

Panel Discussion: Pain Sciences and Practice

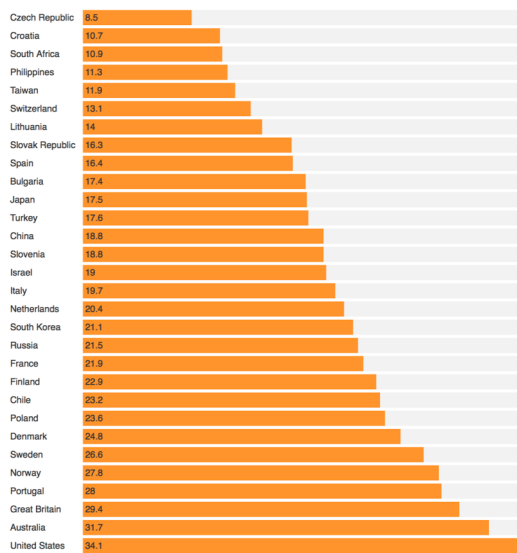
Jean-Michel Brismée



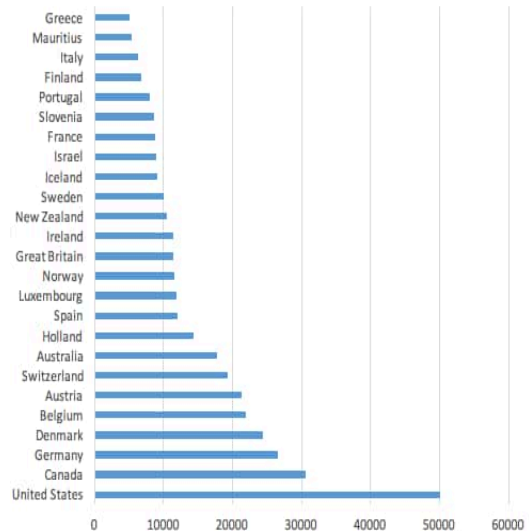
TEXAS TECH UNIVERSITY
HEALTH SCIENCES CENTER

Countries with greatest physical pain and opioid use per million inhabitants

Percent with physical pain "often" or "very often"

