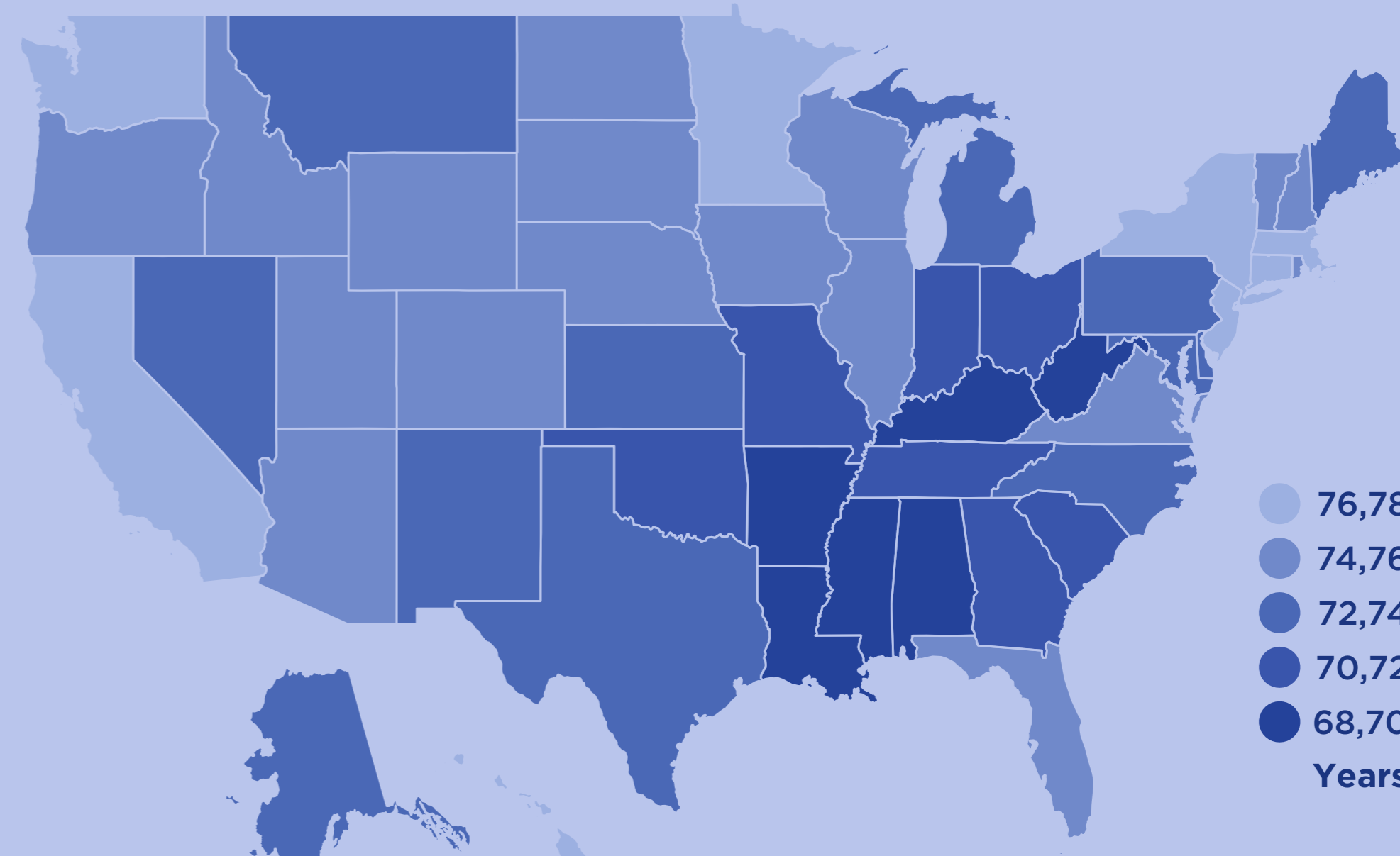


US Aging Data Sheet 2019



Human Life Indicator
Period: 2016



		1				2			3				4	5	6		7		8				9		10		11		12		
		Life expectancy at birth/age 65 (years)				Population median age (years)			Prospective old-age threshold, POAT (years)				Proportion age 65+	Proportion remaining life expectancy 15 years and less	Old-age dependency ratio (%)		Human Life Indicator (years)		Percentage of adult lifetimes spent... (%)				Proportion 65+ spent above POAT		Intergenerationally equitable normal pension age, standard: USA, 1970 (years)		α-age, standard: USA (years)		Equal survivorship age, standard: USA, age 20-65 (years)		
		1970		2016		1970	2016	Prospective, 2016	1970		2016		2016	2016	2016	Prospective, 2016	1970	2016	1970	2016	1970	2016	1970	2016	1970	2016	1970	2016	2016	2016	
		Women	Men	Women	Men	Both sexes			Women	Men	Women	Men	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Both sexes	Women	Men	Women	Men	
USA	USA	74.7/16.9	67.0/13.0	81.4/20.9	76.3/18.3	28.0	37.9	30.9	67.7	61.6	72.7	69.8	0.15	0.09	25.7	13.6	60.6	73.9	21.0	19.2	21.1	28.0	1.0	0.7	65.0	70.0	65.0	65.0	65.0	65.0	USA
Alabama	AL	73.4/16.6	65.0/12.8	78.0/19.3	72.3/16.6	26.9	38.9	35.0	67.2	61.2	70.9	67.5	0.16	0.11	27.5	17.5	57.6	68.6	20.9	19.2	20.5	25.2	1.0	0.8	64.5	68.0	67.1	67.5	59.9	60.1	AL
Alaska	AK	74.6/17.7	65.7/13.2	80.5/21.0	75.2/18.3	22.9	33.9	27.3	69.1	61.7	72.9	69.4	0.10	0.05	16.8	7.7	57.8	72.3	20.8	19.2	20.8	27.8	1.0	0.7	64.7	69.9	64.9	65.1	62.4	64.2	AK
Arizona	AZ	75.4/17.9	66.9/13.7	82.0/21.6	76.7/19.1	26.3	37.6	30.0	69.1	62.8	73.4	70.9	0.17	0.09	29.7	14.4	60.6	74.4	20.2	18.9	22.0	28.6	0.9	0.7	65.6	70.5	64.2	63.9	65.1	64.4	AZ
Arkansas	AR	75.1/17.3	66.7/13.5	78.5/19.6	73.1/16.9	29.0	38.0	33.8	68.2	62.4	71.3	67.8	0.16	0.11	28.3	17.6	59.8	69.8	20.7	19.1	21.5	25.5	1.0	0.7	65.3	68.3	66.7	67.1	59.9	61.0	AR
