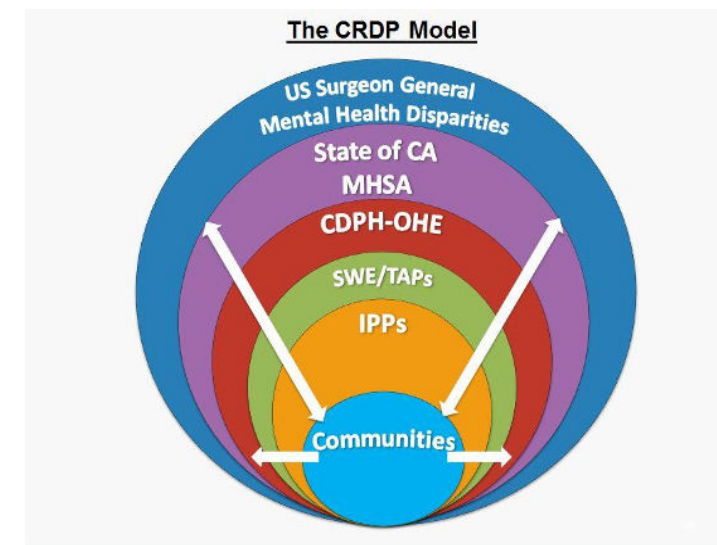
1 LMU Drive, University Hall
Los Angeles, CA. 90045

<https://bellarmine.lmu.edu/psychology/parc>

A set of practices that communities have used and determined to yield positive results by community consensus over time and which may or may not have been measured empirically but have reached a level of acceptance by the community.

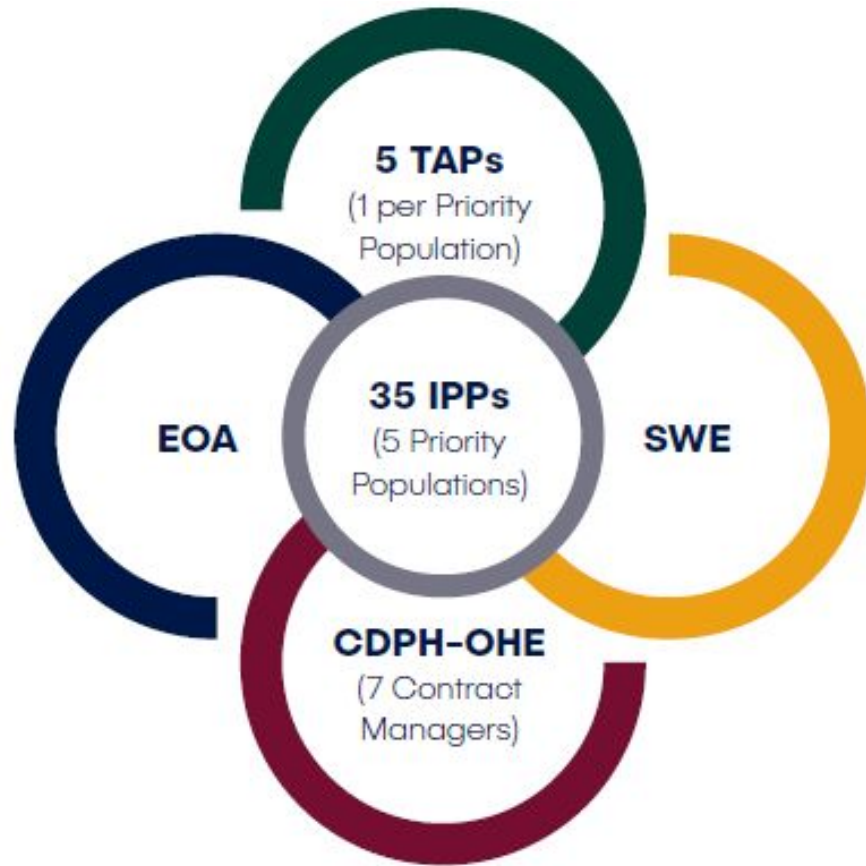


**Address the
*Unserved, Underserved, and Inappropriately Served in CA***



Technical Assistance Providers & Implementation Pilot Projects by Priority

Phase 2 Partners:
Office of Health Equity, Statewide Evaluator, Technical Assistance Providers, Education, Outreach Awareness, Implementation Pilot Projects (IPPs)



Af. American	AI/AN	AA/NH/PI	Latinx	LGBTQ+

The Phase 2 Statewide Evaluation answered seven questions:

Objective 1: Evaluate Overall CRDP Phase 2 Effectiveness in Identifying and Implementing Strategies to Reduce Mental Health Disparities

- To what extent were CRDP strategies and operations effective at preventing and/or reducing the severity of mental illness in California's historically unserved, underserved and/or inappropriately served communities?
- What were vulnerabilities or weaknesses in CRDP's overarching strategies and fiscal operations, and how could they have been strengthened?
- To what extent did CRDP strategies show an effective return on investment?

Objective 2: Determine Effectiveness of CDEPs

- To what extent did IPPs prevent and/or reduce the severity of prioritized mental health conditions within and across priority populations, including specific sub-populations (e.g., gender, age)?
- How cost effective were Pilot Projects? What was the business case for increasing them to a larger scale?
- To what extent did CRDP Phase 2 Implementation Pilot Projects validate their CDEPs?
- What evaluation frameworks were developed and used by the Pilot Projects?

1 CDEP Participant Level Data aka “CDEP Participant Questionnaire”

- Pre-Test (before CDEP services)
- Post-Test (typically after CDEP services)

2 Organizational Level Data

- IPP Pre- and Post-test Organizational Capacity Assessment
- IPP Semi-Annual Reports (IPP-SAR)
- OHE Progress Reports (submitted by TAPs, EOA, SWE)

3 Semi-Structured Interviews

- Phase 2 Partner Interviews (TAPs, EOA, SWE, OHE)
- Key Informant Interviews

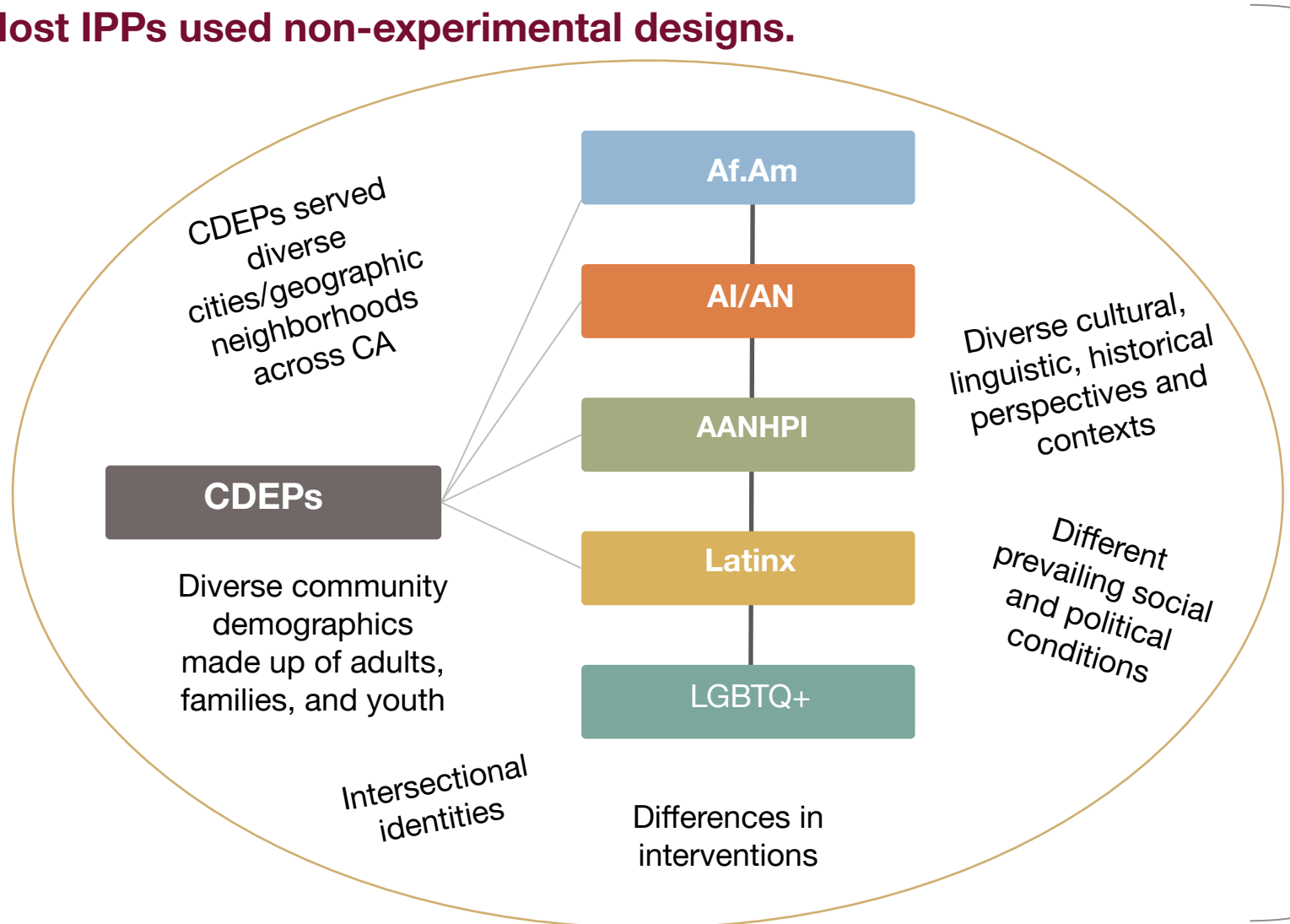
4 Review of Records

- Accepted grant proposals/bids; CRDP Strategic Plan; Phase 1 Priority Population Reports; approved IPP final evaluation plans; IPP final evaluation reports; IPP, TAP, EOA, and SWE invoices/budgets

5 Secondary Data (Administrative)

- Medical Expenditure Panel Survey (MEPS)

- The Statewide Evaluation (SWE) **did NOT use a randomized control trial experimental design** with assignment of CDEPs or their participants to “treatment” or “control” groups.
- Most IPPs used non-experimental designs.**



- With such great diversity in populations served, strategies employed, and specific program designs used, a wide array of possibilities existed for IPP’s quantitative (and qualitative) data collection approaches.
- This includes variable sample sizes. Therefore, priority population comparisons of sample sizes are neither appropriate nor valid.**

**Objective 1:
Evaluate Overall CRDP Phase 2
Effectiveness in Identifying and
Implementing Strategies to
Reduce Mental Health
Disparities.**

A mixed-methods “parallel combination” approach was used for baseline participant-level data and programmatic / initiative wide data

**Objective 2:
Determine Effectiveness of
Community-Defined Evidence
Programs.**

A Bayesian analysis paradigm that also included statistical best practices to assess the extent to which CRDP Phase 2 delivered results via credible intervals on effect sizes of relevant variables.

- matched pre- and post-test participant-level data

A cost-benefit analysis for the business case to calculate the dollar value of health (and non-health) savings related to improvements in CDEP participants’ mental health

- matched pre- and post-test participant-level data
- MEPS data

SWE RQ1: What was the effectiveness of CRDP and its use of CDEPs for preventing and/or reducing the severity of mental health conditions in its priority populations?

CRDP participant outcomes support CDEP effectiveness

- **CRDP made mental health services more accessible and improved mental health** in unserved, underserved, and inappropriately served communities.
- Statistical modeling of CRDP participant outcomes show that the positive mental health findings are robust and **support the overall efficacy of CDEPs as a mental health PEI strategy.**
- **Culturally grounded** technical assistance was provided to support CDEP implementation, evaluation, and organizational capacity building.

SWE RQ2: How cost-effective was the CDEP strategy and what was the return on investment for the initiative? What was the business case for CRDP Phase 2?

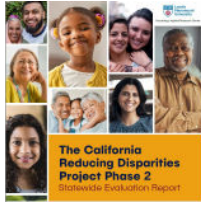
CRDP is cost effective

- The CRDP Phase 2 business case found that, **for every taxpayer \$ invested in CRDP, there was an estimated return of \$5.**
- The estimated net financial benefit to the state **exceeded \$450 MD.**
- The business case showed that **prevention matters.**

SWE RQ3: To what extent were CDEPs validated and what were the evaluation frameworks developed and used for CDEPs?

- IPP Local Evaluation findings highlighted culturally-informed outcomes that extend beyond standard mental health measures, **supporting CDEP effectiveness.**

ACCESS TO MENTAL HEALTH SERVICES



Key Findings from the CRDP Phase 2 Statewide Evaluation Report

How did CDEPs contribute to mental health access (availability, utilization, quality)?

