

HEALTHCARE IN THE 21ST CENTURY: ACHIEVING A HIGH PERFORMANCE HEALTH SYSTEM FOR COMPLEX POPULATIONS

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Challenges facing health care

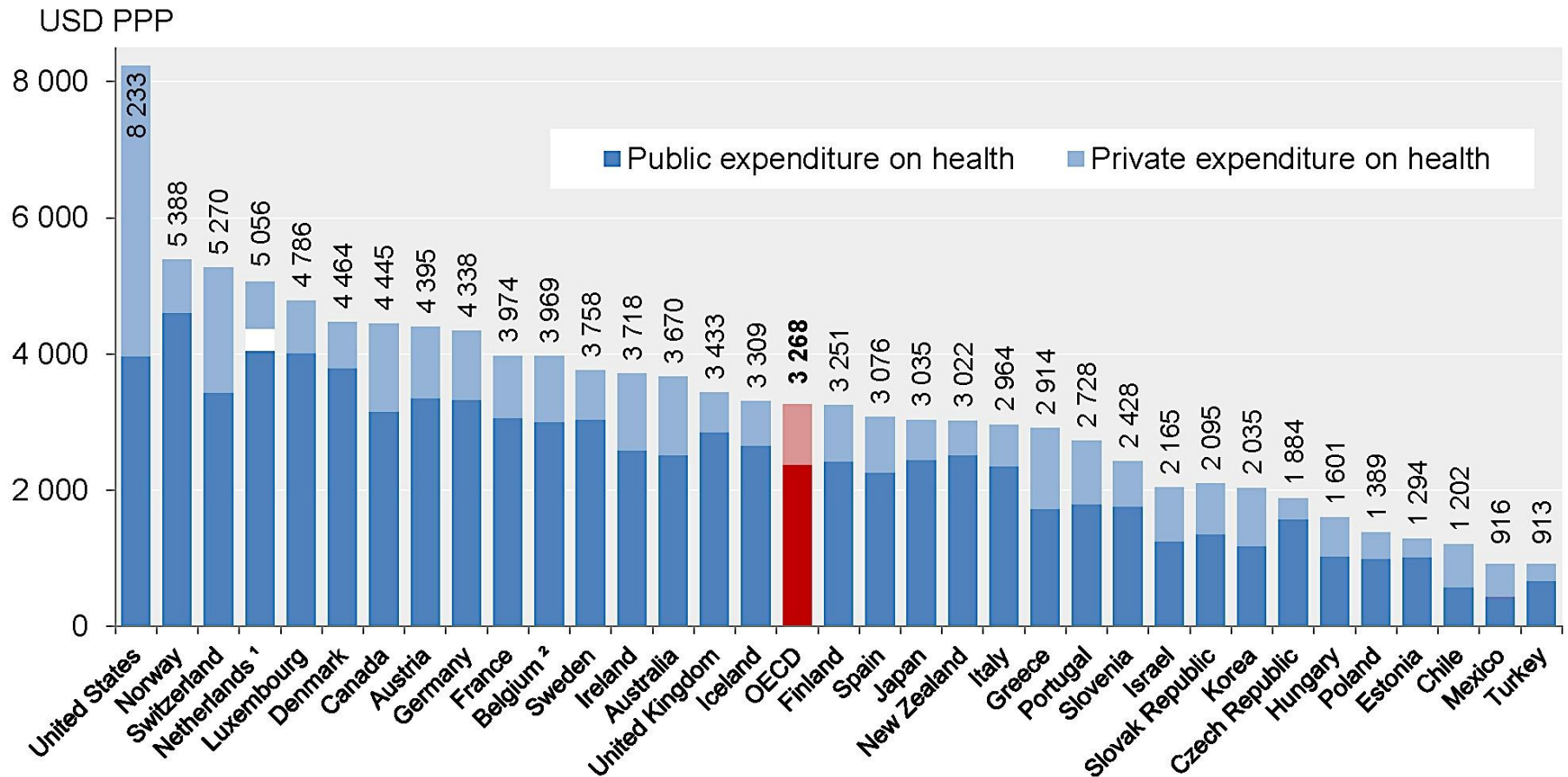
- Changing patterns of disease
- Socio-demographic transition
- Emerging technologies
- Emerging models of care
- Changing expectations of consumers
- Changes in the political and economic environment: globalisation, economic constraints

Common features of western European Health Systems

- A broad package of insured health care, embracing most mainstream health interventions (not always long term care)
- Universal coverage of all citizens, regardless of financial or health status;
- Low reliance on direct user charges
- Financial contributions according to ability to pay, independent of health status (tax or social insurance)
- High levels of regulation of providers
- A unifying principle of 'solidarity' - the health risks of all citizens are pooled, with contributions to the risk pool unrelated to health status

US spends two-and-a-half times the OECD average

Total health expenditure per capita, public and private, 2010 (or nearest year)



1. In the Netherlands, it is not possible to clearly distinguish the public and private share related to investments.

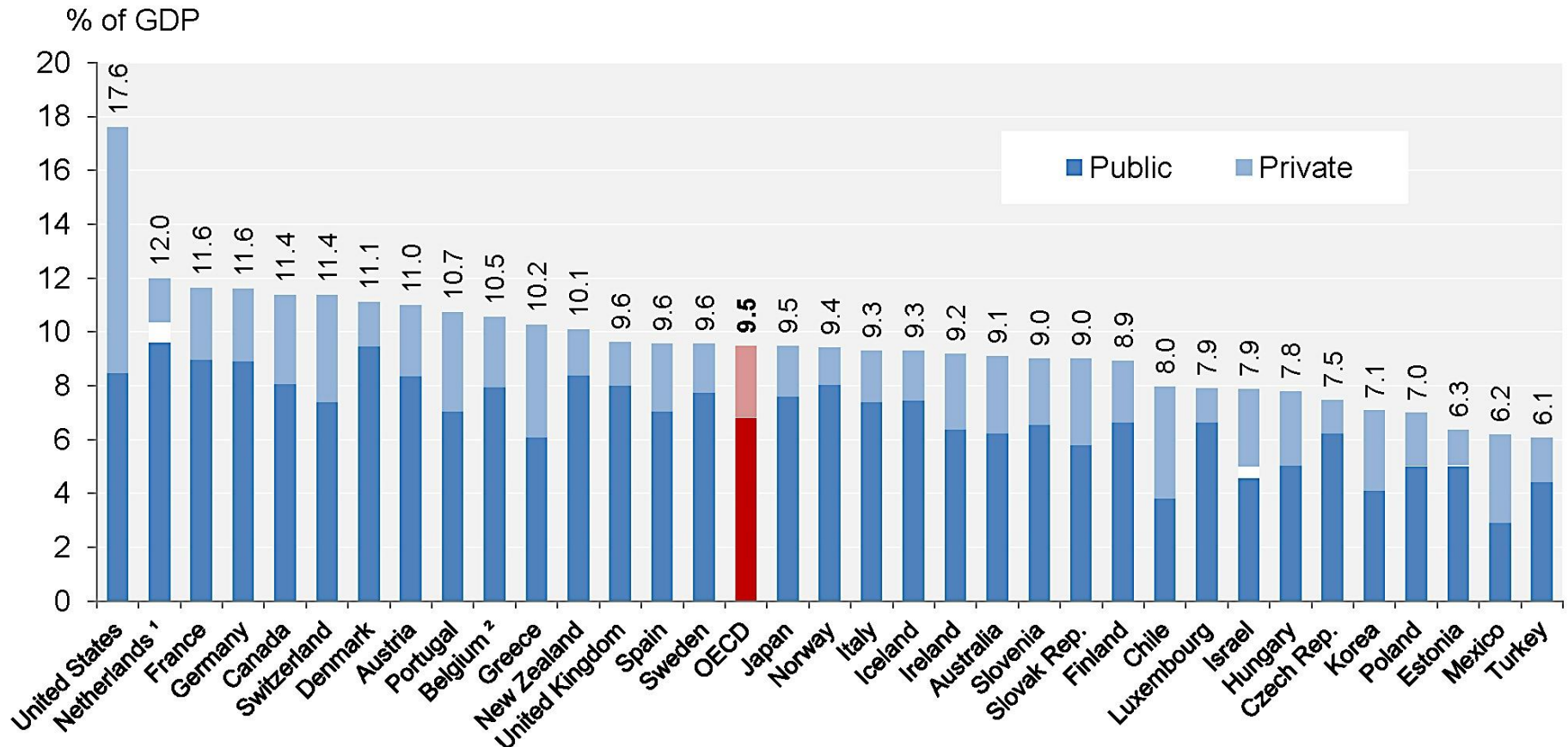
2. Total expenditure excluding investments.

Information on data for Israel: <http://dx.doi.org/10.1787/888932315602>.

Source: OECD Health Data 2012.

