

Supplementary file 7. Table of study-level characteristics and results for welfare state

| Serial number | Authors, publication year | Years of study | Level of analysis | Assessment of economic factors | Setting | Political exposures | Population health outcomes | Result category |
|-------------------------------------|---------------------------|----------------|-------------------|--------------------------------|--------------------------------------------|----------------------|------------------------------------------------------|-----------------|
| Studies from the 2010 review | | | | | | | | |
| 1 | Avendano et al, 2009 | 2004-2007 | Ecological | Yes | 11 countries from 3 European regions | Welfare regimes | Chronic conditions, self-reported health, depression | Positive |
| 2 | Bambra, 2005 | 1997-1999 | Ecological | No | 18 OECD countries | Welfare regimes | Health care index | Positive |
| 3 | Bambra, 2006 | 1980-1998 | Ecological | No | 18 OECD countries | Welfare regimes | Infant mortality | Positive |
| 4 | Bambra and Eikemo, 2009 | 2002-2004 | Individual | No | 37,499 persons from 21 European countries | Welfare regimes | Self-reported health, long-standing illness | Positive |
| 5 | Bambra et al, 2009 | 1998-2004 | Individual | No | 118,245 persons from 13 European countries | Welfare regimes | Self-rated health | Inconclusive |
| 6 | Burstrom et al, 2010 | 1999-2001 | Individual | Yes | 28,485 persons from | Family policy models | Self-rated health, limiting long- | Positive |

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| | | | | | Italy, Sweden and Britain | | standing illness | |
| 7 | Chung and Muntaner, 2006 | 1960-1994 | Ecological | Yes | 19 wealthy OECD countries | Public sector medical care | Infant mortality rate, low birth weight, under-five mortality weight | Positive |
| 8 | Chung and Muntaner, 2007 | 1960-1998 | Ecological | Yes | 18 wealthy countries | Welfare regimes | Infant mortality rate, low birth weight | Positive |
| 9 | Conley and Springer, 2001 | 1960-1992 | Ecological | Yes | 19 OECD countries | Welfare regimes, welfare state spending | Infant mortality | Positive |
| 10 | Dahl et al, 2006 | 1970-2005 | Ecological | Yes | Up to 11 European countries | Welfare regimes | Absolute and relative health inequalities | Inconclusive |
| 11 | Eikemo et al, 2008 | 2002-2004 | Individual | No | 69, 821 persons from 23 European countries | Welfare regimes | Self-reported health, limiting longstanding illness | Inconclusive |
| 12 | Eikemo et al, 2008 | 2002-2004 | Individual | No | 65, 065 persons from 21 European countries | Welfare regimes | Subjective poor health, limiting longstanding illness | Positive |
| 13 | Elola et al, 1995 | 1990-1991 | Ecological | Yes | 17 Western European countries | Health care system | Infant mortality, life expectancy | Positive |

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| 14 | Farfan-Portet et al, 2010 | 2001 | Individual | No | 5,729,859 persons in Belgium and Britain | Welfare regimes | Self-reported health | Inconclusive |
| 15 | Fayissa, 2001 | 1993 | Ecological | Yes | 34 sub-Saharan African countries | Public health expenditure | Infant mortality, child mortality | Positive |
| 16 | Grosse et al, 2010 | 2004 | Individual | No | 38,122 persons from 24 European countries | Welfare regimes | Perception of need for seeking primary health care | Positive |
| 17 | Karim, 2010 | 2003 | Ecological | Yes | 30 countries in Europe, North America, Australia and Asia | Welfare regimes | Infant mortality, life expectancy | Positive |
| 18 | Klomp and de Haan, 2008 | 2000-2005 | Ecological | Yes | 101 low, middle and high income countries | Governance | 19 mortality, disease, sickness indicators | Positive |
| 19 | Lahelma and Arber, 1994 | 1985-1987 | Individual | No | Ca. 30,000 persons from Britain, Finland, Norway and Sweden | Welfare regimes | Limiting long-standing illness | Negative |
| 20 | Lundberg et al, 2008 | 1950-2000 | Ecological | Yes | 18 OECD countries | Family policy models | Infant mortality, mortality among those aged 30-59 and over 65 | Positive |