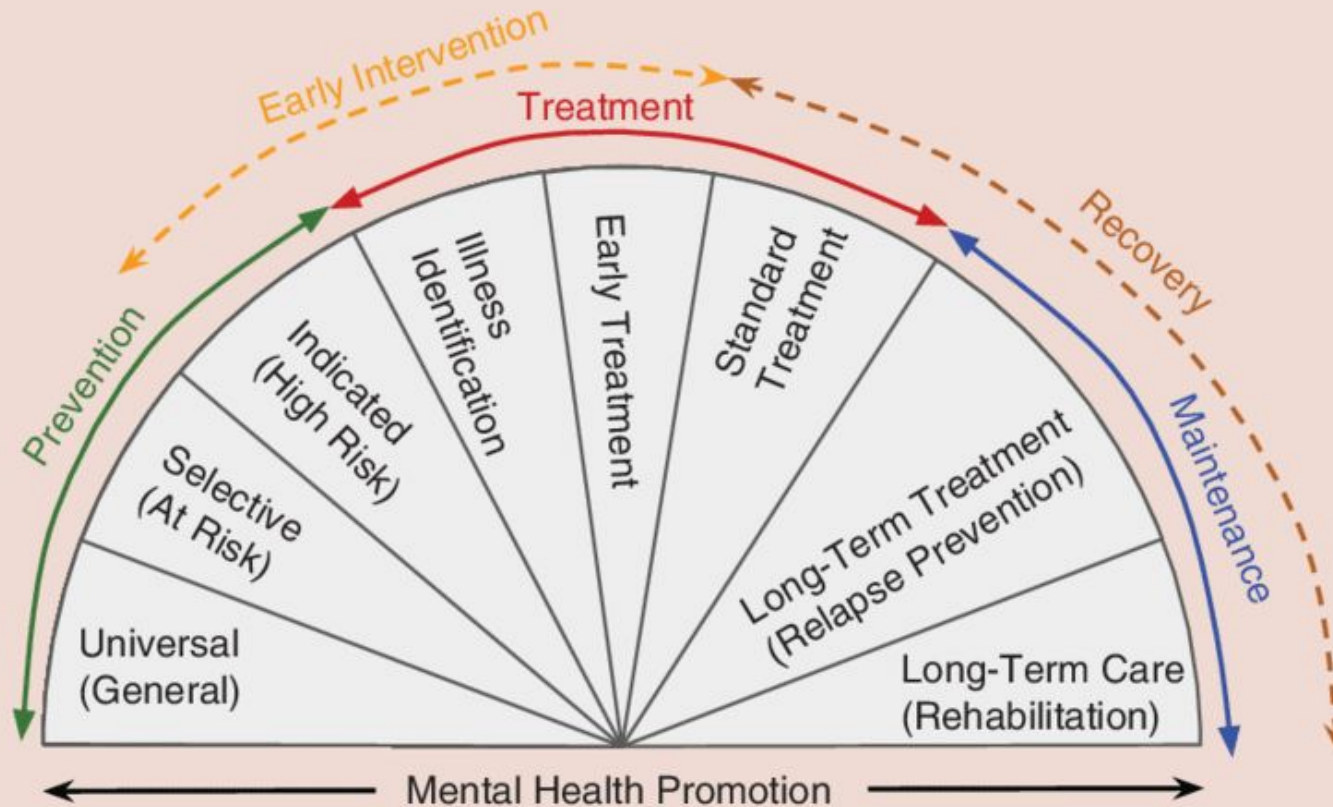
Where do CDEPs fall in the PEI mental health spectrum?

What does the data reveal about the mental health status and needs of individuals served by the CDEPs at baseline?

PEI in the Mental Health Spectrum



(a)



(b)

Han et al. (2020)

ADULTS: 18+ Years (N=2,895; 22 IPPs)

SO

SEXUAL ORIENTATION

- 83% straight or heterosexual
- 17% LGBTQ+

GI

GENDER IDENTITY

- 62% woman/female (2% transfeminine)
- 27% man/male (2% transmasculine)
- 6% genderqueer/non-binary
- 2% questioning/unsure

R

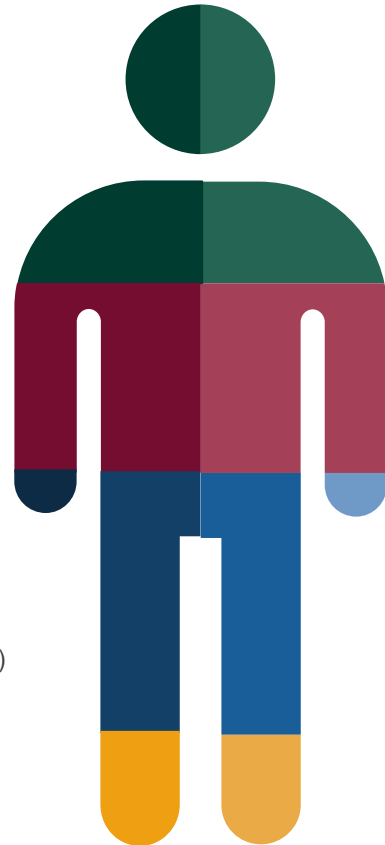
RACE

- 16% Black (2% multi-race)
- 32% Asian American (1% multi-race)
- 33% Latinx (4% multi-race)
- 13% Amer. Indian/Alaska Nat (3% multi-race)
- 2% Nat. Hawaiian/Pac. Islander (1% multi-race)
- 10% White (4% multi-race)

A

AGE

- 23% were 18-29 years old
- 39% were 30-49 years old
- 38% were 50 plus years old



ADOLESCENTS: 12-24 Years (N=659; 16 IPPs)

SEXUAL ORIENTATION

- 71% straight or heterosexual
- 29% LGBTQ+

GENDER IDENTITY

- 46% woman/female (1% transfeminine)
- 38% man/male (4% transmasculine)
- 6% genderqueer/non-binary
- 2% questioning/unsure

RACE

- 28% Black (6% multi-race)
- 15% Asian American (3% multi-race)
- 39% Latinx (10% multi-race)
- 23% Amer. Indian/Alaska Nat (10% multi-race)
- 1% Nat. Hawaiian/Pac. Islander (<1% multi-race)
- 15% White (8% multi-race)

AGE

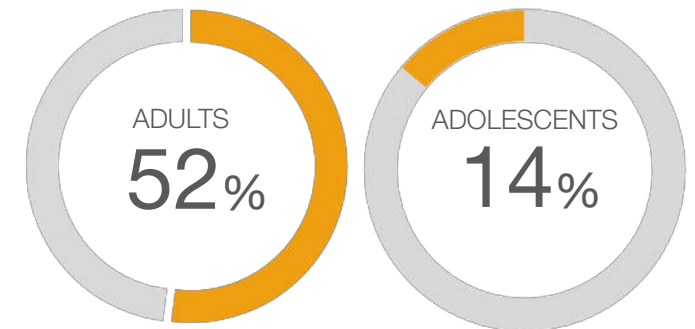
- 33% were 12-14 years old
- 43% were 15-16 years old
- 18% were 17-18 years old
- 6% were 19-24 years old

IMMIGRANT/REFUGEE STATUS



LIMITED ENGLISH PROFICIENT

"NOT AT ALL" TO "SOMEWHAT"

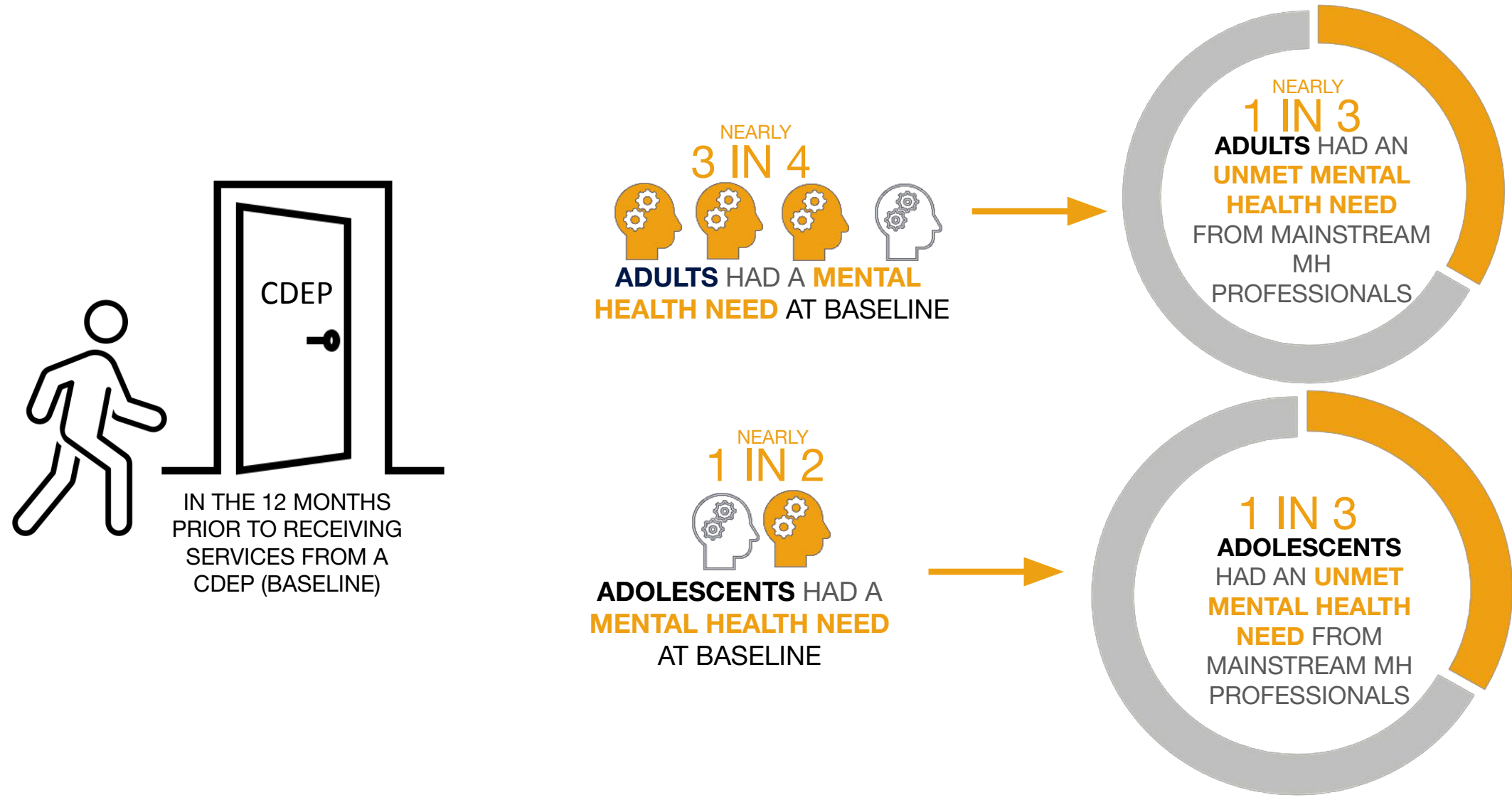


ADULT Mental Health Access At-A-Glance: (N=2,895; 22 IPPs)

Data period: 06/2018 - 06/2021



CRDP-wide findings suggest that the CDEPs provided services to ADULTS in the five priority populations who presented with vulnerabilities and risk factors at baseline (i.e., prior to receiving CDEP services).



The Kessler-6 (K6) is a brief screening scale for non-specific psychological distress in adults (Kessler et al., 2002) and has been shown to be strongly predictive of adult serious mental illness (SMI; Kessler et al., 2003, 2010).