At 17.6% of GDP in 2010, US health spending is one and a half as much as any other country, and nearly twice the OECD average

Total health expenditure as a share of GDP, 2010 (or nearest year)



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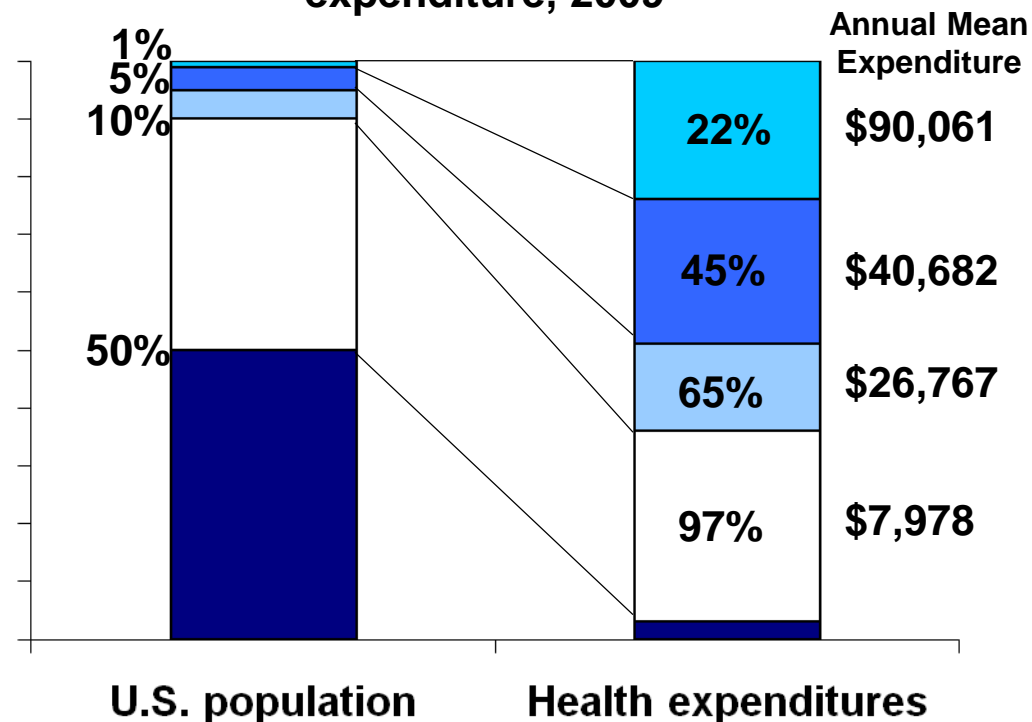
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Source: OECD Health Data 2012.

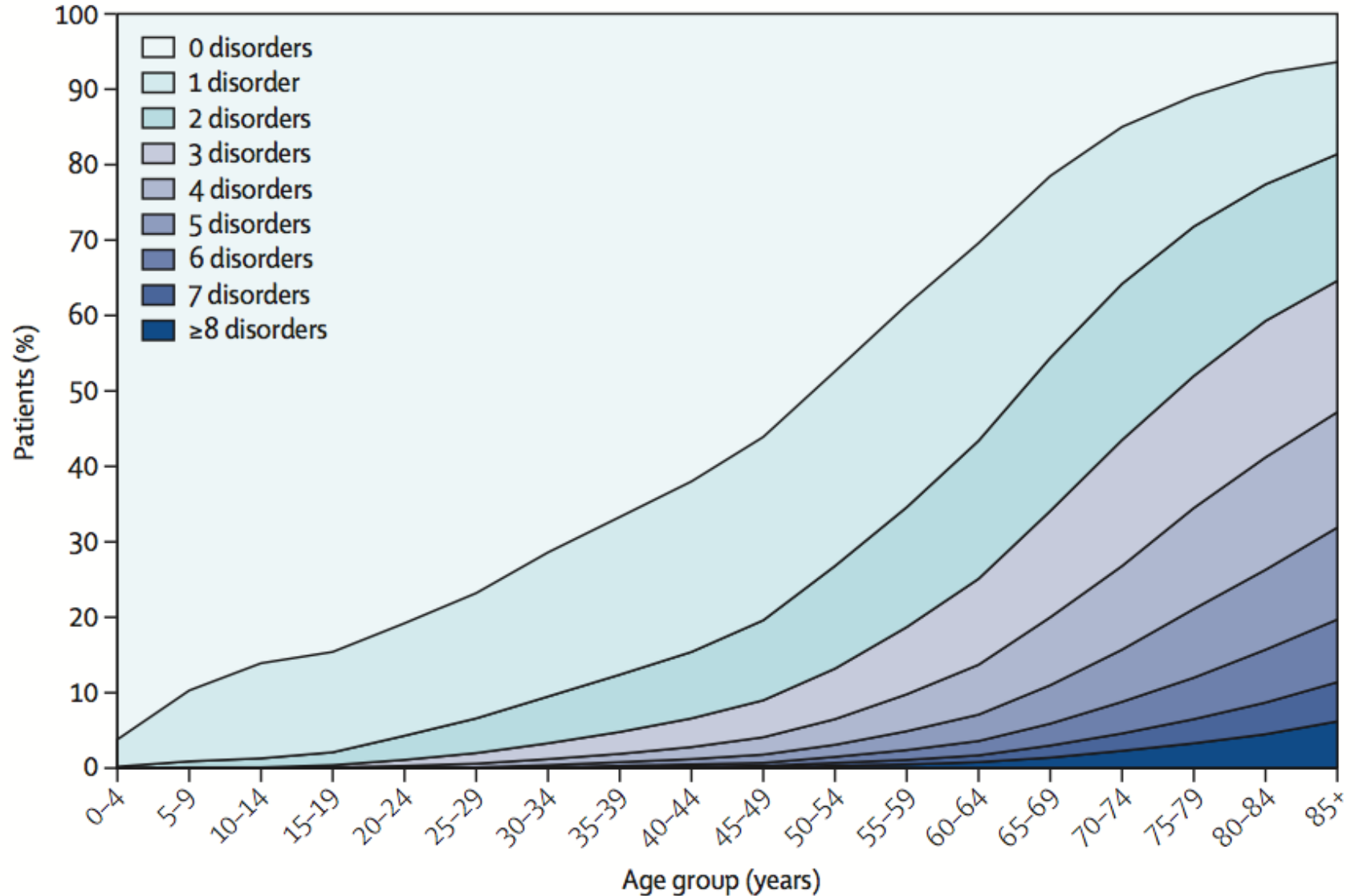
For Savings, Go Where the Money Is

- 10% of patients account for 65% of costs
- Focus efforts on patients with highest costs
- Three part strategy:
 - Primary care/delivery system reform
 - Payment reform
 - Health information technology

Distribution of health expenditures for the U.S. population, by magnitude of expenditure, 2009



Number of chronic disorders by age group



Crude and multivariable-adjusted* 30-day and 1-year mortality by number of previously diagnosed cardiovascular comorbidities in patients with AMI

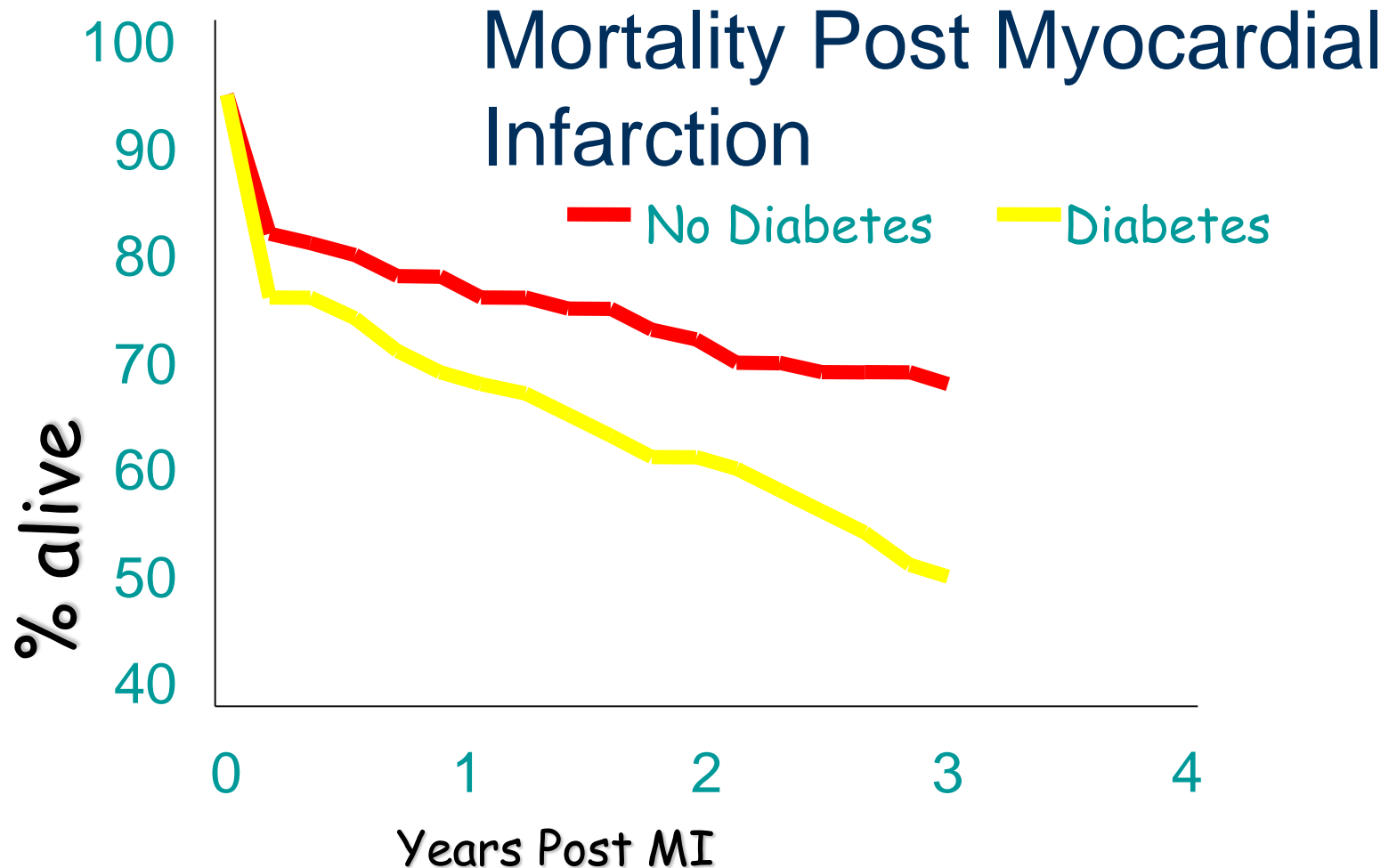
Comorbidities (n)	30-day mortality		1-year mortality	
	Dead (n, %)	Hazard ratio (95% CI)	Dead (n, %)	Hazard ratio (95% CI)
0	198 (9.01)	1.00	330 (15.02)	1.00
1	439 (13.03)	1.19 (0.93–1.35)	760 (22.56)	1.16 (1.01–1.34)
2	422 (17.76)	1.49 (1.23–1.80)	816 (34.34)	1.62 (1.41–1.87)
3	252 (21.32)	1.64 (1.32–2.03)	532 (45.01)	1.94 (1.66–2.26)
4+	97 (22.30)	1.68 (1.28–2.21)	233 (53.56)	2.31 (1.91–2.78)

Comorbidities examined included atrial fibrillation, diabetes, heart failure, hypertension, and stroke.

