

European Health Systems - Past, Present and Future: Technology meets Health System Research

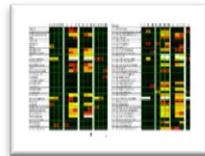
Wednesday, 12th 2016, 4pm

Festsaal der TU Wien

Karlsplatz 13, 1040 Wien

Data & Modeling Methods

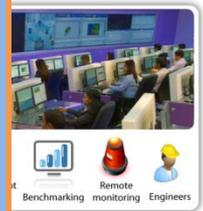
*Key research at
institutes 101, 105, 183, 186, 188*



Method development: Big data analysis,
modelling, model comparison, coupling

Complex Processes & Decision Processes

*Key research at
institutes 101, 105, 186, 188*



Development of scalable population
and network models and decision models

Analyzing Smart Technologies

*Key research at
institutes 101, 183, 184, 188*



Methods for Analysis and Implementation
of adaptive, flexible systems

Planning Dynamic Communities

*Key research at institutes 101, 183, 184,
234, 259, 302, 330*



Mapping of infrastructure and dynamic
processes, simulation coupling

deXhelpp

wirtschafts
agentur
wien

Ein Fonds der
Stadt Wien

COMET

Competence Centers for
Excellent Technologies



FFG

Dynamics

Scenarios
Prognosis
Status Quo

Costs



Services



Diseases



People

Interventions &
Planning
Pathways of Ser-
vice Utilization
Burden of
Disease

Data



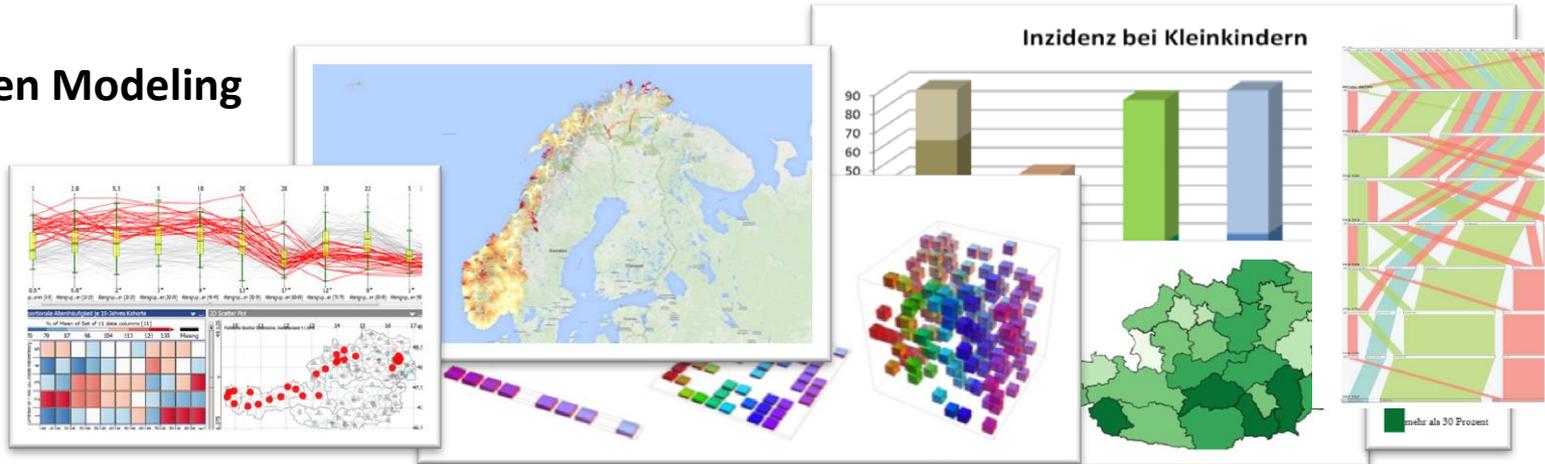
Models



Decision Support

Data Driven Modeling

Data Based



System Knowledge

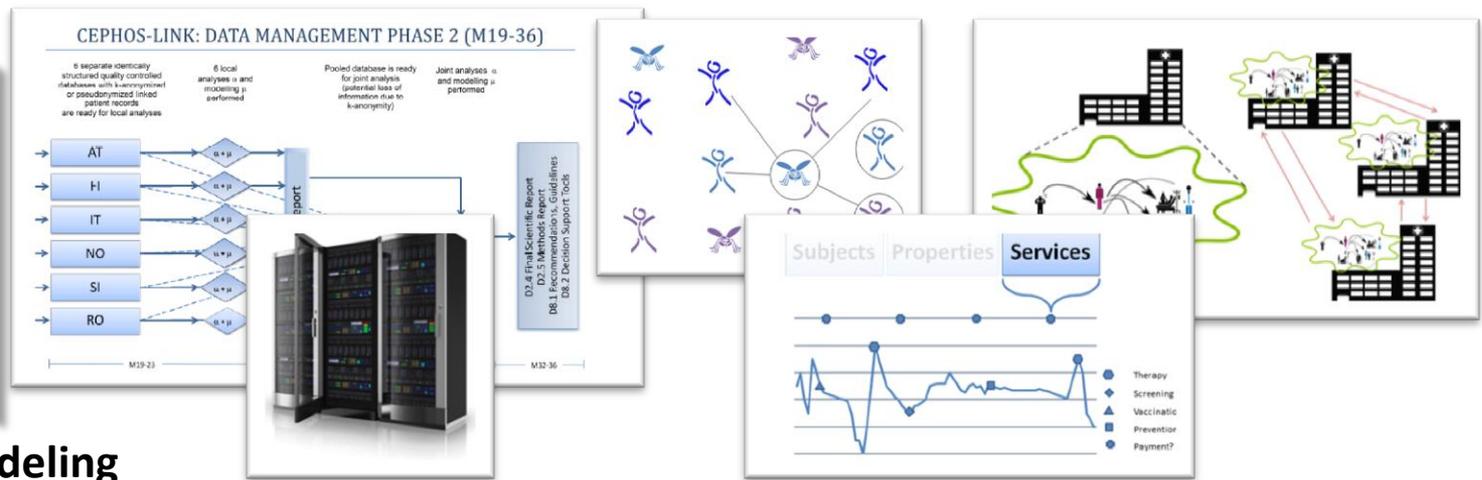
Model Evaluation

Modelling

Simulation & Scenarios

Derivative & Visualisation

Network/
Relation/
Equation
Based



System Modeling

Modelling & Simulation in Health Technology Assessment (HTA)

LVA Nr. 101.407, Spezialvorlesung, 2 Semesterwochenstunden, ECTS: 3.0, November 2016
always Wednesday at 3^{pm}

Development and Implementation of innovative Methods and Technologies of Data
Sciences and Modelling and Simulation, Introduction to Basic Concepts of Health Systems

Vortragende:

Breitenecker, Felix
Einzinger, Patrick
Endel, Gottfried
Filzmoser, Peter
Gyimesi, Michael
Miksch, Florian
Popper, Nikolas
Urach, Christoph
Wilbacher, Ingrid
Wild, Claudia



Gesundheit Österreich
GmbH



Partners from CEPHOS-LINK (Comparative Effectiveness Research on Psychiatric Hospitalisation by Record Linkage of Large Administrative Data Sets)



Today's Presentations



16:30 The idea behind CEPHOS-LINK. National routine health care data as a source of information for research: the Finnish example.

Kristian Walbeck, THL, National Institute for Health and Welfare, Finland

16:45 Focus Theme: Development of health data collection and administration since independency:

Organisation of data analyses and measuring of co-morbidity/multi morbidity.

Lilijana Sprah, ZRC SAZU, Research Centre of the Slovenian Academy of Sciences and Arts, Slovenia

General concepts and measuring of post discharge variables. Literature based results and real world experience.

Raluca Sfetcu, SNSPMPDSB, National School of Public Health, Management and Professional Development, Romania

17:15 Break

17:30 Challenges in integrating registry based patient cohorts across EC countries

Christa Straßmayr, IMEHPS Research, Austria

17:45 CEPHOS Application: Which factors before discharge have to be considered to prevent readmission?

