

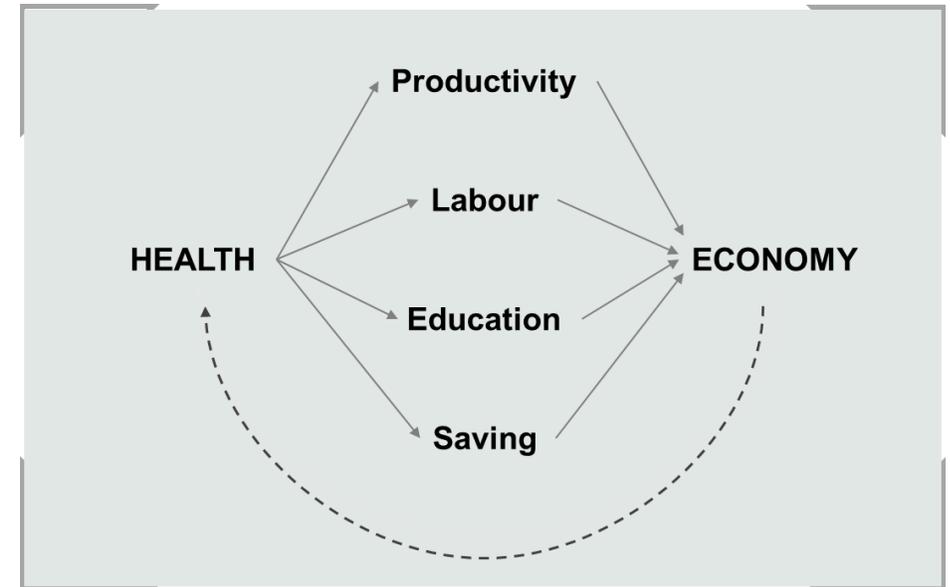
Health workforce shortage in the EU27 in the light of the System of Health Accounts (SHA)

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Why must we integrate labour accounts into SHA -The System of Health Accounts?

1. Health workers determine health decisions
2. Health workers shortages are critical for health systems
3. Health workers are of high interest to the public
4. Health workers are the most costly factor of producing health care
5. Integration of health workers is key for comparability
6. Integration allows to check the several indicators like cost of illness, labour coefficient, labour intensity, relative wages, etc.
7. Integration is necessary for needs assessment



WHO model of health and economic growth (Source: Decaillet 2007)

Why are labour accounts not yet integrated?

- Outcome measurement as priority
- Complexity, missing statistical resources, workload in ESS

However, there are experimental statistics

Health labour accounts

Basic equations:

Health workforce = employed + unemployed

Total jobs = filled jobs + job vacancies

Health workforce shortage = job vacancies

Hours of labour supply = hours worked
+ hours sought but not worked

Total labour cost = total labour income
+ Employment related costs
+ Payroll tax
- employment subsidies

Further dimensions: education, training,
and migration

Basic Building Blocks



Source: UNECE

SNA, SHA, HLA use different but overlapping classifications

Boundary of health industries differs in SNA (NACE 86, 87-88), SHA, and German HLA

- It is possible to link existing accounting tools by activities/ industries
- Differences in measurement of production, expenditures, employment, and jobs needs to be taken into account

Industries	Boundary		
Welfare services delivered through residential institutions Welfare services for children Social counseling activities Institutions for handicapped person	NACE 87-88		
Hospital activities Rehabilitation centers Medical practice activities Dental practice activities Other outpatient health activities Inpatient day care activities Nursing services Ambulance services	NACE 86		
Long term care services through residential institutions Administration of public health programs Retail sales Other providers of medical goods Other patient transport providers Health administration and insurance Other health service activities		SHA	German HLA
Pharmaceutical production Medical device production Wholesale trade services Laboratories			

