

LATIN AMERICA'S EPIDEMIC OF VIOLENCE AND ITS
IMPACT ON LONGEVITY AND OTHER HEALTH
OUTCOMES

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FOR DEMOGRAPHIC
RESEARCH

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- ▶ **Latin America** is the world's most **violent** region.

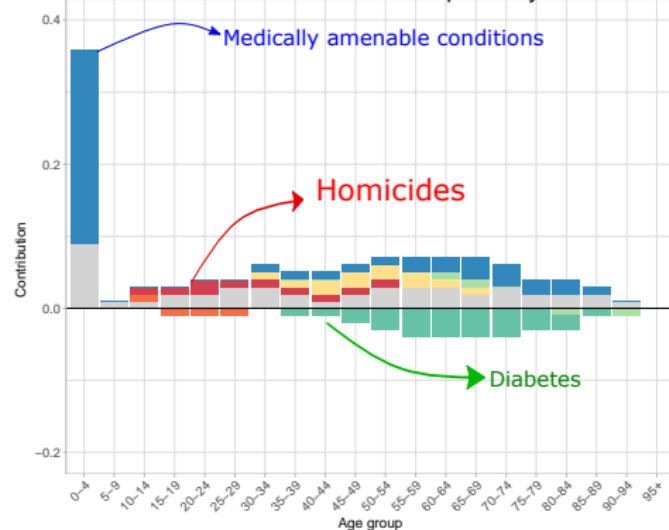
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- ▶ Central American countries → **upsurge** of violence in the new century.

In Mexico: homicides declined in 2000-2005

2000–2005

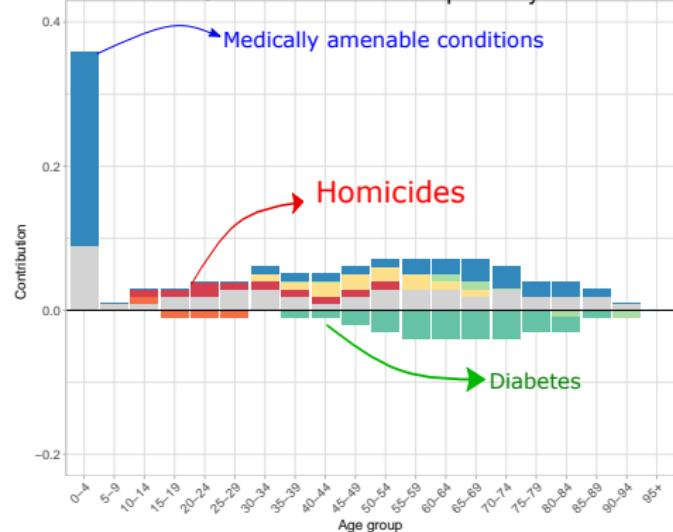
Increase of 10 months in male life expectancy.



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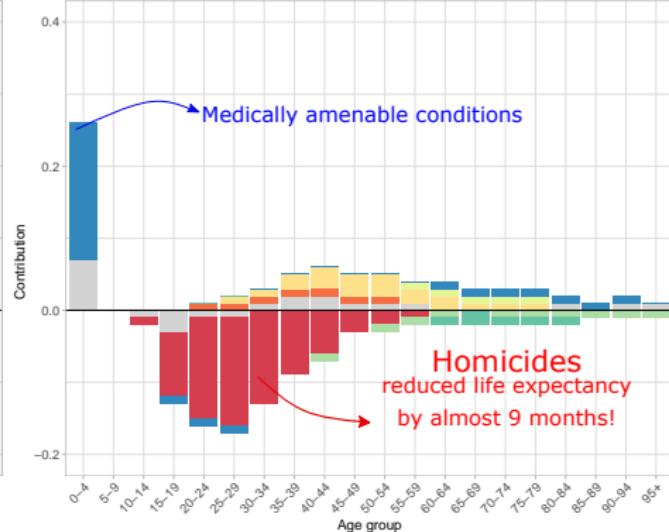
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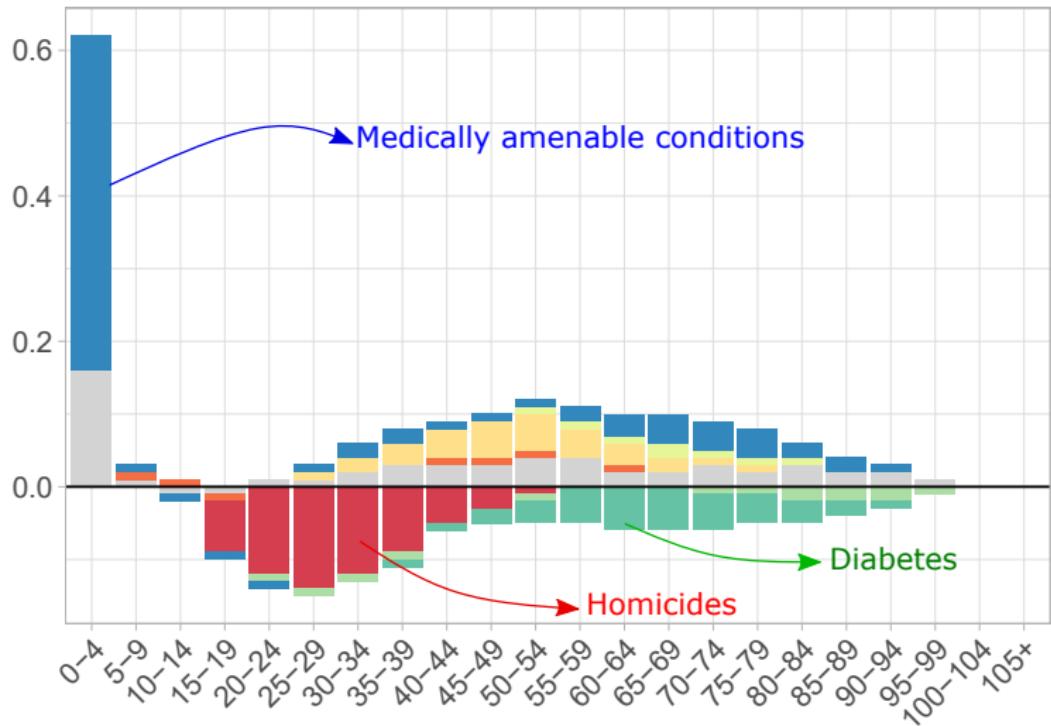
2005–2010

Reduction of almost 3 months.



In 2006–2012 rates doubled (9.3 → 18.6).

As a result, male life expectancy **stagnated** in the first decade of the new century (~ 71 y)



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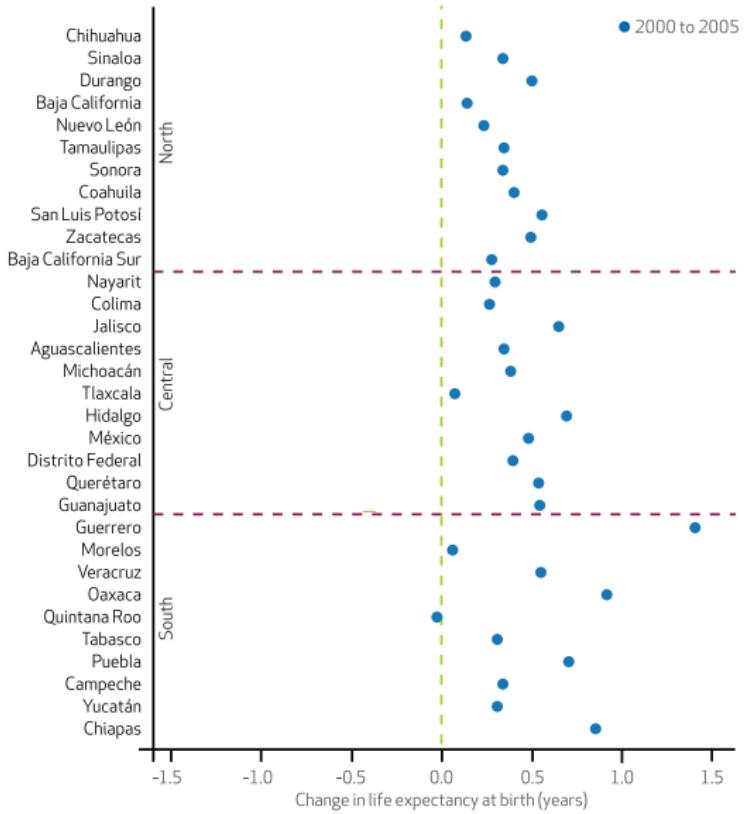
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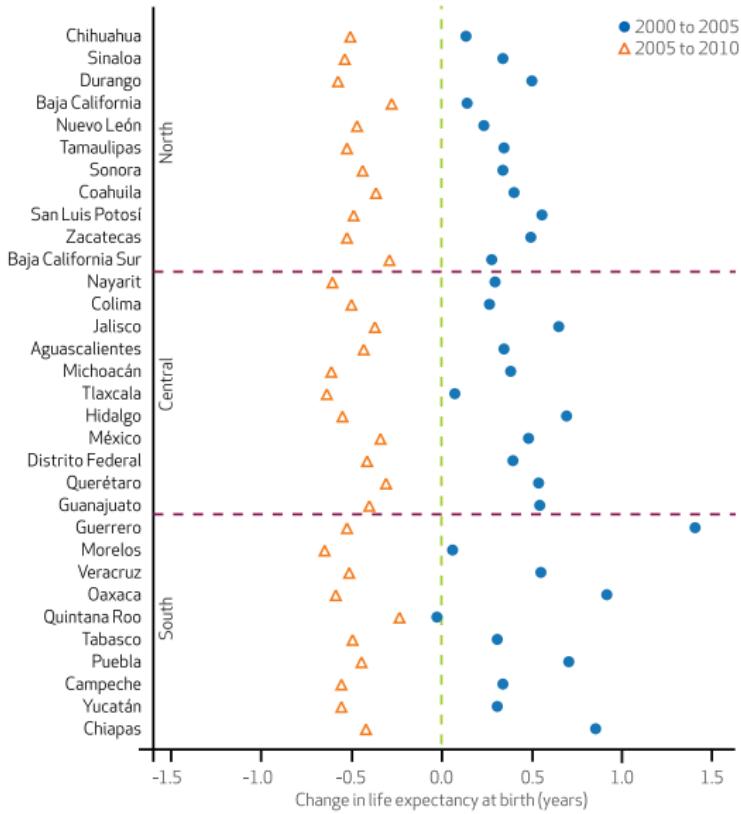
- ▶ **Competition** between drug cartels for territory.
- ▶ **Enforcement operations** trying to mitigate drug trafficking operations after 2005.
- ▶ **Increased profitability** in the drug-trade flow with United States.



