

The global burden of heart failure

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Declaration of Interests

- Received research funding and consultancy/speaking fees from ResMed, Servier, St Jude Medical, Medtronic, Boston Scientific, Novartis, Pfizer, Alere, Roche Diagnostics, Bayer

Heart failure, a worldwide burden

**26
million**

Number of heart failure patients worldwide.¹

1-2%

Health care expenditure attributed to heart failure in Europe and North America.²

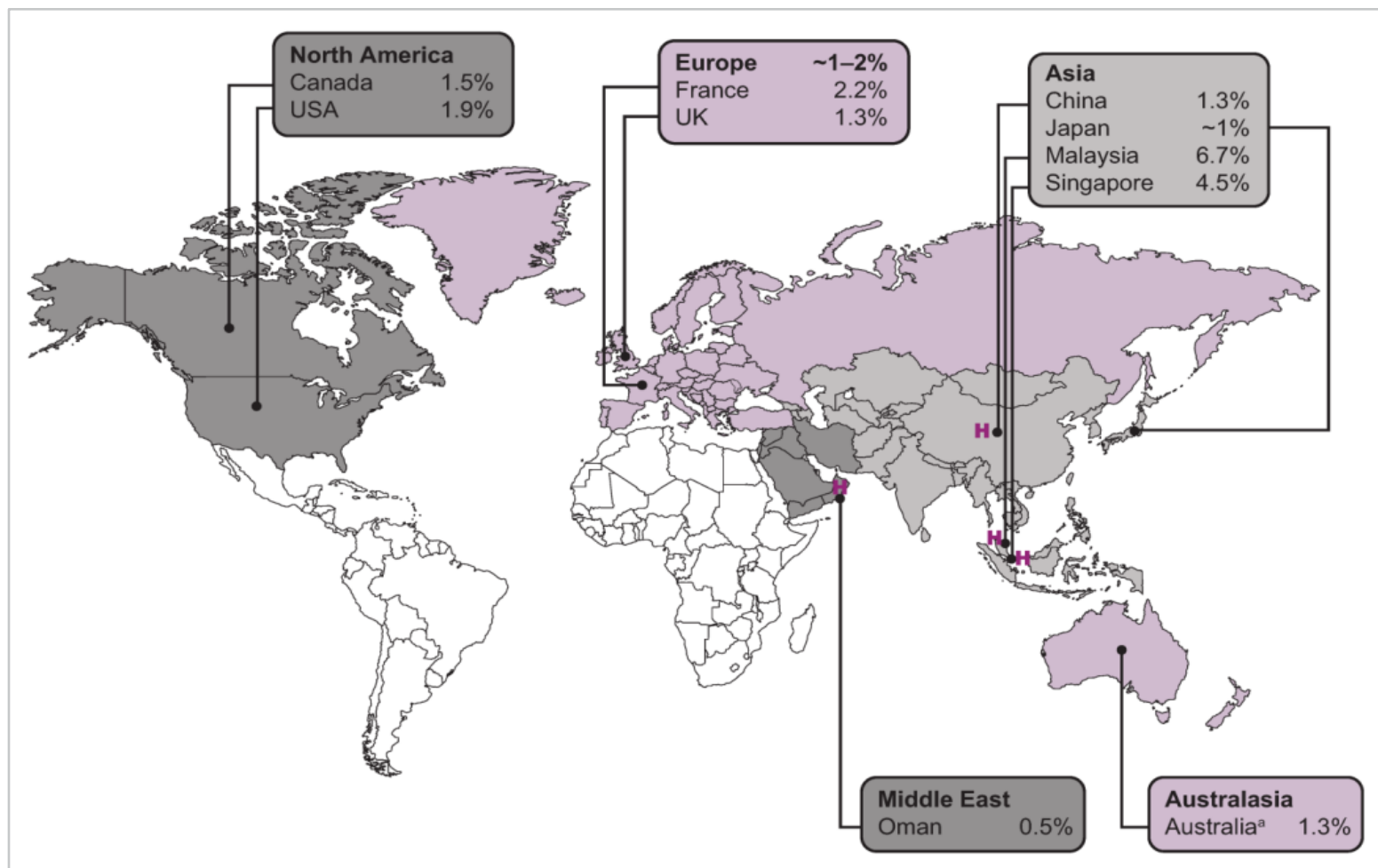
74%

Heart failure patients suffering from at least 1 comorbidity: more likely to worsen the patient's overall health status.³

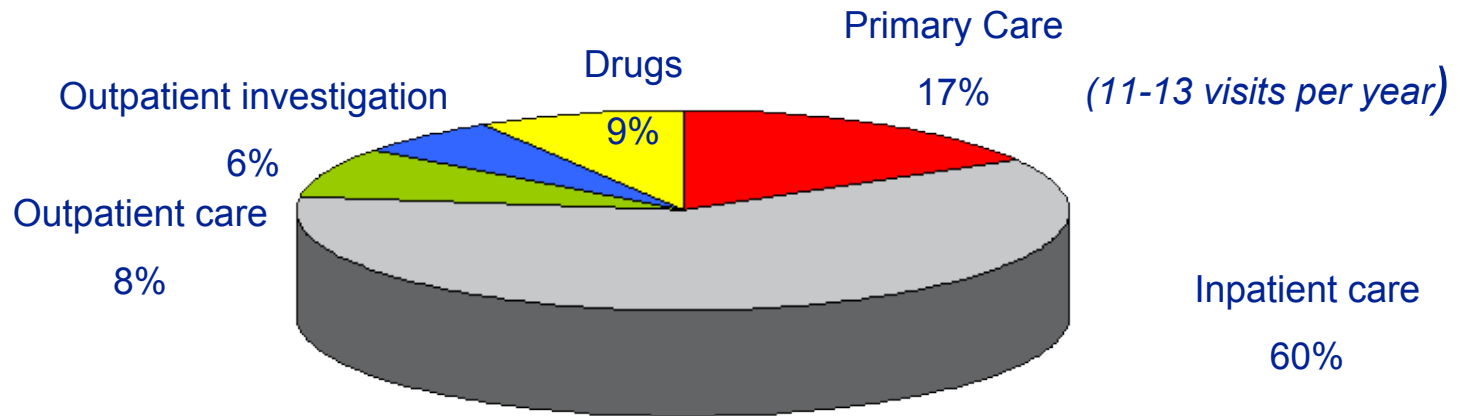
1. Ambrosy PA et al. The Global Health and Economic Burden of Hospitalizations for Heart Failure. Lessons Learned From Hospitalized Heart Failure Registries. *J Am Coll Cardiol.* 2014;63:1123–1133. 2. Cowie MR et al. Improving care for patients with acute heart failure. 2014. Oxford PharmaGenesis. ISBN 978-1-903539-12-5. Available online at: <http://www.oxfordhealthpolicyforum.org/reports/acute-heart-failure/improving-care-for-patients-with-acute-heart-failure> 3. van Deursen VM et al. Comorbidities in patients with heart failure: an analysis of the European Heart Failure Pilot Survey. *Eur J Heart Fail.* 2014;16:103-111.



