



Including Productivity Losses in Health Economic Evaluations from a Societal Viewpoint

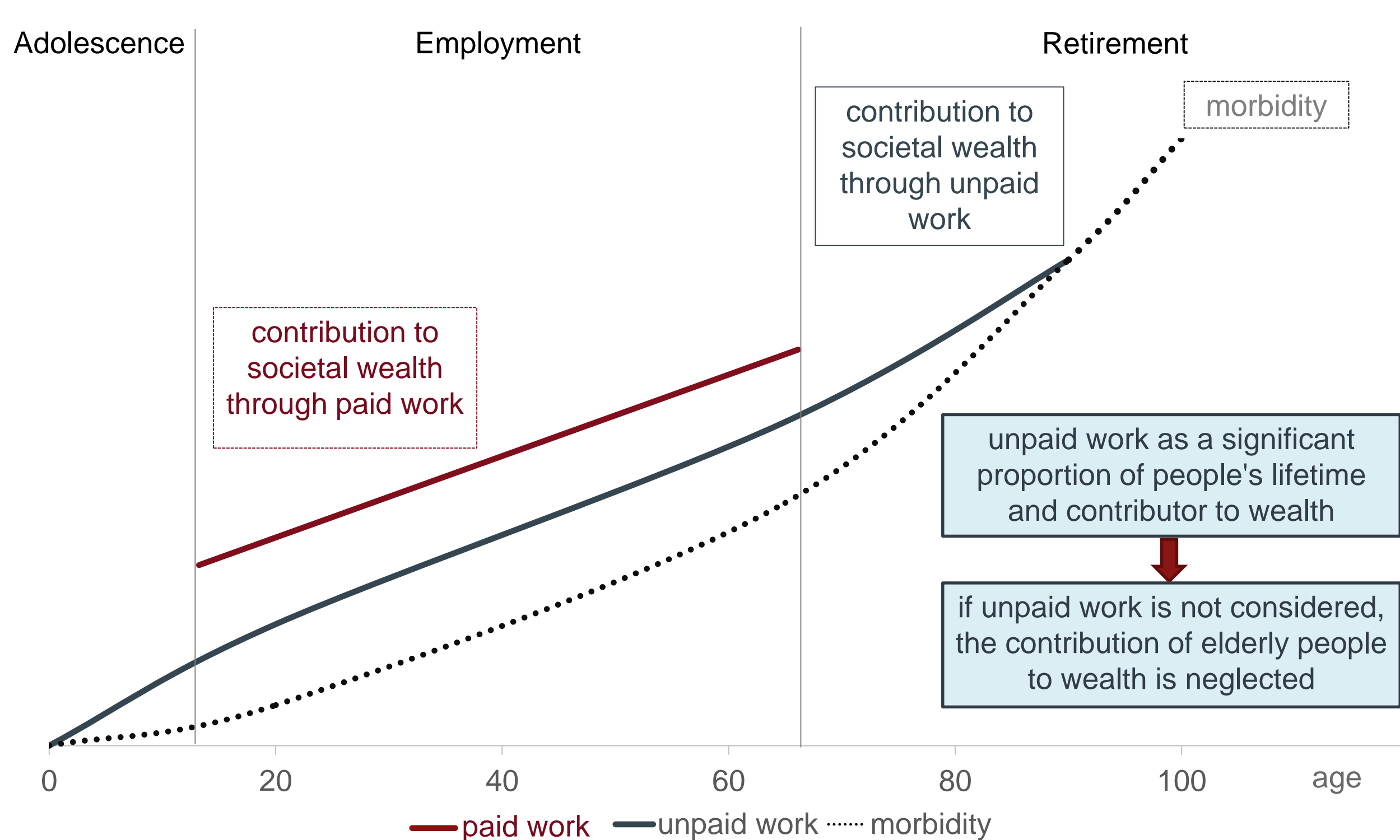
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Background

Productivity losses may be considered to be a crucial part of total costs of pharmaceutical innovations [1]. However, according to evidence from meta analyses only few health economic evaluations from a **societal perspective** include these losses [2,3]. Even if these factors are considered, **they are mostly limited to paid work** [4].

Unpaid work includes unpaid activities within household as well as voluntary services which may be **substituted by market activities**. These unpaid activities are rarely considered.

Impact of paid and unpaid work in the life course



Most severe conditions arise during retirement, when patients are inactive in the labor market. However, individuals may still perform unpaid work, which is a major **determinant of overall productivity and wealth** [5].

Unique Aspects of Approach

- ❖ We provide a **proven methodology** to measure and quantify productivity losses if **individual data is not available**.
- ❖ Our approach includes **paid as well as unpaid work** productivity within an unique framework.
- ❖ The presented framework offers an evaluation approach from a **societal perspective**.

Conceptual Approach

Pharmaceutical innovations may yield an extension of life or improvement of life. Direct measurement of **resulting productive time** is hardly feasible based on published evidence. We draw on clinical endpoints from **published studies** and use (aggregated) data from **Time Use Surveys** in order to estimate productivity losses.

Clinical outcomes are used to **estimate the additional productive time** due to higher quality of life or higher life expectancy

Information on the patient population is collected using published studies and secondary data, e.g. on **employment status** and type of employment

Assessment of unpaid work activities according to aggregated Time Use Surveys and patient data

Match unpaid work activities to equivalent market substitutes and assign by industries

Activity	Household work and volunteering	Industry
Gardening	→	Agriculture, forestry and fishing
Construction and handcrafting	→	Construction
Preparation of meals	→	Accommodation and food services
Maintenance of dwelling	→	
Manufacturing and care of textile fabrics	→	
Purchases and procurement	→	Business services
Planning and organization	→	
Informal care	→	
Child care	→	
Other care	→	Public services, education, health
Voluntary work	→	

Use industry and age specific average wages to quantify **resulting productivity** of paid work and unpaid work activities

		Age group		
		25 – 29	...	67+
Additional potential productive time				
Activities of paid and unpaid work				
Industry	Agriculture, forestry and fishing			
	Industry, excluding construction			
	Manufacturing			
	Construction			
	Trade, transport, accommodation, food			
	Financial and insurance services			
	Business services			
	Public services, education, health			
Branch specific productivity				

Legend: ■ paid work, ■ unpaid work, ■ both

Recommendations

1. When taking a societal perspective, health economic evaluations should consider productivity losses of **paid and unpaid work**.
2. To quantify productivity, we recommend using industry and age specific average wages **and data of Time Use Surveys**.
3. Clinical trials should **gather data** on employment, time use and productivity (e.g.: WPAI or iMTA) to provide a valid data base.

References

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