

# Treatment of influenza with baloxavir was associated with reduced absenteeism compared with oseltamivir in a patient-generated health data study

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Impact of influenza on workplace absenteeism  
Over 80% of participants with ILI reported missing  $\geq 1$  day of work



Association between antiviral use and workplace absenteeism  
Use of baloxavir was associated with lower odds of absenteeism compared with oseltamivir

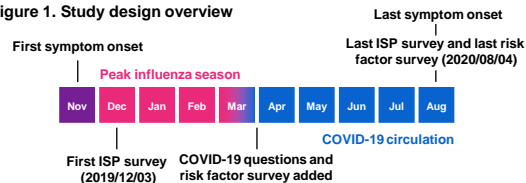
## INTRODUCTION

- Loss of productivity from workplace absenteeism is a significant component of the economic burden of influenza-like illness (ILI).<sup>1</sup>
- In clinical trials, baloxavir, an oral single-dose influenza antiviral, reduced viral shedding more rapidly than oseltamivir in otherwise-healthy adults and adolescents with influenza.<sup>2</sup>
- Baloxavir was also shown to be superior to oseltamivir in improving symptoms in high-risk patients with influenza B;<sup>3</sup> therefore, it is possible that baloxavir may lead to a shortening of workplace absenteeism.
- Here, we examined baloxavir real-world outcomes using patient-generated health data to investigate the association between antiviral use and workplace absenteeism.

## METHODS

- Patient-generated health data from a participatory ILI surveillance program (ISP) was used to identify participants who self-reported ILI using the online Evidation platform during the 2019–2020 influenza season in the USA (Figure 1).
- Participants who met the following criteria were eligible for inclusion in the study:
  - Sought medical attention
  - Actively attended work (excluded those retired or sick on weekends)
  - Received treatment with baloxavir or oseltamivir
- An ordinal logistic regression was conducted to estimate the odds of missing work due to ILI, while adjusting for over-the-counter (OTC) medication use, age, number of symptoms, US region, and comorbidities.

Figure 1. Study design overview



## RESULTS

- Of 3,658 eligible participants, 3,285 (89.8%) were prescribed oseltamivir and 373 (10.2%) were prescribed baloxavir (Table).
- Most participants (81.7%) reported missing  $\geq 1$  day of work.
- Fewer participants who received baloxavir treatment reported missing  $\geq 4$  days of work compared with those who received oseltamivir treatment (23.6% vs 29.3%, respectively;  $p=0.0004$ ; Figure 2).
- Baloxavir use was associated with lower odds of absenteeism compared with oseltamivir (odds ratio [OR]: 0.748, 95% confidence interval [CI]: 0.616, 0.907) when controlling for other measured confounders.
- A higher number of symptoms (OR: 2.922, 95% CI: 2.454, 3.481), older age (OR: 1.425, 95% CI: 1.162, 1.747), and use of OTC medication (OR: 1.242, 95% CI: 1.086, 1.420) were associated with higher odds of absenteeism when controlling for other measured confounders.

Table. Demographics and baseline characteristics

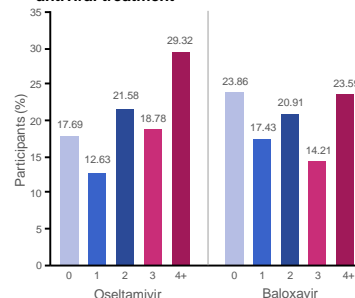
Characteristics, n (%)	Baloxavir (n=373)	Oseltamivir (n=3,285)	p value	
Age (years)			0.116	
18–49	347 (93.0)	2,969 (90.4)		
50+	26 (7.0)	316 (9.6)		
American region			0.020	
Northeast	49 (13.1)	546 (16.6)		
South	215 (57.6)	1,617 (49.2)		
Midwest	64 (17.2)	682 (20.8)		
West	45 (12.1)	440 (13.4)		
OTC medication use			0.982	
No	100 (26.8)	874 (26.6)		
Yes	273 (73.2)	2,411 (73.4)		
CDC risk factors			0.001	
0	210 (56.3)	1,548 (47.1)		
1	163 (43.7)	1,737 (52.9)		
Antiviral use in previous 48 hours			0.657	
Yes	175 (46.9)	1,464 (44.6)		
No	108 (28.9)	1,014 (30.8)		
Missing	90 (24.1)	807 (24.5)		
Number of symptoms			<0.001	
1–3	108 (29.0)	442 (13.5)		
4–5	93 (24.9)	964 (29.3)		
6–7	172 (46.1)	1,879 (57.2)		
Number of symptoms	Mean [IQR]	5 [3,7]	6 [4,7]	–

CDC, United States Centers for Disease Control and Prevention  
IQR, interquartile range; OTC, over the counter

## LIMITATIONS

- The association between the timing of antiviral use and absenteeism could not be adequately assessed due to missing data (24.5%).
- While most cases of ILI in our study population were reported before March 2020, care-seeking behaviour may have been affected by the COVID-19 pandemic.
- A low proportion of individuals in this cohort received baloxavir since it more recently entered the market; additionally, due to the observational nature of the study, the sample may not be representative of those who are prescribed baloxavir or oseltamivir.

Figure 2. Days of missed work, by antiviral treatment



## CONCLUSIONS

- Treatment of patients with ILI with a single dose of baloxavir was associated with a shortening in workplace absenteeism compared with oseltamivir after adjusting for measured confounders.
- This study provides useful insight into factors associated with ILI-related workplace absenteeism and the potential real-world utility of baloxavir.

## Disclosures

AB is an employee of Genentech, Inc.; VU is an employee of Roche Products Ltd. When this study was conducted, DC was an employee of Genentech, Inc.\* and HX was an employee of F. Hoffmann-La Roche Ltd.†

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