SWE CDEP Questionnaire: The next questions are about how you have been feeling during the past 30 days. *About how often during the past 30 days did you feel ...*

Six items:

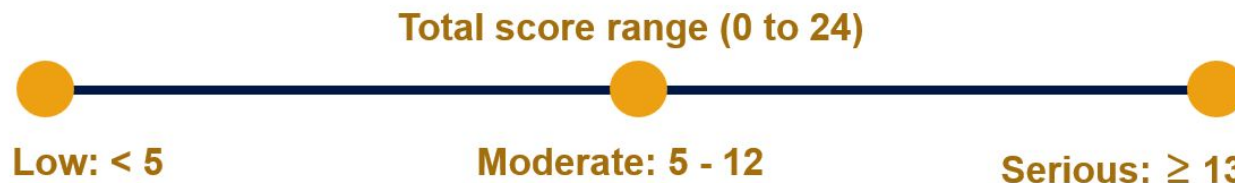
- Feeling *nervous*
- Feeling *hopeless*
- Feeling *restless/fidgety*
- Feeling *so depressed that nothing can cheer you up*
- Feeling *that everything was an effort*
- Feeling *worthless*

Response categories:

- None of the time (0)
- A little of the time (1)
- Some of the time (2)
- Most of the time (3)
- All of the time (4)

K6 scores:

- 13-24 have probable SMI
- 0-12 probably do not have SMI (Kessler et al., 2003)
- In the general population, K6 scores ≥ 13 :
 - 3.4% to 8.5% in the U.S. (Kessler et al., 1996; Weissman et al., 2015)
 - 8.5% in California (Grant et al., 2011)

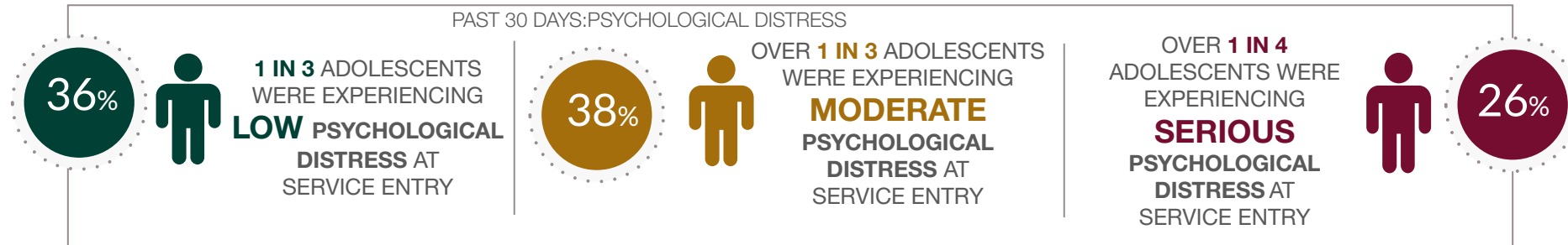


Source: CDEP participant questionnaire

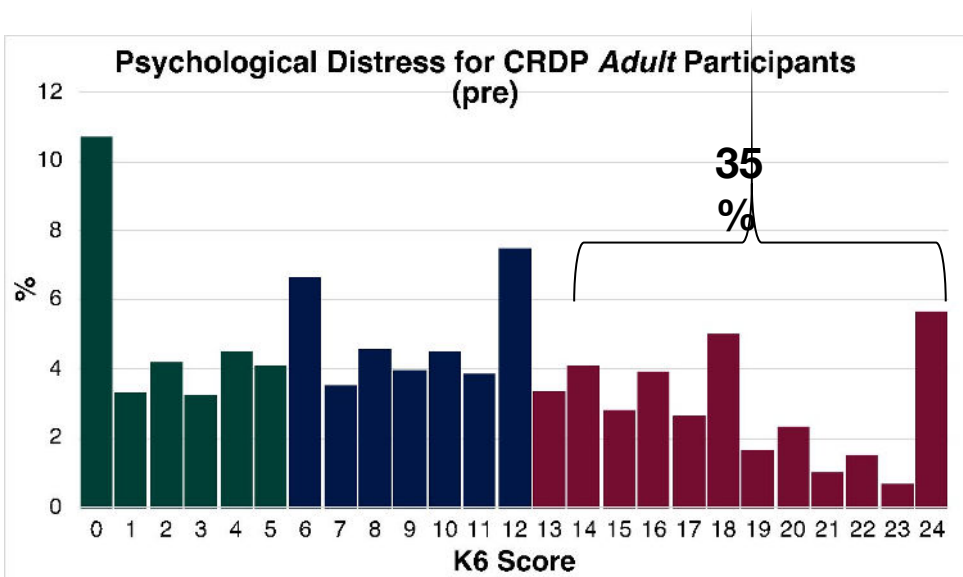
ADULTS



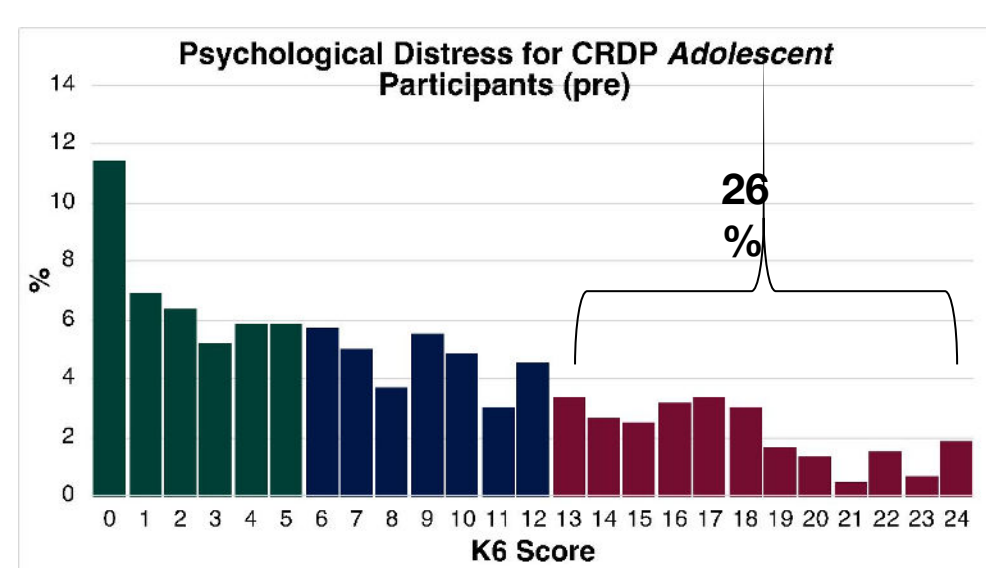
ADOLESCENTS



- CRDP adults and adolescents served by the CDEPs were not randomly sampled from the general population.
 - Many had a mental health need in the year prior, some had an unmet mental health need, and all were seeking some type of service, support, resource from the CDEPs.
- Other contextual considerations:
 - **1 in 5 (20%)** U.S. adults and youth (13-18) experience mental illness (MI) each year
 - **1 in 20 (5%)** U.S. adults experience serious mental illness (SMI) each year
 - **About 1 in 2 (52%)** who received treatment met criteria for a past-year DSM-IV disorder and an additional 13% for other indicators of need (multiple subthreshold disorders, recent stressors or suicidal behaviors).



While we don't have enough information to distinguish mental health problems or illness for those who have serious distress, the data suggests CDEPs are serving individuals who are unserved and underserved.



Mental Health Access Outcomes At-A-Glance

Data period: 05/2017 - 04/2021



CRDP-wide findings suggest that CDEPs increased mental health service utilization for their communities' adults, adolescents, & children indirectly through their referral system or through their direct services.



AMERICAN INDIAN/ALASKA NATIVE

7 IPPs
SERVED
6,319
INDIVIDUALS

- Range: 25 to 3,013 per IPP
- Average: 903 Individuals

ASIAN AMERICAN, NATIVE HAWAIIAN, PACIFIC ISLANDER

7 IPPs
SERVED
1,693
INDIVIDUALS

- Range: 110 to 643 per IPP
- Average: 160 Individuals

AFRICAN AMERICAN

7 IPPs
SERVED
1,124
INDIVIDUALS

- Range: 109 to 279 per IPP
- Average: 160 Individuals

LGBTQ+

6 IPPs
SERVED
1,824
INDIVIDUALS

- Range: 162 to 476 per IPP
- Average: 304 Individuals

LATINX

7 IPPs
SERVED
4,362
INDIVIDUALS

- Range: 141 to 2,011 per IPP
- Median*: 435 Individuals

Mental Health Access Outcomes At-A-Glance

Data period: 05/2017 - 04/2021

CRDP-wide findings suggest that CDEPs increased mental health service availability for their communities' adults, adolescents, & children indirectly through their referral system or through their direct services.



24 IPPs from 5 hubs provided
 17,599 unique individuals
 1+ referrals (total of 21,902)

MENTAL HEALTH	n=6,439 Referrals	24 IPPs
Top Sub-Types	# Referrals	# IPPs
Counseling, Therapy, Wellness	5,247	24
Substance Abuse	416	20
Sexual Assault	282	15
Psychiatric Care	229	9
Domestic Violence	220	13

BASIC NEEDS	n=4,775 Referrals	20 IPPs
Top Sub-Types	# Referrals	# IPPs
Food Assistance	2,070	17
Financial Assistance	922	14
Housing, Rent, Utilities	869	17
Transportation	367	13
Clothing and Furniture Assistance	339	8

HEALTH	n=4,392 Referrals	18 IPPs
Top Sub-Types	# Referrals	# IPPs
Primary Health Care	2,691	17
Nutrition	482	4
COVID-Related Health Supports	379	4
Dental/ Optometry/ Prescription	356	8
Medical Benefits and Insurance	140	5
Illness Specific (HIV/AIDS, dialysis)	77	4
Transgender Healthcare	49	1

PERSONAL GROWTH	n=2,188 Referrals	15 IPPs
Top Sub-Types	# Referrals	# IPPs
Social/Cultural Enrichment Programs	1,365	11
Support/ Mentoring	326	3
Faith-Based/ Spiritual Services	230	7
Other (e.g., entrepreneurial training, police athletic league)	136	4
Volunteer Services	120	9

LEGAL ADVOCACY	n=1,707 Referrals	19 IPPs
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EDUCATION	n=537 Referrals	20 IPPs
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EMPLOYMENT CAREER (job training, skills)	n=507 Referrals	13 IPPs
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PARENTING CHILD CARE	n=141 Referrals	7 IPPs
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SPECIALTY CARE	n=73 Referrals	9 IPPs
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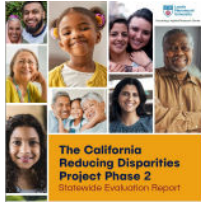
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Or use QR code

MENTAL HEALTH IMPROVEMENTS



Key Findings from the CRDP Phase 2 Statewide Evaluation Report

Did CDEPs prevent the development of mental illness and/or promote positive wellbeing?

Did CDEPs reduce mental health risks for people with early signs of mental illness?

Kessler (K6) 101 – Psychological distress

SWE CDEP Questionnaire: The next questions are about how you have been feeling during the past 30 days. *About how often during the past 30 days did you feel ...*

Six items:

- Feeling *nervous*
- Feeling *hopeless*
- Feeling *restless/fidgety*
- Feeling *so depressed that nothing can cheer you up*
- Feeling *that everything was an effort*
- Feeling *worthless*

Response categories:

- None of the time (0)
- A little of the time (1)
- Some of the time (2)
- Most of the time (3)
- All of the time (4)

Total score range (0 to 24)



Low: < 5

Moderate: 5 - 12

Serious: ≥ 13

Changes in psychological distress for *adult* participants



Strong evidence emerges supporting CDEP prevention and early intervention effectiveness among a sample of adult participants. Many maintained lower levels of distress or decreased their level of distress by the end of services.



ADULT (N=1,773): PSYCHOLOGICAL DISTRESS (Kessler-6) BY THE NUMBERS



Among a sample of **CDEP-Served Adults** who had **"moderate"** (K6=5 to 12) psychological distress at pre-CDEP intervention:

- **4 in 10** had less distress at post-test, while **5 in 10** maintained at the same state at post-test.



Key takeaway

89%

Improved or stayed the same, providing strong evidence that CDEP **prevention AND early intervention** efforts prevent some adults from developing more serious symptoms.

Changes in psychological distress for *youth* participants



Strong evidence emerges supporting CDEP prevention and early intervention effectiveness among a sample of youth participants
Many maintained lower levels of distress or decreased their level of distress by the end of services.



YOUTH (N=317): PSYCHOLOGICAL DISTRESS (Kessler-6) BY THE NUMBERS



Among a sample of **CDEP-Served YOUTH** who had "**none**" or "**mild**" (K6=5 or lower) psychological distress at pre-CDEP intervention::

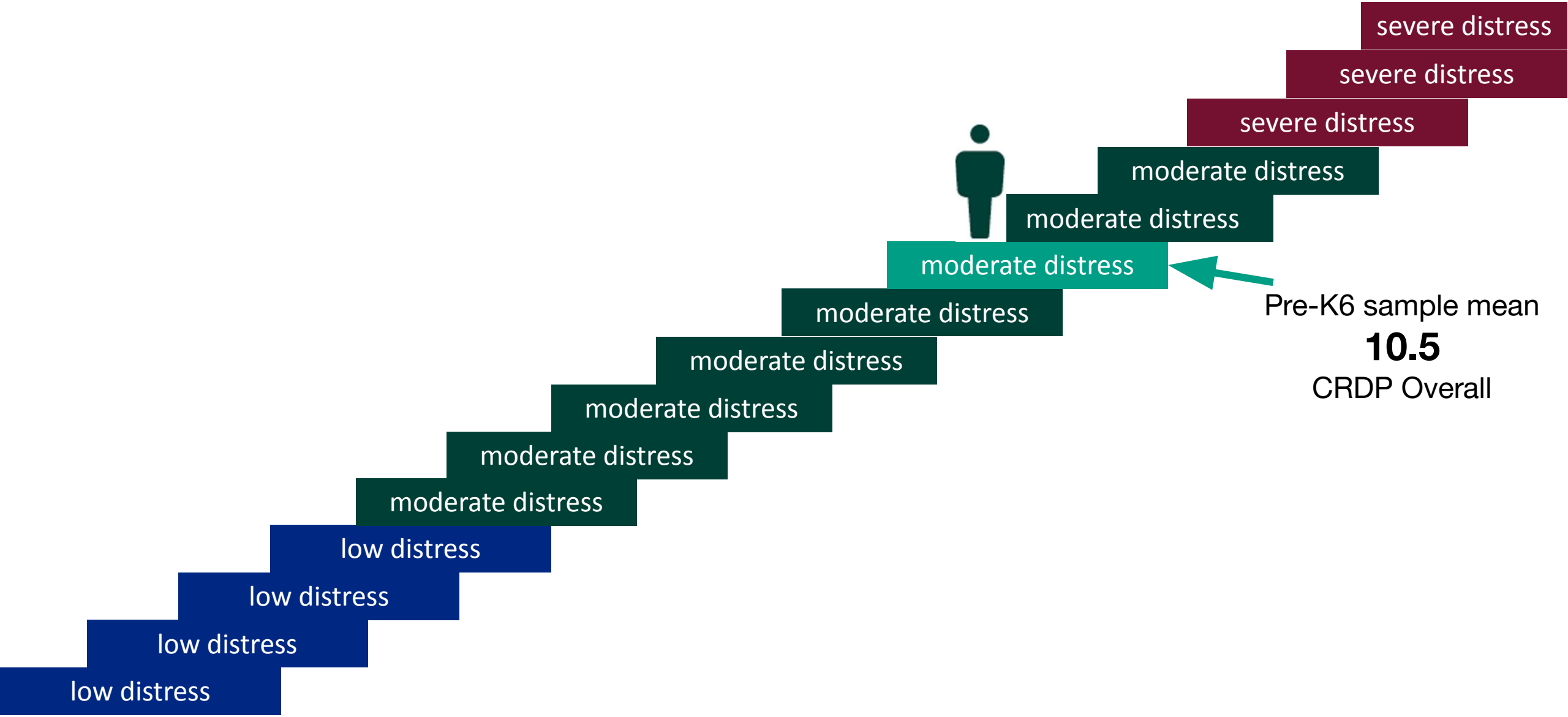
- Nearly **7 in 10** maintained none or a mild state of distress at post-test.

