

Call identifier: H2020-SC1-2017-Single-Stage-RTD

PECUNIA

Grant agreement no: 779292



ProgrammE in Costing, resource use measurement and outcome valuation for Use in multi-sectoral National and International health economic evaluAtions

Deliverable D3.4

Standardised costing template for selected costing approaches: production loss of paid and unpaid work

Contractual delivery date:

M24

Actual delivery date:

M24: 20.12.2019

Lead beneficiary:

P5-EUR



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 779292.

Suggested citation:

Hakkaart-van Roijen L, Hubens K, Sajjad, A on behalf of the PECUNIA Group (2019): Standardised costing template for selected costing approaches: production loss of paid and unpaid work. Deliverable D3.4: PECUNIA project. Erasmus University Rotterdam, Netherlands. DOI: 10.5281/zenodo.4455444



© Hakkaart-van Roijen L, Hubens K, Sajjad A,
on behalf of the PECUNIA Group; Erasmus University Rotterdam, 2019

Grant agreement no.	H2020 - 779292
Project full title	PECUNIA – ProgrammE in Costing, resource use measurement and outcome valuation for Use in multi-sectoral National and International health economic evaluAtions
Deliverable number	D3.4
Deliverable title	Standardised costing template for selected costing approaches: production loss of paid and unpaid work
Type / Nature	<input type="checkbox"/> R - Document, report (excluding the periodic and final reports) <input checked="" type="checkbox"/> DEM - <i>Demonstrator, pilot, prototype, plan designs</i> <input type="checkbox"/> DEC - <i>Websites, patents filing, press & media actions, videos, etc.</i> <input type="checkbox"/> OTHER - <i>Software, technical diagram, etc.</i>
Dissemination level	<input checked="" type="checkbox"/> Public (PU) <input type="checkbox"/> Confidential, only for members of the consortium and the Commission Services (CO)
Work package number	WP3
Work package leader	P5-EUR
Author(s) (in alphabetical order) & ORCID if available	Hakkaart-van Roijen, L., PhD (ORCID 0000-0003-0635-7388) Hubens, K., MSc (ORCID 0000-0003-3396-6939) Dr. Sajjad, A.
Other contributors	
Language	English
Keywords	Productivity loss, valuation, economic evaluations, unit cost template

The research leading to these results has received funding from the European Union’s Horizon 2020 research and innovation programme under grant agreement No 779292.

The author is solely responsible for its content, it does not represent the opinion of the European Commission and the Commission is not responsible for any use that might be made of data appearing therein.



Abbreviations

CUB	Budapesti Corvinus Egyetem
D	Deliverable
DESDE	Description and evaluation of services and directories in Europe
EUR	Erasmus University Rotterdam
FCM	Friction Cost Method
HA	Horizontal Activity
HCM	Human Capital Method
LSE	London School of Economics
M	Month
MUW	Medical University of Vienna
O	Objective
P	Partner
PECUNIA	ProgrammE in Costing, resource use in measurement and outcome valuation for Use in multi-sectoral National and International health economic evaluAtions
Psicost	Asociacion Cientifica Psicost
RUM	Resource Use Measurement
SESCS	Servicio Canario de la Salud
TC	Telephone Conference
UC	Unit Cost
UKE	Universitätsklinikum Hamburg-Eppendorf
UM	Universiteit Maastricht
UnivBris	University of Bristol
WP	Work Package

1 Introduction

Due to currently lacking internationally comparable measurement and valuation methods of productivity loss of people with mental disorders, WP3 of the Programme in Costing, resource use measurement and outcome valuation for Use in multi-sectoral National and International health economic evaluations (PECUNIA) focuses on the development of these methods. The first two objectives of WP3 were to establish harmonized definitions for productivity loss and its relevant domains for the six participating PECUNIA countries (Austria, Germany, Hungary, the Netherlands, Spain and United Kingdom) for mental disorders (O3.1; O3.2) as part of HA1 (Identification) and HA2 (Definition) by P5-EUR. Further, a standardized WP3 module for the PECUNIA multi-sectoral service and resource-use measurement (RUM) instrument was created by P5-EUR ensuring cross-country comparability and transferability (O3.3) as part of HA3 (Measurement). In line with the final objective of WP3 (O3.4), based on the identified domains and valuation methods and compatible with the developed WP3 RUM module, a standardized costing template for productivity loss was developed (O3.3) by P5-EUR as part of HA4 (Valuation), corresponding to deliverable 3.4 (D3.4).

