

# **Disparities in Adult Disability across U.S. States: What is the Role of State Environments?**

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# Map: What Country Does Your State's Life Expectancy Resemble?

How California and Virginia can be as different as Liechtenstein and Brunei

OLGA KHAZAN | FEB 3 2014, 1:00 PM ET

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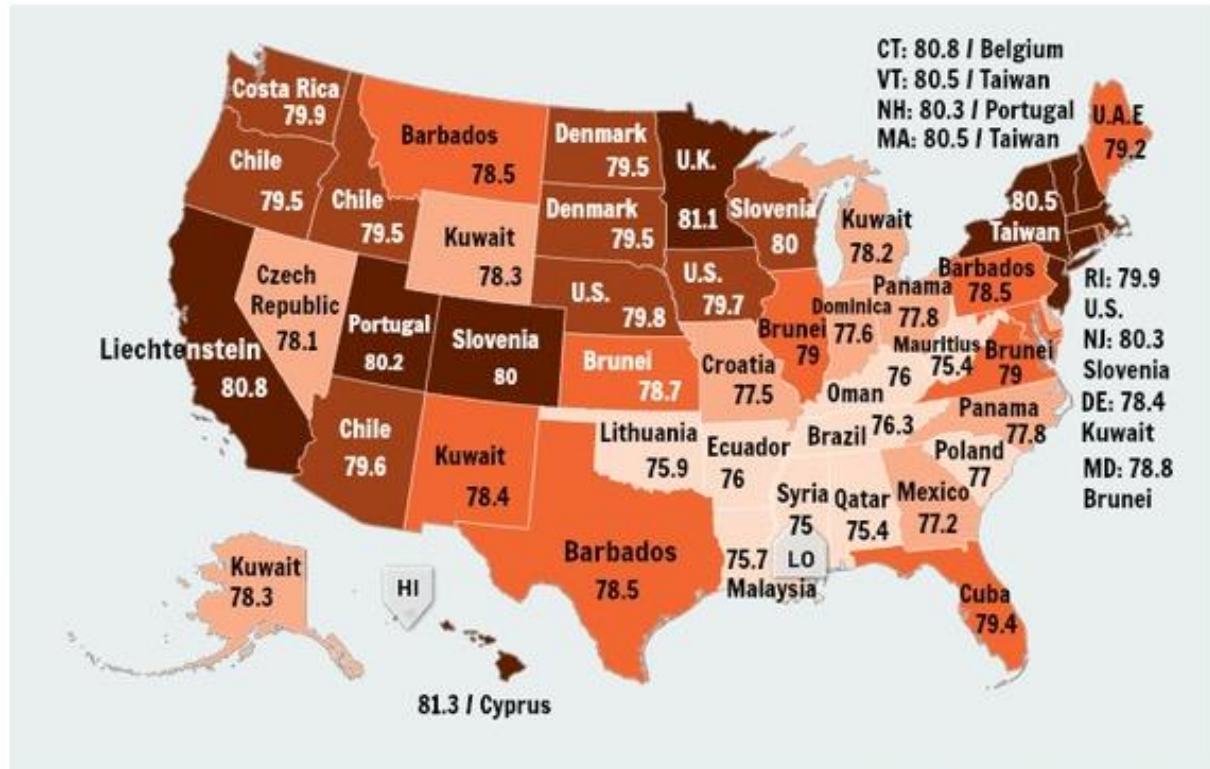
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# Why explains the variation across states?



Composition?



Context?

# Aims

## Descriptive

How does disability prevalence vary across states?

## Explanatory

How much of the variation is due to states (versus local areas)?

Which state contexts are important?

Are states more important for women? For older ages?

