



GERMAN-AUSTRIAN HEALTHCARE FORUM

19. September 2023

09:00 – 09:15

Welcoming Address

Dagmar von Bohnstein, President of the German-Slovene Chamber of Commerce and Industry,
AHK Slowenien

MC Host: **Tjaša Zajc**

Welcoming Address

Wilhelm Nest, MSc, Director, Advantage Austria
for Slovenia, and Kosovo (AA)

MC Host: **Tjaša Zajc**

Welcoming Address

Alenka Kolar, PhD, Director General, Directorate
for Digitalisation in Healthcare, Ministry of Health

MC Host: **Tjaša Zajc**

9:15 – 10:30 Short presentations:

Healthcare in Focus: Presenting the Current State of the Public Healthcare Systems

- **Germany: Philipp Wien**, PhD, Director Health Economy, German Chamber of Commerce and Industry, (online)
- **Austria: Alexander Biach**, PhD, Deputy Head, Vienna Chamber of Commerce, and Industry
- **Slovenia: Petra Došenović Bonča**, PhD, Associate Professor, Faculty of Economics, University of Ljubljana

The German HealthCare System

German-Austrian Healthcare Forum, 19.09.2023

Dr. Philipp Wien, DIHK

What are the Ideal Types of Healthcare System?



Facts about the German Healthcare system

- Statutory health insurance (“GKV”) is the standard form of medical coverage and is a right given to all residents
- GKV provides inpatient, outpatient, mental health, and prescription drug coverage
- GKV is administered by about 100 competing sickness funds

But who decides what services are covered and how to provide them?

Self-administration is a primary regulation principle!

Government has high regulatory power

Examples:

- Obligatory benefit assessment for new drugs
- providing healthcare in rural areas



Government has virtually no role in the direct delivery of health care
Decision by Health insurers and service providers like doctors and pharmacies

Many Advantages

- Massive relief of the government from administrative tasks
- Greater use of expertise from the respective areas of the healthcare system
- no political influence on the direct supply
- "Balance of interests"

Few Disadvantages

- Frequently slow decision making process (legal deadlines necessary)

Self-administration is a primary regulation principle!



- The Federal Joint Committee (“G-BA”) is called small law maker
- The G-BA has 13 voting members: five representatives from associations of sickness funds, five from associations of providers, and three unaffiliated members
- Determines the services to be covered; supervised by government

Decision-making process in German healthcare System

Example

Government:

Ensuring ambulatory care near to home even in rural areas



G-BA:

Sets nationwide requirements, for example regarding the ratio of specialists per population



Regional Level:

Implemented by regional physicians' association

For example initiate measures to eliminate the undersupply

Strengths and weaknesses of German Healthcare System?

The german economy needs a good healthcare system!

Be careful with
the interpretation
of international
comparisons!



- Doctors per 1 000 population: 4,3 (OECD: 3,5)
- Health Spending % GDP: 11,4 (OECD: 8,8)
- Hospital beds per 1 000 population: 7,9 (OECD: 4,4)
- Expenditure covered by compulsory prepayment (% total expenditure): 85 (OECD: 74)
- Population satisfied with availability of quality health care (% population): 85 (OECD: 71)
- Avoidable mortality, Deaths per 100 000 population (age-standardised): 175 (OECD: 199)
- In general low waiting times: 75 percent of those surveyed received an appointment with a specialist within a month (TOP 3 OECD)

German hospital reforms

- Challenges:
 - many hospital beds
 - high inpatient care ratio
 - big differences in the quality of the hospital treatment
- Principle for this reform is: “outpatient care before inpatient care”
- One key aim is to increase the quality of treatment: stricter requirements for hospitals
- legislative process is still ongoing / highly controversial

Thank you for your attention!

AUSTRIAN HEALTHCARE SYSTEM

Overview & international comparision

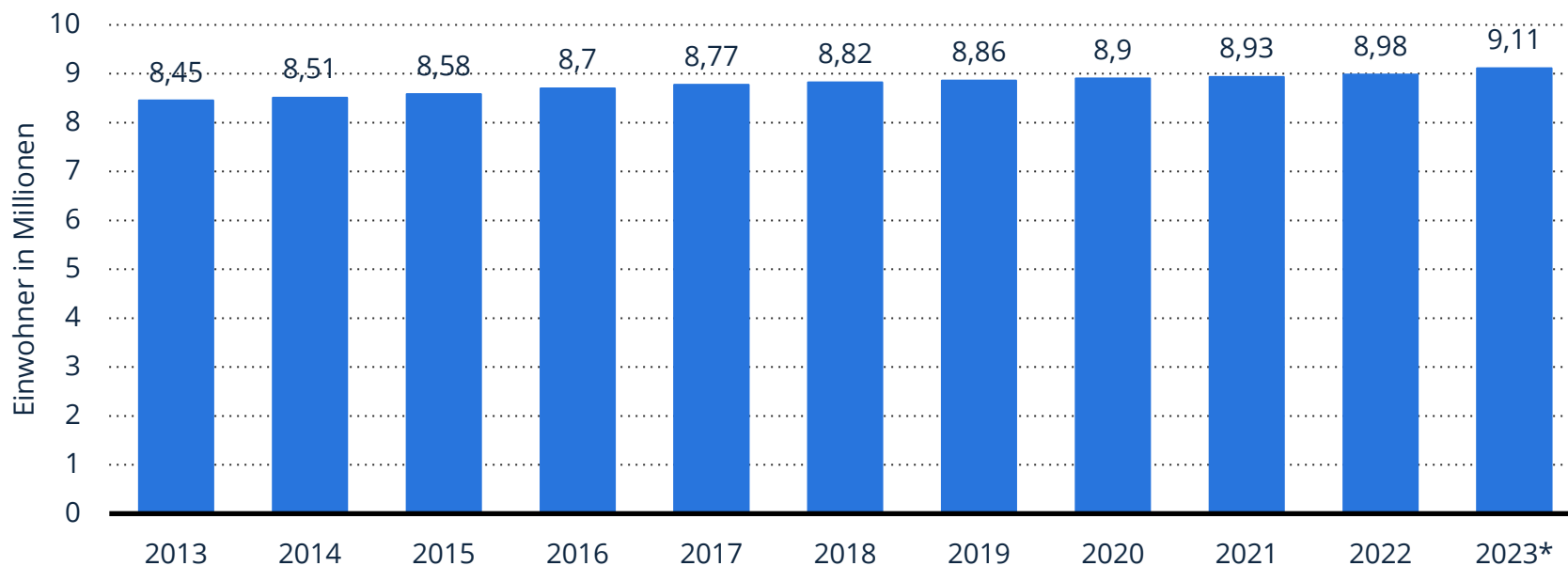
German-Austrian Healthcare Forum
19.9.2023 | Hotel Union Ljubliana

Dr. Alexander Biach
Chamber of Commerce & Industry Vienna

AUSTRIA COUNTRY FIGURES

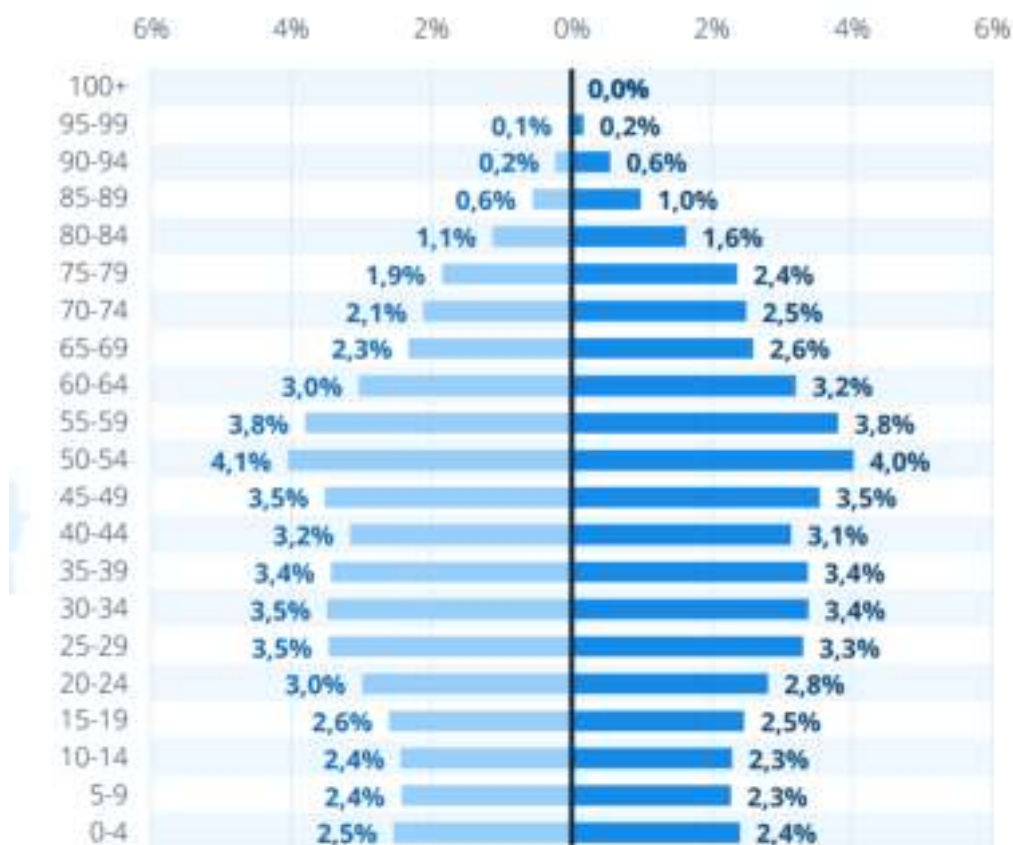
Population Austria 2013 to 2023 (in mio.)

Bevölkerung von Österreich bis 2023

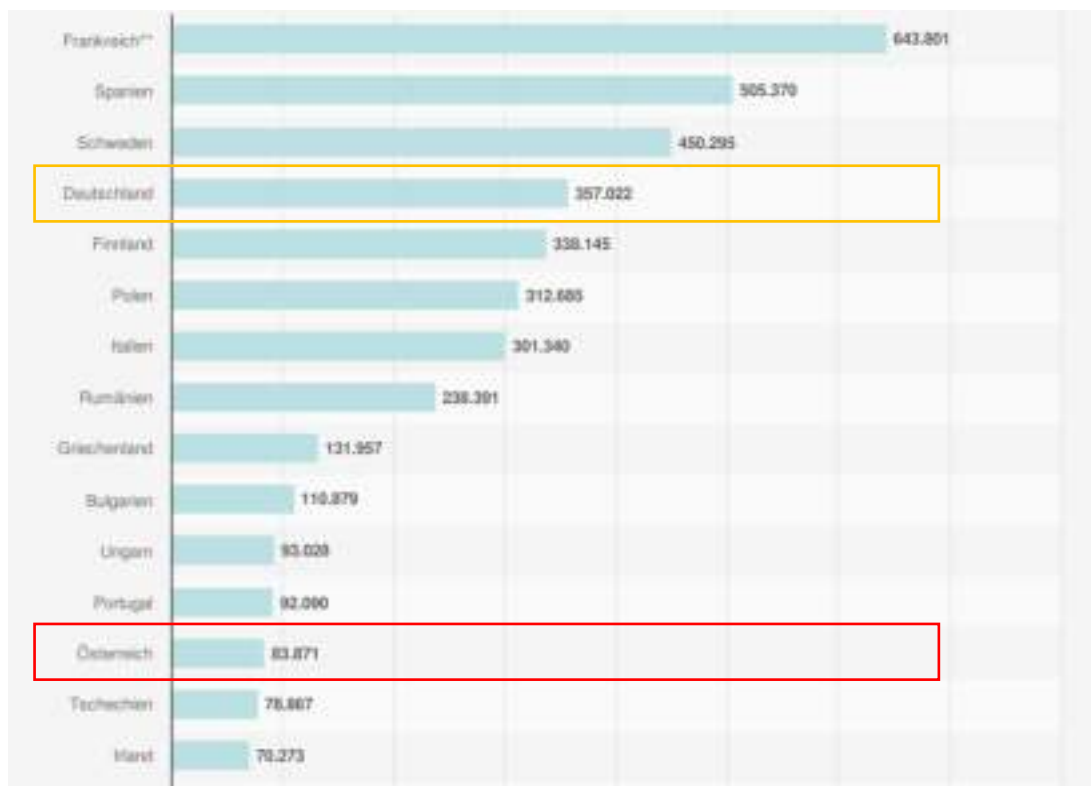


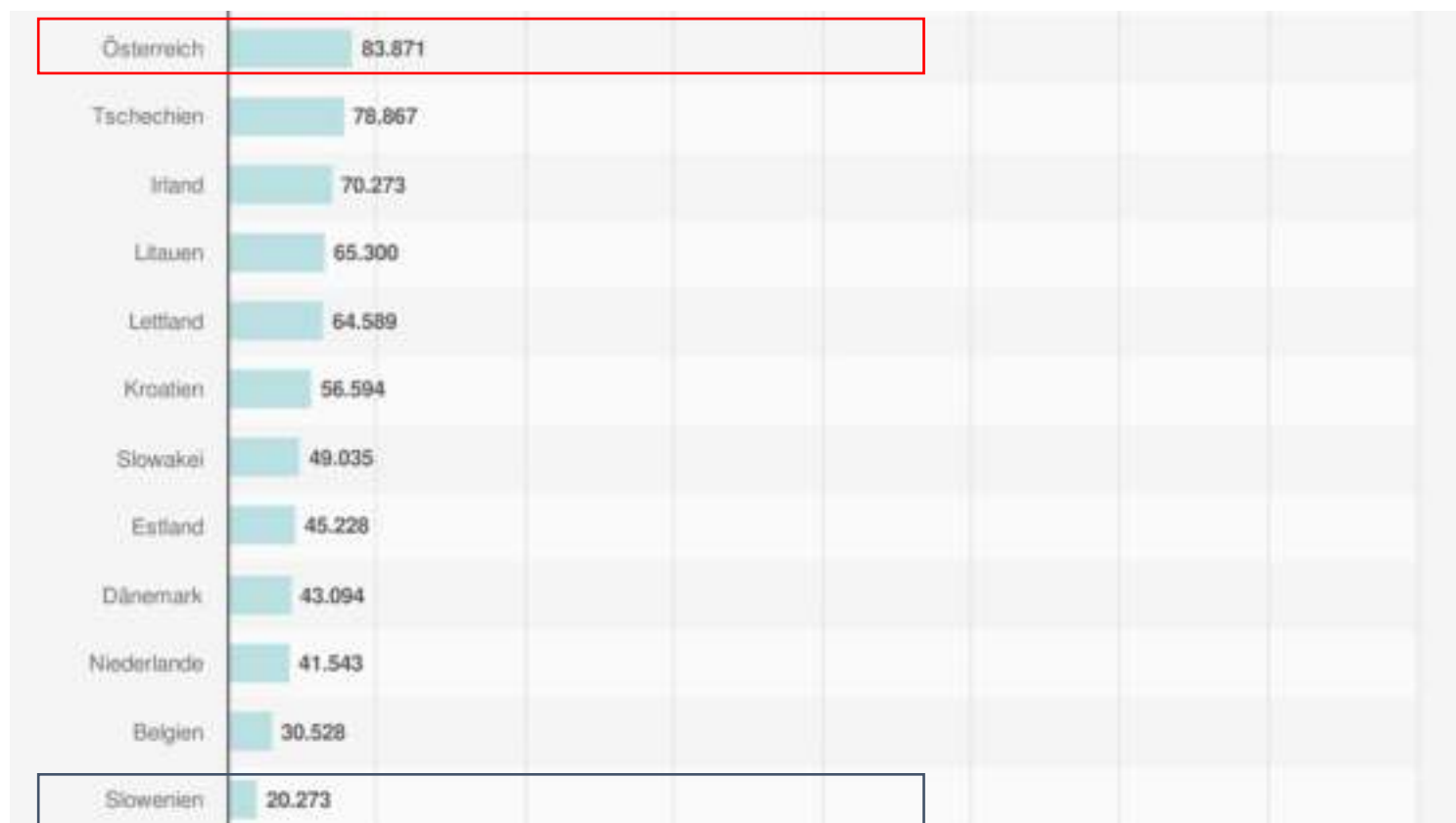
⁴ **Beschreibung:** Anfang 2023 lebten in Österreich rund 9,1 Millionen Menschen. Damit wuchs die Einwohnerzahl um 1,4 Prozent gegenüber dem Vorjahr und auf einen erneuten Höchststand. [Mehr](#)
Hinweis(e): Österreich; * Vorläufig. ** Jeweils zu Jahresbeginn. Die Werte wurden gerundet. [Mehr](#)
Quelle(n): Statistik Austria

Population pyramid Austria



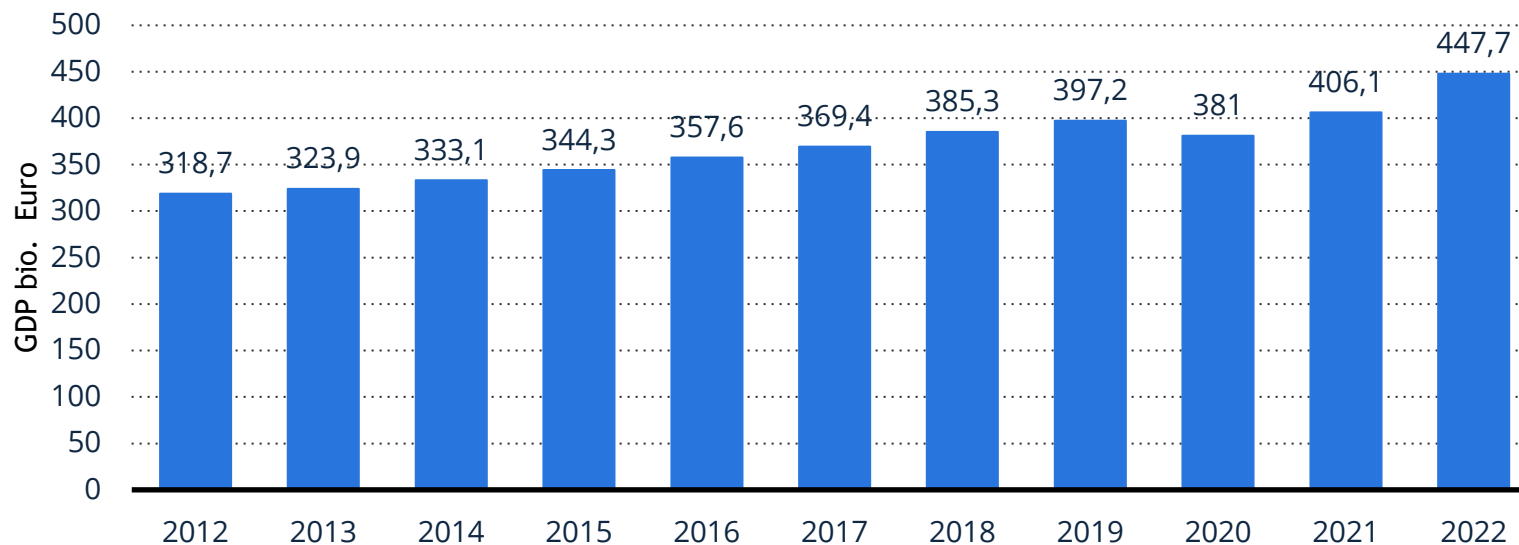
Area of Austria (13th place in EU) - 83,9 km²





Gross Domestic Product (GDP) Austria 2012 to 2022 (in billion Euros)

