Federal Institute
for Drugs
and Medical Devices

BfArM‘s Challenges within the Integration in the European Network

Overview

1. About us
2. German National Health Care Structure
3. Regulatory World (SPOR context)
   I. Substance Database
   II. Organisation Database
   III. Catalogue Database
   IV. Medicinal Product Database
4. PZN Mapping
5. Medication Data for Crossborder Data Exchange
6. Prospect and Conclusion

1. About us

Federal Ministry of Health

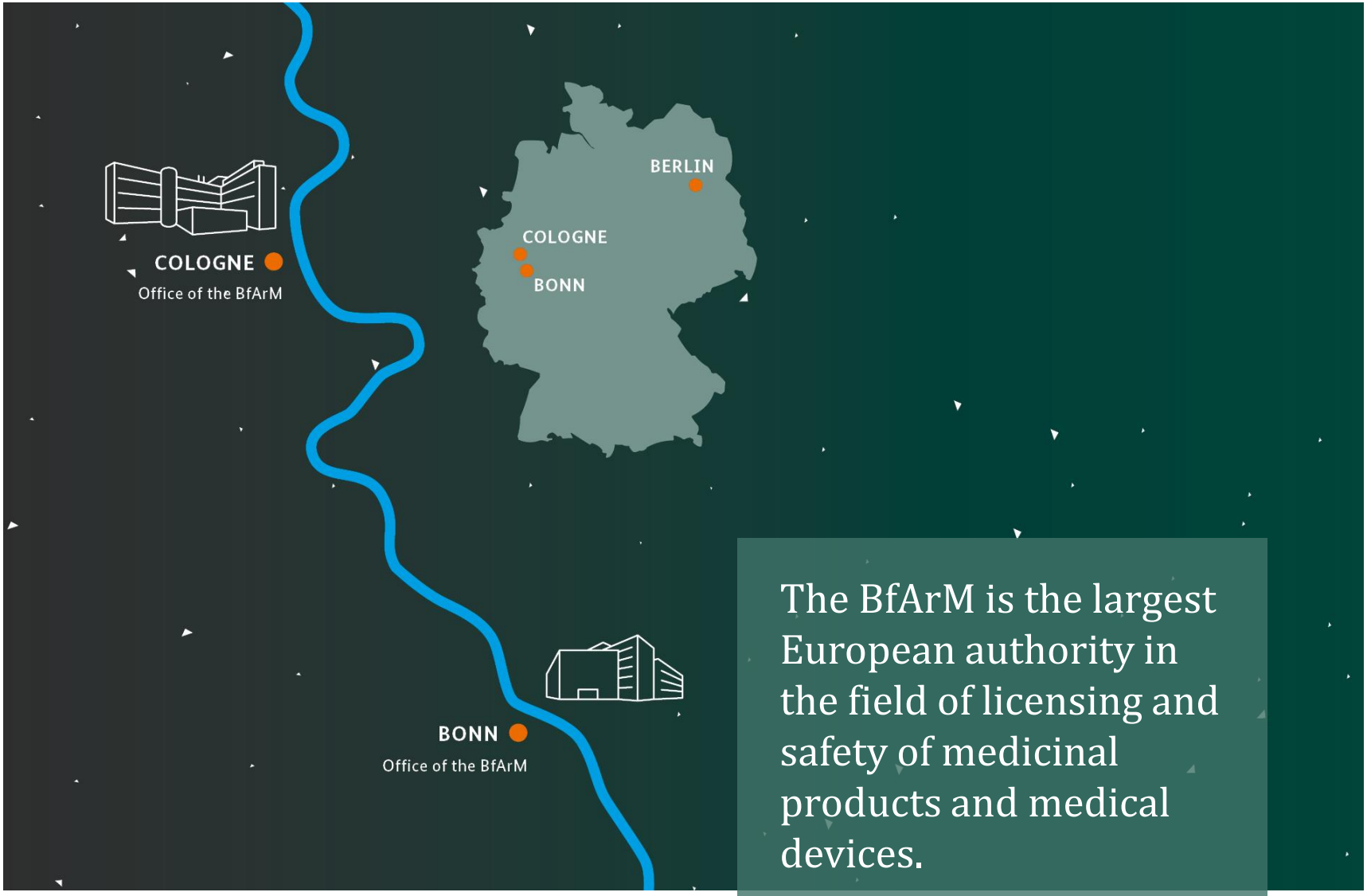
Federal Institute for Drugs and Medical Devices

Paul-Ehrlich-Institut

ROBERT KOCH INSTITUT

BZgA Federal Centre for Health Education

As independent higher federal authority the BfArM is part of the portfolio of the Federal Ministry of Health.



The BfArM is the largest European authority in the field of licensing and safety of medicinal products and medical devices.

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and Medical Devices

Roughly 1,300 employees are involved in providing patients with safe and effective drugs and medical devices.

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Central tasks of the BfArM:

→ To license and to improve the safety of drugs

→ To register and to evaluate the risks of medical devices

→ To monitor the traffic with narcotics and precursors

→ To establish classifications, terminologies, standards and data based information systems for health care

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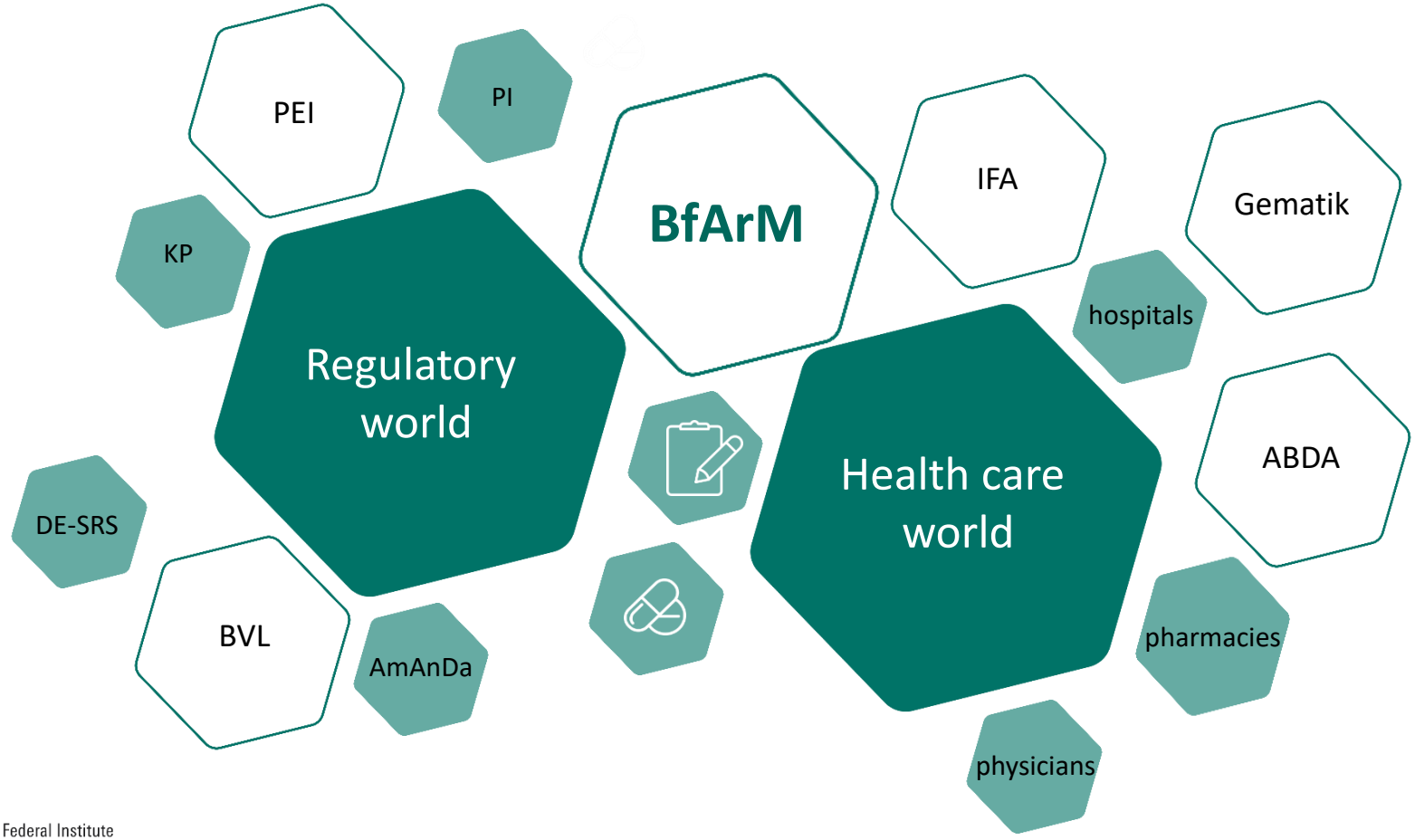
2. German National Health Care Structure