# Data and Methods

## Data

- 2010-2014 American Community Survey
- Nationally-rep. sample of 5% of population (~15.5 million)
- 50 states and 2,436 local areas
- Basic demographics: age, gender, race/ethnicity, education
- 6 questions on serious physical, sensory, & cognitive difficulty

## Sample

- Adults aged 25-94 years; born in state of residence
- N=5,571,075

## Methods

- Aim 1: age-specific disability prevalence for each state
- Aim 2: multilevel logistic regression models

# Aims

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## Age-Specific Disability Prevalence (%)

State	10-Year Age Groups						
	25-	35-	45-	55-	65-	75-	85-
ND	4.1	5.5	9.6	14.8	22.0	41.5	74.7
MN	5.5	6.4	9.6	14.6	20.7	38.6	68.8
HI	5.2	5.6	11.7	14.8	22.3	40.5	70.9
WI	6.6	7.5	10.4	15.3	21.8	38.5	69.6
NJ	5.8	7.0	11.0	15.9	22.0	40.4	70.5
...							
...							
AL	8.8	12.8	19.9	28.9	34.2	53.1	79.2
AR	9.3	13.1	19.8	28.8	36.0	54.0	77.1
KY	10.1	13.3	21.0	28.6	35.2	53.1	78.3
MS	9.6	12.1	21.0	30.5	39.2	55.8	79.1
WV	10.5	14.3	22.3	31.0	36.4	52.2	77.5
Min	4.1	5.5	9.6	14.6	20.7	38.5	65.2
Max	10.5	14.3	22.3	31.0	44.0	75.4	80.5
Range	6.4	8.8	12.7	16.4	23.3	36.9	15.3

# Aims

## Descriptive

How does *disability prevalence* vary across states?

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How much of the variation is due to states (versus local areas)?

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# Odds of Having a Disability by Gender and Age Group 8 of 13

	Women			Men		
	25-44 years	45-64 years	65-94 years	25-44 years	45-64 years	65-94 years
<b>Composition</b>						
Age	1.04***	1.04***	1.11***	1.02***	1.05***	1.08***
Race (NH white)						
NH black	1.47***	1.80***	1.58***	1.69***	1.72***	1.33***
NH other	1.46***	2.05***	1.69***	1.40***	1.85***	1.61***
Hispanic	1.19***	1.40***	1.43***	1.24***	1.37***	1.38***
<b>Context</b>						
Local ( $\sigma_l^2$ )	0.101	0.107	0.034	0.109	0.106	0.042
State ( $\sigma_s^2$ )	0.040	0.058	0.036	0.028	0.041	0.040
state/(state+local)	28%	35%	51%	20%	28%	49%

# Aims

## Descriptive

How does *disability prevalence* vary across states?

## Explanatory

How much of the variation is due to states (versus local areas)?

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# Why does adult disability differ across states?



