

Impact of COVID-19 on Influenza Vaccine Sales in France, United Kingdom and United States

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Background

- The severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is responsible for the current COVID-19 pandemic
- The SARS-CoV-2 presents similarities with seasonal influenza viruses as both viruses primarily target the respiratory tract and share common risk factors¹⁻³
- The threat of an additional burden on vulnerable populations and health systems led many countries to revise their influenza vaccination policies in accordance to the WHO 2020 interim guidance on influenza vaccination⁴
- As such, the 2020/21 influenza vaccination campaign was significantly impacted by the COVID-19 pandemic

Objective

- The objective of this study was to investigate the impact of COVID-19 on influenza vaccine sales

Methods

- We focused on influenza vaccine sales or prescription/reimbursement for the influenza seasons 2015/16 to 2020/21 in three countries: France, UK and US
- Data were collected for each season from the first month of the vaccine campaign to January/February
- Reimbursement data from Assurance Maladie were collected in France; prescription data from Vantage IQ were used for UK, whereas dispensation data were available on the CDC website for the US⁵⁻⁷
- Significant vaccine sales variation were highlighted by comparing the sales in the 2020/21 season to the average sales number of the last five seasons using the non parametric Wilcoxon signed-rank test

References:

1. ECDC. 2021. Available from: <https://www.ecdc.europa.eu/en/covid-19/latest-evidence/risk-factors-risk-groups>; 2. Liu. 2021. 10.1038/s41421-021-00249-2; 3. Murgolo. 2021. 10.1371/journal.ppat.1009225; 4. WHO. 2020. <https://apps.who.int/iris/bitstream/handle/10665/336260/WER9544-539-543-eng-fre.pdf?sequence=1&isAllowed=y>; 5. Assurance Maladie. (2021). <https://www.ameli.fr/l-assurance-maladie/statistiques-et-publications/donnees-statistiques/medicament/medicaments-pharmacies-de-ville-par-prescripteur/medic-am-2021.php>; 6. Vantage IQ. (2021). <https://www.vantageiq.co.uk/login.do;JSESSIONID=32349066-1e09-4177-9500-3b85dc1914cf>; 7. CDC. (2021). <https://www.cdc.gov/flu/prevent/vaccine-supply-historical.htm?web=1&wdLOR=c03852ABE-E920-4163-81F3-16214E80B247>.

Results

- In France, reimbursement of vaccines increased by +33.6% (p<0.05) in 2020/21 compared to previous seasons, with October (+106.5%, p<0.05) and January (+102.6%, p<0.05) being the months with the highest increase (Table 1, Figure 1A)
- In the UK, vaccine prescription grew by +7.7% (p<0.05) compared to previous seasons, with the strongest increases observed in September (+27.9%, p<0.05) and December (+14.5%, p<0.05) (Table 1, Figure 1B)
- Finally in the US 193.8 M doses were distributed in 2020/21 which corresponds to a 22.5% increase (p<0.05) compared to previous seasons (Table 1, Figure 1C)

