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Cost of Dementia in Austria

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Background

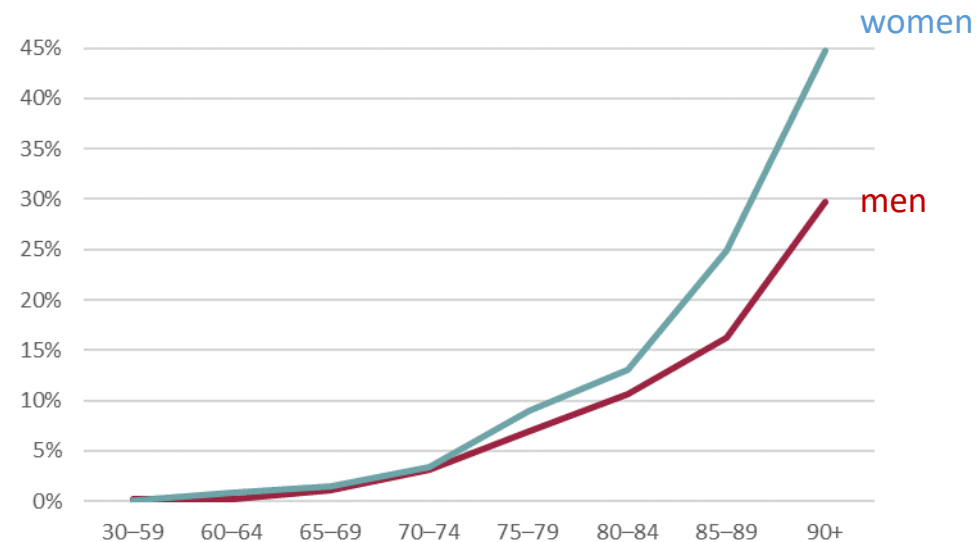
- Despite increasing relevance (→ageing of population) **only limited evidence on dementia in Austria** – e.g., *Dementia Report 2014*
- **IHS's *cost-of-illness-studies*:**
 - Smoking (2008 and update 2018)
 - Chronic respiratory diseases (2018)
 - Alcoholism (2013)
- Due to high relevance of care rather than cure in dementia, the IHS cost-of-illness model was extended to include LTC categories – patchy information base necessitates approximations and triangulations
- Year of analysis: **2019**

Epidemiology of Dementia in AT

- **Prevalence of dementia in AT in fact unknown:**
 - **underdiagnosis**
 - **undersupply**
 - **not approved therapies for some types of dementia**

Alzheimer Europe (2019):

- Pooled analysis from 16 European studies, applied to the Austrian population
- Total: ca. **147.000 people**



Cost Classification

direct costs		indirect costs	intangible costs
direct medical costs	direct non-medical costs		
Intra- and extramural diagnosis and treatment	Care expenses (residential, home care, informal, 24h)	Work loss of informal caregivers	[loss of free time of caregivers]
drugs	[diverse privately paid services and goods]	[work loss due to sick leave]	[psychological and physiological burden of patients and caregivers]
Medical aids	[sick pay]	[work loss due to disability]	
Rehabilitation	[disability pension]	[work loss due to premature mortality]	
[Prevention]			

[] ... costs of these categories are not covered due to missing data or because they are scarcely relevant

Method

Attributable fractions as the basis of the model for the calculation of the medical costs :

- From **prevalence rate** p^D and **relative risks** **RR** calculating **dementia-attributable fractions (DAF)** per dementia-associated disease group k and age group a :

$$DAF(a, k) = \frac{(1-p^D)(a)+p^D(a)*RR^D(a,k)-1}{(1-p^D)(a)+p^D(a)*RR^D(a,k)}$$

- Attributable fractions calculated for each disease group are multiplied with the society's annual disease costs
- Attributable fractions for care costs derived from aggregated Austrian data

Use of different data sources:

i.a. MoH, Social Health Insurance, care providers, Statistik Austria, international literature, data from the database by MAS Alzheimerhilfe (Höfler & Auer, 2021),...

Medical Costs

- Costs of dementia disease per se and costs of dementia-associated secondary diseases (for moderate and severe dementia) in the health system

E.g.: fall, urinary tract infections, pneumonia, nutritional/metabolic disorders,...