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| 21 | Menon-Johansson, 2005 | 2002 | Ecological | Yes | 149 countries | Governance | HIV prevalence | Positive |
| 22 | Muntaner et al, 2006 | 1980-1995 | Individual | Yes | Sweden, Italy, and England and Wales (combined) | Welfare regimes | Mortality level per occupational class, population attributable risk, index of dissimilarity | Inconclusive |
| 23 | Nordenmark et al, 2006 | 1992-2001 | Individual | Yes | 3442 persons from Sweden, Ireland and Great Britain | Unemployment benefit type | Psychological distress | Positive |
| 24 | Ouweneel, 2002 | 1980-1990 | Ecological | Yes | 42 'first-world, second-world and third-world' countries | Social security system | Self-rated health | Inconclusive |
| 25 | Raphael and Bryant, 2004 | 1999 | Ecological | Yes | 5 countries (Canada, Denmark, Sweden, UK, US) | Welfare state spending | Life expectancy | Positive |
| 26 | Rostila, 2007 | 2002-2003 | Individual | Yes | 36,489 persons in 20 European countries | Welfare regimes | Self-rated health, life expectancy | Positive |
| 27 | Sanders et al, 2009 | 1998-2002 | Individual | Yes | 12,888 persons in 4 countries (UK, Finland, Germany, Australia) | Welfare regimes | Oral health | Positive |

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| 28 | Sekine et al, 2009 | 1991-2003 | Individual | No | 17,801 persons in Britain, Finland and Japan | Welfare regimes | The Short-Form 36: physical and mental health functioning | Positive |
| 29 | Veenhoven and Ouweneel, 1995 | 1965-1985 | Ecological | Yes | Up to 97 rich and poor countries | Welfare state expenditure | Life expectancy | Positive |
| 30 | Veenhoven, 2000 | 1980-1990 | Ecological | Yes | 40 countries | Welfare state expenditure | Life expectancy, self-rated health | Inconclusive |
| 31 | Whitehead et al, 2000 | 1979-1996 | Individual | No | 80,792 persons from Britain and Sweden | Social benefit system | Self-perceived health, limiting longstanding illness | Inconclusive |
| 32 | Zambon et al, 2006 | 2001-2002 | Individual | Yes | 160, 325 persons from 32 European and North American countries | Welfare regimes | Self-reported health, well-being, health symptom load, health behaviours | Positive |
| Studies from our update | | | | | | | | |
| 33 | Ades et al, 2013 | 2008-2012 | Ecological | Yes | 27 European Union countries | Healthcare spending | Cancer incidence and mortality | Positive |
| 34 | Akinci et al, 2014 | 1990-2010 | Ecological | Yes | 19 Middle Eastern and North African countries | Healthcare spending | Infant, under-5, and maternal mortality | Positive |

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| 35 | Bambra et al, 2014 | 2010 | Individual | Yes | 21,705 men and women from 27 European countries | Welfare regime | Self-rated health | Inconclusive |
| 36 | Batniji et al, 2014 | 1980-2011 | Ecological | Yes | 22 Arab countries | Governance | Mortality | Positive |
| 37 | Bentley et al, 2016 | 2001-2008 | Ecological | Yes | Australia and UK | Housing benefit generosity | Mental health | Positive |
| 38 | Bradley et al, 2011 | 2009 | Ecological | Yes | 30 OECD countries | Healthcare spending, social care spending | Life expectancy, low birth weight, maternal mortality, potential life years lost | Positive |
| 39 | Brandt and Hank, 2014 | Up to 2009 | Individual | No | More than 13,000 people from 11 European countries | Welfare regimes | Self-rated health, job loss | Positive |
| 40 | Bremberg, 2016 | 1990-2012 | Ecological | Yes | 28 OECD countries | Family benefit spending, healthcare spending, government expenditure on research and development | Infant mortality | Inconclusive |
| 41 | Copeland et al, 2015 | 1991-2010 | Individual | Yes | England (n = 217,514) and Sweden (n = 184, 428) | Welfare regimes | Self-rated health, health inequalities | Positive |

