



ORIGINAL ARTICLE

The Atlantic divide in coronary heart disease: Epidemiology and patient care in the US and Portugal



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Abstract

Introduction and Objectives: We aimed to compare access to new health technologies to treat coronary heart disease (CHD) in the health systems of Portugal and the US, characterizing the needs of the populations and the resources available.

Methods: We reviewed data for 2000 and 2010 on epidemiologic profiles of CHD and on health care available to patients. Thirty health technologies (16 medical devices and 14 drugs) introduced during the period 1980–2015 were identified by interventional cardiologists. Approval and marketing dates were compared between countries.

Results: Relative to the US, Portugal has lower risk profiles and less than half the hospitalizations per capita, but fewer centers per capita provide catheterization and cardiothoracic surgery services. More than 70% of drugs were available sooner in the US, whereas 12 out of 16 medical

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PALAVRAS-CHAVE

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devices were approved earlier in Portugal. Nevertheless, at least five of these devices were adopted first or diffused faster in the US. Mortality due to CHD and myocardial infarction (MI) was lower in Portugal (CHD: 72.8 vs. 168 and MI: 48.7 vs. 54.1 in Portugal and the US, respectively; age- and gender-adjusted deaths per 100 000 population, 2010); but only CHD deaths exhibited a statistically significant difference between the countries.

Conclusions: Differences in regulatory mechanisms and price regulations have a significant impact on the types of health technologies available in the two countries. However, other factors may influence their adoption and diffusion, and this appears to have a greater impact on mortality, due to acute conditions.

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A divisão atlântica na doença coronária: epidemiologia e cuidados de saúde nos Estados Unidos e Portugal

Resumo

Introdução e objetivos: O objetivo deste estudo é comparar o acesso a novas tecnologias em saúde no tratamento da doença coronária (CHD), entre os sistemas de saúde de Portugal e dos Estados Unidos (US), caracterizando as necessidades das populações e disponibilidade de recursos.

Métodos: Foram comparados dados (2000 e 2010) de Portugal e US para descrever perfis epidemiológicos e recursos disponíveis na prestação cuidados de saúde na CHD. Trinta tecnologias de saúde (16 dispositivos médicos e 14 medicamentos), introduzidas durante 1980-2015, foram identificadas por cardiologistas de intervenção e calcularam-se as diferenças entre as datas de autorização de introdução no mercado/comercialização nos dois países.

Resultados: Relativamente aos US, Portugal apresenta perfis de risco mais baixos, menos hospitalizações *per capita*, menor número de centros *per capita* com valência para cateterismo coronário e cirurgia cardiotorácica. Mais de 70% dos medicamentos foram comercializados mais cedo nos US, enquanto 12 dos 16 dispositivos médicos obtiveram autorização para comercialização mais cedo em Portugal. Contudo, pelo menos cinco destes dispositivos foram adotados primeiro ou sofreram uma difusão mais rápida nos US. A mortalidade por CHD e enfarte agudo do miocárdio (EAM) foi inferior em Portugal (CHD: 72,8 [Portugal] *versus* 168 [US]; AMI: 48,7 [Portugal] *versus* 54,1 [US]; mortes por 100 000 habitantes, padronizada por idade e sexo, 2010), tendo-se apenas verificado uma diferença significativa entre os países na mortalidade por CHD.

Conclusões: Diferenças nos mecanismos de regulação e controlo de preços têm um impacto significativo no tipo de tecnologias disponíveis nos dois países. Contudo, outros fatores influenciam a sua adoção e difusão, tendo um maior impacto na mortalidade em condições mais agudas.

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Introduction

The use of health technologies has grown dramatically in recent decades in developed countries, and now accounts for a considerable share of national health expenditure.¹⁻⁷ Sustainability of access to health technologies has become a major priority in Portugal and worldwide, one that is grounded on ethical principles aiming at maximizing health gains given limited available resources.⁸ A national system for health technology assessment (SiNATS) is currently being implemented in Portugal. It is expected to extend the existing health technology assessment system to medical devices

and to include new ways to support decision-making based on risk-sharing tools and real-world data monitoring.⁹ This context makes it an opportune time to assess contemporary access to medical devices and drugs in Portugal.

Different healthcare systems adopt new health technologies at different speeds and usage rates, leading to disparities in quality of care between patients in different countries.¹⁰⁻¹² This results from a combination of various factors related to different barriers and needs, including the efficiency of the regulatory process, limitations of the reimbursement system, economic capacity, availability of resources, and the epidemiology of the target

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