California	CA	75.5/17.5	68.3/13.5	83.5/22.1	78.8/19.5	28.0	36.4	27.4	68.5	62.6	73.9	71.2	0.14	0.07	22.5	10.6	62.4	77.2	20.6	19.1	22.0	29.6	0.9	0.6	65.7	71.2	63.6	63.4	68.2	68.0	CA
Colorado	CO	75.5/17.3	69.1/14.5	82.5/21.3	77.7/19.0	26.2	36.6	28.5	68.1	64.2	72.8	70.4	0.13	0.07	21.9	10.6	61.9	75.7	20.7	19.7	22.5	28.9	0.9	0.7	66.0	70.7	64.5	64.0	67.9	67.1	CO
Connecticut	CT	76.1/17.3	69.1/13.3	83.3/21.9	78.4/19.2	29.1	40.7	31.8	68.1	62.2	73.7	70.8	0.16	0.09	27.0	13.4	63.7	76.6	21.1	19.3	22.1	29.5	1.0	0.7	65.7	71.1	63.8	63.8	68.5	67.9	CT
Delaware	DE	74.1/16.7	66.0/12.1	81.1/20.9	75.6/18.2	26.8	40.2	33.3	67.5	59.9	72.5	69.6	0.18	0.10	30.0	15.5	60.1	72.6	21.1	19.3	19.9	27.9	1.0	0.7	64.1	69.9	65.1	65.1	64.8	64.2	DE
District of Columbia	DC	69.6/15.9	60.7/12.0	81.0/21.7	74.7/18.4	28.5	33.9	27.9	66.5	59.3	74.4	70.9	0.12	0.06	17.1	7.8	51.9	72.3	20.1	17.2	18.3	27.5	1.0	0.6	62.9	70.0	64.0	65.0	61.4	61.4	DC
Florida	FL	75.1/18.4	66.7/14.3	82.2/22.1	76.7/19.5	32.3	42.1	34.1	69.7	63.7	74.1	71.4	0.20	0.11	34.4	16.1	59.5	74.2	19.6	18.5	22.3	29.0	0.9	0.6	65.9	70.9	63.6	63.5	64.6	64.1	FL
Georgia	GA	72.9/16.6	64.1/12.3	80.0/20.1	74.8/17.4	25.9	36.5	30.8	67.4	60.0	71.7	68.7	0.13	0.08	22.0	12.2	57.3	71.8	20.5	19.3	19.7	26.7	1.0	0.7	64.0	69.1	66.0	66.3	63.1	63.4	GA
Hawaii	HI	77.6/18.7	71.4/15.2	84.8/23.7	78.6/20.3	25.1	38.6	28.7	70.0	65.3	75.8	72.2	0.17	0.08	28.9	11.2	64.1	76.6	20.4	18.3	23.9	30.8	0.9	0.6	67.0	72.2	61.6	62.3	68.6	67.2	HI
Idaho	ID	76.1/17.8	68.4/14.0	81.2/20.6	77.3/18.5	26.3	36.2	28.9	68.9	63.3	72.0	69.7	0.15	0.09	26.9	14.6	62.3	74.3	20.7	19.9	22.6	28.1	0.9	0.7	66.0	70.0	65.4	64.8	65.7	67.3	ID
Illinois	IL	73.9/16.4	66.4/12.6	81.7/20.9	76.6/18.3	28.5	37.8	30.5	67.0	61.0	72.7	69.7	0.15	0.09	24.4	13.0	59.4	74.1	21.3	19.3	20.5	28.1	1.0	0.7	64.5	70.1	65.0	65.0	66.0	65.8	IL
Indiana	IN	74.7/16.7	67.4/12.8	79.8/20.0	74.4/17.3	27.1	37.6	32.1	67.3	61.3	71.6	68.3	0.15	0.10	25.5	15.1	61.1	71.4	21.3	19.5	20.9	26.5	1.0	0.7	64.9	68.9	66.2	66.5	62.9	63.0	IN
