

# MENTAL HEALTH TRACKING IN CALIFORNIA

Este Geraghty  
Sergio Aguilar Gaxiola  
Marlene von Friederichs-Fitzwater



For the Mental Health Services Oversight and Accountability Commission  
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## Our Charge



- Use the Medi-Cal billing database to analyze and map disparities in service **access** and **delivery** at the local level (census tracts within counties) across the state for various subgroups:
  - Age
  - Gender
  - Race
  - Ethnicity

## Focus on SMI and SED



- From the Federal Register:
- "..., adults with a **serious mental illness** are persons 18 years and older who, at any time during a given year, had a diagnosable mental, behavioral, or emotional disorder that met the criteria of DSM-III-R1 and ... that has resulted in functional impairment which substantially interferes with or limits one or more major life activities...."
- **Serious emotional disability (SED)** refers to children under the age of 18

## Access to Care



- *Penetration rate*: a common measure reflecting the proportion of individuals in a given population (like a health plan) that use specialty mental health services in a year

$$\frac{\text{No. of Medi-Cal Mental Health Patients}^*}{\text{Total Medi-Cal Beneficiaries}}$$

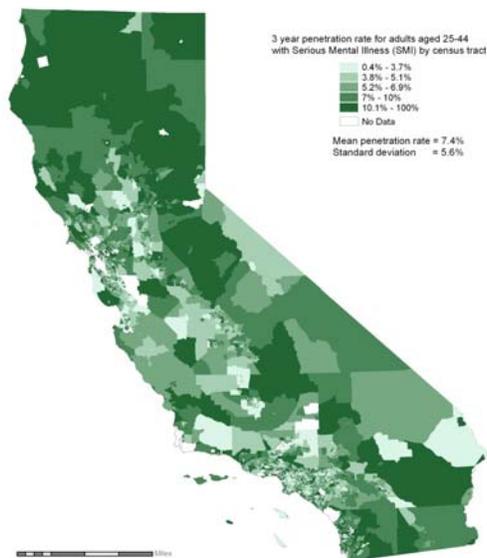
\* Includes managed care, fee for service and Short Doyle. Mental health patients have an ICD-9 code consistent with Serious Mental Illness or Serious Emotional Disability

## Delivery and Utilization

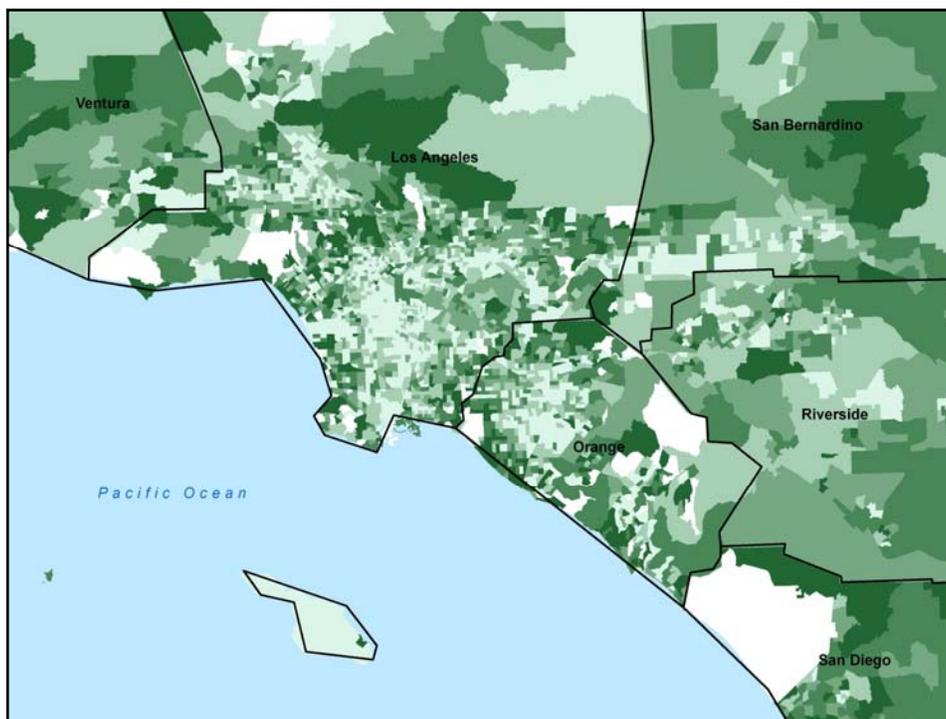


- We characterized service delivery via the utilization rate:
  - Total number of mental visits per mental health Medi-Cal beneficiary
  - Used outpatient visits only