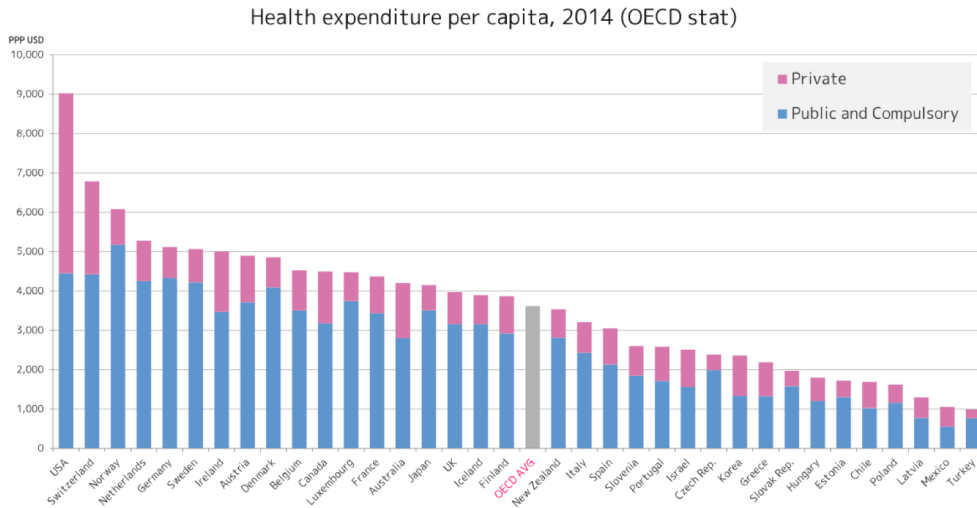


Standard Daily Doses of Opioids per Million Inhabitants



Source: International Social Survey Programme - Created with Datawrapper

Health Expenditure per Capita



Life Expectancy:
USA ranks 31

Country and regions	Both sexes rank	Both sexes life expectancy	Female rank	Female life expectancy	Male rank	Male life expectancy	Both sexes rank (HALE)	Both sexes life expectancy
Japan	1	83.7	1	86.8	6	80.5	1	74.9
Switzerland	2	83.4	6	85.3	1	81.3	4	73.1
Singapore	3	83.1	2	86.1	10	80.0	2	73.9
Australia	4	82.8	7	84.8	3	80.9	15	71.9
Spain	4	82.8	3	85.5	9	80.1	9	72.4
Iceland	6	82.7	10	84.1	2	81.2	7	72.7
Italy	6	82.7	7	84.8	6	80.5	5	72.8
Israel	8	82.5	9	84.3	5	80.6	5	72.8
Sweden	9	82.4	12	84.0	4	80.7	12	72.0
France	9	82.4	5	85.4	16	79.4	8	72.6
South Korea	11	82.3	3	85.5	20	78.8	3	73.2
Canada	12	82.2	10	84.1	8	80.2	10	72.3
Luxembourg	13	82.0	12	84.0	13	79.8	17	71.8
Netherlands	14	81.9	20	83.6	10	80.0	11	72.2
Norway	15	81.8	17	83.7	13	79.8	12	72.0
Malta	16	81.7	17	83.7	15	79.7	18	71.7
New Zealand	17	81.6	26	83.3	10	80.0	19	71.6
Austria	18	81.5	14	83.9	19	79.0	12	72.0
Ireland	19	81.4	23	83.4	16	79.4	20	71.5
United Kingdom	20	81.2	27	83.0	16	79.4	21	71.4
Belgium	21	81.1	22	83.5	22	78.6	26	71.1
Finland	21	81.1	16	83.8	24	78.3	28	71.0
Portugal	21	81.1	14	83.9	27	78.2	21	71.4
Germany	24	81.0	23	83.4	21	78.7	23	71.3
Greece	24	81.0	20	83.6	24	78.3	15	71.9
Slovenia	26	80.8	17	83.7	28	77.9	26	71.1
Denmark	27	80.6	29	82.5	22	78.6	25	71.2
Cyprus	28	80.5	28	82.7	24	78.3	23	71.3
Chile	28	80.5	23	83.4	29	77.4	29	70.4
Costa Rica	30	79.6	30	82.2	31	77.1	31	69.7
United States	31	79.3	33	81.6	32	76.9	36	69.1

Physical inactivity is associated with chronic musculoskeletal complaints 11 years later

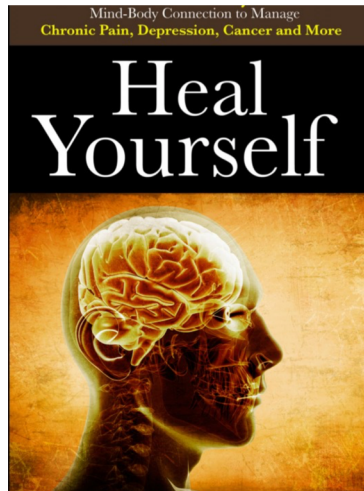
- Among individuals who exercised more than three times per week, chronic widespread MSCs were 28% less common (OR 0.72, 95% CI 0.59-0.88) compared to inactive individuals.

Holth HS, Werpen HK, Zwart JA, Hagen K. Physical inactivity is associated with chronic musculoskeletal complaints 11 years later: results from the Nord-Trøndelag Health Study. *BMC Musculoskelet Disord*. 2008 Dec 1;9:159.

Individuals who are more physically active have a lower risk for development of chronic pain

- Increased frequency, duration and intensity of exercise associated with less chronic pain in analyses adjusted for age, education, and smoking
- Sedentary lifestyle enhances the risk for development of chronic pain

Landmark T, Romundstad P, Borchgrevink PC, Kaasa S, Dale O. Associations between recreational exercise and chronic pain in the general population: evidence from the HUNT 3 study. *PAIN*. 2011;152:2241-2247.



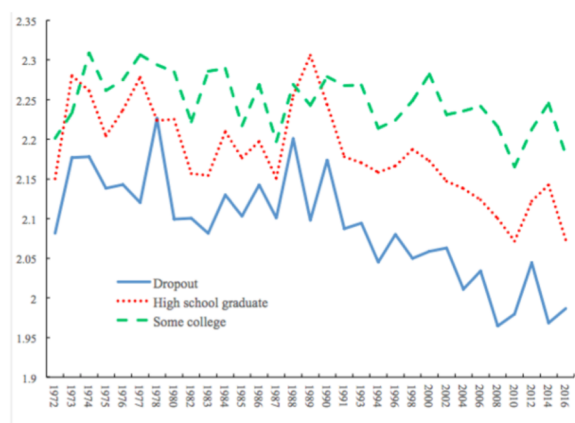
Manage the mind and the body



Hirase T, Kataoka H, Nakano J, Inokuchi S, Sakamoto J, Okita M. Effects of a psychosocial intervention programme combined with exercise in community-dwelling older adults with chronic pain: A randomized controlled trial. *Eur J Pain*. 2018;22(3):592-600.

Brisnée JM, Paige RL, Chyu MC, Boatright JD, Hagar JM, McCaleb JA, Quintela MM, Feng D, Xu KT, Shen CL. Group and home-based tai chi in elderly subjects with knee osteoarthritis: a randomized controlled trial. *Clin Rehabil*. 2007;21(2):99-111.