German National Health Care Structure*



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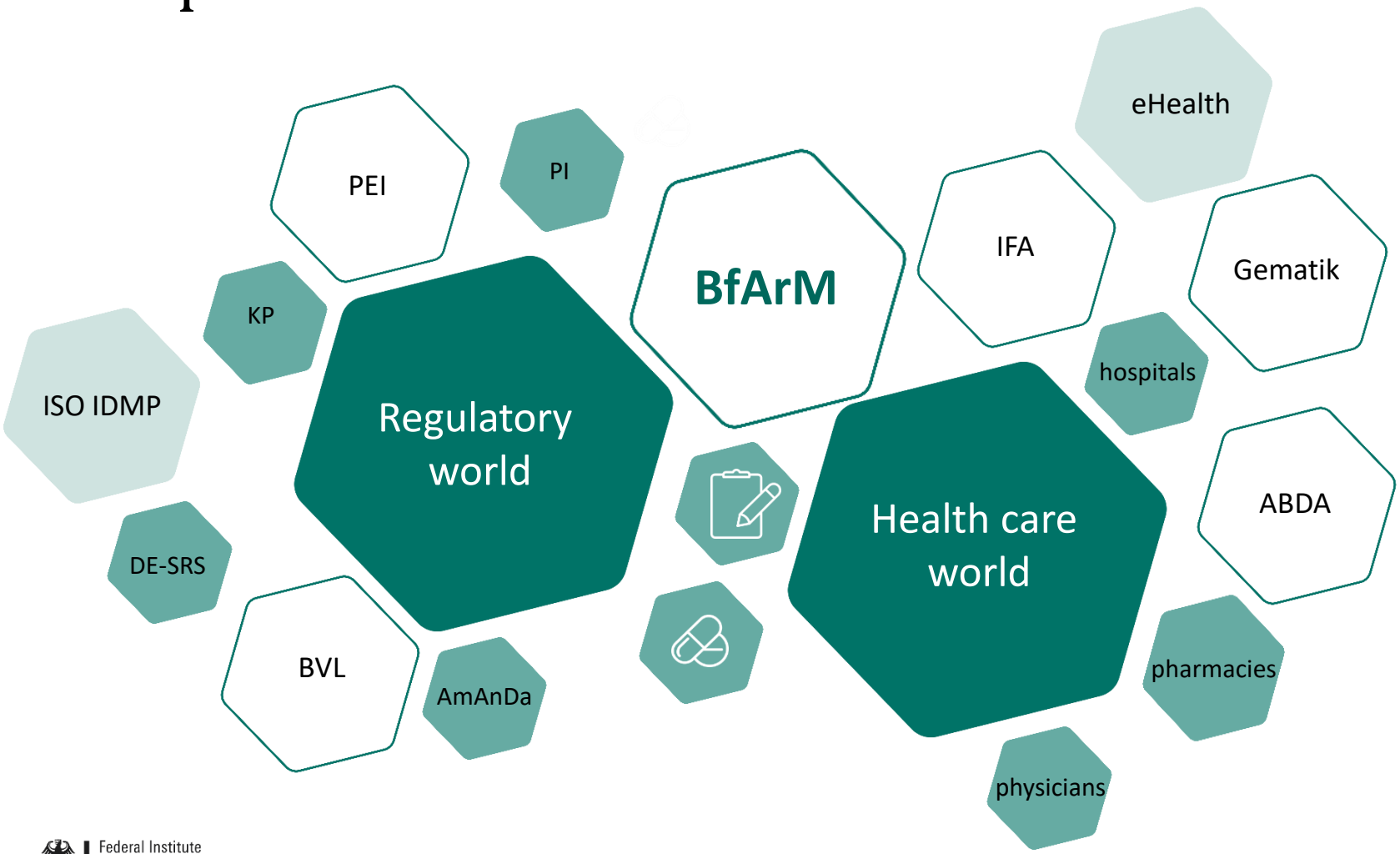
*only relevant aspects for this presentation

German National Health Care Structure in European Context



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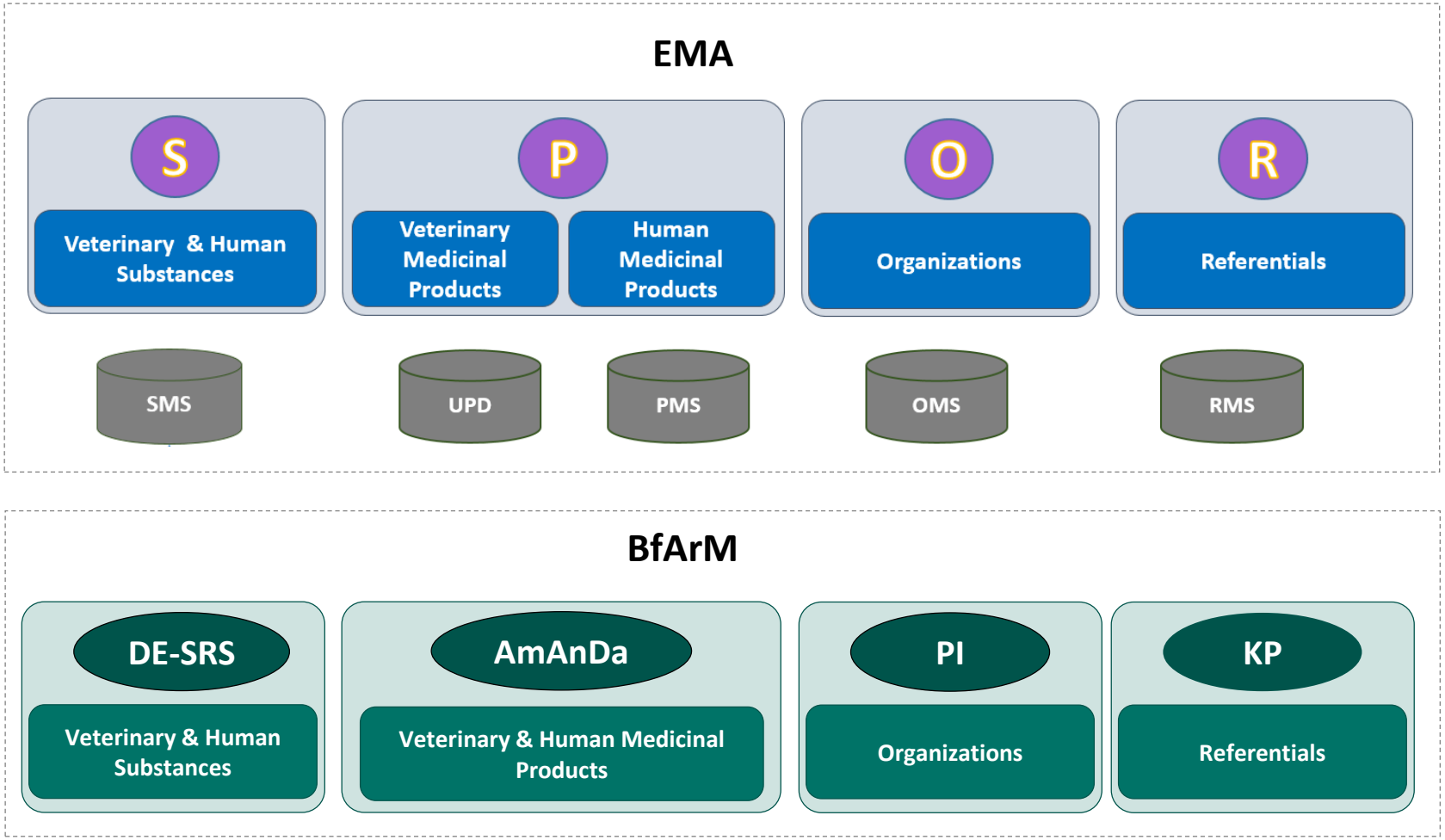
3. Regulatory World