Changes in male life expectancy at birth by state



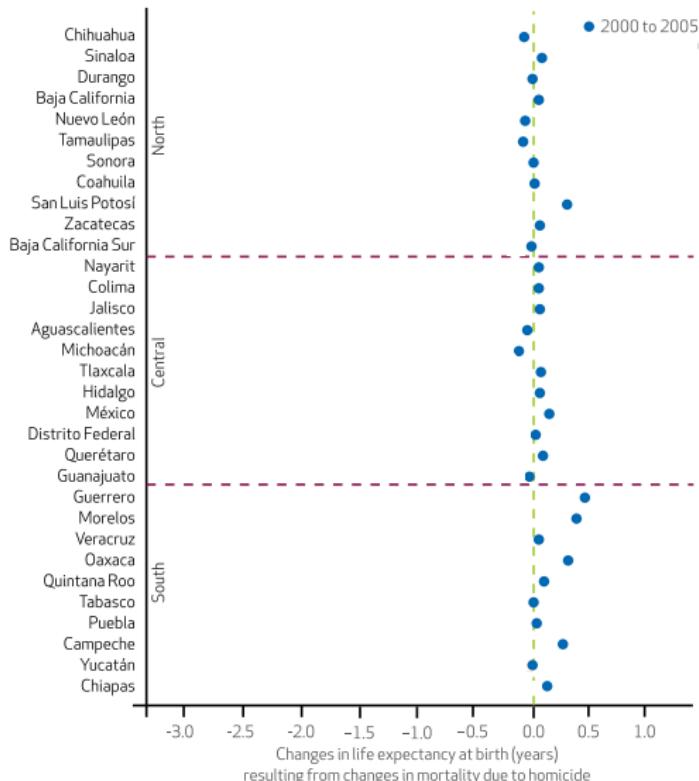
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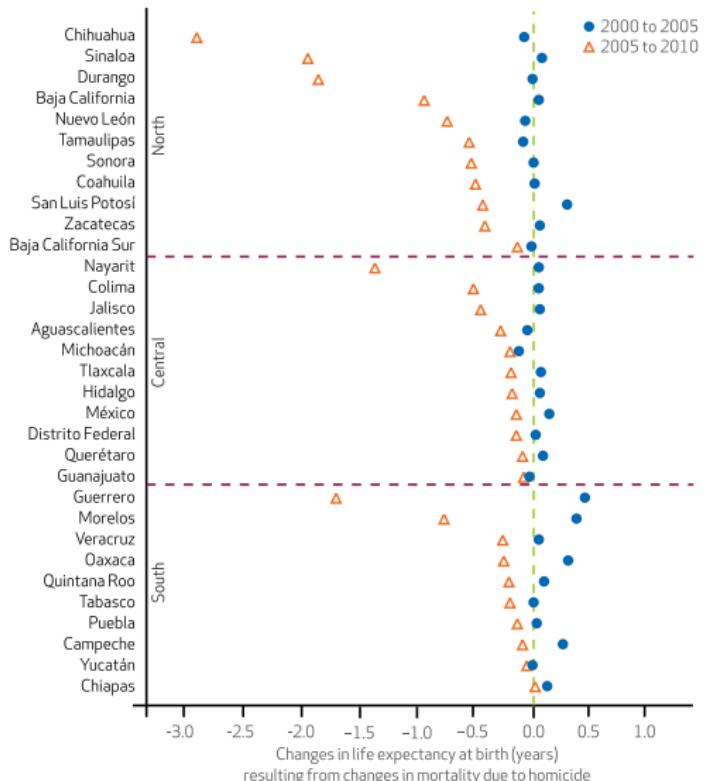
Propagation of violence

Espinal-Enriquez & Larralde 2015

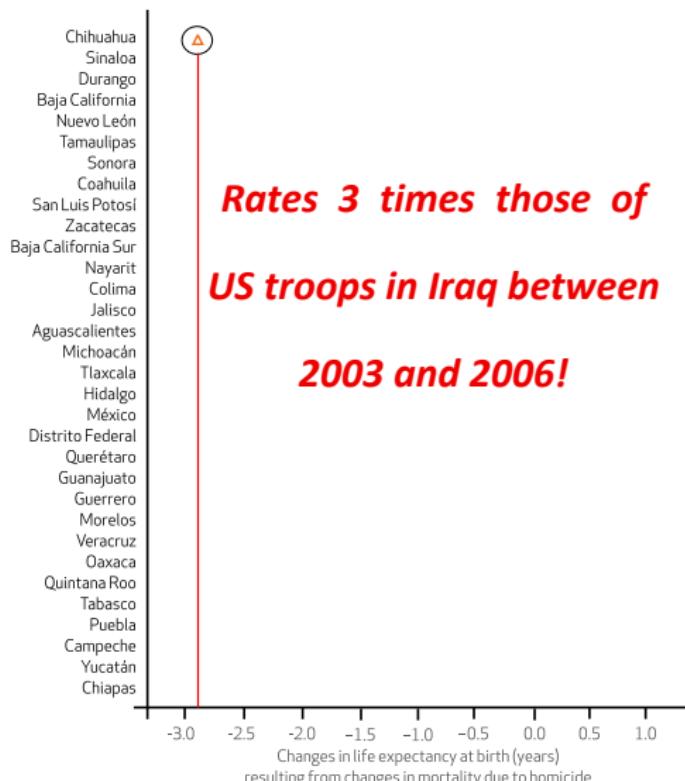
Homicide contribution to changes in male life expectancy at birth by state



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Gains in life expectancy due to medically amenable causes

1. Infectious
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3. Birth conditions
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**Wiped out by the increase of
homicides after 2005 in each of the 32
states in Mexico**

Consequences of violence go beyond homicides

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Victims of violence

- ▶ Depression
- ▶ Alcohol abuse
- ▶ Suicidal behavior
- ▶ Psychological problems

Davidson et al. 1996, Braveman et al 2014, Mikton et al. 2014

Consequences of violence go beyond homicides

Witnessing violence

- ▶ Higher rates of post-traumatic stress disorder
- ▶ Depression
- ▶ Externalize violence
- ▶ **Perceived vulnerability (fear)**

Buka et al. 2001

**Aim: To estimate the average number
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1. Surveys of perception of public safety.
2. Mortality data.
3. Sullivan method.

Canudas-Romo et al 2017

Mexican life expectancy with and without vulnerability, 2005 and 2014.