Bruttoinlandsprodukt (BIP) von Österreich bis 2022

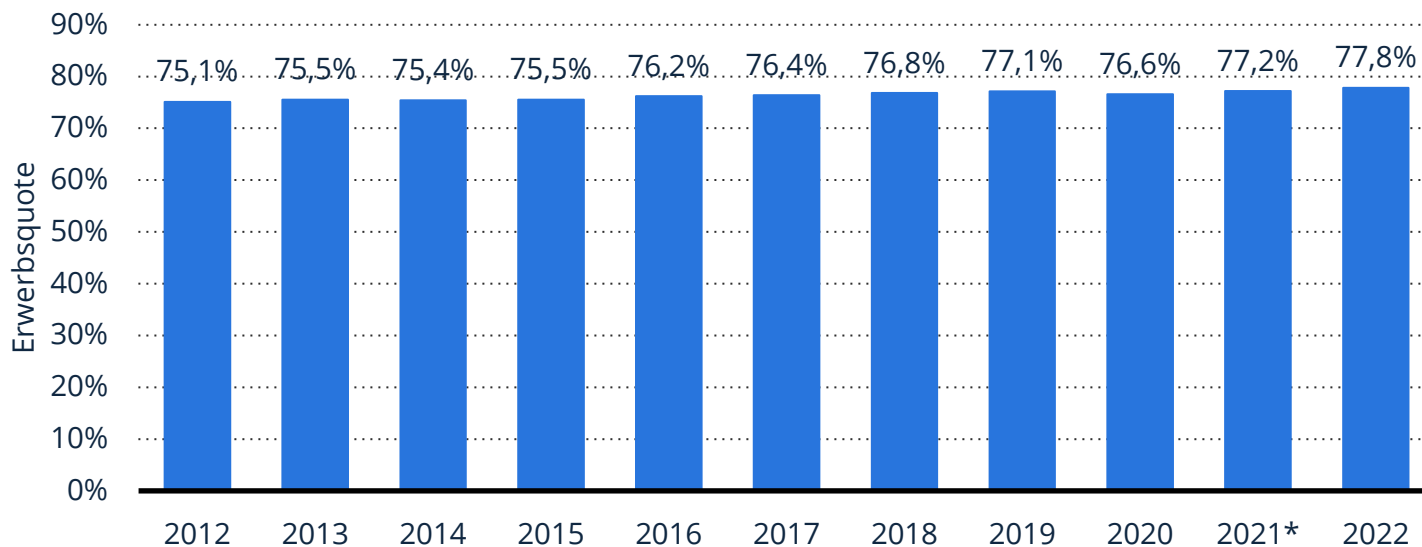


15 **Beschreibung:** Im Jahr 2022 betrug das Bruttoinlandsprodukt von Österreich rund 447,7 Milliarden Euro. Damit stieg es das zweite Jahr in Folge und auf einen erneuten Höchststand. Hierbei handelt es sich um nominelle Daten zum Gesamtniveau der Wirtschaftsleistung. Das Wirtschaftswachstum und damit die konjunkturelle Dynamik wird hingegen in der Regel an der realen, d.h. preisbereinigten Veränderung festgemacht. Das Bruttoinlandsprodukt pro Kopf wiederum ermöglicht eine grobe [...] [Mehr](#)
Hinweis(e): Österreich; nominell (zu laufenden Preisen)
Quelle(n): Statistik Austria

Employment rate Austria 2012 to 2022

Austria 78 % - Germany 80 % - Slovenia 75 %

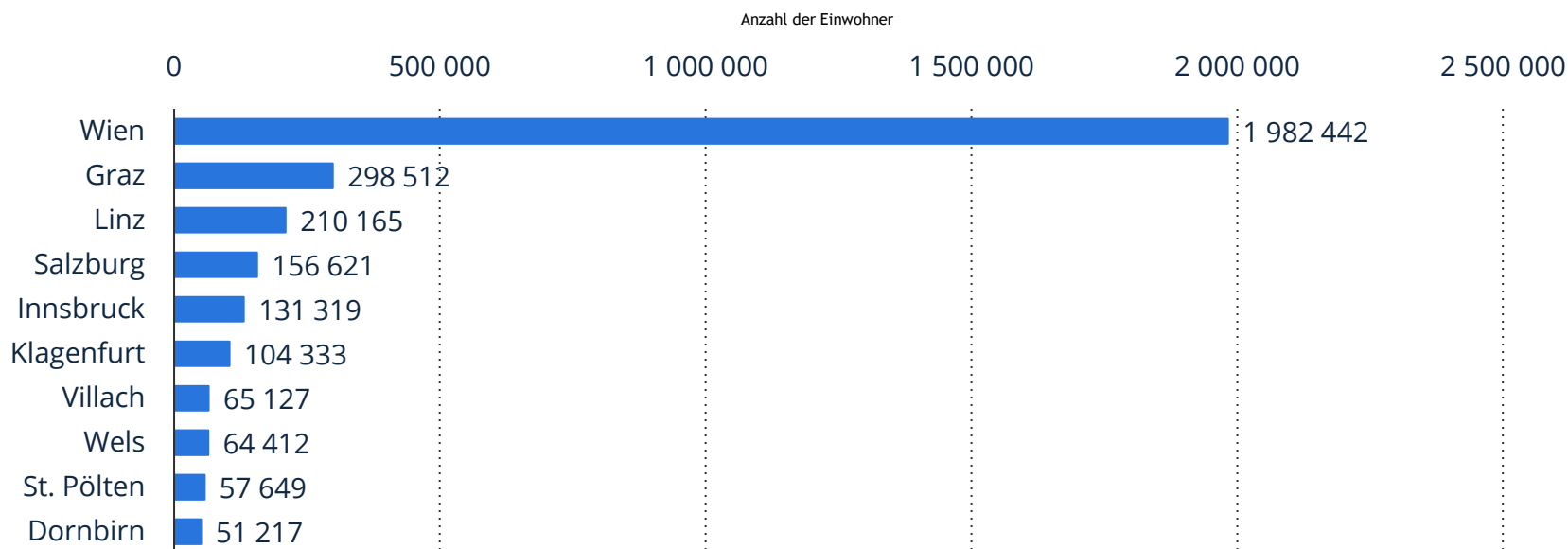
Erwerbsquote in Österreich bis 2022; Details: <https://de.statista.com/statistik/daten/studie/188794/umfrage/erwerbsquote-in-den-eu-laendern/>



Vienna is the biggest city in Austria

- 2 mio. inhabitants

Größte Städte in Österreich 2023



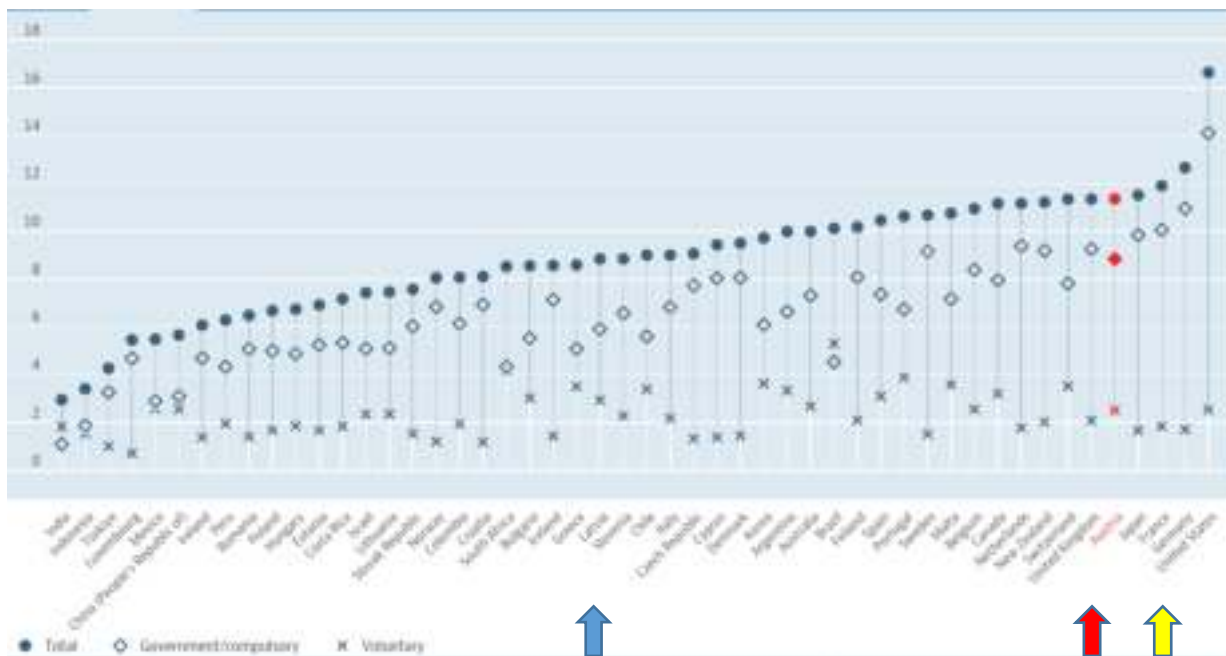
Austria as export nation



HEALTH STATUS AUSTRIA

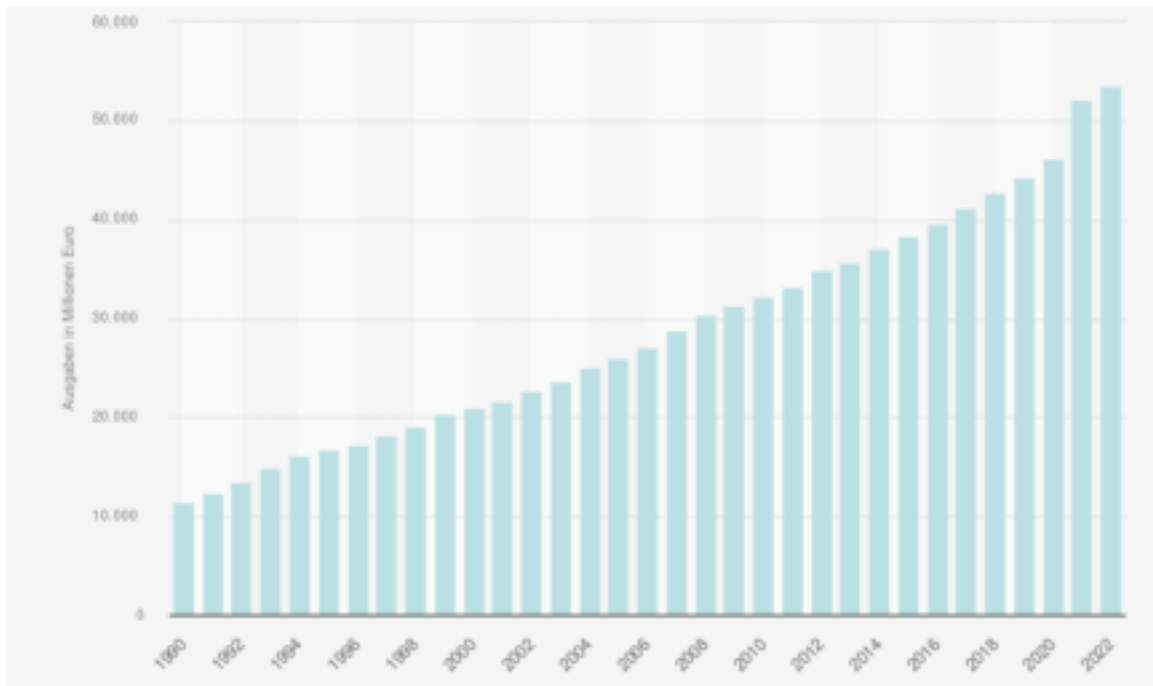
Expenses given in % of the GDP

Austria 11,4 % (2022) - Germany (12,7%) - Slovenia (8,8%)



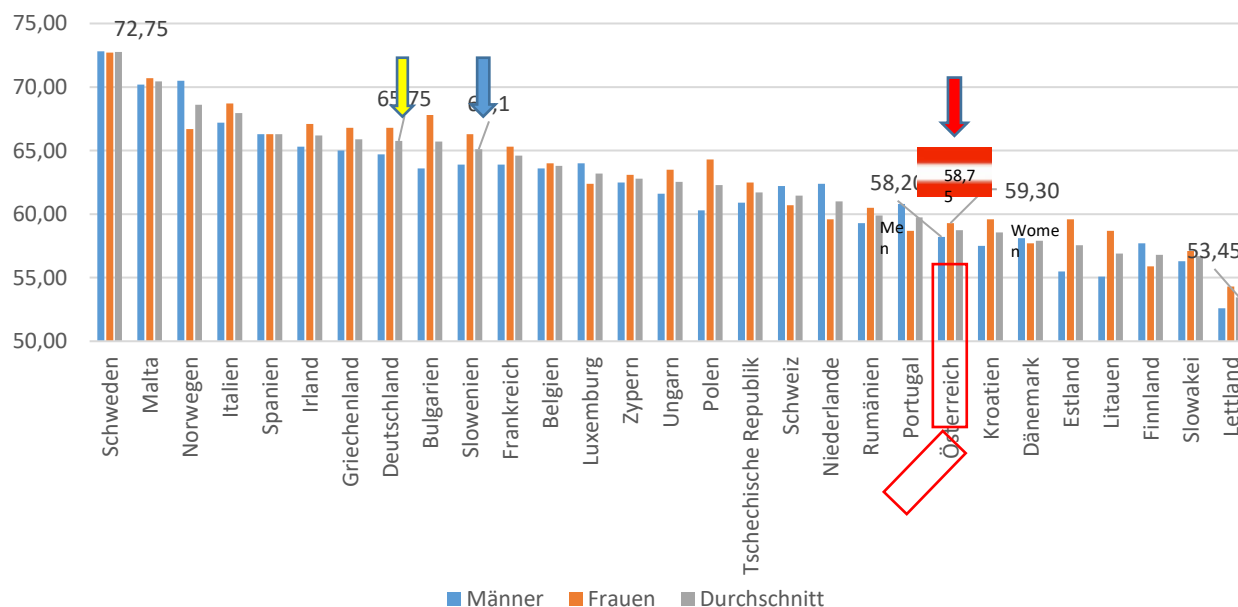
Expenses healthcare Austria (2022)

50,8 bn. (total) - 39,6 bn.(public) - 11,3 (private)



Source: Statistik Austria, (14. Juni, 2023). Gesundheitsausgaben in Österreich von 1990 bis 2022 (in Millionen Euro) [Graph]. In Statista. Zugriff am 10. September 2023, von <https://de-statista.com/statistik/daten/studie/860383/umfrage/gesundheitsausgaben-in-oesterreich/>

Healthy living years in Europe 2020



Access to healthcare

Access to health care is good, with high coverage and satisfaction

Population coverage, eligibility (2019 or nearest year)

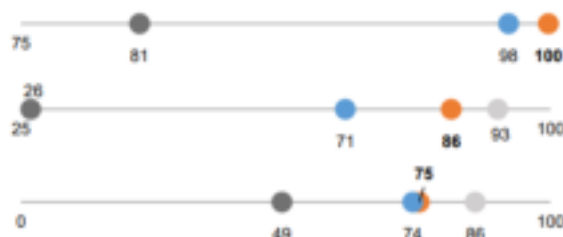
Population eligible for core services (% population)

Population coverage, satisfaction (2019 or nearest year)

Population satisfied with availability of quality health care (% population)

Financial protection (2019 or nearest year)

Expenditure covered by compulsory prepayment (% total expenditure)



● Austria
 ● Highest performer
● OECD
 ● Lowest performer

AUT	GER	SLO
99,9	100	100
86	85	85
75,2	84,6	72,8

Source: <https://www.oecd.org/austria/health-at-a-glance-austria-en.pdf>

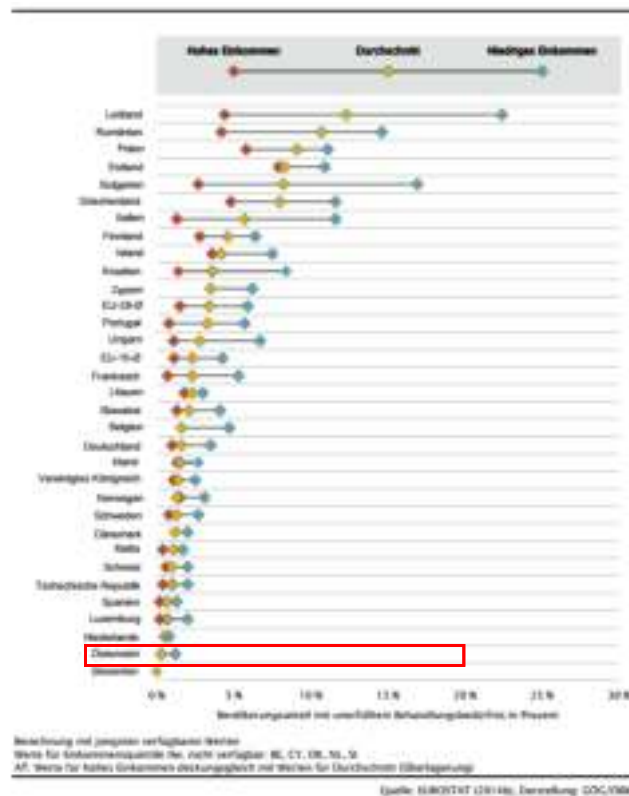
Details: [https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/1/index.html?itemId=/content/publication/ae3016b9-en/1/3/1/index.html&itemGO=oecl&itemContent=bookfigure-d1e5346](https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/1/index.html?itemId=/content/publication/ae3016b9-en/1/3/1/index.html?itemId=/content/publication/ae3016b9-en/1/3/1/index.html&itemGO=oecl&itemContent=bookfigure-d1e5346)

Unmet treatment needs

In Austria additional charges very rarely hold patients back from getting a treatment needed.

The unmet medical treatment need affects merely 0.3 % of the population (there is hardly any difference between the rich and the poor). Austria is among the leading groups of an international field in terms of treatment.

Population share with unfulfilled medical treatment demand given in percent in 2012



HEALTH INSURANCE STRUCTURE

2019 reform of the social insurance sector from 21 to 5 institutions for accident, healthcare & pension

Die Österreichische Sozialversicherung

Hauptverband der österreichischen Sozialversicherungsträger		
Unfallversicherung	Krankenversicherung	Pensionsversicherung
Allgemeine Unfallversicherungsanstalt	9 Gebietskrankenkassen 5 Betriebskrankenkassen SVA der gewerblichen Wirtschaft	Pensionsversicherungsanstalt
Versicherungsanstalt für Eisenbahn und Bergbau		
Sozialversicherungsanstalt der Bauern		
Versicherungsanstalt öffentlich Bediensteter		
		VA des österr. Notariats

Old (21 institutions)

Die Österreichische Sozialversicherung NEU

Dachverband		
Unfallversicherung	Krankenversicherung	Pensionsversicherung
Allgemeine Unfallversicherungsanstalt (AUVA)	Österreichische Gesundheitskasse (ÖGK)	Pensionsversicherungsanstalt (PVA)
Sozialversicherungsanstalt der Selbstständigen (SVS)		
VA öffentlich Bedienstete, Eisenbahn und Bergbau (BVAEB)		

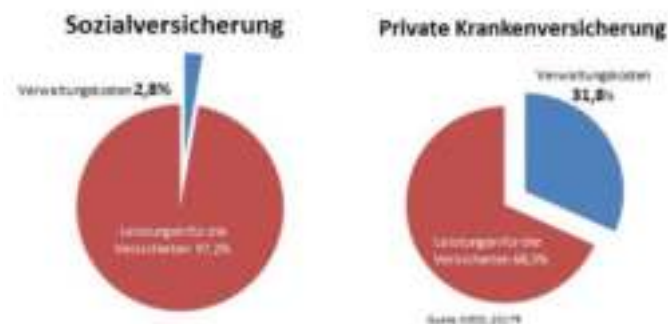
New (5 institutions)



Quelle: Eigene Darstellung: Versicherungszahlen IT. Homepage: ÖGK, SVS und BVAEB

private health care insurances

- 3,1 mio. people have private ins. (37 % population)
- different benefits cover hospital costs, pharmaceuticals, doctors' visits
- advantages: more comfort in hospital, choice of own physician
- premiums differ depend. on sex, age
- surveillance by ministry of finance
- 32 private hospitals & 25 % of the public beds in hospitals