Database Landscape



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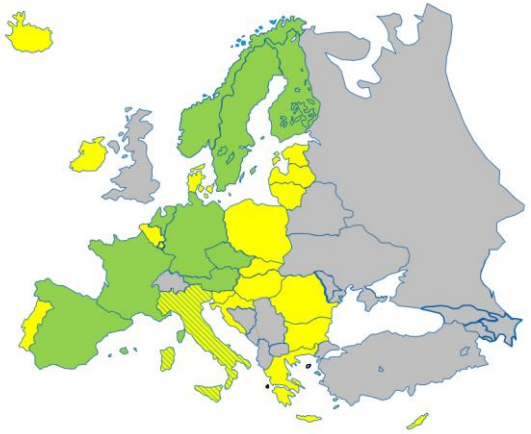
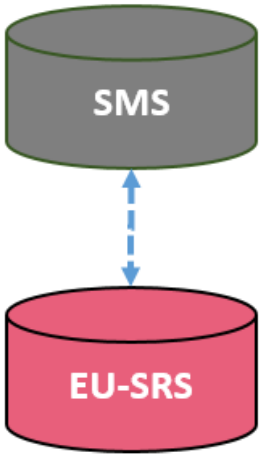
Substance Database - SPOR



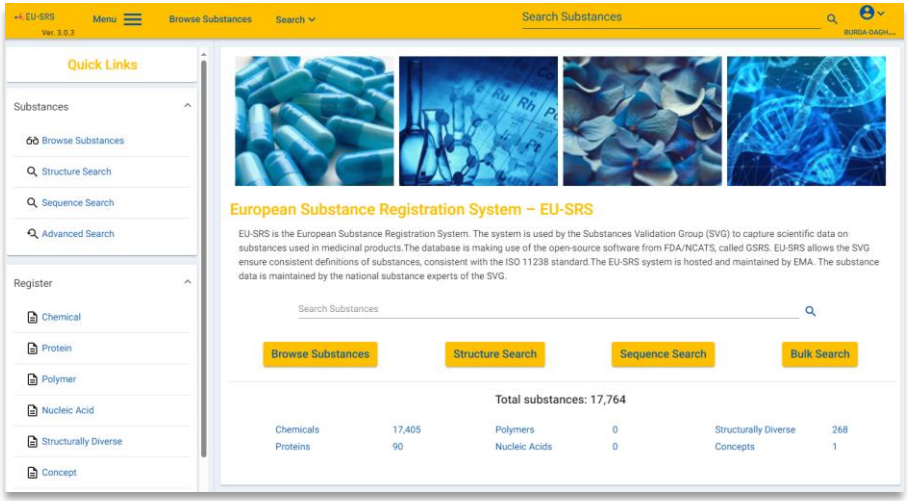
EEA member involved in HMA SVG



- Substance names
- Basis for eAF
- Includes national translations

- Transfer of EU-SRS hosting from BfArM to EMA - Jan 2023
- SVG-SRS: all SMS substances (internal)
- EU-SRS: only cleansed SMS substances
- ISO IDMP
- Chemical structure
- Hierarchy of substances
- Relationships between substances
- References (scientific)
- Code & Names
- Create & maintain substances by HMA SVG
- High quality data

Substances are basis for medicines, high quality substance data is crucial!



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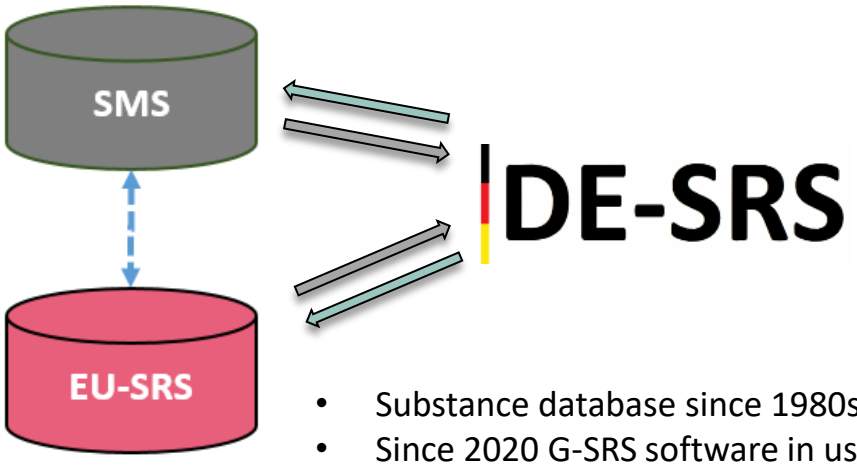
Substance Database - SPOR



- Substance database since 1980s
- Since 2020 G-SRS software in use (the same software as EU-SRS)
- Approx. 47 000 substances, not all relevant for medicinal product but required by ISO IDMP

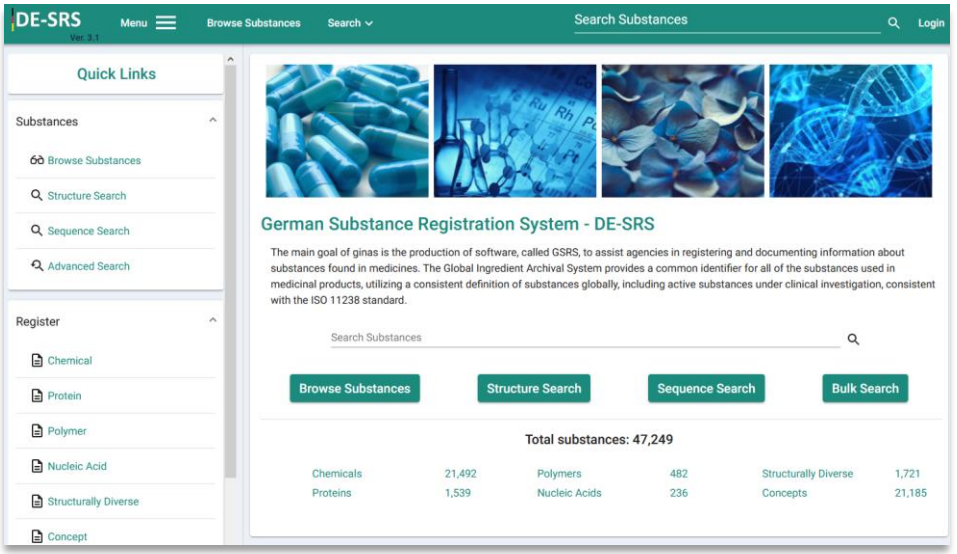
Current process:

DE-SRS input

- EUTCT/SMSID/xEVMPD mapping data since 2019
- Monitoring of SMS changes regarding substance status
- DE-SRS software development for better data exchange between systems

DE-SRS output

- Regular submission of German translations to SMS
- New substance request
- Applying for substance corrections in SMS



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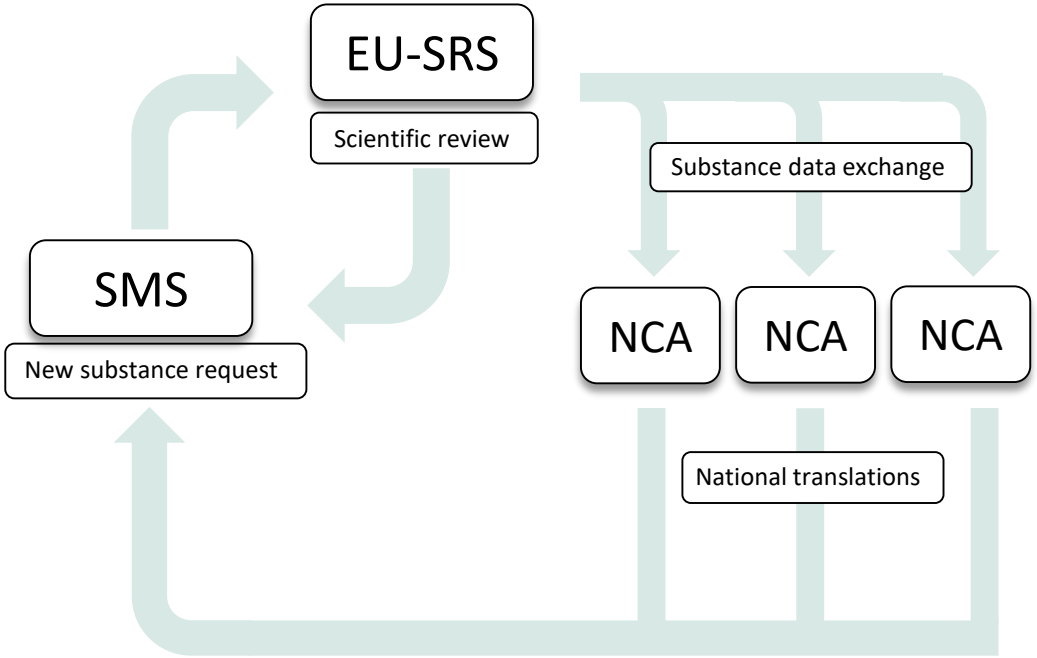
Substance Database - Challenges

