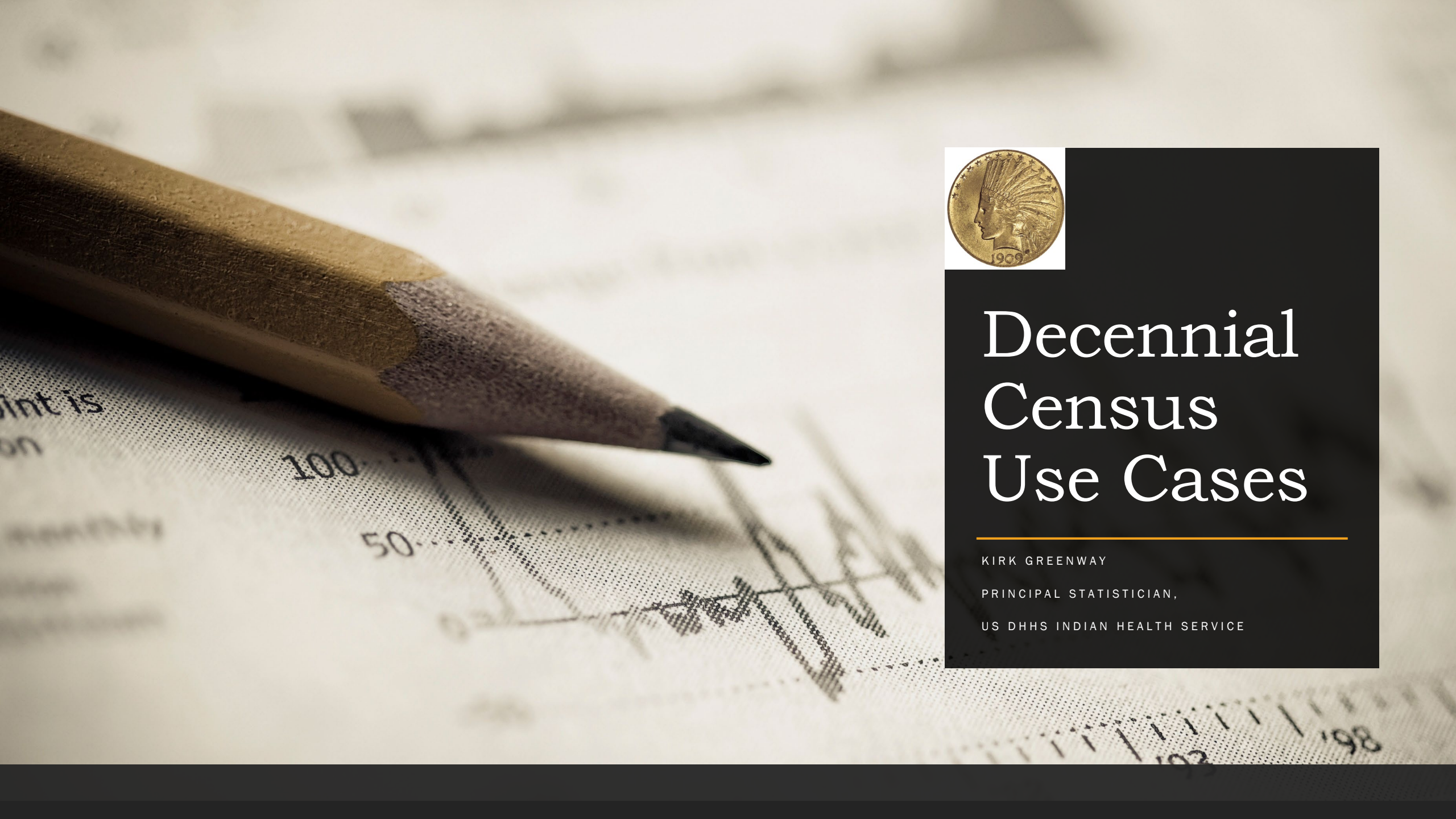

Decennial Census Use Cases

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Decennial Census (DC) comments in summary

Constitutionally driven (Article I, Section 8, Clause 3;

[The Congress shall have Power . . .] To regulate Commerce with foreign Nations, and among the several States, and with the Indian Tribes.... ; The U.S. Constitution empowers the Congress to carry out the census in "such manner as they shall by Law direct" (Article I, Section 2). Legal issues have later clarified the ability of the DC to go beyond a simple count of persons