Prevalence of HF

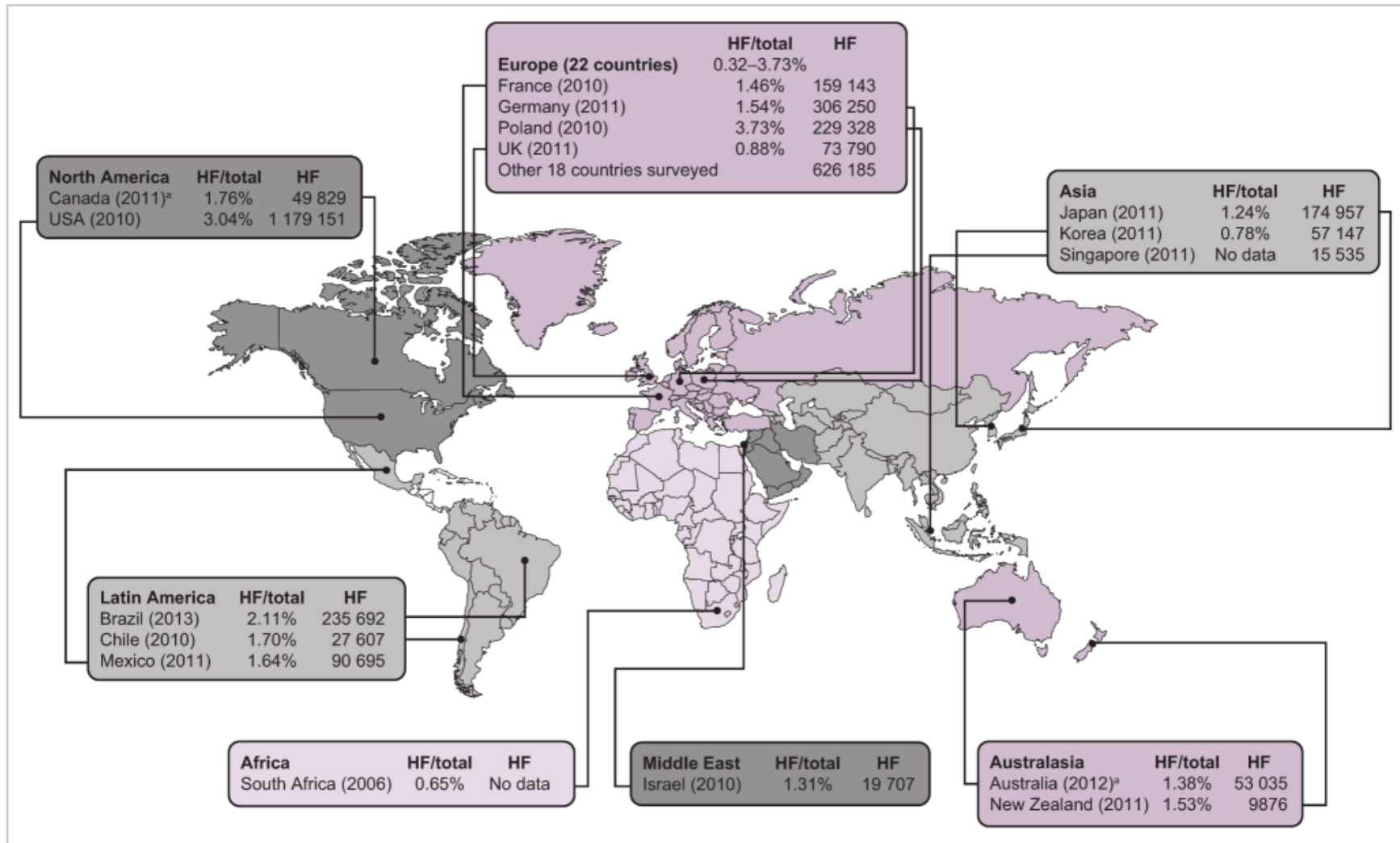


The cost of heart failure is driven by hospitalisation

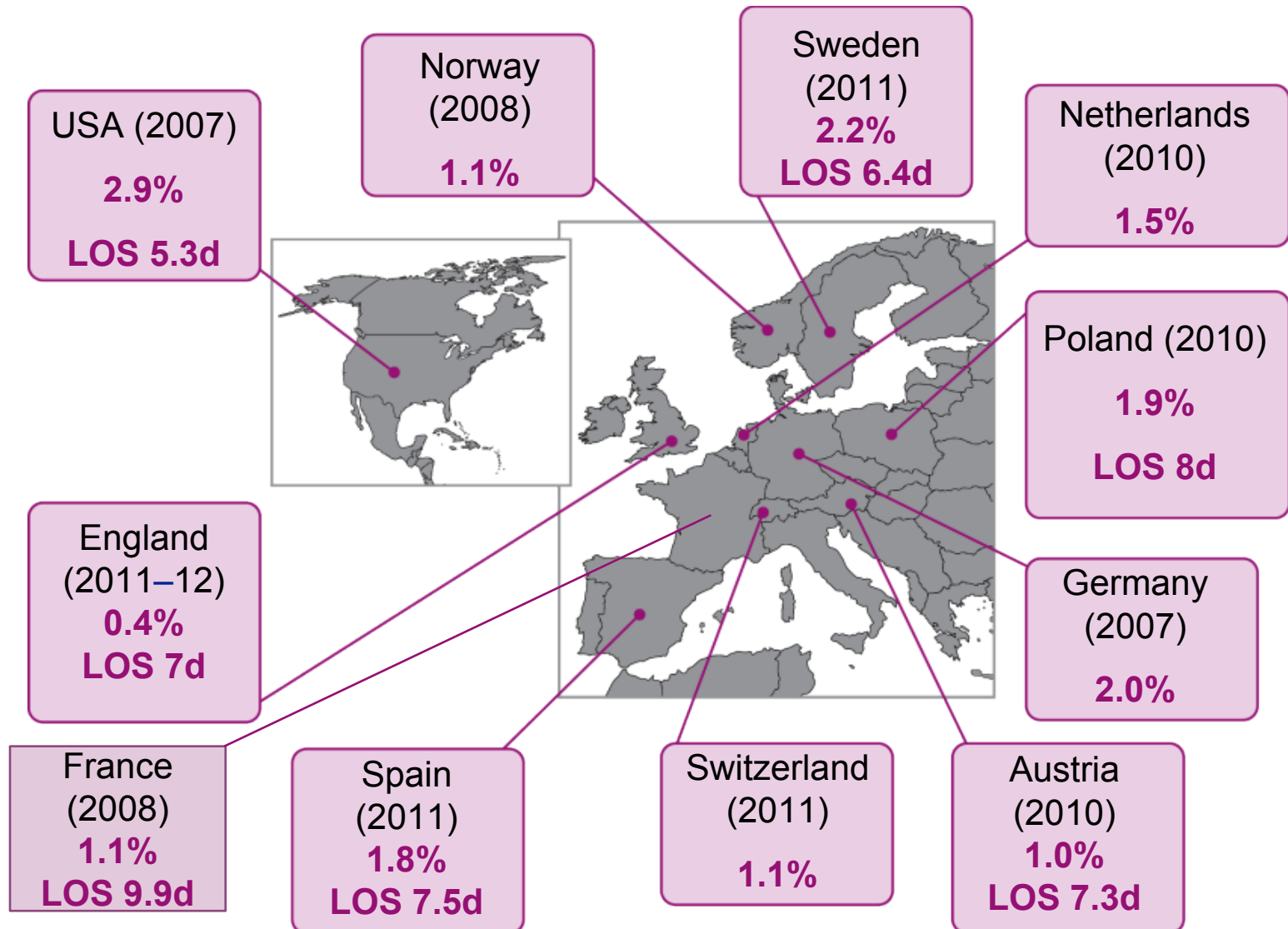