Iowa	IA	76.4/17.7	68.9/13.5	81.8/21.0	77.0/18.3	28.8	38.0	30.7	68.5	62.6	72.7	69.5	0.16	0.10	28.6	15.8	62.8	74.5	21.1	19.5	22.5	28.2	0.9	0.7	66.0	70.1	64.9	65.1	66.1	66.5	IA
Kansas	KS	76.9/17.7	69.0/13.8	80.9/20.4	76.3/18.1	28.6	36.5	29.9	68.8	63.0	72.1	69.3	0.15	0.09	26.1	14.8	63.3	73.7	20.9	19.4	22.7	27.5	0.9	0.7	66.2	69.6	65.7	65.4	65.0	65.2	KS
Kentucky	KY	74.3/16.6	66.1/12.9	77.8/19.1	72.6/16.5	27.5	38.7	35.1	67.3	61.3	70.6	67.2	0.16	0.11	26.3	17.3	59.9	69.7	21.0	19.4	20.6	25.0	1.0	0.8	64.6	67.8	67.3	67.6	59.2	60.1	KY
Louisiana	LA	72.9/16.3	64.7/12.5	78.9/19.8	73.0/17.2	24.8	36.6	32.1	67.0	60.5	71.4	68.3	0.14	0.09	24.3	14.2	57.4	69.8	21.0	19.1	19.8	25.9	1.0	0.7	64.1	68.5	66.5	66.6	60.9	60.5	LA
Maine	ME	74.5/16.6	67.1/12.6	81.3/20.6	76.1/18.1	28.4	44.6	37.6	67.3	60.9	72.1	69.3	0.19	0.12	32.8	17.5	60.3	73.8	21.3	19.7	20.7	27.8	1.0	0.7	64.7	69.8	65.4	65.3	65.9	65.1	ME
Maryland	MD	74.2/16.4	66.4/12.4	81.6/21.2	76.1/18.5	27.1	38.5	31.2	67.0	60.4	73.0	70.0	0.15	0.08	24.1	12.3	60.5	73.6	21.3	19.1	20.2	28.2	1.0	0.7	64.4	70.2	64.7	64.8	65.2	64.8	MD
Massachusetts	MA	75.7/16.9	68.0/12.8	83.0/21.6	77.8/18.9	29.0	39.4	30.9	67.7	61.3	73.2	70.2	0.16	0.09	25.9	13.2	63.1	76.6	21.1	19.6	21.3	29.1	1.0	0.7	65.2	70.8	64.2	64.2	68.4	67.5	MA
Michigan	MI	74.5/16.7	67.2/12.8	80.4/20.4	75.5/17.9	26.3	39.7	33.4	67.5	61.3	72.0	69.1	0.16	0.10	27.5	15.3	60.6	72.7	21.3	19.4	20.8	27.2	1.0	0.7	64.8	69.5	65.7	65.7	63.6	64.2	MI
Minnesota	MN	76.8/17.7	69.5/13.9	83.1/21.6	78.6/19.1	26.7	37.9	29.2	68.6	63.1	73.3	70.4	0.15	0.09	25.5	13.0	63.8	76.5	21.0	19.6	22.7	29.3	0.9	0.7	66.1	70.9	64.2	64.0	68.9	69.0	MN
Mississippi	MS	72.9/16.7	64.2/13.0	77.8/19.3	71.6/16.2	25.0	37.1	33.9	67.5	61.3	70.9	67.0	0.15	0.11	26.0	17.1	55.3	68.4	20.7	19.1	20.4	24.8	1.0	0.8	64.5	67.7	67.1	68.0	59.5	59.0	MS
