

OBJECTIVES

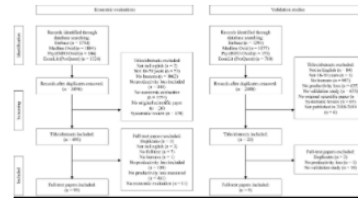
Productivity loss can have a major impact on total costs in health economic evaluations. However, not all instruments measuring productivity loss might be suitable for use in these evaluations.

The aim of this study was:

1. to perform a systematic literature review of **measurement instruments of productivity loss of paid and unpaid work** and
2. to assess the **content validity and suitability** in terms of availability, feasibility, and applicability of these instruments for use in economic evaluations from a societal perspective.

RESULTS

In total, 5,982 articles were retrieved from the databases of which **99 economic evaluations** and **nine validation studies** were included.



The data-extraction form is presented below.

Instrument	Measurement and valuation							
	Availability	Feasibility	Applicability	Content validity	Components included	Available online	Conditions of use	Languages
Headache-Attributed Lost Time Index 30 (HALT-30 Index)	Yes	Yes	Yes	Yes	Absenteeism, presenteeism, and unpaid work	Yes, in English ⁶¹	Can be freely used for clinical, research or other academic purposes ⁶¹	English, Dutch, French, German, Italian, Portuguese, and Spanish ⁶¹
Work Productivity and Activity Impairment Questionnaire - General health (WPAI-GH, version 2.0)	Yes	Yes	Yes	Yes	Absenteeism, presenteeism, and unpaid work	Yes ⁶²	No permission needed, no costs ⁶²	More than 20 languages, including English ⁶²
	Yes	Yes	Yes	Yes	Absenteeism	Available upon request ⁴⁴ no	Available upon request ⁴⁴ no	English, Dutch, Czech, Danish, Finnish, French, German, Hungarian, Italian, Korean

From the included studies, 42 unique measurement instruments were identified. The 14 most frequently applied instruments and their characteristics are provided in the bottom right **slideshow**. Also, four instrument are presented in an overview with a trafficlight system.

Eight instruments provided quantified measures of absenteeism, presenteeism, and unpaid work. Five instruments provided the necessary information to enable the use of at least one common valuation method. Three of these were used to develop the iPCQ, which is the one that is still supported by the original developers.

METHODS

Papers were sourced from PubMed/Medline, PsycInfo, Embase, and Econlit, to identify eligible **economic evaluations and validation studies**. Unique measurement instruments were identified from the included studies.

A data-extraction form was developed to assess the identified instruments on their **content validity and suitability for use in economic evaluations from a societal perspective**.

CONCLUSIONS

Although many instruments for measuring productivity loss were identified, **most were not suitable** for use in economic evaluations from a societal perspective.

Future research should focus on promoting the comparability and transferability of the measurement of productivity loss of paid and unpaid work within and across countries.

HIGHLIGHTS

★ Different instruments are used to measure productivity loss of paid and unpaid work, but **most are not suitable** for use in health economic evaluations conducted from a societal perspective.

★ This systematic review presents an overview of 42 unique instruments, of which 26 were not identified in previous systematic reviews.

★ The overview of instruments and their suitability can contribute to the **choice of appropriate instruments** for productivity cost measurement in health economic evaluations.

Instrument	Identification		Measurement and valuation							
	Content validity		Availability			Feasibility		Applicability		
	Components included	Available online	Conditions of use	Languages	Number of items	Recall period	Focus of application	Mode of administration	Allows for quantification	Suitable for common valuation methods
Headache-Attributed Lost Time Index 30 (HALT-30 Index)	Absenteeism, presenteeism, and unpaid work	Yes, in English ⁶¹	Can be freely used for clinical, research or other academic purposes ⁶¹	English, Dutch, French, German, Italian, Portuguese, and Spanish ⁶¹	5	30 days	Disease-specific	Self-report by patient	Yes, for absenteeism, presenteeism, and unpaid work	No
Work Productivity and Activity Impairment Questionnaire - General health (WPAI-GH, version 2.0)	Absenteeism, presenteeism, and unpaid work	Yes ⁶²	No permission needed, no costs ⁶²	More than 20 languages, including English ⁶²	6	7 days	Generic	Self-report by patient	Yes, for absenteeism, presenteeism, and unpaid work	No
	Absenteeism	Available upon request ⁴⁴ no	Available upon request ⁴⁴ no	English, Dutch, Czech, Danish, Finnish, French, German, Hungarian, Italian, Korean					Yes, for absenteeism, presenteeism	Yes for