Karolinska Institutet

Inequalities in Suicide

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Karolinska Institutet

Development of suicidality

Subjective not tolerable Situation → "Crisis"

e. g. Psychiatric illness, Life conditions

Negative social inter-actions, crieses

Depressive Thinking/ Hopelessness

Psychic Pain

Solution:

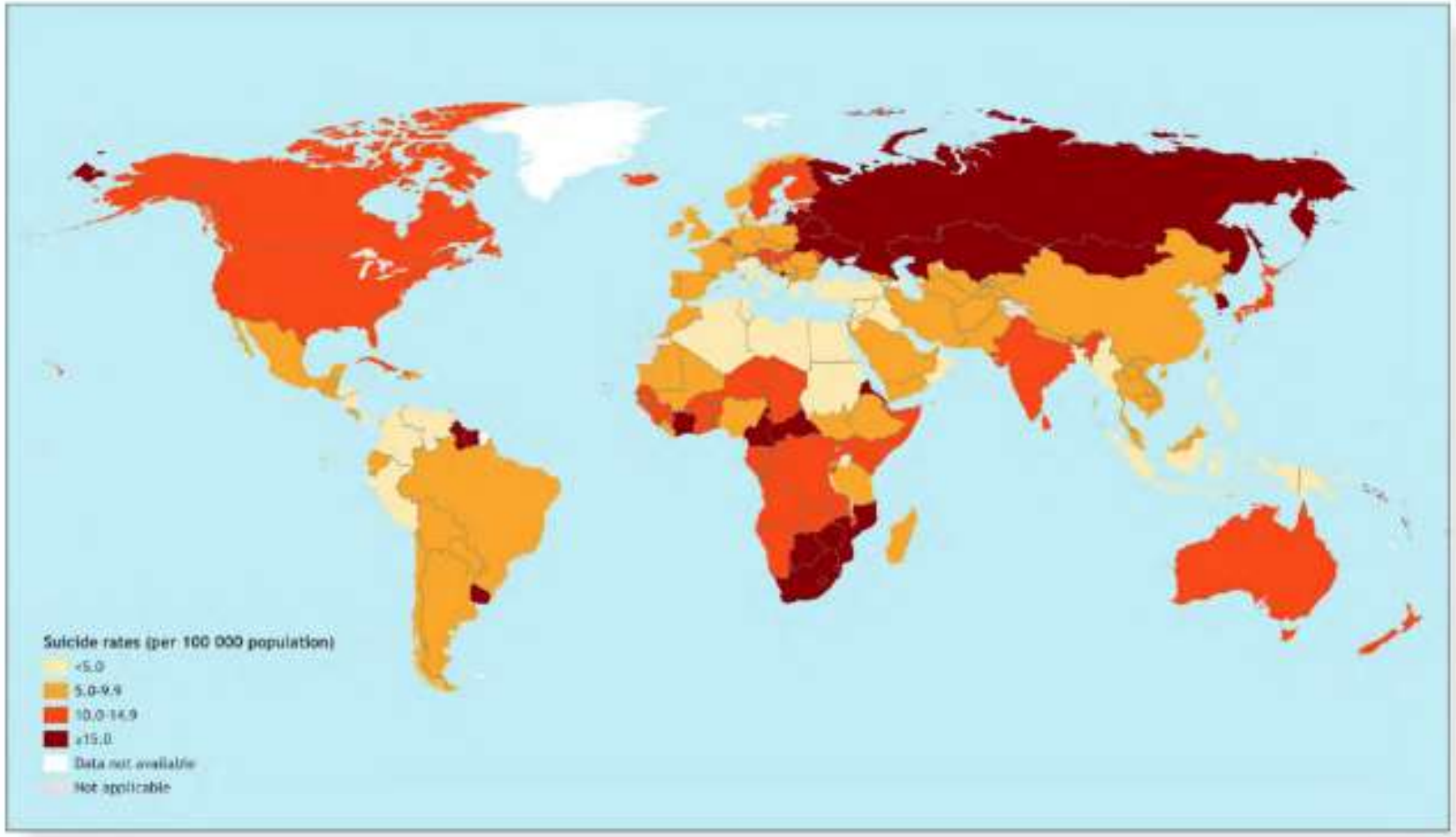
Suicide

„Tunnel thinking"

The stress-diathesis model of suicidal behaviour

Model	Biological	Psychological	Social
Stress	**Mental disorders** Post-partum disorders Medications Abuse	**Negative life events** **Stress situations** Emotional crisis	**Migration** **Social, economical adversities, changes (loss of job, etc.)**
Diathesis	Depression in the family Family history of suicide Serotonin system dysfunction, etc.	Family background Disturbances in the development Child abuse, neglect,	Social environment Trans-generational effects Social transmission, etc.

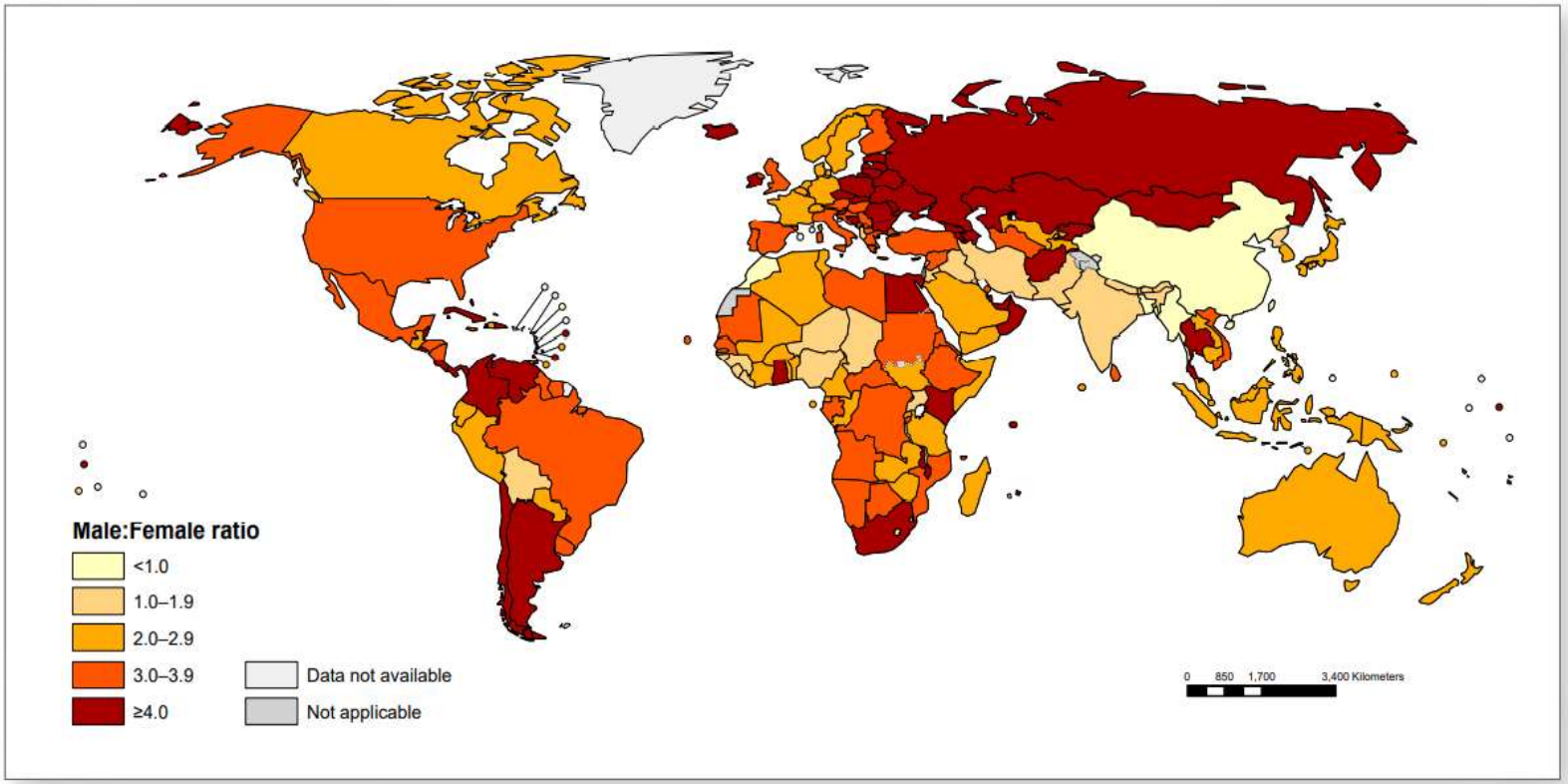
Age-standardized suicide rates (per 100 000 population, both sexes, 2016



