Are we asking the right questions?
Are we looking in the right place?
Is it possible to find a disruptor to this
**Public Health issue?**

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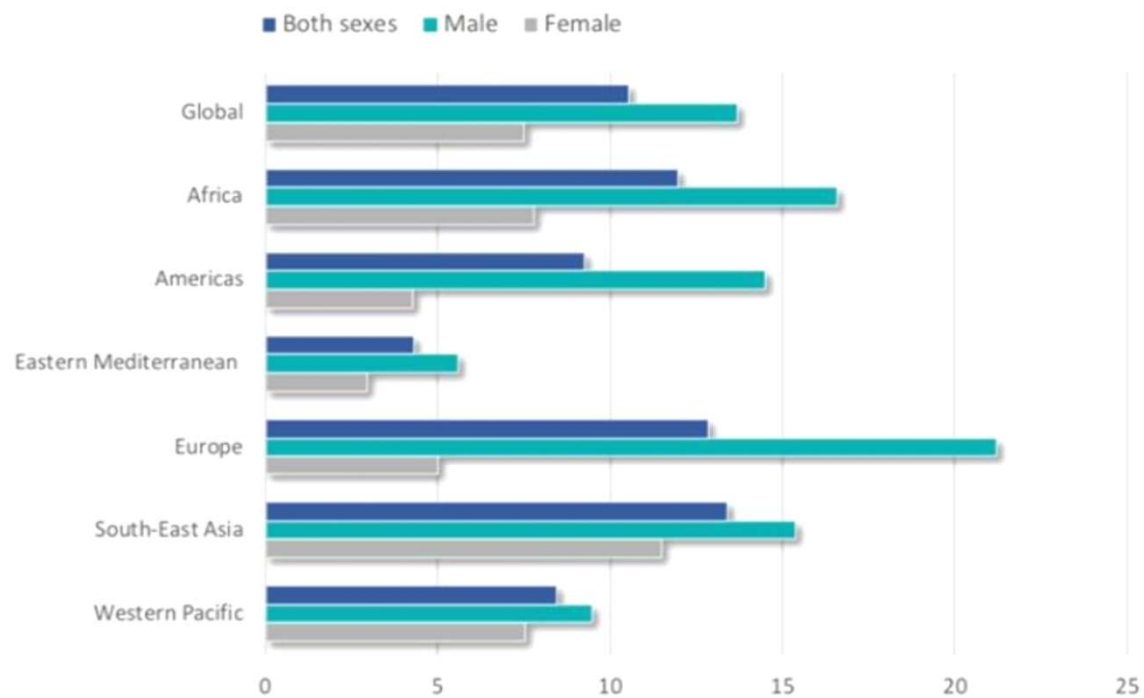
Number of suicides globally in young people, 2016
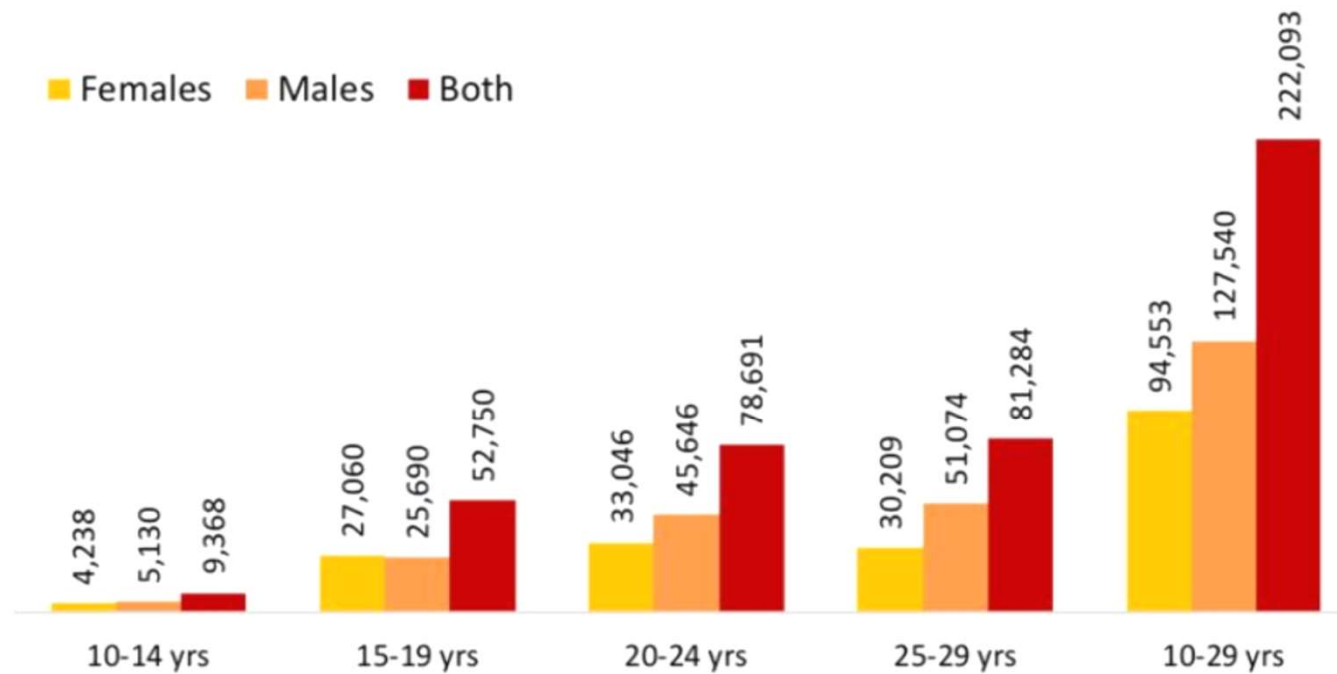
Source: WHO Global Health Estimates (http://www.who.int/healthinfo/global_burden_disease/estimates)

Suicide rate per 100,000 population by WHO region, 2016

Source: WHO Global Health Estimates (http://www.who.int/healthinfo/global_burden_disease/estimates)
Regional data shown are age-standardized estimates.