common activities/ industries

See SHA 2011 Annex For Further Information

SNA

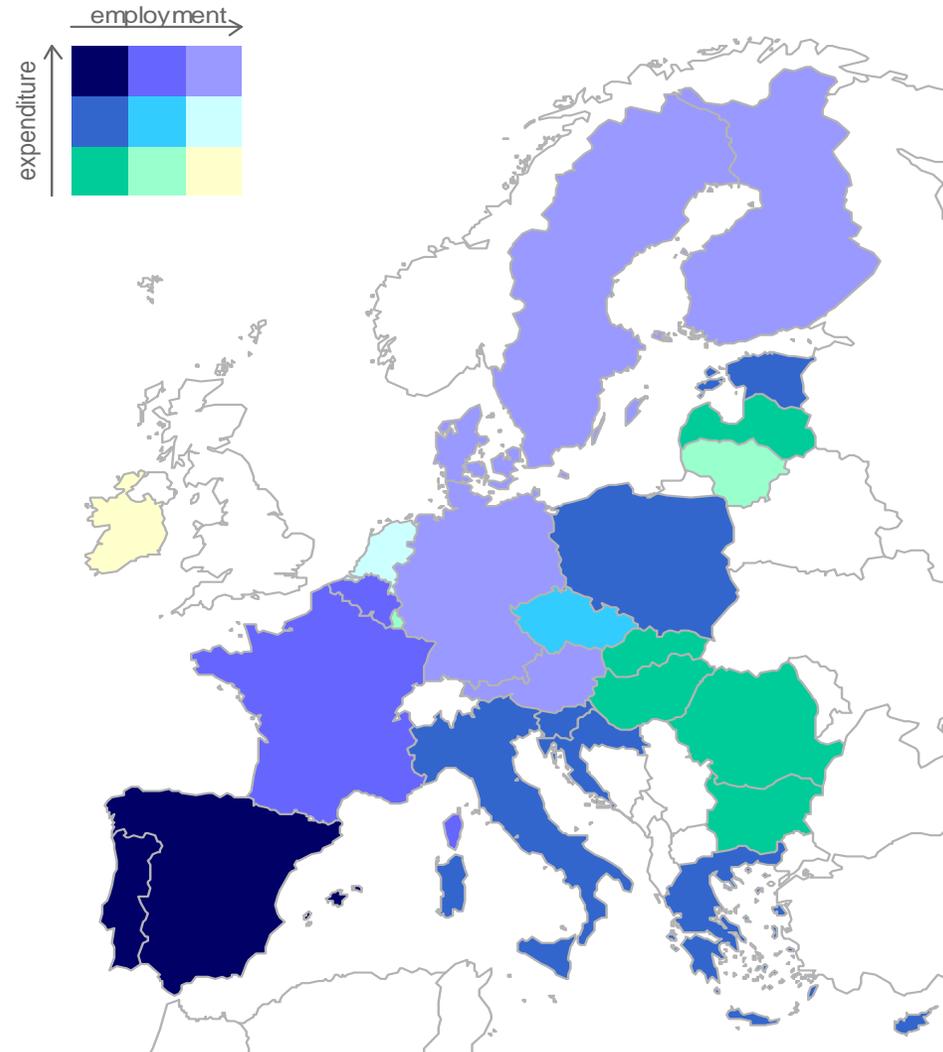
- Germany employs the highest number of persons working in health care (38.6 per 1,000 population)
- Germany and Denmark employ almost twice as much health workforce per capita as Romania, Cyprus, Croatia, Bulgaria, Greece, and Hungary
- Most Central and Eastern European States are at the lower side
- In social care the disparities of workforce densities are even higher than in health care

SNA Health workforce in health care and in social care



SHA and SNA

- The link between current health expenditure (SHA) and employment (SNA Health care) shows high employment density and high health expenditure rates in Nordic countries and Germany
- But in Portugal and Spain, high expenditure shares connect to low health workforce densities.
- Central and Eastern Europe Countries devote in general less of their GDP to health care services (pharmaceuticals and, medical devices are here excluded).
- Low expenditure ratios and low workforce densities hold for several CEEC.



HLA

- Public employment services (PES) report regularly on shortage occupations and surplus occupations in the EURES framework
- EURES indicators show that high workforce density (e.g. Germany or Finland) can be accompanied by health workforce shortage
- Detailed skills statistics allow to compile horizontal and vertical skillsmismatch

