



STANFORD SOCIAL INNOVATION REVIEW PRESENTS

# DATA ON PURPOSE

CREATING SOCIAL CHANGE WITH DATA

JUNE 2, 3:10 – 4:10 P.M.

## USING DATA VISUALIZATION TO CHANGE THE CONVERSATION



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Stanford **SOCIAL**  
INNOVATION Review



# DataKind

brings organizations dedicated to solving the world's biggest challenges together with expert pro bono data scientists to improve the quality of, access to and understanding of data in the social sector.



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[#dataonpurpose](https://twitter.com/dataonpurpose)



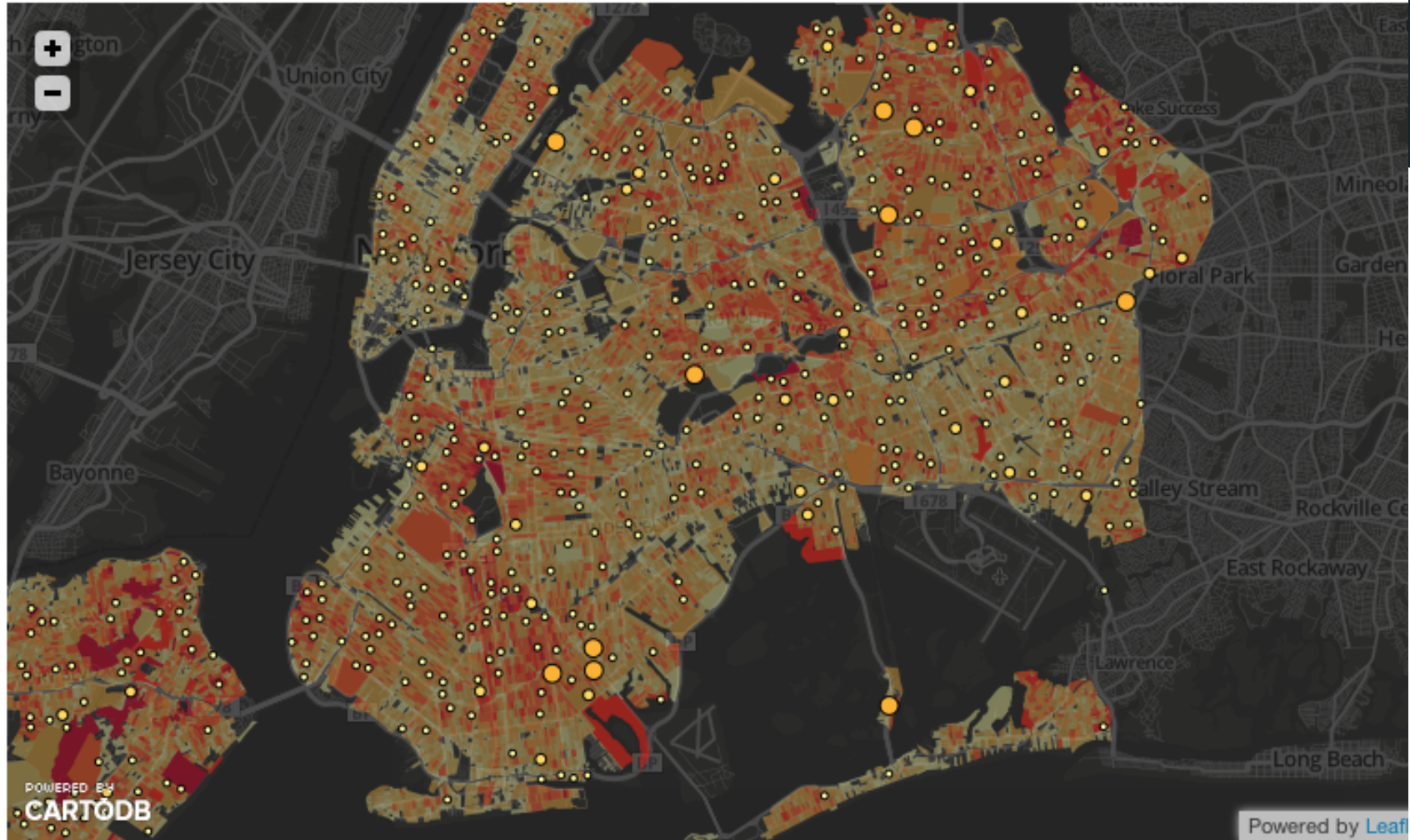


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Layers :