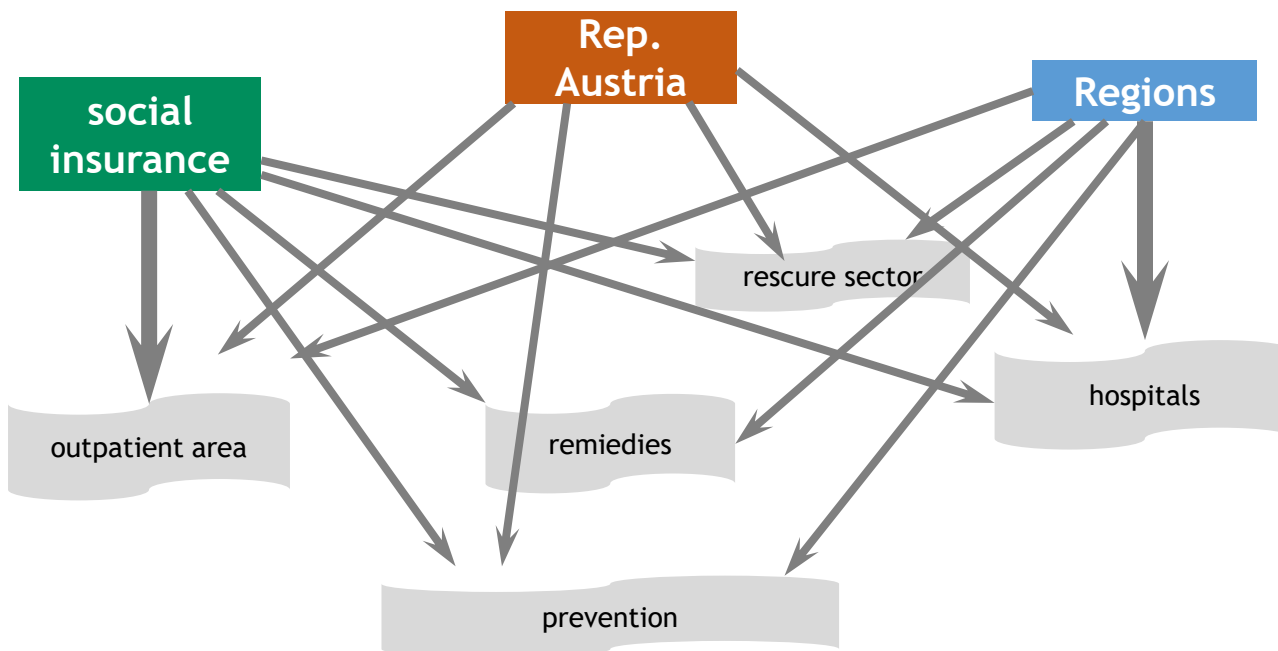
WORKING FIELDS

Biggest challenges | current reforms
future projects

working field #1

COMPETENCIES & COSTS

Lots of health competencies in Austria

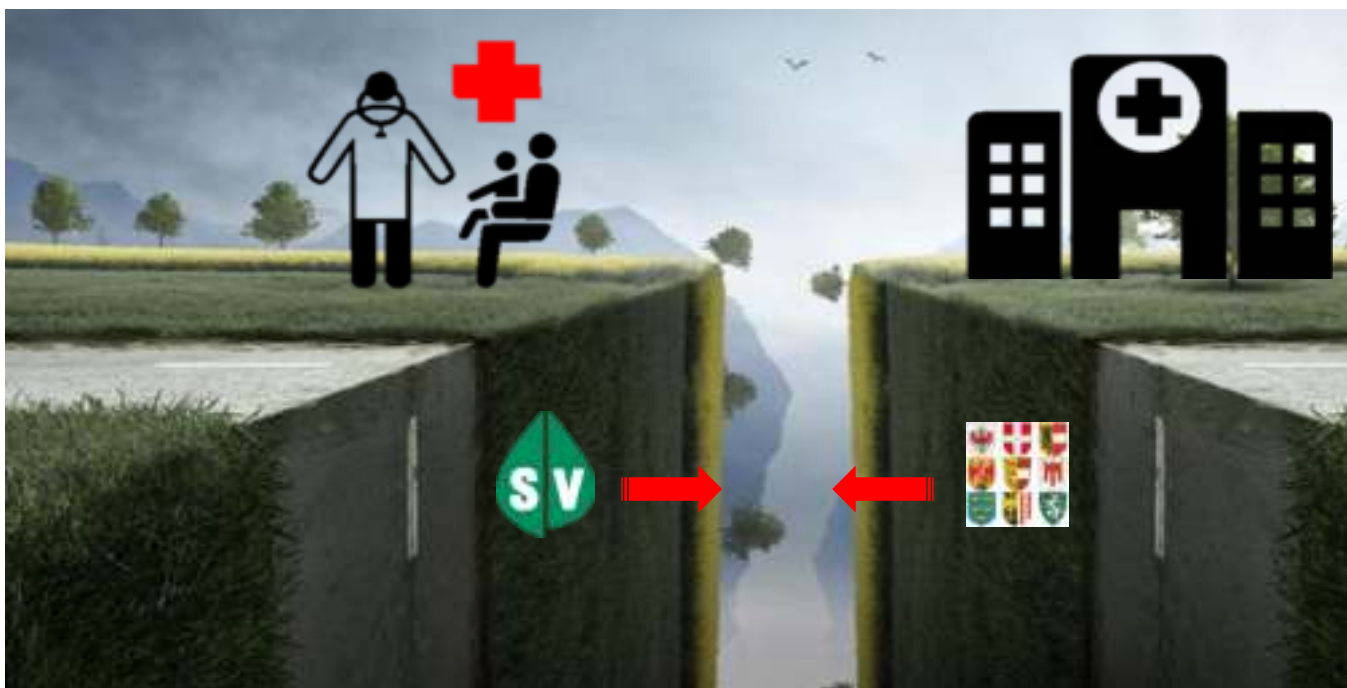


based on constitutionlaw:
Art. 15a BV-G
Art. 120a BV-G

Gap between **social insurance** (outpatient care sector)



regions/Bundesländer (inpatient care sector/hospitals)

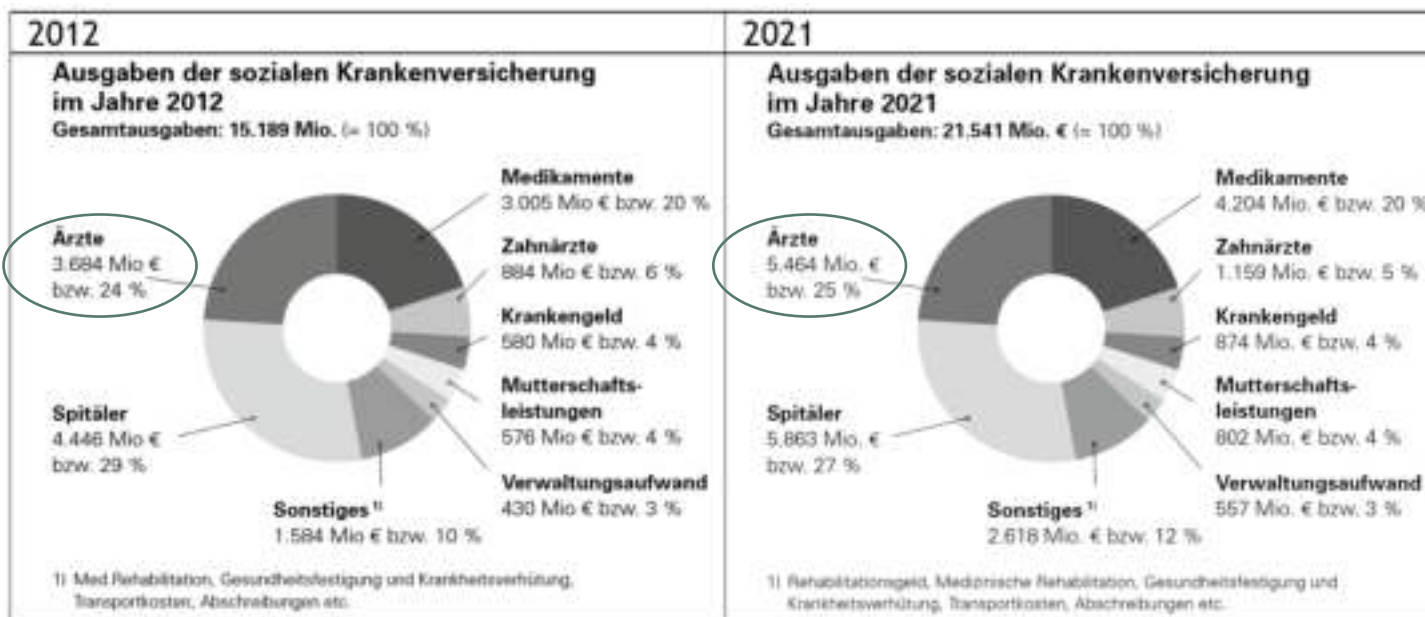


cots of hospitals rise continuously
(stationary & ambulance)

stationären Versorgung		ambulante Versorgung	
Jahr	Ö	Jahr	Ö
2012	8 985 093 104	2012	1 733 464 370
2013	9 132 476 195	2013	1 843 729 429
2014	9 304 837 727	2014	1 912 143 307
2015	9 777 463 332	2015	2 015 300 122
2016	10 108 026 657	2016	2 121 868 850
2017	10 487 096 770	2017	2 282 760 927
2018	10 707 045 892	2018	2 558 503 292
2019	10 925 210 115	2019	2 991 059 192
2020	11 318 352 982	2020	3 172 911 156
2021	11 700 244 660	2021	3 544 714 095



social insurance: spendings rise



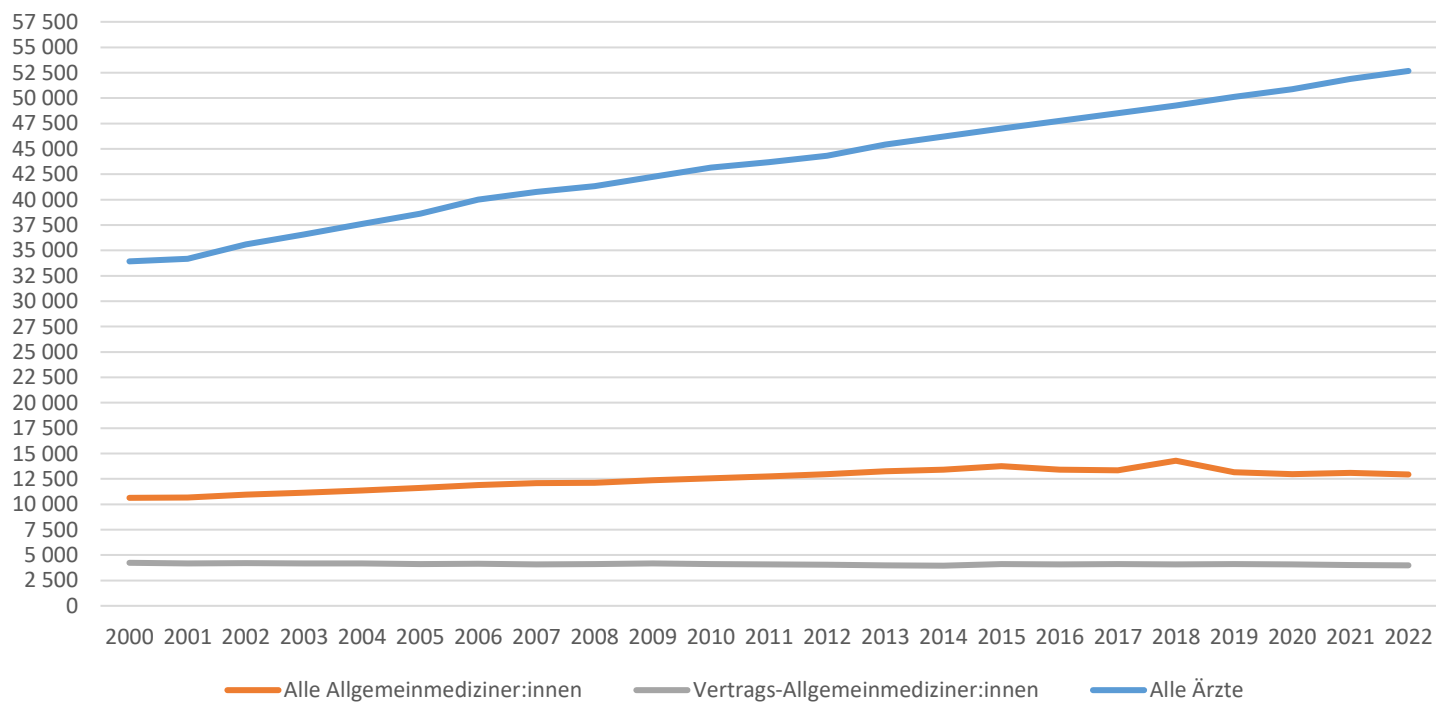
eg. **physicians** : +48 %
 outpatient care
 sector

working field #2

CONTRACT DOCTORS

low level of public doctors' contracts

Entwicklung der Allgemeinmediziner:innen



working field #3

PUBLIC DISEASES

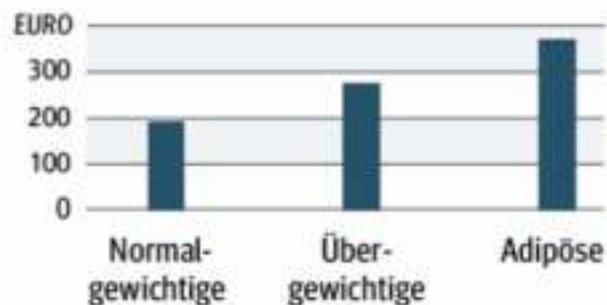
obesity: high costs for health care & sick leave

ÜBERGEWICHT: MEHR KRANKENSTÄNDE UND MEDIKAMENTE

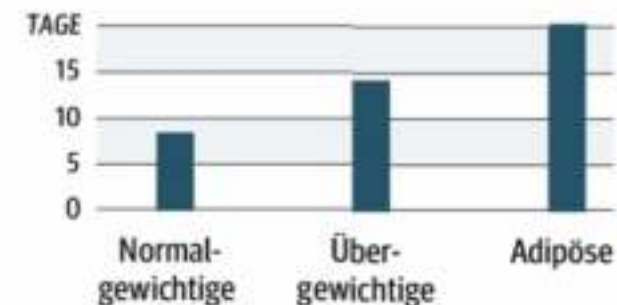
KURIER

Grafik: Breineder
Quellen: Statistik Austria,
AKS & GKK-VB

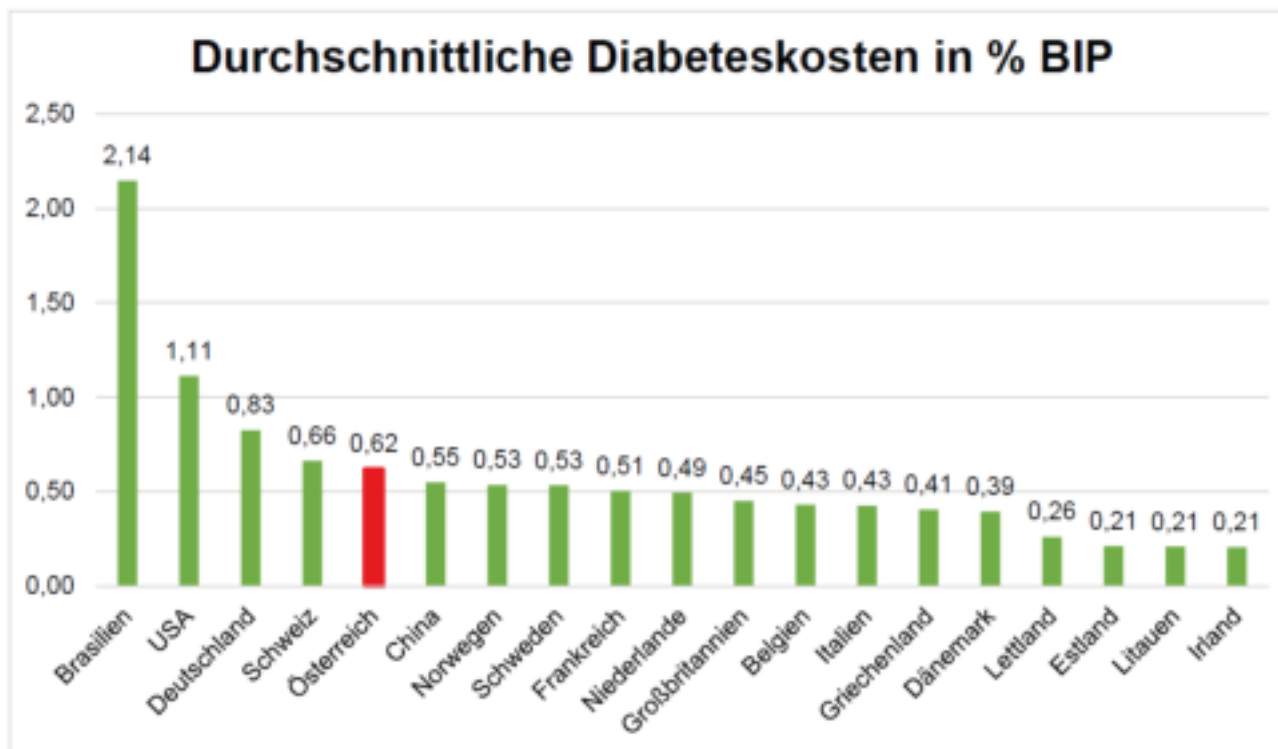
Jährliche Ausgaben für Medikamente
in Euro pro Patient



Durchschnittliche Anzahl
der Krankenstandstage pro Jahr



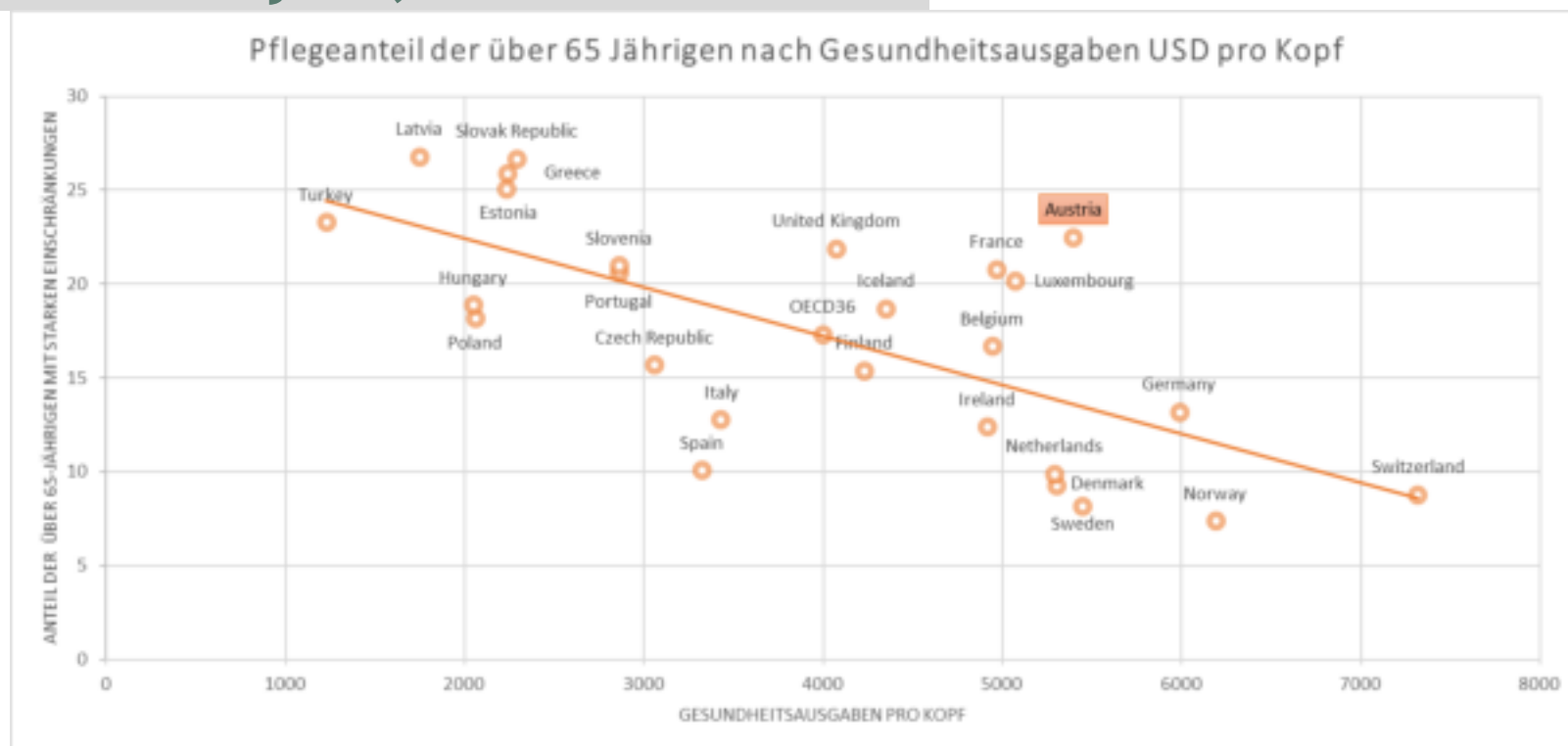
Diabetes: early diagnosis necessary



Quellen Tabelle und Grafiken: International Diabetes Federation, <https://diabetesatlas.org/atlas/ninth-edition/>, eigene Berechnungen

working field #4
LONGTERM CARE

22 % of the Austrians aged 65+ need longterm care
Germany 12,7% - Slovenia 19%



Source: https://www.oecd-ilibrary.org/sites/ae3016b9-en/1/3/10/3/index.html?itemId=/content/publication/ae3016b9-en8_csp_-ca413da5d44587bc56446341952c775efitemGO=oeclitemContentType=book#figure-d1e14926



Raus aus der Pflegefalle

von Barbara Fisa, Norbert Bachl, Alexander Biach

Aktiv sein - Pflegebedürftigkeit verhindern. 1. Aufl. 2021. 50 schwarz-weiße Abbildungen, Bibliographie....



