



# MyHealth@EU Infrastructure

**Building up European  
cross-border eHealth  
services based on  
shared clinical  
terminologies and  
code systems**

Terveysten ja  
hyvinvoinnin laitos

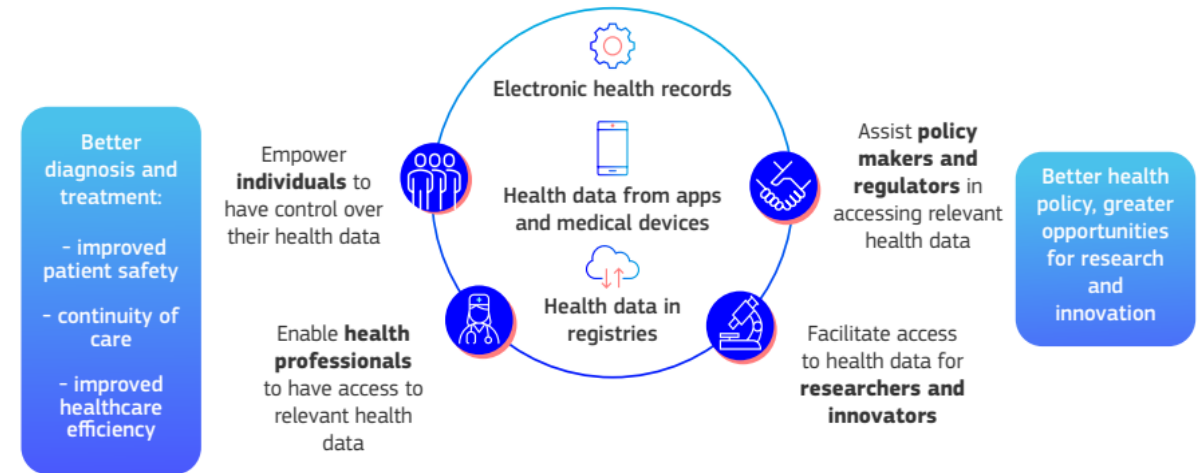
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# MyHealth@EU infrastructure

- Connects national eHealth systems across EU Member States and enables exchange of health data across borders
  - Co-operation framework based on voluntary participation
  - European Health Data Space (EHDS) regulation, entered into force in March 2025
  - Exchange of key health data categories will be mandatory from March 2029 onwards
  - General goals:
    - 1) Enable individuals to have access to their own health data
    - 2) Enable health professionals to have access to relevant data during encounters with patients
    - 3) Enable secure reuse of health data for research, innovation, policymaking, and regulation purposes





# MyHealth@EU Infrastructure

- General guidelines for building up the services
- Operational requirements and technical and semantic specifications
- OpenNCP technical solution for all Member States
- Auditing and monitoring protocols and change management processes
- Governance structure:
  - eHealth Network (eHN) – representatives from ministries and other authorities
  - eHealth Operational Management Board (eHOMB)
  - Member States Expert Group (eHMSEG)
  - Task forces, coordination groups, working groups
  - DG Santé, EU Commission
- National Contact Point for eHealth (NCPeH)
  - Responsible for service operation in each Member State. In Finland: The Social Security Institution (Kela)
- THL responsible for providing relevant terminologies and code systems