Total cost > GBP 980 million (1% of annual NHS budget)

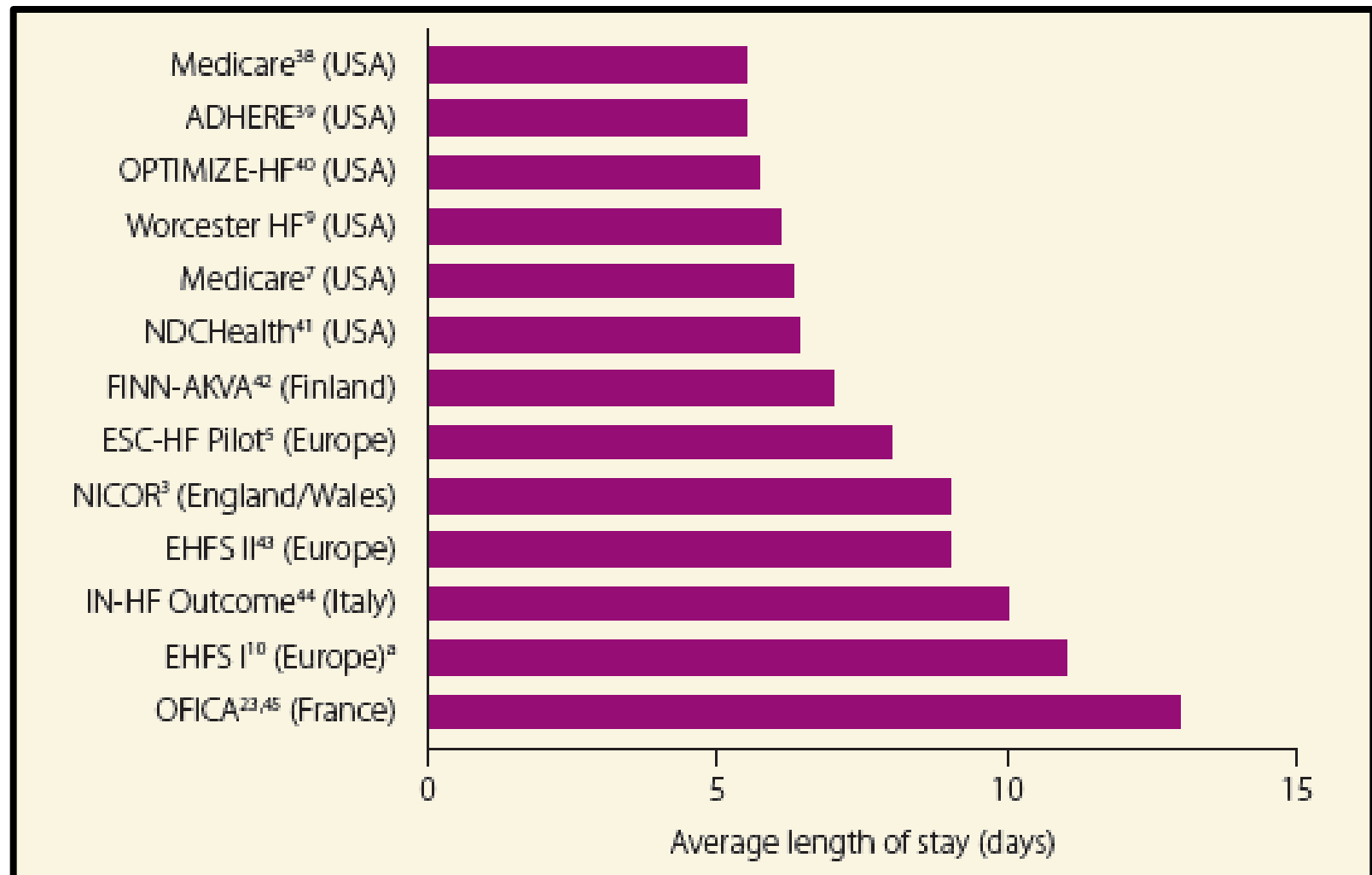
Number and proportion of HF hospitalisations