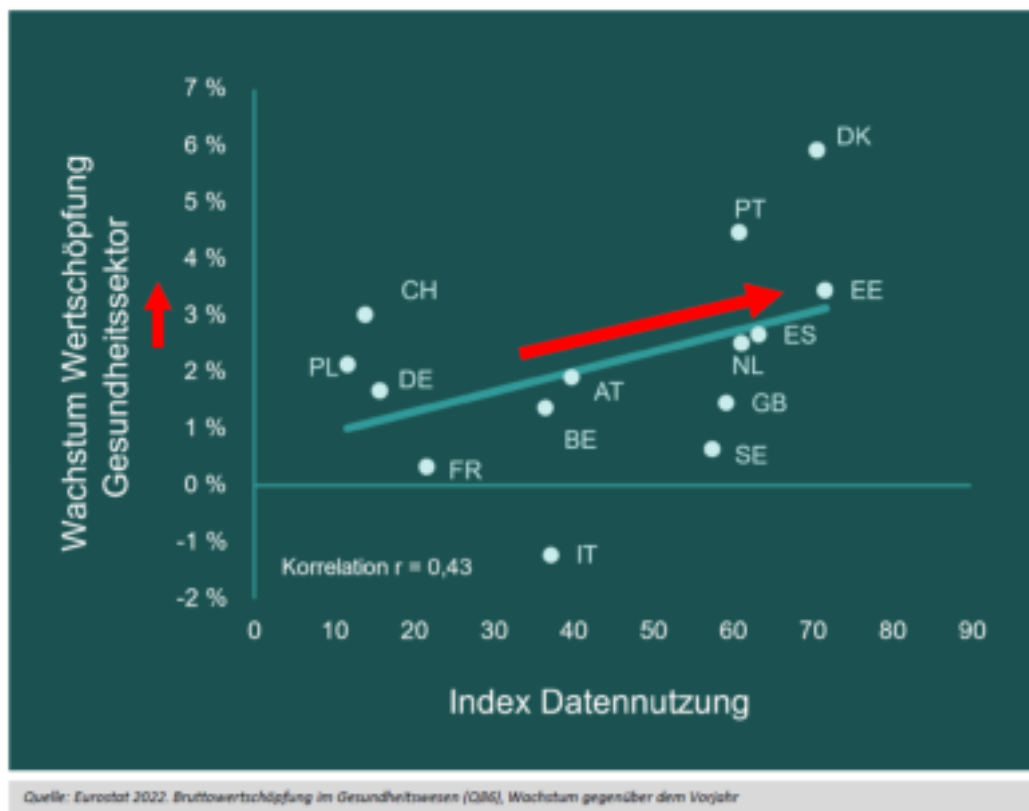
Buch (kartoniert)

Ein Großteil der chronischen Erkrankungen und deren Risikofaktoren kann durch persönliches Verhalten, also durch den Lebensstil vermieden bzw. verhindert und insbesondere deren Progredienz minimiert werden. Aus unzähligen weltweit durchgeführten epid ... **weiterlesen**

<https://www.hugendubel.de/de/buch/kartoniert/barbara-fisa-norbert-bachl-alexander-biach-raus-aus-der-pflegefalle-40450155-produkt-details.html>

working field #5
DIGITALIZATION

additional gross value added of 132 mio. Euro

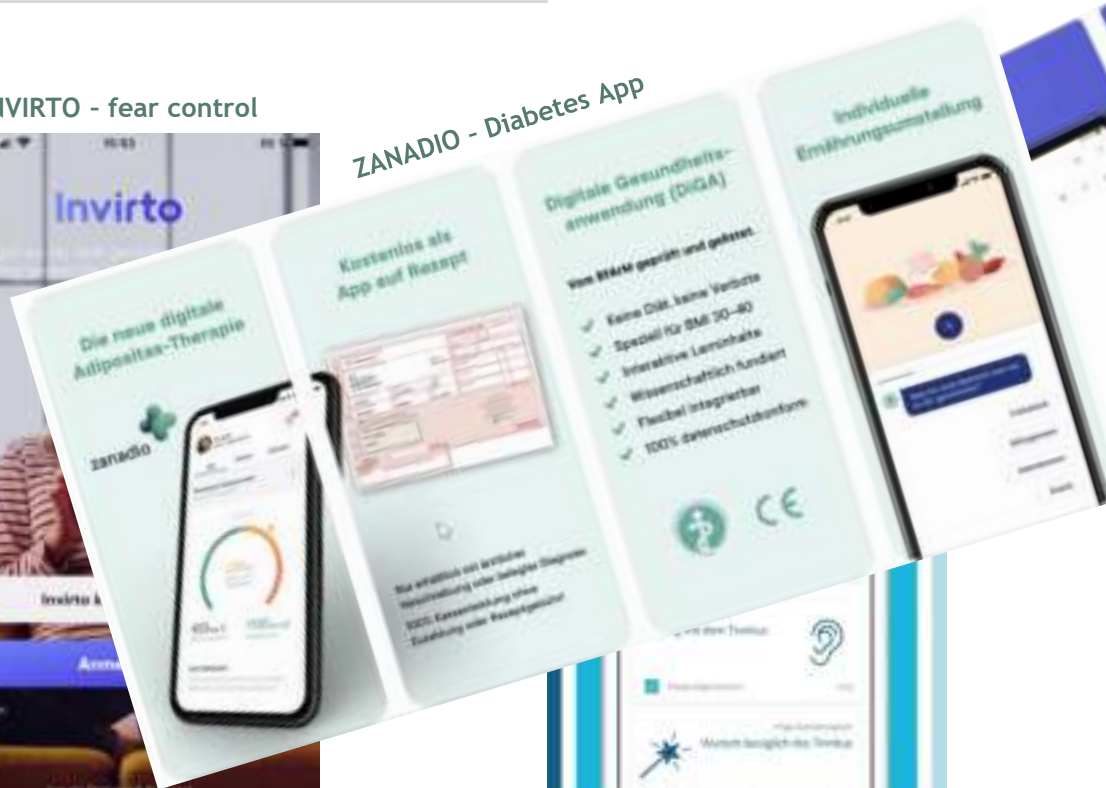


Digital Health Apps

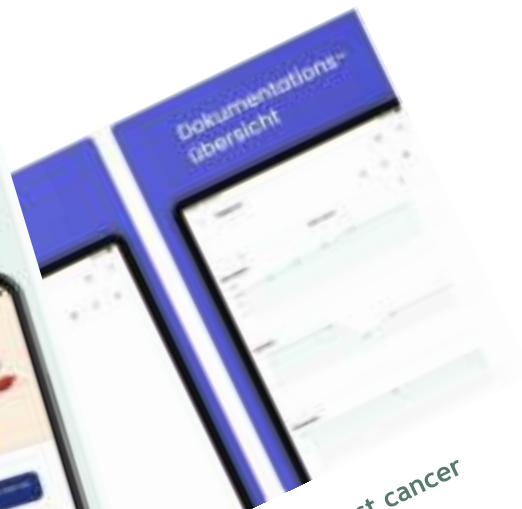
INVIRTO - fear control



ZANADIO - Diabetes App



CANKADO - breast cancer



KALMEDA - Tinnitus App

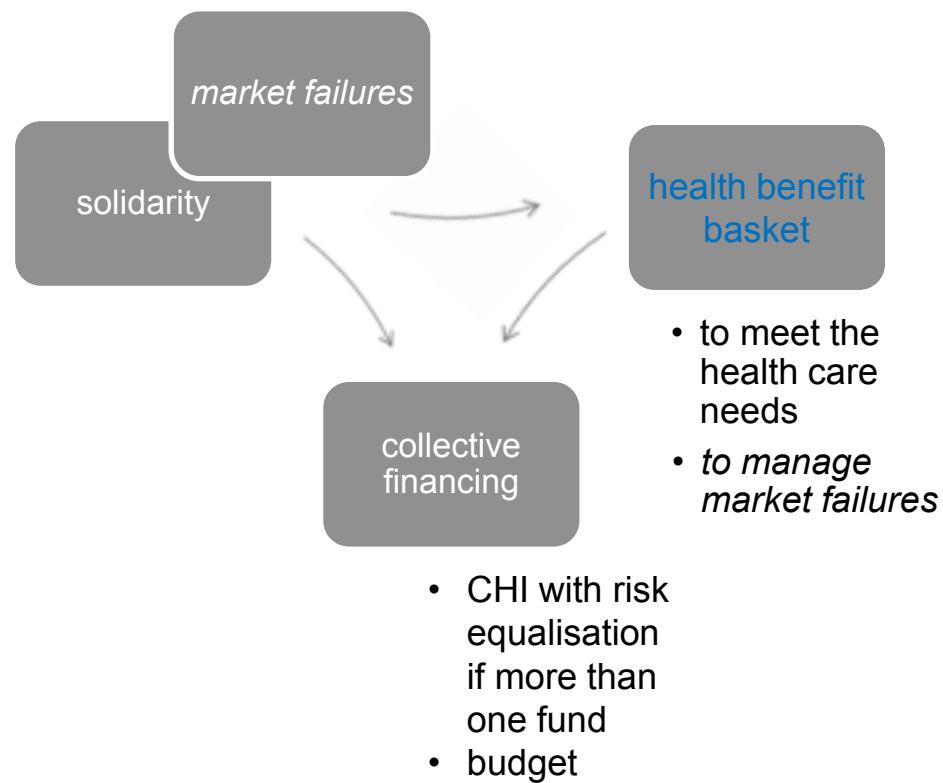


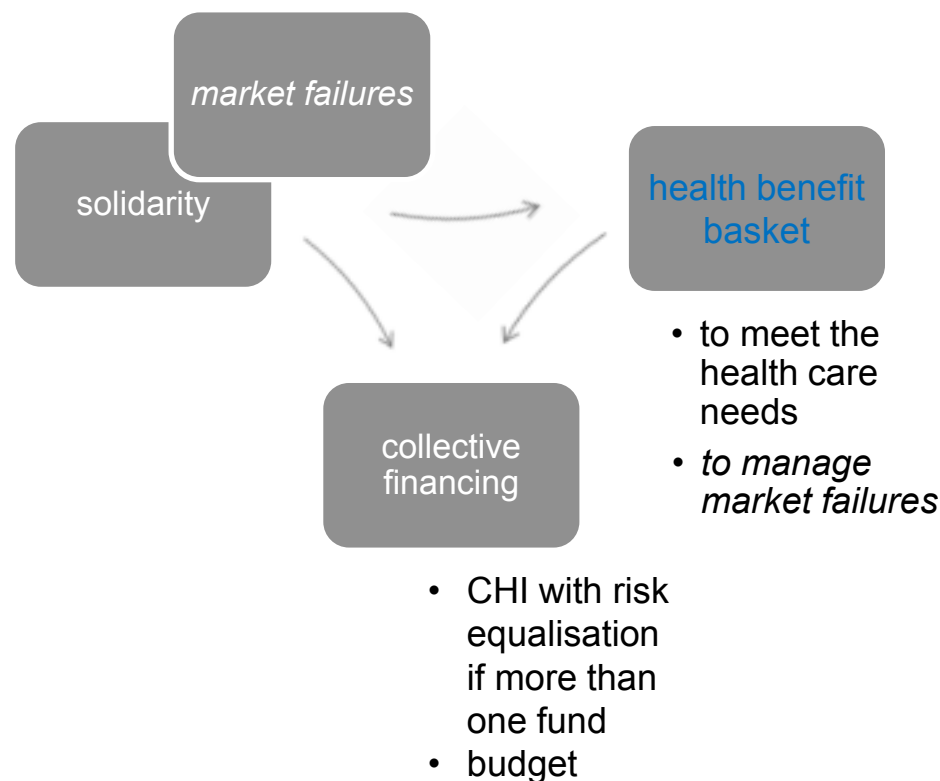
QUALITY OF CARE

The Slovenian health care system – some insights

Prof. dr. Petra Došenović Bonča
petra.d.bonca@ef.uni-lj.si







Current health expenditures (2022):

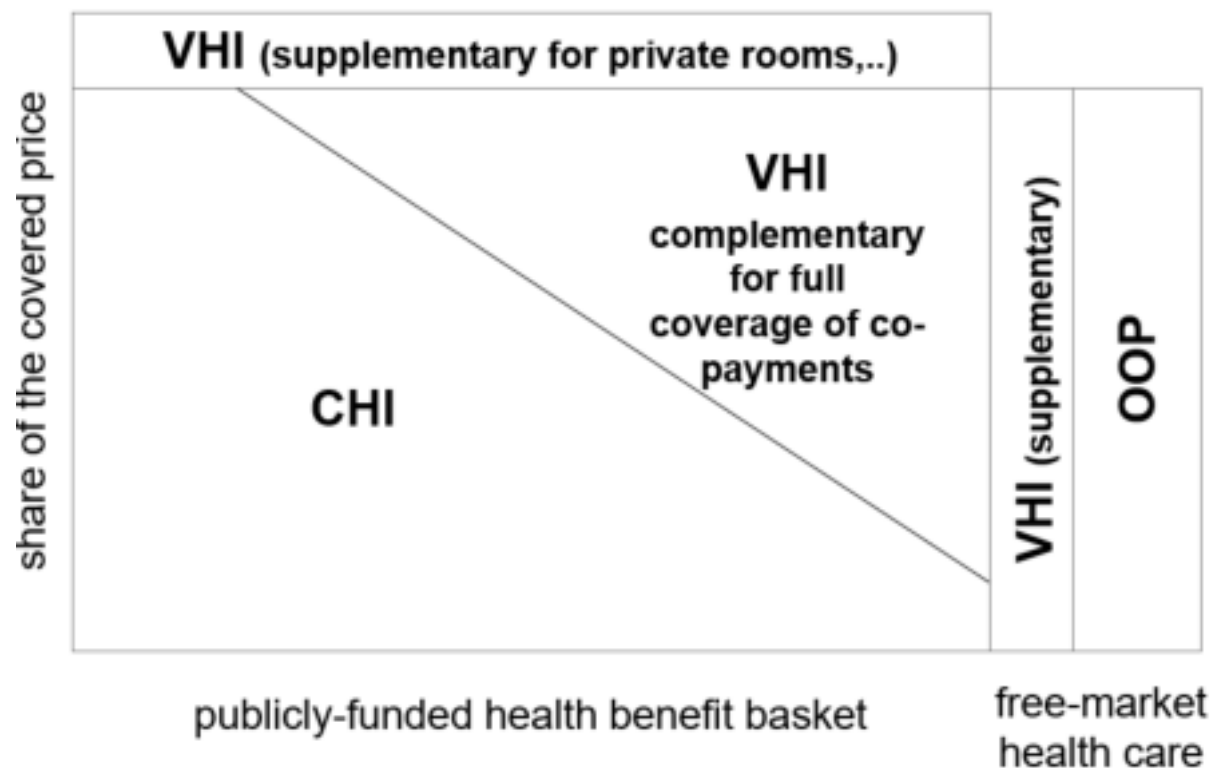
- 8.8% of GDP
- 5.22 billion € (2,477 € p.c.)
 - 65.1% CHI (one fund: HIIS)
 - 9.2% gov. budget
 - 12.2% VHI
 - 12.7% OOP

Rank among EU27
(depending on
year):

- 17-19
- 1
- 20-23

April, 2013: premium ceiling

June, 2023: new legislation abolishing co-payments subject to VHI as of January 2024 and introducing a flat-rate contribution

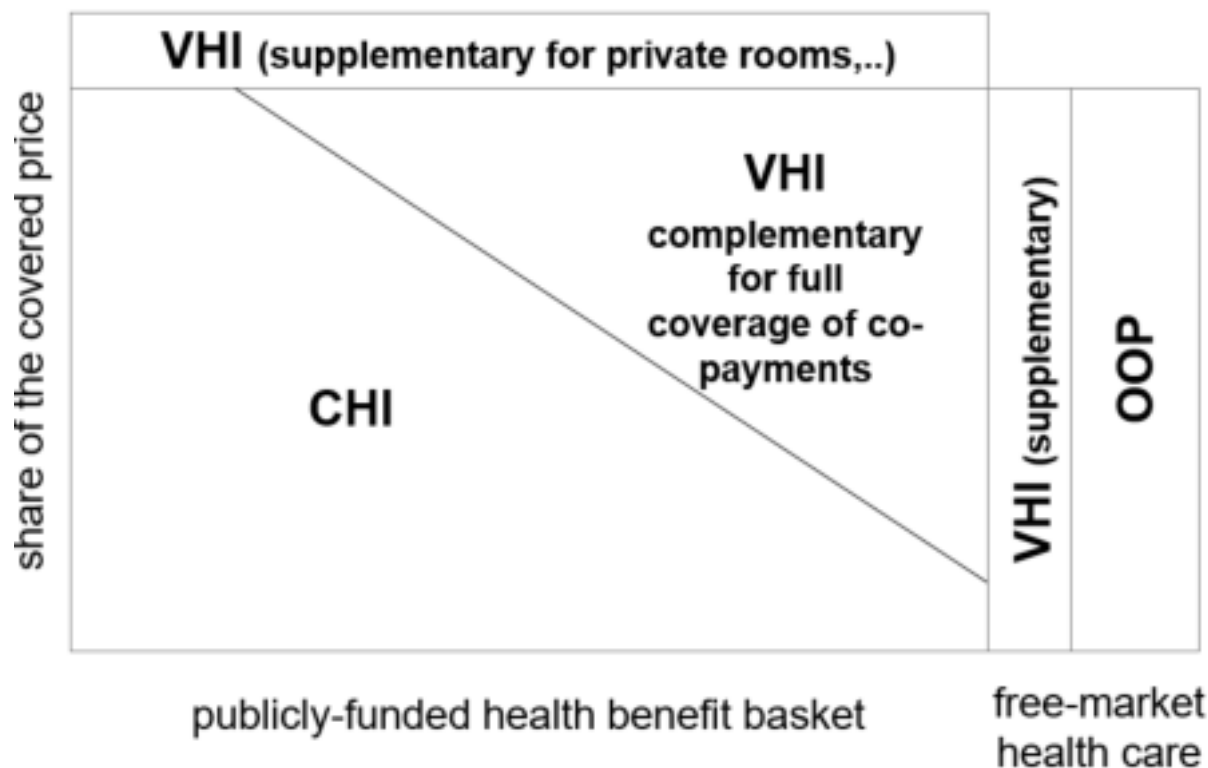


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- Rank among EU27 (depending on year):
- 17-19 (for CHI)
 - 1 (for VHI)
 - 20-23 (for OOP)
- 73% of the population and 95% of persons liable for co-payment purchases complementary VHI (community-rated premiums).