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| 42 | Corsi and Subramanian, 2014 | 1990-2012 | Ecological | Yes | 35 sub-Saharan African countries | Maternal and child health service coverage | Under-5 mortality | Positive |
| 43 | Craveiro, 2017 | 2010-2011 | Individual | Yes | 53,615 individuals from 15 European countries | Welfare regimes | Composite health measure derived from 3 indicators based on factor analysis, health inequalities | Positive |
| 44 | Dahl and van der Wel, 2013 | 2005 | Individual | Yes | Around 245,000 individuals from 18 European countries | National social expenditure | Self-rated health, health inequalities | Positive |
| 45 | Deeming and Hayes, 2012 | 2000-2005 | Individual | Yes | Just under 30,000 individuals from OECD countries | Welfare regimes | Unhappiness | Positive |
| 46 | Devaux, 2015 | 2006-2009 | Individual | Yes | Participants from 18 OECD countries | Health care system | Health inequalities | Positive |
| 47 | Dragano et al, 2010 | 2004-2006 | Individual | Yes | 9917 older individuals from 12 European countries | Welfare regimes, indicators from the EU Labour Force Survey | Depression (EURO-D and CES-D) | Positive |

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| 48 | Dujardin et al, 2011 | 2001 | Individual | Yes | 5729858 individuals from Belgium and Great Britain | Home care policy system | Health burden of care | Positive |
| 49 | Elgar et al, 2011 | 2006 | Individual | Yes | 48641 adults from 33 rich and middle-income countries | Healthcare spending | Homicide | Inconclusive |
| 50 | Engster and Stensöta, 2011 | 1995-2005 | Individual | Yes | Participants from 20 OECD countries | Family policy regime: family cash and tax benefits, paid parenting leave, public child care support | Child poverty and mortality | Positive |
| 51 | Esmaeli et al, 2011 | 1996-2004 | Ecological | Yes | 24 Islamic countries | Healthcare spending | Life expectancy | Inconclusive |
| 52 | Esser and Palme, 2010 | 2002-2005 | Individual | Yes | 13 OECD countries | Pension system | Self-rated health, WHO-5 | Positive |
| 53 | Foubert et al, 2014 | 2002-2004 | Individual | Yes | 213764 individuals from 57 countries | Welfare regimes | Self-rated health | Positive |
| 54 | Fritzell et al, 2012 | 2000-2005 | Individual | No | Randomly sampled British, Italian and Swedish mothers | Family policy model | Maternal health | Negative |
| 55 | Fritzell et al, 2013 | 1980-2005 | Ecological | Yes | Up to 25 countries per wave | Welfare regimes | Mortality | Positive |

