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PECUNIA

Programme in Costing, resource use measurement and outcome valuation for use in multi-sectoral national and international health economic evaluations

www.pecunia-project.eu

New International Framework for Assessing the Costs and Outcomes of Mental Health Related Care: The European PECUNIA Project (2018-2021)

Judit Simon

Professor of Health Economics/Coordinator PECUNIA Project

Department of Health Economics, Center for Public Health, Medical University of Vienna

Department of Psychiatry, University of Oxford

PECUNIA Project (2018-2021)

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Background

- Increasing health care costs, **cost of mental diseases** 14% of health expenditure (OECD)

- Multi-sectoral impacts (spill-over effects) of health and health interventions -> **importance of societal perspective**

- Limited implementation of EA results due to **fragmented funding**

- **Multi-national EA**: need for nationally relevant, but methodologically standardised and comparable cost, outcome and cost-effectiveness estimates

- **Lack of standardised international** costing and outcomes assessment **tools**

- **Unknown magnitude of heterogeneity** in assessed costs and outcomes between countries and sectors

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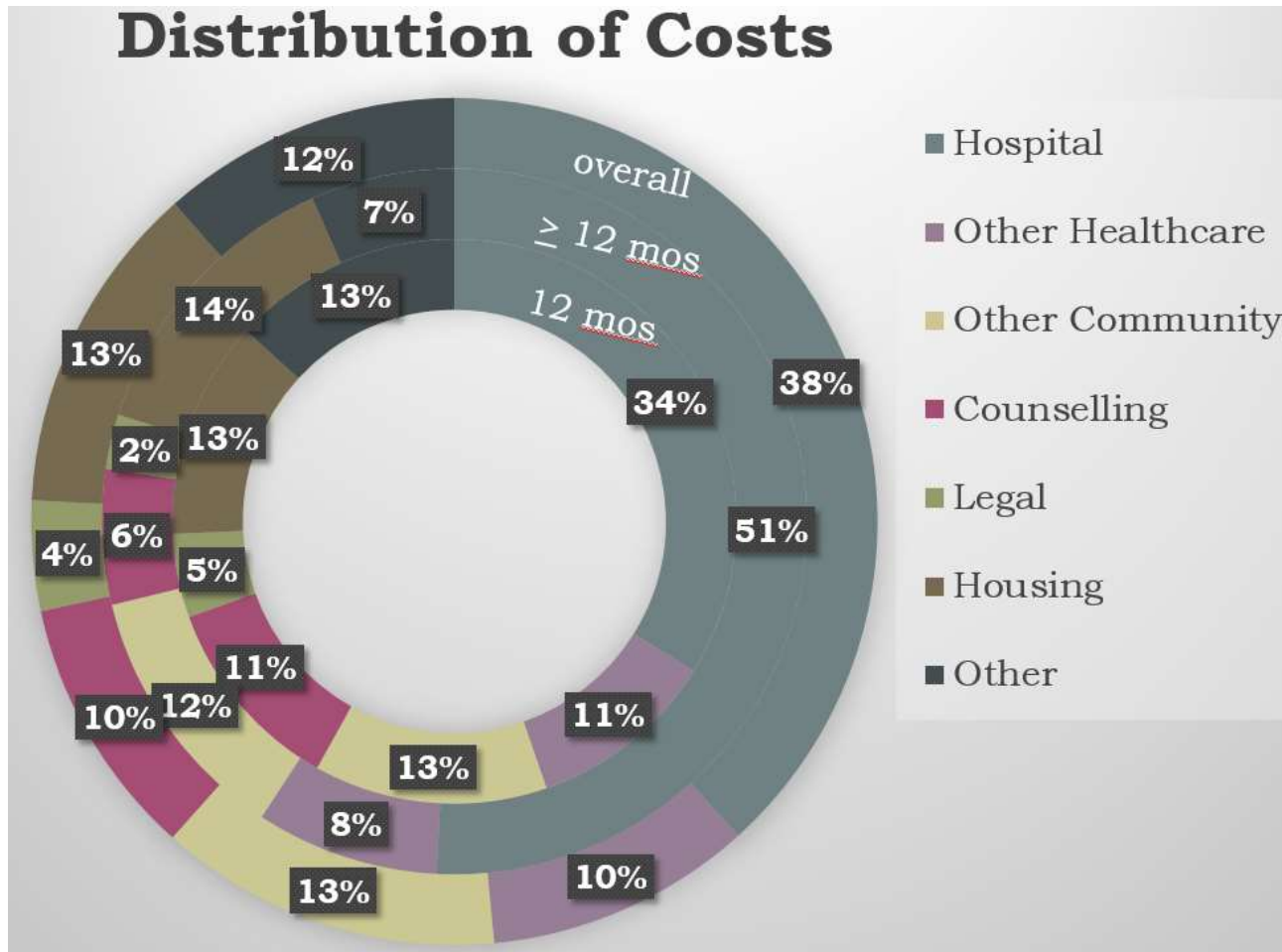
www.pecunia-project.eu

What are the methodological pitfalls?
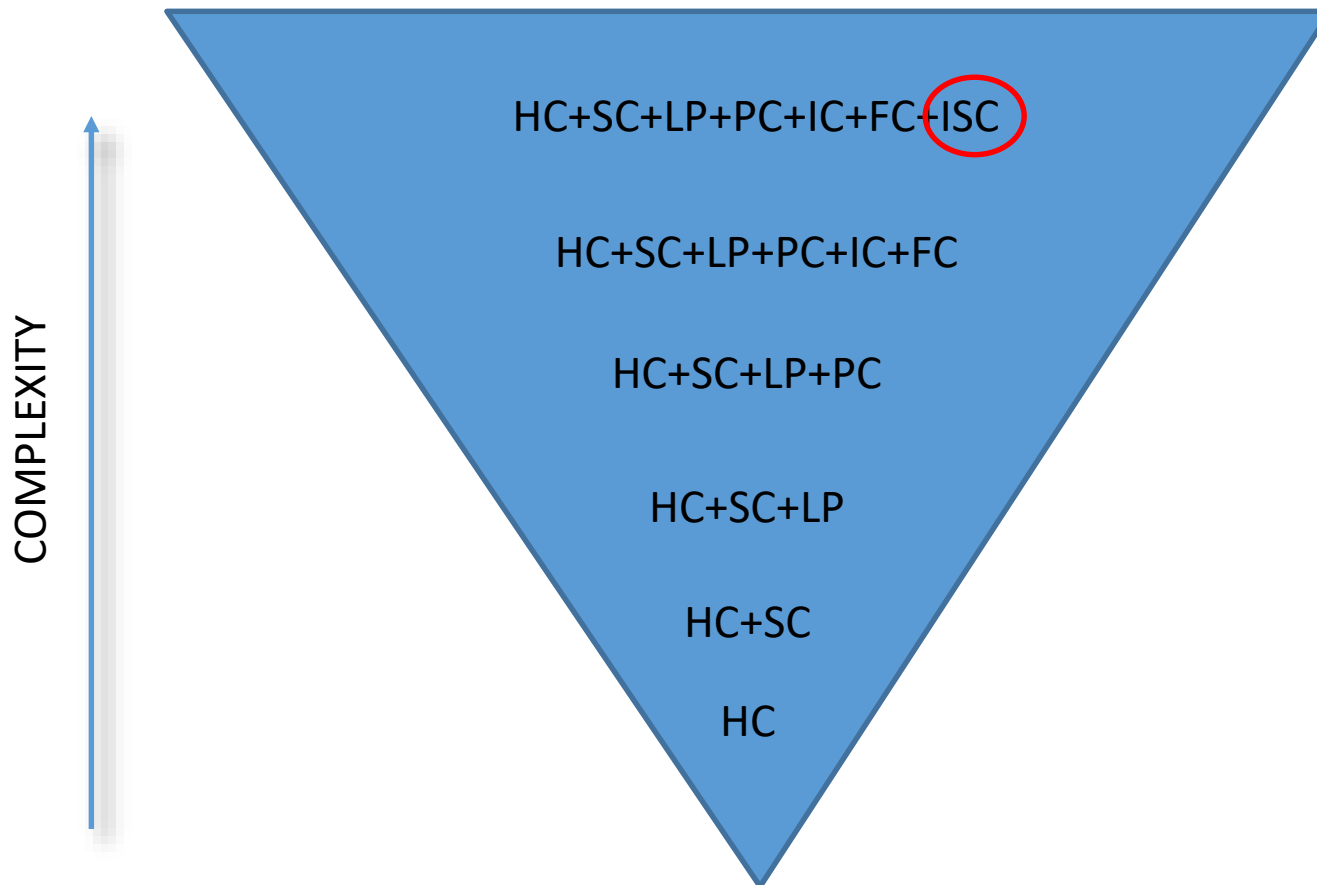
Importance of time horizon and costing perspective

Source: Hoch and Dewa, authors' own (2017)

Heterogeneity of 'costing perspectives' in EU

Country	Recommended perspective
Austria	Health care, patient, lost productivity
Belgium	Health care
Croatia	Health care
Czech Republic	Health care
Denmark	Societal
England & Wales	Health & social care
Estonia and Latvia	Health care
Finland	Societal
France	Societal
Germany	Health care
Hungary	Health care
Ireland	Health care
Italy	Health care
The Netherlands	Societal
Norway	Societal
Poland	Health care
Portugal	Societal
Scotland	Health care
Slovakia	Health care
Slovenia	Health care
Spain	Societal
Sweden	Societal
Switzerland	Health care

Source: PECUNIA Concept Paper (2018) ©PECUNIA Consortium

Incomparable costing perspectives

COMPLEXITY

HC+SC+LP+PC+IC+FC+ISC

HC+SC+LP+PC+IC+FC

HC+SC+LP+PC

HC+SC+LP
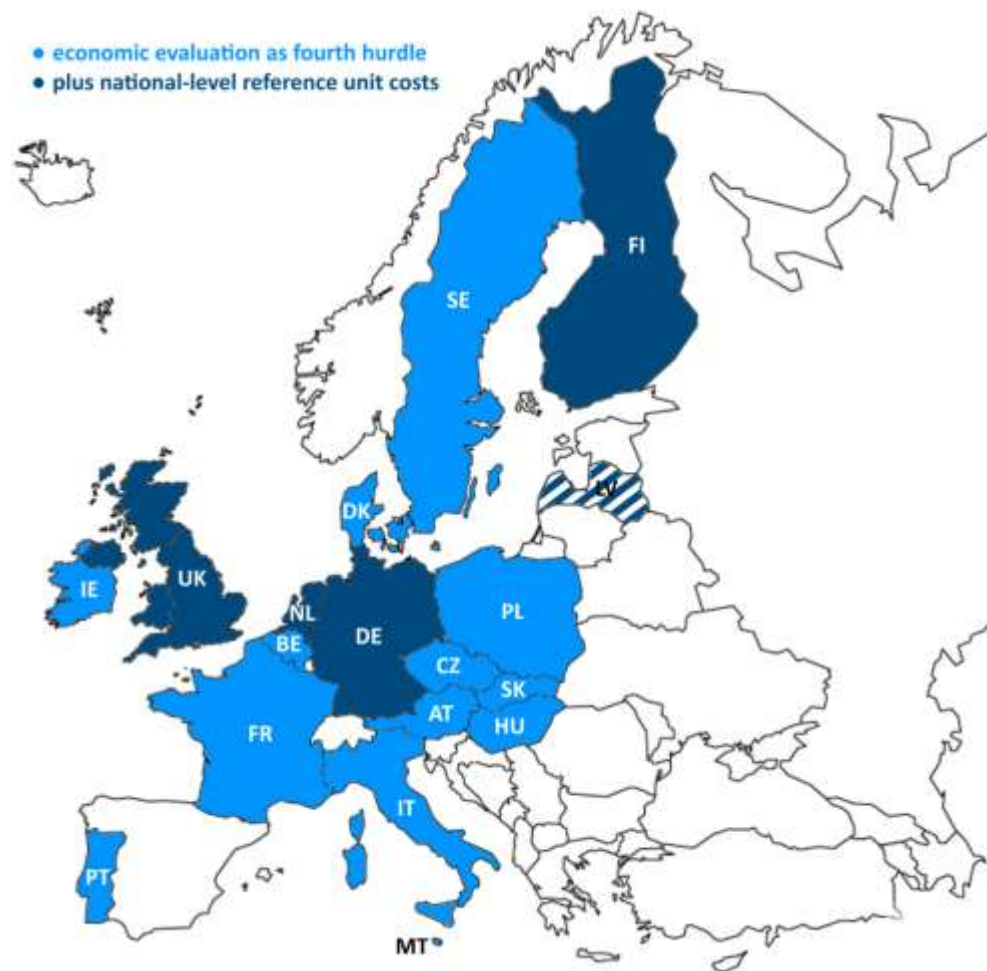
HC+SC

HC

Source: Own illustration (Simon 2018)