- Transfer of the cost shares as calculated in German disease-related cost accounts to the Austrian profile of health expenditures by age and sex
- **Result:**

EUR 1.386 billion

≈ 3.9% der current actual health expenditures
(excl. long-term care) 2019

Residential Care

- Estimate in Auer et al. (2018): about **85%** of all residents above 60 years live with dementia (incl. persons without diagnosis)
≈ **57.000 persons**
- Estimation for Austria based on international research results:
Ca. **15%** of residents enter nursing homes **because of** dementia
≈ **9.800 people**
- Total average daily costs or additional daily costs for dementia residents in nursing homes used for the monetary cost assessment
- Reduced by expenditures which would arise at home too („*counterfactual*“)
- **Result:**

EUR 538.5 million

≈ 15.8% of gross expenditures for residential care 2019

Home Care

- Data of providers on the share of persons with dementia in home care quite diverse → according to Welberry et al. (2021) conservative assumption, share of dementia in total population the same as the share in the users of home care
- Implication: about **16%** of all clients in home care live with dementia ≈ **15.400 people**
- Care documentation of two providers: number of care hours per client with dementia is **about 3 times the average number of care hours per client** without dementia
- Average gross expenditures per home care hour and service type used for the monetary cost assessment
- **Result:**

EUR 150.6 million ≈ 22.5% of gross expenditures for home care 2019
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Live-in care (24-hour-care)

- Survey of providers: dementia in about **80-85%** of clients of 24-hour-care
- Dementia as the reason for about **50%** of clients of 24-hour-care
≈ **18.700 people** → **basis for the estimation**
- Monthly expenditures of EUR 2,500 for mild and moderate dementia, EUR 2,800 for severe dementia used for the cost assessment
- **Result:**

EUR 569.3 million

(no information on total expenditures in 2019
available)

Informal Care

- **Data incomplete**– no information on total hours of informal care in the population and therefore no derivation of dementia-attributable fraction possible → **result is not comparable with formal care costs**
- Assumption: all persons with dementia, not in nursing homes or 24h-care, in informal care ≈ **74.000 people**
- **Substitute** informal care hours with **market value** of (i) formal home care for mild and moderate, (ii) residential care for severe dementia patients → **notional costs!**
- Result: 469,800 hours incl. supervision time; **256,900 hours (≈6,400 FTE)** excl. supervision time

- **Result:**

EUR 4.9 billion with supervision time
≈ 1.2% of GDP 2019
EUR 3.0 billion without supervision time
≈ 0.7% of GDP 2019

Indirect Costs

- Costs due to loss of working hours of caregiving relatives in working age due to reduction or termination of paid work
- Results of international studies applied to Austria: about **3.800** informal caregivers of persons with dementia reduce working hours or exit from the labour market
- Loss of about **2.4 million working hours (≈1,150 FTE)**
- 1st quartile of weighted gross₂-hourly wage of employees (70% women, 30% men; see Nagl-Cupal et al. 2018, Wimo et al. 2013) used for cost assessment
- **Result:**

EUR 31.0 million

Costs of Dementia in Austria 2019 (excl. informal care)

by cost factor in EUR million and in % of each base value

	in EUR million	in % of base value
direct medical costs	1,385.5	3.9%¹
direct non-medical costs	1,258.4	0.3%²
residential care	538.5	15.8%³
home care	150.6	22.5%⁴
24-h-care	569.3	
indirect costs	31.0	
total (excl. informal care)	2,674.9	0.7%²

Cost of Informal care here not included due to different approach (substitution)

Source: IHS (2021)

¹ current health expenditures 2019 (excl. long-term care) – EUR 35,507 million

² GDP 2019 – EUR 397,575 million

³ gross expenses for residential care 2019 – EUR 3,407 million

⁴ gross expenses for home care 2019 – EUR 669 million

Limitations

- Estimation partly required assumptions due to **insufficient data**
- Results are **difficult to compare** to other studies (different analysis approach)
- **No cost valuation** and cost tracking of **individual** dementia patients
- **Snapshot on 2019** (= before Covid-19), no forecast

Conclusion

- most **comprehensive** cost of illness study on dementia for AT
- dementia leads to many **secondary diseases** increasing medical costs
- **substantial number** of persons with dementia with **care needs**
- due to **aging of the population** dementia as an increasing challenge for our society
- **Informal Care** provided by relatives
 - saves public social expenditures
 - however, informal caregiving leads to medical costs, future costs of care for themselves, intangible costs and loss of productivity
- **Insufficient data** despite increasing relevance
 - makes it difficult to plan
 - misrepresentation of patients
 - underestimation of social dimension



THANK YOU for Interest, Comments & Feedback!

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Research Report (German):

Volkswirtschaftliche Kosten von Demenz in Österreich

<https://irihs.ihs.ac.at/id/eprint/6003/>

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