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Title:	TheLancet.com <small>Published online October 10, 2011 DOI:10.1016/S0140-6736(11)61556-0</small> Health effects of financial crisis: omens of a Greek tragedy		
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Health effects of financial crisis: omens of a Greek tragedy

Greece has been affected more by the financial turmoil beginning in 2007 than any other European country. 15 years of consecutive growth in the Greek economy have reversed. In adults, unemployment has risen from 6.6% in May, 2008, to 16.6% in May, 2011 (youth unemployment rose from 18.6% to 40.1%),¹ as debt grew between 2007 and 2010 from 105.4% to 142.8% of gross domestic product (GDP; €239.4 billion to €328.6 billion) compared with the average change in the EU-15 (the 15 countries that were EU members before May 1, 2004) from 66.2% to 85.1% of GDP in this same period (€6.0 trillion to €7.8 trillion).² Greece's options were limited, since its Government ruled out leaving the Euro, precluding them from one of the most common solutions in such circumstances: devaluation. To finance its debts, Greece had to borrow €110 billion from the International Monetary Fund and Eurozone partners, under strict conditions that included drastic curtailing of government spending. Whereas other countries in Europe (eg, France, Germany) now show signs of economic recovery, the crisis continues to evolve in Greece; industrial production fell by 8% in 2010.³

Richard Horton⁴ has asked whether anyone is looking at the effect of the economic crisis on health and health care in Greece, in light of the adverse health effects of previous recessions.⁵ Here, we describe changes in health and health care in Greece on the basis of our analysis of data from the EU Statistics on Income and Living Conditions,⁶ which provide comparable cross-sectional and longitudinal information on social and economic characteristics and living conditions throughout the EU.

In Greece, representative samples of 12346 and 15045 respondents

were recruited in 2007 and 2009, respectively, by use of consistent methods, of which a total of 26489 had complete sociodemographic data (see webappendix p 1 for more details). We also drew on reports from medical research institutes, health prefectures, and non-governmental organisations (NGOs). These reports include epidemiological indicators, data on hospital admissions, and reports on mental health problems and the status of vulnerable groups.

Compared with 2007—ie, before the crisis—2009 saw a significant increase in people reporting that they did not go to a doctor or dentist despite feeling that it was necessary (odds ratio 1.15, 95% CI 1.02–1.30 for doctors' visits; 1.14, 1.01–1.28 for dentists' visits [figure, webappendix p 2–3]), after correcting for differences in survey respondents including age, sex, marital status, educational attainment, and urban or rural residence. The main reasons for not seeking medical care did not seem significantly linked to an inability to afford care (0.87, 0.74–1.02), but to long waiting times (1.83, 1.26–2.64), travel distance to care (2.50, 1.35–4.63), waiting to feel better (1.93, 1.26–2.96), and other reasons not captured by the survey (1.54, 1.05–2.27; webappendix p 4).

Since Greece's universal public health-care system entitles citizens and those with social insurance to visit general practitioners (GPs) free of charge and to attend outpatient clinics of hospitals for €0–5, these noted reductions in access probably reflect supply-side problems: there were about 40% cuts in hospital budgets,⁷ understaffing, reported occasional shortages of medical supplies, and bribes given to medical staff to jump queues in overstretched hospitals.⁸

Although people were less likely to visit GPs and outpatient facilities, there was a rise in admissions to public hospitals of 24% in 2010 compared with 2009,⁹ and of 8% in the first half of 2011 compared with the same period of 2010.¹⁰ Major private health providers,

although comprising a smaller proportion of care delivery than public providers, were also hit by pressure on personal budgets and registered losses after the onset of the crisis. A 2010 study reported a 25–30% decline in admissions to private hospitals.¹¹

There are signs that health outcomes have worsened, especially in vulnerable groups. We noted a significant rise in the prevalence of people reporting that their health was "bad" or "very bad" (1.14, 1.02–1.28; figure). Suicides rose by 17% in 2009 from 2007 and unofficial 2010 data quoted in parliament mention a 25% rise compared with 2009.¹² The Minister of Health reported a 40% rise in the first half of 2011 compared with the same period in 2010.¹³ The national suicide helpline reported that 25% of callers faced financial difficulties in 2010¹⁴ and reports in the media indicate that the inability to repay high levels of personal debt might be a key factor in the increase in suicides.¹⁵ Violence has also risen, and homicide and theft rates nearly doubled between 2007 and 2009.^{16–18} The number of people able to obtain sickness benefits declined (0.61, 0.38–0.98) between 2007 and 2009,