As conceptual foundation for PECUNIA, the PECUNIA care atom was developed (by P1-MUW and P7-Psicos) and also provided the basis for the HA4 harmonization of the WPs1-4 costing templates (by HA4 lead P1-MUW) (Simon, et al., 2019). Based on this, WPs1-4 developed costing templates that reflect the most common/specific resource categories within the given sectors. Following the care atom, the WP3 costing template focuses on the valuation of tangible (non-health related) consequences, i.e. productivity loss or change in work productivity.

Table 1 presents the links between HAs1-4 for this WP3 costing template (developed by P5-EUR). Note that as WP3 focuses on productivity loss rather than services in the employment sector (services, per PECUNIA care atom, are covered as part of the WP1 costing templates, see D1.4), and that the DESDE coding system is not applicable.

In the final year 3 of PECUNIA, the WP3 costing template will be applied in the PECUNIA countries to develop country-specific unit costs (D3.5). This Deliverable (3.4) presents the activities and results related to O3.4, i.e. the development of a unit costing template for productivity loss.

Table 1: Links between HA1-4 for WP3 costing template

Item name HA1	DESDE 2.0 PECUNIA code HA2	Recommended unit of measurement in line with PECUNIA RUM HA3	Costing approach HA4	Sector
Productivity loss	Not applicable	Hours	HCM, FCM	SW Work (Employment)

Source: Own compilation by P5-EUR.

2 Description of Activities

Based on input from the findings of the systematic review (D3.2) on valuation methods of productivity loss conducted in year 2 (M18; by P5-EUR), the harmonization strategy ‘valuation’ (HA4) developed for WPs1-4 in year 2 (M18; by P1-MUW) following the PECUNIA care atom (Simon, et al., 2019), a TC with a team of experts in the field of productivity loss in economic evaluations (30-09-2019; by P5-EUR) and joint TCs with the HA4 leads for harmonization and improvement of the draft version (28-10-2019 and 29-10-2019; by P1-MUW and P5-EUR), a costing template for productivity loss was designed (D3.4). In line with the steps outlined in the HA4 strategy applicable to WPs1-4 (Figure 1), the following activities in the WP3 costing template development were part of the WP3 work in year 2 (Sections 2.1 and 2.2).



Note that in agreement with the European Commission, all materials that may violate copyrights and impair publication options were taken out of this public deliverable.