Missouri	MO	74.7/16.9	66.8/12.8	80.1/20.2	74.6/17.7	29.4	38.4	32.7	67.6	61.2	72.0	68.8	0.16	0.10	27.4	15.8	60.6	71.9	21.1	19.3	21.0	26.9	1.0	0.7	64.9	69.2	65.9	66.0	62.9	62.9	MO
Montana	MT	75.2/17.6	67.1/13.4	80.6/20.7	76.3/18.6	27.0	39.8	32.9	68.8	62.3	72.3	69.9	0.18	0.10	30.6	16.0	59.8	73.2	20.9	19.6	21.6	28.0	1.0	0.7	65.4	70.0	65.3	64.7	64.0	65.4	MT
Nebraska	NE	76.6/17.9	68.7/13.8	81.6/20.9	77.7/18.4	28.5	36.3	28.8	68.9	63.0	72.7	69.5	0.15	0.09	26.2	14.6	62.4	74.8	20.8	19.7	22.7	28.3	0.9	0.7	66.1	70.1	65.1	65.0	66.5	67.7	NE
Nevada	NV	73.6/16.8	65.9/13.1	80.5/20.4	75.7/17.9	27.8	37.8	31.7	67.4	61.7	72.1	69.2	0.15	0.09	25.1	13.5	57.8	73.1	20.9	19.3	20.5	27.1	1.0	0.7	64.5	69.4	65.7	65.7	63.9	64.1	NV
New Hampshire	NH	75.6/17.0	67.7/12.6	82.1/21.1	76.6/18.6	27.9	43.0	35.2	67.7	61.0	72.6	69.8	0.17	0.10	28.0	14.4	62.3	75.3	21.3	19.8	21.1	28.5	1.0	0.7	65.0	70.3	64.8	64.7	67.3	65.7	NH
New Jersey	NJ	74.4/16.3	67.6/12.7	82.7/21.5	77.9/19.0	30.0	39.7	31.3	66.8	61.2	73.3	70.4	0.15	0.09	25.6	13.0	61.2	76.4	21.5	19.4	20.7	29.1	1.0	0.7	64.7	70.8	64.3	64.1	67.5	67.4	NJ
New Mexico	NM	74.7/17.6	66.8/13.9	80.6/21.3	74.7/18.7	23.9	37.6	31.2	68.7	63.0	73.0	70.3	0.16	0.09	28.7	14.1	59.4	72.1	20.5	18.8	22.1	27.9	0.9	0.7	65.7	70.0	64.6	64.5	62.2	61.2	NM
New York	NY	74.1/16.3	66.9/12.8	83.3/22.0	78.4/19.2	30.3	38.5	29.7	66.9	61.2	74.0	70.8	0.15	0.08	25.2	12.2	60.6	76.8	21.4	19.0	20.6	29.5	1.0	0.6	64.7	71.1	63.7	63.8	67.9	67.6	NY
North Carolina	NC	73.9/16.8	65.0/12.7	80.3/20.4	75.3/17.7	26.5	38.7	32.5	67.6	60.8	72.1	69.0	0.15	0.09	26.1	14.4	57.8	72.3	20.7	19.3	20.4	27.1	1.0	0.7	64.5	69.4	65.7	65.8	63.5	63.8	NC
North Dakota	ND	77.1/17.8	69.5/14.0	82.3/21.4	77.1/19.0	26.3	34.8	26.9	68.7	63.2	73.4	70.6	0.15	0.08	24.5	12.8	64.7	74.5	20.9	19.0	22.6	28.9	0.9	0.7	66.0	70.7	64.4	64.1	66.8	66.3	ND
Ohio	OH	74.5/16.5	67.2/12.7	79.6/20.0	74.4/17.4	27.6	39.3	33.8	67.1	61.0	71.7	68.5	0.16	0.10	27.7	16.0	61.1	71.3	21.4	19.3	20.7	26.6									