April, 2013: premium ceiling

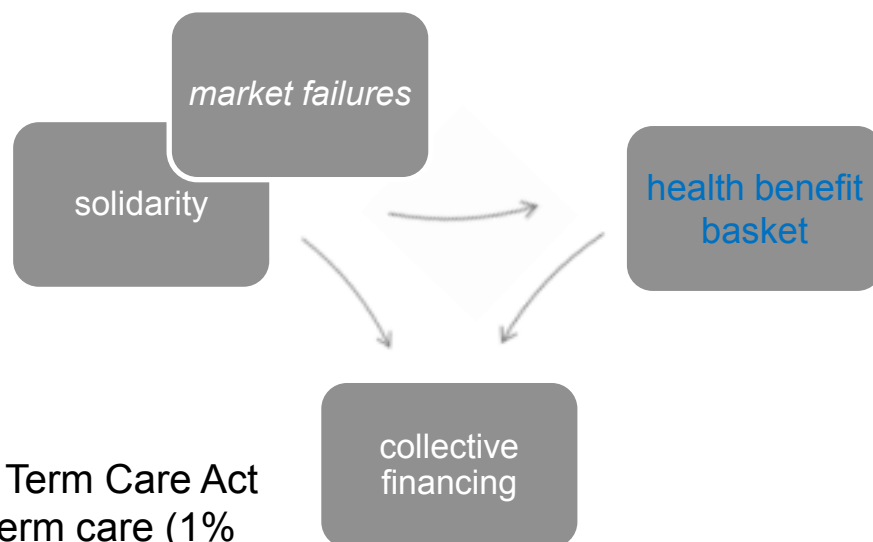
June, 2023: new legislation abolishing co-payments subject to VHI as of January 2024 and introducing a flat-rate contribution → **pressure to introduce income-related contributions**



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Rank among EU27:
→ 1



Structure of public current health expenditures (2021):

- 25.3% Inpatient care
- 29.7% Outpatient care
- 10.9% Long-term care
- 3.3% Ancillary services
- 20.5% Medical goods
- 5.3% Preventive care
- 2.9% Governance and administration
- 2.1% Other

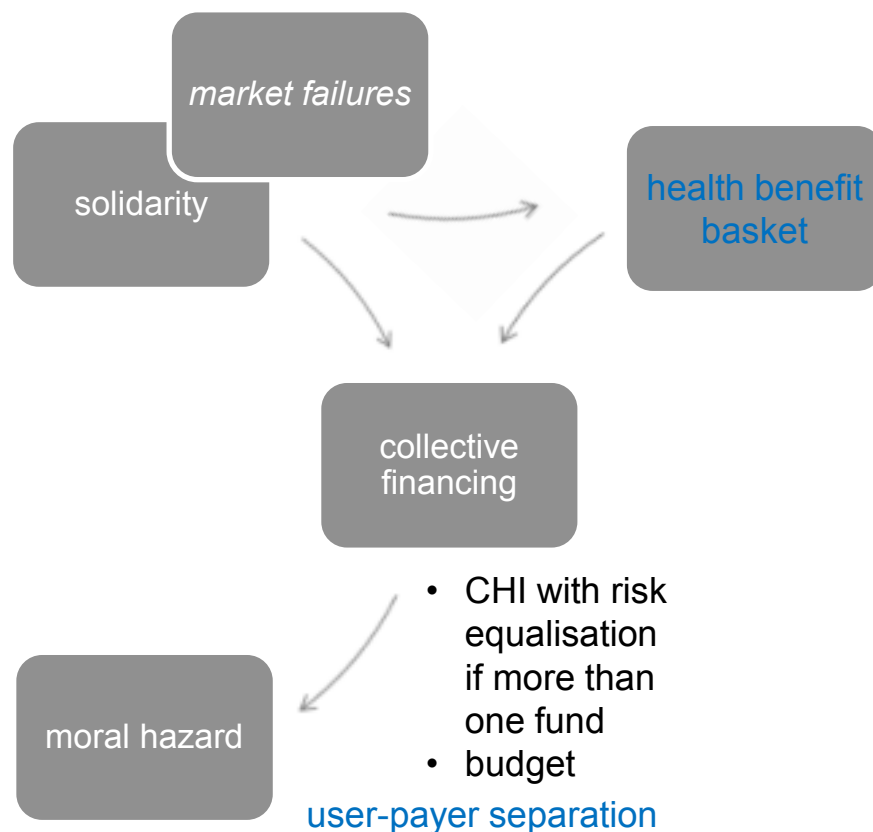
July, 2023: Long Term Care Act

- CHI for long-term care (1% as of July 2025)
- budget
- OOP (with possible increases as of January 2028)

- CHI with risk equalisation if more than one fund
- budget

protection
mechanisms(excluded
groups,
payment
maximums,...)demand-side
incentives

- financial (co-payment, deductibles,...)
- non-financial (gatekeeping, waiting lists,...)

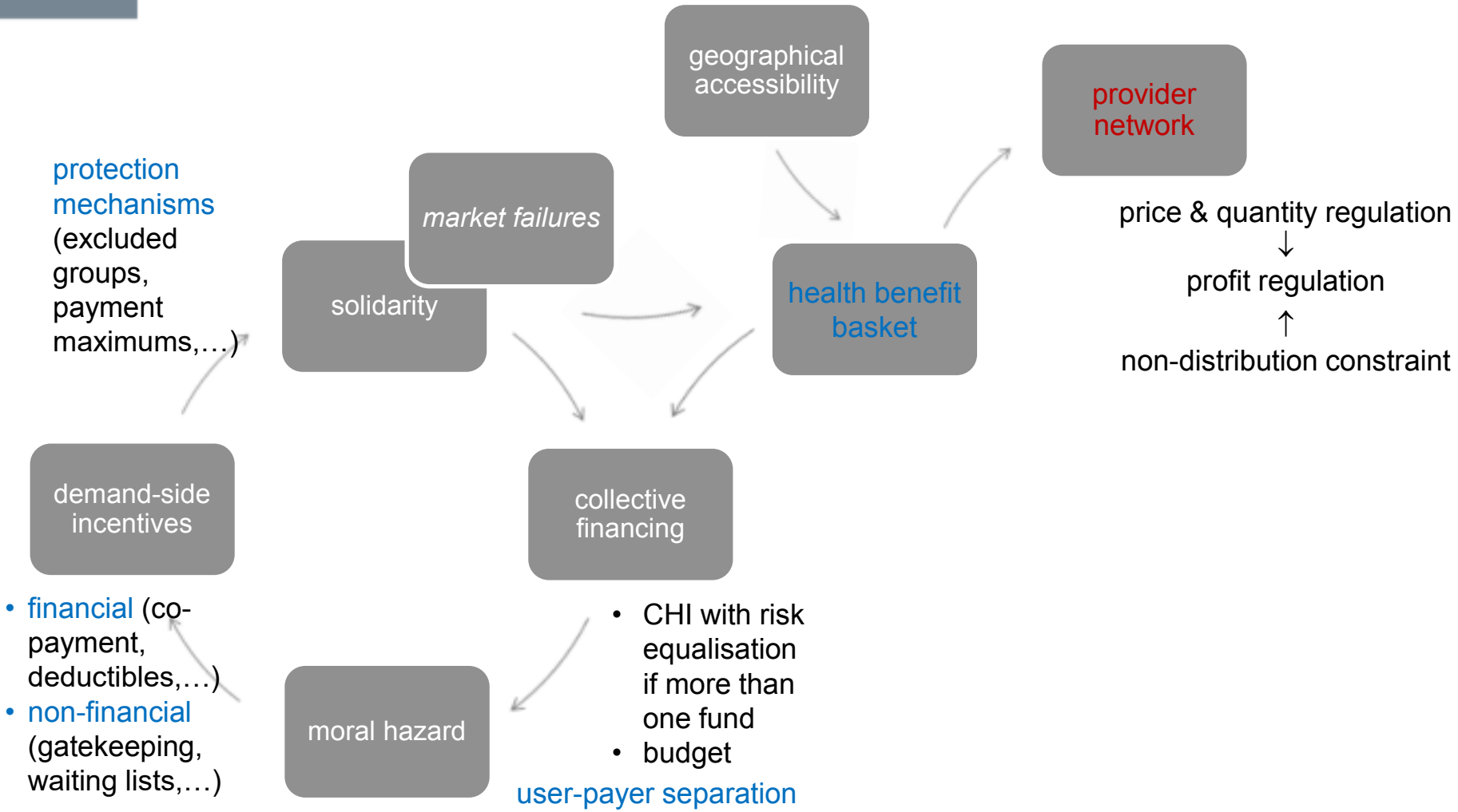


Slovenia:

- co-payments currently subject to VHI → not a demand-side incentive
- financial incentives not expected to play an important role in the future
- non-financial mechanisms through **compulsory gatekeeping** are key



Reduced accessibility
due to staff shortages
and inadequate payment
models!

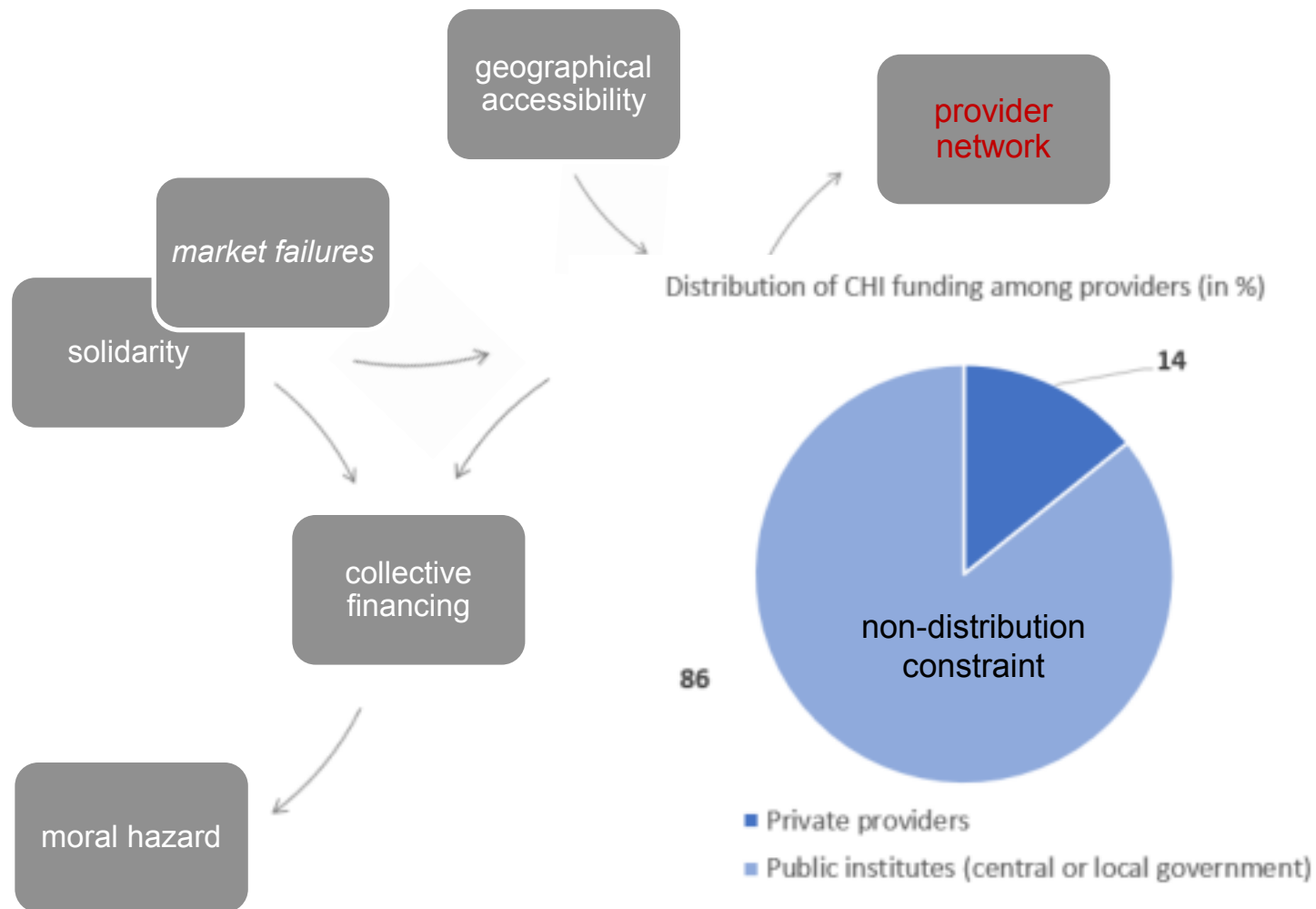


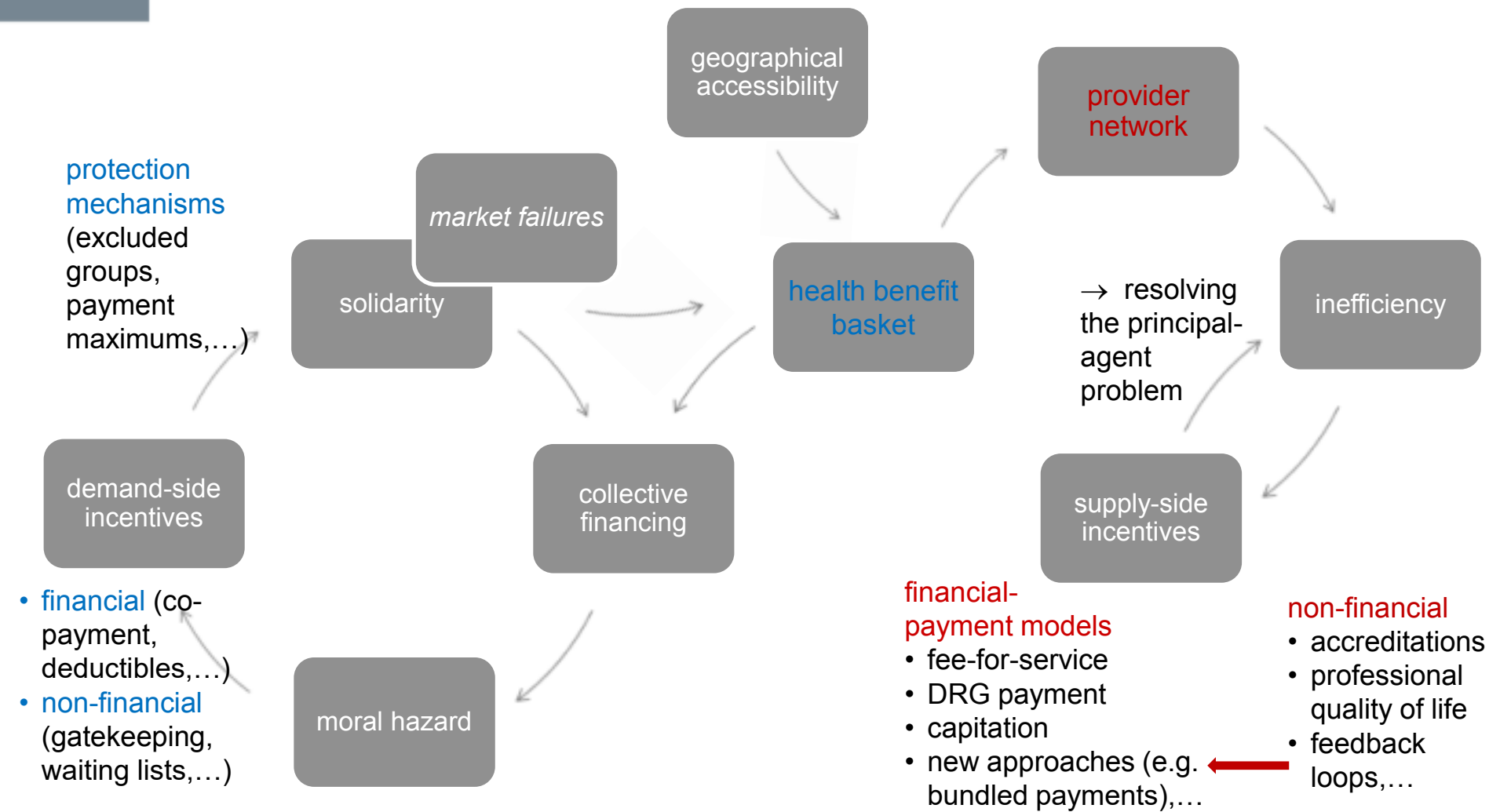
protection mechanisms

(excluded
groups,
payment
maximums,...)

demand-side
incentives

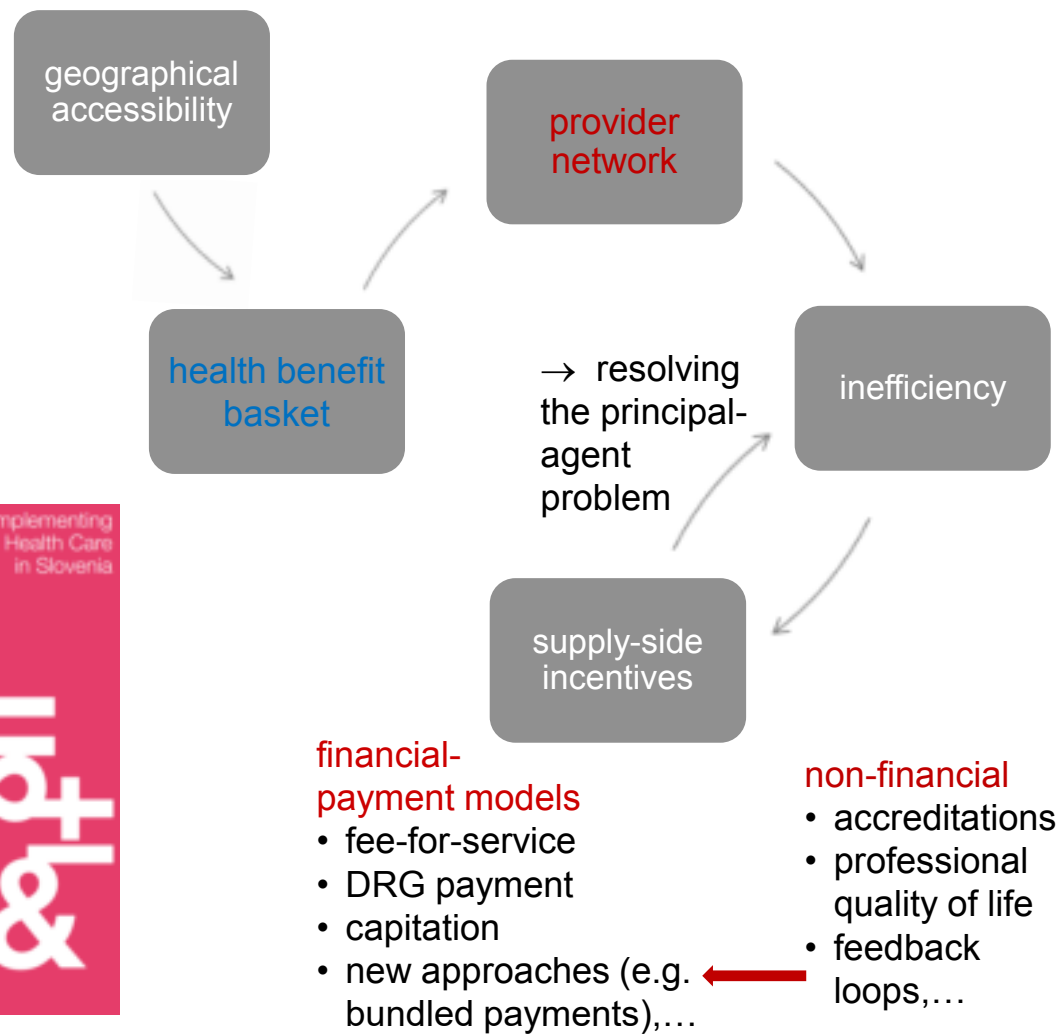
- financial (co-payment, deductibles,...)
- non-financial (gatekeeping, waiting lists,...)