Access to Mental Health Services for ages 25-44 with SMI  
California, 2007-2009



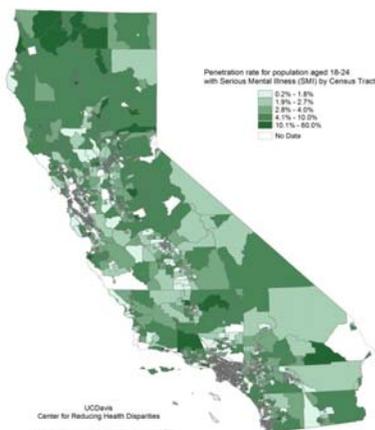
Notes: Medi-Cal Data from the California Department of Health Care Services  
Projection is North American Datum 1983, California Teale Albers



## Distribution of Mental Health Services

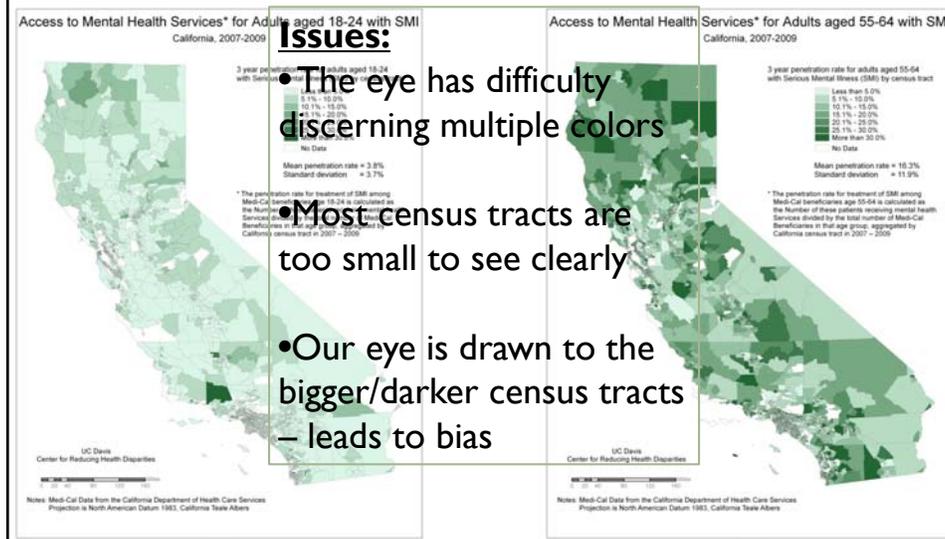


Penetration Rates for Population aged 18-24  
California, 2008



- Classification by Quantiles
  - 5 categories with 20% of the observations in each category
  - Nice, even color distribution in the map
  - But ranges vary widely in the map (especially the highest range).
    - Misleading (CT with 10% not equivalent to one with 60%)
    - Maps are not comparable
    - Cannot easily see patterns in the data

