Data graphics

Assembled by Nicholas G Reich for
Data Analysis and Visualization using R
a SADRI workshop at UMass

11&12 July 2012

http://infographicsnews.blogspot.com/2012/04/titanic-infographics-from-1912.html

Napoleon's March to Moscow,
created by Charles Joseph Minard (1781 – 1870)
http://sunnyspells.files.wordpress.com/2008/01/minardmap1.jpg

American Military Casualties in Iraq — Viewed by soldier's home state. Killed / Wounded. California(466), California(3268), Texas(413), Texas(2980).

60s movies use 'ought to' more: modern ones set then use 'need to'

Usage of 'need to' per usage of 'ought to'
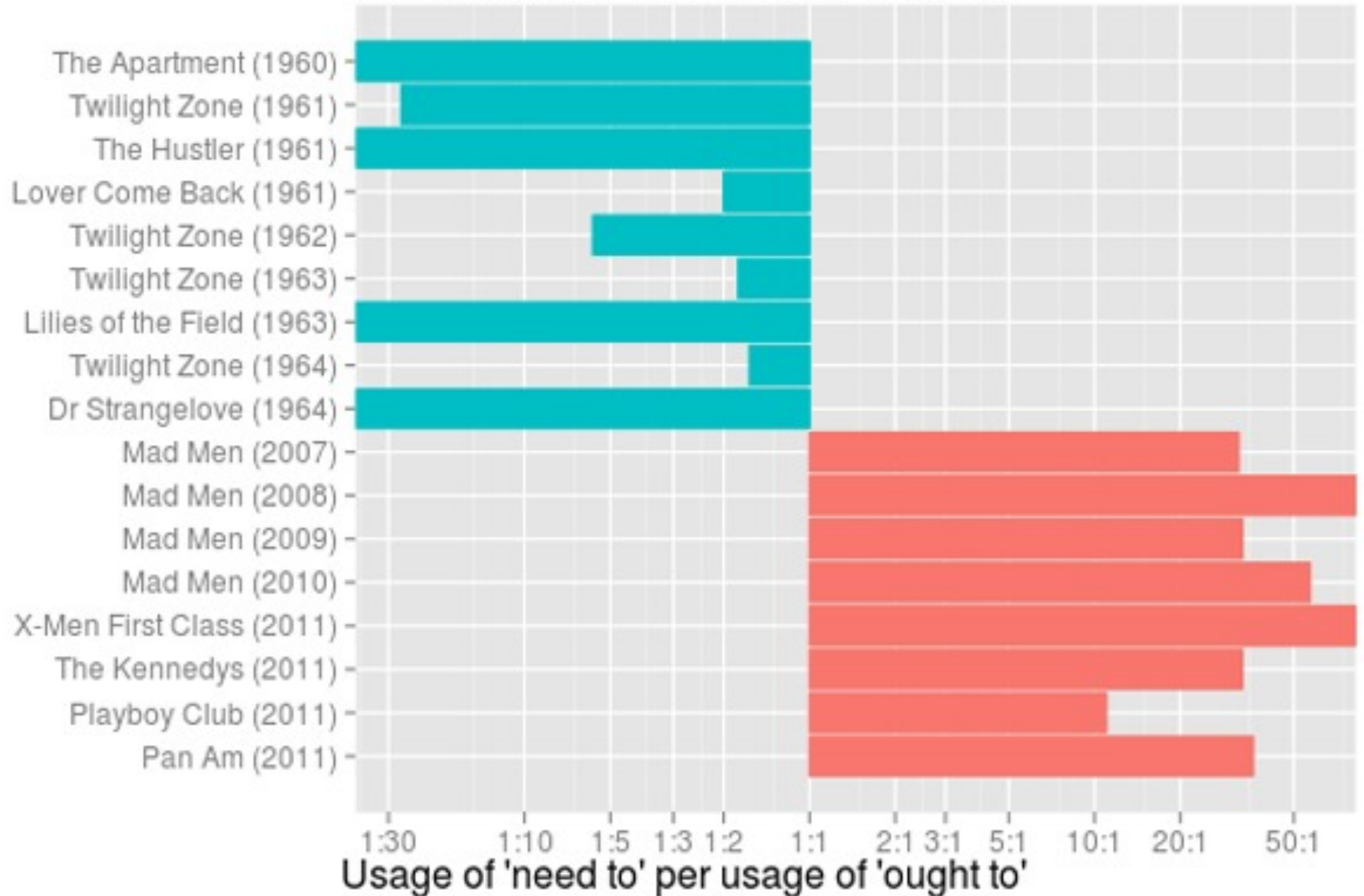
Ten states that will benefit the most

The number of uninsured adults earning less than 133 percent of the poverty line is expected to decrease by:

	State	% reduced	
1.	**Kentucky**	**57.1%**	
2.	Oregon	56.7%	
3.	West Virginia	56.7%	
4.	South Carolina	56.4%	
5.	Mississippi	54.9%	
6.	Nebraska	53.9%	
7.	Idaho	53.9%	
8.	Alabama	53.2%	
9.	Oklahoma	53.1%	
10.	Wyoming	53.0%	
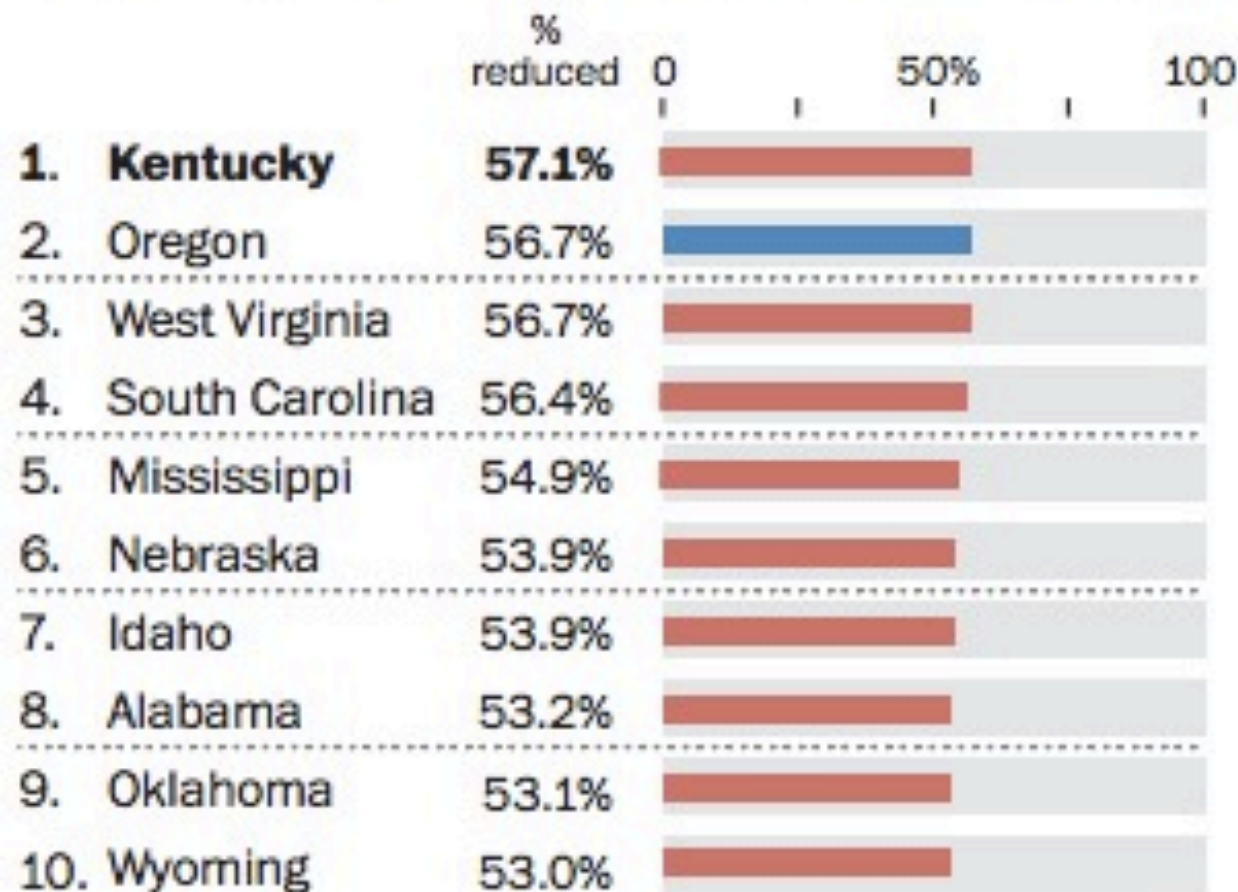
Ten states that will benefit the least