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Figure (a): Line graph showing ASR per 100,000 from 2000 to 2015 for male, female, and all people.
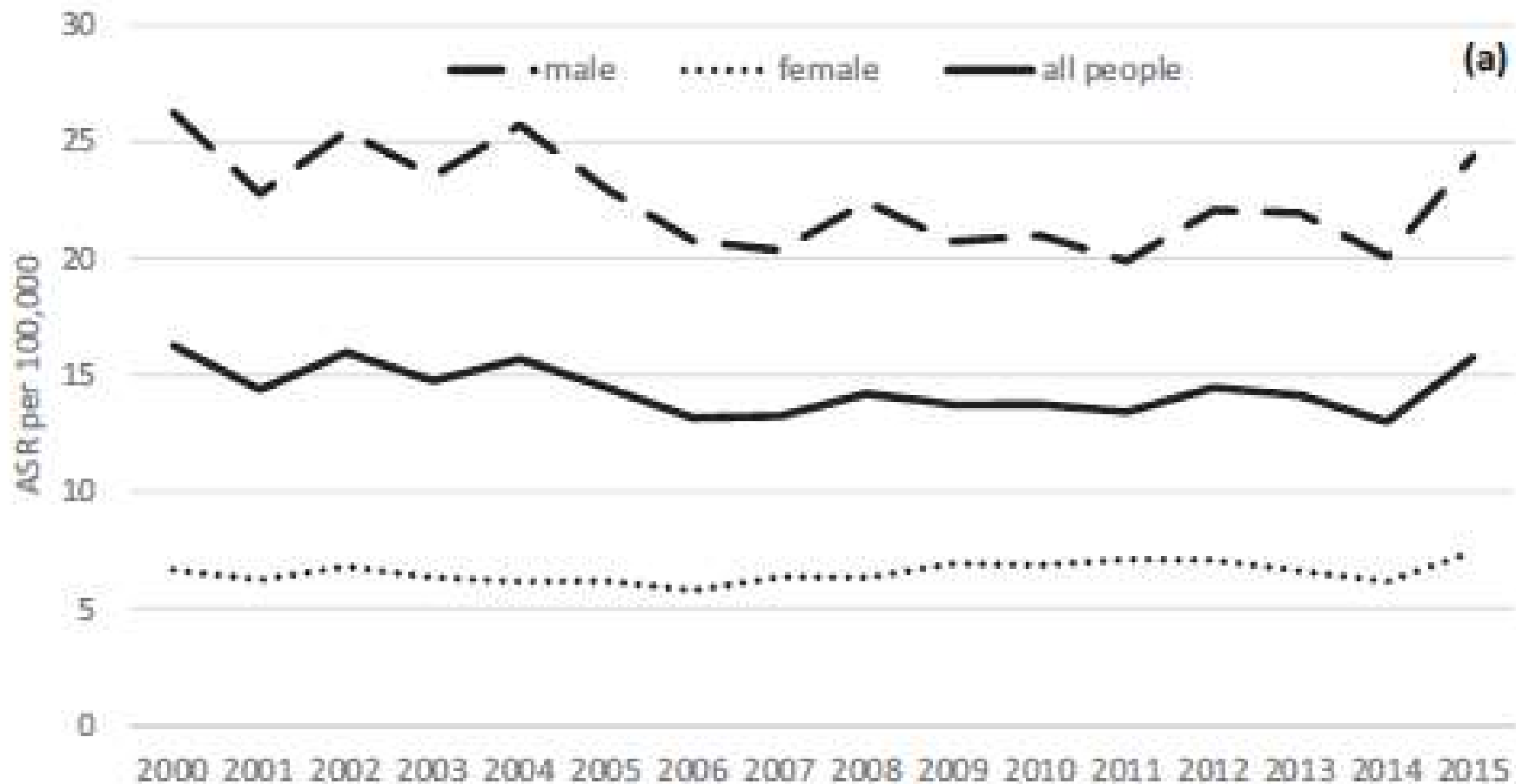
Kõlves, K., McDonough, M., Crompton, D., & de Leo, D. (2018). Choice of a suicide method: Trends and characteristics. *Psychiatry Research, 260*, 67-74. doi:10.1016/j.psychres.2017.11.035
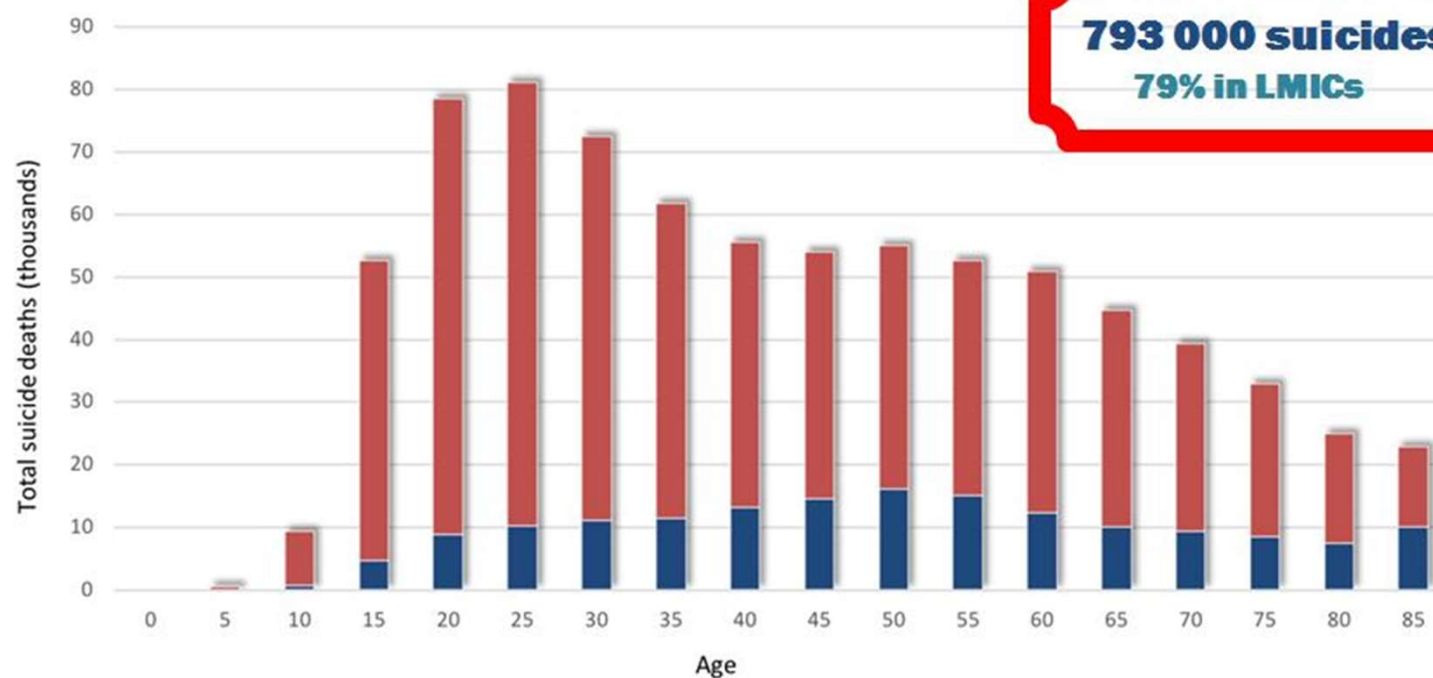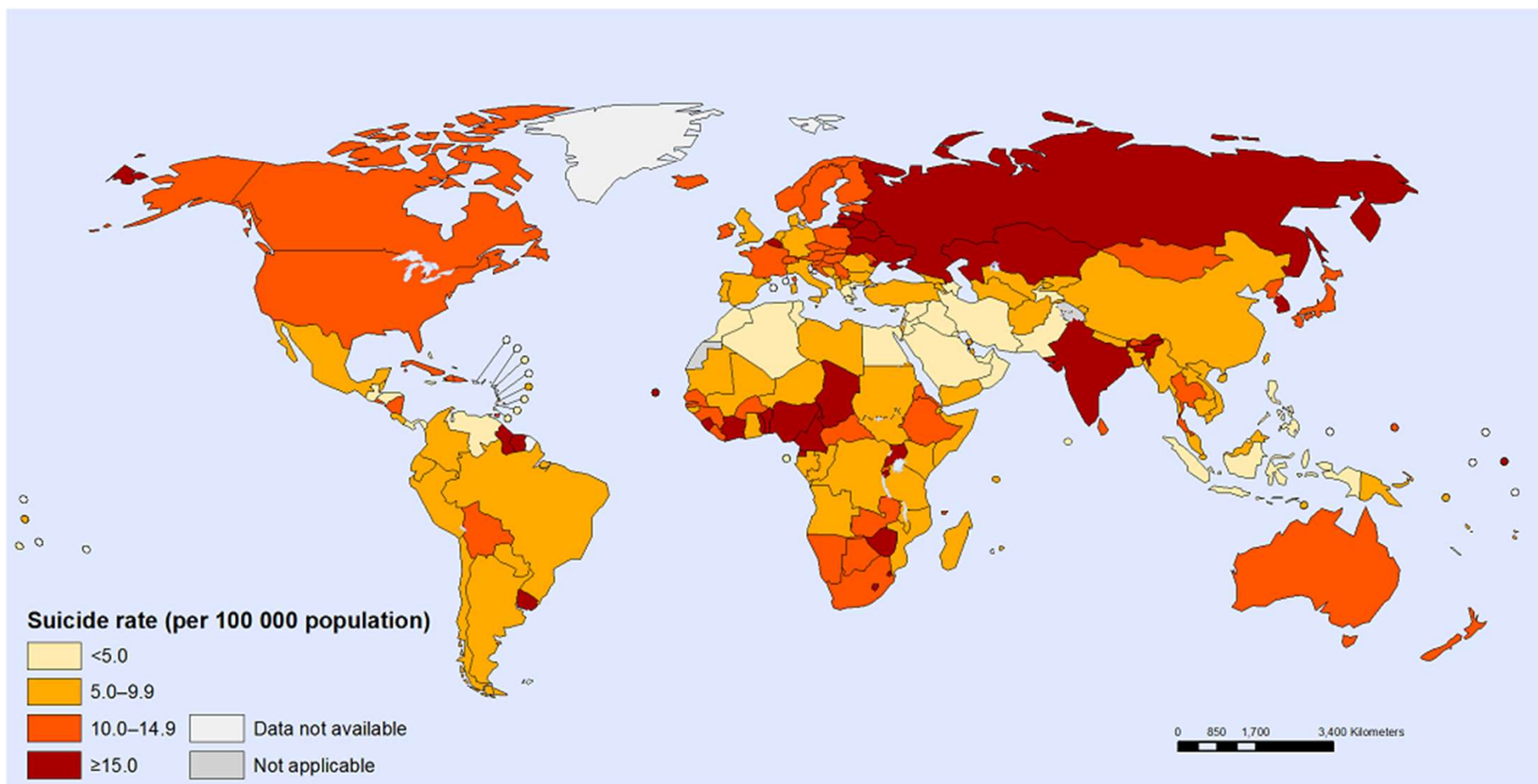
Suicides by age and income level