- Mapping by name alone is not sufficient
  - EU-SRS includes high quality data, better source for mapping than SMS
- SMS cleansing in progress
  - Implementation of SMS changes in national substance databases
  - Difficult mapping of not-cleansed substances (e.g. homeopathics - a lot of duplicates, herbal substances/extracts - not clear naming rules)
- Not-cleansed substances can be selected by applicant → cleansing of SMS substances should have high priority for all of us
- SMSID should be basis substance ID for eHealth

Proposal for future process within EU network:



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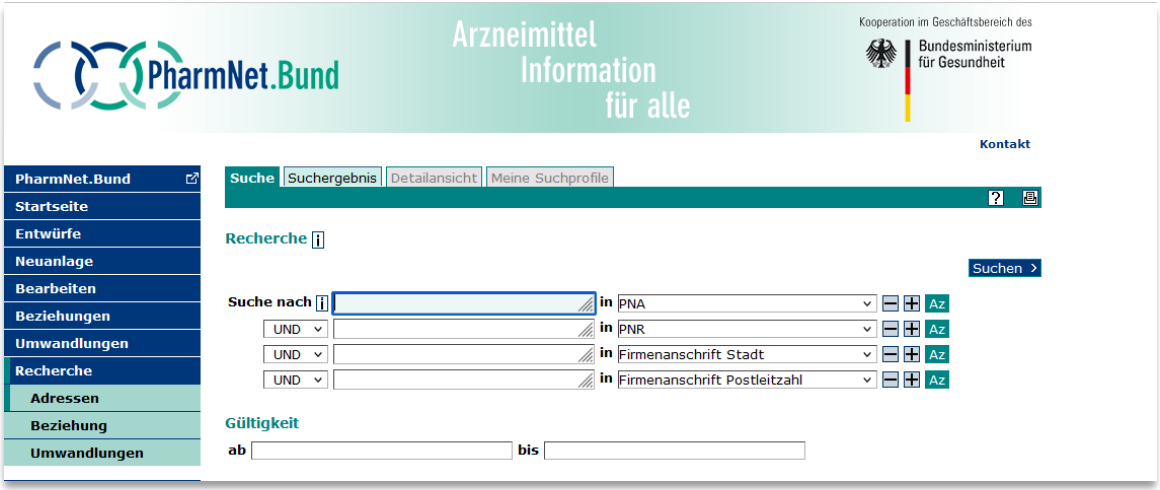
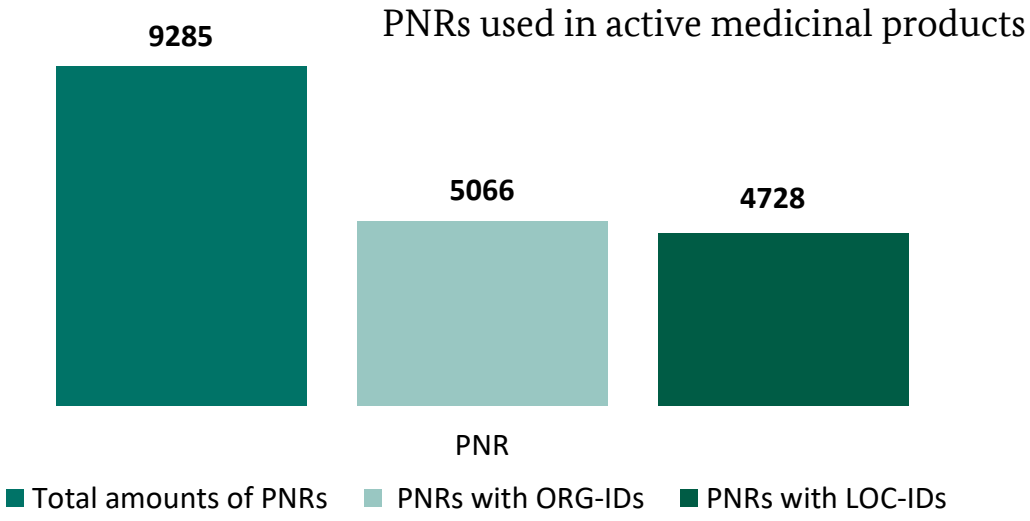
Organisation Database - SPOR



- National pharmaceutical companies database (Partnerinformationen - PI)
- PNR (Pharmaceutical Company Number) as national identifier
- Since early 1980s: 30 000 PNRs in total
- Integration of SPOR data possible since 03/2020
- Start of mapping procedure in 04/2021

Organisation Database - SPOR

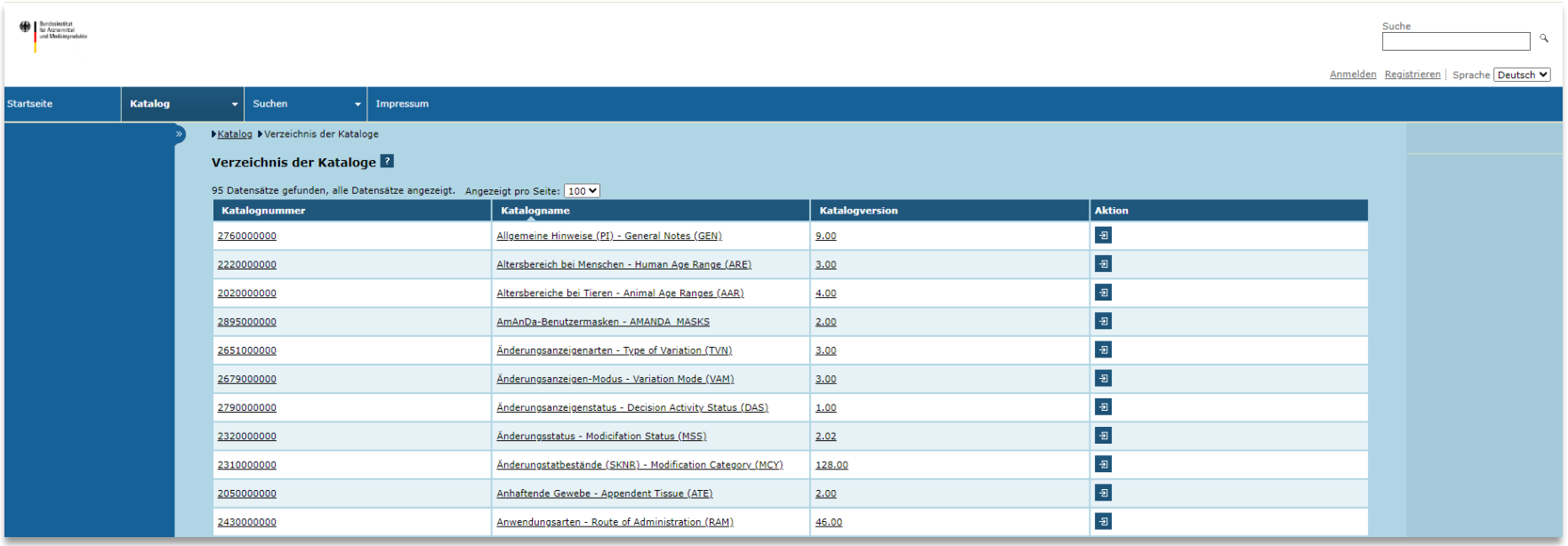


- Historical versions are not considered here (mapping rate is higher)
- Checking of each single entry before mapping
- Round about 100 requests/month addressed to EMA