|	State	% reduced	
41.	Iowa	44.1%	
42.	Tennnessee	43.3%	
43.	Illinois	42.5%	
44.	California	41.5%	
45.	Pennsylvania	41.4%	
46.	Delaware	15.9%	
47.	New York	14.8%	
48.	Arizona	13.6%	
49.	Vermont	10.2%	
50.	**Massachusetts**	**10.2%**	
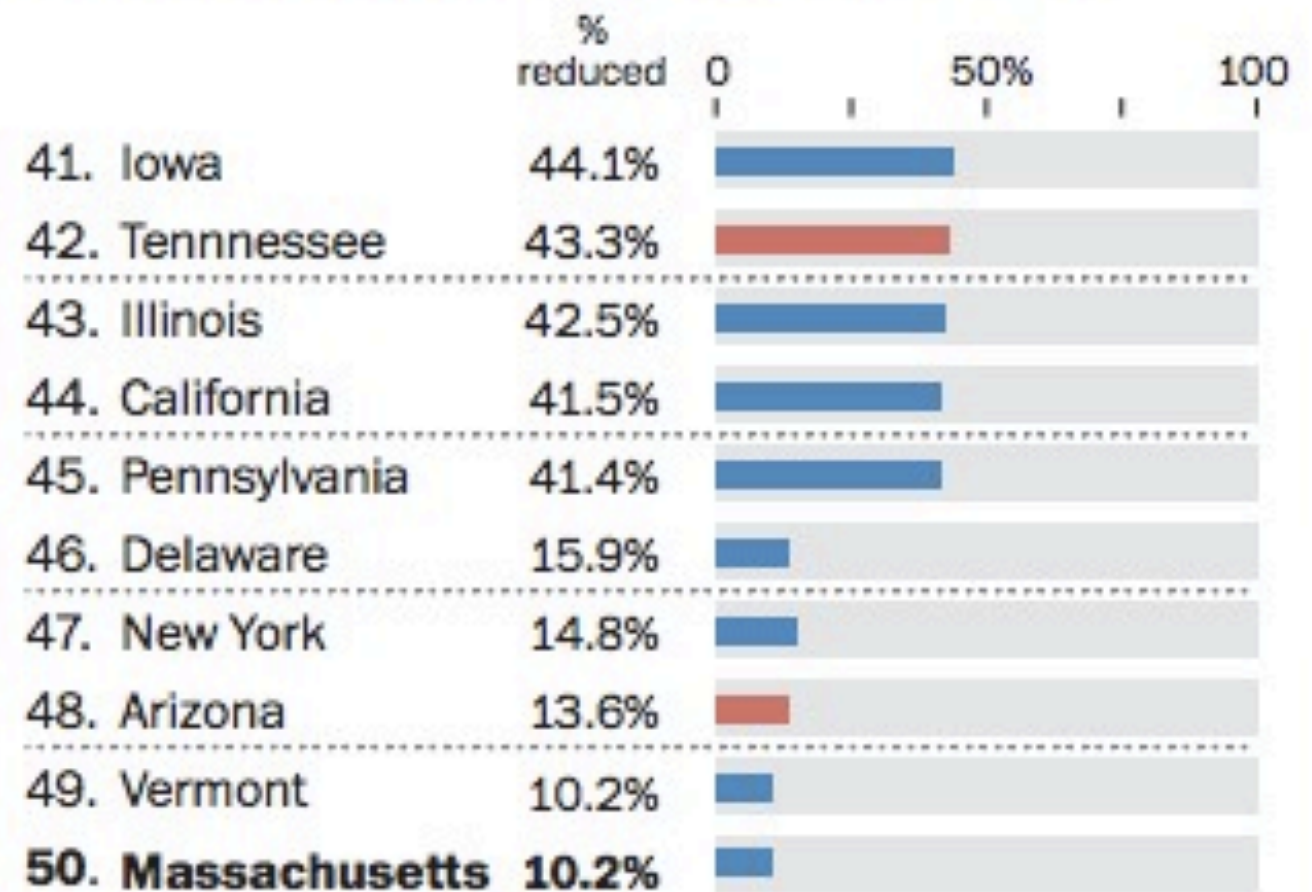
States that Obama won majority vote in 2008 presidential election
States that McCain won

Source: The Henry J. Kaiser Family Foundation, U.S. Department of Health and Human Services

THE WASHINGTON POST

The Affordable Care Act's big giveaway to stingy red states, 7/3/2012 Washington Post
http://www.washingtonpost.com/blogs/ezra-klein/wp/2012/07/03/the-affordable-care-acts-giveaway-to-stingy-red-states
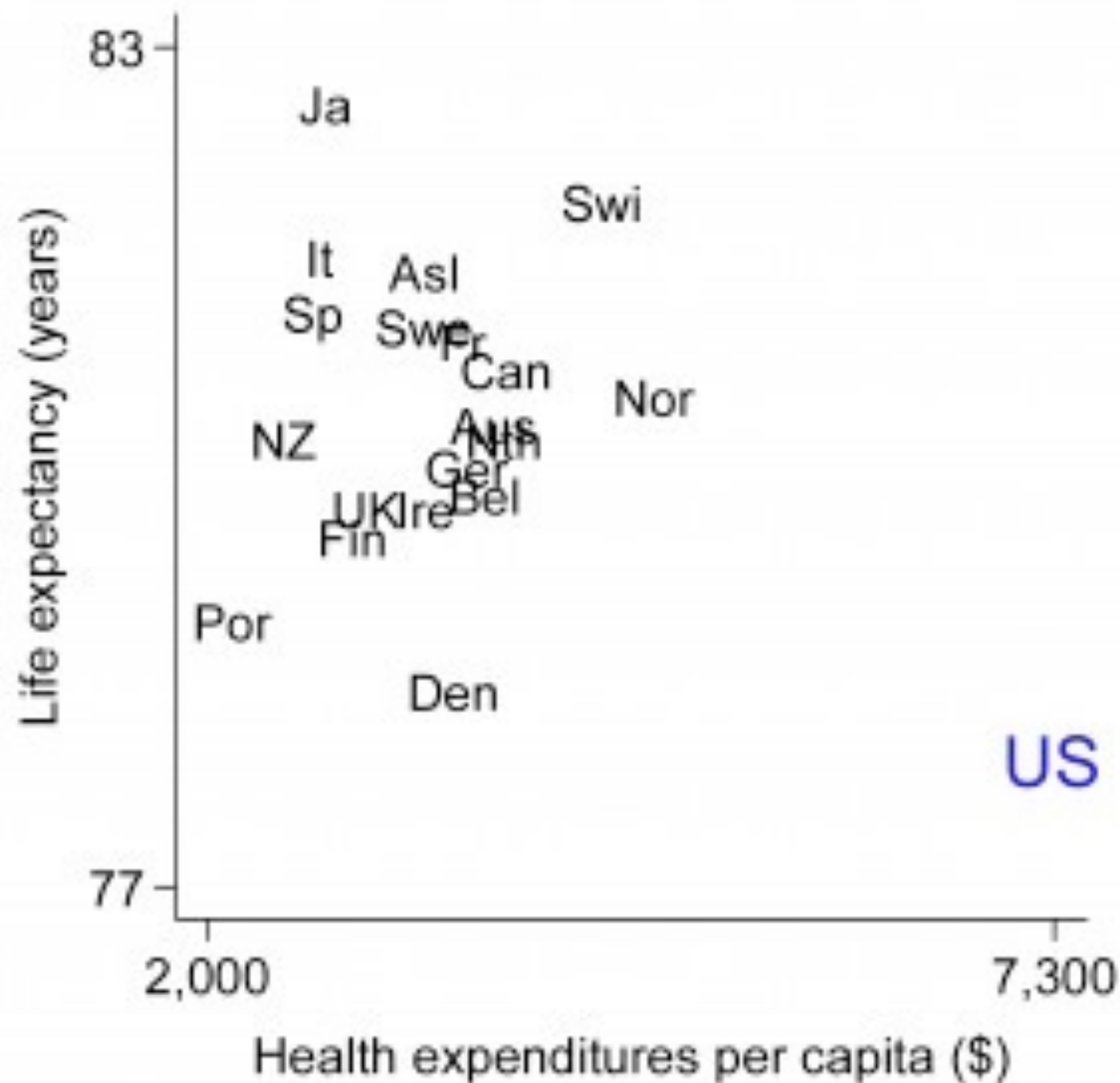
Life expectancy by health expenditures per capita, 2007

