



Health Consumer
Powerhouse

Euro Heart Index 2016

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Cast, in the order of appearance

- ☺ **Prof. Arne Björnberg, Chairman HCP Ltd., Marseillan, France**
- ☺ **Dr. Beatriz Cebolla, Project Director, Euro Heart Index 2016, Cologne, Germany**
- ☺ **Prof. Ian Graham, Cardiovascular Medicine, Trinity College, Dublin, Secretary/Treasurer of the European Society of Cardiology**
- ☺ **Prof. Dan Gaita, FESC, Timisoara, Romania, President of CardioPrevent Foundation, Board Member of European Heart Network**



Health Consumer Powerhouse

- ☺ Comparing healthcare system performance in 35 countries from a consumer/patient view.
- ☺ Since 2004, ~50 index editions, available for free.
- ☺ Index projects financed through unconditional development grants, similar to medical faculty sponsored research.

Europe

☺ Euro Health Consumer Index	2005, 2006, 2007, 2008, 2009, 2012, 2013, 2014, 2015, 2016
☺ Euro Consumer Heart Index	2008, 2016
☺ Euro Diabetes Care Index	2008, 2014
☺ Euro HIV Index	2009
☺ Euro Patient Empowerment Index	2009
☺ Nordic COPD Index	2010
☺ Tobacco Harm Prevention Index	2011
☺ Euro Headache Index	2011
☺ Euro Hepatitis Index	2012
☺ Euro Vision Scorecard	2013
☺ Euro Pancreatic Cancer Index	2014

Sweden, others

☺ Health Consumer Index	Sweden 2004, 2005, 2006
☺ Diabetes Care Index	Sweden 2006, 2007, 2008
☺ Breast Cancer Index	Sweden 2006
☺ Vaccination Index	Sweden 2007, 2008
☺ Renal Care Index	Sweden 2007, 2008
☺ Smoke Cessation Index	Sweden 2008
☺ COPD Index	Sweden 2009, Nordic 2010
☺ Advanced Home Care Index	Sweden 2010
☺ Euro-Canada Health Consumer Index	Canada 2008, 2009
☺ Provincial Health Consumer Index	Canada 2008, 2009, 2010
☺ All Hospitals Index	Sweden 2011



The Euro Heart Index is....

A tool to empower patients and physicians by reviewing and comparing health care provision and policies for heart care in all EU member states, Switzerland and Norway.

Increase transparency and comparability of healthcare systems

Increase public awareness, create discussion and indicate strong and weak aspects of each national healthcare system (pointing successful examples)

Helping European citizens to improve the services they receive.



Content and construction of the EHI 2016

1. Indicator selection

Sub-discipline	Number of indicators
1. Prevention	10
2. Procedures	11
3. Access to treatment/care	6
4. Outcomes	4

2. Data Collection (Soft data and hard data)

3. Scoring

Score 3 	Score 2 	Score 1 
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Country	Respo nded	Country	Respo nded
Austria	✓	Latvia	✓
Belgium		Lithuania	
Bulgaria	✓	Luxembourg	
Croatia	✓	Malta	
Cyprus	✓	Netherlands	
Czech Republic		Norway	
Denmark	✓	Poland	
Estonia		Portugal	✓
Finland	✓	Romania	✓
France		Slovakia	✓
Germany	✓	Slovenia	✓
Greece	✓	Spain	✓
Hungary	✓	Sweden	
Ireland	✓	Switzerland	✓
Italy	✓	United Kingdom	✓

4. Validation

Euro Heart Index 2016

Sub-discipline	Indicator	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy
1. Prevention	1.1 Prevalence of obesity in adults															
	1.2 Prevalence of child obesity					n.a.										
	1.3 Exercise in compulsory school															
	1.4 Consumption of soft drinks				n.a.	n.a.										
	1.5 Fresh fruit/vegetable consumption															
	1.6 Sugar consumption				n.a.	n.a.				n.a.						
	1.7 Tobacco consumption															
	1.8 Alcohol consumption															
	1.9 Prevalence of raised blood pressure															
	1.10 Familial Hypercholesterolemia (FH) screening															
	Subdiscipline weighted score		200	230	150	150	150	140	200	170	200	230	190	210	190	180
2. Procedures	2.1 Door to balloon delay			n.a.		n.a.			n.a.						n.a.	n.a.
	2.2 Health care personnel certified for CPR															
	2.3 Pre-hospital thrombolysis					n.a.		n.a.								
	2.4 Defibrillators available in public places															
	2.5 Rehabilitation programme															
	2.6 Home care available for cardiac patients?															
	2.7 # of PCI p.m.p.			n.a.	n.a.	n.a.								n.a.		
	2.8 PCV CABG			n.a.		n.a.								n.a.		
	2.9 Statin deployment					n.a.										
	2.10 C lopidogrel deployment					n.a.										
	2.11 PCSK-9 inhibitor deployment					n.a.										
Subdiscipline weighted score		205	205	83	136	121	152	182	129	182	227	227	129	159	189	167
3. Access to care	3.1 Waiting time to echocardiography and diagnostics					n.a.										
	3.2 Waiting time for non-acute revascularization (CABG/PCI)		n.a.	n.a.		n.a.						n.a.		n.a.		
	3.3 "Waiting time" for heart transplant					n.a.			n.a.							
	3.4 Family support for children with Congenital Heart Disease													n.a.		
	3.5 Access to free FH genetic testing?															
	3.6 Access to combination therapy to treat FH					n.a.										
Subdiscipline weighted score		167	144	89	122	67	144	156	122	144	178	156	133	122	167	133
4. Outcomes	4.1 30-day case fatality rate after admission for AMI			n.a.		n.a.										
	4.2 Standardized death rates from CVD															
	4.3 Hospital readmission rates for heart failure			n.a.	n.a.	n.a.	n.a.		n.a.			n.a.			n.a.	n.a.
	4.4 Surgical mortality for Isolated transposition of the great arteries				n.a.	n.a.			n.a.					n.a.		n.a.
Subdiscipline weighted score		188	229	125	83	104	146	229	125	229	167	146	104	208	146	
Total score		759	808	447	492	442	582	767	546	755	864	739	618	575	744	686
Rank		10	7	29	27	30	21	8	24	11	1	14	19	22	13	16



Euro Heart Index 2016

Sub-discipline	Indicator	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	Kingdom	United	
1. Prevention	1.1 Prevalence of obesity in adults																	
	1.2 Prevalence of child obesity																	
	1.3 Exercise in compulsory school																	
	1.4 Consumption of soft drinks				n.a.													
	1.5 Fresh fruit/vegetable consumption						n.a.									n.a.		
	1.6 Sugar consumption	n.a.	n.a.		n.a.													
	1.7 Tobacco consumption																	
	1.8 Alcohol consumption																	
	1.9 Prevalence of raised blood pressure																	
	1.10 Familial Hypercholesterolemia (FH) screening			n.a.														
	Subdiscipline weighted score		170	140	240	160	220	230	190	230	200	170	200	200	210	210	180	180
	2. Procedures	2.1 Door to balloon delay	n.a.	n.a.				n.a.										
2.2 Health care personnel certified for CPR																		
2.3 Pre-hospital thrombolysis		n.a.			n.ap.													
2.4 Defibrillators available in public places																		
2.5 Rehabilitation programme																		
2.6 Home care available for cardiac patients?																		
2.7 # of PCI p.m.p.			n.a.							n.a.	n.a.							
2.8 PCI/ CABG			n.a.								n.a.							
2.9 Statin deployment					n.a.													
2.10 Clopidogrel deployment					n.a.													
2.11 PC SK-9 inhibitor deployment					n.a.													
Subdiscipline weighted score		121	136	220	144	227	212	159	167	121	121	197	197	197	182	167		
3. Access to care	3.1 Waiting time to echocardiography and diagnostics		n.a.					n.a.										
	3.2 Waiting time for non-acute revascularization (CABG/PCI)		n.a.					n.a.										
	3.3 "Waiting time" for heart transplant			n.a.														
	3.4 Family support for children with Congenital Heart Disease	n.a.																
	3.5 Access to free FH genetic testing?																	
	3.6 Access to combination therapy to treat FH																	
	Subdiscipline weighted score		89	100	178	144	178	178	111	133	78	111	167	144	178	167	156	
4. Outcomes	4.1 30-day case fatality rate after admission for AMI																	
	4.2 Standardized death rates from CVD																	
	4.3 Hospital readmission rates for heart failure	n.a.	n.a.	n.a.		n.a.		n.a.	n.a.		n.a.							
	4.4 Surgical mortality for Isolated transposition of the great arteries		n.a.	n.ap.	n.ap.			n.a.	n.a.		n.a.							
	Subdiscipline weighted score		146	83	188	167	188	229	167	125	167	104	250	208	250	208	208	
Total score		526	460	825	615	813	849	627	655	566	506	814	750	835	767	771	771	
Rank		25	28	4	20	6	2	18	17	23	26	5	12	3	8	15	15	



