Data-Driven Solutions to Homelessness in Los Angeles

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CALIFORNIA
POLICY
LAB

CPL's Mission

Improve the lives of Californians by working with government to generate evidence that transforms public policy.

We do this by forming lasting partnerships between California government and the state's flagship universities to harness the power of rigorous research and administrative data.

What We Do

With our California Government Partners, we…

1. Develop research agendas
2. Obtain, link, clean data in secure data hub
3. Conduct rigorous research and program evaluation
4. Assist in implementing findings if appropriate
5. Work towards establishing data access for research

Five Policy Areas:

1. Homelessness and high needs populations
2. Criminal justice and public safety
3. Labor and employment
4. Social safety net & poverty
5. Education

Homeless & High Needs Populations Projects in Los Angeles

1. **Predicting first-time homelessness** and high cost utilizers among LA County social service recipients

2. Evaluating **prevention** programs – singles adults and families

3. Examining possible **racial disparities in homelessness service** provision

4. Understanding **employment histories** and job prospects for people living in poverty or at risk of homelessness

5. Evaluating the **CES triage tools**

Research Partners & Collaborators

- **Los Angeles County Homelessness Initiative**
- **Los Angeles County CIO**
- **Los Angeles County Board of Supervisors**
- **Los Angeles Homelessness Services Authority**
- **County Department of Mental Health**
- **County Department of Health Services**
- **County Office of Diversion and Reentry**
- **Department of Social Services**
- **Department of Public Health/Substance Abuse Treatment**
- **Los Angeles Sheriff's Department**
- **Probation**

- Whole Person Care
- Homeless Service Providers
- Legal Services Providers
- LA Care
- Dignity Hospitals
- City of Los Angeles – Mayor's Office
- City of Los Angeles – HCID
- United Way
- Arnold Ventures
- Max Factor Family Foundation

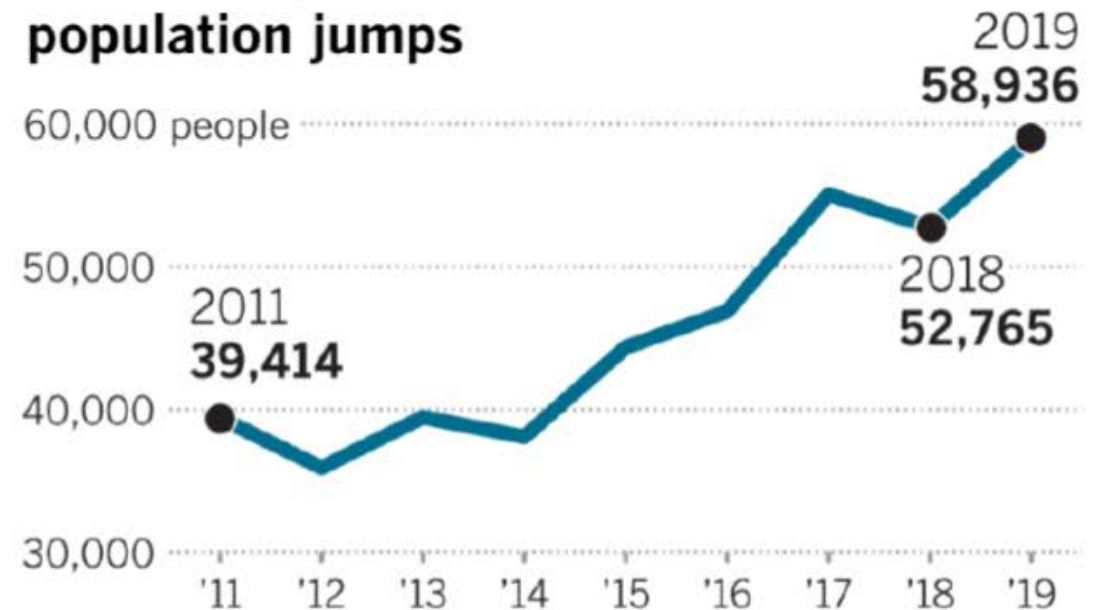# Homelessness in LA County and Measure H

- Nearly **60,000** people experience homelessness in LA County on **any given night**
- An estimated **141,000** are homeless **in any given year**
- In 2017, voters in LA County passed Measure H, agreeing to increase their taxes to add an estimated **$355 million** in homeless services each year
- In the first 15 months of Measure-H funding
  - **9,635** individuals entered **permanent housing**
  - **18,714** people entered **crisis, bridge and interim housing** funded
  - **3,300** have been assigned to **rental subsidy for permanent supportive housing**

LA's 2019 Point-in-Time Count has intensified focus on first-time homeless prevention

Los Angeles Times JUNE 4, 2019
Homelessness jumps 12% in L.A. County and 16% in the city; officials 'stunned'

Los Angeles Daily News June 4, 2019
LA County's homeless population rises 12% from last year, 23% of unsheltered people homeless for the first time

L.A. County homeless population jumps

2019
58,936

60,000 people

50,000

2011
39,414

2018
52,765

40,000

30,000

'11 '12 '13 '14 '15 '16 '17 '18 '19

Source: Los Angeles Homeless Services Authority

Los Angeles Times

What motivates our work

Big Question: Can we prevent homelessness before it happens?