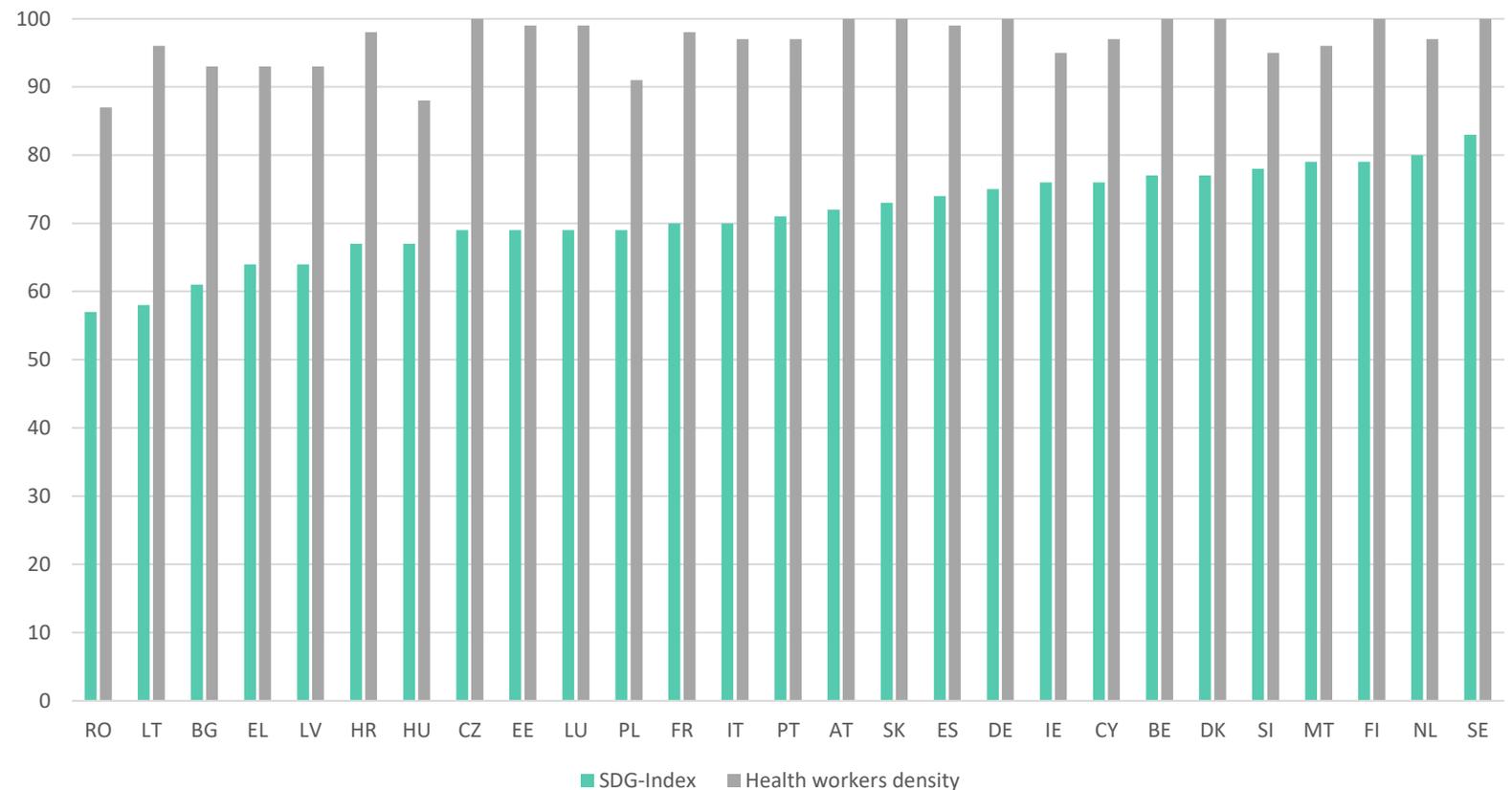
PES*	Shortage occupations								Surplus occupations							
	Medical doctors	Nursing and midwifery professionals	Other health professionals	Paramedical practitioners	Medical and pharmaceutical technicians	Nursing and midwifery associate professionals	Other health associate professionals	Personal care workers in health services	Medical doctors	Nursing and midwifery professionals	Other health professionals	Paramedical practitioners	Medical and pharmaceutical technicians	Nursing and midwifery associate professionals	Other health associate professionals	Personal care workers in health services
	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
BE Actiris		3	3			1							2		2	
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HR	1					1										
CY	3		1					1								
CZ																
DK		1						1								
EE	2		1		1	1	3	3		1						1
FI	2	1	2			1	1									
FR	1		9		1		2								1	1
DE	8				3	5	1									
HU							2	2								
IE	1	1	1													
IT						1		2								
LV	1															
LT	1	1														
LU						1										
NL	2	1	2				2	1								2
PL											1					
PT																
SK		2						4								
SI	2		1			1		2								
Total **	28	15	22	0	5	12	12	17	0	1	3	0	2	1	3	8
Number of PES	13	10			3	8	7	9	0	1	2	0	1	1	2	4

* without Iceland, Norway, UK; ** number of mentions

Needs-based shortage (GBD)

- The GBD approach to measure needs-based health workforce shortage does not show any shortage for many European countries (only minimum health workforce is accounted).
- The present GBD approach does not distinguish different types of skills and mismatches.

