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HEALTH INEQUALITIES IN EUROPEAN WELFARE STATES

Healthcare Systems and Health Inequalities

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	Dimensions	Types of healthcare systems	Classification of countries
Field (1973)	• Ownership • Doctors' autonomy	1. Pluralist health system 2. Health insurance system 3. Health service system 4. Socialized health system	1. USA 2. Western Europe (except Britain), Japan 3. Great Britain 4. Eastern Europe (before 1990), Soviet Union
Terris (1978)	• Main organizational unit	1. Public assistance 2. Health insurance 3. National health service	1. Algeria, Chile, Costa Rica, Mexico, Turkey 2. Western Europe (including Scandinavia), North America, Australia, New Zealand, Japan, Israel 3. Eastern Europe, Asian countries, Cuba
Frenk & Donabedian (1987)	• State control over production of medical care • Basis for eligibility	10 types of healthcare systems, for example: 1. Citizenship & dispersed financing 2. Citizenship & concentrated financing 3. Citizenship & concentrated ownership 4. Poverty & concentrated financing 5. Contribution/privilege & dispersed ownership	1. Austria, Belgium, Germany, Japan, Switzerland 2. Canada, Great Britain, New Zealand (outpatient care), France (outpatient care) 3. Most socialist countries, most of the Swedish system 4. Medicaid in the USA 5. Mexico
OECD (1987)	• Coverage • Funding • Ownership	1. National health service 2. Social insurance 3. Private insurance	1. Great Britain 2. Germany 3. USA

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Moran (1999); classification of countries: see also Burau and Blank (2006)	• Consumption • Provision • Production	1. Entrenched command and control state 2. Supply state 3. Corporatist state 4. Insecure command and control state	1. Great Britain, Sweden 2. USA 3. Germany 4. Greece, Italy, Portugal
Bambra (2005)	• Private expenditure • Private hospital beds • Coverage	1. Social democratic 2. Conservative-corporatist 3. Liberal	1. Canada, Denmark, Finland, New Zealand, Norway, Sweden, UK 2. Austria, Belgium, France, Germany, Ireland, Italy, Japan, Netherlands, Switzerland 3. Australia, USA
Wendt et al. (2009)	Role of the state, societal and market actors in: • Financing • Service provision • Regulation	1. State healthcare system 2. Societal healthcare system 3. Private healthcare system	1. Great Britain, Scandinavian countries 2. No ideal-type; Germany represents a societal-based mixed type 3. No ideal-type: United States represents a private-based mixed type

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Wendt (2009)	- Health expenditure - Public-private mix of financing - Out-of-pocket - Healthcare provision - Entitlement to care - Payment of doctors - Patients' access to providers	1. Health service provision oriented type 2. Universal coverage – controlled access type 3. Low budget – restricted access type	1. Austria, Belgium, France, Germany, Luxembourg 2. Denmark, Great Britain, Sweden, Italy, Ireland 3. Portugal, Spain, Finland
Wendt (2014)	- Health expenditure - Public-private mix of financing - Out-of-pocket - Healthcare provision - Payment of doctors - Patients' access to providers	1. High supply type 2. Controlled access type 3. Controlled access – high supply type 4. Low administrative capacity – low supply type	1. Austria, Germany, Canada, Japan, New Zealand, Luxembourg, Belgium, France 2. Australia, Estonia, Great Britain, Italy, Hungary, Slovak Republic, Poland, Slovenia, Denmark, Ireland, Netherlands, Czech Republic 3. Finland, Portugal, Spain, Iceland, Sweden 4. Israel, Turkey
Reibling (2010)	- Gatekeeping - Cost-sharing - Provider supply - Technology supply	1. Financial incentive states 2. Weakly regulated and high supply states 3. Strong gatekeeping and low supply states 4. Mixed regulation type	1. Austria, Belgium, France, Sweden, Switzerland 2. Czech Republic, Germany, Greece 3. Denmark, Netherlands, Great Britain, Poland, Spain 4. Finland, Italy, Portugal,
Reibling, Ariaans, Wendt (2018)	- Resources - Public-private mix - Primary care orientation - Prevention - Access regulation - Quality	1. Supply & Choice oriented public type 2. Performance & Primary care oriented public type 3. Regulation oriented public type 4. Low Supply & Performance public type 5. Supply & Performance oriented private type	1. AT, AU, BE, CZ, DE, FR, IE, LU, IS, SI 2. FI, JA, NO, NZ, PT, SE 3. CA, DK, ES, IT, NL, UK 4. EE, PL, HU, SK 5. CH, US