Global suicides, by age and country income level (thousands), 2016

Source: WHO Global Health Estimates (http://www.who.int/healthinfo/global_burden_disease/estimates)

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

Suicide rate (per 100 000 population)
- <5.0
- 5.0–9.9
- 10.0–14.9
- ≥15.0
- Data not available
- Not applicable

The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted and dashed lines on maps represent approximate border lines for which there may not yet be full agreement.

Data Source: World Health Organization
Map Production: Information Evidence and Research (IER)
World Health Organization

World Health Organization

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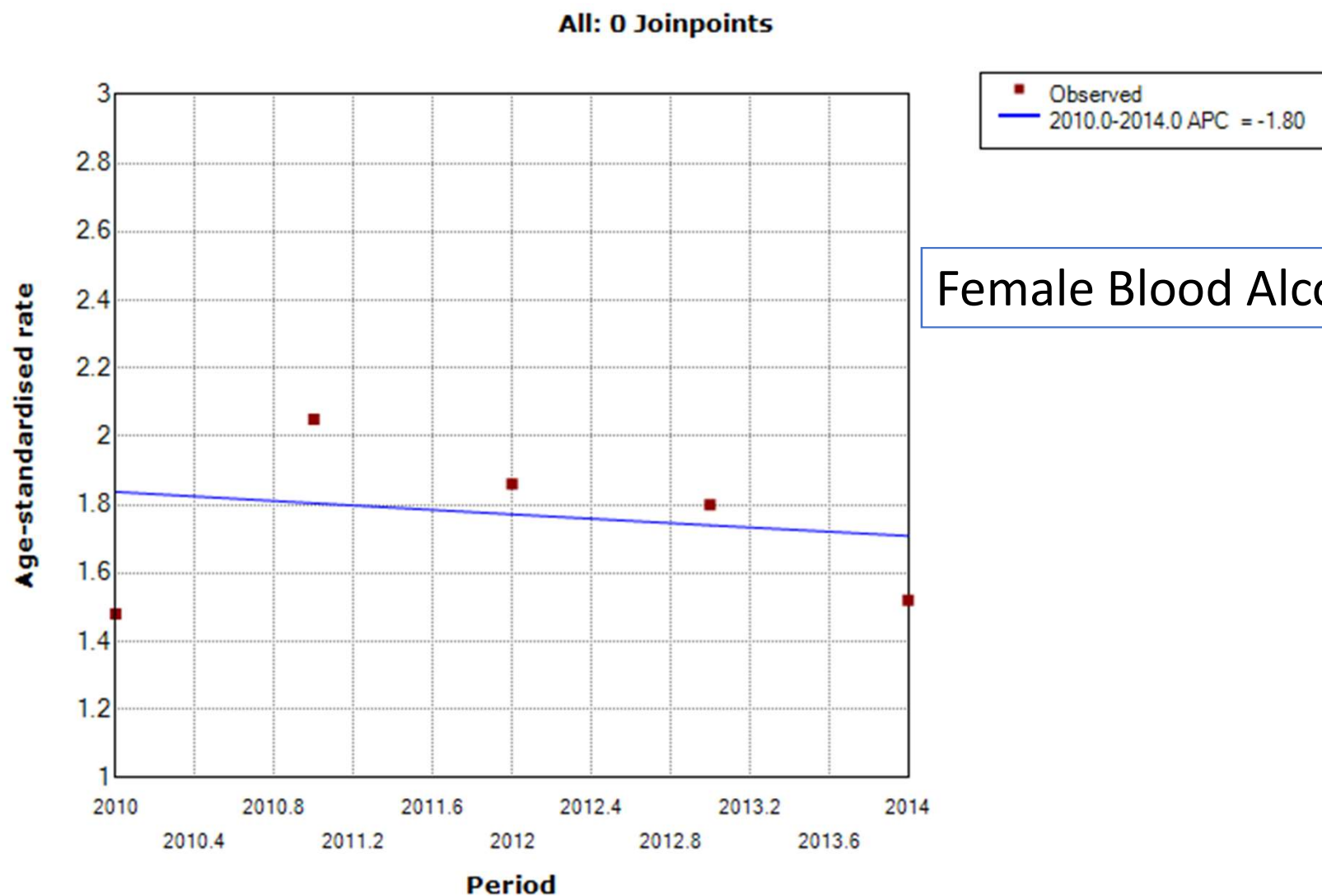
All: 0 Joinpoints

Female Blood Alcohol >0.05

Legend:
- Observed
- 2010.0-2014.0 APC = -1.80

Y-axis: Age-standardised rate
X-axis: Period

^ Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: 0 Joinpoints.