Heart failure accounts for 1–3% of all US and European hospital admissions



Length of stay for AHF



Trends in HF hospitalisation

Country	Percentage change in number of hospitalizations	Time period	Reference
England	-13.1	2001-02 to 2011-12	HSCIC ²²
France ^a	14.4	2002 to 2008	Pérel <i>et al.</i> ²³
Germany	39.8	2000 to 2007	Neumann <i>et al.</i> ²⁴
Netherlands	21.0	2000 to 2010	Statistics Netherlands ²⁵
Norway	2.4	1999 to 2008	Statistics Norway ²⁶
Spain	22.3	2000 to 2011	Sistema Nacional de Salud ²⁷
Sweden	11.4	2001 to 2011	Socialstyrelsen ²⁸
USA (Medicare)	-19.3	1999-2000 to 2007-08	Chen <i>et al.</i> ³³

Data based on total number of hospital admissions (emergency and planned) for a primary diagnosis of heart failure (except for France^a).

^aPrimary diagnosis, or secondary diagnosis with a primary diagnosis of either hypertensive heart disease or heart and renal disease with heart failure, or pulmonary oedema, or chronic passive congestion of liver.

HSCIC, Health and Social Care Information Centre.

High hospital readmission rates

Study	Country/region	Rehospitalization rate (%)	
Medicare ⁴⁹	USA	30-day	24.8
Medicare ⁵¹	USA	30-day	26.9
VA health care system ⁵²	USA	30-day	22.5
ADHERE ⁸	USA	30-day	22.1
		1-year	65.8
Medicare ⁵⁰	USA	30-day	22.7
		1-year	67.0
Medicare ³⁸	USA	6–9-month	60
EHFS I ¹⁰	Europe	12-week	24.2
ESC-HF Pilot ⁴	Europe	1-year ^a	43.9
EAHFE ⁴⁸	Spain	1-year	27.2
CCU ⁴⁷	Italy	6-month	38.1
IN-HF Outcome ⁴⁶	Italy	1-year	30.7

Main challenges: heart failure hospitalization

>1 million

Annual hospitalizations in both the United States and Europe¹

1-4%

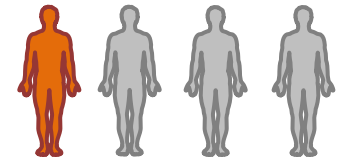
Heart failure hospitalizations as a percentage of total hospital admissions²

Up to 9/10 patients

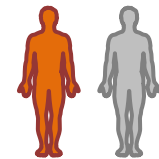
Hospitalized due to worsening chronic heart failure as compared with de novo heart failure³

5-10 days

Average length of hospital stay³



Almost 1 out of 4 hospitalized patients (24%) are rehospitalized for heart failure within the **30-day post discharge period**⁴



Nearly 1 out of 2 patients (46%) are rehospitalized for heart failure within the **60-day post discharge period**⁴

1. Ambrosy PA et al. The Global Health and Economic Burden of Hospitalizations for Heart Failure. Lessons Learned From Hospitalized Heart Failure Registries. *J Am Coll Cardiol*. 2014;63:1123–1133 2. Cowie MR et al. Improving care for patients with acute heart failure. 2014. Oxford PharmaGenesis. ISBN 978-1-903539-12-5. Available online at: <http://www.oxfordhealthpolicyforum.org/reports/acute-heart-failure/improving-care-for-patients-with-acute-heart-failure> . 3. Butler J, Braunwald E, Gheorghiade M. Recognizing worsening chronic heart failure as an entity and an end point in clinical trials. *JAMA*. 2014;312(8):789-90. 4. O'Connor CM et al. Causes of death and rehospitalization in patients hospitalized with worsening heart failure and reduce left ventricular ejection fraction: results from efficacy of vasopressin antagonism in heart failure outcome study with tolvaptan (EVEREST) program. *Am*