Females	Age	Life expectancy	Vulnerable expectancy		Vulnerable expectancy (% of total)	
			State	Home	State	Home
2005	20	59.2	30.1	8.4	51	14
	60	22.4	9.6	2.4	43	11
2014	20	59.5	42.3	15.3	71	26
	60	22.6	15.1	5.2	67	23

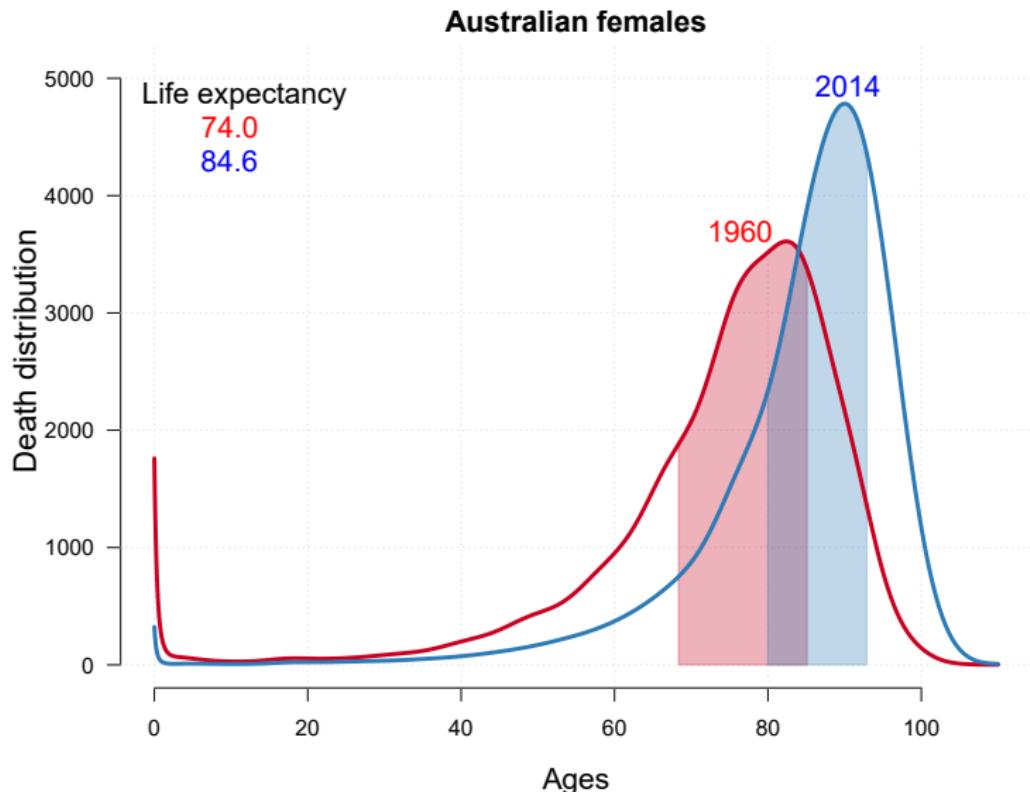
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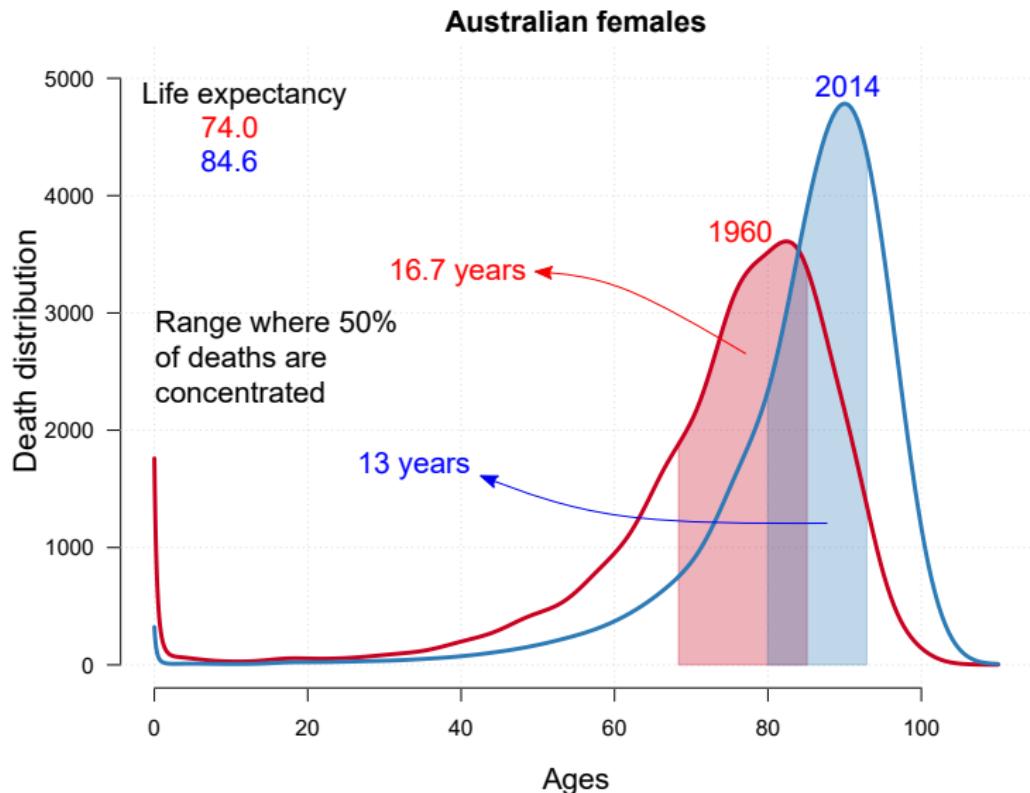
Increase of 30.5 million person-years.

What is the effect of homicides on the uncertainty of life?

What is lifespan variation or lifespan inequality?



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- ▶ Implications on **planning** of life's events.
- ▶ **Increasing** vulnerability at the societal level.
- ▶ **Ineffectiveness** of policies aiming to protect individuals.

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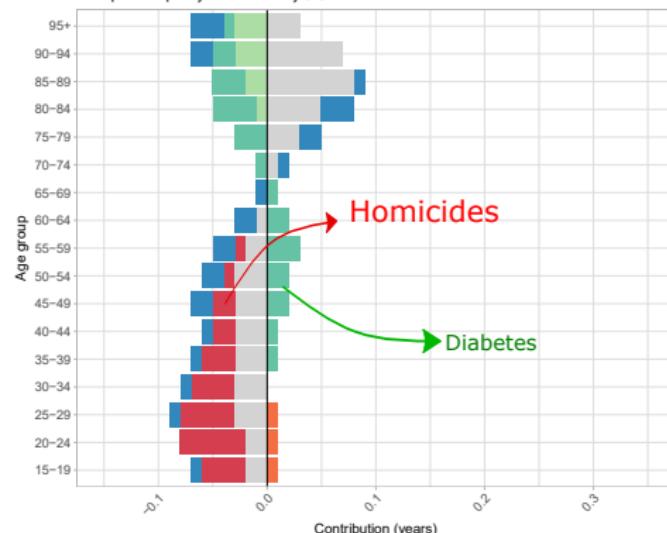
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- ▶ Easy **public health interpretation**.
- ▶ **Quantify** age and cause specific effects.
- ▶ Separate ages that **decrease** from those that **increase**.
- ▶ Conditioned to age 15 to capture the **onset of violence**.

National lifespan inequality

A) 1995–2005

Lifespan inequality decreased by 6.5 months.