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All: 0 Joinpoints

Legend:
- Observed
- 2010.0-2014.0 APC = -1.73

Male Blood Alcohol >0.05

Y-axis: Age-standardised rate (5, 5.3, 5.6, 5.9, 6.2, 6.5, 6.8, 7.1, 7.4, 7.7, 8)

X-axis: Period (2010, 2010.4, 2010.8, 2011.2, 2011.6, 2012, 2012.4, 2012.8, 2013.2, 2013.6, 2014)
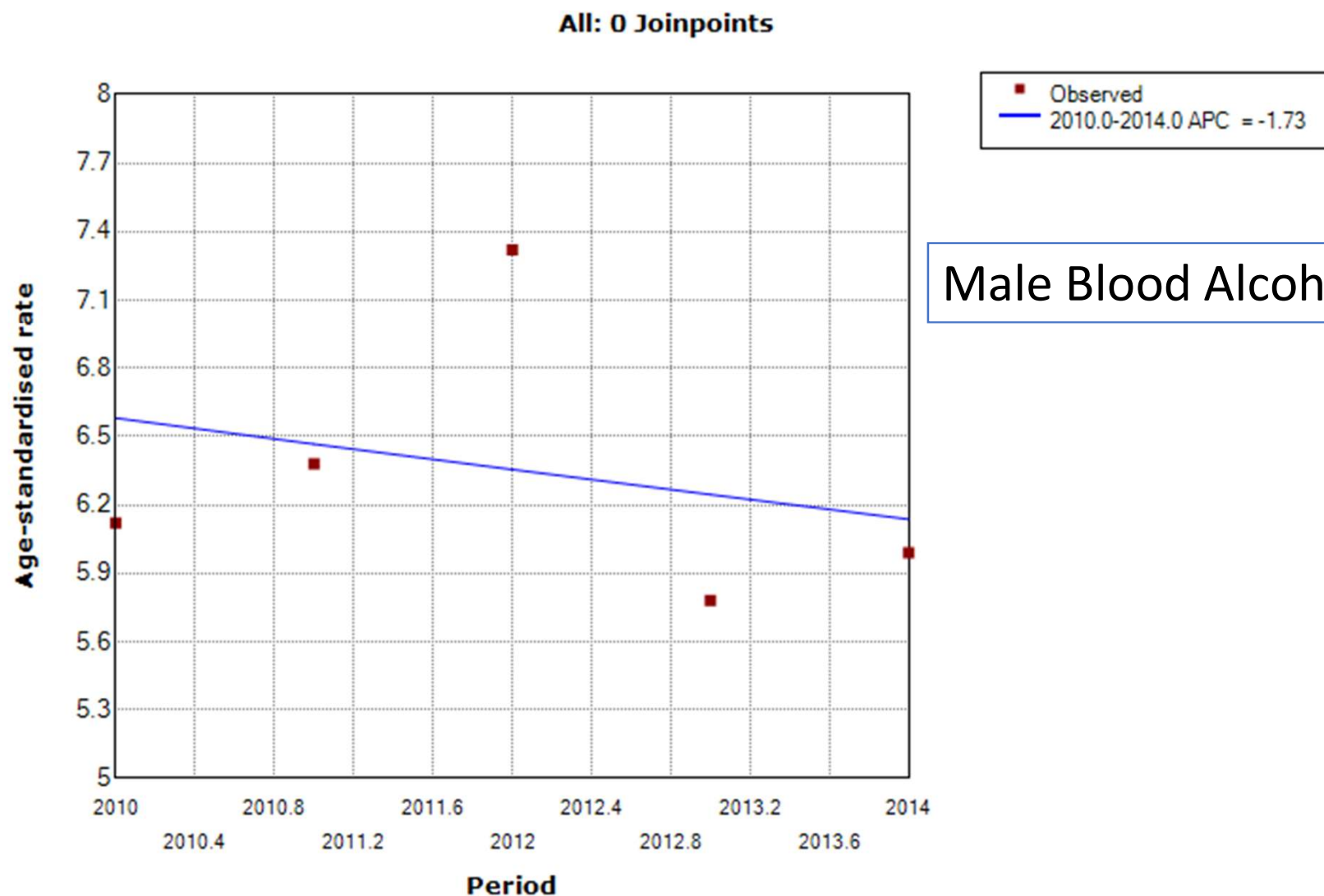
^ Indicates that the Annual Percent Change (APC) is significantly different from zero at the alpha = 0.05 level.
Final Selected Model: 0 Joinpoints.

Drug	Number of times found
Diazepam	1942
Nordiazepam	1841
Tetrahydrocannabinol	1457
Paracetamol	1344
Temazepam	1269
Morphine	1248
Oxazepam	1086
Codeine	986
Amphetamine	804

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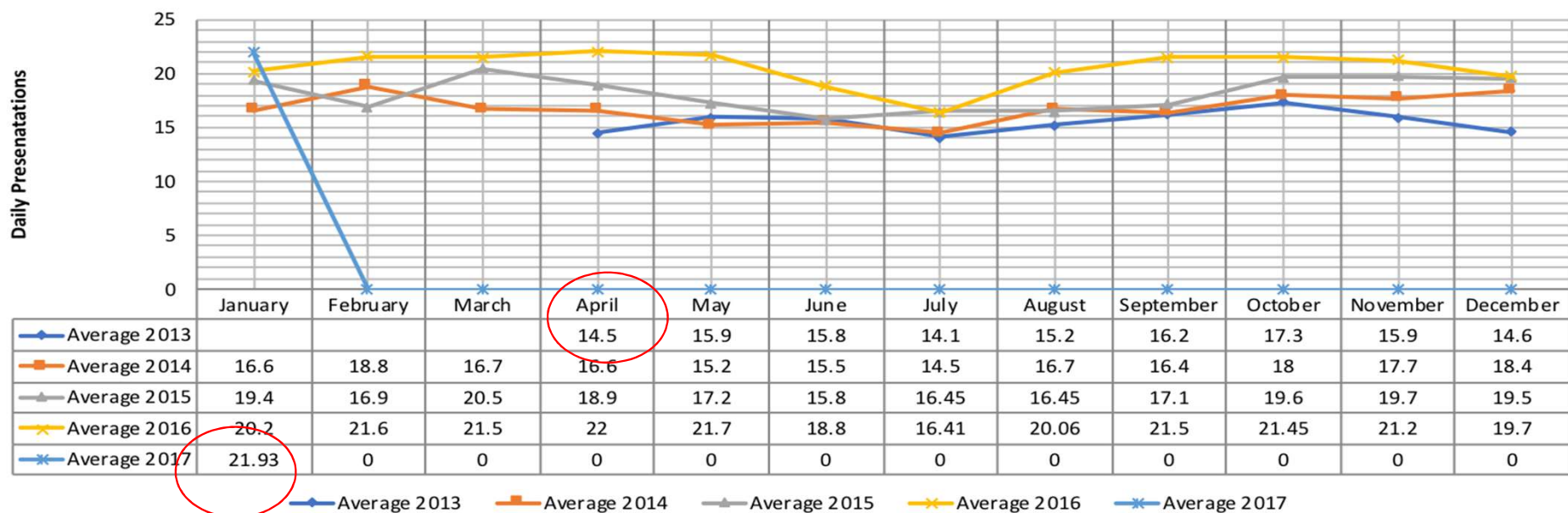Prevention