Source: WHO Global Health Estimates 2000-2019

Male:female ratio of age-standardized suicide rates, 2016

Figure 4. Male:female ratio of age-standardized suicide rates, 2016



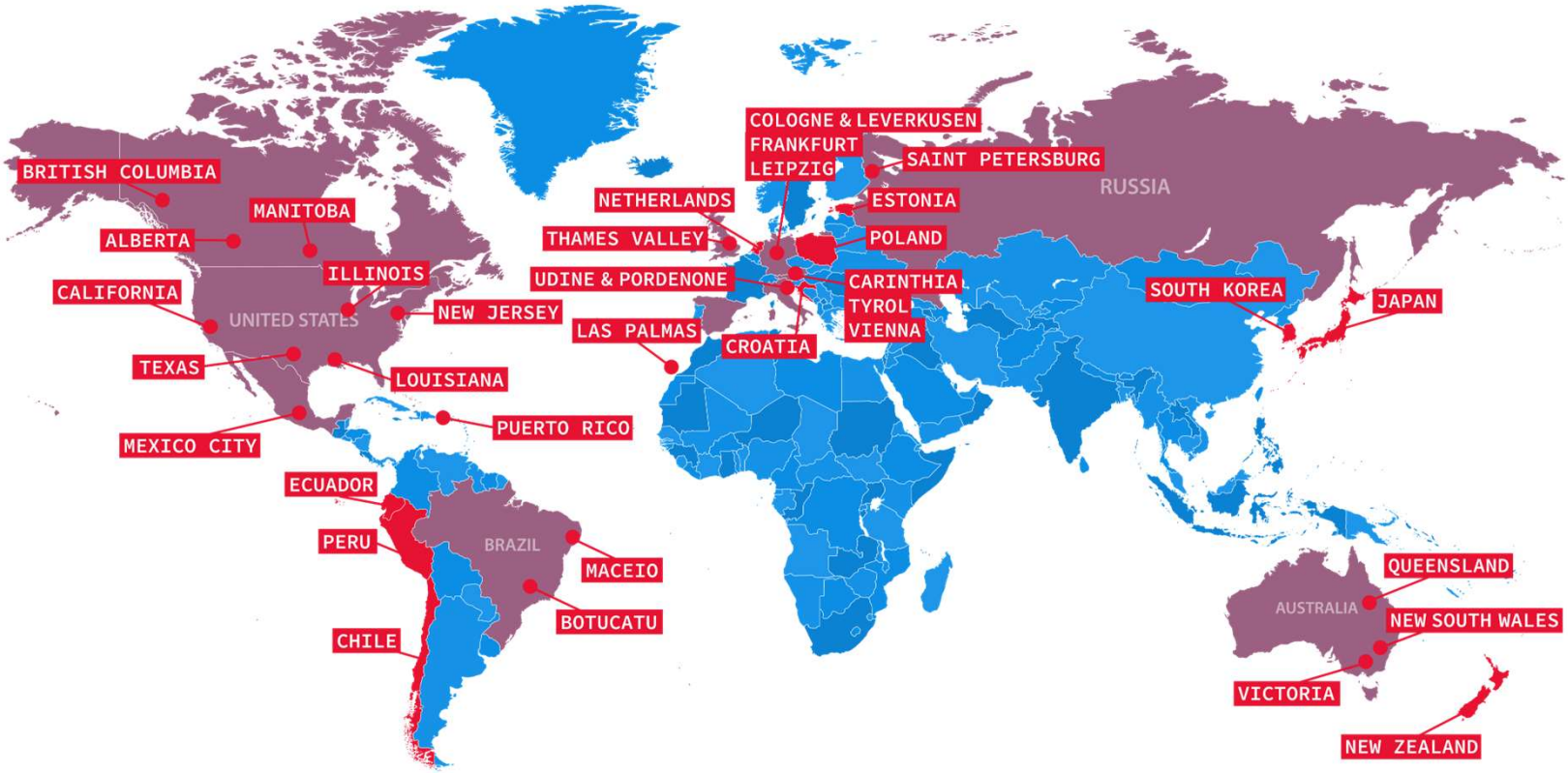
The International Covid-19 Suicide Prevention Research Collaboration – ICSPRC

ICSPRC International COVID-19 Suicide Prevention Research Collaboration

Countries represented in the collaboration:

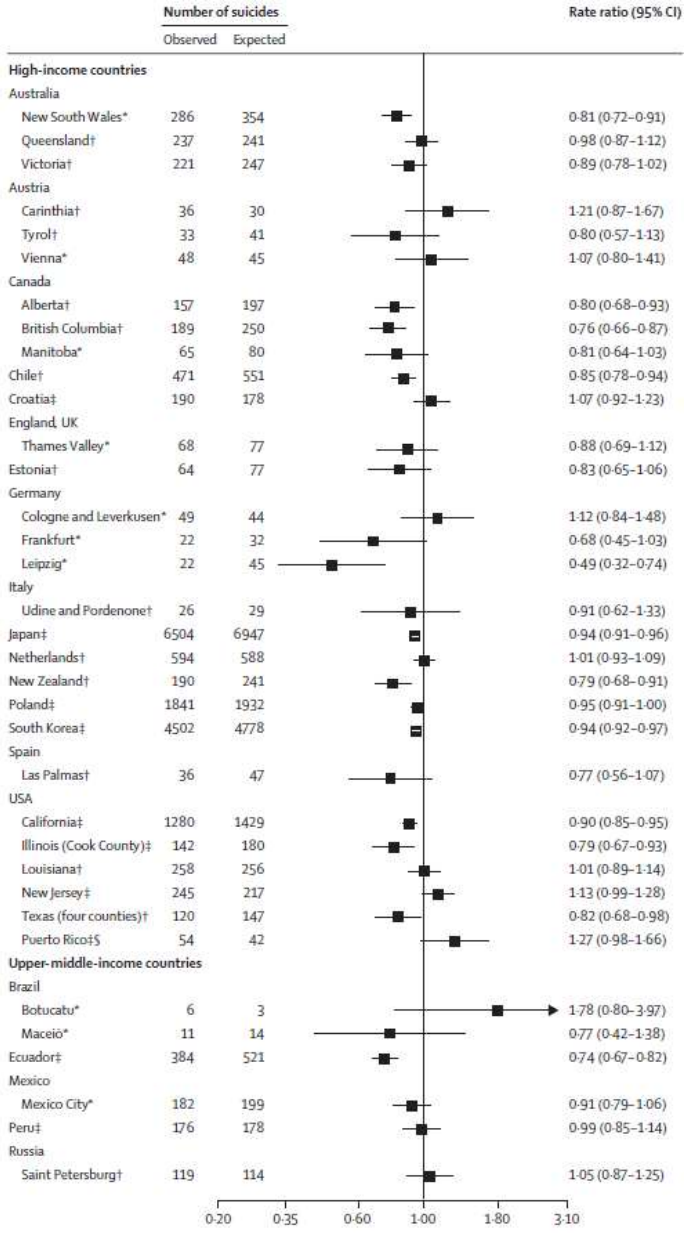
Australia; Austria; Bangladesh; Belgium; Brazil; Canada; China; Czech Republic, Denmark; Ecuador; England; Finland; France; Ghana; Germany; Hong Kong; India; Iran; Ireland; Israel; Japan; Kenya; Malaysia; Mexico; Netherlands; New Zealand; Nigeria; Northern Ireland; Norway; Pakistan; Peru; Poland; Russia; Scotland; Slovenia; South Africa; Spain; Sri Lanka; Sweden; Taiwan; Wales; Uganda; USA