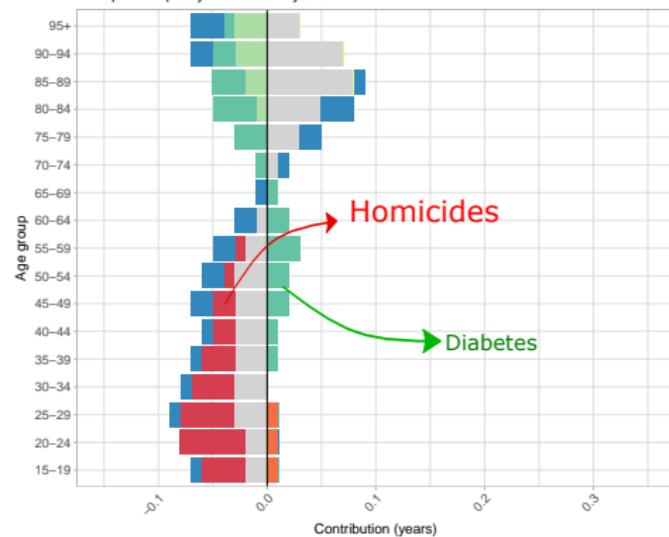


Aburto & Beltrán-Sánchez 2018

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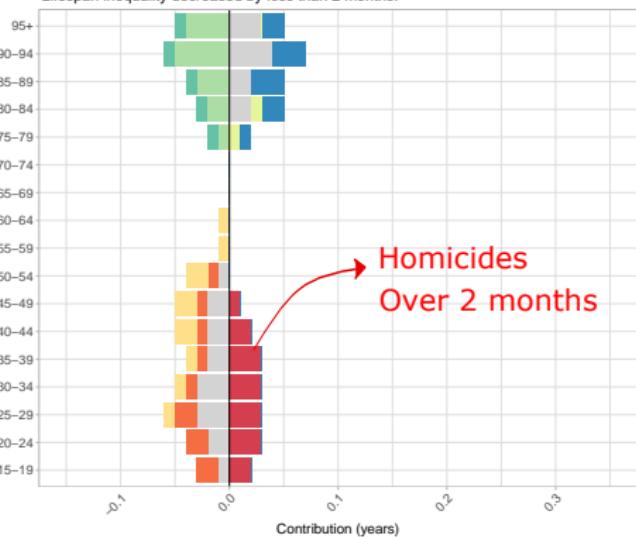
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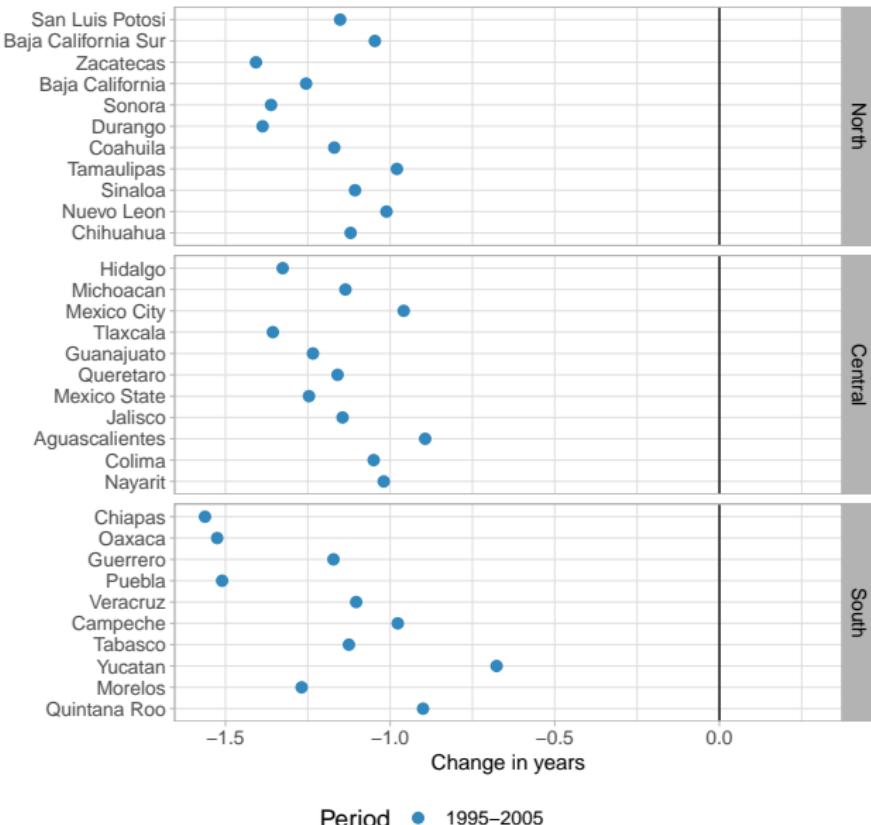
Aburto & Beltrán-Sánchez 2018

B) 2005–2015

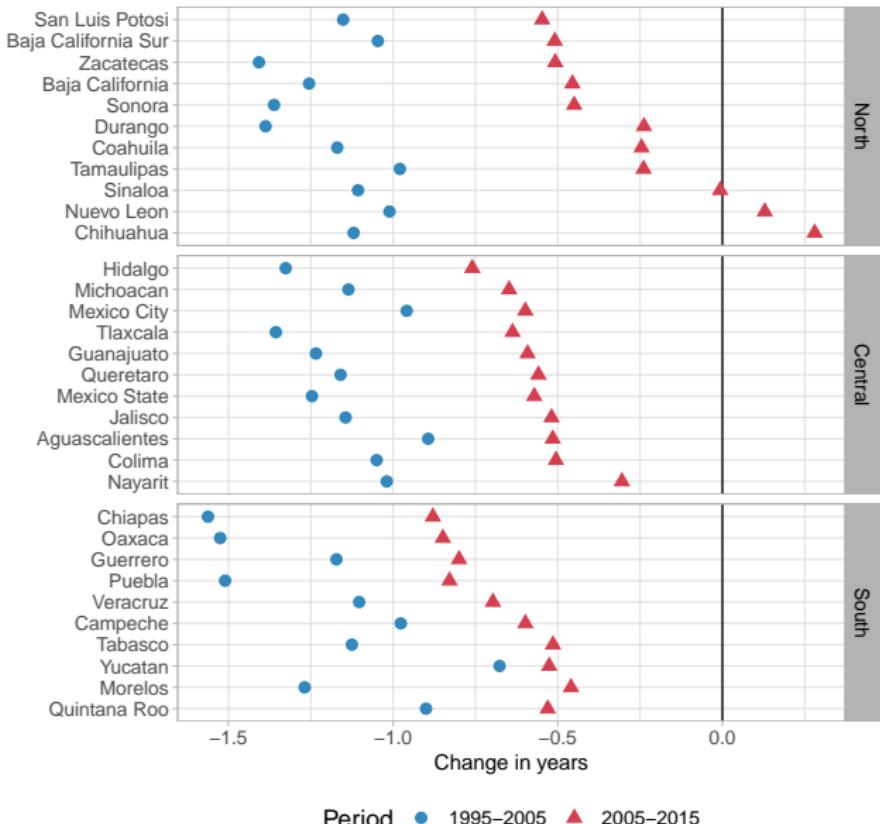
Lifespan inequality decreased by less than 2 months.



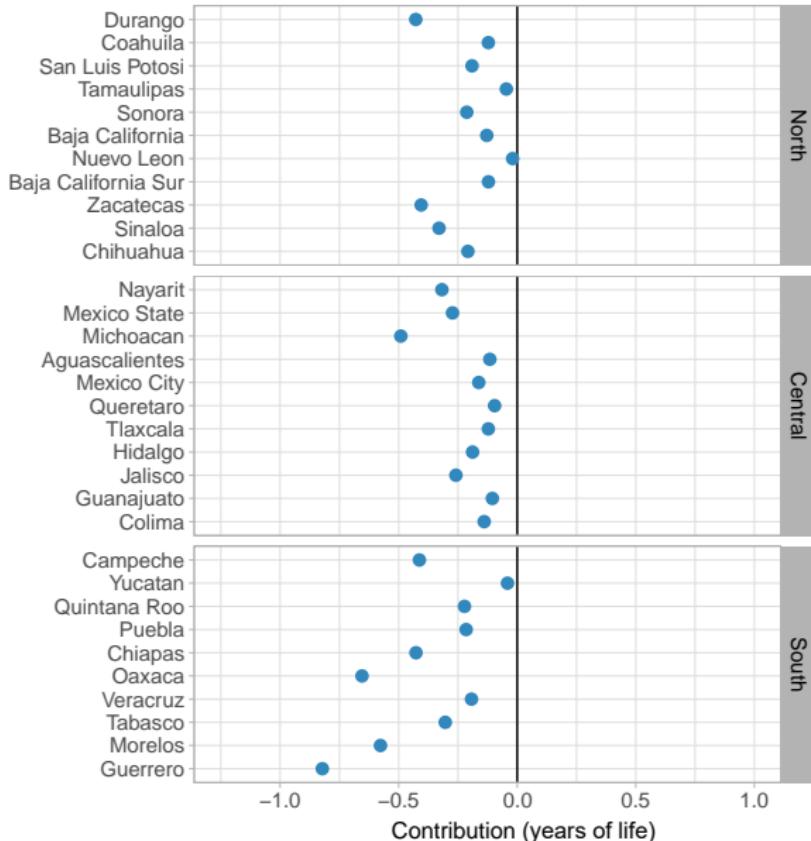
Changes in male lifespan inequality by state