Co-morbidity is universal

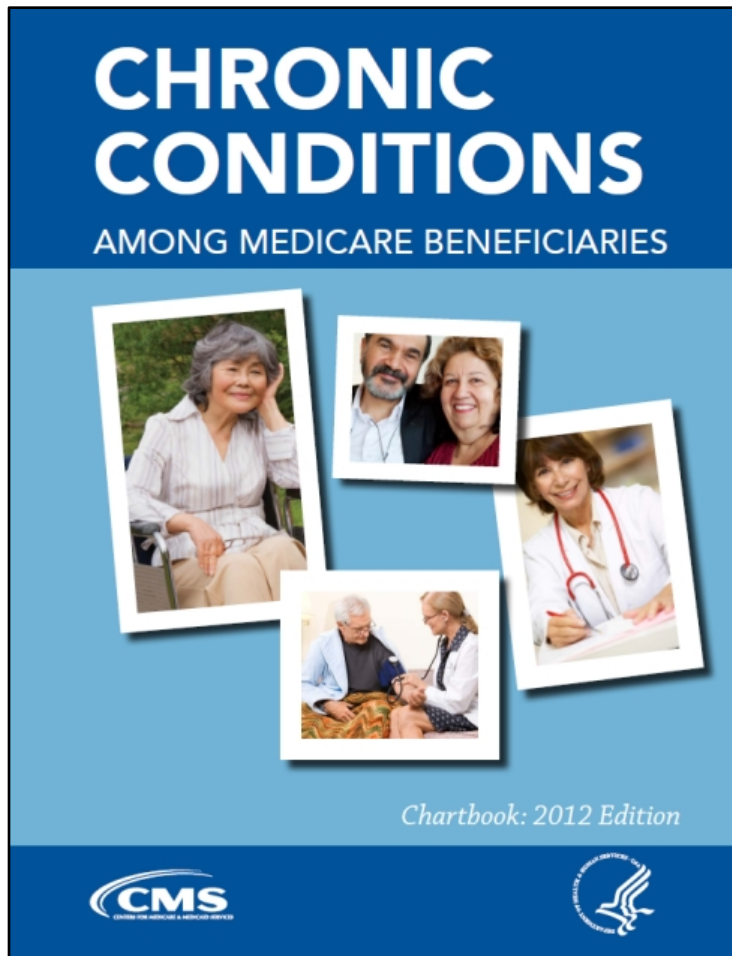
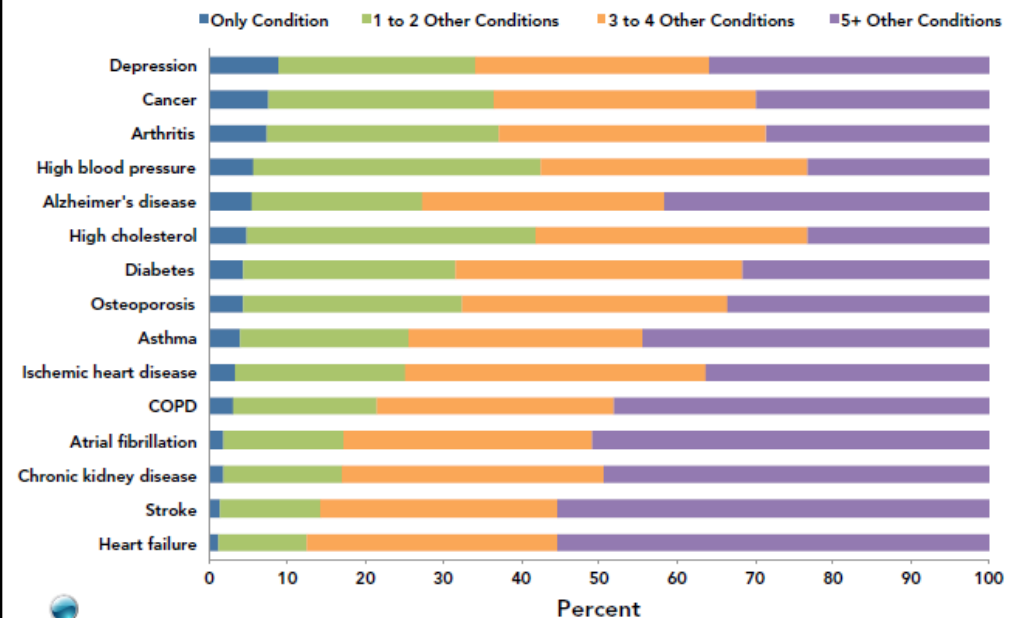


Figure 4.1 Co-morbidity among Chronic Conditions for Medicare FFS Beneficiaries: 2010



DATA HIGHLIGHTS:

Six percent of beneficiaries with high blood pressure had no other condition present, while 23% had 5 or more additional conditions.

Stroke and heart failure were highly co-morbid conditions with about 55% of beneficiaries with these conditions having 5 or more additional chronic health conditions.



Figure 3.2 Distribution of Medicare FFS Beneficiaries by Number of Chronic Conditions and Total Medicare Spending: 2010

■ 0 to 1 Condition ■ 2 to 3 Conditions ■ 4 to 5 Conditions ■ 6+ Conditions

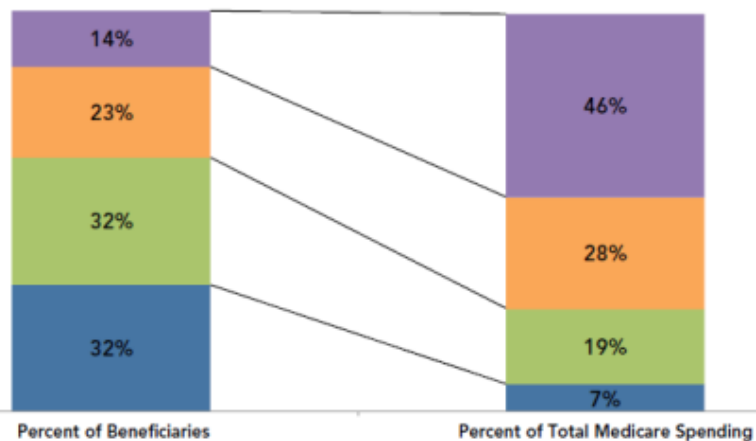
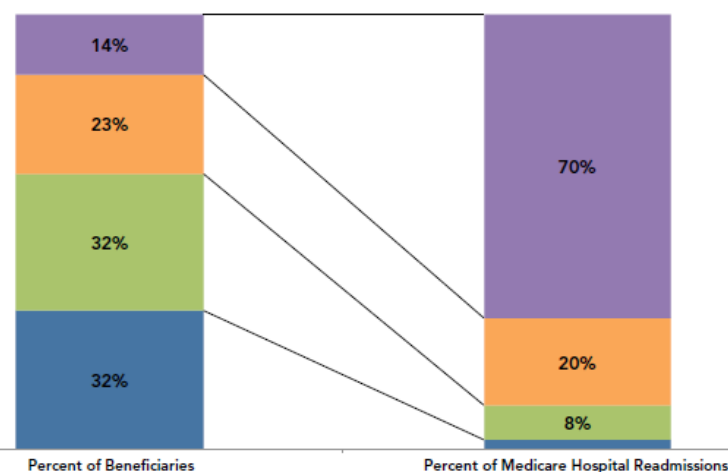