Diversity by Census Block (chloropleth)

Common Tree Families

Tree Height by Census Block



**DIPHTHERIA**

**TETANUS**

**PERTUSSIS**

**DEATHS**



1 in 10 who get treatment



1 in 33 who get disease

**VACCINE: DTAP**

**FEVER**



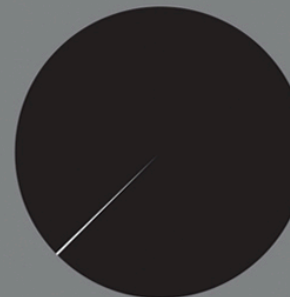
up to 1 in 4

**REDNESS/  
SWELLING**



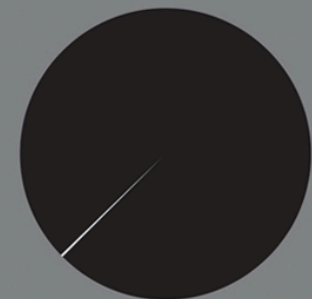
up to 1 in 4

**SEIZURE**



1 in 14,000

**SERIOUS  
ALLERGIC  
REACTION**



< 1 in 1,000,000





MEASELS

MUMPS

RUBELLA

ORCHITIS  
(SWELLING OF TESTICLES)



3-4 in 10 men

SWELLING OF  
OVARIES AND BREASTS



up to 3 in 10 women

MENINGITIS



1 in 10 cases

HEARING LOSS



1 in 20,000 children

VACCINE: MMR

FEVER



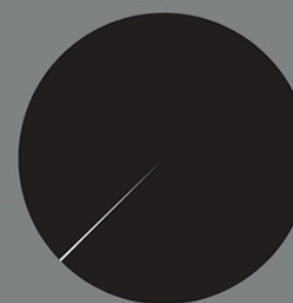
up to 1 in 6

MILD RASH



aprox. 1 in 20

SEIZURE



1 in 3,000

TEMPORARY  
JOINT PAIN



up to 1 in 4



# DISEASE COMPLICATIONS

VS

# VACCINE COMPLICATIONS

Mild complication

Moderate Complication

Severe Complication

DIPHTHERIA

TETANUS

PERTUSSIS

## DEATHS

# 1/10

WHO GET TREATMENT

# 1/10

WHO GET DISEASE

VACCINE: DTAP

FEVER

UP TO  
**1/4**

REDNESS/  
SWELLING

UP TO  
**1/4**

SERIOUS  
ALLERGIC  
REACTION

SEIZURE

**1**  
-----  
14,000

**1**  
-----  
1,000,000

VS





MEASELS

MUMPS

RUBELLA

MENINGITIS



HEARING LOSS



DEATH



ENCEPHALITIS



ORCHITIS  
(SWELLING OF TESTICLES)