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See Online for webappendix

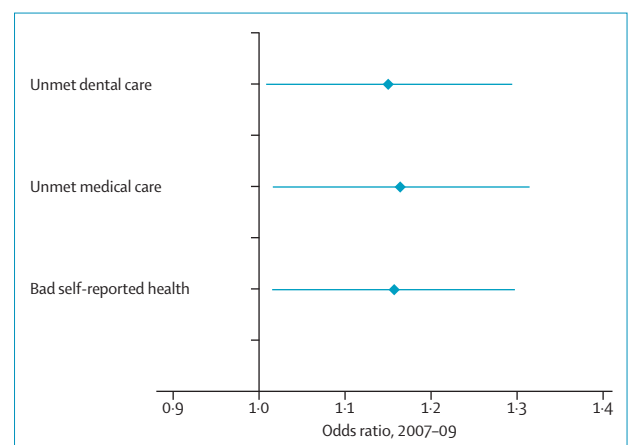


Figure: Changes in self-reported health and access to health care linked to financial crisis between 2007 and 2009, adjusted estimates

95% CIs presented. X-axis on log scale. Data are from the Greece EU Survey on Income and Living Conditions, 2007 and 2009 survey waves. Models correct for potentially confounding differences of survey respondents, including age, a dummy for age older than 65 years, sex, marital status, the degree of urbanisation (from 1 to 3), and educational attainment; similar patterns found when including measures of household income. See webappendix p 3 for more details.

probably owing to budget cuts, and further reductions to access and the level of benefits are to be expected once austerity measures are fully implemented (webappendix p 5).⁶

A significant increase in HIV infections occurred in late 2010. The latest data suggest that new infections will rise by 52% in 2011 compared with 2010 (922 new cases versus 605), with half of the currently observed increases attributable to infections among intravenous drug users.¹⁹ Data for the first 7 months of 2011 show more than a 10-fold rise in new infections in these drug users compared with the same period in 2010.²⁰ The prevalence of heroin use reportedly rose by 20% in 2009, from 20 200 to 24 100, according to estimates from the Greek Documentation and Monitoring Centre for Drugs.

Budget cuts in 2009 and 2010 have resulted in the loss of a third of the country's street-work programmes;²¹ one survey of 275 drug users in Athens in October, 2010, found that 85% were not on a drug-rehabilitation programme.²¹ Many new HIV infections are also linked to an increase in prostitution (and associated unsafe sex).²² An authoritative report described accounts of deliberate self-infection by a few individuals to obtain access to benefits of €700 per month and faster admission onto drug substitution programmes.²² These programmes offer access to synthetic opioids and can have waiting lists of 3 years or more in urban areas.

Another indicator of the effects of the crisis on vulnerable groups is increased use of street clinics run by NGOs. Until recently, these clinics mainly catered to immigrants, but the Greek chapter of Médecins du Monde estimates that the proportion of Greeks seeking medical attention from their street clinics rose from 3–4% before the crisis to about 30%.²³

Despite many adverse signs, there are some indications of improvement. There have been marked reductions in alcohol consumption²⁴ and, according

to police data, drink-driving has decreased.²¹ These trends were not artifacts of reduced detection owing to budget cuts in the police force, since police checks remained the same and more drivers were screened in 2009 than 2008.

Overall, the picture of health in Greece is concerning. It reminds us that, in an effort to finance debts, ordinary people are paying the ultimate price: losing access to care and preventive services, facing higher risks of HIV and sexually transmitted diseases, and in the worst cases losing their lives. Greater attention to health and health-care access is needed to ensure that the Greek crisis does not undermine the ultimate source of the country's wealth—its people.

Eurostat has no responsibility for the results and conclusions of this letter, which are those of the authors. We declare that we have no conflicts of interest.

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Supplementary webappendix

This webappendix formed part of the original submission and has been peer reviewed. We post it as supplied by the authors.

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Webappendix

Table 1. Comparison of EU-SILC Greece Survey Socio-Demographics, 2007 and 2009 waves

Variable	2007		2009		T-test	p-value
	<i>n</i>	Mean (Std. Dev)	<i>n</i>	Mean (Std. Dev)		
Age (17-81)	12346	49.78 (18.83)	15045	50.39 (18.82)	-2.6716	0.0076
Sex (male =1)	12346	0.48 (0.50)	15045	0.48 (0.50)	0.3814	0.7029
Family status (married =1)	12346	0.63 (0.48)	15045	0.63 (0.48)	-0.1258	0.8999
Degree of urbanisation (1-high, 3 - low)	12346	2.16 (0.93)	15045	2.14 (0.93)	2.1398	0.0324
Education (1-lowest, 4-highest)	11899	1.97 (1.04)	14590	2.08 (1.07)	-8.0697	<0.0001

