



Reference Unit Cost (RUC) calculation

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STREAMLINE Symposium

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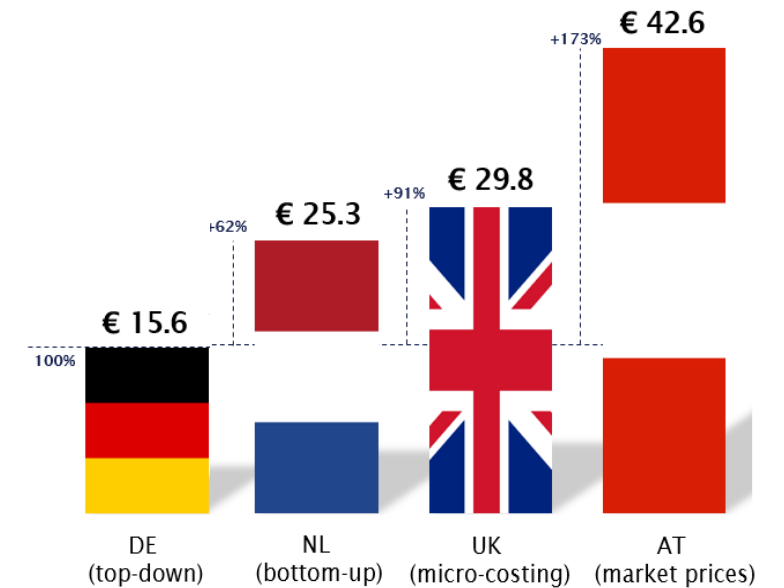
Background

Definitions:

- **Unit cost:** average monetary value of one unit of resource use (e.g. contact)
- **Reference unit cost (RUC):** standardized methodology applied in unit cost development

Challenges:

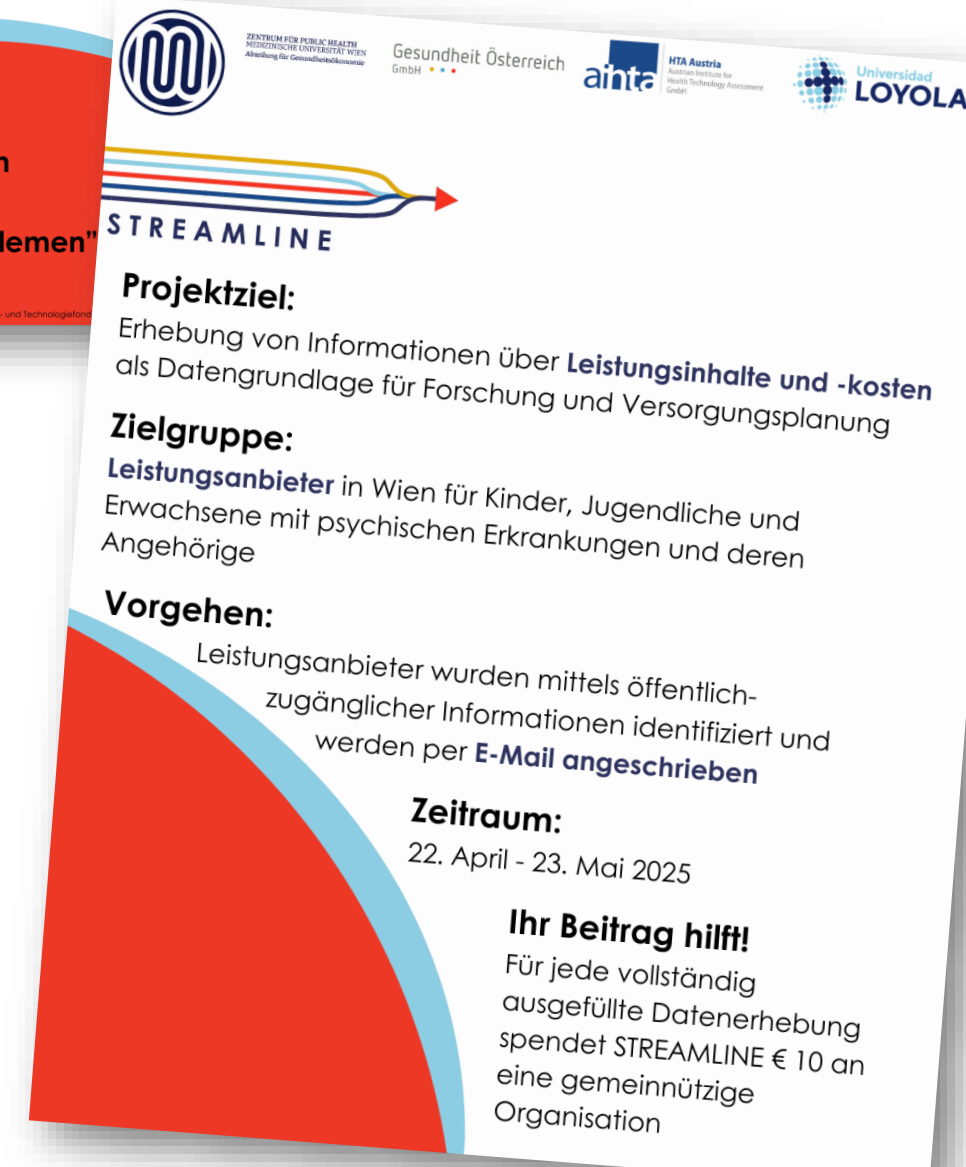
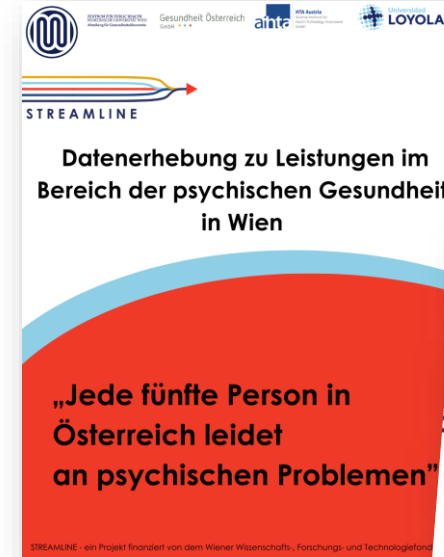
- Unit costing **methodologies vary** considerably nationally and internationally
- In Austria, public availability and quality of **secondary data** capturing ‘**true economic costs**’ of health and social care services (and beyond) are limited