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| 56 | Gesthuizen et al, 2012 | 2002-2008 | Individual | Yes | Over 90,000 individuals from 32 European countries | Healthcare spending, modernised labour market | Self-rated health | Positive |
| 57 | Gilligan and Skrepnek, 2015 | 1995-2010 | Ecological | Yes | 21 Eastern Mediterranean countries | Healthcare spending | Life expectancy | Positive |
| 58 | Glass et al, 2016 | 2006-2008 | Individual | Yes | 22 OECD countries | Family policy | Happiness | Positive |
| 59 | Granados, 2010 | 1950-2000 | Ecological | Yes | 8 European countries | Welfare regimes | Life expectancy, mortality, tobacco consumption | Inconclusive |
| 60 | Guarnizo-Herreño et al, 2013 | 2009 | Ecological | No | 31 European countries | Welfare regimes | Oral health | Positive |
| 61 | Harding et al, 2013 | 1971-2006 | Ecological | No | England and Wales, Italy and Finland | Welfare regimes | Elder mortality | Negative |
| 62 | Hájek et al, 2012 | 1995-2008 | Ecological | Yes | 27 European Union countries | Healthcare spending | Life expectancy, standardised death rate | Positive |
| 63 | Hauck et al, 2016 | 1990-2012 | Ecological | Yes | 54 low-income studies | Healthcare spending | Life expectancy | Inconclusive |
| 64 | Heijink et al, 2013 | 1996-2006 | Ecological | Yes | 14 Western countries | Healthcare spending | Avoidable mortality | Positive |
| 65 | Hoffman, 2011 | 1980-2006 | Ecological | Yes | USA and Denmark | Welfare system | Old-age mortality | Negative |
| 66 | Kuovo and Räsänen, 2015 | 2010 | Individual | No | 10,046 individuals from Finland, Britain, | Welfare system | Subjective well-being | Positive |

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| | | | | | Germany and Greece | | | |
| 67 | Levecque et al, 2011 | 2006-2007 | Individual | Yes | 41686 people from 23 European countries | Welfare regimes, welfare state generosity | Depression (CES-D) | Positive |
| 68 | Levecque et al, 2015 | 2006-2007 | Individual | No | 37076 people from 20 European countries | Migrant integration social policy | Depression (CES-D) | Inconclusive |
| 69 | Lin et al, 2014 | 1996-2010 | Ecological | Yes | 149 countries | Governance | Child mortality | Positive |
| 70 | López-Casasnovas and Soley-Bori, 2014 | 1980-2010 | Ecological | Yes | 32 OECD countries | Healthcare and social spending, healthcare system | Health Human Development Index | Positive |
| 71 | McKinnon et al, 2016 | 2006-2012 | Individual | Yes | Participants from 48 low- and middle-income countries | Maternal health service coverage | Neonatal mortality, health inequality | Positive |
| 72 | Maynard, 2016 | 1985-2005 | Ecological | Yes | 74 developing countries | Healthcare spending | Tuberculosis mortality | Positive |
| 73 | Miething et al, 2013 | 2000 | Individual | Yes | 19353 individuals from Sweden, East and West Germany | Welfare regimes | Self-rated health | Inconclusive |
| 74 | Minagawa, 2013 | 1990-2009 | Ecological | Yes | 23 Eastern European countries | Healthcare spending | Age-specific mortality, self-rated health | Positive |

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| 75 | Moor et al, 2013 | 1981-1999 | Ecological | Yes | 47 European countries and regions | Welfare state generosity (Social Policy Indicators Database) | Life satisfaction | Positive |
| 76 | Muldoon et al, 2011 | 2001-2008 | Ecological | No | 136 United Nations countries | Healthcare spending | Infant, child and maternal mortality | Positive |
| 77 | Muntaner et al, 2017 | 2003-2010 | Household-level ecological | Yes | 27 European Union countries | Welfare regimes | Self-rated health, chronic conditions | Positive |
| 78 | Nelson and Fritzell, 2014 | 1990-2009 | Ecological | Yes | 18 countries | Minimum income benefits | Mortality (life expectancy and age-standardised death rates) | Positive |
| 79 | Novignon et al, 2012 | 1995-2010 | Ecological | Yes | 44 Sub-Saharan African countries | Healthcare spending | Life expectancy, death rate, infant mortality | Positive |
| 80 | Olafsdottir, 2007 | 1998 | Individual | Yes | Participants from USA and Iceland | Welfare regimes, healthcare spending | Self-rated physical health, health inequality | Positive |
| 81 | Olsen and Dahl, 2007 | 2003 | Individual | Yes | 38,472 individuals from 21 European countries | Healthcare spending | Self-rated health | Positive |
| 82 | Palència et al, 2014 | 2010 | Individual | Yes | 23782 men and 28655 women from | Gender equality policies | Health inequality | Positive |