SWELLING OF  
OVARIES AND BREASTS



VS

VACCINE: MMR

MILD RASH



SEIZURE



SERIOUS  
ALLERGIC  
REACTION



TEMPORARY  
JOINT PAIN



Complications from getting the

# Disease

DIPHTHERIA

TETANUS

PERTUSSIS

Complications from getting the

# Vaccine

DTAP

Million people



VS

Sources: 1 2

Source: 1

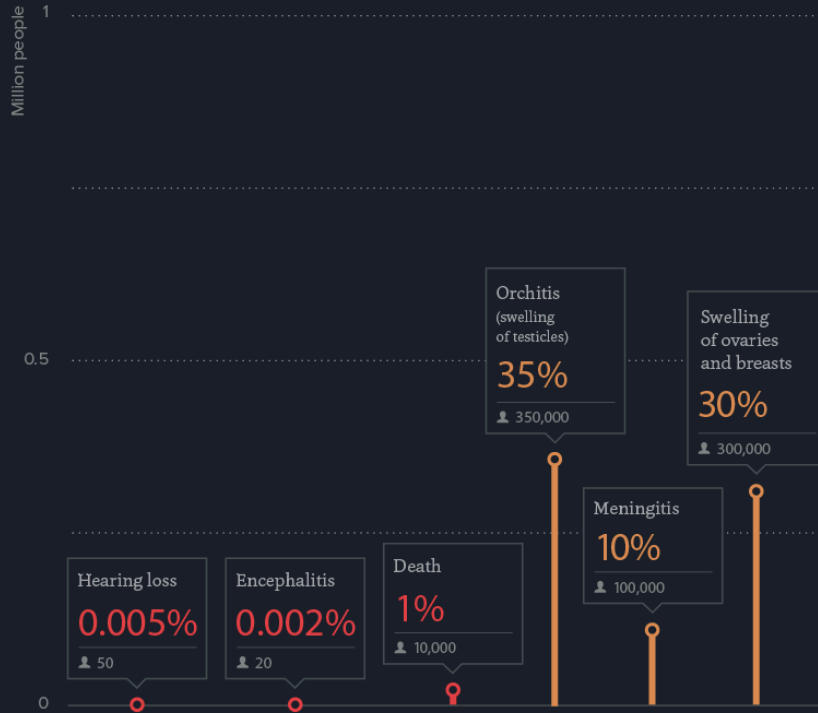
Complication: Severe Moderate Mild  
⤴: Per 1 Million people





Complications from getting the  
**Disease**

MEASLES    **MUMPS**    RUBELLA



Source: 1

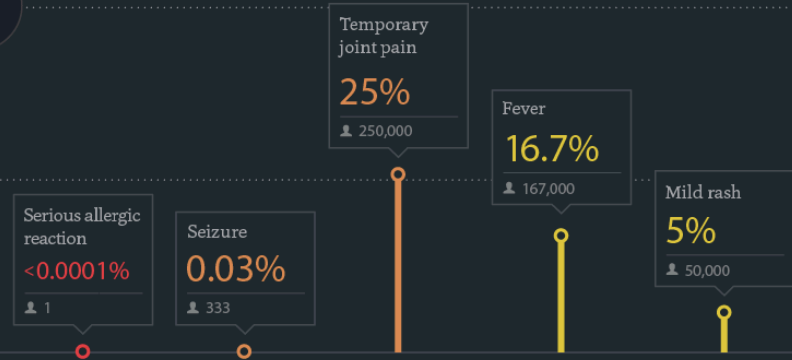
\*Not all complications are listed here. See Sources for more detail.

\*\*Risks of complications from various diseases are stated per number of children who get the disease or vaccine.