Data and Methods

- 27 Indicators, 29 cases
- 24 Cluster Analysis: (16 hierarchical (8 wards, 8 average), 8 k-means)
  - No clear number of clusters
  - Using two different standardizations (z and range) and two different metrics/ distance measures (Gower, Euclidean)
- Calculating how often two countries are in the same cluster

Data and Methods

- Calculating full and partial memberships in clusters
  - Full membership: benchmark of 0.66
  - Partial membership: benchmark of 0.5
  - *Additional rule: each country has to have ties to at least half of the other countries in the cluster*

Means, Standard Deviations, Mins and Maximums of all variables

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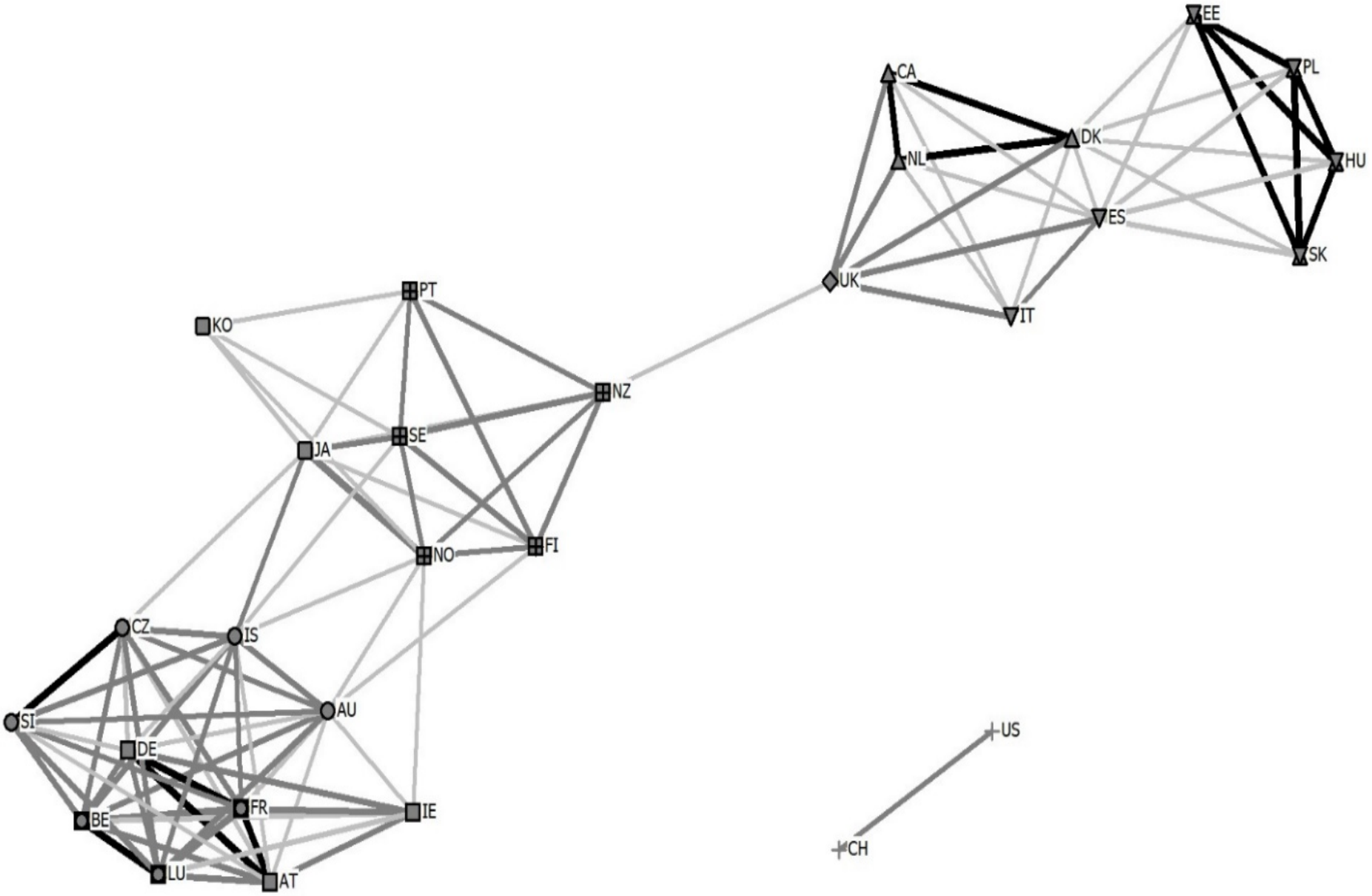
Variable	Mean	Standard Deviation	Minimum	Maximum
Resources				
Health expenditure per capita in US $, PPP	3848.93	1565.55	1518	8559
Number of general medical practitioners[1]	0.99	0.51	0	2
Public-private Mix				
Public health expenditure[2]	75.07	8.73	49	85
Private household out-of-pocket expenditure[2]	17.75	6.6	7	37
Remuneration of specialists	0.38	0.49	0	1
Access Regulation				
Access Regulation Index	1.72	1.33	0	3
Cost Sharing for GP visits	0.59	0.50	0	1
Choice restrictions	0.48	0.51	0	1
Primary Care Orientation				
Health expenditure on outpatient care[2]	27.27	6.6	17	49
Ratio of general practitioners/specialists	0.52	0.31	0	1
Performance				
Daily smokers in %[3]	19.12	3.78	12	26
Alcohol consumption in liters[3]	9.57	1.75	6	12
Quality Sum Index	0	0.52	-0.87	1.11