Challenges in OMS Mapping Progress

- Different data quality rules between EMA and BfArM (especially with regard to the legally registered address)
- Changes of IDs in OMS (due to mergers or inactivation and creating of new IDs)
- Non-transparent changes of OMS-data
- Data without possibility to verification (e.g. postal code)
- Rejections of creating new entries without documentation (e.g. intermediate manufacturers in China from CEPs)

National Catalogue Database - SPOR



Katalognummer	Katalogname	Katalogversion	Aktion
2760000000	Allgemeine Hinweise (PI) - General Notes (GEN)	9.00	
2220000000	Altersbereich bei Menschen - Human Age Range (ARE)	3.00	
2020000000	Altersbereiche bei Tieren - Animal Age Ranges (AAR)	4.00	
2895000000	AmAnDa-Benutzermasken - AMANDA_MASKS	2.00	
2651000000	Änderungsanzeigenarten - Type of Variation (TVN)	3.00	
2679000000	Änderungsanzeigen-Modus - Variation Mode (VAM)	3.00	
2790000000	Änderungsanzeigenstatus - Decision Activity Status (DAS)	1.00	
2320000000	Änderungsstatus - Modicifation Status (MSS)	2.02	
2310000000	Änderungstatbestände (SKNR) - Modification Category (MCY)	128.00	
2050000000	Anhaftende Gewebe - Appendent Tissue (ATE)	2.00	
2430000000	Anwendungsarten - Route of Administration (RAM)	46.00	

- Katalogportal (KP) contains 95 catalogues
- Basis for several consuming systems
- Goes back to first catalogues created in the early 1980s
- Integration of RMS data since 2017
- System requirements need to be updated – new database under construction

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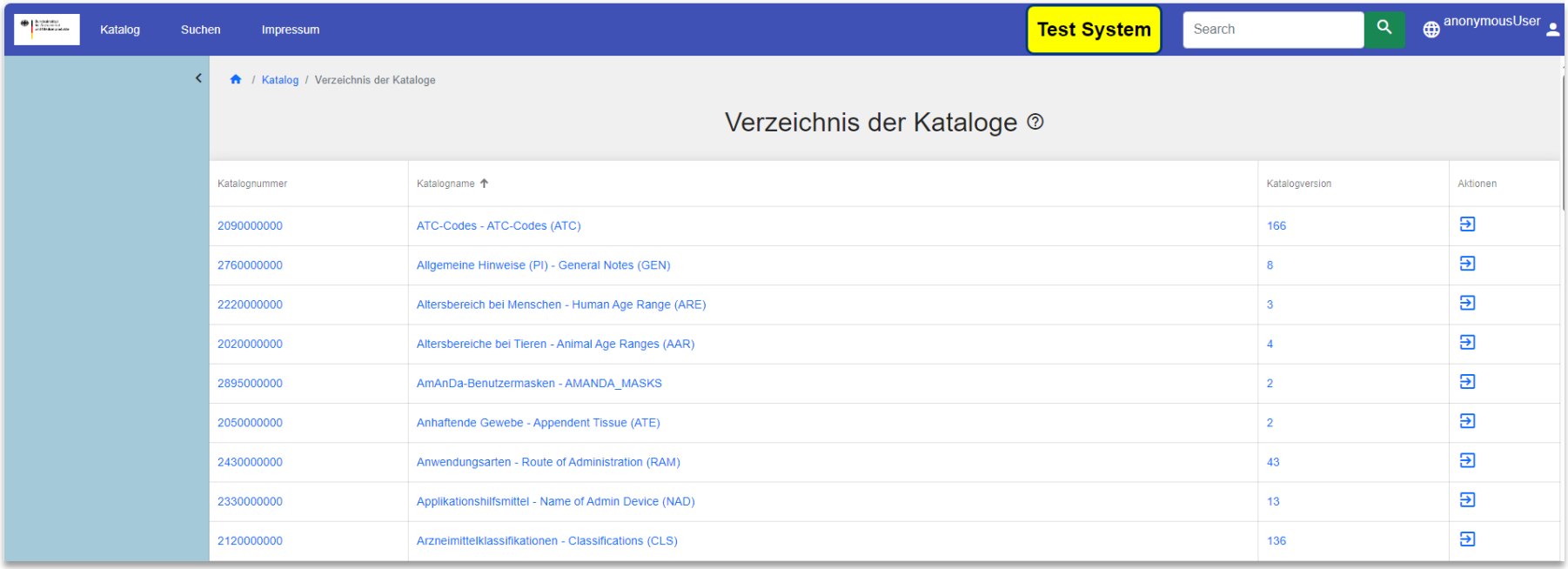
National Catalogue Database - SPOR

Redesign of Catalogue Database



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RMS Mapping Progress

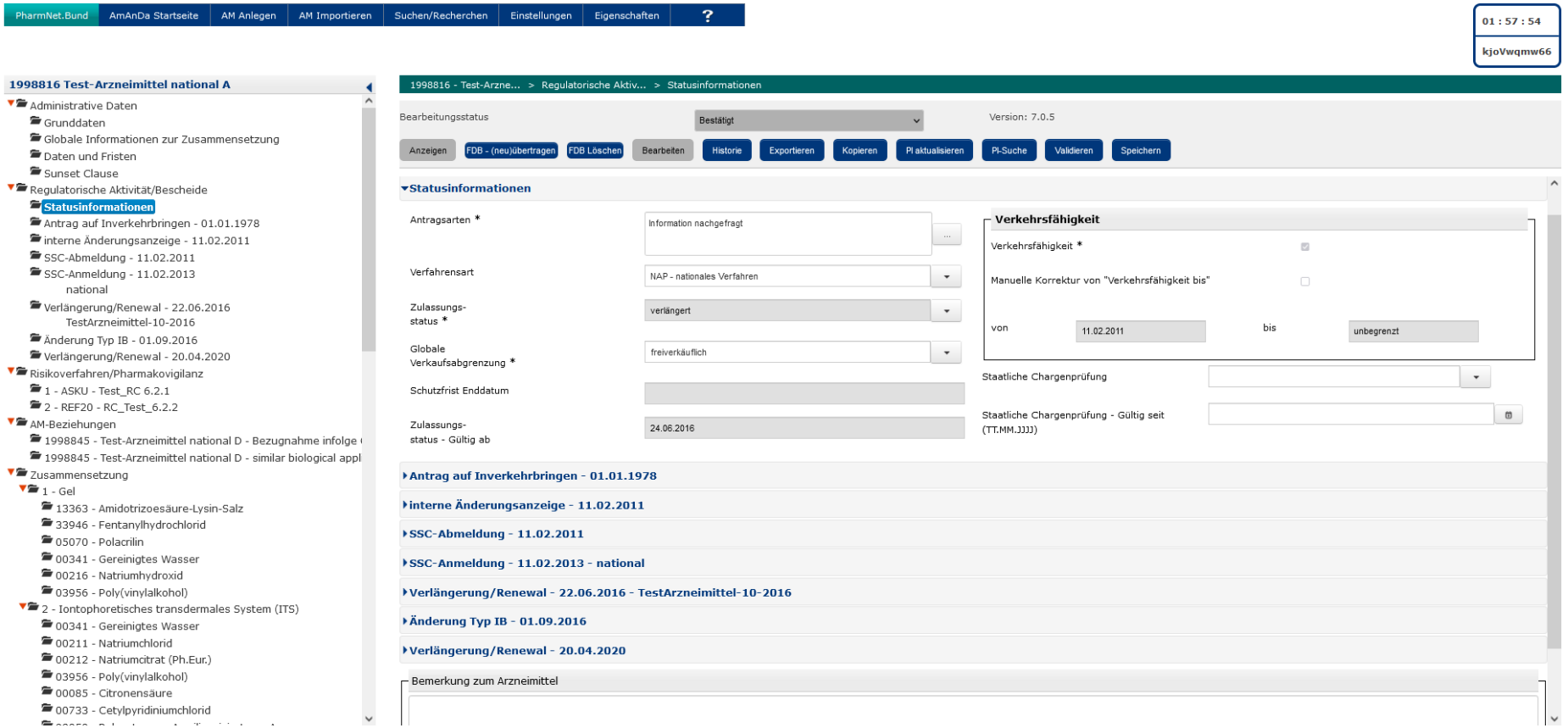
- Mapped catalogues based on delivery for UPD
- Highly prioritised catalogues
  - Routes of Administration
  - Pharmaceutical dose form
  - Authorisation status
  - Record status
  - Product information document type
  - Contact party role
  - Legal basis

Challenges in RMS Mapping Progress

- Missing data in existing lists (shelf life/special precautions for storage)
- Missing lists in RMS (Location of ingredient)
- Merged lists in our national database (Pharmaceutical dose form, combined Pharmaceutical forms, combined terms, Basic dose form)
- National terms in addition to Standard terms
- Missing ressources due to development of new system

Medicinal Product Database SPOR I

- Medicinal Product Database with entries dating from the late 1970s
- New database called **AmAnDa** (**Arznei**mittel- und **An**trags**da**tenbank) since March 2020



* Due to data protection only test data are shown.