Tale of two stories

Image © David Crompton 2018

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Image © David Crompton 2018

# Average Consumers Seen within 24 hours for 2013, 2014, 2015 & 2016

	January	February	March	April	May	June	July	August	September	October	November	December
Average 2013				14.5	15.9	15.8	14.1	15.2	16.2	17.3	15.9	14.6
Average 2014	16.6	18.8	16.7	16.6	15.2	15.5	14.5	16.7	16.4	18	17.7	18.4
Average 2015	19.4	16.9	20.5	18.9	17.2	15.8	16.45	16.45	17.1	19.6	19.7	19.5
Average 2016	20.2	21.6	21.5	22	21.7	18.8	16.41	20.06	21.5	21.45	21.2	19.7
Average 2017	21.93	0	0	0	0	0	0	0	0	0	0	0

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Average Consumers Seen within 24 hours for 2013 - 2016					
Month	Average 2013	Average 2014	Average 2015	Average 2016	Average 2017
January		16.6	19.4	20.2	21.93
February		18.8	16.9	21.6	0
March		16.7	20.5	21.5	0
April	14.5	16.6	18.9	22	0
May	15.9	15.2	17.2	21.7	0
June	15.8	15.5	15.8	18.8	0
July	14.1	14.5	16.45	16.41	0
August	15.2	16.7	16.45	20.06	0
September	16.2	16.4	17.1	21.5	0
October	17.3	18	19.6	21.45	0
November	15.9	17.7	19.7	21.2	0
December	14.6	18.4	19.5	19.7	0
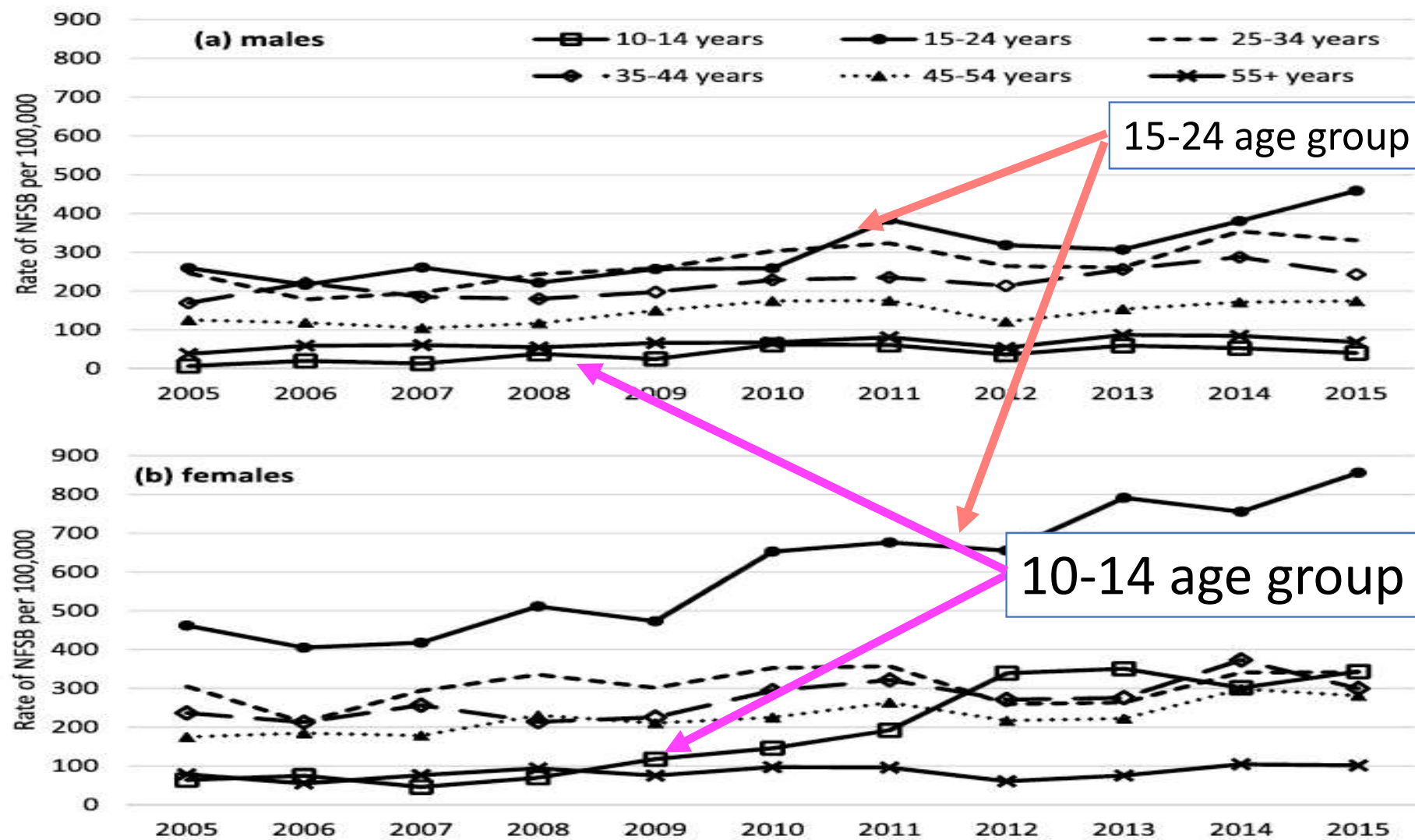
Figure 2. Age-specific rates of non-fatal suicide behaviour by sex in 2005–2015.
NFSB: non-fatal suicide behaviour.

- With the exception of the *United States*, in recent years suicide rates have been declining in most western countries.
- *Variability: nationality* eg Quebec, Scotland vs England, middle east
- Suicide rates fluctuate especially in males in response to a range of socio-political, economic and environmental factors, community support.
- Data females: inverse relationship with availability of *abortion, employment associate with reduced suicide rate*. *Sexual violence* positive relationship with suicide. Note increase PTB certain groups with most recent Presidential election.
- Factors influence: presence of mental disorders, unemployment. *Socio-economic disadvantage, poor resources, lower education and type of occupation*.
- *Relationship separation* represents another important risk factor for suicide, especially in males.