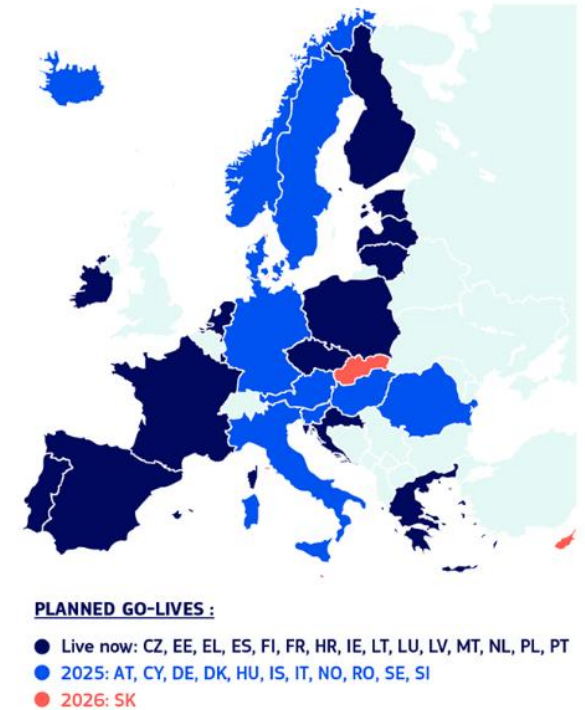
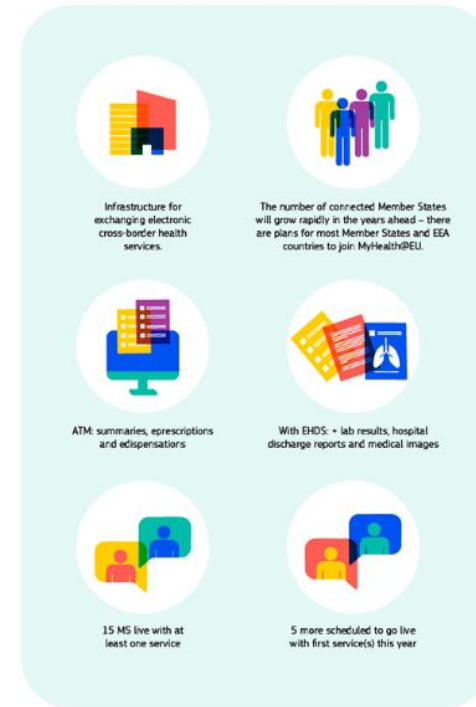




# Countries in service operation

- Today, **15 EU Member States** are sharing Patient Summaries and ePrescriptions/eDispensations
- Exchanges of these documents should be operational in all EU Member States by 2029
- New services to be built up later on:
  - laboratory and other test results
  - medical images,
  - and hospital discharge reports
- EU Commission provides a unified ICT gateway and support services for managing terminologies and code sets, configuration, and interoperability.

## MyHealth@EU

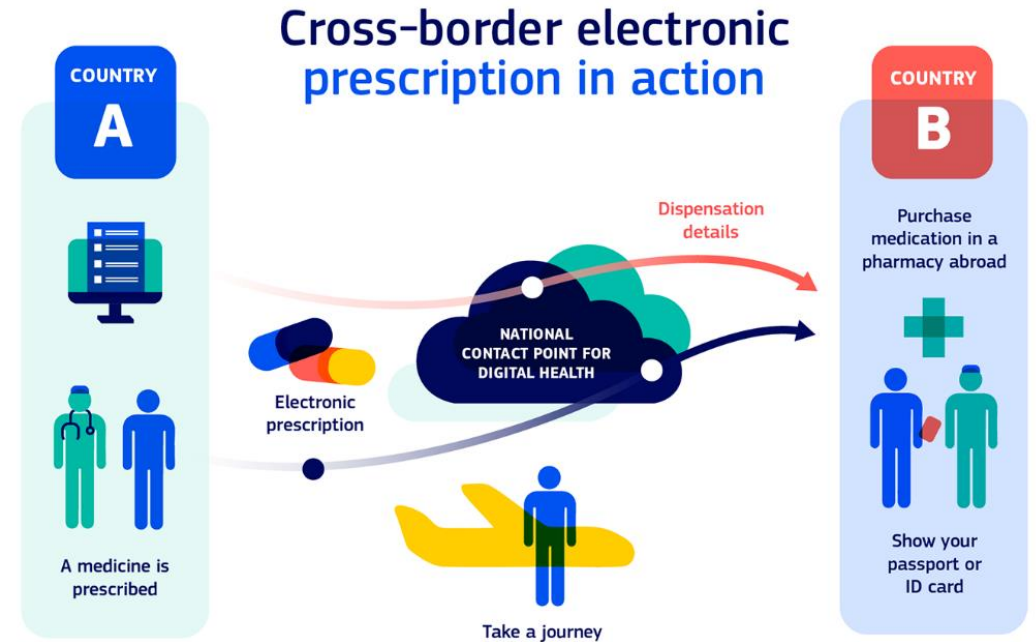


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# ePrescription/eDispensation

- Enables European citizens to obtain medication in other EU countries without a printed prescription
- A digital prescription is securely transferred online from the patient's country of residence (Country A) to the country of travel/treatment (Country B)
- Once the medication is collected, the patient's home country is notified (eDispensation) and the electronic medication list of the patient can be updated
- Operational in Finland since 2019
  - 2025 situation, Country A and B role: Croatia, Czech Republic, Estonia, Lithuania, Poland, Portugal, Spain