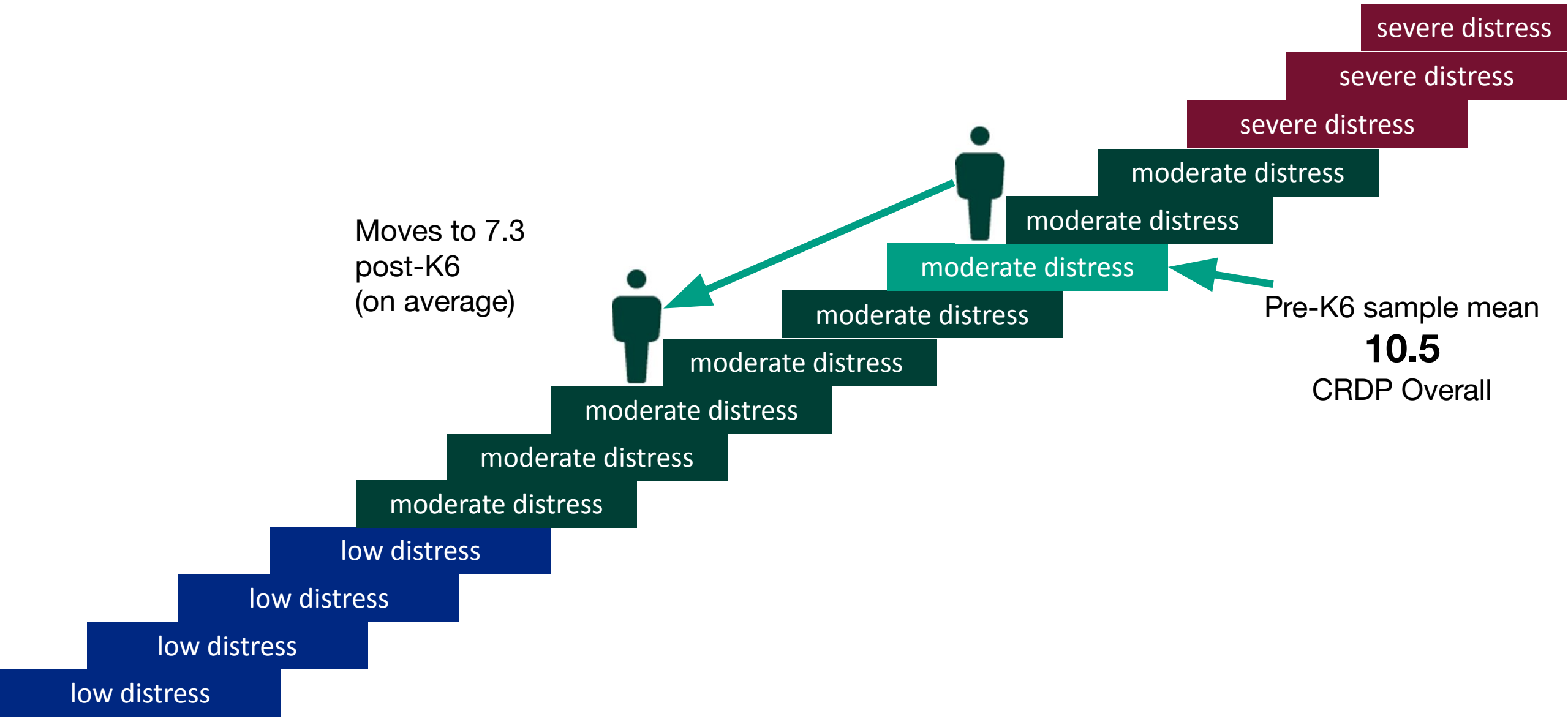


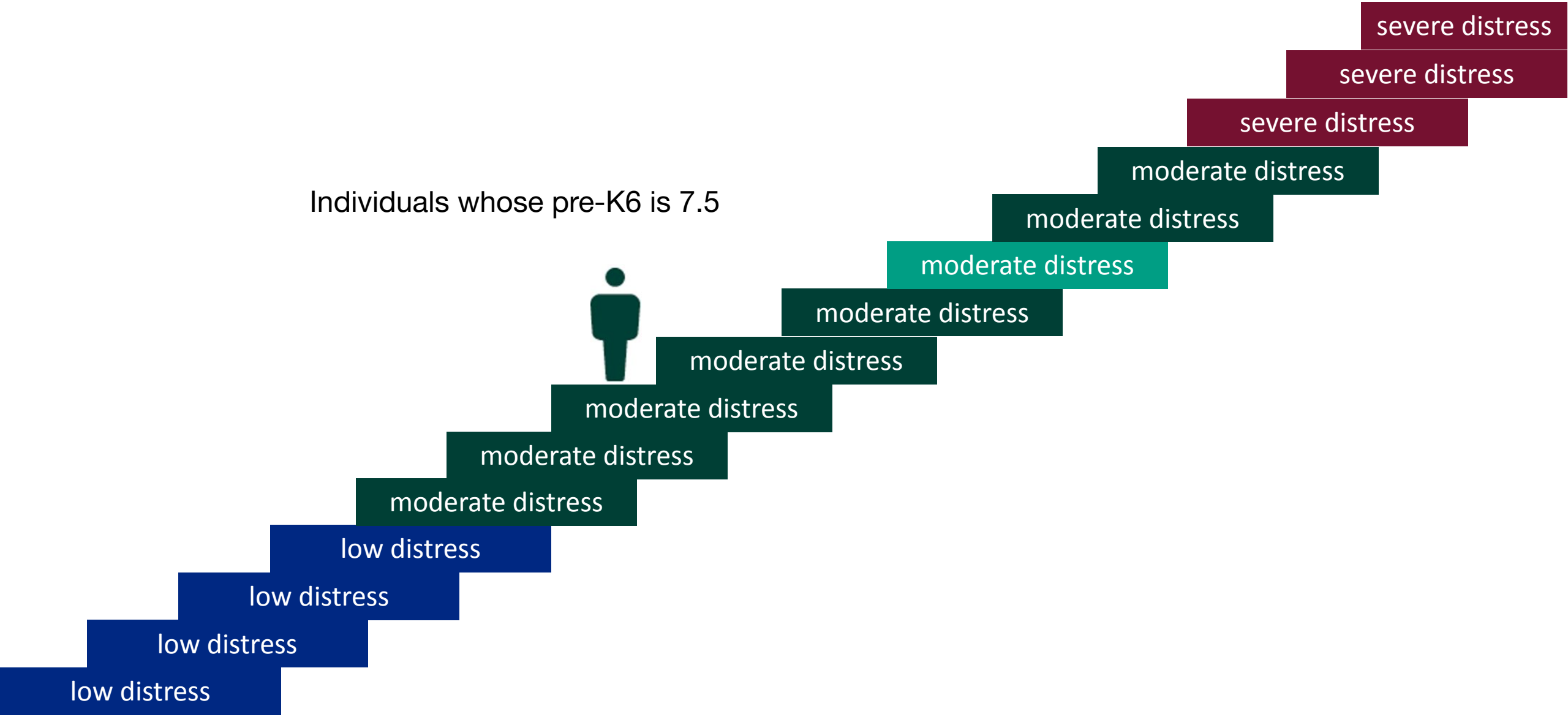
Key takeaway

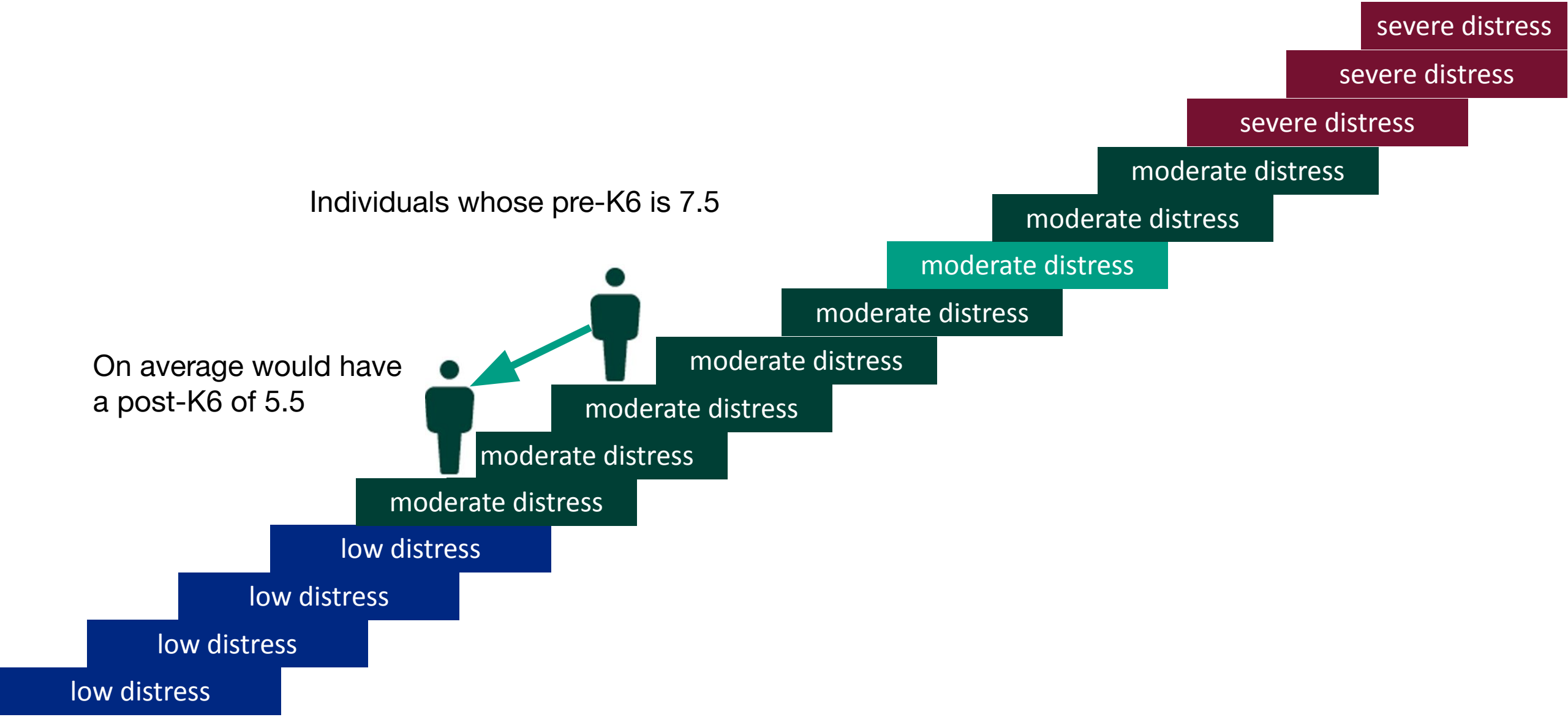
67%

Stayed the same, providing strong evidence that CDEP **prevention** efforts work for many young people.