Medicinal Product Database SPOR II

AmAnDa

- Presentation of the complete life cycle of every medicinal product in one database
- Display and editing are joined
- Considering of IDMP during development
- For full IDMP compatibility further modifications in the database are required

Challenges

- Moving target; IDMP IG is constantly in progress
- Gap between national requirements and IDMP IG

4. PZN Mapping

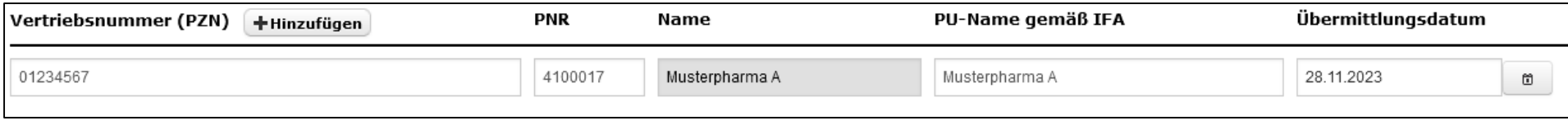
PZN – Meaning & Mapping I

- PZN (Pharmazentralnummer) = German tag which has to be affixed onto the outer pack of medicinal products according to national legislation
- Logistical identifier for distribution purposes and reimbursement
- Can be done via Code 39 and the PZN in clear print underneath
- Provided by IFA (information service provider for the pharmaceutical market)
- Differs per package and pharmaceutical organization
- Link to product logistic and eHealth

→ mapping with regulatory data required

PZN – Meaning & Mapping II

- Implementation procedure in cooperation with IFA
- Additional fields required in AmAnDa → done ✓



- Focus on medicinal products which are relevant for shortages, eHealth development, Direct Healthcare Professional Communication (DHPC)…
- Step I: Mapping of PZN (so called 'PZN pool') to medicinal product → ongoing
- Step II: Mapping of PZN to packages and pharmaceutical organizations → ongoing
- Installation of an interface for regular data update → started

PZN Mapping – Challenges & Benefit

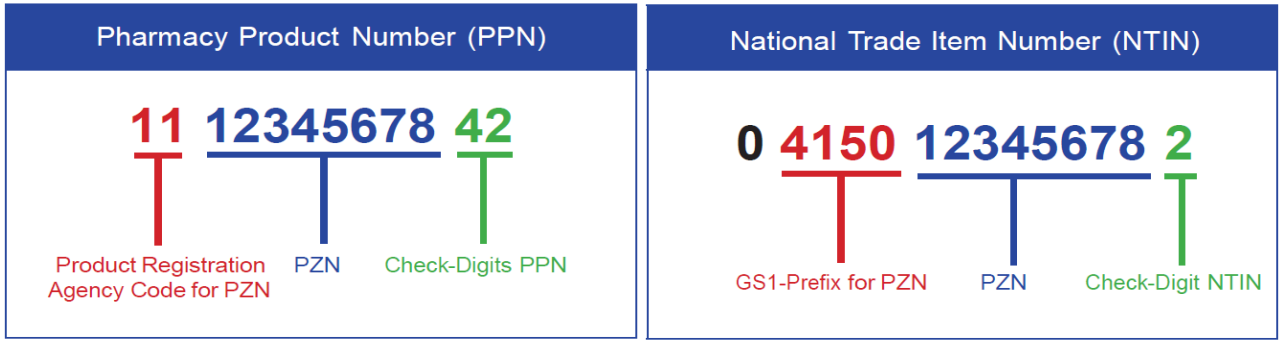
Challenges

- Partially no identical identifier IFA – BfArM (e.g. registration number is missing)
- Different rules for allocation of PZN to MP by IFA e.g.
  - Same pack sizes could have more than one PZN
  - Different PZN for different distributors

Benefit

- Use for shortages, eHealth development, Direct Healthcare Professional Communication (DHPC)…
- Part of IDMP implementation Chapter *4.8.6. Data carrier identifier*

https://www.ifaffm.de/mandanten/1/documents/04_ifa_coding_system/IFA-Info_Spec_PPN_Code_Handelspackung_DE.pdf



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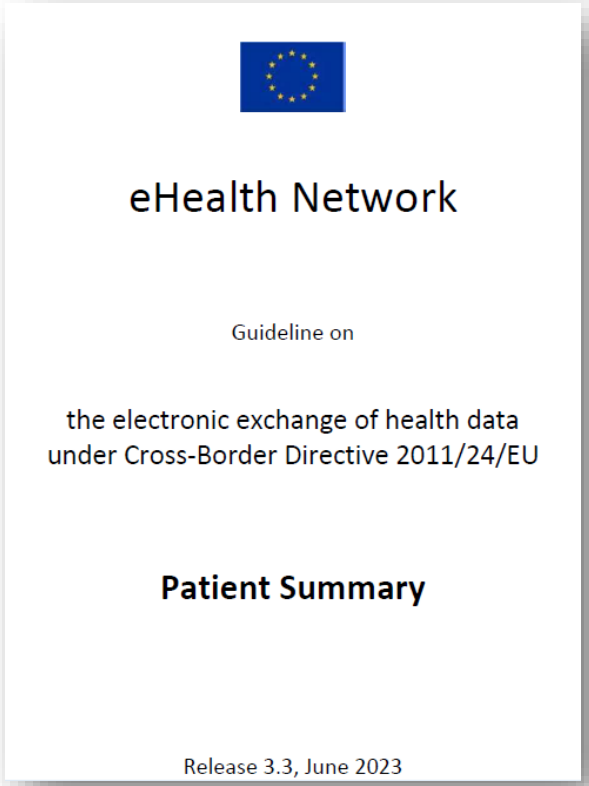
5. Medication data for crossborder data exchange

EU Guidelines with reference to EMA SPOR or IDMP – Patient Summary



eHealth Network

Guideline on

the electronic exchange of health data under Cross-Border Directive 2011/24/EU

Patient Summary

Release 3.3, June 2023

A.2.2.1 Vaccination/ prophylaxis information			
A.2.2.1.1	Disease or agent targeted	Disease or agent that the vaccination provides protection against	ICD-10* SNOMED CT GPS
A.2.2.1.2	Vaccine/prophyl axis	Generic description of the vaccine/prophylaxis or its component(s)	SNOMED CT GPS ATC* (IDMP, when available)
A.2.2.1.3	Vaccine medicinal product name	Brand name of the vaccine medicinal product.z	
A.2.2.1.3.1	Identifier of the vaccine medicinal product	Identifier for the vaccine medicinal product. It could be MPID according to ISO 11615, EMA PMS ID and/or a national identifier.	EMA PMS
A.2.2.1.4	Marketing Autorisation Holder	Marketing Authorisation Holder	EMA's Organisations System data (SPOR)

A.2.4 Medication summary			
A.2.4.1 Current and relevant past medicines (Relevant prescribed medicines whose period of time indicated for the treatment has not yet expired whether it has been dispensed or not, or medicines that influence current health status or are relevant to a clinical decision)			
A.2.4.1.3	Brand name	Brand name if biological medicinal product or when justified by the health professional (ref. Commission Directive 2012/52/EU)	
A.2.4.1.4	Active ingredient lists	Substance that alone or in combination with one or more other ingredients produces the intended activity of a medicinal product. Example: "paracetamol"	ATC* (IDMP identifier, when available)
A.2.4.1.5	Strength	The content of the active ingredient expressed quantifiably per dosage unit, per unit of volume or per unit of weight, according to the pharmaceutical dose form. Example: 500 mg per tablet	UCUM, EDQM Standard Terms
A.2.4.1.6	Pharmaceutical dose form	The form in which a pharmaceutical product is presented in the medicinal product package (e.g. tablet, syrup)	EDQM Standard Terms

