

The Societal Burden of Seasonal Influenza on Working-Aged Adults in the United Kingdom: Results from an Online Survey of the General Public

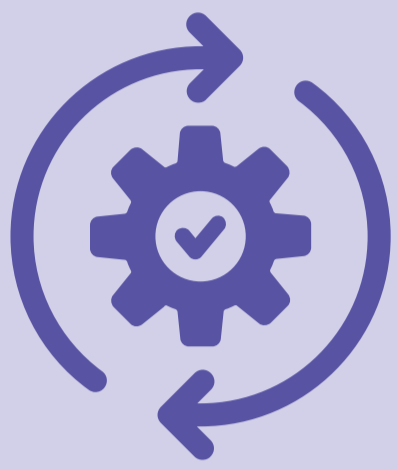
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OBJECTIVES

To quantify out-of-pocket costs (e.g., prescriptions, travel), absenteeism, presenteeism (i.e., productivity loss due to working whilst ill), and lost wages due to seasonal influenza among working-aged adults (18-64 y/o) in the United Kingdom (UK).



METHODS

An online survey of a geographically representative sample of 1,000 working-aged adults (18-64 y/o) in the UK was conducted in March 2022. The survey was designed by RAND Europe and administered by Medicy's, a medical market research agency, on an existing panel of the general public. The survey included individuals who reported having influenza confirmed by a healthcare professional (and that this illness was not COVID), or who reported caring for a dependent with confirmed influenza, during an influenza season (October to March) between 2018/2019 and 2021/2022. Eligible participants were asked about out-of-pocket costs, absences from work, productivity whilst at work, and lost wages for the most recent influenza season that they indicated.

Survey sample characteristics and outcomes were analysed using descriptive statistics. Cumulative working days lost due to influenza was calculated based on the assumption of 32.8 million employed adults in the UK (2019, ONS data) with 10% becoming ill with influenza for 3 days and 15% caring for a dependent with influenza for 2 days. Percentages are based on median incidence of influenza from the US CDC and days lost are based on survey data – see Results.



SURVEY SAMPLE CHARACTERISTICS

Among 1,000 respondents (49% women; 88% White British/Irish/Other and 12% ethnic minority), 883 reported having influenza and 717 reported caring for a dependent with influenza (600 reported both). Demographics are shown in Table 1.

TABLE 1. Demographics of Survey Participants

	All Participants	Reported Having Influenza	Reported Caring for Dependent with Influenza
	N = 1,000	N = 883	N = 717
Gender, n (%)			
.... Male/Man	508 (50.8)	460 (52.1)	375 (52.3)
.... Female/Woman	488 (48.8)	419 (47.5)	338 (47.1)
.... Non-binary	3 (0.3)	3 (0.3)	3 (0.4)
.... Prefer not to answer	1 (0.1)	1 (0.1)	1 (0.1)
Ethnicity, n (%)			
.... Black	34 (3.4)	32 (3.6)	29 (4.0)
.... South Asian	49 (4.9)	45 (5.1)	41 (5.7)
.... Other Asian	14 (1.4)	13 (1.5)	10 (1.4)
.... White British/Irish	812 (81.2)	714 (80.9)	571 (79.6)
.... White Other/European	65 (6.5)	56 (6.3)	50 (7.0)
.... Mixed ethnicity	13 (1.3)	12 (1.4)	7 (1.0)
.... Other not listed	4 (0.4)	4 (0.4)	2 (0.3)
.... Prefer not to answer	9 (0.9)	7 (0.8)	7 (1.0)
Region, n (%)			
.... England	800 (80.0)	708 (80.2)	586 (81.7)
.... Northern Ireland	40 (4.0)	34 (3.8)	29 (4.0)
.... Scotland	100 (10.0)	87 (9.8)	68 (9.5)
.... Wales	60 (6.0)	54 (6.1)	34 (4.7)
Flu Season, n (%)	--		
.... 2018/2019	--	148 (16.7)	91 (12.7)
.... 2019/2020	--	143 (16.2)	93 (13.0)
.... 2020/2021	--	246 (27.9)	244 (34.0)
.... 2021/2022	--	346 (39.2)	289 (40.3)
Age, n (%)	--		
.... 18 – 49 years	--	727 (82.3)	597 (83.3)
.... 50 – 64 years	--	156 (17.7)	120 (16.7)
Household income, n (%)	--		
.... £0 – 9,999	--	33 (3.7)	27 (3.8)
.... £10,000 – 16,999	--	74 (8.4)	48 (6.7)
.... £17,000 – 34,999	--	259 (29.3)	200 (27.9)
.... £35,000 – 54,999	--	258 (29.2)	209 (29.2)
.... £55,000 – 69,999	--	105 (11.9)	95 (13.2)
.... £70,000 – 99,999	--	75 (8.5)	67 (9.3)
.... £100,000 – 149,000	--	66 (7.5)	60 (8.4)
.... >£150,000	--	13 (1.5)	11 (1.5)
Employed, n (%)	--		
.... No	--	144 (16.3)	132 (18.4)
.... Yes	--	739 (83.7)	585 (81.6)



