HEALTH, AUSTERITY AND THE ECONOMIC CRISIS: ASSESSING THE SHORT-TERM IMPACT IN OECD COUNTRIES

Kees van Gool and Mark Pearson
– The Global Financial Crisis (GFC)
– Overview of lessons from the past and present
– Health care financing and policy since GFC
– Analysing the role of unemployment and financing on health and health care
THE GLOBAL FINANCIAL CRISIS
The economic crisis compared: unemployment rate (%)

An output gap refers to the difference between actual and potential gross domestic product (GDP) as a per cent of potential GDP.
Source: OECD Economic Outlook 92 database.
The economic crisis compared:
unemployment rate (%) in selected countries

Source: OECD Economic Outlook 92 Data, 2012
The economic crisis compared: the output gap* (%)

*An output gap refers to the difference between actual and potential gross domestic product (GDP) as a per cent of potential GDP.

Source: OECD Economic Outlook 92 Data, 2012
LESSONS FROM THE PAST & PRESENT:
RECESSIONS AND THEIR IMPACT ON HEALTH
Life expectancy in the US during the Great Depression

- Life expectancy at birth (years, right scale), unemployment rate and economic growth (left scale)
- Source: Tapia Granados et al., 2009
Pathways: from recession to health

Direct pathways

• The stress mechanism – employment uncertainty can lead to stress, but for those with stressful jobs becoming unemployed can reduce stress-induced illness.

• The effect budgeting mechanism – lower incomes lead to reduced health investments, but can also reduce consumption of alcohol, tobacco and drugs.

• The frustration-aggression mechanism – a sense of unfair loss associated with an economic downturn may increase incidence of violence, but people may also reduce antisocial behaviours in order to increase employment opportunities.

Indirect pathways:

• Pollution levels, crime rates, reducing the number of drivers on roads, health care supply/quality

• Interaction with health system characteristics and policy

• None of these factors predict a singular direction by which macroeconomic conditions influence health
Empirically…

<table>
<thead>
<tr>
<th></th>
<th>Individual level studies</th>
<th>Aggregate level studies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Better outcomes</td>
<td>Worse outcomes</td>
</tr>
<tr>
<td>General mortality</td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>General morbidity</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Cardiovascular mortality/morbidity</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Substance abuse</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Violent behaviour</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Depression/anxiety</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Suicide</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Foetal death</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Infant mortality</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Only studies with significant results are shown. Adapted from Catalano et al., 2011 and updated to include studies published to Sep. 2013.
Relationship between unemployment and mortality by age – United States

Evidence on the effect of government programmes & spending to mitigate health impact of recessions

- Cutler et al (2002): fewer physicians during economic downturn associated with higher mortality among the younger age groups.
- Gerdtham and Ruhm (2006): higher unemployment leads to lower mortality, particularly in countries with low social spending
- Stuckler et al (2009): Spending on labour market programmes mitigate the effects of recession on suicides (but not health spending)
Key messages from the literature

- Widespread results across studies
  - Exception: recessions lead to worse mental health
- Why?
  - Multiple pathways help explain results, with the potential for countervailing impacts
  - Individual versus aggregate level studies
- More recent studies show non-significant relationships
- The effect of policy to mitigate economic downturns: surprisingly understudied field
Health spending growth fell since 2009, driven by cuts in public spending.
The economic crisis compared: growth in health expenditure

- 1970s (peak = 1974)
- 1980s (peak = 1980)
- 2000s (peak = 2008)
Sources of health expenditure growth

(Source: Morgan, D. and Astolfi, R., 2013)
Average annual growth in health spending (in real terms) across OECD countries, 2000-2010

(Source: Morgan, D. and Astolfi, R., 2013)
Pre-crisis expenditure growth and GDP drop predicts health expenditure cuts

Panel A: GDP and health expenditure growth

Panel B: Health expenditure growth pre and post 2009
## Policy responses: selected countries