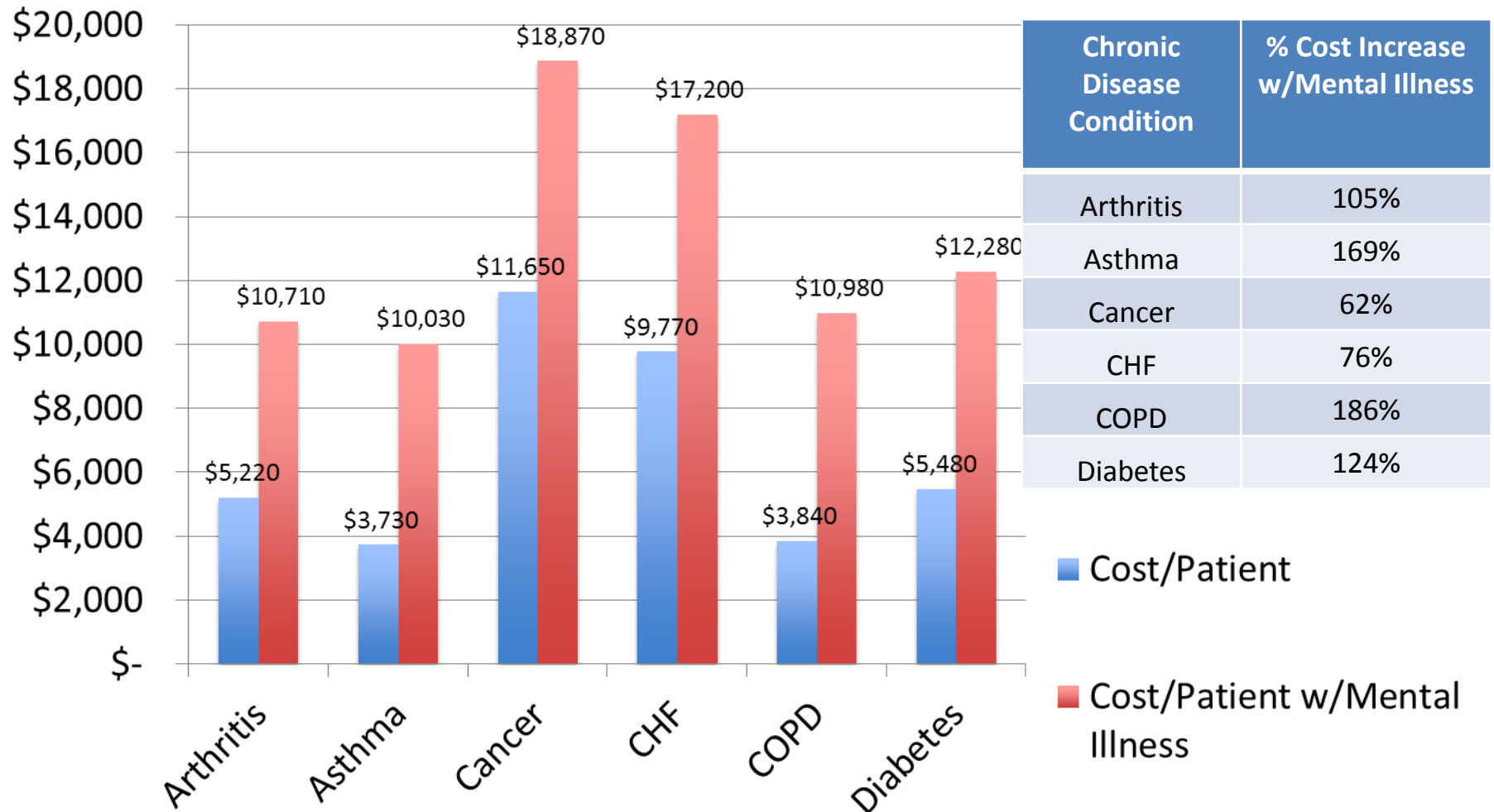
*Cox proportional hazards regression model adjusted for age, sex, race, marital status, study year, MI type and acute hospital complications.

Practical uses

– DARTS diabetic study...



Increased Cost of Chronic Disease w/Mental Illness Comorbidity



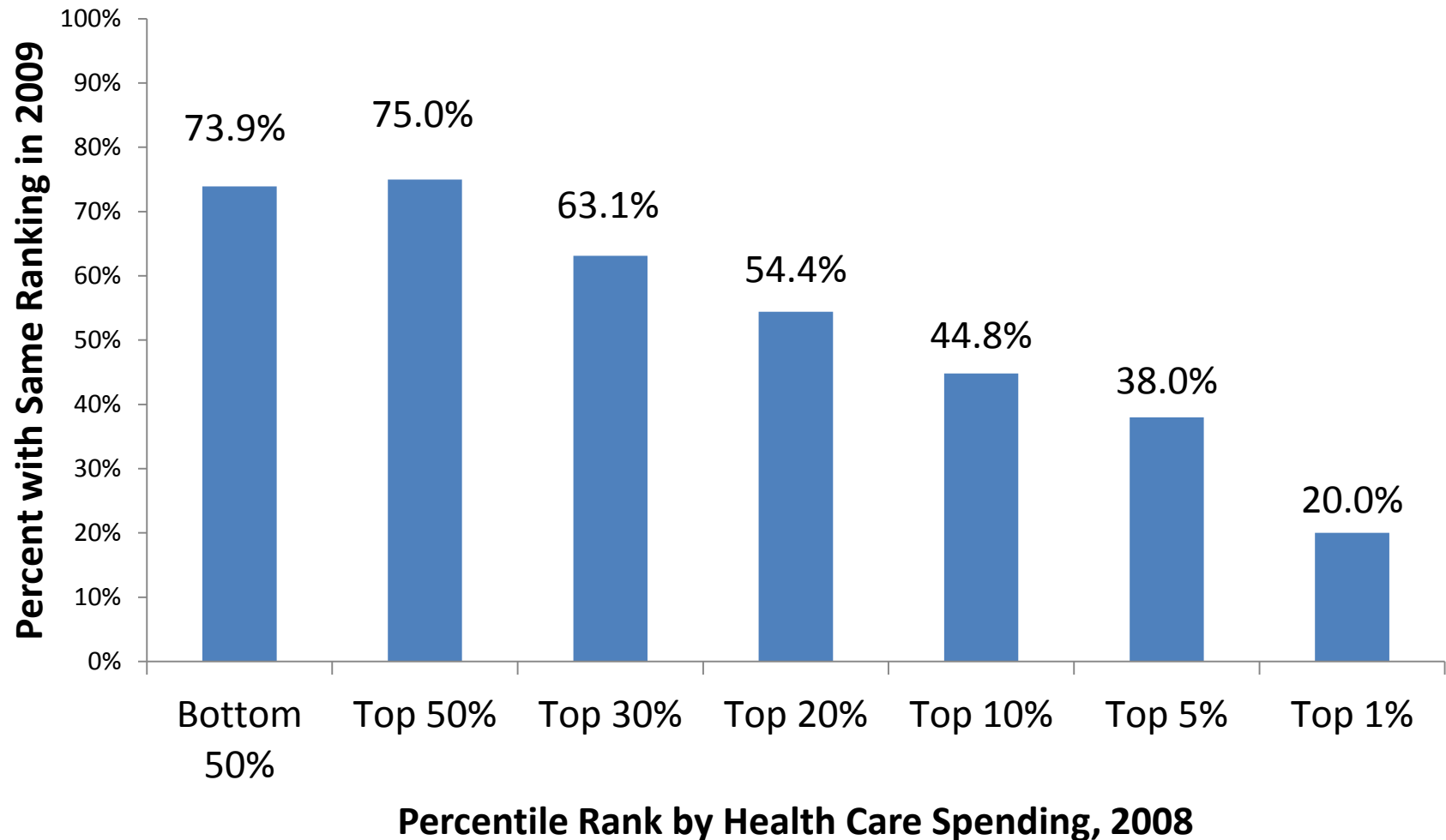
Strategies -Improving care for high need/high cost patients



High Need/High Cost Patients are More Likely to:

- Be > 65 years old
- Report poor or fair health status
- Live with multiple chronic conditions
- Live with behavioral health problems
- Have complicating social factors
- Be near the end of life
- Live in institutions (such as nursing homes)

“High Cost” Patients Not a Static Group: Forty-Five Percent Remained High-Cost One Year Later



Source: Cohen SB and Y u W . “The Concentration and Persistence in the Level of Health Expenditures over Time:14
Estimates for the U .S. Population, 2008-2009.” Agency for Healthcare Research and Quality, Statistical Brief #354.
January 2012.

Who Are the High-Need, High-Cost Patients?