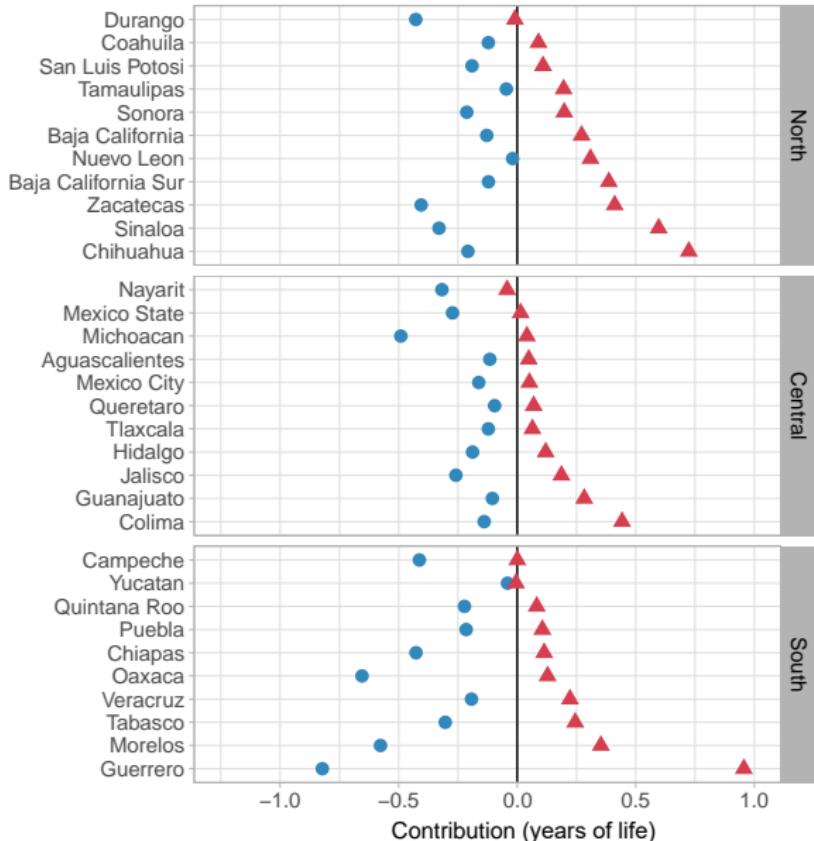
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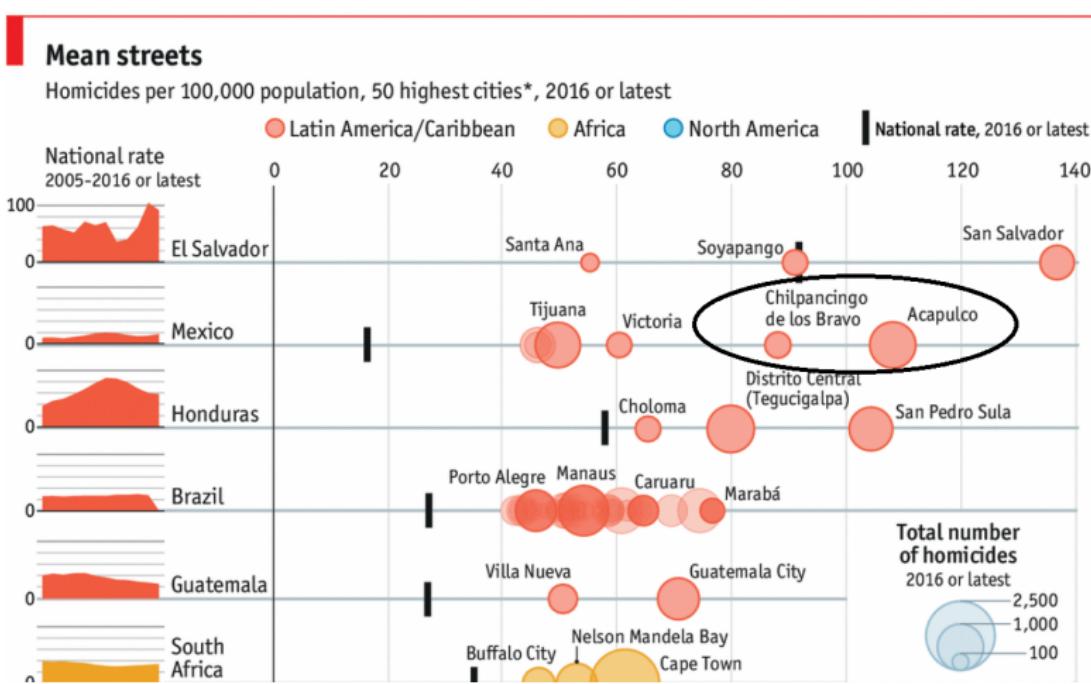
Homicide contribution



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2 of most dangerous cities in the world in 2016 in this state (The Economist)!



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- ▶ Young males **live less**, on average, and **face more uncertainty**.
- ▶ Females perceive larger **vulnerability**.
- ▶ Failure to recognize and correct the detrimental **consequences in health and human rights** of violence.

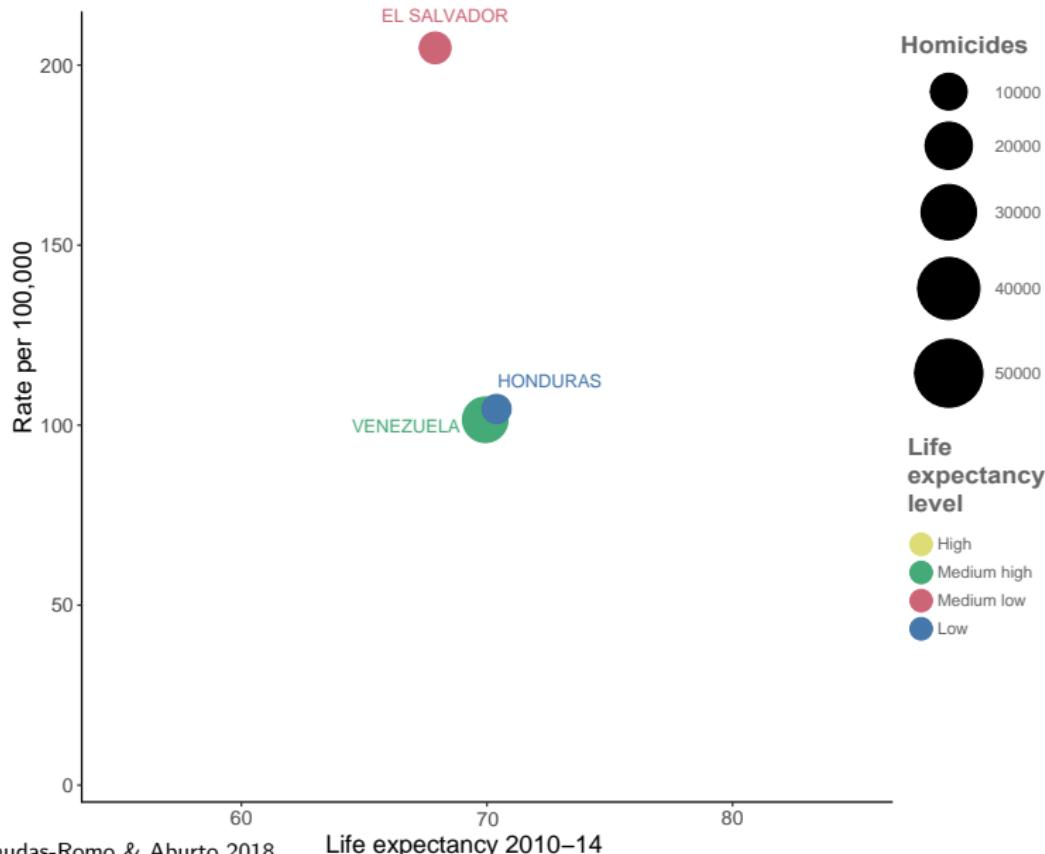
International Perspective

$\sim 2,000,000$
15-30

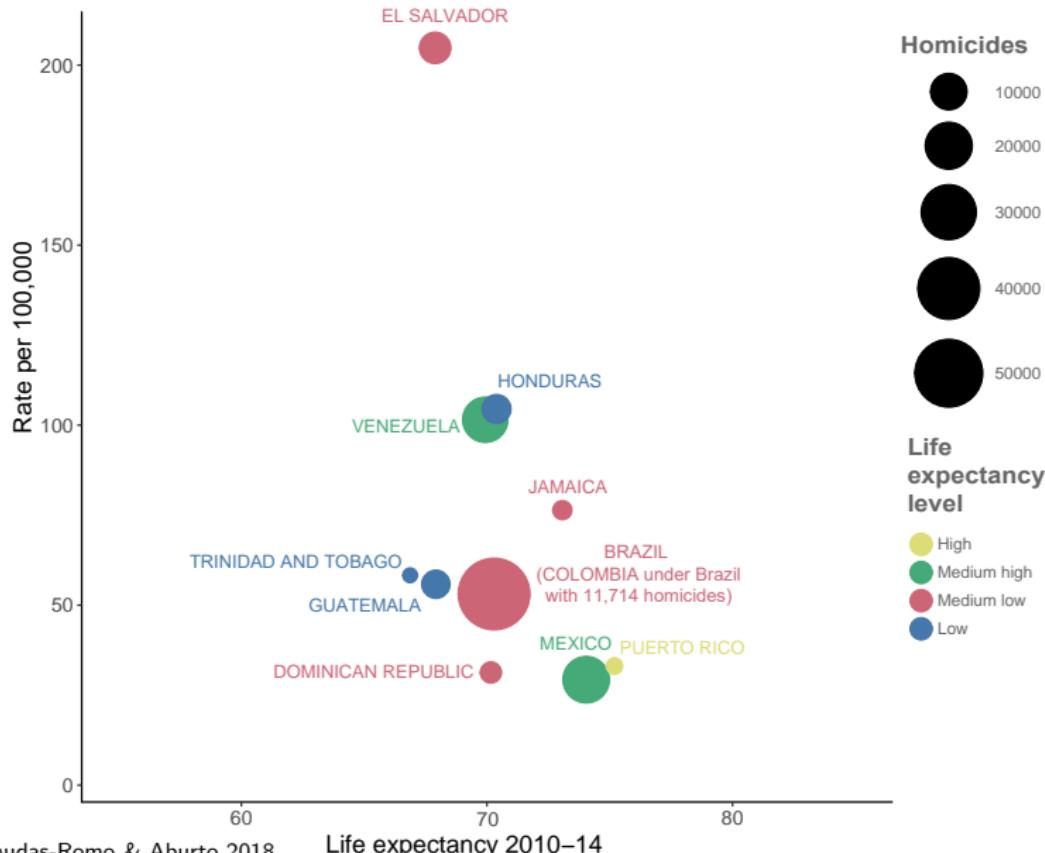
77%
Men

35%
Homicides
(+ 1/2 million)