Heterogeneity in the ‚availability of national unit cost programmes' (Europe, 2017)

- economic evaluation as fourth hurdle
- plus national-level reference unit costs

Source: Own illustration (Simon et al. 2017) ©PECUNIA Consortium

Incomparable 'unit costs' in Europe: Cost of *day care centre*

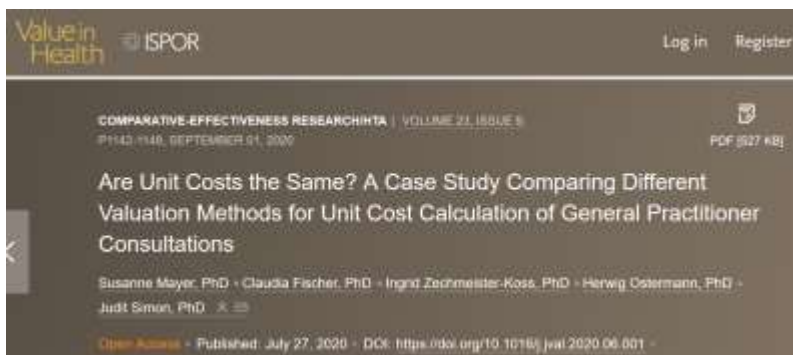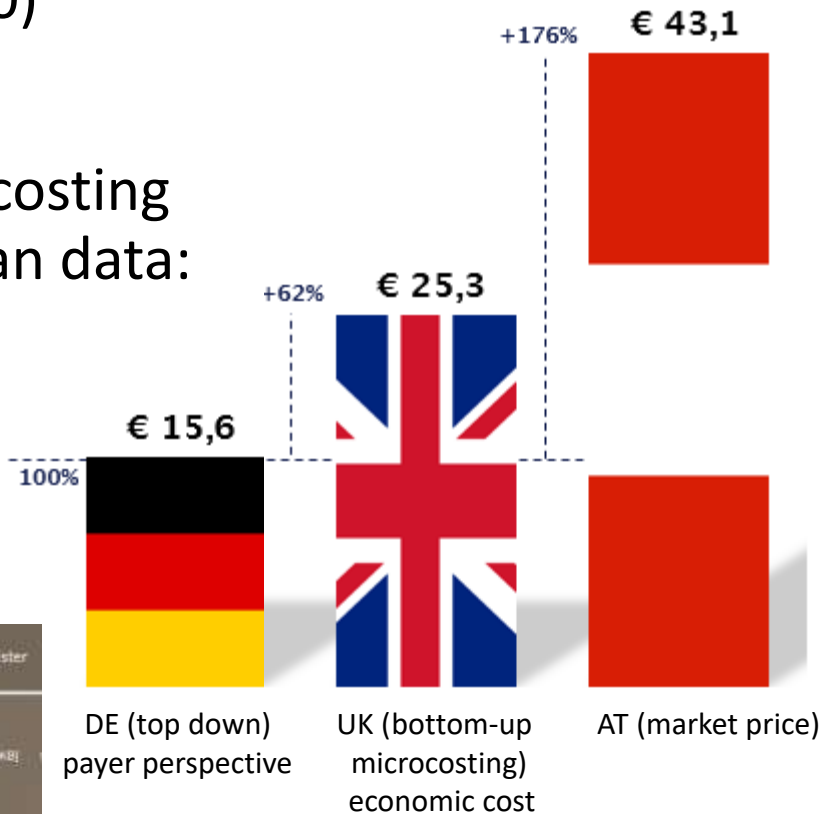| Day care centre				
Country	UK	DE	NL	ES
Name of item (HEQ)	Day care centre	Tageszentrum	Dagopvang	Centro de dia
Unit cost in £/€	£ 37	€ 7.78	€ 276 // € 67 // € 302 // € 460	n/a
Definition / Description of service	Modern day services are like community centres, with a wide range of activities and support in the building and local area. Day services support people to set up groups and activities in their local communities rather than having to travel to centres. The individuals in each group have more choice and control about what they do (From: https://www.salford.gov.uk/health-and-social-care/contact-adult-social-care/care-and-support-services/day-services/, cited in PSSRU).	n/a	n/a	n/a
Unit of measurement	per client attendance (typical standard unit is 3.5 hours with average of 3 sessions per week)	per hour per therapy place	per day	n/a
Source	From PSSRU 2018 page 37. 2.3 Local authority own-provision social services day care for people requiring mental health support	From Grupp et al. (2017a), p. 56; Tagesstätten as it appears it is the same Tageszentrum	From Kanters et al (2017) • daycare treatment under inpatient hospital day • daycare treatment under mental health care • daycare treatment (adults) under rehabilitation therapy	n/a
Year	2018	2014	2014	n/a
Issue	-	Translation problem → Tagesstätte vs. Tageszentrum	none seems to match with UK/DE definition as setting differs, translation problem	Expert advise needed

Heterogeneity in 'unit cost valuation methods'

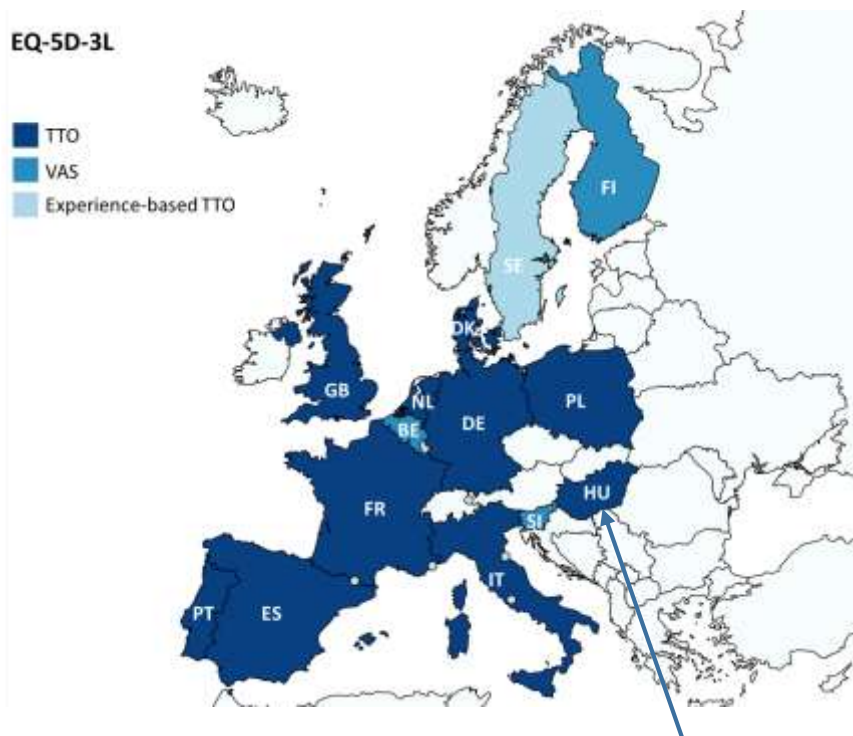Unit cost: average monetary value of a unit of resource use (e.g. contact) (Beecham 2000)

Example:

Application of international costing approaches based on Austrian data: general practitioner (GP) consultation unit cost (2015) → staggering differences in unit cost estimates
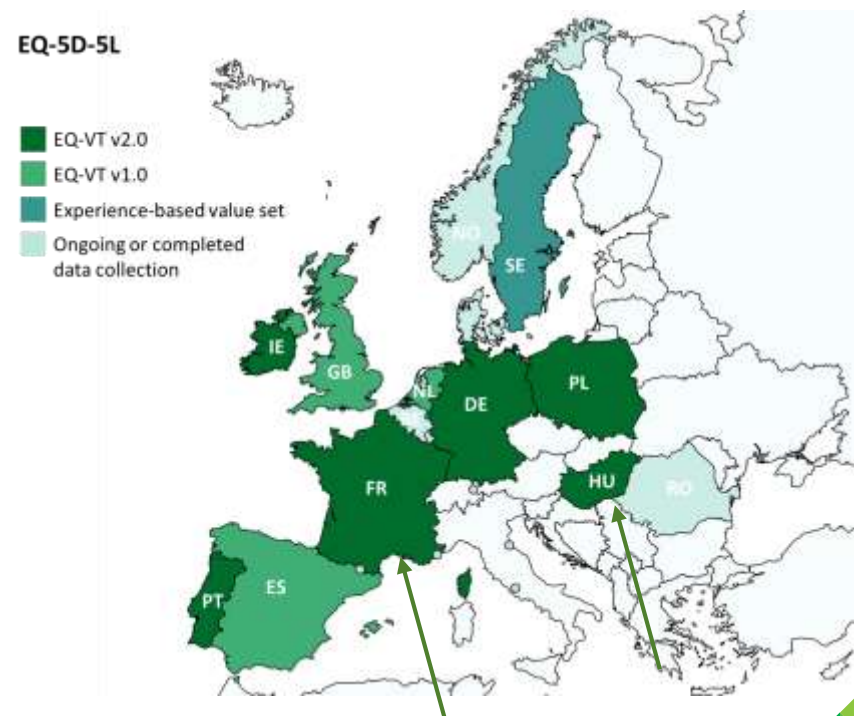
+176%   € 43,1

+62%   € 25,3

€ 15,6

100%

DE (top down) payer perspective

UK (bottom-up microcosting) economic cost

AT (market price)

Value in Health   ISPOR   Log in   Register

COMPARATIVE-EFFECTIVENESS RESEARCH/HTA | VOLUME 23, ISSUE 9
P1142-1148, SEPTEMBER 01, 2020   PDF [527 KB]

Are Unit Costs the Same? A Case Study Comparing Different Valuation Methods for Unit Cost Calculation of General Practitioner Consultations

Susanne Mayer, PhD · Claudia Fischer, PhD · Ingrid Zechmeister-Koss, PhD · Herwig Ostermann, PhD · Judit Simon, PhD

Open Access · Published: July 27, 2020 · DOI: https://doi.org/10.1016/j.jval.2020.06.001