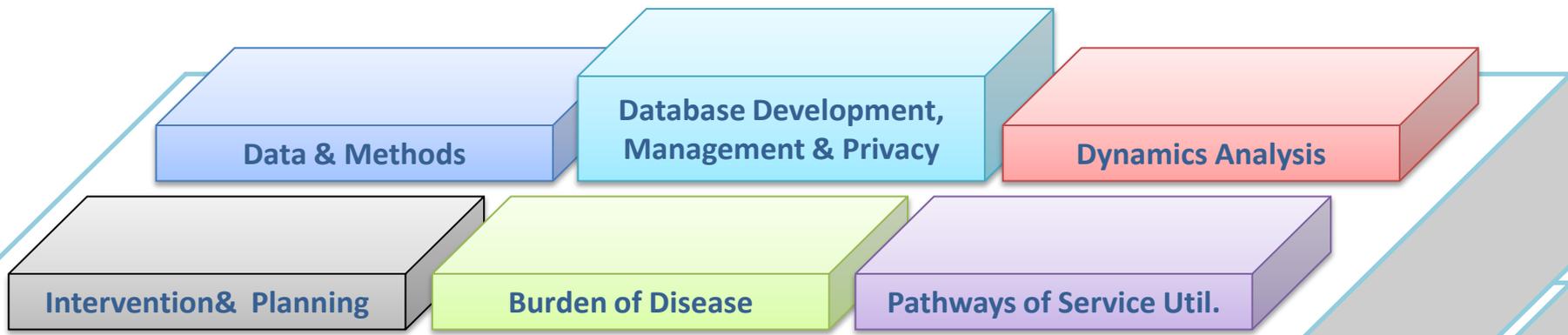
Federico Tedeschi, University of Verona, Italy

18:00 The DEXHELPP Project at TU Wien– Health System Research and innovative Technologies for Future Cooperations

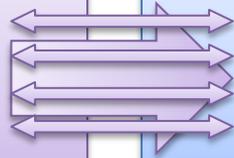
Niki Popper, DEXHELPP, COMET K-Project Decision Support for Health Policy and Planning