Countries and areas-within-countries

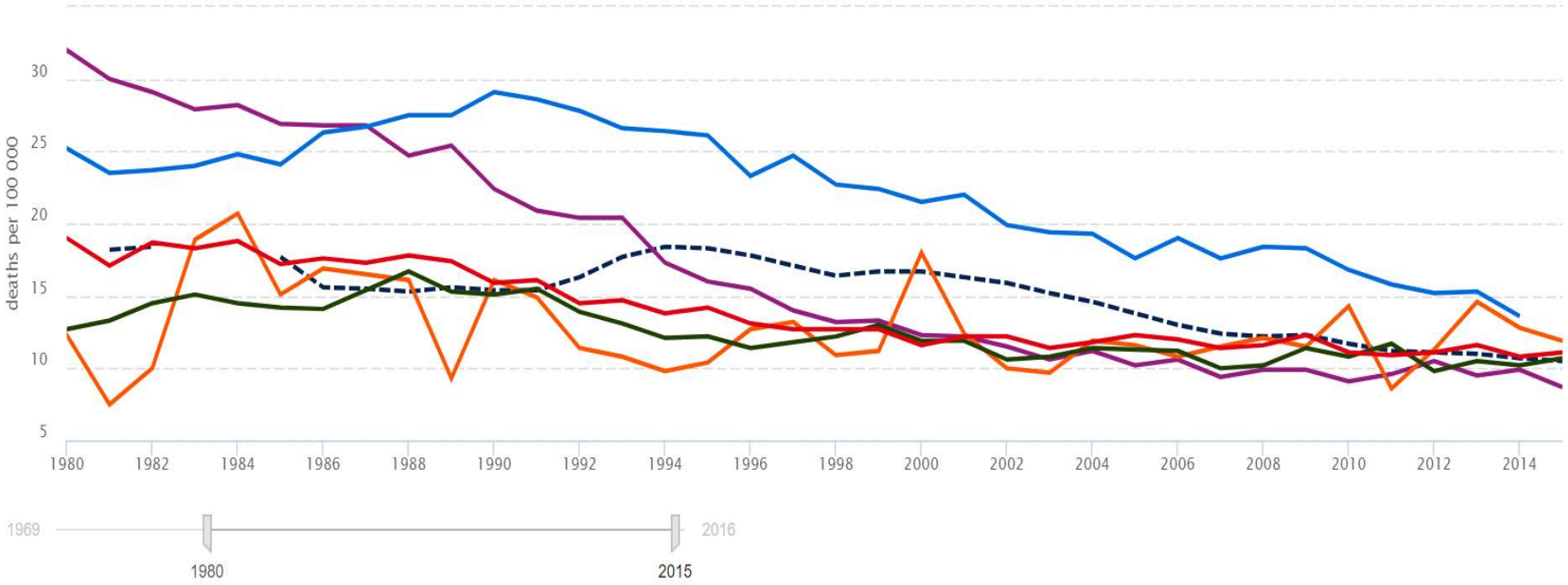


Findings

- No evidence of a significant increase in risk of suicide since the pandemic began in any country or area, and in fact evidence of a decrease in some



Trends in suicide rates per 100,000 in Finland, Sweden, Norway, Denmark and Iceland, 1980-2015, HFA database



Explanations

- Social insurance network
- Fiscal support initiatives
- ”Togetherness”
- Health care preparedness

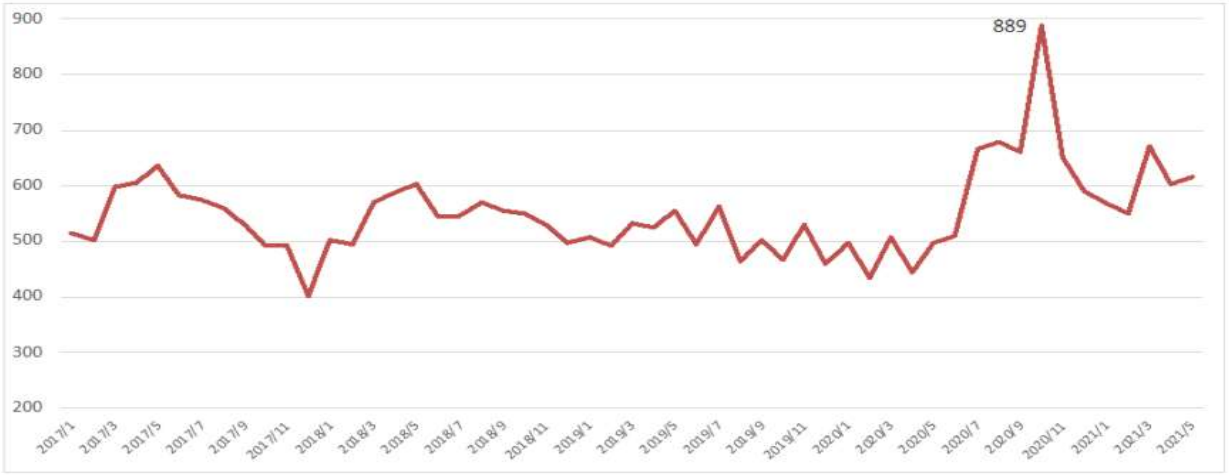
Journal of Psychiatric Research
Volume 140, August 2021, Pages 39-44

Short communication

Suicide rates during social crises: Changes in the suicide rate in Japan after the Great East Japan earthquake and during the COVID-19 pandemic

Yoneatsu Osaki [a], Hitoshi Otsuki [b], Aya Imamoto [c], Aya K Kondo [b], Yoshiko Suyama [d]

The number of suicide deaths by women in Japan: Jan 2017- May 2021



Michiko Ueda, PhD, Associate Professor, Waseda University, Japan Email: mueda@waseda.jp

Psychiatry Research 301 (2021) 113998

Contents lists available at ScienceDirect

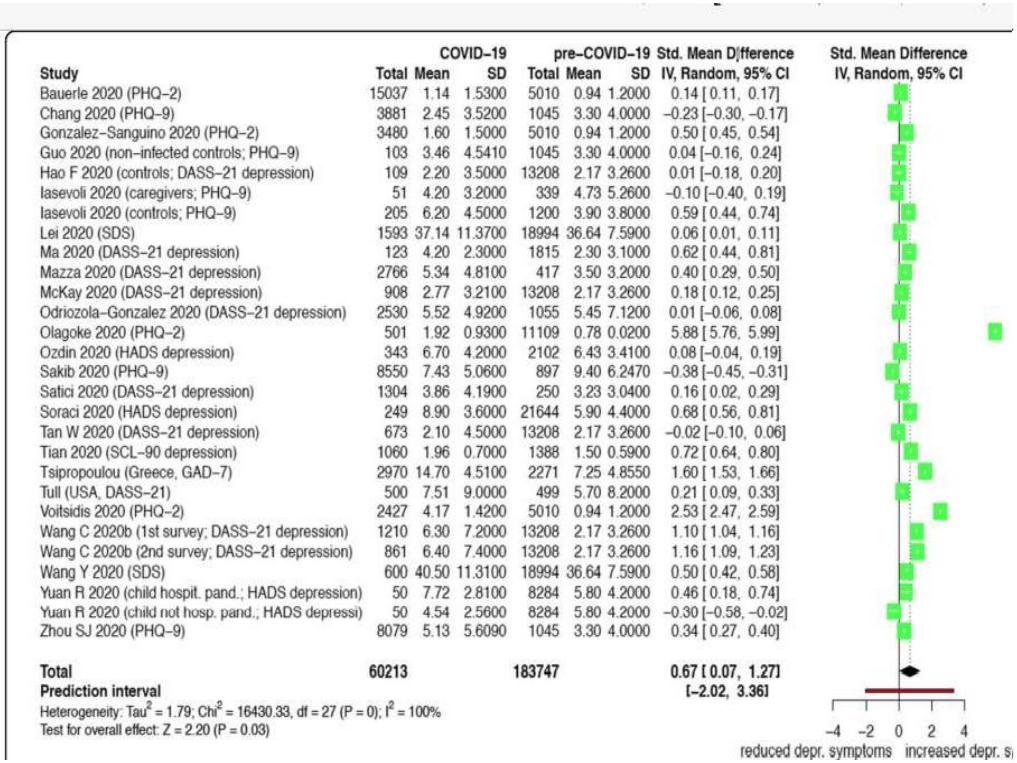
Psychiatry Research

journal homepage: www.elsevier.com/locate/psychres

Suicide behaviors during the COVID-19 pandemic: A meta-analysis of 54 studies

Justin P. Dubé [a], Martin M. Smith [b], Simon B. Sherry [a,*], Paul L. Hewitt [b], Sherry H. Stewart [a,c]

Findings show increased event rates for suicide ideation (10.8%), suicide attempt (4.7%) and self-harm (9.6%) during the COVID-19 pandemic when compared with event rates from pre-pandemic studies.