EQ-5D value sets across Europe, Nov 2020
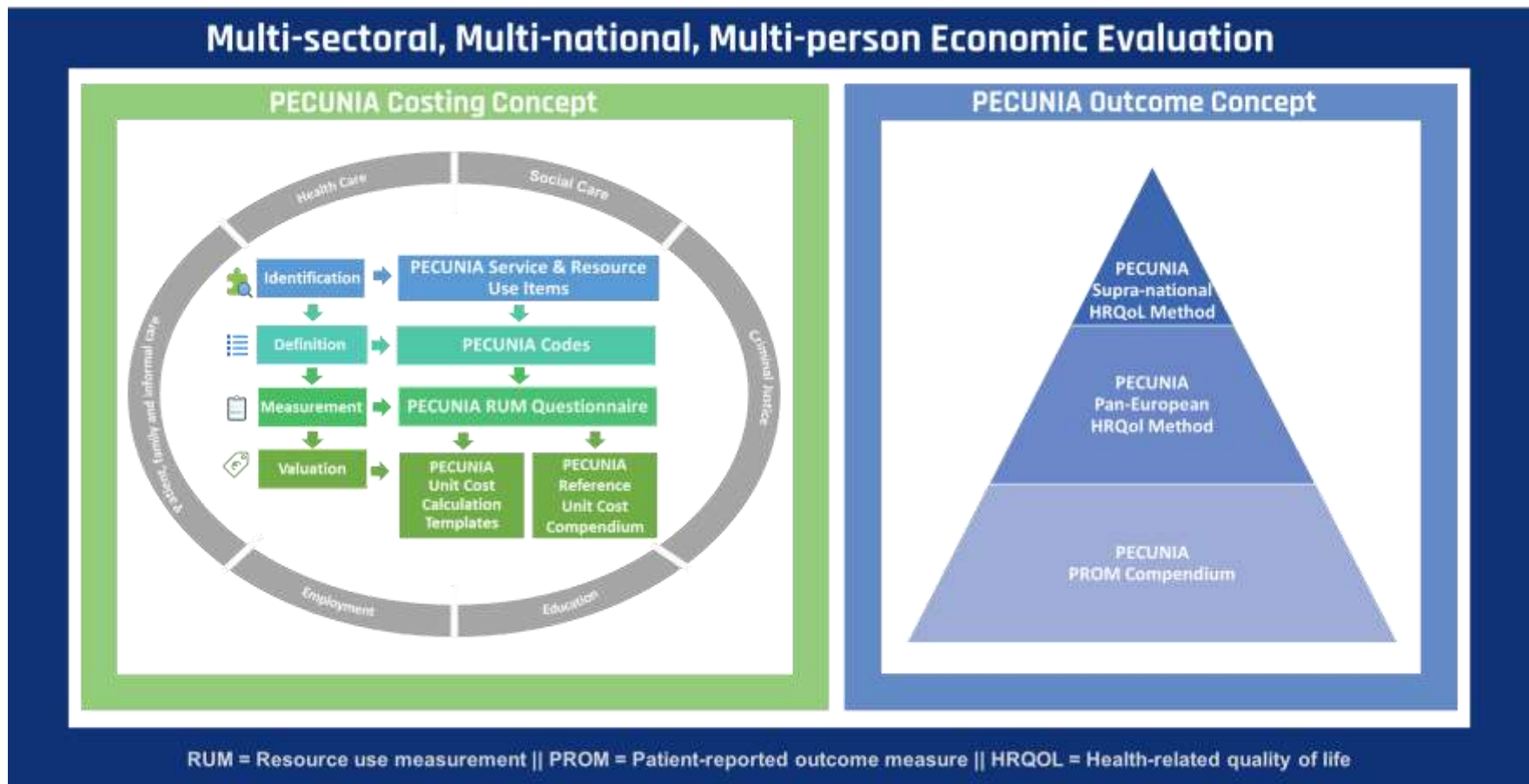
EQ-5D-3L

EQ-5D-5L

PECUNIA Objectives

- Harmonisation of costs in terms of
  - ◦ unit of analysis
  - ◦ unit of measurement
  - ◦ unit cost valuation methods
  - ◦ availability of comparable unit costs
- Harmonisation of outcomes in terms of
  - ◦ factors of heterogeneity
  - ◦ availability
  - ◦ comparability

PECUNIA Costing and Outcome Concept

Multi-sectoral, Multi-national, Multi-person Economic Evaluation

PECUNIA Costing Concept

Health Care — Social Care — Criminal Justice — Education — Employment — Patients, family and informal care

- Identification → PECUNIA Service & Resource Use Items
- Definition → PECUNIA Codes
- Measurement → PECUNIA RUM Questionnaire
- Valuation → PECUNIA Unit Cost Calculation Templates | PECUNIA Reference Unit Cost Compendium

PECUNIA Outcome Concept

- PECUNIA Supra-national HRQoL Method
- PECUNIA Pan-European HRQol Method
- PECUNIA PROM Compendium

RUM = Resource use measurement || PROM = Patient-reported outcome measure || HRQOL = Health-related quality of life

Icons from PickIt Images, https://pickit.com/

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Modified Care Matrix of the Organizations

Process of Care (A. Donabedian)

ORGANISATIONAL LEVELS	INPUT/STRUCTURE (UC)	THROUGHPUT/PROCESS (RUM)	OUTPUT/OUTCOME	
	Resources (e.g. staff, facilities, equipment, consumables, medication, overheads)	**Activities** (e.g. contacts, institutionalised days, procedures/ interventions)	**Intangible consequences** (e.g. stigma, pain, suffering)	**Tangible consequences** (e.g. QoL, survival, productivity)
MACRO Health corporation	1A	1B	1C	1D
MESO Hospital/Department	2A	2B	2C	2D
MICRO Service units (e.g. BSIC)	3A*	3B	3C	3D
NANO Individual agents (e.g. Professional)	4A	4B	4C	4D

* Modified from Thornicroft & Tansella (1999) *The Mental Health Care Matrix*, **Cambridge Univ. Press**

PECUNIA Care Atom (2017)
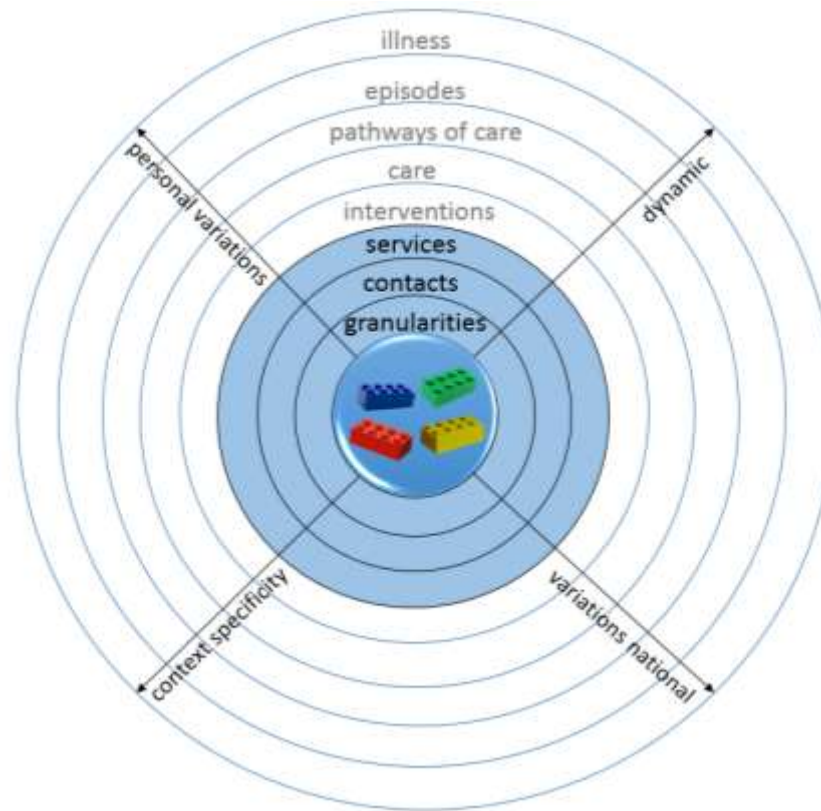
illness
episodes
pathways of care
care
interventions
services
contacts
granularities

personal variations
dynamic
context specificity
variations national

PECUNIA Care Atom (2021)