Adult psychological distress (K6) dynamics

Pre-K6 of 14 indicative
of **severe distress**



severe distress

severe distress

severe distress

moderate distress

moderate distress

moderate distress

moderate distress

moderate distress

moderate distress

moderate distress

moderate distress

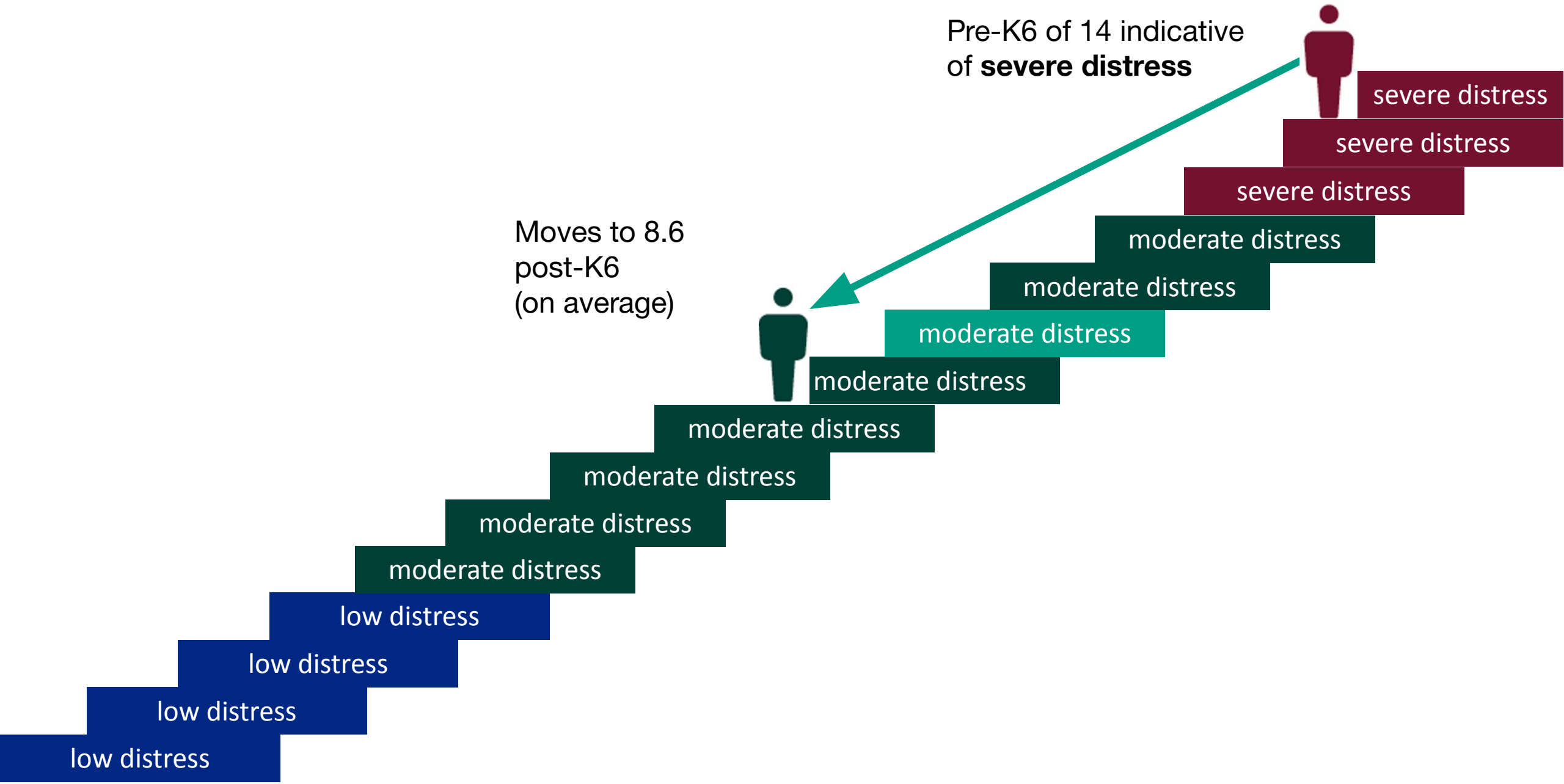
low distress

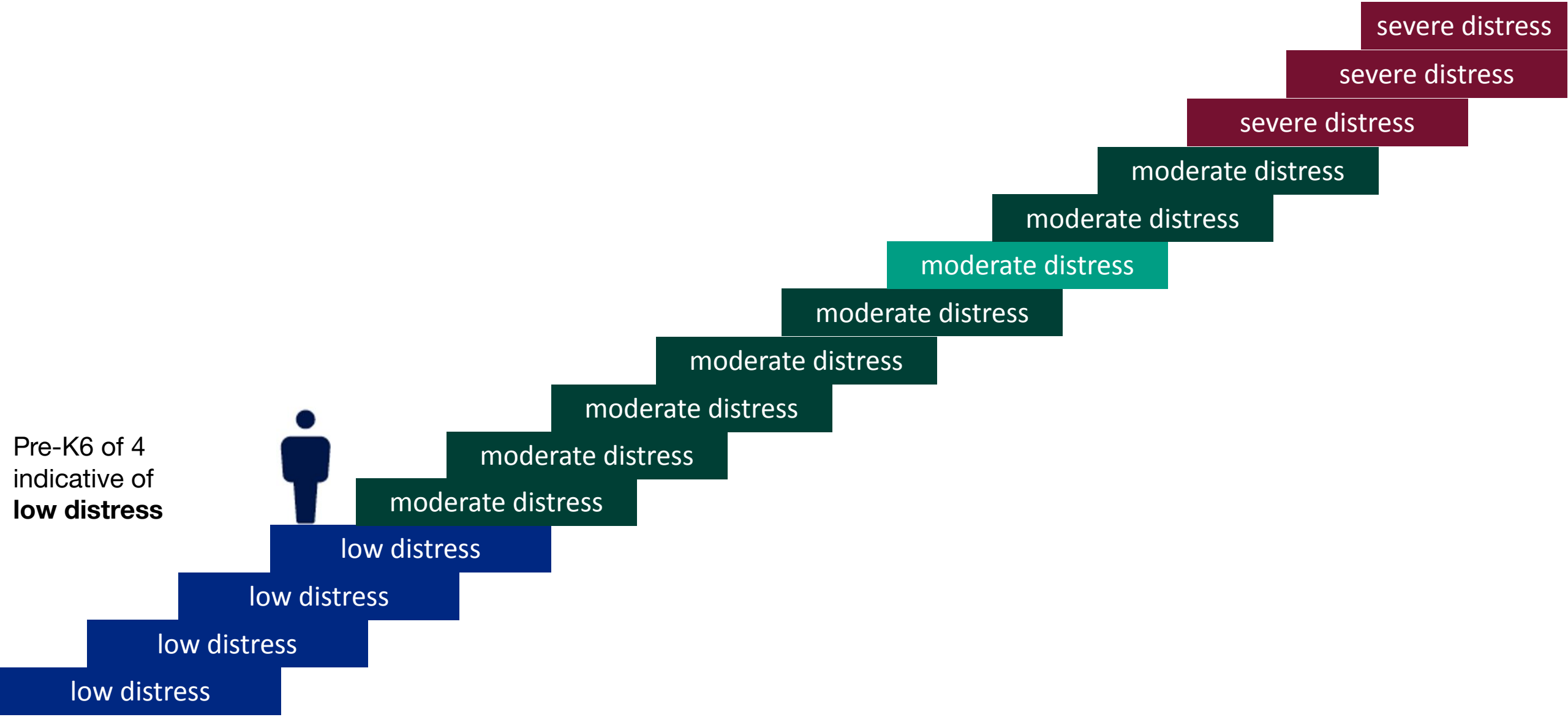
low distress

low distress

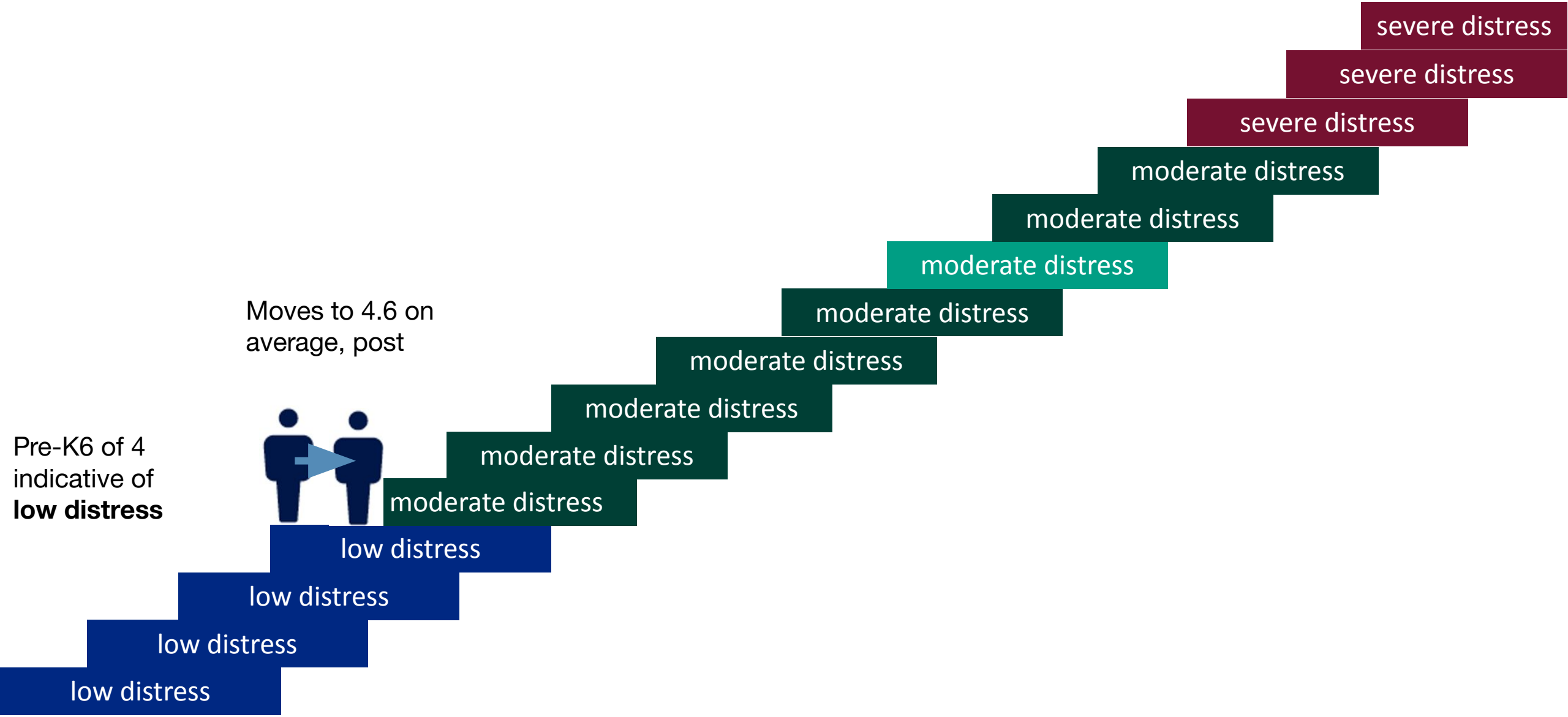
low distress

Adult psychological distress (K6) dynamics





Adult psychological distress (K6) dynamics





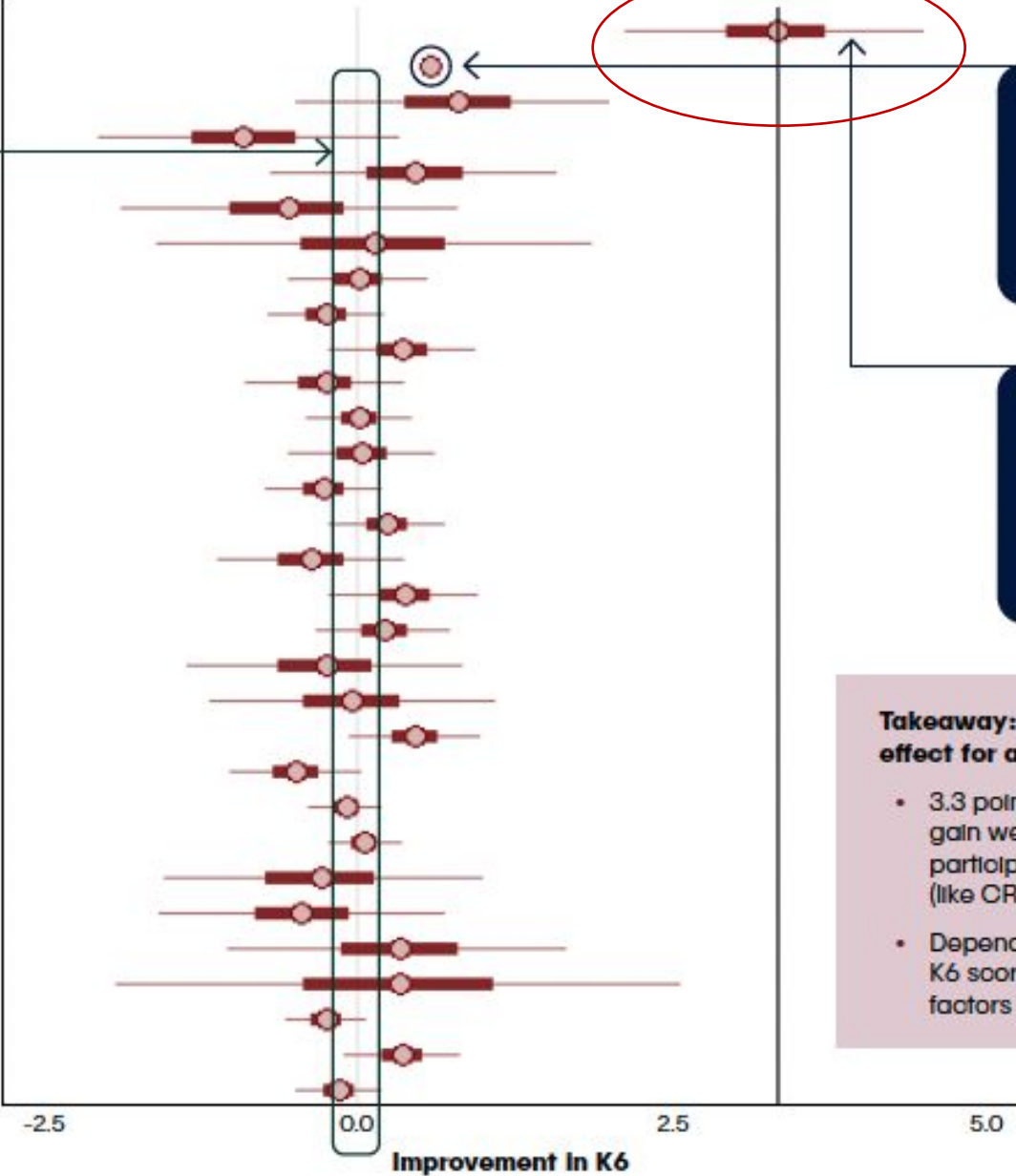
Many terms in the model don't deviate very far from zero, while uncertainty levels are big for some.