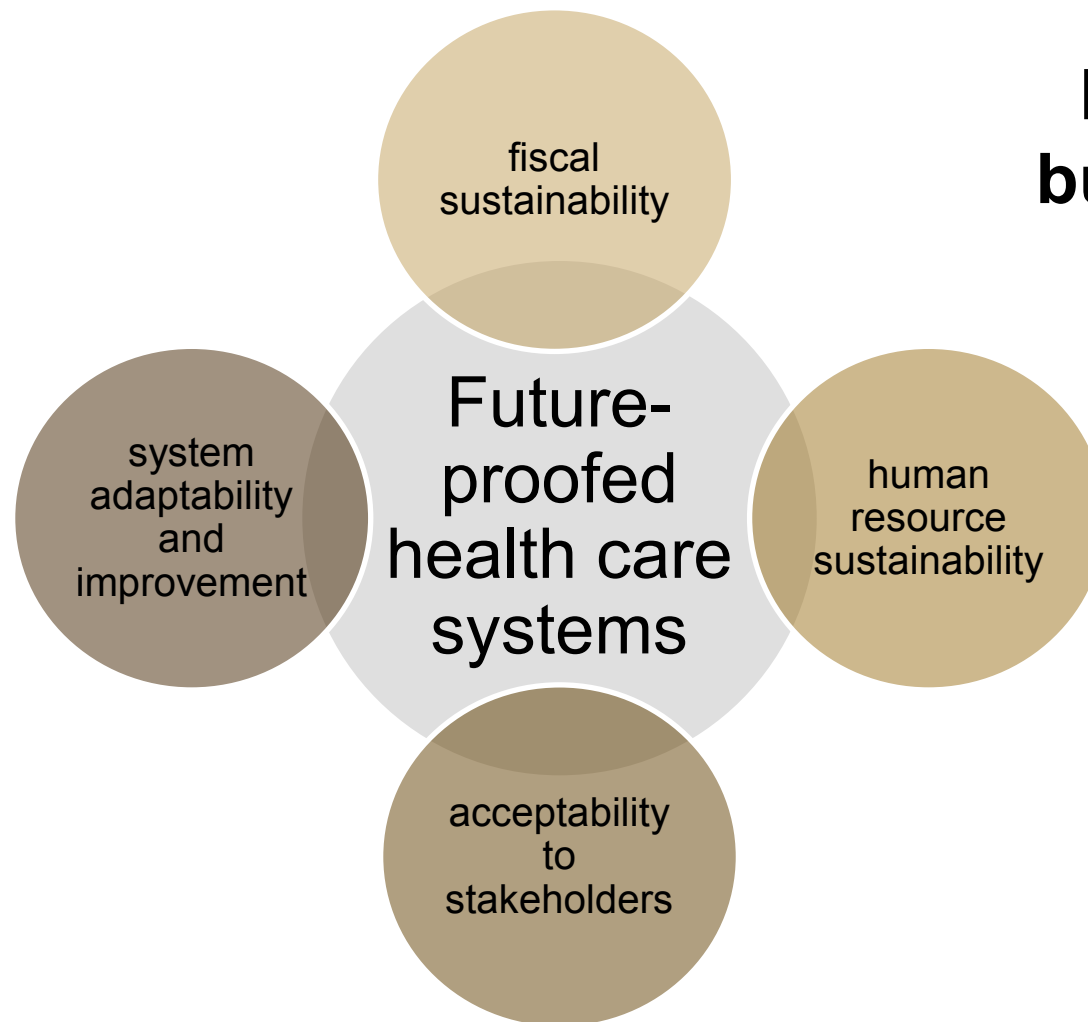




Slovenia:

- slow adjustments of payment models and underdeveloped costing (e.g. DRG)
- inappropriate payment models in some areas (e.g. primary care)
- payment of volume not value
- new legislation on digitalisation in healthcare





**Not easy
but doable!**

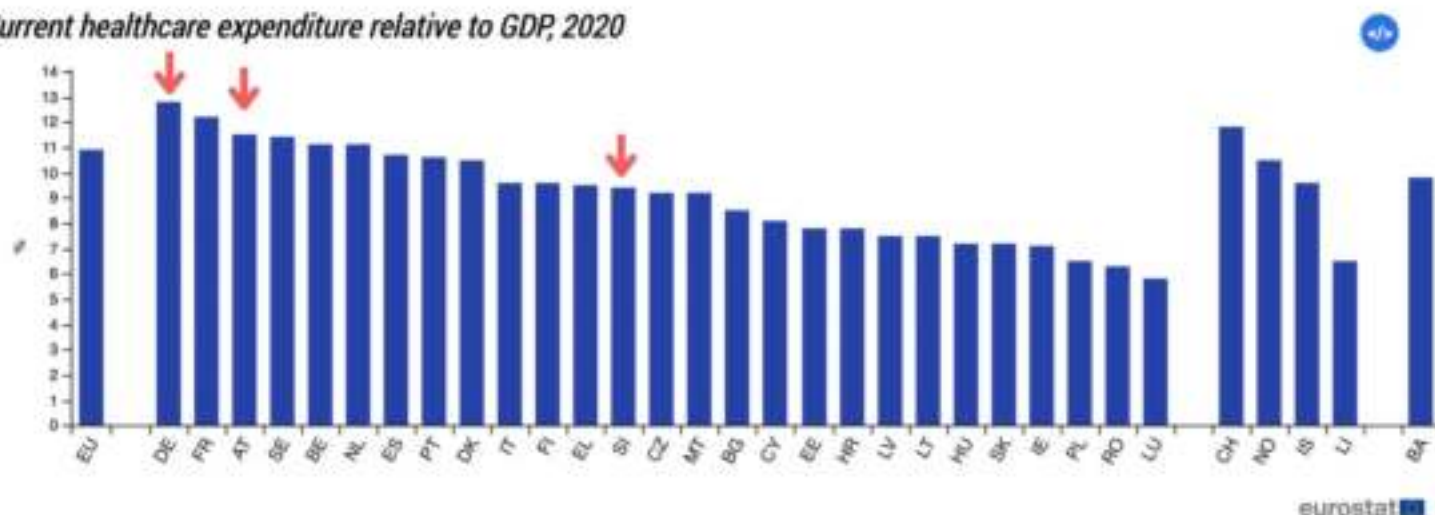
Moderated panel discussion

The Public Health System - Exploring Differences, Discovering Similarities, Confronting Challenges

- **Germany: Philipp Wien**, PhD, Director Health Economy, German Chamber of Commerce and Industry, (online)
- **Austria: Alexander Biach**, PhD, Deputy Head, Vienna Chamber of Commerce, and Industry
- **Slovenia: Petra Došenović Bonča**, PhD, Associate Professor, Faculty of Economics, University of Ljubljana

Moderated by **Tjaša Zajc**

Current healthcare expenditure relative to GDP, 2020



Country	Nr. doctors/1000 people (OECD, 2021)	% GDP expenditure for healthcare (OECD, 2022)
Germany	4.5	12.7
Slovenia	3.3	8.8
Austria	5.5	11.4

EU: estimate.

Malta and Norway: 2019.

Poland: provisional.

Source: Eurostat (online data codes: hith_sha11_nf and namu_10_gdp)

10:30 – 11:00

Coffee Break & Networking



11:00 – 11:15 Keynote:

Finland - The Digital Future of Healthcare

Lotta Westerlund, Deputy Managing Director AHK
Finland (online)



Case Finland The digital future of healthcare

Lotta Westerlund, AHK Finland

Understanding Finland

Km²
304 316
(6th biggest in EU)


5 564 000
(11th smallest in EU)

18 persons
per km²
(Lowest in EU)

50%

Public Healthcare System

Everyone living in Finland is entitled to public healthcare services.

Responsibility for organizing healthcare lies with regional authorities:

21 independent wellbeing services counties, Helsinki city and the HUS hospital district.

Municipalities can provide public healthcare services directly or by procuring them from private providers.

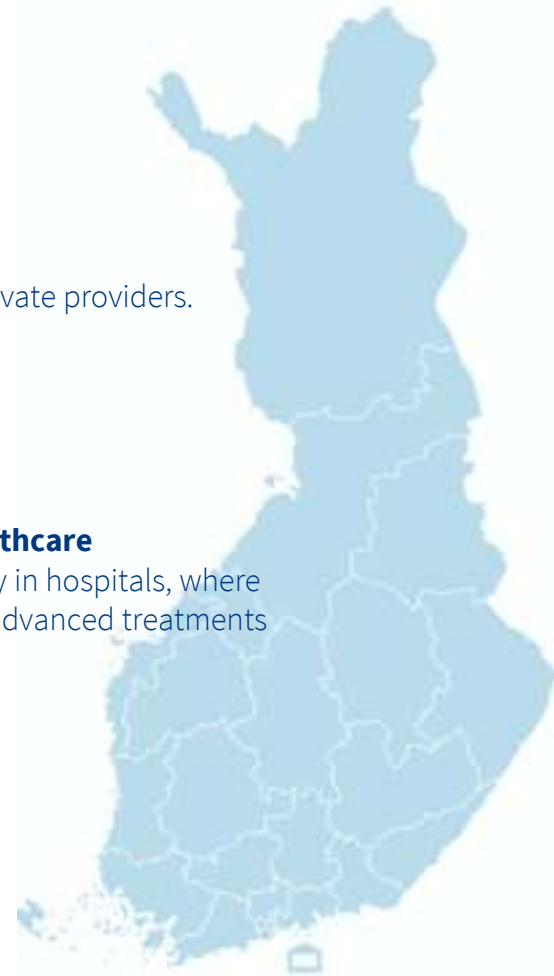
Services are divided into primary and specialized care.

Primary healthcare

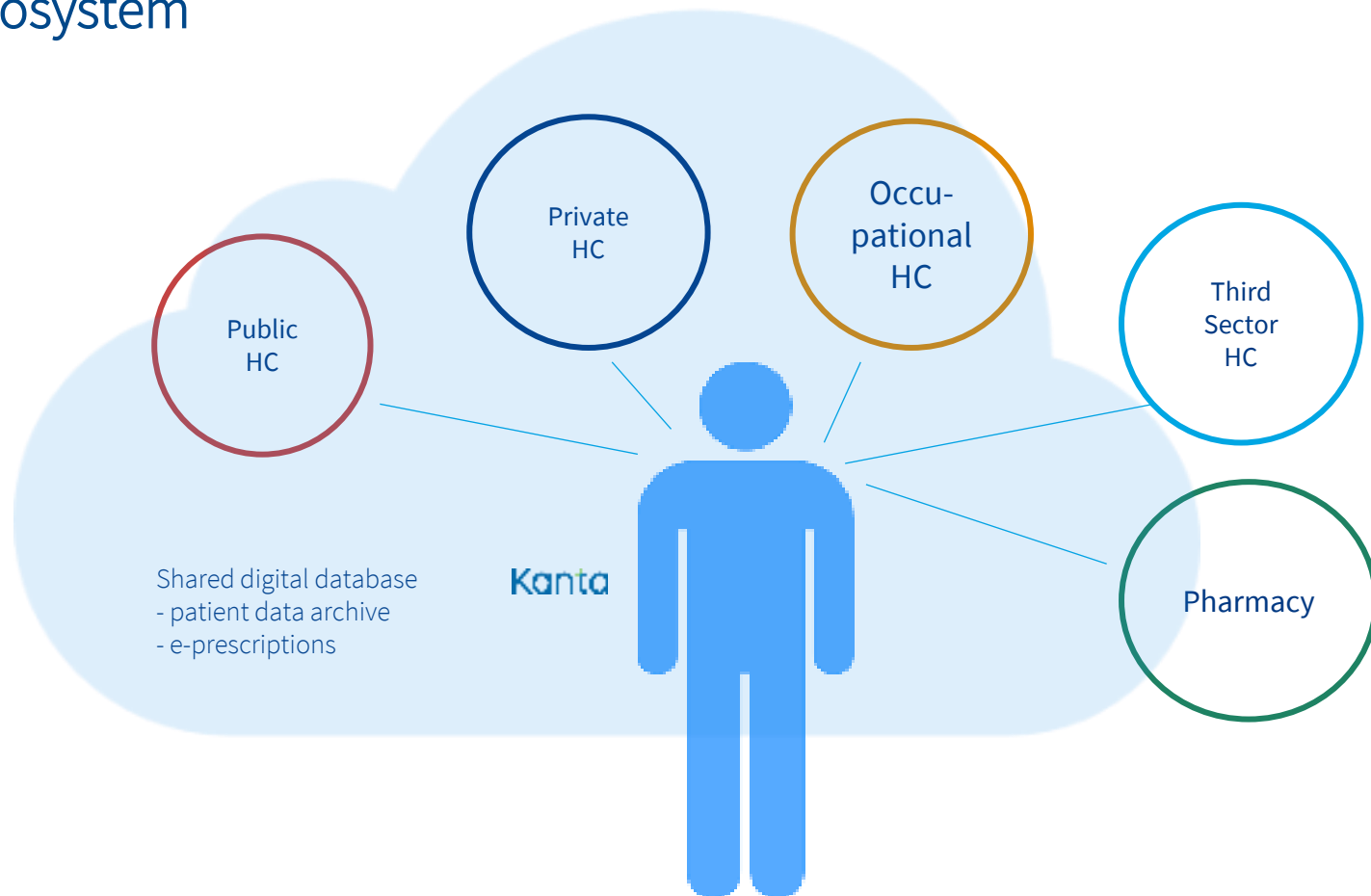
refers to services organized by the counties at *health centers*, where the focus lies on prevention and basic care, like health counselling, maternity and child welfare and medical examinations, screening and vaccinations, dental health services, school and student health care and mental health services.

Specialized healthcare

is provided mainly in hospitals, where the focus lies on advanced treatments and procedures.



The Ecosystem



Tools for Professionals



Kanta

Patient Data Repository

Centralised archiving of electronic patient data, as well as active use and storage of the data. Plays a key role in sharing information between healthcare service providers.



Digital Client Portal

Appointment coordination, Patient communication, digital health records, e-prescriptions, and remote consultations.



Electronic Decision Support

Various tools have been developed to combine electronic patient record data with medical data to produce patient-specific instructions for healthcare professionals.

Digital Tools for Patients

Kanta

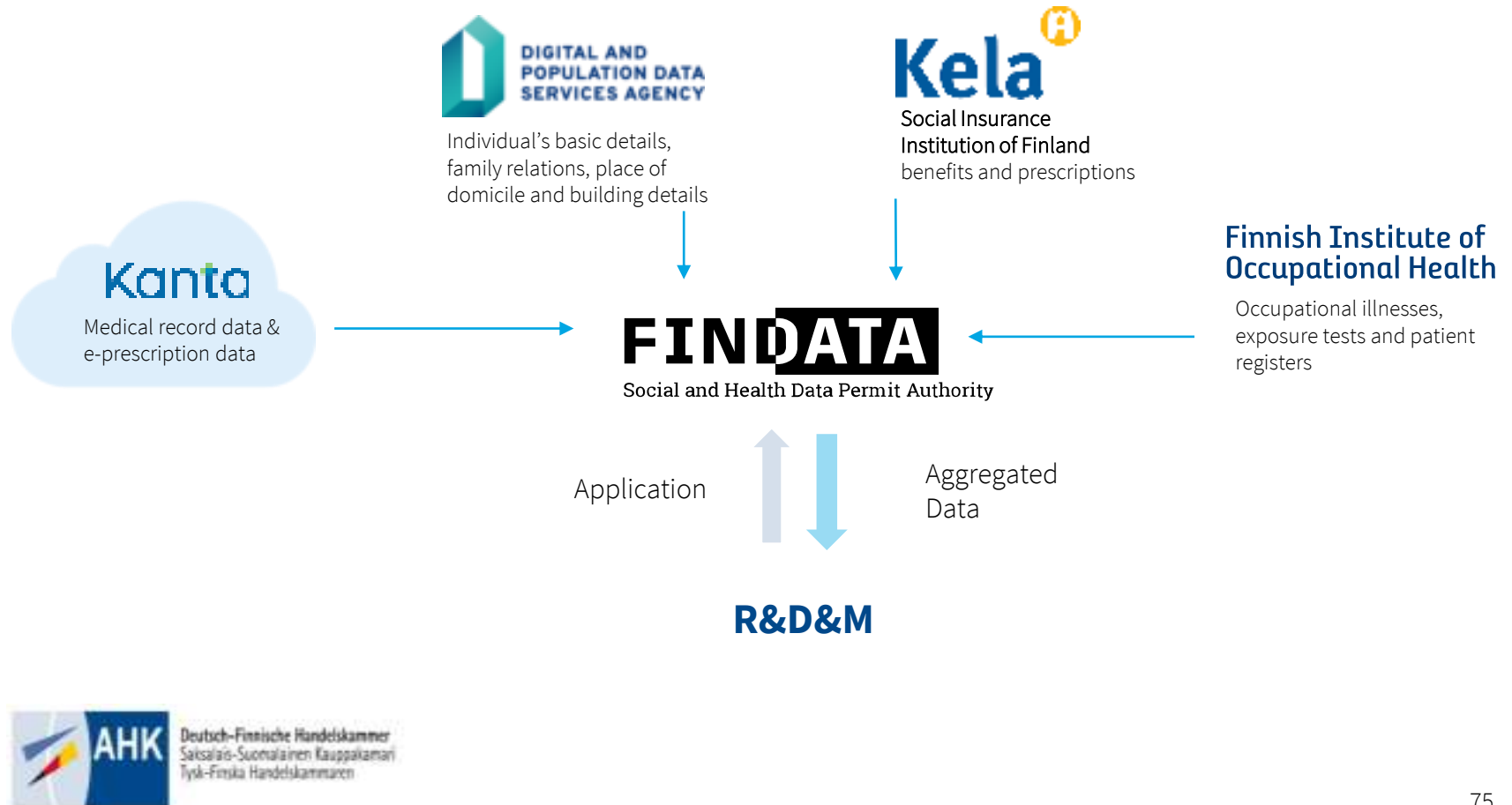
mais

Omaolo



Potential for Research & Development

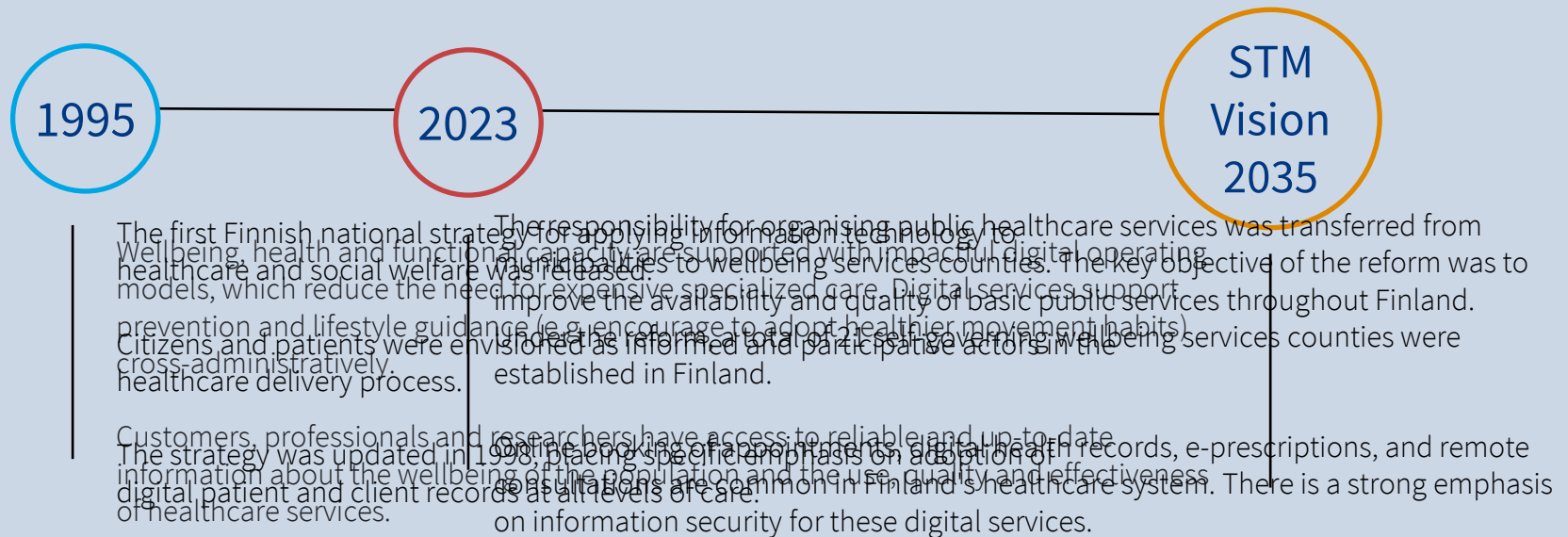
REGULATION BY ACT ON THE SECONDARY USE OF HEALTH AND SOCIAL DATA



Prerequisites for the Health Care Digitalisation

- ✓ Trust in Authorities
 - ✓ Digital Identity
- ✓ End to End – Design Thinking

Where is Finland heading next?



Kiitos! Thank you!