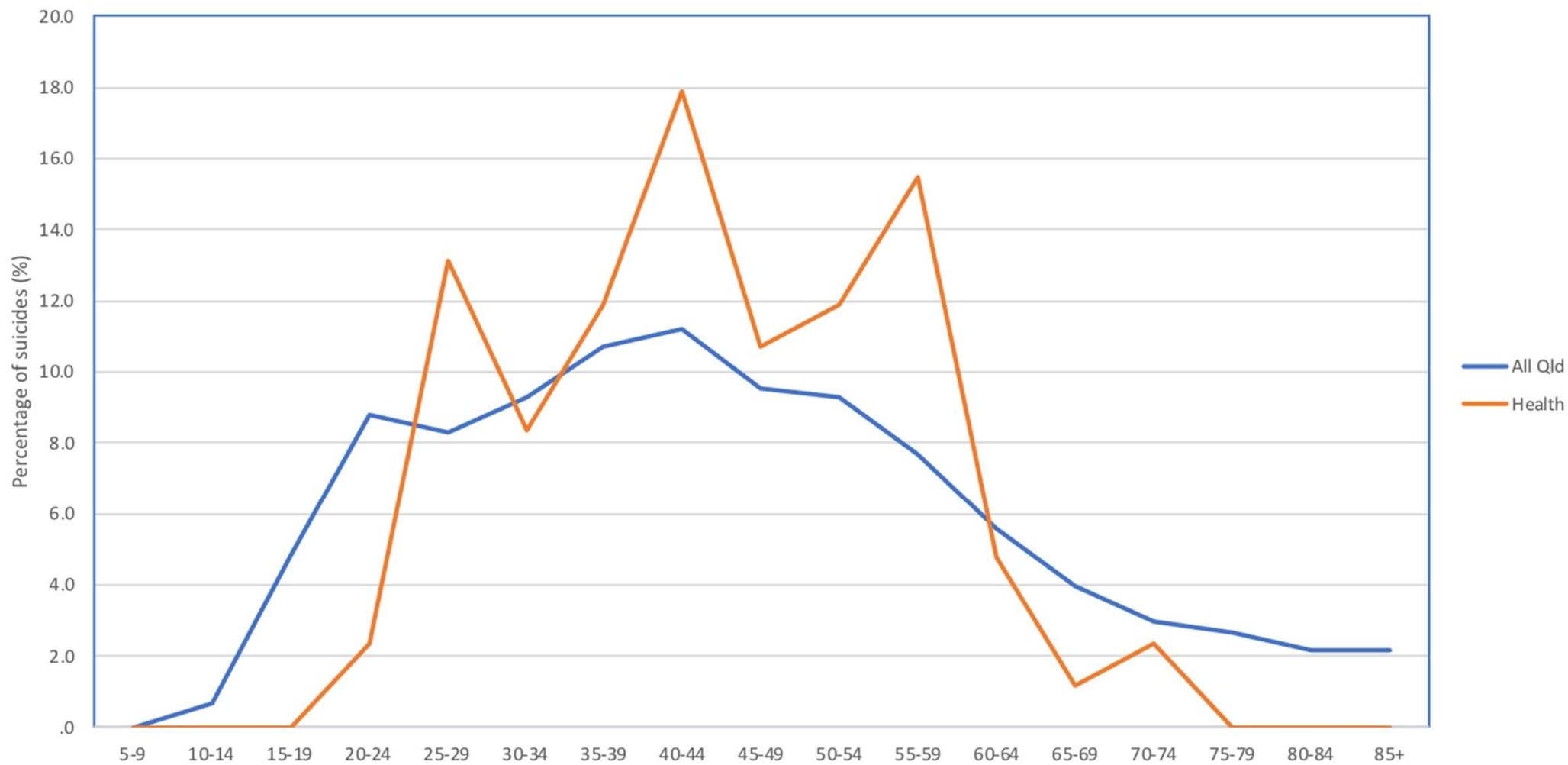Age distribution of suicides, 2008-2016

Image © David Crompton 2018

Image © David Crompton 2018
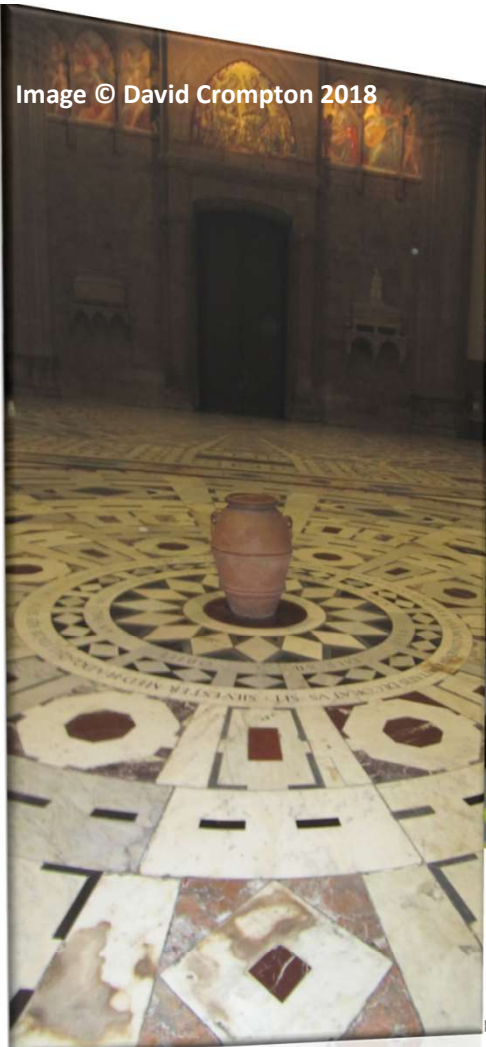
Image © David Crompton 2018

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Two Tales:

✏️ **Zero Suicide – suicide prevention programs**
✏️ **The world data**
✏️ **We are not all the same**
✏️ **What does the gender data tell us?**
✏️ **What does the gender data not tell us?**
✏️ **What does Culture tell us?**
✏️ **Is our approach really working and is the focus on Mental Health the right way?**

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Suicide prevention: Are we asking the right questions?
Professor David Crompton
Queensland Mental Health Commission Leading Reform Summit
22 November 2018

Public policy change according to Wiltshire and the Institute of Public Administration requires us to ask for evidence. The difficulty in addressing issues related to suicide is that the picture is not clear (SLIDE 14). Our challenge is to identify what are the issues that encompass suicide prevention.

If we consider the information presented so far and the enormity of what our community faces do we need to think beyond clinical interventions or are there aspects of prevention we are missing because they are difficult, or politically or socially challenging.

This leads to some of the confronting aspects that surround prevention. Suicide prevention is not like giving the polio or tetanus vaccine. It is not just about the science although we need to understand the science.

If we are to implement a strategy to prevent suicide there many aspects to address. The move from what we know to a policy and a plan is not just challenging but can be very difficult.

Wiltshire in 2001 wrote about this challenge, it is a salutary lesson but highlights why we must persist and that any prevention strategy requires more than the scientists, public servants and politicians.

Wiltshire, K. (2001). Scientists and Policy-makers: Towards a new partnership. *International Social Science Journal, 53*(170), 621-635. doi:10.1111/1468-2451.00349

I shall read his thoughts:

Teaching public policy in a university, especially at the postgraduate level, provides a unique vantage points to observe the educational journey followed by many scientists, particularly natural scientists.

Those with ingenuity discover before too long that the economists are over-riding the scientists, because the scientific innovations they have proposed are not considered economic – so their next step is to do an economics degree.

Within a short space of time they learn that the economists are actually beholden to the administrators because the scientific proposal is valid, it is economic, but there is not enough in the budget for it, or it cannot be addressed in the context of a corporate or strategic plan – so they do a degree in administration or management.

Before too long the reality finally hits them that it is the policy makers/politicians who are trumping the administrators because the proposal has scientific validity, is economic, and can be administratively accommodated, but will not win votes (or may even lose votes) for the

government of the day – so finally, it is out to the campus again to undertake a degree in public policy.

I have never been sure about the next step in this process –
I suspect it is probably a divinity degree!
Hopefully we can move beyond a need to undertake divinity studies.

We may struggle to move forward for suicide prevention requires a clear strategy that resides within a framework supported by the science, exploration of available knowledge, funding, public engagement and policy reform.