Health expenditures are total (public and private), in PPP-converted US dollars. Data source: OECD.

From blog Consider the Evidence by Lane Kenworthy, professor of Soc and Political Sci at UAZ.
http://lanekenworthy.net/2011/07/10/americas-inefficient-health-care-system-another-look/

finance.google.com 3 July 2012

Figure 11: GNH index by gender
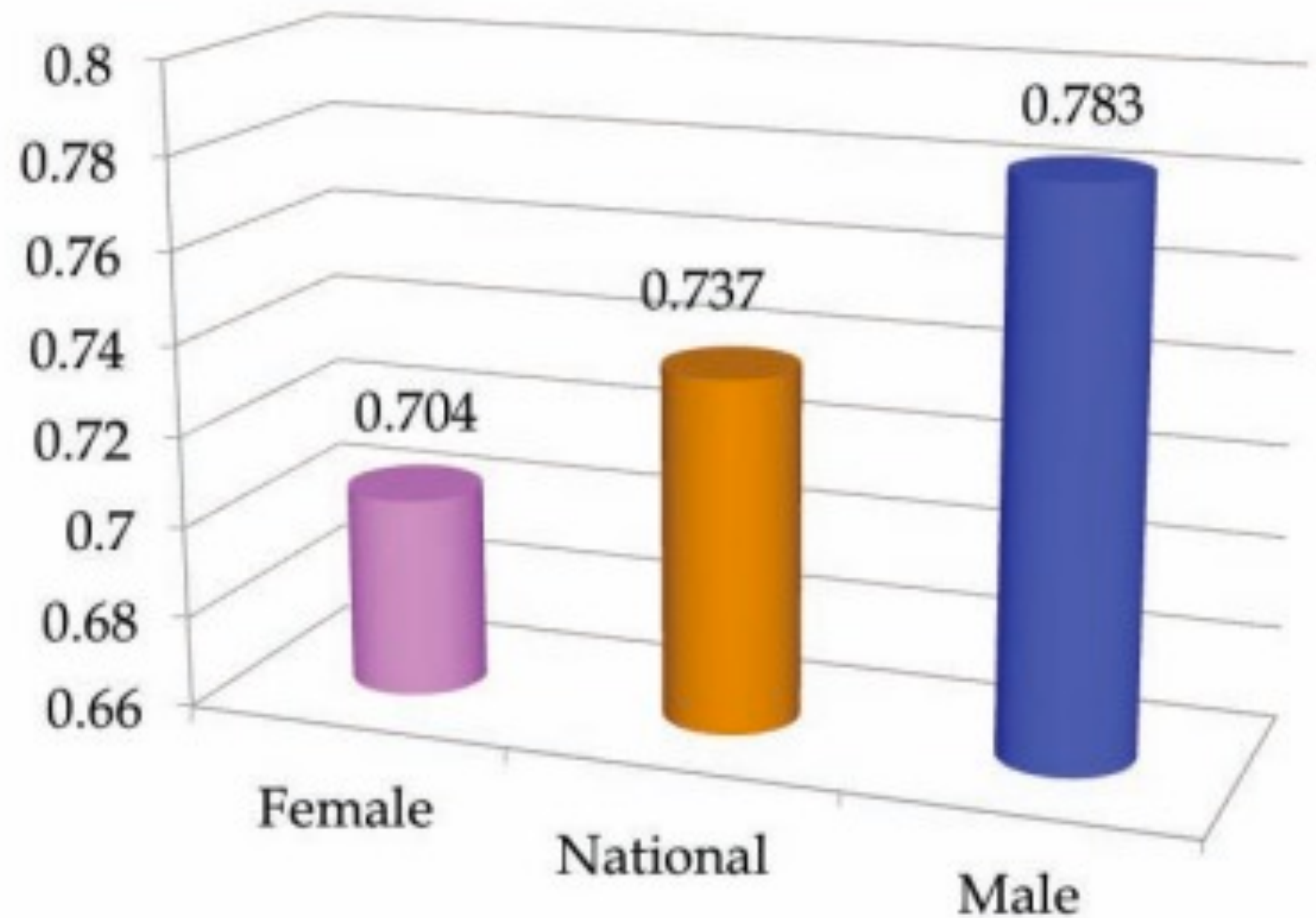
From the World Happiness Report by the United Nations (2012)
http://www.earth.columbia.edu/articles/view/2960