	Population (size; cost/year)	Total Cost per Year	Delivery System Needs
1	Healthy (~160m people)	\$130 billion	Prevention, primary care, public health
2	Maternal and infant health (~10m people)	\$60 billion	Prevention, primary care, public health
3	Acutely ill but mostly curable (~12m people)	\$300 billion	Acute care services, primary care, specialty care
4	Chronic conditions w/ generally “normal” function (~110m people)	\$800 billion	Self-management; Primary and specialty care in doctors offices; ER/acute care services
5	Significant disability but stable (~7m people)	\$290 billion	Home-based services (primary care, specialty); LTSS; environmental adaptation; caregiver support, rehab
6	“Dying” with short decline (~1m people)	\$50 billion	Home-based services and personal care services; Palliative care/hospice; caregiver training and support
7	Multiple chronic conditions w/ serious exacerbations, “advanced illness” (~2m people)	\$100 billion	Self-care support; at home services; 24/7 on-call access to medical guidance; caregiver support
8	Long course of decline from dementia and/or frailty (~6m people)	\$270 billion	Home-based services; LTSS; palliative care; DME; caregiver training and support;

Trajectory of Illness for Select HN/HC Subgroups

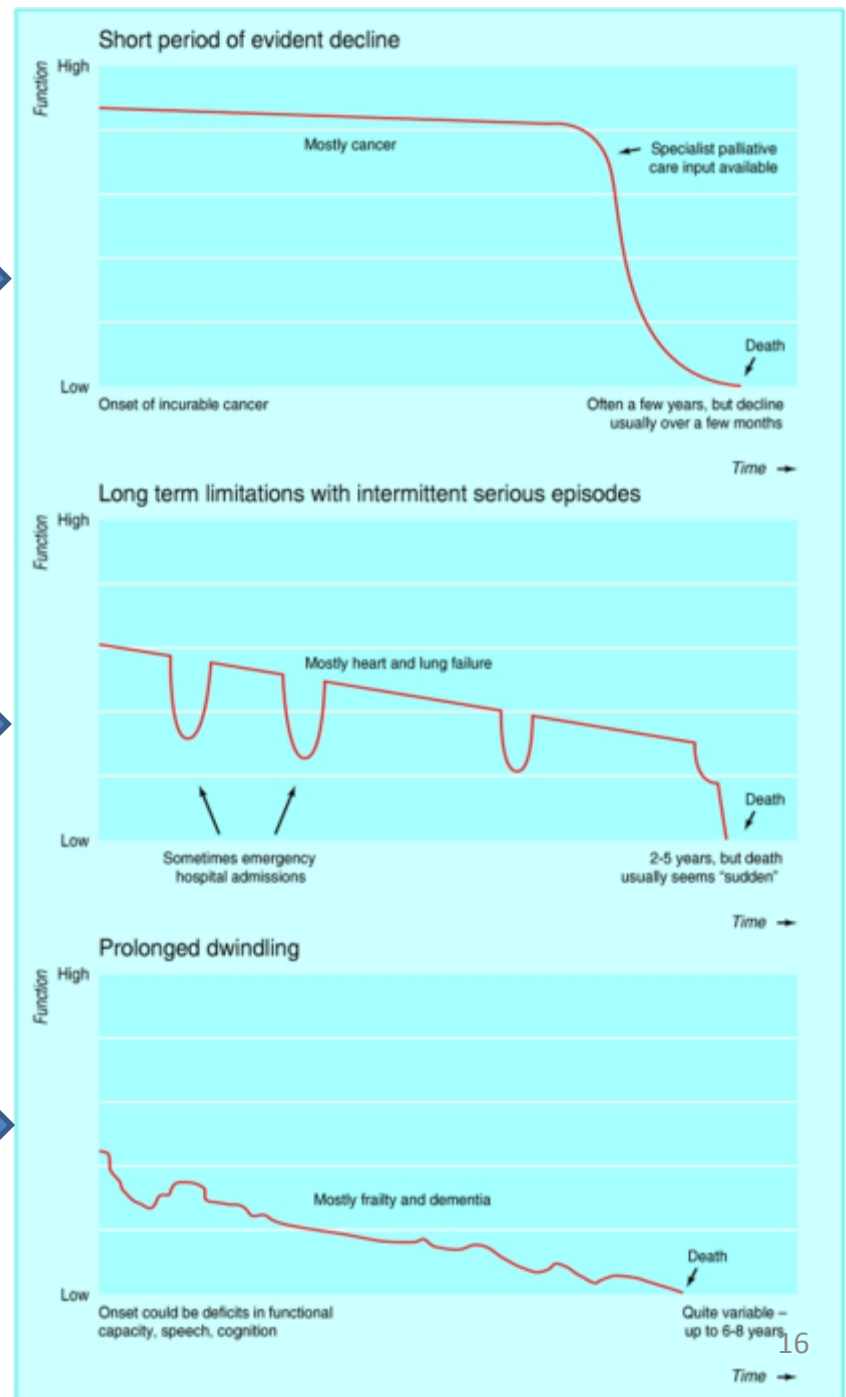
“Dying” with short period of decline



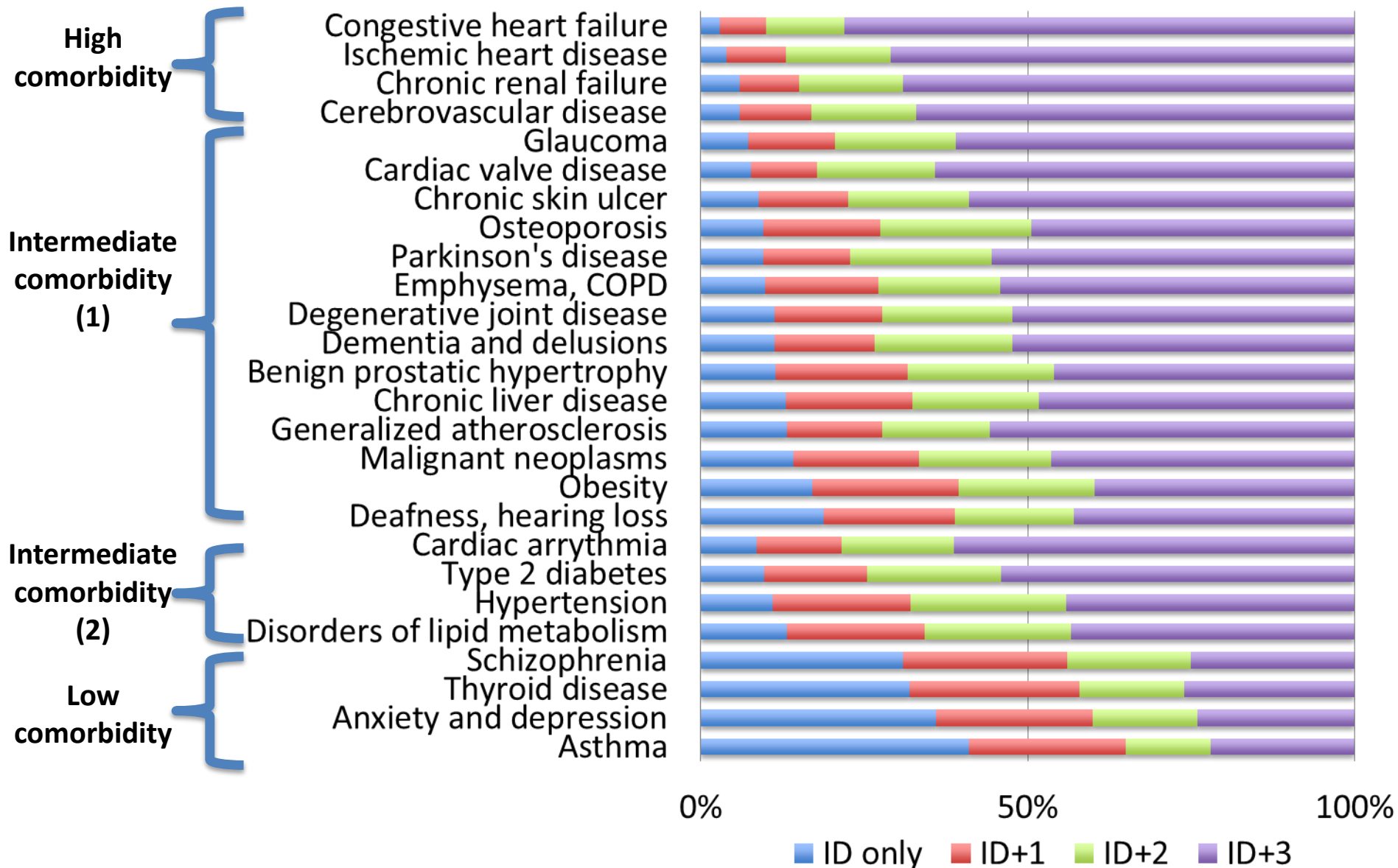
Multiple chronic conditions with frequent/serious exacerbation, organ failure, “advanced illness”



Long course of decline from dementia and frailty



Case-frequency distribution of chronic diseases by number of comorbidities



What helps integration and what gets in the way?

These things help

- Existing personal relationships at senior level
- Clinical champions
- Clear communication and engagement of all participants
- Shared values
- Staff feeling able to take risks

These things hinder

- Professional boundaries, changes to professional roles
- Public service bureaucracy
- Conflicting IT systems
- Staff and budget cuts
- Short time scales
- Large and complex interventions

How Can the Acute Care for EldersTracker Help?



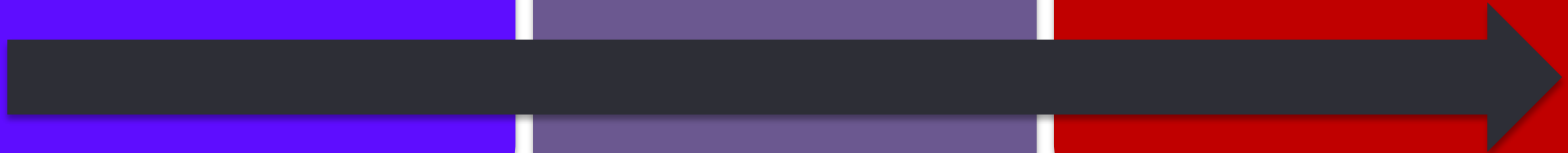
ACE Tracker pulls together information in Powerchart from the daily patient documentation of all disciplines around common problem areas that older patients face.



ACE Tracker assists ALL inter-professional team members to assess multiple risk factors and identify key vulnerabilities facing their older patients in a single page report that can be generated in real-time on any unit.



ACE Tracker allows real-time decisions around a plan of care to be made that promotes safer care, and can greatly enhance the care plan discussions of inter-professional teams during their daily rounds.