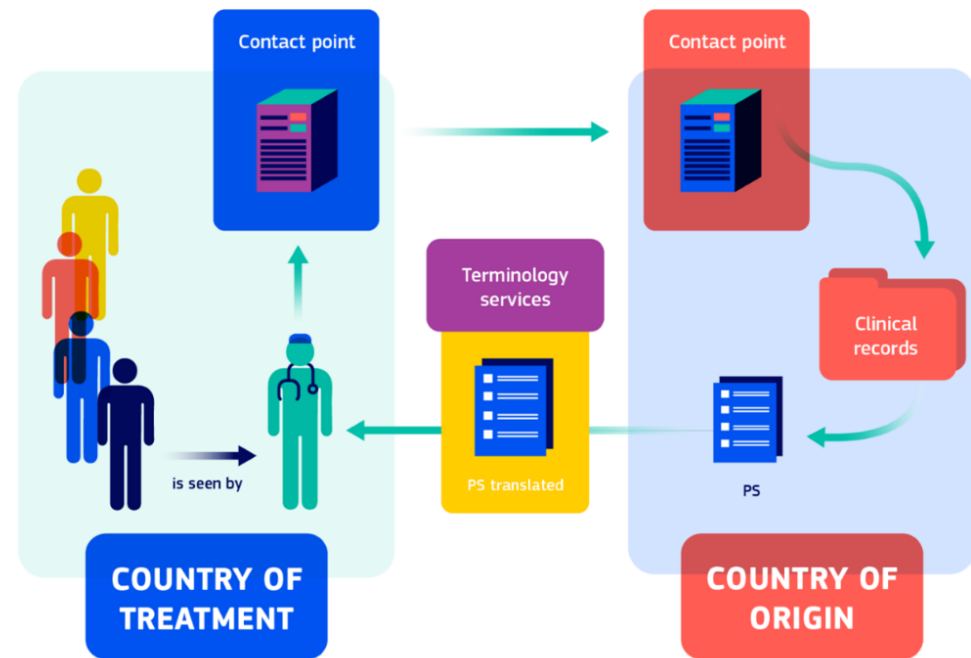


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# Patient Summary

- Exchange of patient documents containing vital medical information such as allergies, medical history, major surgical procedures and medication
- Helps doctors provide adequate treatment for patients, and avoid some risks (e.g. allergies) and overcome linguistic barriers
- Operational in Finland since 2023
  - 2025 situation
    - Country A role: Estonia, Latvia, Netherlands, Spain
    - Country B: audited but not yet operational



[https://health.ec.europa.eu/ehealth-digital-health-and-care/my-rights-over-my-health-data\\_en#primary-use-of-health-data](https://health.ec.europa.eu/ehealth-digital-health-and-care/my-rights-over-my-health-data_en#primary-use-of-health-data)



# Technical systems and data flows

- Health Care Professional or Pharmacist of Country B asks for relevant health data from patient's Country of residence (Country A)
- Country A retrieves patient's health data from the national information systems and aggregates this data into the Patient Summary and ePrescription documents and converts it to documents using the shared EU level terminologies and code systems
- Member States must obtain the agreement of the patient for transferring and processing his/her personal data
- National connectors of Country A and B are used as a bridge between national information systems and the NCPeH Gateway