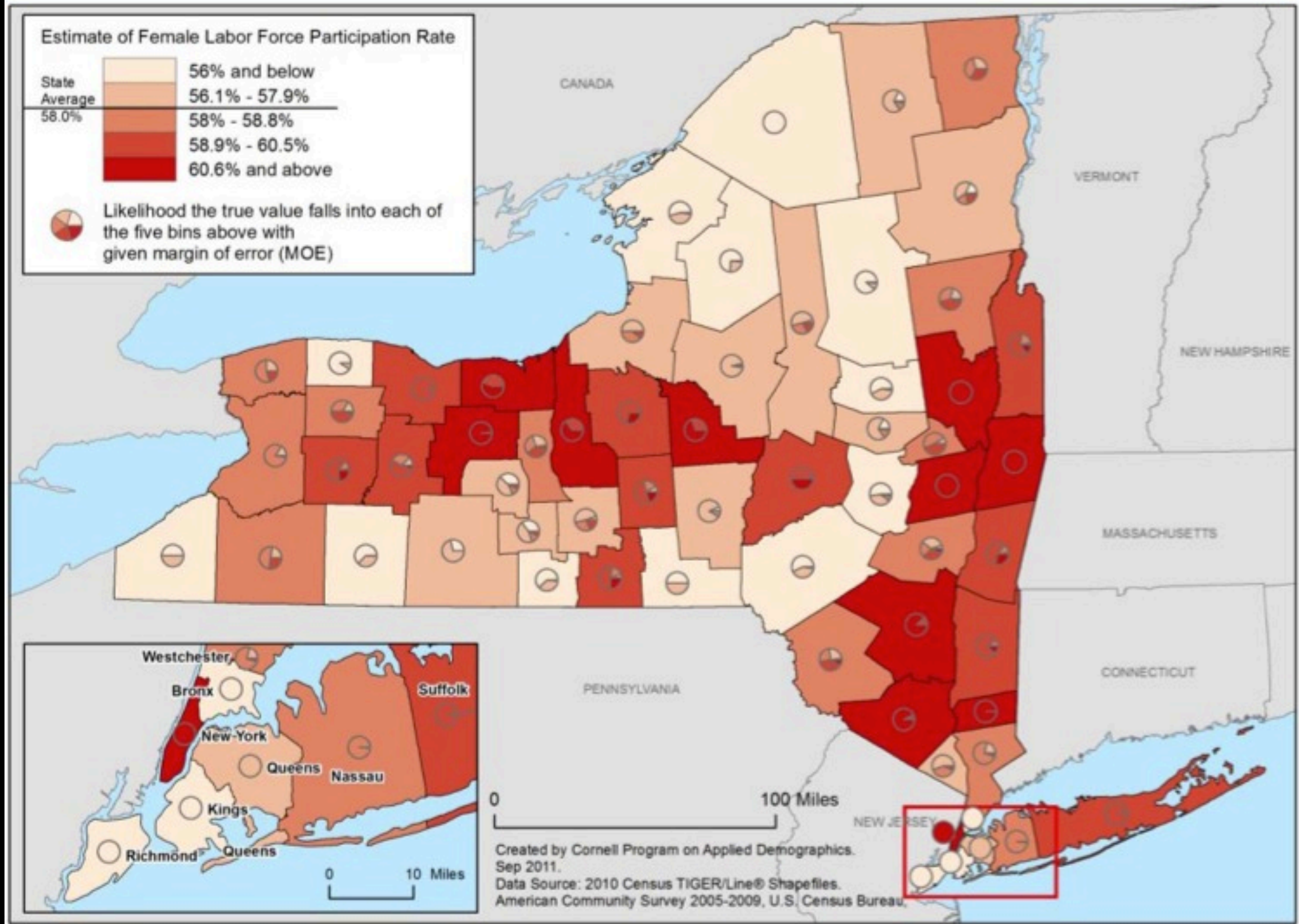
From Alternative Strategies for Mapping ACS Estimates and Error of Estimation
Cornell Population Center Seminar, Ithaca, New York, February 2012
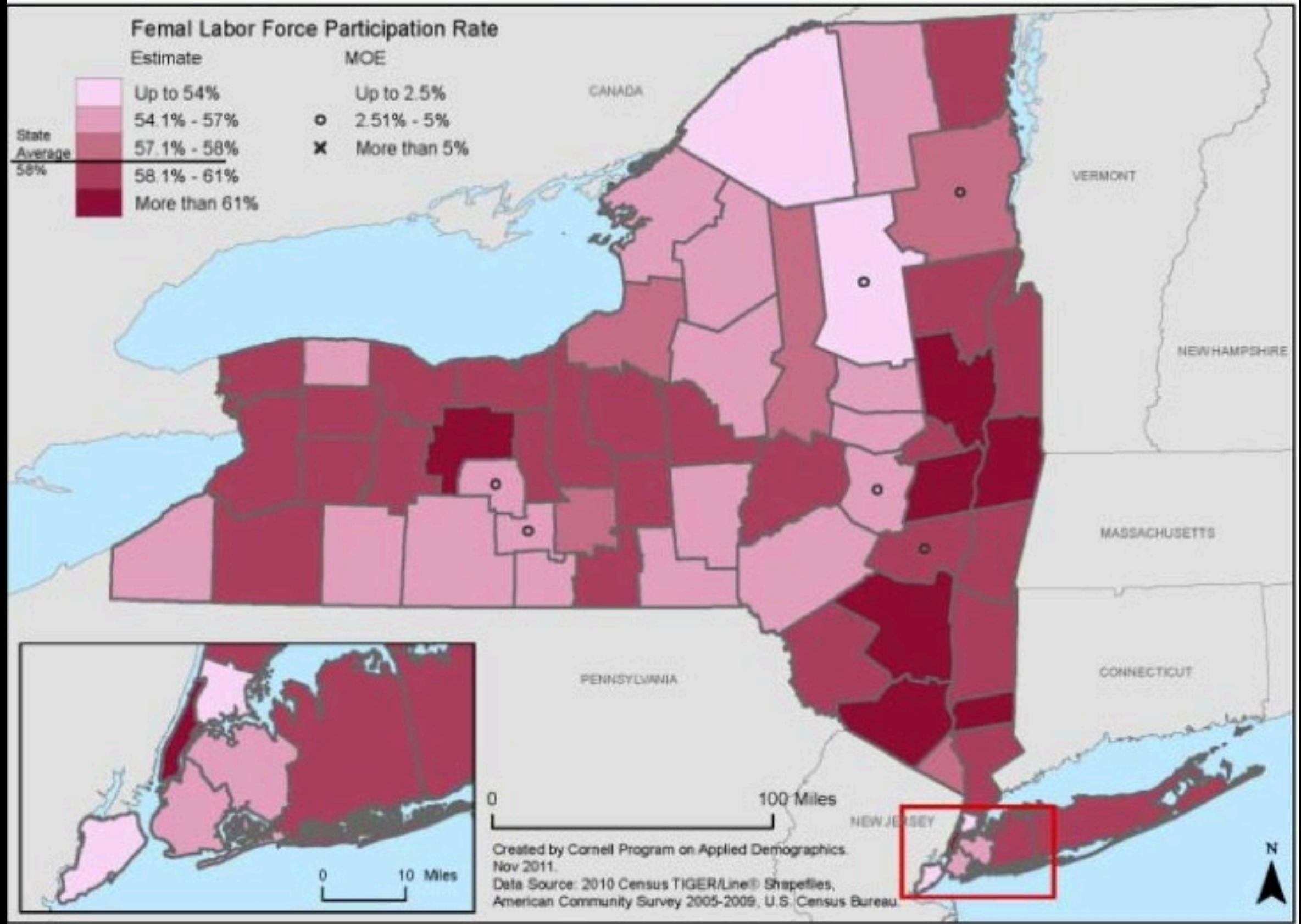
From Alternative Strategies for Mapping ACS Estimates and Error of Estimation
Cornell Population Center Seminar, Ithaca, New York, February 2012
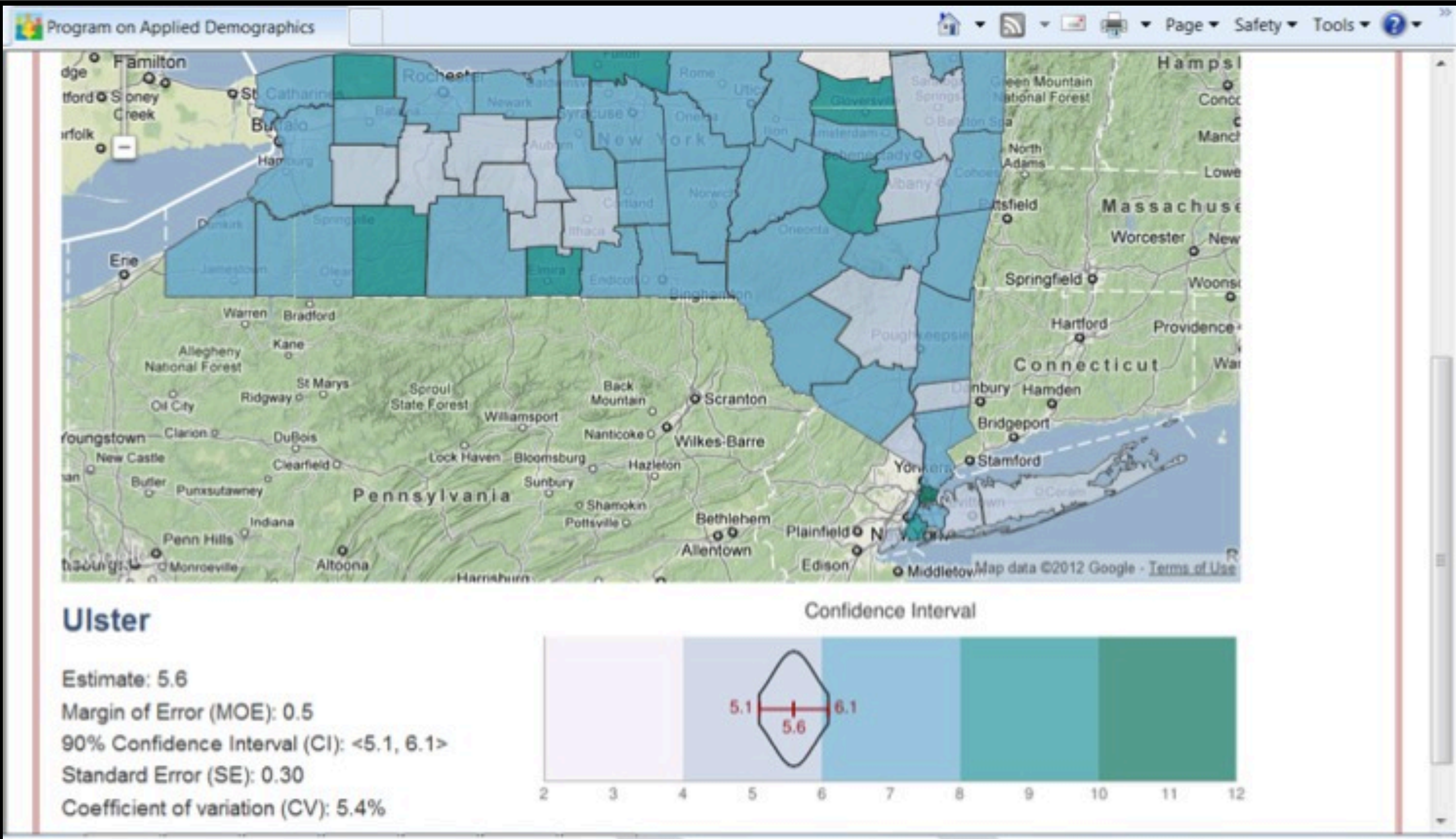
http://pad.human.cornell.edu/papers/annex/
uncertaintymap_fullinfo.cfm