About this Data Sheet

This data sheet uses the United States Mortality DataBase to analyze aging across US states by: (1) contrasting conventional measures of aging with new ones based on **The Characteristics Approach to the Measurement of Population Aging**, and (2) providing new measures that are particularly appropriate for the current US context.

The US Context

In March 2010, the US government passed the Affordable Care Act, popularly known as ObamaCare. Insurance provisions under that Act differed by state. In addition, some states expanded Medicaid (health insurance coverage for low-income people) and some did not. For example, Colorado expanded Medicaid and Wyoming did not.

The US has recently been experiencing a wave of opioid overdose deaths. Opioid overdoses have been far more common in some states than others. For example, death rates from those

overdoses have been particularly high in West Virginia, Ohio, and Maine and particularly low in California and Texas.

This Datasheet shows the effects of the Affordable Care Act and opioid overdose deaths on population aging across US states.

The Characteristics Approach to the Measurement of Population Aging

The **Characteristics Approach** takes the changing characteristics of groups of people, such as life expectancy, physical health, cognitive functioning, etc., into account, and allows the construction of new, multidimensional measures of aging. These new measures provide novel perspectives on important policy questions.

The Characteristics Approach produces **More Accurate Measures of Population Aging**. The widely used measures of population aging, the old-age dependency ratio and the median age of the population, overestimate the speed of aging.

The Characteristics Approach produces **Constant Characteristic Ages** for a wide variety of characteristics. The transformation of

characteristics into a single metric, age, allows for a consistent multidimensional understanding of population aging.