There is a need, given our current experience to develop processes that disrupt the current approaches that appear not to be succeeding. What can help us innovate successfully and change the current trajectory?

The information provided shows a clear need, we are losing too many lives around 750 annually in Qld. This represents 262 more deaths than the previous year.

There are calls for a national target to reduce Australia's suicide rate, 3,128 Australians took their own life in 2017.

The Australian Bureau of Statistics released national data on Wednesday that showed intentional self-harm is now ranked the 13th leading cause of death, moving up from 15th position in 2016.

Australia's suicide rate is now at 12.6 deaths per 100,000 people. This is equal to 2015 as the highest recorded rate in the past 10 years.
Lifeline has urged the Morrison government to set a national target to achieve a 25% suicide reduction over five years.

Let us not forget those who self-harm, and to this we add the impact on families and community, and the post-vention strategies that are required.

Apart from this data already presented, what does the literature tell us, is it just about mental health care? What lies behind the image (SLIDE 15)

We know the evidence in relation to risk assessment highlights concerns about how we evaluate the risk to individuals and how clinicians determine the need for admission or community care. The one thing we know is NFSHB predicts the likelihood of further events and suicide but how do clinicians decide who and when to admit?

How does the literature guide and inform us or does it obscure the current situation?

Let us follow the second tale; a tale that is not just about the person. This tale may even be the larger Panda that hangs around and at times seems immovable.

We need to remember more people with mental illness die from physical disorders than suicide and that mental illness is not the only health

disorder associated with suicide, e.g. spinal injury — 5th commonest cause of premature death is suicide.

Sociodemographic, psychiatric and somatic risk factors for suicide: a Swedish national cohort study.
There were 8721 (0.12%) deaths from suicide during 2001–2008.

All psychiatric disorders were strong risk factors for suicide among both women and men.
Depression was the strongest risk factor, with a greater than 15-fold risk among women or men and even higher risks (up to 32-fold) within the first 3 months of diagnosis.

Chronic obstructive pulmonary disease (COPD), cancer, spine disorders, asthma and stroke were significant risk factors among both women and men.

All psychiatric disorders, COPD, cancer, spine disorders, asthma, stroke, diabetes, ischemic heart disease and specific sociodemographic factors were independent risk factors for suicide during eight years of follow-up.

Effective prevention of suicide requires a multifaceted approach in both psychiatric and primary care settings, targeting mental disorders (especially depression), specific somatic disorders and indicators of social support.

Excess mortality in people with mental illness: findings from a Northern Italy psychiatric case register.

People with mental disorders show mortality rates up to 22.2 times higher than that of the general population. In spite of progressive increase in life expectancy observed in the general population, the mortality gap of people suffering from mental health problems has gradually widened.

An overall excess mortality of 80% was found in subjects under the care of mental health services as compared to the reference population (SMR = 1.8, 95% CI 1.7–1.9).

Subjects in the 15–44-year group presented the highest SMR (9.2, 95% CI 6.9–11.4).

The most prevalent cause of death was cancer (28.1% of deaths).

Moreover, being male, single, unemployed and with a lower qualification was associated with higher RRs.

Incidence of female suicide in New York City: how important are socioeconomic factors?
Received: 26 April 2018 / Accepted: 18 September 2018

After a steady decline in the incidence of suicide in the last 3 decades of the twentieth century, suicide rates in the US and likewise in New York City (NYC) began to rise.

A breakdown of the city's rates by gender reveals that since 2000, suicides among men had held steady while the rate among women had increased in every age group.

This study considered a broad range of socioeconomic variables to identify those most strongly associated with suicide rates of women in NYC.

We find a positive aggregate association between women's suicide rates and:

1. Unemployment rate,
2. White percentage of the city's population,
3. Number of forcible rapes reported in the crime statistics, and
4. Negative association between suicide and abortion rates.

The results of the study suggest

1. Labor market conditions, rather than societal factors such as marriage or fertility rates affect younger women's suicide rates in NYC.
2. Sexual violence against women, found in micro studies to have severe long-term negative effects on victims' mental health is also positively associated with the aggregate suicide rate.
3. Higher abortion rates correspond with lower suicide rates at the city level, but the mechanisms behind this link are not as clear, since micro studies find little association between unwanted pregnancy termination and mental health.
4. Sexual violence against women, as measured by the number of reported rapes in NYC, is positively associated with the suicide rate in women, a sobering but unsurprising finding, given the large number of existing micro studies that find long-term negative mental health outcomes in survivors of rape.

Severe socio-political stressors and preterm births in New York City: 1 September 2015 to 31 August 2017

Severe stressors can induce preterm birth (PTB; gestation <37 weeks), with such stressors including social and economic threats, interpersonal violence, hate crimes and severe socio-political stressors (i.e. arising from political leaders' threatening rhetoric or from political legislation).

1. Analysed temporal changes in risk of PTB among immigrant, Hispanic and Muslim populations targeted in the US 2016 presidential election and its aftermath.
2. The post-inauguration versus pre-inauguration PTB rate also was higher for women from the Middle East/North Africa and from the travel ban countries, although non-significant due to the small number of events.
3. This is the first study to look at the impact of the most recent US presidential campaign and election on rates of PTB (gestation <37 weeks).
4. The overall rise of PTB rates during this time period (from 7.0% to 7.3%; relative risk (RR) 1.04; 95% CI 1.00 to 1.07) was most

pronounced for post-inauguration versus pre-inauguration period births among Hispanic women with Mexican or Central American ancestry who were born outside of the USA (RR=1.15; 95% CI 1.01 to 1.31).

5. The results suggest changes in the severity of sociopolitical stressors may be adversely impacting health of the targeted populations and these health impacts warrant public health monitoring.

Suicide mortality gap between Francophones and Anglophones of Quebec, Canada.

Suicide rates for Francophones were <u>two to three times higher</u> than rates for Anglophones, and differences were greatest for adults aged 25–64 years.

- *Francophone males had more than two times the rate of suicide by hanging or firearms than Anglophone males.*
- Francophone females had twice the rate of hanging, poisoning or firearm suicide as Anglophone females.
- Francophone-Anglophone suicide mortality gaps were higher in urban areas despite lower suicide rates, and varied little across levels of social and material deprivation.

There is little evidence that the suicide gap has decreased over a 20-year period.

These findings suggest that language could be used to capture potential variability in suicide mortality in other nations, especially those containing minority linguistic groups.

Substance use disorders and the risk of suicide mortality among men and women in the US Veterans Health Administration

Current substance use disorders (SUDs) signal increased suicide risk, especially among women, and may be important markers to consider including in suicide risk assessment strategies. None the less, other co-occurring psychiatric disorders may partially explain associations between SUDs and suicide, as well as the observed excess suicide risk associated with SUDs among women.

Why does Scotland have a higher suicide rate than England? An area-level investigation of health and social factors.

Up until the mid-late 2000s, the national suicide rate in Scotland was the highest among all the UK countries, but the reasons for this phenomenon are poorly understood.

Scotland's national suicide rate was 79% higher than in England (rate ratio 1.79, 95% CI 1.62 to 1.98), with younger male and female Scots aged 15-44 years having double the risk compared with their English peers.