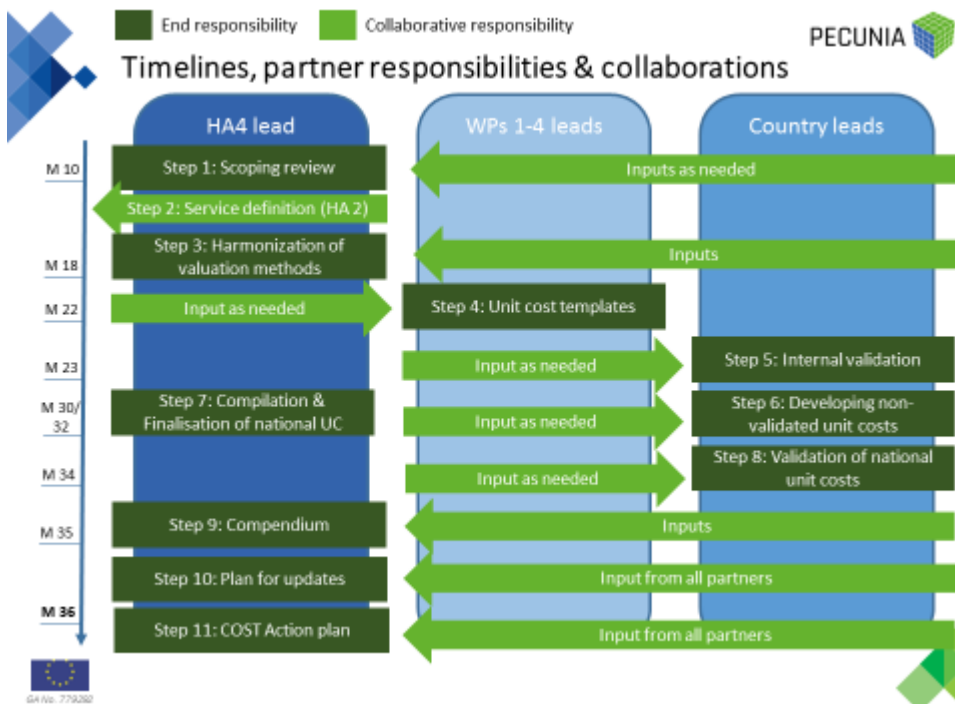


Figure 1: HA4 timelines, partner responsibilities and collaborations (Source: Own compilation by P1-MUW, cf. PECUNIA concept paper, D7.1)

2.1 WP3 UC template development (until October 2019; M22)

The WP3 costing template consists of two Excel sheets: one for the WP3 UC template, and one for additional WP3 data collection. Both sheets should be filled out by the researcher and input can be based on secondary national data if available or primary data collection. The WP3 UC template was developed based on the HA4 Excel template provided by P1-MUW and following the HA4 harmonization guidelines provided by P1-MUW (M18). This harmonised template was presented by P1-MUW during the 2nd PECUNIA Progress Meeting in Basel (17-18 July 2019) and partner feedback received during the TCs on 19 September 2019 and on 10 October 2019 was incorporated by P1-MUW. As described below, P5-EUR designed a UC template including the following modules: 1) inclusion of domains of productivity costs and valuation method, 2) basic unit cost information, 3) absenteeism, 4) presenteeism, and 5) unpaid work.

As a starting point in WP3, P5-EUR conducted a study to assess which relevant domains of productivity costs should be included in economic evaluations. This three-phase study included a literature search, an expert panel and a review of country-specific pharmacoeconomic guidelines. This study revealed five domains of which three were considered relevant and appropriate to include, namely absence from work (absenteeism), reduced productivity while at work (presenteeism), and productivity loss related to unpaid work. These were included as **modules 3, 4, and 5 of the UC template**. Although it is recommended to include all of these three domains, it might be the case that for some studies, not all are relevant. Therefore, the included domains can be recorded in **module 1 of the UC template**. Moreover, a systematic review (D3.2, M18, by P5-EUR) was performed on valuation methods of productivity costs applied in economic evaluations and an expert TC was organised by P5-EUR on 30 September 2019.

The results from the reviews and expert TC were used to design a draft of the WP3 UC template for productivity loss by P5-EUR in the harmonized template provided by HA4 lead P1-MUW. The WP3 UC draft

template was discussed with P5-EUR and P1-MUW in a joint TC on 24-10-2019 in which P1-MUW provided P5-EUR with comments on the first version of the UC template. After this TC, P5-EUR revised the template, included automated calculations, sources, instructions in line with the HA4 harmonization strategy document (P1-MUW, M18), and a complementary data collection sheet for primary data collection on unpaid work. P1-MUW (HA4 lead) performed another harmonization exercise on the costing templates from WPs1-4 (6 November 2019). On 7 November 2019, HA4 (P1-MUW) sent all WPs1-4 costing templates including instructions to the relevant PECUNIA country leads in Austria, Germany, Hungary, and United Kingdom (P1-MUW, P2-UKE, P3-CUB, P8-LSE) for internal validation. For The Netherlands, the validation of the WP3 UC template was conducted by P5-EUR.