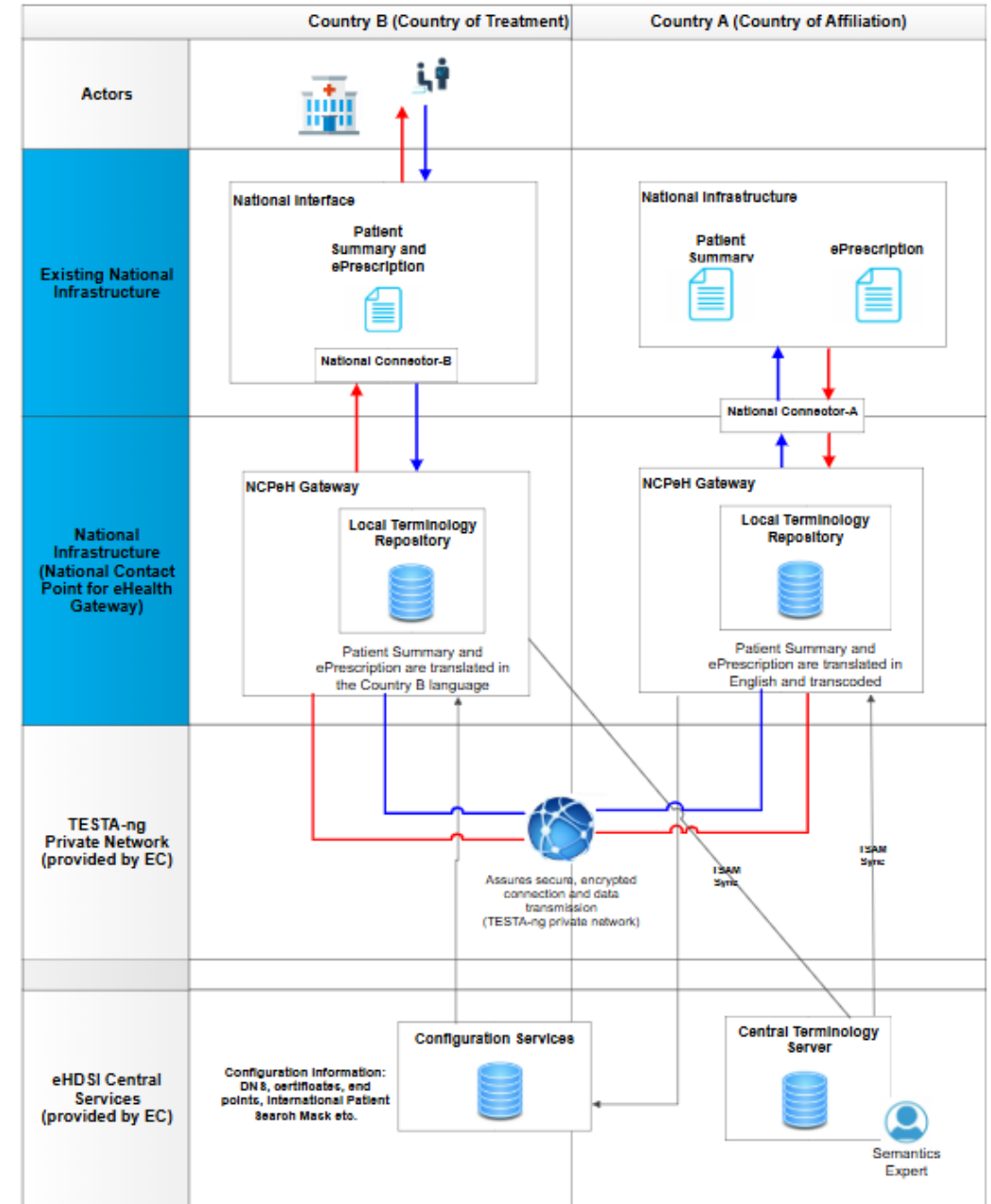


MaCoDeExSe  
Maintenance and Continuous Development of  
Existing Services under MyHealthEU  
Infrastructure in Finland



16.6.2025

## eHealth Digital Service Infrastructure – Systems and Data Flows





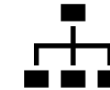
# Semantic interoperability components

- Agreement on a common data exchange model and document formats
  - *Original document*: Country A document format with national concepts and terms
  - *Friendly A document*: EU level document format but with Country A concepts and terms
  - **Pivot Document**: EU level document format with English concepts and terms
  - *Friendly B document*: EU level document format with Country B translations
- Coded health data of the pivot documents are based on **shared clinical terminologies and code systems = Master Value Sets Catalogue (MVC)**
- Centralized terminology services (CTS) are used for integrating the terminologies and code systems with relevant **transcodings and translations**



Agreement on a common model and format

MyHealth@EU Business Requirements & CDA specifications



Structured and coded information



Common Vocabularies [MVC] and translation / mapping of the coded concepts used [MTC]

No text translation



Transparent terminology services for sharing MVC/MTC



# Master Value Sets Catalogue (MVC)

- Contains over 100 code systems
- Many of them are based on international classifications and terminologies, e.g.:
  - Classification of Diseases and Illnesses ICD 10
  - Anatomical Therapeutic Chemical Classification (ATC)
  - Snomed CT (anatomical structure, clinical findings, allergies, procedures, vaccines, medical devices etc.)
  - Loinc (codes for tests, measurements and observations)
  - EDQM Standard Terms (dose forms, packages, routes of administration for medicinal products)
  - International Standard Classification of Occupations (ISCO)
  - ISO 3166-1 Country codes (Alpha-2 code); Language codes (ISO 639-1 + ISO 3166-1)
  - HL7 code systems (Health Level Seven)
- EU Commission is responsible for acquiring and maintaining the original MVC code sets
- Member States are responsible for providing necessary
  - transcodings from national code systems to MVC code sets and
  - translations of MVC code systems