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AHKfinnland



AHKfinnland



AHKfinnland | AHKsuomi



Deutsch-Finnische Handelskammer
Saksalais-Suomalainen Kauppakamari
Tysk-Finska Handelskammaren

11:15 – 12:00 Company presentations:

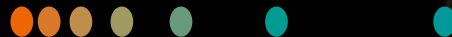
Digital Solutions in the Healthcare Sector

- **Jan Šömen**, Digital Portfolio Executive, Siemens Healthcare
- **Elke Zens**, CEO, Ilvi Gmbh
- **Jakob Pieber**, Business Development Manager, PH Predicting Health GmbH
- **Tanja Štamec**, Regional Manager, Hagleitner Hygiene

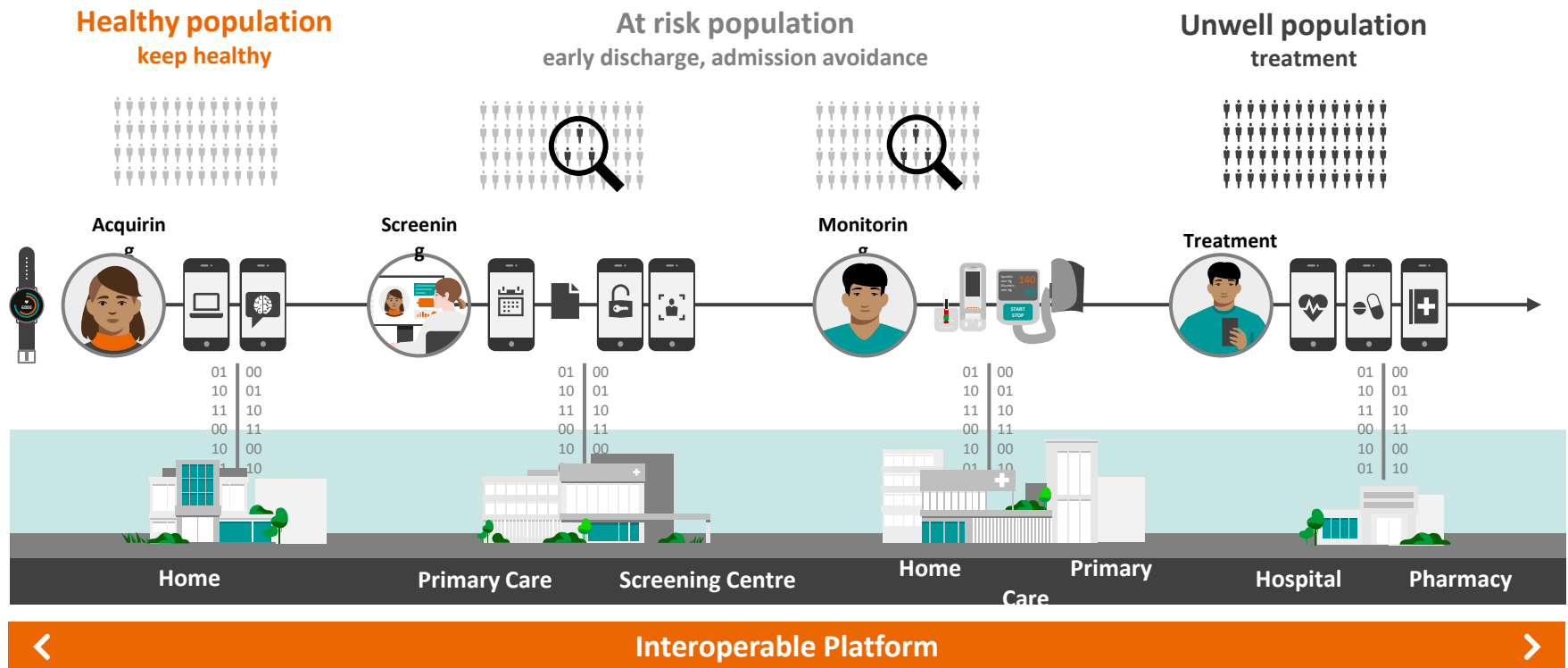
Healthcare Digitalization & Interoperability

eHealth Solutions by Siemen Healthineers

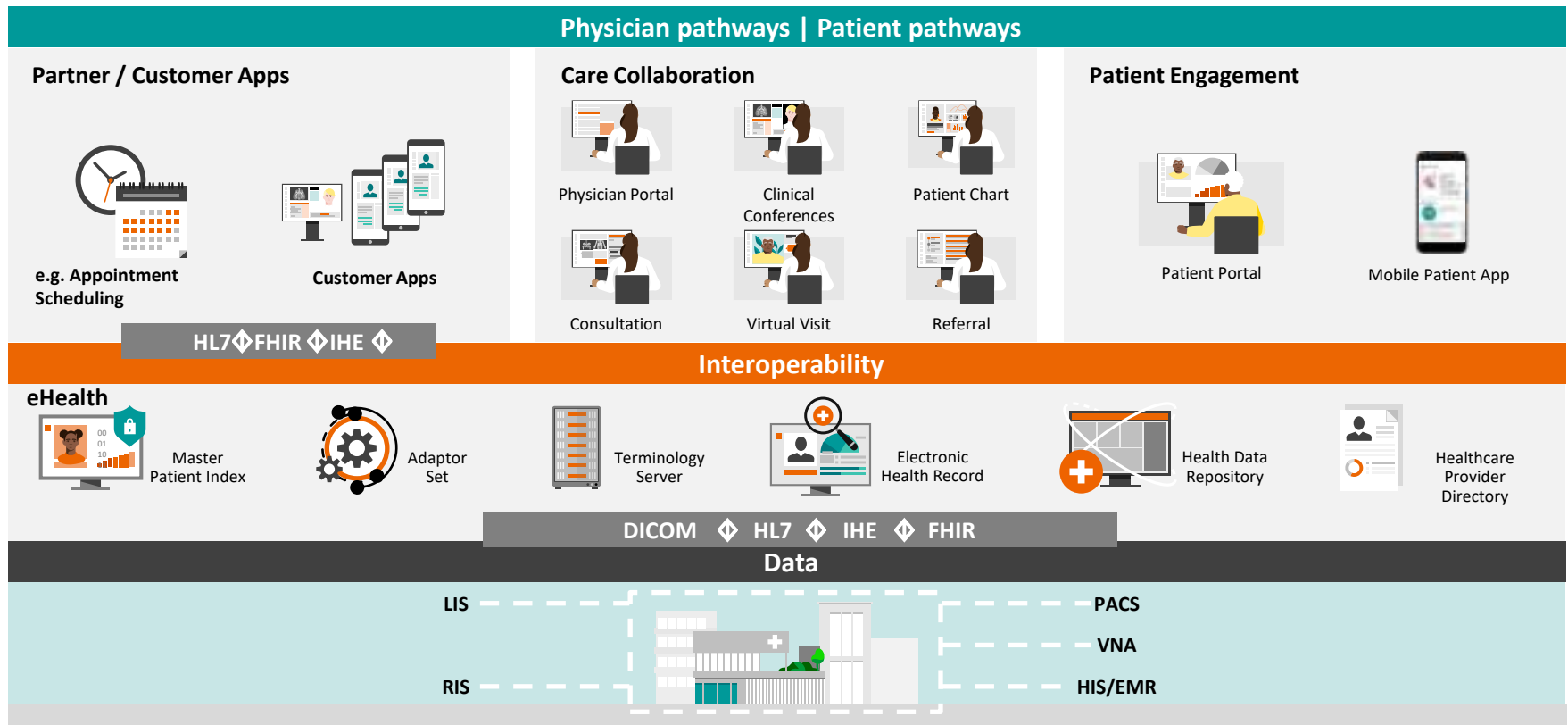
Jan Šömen
Digital Portfolio Executive CEECA



Digitalizing patient journeys from prevention to treatment



Versatility of use cases require open platform approach



Open Standards

The basis for sustainability and interoperability

Standards compliant architectures and interfaces secure your investment



Lower maintenance need and cost

Avoid vendor lock in with proprietary technologies



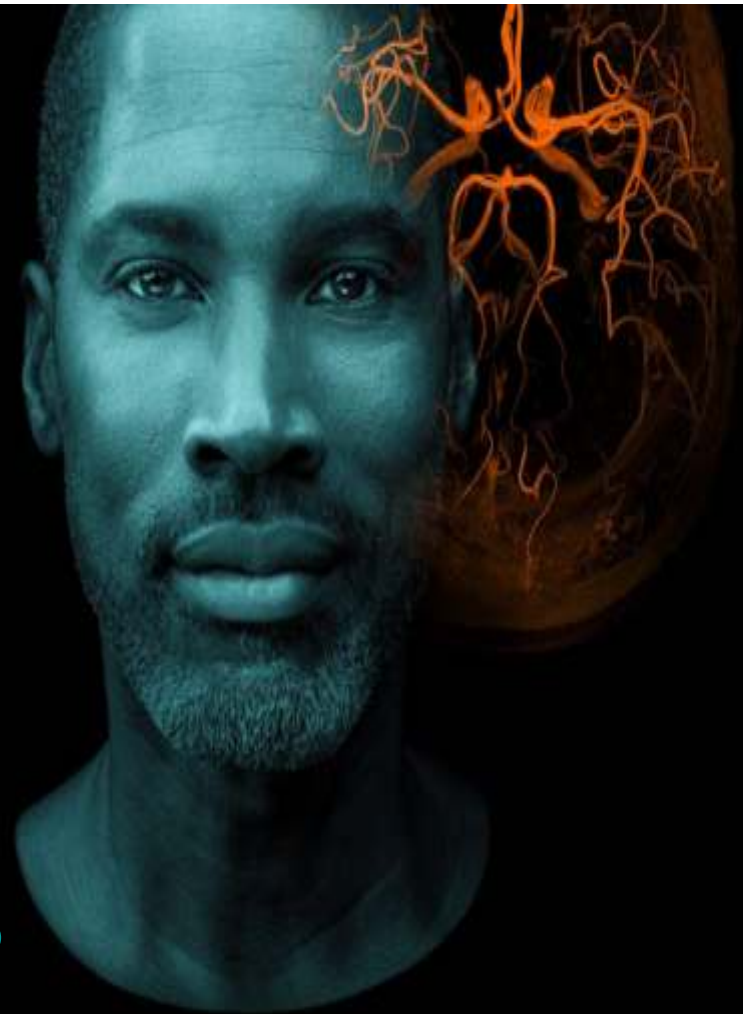
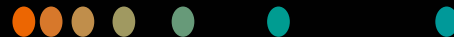
Competitiveness in the long run

Siemens Healthineers are fully compliant with a wide range of IHE Integration profiles and more than 100 actors and have been successfully tested at IHE Connectathons for 10 years.



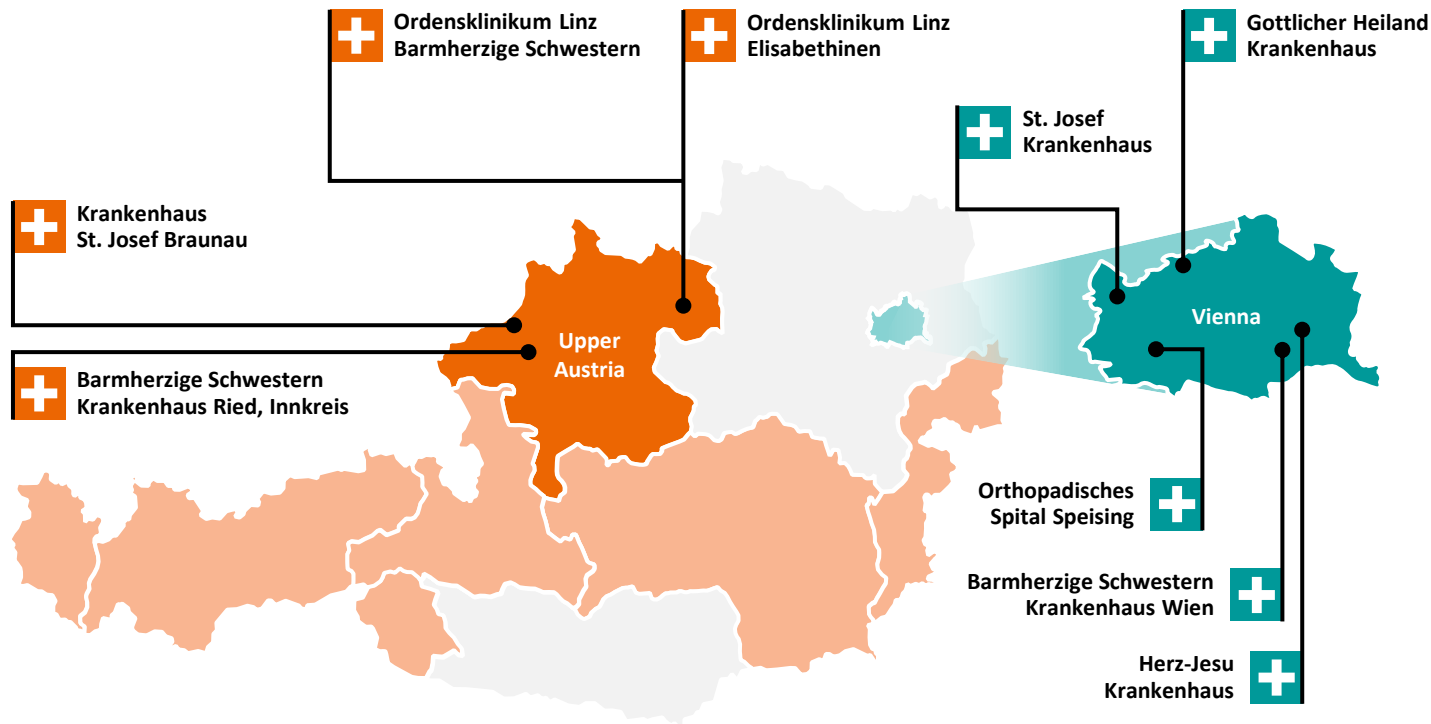
Healthcare Digitalization & Interoperability

Example Case from Austria



National Health Information Exchange (HIE) in Austria

eHealth Vinzenz Gruppe



Serving patients
across **2** states in
Austria¹



~178.000
Hospital admissions¹
~500,000
Ambulatory
admissions¹

Helping our customers to improve patient experience by engaging patients in their health journey



Siemens Healthineers operates platform, patient portal, physician portal and jointly developed services that digitally support patients and physicians.



Takeaway messages:

Patient & Stakeholder Involvement

Created with patients → drives adoption and patient involvement



People
focused

Interoperability & Standards

Lower lifecycle maintenance cost. Drives competitiveness.



Connected

Trust and Communication

Enables development of attractive, patient centered solutions.



Secure

Contact information

Jan Šömen

Siemens Healthcare d.o.o.

Digital Solution Expertise and Sales

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Author | Department



SOS Care: More time for people - less effort for documentation

Elke Zens, CEO ilvi GmbH
German-Austrian Health Forum, Ljubljana

www.ilvi.io

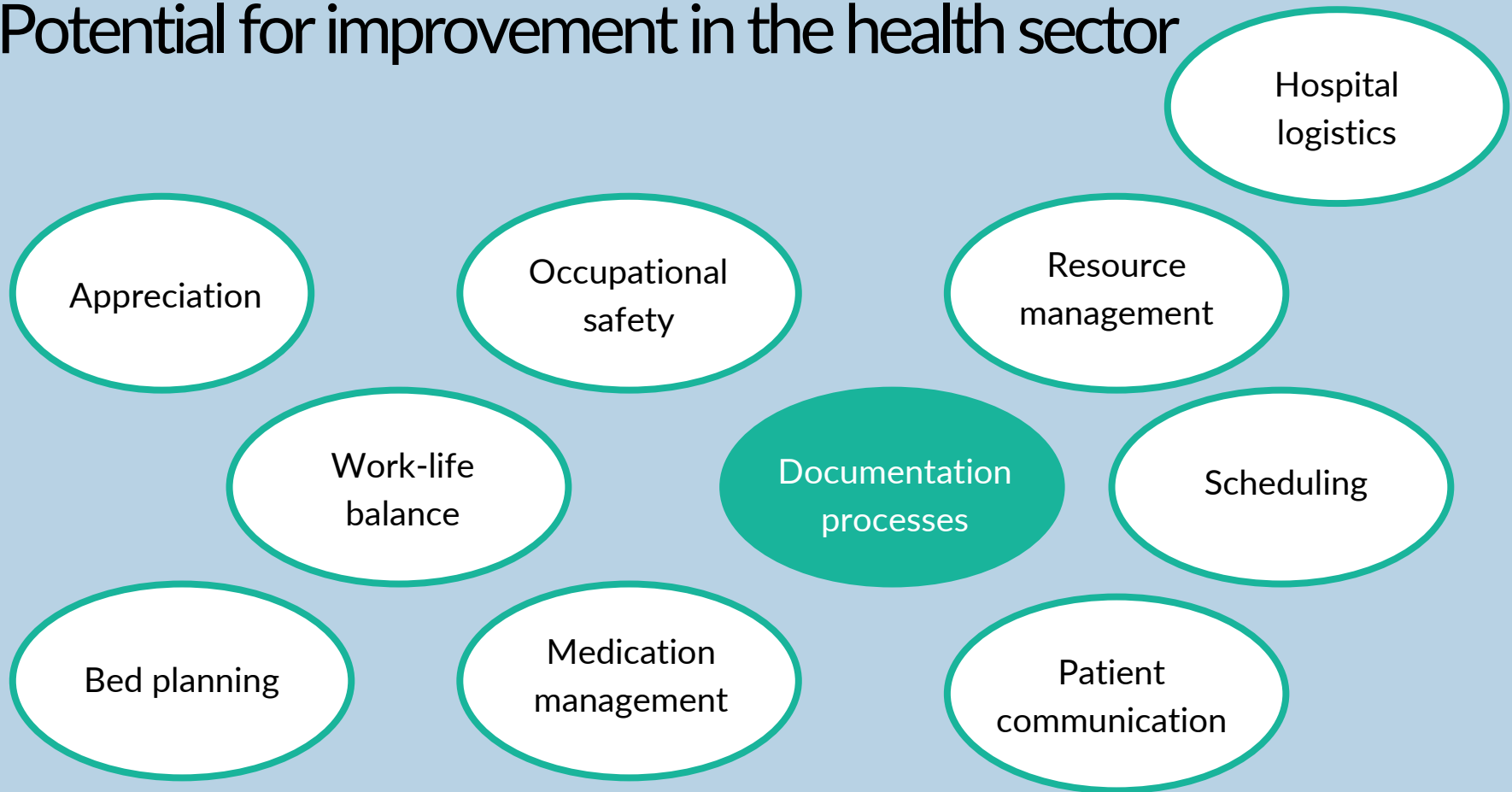
+11 Million

additional health and care workers

will be needed from 2018 - 2030 to meet the growing health and
care sector demand.



Potential for improvement in the health sector



Documentation effort

Documentation with paper and pen - is that necessary?