Related Questions:

1. *What are the pathways into homelessness?*
2. *Who is at highest risk?*
3. *What interventions prevent homelessness and for whom?*

What do we mean by Prevention?

- **Universal prevention** addresses social conditions that produce homelessness
- **Targeted prevention** addresses people at special risk. It needs to be:
    - Effective – it should help people to find and maintain stable housing
    - Efficient – it should allocate assistance to people most likely to benefit
    - At a community level, it should reduce inflow to homelessness, not just reallocate it to people pushed down on waiting lists
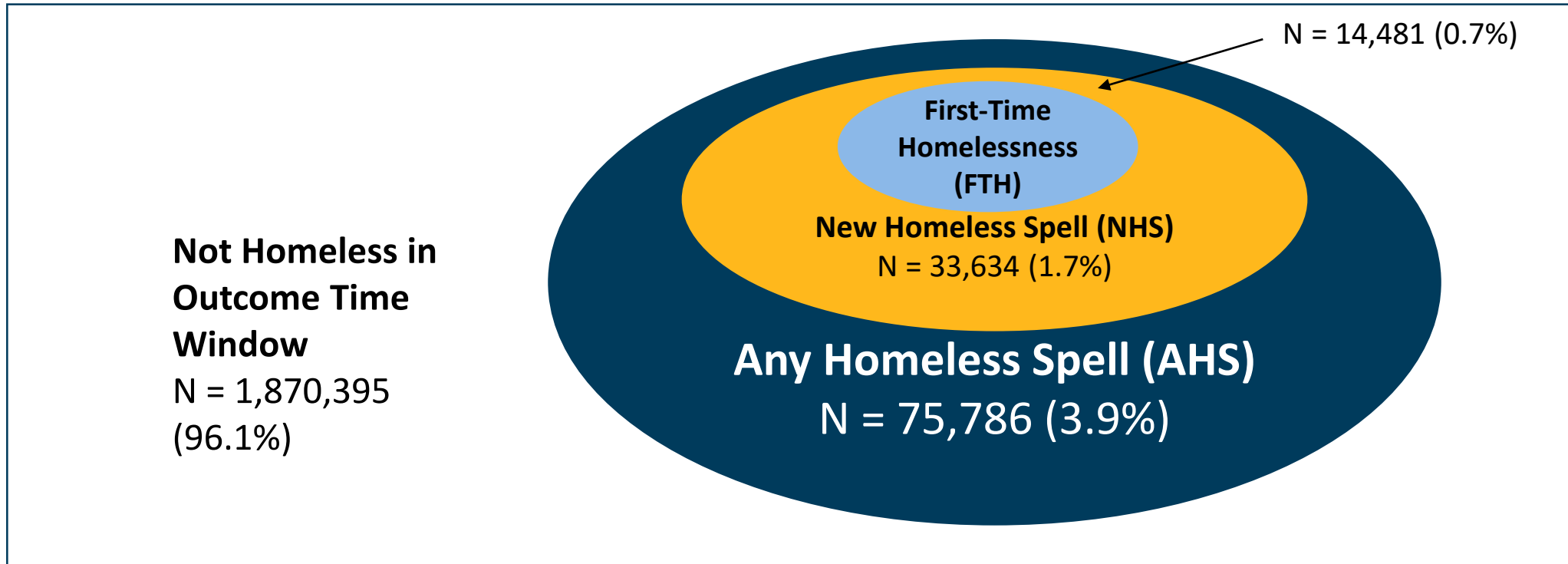- **To reduce inflows, prevention must be targeted**

What are we doing?

1. Predicting who is at risk of first-time homelessness or returns to homelessness
2. Generating risk lists – overall and for subpopulations
3. **Working with Los Angeles County & LAHSA to implement the models and design interventions**
4. Evaluating whether the interventions reduce homelessness

How do we know who is at risk?

- **The Challenge:** Who among the 1.9 million single adult clients being served by LA County agencies (DHS, DMH, DPSS, Sheriff, Probation, Substance abuse treatment) will experience homelessness?

- **Potential Solution:** use advances in computational science and predictive analytics to identify who is at greatest risk

- **For prevention, we are focused on predicting 2 outcomes:**
  - First-Time Homelessness (FTH) (~15,000 people per year)
  - New Homeless Spell (NHS) (~34,000 people per year)

Predicted Homelessness Outcomes

N = 14,481 (0.7%)

First-Time Homelessness (FTH)

New Homeless Spell (NHS)
N = 33,634 (1.7%)

Any Homeless Spell (AHS)
N = 75,786 (3.9%)

Not Homeless in Outcome Time Window
N = 1,870,395 (96.1%)

Single Adults in the ELP, CY2017 (Restricted to Individuals with Service Histories)
N = 1,946,181

How does Prediction Work?