CVD situation in Europe

- ☺ **Globally, an estimated 17.5 million people died from CVDs in 2012, representing 31% of all deaths, over 80 % of which take place in low-and middle-income countries. Today, CVDs is the largest single contributor to global mortality.**
- ☺ **In Europe, CVD causes more than 2 million deaths every year**
- ☺ **CVD remains the main cause of death in most countries but has already been overtaken by cancer in 12 countries**
- ☺ **CVD is a big threat economically and socially.**
- ☺ **CVD has become an important focus of the European Union and the national health bodies in the last decade. A high number of programmes and initiatives have been funded and implemented all over the region to improve the situation. European and national organisations have been creating guidelines, education, programmes and policy recommendations to promote standards and pathways.**
- ☺ **CVD can be prevented**
- ☺ **Most risk factors associated with CVD are modifiable.**



Primary Prevention

- ☺ **Obesity**
- ☺ **Sedentary lifestyle/Physical activity**
- ☺ **Vegetables and fruit consumption**
- ☺ **Sugar consumption**
- ☺ **Tobacco**
- ☺ **Alcohol**



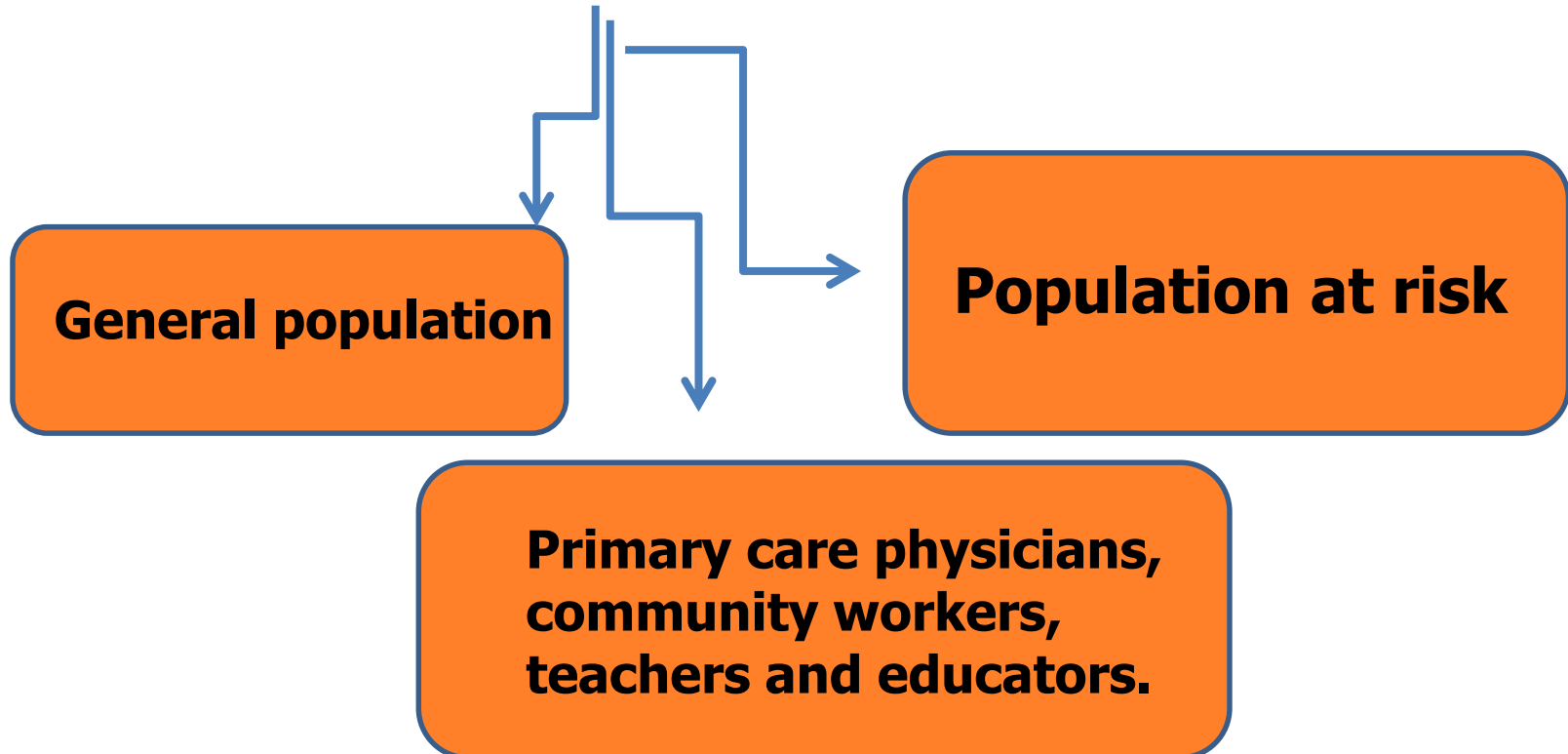
Screening of CVD risk factors (Risk population)

screening of CV risk factors												
Countries	Specific age groups in general population (e.g. <65)	Family history of (CVD, premature coronary heart disease (CHD), sudden death, arrhythmia,...)	Patients with diabetes	Depression	Pre-diabetes patients (IFG and IGT)	High blood pressure patients	People with BMI > 30	Patients with high level of LDL cholesterol	Obese children (BMI/waist circ)	Neonates, infants and children (for congenital heart disease) (for congenital heart disease)	Patients with Dyslipidemia (e.g. Familial hypercholesterolemia (FH))	Measurement of the ESC Chart SCORE
Austria	R	R	R	R	R	R	R	R			R	
Belgium												
Bulgaria	S	R	R		S	R		S	S	R		S
Croatia	R	R	S	R	R	R	R	R	R	R	R	R
Cyprus	R	R	R	R	R	R	R	R	R	S	R	R
Czech Republic	R	R	R		R	R	R	R	R	S	S	
Denmark	R	R	S		R	R	R	R			S	
Estonia	S	S	S	R	S	S	S					
Finland												
France												
Germany			S		S	S						
Greece	R	R	R			S	R					
Hungary	R	S	S	R	R	S	R					
Ireland	R	R	R		R	R	R					
Italy	S	S	S	R	S	S	R					
Latvia	S	S	S	R	S	S	R					
Lithuania												
Luxembourg	R	R	R	R	R	R	R	R	R	R	R	R
Malta	R	R	S		S	S	S	S	S	S	R	R
Netherlands	R	S	S	R	R	S	S	S	S	R	R	S
Norway	R	R	R	R	R	R	R			R	R	R
Poland	S	R	S		R	S	S	S	S		S	
Portugal	R	R	R	R	R	R	R	R	R	R	R	R
Romania	R	S	R			R						
Slovakia	R	R	R		R	R	S	R				
Slovenia	R	R	S	R	R	R	R	R	R		R	R
Spain	R	S	S	S	S	R	R	S	S		S	S
Sweden	R	R	R	R	R	R	R	R	R	R	R	R
Switzerland	S	R	S		R	S	R	R	R	S	S	
UK	R	R	S			S		R		S	S	