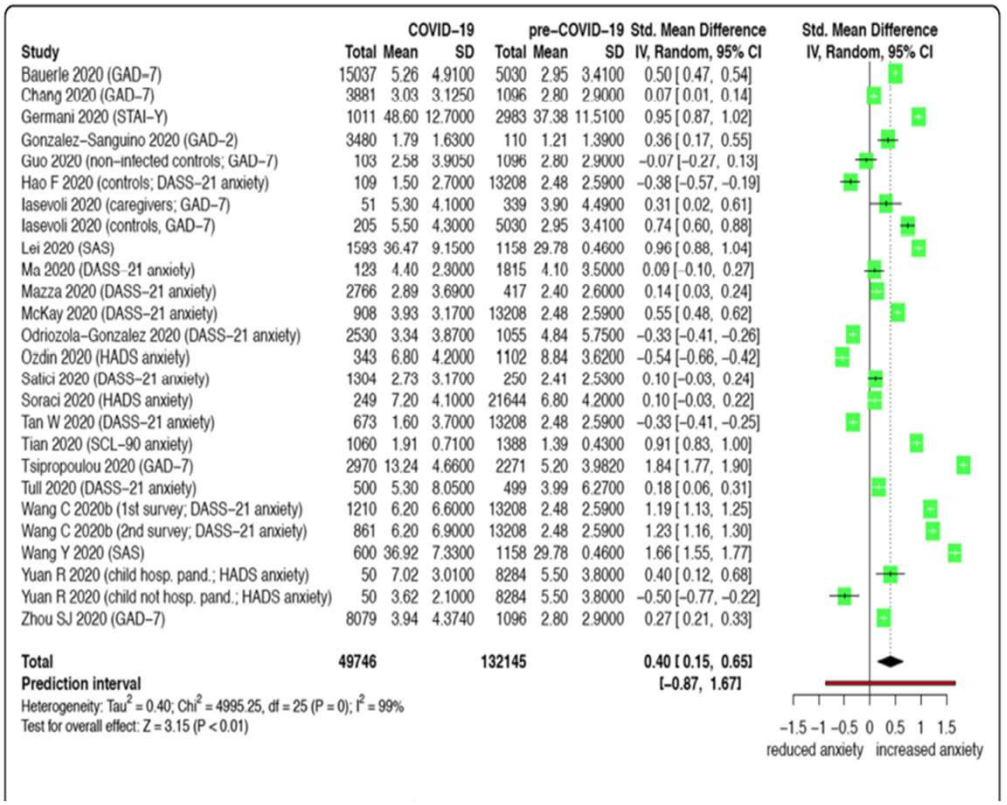


Study	COVID–19 Total	Mean	SD	pre–COVID–19 Total	Mean	SD	Std. Mean Difference IV, Random, 95% CI
Bauerle 2020 (PHQ–2)	15037	1.14	1.5300	5010	0.94	1.2000	0.14 [0.11, 0.17]
Chang 2020 (PHQ–9)	3881	2.45	3.5200	1045	3.30	4.0000	−0.23 [−0.30, −0.17]
Gonzalez–Sanguino 2020 (PHQ–2)	3480	1.60	1.5000	5010	0.94	1.2000	0.50 [0.45, 0.54]
Guo 2020 (non–infected controls; PHQ–9)	103	3.46	4.5410	1045	3.30	4.0000	0.04 [−0.16, 0.24]
Hao F 2020 (controls; DASS–21 depression)	109	2.20	3.5000	13208	2.17	3.2600	0.01 [−0.18, 0.20]
Iasevoli 2020 (caregivers; PHQ–9)	51	4.20	3.2000	339	4.73	5.2600	−0.10 [−0.40, 0.19]
Iasevoli 2020 (controls; PHQ–9)	205	6.20	4.5000	1200	3.90	3.8000	0.59 [0.44, 0.74]
Lei 2020 (SDS)	1593	37.14	11.3700	18994	36.64	7.5900	0.06 [0.01, 0.11]
Ma 2020 (DASS–21 depression)	123	4.20	2.3000	1815	2.30	3.1000	0.62 [0.44, 0.81]
Mazza 2020 (DASS–21 depression)	2766	5.34	4.8100	417	3.50	3.2000	0.40 [0.29, 0.50]
McKay 2020 (DASS–21 depression)	908	2.77	3.2100	13208	2.17	3.2600	0.18 [0.12, 0.25]
Odriozola–Gonzalez 2020 (DASS–21 depression)	2530	5.52	4.9200	1055	5.45	7.1200	0.01 [−0.06, 0.08]
Olagoke 2020 (PHQ–2)	501	1.92	0.9300	11109	0.78	0.0200	5.88 [5.76, 5.99]
Ozdin 2020 (HADS depression)	343	6.70	4.2000	2102	6.43	3.4100	0.08 [−0.04, 0.19]
Sakib 2020 (PHQ–9)	8550	7.43	5.0600	897	9.40	6.2470	−0.38 [−0.45, −0.31]
Satici 2020 (DASS–21 depression)	1304	3.86	4.1900	250	3.23	3.0400	0.16 [0.02, 0.29]
Soraci 2020 (HADS depression)	249	8.90	3.6000	21644	5.90	4.4000	0.68 [0.56, 0.81]
Tan W 2020 (DASS–21 depression)	673	2.10	4.5000	13208	2.17	3.2600	−0.02 [−0.10, 0.06]
Tian 2020 (SCL–90 depression)	1060	1.96	0.7000	1388	1.50	0.5900	0.72 [0.64, 0.80]
Tsipropoulou (Greece, GAD–7)	2970	14.70	4.5100	2271	7.25	4.8550	1.60 [1.53, 1.66]
Tull (USA, DASS–21)	500	7.51	9.0000	499	5.70	8.2000	0.21 [0.09, 0.33]
Voitsidis 2020 (PHQ–2)	2427	4.17	1.4200	5010	0.94	1.2000	2.53 [2.47, 2.59]
Wang C 2020b (1st survey; DASS–21 depression)	1210	6.30	7.2000	13208	2.17	3.2600	1.10 [1.04, 1.16]
Wang C 2020b (2nd survey; DASS–21 depression)	861	6.40	7.4000	13208	2.17	3.2600	1.16 [1.09, 1.23]
Wang Y 2020 (SDS)	600	40.50	11.3100	18994	36.64	7.5900	0.50 [0.42, 0.58]
Yuan R 2020 (child hospit. pand.; HADS depression)	50	7.72	2.8100	8284	5.80	4.2000	0.46 [0.18, 0.74]
Yuan R 2020 (child not hosp. pand.; HADS depressi)	50	4.54	2.5600	8284	5.80	4.2000	−0.30 [−0.58, −0.02]
Zhou SJ 2020 (PHQ–9)	8079	5.13	5.6090	1045	3.30	4.0000	0.34 [0.27, 0.40]
Total	**60213**			**183747**			**0.67 [0.07, 1.27]**
Prediction interval							**[−2.02, 3.36]**

Heterogeneity: $Tau^2 = 1.79$; $Chi^2 = 16430.33$, df = 27 (P = 0); $I^2 = 100\%$
Test for overall effect: Z = 2.20 (P = 0.03)