Figure 2.7 Distribution of Medicare FFS Beneficiaries by Number of Chronic Conditions and Total Medicare Hospital Readmissions: 2010

■ 0 to 1 Condition ■ 2 to 3 Conditions ■ 4 to 5 Conditions ■ 6+ Conditions



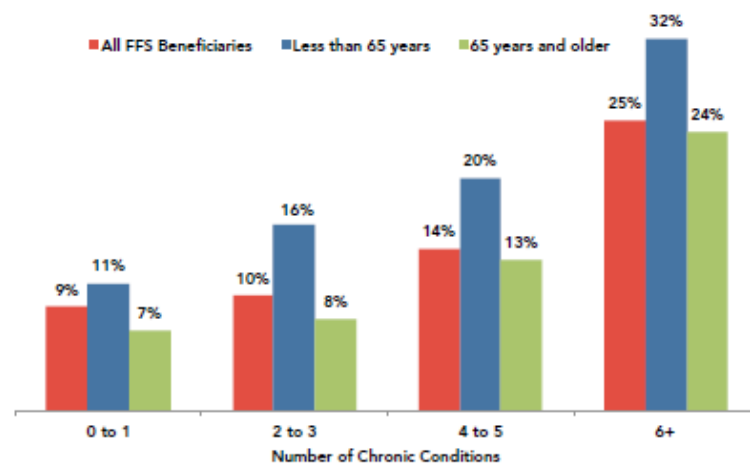
DATA HIGHLIGHTS:

There were 1.9 million Medicare hospital readmissions in 2010. Medicare beneficiaries with two or more chronic conditions accounted for almost all (98%) of these readmissions.

Beneficiaries with 6 or more chronic conditions accounted for a disproportionate share of these readmissions, with the 14% of these beneficiaries accounting for 70% of all Medicare readmissions.

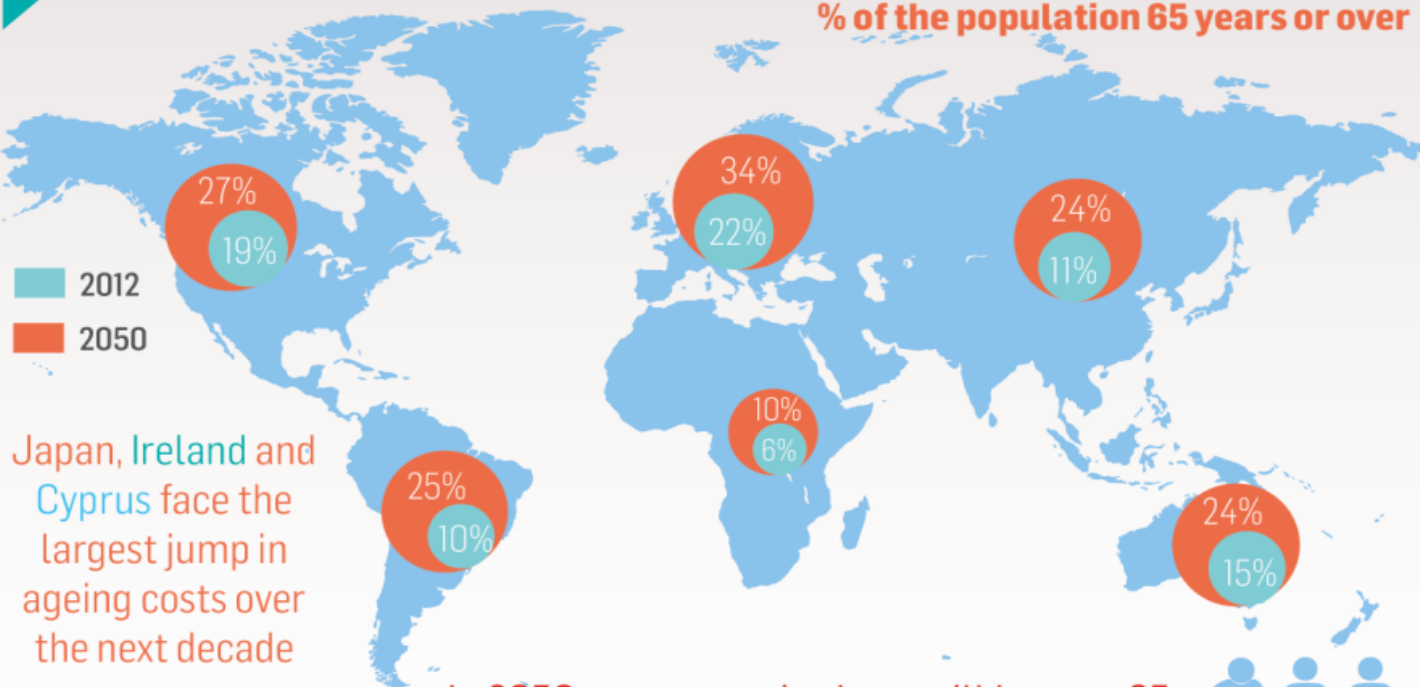
Figure 2.6a Percentage of Hospital Admissions with a Readmission within 30 days by Number of Chronic Conditions and Age: 2010