- Manual data entry
- Increased susceptibility to errors - poorer quality of treatment
- High documentation effort due to double documentation



Documentation with ilviCLINIC

Stationary

Optimised data acquisition at the point of care

- Digital, direct data acquisition
- Integration of medical devices
- Immediate data availability by sending data to the target system
- Increased process reliability and cost efficiency
- Adaptable to the needs of the care facility
- Relief of nursing staff



Follow-up care in the home environment

Difficulties of older people after discharge from hospital

- Medication errors
- Lack of independence
- Lack of (family) support
- On-site follow-up appointments
- Increased rehospitalisation rate



Safe follow-up care in the home environment

Discharge from hospital with ilviHOME

- Telemedical monitoring
- Health data collection from home
- Automatic sending of recorded data to case managers
- Easy adjustment of the treatment plan
- Preservation of independence
- Lower rehospitalisation rate



Prescription notes, orders, wound images

Challenges without digital support

- Manual recording of health data, prescription notes and orders
- Capture of wound images via smartphone
- Limited flexibility - tied workstations
- Use of old-fashioned communication tools such as fax
- Placing orders outside working hours



Prescription notes: Simple. Secure. EkroCare

Mobile care, Nursing
homes, Social
institutions

Prescription notes directly at the patient's bedside

- Time saving through mobile processing of prescription notes
- Efficient ordering of medical accessories
- Direct recording of wound images
- Secure data acquisition and compact data transfer to contract physician
- Optimal use of personnel resources
- Improved cost efficiency for health care facilities



Advantages for the target groups

Caregivers

- Simple handling
- Fun factor
- Marking of completed tasks
- Time saving - reduced stress level
- More time for patient care

IT professionals

- Interoperability
- Seamless integration into existing IT infrastructure
- Data sovereignty remains with customers
- No external data flow

Managing directors

- Profitability improvement
- Efficiency increase
- Personnel stability
- Image improvement
- Process optimization and standardization
- Increase in treatment quality

Relief of the nursing staff

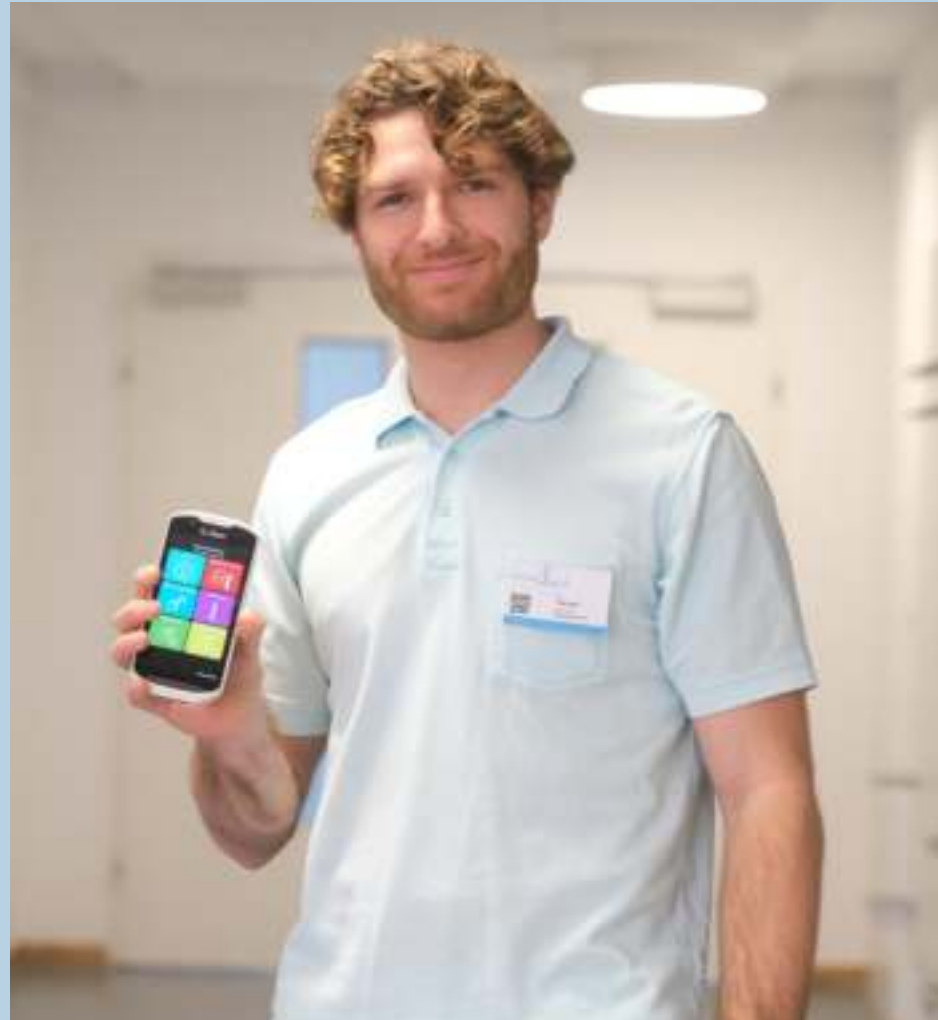
not a "nice to have" but a "must" to ensure sustainable health care in the future.

A stylized, handwritten-style logo in teal color, consisting of a horizontal line followed by the letters 'ilvi' in a cursive script.



Thank you very much!

www.ilvi.io



AI in clinical environments

A practical approach

German – Austrian Health Forum
Ljubljana 19.09.2023
Jakob Pieber – Business Development Manager





Current Challenges in Clinical environments

Demography





Staff shortage

Bureaucracy





Complexity

Impact on Patient Safety

One in a hundred patients admitted to hospital suffers a treatment error, one in a thousand dies as a result. (Schrappe and Lessing 2007, Schrappe 2007)

In relation to **2.561.346** hospitalized patients in Austria:

- Adverse event (5-10%) (128.067 – 256.134)
- Preventable event (2-4%) (51.226 – 102.453)
- adverse event caused by negligence (1%) (25.613)
- Death (0,1%) (2.561)

The total cost of preventable events is about **1,3 Billion Euros** (p.a. in Austria)

Predicting Health saves the day

- Started in 2015 as Data Science project within KAGES (Styrian Hospital Assosiation) by Dr. Werner Leodolter and Dr. Diether Kramer
- Aim was to find **actionable AI** applications
- Development of the **Personalised Risk Tool** (SaMD) together with clinical staff and leading research institutions
- Trained on more than 2,4 million data sets
- Fully independent since April 2023



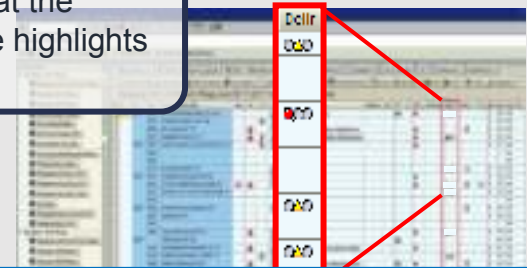
PREDICTING
H E A L T H

The Personalised Risk Tool

(SaMD)

- Our **AI identifies patterns** in the large volume of patient data - without transferring patient data
- Automation and use of existing data means **no additional work** for healthcare professionals
- Accuracy : **85%** (PMID: 36625964)
- Thus, we support the health staff and **enable prevention**
- This **increases patient safety** and reduces the workload

Warning symbol at the clinical workplace highlights at-risk patients



We visualize the risk factors in our web app

Practical Example: Swallowing disorder (Dysphagia)



WARNING!!!

Patient at Risk

A screenshot of a data table interface. A red rectangular box highlights a 'Delete' button in the top right corner. Below the button, a row of data is visible, containing several '0.00' values. A red diagonal line is drawn across the table, possibly indicating a warning or a specific data path.

A screenshot of a 'Personalised Risk Tool' interface. The patient's name is 'Frau Roswitha Laßner (84 Jahre)'. The tool displays a 'Dysphagie-Risiko' (Swallowing Risk) bar chart with three segments: low, medium, and high. A red warning triangle is present. The interface includes several sections for patient data and risk assessment, with a 'Hilf' (Help) button in the top right corner. The bottom of the screen shows a footer with a date: '21.09.2020'.

What are we already predicting?

- **Delirium** - Is a newly admitted patient at risk of developing delirium?
- **Intensive Care Requirement** - Does a patient need an intensive care bed postoperatively?
- **Dysphagia** - Is a newly admitted patient at risk of developing dysphagia?
- **Falls** - Is there a risk of falls?
- **Progression of nephrological diseases** - Fast vs. slow progressors
- **Risk of Cardiovascular Disease** - Primary and Secondary Prevention In-patient vs. out-patient - Dermatology appointment
- **COVID-19** - Will a new patient need an intensive care bed?
- **Malnutrition screening** - based on already available and collected data

Customer feedback

"We have also already been able to prevent sliding into severe delirium by simple measures [...] using delirium alerts."

"It is an added value, especially when patients are unresponsive on admission."

"The calculation also helps with patients we are not quite sure about."

„The application is successful. It should definitely be continued."

"The system has almost 100% accuracy."



Federated Learning





Early warning systems will become mandatory:

**A small investment, increases patient security
and reduces health cost significantly!**

Thank you for your interest!

For additional information, please reach out to us:



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CEO/Co-Founder

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**IMPROVE PATIENT
SAFETY**



Haglaitner senseMANAGEMENT

patient safety – case study

Presented by Tanja Stamec, Haglaitner Hygiene

Hagleitner senseMANAGEMENT

- How can we increase the patient safety?
- How can we decrease the HAI*?

Hospital-acquired infections, also known as healthcare-associated infections (HAI or HCAI)

Hagleitner senseMANAGEMENT

We have to increase the compliance of the hand hygiene!

„It is proofed that the consumption of hand sanitizer we notice at the point of care, is in the direct context to the patient safety!“

Hagleitner senseMANAGEMENT

Only what can be measured,
can be improved!

Disinfection plays a crucial role

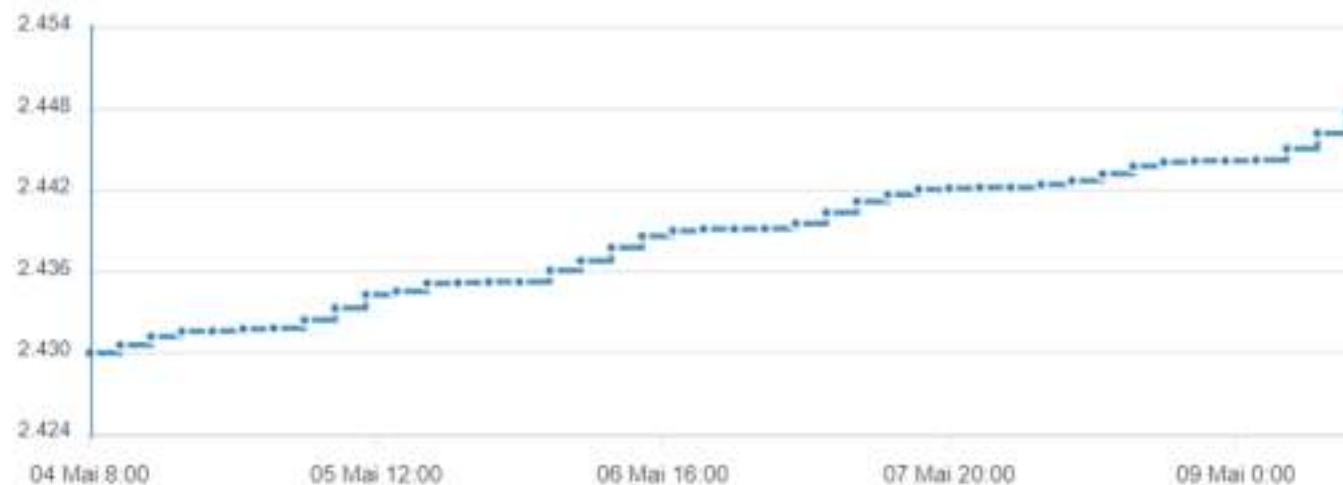
Hagleitner senseMANAGEMENT





Hagleitner senseMANAGEMENT

Counting of each hand disinfection



Hagleitner senseMANAGEMENT

Recording the exact volume of sanitizer of each dosage





case study



Hagleitner senseMANAGEMENT

Intensive Care Unit

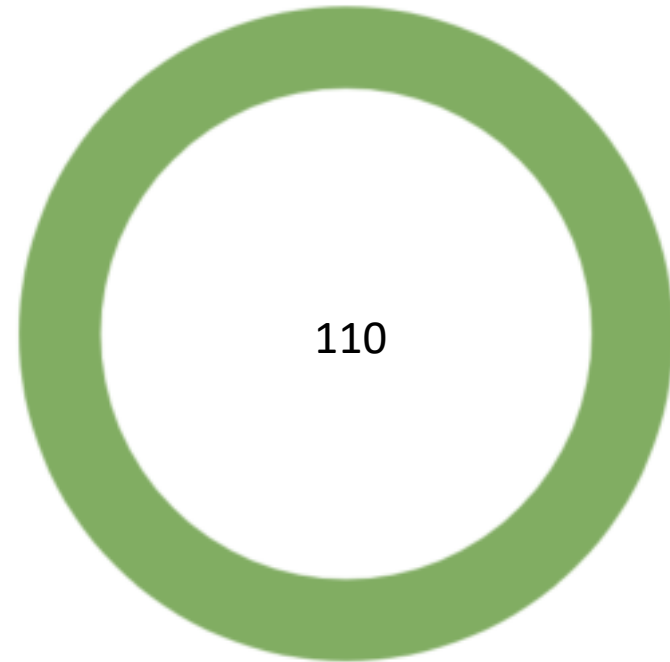
22 beds

56 XIBU DISINFECT hybrid (hand sanitizer)

27 XIBU FOAM hybrid (hand soap)

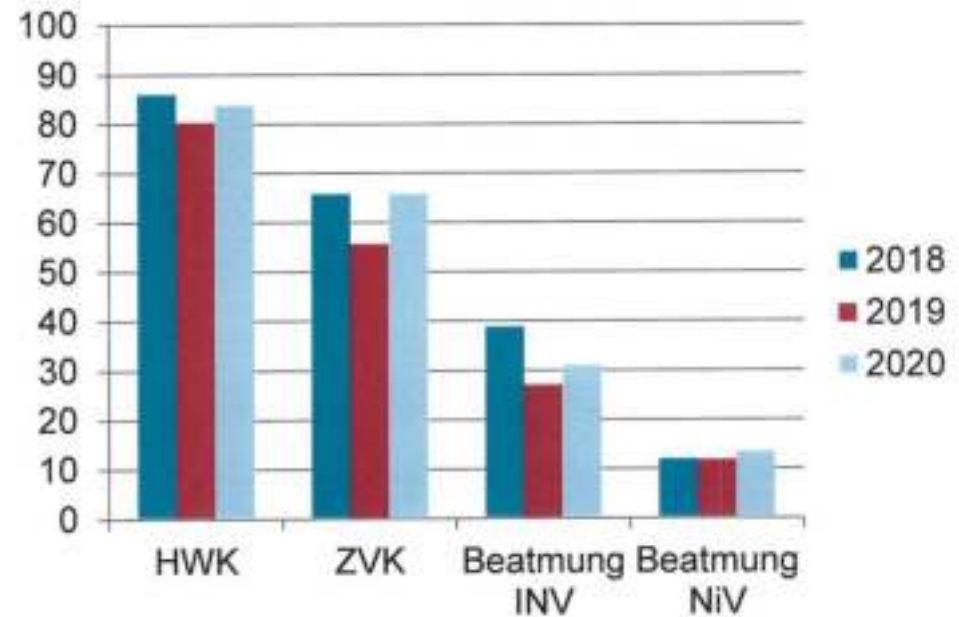
27 XIBU TOWEL hybrid (hand paper)

Spenderstatus



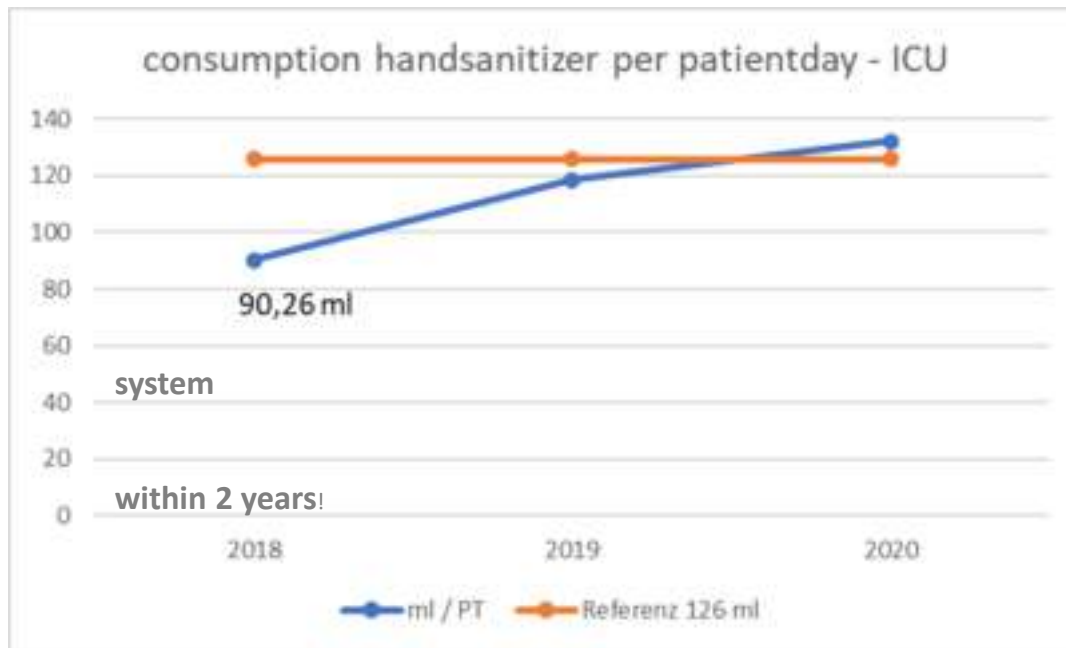
Hagleitner senseMANAGEMENT

2018 and 2020 they had nearly the
same number of patientda



Hagleitner senseMANAGEMENT

:



Due to implement of our

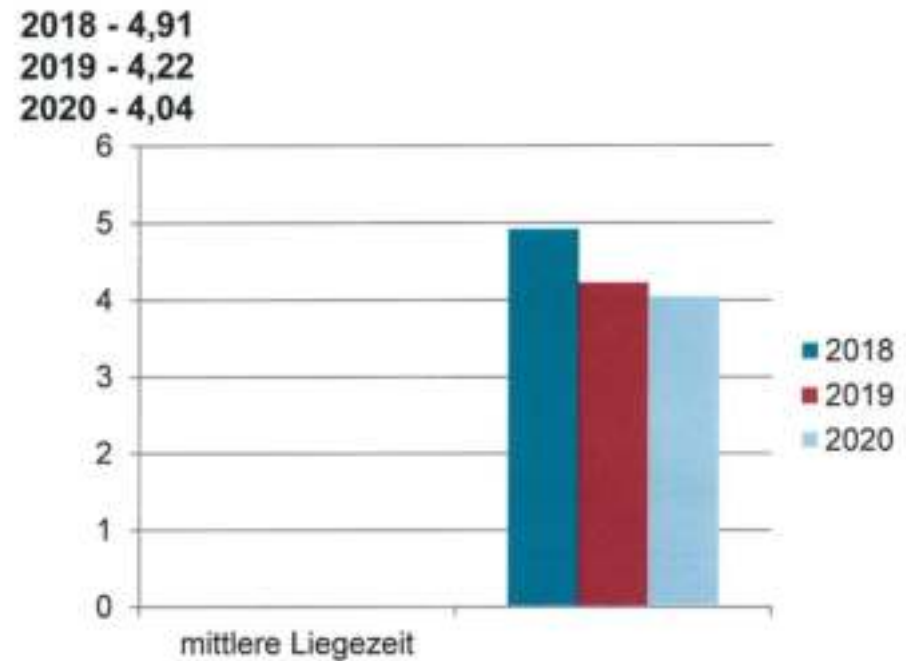
increasement of 46,4 %

Hagleitner senseMANAGEMENT

Result one:

Decrease of length of stay of 18,5 %

4,91 days per patient to 4 days per patient



Hagleitner senseMANAGEMENT

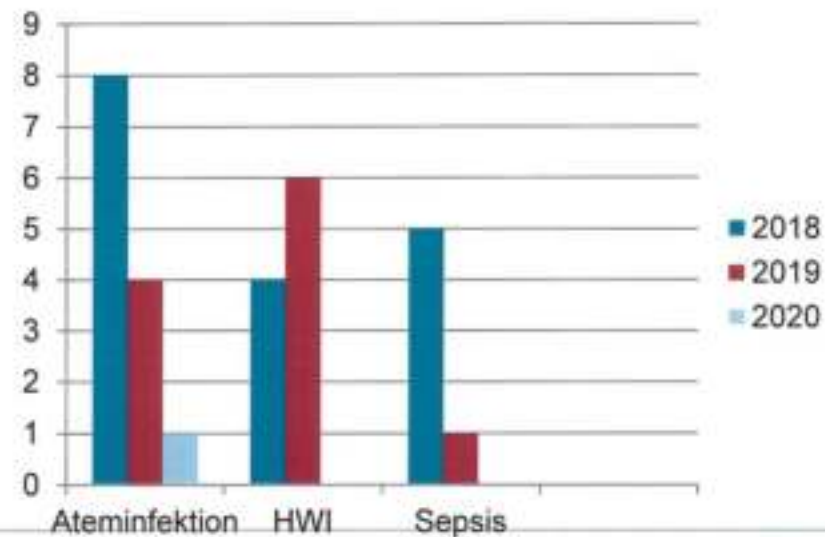
Result two:

Infections decreased enormous!

0 sepsis, 0 UTI within 2 years!

Verlauf der nosokomialen Infektionen auf der Intensivstation im BKP

2020 HWI= 0 Sepsis= 0



Brüderkrankenhaus
St. Josef Paderborn



[health – www.hagleitner.com](http://www.hagleitner.com)

**IMPROVE PATIENT
SAFETY**



12:00 – 13:00 Moderated panel discussion:

Key Challenges for Companies Operating in Slovenia

- **Barbara Stegel**, Secretary General, Forum of International Research and Development Pharmaceutical Companies
- **Mateja Lenčič**, Head of Customer Centre, Merkur zavarovalnica d. d.
- **Tanja Štamec**, Regional Manager, Hagleitner Hygiene

Moderated by **Tjaša Zajc**

13:00 – 14:00

Lunch & Networking

