Economic crisis and MH in Europe: SPAIN

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MH IMPACT OF THE ECONOMIC CRISIS IN SPAIN (Southern European crisis)

• Spanish debt grew from 12% of gross domestic product (GDP) in 2009 to over 100% of GDP in 2016.

• The social security system lost 3.2 million contributors between 2008-2013 and this had caused a €10 billion deficit in the pension system by 2016. The increase of 1 million contributors in 2014-15 was not related to an actual improvement of the social security fund due to lower salaries. Total income lost between 2008 and 2015 is around €47.5 billion.

• The national unemployment rate increased from 8.6% in 2006 to 25% in 2012, and 19.5% in 2016. Spanish youth unemployment was over 51% in 2012 and 42.6% in 2016. It is particularly high for those who have not completed full-time education.

• In 2010, the proportion of people living in conditions of extreme poverty was 5.3%, and raised to 6.8% by 2016 (3.2 million with an income below €332 per month).

• Major cuts in the health budget
  - Reduction of 13.8% since 2009 - 10 billions in health expenditure since 2010).
  - Decrease of the workforce: 7,000 professionals less in Andalucia in 2014 and 34.4% increase in temporary employment.
GDP growth 2004-15 (% over the prior year) (Eurostat, 2015)

Unequity in Europe. Gini Index (Eurostat, 2016)

Alvarez et al IMPACT-A report, 2016

Spain: 2006: 31.9 /2012: 34.2/ 2015: 34.6
Alvarez et al IMPACT-A report, 2016
Impact in self perception of health

Self-perceived health

Unemployment

High geographical variability
EVALUATION OF THE HEALTH IMPACT OF THE ECONOMIC CRISIS IN SPAIN

• International Reports:
  • Eurostat
  • WHO-Euro: Impact of Economic Crises on Mental Health. Copenhagen 2011
  • European Observatory on Health Systems and Policies (Health Systems and the Financial crisis; Health and financial Crisis Monitor)
  • UCL Institute of Health Equity

• Official reports in Spain (National and regional)
  • Observatorio de Desigualdades en Salud. Instituto Carlos III, Madrid
  • SESPAS (Spanish Public Health Association): Health impact of the economic and financing crisis in Spain. SESPAS Report 2014, Gaceta Sanitaria, 2014: 28, S1
  • Social Observatory La Caixa
  • Andalusian School of Public Health: Impact of the Economic crisis on health status and the health care system in Spain
  • Catalan Health Care Observatory: Impact of the economic crisis on the population health in Catalonia, Geographical analysis, 2015

• Scientific papers: Over 200 papers on the Spanish economic crisis since 2012
ASSOCIATION OF MH INDICATORS TO FINANCIAL CRISIS: Suicide rates

- Financial crises are associated with increasing suicide rates in Europe and the United States (Reeves et al, 2014; Karanikolos et al, 2013; Chang et al, 2013; Falagas et al, 2009)

- Association of suicide and financial crisis in Spain
  - Positive correlation (Reeves et al, 2014; lopez-Bernal et al, 2013; Librero et al, 2014)
  - Double-dip recession in Spain: downward trend since 2004 has reversed twice, in 2008-2009, and in 2012. (Ruiz-Perez, 2016)
  - Overall suicide rates actually decreased between 2007 and 2011 (not statistically significant) and increased after 2011
  - Decrease of overall mortality (Regidor et al, 2016)

- Methodological aspects - Confounding factors
  - Analysis of rare events
  - Time-frame / period of analysis
  - Socio-economic determinants:
    - Variations in Social expenditure was not associated with (total) suicide rates
  - Reliability of data sources (INE vs. IML -Forensic data)

- Causality links not clear: Intense international debate
System thinking perspective for health care planning

- **HEALTH SYSTEMS** are dynamic social organizations of people, institutions and resources that deliver health care to meet the health needs of target populations mainly by providing health interventions.

- **SYSTEM THINKING**: provides a means of analysing organisations as a integrated, complex composition of many interconnected agents (human and non-human) that need to work together for the whole to function successfully.

- **DYNAMIC SYSTEMS** can be described in terms of their goals, their components, their connections and interactions; and their functions are characterised by:
  - HIGH Variability
  - HIGH Uncertainty
  - DIFFERENT Levels of Organisation: Simple / Complicated / Complex
    - Non-linear, self-adapted, interdependent, context-dependent, time-dependent
Organisational learning: (Local) systems comparison

Standard methodology

Paradigm Shift: New knowledge-base/Context analysis/Complexity approach
From EBM to System thinking:
The Greek Temple
Salvador-Carulla et al, Epidemiology & Psychiatric Sciences, 2016

Scientific Knowledge

**Evidence- data**
- Observational
  - Ecological - Cohort
- Experimental
  - RCTs
- Context
  - GIS, demographics

**Mixed**
- Expert Knowl.
  - Formal and tacit

**Qualitative info**
- Experiential
  - Consumers, Carers

**DISCOVERY -- CORROBORATION -- IMPLEMENTATION**
Context Analysis

Evidence

Context

Implementation

Expert Knowledge
MH Impact of the financial crisis in Spanish regions

Loyola University Andalucia
University of Sydney

**CATALONIA:**
- Mapping of MH services pre-post / Period 2002-2006-2010-2017
- Availability, placement capacity, workforce capacity, accessibility

**BASQUE COUNTRY**
- Relative efficiency (Period 2010 / 2014/ 2017)

**ANDALUCIA**
- Mapping of MH Services 2015-2017
- IMPACT-A Project
Spatial Economic Analysis

Applying an Evolutionary Algorithm for the Analysis of Mental Disorders in Macro-urban Areas: The Case of Barcelona
José Alberto Salinas-Pérez, María Luisa Rodero-Cosano, Carlos Ramón García-Alonso & Luis Salvador-Canulla
Published online: 11 Aug 2015.