- **We take 5 years worth of anonymous service data from County departments:** DHS (Orchid), DMH (IBHS), DPH/SAPC (LACPRS), DPSS (LRS), Probation, Sheriff (AJIS), HMIS

- The model **analyzes patterns and detects which features** predict homelessness in CY2017 (Regularized Logistic Regression technique)

- The model generates a **"risk list"** of people it thinks are at risk of homelessness in CY2017

- Model performance = **predicted outcomes compared to actual outcomes**

Can we predict homelessness?

Here is how the models perform when they generate a list of people at highest risk of these outcomes:

*Note that when we include the continuously homeless in the prediction models, the precision is approximately 90%.

Risk List	What % of the risk list were actually homeless?	How much more likely to experience NHS/FTH are the individuals on the risk list, compared with the average?
New Homeless Spell		
Top 3,000	45.9%	27x more likely
Top 1% (N=19,600)	35.1%	21x more likely
First-Time Homelessness		
Top 3,000	33.5%	48x more likely
Top 1% (N=19,600)	23.6%	34x more likely

Practical Implications?

- Serving top 1% of the NHS list could prevent nearly **6,900 homeless spells** in one year

- Top 3,000 people on the first-time homelessness risk list are **48x more likely to experience homelessness** than average

- Clients on the risk list are **12x more likely to seek substance abuse treatment** and **9x more likely to be in the jail** than average County clients.

- Falling into homelessness happens very fast – need to react quickly
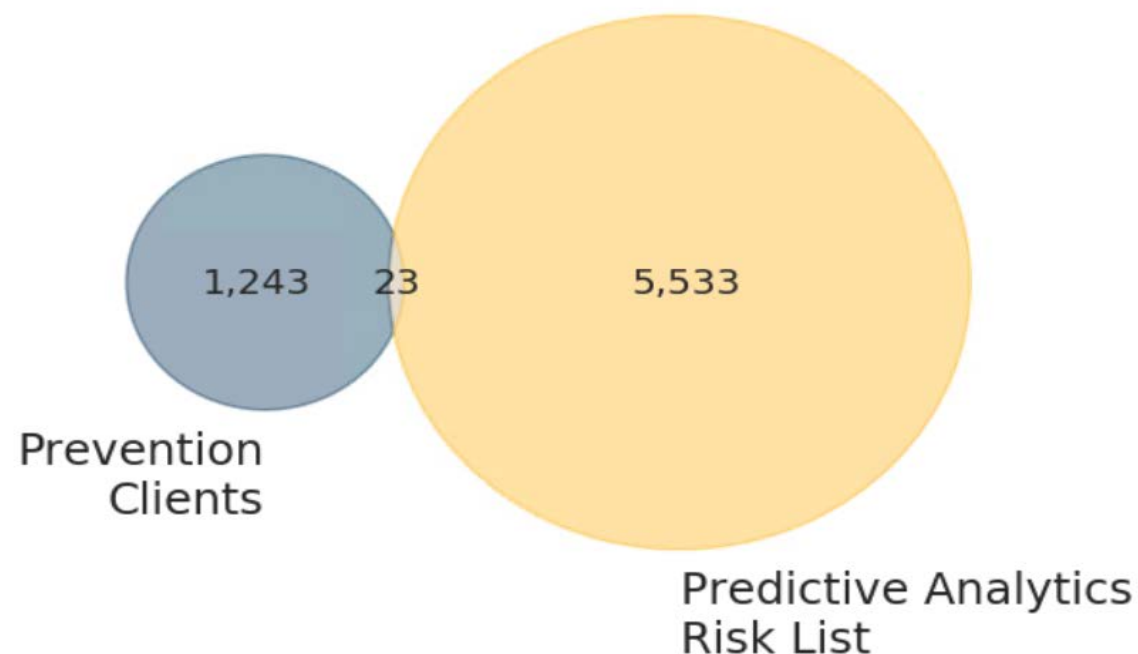
Next Steps – from risk list to prevention

Improving Efficiency

- Can generate high priority risk list for multi-disciplinary problem-solving team

- Can generate customized risk lists for County departments, e.g. Calworks for DPSS

- Can generate risk lists by geography or by subpopulation

Testing Effectiveness

- Use insights into risk factors to customize prevention programs to specific needs

- Measure whether prevention causes reductions in shelter stays or other services

- Measure impact of prevention on housing status <u>and</u> health, criminal justice outcomes

Overlap of predicted risk lists and self-identifying prevention clients (two distinct groups)

Parallel Research

- Half of all people experiencing homelessness for the first time have no prior service history with the County.

- These people are not captured by predictive models and need to be assessed and screened into services.

- They might be less sick and more likely to experience short-lived financial troubles than those identified by the risk models

- These people might stabilize with one-time cash assistance and/or legal aid