Std. Mean Difference
IV, Random, 95% CI

−4 −2 0 2 4
reduced depr. symptoms increased depr. s



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Chang 2020 (GAD–7)	3881	3.03	3.1250	1096	2.80	2.9000	0.07 [0.01, 0.14]
Germani 2020 (STAI–Y)	1011	48.60	12.7000	2983	37.38	11.5100	0.95 [0.87, 1.02]
Gonzalez–Sanguino 2020 (GAD–2)	3480	1.79	1.6300	110	1.21	1.3900	0.36 [0.17, 0.55]
Guo 2020 (non–infected controls; GAD–7)	103	2.58	3.9050	1096	2.80	2.9000	−0.07 [−0.27, 0.13]
Hao F 2020 (controls; DASS–21 anxiety)	109	1.50	2.7000	13208	2.48	2.5900	−0.38 [−0.57, −0.19]
Iasevoli 2020 (caregivers; GAD–7)	51	5.30	4.1000	339	3.90	4.4900	0.31 [0.02, 0.61]
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Lei 2020 (SAS)	1593	36.47	9.1500	1158	29.78	0.4600	0.96 [0.88, 1.04]
Ma 2020 (DASS–21 anxiety)	123	4.40	2.3000	1815	4.10	3.5000	0.09 [−0.10, 0.27]
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Odriozola–Gonzalez 2020 (DASS–21 anxiety)	2530	3.34	3.8700	1055	4.84	5.7500	−0.33 [−0.41, −0.26]
Ozdin 2020 (HADS anxiety)	343	6.80	4.2000	1102	8.84	3.6200	−0.54 [−0.66, −0.42]
Satici 2020 (DASS–21 anxiety)	1304	2.73	3.1700	250	2.41	2.5300	0.10 [−0.03, 0.24]
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Zhou SJ 2020 (GAD–7)	8079	3.94	4.3740	1096	2.80	2.9000	0.27 [0.21, 0.33]
Total	**49746**			**132145**			**0.40 [0.15, 0.65]**
Prediction interval							**[−0.87, 1.67]**

Heterogeneity: $Tau^2 = 0.40$; $Chi^2 = 4995.25$, df = 25 (P = 0); $I^2 = 99\%$
Test for overall effect: Z = 3.15 (P < 0.01)

Std. Mean Difference
IV, Random, 95% CI

−1.5 −1 −0.5 0 0.5 1 1.5
reduced anxiety increased anxiety

Symptoms of anxiety and depression were increased in the general population during the early phase of the pandemic compared with pre-pandemic conditions. Kunzler et al. 2021 .

Depressive and anxiety symptoms

- Individuals with mental disorders
- Socioecnomic adversities
- Young people
- Migrants

Manchia et al.,2021; Kunzler et al. 2021; Daly et al. 2020; Spiritus-Beerden et al. 2021

Mental disorders

Mental disorders

- **Mental disorders in suicide deaths: 60-98%**

→Mood disorders
→Substance use disorders
→Schizophrenia
→Personality disorders

Bertolote et al. 2004; Ferrari et al, 2014Bachmann et al 2018, Wilkinsson et al. 2021

Suicide prevention – health care approach

The impact of COVID-19 on mental, neurological and substance use services:

results of a rapid assessment

Key messages

- **MHPSS is recognized by countries as an integral component of their COVID-19 response.** Almost all countries reported that MHPSS is part of their national COVID-19 response plans. Two-thirds of countries have a multisectoral MHPSS coordination platform for COVID-19 response; however, most countries are lacking additional funding for MHPSS response plans.

- **Disruption of essential MNS interventions/services are reported in many countries.** No country reported full closure of all MNS services, but a majority experienced some disruptions, including disruptions of essential, emergency and life-saving MNS services. Community-based outpatient services and prevention and promotion of mental health services, as well as services for specific age groups such as older adults and children, were among the most severely disrupted.

- **Learned lessons are emerging.** Countries are responding to the disruption of MNS services in multiple innovative ways, including telemedicine, teletherapy interventions, hotlines and training for health care providers. Notable differences in responses to disruptions were observed between high-income and low-income countries.

Approaches for overcoming disruptions in MNS-related intervention services, WHO 2020

Approaches	Percentage of countries (n=130)
Tele-medicine /tele-therapy deployment to replace in person consultations	70.0
Helplines established for mental health and psychosocial support	67.7
Specific measures for infection prevention and control in mental health services	65.4
Self-help or digital format of psychological interventions	53.8
Triaging to identify priorities	49.2
COVID-19 health care providers trained in basic psychosocial skills	44.6
Discharge or redirection of patients to alternate health care facilities	44.6
Task shifting / role delegation	37.7
Home or community outreach services	33.1
Novel supply chain / dispensing approaches for medicines for MNS disorders	32.3
Recruitment of additional counsellors	20.8

Socioeconomic adversity

BMJ

BMJ 2013;347:f5239 doi: 10.1136/bmj.f5239 (Published 17 September 2013)

RESEARCH

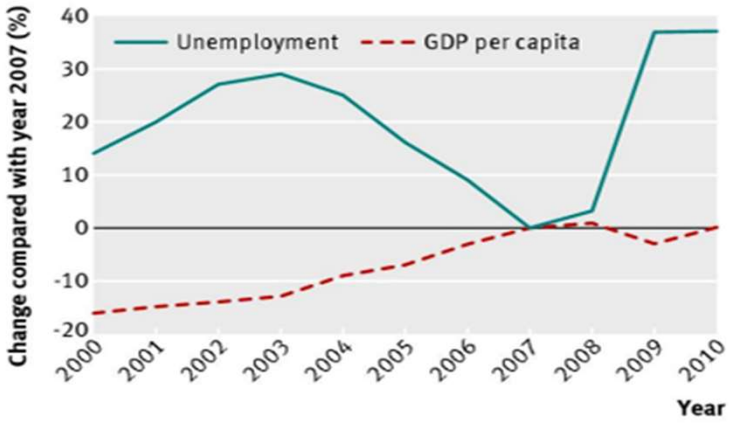
Impact of 2008 global economic crisis on suicide: time trend study in 54 countries

OPEN ACCESS

Shu-Sen Chang *research assistant professor*[1 2 3], David Stuckler *senior research leader*[4 5], Paul Yip *professor*[1 6], David Gunnell *professor*[2]

[1]HKJC Centre for Suicide Research and Prevention, The University of Hong Kong, Hong Kong Jockey Club Building for Interdisciplinary Research, 5 Sassoon Road, Pokfulam, Hong Kong SAR, China; [2]School of Social and Community Medicine, University of Bristol, Bristol, UK; [3]Ju Shan Hospital, Taoyuan, Taiwan; [4]Department of Sociology, University of Oxford, Oxford, UK; [5]Department of Public Health and Policy, London School of Hygiene and Tropical Medicine, London. UK; [6]Department of Social Work and Social Administration, University of Hong Kong, Hong Kong SAR, China

Changes in unemployment rates and gross domestic product (GDP) per capita in 54 studied countries