	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6	Cluster 7	Cluster 8	Cluster 9
>=0,66 and >= 0.5 cluster ties	EE	AT	AU	FI	CA	ES	CH	JA	KO
	HU	DE	CZ	NO	DK	IT	US		
	PL	IE	IS	NZ	NL	(UK)			
	SK	FR	SI	PT	UK				
		(BE)	BE	SE					
		(LU)	LU						
			(FR)						
>=0,5 and >=0,5 cluster ties		AU	AT	JA	ES	CA			
		CZ	DE	KO	IT	DK			
		IS	IE			NL			
		SI							
strongest tie in the full cluster	all ties 1.0	BE-LU_1.0 AT_DE_1.0	BE-LU_1.0	NZ_FI_0.84 NZ_SE_0.84	CA_NL_0.97	UK_ES_0.72 UK_IT_0.72	CH_US 0.66		
ties >= 0,9	all	LU_BE AT_DE DE_FR FR_AT	LU_BE CZ_SI		CA_NL NL_DK DK_CA				
number of ties in the full cluster and	6/6 (100%)	13/15 (87%)	20/21 (95%)	9/10 (90%)	6/6 (100%)	3/3 (100%)	1/1 (100%)		
number of ties in the full+partial	6/6	42/45	42/45	18/21	15/15	15/15	1/1		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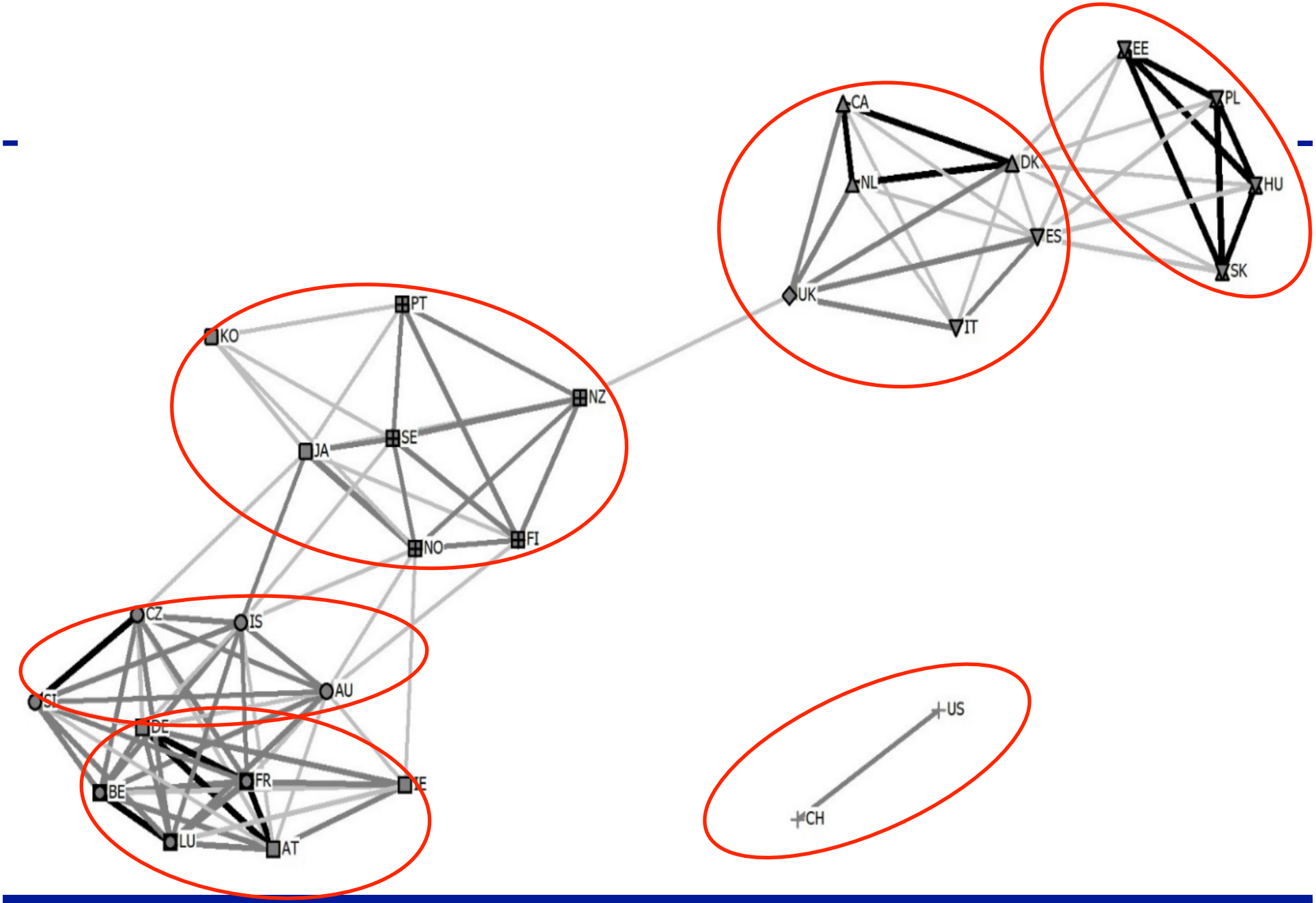
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Overview of cluster labels and characteristics