From Alternative Strategies for Mapping ACS Estimates and Error of Estimation
Cornell Population Center Seminar, Ithaca, New York, February 2012

While female life expectancy in the United States improved by one year and eight months between 1999 and 2009, many counties show drops, based on data from the Institute for Health Metrics and Evaluation.

DROP IN LIFE EXPECTANCY

- More than 1.5 years
- More than 1, less than 1.5
- More than 0.5, less than 1
- More than 0, less than 0.5
- No change or improved

BIGGEST DROPS

Madison County in Mississippi and Hughes and Okfuskee Counties in Oklahahoma dropped one year and 11 months in life expectancy, decreasing to 76.7, 77.2 and 77.2 years, respectively. The 2009 national life expectancy for females was 81.3 years.

Source: Institue for Health Metrics and Evaluation | FlowingData, http://flowingdata.com

http://flowingdata.com/2012/05/08/girls-expected-to-live-shorter-lives-in-some-counties/

Monday, January 20, 14
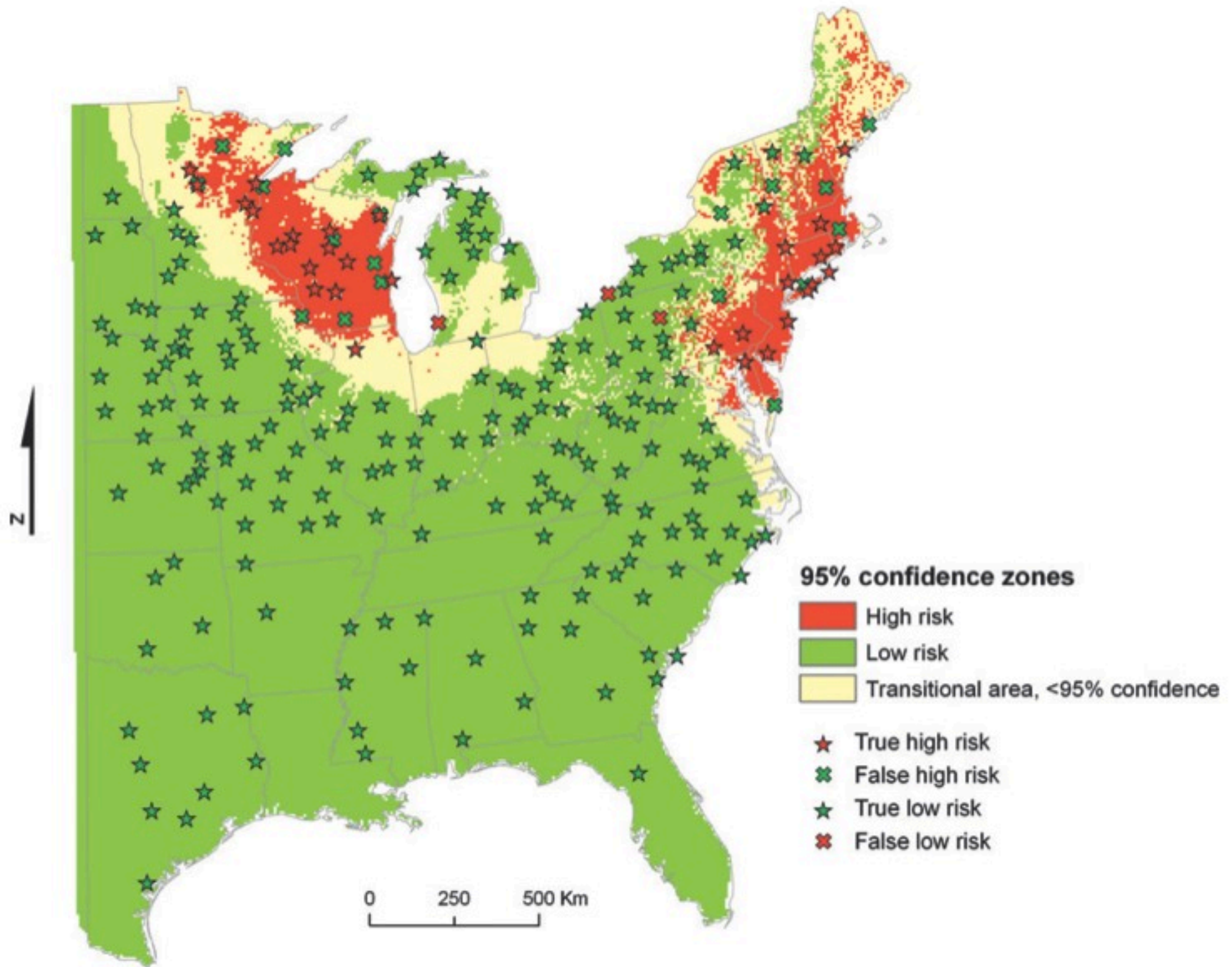
Human Risk of Infection with Borrelia burgdorferi, the Lyme Disease Agent, in Eastern United States.
Diuk-Wasser et al., Am J Trop Med Hyg, 2012.