Figure 1A: Influenza vaccine sales/distribution per season

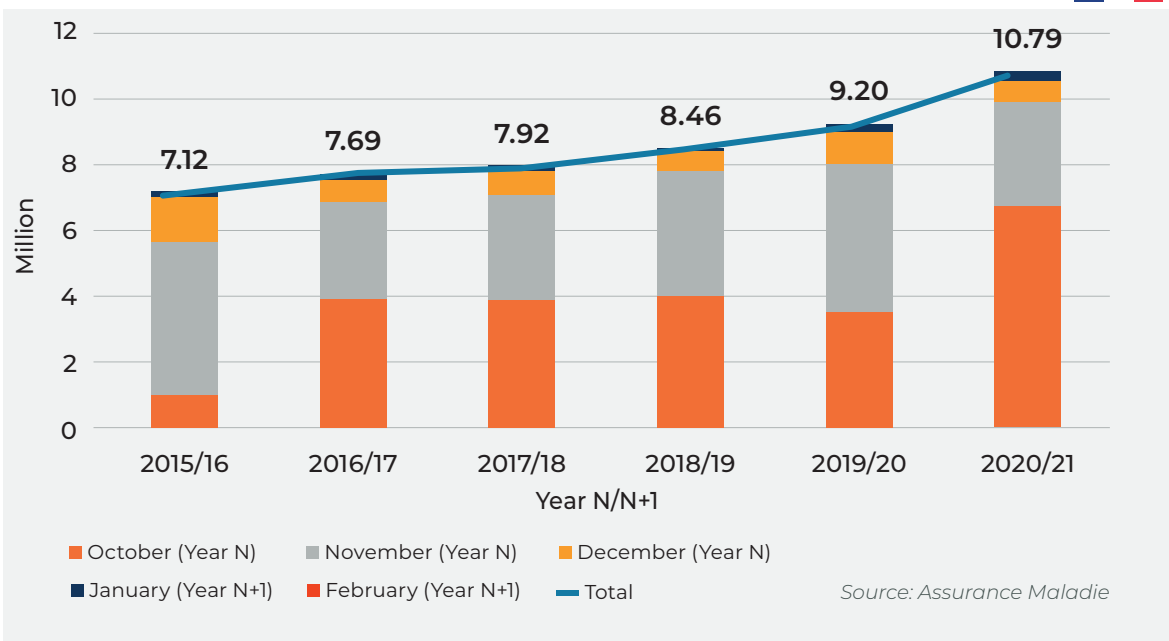


Figure 1B: Influenza vaccine sales/distribution per season

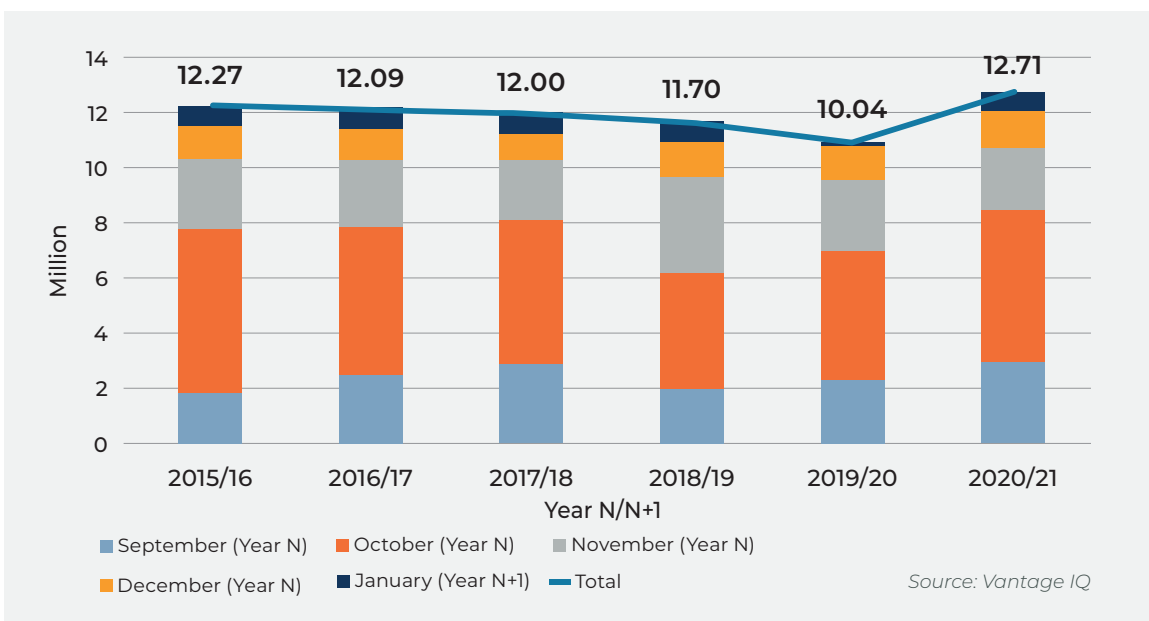


Figure 1C: Influenza vaccine sales/distribution per season

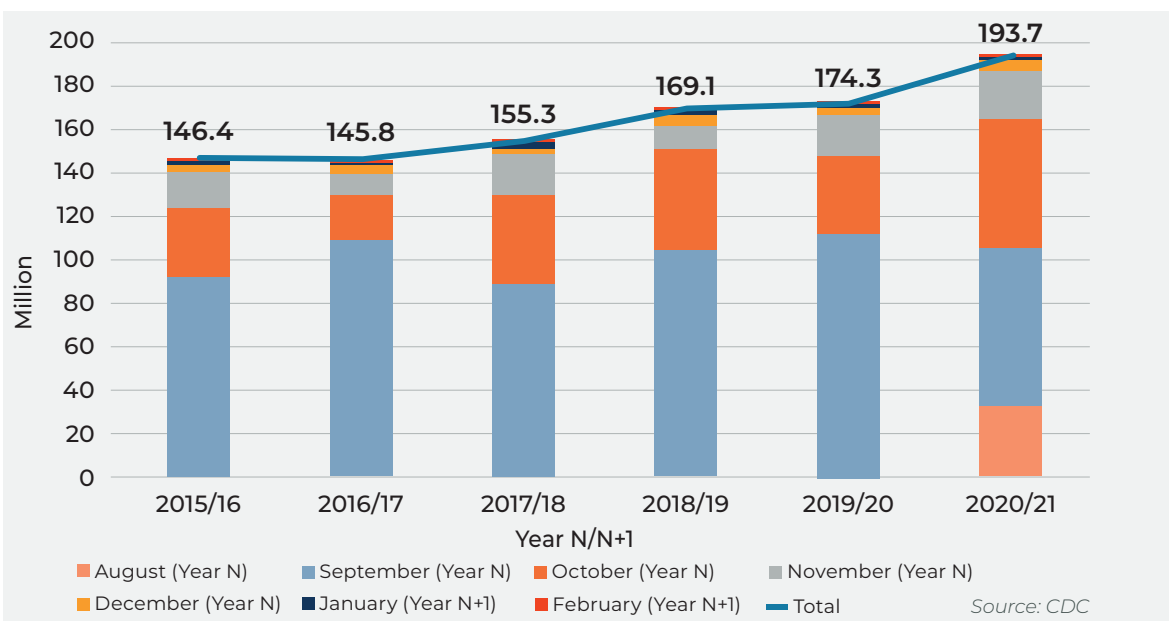


Table 1: Influenza vaccine prescription/distribution variations in 2020/21 compared to previous seasons

	September	October	November	December	January	February	Total
France		106.5%* (0)	-18.3%* (13)	-23.0%* (12)	102.6%* (0)	57.9%* (2)	33.6%* (0)
United Kingdom	27.9%* (0)	8.5% (3)	-13.4% (13)	14.5%* (0)	3.2% (10)		7.7%* (0)
United States†	-28.11%* (15)	68.56%* (0)	48.99%* (0)	52.94%* (0)	-52.59%* (15)	-34.21% (9)	22.46%* (0)

Discussion

- This research is to our knowledge the first to explore this topic and we report significant increases in vaccine distribution/prescription in all 3 countries
- In France, most of the influenza vaccination campaign occur in October, and a significant increase in vaccine reimbursement was observed in October 2020
- Augmentation in vaccine distribution was effectively followed by increases in vaccine coverage rate (+7.9% in France in elderly compared to 2019/20)
- Influenza activity during the 2020/21 season was unusually low compared to previous seasons. The multiple preventive measures taken against COVID-19 probably represent the main justification for this result, although this season represented a record in influenza vaccine doses distributed
- Our study limitations include:
 - A low number of observations as we considered 6 influenza seasons
 - A geographic scope limited to 3 countries
 - Other factors that could have impacted the results include the introduction of quadrivalent vaccines in France in 2015/16 and vaccination by pharmacists
- As the COVID-19 pandemic is still ongoing, it will be of interest to monitor influenza vaccine sales for the 2021/22 season and include additional countries in our analysis

* Meaningful difference at level of significance of 5%.
† August was not considered because the vaccine campaign started in August only during the 2020/21 season.