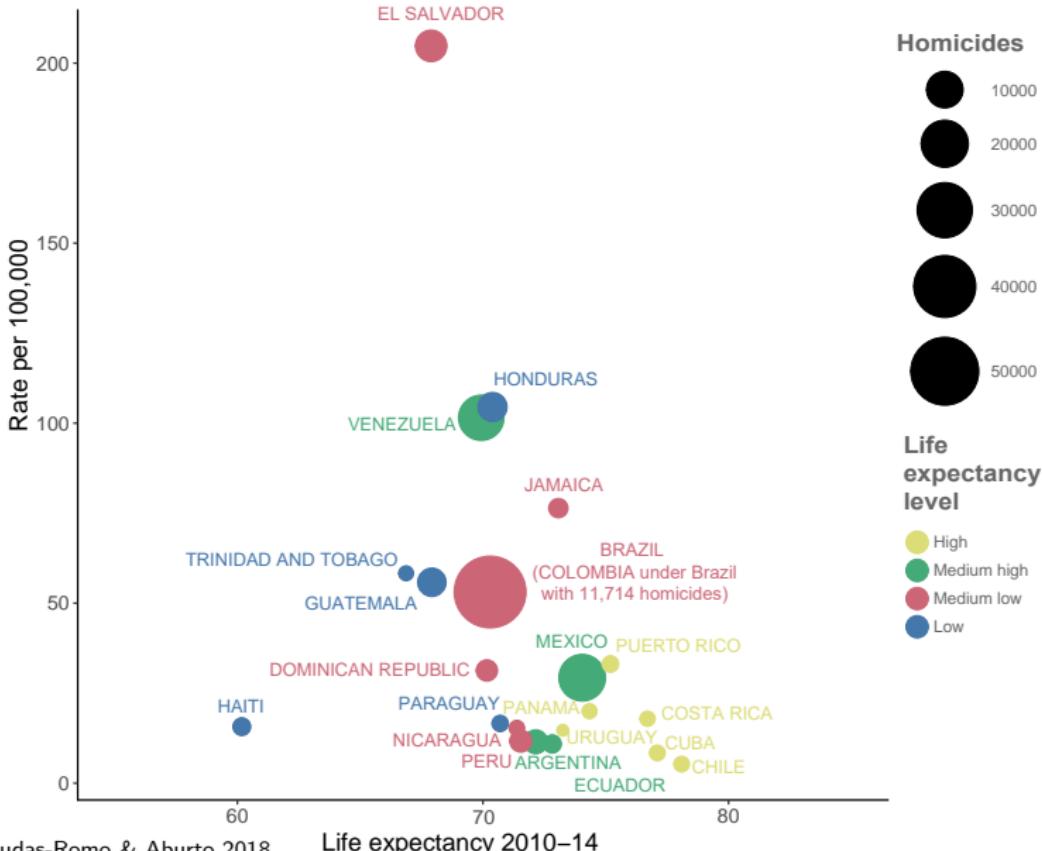
Life expectancy by homicide rate, males 2015.



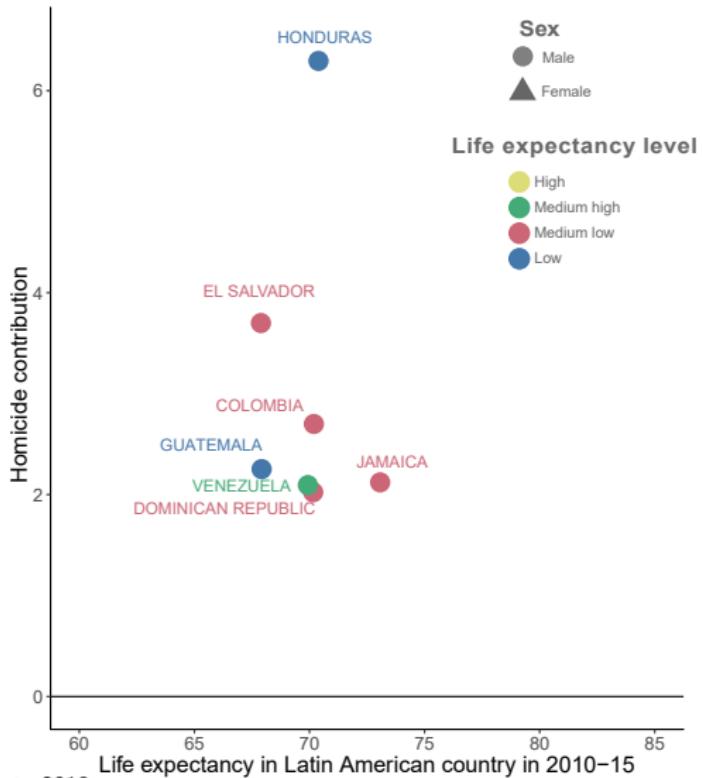
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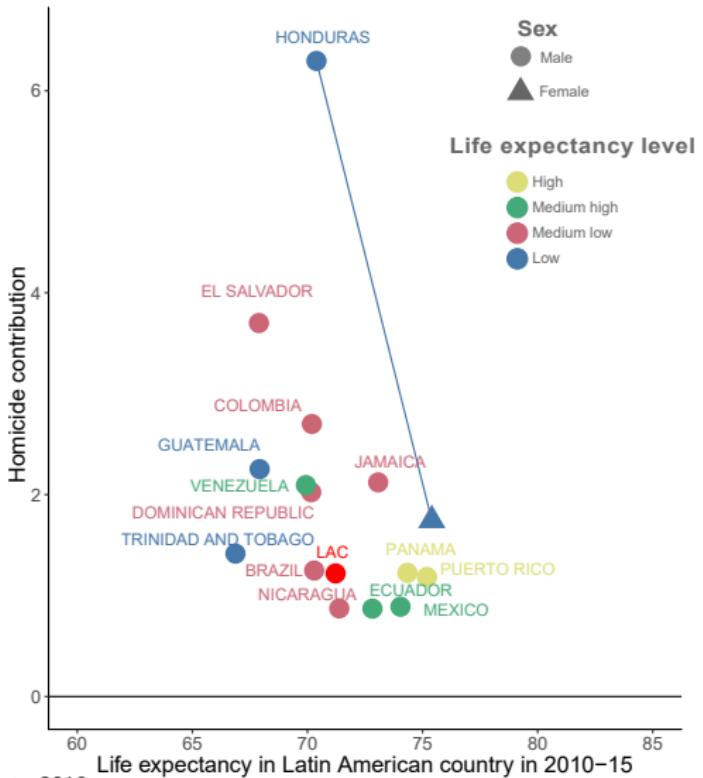


Life expectancy by homicide contribution to gap with high income countries, males 2010-14.