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	Supply-and choice- oriented public systems	Performance- and primary-care-oriented public systems	Regulation-oriented public systems	Low-supply and low performance mixed systems	Supply- and performance-oriented private systems
	AU, AT, BE, CZ, DE, FR, IE, IS, LU, SI	FI, JA, KO, NO, NZ, PT, SE	CA, DK, ES, IT, NL, UK	EE, HU, PL, SK	CH, US
Resources (expenditures/ doctors)	medhigh/ high	medium/ medium	medium/ medium	low/ low	high/ medium
Public-private mix (public financing/private financing/ fee-for-service)	high/ medium/ FFS	high/ medhigh/ Salary	high/ medium/ Salary	medium/ high/ FFS	low/ medhigh/ FFS
Social rights regulations (access/ choice/ disincentives)	low/ no/ yes	medium/ yes/ yes	maximum/ yes/no	maximum/some/ no	none/ yes/ yes
Primary care orientation (expenditures/ doctors)	low/ high	medium/ high	medium/ medium	low/ low	high/ medium
Performance (smoking prevention/alcohol prevention/system quality)	medium/ high/ medlow	low/ medium/ high	medium/ medium/ medhigh	high/ high/ low	low/ medium/ high

Hypotheses on health inequalities

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	AU, AT, BE, CZ, DE, FR, IE, IS, LU, SI	FI, JA, KO, NO, NZ, PT, SE	CA, DK, ES, IT, NL, UK	EE, HU, PL, SK	CH, US
Resources (expenditures/ doctors)	medhigh/ High (+)	medium/ medium (+)	medium/ Medium (+)	low/ low (--)	high/ medium
Public-private mix (public financing/private financing/ fee-for-service)	high/ medium/ FFS (+)	high/ medhigh/ Salary (+)	high/ medium/ Salary (++)	medium/ high/ FFS (-)	low/ medhigh/ FFS (--)
Social rights regulations (access/ choice/ disincentives)	low/ no/ yes (-)	medium/ yes/ yes (+)	maximum/ yes/no (++)	maximum/some/ no (++)	none/ yes/ yes (-)
Primary care orientation (expenditures/ doctors)	low/ high	medium/ high (+)	medium/ medium	low/ low (--)	high/ medium (+)
Performance (smoking prevention/alcohol prevention/system quality)	medium/ high/ medlow (-)	low/ medium/ high (+)	medium/ medium/ medhigh (+)	high/ high/ low (--)	low/ medium/ high (+)

The supply- and choice oriented public systems

- The first system is characterized by a high level of both financial and human resources which come primarily from public financing. Access to these resources is not strongly regulated and citizens have free choice among providers. Specialists provide their service on a fee-for-service basis which potentially also generate induced demand. At the same time, this system has the highest share of general practitioners compared to all other systems. Despite high generosity supply, this type has a low performance both in terms of prevention and care quality for non-communicable diseases. The majority of the countries from this cluster organize their healthcare based on social insurance.

The performance- and primary-care-oriented public systems

- The second type is also dominated by public financing but spends both less money and uses less doctors for healthcare provision. Resources are much stronger regulated: Access to specialists is limited by gatekeeping elements and choice among providers is regulated; specialists are paid by salary. We see the focus of this system type in its primary care orientation with both relatively high spending in the outpatient sector and a comparatively high share of primary care doctors compared to specialists. Moreover, this cluster is characterized by high performance in prevention (particularly smoking) and quality of care. The majority of countries are considered National Health Service countries.

The regulation-oriented public systems

- The third system has similarities with the second type in terms of a medium level of resources which come primarily through public funding. We consider the outstanding feature of this cluster in its reliance on public regulation. This type has the highest level of access regulation and also limits choice to providers. The system is also characterized by the absence of formalized cost sharing and the lowest level of out-of-pocket expenditures. It has a lower level of primary care orientation than the previous cluster and also a lower performance in both prevention and quality of care.

The low-supply and low-performance mixed systems

- The fourth system stands out by a low level of resources (both expenditures and doctors). While still almost three quarter of expenditures come from public financing, this type is the leader in out-of-pocket payments for healthcare. These systems have strong access and some choice regulations but no institutionalized national cost sharing which conflicts with the high out-of-pocket expenditures. This system has the lowest primary care orientation of all five clusters and also performances lowest on both prevention and quality of care indicators.

The supply-and-performance oriented private systems

- The final system is like the first cluster characterized by a high supply, which however comes primarily from high healthcare expenditures. Due to the strong role of private financing and out-of-pocket expenditure, we have labeled it private system even though public resources are in the majority. National access regulations do not exist, albeit private insurance plans can have such regulation. More importantly, however, they use cost sharing regulations such as deductibles to regulate access to care which play almost no role in the other system types. This type spends the largest share on outpatient care and also has a medium GP-to-specialist ratio. The second distinct characteristic we would argue is its high level of performance which distinguishes it from the supply-and choice-oriented public system which is also generous but which ends up with mediocre performance.