illness
episodes
pathways of care

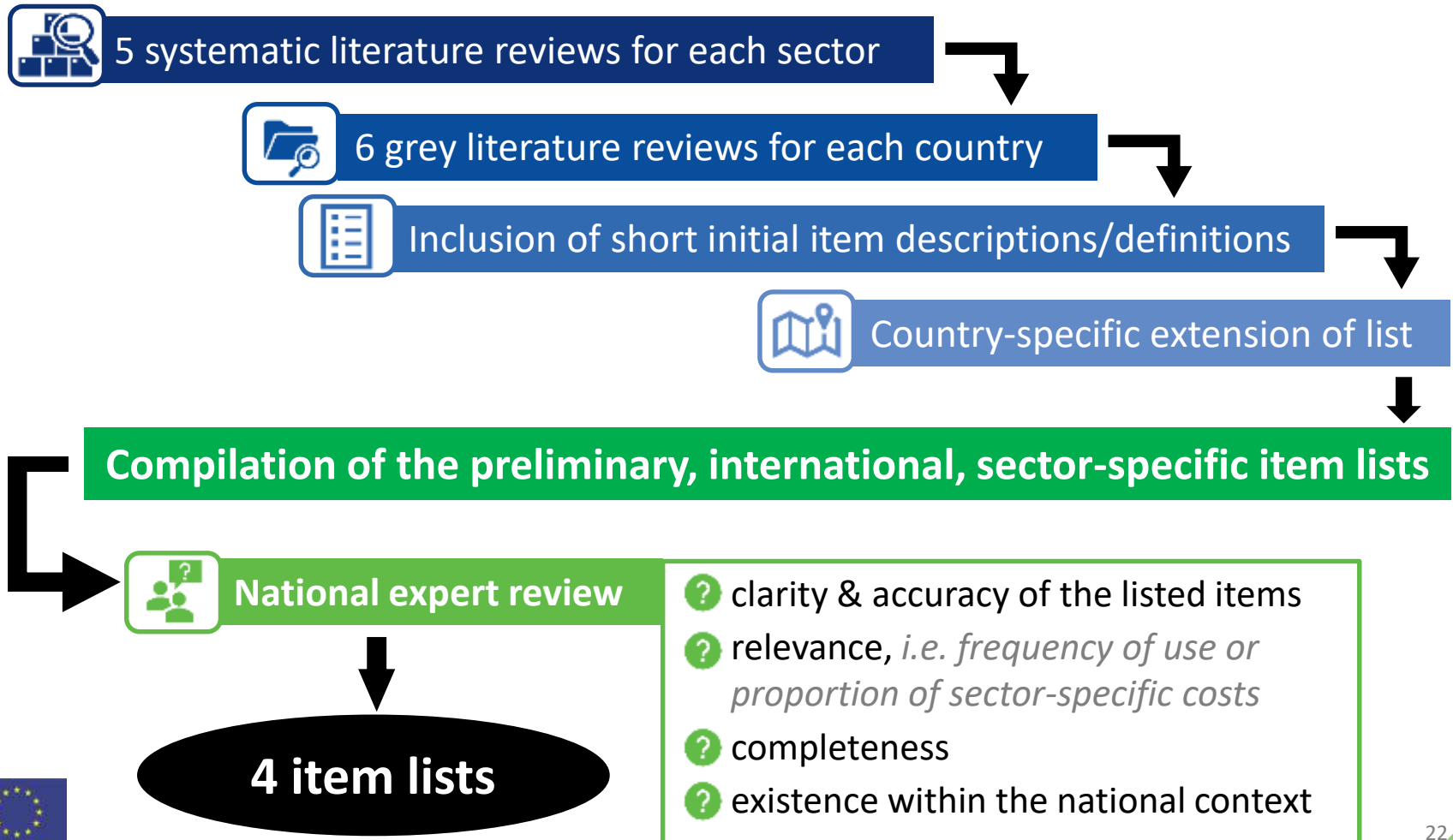personal variations

dynamic

context specificity

variations national

18
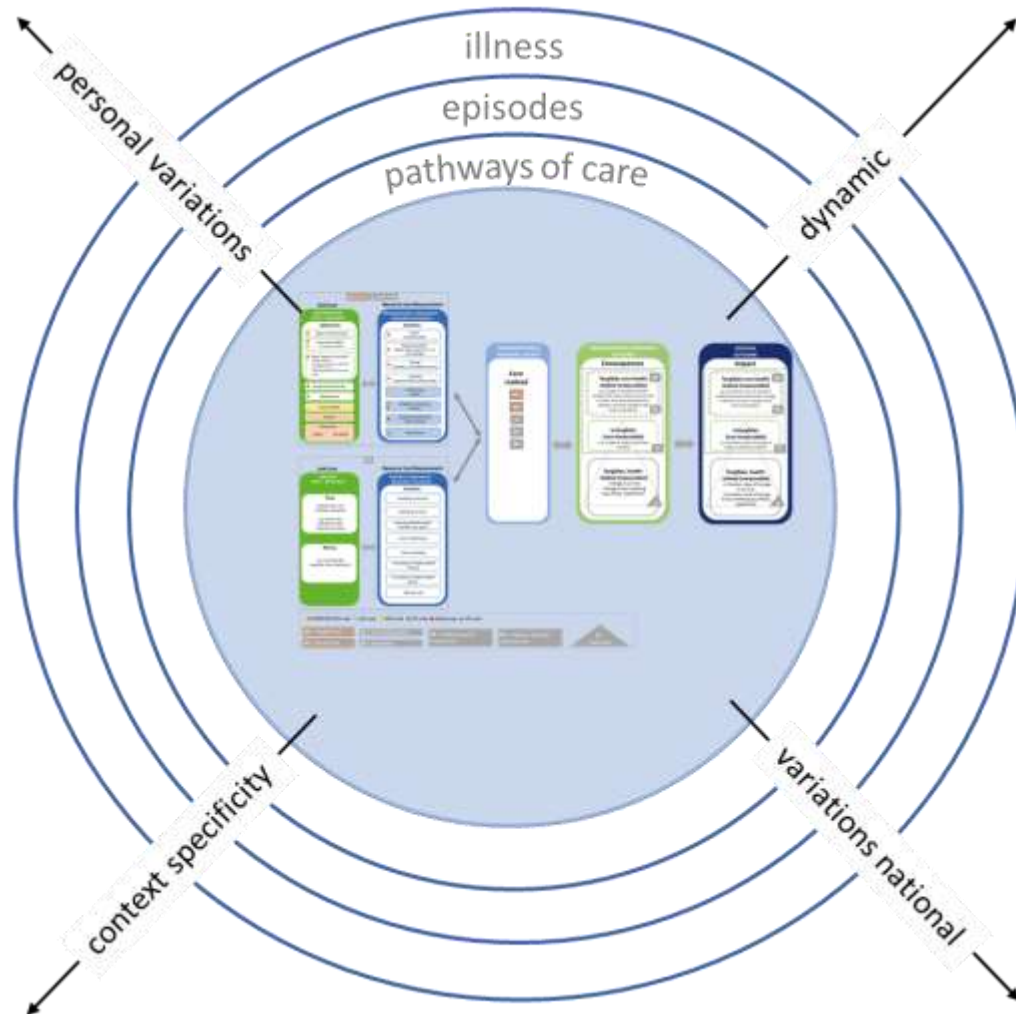
Costing concept: Harmonised units of analysis by cost type and international coding
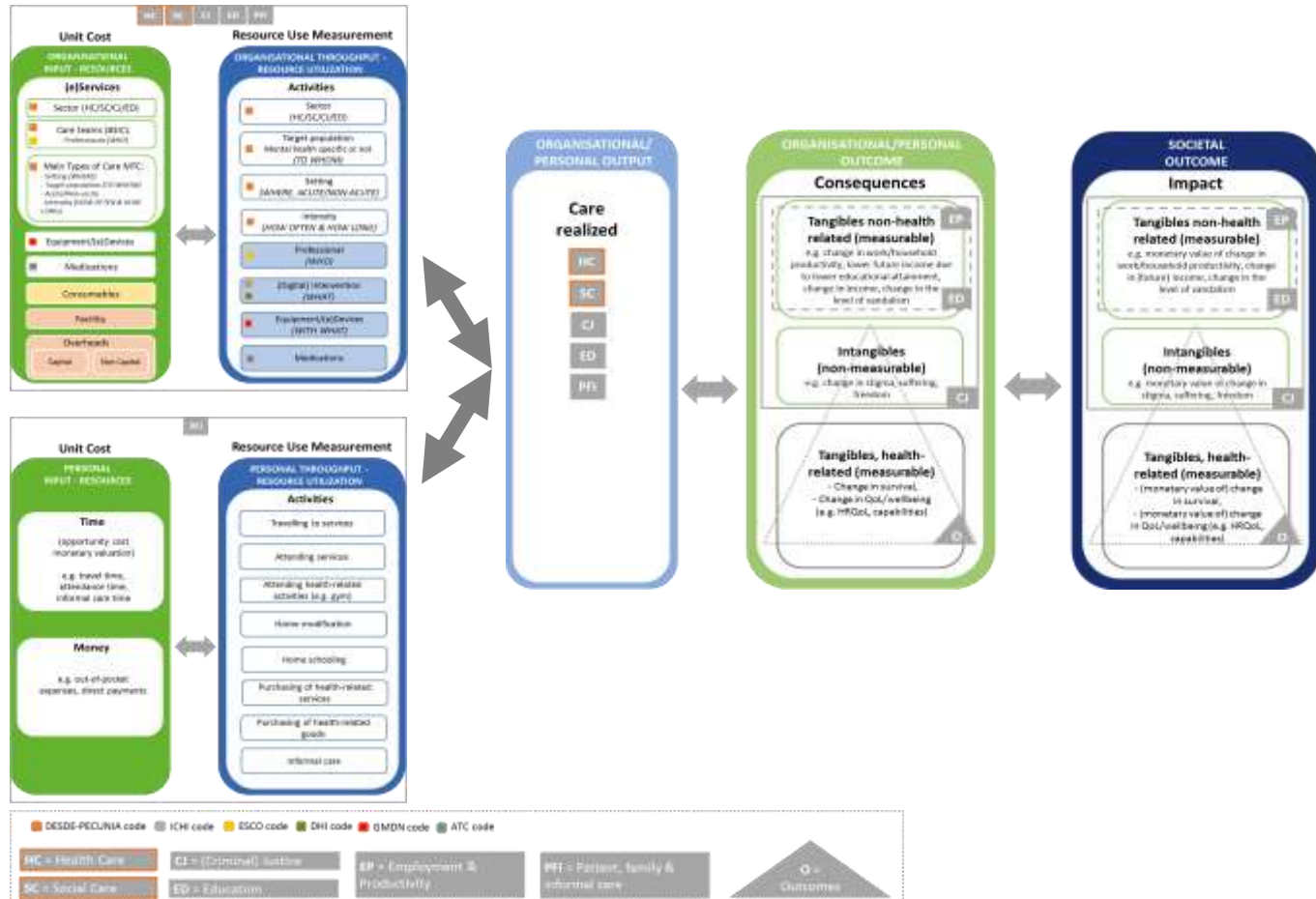
PECUNIA Costing Approach

- Step 1: Harmonised **Identification** of services via literature search and country reports

- Step 2: Harmonised **Definition** of services via disambiguation and international coding
  - DESDE-LTC: For services
  - ICHI: For interventions
  - ISCO: For professionals
  - DHI (WHO Classification for Digital Health Interventions): For eHealth/Medical devices

- Step 3: Harmonised clusters of services for **Resource Use Measurement** (RUM) based on homogenous coding and costs

- Step 4: Harmonised **Valuation** with **Reference Unit Costs (RUC,** standardized methodology applied in unit cost development) based on coding clusters and harmonised Costing Templates following the PECUNIA Care Atom

Harmonisation step 1: Identification

5 systematic literature reviews for each sector

6 grey literature reviews for each country

Inclusion of short initial item descriptions/definitions

Country-specific extension of list

Compilation of the preliminary, international, sector-specific item lists

National expert review
- clarity & accuracy of the listed items
- relevance, *i.e. frequency of use or proportion of sector-specific costs*
- completeness
- existence within the national context

4 item lists

PLOS ONE

Establishing a comprehensive list of mental health-related services and resource use items in Austria: A national-level, cross-sectoral country report for the PECUNIA project

Claudia Fischer, Susanne Mayer, Natalia Perić, Judit Simon, on behalf of the PECUNIA Group
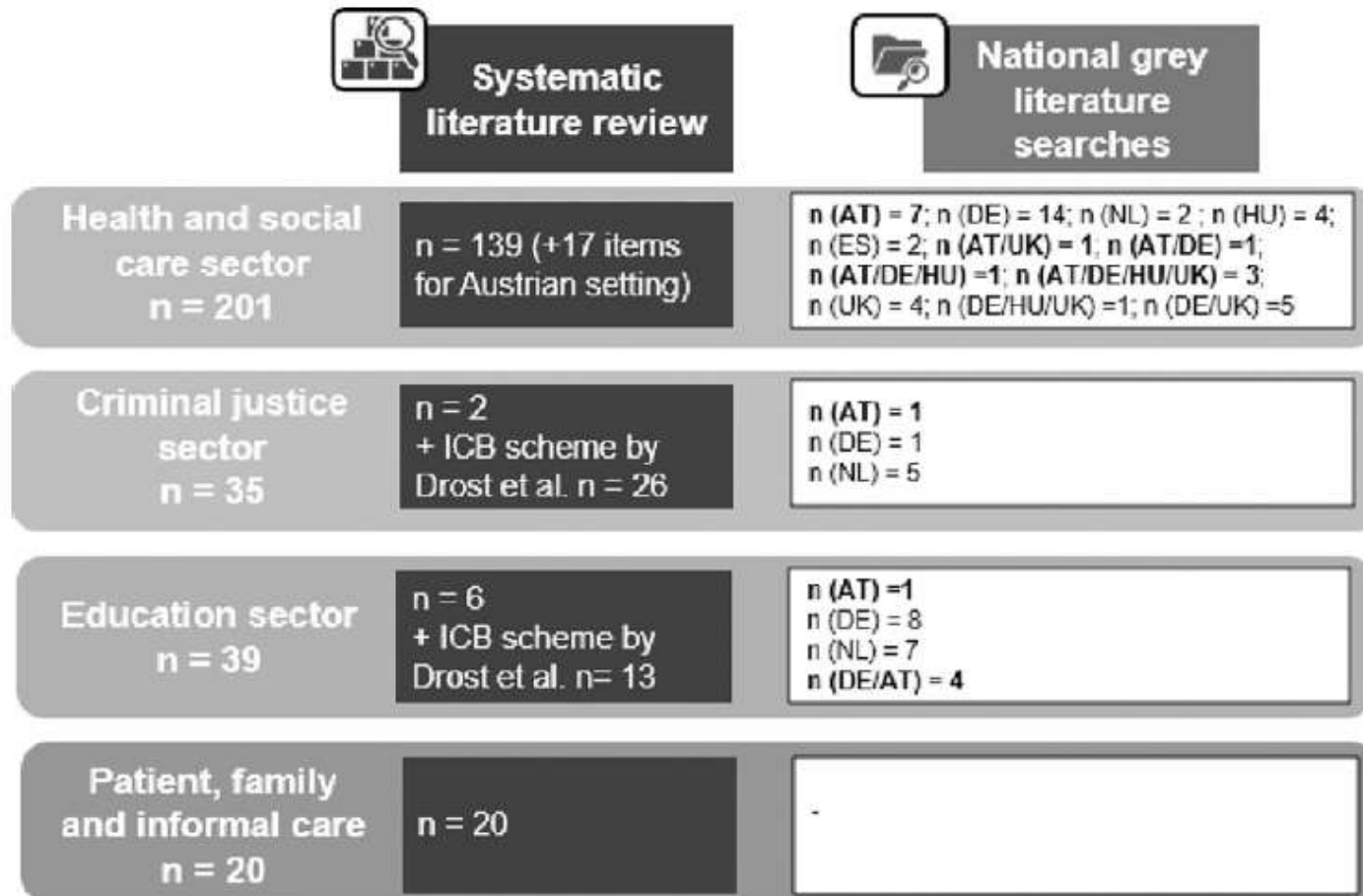
Fig 2. Sources of items in the preliminary, international sector-specific lists. Abbreviations: AT–Austria, DE–Germany, NL–the Netherlands, HU- Hungary, ES–Spain, UK–United Kingdom, ICB–inter-sectoral costs and benefits.