Complications from getting the  
**Vaccine**

MMR

VS

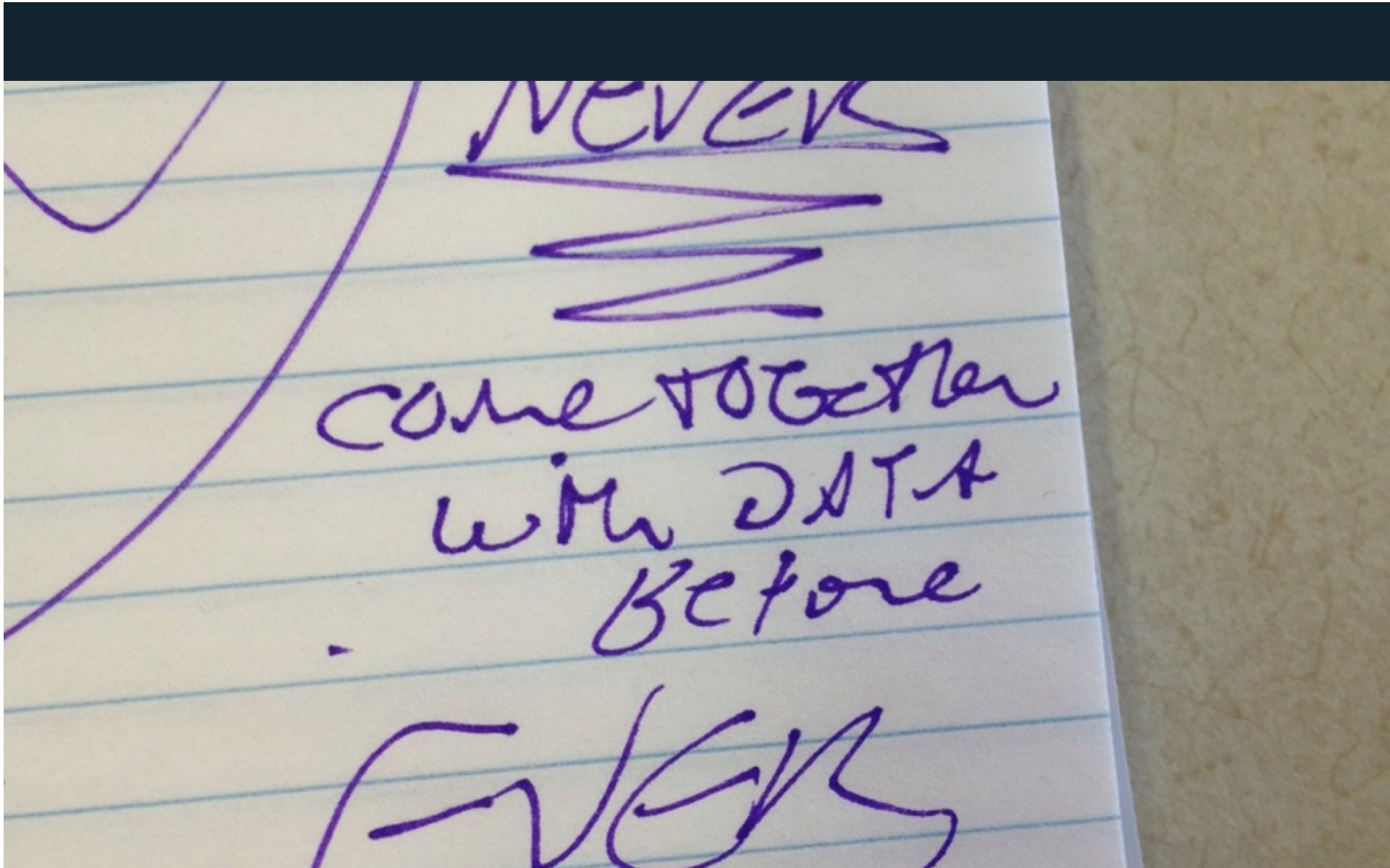


Source: 1

Complication: Severe Moderate Mild

Per 1 Million people

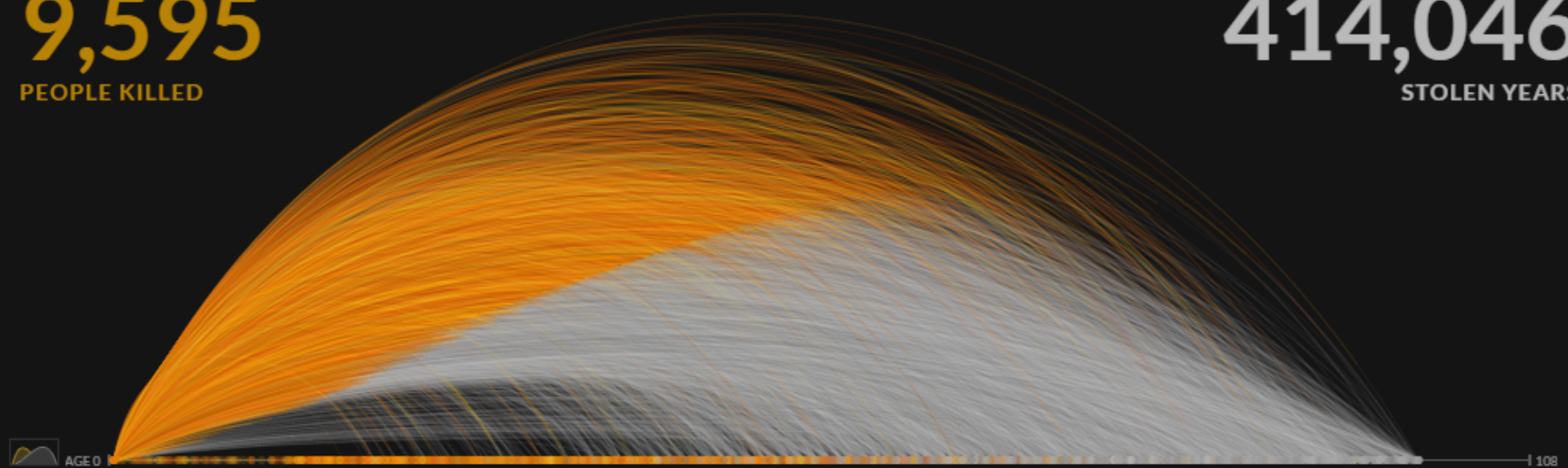




U.S. GUN KILLINGS IN 2010 2013

**9,595**  
PEOPLE KILLED

**414,046**  
STOLEN YEARS<sup>?</sup>



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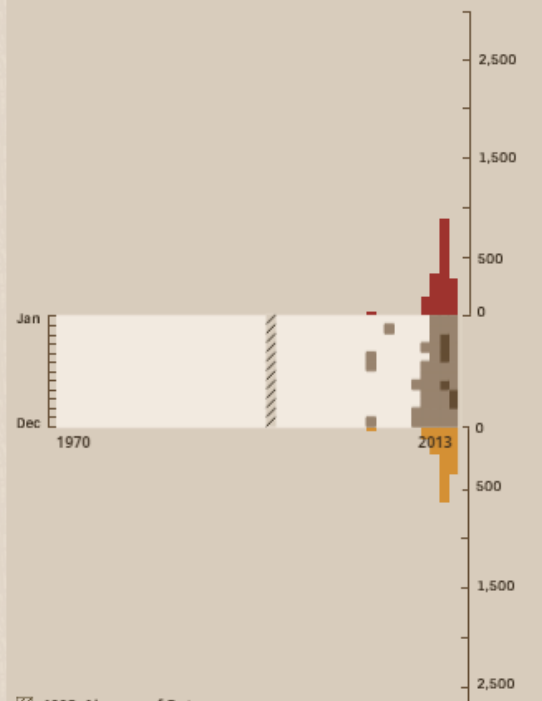
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# A WORLD of TERROR

Exploring the reach, frequency and impact of terrorism around the world

Longest Active   Recent Activity   Most Victims   Geographic Spread   Name of Group   Verified



# Life After War: U.S. Veterans Share Their Experiences With V.A. Services

● Disability Claims Process

● V.A. Healthcare

Discover how they rated:

HEALTHCARE QUALITY

EMOTIONAL STRESS

FINANCIAL STRAIN



**100**  
vets say  
"Extremely  
stressful"



**96**  
vets say  
"Moderately  
stressful"



**36**  
vets say  
"Slightly  
stressful"



**24**  
vets say  
"Not at all  
stressful"

GENDER

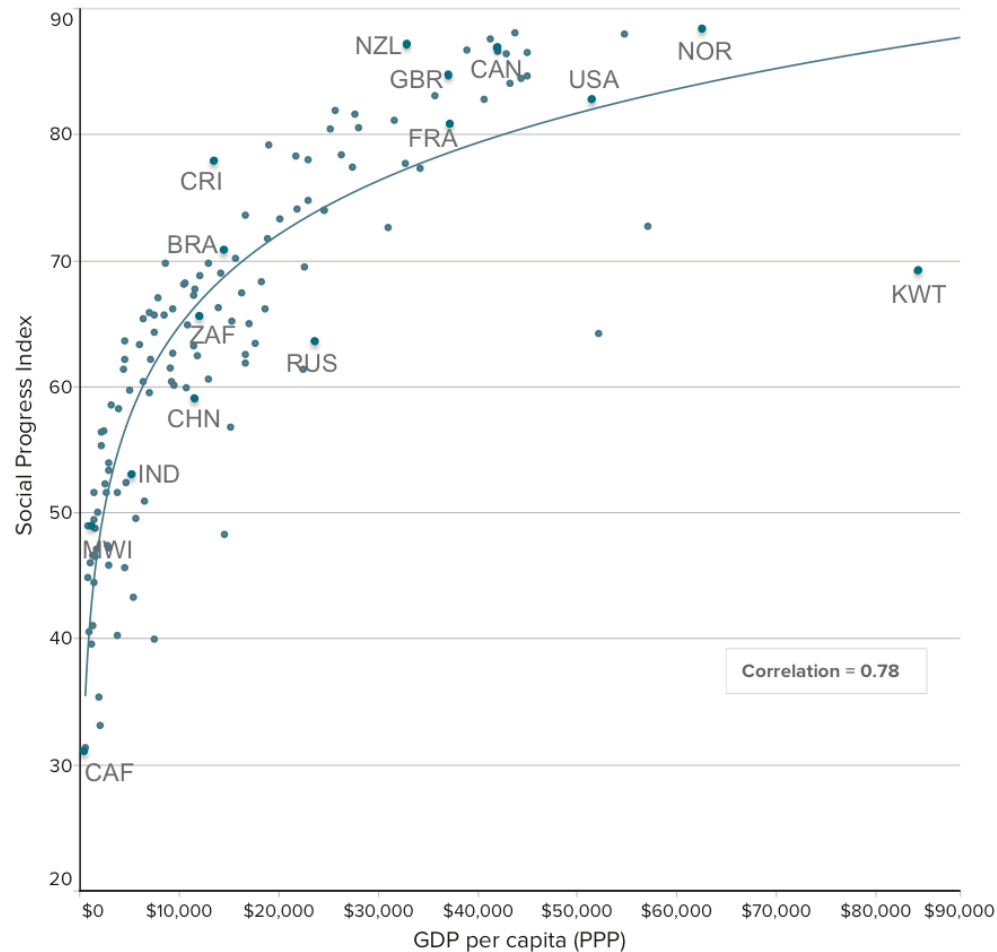
Female x

MILITARY BRANCH

OPERATION

LOCATION

# SOCIAL PROGRESS DOES INCREASE WITH GDP PER CAPITA BUT IT IS NOT THE FULL STORY





Social Progress Index rank: 16/133

Social Progress Index score: 82.85

GDP per capita rank: 6/133

UNITED STATES



Category	Score	Rank	Indicator	Score	Rank	Indicator	Score	Rank			
<b>BASIC HUMAN NEEDS</b>	<b>91.23</b>	<b>21</b>		<b>75.15</b>	<b>35</b>	<b>FOUNDATIONS OF WELLBEING</b>	<b>82.18</b>	<b>8</b>			
<b>Nutrition and Basic Medical Care</b>	<b>98.52</b>	<b>39</b>		<b>95.33</b>	<b>45</b>	<b>Access to Basic Knowledge</b>	<b>82.16</b>	<b>24</b>			
Undernourishment (% of pop.)	5.0	1	N	Adult literacy rate (% of pop. aged 15+)	99.0	1	N	Political rights (1=full rights; 7=no rights)	1	1	N
Depth of food deficit (cal./undernourished person)	8	1	N	Primary school enrollment (% of children)	91.8	73	W	Freedom of speech (0=low; 2=high)	2	1	W
Maternal mortality rate (deaths/100,000 live births)	28	55	W	Lower secondary school enrollment (% of children)	98.0	57	W	Freedom of assembly/association (0=low; 2=high)	1	48	W
Child mortality rate (deaths/1,000 live births)	6.9	38	W	Upper secondary school enrollment (% of children)	89.5	49	W	Freedom of movement (0=low; 4=high)	3	67	W
Deaths from infectious diseases (deaths/100,000)	31.3	37	N	Gender parity in secondary enrollment (girls/boys)	1.0	1	N	Private property rights (0=none; 100=full)	80	17	W
<b>Water and Sanitation</b>	<b>98.68</b>	<b>28</b>		<b>85.00</b>	<b>23</b>	<b>Access to Information and Communications</b>	<b>82.64</b>	<b>15</b>			
Access to piped water (% of pop.)	98.6	25	W	Mobile telephone subscriptions (subscriptions/100 people)	95.5	87	W	Freedom over life choices (% satisfied)	86.6	27	W
Rural access to improved water source (% of pop.)	98.0	41	W	Internet users (% of pop.)	84.2	13	N	Freedom of religion (1=low; 4=high)	3	55	W
Access to improved sanitation facilities (% of pop.)	100.0	27	N	Press Freedom Index (0=most free; 100=least free)	23.5	36	W	Early marriage (% of women aged 15-19)	0.03	32	W