Policy-Relevant Measures

An intergenerationally equitable normal pension

Starting from a normal pension age of 65 for the US as a whole in 1970, the data sheet shows how an intergenerationally equitable pension age would differ across states and change over time.

Equal survivorship age

Most deaths from opioid overdoses have occurred at ages where labor force participation rates are the highest. In each state, the survival rate from age 20 to the equal survivorship age is the same as the survival rate from age 20 to age 65 in the US as a whole. Differences across states and changes over time in the equal survivorship age show the effects of the opioid epidemic and policies to combat it.

For more information, please visit our website www.reaging.org.

Glossary

Column numbers refer to the main table.

α -ages, standard: USA (column 11)

The α -age is the age in the USA as a whole where remaining life expectancy is the same as at age 65 in the state.

Equal survivorship ages, standard: USA, age 20-65 (column 12)

The survival rate from age 20 to the equal survivorship age is the same as the survival rate from age 20 to age 65 in the US as a whole.

Human Life Indicator, HLI (column 7)

The Human Life Indicator expresses wellbeing in terms of years of life, similar to life expectancy at birth, and takes the inequality in longevity into account. Two states with the same life expectancy at birth would not necessarily have the same HLI. The state with less inequality in longevity would have a higher HLI. Newly available state mortality data allows the HLI to be used for reliable comparisons of wellbeing across states, in the past as well as the present. (Ghislandi et al. 2018)

Intergenerationally equitable normal pension age, standard: USA, 1970 (column 10)

This normal pension age takes changing mortality conditions into account and ensures that no generation benefits at the expense of another (Sanderson & Scherbov 2015, 2017).

Life expectancy at age 65 (column 1)

The average number of years a 65-year-old person has left to live if subjected to the age-specific mortality rates of a given period for the rest of his/her life.

Life expectancy at birth (column 1)

The average number of years a newborn would live if subjected to the age-specific mortality rates of a given period for his/her entire life.

Old-age dependency ratio, OADR (column 6)

The conventional old-age dependency ratio relates the number of people at age 65 and above to the number of people from age 20 to age 65. The ratio is multiplied by 100.

Percentage of adult lifetimes spent above the POAT (column 8)

The percentage of adult lifetimes spent above the POAT is the percentage of person-years spent from age 20 onwards that are also spent at or above the POAT.

Percentage of adult lifetimes spent at age 65+ (column 8)

The percentage of adult lifetimes spent at or above age 65 is the percentage of person-years spent from age 20 onwards that are also spent at or above age 65.

Population median age (column 2)

The age that divides a population into two numerically equal groups, with half of the people being younger than this age and half older.

Population median age, prospective (column 2)

The median age of a population adjusted for changes in remaining life expectancy (Sanderson & Scherbov 2008).

Proportion age 65+ (column 4)

The share of the population above age 65 for both sexes.

Proportion 65+ spent above POAT (column 9)

The share of the population at or above age 65 who are also above the prospective old-age threshold (for both sexes).

Proportion remaining life expectancy 15 years or less (column 5)

The share of the population with an average remaining life expectancy below 15 years.

Prospective old-age dependency ratio, POADR (column 6)

This is the ratio of the number of people at or older than the prospective old-age threshold (POAT) to the number of people between age 20 and the prospective old-age threshold. The ratio is multiplied by 100 (Sanderson & Scherbov 2008, 2015).

Prospective old-age threshold, POAT (column 3)

The prospective old-age threshold is a flexible threshold age defining the group of people who are considered old. It is the age at which the average remaining life expectancy first falls below 15 years. In contrast to a threshold based on a fixed chronological age, such as 65, this threshold of old-age varies across states and over time.