■ All FFS Beneficiaries ■ Less than 65 years ■ 65 years and older

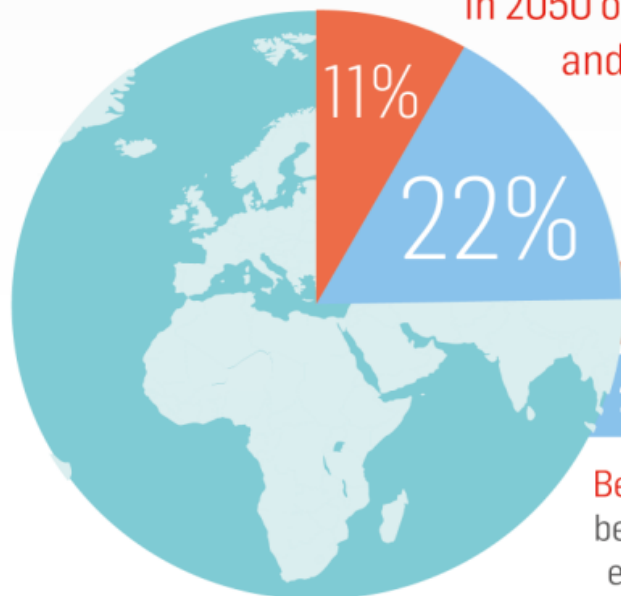


THE WORLD'S AGEING POPULATION

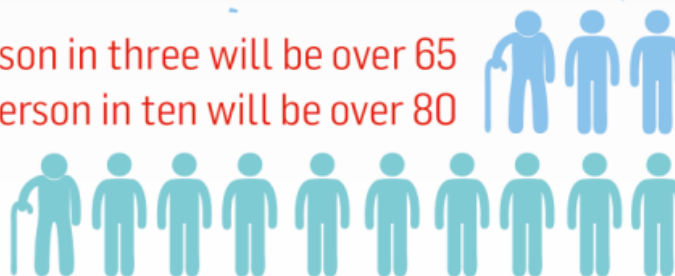
% of the population 65 years or over



Japan, Ireland and Cyprus face the largest jump in ageing costs over the next decade



In 2050 one person in three will be over 65 and one person in ten will be over 80



2012 - 11% of the world's 6.9bn people are over 60

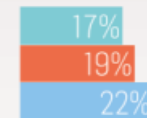
2050 - 22% of the world's 9bn people will be over 60

Between now and 2050 the fiscal burden of the crisis will be 10% of the ageing-related costs. The other 90% will be extra spending on pensions, health and long-term care