Problems and lessons learned

- **Definition of a "service"** as discrete unit compared to an intervention or a service-fragment can be very **challenging**

- „Language" often fails to **adequately describe services**

  → The same "word" for a service can have very different meanings in different countries and people don't even realize this until they try to describe the service of interest

Harmonisation step 2: Definition
Disambiguation

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Items (N)	A final list of **56 items** were obtained from systematic review and grey literature review. 34 from the health sector and 22 from the social sector

	Accurate	Confusing	Ambiguous	Vague
Level 1. Unit of analysis	50 items (89%)	6 items (11%) *e.g 'legal carer', 'outpatient health care contact'*		
Level 2. Target population	29 items (52%)	3 items (5%) *e.g homeless people/women and mental disorders*	4 items (7%) *e.g 'Child development centre for children and families'*	20 items (36%) *e.g 'rehabilitation facility for illness, injury or addiction'*
Level 3. Definition	23 items (41%)	6 items (11%) *e.g 'Outpatient health care at workplace, e.g.g company physician, nurse*	12 items (21%) *e.g 'Polyclinic*	13 items (23%) *e.g rehabilitation facility*
Total L1, L2, L3	13 items (23%)	-	2 items	5 items

Slide: Courtesy of Psicost

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DISAMBIGUATION

HEALTH CARE

Macroorganisation
(General Hospital)

⬇

Mesoorganization
(Department of Psychiatry)
(+4 services)

⬇

Microorganization

(Care teams – BSIC)

(R2) Acute unit
(D1) Day Hospital
(O3.1) Emergency Room
(O8.1) Outpatient Service

Slide: Courtesy of Psicost

CRIMINAL JUSTICE

Macroorganisation
(Local Police Department)

⬇

Mesoorganisation

Police Station (+4 services)

⬇

Microorganization

(Care teams – BSIC)

(O1.2) Mobile emergency unit
(O2.2) Office/complaints unit
(O3.2) Detention room
(I1.1) Information

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Harmonisation step 2: Definition
PECUNIA Coding system for service typology based on international classifications

DESDE coding system

Combination with other international classification systems
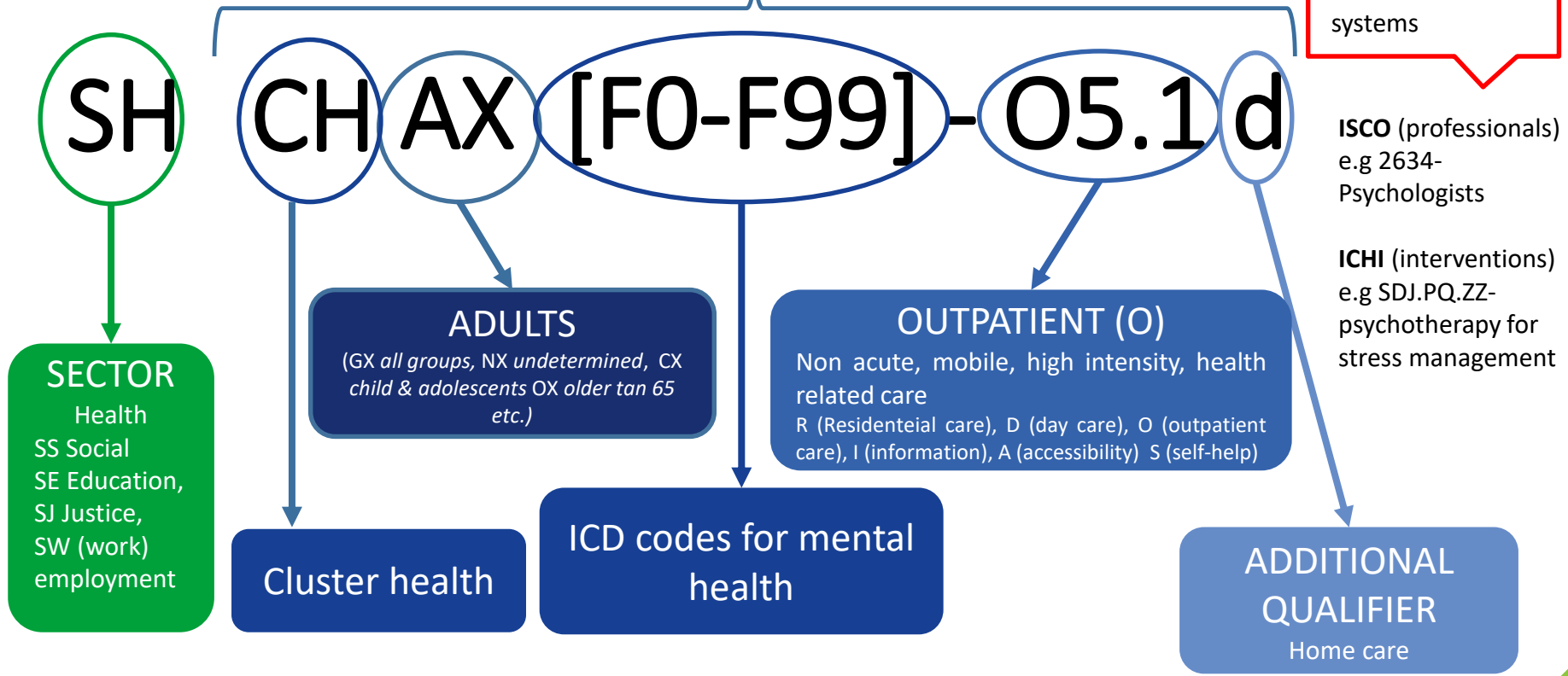
SH CH AX [F0-F99] – O5.1 d

ISCO (professionals) e.g 2634-Psychologists

ICHI (interventions) e.g SDJ.PQ.ZZ-psychotherapy for stress management

SECTOR
Health
SS Social
SE Education,
SJ Justice,
SW (work) employment

ADULTS
(GX *all groups,* NX *undetermined,* CX *child & adolescents* OX *older tan 65 etc.)*

OUTPATIENT (O)
Non acute, mobile, high intensity, health related care
R (Residenteial care), D (day care), O (outpatient care), I (information), A (accessibility) S (self-help)

Cluster health

ICD codes for mental health

ADDITIONAL QUALIFIER
Home care

Giulio Castelpietra (iD), Judit Simon, Mencía Ruiz Gutiérrez-Colosía (iD),

Sebastian Rosenberg and Luis Salvador-Carulla

Show author details ⌄

ISCO		DESDE-LTC		ICHI	
Clinical Psychologist	2634	Out-patient care Non-acute Non-mobile		Psychotherapy for mental functions	AS1.PQ.ZZ
Specialist Medical Practitioners	2212	High intensity		Psychotherapy for global mental functions	AT2.PQ.ZZ
		Health-related care	08.1	Psychotherapy for specific mental functions	AU2.PQ.ZZ
		Medium intensity		Psychotherapy for the whole person, not elsewhere classified	PZB.PQ.ZZ
		Health-related care	09.1	Psychotherapy for learning and applying knowledge	SA1.PQ.ZZ
		Low intensity		Psychotherapy for stress management	SDJ.PQ.ZZ
		Health-related care	010.1	Psychotherapy for interactions and interpersonal relationships	SR1.PQ.ZZ
				Psychotherapy regarding particular interpersonal relationships	SS2.PQ.ZZ
				Psychotherapy for family relationships	SSJ.PQ.ZZ
				Psychotherapy for intimate relationships	SSM.PQ.ZZ
				Psychotherapy for self-harm behaviours	VBA.PQ.ZZ
				Psychotherapy for sexual behaviours	VEF.PQ.ZZ
				Psychotherapy for social behaviours	VEK.PQ.ZZ
				Psychotherapy for behaviours related to psychological health and well-being	VEL.PQ.ZZ
				Psychotherapy for other health-related behaviours	VFX.PQ.ZZ

Psychotherapy delivered by a clinical psychologist in an out-patient service, non-acute and non-mobile, at high intensity, for stress management

Code: 2634 - 08.1 - SDJ.PQZZ

Harmonisation step 3: Measurement PECUNIA RUM instrument

Pokhilenko et al. (forthcoming)

Harmonisation step 3: Measurement
PECUNIA RUM instrument (self-reported, adult questionnaire)

Module	Types of resource-use measured
Place of living and overnight stays	Usual living situation, residential care, and institutional stay selected from a range of residential, health, social, educational and correctional facilities
Non-residential health and social care	Use of health and social services including outpatient, daycare, helplines, and vocational services
Medication	Use of medications
Unpaid help (informal care)	Informal care provided by the respondent's friends, relatives, neighbors or volunteers
Education	Highest level of education, current educational status, absenteeism and presenteeism during studies, the use of education services (e.g. tutoring)
Employment and productivity	Current employment status, absenteeism and presenteeism at paid and unpaid work
Safety and justice system	Contacts with police, fire-and-rescue and legal services, material damage caused by the respondent (e.g. theft, vandalism), incarceration
Out-of-pocket and other expenses	Personal expenses including expenses for household help, childcare, purchase of goods (e.g. wheelchair)