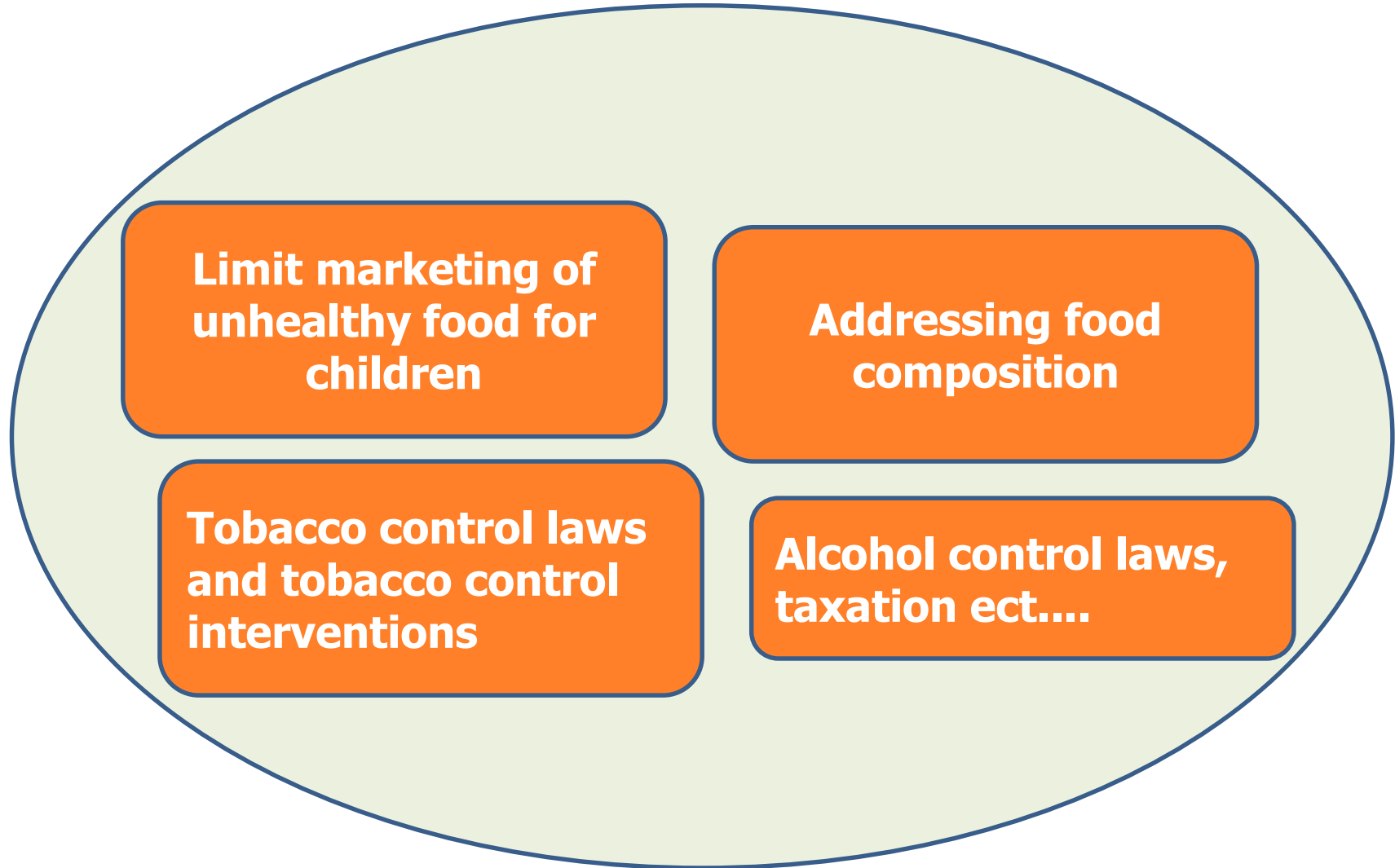
GPs and primary care health workers are key players for detection and primary prevention



Awareness campaigns and education about healthy life style (promoting healthy habits)



Structural/regulatory

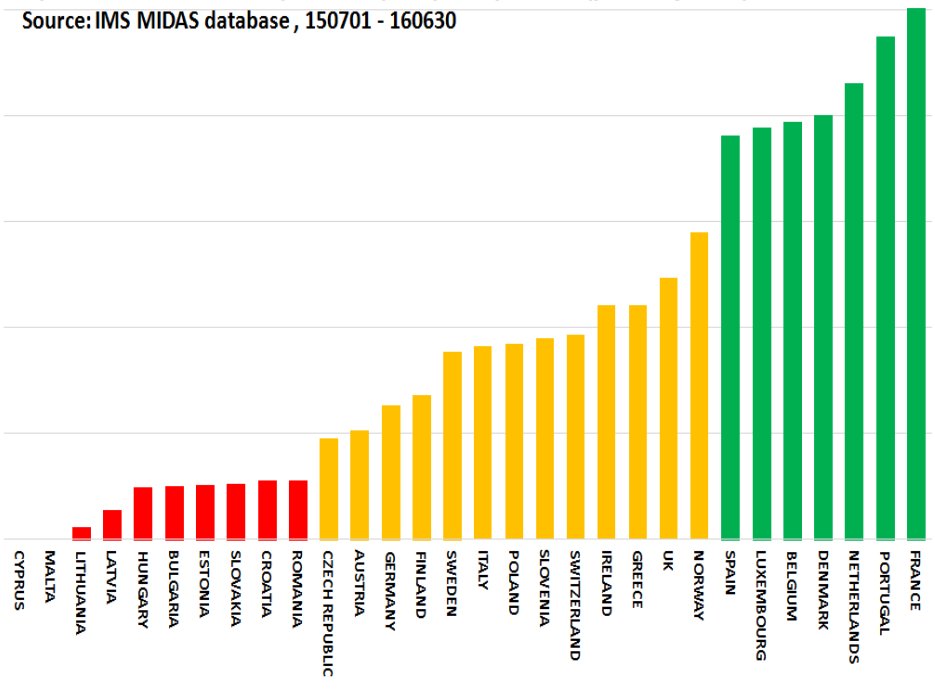


Access to Medication

Statin deployment

Lipid control medication (ATC C10A), SU per capita 50+ (prev. adjusted)

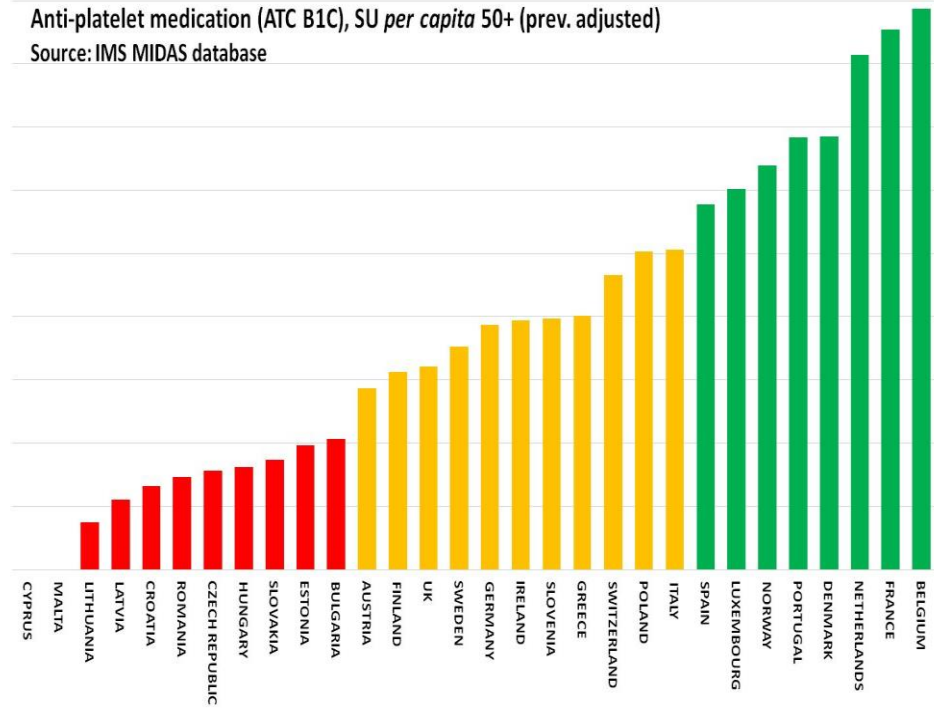
Source: IMS MIDAS database, 150701 - 160630



Clopidogrel deployment

Anti-platelet medication (ATC B1C), SU per capita 50+ (prev. adjusted)

Source: IMS MIDAS database



Secondary prevention

- Access
- Funding
- Data for primary *vs.* secondary prevention

2.5 Rehabilitation programme



2.6 Home care available for cardiac patients?

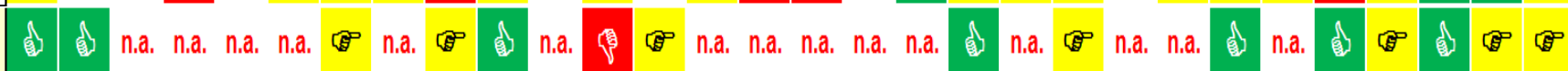
CVD registries/Data

- Public data missing on important indicators (Procedures and outcomes). Important data only on hospital level.
- Data on prevention difficult to separate (general population, CVD patients)
- Not comparable data
- Some data is collected with slightly different definitions by different organisations.
- Difficulties to access data

3.2 Waiting time for non-acute revascularization (CABG /PCI)



4.3 Hospital readmission rates for heart failure



Familial hypercholesterolemia care in Europe

- ✔ **Hereditary, metabolic, autosomal (affecting both sexes the same) dominant disorder.**
- ✔ **Characterized by abnormally high total cholesterol (TC) and low-density lipoprotein cholesterol (LDL-C) levels. FH is a common genetic cause of premature coronary heart disease.**
- ✔ **There is a large number of Europeans suffering from FH. Many of them do not know, as they are still undiagnosed and therefore left untreated.**
- ✔ **FH is a disease that is rather easy and cheap to treat.**



FH case finding

Screening of family members of FH patients

Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
R	R	R	R	No or not for free	R	R	R	No or not for free	R	R	R	R	R	R	R	No or not for free	n.a	n.a	S	S	R	No or not for free	No or not for free	R	S	R	R	No or not for free	R

Genetic testing for FH subsidised

Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	UK
				n.a.													n.a.	n.a.							n.a.				



Official recommendations or guidelines, approved by the government, in place in regarding treatment and/or screening of FH

Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	UK	
				n.a.			n.a.										n.a.	n.a.							n.a.					

Any activities or campaigns with public funding during the last two years to increase awareness

Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	UK
				n.a.													n.a.	n.a.							n.a.				