## Composition?

*Age*

*Gender*

*Race*

*Socioeconomic resources (education)*



## Context?

*Gross state product per capita*

*Years state has offered EITC*

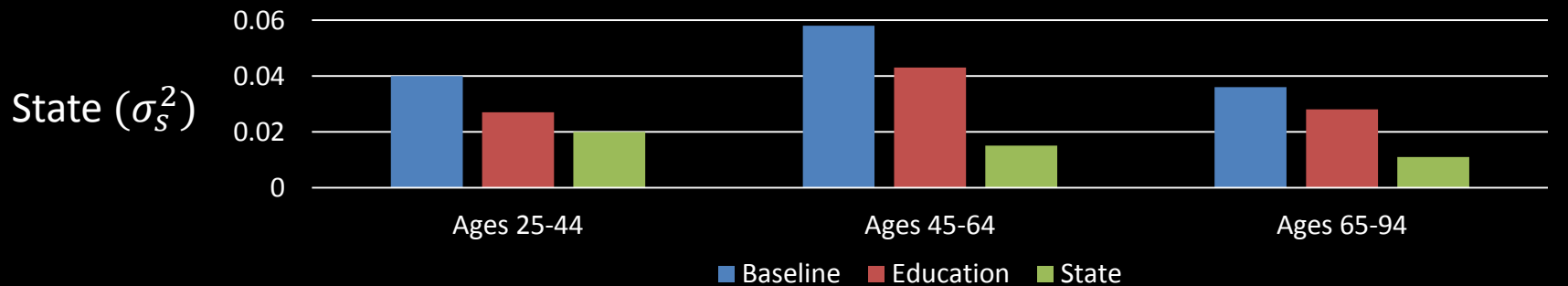
*State sales tax on pack of cigarettes*

*Gini coefficient of income inequality*

*Medicaid program score*

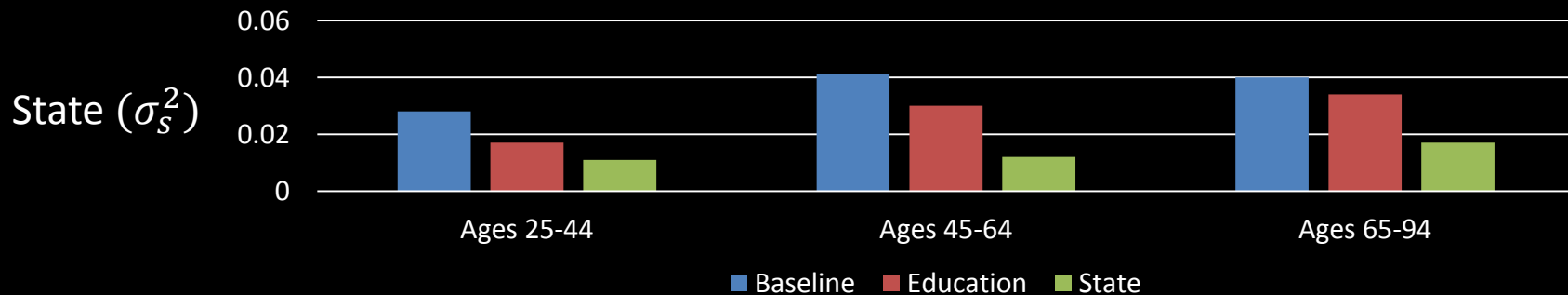
# Women's Odds of Having a Disability by Age Group <sup>11 of 13</sup>

	Ages 25-44			Ages 45-64			Ages 65-94		
<b>Composition</b>									
Age, Race	✓	✓	✓	✓	✓	✓	✓	✓	✓
Education		0.80***	0.80***		0.83***	0.83***		0.90***	0.90***
<b>Context</b>									
Gross state product			0.95*			0.94**			0.97*
Income inequality			1.06*			1.10***			1.06***
Years with EITC			1.03			1.01			0.96*
Cig tax per pack			1.00			0.96†			0.98
Medicaid score			1.00			0.98			0.99
Local ( $\sigma_l^2$ )	0.101	0.059	0.059	0.107	0.068	0.068	0.034	0.024	0.024
State ( $\sigma_s^2$ )	0.040	0.027	0.020	0.058	0.043	0.015	0.036	0.028	0.011



# Men's Odds of Having a Disability by Age Group

	Ages 25-44			Ages 45-64			Ages 65-94		
<b>Composition</b>									
Age, Race	✓	✓	✓	✓	✓	✓	✓	✓	✓
Education		0.81***	0.81***		0.83***	0.83***		0.91***	0.91***
<b>Context</b>									
Gross state product			0.94**			0.94**			0.95*
Income inequality			1.04*			1.06**			1.01
Years with EITC			0.98			0.98			0.96†
Cig tax per pack			0.99			0.98			0.98
Medicaid score			1.03			0.98			0.98
Local ( $\sigma_l^2$ )	0.109	0.069	0.069	0.106	0.062	0.062	0.042	0.022	0.022
State ( $\sigma_s^2$ )	0.028	0.017	0.011	0.041	0.030	0.012	0.040	0.034	0.017



# Conclusions

Adult disability prevalence varies markedly across U.S. states

Among state and local sources of variation in adult disability, states account for  $\frac{1}{4}$  to  $\frac{1}{2}$

Several state contexts are important, with some differences by gender & age