

Productivity Losses in Pharmacoeconomic Guidelines in Europe and Asia: A Qualitative Review of Guidelines

Mitsuhiro Nagano¹, Akira Yuasa¹, Naohiro Yonemoto¹, Shunya Ikeda²
1. Pfizer Japan Inc. 2. Graduate School of Medicine, International University of Health and Welfare

INTRODUCTION AND OBJECTIVES

In general, the societal perspective takes into account the productivity losses of patients or caregivers, whereas the payer’s perspective does not. According to Sharma et al. (2021), the type of cost to be included in cost-effectiveness analysis varies depending on the public health care system of each country and region (hereafter referred to as country). However, few studies examined a wide range of countries from the standpoint of productivity loss in the cost. We aimed to summarize the differences in how each country handles perspectives and productivity losses.

METHODS

Europe and Asian countries listed in “Pharmacoeconomic Guidelines Around the World” on the ISPOR website as of April 2022 and those with the Health Technology Assessment (HTA) system searched on the web were investigated in terms of the recommended analysis perspective and the handling of productivity losses in the guidelines.

The recommendation for the analysis perspective was classified into four categories: (++) , recommended in the base-case analysis; (+), described in a secondary analysis such as a sensitivity analysis; (–), described as “not recommended”; and (blank), not described in the guidelines. Furthermore, countries were classified into four categories A–D based on the perspective recommended in the base-case analysis. In terms of productivity losses and calculation methods, the handling of productivity losses in countries other than the payer’s perspective was analyzed.

RESULTS

- A total of 33 countries, composed of 25 European and 8 Asian countries, were investigated. In the base-case analysis, only the payer’s perspective was recommended in 19 (57.6%) countries (Category A), including 16 (64.0%) European countries and 3 (37.5%) Asian countries (Table 1).
- In contrast, 8 countries (24.2%) recommended only the societal perspective (Category B), 2 countries (6.1%) recommended only other perspectives (Category C), and 4 countries (12.1%) recommended multiple perspectives in the base-case analysis (Category D). As a result, 14 of the 33 countries (42.4%) recommended either the societal perspective or a different perspective than the payer’s perspective.

Table 1 Cost perspective recommended by guidelines in each country or region

Area	Country	Recommendation for perspective			Type of PE guidelines	Category
		Payer's	Societal	Other		
Europe	Austria	++	++	++	Published PE REC	D
	Baltic States	++	+		PE GL	A
	Belgium	++	+		PE GL	A
	Croatia	++	+		Published PE REC	A
	Czech Republic		++		Submission GL	B
	Denmark			++	Published PE REC	C
	England and Wales	++			Submission GL	A
	Finland	++	+		Submission GL	A
	France	+	++		PE GL	B
	Germany	++	+	+	PE GL	A
	Hungary	++	+		Published PE REC	A
	Ireland	++	+		PE GL	A
	Italy	++	+		Published PE REC	A
	Netherlands	+	++	+	PE GL	B
	Norway			++	PE GL	C
	Poland	++		++	Submission GL	D
	Portugal	++			Submission GL	A
	Russian Federation	++			Published PE REC	A
	Scotland	++	+		Submission GL	A
	Slovak Republic	++			PE GL	A
	Slovenia	++			PE GL	A
	Spain	+	++		Published PE REC	B
	Spain (Catalonia)	++	+		Submission GL	A
	Sweden		++		PE GL	B
	Switzerland	++			PE GL	A
Asia	China	++	++	+	Published PE REC	D
	Iran	++	++		Submission GL	D
	Israel	++			Submission GL	A
	Japan	++	+		PE GL	A
	Korea Republic	+	++		PE GL	B
	Malaysia	++			PE GL	A
	Taiwan	+	++	+	PE GL	B
	Thailand		++		Submission GL	B

Notes: ++, described in a base analysis; +, described in a secondary analysis; -, described as “not recommended”; and (blank), not described in the guidelines. A, the payer’s perspective; B, societal perspective; C, specific perspective other than the payer’s or the societal perspectives; and D, multiple perspectives.

Abbreviations: GL, guidelines; PE, pharmacoeconomic; REC, recommendations; HCM, human capital method; FCM, friction cost method.