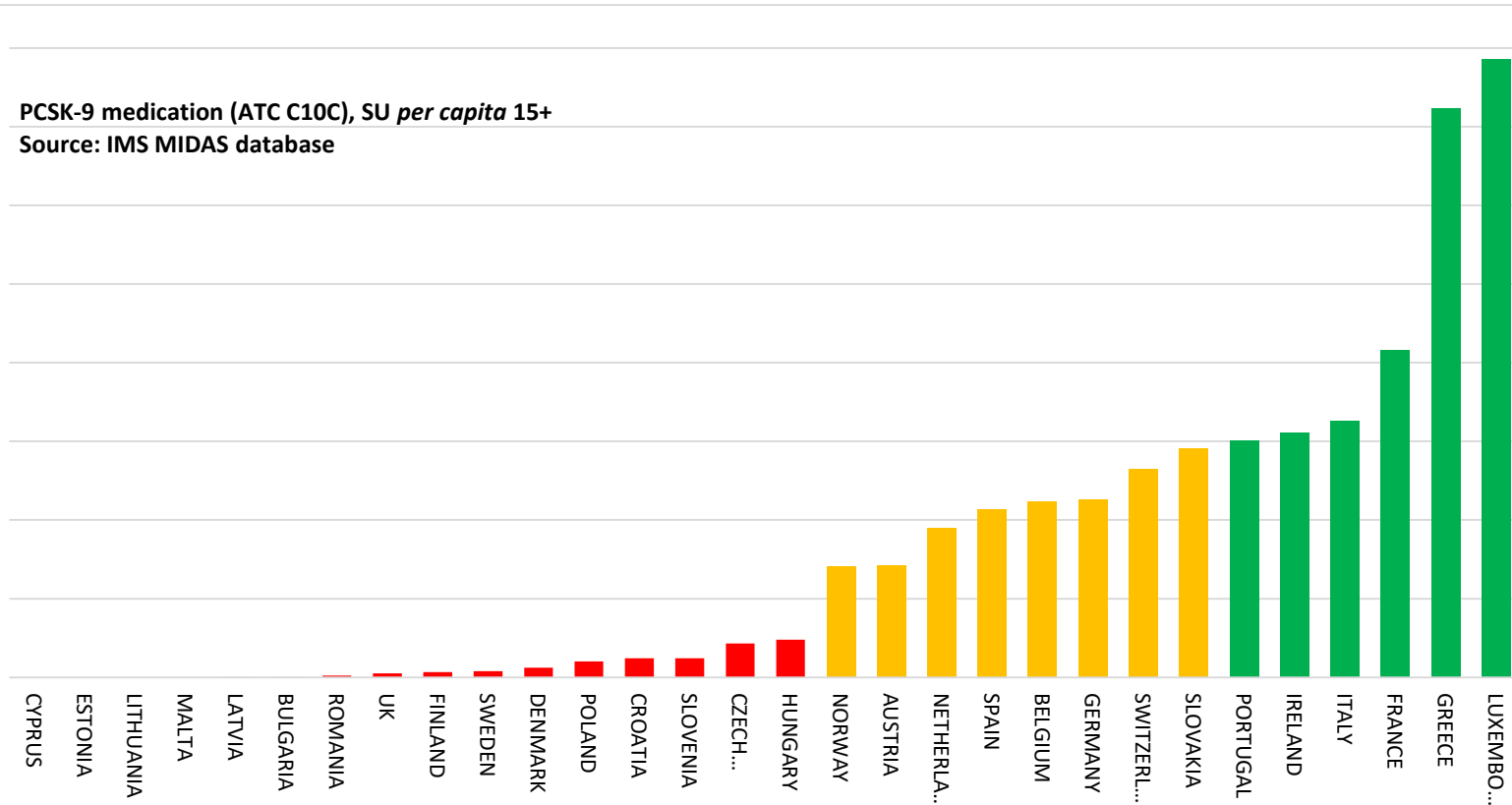


Access to FH treatment

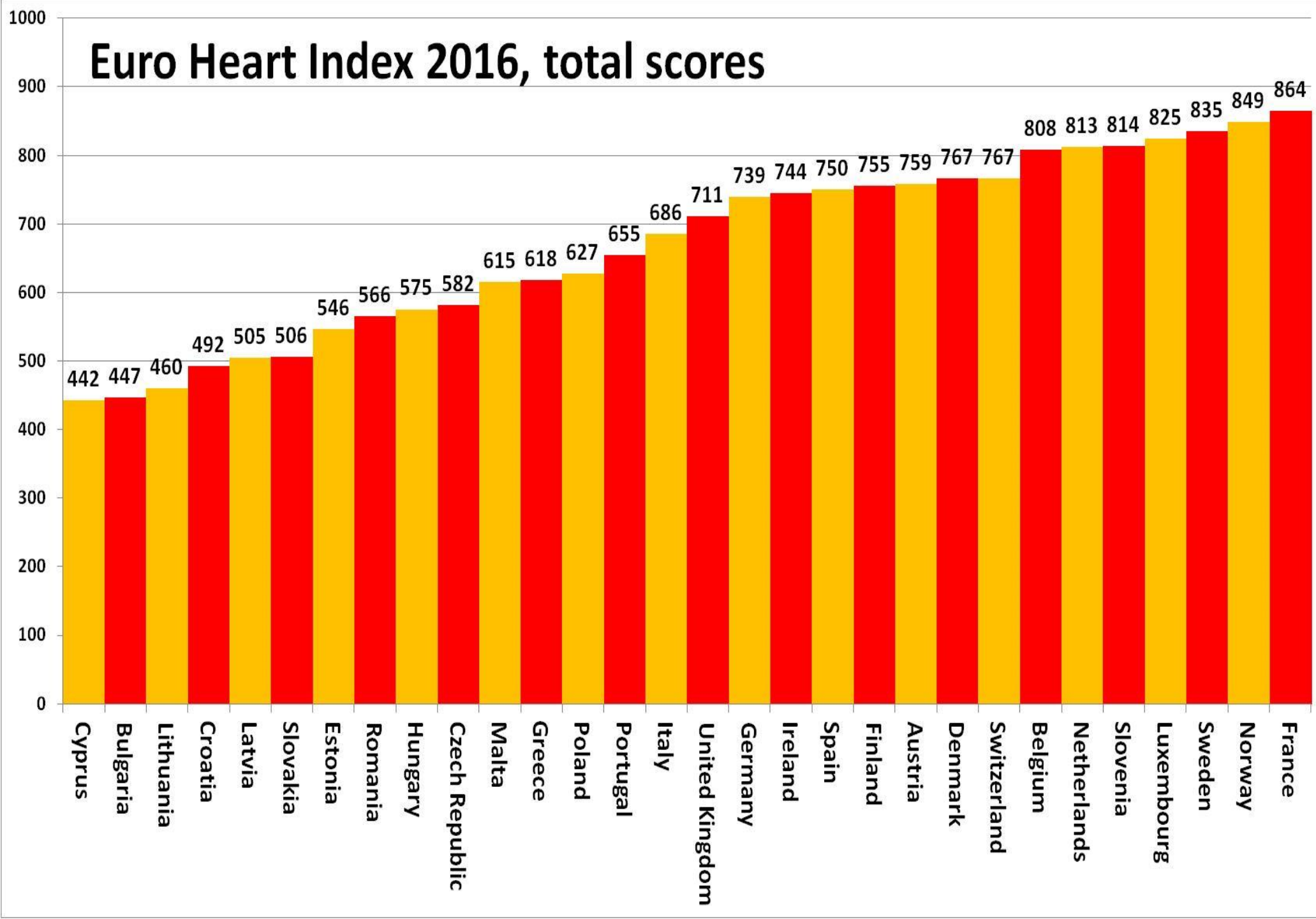
Subsidized / reimbursement of combination therapy (statin plus ezetimibe)

	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Rep.	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
Combination therapy to treat FH (statin plus ezetimibe) reimbursed or subsidised	👍	👍	👎	👎	n.a.	👍	👎	👎	👎	👎	👍	👎	👎	👍	👍	👎	👎	n.a.	n.a.	👍	👍	👎	👎	👎	👎	n.a.	👎	👍	👍	👍

PCSK-9 medication (ATC C10C), SU per capita 15+
Source: IMS MIDAS database



Euro Heart Index 2016, total scores



Top performers in the Index. What are they doing well?