Overall, 57% of the excess suicide risk in Scotland was explained by a range of area-level measures, including prescriptions for psychotropic drugs, alcohol and drug use, socioeconomic deprivation, social fragmentation, and other health-related indices.

The use of psychotropic drugs, acting as a proxy measure for mental ill health, was the variable most strongly associated with the between-country differences in suicide risk.

Alcohol misuse also made an important contribution to the differentials. Overall, the contribution of socioeconomic deprivation and social fragmentation was relatively small.

Any attempt to reverse the divergent trend in suicide between Scotland and England will require initiatives to prevent and treat mental ill health and to tackle alcohol and drug misuse.

Differences in prescribing rates, however, may also be explained by differences in illness behaviour or the availability of psychosocial interventions, and addressing these may also reduce Scotland's excess risk.

Community social support a protective factor against suicide: A study of 75 regions of 23 European countries.

Analysis revealed inverse relationships between mean respondent valuing of social support and suicide rates for both genders, with some indication of a stronger relationship among men.

Social support may have a protective effect against suicide on a regional level. Thus, increasing social support could be an effective focus of preventive activities, resulting in lowering suicide rates, with greater expected results among men.

Identifying and promoting factors that may have a protective function against suicide.
Durkheim (1897):
- *Egoistic Suicide*
- *Altruistic Suicide*
- *Anomic Suicide*

At any given moment, therefore, the moral constitution of a society -- its insufficient or excessive degree of integration or regulation -- establishes its contingent rate of voluntary deaths, its "natural aptitude" for suicide; and individual suicidal acts are thus mere extensions and expressions of these underlying currents of egoism, altruism, and anomie.

Moreover, the terms that Durkheim employed in making this argument -- "collective tendencies," "collective passions," etc. -- were not mere metaphors for average individual states; on the contrary, they are "things," *sui generis* forces which dominate the consciousnesses of individuals. In fact, the stability of the suicide rate for any particular society could have no other explanation:

Social integration was inversely related to the suicide rates.

One component of social capital is community social support—defined as anything that leads someone to believe that she or he is cared for, loved, respected, and a member of a network of mutual obligations.

Social support as a protective factor in suicide: Findings from two nationally representative samples (M.Kleiman, Liu 2013)

Relationship between social support and life time history of a suicide attempt — Results indicate that social support is associated with decreased likelihood of a life time suicide.

Social support is a highly modifiable factor that can be used to improve existing suicide prevention programs worldwide.

Female labour force participation and suicide rates in the world
Female labour force participation rates (FLPR) and suicide rates of both genders.

Based on the level of Human Development Index (HDI) and FLPR.

The relationship between egalitarian gender norms and suicide rates varies according to national context. Greater egalitarian gender norms may benefit both genders, but more so for women in countries equipped with better human capabilities. Although the beneficial effect may reach a plateau in countries with the highest HDI/FLPR; whereas in countries with relatively lower HDI/FLPR, increased FLPR were associated with higher suicide rates.

The association between higher level of FLPR and lower level of suicide rates in countries with advanced HDI suggests that egalitarian gender norms are advantageous to both males and females in countries where human welfare is enforced, although the beneficial effects of FLPR reach a plateau when the development level of the countries are at the very top.

This study reveals that the global patterns of suicide gender ratios in the new millennium were very similar to previous studies, namely, around 3–4 in most of the Western countries, around 2 in East Asia countries, and greater than 4 in many Eastern European countries.

Suicide and the 2008 economic recession: Who is most at risk? Trends in suicide rates in England and Wales 2001-2011

The negative impacts of previous economic recessions on suicide rates have largely been attributed to rapid rises in unemployment in the context of inadequate social and work protection programmes.

We have investigated trends in indicators of the 2008 economic recession and trends in suicide rates in England and Wales in men and women of working age (16-64 years old) for the period 2001-2011, before, during and after the economic recession, our aim was to identify demographic groups whose suicide rates were most affected. We found no clear evidence of an association between trends in female suicide rates and indicators of economic recession.

Evidence of a halt in the previous downward trend in suicide rates occurred for men aged 16-34 years in 2006 (95% CI Quarter 3 (Q3) 2004, Q3 2007 for 16-24year old & Q1 2005, Q4 2006 for 25-34-year-old), whilst suicide rates in 35-44-year-old men reversed from a downward to upward trend in early 2010 (95% CI Q4 2008, Q2 2011).

For the younger men (16-34 years) this change preceded the sharp increases in redundancy and unemployment rates of early 2008 and lagged behind rising trends in house repossessions and bankruptcy that began around 2003.

An exception was the 35-44-year-old men, for whom a change in suicide rate trends from downwards to upwards coincided with peaks in redundancies, unemployment and rises in long-term unemployment.

Suicide rates across the decade rose monotonically in men aged 45-64 years. Male suicide in the most-to-medium deprived areas showed evidence of decreasing rates across the decade, whilst in the least deprived areas suicide rates were fairly static but remained much lower than those in the most deprived areas.

There were small post-recession increases in the proportion of suicides in men in higher management/professional, small employer/self-employed occupations and fulltime education.

A halt in the downward trend in suicide rates amongst men aged 16-34 years, may have begun before the 2008 economic recession whilst for men aged 35-44 years old increased suicide rates mirrored recession related unemployment.

This evidence suggests indicators of economic strain other than unemployment and redundancies, such as personal debt and house repossessions may contribute to increased suicide rates in younger-age men whilst for men aged 35-44 years old job loss and long-term unemployment is a key risk-factor.

Suicide and the Great Recession of 2007-2009: The role of economic factors in the 50 U.S. states

After several decades of decline, U.S. suicide rates have risen since 2005, a trend driven largely by increases among those aged 45-64 that began in 1999. A prominent explanation for this pattern relates to deteriorating economic conditions, especially the sharp rise in unemployment associated with the Great Recession of 2007-2009.

We find a strong positive association between unemployment rates and total suicide rates over time within states. The association appears stronger in states that had higher female labor force participation rates over the period, suggesting that the Great Recession may generate greater levels of anomie in this context.

Once we consider contextual factors such as female labor force participation, we find that rising unemployment had a similar adverse effect on male and female suicide rates.

The findings suggest that the following may be important components of effective prevention strategies:
1) specifically targeting employers and workplaces as important stakeholders in the prevention of suicide,
2) disseminating information about health risks tied to un/employment, and
3) linking the unemployed to mental health resources.

The Economic Cost of Suicide and Non-Fatal Suicide Behavior in the Australian Workforce and the Potential Impact of a Workplace Suicide Prevention Strategy

In 2014, 903 workers died by suicide, 2303 workers harmed themselves resulting in full incapacity, and 11,242 workers harmed themselves resulting in a short absence from work.

The present value of the economic cost of suicide and NFSB is estimated at $6.73 billion. Our analysis suggests the economic benefit of implementing a universal workplace strategy would considerably outweigh the cost of the strategy.

For every one dollar invested, the benefits would be in excess of $1.50 ($1.11–$3.07), representing a positive economic investment.

All variations of the key parameter hold the positive benefit-cost ratio.

Rates of suicide and NFSB are far too high in Australia and elsewhere. More needs to be done to reduce this burden. Although workplace strategies are appropriate for those employed, these interventions must be used within a multifaceted approach that reflects the complex nature of self-harming behaviour.