



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



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### ABSTRACT

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 16–24 year olds & Q1 2005, Q4 2006 for 25–34 year olds), 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 were 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.

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### 1. Introduction

March 2008 saw the beginning of an economic recession in the UK, marked by the first quarter of negative growth in gross

domestic product (GDP) since 1991 (ONS, 2012) (see Appendix 1). Many other countries around the world were similarly affected by the global economic downturn, which was precipitated by the US banking crisis in 2007. In the UK the 2008 economic recession was preceded by rising levels of house repossessions and unmanageable household debt and followed by sharp rises in redundancies, unemployment, an increased proportion of part-time employed (under-employment) and reductions in wages. Many Governments introduced a series of austerity measures to restore economic

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growth, but these resulted in reductions in spending on public services and social protection programmes (Karaniolos et al., 2013).

It has long been recognised that periods of economic uncertainty are associated with rises in suicide (Durkheim, 1952; Morselli, 1882; Swinscow, 1951). Durkheim hypothesised that key societal forces such as social integration can be disrupted by factors related to economic downturn which consequently have an impact on suicide rates. Amongst a range of other stressors recessions lead to increases in debt, job losses, house repossession, strains on relationships and reductions in public spending, which in turn adversely affect mental health. A growing body of research has further clarified the association between economic recessions and rises in suicide rates. For example, the 1997–98 East Asian economic recession led to an estimated 10,400 excess suicides in Japan, Hong Kong and South Korea (Chang et al., 2009). Earlier recessions in Europe, the USA and Australia have also been associated with rises in suicide rates (Morrell et al., 1993; Stuckler et al., 2009; Stuckler et al., 2012).

It has been proposed that male suicide rates are more sensitive to unemployment levels than female suicide rates and that this is a cross-national phenomenon (Milner et al., 2012; Morrell et al., 1993). Increased unemployment has long been posited as a key driver of the rises in suicide that occur during economic downturns (Swinscow, 1951), although a theory of a simple association between rises in unemployment and suicide rates has been challenged by some authors (Fountoulakis et al., 2013). Studies from previous recessions indicate that the association between unemployment and suicide rates varies depending on the period, age, gender and geography of working age populations and that the impact differs depending on the robustness of a nation's social protection policies (Morrell et al., 1993; Stuckler et al., 2009). For example, in the recession of the 1990s when unemployment rates rose sharply both Finland and Sweden saw suicide rates drop, arguably as a result of their commitment to work programmes and social support during the crisis.

A series of studies reported increases in suicides following the 2008 economic recession in the UK, USA, Greece and much of Europe (Barr et al., 2012; Kentikelenis et al., 2011; Reeves et al., 2012). In their recent assessment of the global impact of the crisis Chang and colleagues (Chang et al., 2013) estimated that there were an additional 5000 suicides in 2009 compared to 2007 in the 54 countries they studied. Rises in unemployment accounted for some, but by no means all, of these rises in suicides (Barr et al., 2012; Chang et al., 2013). Evidence from previous crises shows there are adverse effects of anticipated job loss and job insecurity (Perlman and Bobak, 2009) and rises in suicide rates may be a response to early indicators of crisis such as the collapse of large financial institutions (Stuckler et al., 2012). Other effects of recession such as debt and house repossessions are likely to play a part in the mental health and distress of individuals which may be reflected in suicide rates. For example, home repossessions have been linked to a more than twofold increased rate of depressive symptoms and generalised anxiety disorder (GAD) (McLaughlin et al., 2012), both of which are risk factors for suicide.

As public sector and welfare spending is often cut during times of economic uncertainty, it is even more important to target preventive resources at those most vulnerable to the adverse effects of recession. This study aims to identify those groups most affected by the 2008 economic recession in England and Wales. Specifically we investigate:

1. Trends in suicide rates in England and Wales by gender, age-group and deprivation from 2001 to 2011 to identify changes in relation to a range of economic indicators.

2. Groups at increased risk of suicide following the 2008 economic recession by comparing the socio-demographic characteristics of suicide deaths in the three-years before the official start of the economic recession in the UK (April 2005–Mar 2008) with the subsequent three (April 2008–Mar 2011).

## 2. Methods

### 2.1. Data sources

#### 2.1.1. Suicide data for England and Wales

We obtained suicide mortality data from the Office for National Statistics. The data extract included all deaths by suicide for men and women in England and Wales occurring between 01 January 2001 and 31 December 2011 and which were registered by 31 December 2012. Classification of deaths for the study used the International Classification of Diseases, 10th edition (ICD-10) and included all deaths with a final underlying cause recorded as intentional self-harm (X60–X84), injury/poisoning of undetermined intent (Y10–Y34, except Y33.9) and sequelae of intentional self-harm, or injury/poisoning of undetermined intent (Y87.0, Y87.2), which follows conventional practice for government suicide statistics in the UK. In addition we included accidental poisoning (X40–X49), except X42 (accidental poisoning by and exposure to narcotics and psychodysleptics [hallucinogens], not elsewhere classified), and included accidental hanging (W76) to account for changes across the decade in potential mis-classification of suicides as a result of Coroner's growing use of narrative verdicts (Carroll et al., 2012; Hill and Cook, 2011). In sensitivity analysis we excluded accidental poisoning and accidental hanging cases.

#### 2.1.2. Population data

We used mid-year population estimates of the England and Wales population, which had recently been revised to take account of the most recent 2011 UK census, in order to calculate age-standardised suicide rates by gender and age-specific suicide rates by gender (ONSa, 2013; ONSb, 2013). Population estimates by index of multiple deprivation (IMD) decile, by 5-year age-groups (15–64 years) and by gender were provided by the Office for National Statistics.

#### 2.1.3. Economic data

- (i) *Insolvencies and bankruptcy orders*: Data on the quarterly individual voluntary arrangements (IVAs) and bankruptcy orders (BOs) were obtained from the UK Insolvency Service (UKIS, 2012) and refer to new cases for adults in England and Wales aged 18 years and over. An IVA is an agreement between an individual and their creditors to pay off some or all of their debts over a period of time, whilst a BO is a court order used by individuals with little or no disposable income to write off unsecured debts.
- (ii) *House repossessions*: Quarterly data on the number of mortgage claims leading to repossessions by county court bailiffs in England and Wales were obtained for the period 2001 to 2011 from the Ministry of Justice statistics (MoJ, 2013).
- (iii) *Unemployment rate*: Data on UK quarterly unemployment rates and the percentage of the unemployed who were 'long term' unemployed (i.e. >12 months) for 16–64 year olds by gender were obtained from the ONS Labour Force Survey (ONSa, 2011). Unemployment rates were calculated using total economically active persons in this age-group as the denominator.

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