RESULTS (Continued)

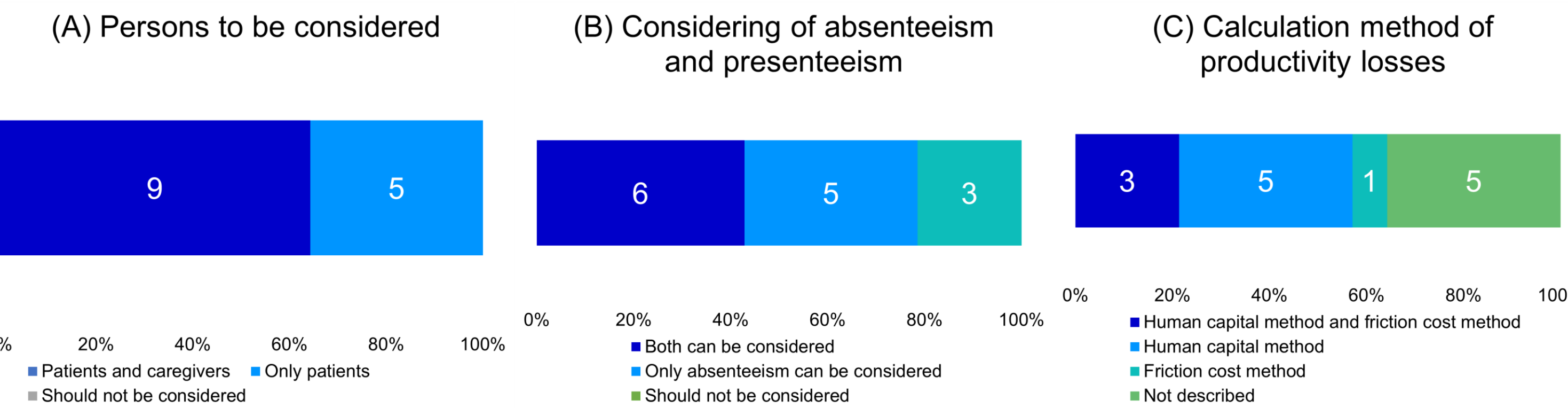
- Table 2 shows how productivity losses are handled in the guidelines’ base-case analysis in the 14 countries classified as B, C, or D.
- The productivity losses of patients and caregivers occur in 9 (64.3%) countries. The guidelines permitted consideration of the patient’s productivity loss but did not mention the caregiver’s productivity loss in five (35.7%) countries (Fig. 1A).
- Absenteeism was considered in 11 (78.6%) countries, whereas presenteeism was considered in only 6 (42.9%). Eventually, 6 (42.9%) countries considered both absenteeism and presenteeism, 5 (35.7%) countries considered only absenteeism, and 3 (21.4%) countries did not consider both (Fig. 1B).
- Specific calculation methods for productivity losses were mentioned in the guidelines in 9 (64.3%) countries, only the human capital method in 5 (35.7%) countries, only the friction cost method in 1 (7.1%) country, and both methods in 3 (21.4%) countries (Fig. 1C).

Table 2 Handling of productivity losses in a base analysis in countries and regions where society or other perspectives were recommended by guidelines

Area	Country	Subject		Productivity loss		Calculation method
		Patient	Caregiver	Absenteeism	Presenteeism	
Europe	Austria	+		+	+	HCM & FCM
	Czech Republic	+		+	+	
	Denmark	+	+	+	–	
	France	+		+	+	HCM & FCM
	Netherlands	+	+	+	+	FCM
	Norway	+	+	+	–	
	Poland	+	+			
	Spain	+	+	+		HCM
	Sweden	+				HCM
Asia	China	+	+	+	+	HCM
	Iran	+				
	Korea Republic	+	+	+		HCM & FCM
	Taiwan	+	+	+	+	HCM
	Thailand	+	+	+		HCM

+, Can be considered; –, Should not be considered; Blank, not described.

Figure 1 Handling of productivity losses in countries and regions where guidelines recommended a societal perspective or perspectives other than the payer’s perspective in the base-case analysis



DISCUSSION

The majority of the investigated countries recommended adopting the payer’s perspective. This could be because drugs are reimbursed by public funds in those countries, such as medical insurance and taxes, and HTA is used to make these decisions. Meanwhile, some countries advocated for a societal perspective. Some experts recommend adopting the societal perspective when deciding how to allocate broad resources across society.

Productivity losses for some diseases account for a large portion of the costs and may have a significant impact on economic evaluation results. To refer to the results of medical technology evaluations across countries, we must understand the perspective of the analysis and the handling of productivity losses in each country.

CONCLUSION

Of the 33 countries surveyed in this study, 14 (42%) recommended the societal perspective or a perspective other than the payer’s perspective, allowing for the inclusion of productivity losses in the base-case analysis. However, among the countries that permitted the inclusion of productivity losses, the people to be considered and the methods for calculating productivity losses differed.

Acknowledgement: The authors would like to acknowledge Takahiko Murata from WysiWyg Co.,Ltd for their support in developing the poster. Financial support for their contribution was provided by Pfizer Japan Inc.
Declaration of conflicting interests: The authors declare the following potential conflicts of interest with respect to the research, authorship, and/or publication of this article: Mitsuhiro Nagano, Akira Yuasa and Naohiro Yonemoto are full-time employees of Pfizer Japan Inc. Shunya Ikeda declares no conflicts of interest associated with this poster.
Funding: This study was funded by Pfizer Japan Inc.