Slide: Courtesy of UM

Example

Step 1: Identified services

Outpatient care
Polyclinic
Outpatient healthcare service
Emergency doctor on call
Outpatient healthcare at the workplace
Outpatient healthcare service at school
Outpatient healthcare service at the prison
Pediatric outpatient clinic
Hospital-based outpatient clinic
Psychiatric drop-in center
Psychiatric rehabilitation aftercare service
Mental counselling center/ advice center
Long-term-care facility
Child development centre
Social care outpatient service
Psychosocial crisis center
Social care facility for mentally ill persons
Social assistance for mentally ill persons
Psychological crisis resolution team
Legal carer/guardian for mentally ill persons
Integration workplace
Vocational training
Individual vocational qualification
Supported employment programs
Integration services
Professional training
Protected/sheltered workshop for mentally ill persons
Pre-vocational assessment service for mentally ill persons

Residential care
Psychiatric residential home
Assisted living facility
Residential home
Social day-care
Assisted tenant group for mentally ill persons
Sheltered housing for mentally ill persons
Semi-residential social care
Non-psychiatric hospital ward
Non-psychiatric intensive care ward
Rehabilitation facility
Hospice
Nursing home
Acute psychiatric ward
Psychiatric intensive care unit (PICU)
Psychiatric long-term ward
Soteria house
Non-addiction related psychiatric rehabilitation
Addiction-related rehabilitation

Daycare
Day hospital
Day care – voluntary organization
Day care – professional organization
Psychiatric daycare unit

Accesability to care
Emergency ambulance ride
General transport
Escort/accompanied leave

Information for care
Hotline
Support helplines

Self-help and voluntary care
Self-help groups
Voluntary community support

Slide: Courtesy of UKE

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Step 2: Description of selected services using DESDE codes

Term	Definition	DESDE-code	Code description
Hotline	A telephone hotline that offers information to patients	SH-NX [ICD10] I1.2.4e	- Health sector (SH) - Undetermined age groups (NX) - Information facilities providing guidance and assessment, including evaluation and design of a personal plan for the user (I1.2.4) - Via telephone or online (e)
Nursing home	An inpatient care facility that offers care for elderly or disabled persons	SH-OX R11	- Health sector (SH) - For old people (OX) - Residential non-acute facilities with indefinite stays and 24h non-medical support (R11)
Outpatient healthcare service – General practitioner	A contact with an outpatient health care provider with profession "general practitioner"	SH-NX [ICD-10] O8.1 u 2211	- Health sector (SH) - Undetermined age groups (NX), - Outpatient non-acute non-mobile facilities providing health related care more than three times/week (O8.1) - Provided by a single handed professional (u) - General medical practitioner (2211)
Outpatient healthcare service – Dental care	A contact with an outpatient health care provider with profession "dentist"	SH-NX [K00-K14] O8.1 u 2261	- Health sector (SH) - Undetermined age groups (NX), - Outpatient non-acute non-mobile facilities providing health related care more than three times/week (O8.1) - Provided by a single handed professional (u) - dentist (2261)
Psychiatric daycare unit	A daycare-specific hospital unit providing specialized care for patients suffering from mental disorders	SH-NX [F00-F99] D4.1	- Health sector (SH) - Undetermined age groups (NX) - Day care non-acute facilities available the equivalent of 4 half days/week for health-related care (D4.1)

Slide: Courtesy of UKE

Step 3: RUM Question for Hotline

B6.1	Have you contacted a helpline (phone/online) regarding health or other life problems in the past 3 months?
☐	Yes *Please go to question B6.2*
☐	No *Please go to question B7*
☐	I don't know/I would rather not say *Please go to question B7*

B6.2	How many times have you contacted a helpline (phone/online) regarding health or other life problems in the past 3 months? *Please tick all answers that apply and indicate the number of contacts you had with a given service. If you are unsure, please tick 'Other' and provide details.*
1	Helpline (phone/online) for information (e.g. pharmacy, health hotline) ☐ ____contacts
2	Helpline (phone/online) for support (e.g. mental health support hotline) ☐ ____contacts
3	Other, please specify:_____ ☐ ____contacts

Step 3: PECUNIA RUM instrument – example of GPs and Dentists

B2.2	How many times have you used any of the following non-emergency care services in the past 3 months? *Please tick all answers that apply and indicate the number of times you have used a given service. If you are unsure, please tick 'Other' and provide details.*

			Number of times
1	General practitioner (GP)/family doctor	■	____times
2	Dental care	■	____times

Harmonisation step 4: Valuation

- **Reference Unit Cost (RUC):** standardized methodology applied in unit cost development

- **PECUNIA RUC Templates:**
  - Microsoft Excel (2013) based input masks with automated calculations based on harmonized methodology for transparent RUC development
  - Service 1, 2, 2-short (top-down micro or gross costing); Personal time; Productivity loss; Tangible non-health consequences
  - Primary and/or secondary input data

- **PECUNIA RUC Compendium:**
  - Microsoft Excel (2013) based collection of harmonised RUCs across countries

Resource use and cost data → **PECUNIA RUC Template(s)** → **Harmonized unit costs** → **PECUNIA RUC Compendium**

PECUNIA RUC Templates

Strengths of the PECUNIA RUC Templates

- Harmonized and transparent **methodology,** including inflation-adjustment module

- **Modular** set-up allowing for **flexibility** in costing approach and data sources

- Complementary **user guides**

- Feasibility assessment and demonstration study based on country-level **pilot tests** and suitability assessment for Health Technology Assessment (HTA) in a real-world setting: **positive**

- **Linked** tool with PECUNIA Resource Use Measurement (**RUM**) instrument and **DESDE** (Description and Evaluation of Services and DirectoriEs) **PECUNIA coding system**

RUCs and Compendium

Reference unit cost estimates for the core set of health and social care services, per country

Step 5: RUC Compendium

Strenghts of the PECUNIA RUCs and RUC Compendium

Reliable costing tool
- Electronic library of **comparable and validated RUCs** based on standardized costing approaches
- **Relevant** and **unambiguously defined** list of resource use items

Connected with other PECUNIA tools
- RUCs developed using PECUNIA costing **templates**
- **Compatible** with PECUNIA costing concept, coding system and resource use measurement **(RUM) questionnaire**

Intuitive and user-friendly
- **Traffic light quality indicator** (Level-of-certainty index) signals any caveats of each RUC
- **Comprehensive** user guides

Living document for scientific community
- **Free-of-charge for non-commercial** research purposes
- Inclusion of user-calculated UCs using the PECUNIA costing tools
- Access via PECUNIA Coordinator

Summary

- New conceptual framework for costing
  - Applicable for any type of economic analysis across countries and sectors, validated for HTA
- Development of harmonised, compatible methods and tools
- Results generalisable beyond mental health
- Bridge between HE & HSR methods
- Still not ‚full societal' perspective, but potential for extension of methods to other sectors
- Some data input level heterogeneity remains, but transparent

PECUNIA Costing and **Outcome Concept**
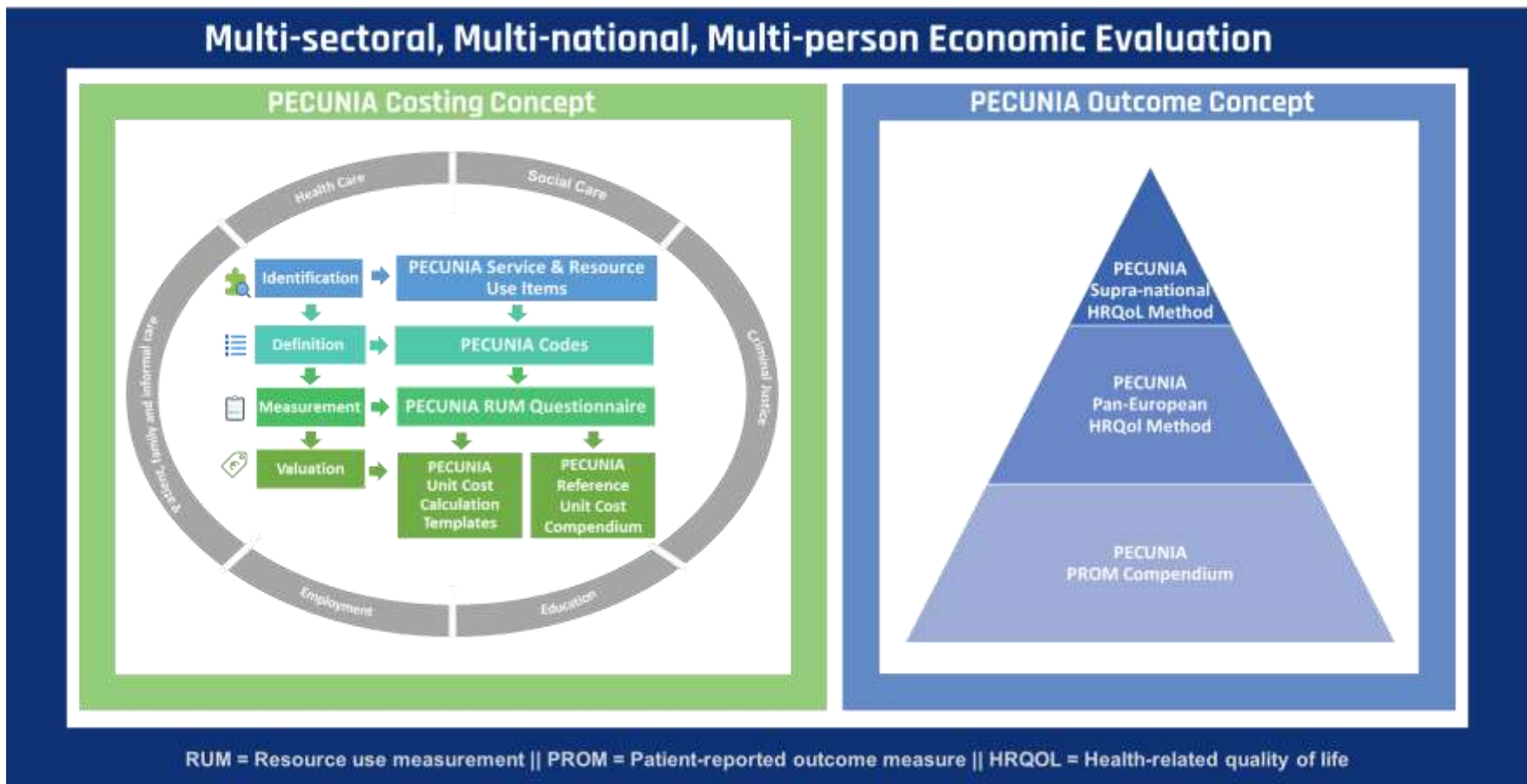
'Pan-European' value set: Background

- Cooperation EU; increase negotiation power
- Countries standardization of HTA processes to evaluate decision making and reimbursements in health care at EU level
- A tool to homogenize health-care decision making and resource allocation
- To help standardize factors such as
  - clinical practice guidelines
  - pricing
  - reimbursement of pharmaceutical drugs and medical devices across Europe

'Pan-European' value set: Methods

- Difficulty accessing original data plus inefficient
- Derived pooled utilities the published coefficients of existing EQ-5D-3L valuation studies within Europe
  - TTO valuations existing value sets
  - Data set generated unique value per health state for each country
  - 10 countries: 243 (35) theoretical health states = 2340 data points
  - Different models
  - Interaction terms: N3, D1, I2, I22, I3, and I32
  - Model selection: Goodness of fit criteria