Sub-discipline	Austria	Belgium	Bulgaria	Croatia	Cyprus	Czech Republic	Denmark	Estonia	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Latvia	Lithuania	Luxembourg	Malta	Netherlands	Norway	Poland	Portugal	Romania	Slovakia	Slovenia	Spain	Sweden	Switzerland	United Kingdom
1. Prevention	200	230	150	150	150	140	200	170	200	230	190	210	190	180	240	170	140	240	160	220	230	190	230	200	170	200	200	210	210	180
2. Procedures	205	205	83	136	121	152	182	129	182	227	227	129	159	189	167	121	136	220	144	227	212	159	167	121	121	197	197	197	182	167
3. Access to treatment/ care	167	144	89	122	67	144	156	122	144	178	156	133	122	167	133	89	100	178	144	178	178	111	133	78	111	167	144	178	167	156
4. Outcomes	188	229	125	83	104	146	229	125	229	229	167	146	104	208	146	146	83	188	167	188	229	167	125	167	104	250	208	250	208	208
Total Score	759	808	447	492	442	582	767	546	755	864	739	618	575	744	686	526	460	825	615	813	849	627	655	566	506	814	750	835	767	711
Rank	10	7	29	27	30	21	8	24	11	1	14	19	22	13	16	25	28	4	20	6	2	18	17	23	26	5	12	3	8	15

Sub-discipline	Top country/countries	Top Scores	Maximum score
1. Prevention	Italy, Luxembourg	240	300
2. Procedures	Germany, Netherlands	227	250
3. Access to treatment/care	France, Luxembourg, Netherlands, Norway, Sweden	178	200
4. Outcomes	Slovenia, Sweden	250	250

