



Presentation to the Pennsylvania Senate State Government Committee

Wendy Underhill, Director, Elections and Redistricting

August 4, 2021

How NCSL Strengthens Legislatures



Policy Research

NCSL provides trusted, nonpartisan policy research and analysis



Connections

NCSL links legislators and staff with each other and with experts



Training

NCSL delivers training tailored specifically for legislators and staff



State Voice in D.C.

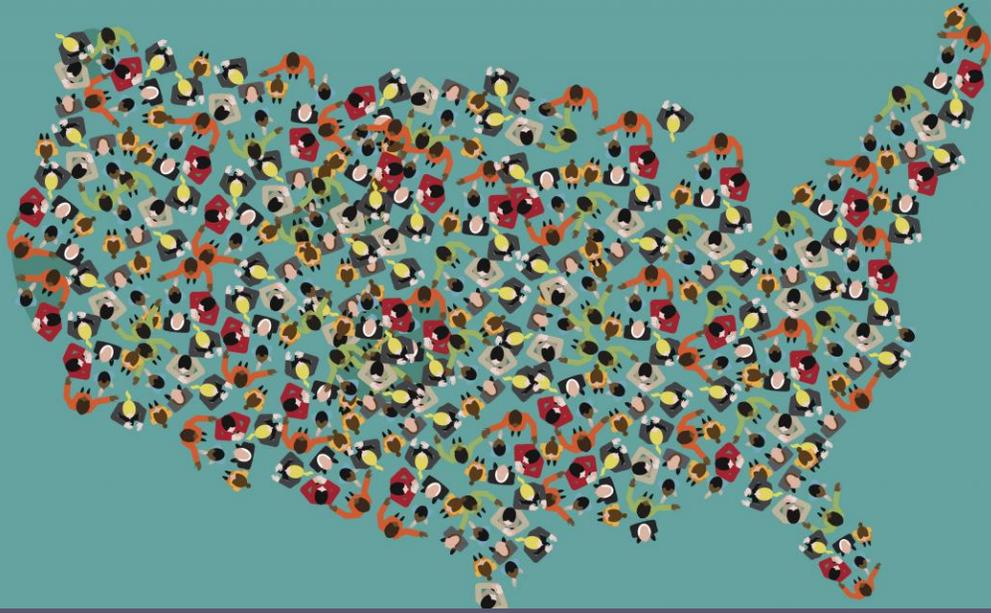
NCSL represents and advocates on behalf of states on Capitol Hill



Meetings

NCSL meetings facilitate information exchange and policy discussions

2020 U.S. CENSUS



The Census Matters



NATIONAL CONFERENCE OF STATE LEGISLATURES



Funding

\$39.2 billion in federal funds distributed to Pennsylvania annually



Apportionment

Pennsylvania's voice in Congress



Redistricting

Fulfilling "One Person, One Vote"



Policymaking

Crafting policies for the people of Pennsylvania

Disclosure avoidance

- Federal statutes require the protection of respondents' information*
- The previous system proved to be breakable
- Any system to protect privacy reduces accuracy and usability