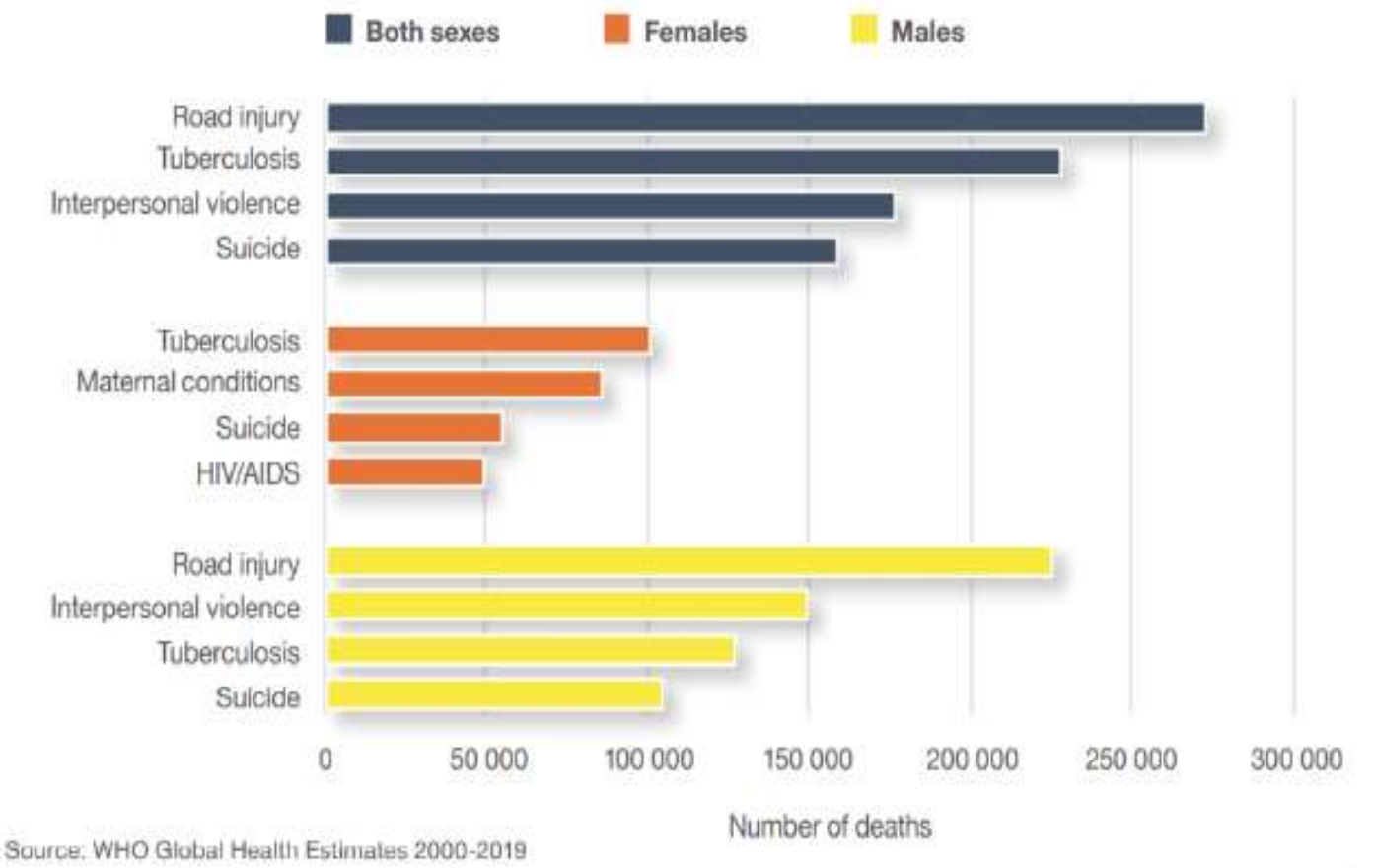


The suicide rates in the 27 studied European countries increased in men with 4.2% in 2009 compared to the levels expected (2000-2007), particularly in young men (15-24, 11.7%).

Rises in men associated with the levels of unemployment, particularly in countries with low unemployment rates before the crisis.

Youth suicide

Global top four causes of death, ages 15-29 years, 2016



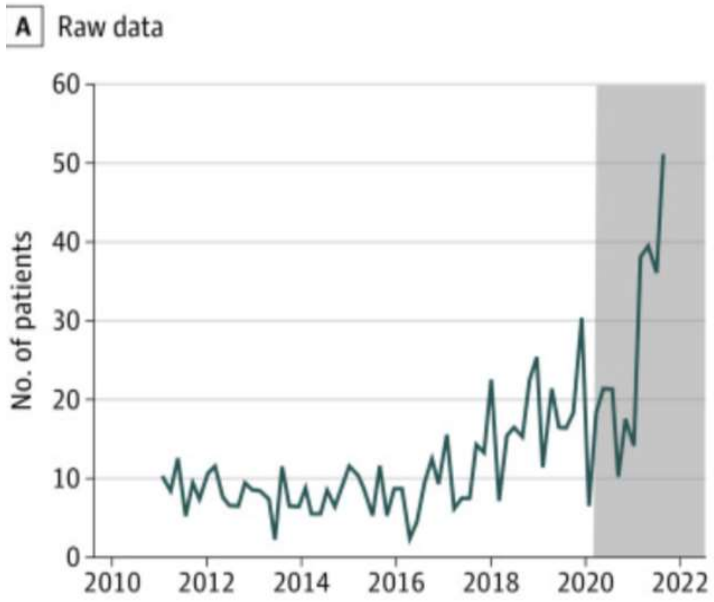
Source: WHO Global Health Estimates 2000-2019

JAMA Network Open

American Medical Association

Temporal Trends in Suicide Attempts Among Children in the Decade Before and During the COVID-19 Pandemic in Paris, France

Anthony Cousien, PhD, Eric Acquaviva, MD, PhD, [...], and Richard Delorme, MD, PhD



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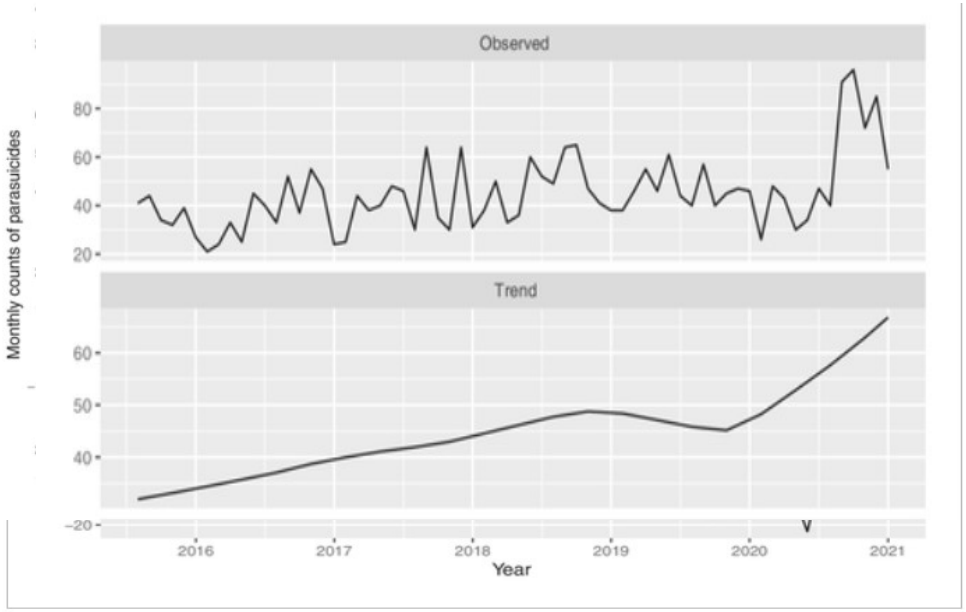
Journal of Paediatrics and Child Health / Early View

Letter to the Editor | Free Access

Higher Rates of Hospital Treatment for Parasuicide are Temporally Associated with Covid-19 Lockdowns in New Zealand Children