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| | | | | | 26 European countries | | | |
| 83 | Pickett and Wilkinson, 2007 | 1998-2006 | Ecological | Yes | 23 rich countries | Income equality | Child wellbeing | Positive |
| 84 | Pinzón-Flórez et al, 2015 | 2000-2010 | Ecological | Yes | 154 countries | Healthcare spending | Child and maternal mortality | Positive |
| 85 | Platts, 2015 | 2000-2007 | Ecological | Yes | UK and Russia | Welfare regimes | Self-rated health | Inconclusive |
| 86 | Ploubidis et al, 2012 | 2006-2007 | Individual | Yes | 33528 people from 14 European countries | Welfare regimes, income equality | Health in later life | Positive |
| 87 | Popham et al, 2013 | 2006 | Ecological | No | 37 countries | Welfare regimes | Life expectancy | Positive |
| 88 | Reeves et al, 2014 | 1995-2012 | Ecological | Yes | 21 European countries | Healthcare spending, social spending, pension expenditure | Tuberculosis control | Positive |
| 89 | Richter et al, 2012 | 2006 | Individual | Yes | 141091 adolescents from 32 countries | Welfare regimes | Subjective health, health inequality | Positive |
| 90 | Rovny, 2011 | 1990-1999 | Ecological | Yes | 17 OECD countries | Family social policy | Fertility | Positive |
| 91 | Sacker et al, 2011 | 1995-2001 | Ecological | Yes | Britain, Germany, Denmark and USA | Welfare regimes | Self-rated health | Positive |
| 92 | Sarti et al, 2013 | 2005 | Individual | Yes | Participants from | Welfare regimes | Self-rated health, health inequality | Positive |

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| | | | | | European countries | | | |
| 93 | Shim, 2015 | 1980-2010 | Ecological | Yes | 19 OECD countries | Social welfare expenditure | Infant mortality | Inconclusive |
| 94 | Stavrova et al, 2011 | 1999-2009 | Individual | Yes | Participants from 28 OECD countries | Unemployment benefit policies | Wellbeing among the unemployed | Inconclusive |
| 95 | Stuckler et al, 2010 | 1980-2005 | Ecological | Yes | Up to 18 European Union countries | Social welfare spending | All-cause mortality, cause-specific mortality | Positive |
| 96 | Van der Heuvel et al, 2013 | 1950-2000 | Ecological | Yes | Sweden, Netherlands, Canada, USA, Cuba | Welfare regimes, Redistributive welfare policy | Infant mortality, low birth weight, under 5 mortality | Positive |
| 97 | Van der Wel et al, 2011 | 2005 | Ecological | Yes | 26 European countries | Income equality, spending on active labour market policies, benefit generosity, employment protection | Social inequality in sickness | Positive |
| 98 | Van Tuyckom, 2011 | Up to 2008 | Individual | Yes | 24,846 people from 27 European Union countries | Healthcare spending | Physical activity | Positive |

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| 99 | Vahid Shahidi et al, 2016 | 2012 | Individual | Yes | 22123 individuals from 23 countries with a welfare state | Welfare social policy | Self-rated health of the unemployed | Positive |
| 100 | Vöörmann and Helemäe, 2013 | 2010 | Individual | Yes | 5480 individuals from 4 Eastern European countries | Welfare regimes | Self-rated health, health inequalities | Inconclusive |
| 101 | Wu and Chiang, 2007 | 2002 | Ecological | Yes | Taiwan and 21 comparison industrialized countries | Income inequality, healthcare spending, public social expenditure | Child mortality, under-five mortality | Positive |
| 102 | York and Bell, 2014 | 2005 | Ecological | Yes | Countries from the World Bank database with relevant data | Healthcare spending, gender equality policies | Self-reported life satisfaction (0-10) | Positive |