THANK YOU -

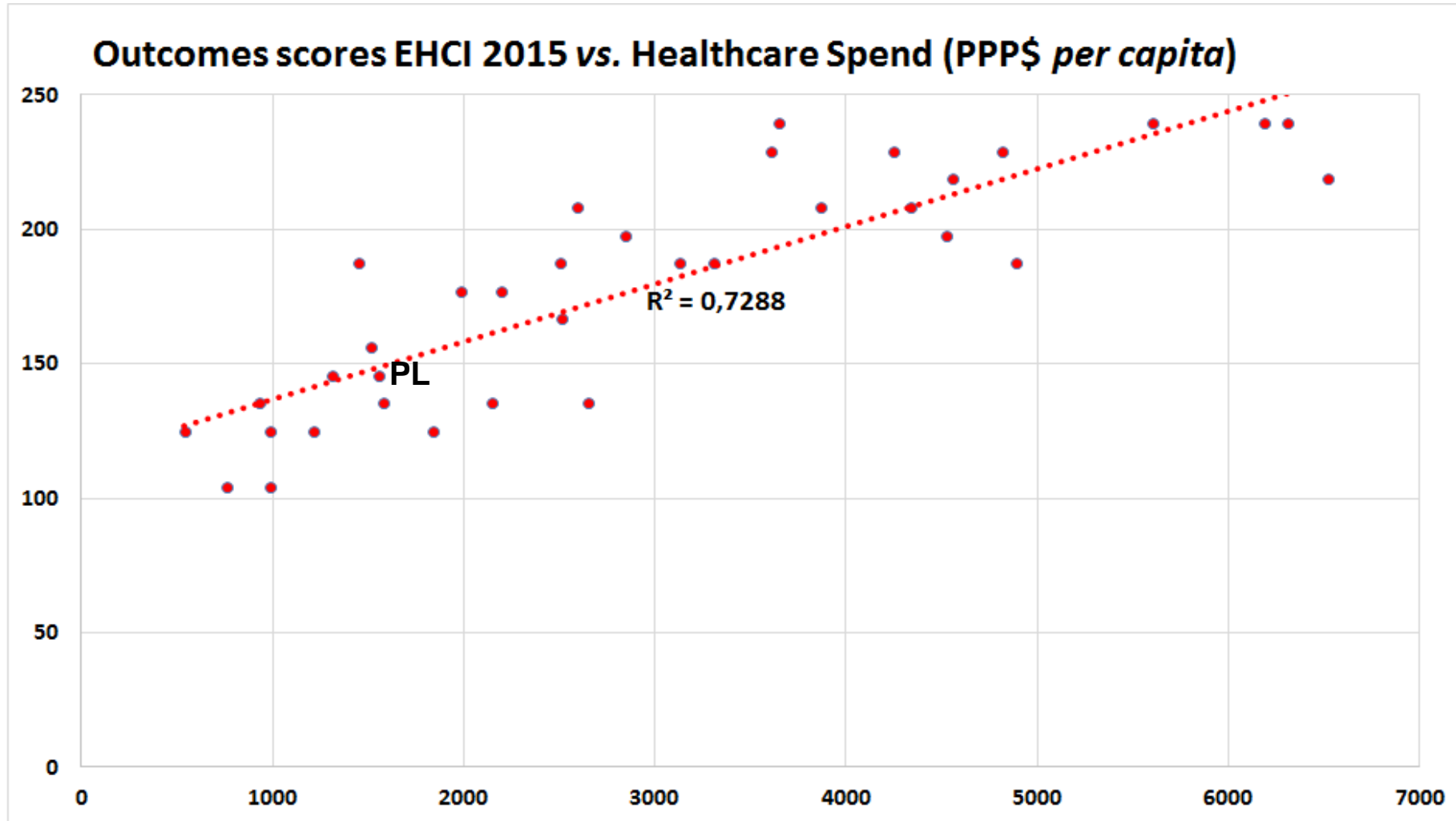
SEE IT ALL ON

www.healthpowerhouse.com



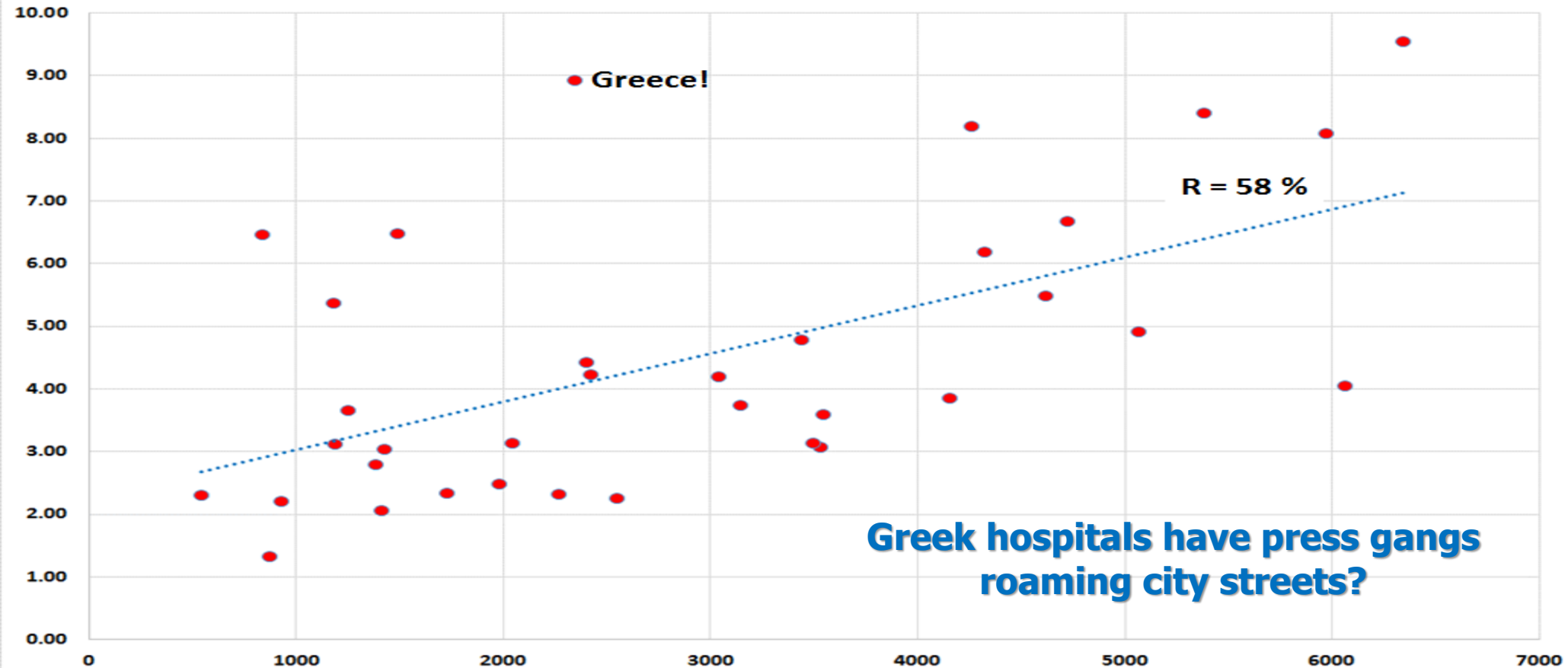
MORE SLIDES

Money does buy better Treatment Results



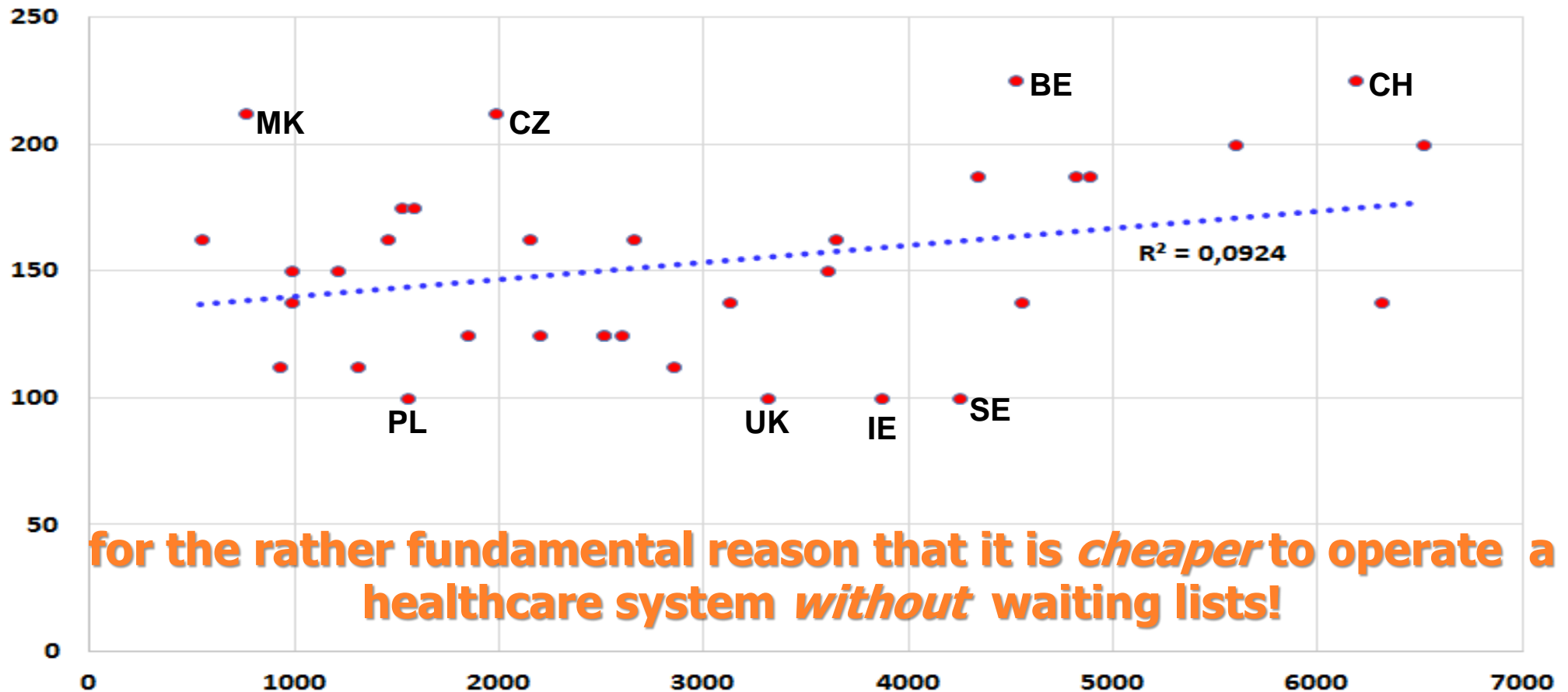
**An example of a LAP Indicator; "Level of Attention to the Problem".
Wealthy countries can afford admitting patients on weaker indications,
but there are deviations!**

Ratio of discharges/deaths vs. HC spend/capita (PPP\$)



Money does not necessarily buy better access to healthcare ...

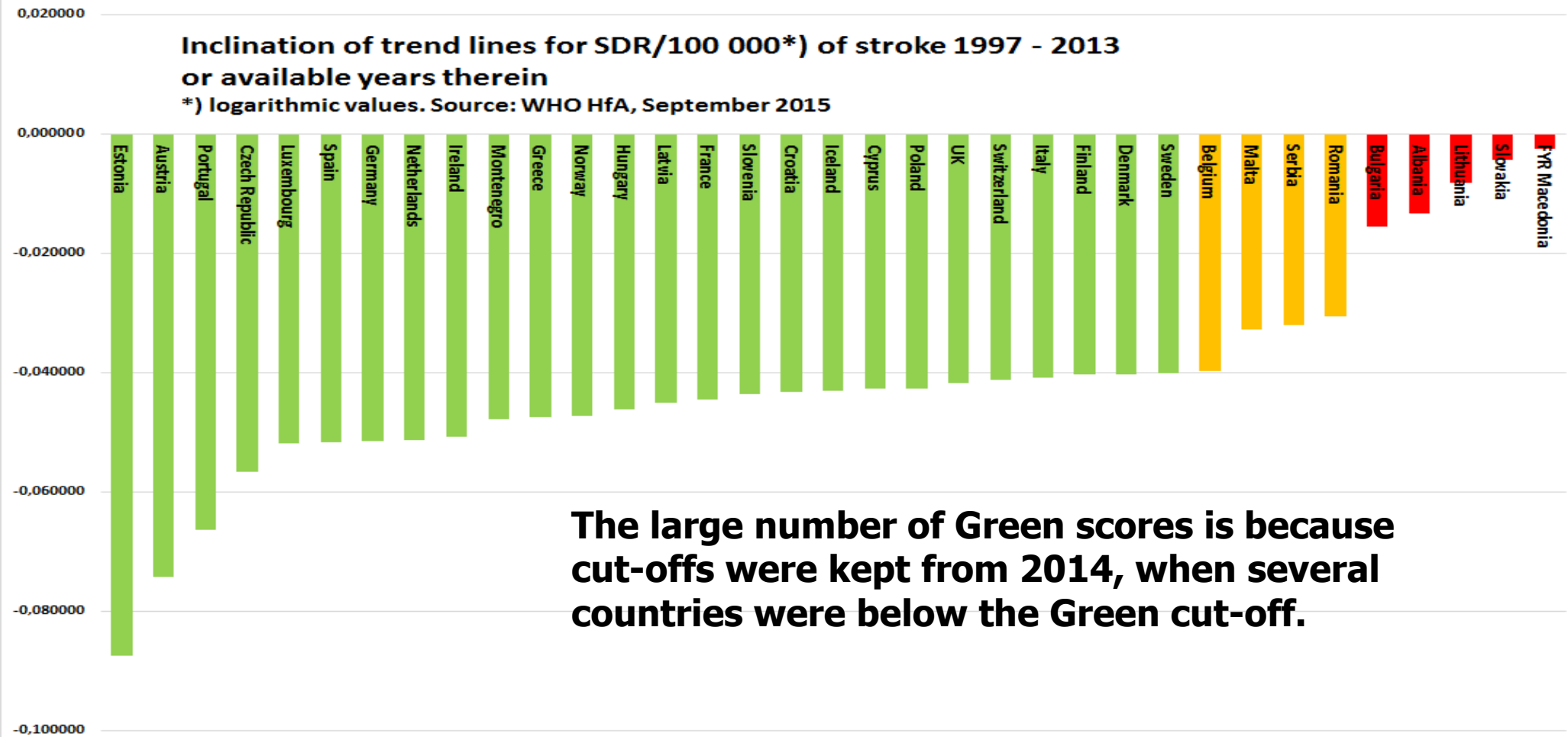
Accessibility scores in EHCI 2015 vs. HC spend *per capita* (PPP\$)



for the rather fundamental reason that it is *cheaper* to operate a healthcare system *without* waiting lists!