Terms include the following (numbers 1-29):

- Hub
- Age
- Race Alignment with Hub
- Gender Identity
- Sexual Orientation
- Unmet Need for Mental Health Services
- IPP Service Model
- COVID Timing
- IPP

Overall Effect pre-score

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16
- 17
- 18
- 19
- 20
- 21
- 22
- 23
- 24
- 25
- 26
- 27
- 28
- 29



Relative Deviations from Sample's K6 Mean

- Adults 1 point above the mean would likely see about an additional 0.6 point K6 improvement

Overall Adult K6 Improvement

- Approximate: +3.3 points
- Thick bar: approximately +/- 1/2pt (50%)
- Thin bar: approximately +/- 1.2 (95%)

Takeaway: The K6 improvement effect for adults is real.

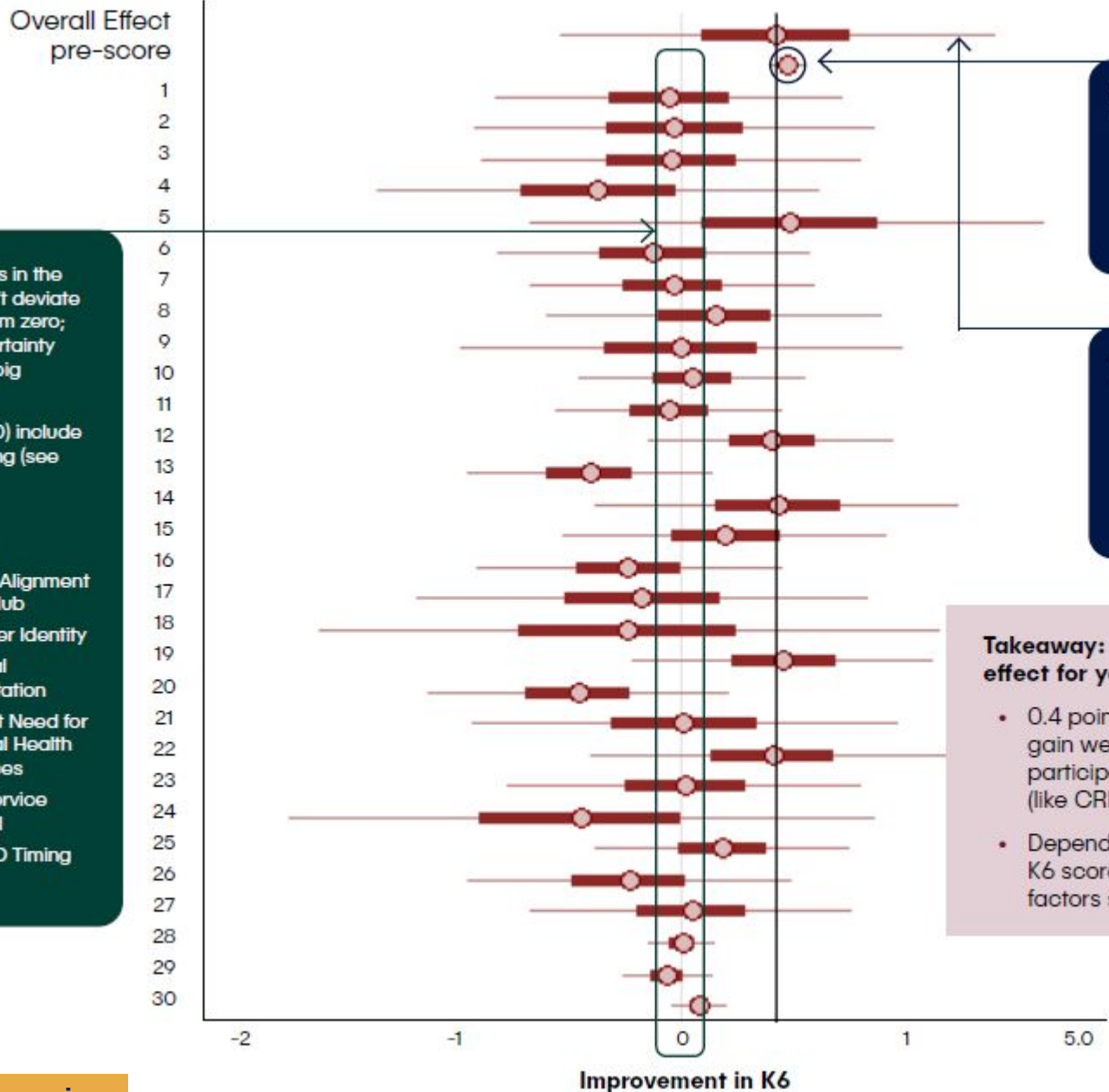
- 3.3 points is the average overall gain we'd expect from adult participants (like CRDP's) of CDEPs (like CRDP's).
- Depends mostly on pre Intervention K6 score and depends a little bit on factors such as hub, age, race, etc.



Many terms in the model don't deviate very far from zero; while uncertainty levels are big for some.

Terms (1-30) include the following (see 1-29):

- Hub
- Age
- Race Alignment with Hub
- Gender Identity
- Sexual Orientation
- Unmet Need for Mental Health Services
- IPP Service Model
- COVID Timing
- IPP



Relative Deviations from Youth Sample's K6 Mean

- People 1 point above the mean would likely see about an additional 0.6 point K6 improvement

Overall Youth K6 improvement

- Approximate: 0.4 points
- Thick bar: approximately +/- (xx%)
- Thin bar: approximately +/- 1 (xx%)

Takeaway: The K6 improvement effect for youth is real.

- 0.4 points is the average overall gain we'd expect from youth participants (like CRDP's) of CDEPs (like CRDP's).
- Depends mostly on pre intervention K6 score and depends a little bit on factors such as hub, age, race, etc.

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SYSTEMS CHANGE EFFORTS

Systems change efforts

Source: IPP semi-annual reports



In collaboration with their communities, IPPs harnessed their collective power to champion solutions for addressing mental health inequities across multiple societal levels.



Data period: 05/2017 - 04/2021



Environmental
Changes in spaces where people live, work, and play

7 IPPs
10 changes



Systems
Changes in organizational or institutional processes

15 IPPs
33 changes



Policy
Information and education to help inform the development of more equitable laws, regulations, and rules

8 IPPs
12 changes

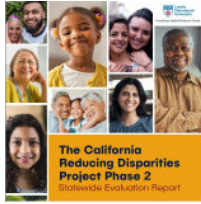


21 IPPs contributed to 55 environmental, systems, and policy changes.

BUSINESS CASE: COST BENEFIT ANALYSIS OF CRDP PHASE 2

Rather than what does all of this COST.....

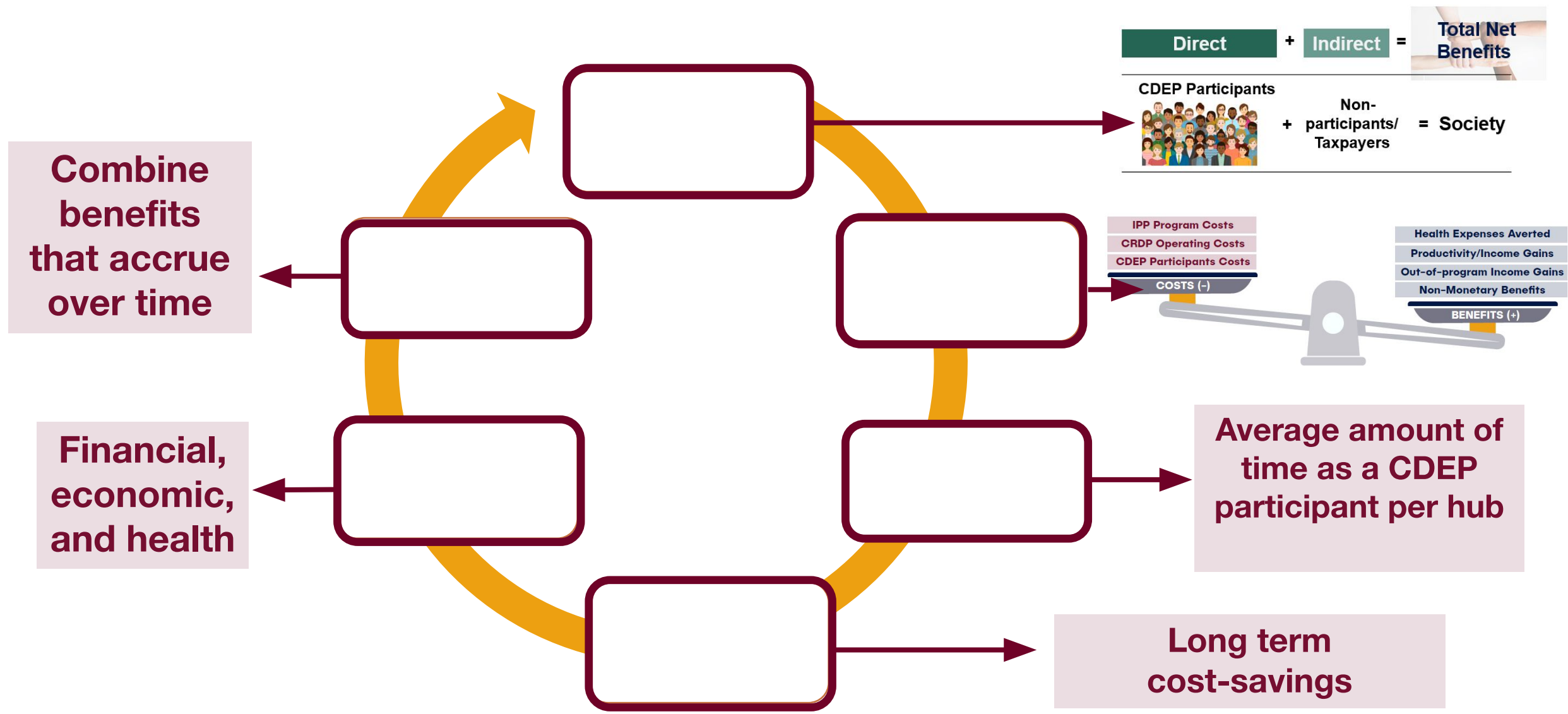
The question that should be asked is, how much does all of this SAVE?



Key Findings from the CRDP Phase 2 Statewide Evaluation Report

**What matters most? Prevention or early
intervention?**

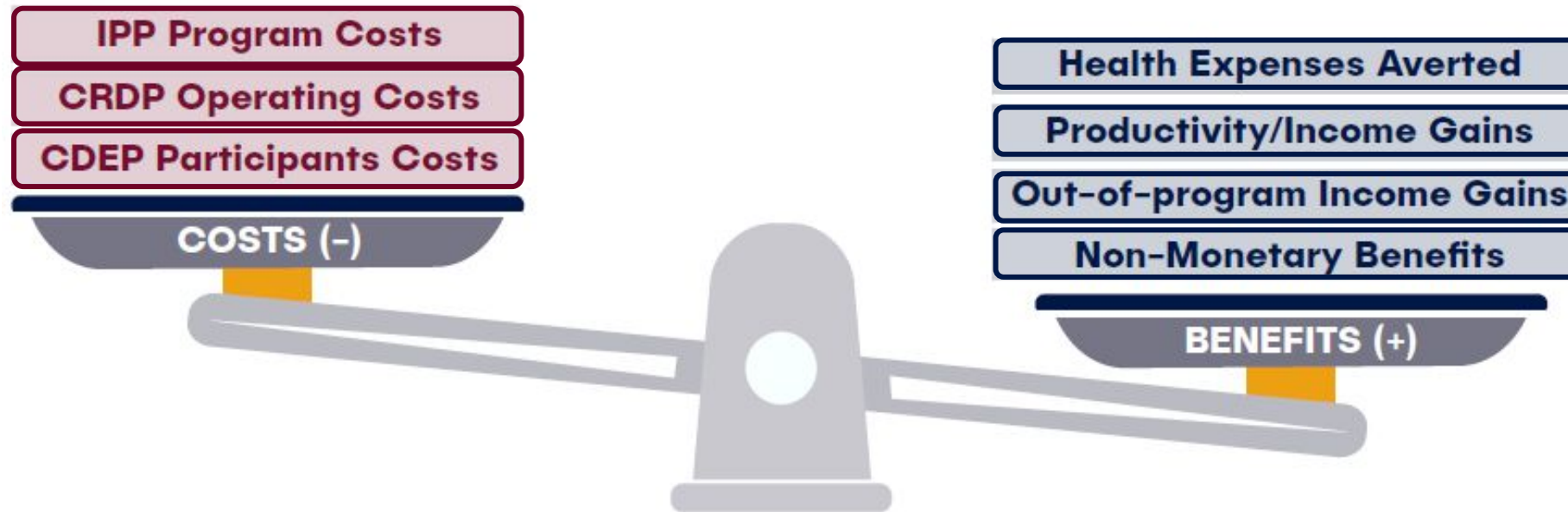
What steps did we follow for CRDP's CBA?