Small sample effects on population subgroups such as multiracial AI/AN found in both DC and 5-year American Community Survey (ACS) measurements

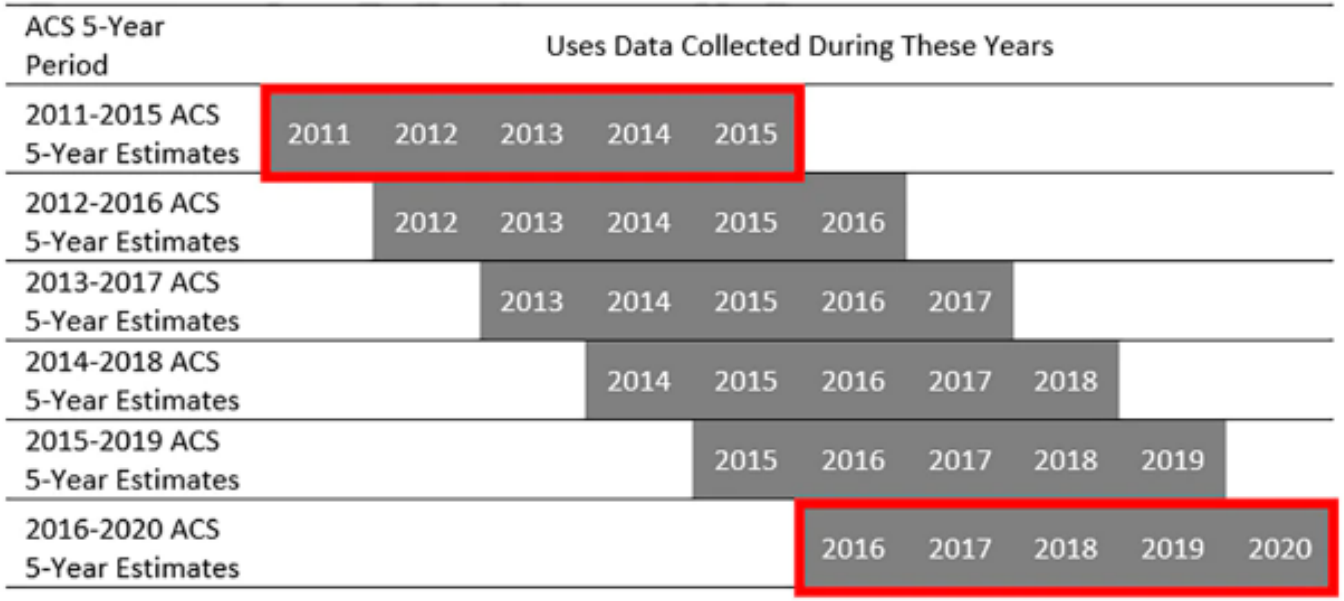
Enumeration and nonresponse may be viable strategies for discerning if joining to the AI/AN from non-Hispanic white populations have any grounding in a definable social phenomenon

Cyclic and seasonal natural and cultural phenomena supporting April 1 census reference date

DC can get “unlucky” when looking at subsamples of smaller population subgroups; ACS is less so by its nature

Smaller samples such as those of under 1 percent of the US population are still best measured in the pooled 5-year files of the American Community Survey, and they should be secularly compared in non overlapping 5-year estimates representing a measure of the change over time between two distinct periods. https://www.census.gov/newsroom/blogs/random-samplings/2022/03/period-estimates-american-community-survey.html

Figure 2b: Example Highlighting Nonoverlapping ACS 5-Year Estimates



Nonresponse, Multiethnic categorization

2009 Population Estimates Program (PEP)

https://www.census.gov/content/dam/Census/library/working-papers/2012/acs/2012_Griffin_04.pdf