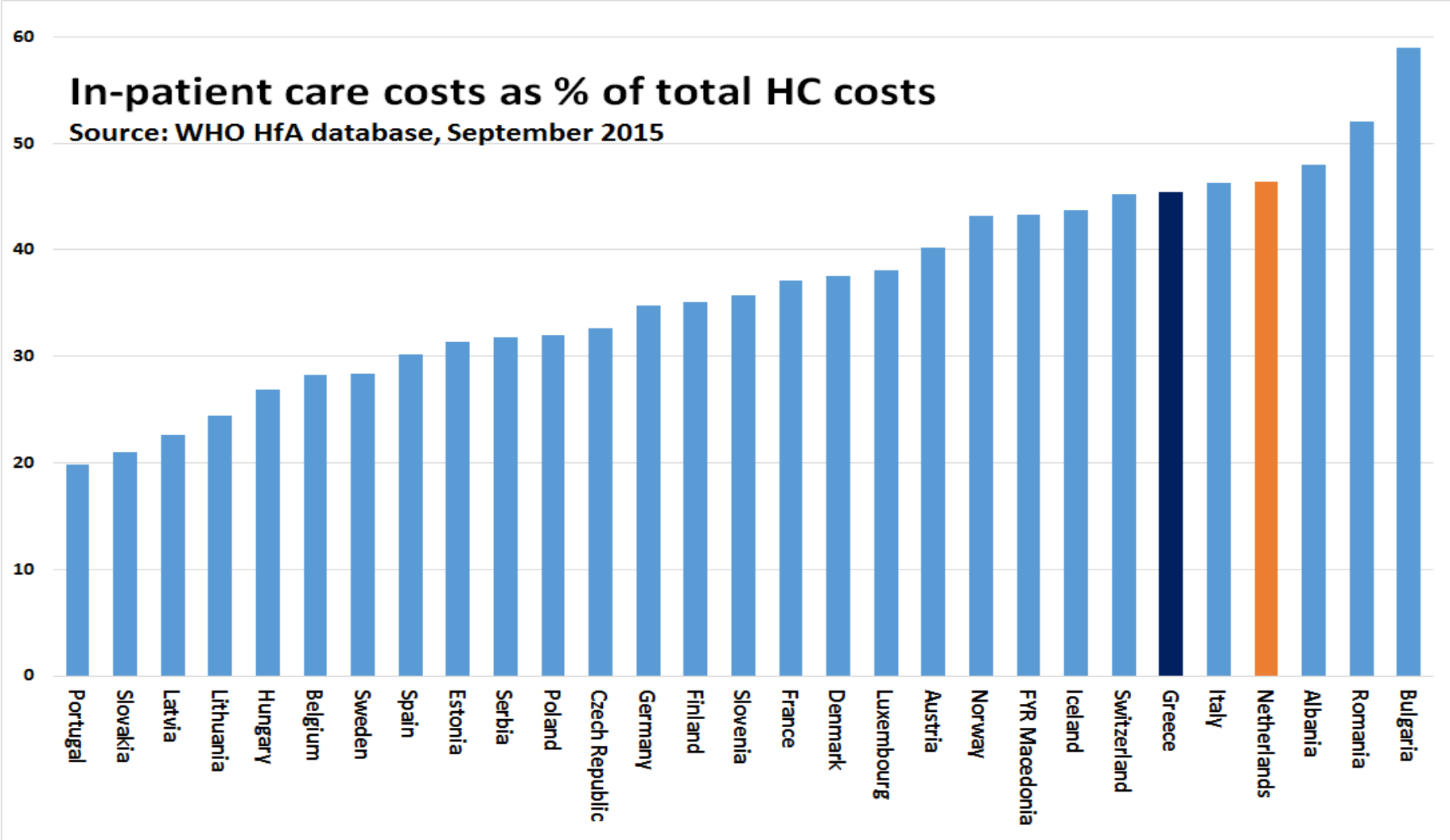
Treatment results keep improving!



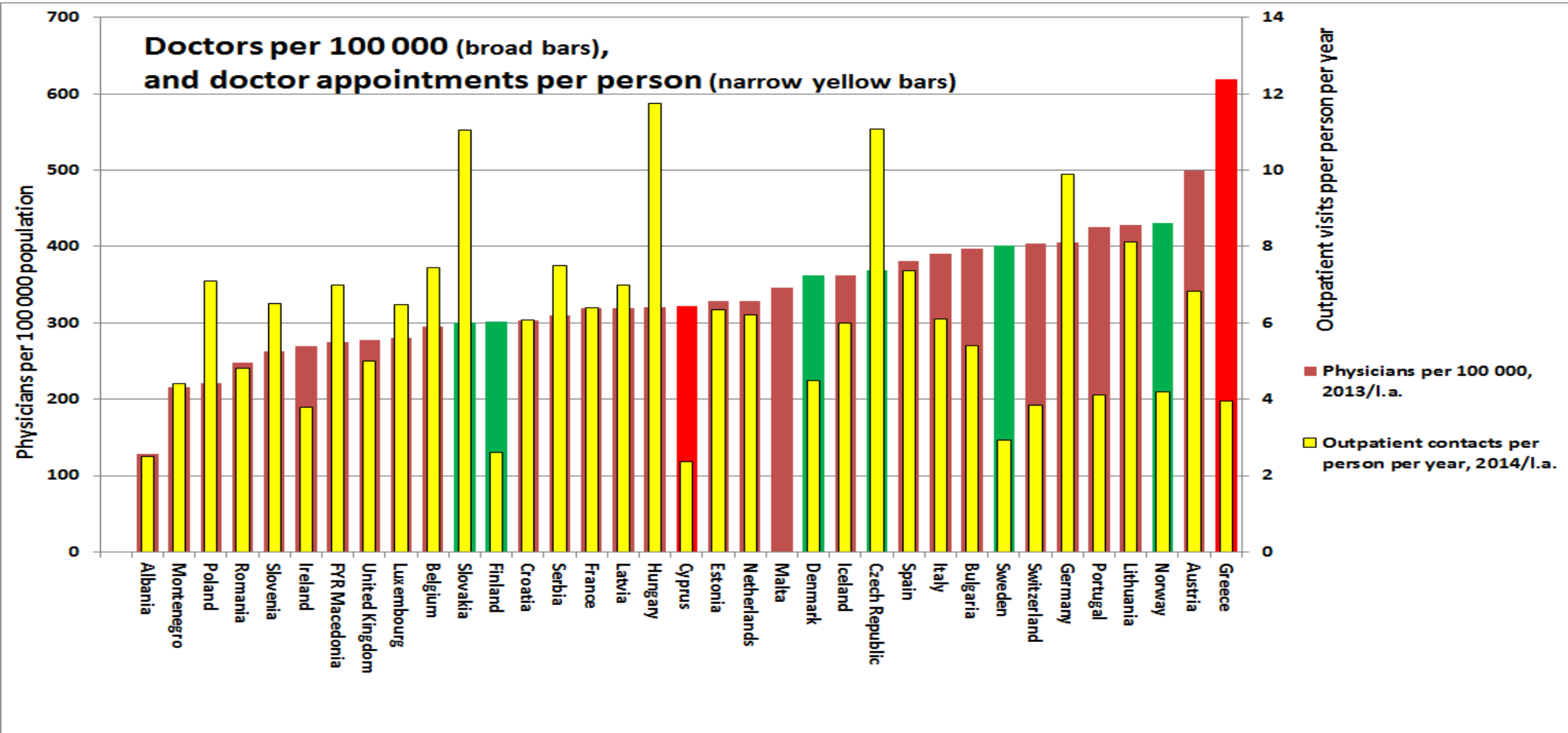
The large number of Green scores is because cut-offs were kept from 2014, when several countries were below the Green cut-off.



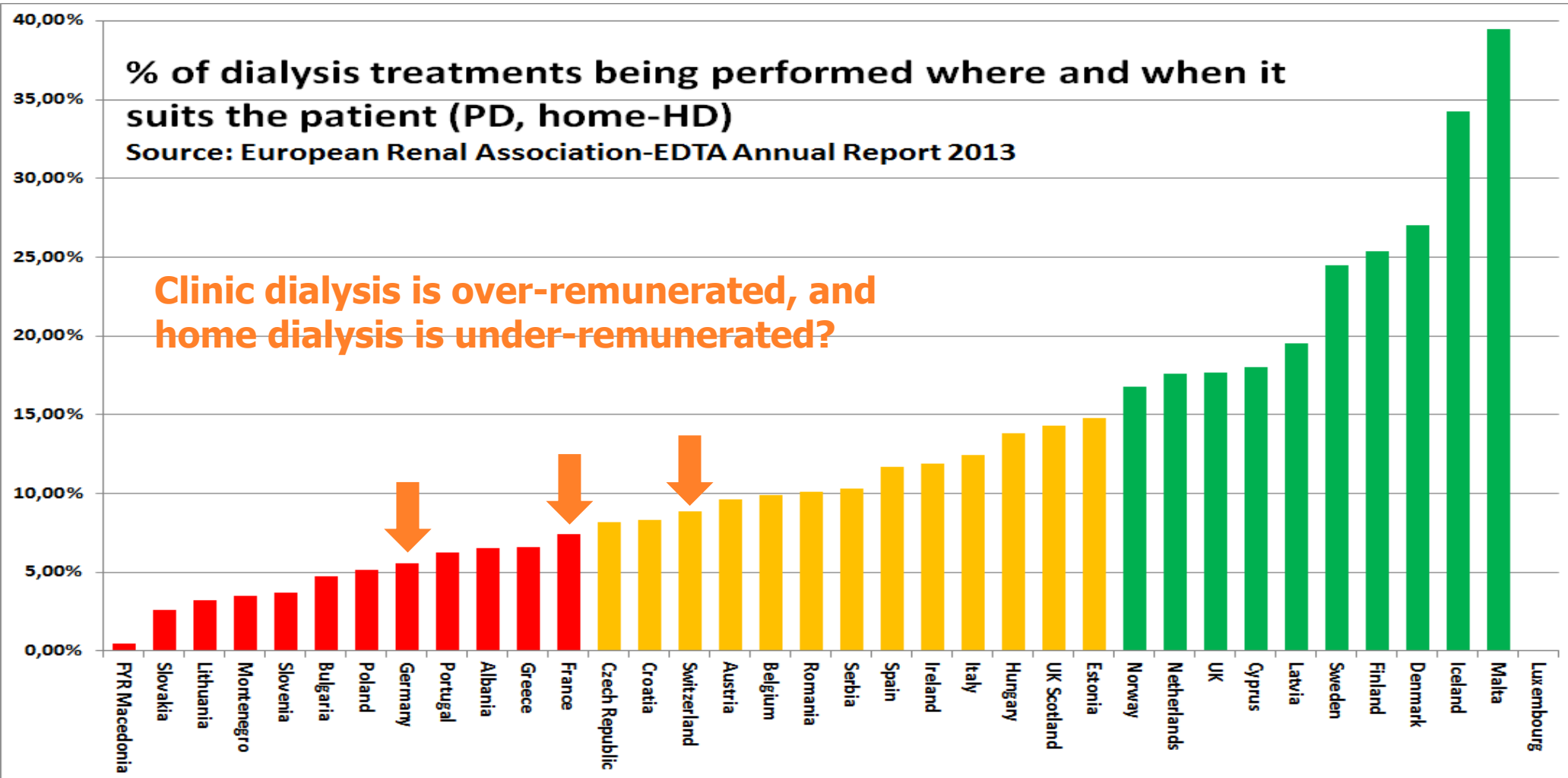
"Structural Antiquity" Index for healthcare systems



Accessibility not really related to number of doctors!