UK Proactive management of vulnerable elderly

- **Established 2014**
- **Covers the whole of England**
- **Incentive scheme for primary care practices**
- **£160 million (£20,000 for each primary care practice)**
- **Aim of programme: to reduce unplanned hospital admissions**

Proactive management of vulnerable elderly

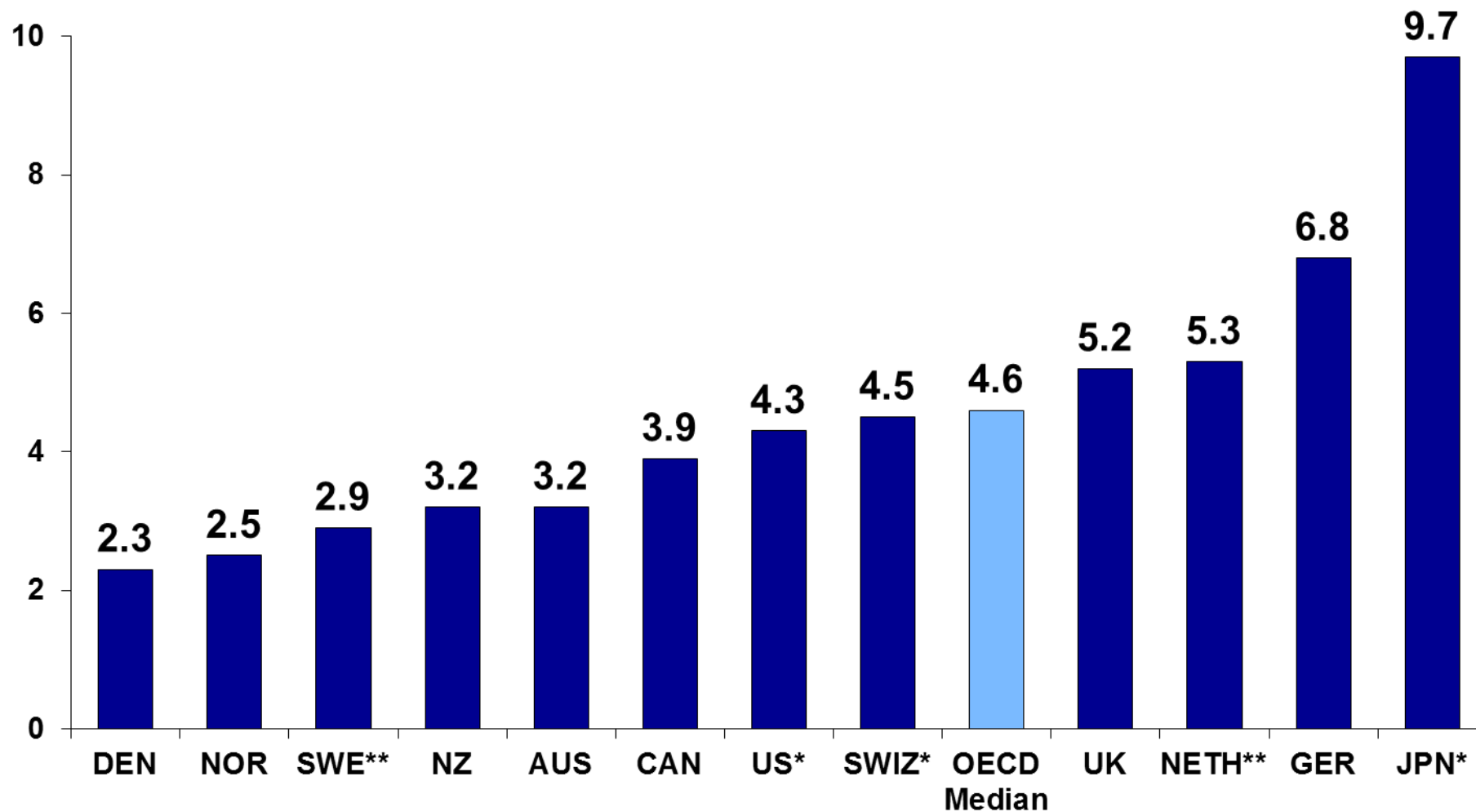
To get the payment, practices must:

- use a risk stratification tool to identify 2% of patients at greatest risk of unplanned admission to hospital (e.g. 120 patients in a typical 6000 patient practice)**
- implement proactive case management for all patients on the register.**
- undertake monthly reviews of these patients with a multi-disciplinary team**
- identify a named accountable GP**

STRATEGIES

Improving hospitals

In-Hospital Mortality After Admission for Acute Myocardial Infarction[†] ²³ per 100 Patients, 2009



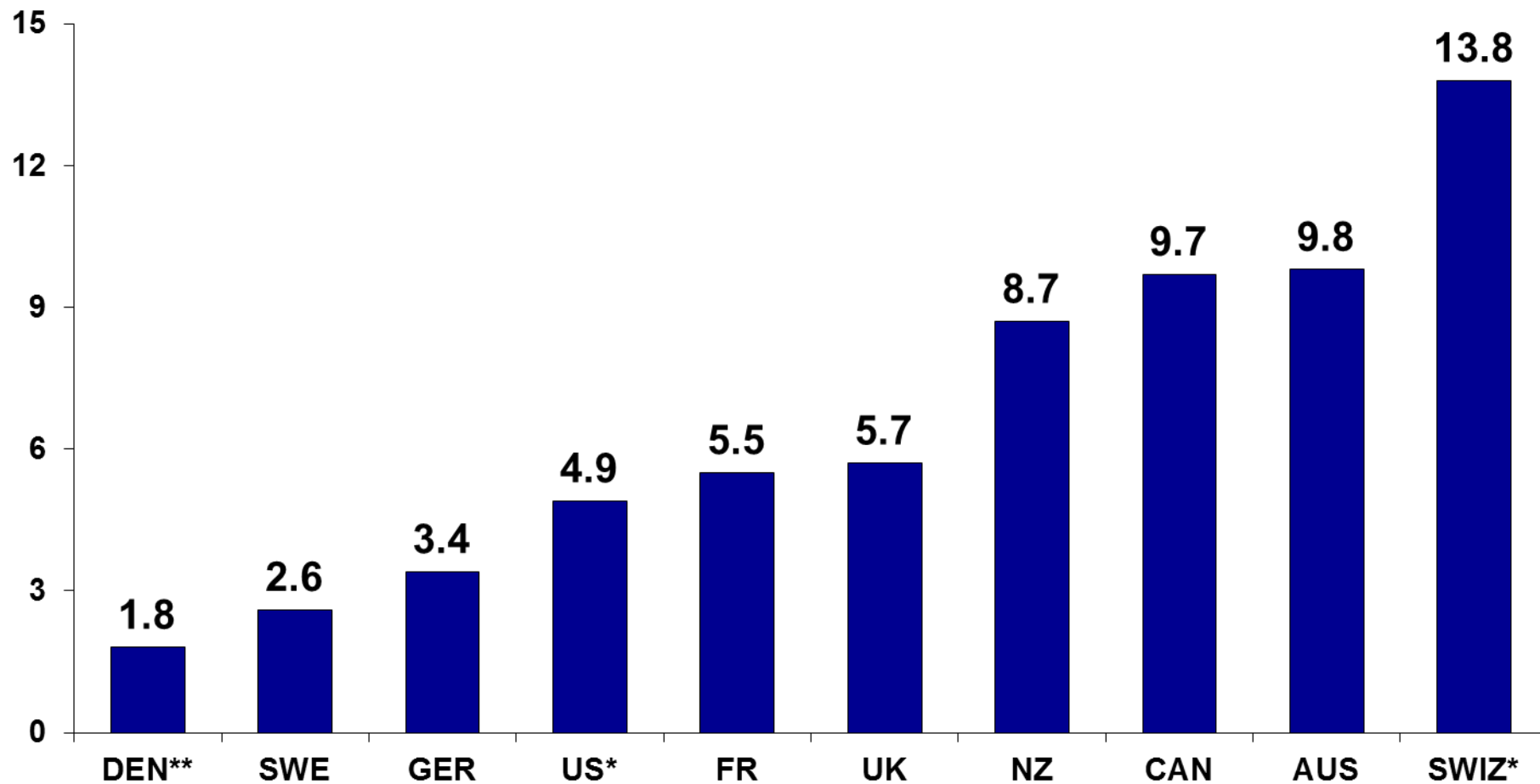
[†] In-hospital case-fatality rates within 30 days of admission. Age-sex standardized rates.

* 2008.

** 2007.

Source: OECD Health Care Data 2012.

Foreign Object Left in Body During Procedure per 100,000 Hospital Discharges, 2009