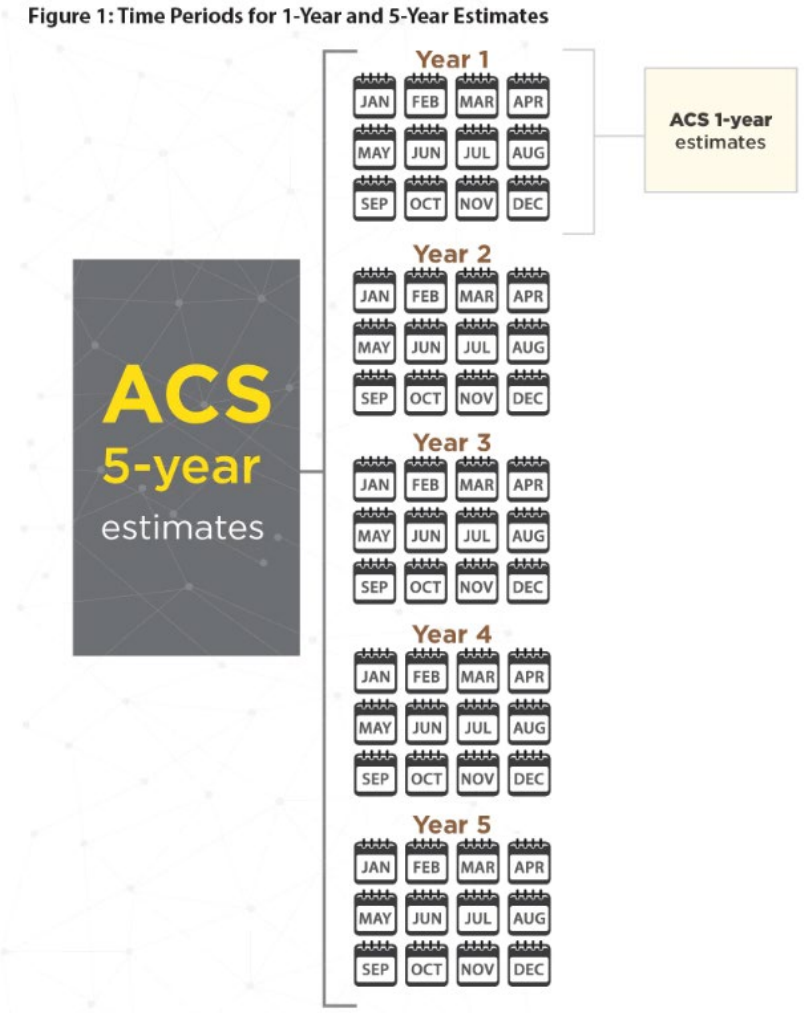
Inclusion rates by ethnicity are low for Non-Hispanic AI/AN while increasing with successive efforts. One possibility may be that there are many “multiracial” [multiethnic?] categories which are part of the individual respondents’ identity as they see it.

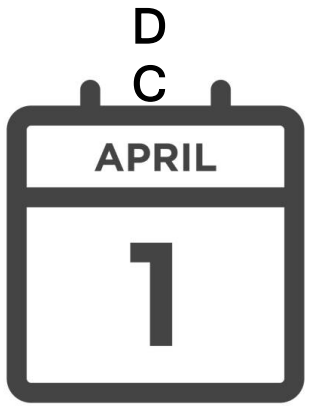
This category is especially important for a denominator for epidemiological studies. Too high relative to reality, and the rate is lower; too low, rate is higher. Upcoding of Hispanic ethnicity by CDC to race status amounts in information loss of Hispanic paradoxical AI/AN Indian Health Service depends on using Bridged Race Population (a population that NCHS contracts manufacture from the Census) so that its rates of mortality compared to NCHS All Races are as dead center as we can produce them for health disparities calculations. We also use the Bridged Race to estimate resource needs for all AI/AN.

Table 1. Inclusion Rates by Race and Ethnicity – 2009 ACS

Group	2009 Inclusion Rate	
	Rate	MOE
Total Population	90.9	0.2
Hispanic	89.2	0.4
Non-Hispanic, White Alone	92.1	0.2
Non-Hispanic, Black or African American Alone	85.0	0.4
Non-Hispanic, American Indian and Alaska Native	72.8	1.6
Non-Hispanic, Asian Alone	93.4	0.9
Non-Hispanic, Native Hawaiian and Other Pacific	91.8	4.3
Non-Hispanic, Two or More Races	107.6	1.2