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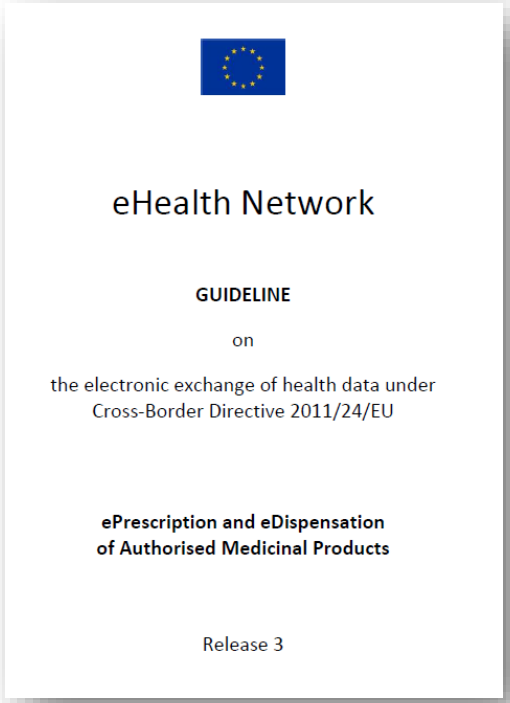
https://health.ec.europa.eu/document/download/e020f311-c35b-45ae-ba3d-03212b57fa65_en?filename=ehn_guidelines_patientsummary_en.pdf

EU Guideline ePrescription / eDispensation



eHealth Network

GUIDELINE

on

the electronic exchange of health data under Cross-Border Directive 2011/24/EU

ePrescription and eDispensation of Authorised Medicinal Products

Release 3

https://health.ec.europa.eu/document/download/b744f30b-a05e-4b9c-9630-ad96ebd0b2f0_en?filename=ehn_guidelines_eprescriptions_en.pdf

A1.4 Identification of the prescribed product			
A.1.4.1	Name of the medicinal product	Brand name of the authorised medicinal product. It has to be noted, that according to Implementing Directive 2012/52/EU additional requirements may apply. *[not applicable for generic prescriptions]*	
A.1.4.2	Identifier of the medicinal product	Identifier of a medicinal product refers to the product inside the package, not the packaged item as such. It could be MPID according to ISO 11615, EMA PMS ID and/or a national identifier. *[not applicable for generic prescriptions]*	EMA PMS

A.1.4.2.1	Identifier(s) of the pharmaceutical product	Identifier of a pharmaceutical product refers to unique PhPID according to ISO 11616. This could be a part of a description of a specific medicinal product or an attribute of a generic prescription. *[not applicable for generic prescriptions]*	EMA PMS
A.1.4.2.2	Identifier(s) of the packaged medicinal product	Identifier of a packaged medicinal product refers to a specific pack size of a specific product. It could be PCID according to ISO 11615 and/or its national equivalent. *[not applicable for generic prescriptions]*	EMA PMS
A.1.4.3	Marketing authorisation holder	Organisation that holds the marketing authorisation of the prescribed product. *[not applicable for generic prescriptions]*	
A.1.4.4	Active substance(s)	All active substances according to ISO 11238. Referred to by "common name" in implementing directive 2012/52/EU.	EMA SMS
A.1.4.4.1	Strength of the active substance(s)	Presentation and/or concentration strength of the active substances. In addition, reference strength could be provided (Article 1 of Directive 2001/83/EC).	UCUM; EDQM
A.1.4.5	Product classification	WHO ATC code of the product	ATC

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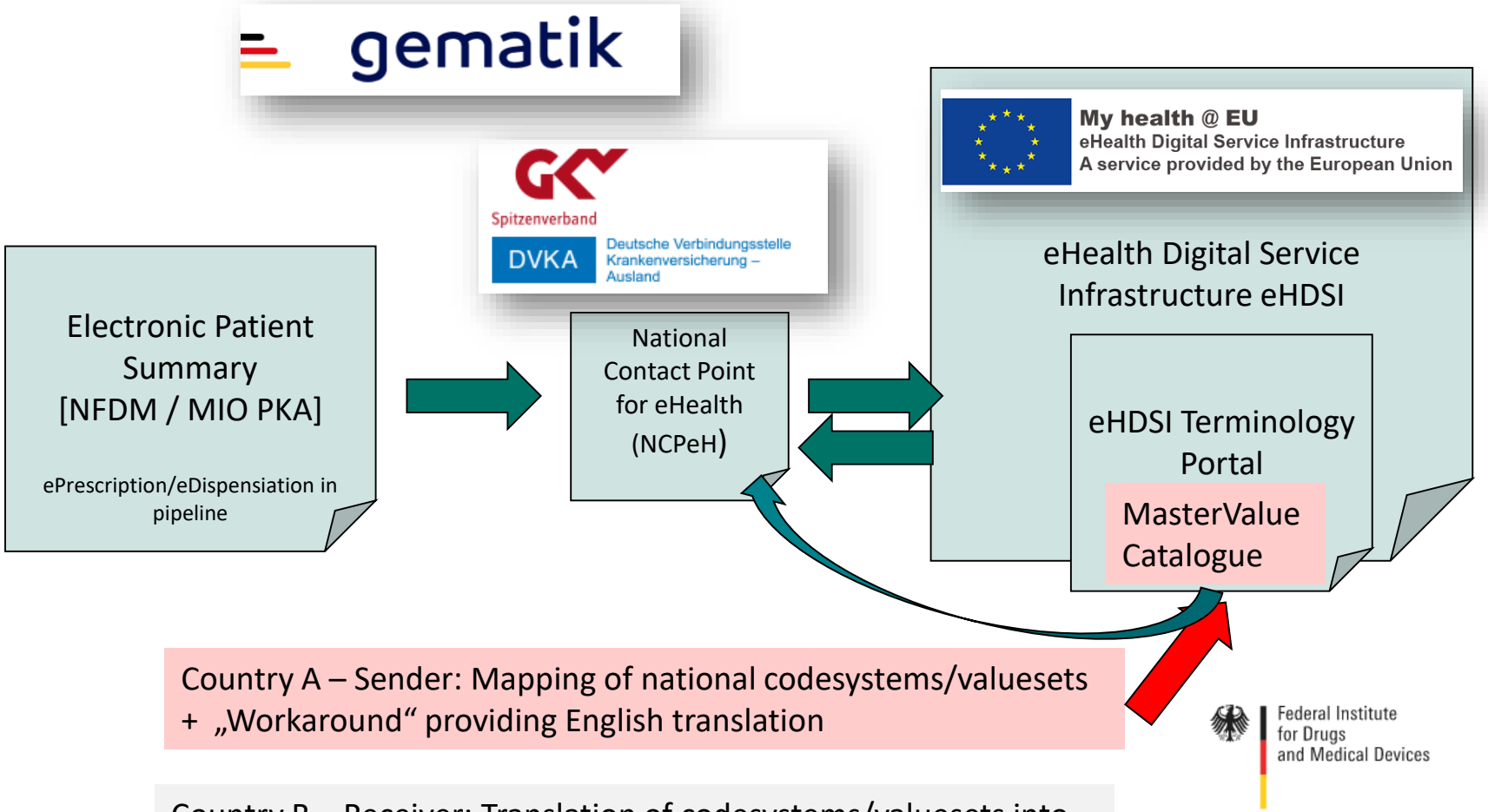
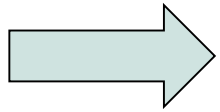
Crossborder activities in Germany
eHealth Digital Service Infrastructure