EDQM = European Directorate  
for the Quality of Medicines





# Central Terminology Services (CTS)

- Terminology portal developed and maintained by the EU Commission
- MSs provide feedback for development purposes
- MVC transcodings and translations uploaded in excel files
  - Updating possible also with the user interface
- Access rights available only for MS representatives

The screenshot displays the eHDSI Central Terminology Services (CTS) Portal Application. The interface is in Finnish and includes a search bar and various navigation tabs like 'ACTIVITIES', 'CODE SYSTEMS', 'CATALOGUES', 'TRANSLATIONS', and 'MAPPINGS'. The main area shows a list of value sets, including 'eHDSIAbsentOrUnknownAllergy', 'eHDSIAbsentOrUnknownDevice', 'eHDSIAbsentOrUnknownMedication', 'eHDSIAbsentOrUnknownProblem', 'eHDSIAbsentOrUnknownProcedure', 'eHDSIActiveIngredient', 'eHDSIAdministrativeGender', 'eHDSIAdmissionUrgency', and 'eHDSIAdverseEventType'. The right sidebar displays a list of concepts, such as 'Amino acids and derivatives', 'Amino acids, incl. combinations with polypeptides', 'Aminoalkyl ethers', 'Aminoquinolines', 'Aminosalicylic acid and derivatives', 'Aminosalicylic acid and similar agents', and 'Amphenicols'. The interface also includes a 'DISCLAIMER' section and a 'DESIGNATIONS' section with 'en-GB - European Commission' and 'fi-FI - FI NCPeH' designations. The 'MAPPED TO CONCEPT(S)' section shows 'Aminohapot ja niiden johdokset' mapped to 'Fimea - ATC L03B03 - 1.2.246.5376.32.2007.MVC8'.