18:10 Buffet & Meet the Researchers

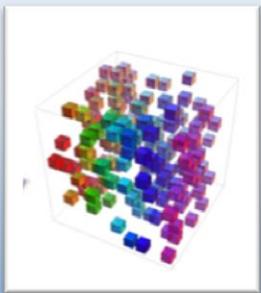
Structure



Data



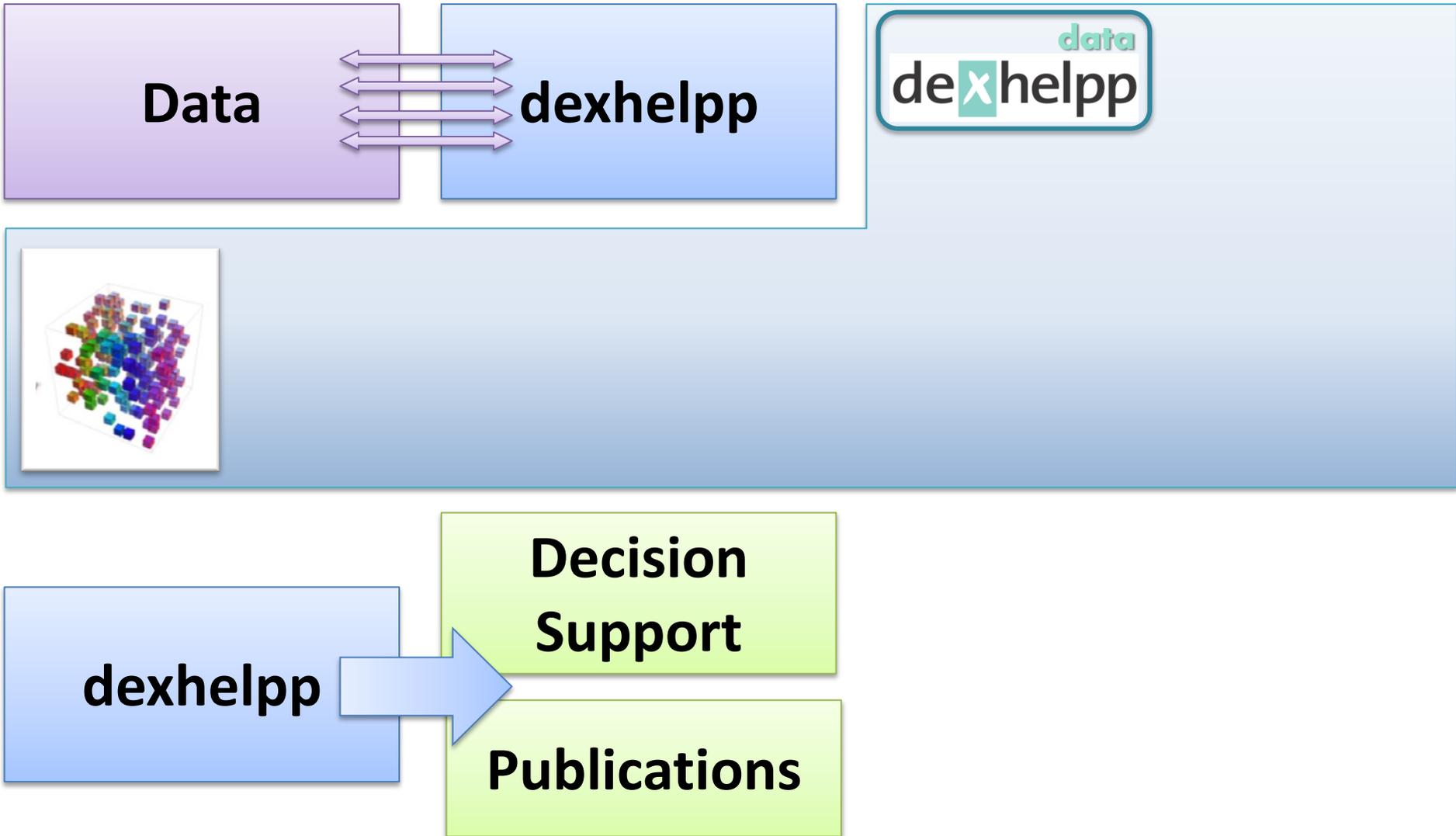
dexhelpp



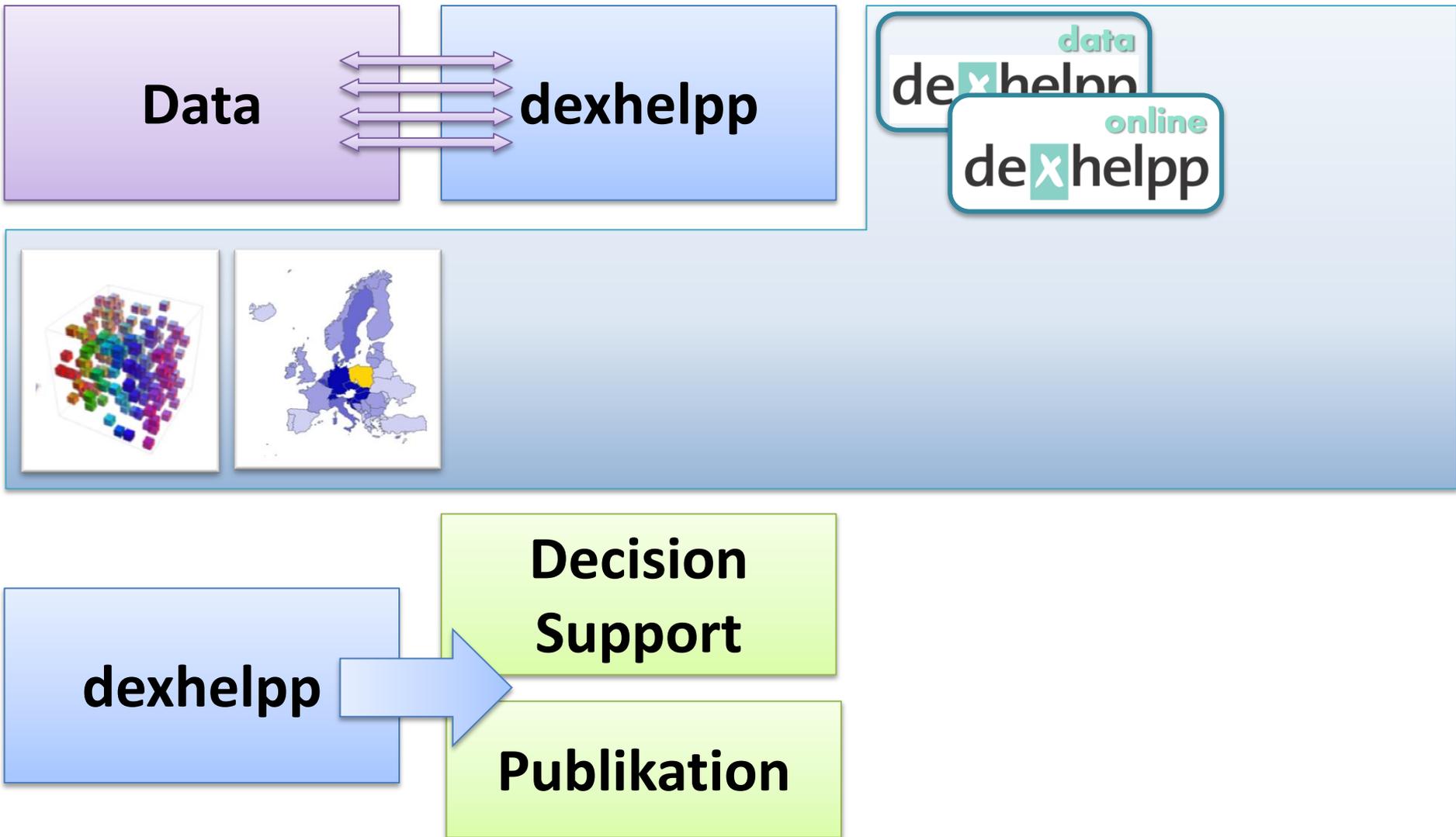
DEXHELPP RESEARCH SERVER & SERVICES

- Central Server for Data Driven Research in Austria
 - Safe use of sensitive data
 - Record Linkage
 - Powerful Server, fast computation
 - Efficient exchange of data & transfer of results
 - For researchers & domain experts
- Processes & Services are clear defined
 - Research question, time span and team
 - Contracts, exploitation & dissemination of results
 - Access for Research & Decision Support
- Sensitive data only temporary
- Different Simulation Models based on the GEPOC virtual Austrian Population

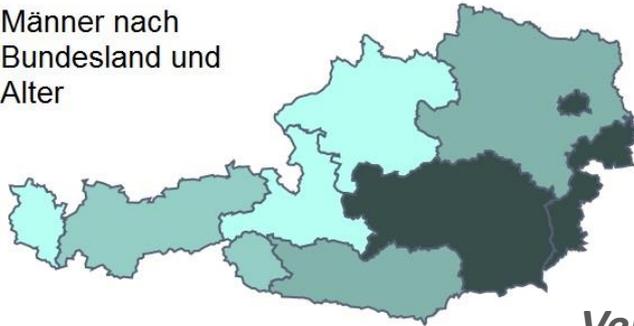




- ✓ Analysis of Fractures due to Falls of the Elderly
- ✓ Analysis of Health in Children and Adolescents
- ✓ Analysis of TNF Inhibitors
- ✓ Comparison of Methods in the Field of Epidemiology
- ✓ Development of a new dynamic model for Health Workforce Planning
- ✓ Evaluation for Prognosis of Primary Care
- ✓ Method Comparison & Coupling: Medical Care in Stroke Cases
- ✓ Monitoring of Primary Care: Methods & Indicators
- ✓ New Methods for Evaluation of High-utilizing patients
- ✓ Pilot Project - Record Linkage East Tyrol
- ✓ Primary care of the elderly
- ✓ Quality Assessment of the Austrian “Katalog Ambulanter Leistungen”
- ✓ Research on new Indicators: Years of Potential Life Lost (PYLL)