Figure 1: Distribution, mimicry and phylogenetic relationships of sequenced taxa.

a, Phylogenetic relationship of sequenced species and subspecies in the *melpomene*–silvaniform clade of *Heliconius*. *Heliconius elevatus* falls in the silvaniform clade, but it mimics 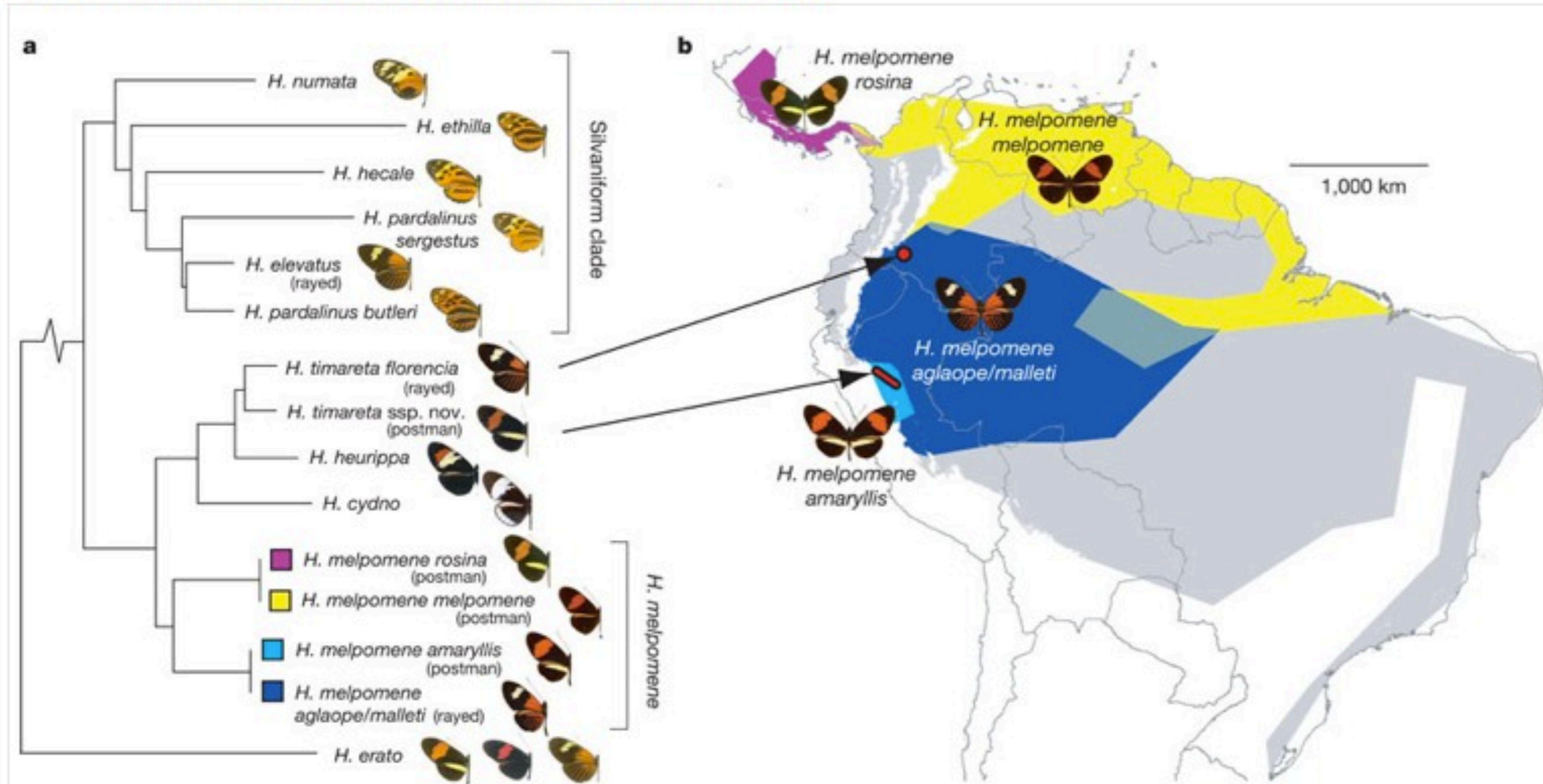colour patterns of *melpomene*–*timareta* clade taxa. Most other silvaniforms mimic unrelated ithomiine butterflies[24]. b, Geographic distribution of postman and rayed *H. melpomene* races studied here (blue, yellow and purple), and the entire distribution of *H. melpomene* (grey). The *H. timareta* races investigated have limited distributions (red) indicated by arrows and mimic sympatric races of *H. melpomene*. *Heliconius elevatus* and the other silvaniform species are distributed widely across the Amazon basin (**Supplementary Information**, section 22).
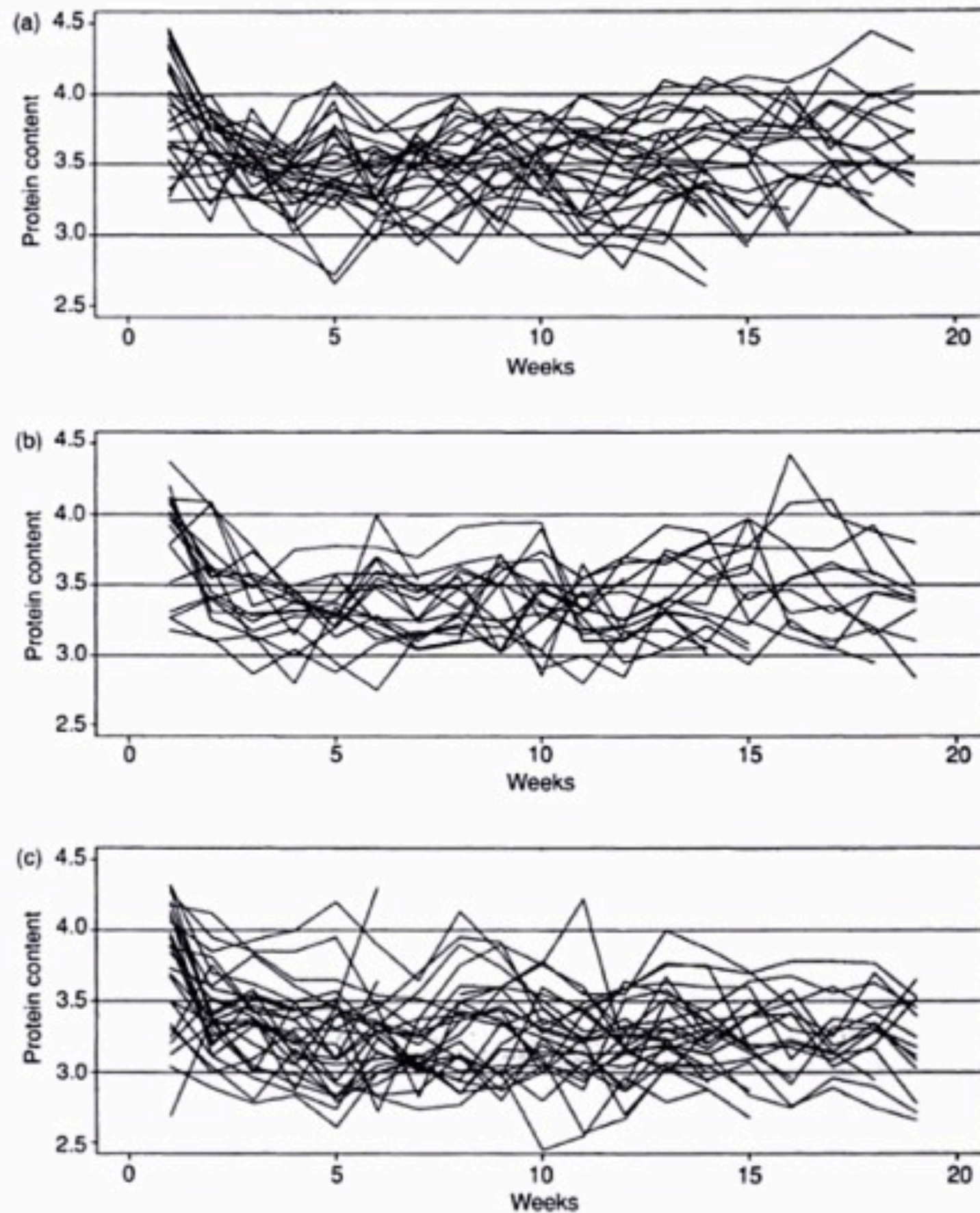
Fig. 1.4. Protein content of milk samples from 79 cows: (a) barley diet (25 cows); (b) mixed diet (27 cows); (c) lupins diet (27 cows).