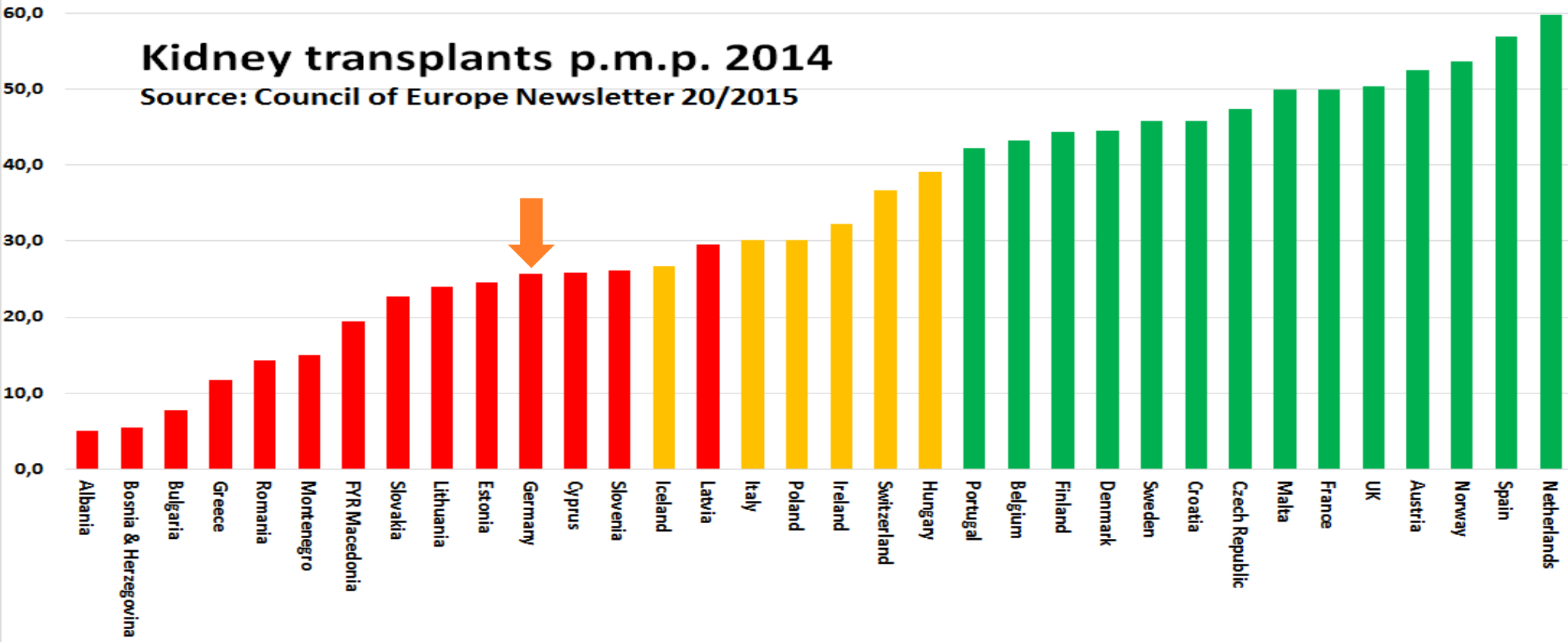
Sometimes money buys worse healthcare



Sometimes money buys even worse healthcare!

Kidney transplants p.m.p. 2014

Source: Council of Europe Newsletter 20/2015



Are there other reasons for the low German transplant rate than the profitability of clinic dialysis?



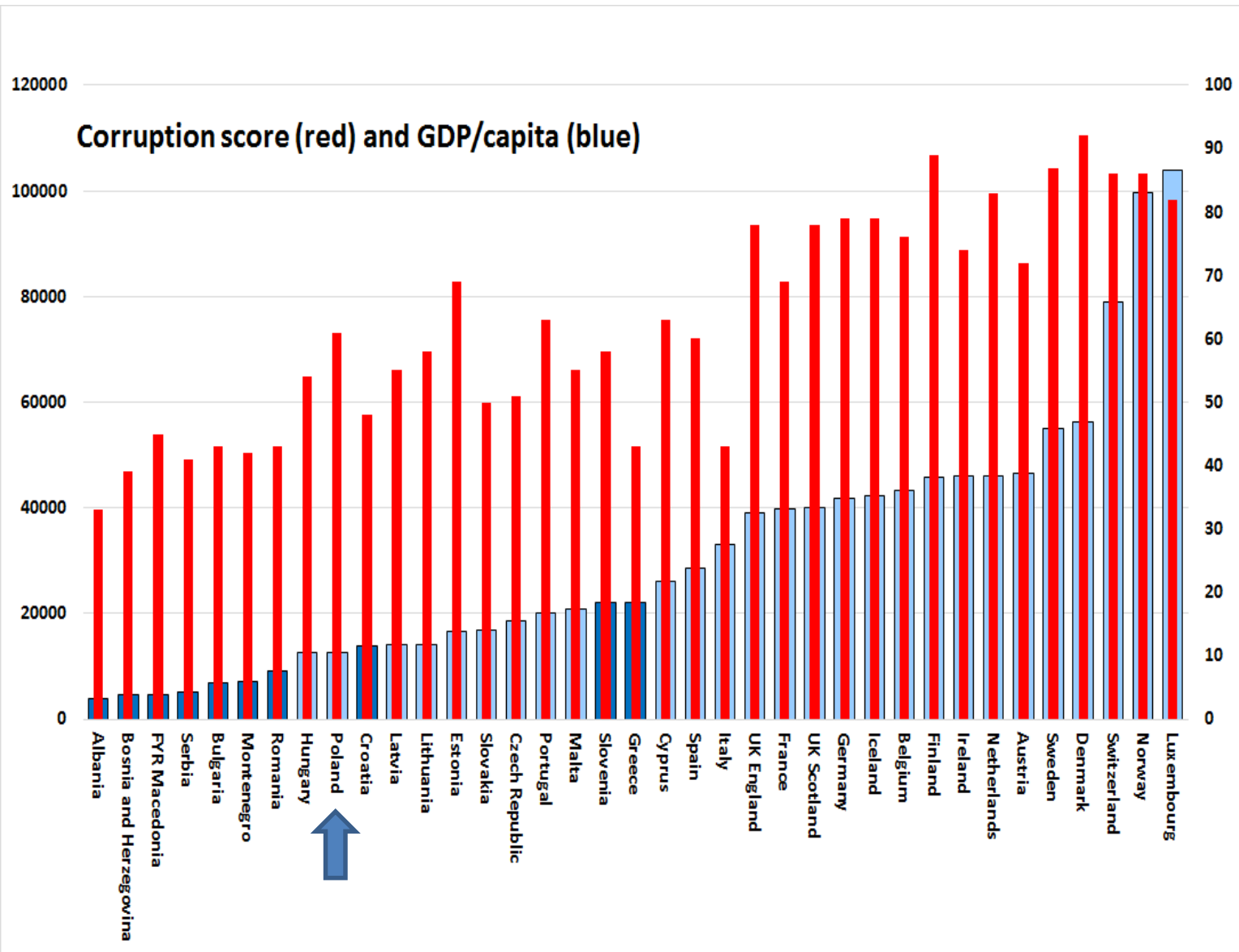
"Bismarck Beats Beveridge"

- ☺ **Bismarck systems dominate the top of EHCI ranking**
 - ☺ **Beveridge systems offer conflicts between loyalty to citizens and loyalty to healthcare system/organisation ("politician home town job preservation")**
 - ☺ **lack of business acumen in Beveridge systems; efficiency gains and cutbacks frequently not differentiated!**
 - ☺ **small Beveridge systems (the Nordic countries) can compete**



- ☺ **"Chaos" systems do better than centrally planned**
 - ☺ **100's of thousands of professionals take better decisions and drive development better than central bodies**
 - ☺ **incentives driving quality and productivity are essential!**





**Poland
not too
corrupt!**