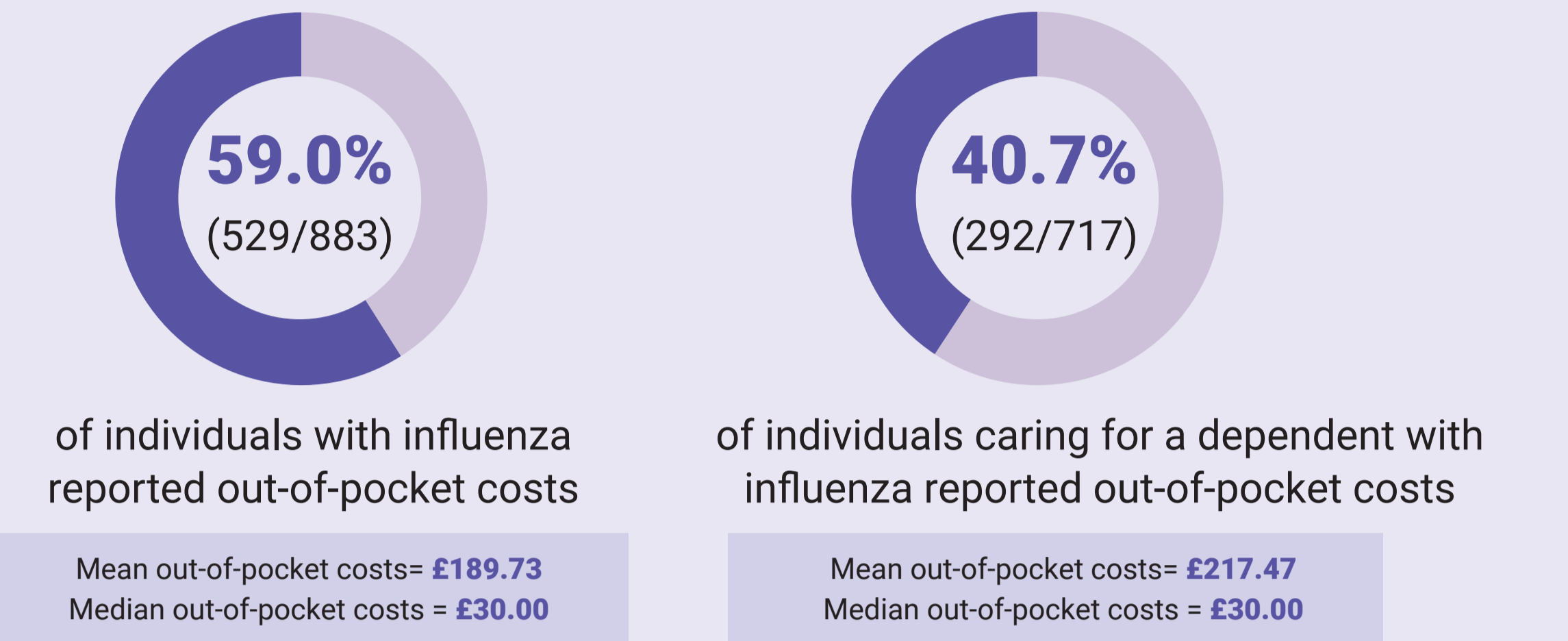
LIMITATIONS

Participants selected into the study based on self-reported influenza, and we cannot confirm accuracy. Relatedly, outcomes are based on self-report, rather than objective measures, and are therefore subject to recall bias and/ or social desirability bias. The survey overrepresents younger (18-49 y/o) working-aged adults. Survey period overlapped, in part, with the COVID-19 pandemic, and findings may vary based on year of data collection.