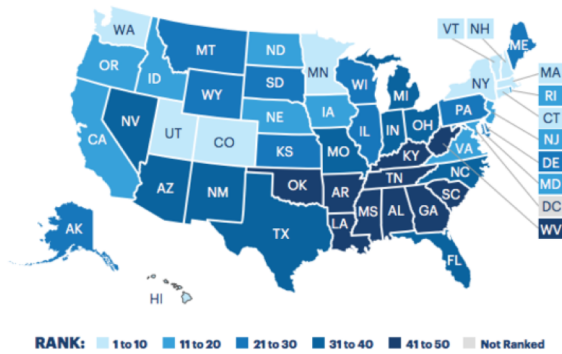
Happiness Among Different Educational Groups in the United States



This figure is based on data from the U.S. General Social Survey using the question "Taken all together, how would you say things are these days – would you say that you are very happy, pretty happy, or not too happy?" scored from 3 to 1. This graph reports the mean levels for the different groups.

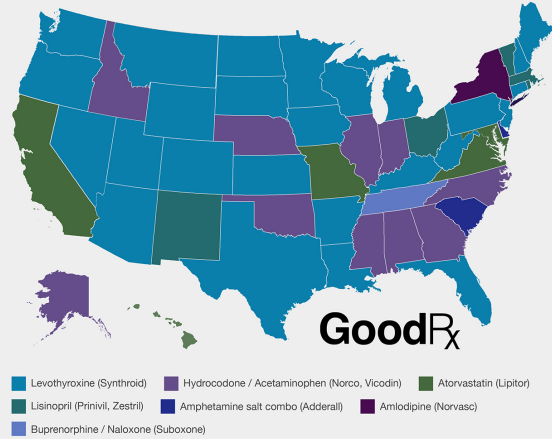
Healthiest states vs most prescribed medications in the USA

2017 STATE RANKINGS



The United States of Drugs

The most prescribed medication in each of the 50 states (2018)



Data represents volume of US prescriptions by state filled at pharmacies during 12 months ending February 2018. Data comes from several sources, including pharmacies and insurers, and provides a representative sample of nationwide US prescription drug volume. For more info, visit goodrx.com/blog

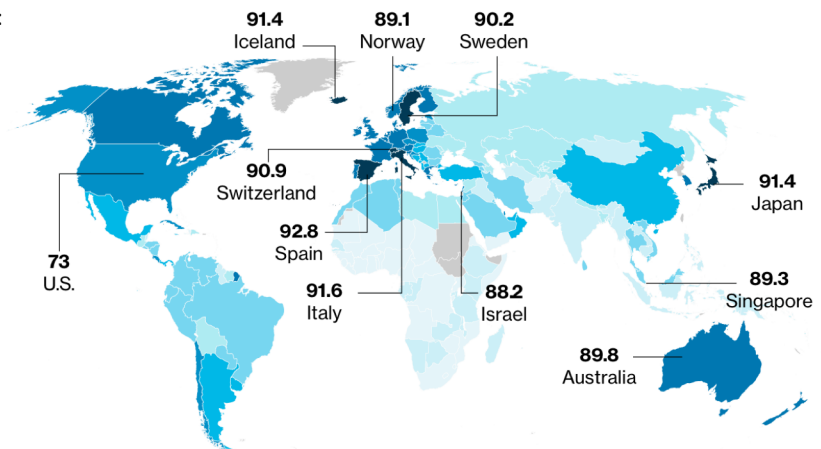
Healthiest countries 2019

Lowest Highest No data

Factors used to rank the countries included:

1. Health risks (tobacco use, high blood pressure, obesity)
2. Availability of clean water
3. Life expectancy
4. Malnutrition
5. Causes of death

USA ranked 34



Sources: Bloomberg analysis of World Health Organization data; United Nations Population Division and the World Bank

What should we do?



- **Create a culture where healthy equates to happy.** **Healthy living** could use a serious **re-brand**. Eating healthy (vegetables, fruits) from a young age and encourage more physical activity. **Creating a culture of health** may begin at home, but schools, communities, policy, and media can all play a part in supporting healthy choices of Americans.
- **Build environments that are conducive to healthy behaviors.** Not all neighborhoods are created equal when it comes to safety, **walkability, or bikeability**. Too many communities lack full-service grocery stores providing fresh and healthy food options. Ads for unhealthy products riddle our televisions, our billboards, and our smartphones.
- **Prioritize health of the mind and spirit, not just the body.** Mental health needs more attention in the United States, but little has been done to make changes to the system.
- **Improve the ability of children to give and receive kindness.** Kindness is too often revered as a sign of weakness in our culture instead of a sign of strength. Yet some of the most successful people trace the origins of success to an act of kindness granted by a teacher, a friend, or a family member.
- Our cities, states and country need that sort of leadership to move the needle on health in America.