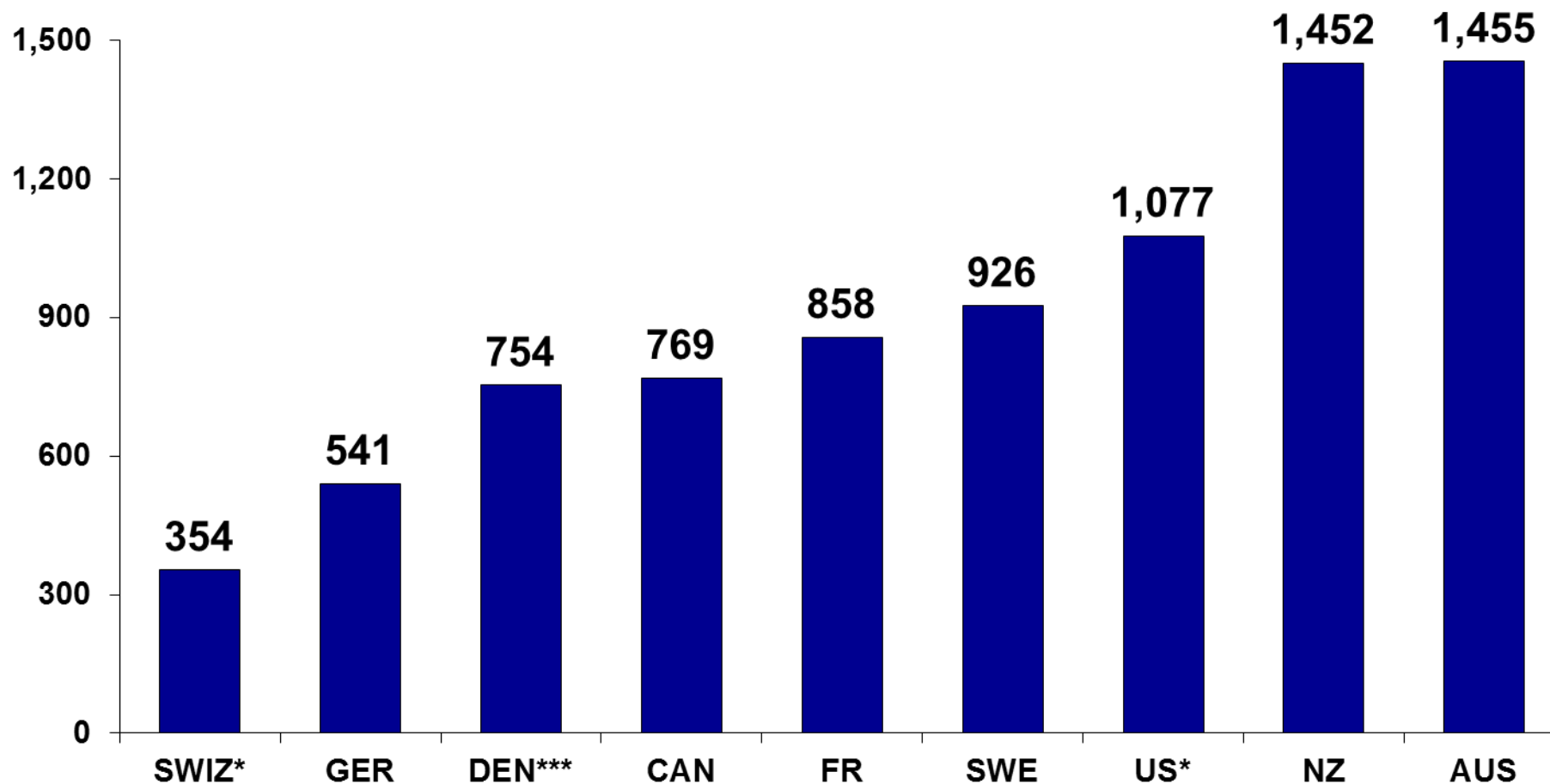
Note: Age-sex-SDX standardized rates.

* 2008.

** 2010.

Source: OECD Health Care Data 2012.

Postoperative Sepsis per 100,000 Hospital Discharges, 2009



Note: Age-sex-SDX standardized rates.

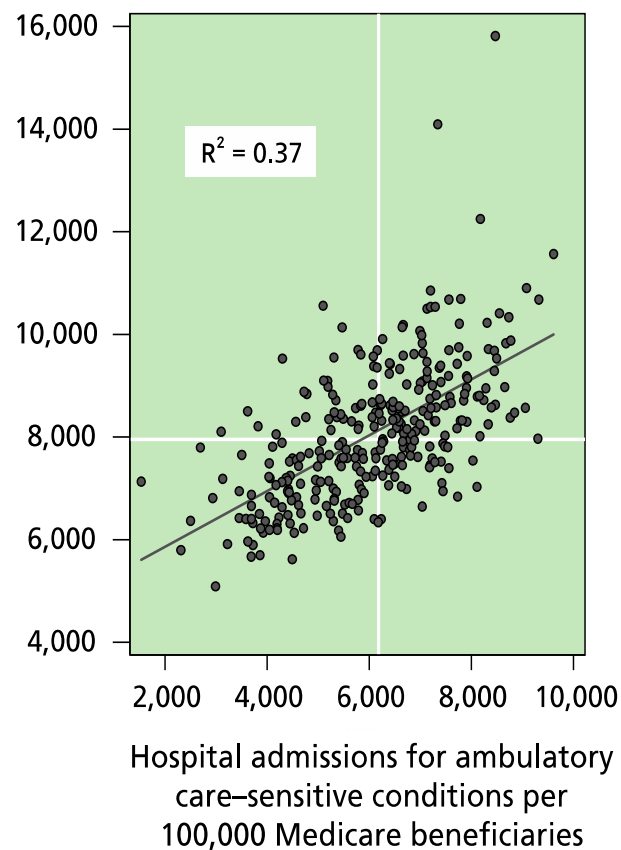
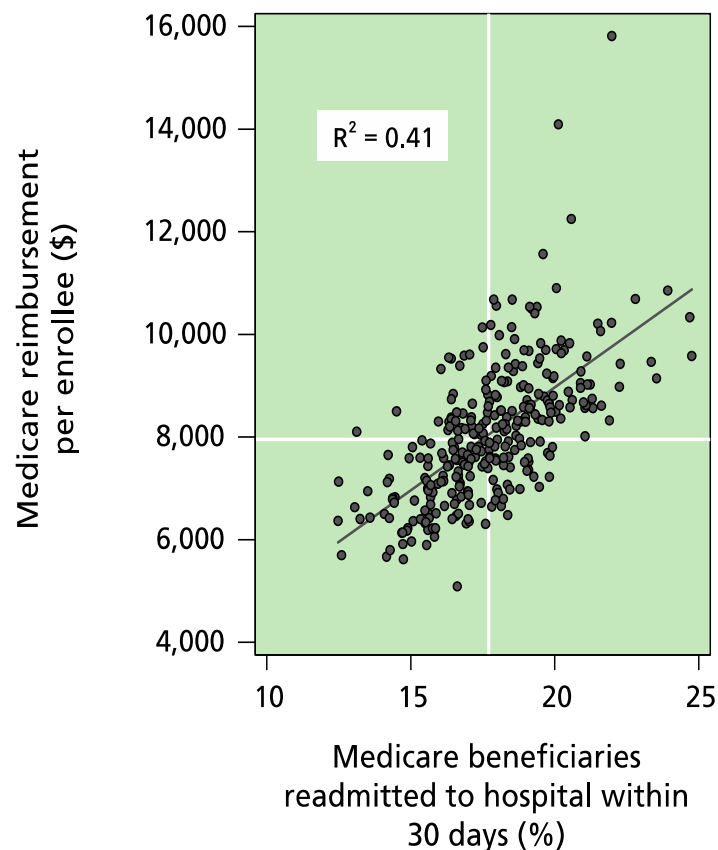
* 2008.

** 2007.

*** 2010.

Source: OECD Health Care Data 2012.

Hospitalizations for Potentially Avoidable Hospital Admissions and 30-Day Readmissions, by Medicare Reimbursement



Note: Each dot represents one of 306 hospital referral regions.

Data: Medicare reimbursement and Medicare beneficiaries readmitted to hospital—2008 Medicare claims as reported by IOM; ACS hospital admissions—2009 5% Medicare SAF.

Source: Commonwealth Fund Scorecard on Local Health System Performance, 2012.

Higher Quality Care Drives Down Long-Term Costs

Hospital quality for hip replacements	Average 1-year follow-up hospital costs (EURO)	Number of patients
Patients treated in hospitals with <u>below average</u> outcomes	€10,042	26,049
Patients treated in hospitals with <u>average</u> outcomes	€9,112	73,481
Patients treated in hospitals with <u>above average</u> outcomes	€8,493	55,293
Patients treated in very low volume hospitals**	€11,199	3,685

* Less than 30 hip replacements per year for AOK health plan members

Source: Fahlenbrach C et al, Bonus ohne Extrakosten, Gesundheit und Gesellschaft, Issue 9/11