Literature

Ghislandi S, Sanderson WC, Scherbov S. 2018. A simple measure of human development: The Human Life Indicator. *Population and Development Review* 45 (1): 219-233. [pure.iiasa.ac.at/id/eprint/15370/]

Lutz W, Sanderson WC, Scherbov S. 2008. The coming acceleration of global population ageing. *Nature* 451(7179): 716-719. [pure.iiasa.ac.at/id/eprint/8622/]

Sanderson WC, Scherbov S. 2005. Average remaining lifetimes can increase as human populations age. *Nature* 435(7043): 811-813. [pure.iiasa.ac.at/id/eprint/7537/]

Sanderson WC, Scherbov S. 2008. Rethinking age and aging. *Population Bulletin* 63(4). [pure.iiasa.ac.at/8470/]

Sanderson WC, Scherbov S. 2010. Remeasuring aging. *Science* 329(5997):1287-1288. [pure.iiasa.ac.at/id/eprint/9202/]

Sanderson WC, Scherbov S. 2013. The characteristics approach to the measurement of population aging. *Population and Development Review* 39(4): 673-685. [pure.iiasa.ac.at/id/eprint/10418/]

Sanderson WC, Scherbov S. 2015. An easily understood and intergenerationally equitable normal pension age. In Marin B (ed.), *The Future of Welfare in a Global Europe*, Ashgate, pp. 193-220. [pure.iiasa.ac.at/id/eprint/11577/]

Sanderson WC, Scherbov S. 2015. Are we overly dependent on conventional dependency ratios? *Population and Development Review* 41(4):687-708. [pure.iiasa.ac.at/id/eprint/11316/]

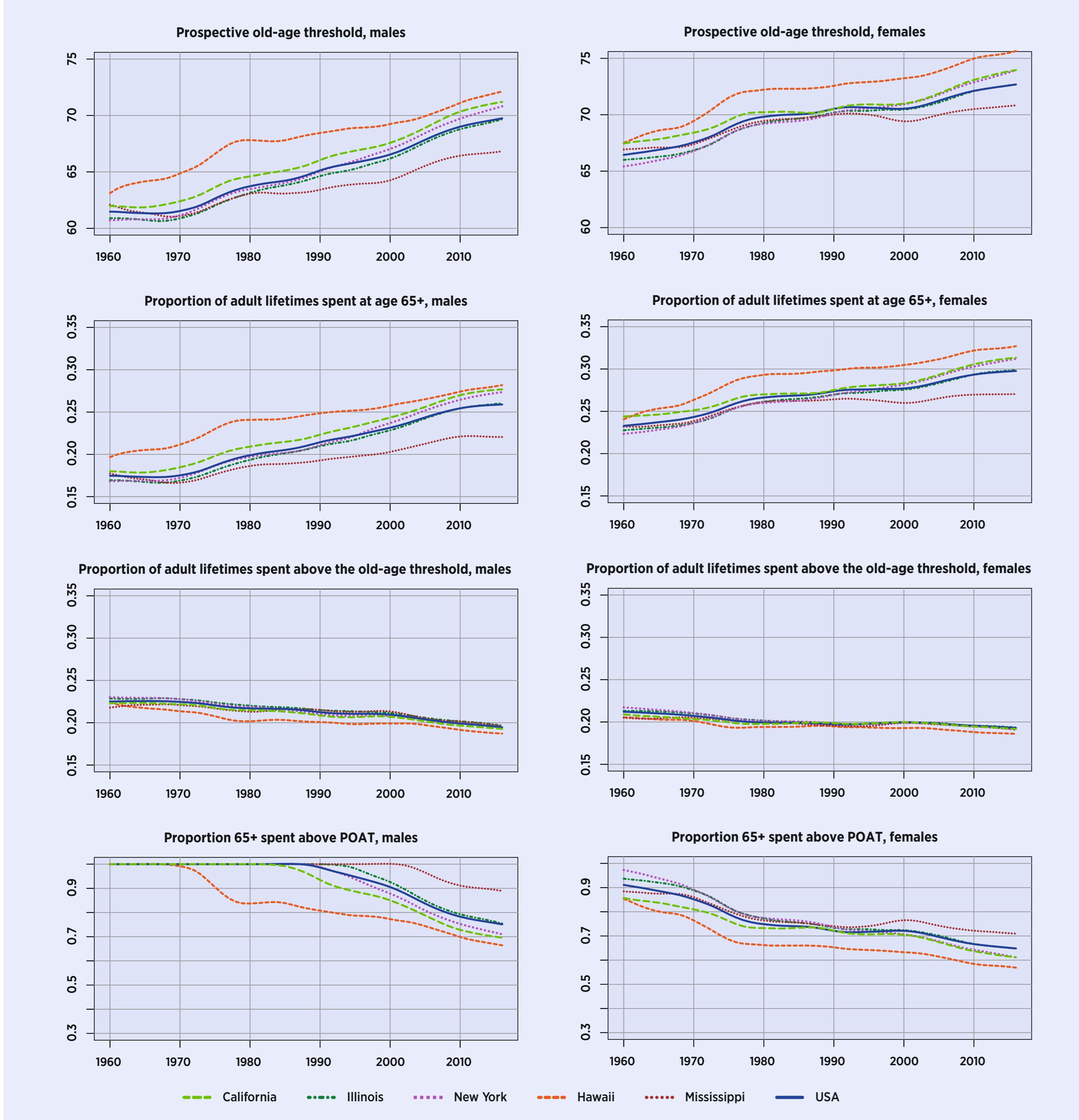
Sanderson WC, Scherbov S. 2017. A unifying framework for the study of population aging. *Vienna Yearbook of Population Research* 2016(14): 7-39. [pure.iiasa.ac.at/14931/]