'Pan-European' value sets: Results

Results EQ-5D-3L

The pooled utilities range from -0.865 to 1.000
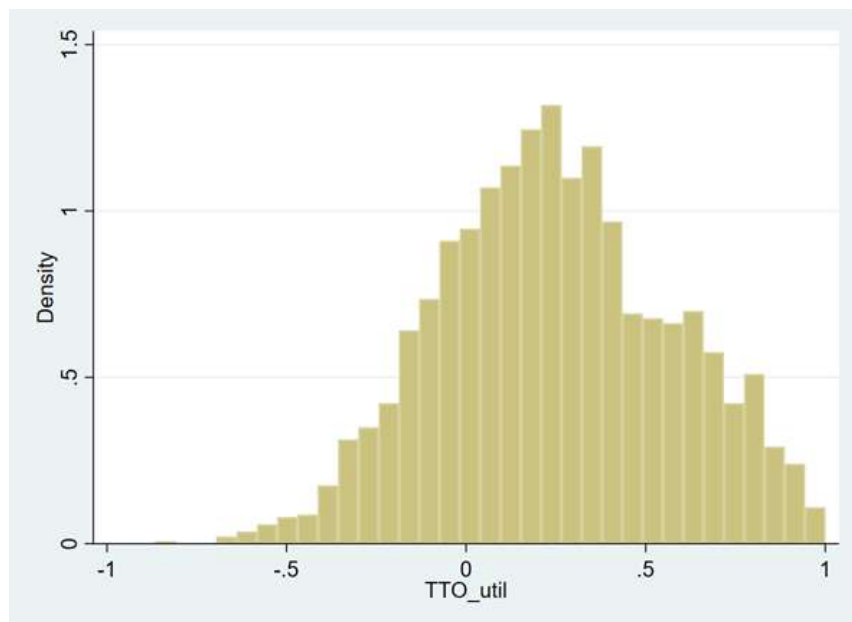
- The developed 'pan-European' value set
  - is a pragmatic solution for economic evaluations within Europe
  - impacts health-informed decision- and policy-making
  - is easily updated as new value sets become available
  - potential for online tool development

'Supra-national' value sets: Background

Use of value sets in European countries without a national one (EQ-5D-3L & -5L)

Legend:
- Not reported (grey)
- UK (pink)
- European (Greiner et al. 2003) (dark blue)
- German (blue)
- Finish (green)
- Danish (yellow)
- French (teal)
- No value set applied (light teal)

Chart data labels:
- Austria n=15: UK, 27%
- Bulgaria n=15: UK, 20%
- Cyprus n=4
- Czech Republic n=7: UK, 29%
- Estonia n=6: UK, 50%
- Greece n=31: UK, 38%
- Hungary* n=53: UK, 34%
- Lithuania n=6: UK, 66%
- Norway n=53: UK, 45%
- Romania n=7: UK, 57%
- Switzerland n=23: UK, 13%
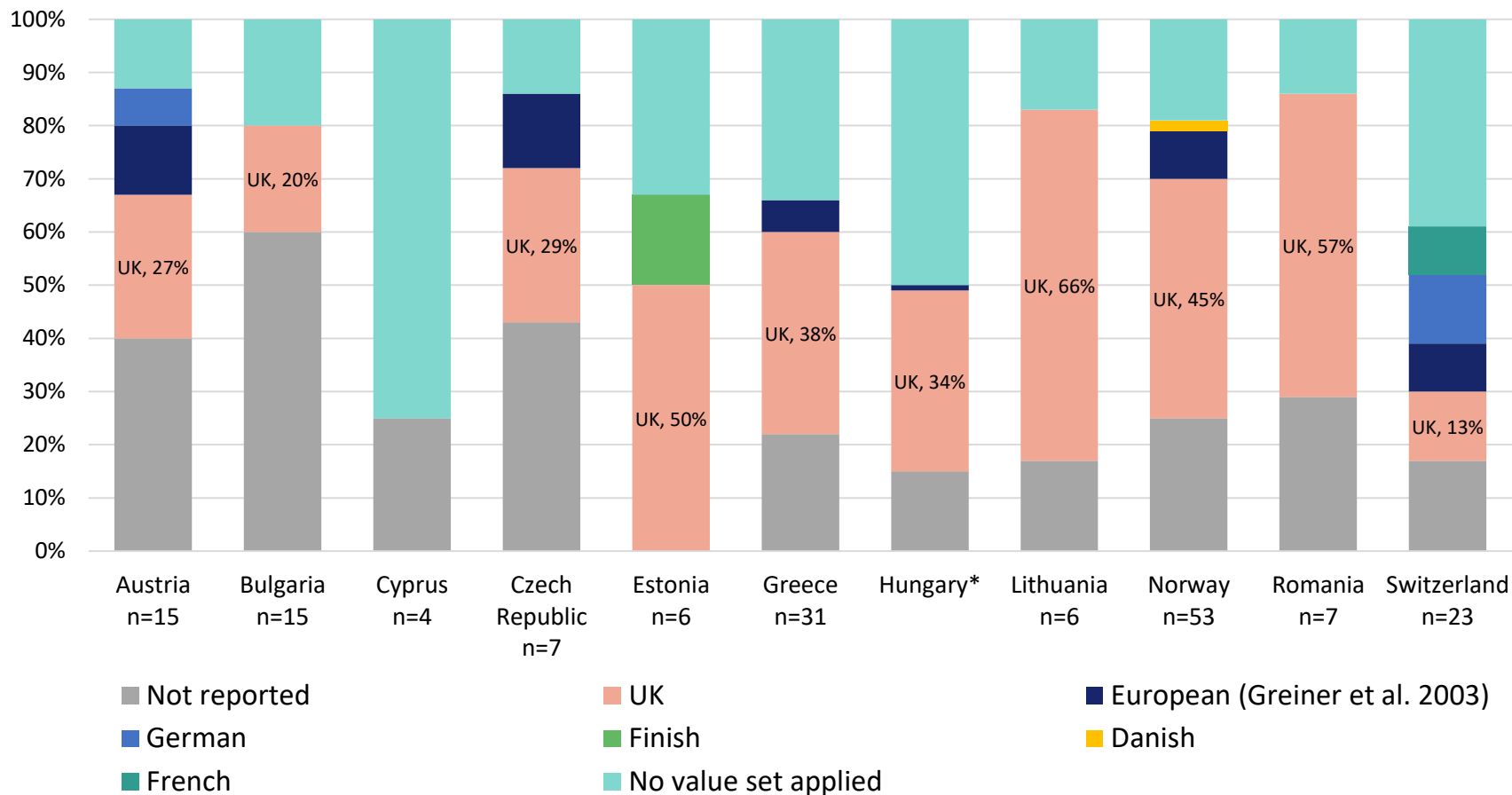
Source: Own research (November 2019); both 3L and 5L versions of the EQ-5D are included
Rencz et al. 2016

'Supra-national' value sets: Concept

Literature search: Possible variables influencing cross-country differences in EQ-5D valuations (69 studies)

Variable	Count
Cultural differences	31
Language differences/translation issues	16
Methodology of value set development	16
Healthcare system differences (HCS typology, HCS financing)	14
Economic differences	10
Societal and socio-demographic differences	9
Religion	9
Racial/ethnic differences	5
Geographical proximity	3
Environmental differences	2
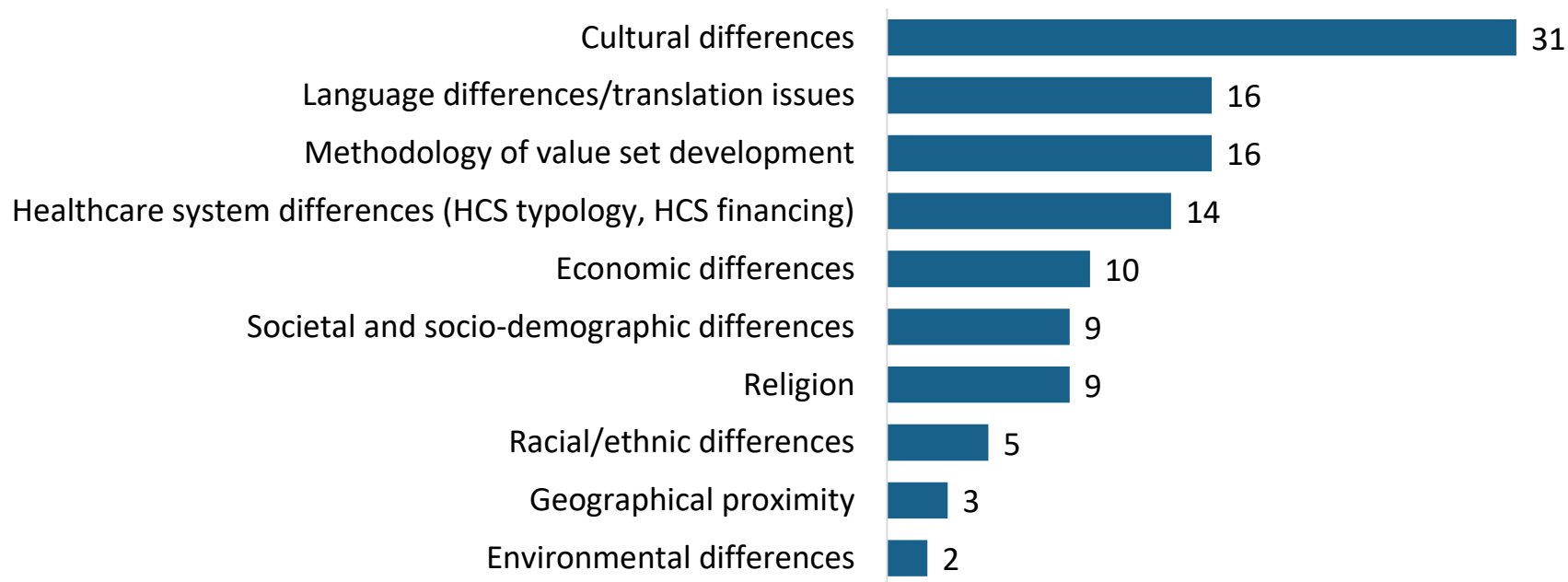
'Supra-national' value sets: Concept
Relevance of identified variables for creating clusters

Criteria adapted from Carinci et al. (2015)

Variable	Validity	Reliability	International feasibility	International comparability	Inclusion
	Sufficient scientific evidence exists to support a link between the variable and variations in health state valuations	Variables represent a stable phenomenon, and the repeated measurements over time produce similar results	A 'value' of variable can be derived for international comparisons without substantial additional resources	The definition of the variable is the same in each country	Inclusion for further analysis: cut-off of 2 & no 0 value
Cultural beliefs	0.5	1	0.5	0.5	**included**
Language/ translation issues	1	1	1	1	**included**
Methodology of value set development	n/a	n/a	n/a	n/a	n/a
Healthcare system differences (typology, financing)	0.5	1	1	1	**included**
Religion	1	1	1	1	**included**
Ethnicity	0.5	0	0.5	0.5	excluded
Socio-demographic structures	0.5	0.5	1	0.5	**included**
Economy/country development	0	0	1	1	excluded
Geographic proximity	0	1	1	1	excluded
Environmental aspects	0	0.5	0	0.5	excluded

Three-point scoring was applied depending if the variable 1) met the criterion (1 point), 2) met the criterion in part (0.5 points), 3) did not meet the criterion (0 points). The variables that were assigned 0 to any of the criteria were automatically excluded from further investigation.