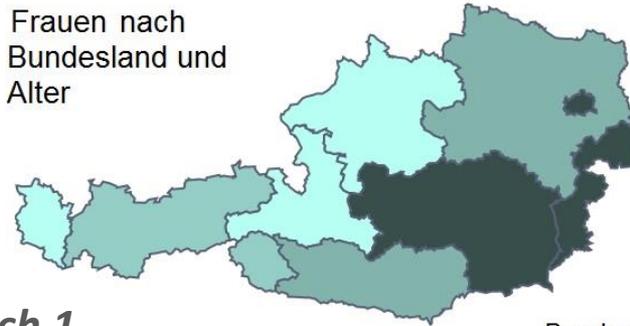


Männer nach Bundesland und Alter



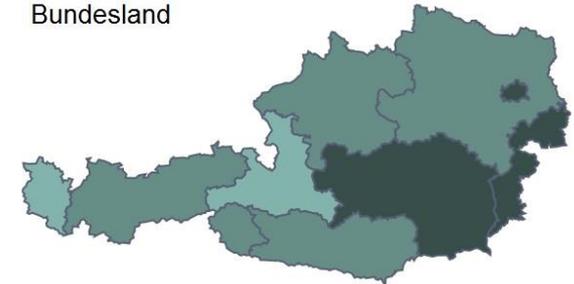
Vergleich 1

Frauen nach Bundesland und Alter



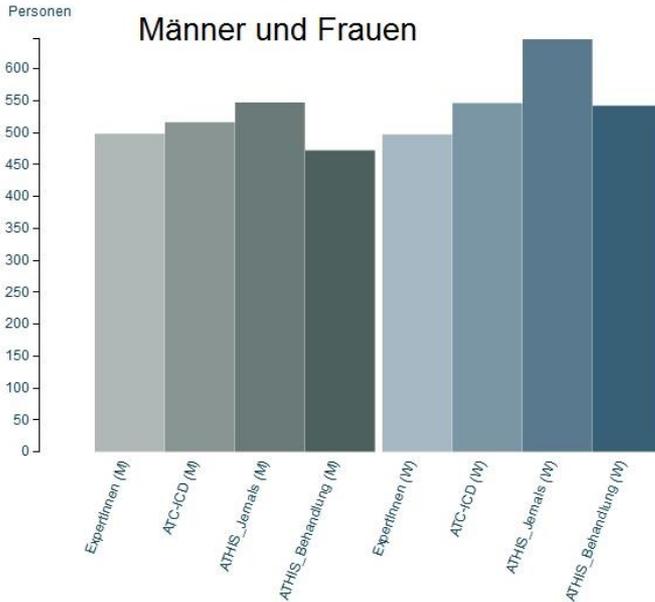
Bundesland

Vergleich 4



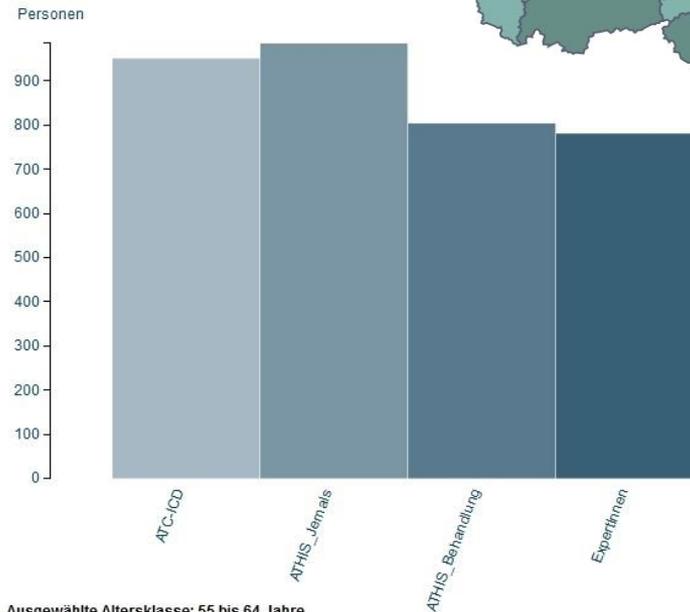
Vergleich 2

Männer und Frauen

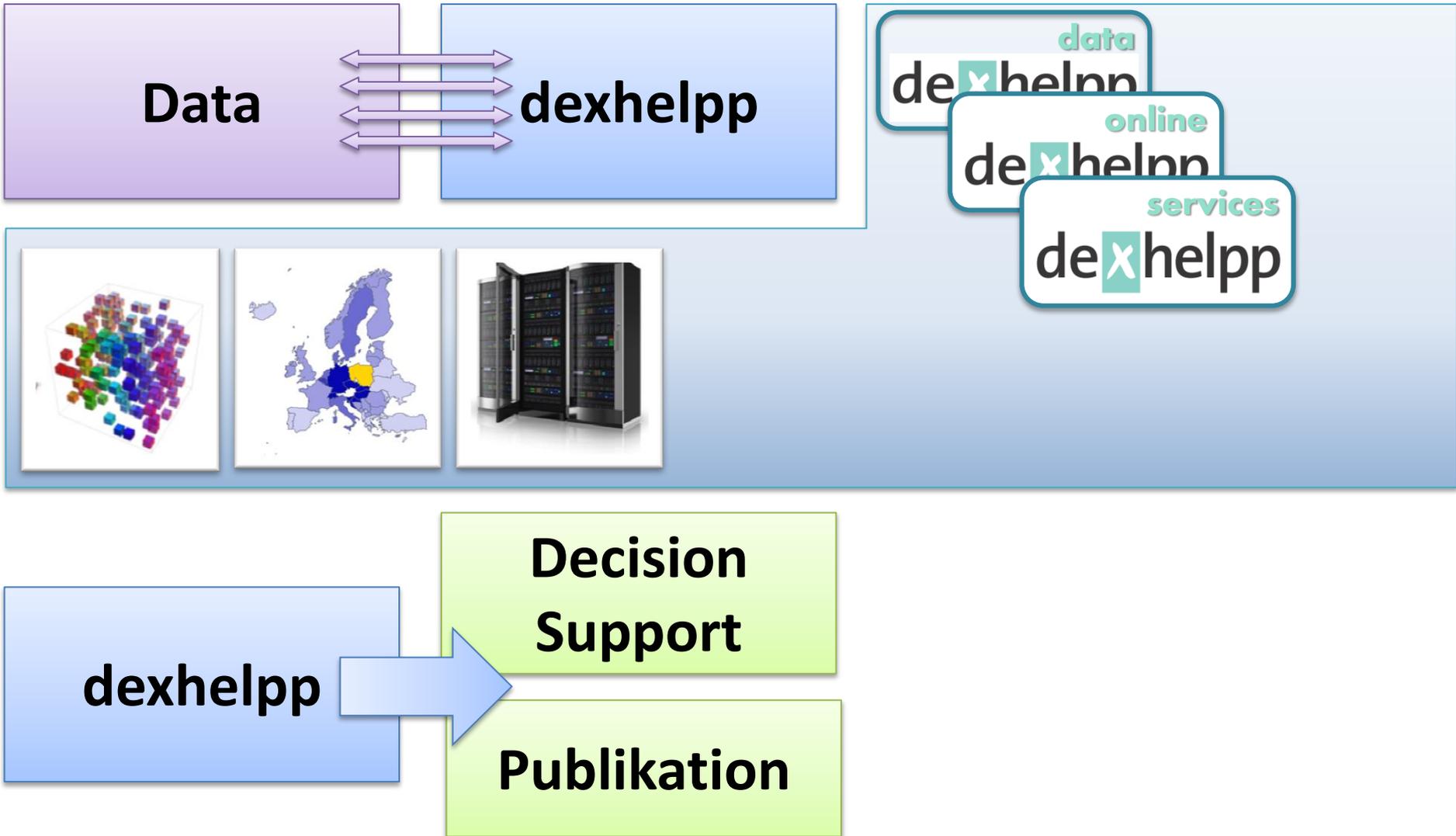


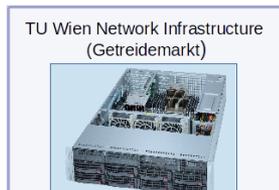
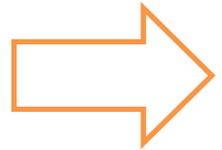
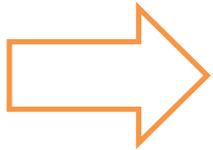
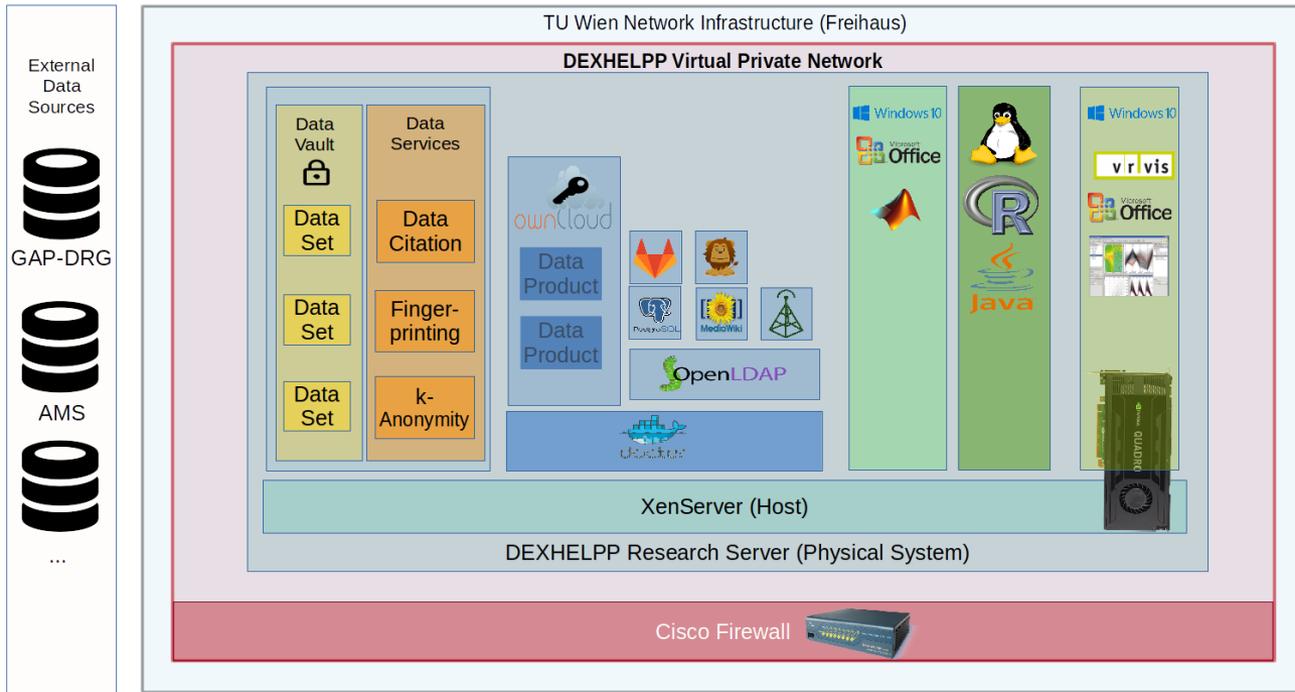
Vergleich 3

