



## Harmonized Unit Costs for Health and Social Care Services Based on the PECUNIA tools: The Example of Austria

Susanne Mayer<sup>1,\*</sup>, Claudia Fischer<sup>1</sup>, Michael Berger<sup>1</sup>, Alexander Konnopka<sup>2</sup>, Valentin Brodzky<sup>3</sup>, Silvia M.M.A. Evers<sup>4</sup>, Leona Hakkaart-van Roijen<sup>5</sup>, Mencia R. Guitérrez Colosía<sup>6</sup>, Luis Salvador-Carulla<sup>7</sup>, A-La Park<sup>8</sup>, William Hollingworth<sup>9</sup>, Judit Simon<sup>1,\*</sup>, on behalf of the PECUNIA Group

<sup>1</sup>Medical University of Vienna, Center for Public Health, Department of Health Economics, Austria; <sup>2</sup>University Medical Centre Hamburg-Eppendorf, Department of Health Economics and Health Services Research, Germany; <sup>3</sup>Corvinus University of Budapest, Department of Health Economics, Hungary; <sup>4</sup>Maastricht University, Department of Health Services Research, The Netherlands; <sup>5</sup>Erasmus University Rotterdam, Erasmus School of Health Policy & Management, The Netherlands; <sup>6</sup>Asociación Científica Psicost, Spain; <sup>7</sup>Australian National University, Centre for Mental Health Research, Australia; <sup>8</sup>London School of Economics and Political Science, Department of Health Policy, United Kingdom; <sup>9</sup>University of Bristol, Department of Population Health Sciences, United Kingdom

\*Contact: Susanne Mayer, [susanne.mayer@mv.ac.at](mailto:susanne.mayer@mv.ac.at); Judit Simon, [judit.simon@mv.ac.at](mailto:judit.simon@mv.ac.at)

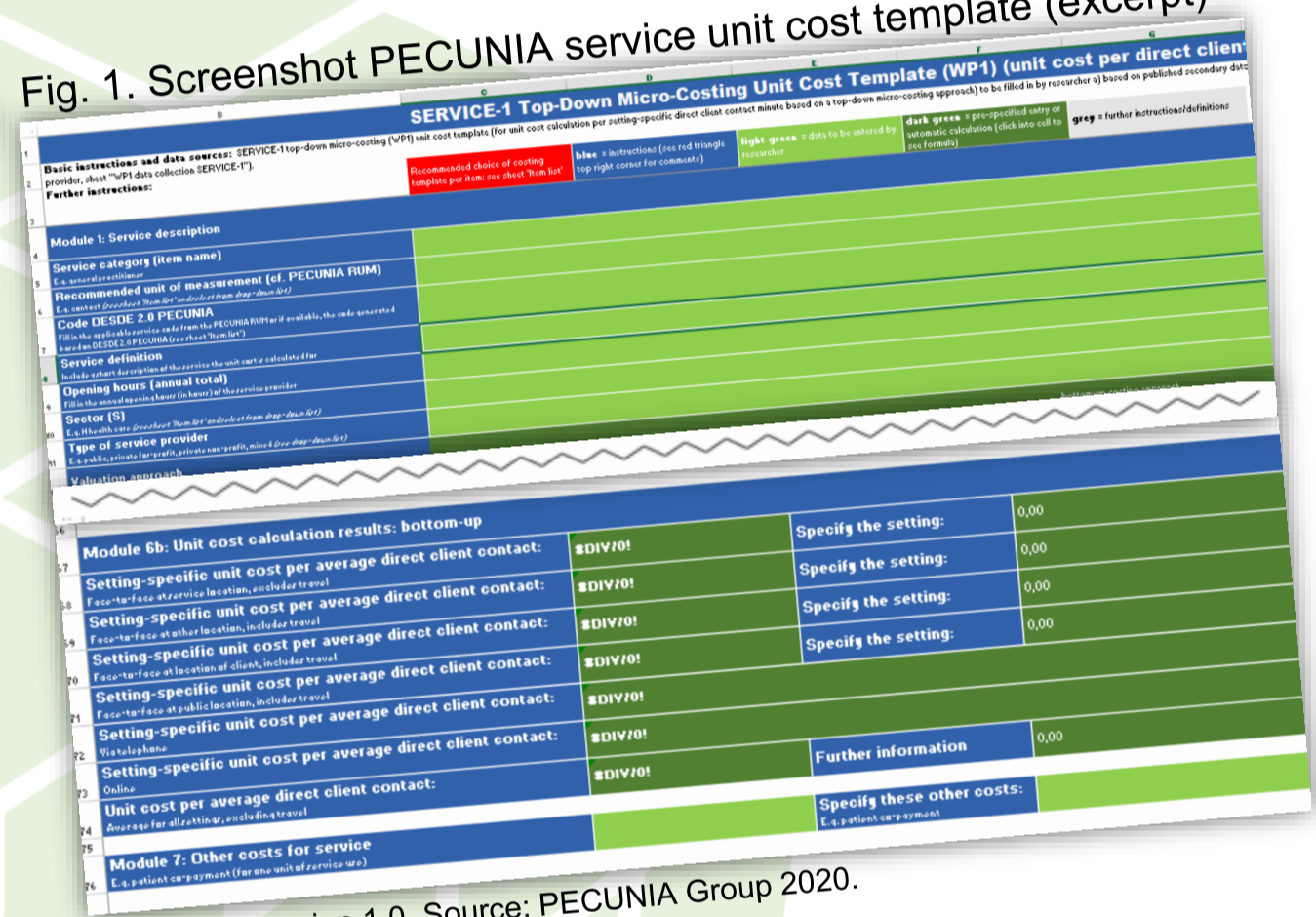
### 1. BACKGROUND AND OBJECTIVES

Previous research has shown that depending on the methodology applied in the unit cost development, staggering differences in unit costs may arise. In light of this, the Programme in Costing, resource use measurement and outcome valuation for Use in multi-sectoral National and International health economic evaluations (PECUNIA) aims to i.a. **harmonize the cross-sectoral and cross-country unit cost development** and calculate standardized unit costs for selected services in several countries, including Austria.