<table>
<thead>
<tr>
<th>Country</th>
<th>Sector</th>
<th>Prices paid</th>
<th>Coverage</th>
<th>Supply</th>
<th>Public financing</th>
<th>Structural change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greece</td>
<td>Hospital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Outpatient care</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharmaceutical</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td>Ireland</td>
<td>Hospital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Outpatient care</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharmaceutical</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td>Portugal</td>
<td>Hospital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outpatient care</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td></td>
<td>Pharmaceutical</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
<tr>
<td>Spain</td>
<td>Hospital</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Outpatient care</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pharmaceutical</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>√</td>
</tr>
</tbody>
</table>

Adapted from Mladdovsky, P. et al. (2012), and updated with literature review
Policy response: Greece

- **Troika (European Commission, International Monetary Fund and European Central Bank):**
  - Spending cuts of 1.5% of GDP in 2012 and 5.5% in 2013-14
  - Public health care expenditure not to exceed 6% of GDP

- **Health and social welfare major austerity targets**
  - Reduce pharmaceutical expenditure through price-volume agreements, reference pricing, encourage generics.
  - 50% reduction in administrative personnel costs
  - 25% reduction in physicians wages and fees
  - 15% cut in public hospital spending

- **More recently: structural reforms to improve efficiencies**
Policy response: Spain

- Income dependent co-payments for medicines
- Co-pay system extended to orthoprostheses, dietary products, and non-urgent ambulance trips
- Restrict access to care for undocumented foreigners
- Salary reductions for all civil servants, including most health care personnel in 2010.
- Measures to increase use generic medications.
- Purchasing of drugs at national instead of regional level
Policy response: Portugal

- Further 5.8% health care budget cut in 2012
- Rise in pensioners’ contribution to the public insurance
- Public Sector Health Fund (ADSE) stops covering: work accident claims, clinical trials, unconventional therapeutics and aesthetic surgery
- Out-of-pocket costs:
  - Compliance measures to impose user charges.
  - Increased for vaccines, doctor declarations and some non-prescription pharmaceuticals and some drugs used for mental health conditions.
  - Primary care rose from €2.25 to €5.00; emergency visits in primary health-care centres rose from €3.80 to €10.00 and from €9.60 to €20.00 in secondary care
  - Exemptions and limits for low/low middle income groups and chronic diseases
Policy response: Portugal

- Centralized procurement for medications and diagnostic tests.
- Price reductions for high-priced generic drugs, biological pharmaceuticals, medical imaging, diagnostic tests and haemodialysis of between 3 to 10%.
- Salary freeze in 2010 and cuts in 2011 and 2012 for public sector employees
- Freeze on promotion for administrative staff.
- Target to save 5% in every department/medical service excluding personnel costs.
- 50% cut in government infrastructure spending in 2009.
- Reduction in hospital beds and primary health care centres.
- Move towards capitation payment model for some outpatient services
Policy response: Ireland

- **Public financing:**
  - Universal social charge (USC): between 2% and 7% of annual earnings

- **Coverage:**
  - Reduction in dental care coverage
  - Rise in co-payments for inpatient beds and ED for those without medical card
  - Income test for those older than 70 to determine eligibility for GMS

- **Prices paid:**
  - Generic price cuts by 20% to 30%. 40% for 300 common off-patent drugs
  - Professional fees reduced by 8% in 2009, 5% in 2010 and 2011

- **Supply:**
  - Reduce staff numbers through end of temporary contracts and redundancies
  - Reduce number of hospital beds

- **Structural:**
  - ICT investment to improve reporting and performance management
THE ROLE OF UNEMPLOYMENT AND FINANCING ON HEALTH AND HEALTH CARE:

AN EMPIRICAL ANALYSIS USING OECD HEALTH STATISTICS
Empirical analysis I: health and unemployment

- Follows the empirical strategy of Ruhm (2000):
  \[ \ln(y_{it}) = \alpha_i + \beta \cdot U_{it} + \gamma \cdot X_{it} + S_i \cdot T + \phi_t + \varepsilon_{it} \]

- Y in country i in year t:
  - Outcomes (mortality)
  - Quality (case-fatality, patient safety)
  - Lifestyles (obesity, smoking, alcohol)
  - Use (admissions, consultations, tests, prescriptions)