								Satisfied demand for contraception (% of women)	84.7	14	N
								Corruption (0=high; 100=low)	74	15	W
<b>Shelter</b>	<b>90.05</b>	<b>6</b>		<b>68.66</b>	<b>68</b>	<b>Health and Wellness</b>	<b>74.46</b>	<b>15</b>			
Availability of affordable housing (% satisfied)	69.0	7	W	Life expectancy (years)	78.7	30	W	Tolerance for immigrants (0=low; 100=high)	81.5	11	N
Access to electricity (% of pop.)	100.0	1	N	Premature deaths from non-comm. diseases (prob. of dying)	14.3	35	W	Tolerance for homosexuals (0=low; 100=high)	71.3	15	N
Quality of electricity supply (1=low; 7=high)	6.3	19	W	Obesity rate (% of pop.)	31.8	126	W	Discrim. and viol. against minorities (0=low; 10=high)	4.5	31	N
Household air pollution attr. deaths (deaths/100,000)	0	1	N	Outdoor air pollution attributable deaths (deaths/100,000)	33.6	78	W	Religious tolerance (1=low; 4=high)	3	36	N
				Suicide rate (deaths/100,000)	10.7	81	W	Community safety net (0=low; 100=high)	90.1	27	W
<b>Personal Safety</b>	<b>77.66</b>	<b>30</b>		<b>51.63</b>	<b>74</b>	<b>Ecosystem Sustainability</b>	<b>89.47</b>	<b>1</b>			
Homicide rate (1= <2/100,000; 5= >20/100,000)	2	41	W	Greenhouse gas emissions (CO2 equivalents per GDP)	421.7	4	N	Years of tertiary schooling	1.8	1	W
Level of violent crime (1=low; 5=high)	1	1	N	Water withdrawals as a percentage of resources	2.9	85	W	Women's average years in school	13.9	4	N
Perceived criminality (1=low; 5=high)	2	2	N	Biodiv. and habitat (0=no protection; 100=high protection)	63.4	68	W	Inequality in the attainment of edu. (0=low; 1=high)	0.07	38	W
Political terror (1=low; 5=high)	3	80	W					Number of globally ranked universities	181	1	W
Traffic deaths (deaths/100,000)	11.4	38	W								

Strengths and weaknesses are relative to 15 countries of similar GDP: Saudi Arabia, Switzerland, Netherlands, Ireland, Austria, United Arab Emirates, Sweden, Germany, Denmark, Australia, Canada, Belgium, Iceland, Finland, and Norway

Relative Strength

Neutral

Relative Weakness



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Source: Social Progress Imperative  
[www.socialprogressimperative.org](http://www.socialprogressimperative.org)

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