'Supra-national' value sets: Concept
Country grouping categories (n=5)

- Countries were grouped based on typologies available in literature:

Culture and Religion ← Huntingdon 1993; Inglehart & Baker 2000

Language ← Van der Auwera & Baoill 1998

Healthcare system typology ← Ferreira et al. 2018; EURO-HEALTHY project

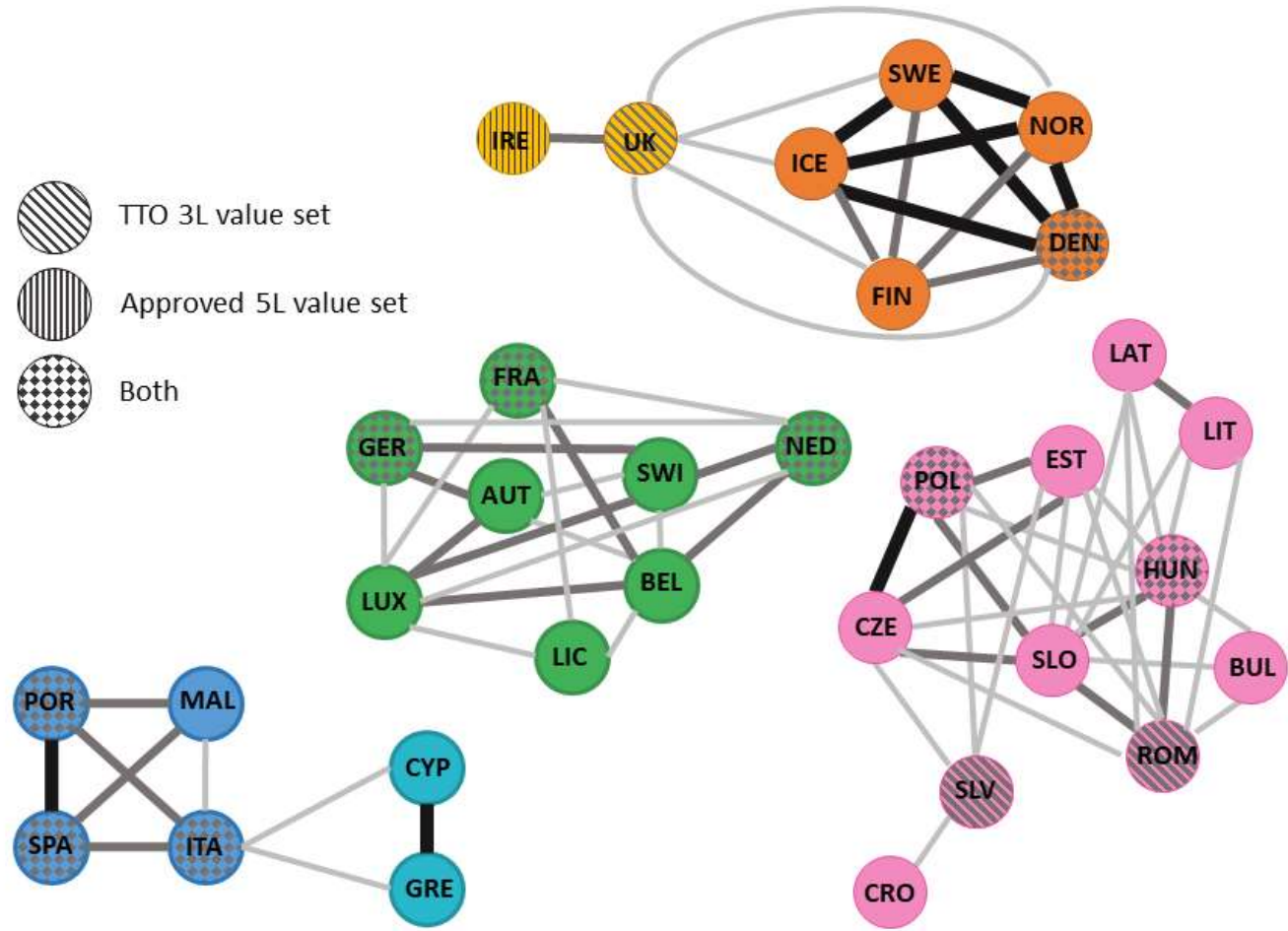**Healthcare system financing** ← Wendt et al. 2009; Böhm et al. 2013

Socio-demographics ← Figueras et al. 1994; Genova 2010; Palevičienė & Dumčiuvienė 2015

PECUNIA

Clusters for supra-national value sets

'Supra-national' value sets: Concept results
Clusters for supra-national value sets

Name of the cluster	Countries	Countries with 3L TTO value set	Countries with 5L value set
English-speaking	Ireland, UK[1]	UK	Ireland
Nordic	Sweden, Norway, Finland, Denmark, Iceland	Denmark	Denmark
Central-Western	Germany, France, Switzerland, The Netherlands, Austria, Belgium, Luxembourg	France, Germany, The Netherlands	France, Germany, The Netherlands
Soutern	Portugal, Malta, Spain, Italy, Cyprus, Greece	Italy, Portugal, Spain	Italy, Portugal, Spain
Eastern	Poland, Czech Republic, Slovenia, Hungary, Bulgaria, Romania, Slovakia, Croatia, Estonia, Latvia, Lithuania	Hungary, Poland, Romania, Slovenia	Hungary, Poland

Note: Experience-based value sets (available for Sweden) are excluded
[1] The 5L UK value set is not considered in this study as per NICE recommendations

'Supra-national' value sets: Calculation methods

Calculation methods

- Same approach as for the pan-European value set

- Cluster-specific models
  - **Coefficients from published valuation studies**
  - **Ordinary Least Squares (OLS) regression for each cluster**
  - **Goodness of fit tests with/without interaction terms**
  - **Coefficients from the best fitting model applied**

'Supra-national' value sets: Summary

- Application of supra-national value sets
  - Best proxy/substitute value sets for countries that lack one
  - Multi-national/regional trials
  - Regional procurement setting in context of drug pricing and reimbursement
  - Joint HTA reports

- Easy updating

- Concept/methods likely applicable outside Europe

- Forthcoming: ***Laszewska et al. 2022, Pharmacoeconomics***
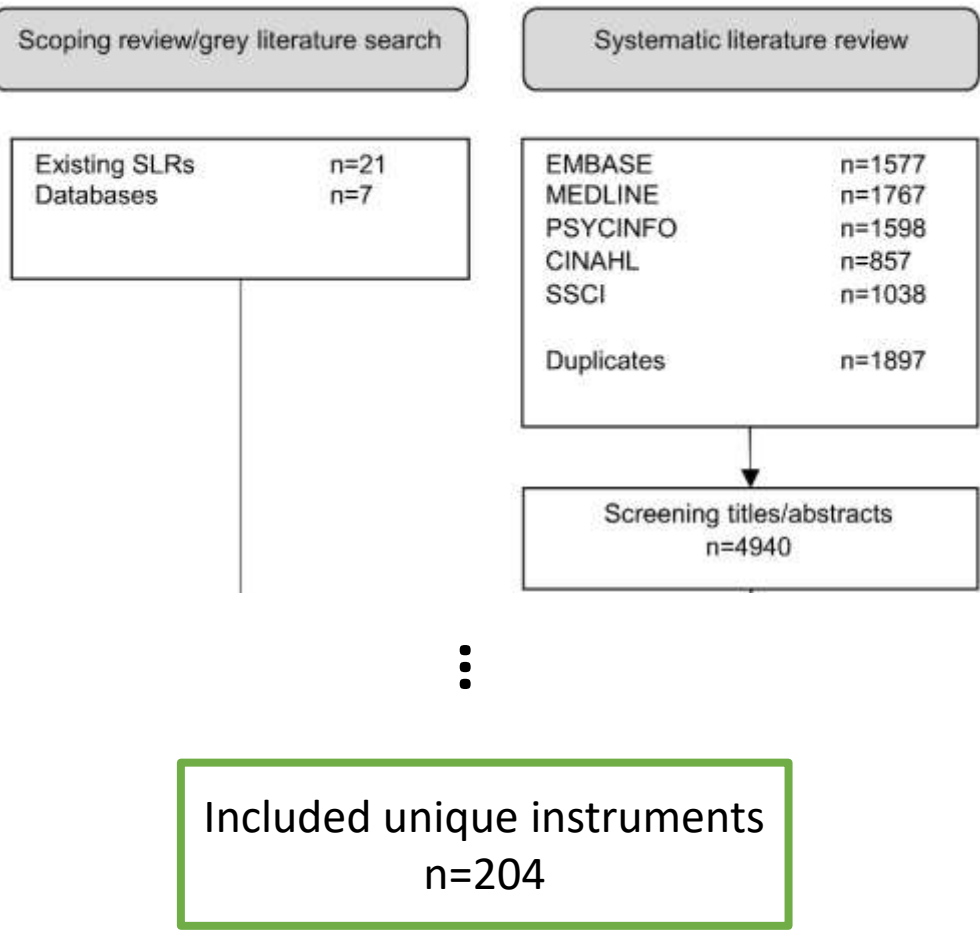
PROM-MH Compendium

- ✓ **Identification** of PROMs used in mental health research – a systematic literature review

- ✓ **Creation of a PROM meta-data** template and data extraction

- ✓ Compilations of the PECUNIA PROM-MH **Compendium**

PROM-MH Compendium

Identification: Results of the Systematic Literature Review

Scoping review/grey literature search	
Existing SLRs	n=21
Databases	n=7

Systematic literature review	
EMBASE	n=1577
MEDLINE	n=1767
PSYCINFO	n=1598
CINAHL	n=857
SSCI	n=1038
Duplicates	n=1897

Screening titles/abstracts
n=4940

...

Included unique instruments
n=204

Included PROMs:

✓ Measuring **quality of life/well-being** or **recovery**

✓ **Generic** or designed for QOL assessment **across mental health diseases**

✓ PROMs identified in the **grey literature search**

✓ **Versions of PROMs** included from the systematic and grey literature search

PROM-MH Compendium
Meta-data: Template and Extraction

- 34 types of characteristics extracted for each instrument grouped in five categories

1) Basic information (e.g. no. of items, year of development)

2) Scoring

3) Validation in mental health field

4) Application in multi-sectoral, multi-national and multi-person (economic) evaluations

5) Other information

PROM-MH Compendium

Assessment: PROMs Suitable for Multi-Sectoral, Multi-National and Multi-Person (Economic) Evaluations in MH

Assessment category	Assessment criteria
Multi-person	i. Availability of separate adult and child/adolescents versions ii. Availability of a proxy-completion option
Multi-sectoral	iii. Feasibility of assessing outcomes beyond health, i.e. capabilities or caregiver, family or social care outcomes
Multi-national	iv. Availability of multiple translations (two or more langue versions of the instrument)
Economic evaluation	v. Availability of a preference-based value set vi. Availability of preference-based value sets in more than one country

www.pecunia-project.eu/tools/prom-mh-compendium

Vision

- Free for academic research
- Database of PROMs validated for use across mental disorders
- Easily accessible information

Unique value

- Evidence-based PROM meta-data information
- Comparison across available measures
- Section on suitability in economic evaluations

Way forward

- Exploration of expansion beyond the current scope:
- Electronic library
- Expansion of disease areas and regulatory info
- Regular updates

Further information

E-Mail: judit.simon@meduniwien.ac.at; pecunia@meduniwien.ac.at

Access to tools: https://www.pecunia-project.eu/tools

Publications: https://www.pecunia-project.eu/results

Final workshop: https://www.youtube.com/watch?v=iKQjjAU8Ses&list=PLLs7wxGKuKWIgzXIMnNn9pbQ5PHDI_omJ