- \( U = \) unemployment

- Regression analysis controls for: country fixed effects, time dummies, country-specific time slopes, and age profile

- OECD Health Statistics from 1997 to 2011
Empirical analysis I: health, austerity and unemployment

- $\ln(y_{it}) = \alpha_i + \beta_1 * U_{it} + \beta_2 * U_{it} * E_i + \gamma * X_{it} + S_i * T + \varphi_t + \varepsilon_{it}$

- Replicates model 1 and:
  - Examines whether the impact of unemployment differs in modest austerity countries ($\beta_1$) from high austerity countries ($\beta_2$)
  - High austerity countries: negative health expenditure growth in 2009-11 or $\geq$ average (-4%) cut in health expenditure (n=14)
  - Modest austerity countries: everybody else* (n = 20)
    - Incomplete data for Turkey and Luxembourg to calculate growth rates but on the basis of available evidence, these two countries have been placed in the ‘modest’ group.
## Results: unemployment and health

![Image](https://via.placeholder.com/150)

**Health indicator** | **Higher unemployment is associated with....**
---|---
**Mortality rates (per 100 000 population)** | 
All-cause | ↓ | *  
Transport | ↓ | ***  
Suicide | ↑ | *

**Quality of care** |  
30-day case-fatality rates following admission for ischemic stroke | ↓ | *  
Obstetric trauma without instrument (per 100 000 hospital discharges) | ↑ | **

**Health care use** |  
COPD-related hospital admissions per 100 000 population | ↓ | *  
Dr consultations per capita | ↓ | ***  
CT scans per 1000 population | ↓ | **  
MRI scans per 1000 population | ↓ | *  
Knee replacement per 100 000 population over 65 | ↓ | *

**Pharmaceutical consumption (defined daily doses per 1000 population)** |  
All ATC groups | ↓ | ***

* p<0.1 **p<0.05; *** p<0.01; Only results where the relationship between unemployment and health indicator reaches at least weak evidence levels are shown. Source: OECD Health Statistics 2013
Austerity, unemployment and health

In countries with high cuts to health expenditure, an increase in unemployment is associated with:

<table>
<thead>
<tr>
<th>Austerity Impact</th>
<th>Statistical significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fewer alcohol-related deaths compared to modest health expenditure countries</td>
<td>*</td>
</tr>
<tr>
<td>More obstetric trauma compared to modest health expenditure countries</td>
<td>**</td>
</tr>
<tr>
<td>Fewer respiratory-related hospital admissions compared to modest health expenditure countries</td>
<td>*</td>
</tr>
<tr>
<td>Fewer overall hospital admissions compared to modest health expenditure countries</td>
<td>**</td>
</tr>
<tr>
<td>Fewer knee replacement operations compared to modest health expenditure countries</td>
<td>*</td>
</tr>
<tr>
<td>Greater consumption of pharmaceuticals for the nervous system compared to modest health expenditure countries</td>
<td>*</td>
</tr>
</tbody>
</table>

* p<0.1; ** p<0.05; *** p<0.01; Only results where the relationship between unemployment and health indicator reaches at least weak evidence levels are shown. Source: OECD Health Statistics 2013
Some conclusions

- Recessions not necessarily bad for overall health but mental health will worsen
- Accompanied by austerity measures that have impacted many aspects of health care
- Analysis suggests impact of unemployment:
  - Mortality, lifestyles, hospital admissions is limited
  - Fewer consultations, tests, procedures and pharmaceuticals consumption
- Countries with high cuts to health care expenditure:
  - No further decline on pharmaceutical use
  - But fewer hospital admissions, procedures
  - More obstetric trauma, fewer alcohol-related deaths
- Limitations:
  - Lags
  - Aggregate data
  - Difficult to disentangle austerity from recessionary impact
THANK YOU

PAPER AVAILABLE:
OECD HEALTH WORKING PAPER N0: 76

WWW.OECD.ORG/HEALTH
AND FOLLOW THE LINKS