Costs and Benefits Considered for CRDP

- CDEP participants' travel costs
- CDEP participants' reduction in leisure

- Lower suicide rates
- Reduced recidivism
- Cultural connectedness



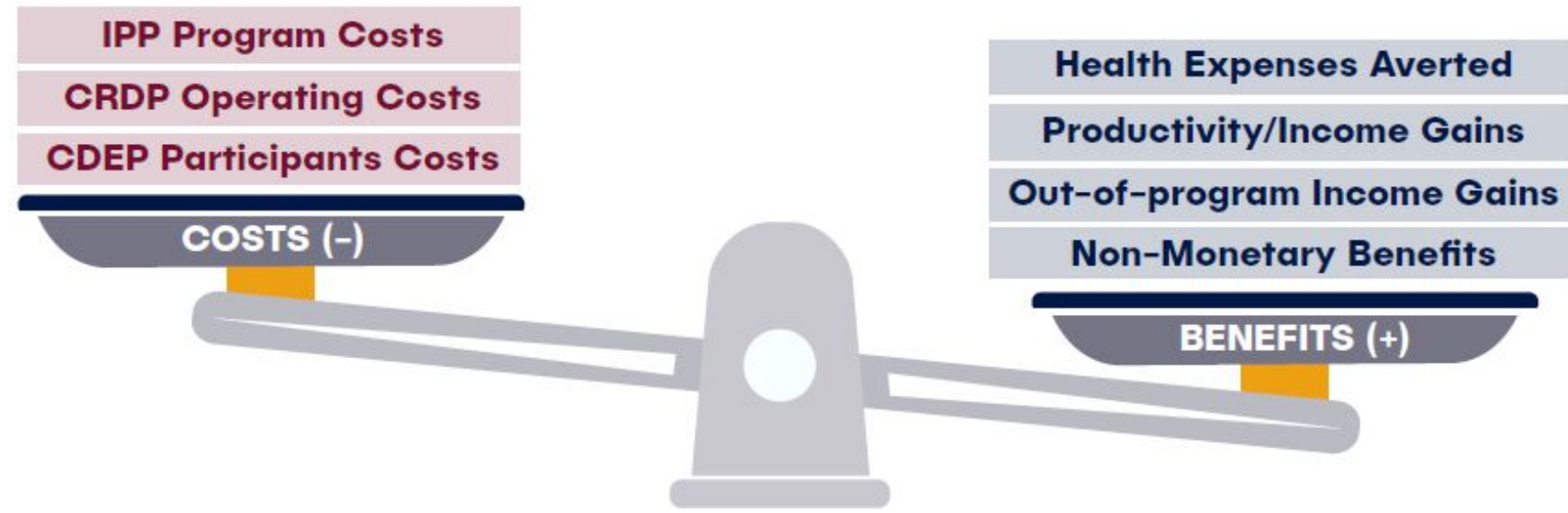
OHE budget

IPP local evaluation reports

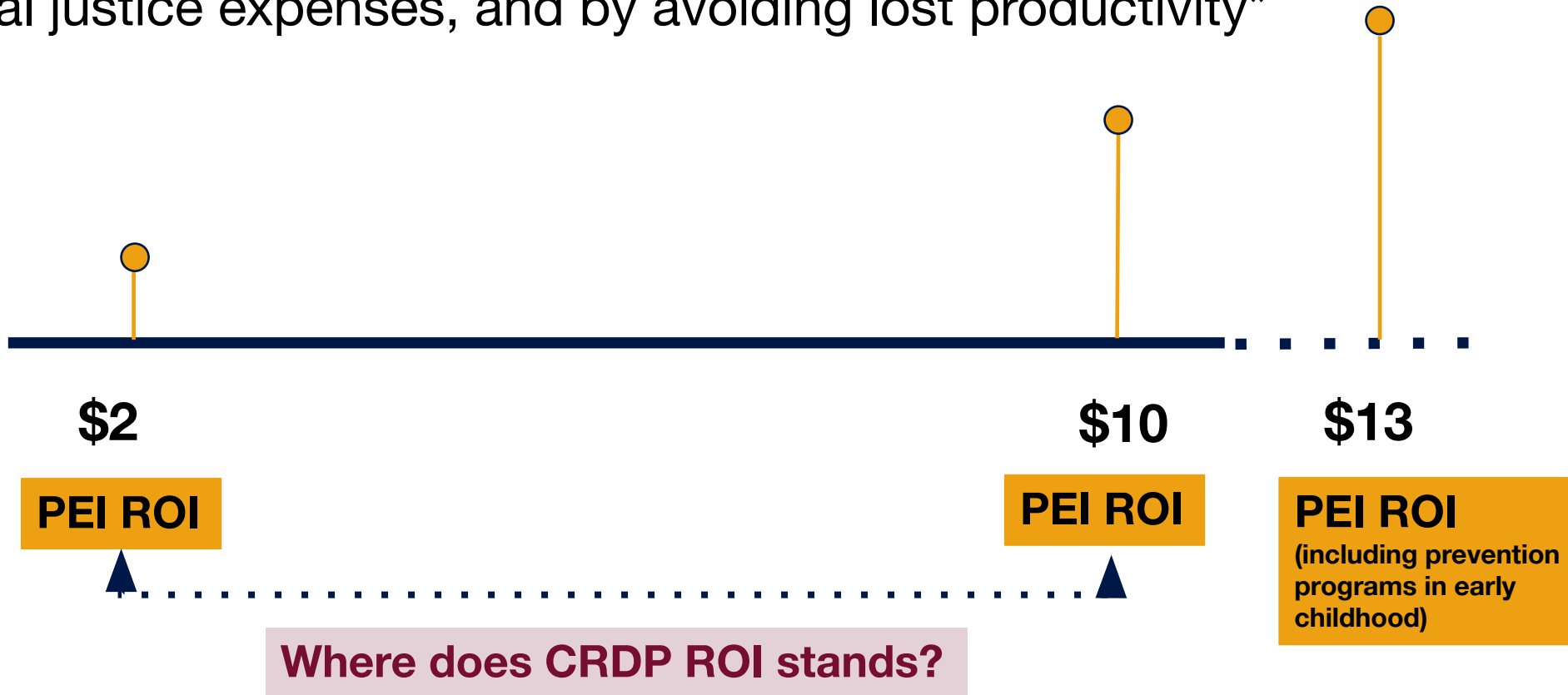
IPP semi-annual reports

CDEP SWE participant questionnaire
(no health expenditure data)

National medical expenditure panel data
(restricted version with links to NHIS accessed through
a U.S. Census Federal Research facility)

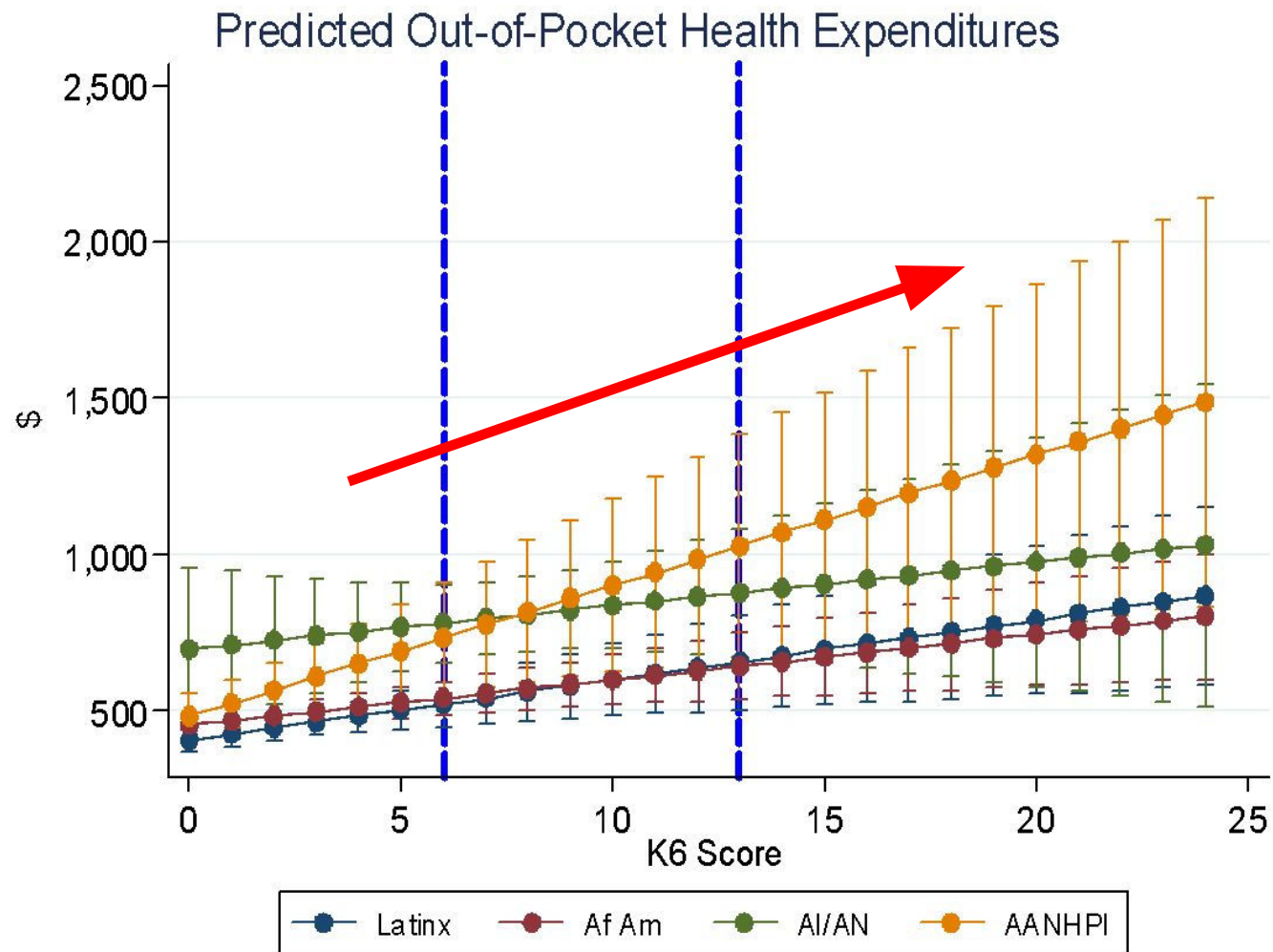


The National Academies of Sciences, Engineering, and Medicine found that for **every dollar invested in PEI, society saves \$2 to \$10** in health care costs, criminal justice expenses, and by avoiding lost productivity*