Dr Simon Thornley, Professor Cameron Grant, Dr Gerhard Sundborn

First published: 15 September 2021
https://doi.org/10.1111/jpc.15736

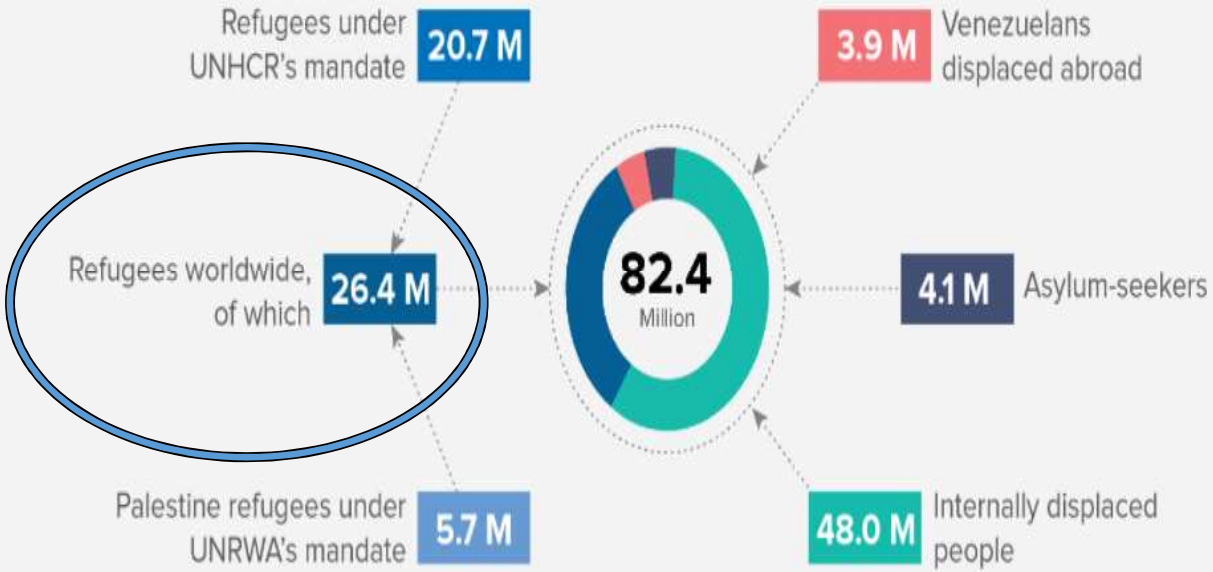


Migration

82.4 million

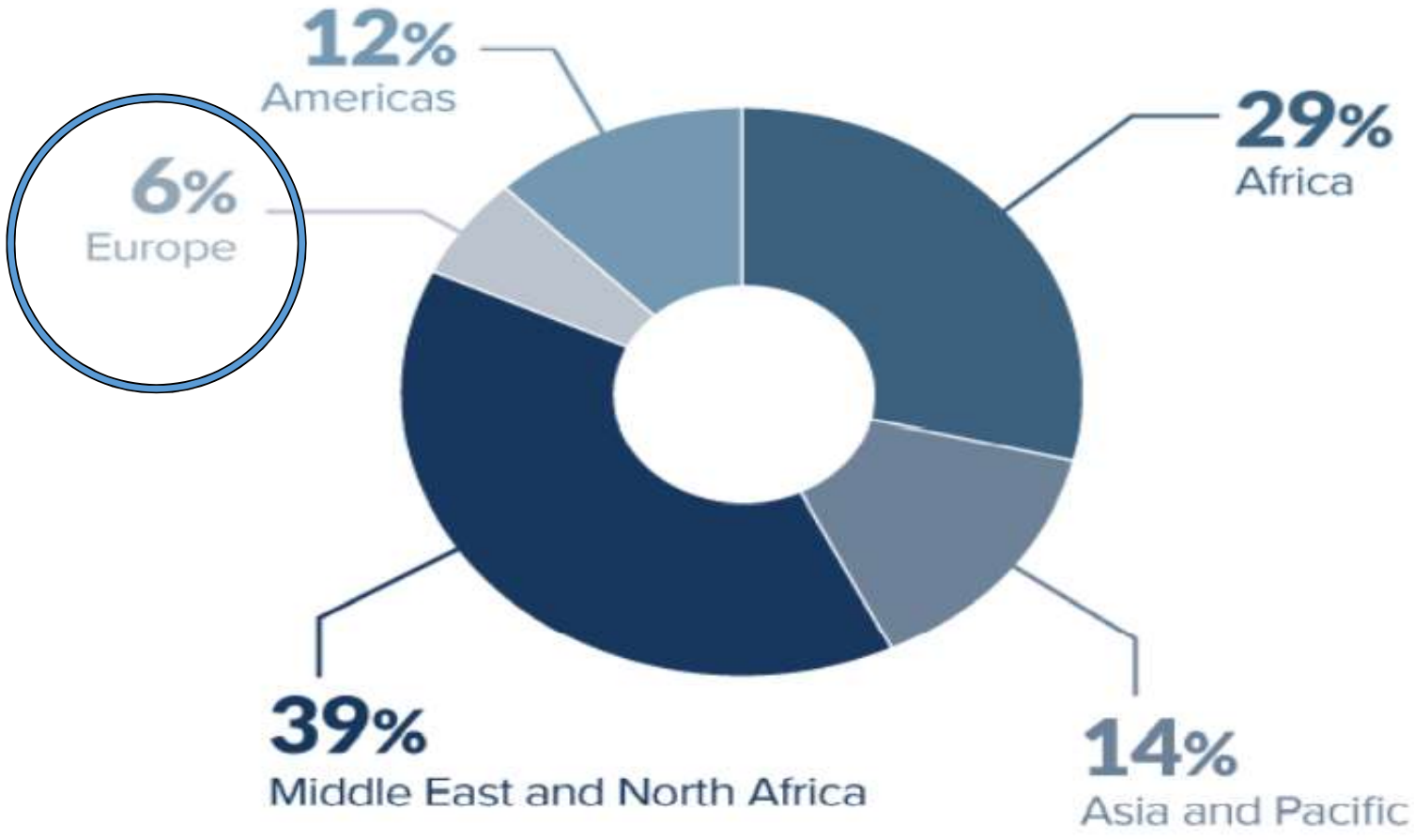
FORCIBLY DISPLACED PEOPLE WORLDWIDE

at the end of 2020 as a result of persecution, conflict, violence, human rights violations and events seriously disturbing public order.



UNHCR, 2020

Where the world's displaced people are being hosted



Mental disorders

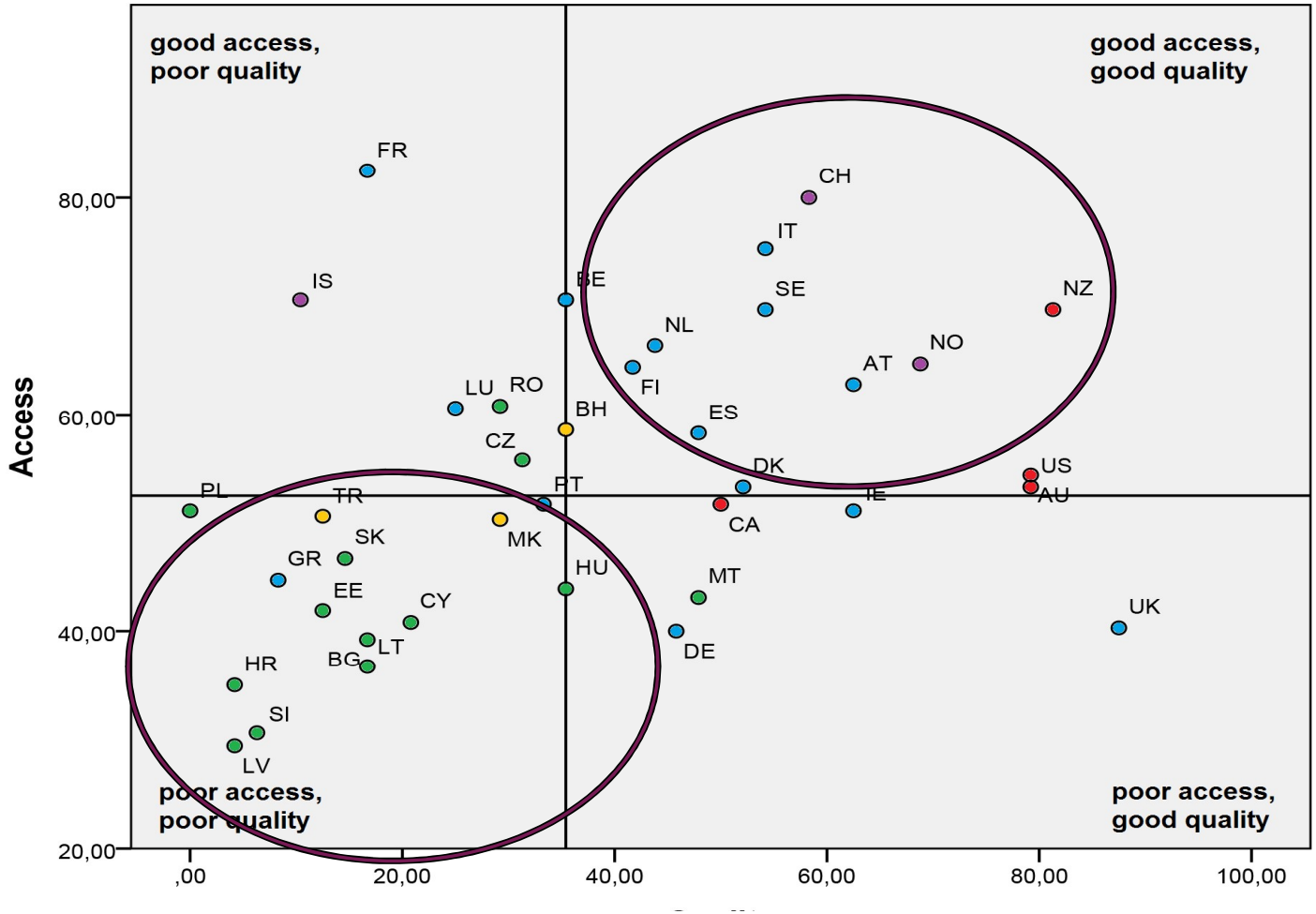
- The most prevalent mental disorders in refugees are Post-traumatic stress disorder, PTSD (10%), depression (5%) and generalised anxiety disorders (4%).