+ Payment Innovation: Improving Value And Affordability

Old Model

Reward unit cost

Inadequate focus on
care efficiency and
patient centeredness

Payment for unproven
services; limited
alignment with quality

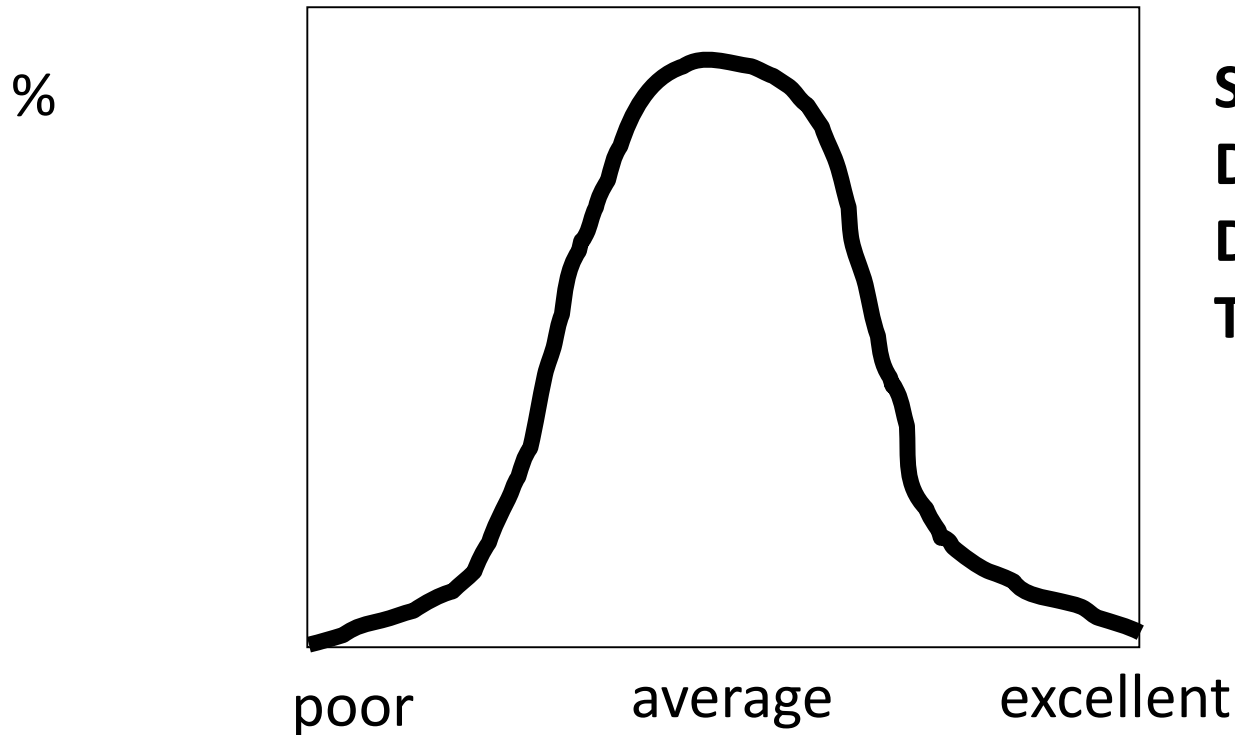
New Model

Reward health
outcomes and
population health

Lower cost while
improving patient
experience

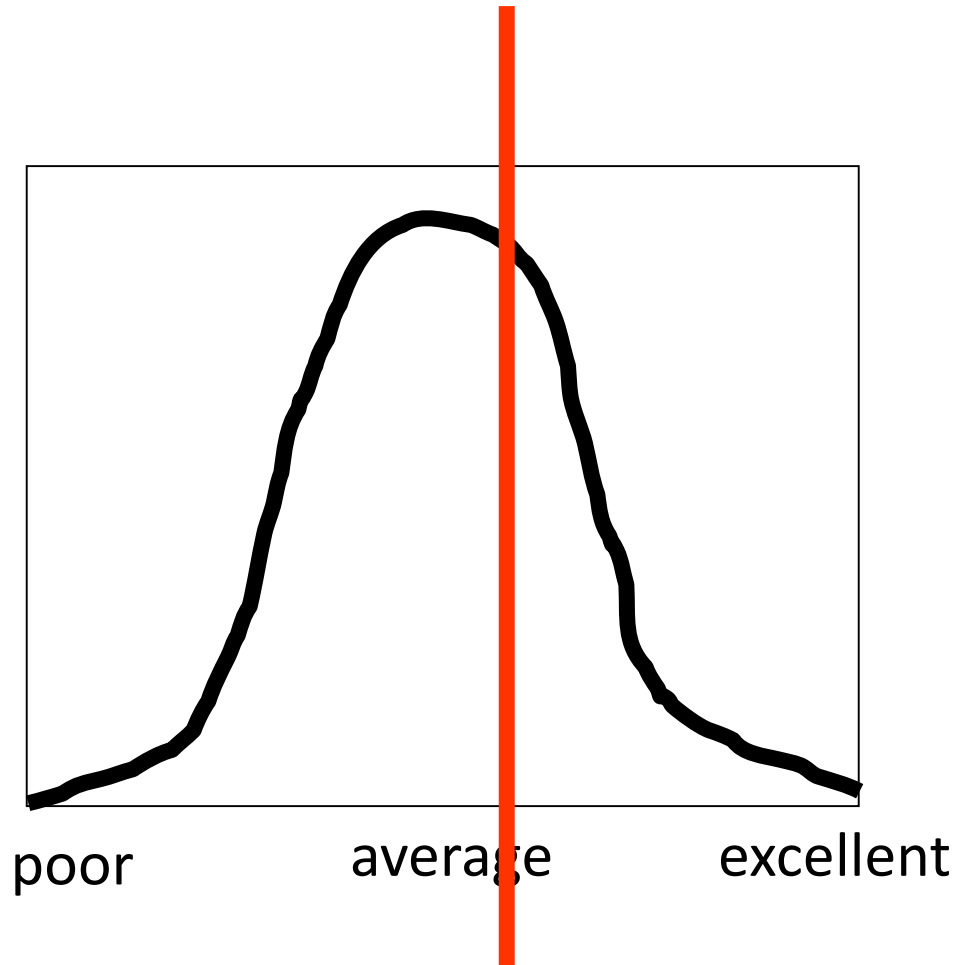
Improve quality, safety
and evidence

Underlying Assumptions of The Target Regime : ‘Threshold Effects’ either Don’t Matter or Won’t Happen



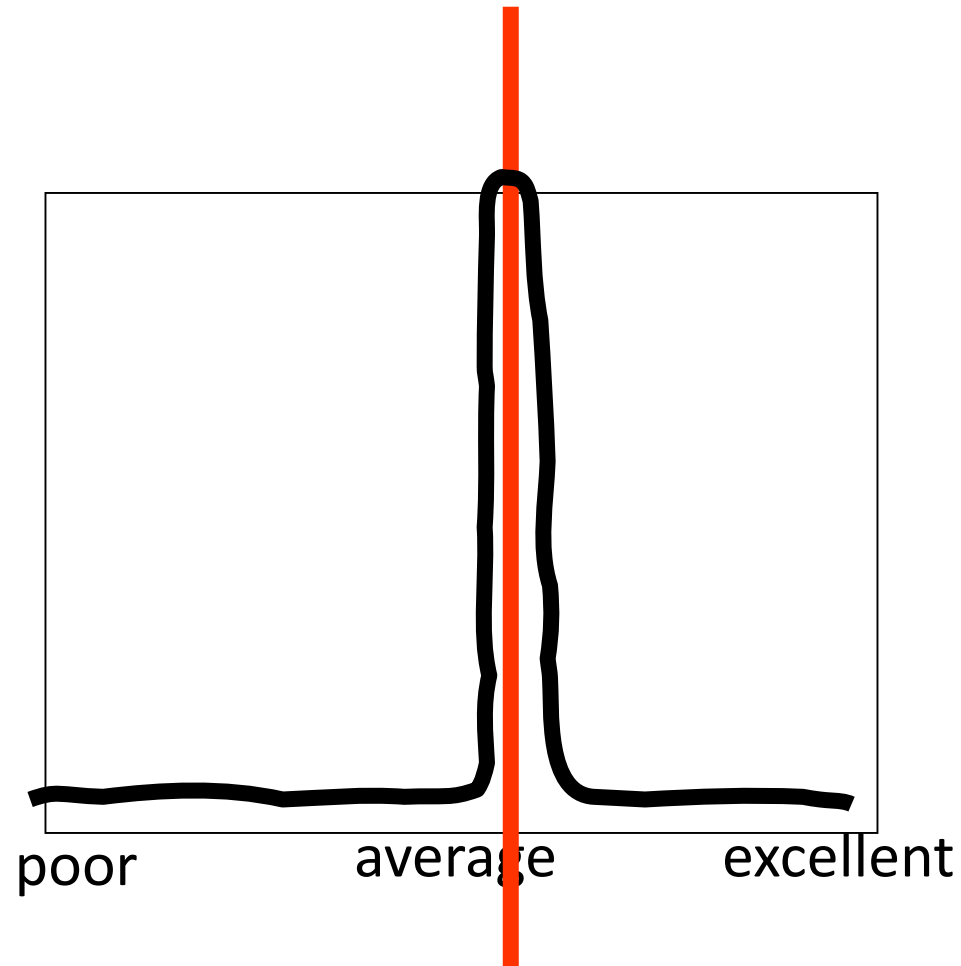
**Step 1: Performance
Distribution across
Delivery Units before
Targets**

%



Step 2: Target imposed

%

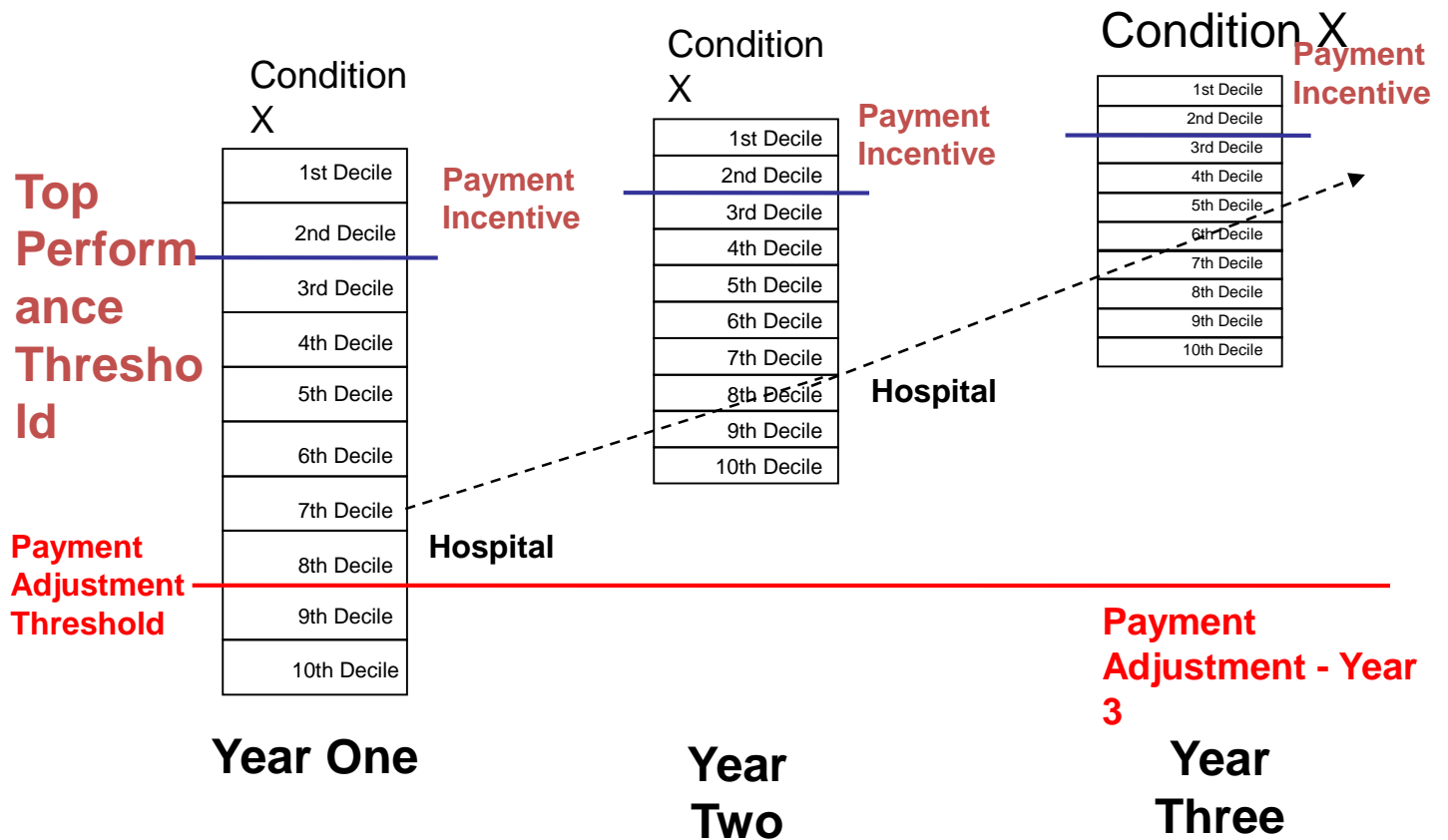


**Step 3: Excellence is
squeezed**

Linking payment with quality measures

- Top performers identified in five clinical areas
- Acute Myocardial Infarction
- Congestive Heart Failure
- Coronary Artery Bypass Graft
- Hip and Knee Replacement
- Community Acquired Pneumonia