**There's a federal requirement to provide population data at the block level too*



Data Suppression

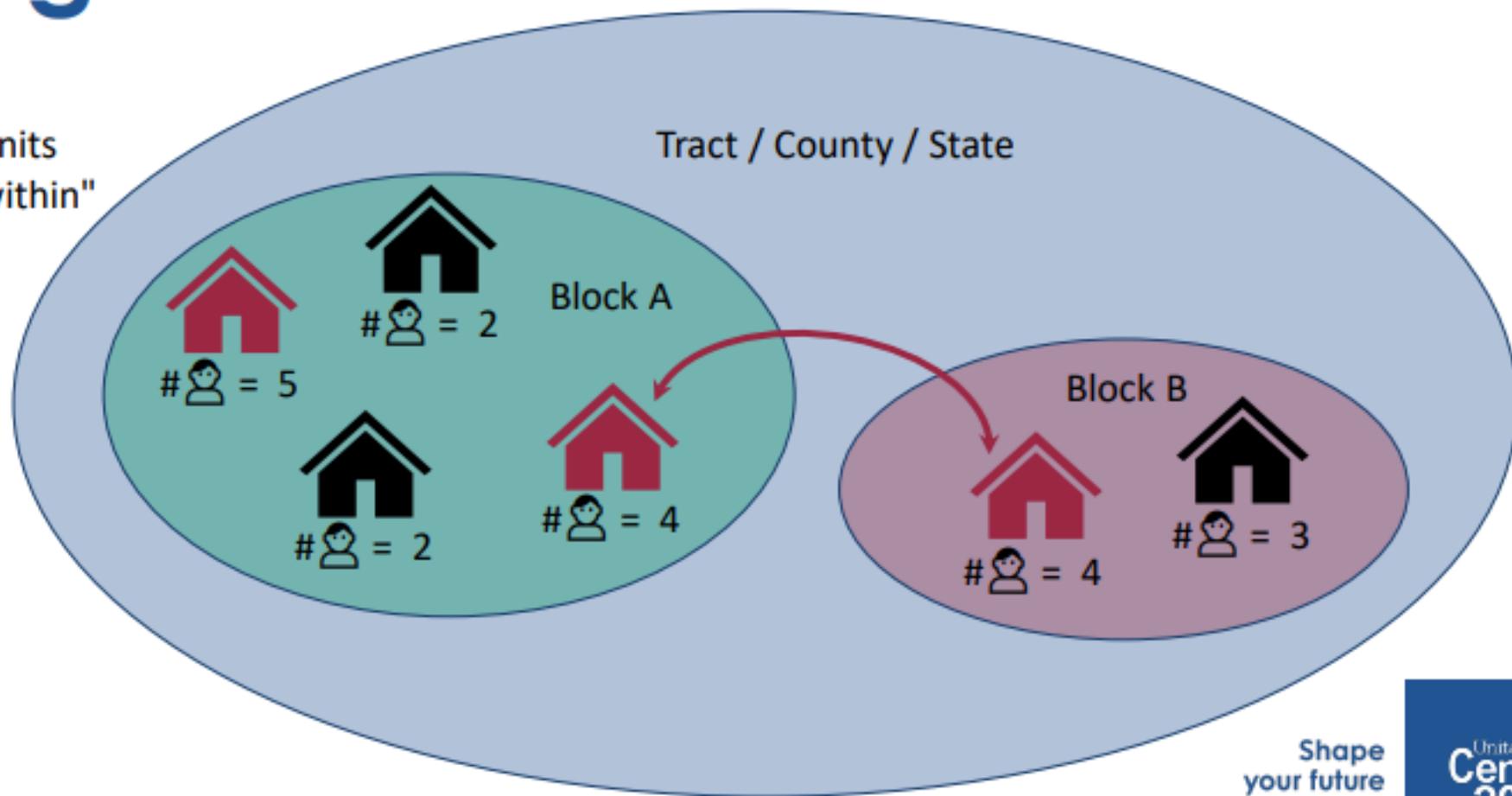
8	18	13	2	15
42	1	3	16	18
4	14	15	6	3
24	18	6	1	3
14	4	8	2	3

8	18	13	2	15
42	S	3	16	18
4	14	15	6	3
24	18	6	S	3
14	4	8	S	3

- Data that could expose personal information is simply not provided
- Used in 1980 for individual cells and for whole tables

Swapping Primer

1. Determine key to match units
2. Choose "between" and "within" geographies
3. Determine units to swap
4. Select swap rate
5. Find swap pairs



Noise

Inserting error to increase uncertainty.

14	41	50	58	65
15	24	26	30	25
52	53	66	47	51
68	6	44	17	32
38	26	33	42	64



13	41	51	58	65
15	24	25	30	24
51	54	66	48	51
68	6	44	16	32
38	25	33	42	65

Using differential privacy to protect data means...

- Only state total population will be reported without “noise”
- Distortions in rural areas are likely to be greater than in urban areas
- Distortions in small racial/ethnic groups are likely to be larger than in others

Opinions Differ

Sam Wang, Princeton University

- “The consequences of adding noise are highly dependent on the level of analysis, i.e. block, precinct or district.”
- “Differential privacy does not affect precinct-level polarization analysis.”



June 4, 2021

<https://drive.google.com/file/d/1DTF2NY2qhY6E-JmJi2yg2TFoSI59u1gD/view>



“Instead of looking for precision in an individual block, we strongly encourage data users to aggregate, or group, blocks together. As blocks are grouped together, the fuzziness disappears. And when you step back with more blocks in view, the details add together and make a sharp picture.”