From Analysis of Longitudinal Data, 2nd Ed. Diggle et al.

Fig. 1.2. Relationship between CD4+ cell numbers and time since seroconversion due to infection with the HIV virus. · : individual counts; ——: sequences of measurements for randomly selected subjects; ....: lowess curve.

From Analysis of Longitudinal Data, 2nd Ed.
Diggle et al.

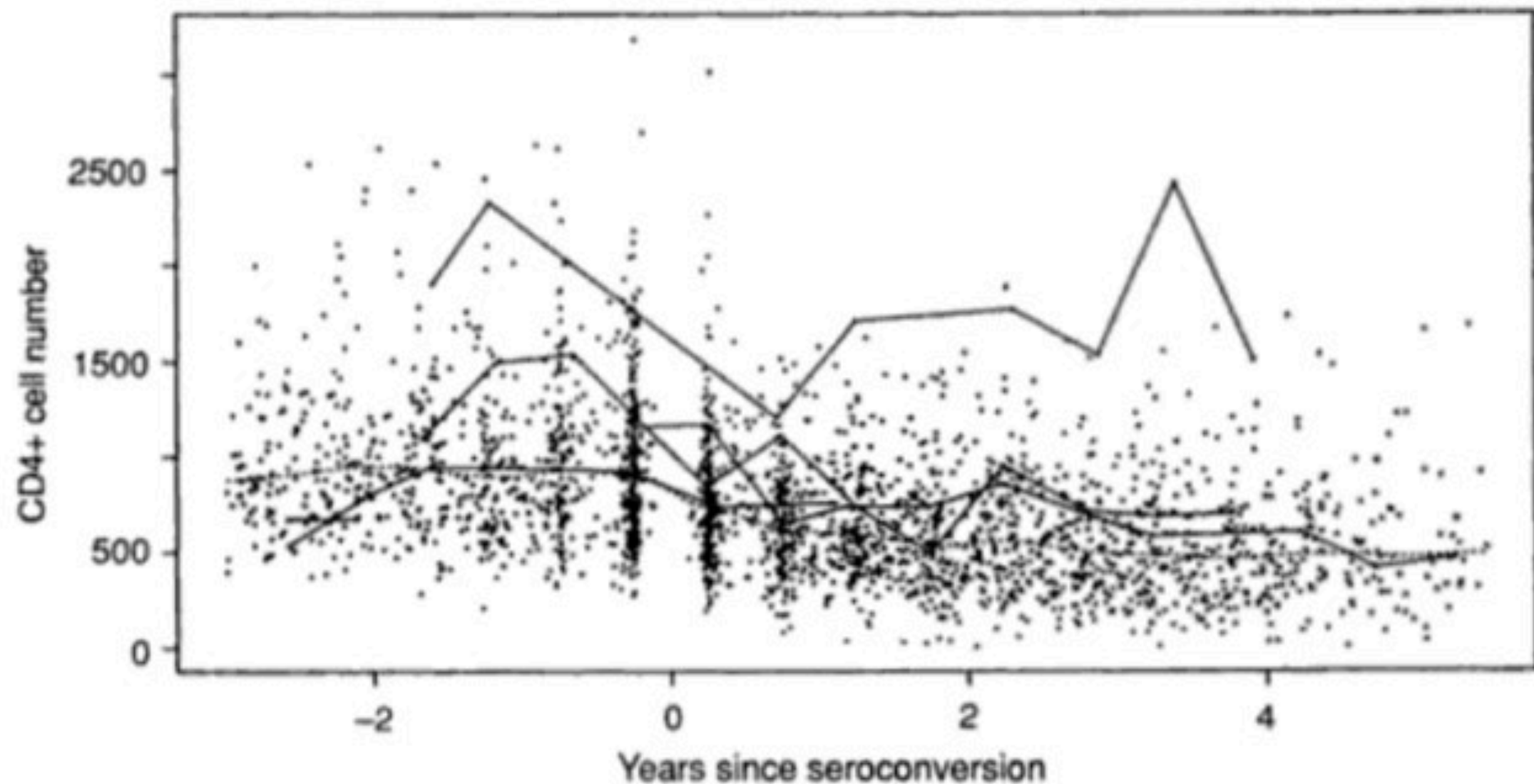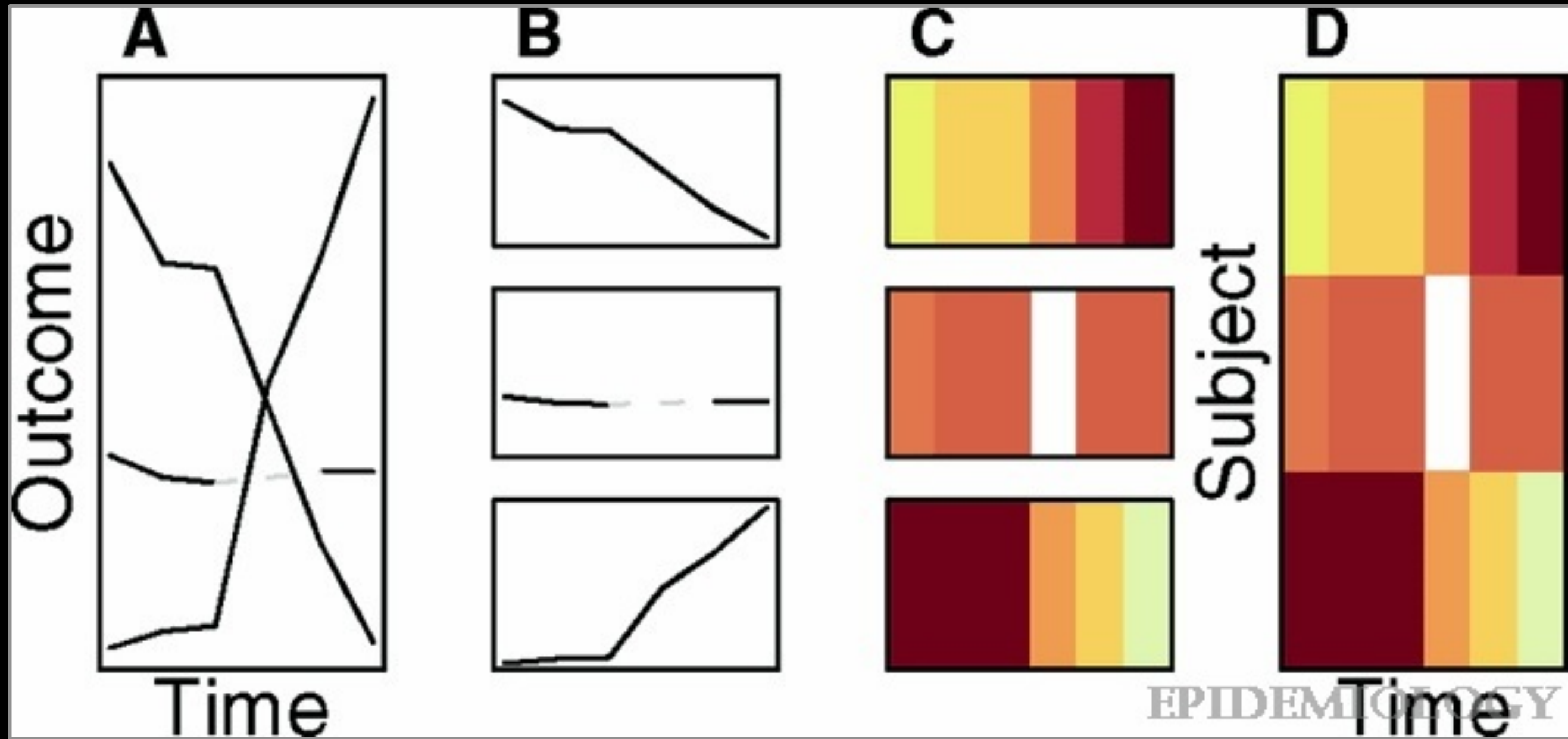FIGURE 1. Lasagna plots as derived from spaghetti plots involve making noodles into layers. From left to right, (A) a spaghetti plot with 3 noodles where trajectories overlap. B, Extracting each noodle representing repeated measures on a subject, (C) a layer is made by letting color represent the outcome. D, Individual layers are then stacked to make a lasagna plot, with no overlapping of subject information.