### 2. METHODS

- Using the Microsoft Excel-based **PECUNIA unit cost calculator** templates for services allowing for standardized, transparent unit cost development,
- drawing on **national-level, publicly-available secondary data**,
- matching **harmonized service descriptions** allocating DESDE (Description and Evaluation of Services and Directories in Europe) codes and **harmonized units of analysis** derived in previous PECUNIA research,
- unit costs for **five core health and social care services** differentiated by service funding were calculated,
- for **Austria in Euro** for year **2019**.

Fig. 1. Screenshot PECUNIA service unit cost template (excerpt)



Note: Beta version 1.0. Source: PECUNIA Group 2020.

### 3. RESULTS

Table 1. Calculated unit costs for Austria (excerpt)

| Resource use item              | Provider  | Unit of analysis | DESDE code                                       | Unit cost in Euro (2019) | Details on data source  | Unit cost calculation approach |
|--------------------------------|---|------------------|--|--------------------------|---|--------------------------------|
| Dental care                    | State/Social insurance-funded                   | per contact      | SH-NX [K00-K14] 08.1u + 2261 (ISCO-08)           | 70,10 €                  | Statistisches Handbuch der österreichischen Sozialversicherung 2019, additional information on contacts per case retrieved from Dachverband (10.07.2020).   | Proxy approach                 |
| Dental care                    | Privately funded (by patient/patient's family)  | per contact      | SH-NX [K00-K14] 08.1u + 2261 (ISCO-08)           | 120,00 €                 | Autonome Honorarrichtlinien 2019/2020, versäumte Sitzung (pro Stunde), assumption: 30 minutes   | Proxy approach                 |
| Dental care                    | Mixed   | per contact      | SH-NX [K00-K14] 08.1u + 2261 (ISCO-08)           | 73,95 €                  | See above; weights: Ärztlich ambulante Versorgungseinheit (2018) retrieved from Dachverband (31.07.2020)  | Proxy approach                 |
| General practitioner           | State/Social insurance-funded                   | per contact      | SH-NX [ICD-10] 08.1 + 2211 (ISCO-08)             | 31,80 €                  | Ärztkostenstatistik 2015; share overhead costs: Kemmetmüller (1994); direct-indirect time ratio and average length of consultation: Hoffmann et al. (2015). | Top-down gross-costing         |
| General practitioner           | Privately funded (by patient/patient's family)  | per contact      | SH-NX [ICD-10] 08.1 + 2211 (ISCO-08)             | 45,45 €                  | (Non-binding) price recommendations by the regional physicians' chambers for non-contracted physicians from six federal states, average                     | Proxy approach                 |
| General practitioner           | Mixed   | per contact      | SH-NX [ICD-10] 08.1 + 2211 (ISCO-08)             | 32,04 €                  | See above; weights: Ärztlich ambulante Versorgungseinheit (2018) retrieved from Dachverband (31.07.2020)  | Mixed approach                 |
| Health-related day care centre | State/Social insurance-funded                   | per client day   | SH-NX [ICD-10] D4.1; SH-NX [F00-F99] D4.1; SS-NX | 78,93 €                  | Statistik Austria, Pflegedienstleistungsstatistik, Pflegedienstleistungsstatistik 2018  | Top-down gross-costing         |
| Health-related support line    | State/Social insurance-funded - applicable only | per contact      | SH-CX [ICD-10] I1.2.4e                           | 8,60 €                   | Rat auf Draht Jahresbericht 2018  | Top-down gross-costing         |
| Nursing home                   | State/Social insurance-funded                   | per night        | SS-OX-R11; SH-AO [F00-F99] R11; SH-AO [ICF] R11  | 76,39 €                  | Statistik Austria, care services  | Top-down gross-costing         |
| Nursing Home                   | Privately funded (by patient/patient's family)  | per night        | SS-OX-R11; SH-AO [F00-F99] R11; SH-AO [ICF] R11  | 127,82 €                 | Statistik Austria, care services  | Top-down gross-costing         |

Note: Excluding several details (e.g. for data sources, assumptions, up-rating etc.) due to space constraints. Source: PECUNIA Group 2020.

### 4. DISCUSSION AND CONCLUSION

This study is first to **develop internationally harmonized unit costs** for health and social care services for use in Austrian costing studies. Difficulties in the calculation process included the non-availability of secondary data leading to the use of proxy data (n=4; 36%). Further external validation of the unit cost estimates is ongoing. As one of the main advantages, the assignment of **DESDE codes** make the **unit costs semantically interoperable across countries**. Furthermore, the unit costs may be used together with the **PECUNIA Resource Use Measurement (RUM) instrument** advancing RUM and cost valuation in future economic evaluations based on multiple aligned tools. The unit costs will be included in the forthcoming European multi-sectoral, multi-country **PECUNIA unit cost compendium**.