SDG-Index and Health workers density 2017, EU27, Source: GBD Study 2017

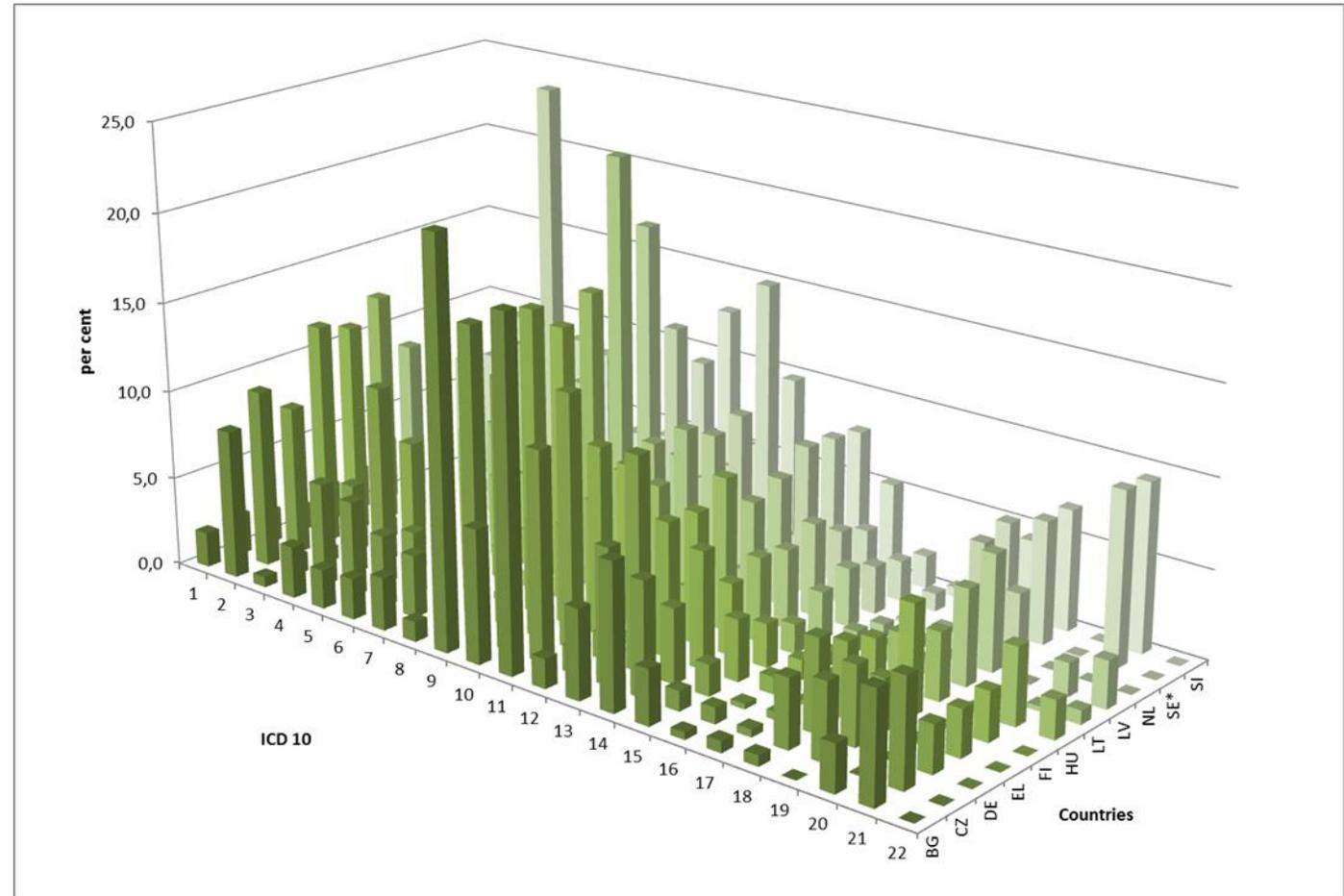


Outlook

HLA and HEDIC

- Growing interdependency among health labour markets call for further integration of accounting systems among employment services, health care, and outcomes measurement
- The HEDIC project of Eurostat has shown the feasibility of cost of illness accounts in Europe
- Technically speaking, linking HLA and HEDIC requires to link
 - diseases and conditions,
 - professional skills, and
 - labour coefficientsinto SHA
- Detailed data on working time and professional inputs across diseases are required
- Big data might be used to consider variations of health services in comorbidities and flows of skills