Figure. Probability of unmet medical need and age in 2007 and 2009 (lowess regression)

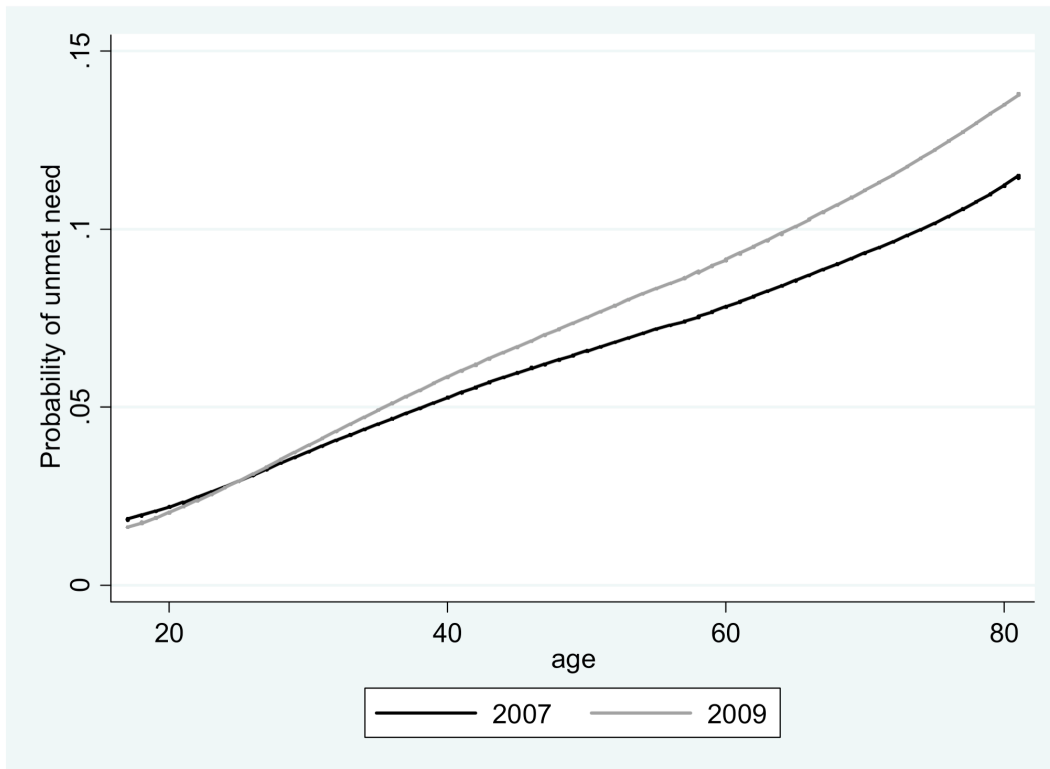


Table 2. Change in prevalence of key health indicators between 2007 and 2009, ages 17-81 (Odds ratios), weighted

Covariate	Bad Self-Reported Health (bad or very bad=1)	Chronic Illness	Health Limitation	Unmet Medical Need	Unmet Dental Need
Financial Crisis Dummy	1.141* [1.015 to 1.283]	1.02 [0.934 to 1.113]	1.064 [0.970 to 1.167]	1.150* [1.015 to 1.303]	1.135* [1.006 to 1.281]
	(0.028)	(0.663)	(0.186)	(0.029)	(0.040)
Age	1.078*** [1.069 to 1.087]	1.086*** [1.081 to 1.092]	1.081*** [1.075 to 1.087]	1.030*** [1.024 to 1.037]	1.020*** [1.014 to 1.025]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age 65 or older	0.709** [0.569 to 0.884]	0.827* [0.714 to 0.957]	0.98 [0.835 to 1.149]	0.686*** [0.551 to 0.853]	0.459*** [0.368 to 0.573]
	(0.002)	(0.011)	(0.800)	(0.001)	(0.000)
Male	1.096 [0.964 to 1.245]	0.955 [0.872 to 1.045]	0.934 [0.848 to 1.029]	0.799*** [0.704 to 0.908]	0.993 [0.880 to 1.121]
	(0.162)	(0.315)	(0.166)	(0.001)	(0.913)
Married	0.558*** [0.487 to 0.639]	0.648*** [0.584 to 0.718]	0.684*** [0.614 to 0.762]	0.874 [0.756 to 1.010]	0.915 [0.792 to 1.058]
	(0.000)	(0.000)	(0.000)	(0.068)	(0.232)
Degree of urbanisation (1-high, 3 - low)	1.008 [0.944 to 1.076]	0.909*** [0.866 to 0.954]	0.972 [0.923 to 1.023]	0.811*** [0.759 to 0.868]	0.832*** [0.781 to 0.887]
	(0.817)	(0.000)	(0.280)	(0.000)	(0.000)
Education Level (1-lowest, 4- highest)	0.645*** [0.595 to 0.702]	0.702*** [0.668 to 0.738]	0.671*** [0.636 to 0.709]	0.776*** [0.721 to 0.835]	0.773*** [0.720 to 0.829]
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Notes: Odd ratios presented with 95% confidence intervals; p-values in parentheses. Number of individuals is 26,489.