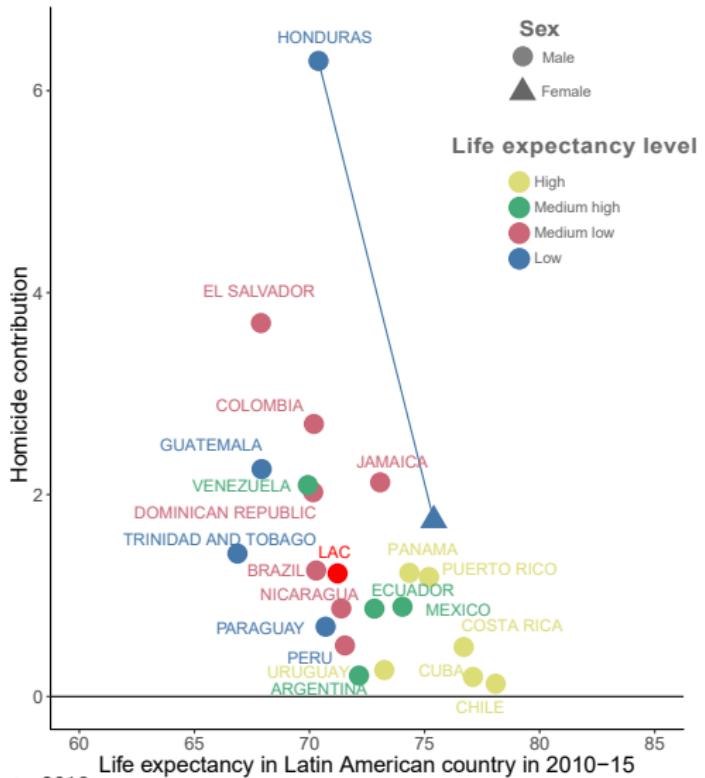
Canudas-Romo & Aburto 2018

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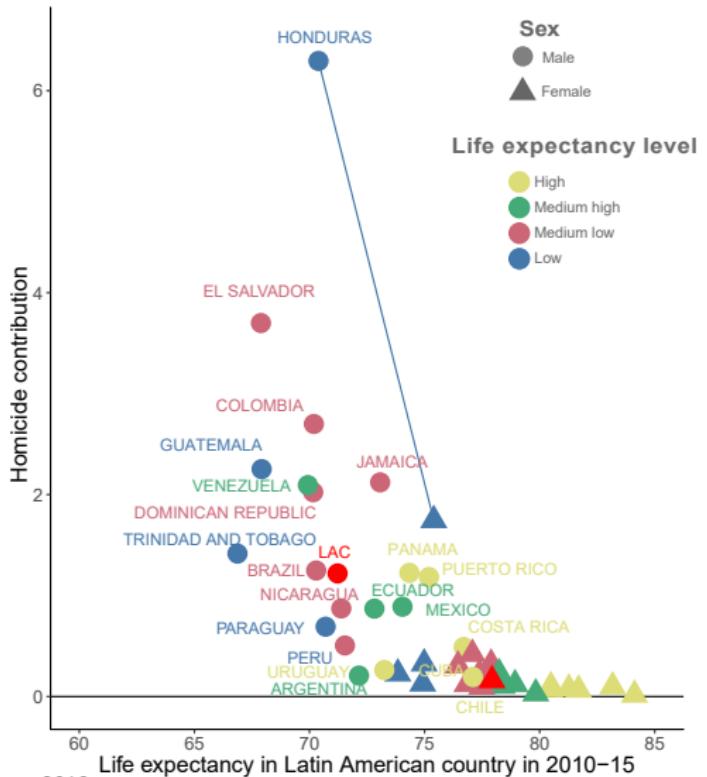
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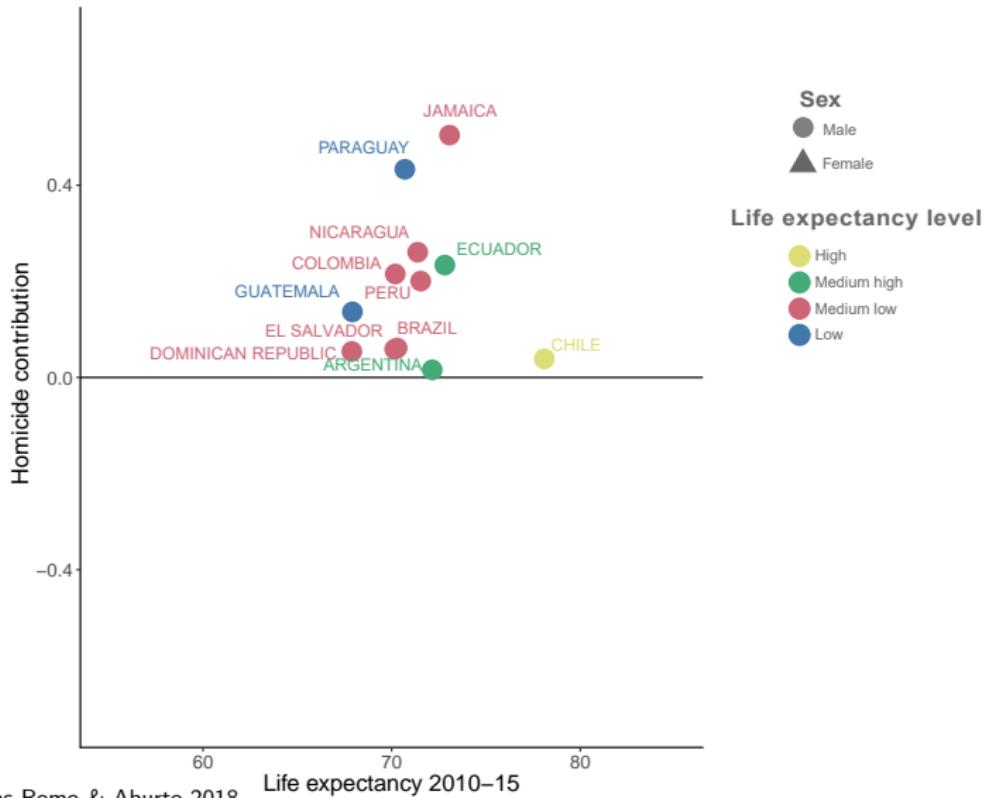
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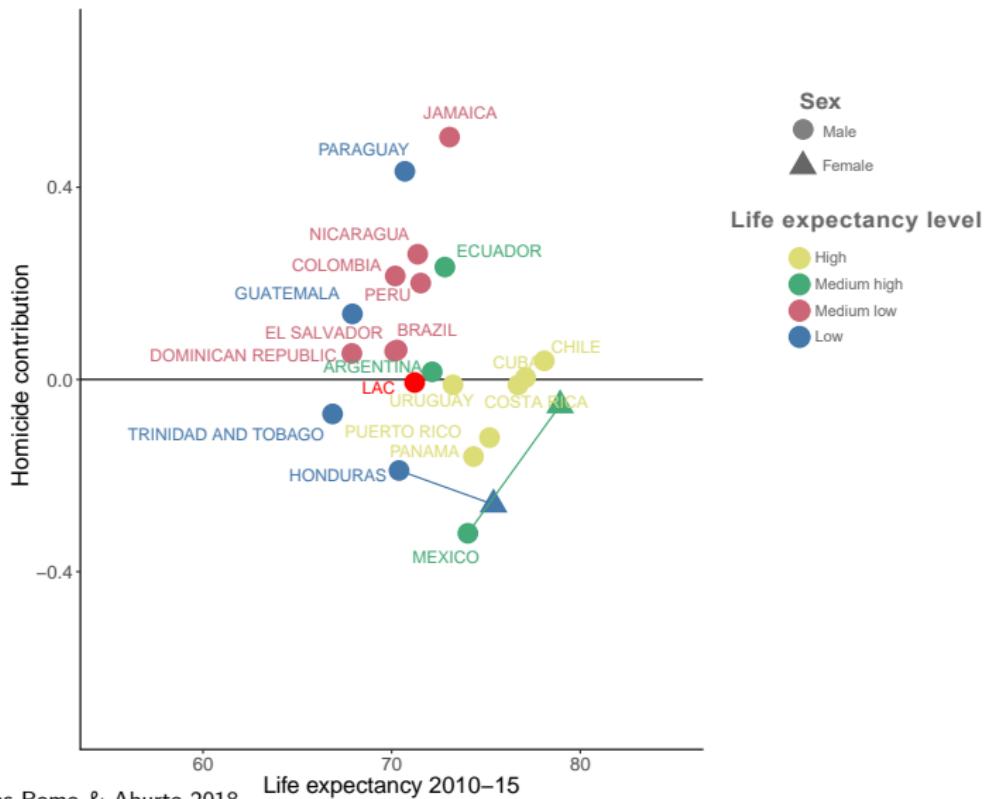
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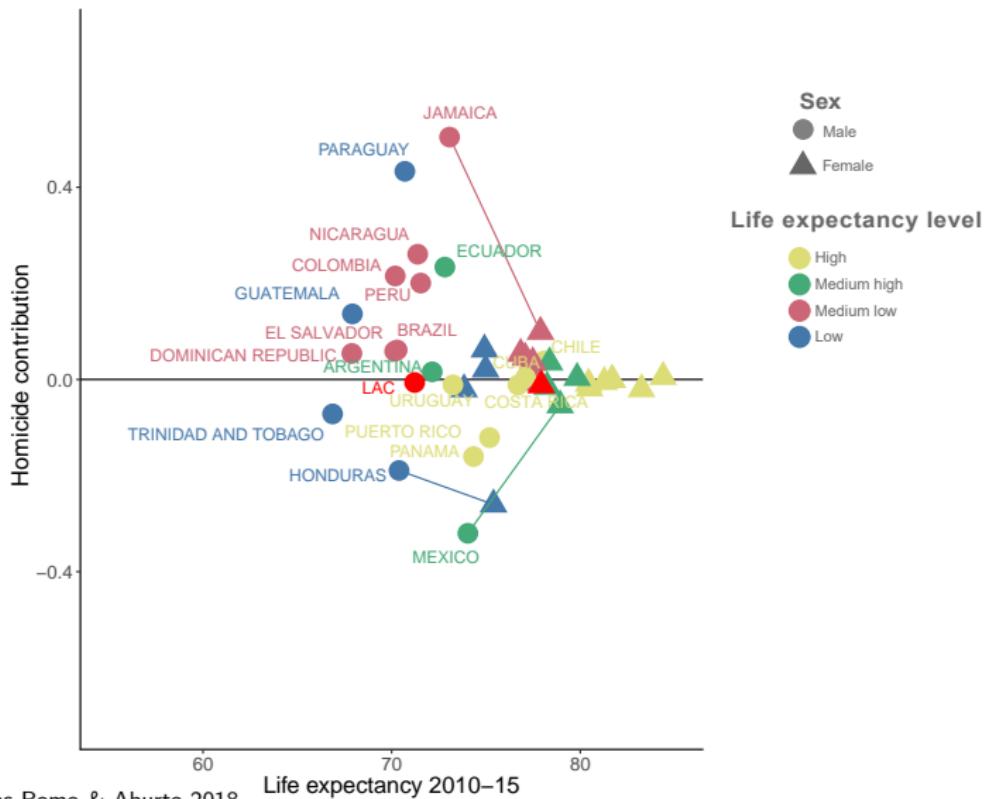
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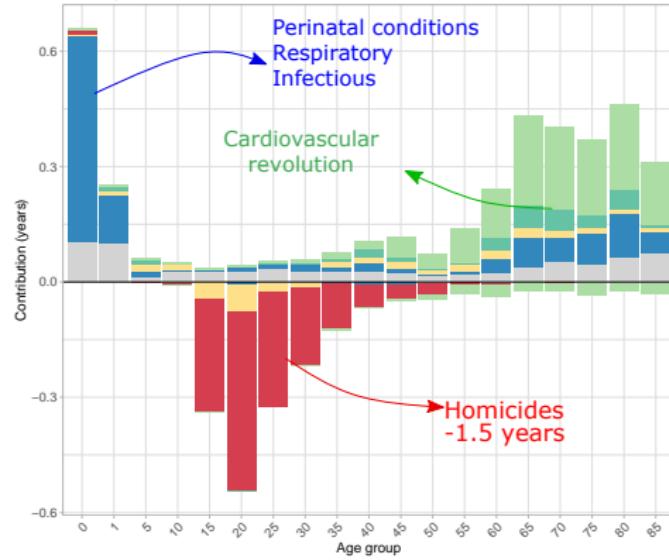
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Venezuela