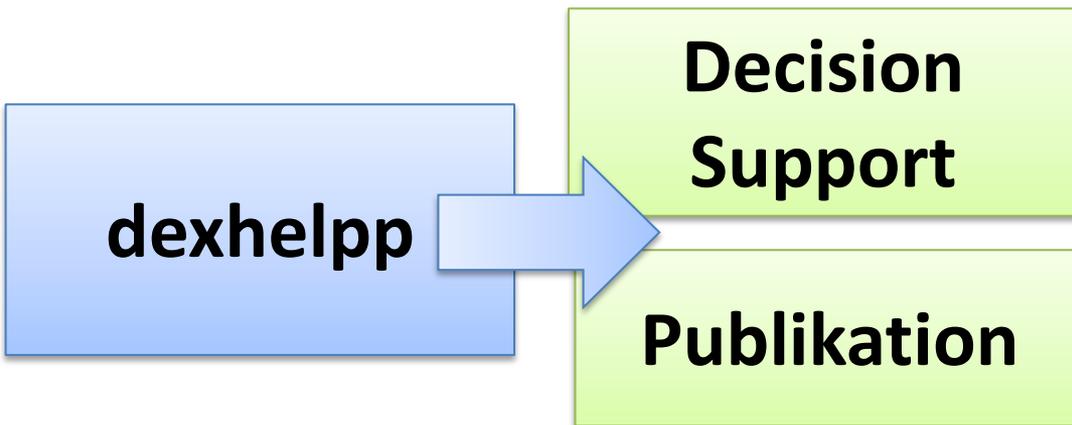
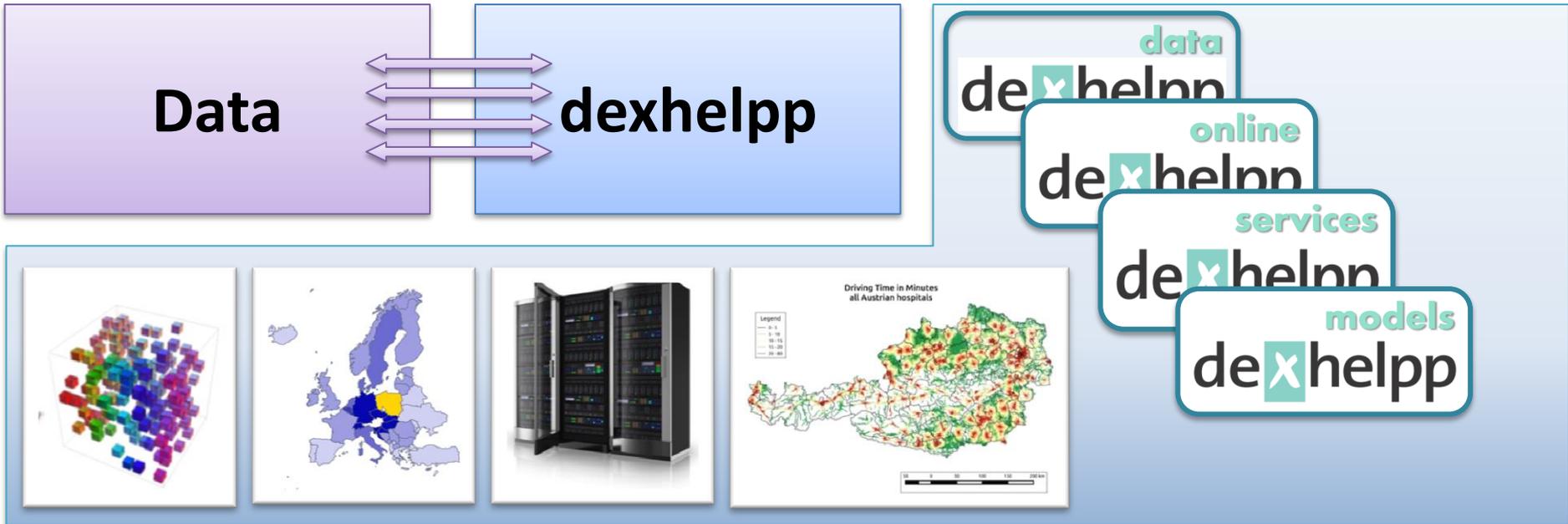
Altersklassen

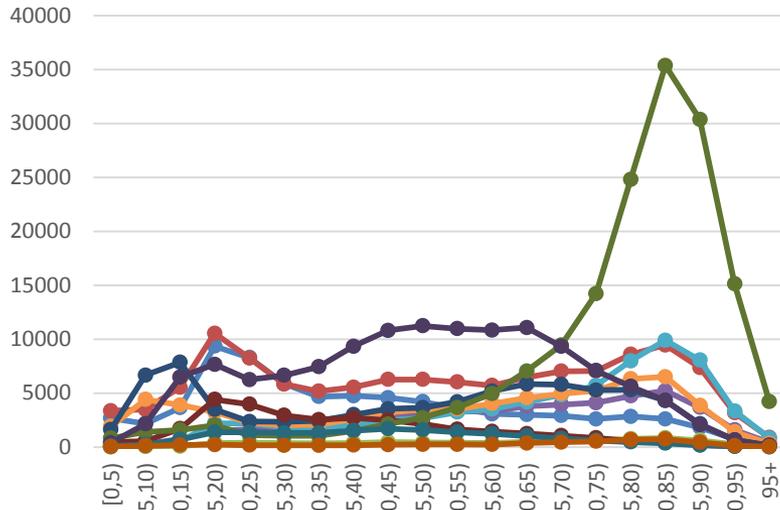


Ausgewählte Altersklasse: 55 bis 64 Jahre.

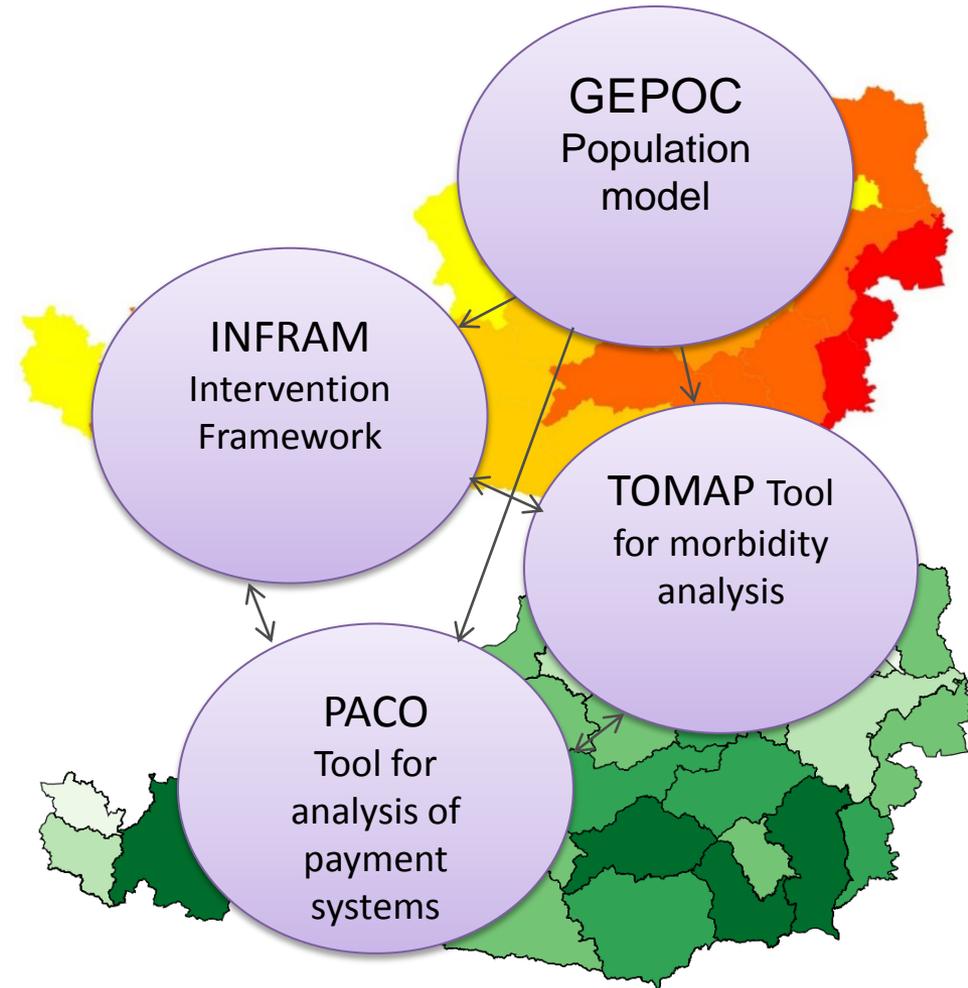
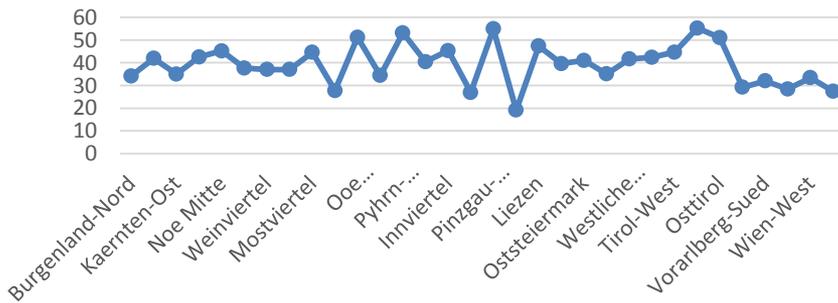