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 3. Change in prevalence of unmet need for medical examination or treatment between 2007 and 2009, by reason for unmet need (weighted)

Covariate	Cannot afford care (1)	Waiting list (2)	Lack of time (3)	Too far to travel (4)	Wait to get better (5)	Other reasons (6)
Financial Crisis Dummy	0.867 (0.082)	1.828** (0.001)	1.329 (0.174)	2.497** (0.004)	1.931** (0.003)	1.540* (0.029)
Age	1.030*** (0.000)	1.018* (0.047)	1.002 (0.818)	1.034 (0.108)	1.036*** (0.001)	1.047*** (0.000)
Age 65 or older	0.597*** (0.001)	1.624 (0.126)	0.309** (0.008)	1.377 (0.526)	0.939 (0.851)	0.424* (0.012)
Male	0.744*** (0.000)	0.758 (0.131)	0.814 (0.348)	1.002 (0.996)	1.399 (0.100)	1.077 (0.711)
Married	0.713*** (0.000)	1.199 (0.329)	5.562*** (0.000)	0.648 (0.272)	1.1 (0.689)	0.668 (0.052)
Degree of urbanisation (1-high, 3 - low)	0.801*** (0.000)	0.467*** (0.000)	0.884 (0.267)	2.898*** (0.000)	0.864 (0.220)	1.071 (0.559)
Education Level (1-lowest, 4-highest)	0.660*** (0.000)	0.864 (0.117)	1.169 (0.107)	0.685** (0.006)	0.894 (0.356)	0.998 (0.988)

Notes: Odd ratios presented; p-values in parentheses. Sample size is 26,489

- (1) Could not afford to (too expensive, not covered by insurance)
- (2) Waiting list (on actual waiting list, perception of the long waiting list or “applied” and still waiting to see a medical specialist)
- (3) Could not take time because of work, care for children or for others
- (4) Too far to travel/no means of transportation
- (5) Wanted to wait and see if problem got better on its own
- (6) Other reasons include fear of doctor/hospitals/examination/ treatment, respondent didn’t know any good doctor or specialist, refusal, other)

Table 4. Change in prevalence of access to social benefits between 2007 and 2009 (weighted)

Covariate	All benefits	Unemployment	Old age	Survivors	Sickness	Disability	Education
Financial Crisis Dummy	0.961 (0.421)	1.111 (0.257)	0.925 (0.188)	0.904 (0.305)	0.608* (0.040)	1.025 (0.840)	0.988 (0.972)
Age	1.103*** (0.000)	0.989** (0.004)	1.174*** (0.000)	1.092*** (0.000)	1.019* (0.031)	1.067*** (0.000)	0.903*** (0.000)
Age 65 or older	3.492*** (0.000)	0.0645*** (0.000)	2.338*** (0.000)	0.521*** (0.000)	0.577 (0.149)	0.0470*** (0.000)	n/a
Male	1.752*** (0.000)	1.221* (0.036)	3.618*** (0.000)	0.0634*** (0.000)	1.465 (0.110)	1.261 (0.071)	1.39 (0.322)
Married	0.313*** (0.000)	1.325* (0.035)	1.775*** (0.000)	0.00209** (0.000)	0.824 (0.477)	0.407*** (0.000)	0.31 (0.063)
Degree of urbanisation (1-high, 3 - low)	1.135*** (0.000)	1.276*** (0.000)	1.249*** (0.000)	0.713*** (0.000)	0.918 (0.543)	1.170* (0.029)	0.580* (0.010)
Education Level (1-lowest, 4-highest)	0.897*** (0.000)	0.886* (0.014)	1.089** (0.009)	0.705*** (0.000)	0.610** (0.002)	0.500*** (0.000)	2.084*** (0.000)

Notes: Odd ratios presented; p-values in parentheses. Sample size is 26,489 except for education with 19,891.