## Distribution of Mental Health Services



## Hot Spot Analysis

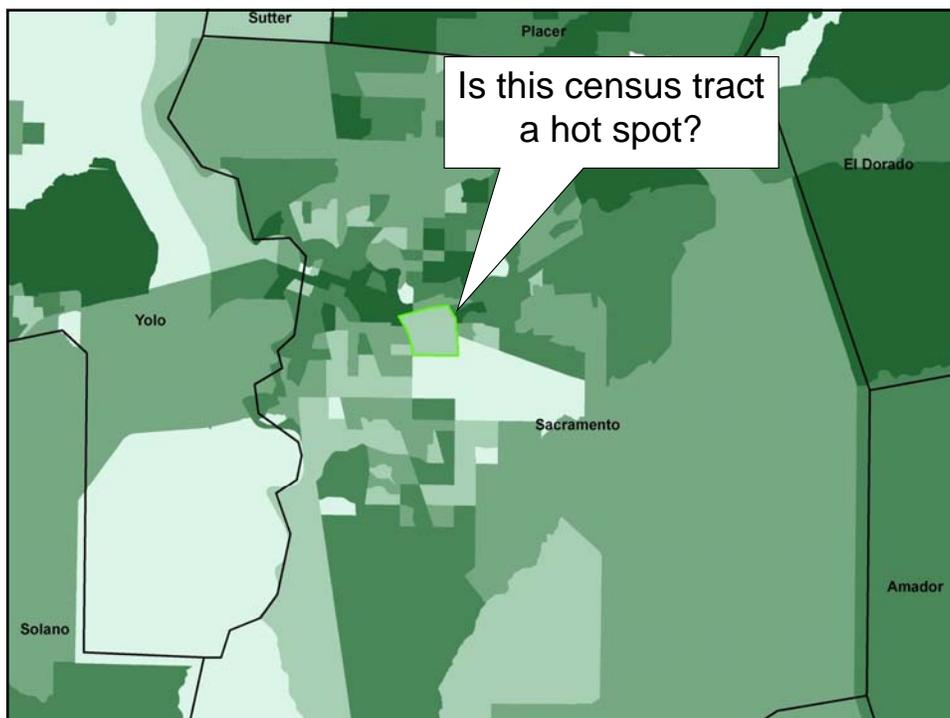


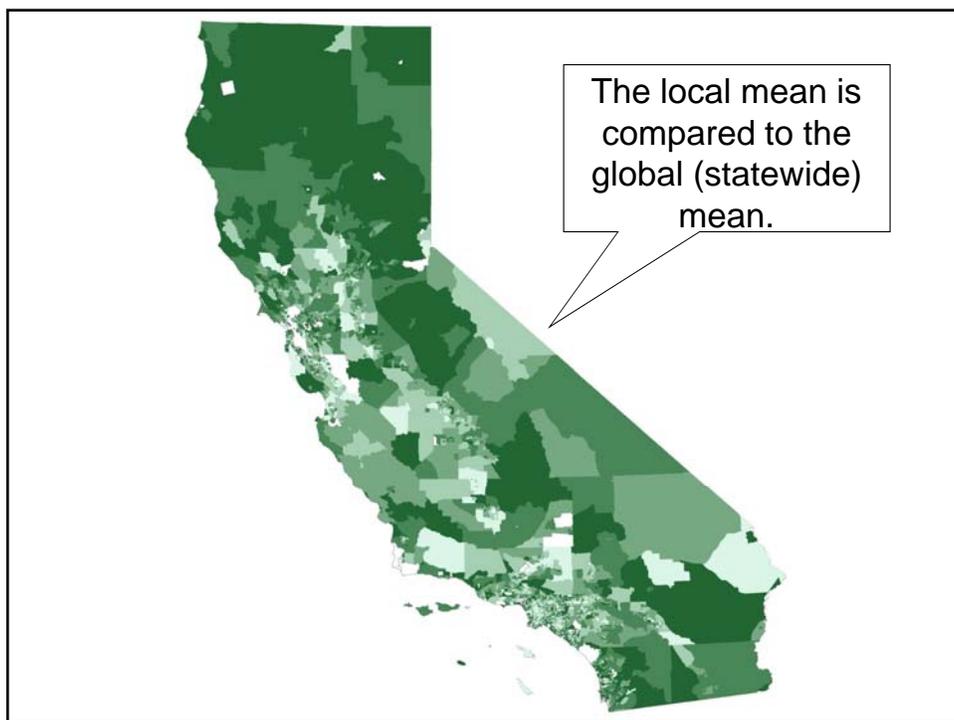
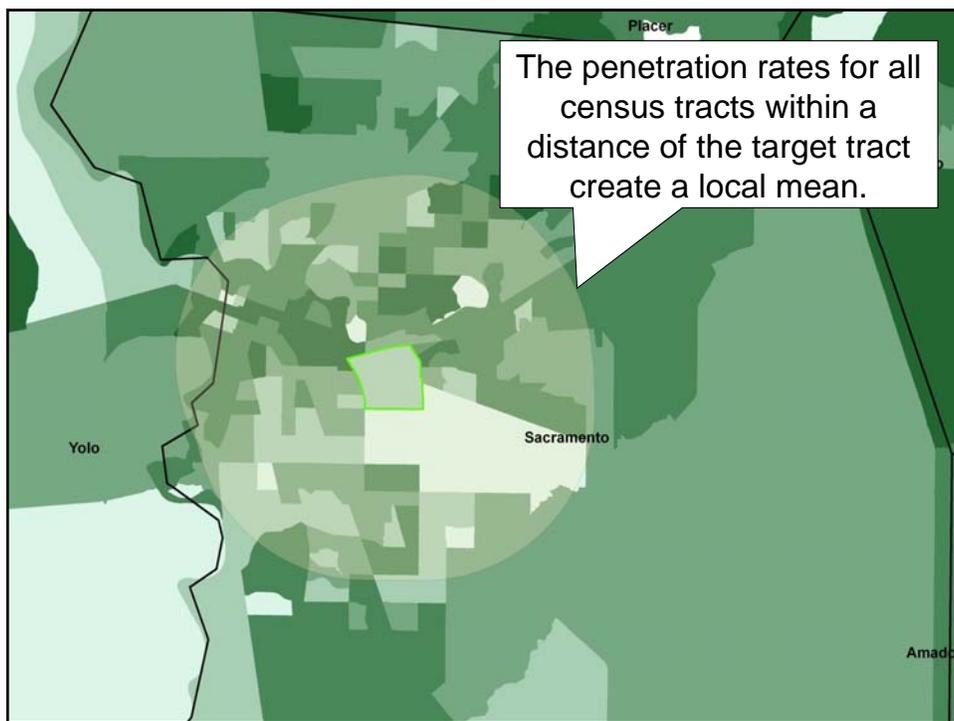
- It's a method for testing the statistically significant clusters of a variable (such as the penetration rate)
  - There is a difference between an outlier and a hot/cold spot
  - The analysis value (penetration rate) in a census tract is compared to a designated set of neighboring census tracts defined by distance and/or the number of neighbors (creating a local mean)
  - The local mean is compared to the overall mean for the dataset (in this case, California)
  - Areas of intense clustering of high values are hot spots and areas of intense clustering of low values are cold spots