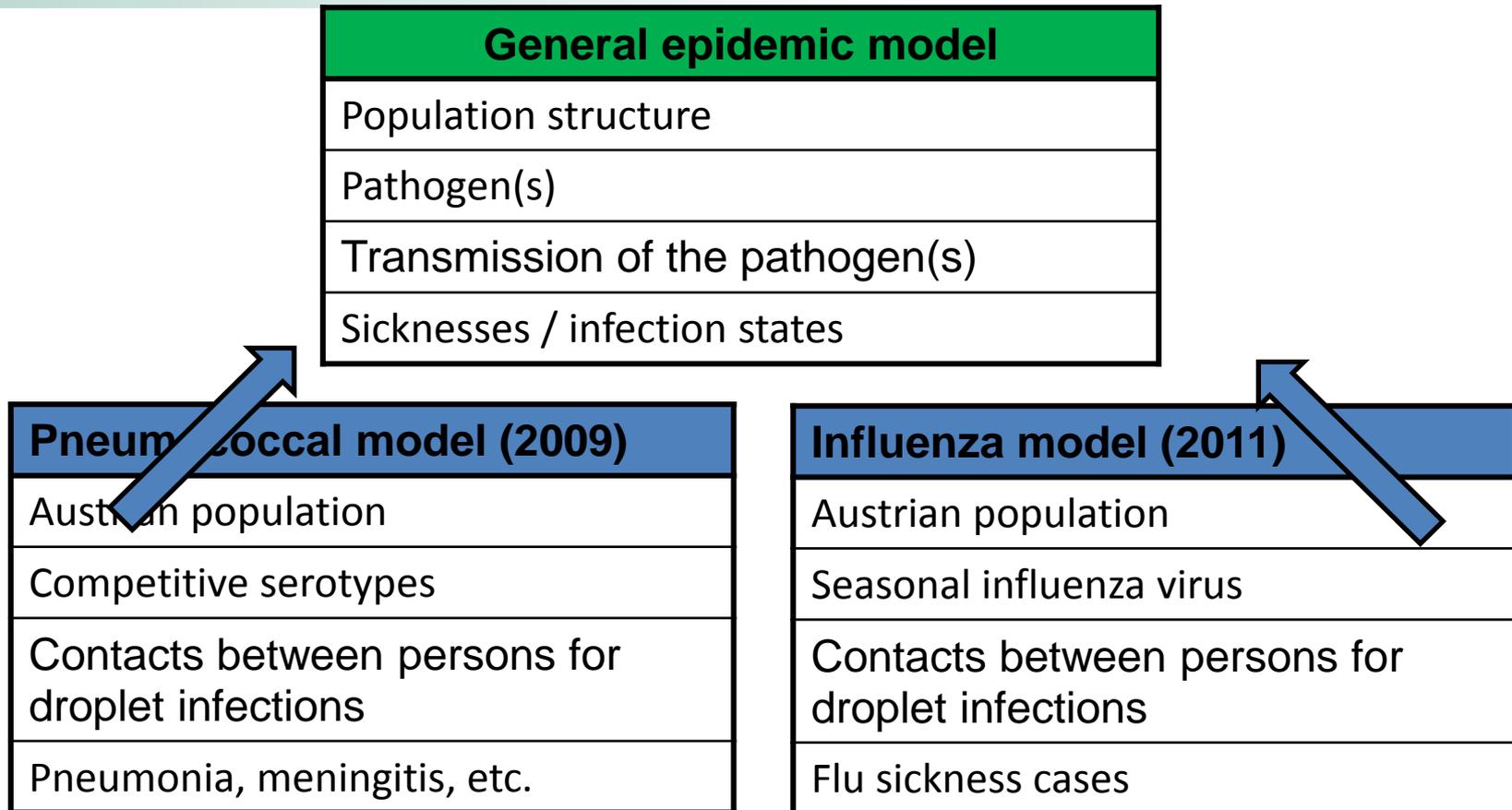


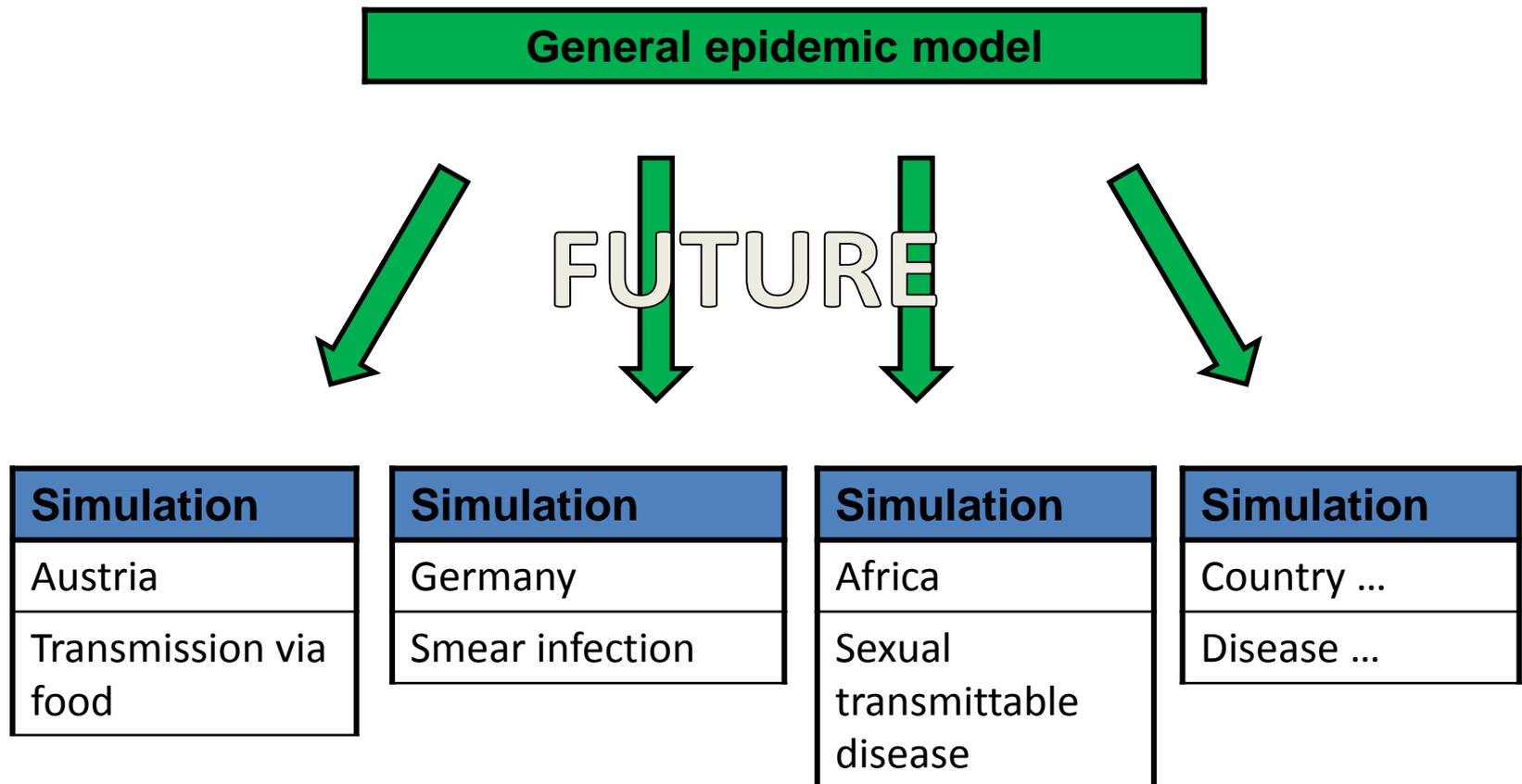


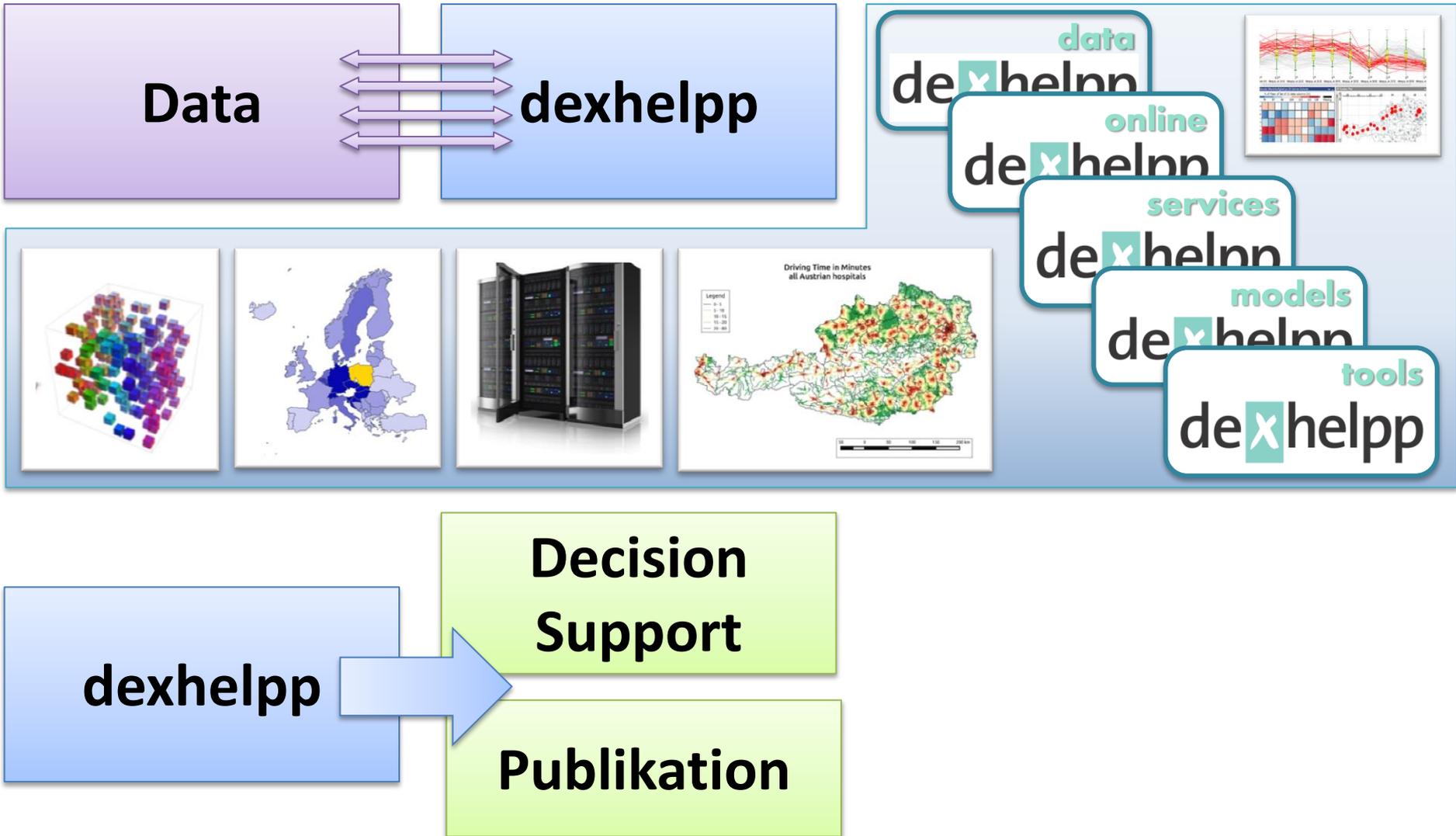


Zweijahresinzidenz nach Versorgungsregion

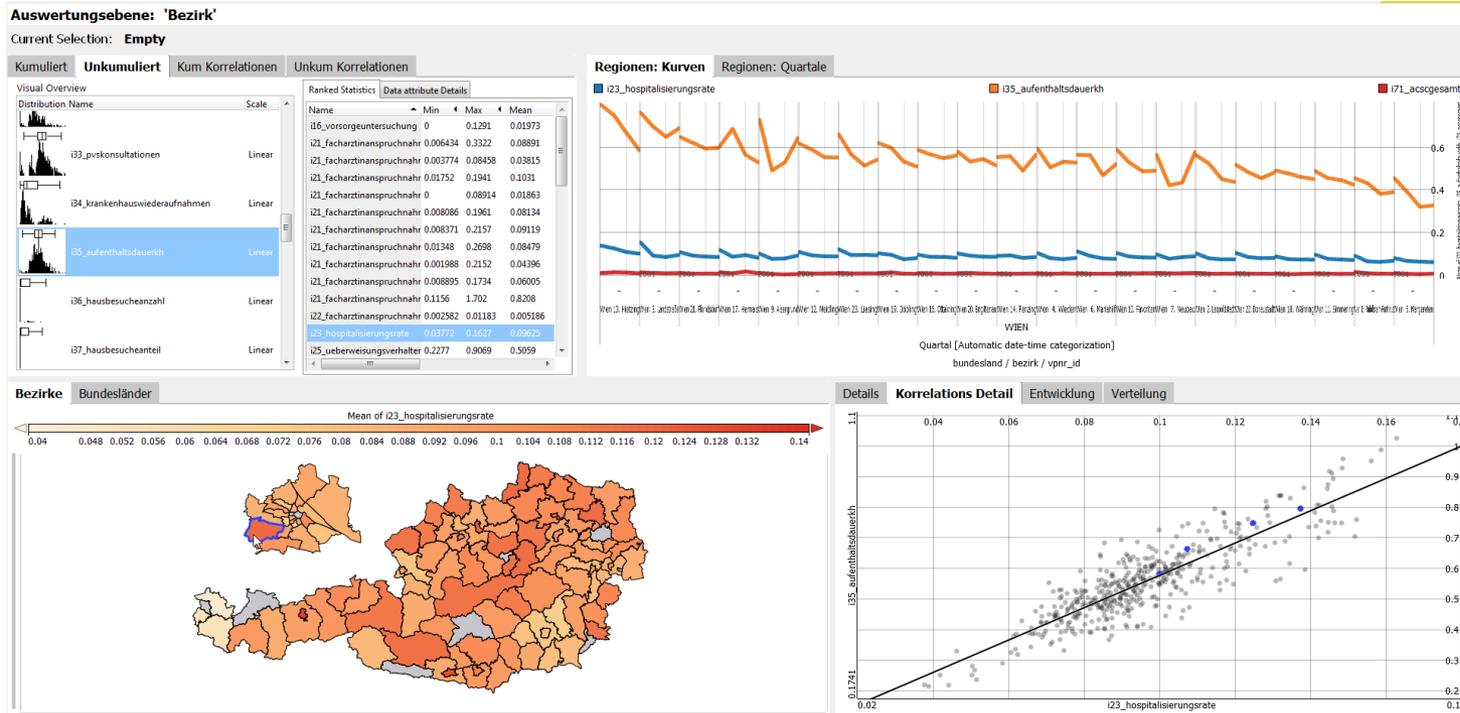