2.2 Internal validation of WP3 UC template (until November 2019; M23)

Between 7 November 2019 and 5 December 2019, the country leads were asked to test the WP3 costing template in their country by one of two ways, i.e. national (secondary) data if available, or primary data collection. For WP3, if national data on the replacement costs of unpaid work was unavailable, primary data collection from a service provider was required using the WP3 data collection sheet.

Completed WP3 costing templates including comments and proposed improvements were returned to P5-EUR by 5 December 2019 and discussed during a joint TC with the PECUNIA consortium that day. The time to complete the WP3 templates ranged from 20 minutes to 1.5 hours. Based on the results from the country-level validation and additional harmonization efforts by P1-MUW in a final HA4 review on 5 December 2019, the WP3 costing template was finalized by P5-EUR.

3 Results

The WP3 costing template can be used by researchers studying productivity loss of patients due to illness, disability and death as part of a multi-sectoral economic evaluation. Input will preferably be based on national data if available. In the absence of this data, researchers may perform primary data collection based on the complementary WP3 data collection template.

4 Conclusions

The **WP3 costing template enables** the harmonized calculation of UCs for all relevant domains of productivity loss, namely absence from work (absenteeism), reduced productivity while at work (presenteeism), and unpaid work. In the absence of national data, the WP3 costing template allows for additional calculations and provides a complementary data collection sheet. The WP3 template has been improved based on feedback from multiple country leads received in the course of the internal country-level validation and covers the valuation of all relevant aspects of productivity loss.

Based on the WP3 UC template, country leads (P1-MUW, P2-UKE, P3-CUB, P4-UM/ P5-EUR, P8-LSE/P9-UnivBris) will develop national UCs for productivity loss in year 3 (until M32). These WP3 UCs together with the UCs developed within WPs1-4 will be included in an **electronic compendium of harmonized UCs** (D1.5, D2.5, D3.5 and D4.5, due in M36). Further **external validation** of the developed UCs will be sought in year 3 of PECUNIA: Firstly, with regards to the general methodology via presentation of selected results (valuation approaches, UC calculation) at relevant international conferences by WPs1-4 leads. As proposed by the Scientific Advisory Board (SAB) at the SAB meeting in May 2019, external feedback may also be sought from the potential end-users of the UC templates, e.g. researchers, national health insurances and ministries, which will have to be organized by the country leads. Secondly, a comparative evaluation of PECUNIA UCs against existing national/regional UCs as well as other publicly available relevant estimates is foreseen to be conducted by the country leads on a convenience sample of the developed UCs to determine e.g. the



variability in the calculated estimates. Thirdly, P6-SESCS will conduct a full validation of the PECUNIA unit cost tools for Spain (D6.1) and for Health Technology Assessment (D6.2) in year 3.

5 References

- Brouwer, W., Koopmanschap, M., & Rutten, F. (1997). Productivity costs measurement through quality of life? A response to the recommendation of the Washington Panel. *Health Economics*, 6, 253-259.
- Brouwer, W., Van Exel, N., Koopmanschap, M., & Rutten, F. (2002). Productivity costs before and after absence from work: as important as common? *Health Policy*, 61, 173-187.
- Hakkaart-van Roijen, L., Van der Linden, N., Bouwmans, C., Kanters, T., & Tan, S. (2015). *Kostenhandleiding: Methodologie van kostenonderzoek en referentieprijzen voor economische evaluaties in de gezondheidszorg*. Zorginstituut Nederland.
- Koopmanschap, M., Rutten, F., Van Ineveld, B., & Van Roijen, L. (1995). The friction cost method for measuring indirect costs of disease. *Journal of Health Economics*, 14, 171-189.
- Simon, J., König, H.-H., Brodsky, L., Hakkaart-van Roijen, L., Serrano Aguilar, P., Salvador-Carulla, L., . . . PECUNIA Group. (2019). Inter-sectoral Costs and Benefits of Mental Care in Europe: European Research Project PECUNIA. *Journal of Mental Health Policy and Economics*, 22(Suppl 1), S32.