Sanderson WC, Scherbov S. 2019. *Prospective Longevity: A New Vision of Population Aging*, Harvard University Press, Cambridge, MA, USA.

Sanderson WC, Scherbov S, Andrichowicz S. 2016. *Analyzing Population Aging from a New Perspective. IIASA Policy Brief*. Laxenburg, Austria: IIASA. [www.iiasa.ac.at/web/home/resources/publications/IIASAPolicyBriefs/pb12-web.pdf].

UN. 2017a. *World Population Aging 2017*. New York: United Nations Department of Economic and Social Affairs, Population Division.

UN. 2017b. *World Population Prospects: The 2017 Revision*. New York: United Nations Department of Economic and Social Affairs, Population Division.



Human Life Indicator (HLI)

The HLI is related to the more familiar measure, life expectancy at birth. It takes into account both the average longevity of people and the inequality in the ages at their death. Holding inequality in the ages at death constant, the HLI increases with life expectancy. Holding life expectancy at birth constant, the HLI decreases when life span inequality increases.

State	Rank	Value
California	1	77.2
New York	2	76.8
Hawaii	3	76.6
Massachusetts	4	76.6
Connecticut	5	76.6
USA		73.9
Arkansas	47	69.8
Kentucky	48	69.7
West Virginia	49	69.0
Alabama	50	68.6
Mississippi	51	68.4

Equal survivorship age

The construction of this measure is motivated by the epidemic of drug overdoses in the United States, most of which occur prior to age 65. The equal survivorship age is the age in the state life table where the survival rate between ages 20 and that age is the same as the survival rate between age 20 and 65 in the US as a whole. For example, the equal survivorship age for women in West Virginia, a state severely affected by the overdose crisis, was 58.7. This indicates that the proportion of women surviving between age 20 and 58.7 in West Virginia was the same as the proportion of women in the US as a whole who survived from age 20 to age 65.

State	Rank	Value
Minnesota	1	68.9
Hawaii	2	68.6
Connecticut	3	68.5
Massachusetts	4	68.4
California	5	68.2
USA		65.0
Alabama	47	59.9
Arkansas	48	59.9
Mississippi	49	59.5
Kentucky	50	59.2
West Virginia	51	58.7

State	Rank	Value
Minnesota	1	69.0
California	2	68.0
Connecticut	3	67.9
Washington	4	67.8
Utah	5	67.7
USA		65.0
Louisiana	47	60.5
Kentucky	48	60.1
Alabama	49	60.1
Mississippi	50	59.0
West Virginia	51	58.7