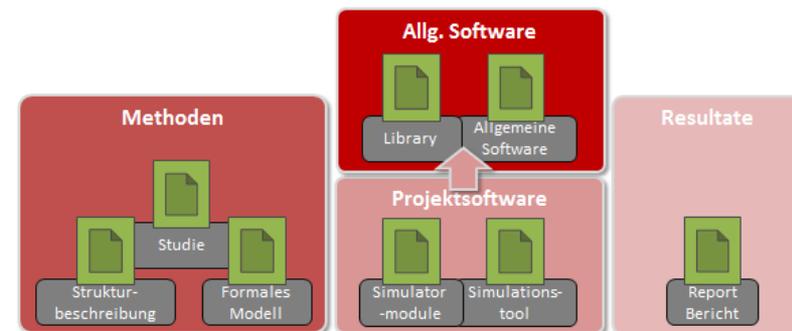
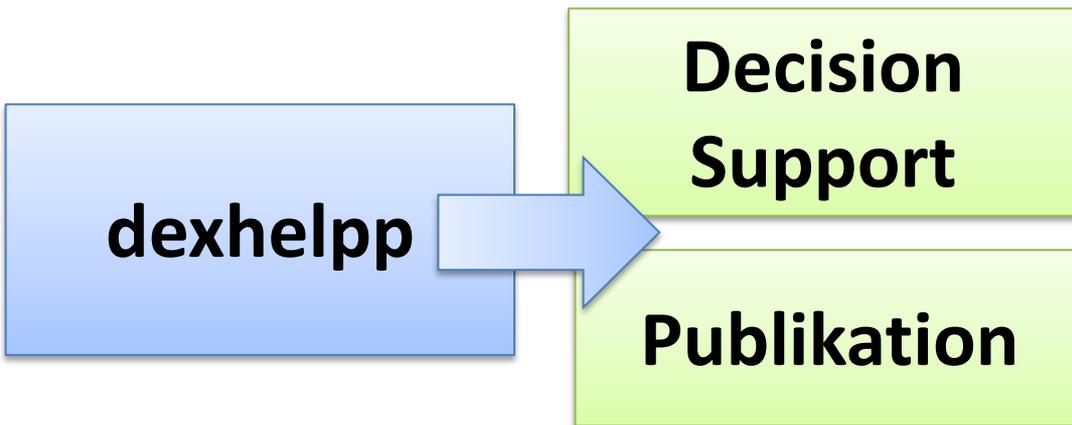
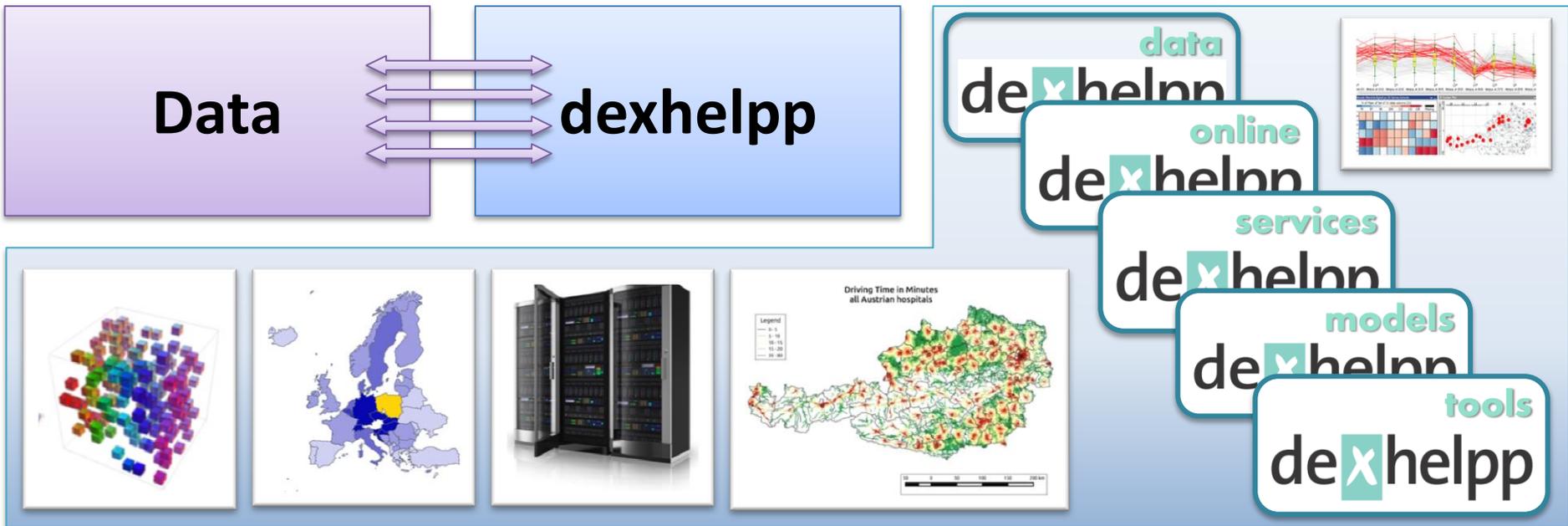




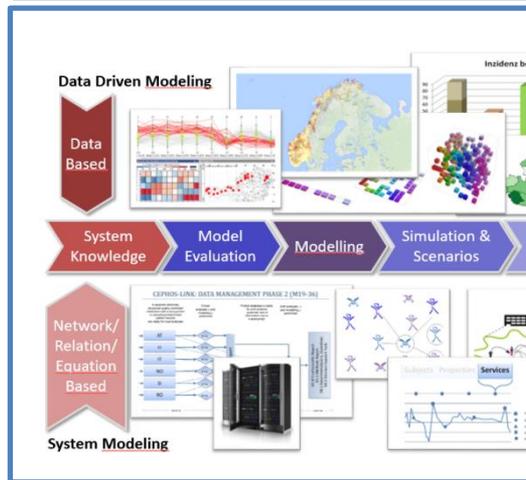


- Interactive Dashboard
 - Customer Tailored
 - Flexible