- These disorders are often comorbid.

- Refugees resettled in Western countries could be up to ten times more likely to have PTSD than age-matched general populations in these countries.

Fazel M et al. The Lancet 2005

Access to and quality of health care for migrants
Council of Europe, 2011



Nr. of suicides, total population and suicide rates per 100 000 persons for unaccompanied asylum-seeking minors/youth and the total population in Sweden 10 to 21 years

	Swedish pop. 2017	Unaccomp. 2017
Suicide (n)	82	12
Population (n)	1 336 833	23 425
Suicide rates per 100 000	**6.1**	**51.2**

Mittendorfer-Rutz et al. 2020

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Rates and Incidence Rate Ratios (IRR) plus 95% Confidence Intervals of suicide attempt in asylum-seekers (all and unaccompanied) in Denmark

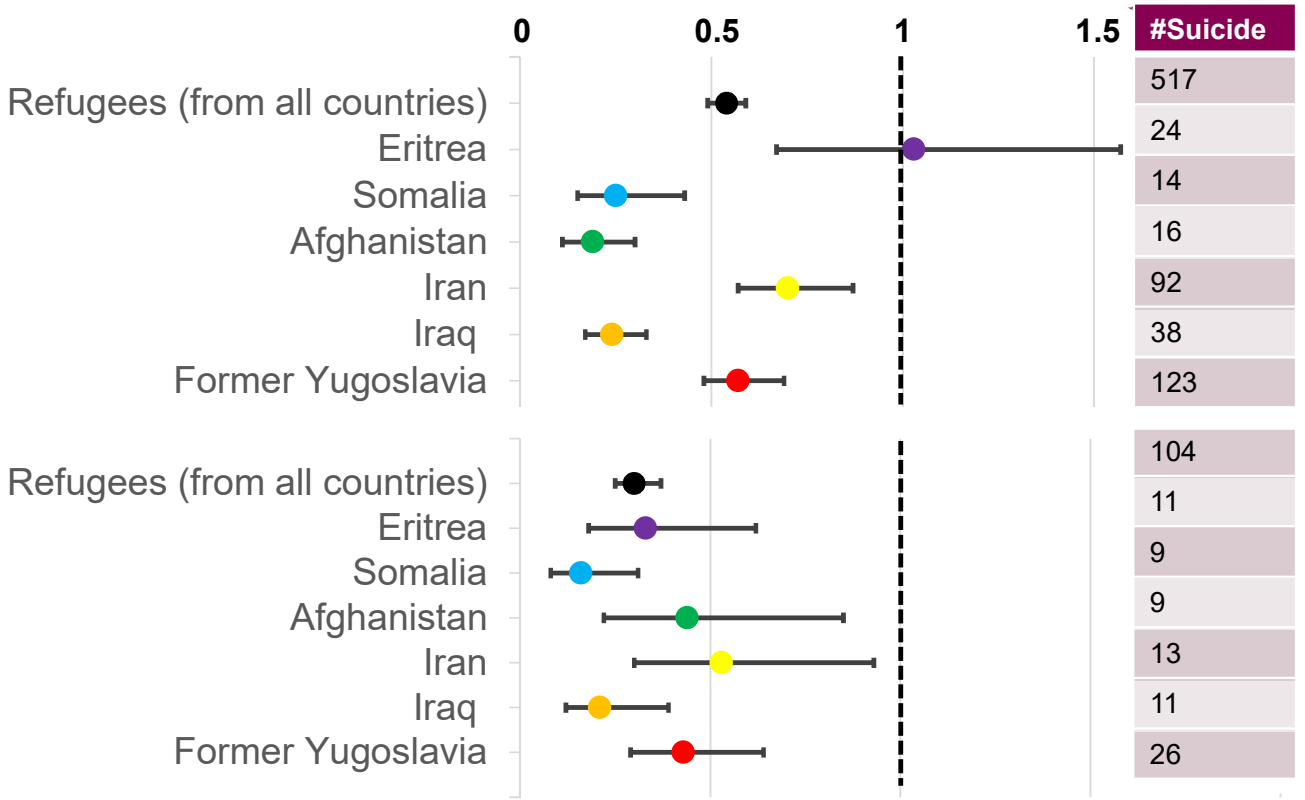
	Unaccompanied	All
Asylum-seekers (rate)	1164.7	678.5
General population (rate)	82.9	69.3
Age-standadised RR	**5.8** (4-3-7.5)	**6.9** (6-2-7.6)

Amiri et al. under review, 2021

Suicide among refugees resettled in Sweden and Norway

Panel A: Refugees in Sweden vs **Swedish-born

Panel B: Refugees in Norway vs **Norwegian-born



Adjusted Odds Ratios* (aORs) with 95% Confidence Intervals for suicide among refugees compared to host population** (aOR=1.00)

*Adjusted for age, sex, education, marital status, urban residence, unemployment, sickness absence, disability pension, specialised healthcare use for psychiatric diagnoses and deliberate self-harm

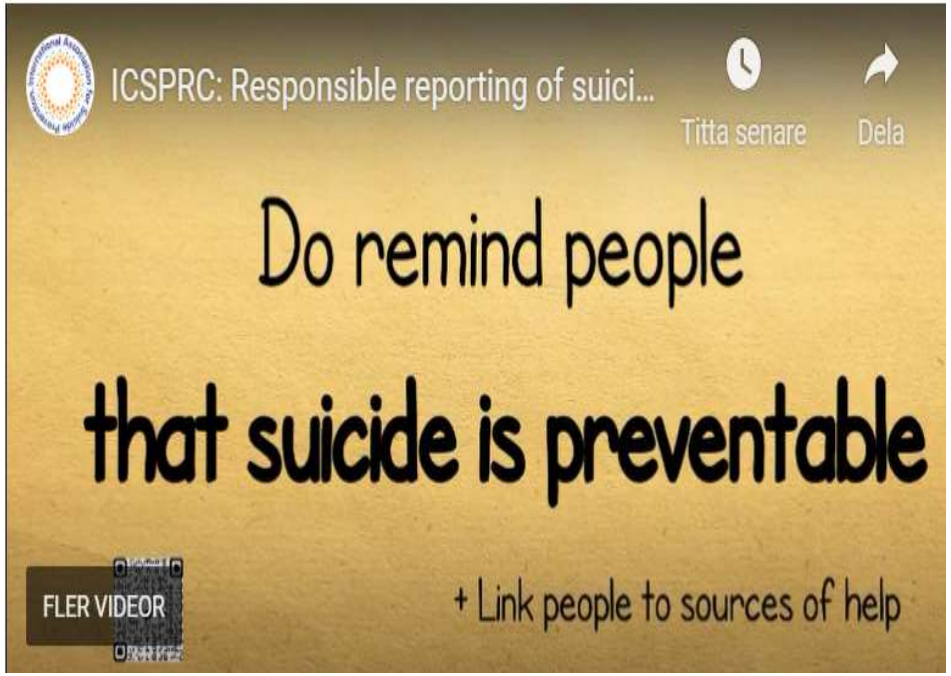
Amin et al 2021

Important measures

- Social insurance network
- Fiscal support initiatives
- Suicide prevention strategies
- Health care preparedness – e.g. telemedicine
- Research: well performed studies
- Responsible media reporting

Responsible reporting of suicide

- Remove references to methods of suicide (where possible)
- Avoid simplistic explanations of suicide
- Avoid sensational language e.g. "Crisis" "Spike"
- Take care when describing suicide in young people



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