Point versus Period Estimation

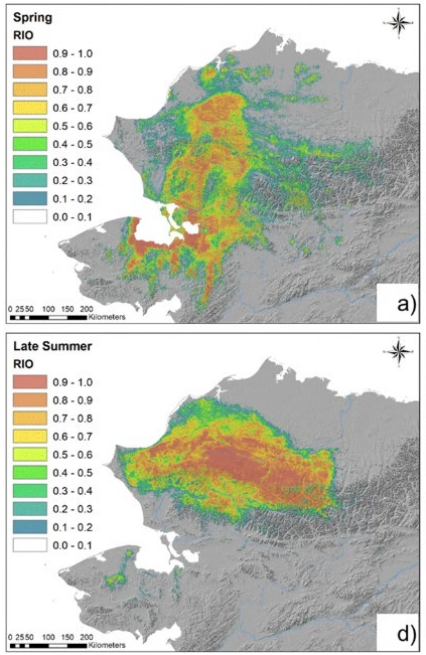




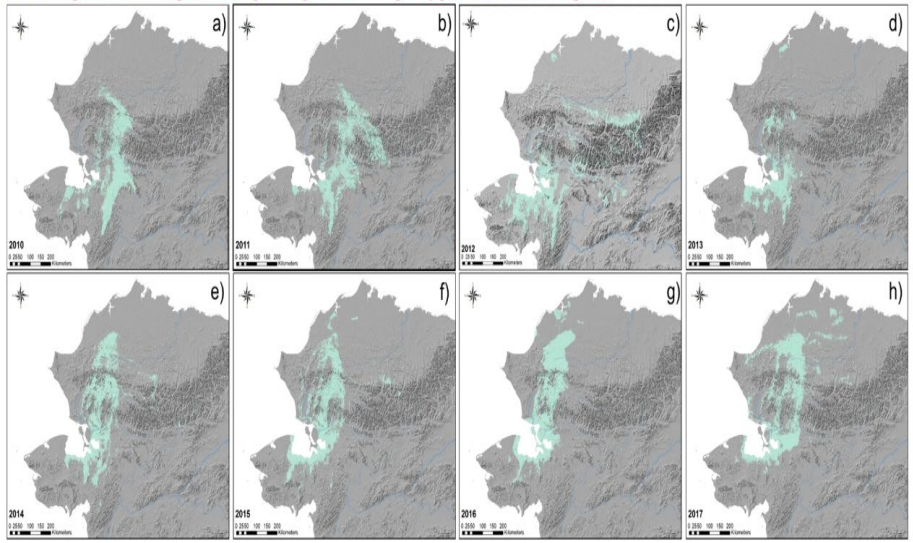
ACS produces five-year estimates as well as single year estimates. **DC produces an estimate with a reference date of April 1** and where one was resident on that day. ACS has complex residence rules designed to circumvent the DC difficulty of being at a place on a certain date. The data for the 5 years are pooled together, weighted and processed as a whole dataset to take advantage of the larger number of records. The 5-year estimate can equate to the midpoint of the time series in certain specific cases but is not always the case. The year in each case is January 1 to December 31 or what is commonly referred to as the calendar year. Now, what if your population subgroup happens to habitually not "be there" on April 1 when the enumerator shows up. **Everyone who is currently living or staying at an address for more than 2 months is considered a current resident of that address in the ACS**. It may be even when the Census obtains third party data sources like the administrative records of who works in the Bakken oil fields of North Dakota or Midland, TX, that they do not consider their trailer or RV near the oil field a home. **It is equally possible in some subgroups that the residence criterion is not met due to intermittent itinerant work or residence for cultural reasons.**

Puskita [Creek] “fasting”
or “Green Corn Ceremony”
Depiction by Caitlin in 1861
of a Nebraska Tribe
(7 days, aka “Busk”, late
June to August depending
on local conditions

If you are a Native hunting guide or wandering Tribe member tied to Alaskan Caribou, your residence might be anywhere near Kotzebue, Alaska for a six-month interval from Spring to Late Summer. A point estimate might be revealing or misleading depending on if the respondent were available and what was asked



From: Using seasonal landscape models to predict space use and migratory patterns of an arctic ungulate



Modeled distributions of Western Arctic Herd caribou during the spring migration season. Models were developed for each year from 2010 to 2017 (**a**–**h**). Shaded area denotes areas of predicted presence based on respective balanced presence/absence thresholds that maximized both sensitivity and specificity

https://movementecologyjournal.biomedcentral.com/articles/10.1186/s40462-019-0162-8