Example: Applying established costing approaches based on Austrian data (2015): unit cost for a general practitioner consultation (Mayer et al., 2020, *Value in Health*)

Aim and methods

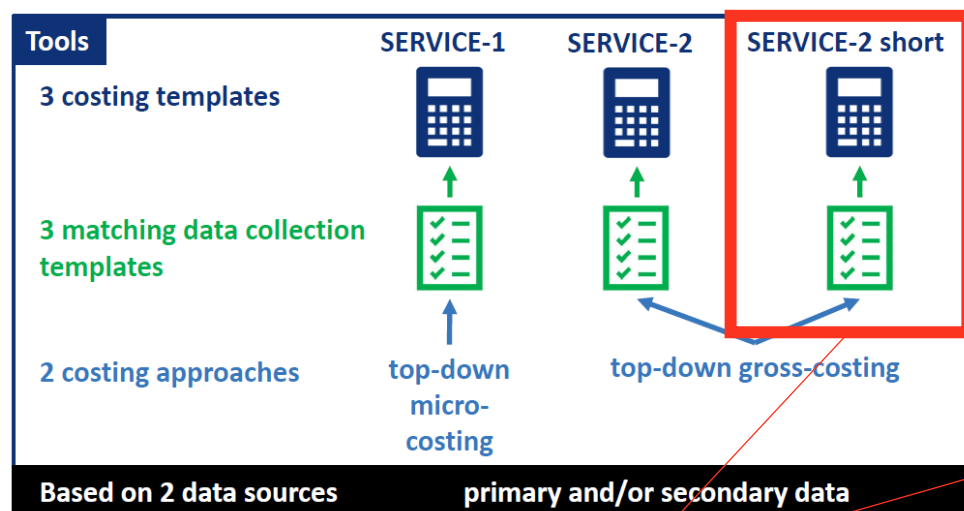
- **Objective:** to calculate RUCs for mental-health-related services in Vienna based on primary data
 - **Online SoSci survey** among all mental health service providers (April–June 2025)
 - Part 1: provider activities, part 2: economic **costs of service provision**
 - Personalized **email invitations** and announcements across multiple channels
 - **Incentivization:** EUR 10 charitable donation per completed survey



Cost data collection approaches

Organisations

- PECUNIA RUC template for services:



Individual service providers

- Newly developed, expert-reviewed tool: applies two alternative cost-proxy approaches:

Approach 1

Operating revenue

Approach 2

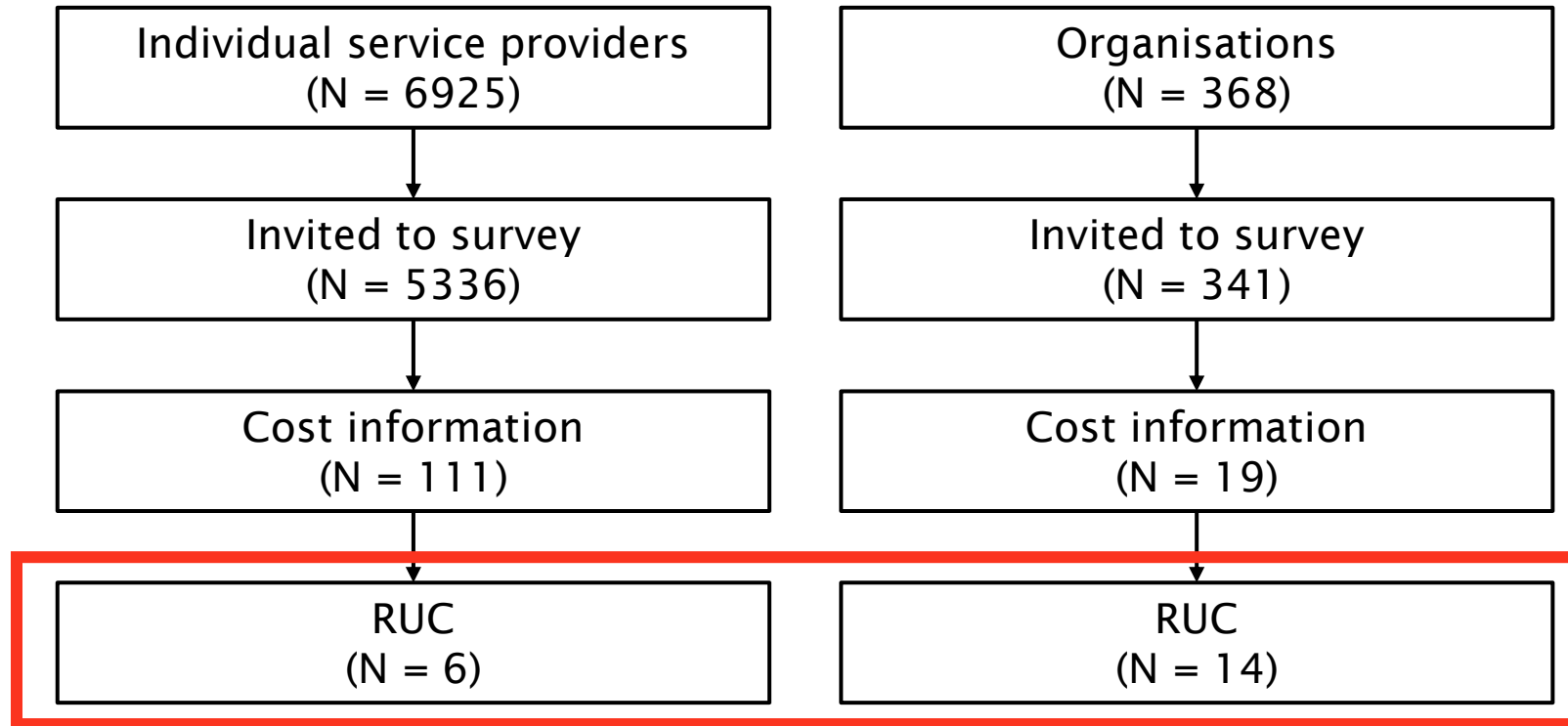
Total expenses

+

Imputed provider “salary”

Total annual costs (proxies) **divided by** total annual contacts = **unit cost** → **RUC**