## Why are we using Hot Spot Analysis?

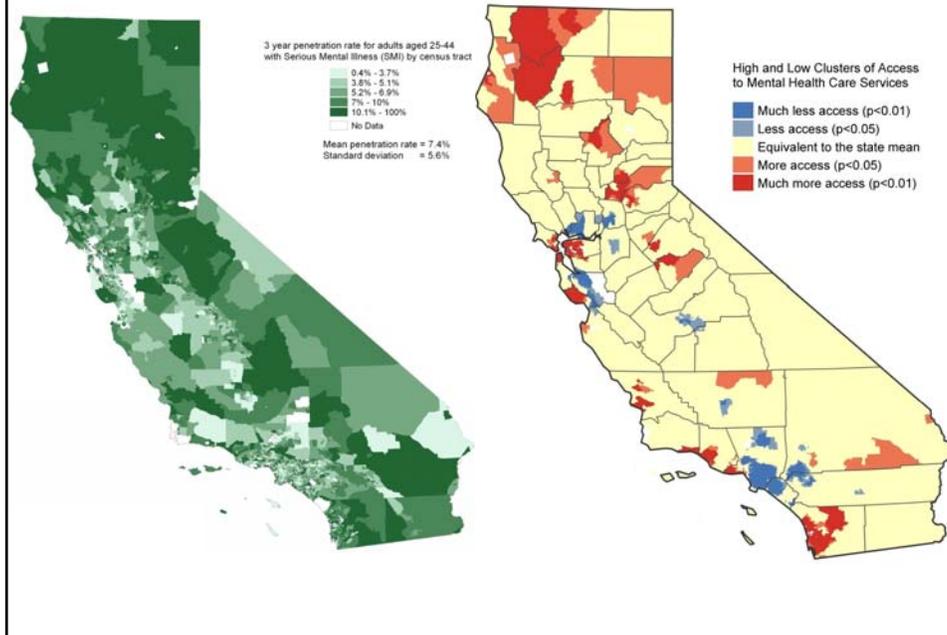


- It answers the right question...
  - Where is the access to mental health care in California greater or lesser than expected, given the overall Medi-Cal beneficiary population?
- Maps are more comparable
- There is less concern about missing important information in small census tracts
  - We can now see important patterns in the data
- Statistical significance provides meaningful information