Dependency index
University studies rate
High economic condition rate
Population density

Spatial distribution of local coefficients (elasticities) of Geographical Weighted Regression analysis in the Barcelona Metropolitan Area and Health Region.
Hybrid approach / Cross-design synthesis (Bendeck et al, 2013)

- **SECONDARY ANALYSIS OF DATABASES**
  
  *International (Europe)*
  - Eurostat
  
  *National (Spain)*
  - Instituto Nacional de Estadistica (INE): Demographics, Mortality, Suicide
  - Health Barometer (CIS)
  - Encuesta Nacional de Salud de España (ENSE)
  - Informe FOESSA (Fomento de Estudios Sociales y de Sociologia Aplicada)
  - Comision Nacional de Desigualdades en Salud 2015
  - Encuesta de estructura salarial (EES)
  - Encuesta de Poblacion Activa (EPA)
  - Conjunto Minimo Basico de Datos –CMBD- Hospitales generales de agudos

  *Regional (Andalucia)*
  - Diraya (SAS)
  - Encuesta Andaluza de Salud
  - Informe de desigualdades de salud de Andalucia

- **EXPERT KNOWLEDGE** (In-depth interviews and focus groups)
  - Professionals (Health)
  - Professionals (Social care)
  - Consumers

- **TARGETED SURVEY**
  - IMPACT-A Survey: effects of the financial crisis in Andalucia

- **GENERIC INDICATORS**
  - Mean income
  - Unemployment
  - SES
  - Extreme poverty
  - Poverty risk
  - Self perceived health

- **SPECIFIC INDICATORS (Health)**
  - Mortality
  - Suicide
  - Generic hospital admission morbidity
  - MH hospital admission morbidity
    - Total
    - Schizophrenia
    - Mood disorders
    - Alcohol
    - Other
  - LoS
  - Use of health services (Gender, Age,)
    - Primary care
    - Emergency care
    - Hospital admissions
    - Specialised care
Impact of the financial crisis in Andalusia - Systems Thinking approach

- Expert agreement on meaningful indicators
- Shared Taxonomies
- Incorporation of expert knowledge and experiential knowledge

Geographical comparison
- Europe
- Spain
- Andalusia (Region)
- Provinces
- (Health districts)
- (Small catchment areas)

Variables
- Gender
- Private/Public
- SES

Visualisation GIS maps and graphs
- Multilevel analysis
- Interrupted time series
- Logistic regression
- Structural Equation Modelling - SEM
SUICIDE RATES IN SPAIN (1994-2012)

ITS: Suicide not associated to doble-dip recession or unemployment

Increase after 2011
History of the financial crisis in Spain

• Spain did not institute any intervention strategies to deal with the financial crisis until mid-2011; and in 2012 in Healthcare eligibility, access, provision and expenditure.

• The main impact of the financial crisis on Spanish citizens was therefore delayed until late 2011, partly because of the buffer effect of a highly developed social support network (Van Hal, 2015), and partly because of a contentious government strategy which allowed the national debt to increase in order to support welfare benefits and social protection.

History of the data bases and other information sources
Mediators of health during the financial crisis

Determinantes de la salud: socioeconómicos y socio-demográficos

Determ. intermedios: estilos de vida y situación ante la crisis

Mediadores de la salud mental

- edad
- estudios
- ingresos
- sexo
- fruta
- actfis
- bmi
- crsafec
- necesidad
- dif. econ.
- discr
- feliz

Salud

Equations:

$\varepsilon_1$
$\varepsilon_2$
$\varepsilon_3$
$\varepsilon_4$
$\varepsilon_5$
$\varepsilon_6$
$\varepsilon_7$
$\varepsilon_8$
$\varepsilon_9$
$\varepsilon_{10}$
HEALTH IMPACT OF THE FINANCIAL CRISIS IN SPAIN

Lopez-Casasnovas, Gaceta Sanitaria, 2014

• The crisis has had a multiple non-linear impact in the health of Spaniards particularly in MH. It is highly dependent of context and time

• The impact has been unequal with higher consequences on frail & vulnerable population, pop. In social exclusion and in traditionally deprived areas

• Despite the double dip of the Spanish recession, healthcare has survived the consequences of the crisis fairly well in spite of non-guided cuts in expenditure

• This is particularly the case in terms of the share of public expenditure to GDP and in per capita terms, given the evolution of these ratios

• This relatively low incidence so far on the health of Spaniards is basically due to a series of buffers
  
  - Family/social networks & human capital / Families pooling their incomes
  
  - Acceptance by Spanish health professionals of budget cuts, which have allowed services and their apparent quality to be maintained, contrasting with private employment and public finances.
Thanks

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