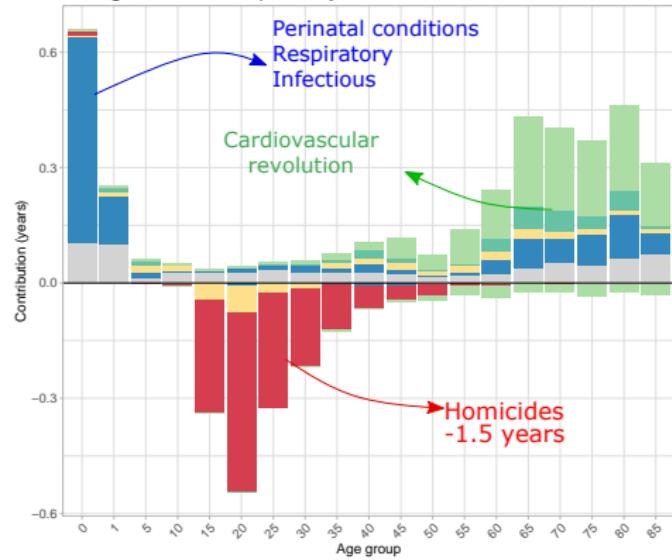
Change in male life expectancy 1996–2013, 68.6 to 70.6



García & Aburto 2018

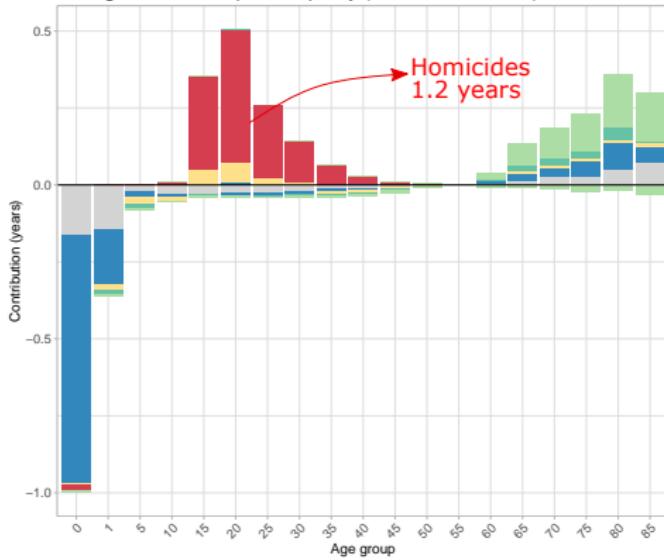
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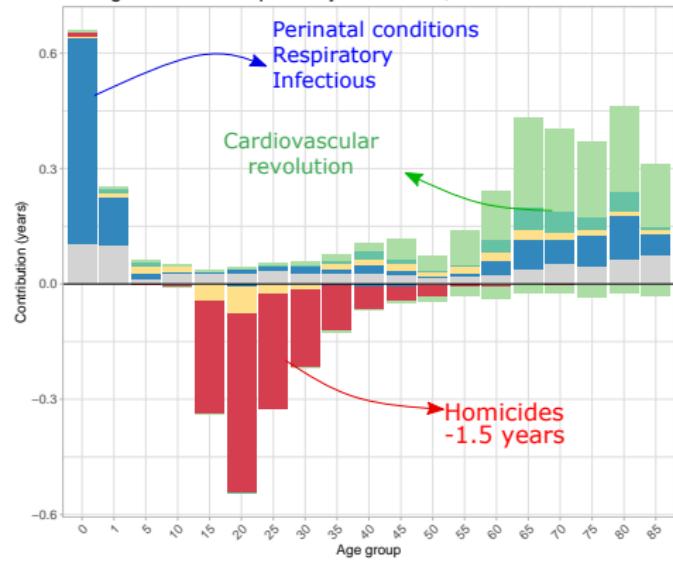
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Change in male lifespan inequality (standard deviation) 1996–2013



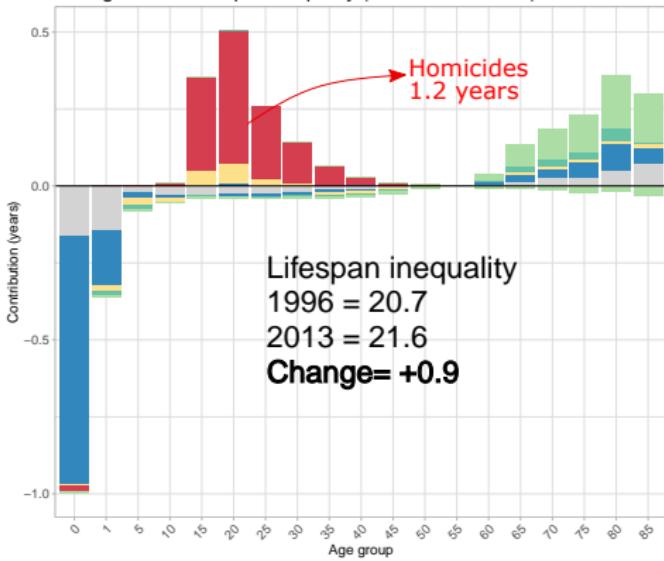
Venezuela

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García & Aburto 2018

Change in male lifespan inequality (standard deviation) 1996–2013



Lifespan inequality
1996 = 20.7
2013 = 21.6
Change = +0.9

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- ▶ Excess of homicides drives diversity in longevity.
- ▶ Increase in homicides is slowing down improvements in longevity.
- ▶ Violence is increasing vulnerability.
- ▶ Urgent need of policies to address violence.

Challenge of Latin America: Reducing violence

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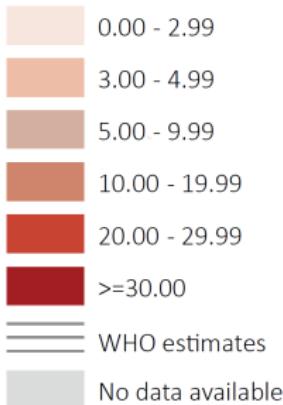


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Homicide rate



UNODC 2014