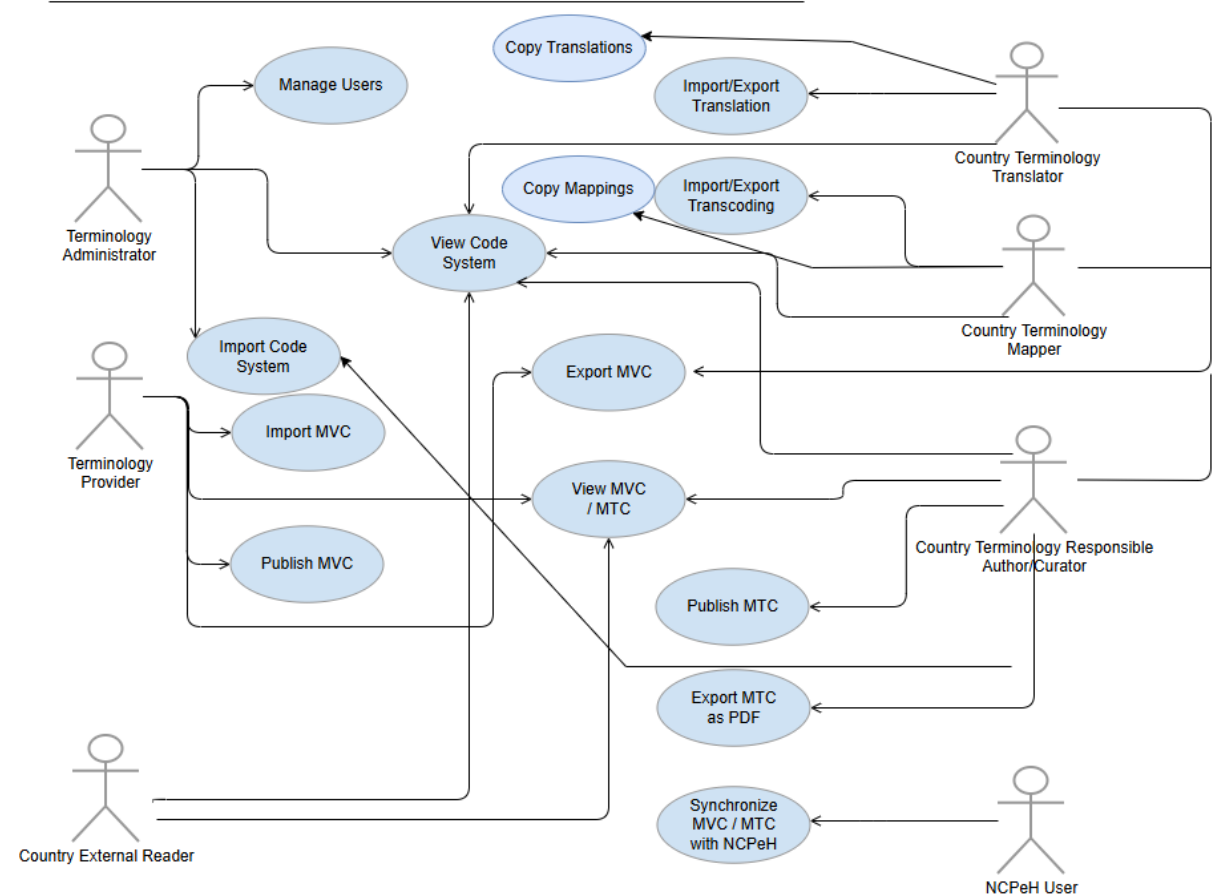


# Roles and responsibilities

- EU Commission:
  - Terminology Administrator
  - Terminology Provider
- Member States:
  - Country Terminology Translator
    - Import/export tasks
  - Country Terminology Mapper
    - Import/export tasks
  - Country Terminology Responsible (Curator)
    - Approval tasks
  - Same persons may have different roles at the same time
  - Terminology Curator cannot act as Terminology Translator or Terminology Mapper



CTS 2 - Roles and responsibilities





# Transcoding principles and processes

- **Principles:**

- Concepts included in national clinical terminologies and code systems are mapped to concepts in the MVC code sets
- Analyse and define which clinical terminologies can be mapped
- Mappings are based on
  - exact semantic equivalences (e.g. ATC, ICD10)
  - hierarchical relations (specific concepts mapped to broader concepts; e.g. ATC, ICD10, clinical procedures)
  - Note: May lead to loss of semantic information – validation needed!
- One national code can be mapped only to one MVC code
- Same MVC code can correspond to multiple national codes

- **Technical processes:**

- Large transcoding tables prepared in excel sheets
- Different versions of international classifications used nationally and in the MVC
- Updating needed for the whole transcoding table every time the original MVC code sets are changed
- At first: manual mapping processes with excel files
- Now: mapping tool with R-programming language developed in order to gain more efficiency and accuracy

- **Evaluation and approval:**

- Transcoding tables are normally prepared by technical experts, sometimes also by terminologists; they are always reviewed by clinical experts
- Approval takes place according to THL's Code Service procedures in the **Code Service Expert Group**





# Translation principles and processes

- **Principles:**


- Analyse and define which clinical terminologies should be translated into Finnish (national policy)
- Verify the existence of official translations provided by national authorities (e.g. ICD10 translated by THL, ISCO classification translated by the Statistics Finland, ATC translated by the Finnish Medicines Agency)

- **Work processes:**

- Translations acquired from contracted translation agencies
- Translations provided by THL's clinical experts and terminologists
- AI assisted machine translation tools have been tested (e.g. ICD-11 translation tool developed by THL)
- Technical tool with R-programming language developed for automatic retrieval of existing Finnish terms
- Updating needed for the whole translation table every time the original MVC code sets are changed
- Different update cycles are challenging: e.g. updates of national ATC versus MVC updates

- **Evaluation and approval:**

- Translation tables are prepared either by technical experts and terminologists; always reviewed by clinical experts

 Approval takes place according to THL's Code Service procedures by the **Code Service Expert Group**








# MaCoDeExSe (Maintenance and Continuous Development of Existing Services under MyHealth@EU Infrastructure in Finland)



Consortium: THL (competent authority), KELA (affiliate entity)  
Budget: 1 746 149,69 €  
THL: 873 911,80 €  
KELA: 872 237,89 €  
Timeframe: 01/2024 – 12/2026

[THL's Website](#)

## Work Packages:

- WP1 – Management and coordination 
- WP2 – Dissemination, training and support 
- WP3 – Maintenance of NCPeH 
- WP4 – Maintenance – Management of national and EU level code systems related to cross-border eHealth services 
- WP5 – Maintenance - Support for deployment and requirements of national systems related to EU interoperability and security 





# Thank you!

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