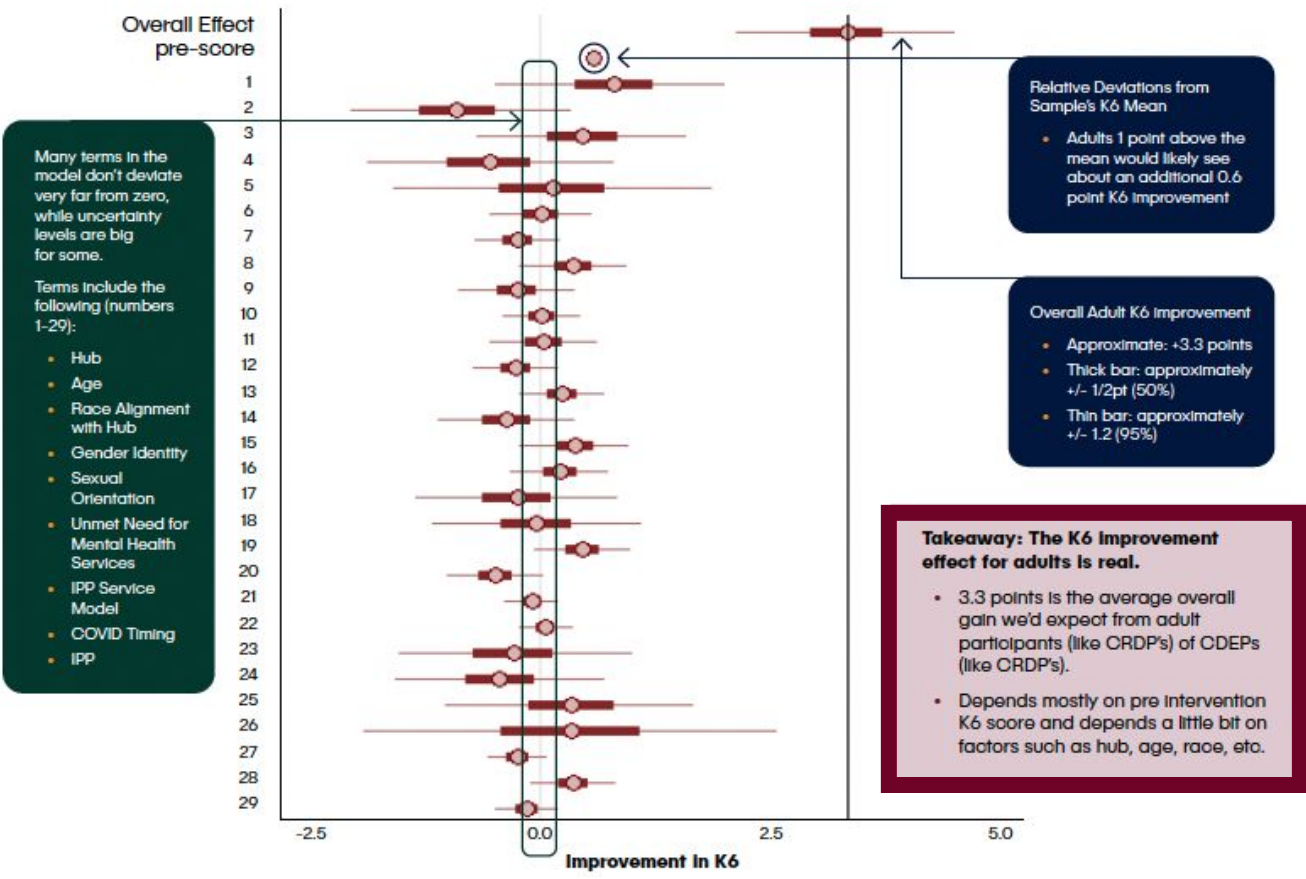
*Calculations from 2009 described in the MHSOAC “2022 Well and Thriving Prevention and Early Intervention in California Report”

Medical Expenditure Panel Survey (MEPS) Data for 2017-2019



Positive relationship between MEPS K6 scores and out-of-pocket health expenditures

- confirms findings previously outlined in the health literature (Dismuke et al, 2011; Pirraglia et al., 2011)



What does a 3-point improvement in psychological distress (K6) mean in \$?

K6*Race/Ethnicity	Health Expenditures	Standard Error
8#hubA	\$ 1,342.12	\$44.4
8#hubB	\$ 551.75	\$31.0
8#hubC	\$ 805.04	\$62.5
8#hubD	\$ 779.13	\$102.8
9#hubA	\$ 1,385.52	\$50.4
9#hubB	\$ 562.87	\$34.6
9#hubC	\$ 817.56	\$62.5
9#hubD	\$ 819.38	\$116.0
10#hubA	\$ 1,428.92	\$56.6
10#hub B	\$ 573.99	\$38.4
10#hubC	\$ 830.08	\$66.4
10#hubD	\$ 859.64	\$129.4
11#hubA	\$ 1,472.33	\$62.9
11#hubB	\$ 585.11	\$42.4
11#hubC	\$ 842.60	\$73.5
11#hubD	\$ 899.90	\$142.9

A 3-point drop in psychological distress for a person in hub A:

K6=11 to K6=8 (*moderate distress*)

Yearly health expenditures
\$1,472 □ \$1,342

= \$130 savings for a CDEP participant in hub A

Health savings



Lower psychological distress (*prevention and early intervention*)



Lower impairment for those with severe distress (*early intervention*)



Productivity Gains



Avoidance of productivity loss from better mental health



Lifetime CDEP benefits



Increased earnings from sustained mental health improvements

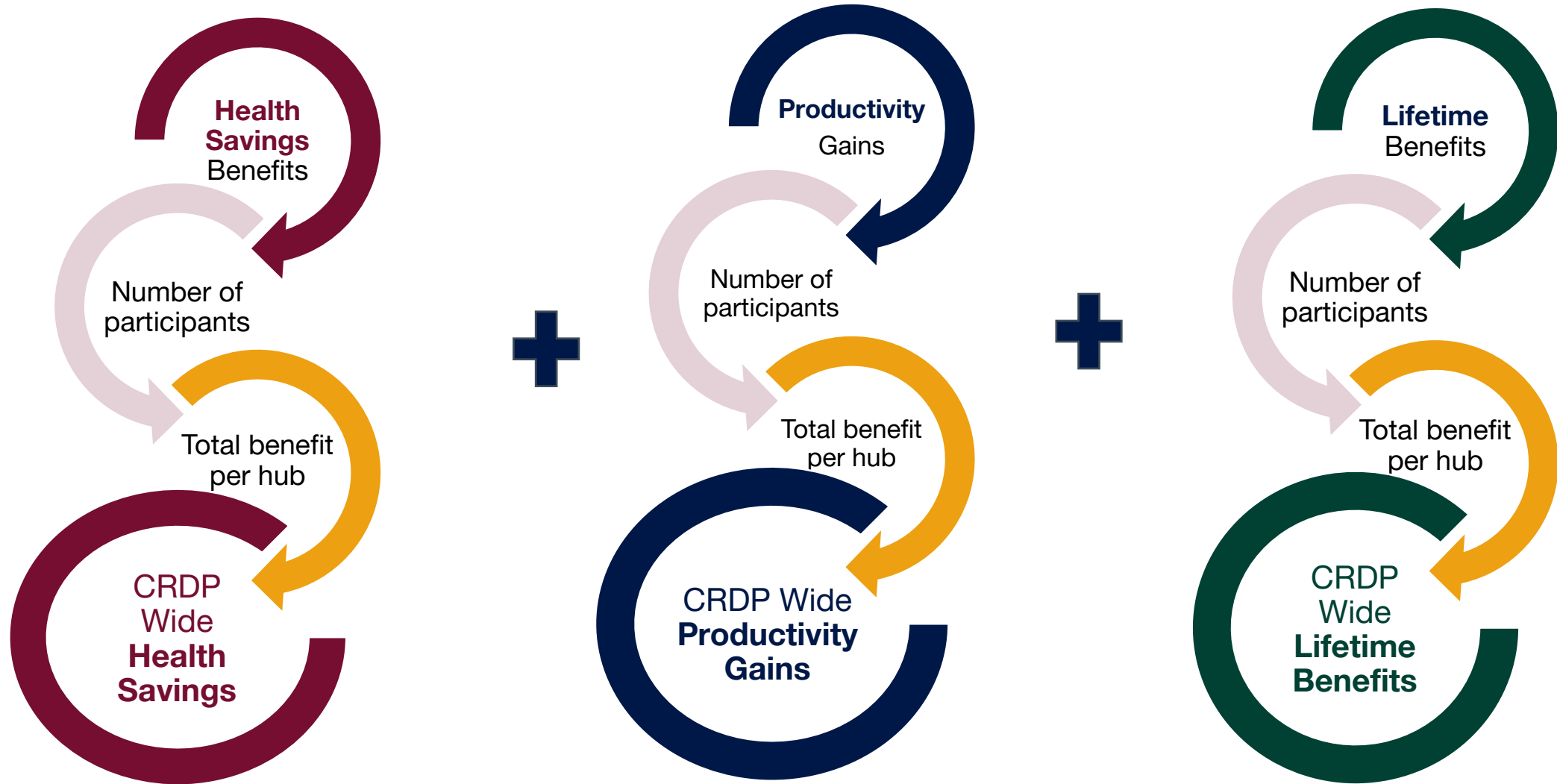
What does this mean?

We calculated the expected value of improved life-time earnings

For example, for hub A:

- The estimated average gain in earnings (*from better mental health*) is **\$1,840/year for adult participants**
 - A typical worker has an estimated retirement age of 65 years
 - The average age of participants in hub A is 37 years of age
- **We calculated long-term of annual gains for 28 years (65-37)**

CRDP: Adding All Up



Net Estimated Long-Term Societal Benefits

Estimated benefits



Estimated direct and indirect costs



RETURN
ON
INVESTMENT

$$= (\text{Benefit-Cost}) / \text{Cost}$$

CRDP ROI = 4.32 to 5.67

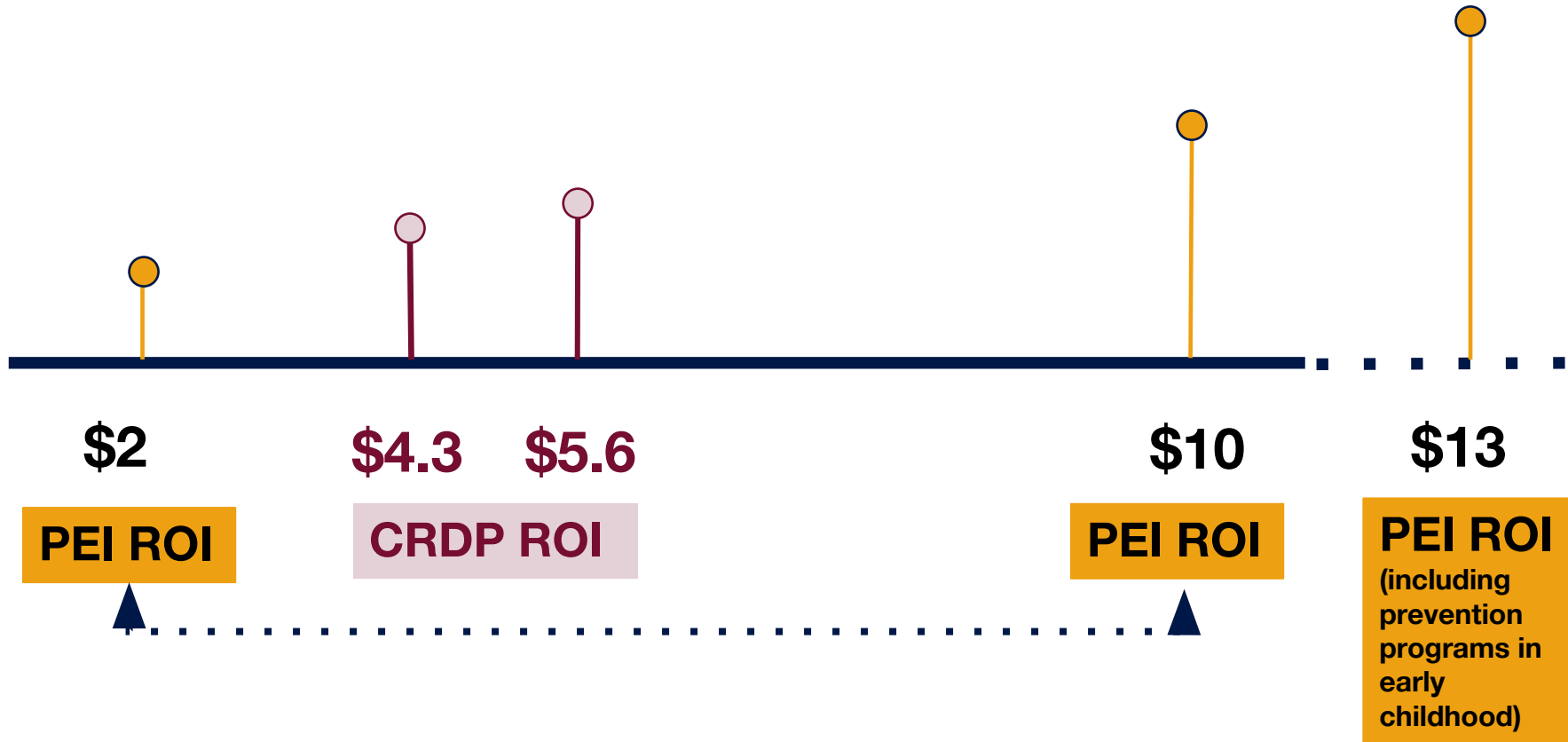
Sensitivity Analysis: including youth costs and benefits shows higher net benefits but same ROI

For every dollar spent, CRDP is expected to deliver **\$4.3 to \$5.67 in long term cost-savings**

These savings are related to:

- **Better mental health experienced by CDEP participants**
 - Fewer health-related costs (e.g., medical visits, medication, etc.)
 - Fewer days missed at work (i.e., higher productivity)
 - During and after CDEP participation

For every dollar invested in PEI, society saves \$2 to \$10 in health care costs, criminal justice expenses, and by avoiding lost productivity*



*Calculations from 2009 described in the MHSOAC, "2022 Well and Thriving Prevention and Early Intervention in California Report"

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Thank you!



Q&A