 - Integrated into the process

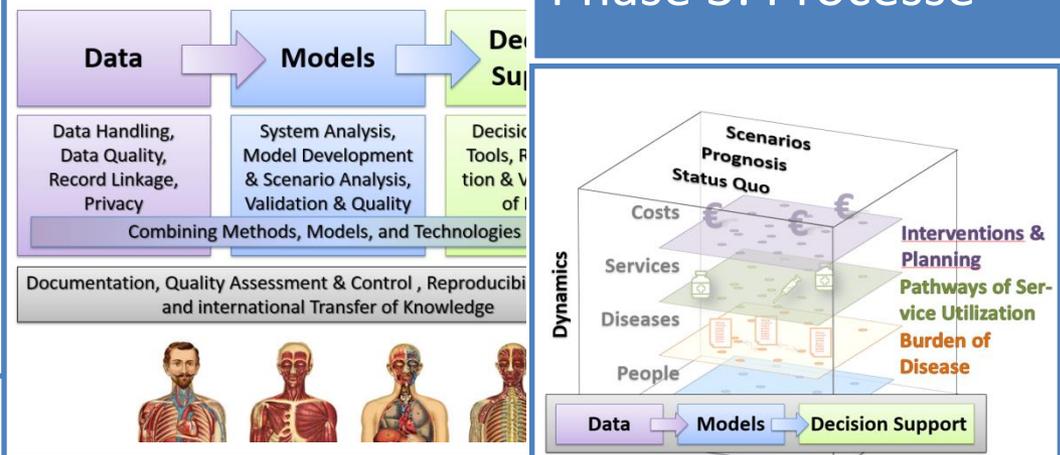




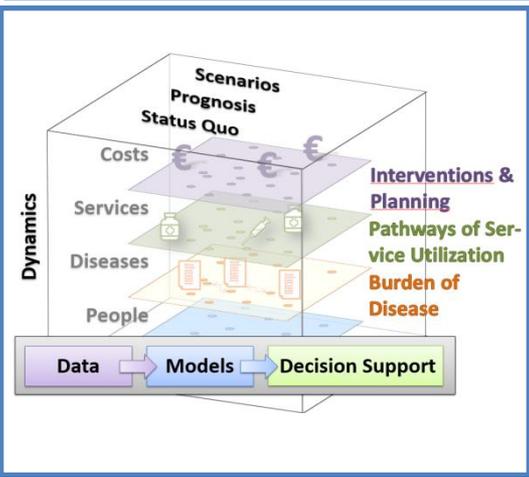
Phase 1: Modules are developed



Phase 2: Assembling of Modules



Phase 3: Prozesse



Overall: Real World Applications