Dr. Ron Jarmin, Acting Director, U.S. Census Bureau

July 28, 2021

https://www.census.gov/newsroom/blogs/director/2021/07/redistricting-data.html?utm_campaign=20210728msc20s2ccnwsrs&utm_medium=email&utm_source=govdelivery

Kosuke Imai and others, Harvard

“We demonstrate that the injected noise makes it impossible for states to accurately comply with the *One Person, One Vote* principle.”



The Impact of the U.S. Census Disclosure
Avoidance System on Redistricting and Voting
Rights Analysis

May 28, 2021

<https://arxiv.org/abs/2105.14197>



“DP methodology creates serious concerns—too many improbable outcomes and impossible, small area/population concerns.”

“Greater impact to small areas – areas with fewer other resources. Blocks are noisy. Greater impacts to small groups – race and ethnicity, age.”

Elizabeth Garner, Colorado State Demographer

July 2021

https://www.ncsl.org/Portals/1/Documents/Redistricting/SLC-Seminar/SLC_Census_and_Data_for_Experts_Garner.pdf

Other Data Considerations

Imputation

- If a household didn't respond...
- and no administrative records are available...
- then the number of people and their age and race/ethnicity characteristics are "imputed" from neighboring areas.

Group Quarters

- With people moving at the start of the pandemic, how accurate was the count in group quarters?
 - Dormitories
 - Nursing facilities
 - Military barracks
 - Prisons

Undercounts

- Every decade the census misses some people.
- We will have an estimate of this decade's undercount when a post-census evaluation is done.
- Children 0 – 5 were undercounted last decade by almost 5%.

Census Lawsuits This Cycle

Every decade there are census-related lawsuits; this decade there are likely to be more.



Ohio

On the ground the Census Bureau hasn't met its statutory deadlines (settled)



Alabama

Missed deadlines plus it alleges that the use of differential privacy is unconstitutional (dismissed, pending appeal)



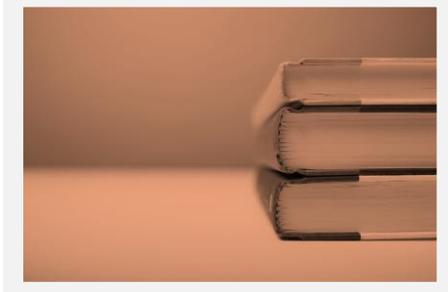
National

Challenging the collection of group quarters data



National

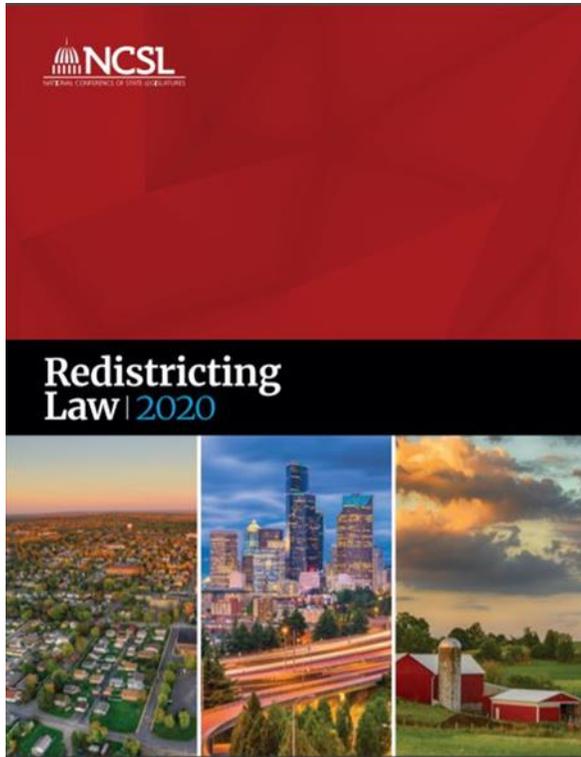
Over the plan to use "synthetic data" for the American Community Survey



Illinois

Two separate lawsuits challenging state's use of alternative data for redistricting (GOP; MALDEF)

Questions? Reach Out Anytime!



Wendy Underhill

303-856-1379

Wendy.Underhill@NCSL.org

NCSL Resources

Differential Privacy for Census Data, Explained

<https://www.ncsl.org/research/redistricting/differential-privacy-for-census-data-explained.aspx>

Census and Redistricting Data FAQs

<https://www.ncsl.org/research/redistricting/census-and-redistricting-data-faqs.aspx>