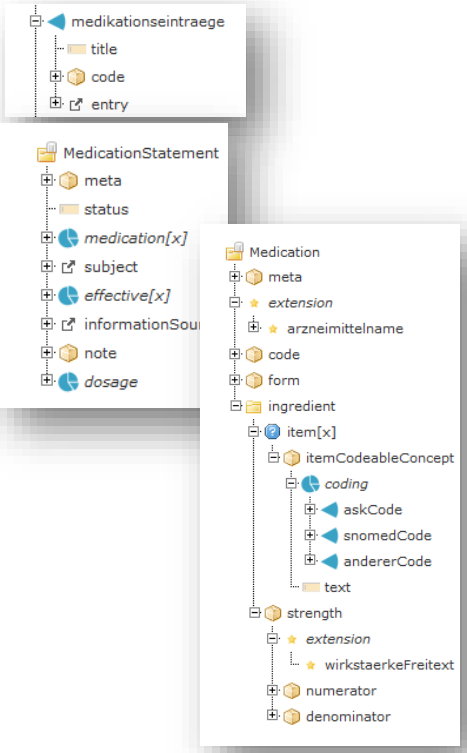


Crossborder activities in Germany challenges for ePatientSummary

MIO Patientenkurzakte
https://simplifier.net/pka



eHDSI: https://art-decor.ehdsi.eu/art-decor/decor-datasets--epsos-

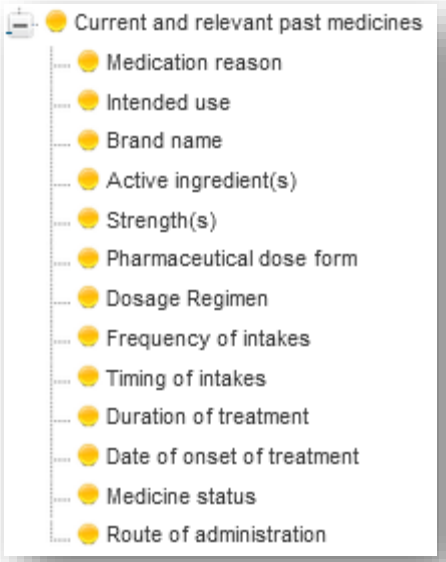


Technical aspects:

- National implementation in HL7 FHIR – EU implementation in HL7 CDA

Most relevant semantic aspects:

- **Regulatory brand name is different from brand name in other sources**
- **Substance valueset will be mapped to SMS**
- **SNOMED CT is basis terminology for electronic health record and may be used also for substances (necessary granularity of information has still to be verified, eventually mapping required in the future)**
- **ATC-German Extension contains additional terms (for ex. Herbals or blood products)**
- **Pharmaceutical form (KBV Darreichungsformen) valueset is different from EDQM-standard Terms**



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Crossborder activities in Germany challenges for ePrescription

Electronic Prescription data

Product Identifier Pharmazentralnummer
10203632

Product name
ASPIRIN 500 mg Tabletten

Pack size
80 Stück

Pharmaceutical form
UIA … Überzogene Tabletten

https://simplifier.net/erezept/kbvprerpprescription

https://health.ec.europa.eu/document/download/b744f30b-a05e-4b9c-9630-ad96ebd0b2f0_en?filename=ehn_guidelines_eprescriptions_en.pdf

ISO IDMP Regulatory Data

[Product Identifier] Zulassungsnummer
86750.00.00

Identifier pharmaceutical product

Identifier packaged pharmaceutical product

[Name of the Product] Arzneimittelname
ASPIRIN 500 mg überzogene Tabletten

[Marketing Authorisation Holder] Zulassungsinhaber
Bayer Vital GmbH

[Active Substance] Wirkstoffcode (EU) + Wirkstoffname
00002 + Acetylsalicylsäure (Ph.Eur.)

[Strength] + [Reference Strength] Wirkstoff Stärke
500 Milligramm

[Product Classification] ATC
N02BA01

[pharmaceutical dose form] Pharmazeutische Form (EDQM)
Überzogene Tablette

[Package Size] Packungsgröße
80

[Unit of Presentation] Einheit der Abgabeform (EDQM)
überzogene Tablette

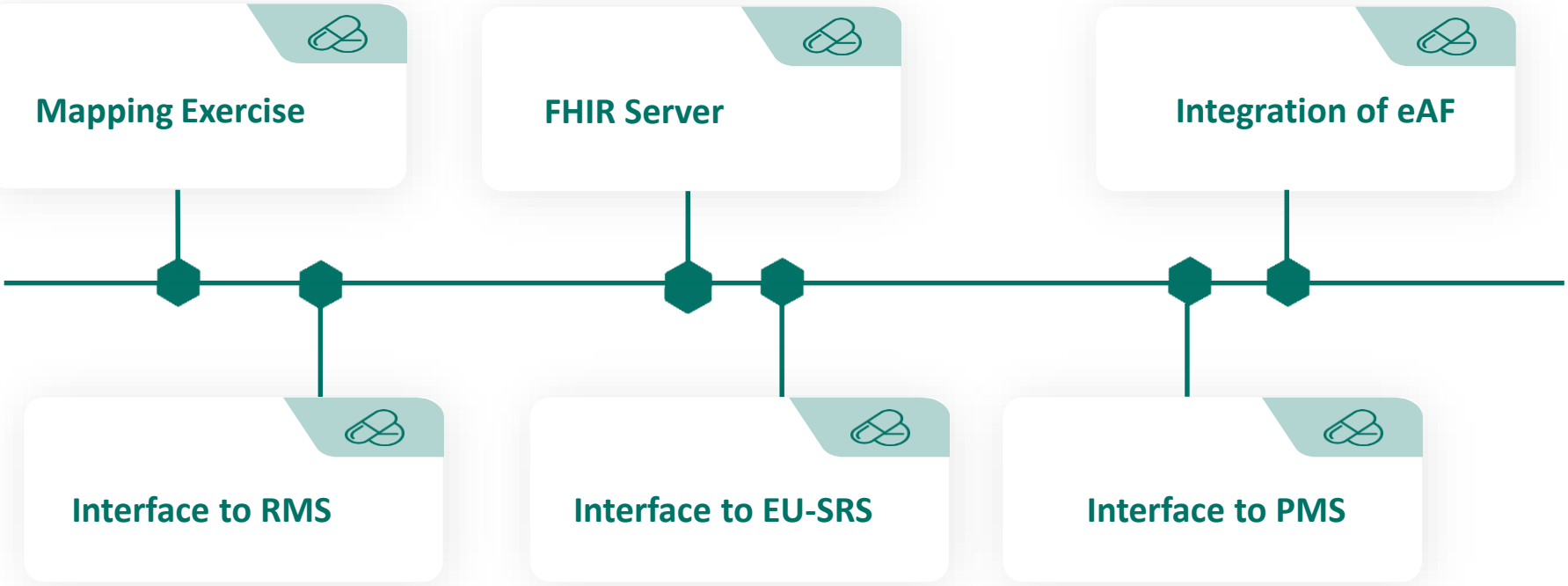
[Package Type] Packungstyp (EDQM)
Blister

Crossborder activities in Germany
Interoperability challenges

- **ePrescription Identifier different to Market Authorisation Identifier**
  [PZN, NTIN --- ZNR?, ENR?, MPID?]
- **Source and business needs for „Pharmaceutical form“ varies according to intended users needs**
  [recoding for substitution purposes, „imprecision“ in healthcare professional data]
- **Substances repositories vary according to use cases and intended users needs**
  [different granularity (Active moiety vs. Pharmaceutical substance), limits of ATC + handling „German modification entries“, grouping to pharmaceutical groups for healthcare professionals, patient friendly terms]
- **Identifiers in use for exchange of structured data**
  In EU SPOR (RMS ID) and EU eHDSI CTS (Source system code)

6. Prospect and Conclusion

Tasks For 2024



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Prospect

- Necessity to improve co-operation between the two worlds (regulatory and eHealth)
- Transparent communication process for amendments and updates to central EMA systems are necessary
- Mapping activities need to be continued in order to achieve IDMP compatibility
- Constant adjustments to the data model will be necessary

→ UNICOM has lead to an improved interoperability within the EEA and should be continued.

Glossary

AmAnDa = Arzneimittelantragsdatenbank (national medicinal products database)
BfArM = Federal Institute for Drugs and Medical Devices
DE-SRS = German Substance Registration System (national substances database)
eHDSI = EU Electronic Health Digital Service Infrastructure
EMA = European Medicines Agency
IFA = Informationsstelle für Arzneispezialitäten
KP = Katalogportal (national referentials database)
MP = Medicinal Product
NCPeH = National Contact Point for eHealth
PI = Partnerinformationen (national pharmaceutical companies database)
PNR = pharmaceutical companies number (national identifier used in PI)
PZN = Pharmazentralnummer (nationals identifier for distribution purposes and reimbursement)
SPOR = Substances, Product, Organisations, Referentials (portal provided by EMA)

Thank you very much for your attention!

Contact

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