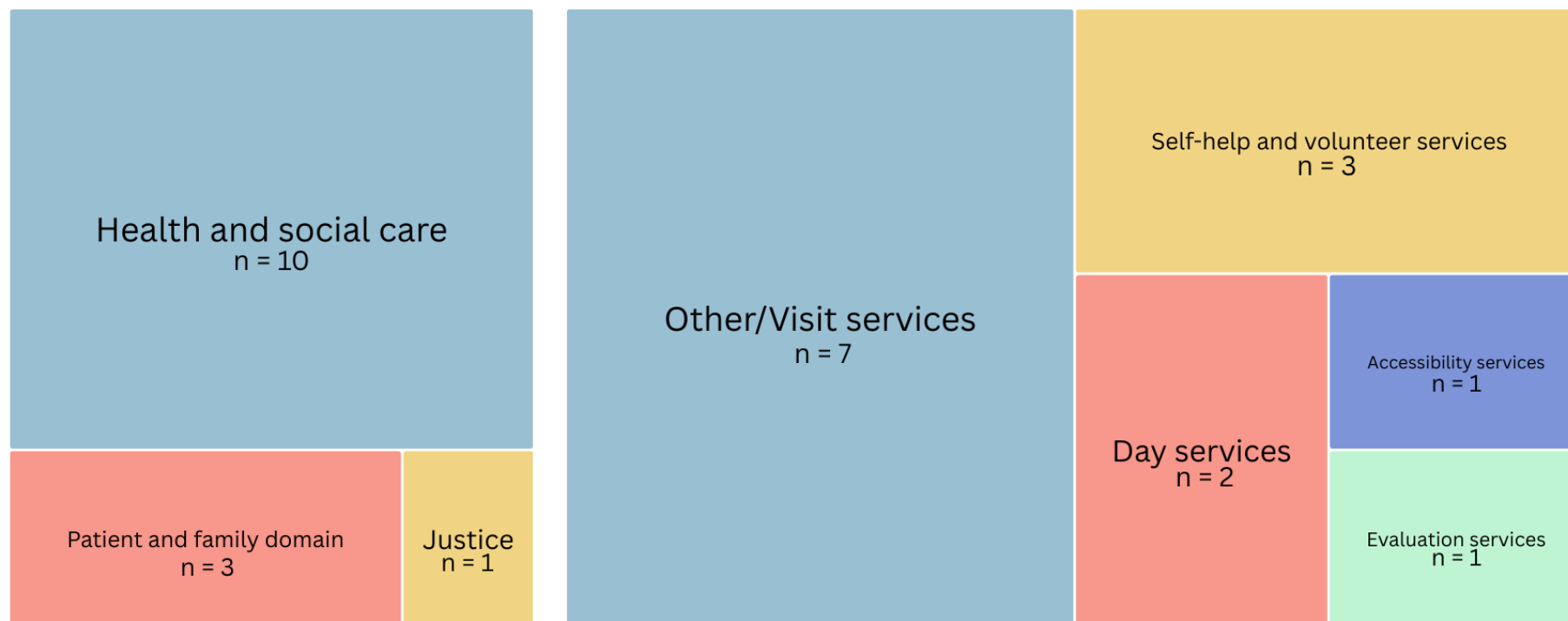
Results: response rate



- RUCs were externally validated with expert (provider) feedback and secondary data: captured in the RUC “certainty index”

Results: 20 RUCs

Organisations



Individual service providers



Publication of the estimated RUCs (2026)

- **DHE Unit Cost Online Database:** cost estimates and sources extracted from existing studies (2004-), regularly updated
- **PECUNIA RUC Compendium:** reference unit costs calculated from primary and secondary data (2019-)

DHE Unit Cost Online Database: Cost Collection Extracted from Existing Studies (Version 4.1/2022)
 Cite as "DHE Unit Cost Online Database: Cost Collection from Existing Studies, Version 4.1/2022, Vienna, Department of Health Economics (DHE), Center for Public Health, Medical University of Vienna".
 *Hauer S, Kiss N, Laczynska A, Simon J (2022) Costing evidence for health care decision-making in Austria: A systematic review. PLOS ONE, 17(10):e0241076.
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Description of unit cost	Unit of measure	Unit cost	Range of unit cost	Year of unit cost	Setting of unit cost	Regional level of unit cost	Original source(s) of unit cost	Explanation/limitation of unit cost	Study disease/ intervention area	Study perspective	Study type	Study reference (original study)
physiotherapist	contact	14.00		2016	outpatient	Austria	"Physis Arzenei-Kontakts- und Beratungsgesellschaft mbH (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
other therapist (e.g. dance therapy)	contact	53.20		2016	outpatient	Austria	"Neurotherapeutische Praxis (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
nurse	contact	51.70		2016	outpatient	Austria	"Kommunikationstechnische Dienstleistungen (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
psychiatrist	contact	108.80		2016	outpatient	Austria	"Kommunikationstechnische Dienstleistungen (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
social worker	contact	13.30		2016	outpatient	Austria	"http://www.gabkostenpass.at"	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
life counselor	contact	65.00		2016	outpatient	Austria	"Report option (May 2016) Institut für Beratung und Sozialberufshilfe der VHS Österreich. Preis: 65,00 € (May 2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
nutritionist	contact	75.00		2016	outpatient	Austria	"Kommunikationstechnische Dienstleistungen (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.
other health professionals (not specified)	contact	70.00		2016	outpatient	Austria	"Ergebnisprotokoll (Ergebnisprotokoll) (2016). Accessed 19 May 2022."	"Unit cost information available only for another year was defined as nullified for year 2016 based on health-specific inflation rate provided by Statistics Austria (Statistics Austria)."	mental disorders	health insurance/societal	cost analysis	Laczynska, A., Virochs, A., Jahn, R., Simon, J., 2020. The sector economic burden of mental disorders in Austria. <i>Health Economics, Law & Policy</i> , 14(1), 1-15.