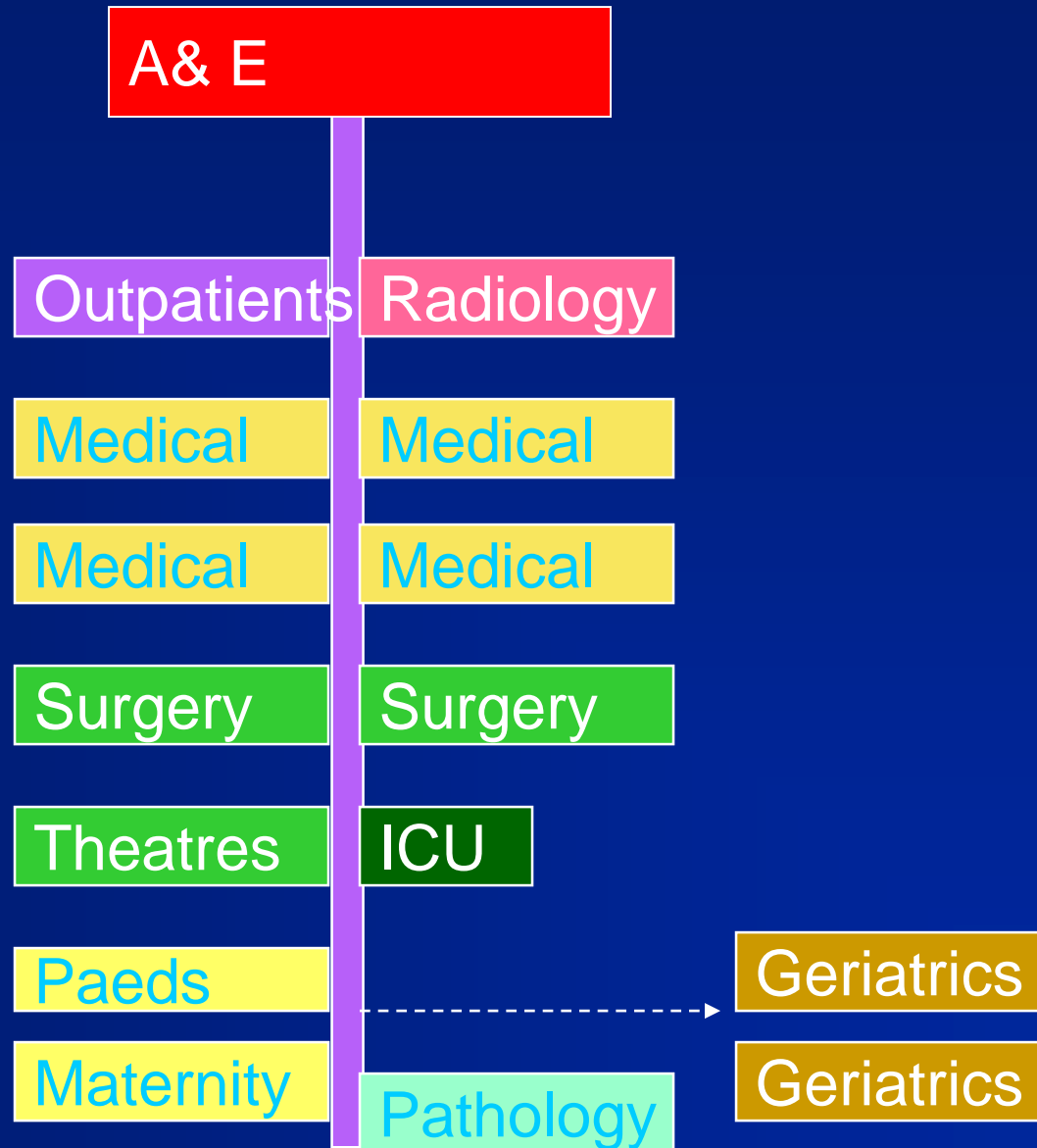
Indicators within AMI, CABG, HF, and CAP represent all patients (all payers). Hip and knee replacement indicators apply only to Medicare patients.



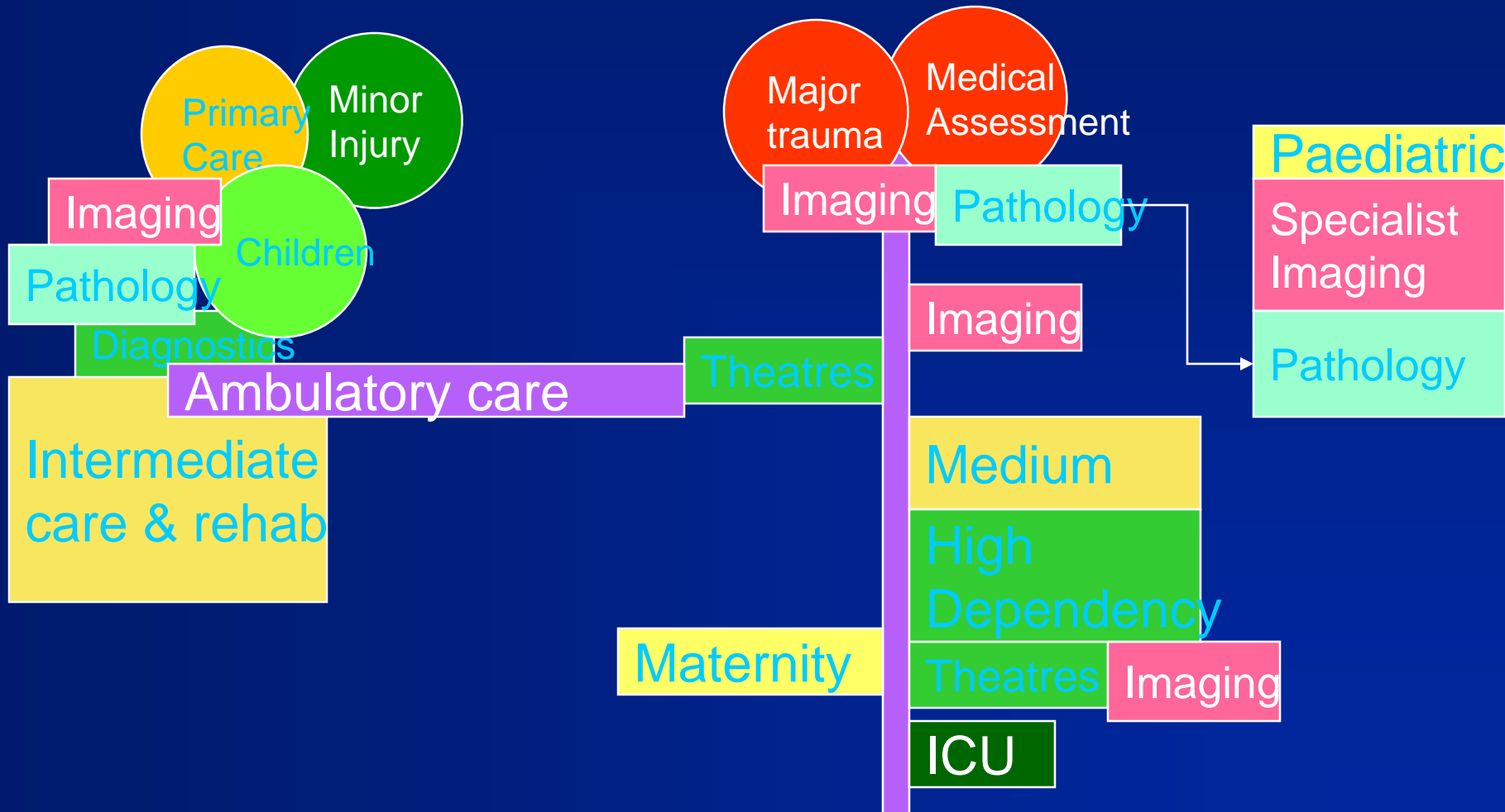
Does severity adjustment really make a difference?

	PRINCIPAL DIAGNOSIS: CONGESTIVE HEART FAILURE	
	CASE 1	CASE 2
Secondary Diagnosis	COPD Atrial Fibrillation	COPD Atrial Fibrillation Respiratory Failure Acidosis Decubitus Ulcer Malnutrition Cardiogenic Shock
Medicare DRG	127 Heart Failure and Shock	127 Heart Failure and Shock
APR DRG	194 Heart Failure	194 Heart Failure
APR DRG Severity of Illness	2 Moderate	4 Extreme
APR DRG Risk of Mortality	1 Minor	4 Extreme
Medicare Relative DRG Weight	1.0039	1.0039
APR DRG Relative Weight	0.793	3.0052
National Mortality Rate	0.04%	32.02%

The hospital of the past



The hospital of the future?



The future- no magic bul bullet



Higher health care costs

- More emphasis on incentives and quality
- Integrated care
- Improvements are more likely to come from doing a lot of things well
- ... responding to emerging problems and monitoring the effects of change
- ... and making sure that someone is in charge of seeing that things happen