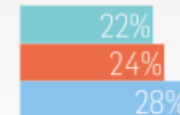
% of over 50's in overall population

2006 2011 2016

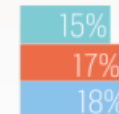
Brazil



China



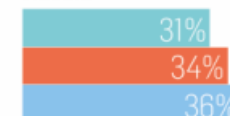
India



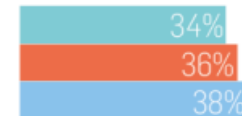
Japan



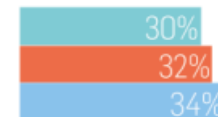
Russia



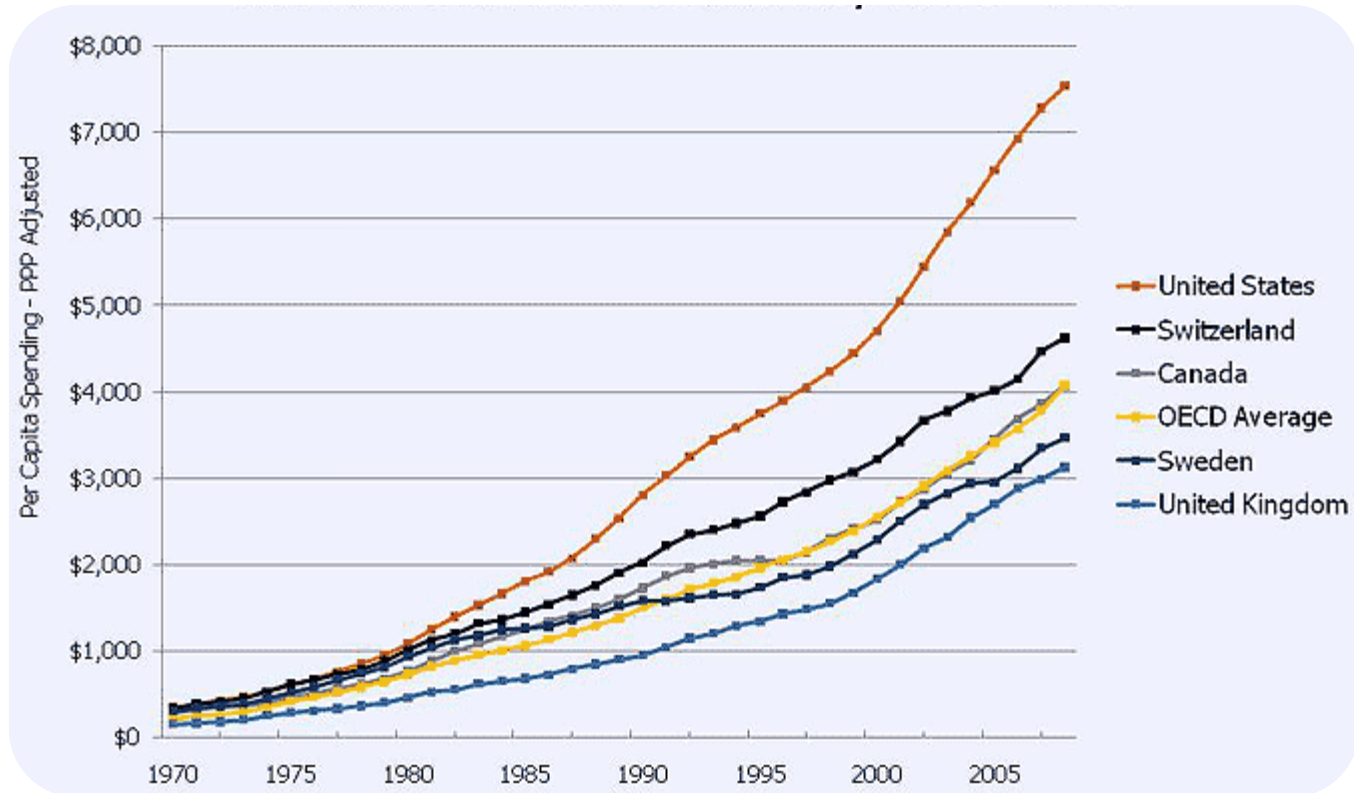
UK



US

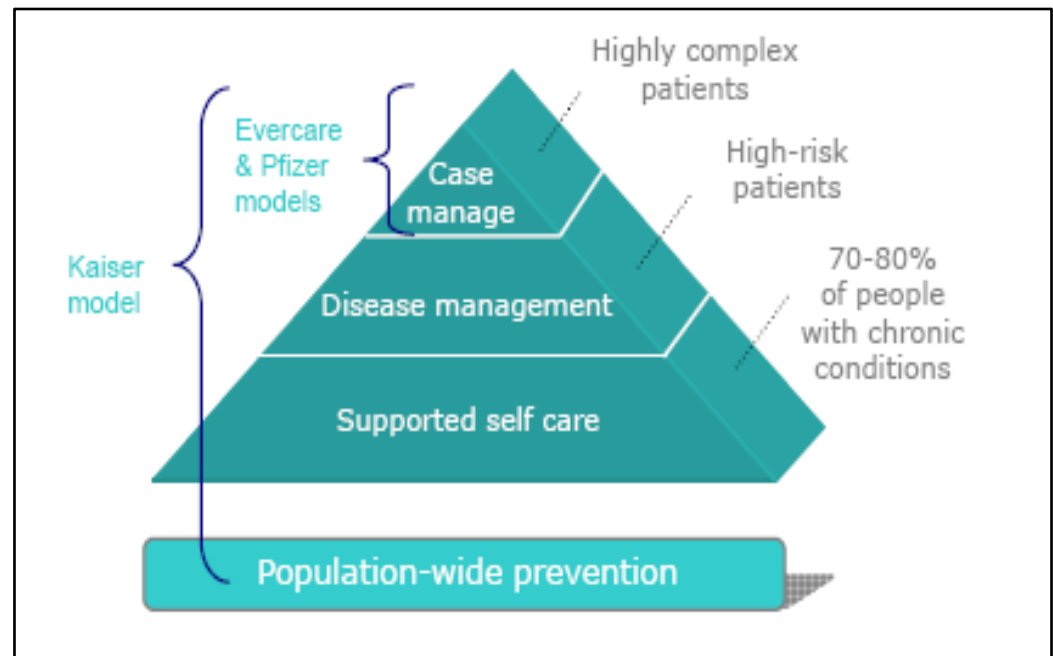


The runaway train.....





Co-ordinate my care...



Move towards the Chronic Care Model, with multidisciplinary integrated care, and patients stratified by need, with most complex patients being 'case managed'

We will have to do things differently...



'Burden'

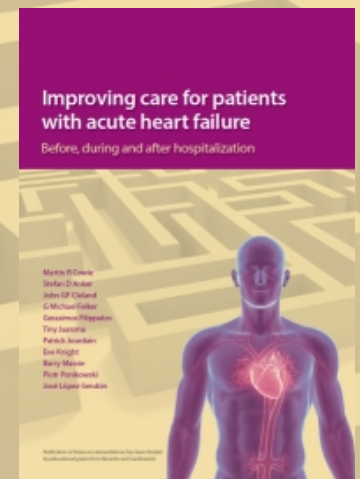


- **Patient perspective**
- “I’m not depressed... not really depressed... it’s just a low feeling and it’s not a happy feeling, and you just never feel your life’s worth anything at times.”
- **Caregiver perspectives**
- “At night, when he’s lying in bed and I don’t hear him breathe for a while, it gives me the nerves. Then I start counting. And suddenly I hear him breathing again. Then I think, oh dear, one morning I will wake up and then he’s gone.”

Murray SA et al. Palliat Med 2004; 18: 39-45;
Luttik ML et al. J Cardiovasc Nurs 2007; 22: 131 -7

Eight policy recommendations

Improving care and preventing deaths
of patients with acute heart failure



Policy-makers urged to act on eight recommendations

Promote acute heart failure prevention

Optimize care transitions

Improve end-of-life care

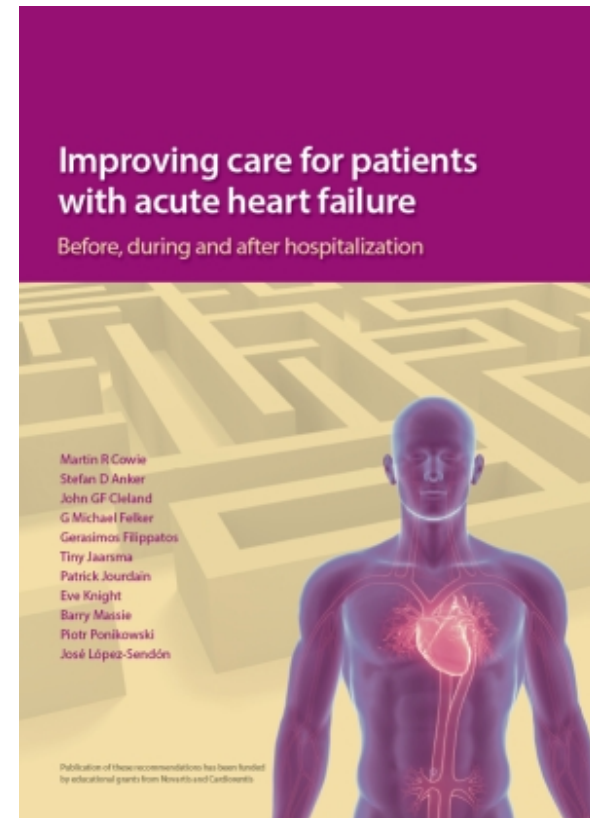
Provide equity of care for all patients

Appoint experts to lead heart failure across disciplines

Develop and implement better measures of care quality

Improve patient education and support

Stimulate research into new therapies



www.oxfordhealthpolicyforum.org/AHFreport

www.escardio.org/communities/HFA/Pages/

global-heart-failure-awareness-programme.aspx