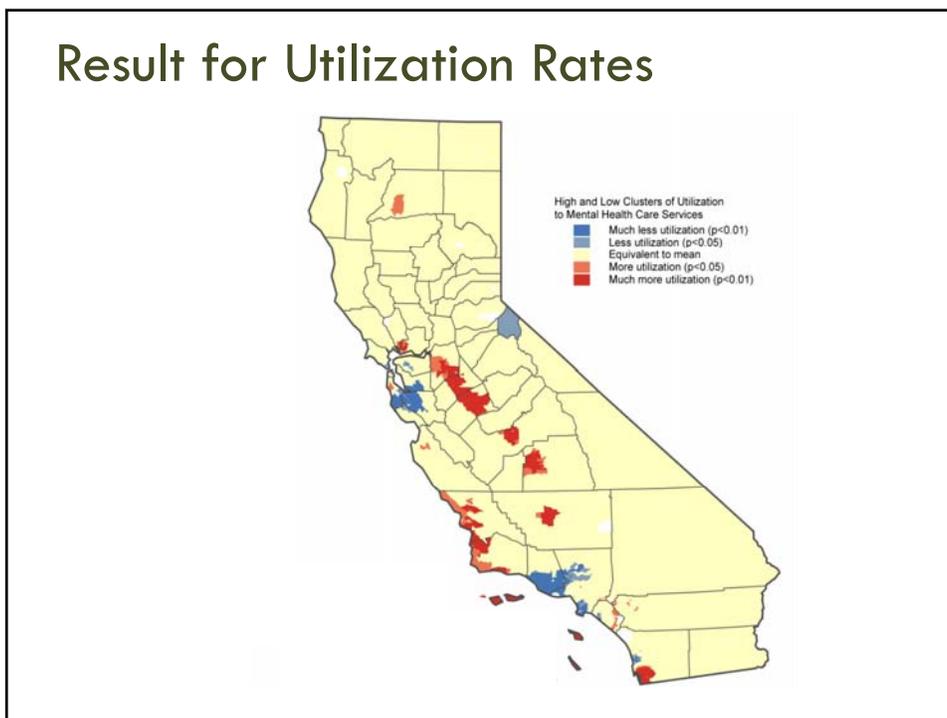


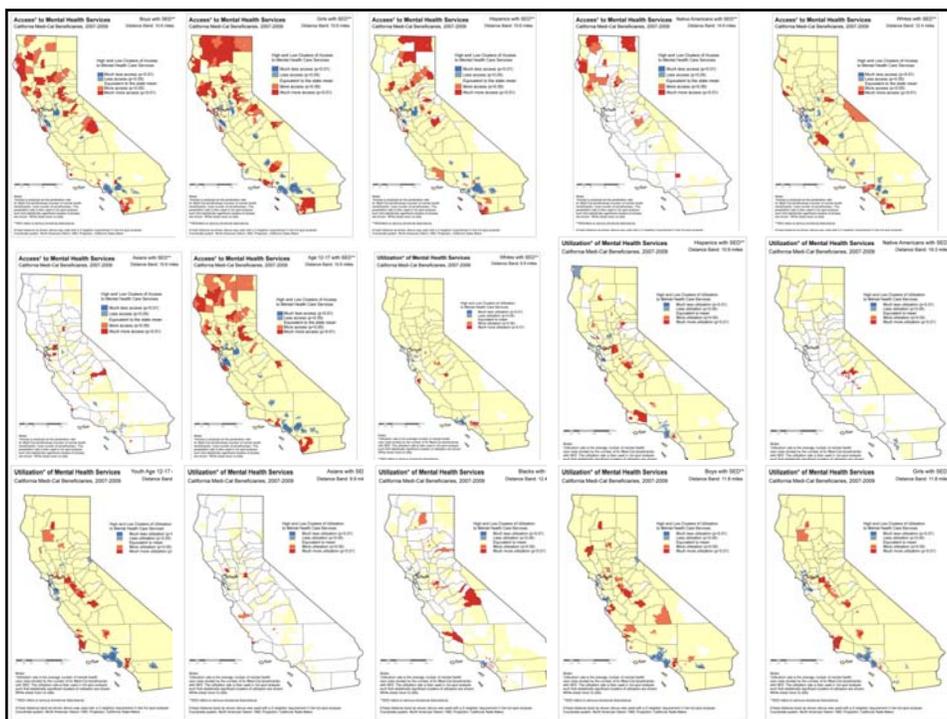


## Result for Penetration Rates



## Result for Utilization Rates





# Map Comparisons



SED	All Patients (age 12-17)		Male		Female		White		Black		Hispanic		Asian/Pacific Islander		Native Am/Alaskan Native		
	A	U	A	U	A	U	A	U	A	U	A	U	A	U	A	U	
Alameda	22	24	20	2	37	19	91	9	51	26	16	41	70	3	82	32	
Alpine									nd	nd	nd	nd	nd	nd			
Amador			14		14						25		nd				
Butte	88	12	74	43	90	2			39	24	29	15			90		
Calaveras			14		29						29						
Colusa	40		20		60						60		nd				
Contra Costa	6	20	7	24	41	35	36	*	32	12	11	49	31		20	8	
Del Norte												40					
El Dorado	69	26	63	26	72		41				20	13					
Fresno	21	77	9	77	75	75	77	74	1	2		76	3			96	
Glenn	20		40		20											67	
Humboldt	88		92		72		15		11							85	
Imperial			39						8		57		nd		100		
Inyo	43				67								nd	nd			
Kern	64	70	6	29	66	68	60		18		56	56	3	18			
Kings									78							100	67
Lake	42		75	8	58						10	8	50				
Lassen									100		33						
Los Angeles	54	54	54	60	60	55	68	30	17	47	17	58	3	14	66	18	

## Interpretation

nd	nd	there are no data for the specified population
■	■	access and utilization are equivalent to the state mean
■	■	access is equivalent to the state mean, but utilization is high
■	■	access is equivalent to the state mean, but utilization is low
■	■	access is high, but utilization is equivalent to the state mean
■	■	access is low, but utilization is equivalent to the state mean
■	■	access and utilization are high (potential overuse of services)