PECUNIA Reference Unit Cost Compendium (Version 1.0/2021)
 Last changed: 13/09/2021 14:22
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Resource (use) item	Resource use item in national language	Item definition	Sector	Funding source	Unit of measurement	Country	Reference currency	Reference year	Reference Unit Cost (RUC)	Reference Unit Cost minimum	Reference Unit Cost maximum	Representativeness of unit cost estimate	DESE PECUNIA prototype code	DESE PECUNIA country-specific code(s)
Dental care	Zahnbehandlung	Medical treatment and maintenance relating to the teeth	Health care	State/Social insurance per contract	per contract	Austria	EUR	2019	94.99	-	-	National	SH-NX [J00-4] C8.1	-
Dental care	Zahnbehandlung	Medical treatment and maintenance relating to the teeth	Health care	Privately funded	per contract	Austria	EUR	2019	120.00	-	-	National	SH-NX [J00-4] C8.1	-
Dental care	Zahnbehandlung	Medical treatment and maintenance relating to the teeth	Health care	Representative average	per contract	Austria	EUR	2019	96.92	-	-	National	SH-NX [J00-4] C8.1	-
General practitioner	Allgemeinmedizinische Konsultation	Usually the first focal point for people with a health problem where basic care is provided and eventual referrals are coordinated	Health care	State/Social insurance per contract	per contract	Austria	EUR	2019	31.80	-	-	National	SH-NX [J00-10] C8.1	-
General practitioner	Allgemeinmedizinische Konsultation	Usually the first focal point for people with a health problem where basic care is provided and eventual referrals are coordinated	Health care	Privately funded	per contract	Austria	EUR	2019	45.45	-	-	National	SH-NX [J00-10] C8.1	-
General practitioner	Allgemeinmedizinische Konsultation	Usually the first focal point for people with a health problem where basic care is provided and eventual referrals are coordinated	Health care	Representative average	per contract	Austria	EUR	2019	33.04	-	-	National	SH-NX [J00-10] C8.1	-
Health-related day care center	Teilstationäre Tagesbetreuung	Non-hospital, day care facility (care or supervision provided during the day for 10 persons by a voluntary organization or a professional organization in a social care facility)	Health and social care	State/Social insurance per day	per day	Austria	EUR	2019	75.99	-	-	National	SH-NX [J00-10] C8.1	-
Health-related support line, mental health	Notruf-Hotline für Kinder und Jugendliche (Not auf Draht)	A special phone and/or online service offering advice and support to people in distress	Health and social care	Other	per contract	Austria	EUR	2019	9.98	-	-	National	SH-NX [J00-10] C8.1	-

Results: RUCs for individual service providers - examples

No	Resource (use) item	Unit	Contact length (minutes)	RUC in Euros (2024)
Individual service providers				
01	Psychotherapist	Contact	50	€99
02	Psychologist	Contact	50	€100
03	Adult psychiatrist	Contact	50	€178

Comparison with tariffs

- Tariff information for fully funded slots was not accessible
- Clinical psychological therapy only recently covered by statutory health insurance
- RUC estimate based solely on data from non-contracted providers

In all three RUC estimates, ~2/3 of total cost per contact is attributable to personnel costs

Key points and implications

- **20** publicly accessible, methodologically harmonized RUCs for multi-sectoral mental health services in Vienna
 - New **methodology** to calculate RUCs for individual service providers based on survey data in one harmonized tool for self-completion
 - **Limitations:**
 - Primary data collection as a resource-intensive approach
 - Low response rates (organisations: 5.6%, individual service providers: 2.0%)
 - Challenges with the survey distribution
- Non-transparent **reimbursement** structures make it difficult to compare tariffs with the calculated RUCs and hinder reliable conclusions about insurance-funded care
- Targeted support measures and further incentives to improve the **willingness to share cost data** in future primary cost data collections

„[Unit costs] cannot make policy or practice decisions: they can make decisions better informed.“

(Jennifer Beecham, 2016, acknowledging Burton Weisbrod, 1963)

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