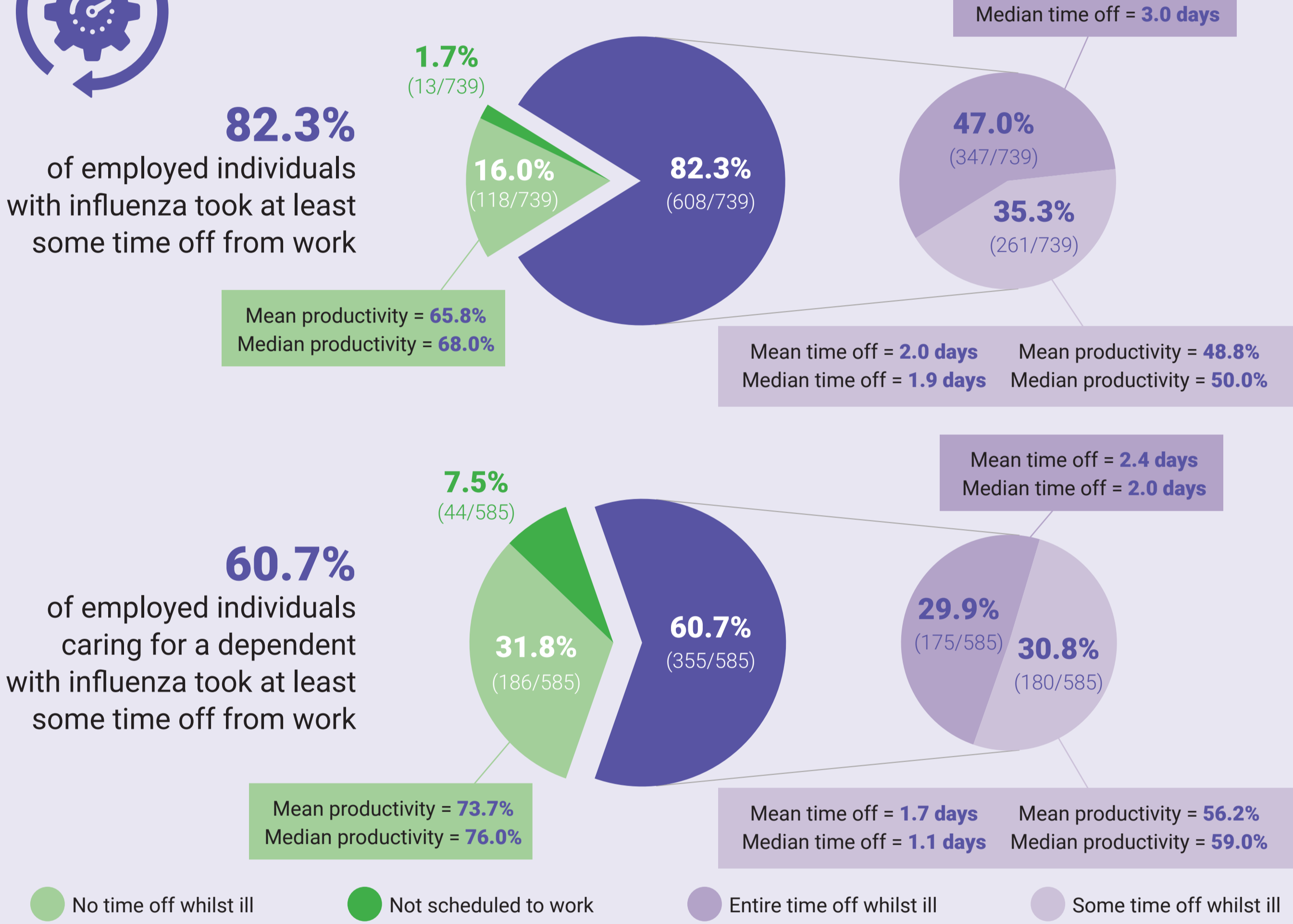
RESULTS



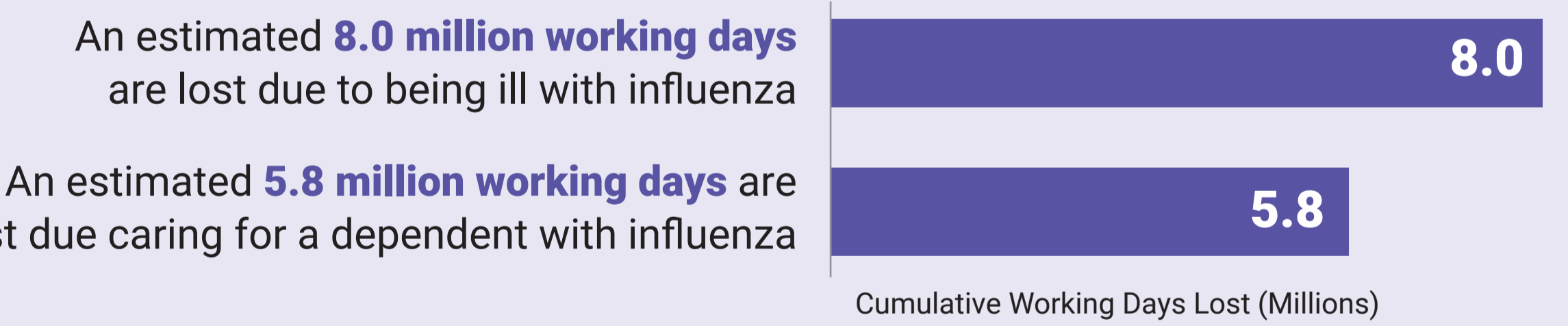
Out-of-Pocket Costs



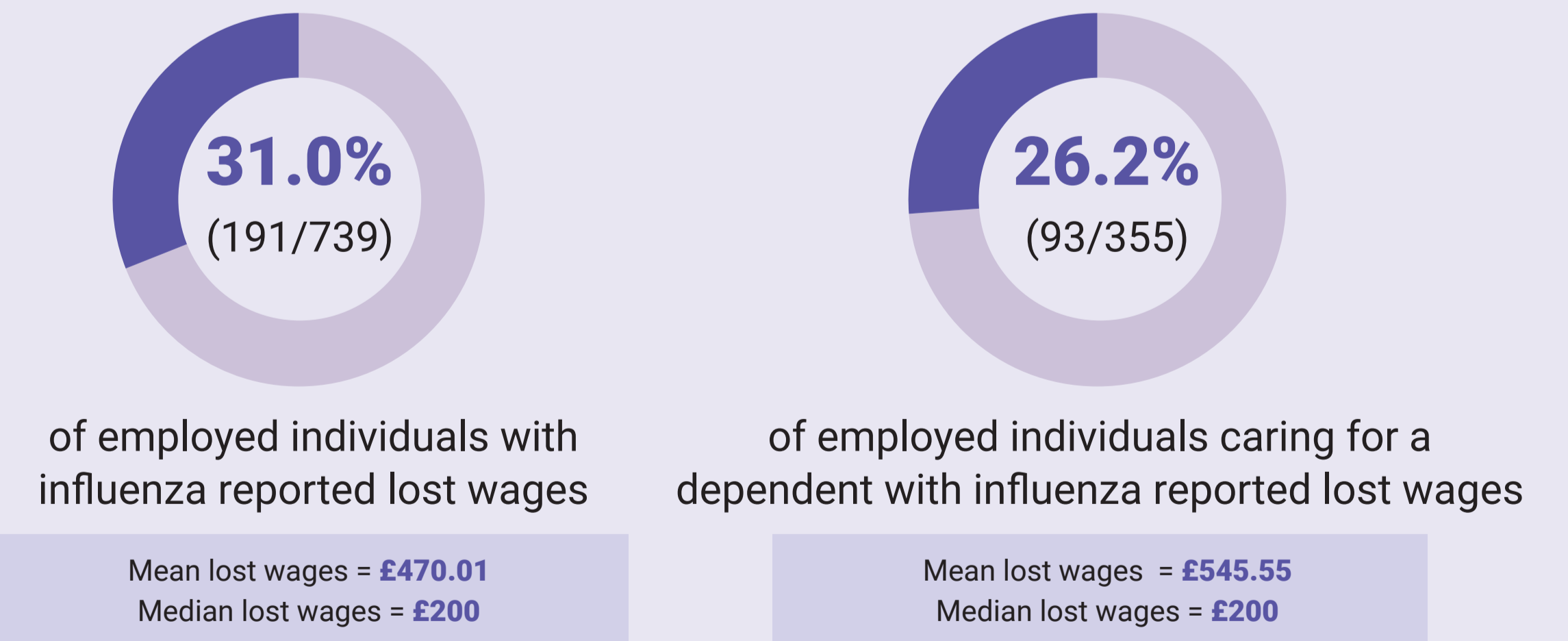
Absenteeism and Productivity



Cumulative Annual Working Days Lost



Lost Wages



CONCLUSIONS

In a sample of working-aged adults from the UK, most individuals with influenza, or those caring for a dependent with influenza, required some time off from work and those who did work were markedly less productive, with an approximate annual 8 million and 5.8 million total working days lost, respectively. Many individuals reported out-of-pocket costs and lost wages. These findings, extrapolated to the entire UK population, likely represent a substantial economic burden due to seasonal influenza.

Disclosures: This study was funded by Sanofi and conducted independently by RAND Europe. This work is intended to inform the public good and should not be taken as an endorsement of commercial products or services.