■	■	access is high and utilization is low
■	■	access is low and utilization is high (potentially sicker individuals)
■	■	access and utilization are low (more services may be needed)

\* Numbers inside boxes indicate the percentage of census tracts of that color

## Map Comparisons



SED County/Name	All Patients (age 12-17)		Male		Female		White		Black		Hispanic		Asian/Pacific Islander		Native Am/ Alaskan Native	
	A	U	A	U	A	U	A	U	A	U	A	U	A	U	A	U
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## Next Steps



- Understanding service access without understanding mental health need only tells a part of the story
- Need can be determined in CA using data from the California Health Interview Survey (CHIS)
  - UCD and UCLA collaboration to create an assessment of need\*
  - Kessler-6 is a tested and robust indicator of severe psychological stress
  - Sheehan Disability Scale captures impairment due to emotional or mental health
  - There is potential to map the CHIS data for CA

\*Padilla-Frausto I, Grant D, Aguilar-Gaxiola S. "Assessing Adult Mental Health Needs In California Using the California Health Interview Survey (CHIS)." Report for the MHSOAC, 11/2010.

## Summary



- Hot spot analysis provides an opportunity to see statistically significant patterns in large datasets which may help guide resource allocation and track change over time
- Access to care and utilization could be refined to show how the population receiving services compares to the population in need

Questions?