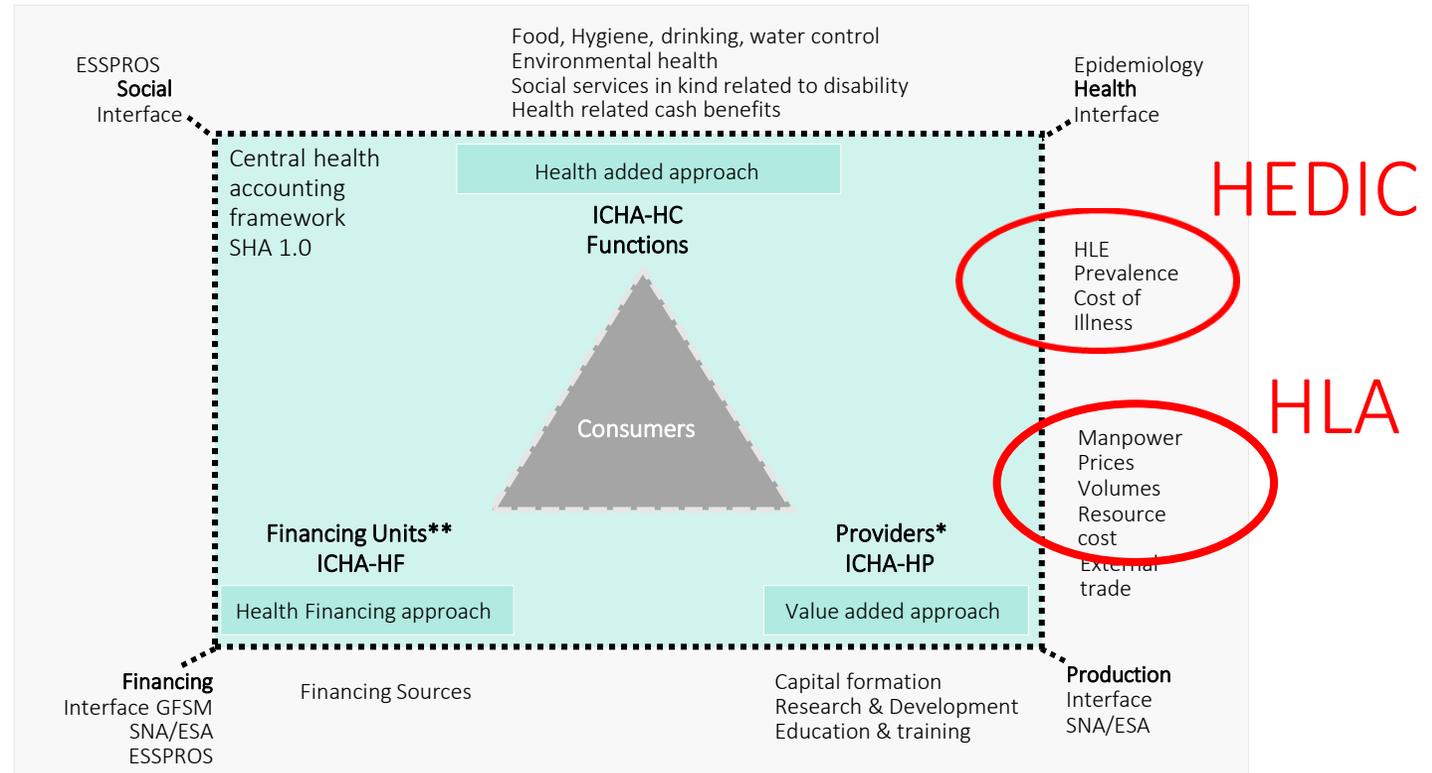
Health expenditures by disease as percentage of ACHE in 2013



Research questions

- What are the assumptions behind different models (labour market surveillance and health accounts) to measure health workforce shortage?
- How to consider health care planning norms that determine health workforce standards?
- How to integrate health workforce migration?
- How to integrate health education and training capacities (human capital accounts)?
- How to measure skillsmismatch independently of health system design?
- How can we use big data for health and labour accounts?
- How to organise integrated health / labour accounts across MS in practice?

SHA Core Framework and location of HEDIC and HLA



* incl. consumers, financing units as providers
 ** incl. consumers, providers as financing units
 ESSPROS European System of integrated Social PROtection Statistics;
 GFSM Government Finance Statistics Manual
 HLE Health Life expectancy