Swihart, Bruce J.; Caffo, Brian; James, Bryan D.; Strand, Matthew; Schwartz, Brian S.; Punjabi, Naresh M. Epidemiology. 21(5):621-625, September 2010.
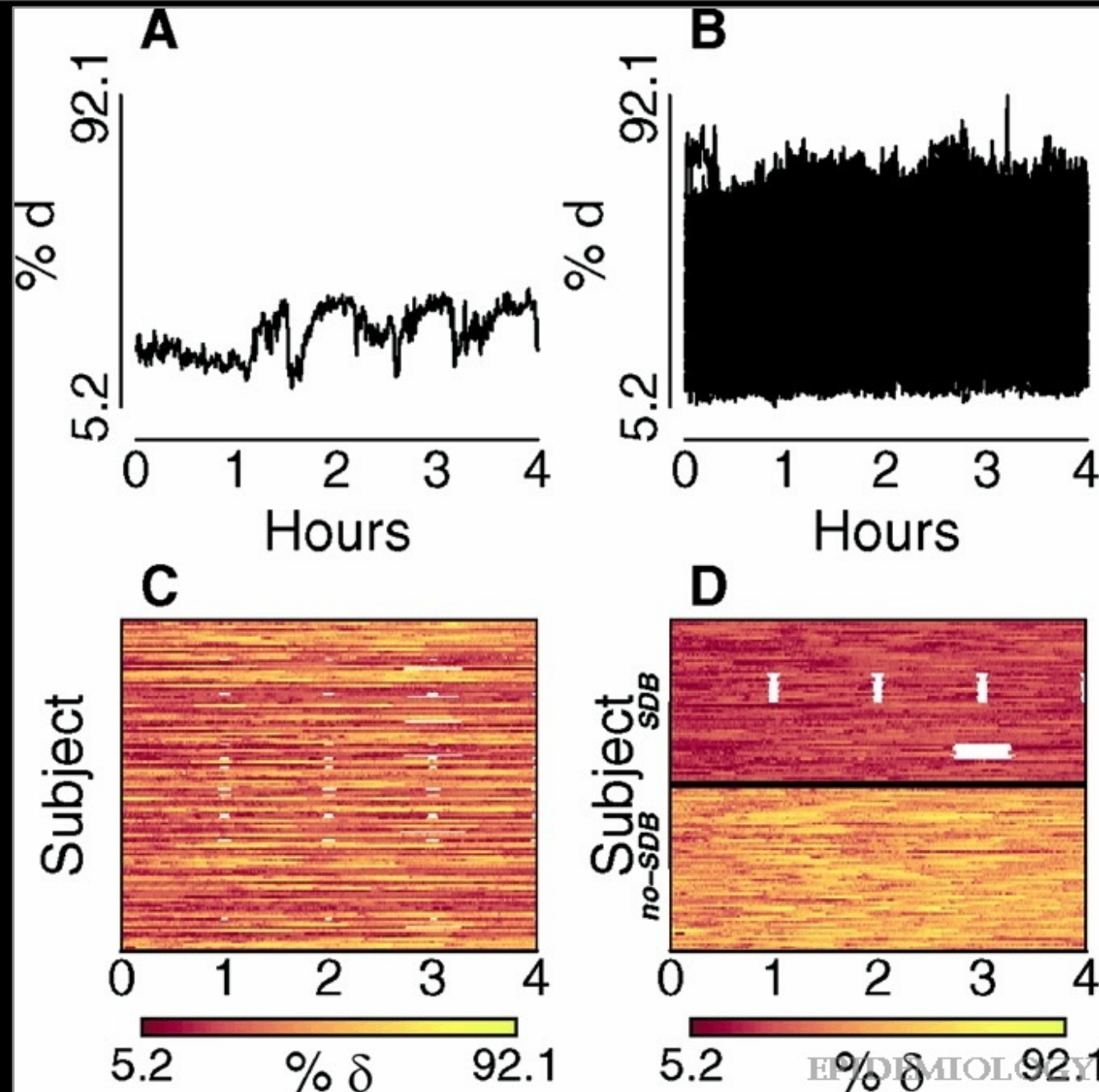
FIGURE 3. Two spaghetti plots and 2 lasagna plots of percent delta EEG power ("% δ") recorded every 30 seconds for the first 4 hours of sleep. A, Spaghetti plot for 1 subject and 479 measurements. B, Spaghetti plot for 118 subjects and 479 measurements each. C, Lasagna plot for the 118 (unsorted) subjects with color representing outcome. D, Lasagna plot of the 118 subjects entire-row sorted according to disease status (sleep-disordered breathing [SDB]) and date of recording within disease status, top-down. This dynamic sort reveals the diseased overall have less % δ EEG power and for some a pattern of intermittent missingness that occurs hourly over the night.

Swihart, Bruce J.; Caffo, Brian; James, Bryan D.; Strand, Matthew; Schwartz, Brian S.; Punjabi, Naresh M. Epidemiology. 21(5):621-625, September 2010.