

Impact of COVID-19 on Influenza Vaccine Coverage Rate during the 2020/2021 Season

A. Ngami¹, F. Guelfucci¹, F. Bianic¹, P. Net¹

1. Syneos Health, Value Access & HEOR, Montrouge, France

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 factors¹⁻²
- 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

Objective

- The objective of this study was to assess the change in influenza VCR under the COVID-19 pandemic in the US, Canada and Europe

Methods

- Secondary desk researches were conducted to collect influenza VCR for the seasons 2010/11 to 2020/21 in France, Italy, Spain, UK, Canada and US³⁻⁸
- Government and public health agency websites were consulted and VCR were extracted for all groups eligible to influenza vaccination. Stakeholders were contacted by email when information was not available.
- We used non-parametric Wilcoxon signed-rank tests to investigate significant variations in VCR per eligible group for the 2020/21 season compared to previous seasons

Results

- VCR per country and eligible group are presented in Table I
- VCR for the entire time horizon, as well as VCR per region for Italy and Spain can be provided upon request to the corresponding author (PN)
- Significant increases in VCR in elderly populations were observed for all countries except Canada
- The highest increases were observed in Italy (+51.24% in the general population) and the US (+57.52% in adults 18y – 49y)
- Non-significant variations were observed in pediatric populations in the UK (6mo – 2y) and the US (6mo to 12y)
- No significant changes in VCR were observed for all eligible groups in Canada although data was only available from 2015/16 onwards

Discussion

- Overall, significant increases in VCR were observed in 2020/21 compared to previous seasons
- The COVID-19 pandemic as a causative agent represents the most likely hypothesis although further research is required to establish causality
- Our study provides extensive insights on influenza VCR and could be used as a basis for future researches
- Influenza VCR for the 2021/22 season needs to be monitored as the COVID-19 pandemic is still ongoing. In addition, influenza vaccination will be even more important this season as preventive measures such as masks and social distancing are being lifted in multiple countries (e.g. UK), which could spark a surge in influenza cases

Table I: Influenza vaccine coverage rates by eligible group since 2010

		2010/11	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	Variation in 2020/21
	65+y	56.20%	50.80%	50.00%	49.70%	51.00%	52.00%	59.90%	15.55%***
	<65y (AR)	37.20%	39.10%	28.70%	28.90%	29.70%	31.00%	38.70%	10.89%*
	Total	51.80%	48.30%	45.70%	45.60%	46.80%	47.80%	55.80%	15.58%***
	65+ y	72.80%	71.00%	70.50%	72.90%	72.00%	72.40%	80.90%	11.60%***
	6mo – 64y (AR)	50.40%	45.10%	48.60%	49.70%	48.00%	44.90%	53.00%	7.68%***
	6mo – 2y	25.20%	18.60%	19.50%	20.70%	18.80%	16.10%	21.70%	4.98%
	2y – 16y	39.30%	40.20%	42.10%	46.20%	46.70%	42.50%	49.30%	17.38%***
	16y – 65y	51.70%	45.70%	49.40%	50.20%	48.40%	45.30%	53.40%	6.52%**
	2 – 3y	N/A	36.60%	40.20%	44.00%	44.90%	43.80%	56.70%	36.63%**
	School age children								
	5 – 6y (Y1)	N/A	54.40%	57.60%	61.00%	63.60%	63.60%	63.90%	6.43%*
	65+y	56.90%	56.10%	55.50%	55.70%	54.30%	54.70%	67.70%	20.83%***
	General Population	17.90%	13.90%	15.10%	15.30%	15.80%	16.80%	23.70%	51.24%***
	65+y	62.40%	49.90%	52.00%	52.70%	53.10%	54.60%	65.30%	19.68%***
	≥6mo	43.00%	45.60%	46.80%	41.70%	49.20%	51.80%	52.10%	13.71%***
	6mo – 4y	51.00%	59.30%	59.00%	57.00%	62.60%	63.80%	58.20%	-2.61%
	6mo – 17y	63.60%	70.00%	70.00%	67.80%	73.40%	75.20%	68.00%	0.52%
	5y – 12y	54.70%	61.90%	59.90%	59.50%	63.60%	64.50%	59.00%	-1.62%
	13y – 17y	34.50%	46.80%	48.80%	47.40%	52.20%	53.30%	50.80%	12.34%**
	≥18y	40.50%	41.70%	43.30%	37.10%	45.30%	48.40%	59.00%	39.68%***
	18y – 64y	34.80%	36.30%	37.50%	31.10%	39.00%	42.30%	43.00%	17.97%***
	18y – 64y AR	46.70%	46.00%	46.40%	38.80%	47.90%	51.40%	51.00%	10.08%**
	18y – 49y	30.50%	32.70%	33.60%	26.90%	34.90%	38.40%	50.80%	57.52%***
	18y – 49y AR	39.00%	39.50%	39.30%	31.30%	40.40%	44.40%	41.60%	7.08%*
	50y – 64y	44.50%	43.60%	45.40%	39.70%	47.30%	50.60%	54.20%	20.12***
	65+y	66.60%	63.40%	65.30%	59.60%	68.10%	69.80%	75.20%	14.70%***
	≥18y	N/A	34.40%	35.80%	38.30%	41.80%	41.80%	40.40%	5.15%
	18y – 64y (AR)	N/A	37.20%	37.00%	39.40%	30.80%	43.60%	40.50%	7.71%
	18y – 64y (not AR)	N/A	24.40%	25.10%	26.50%	42.80%	30.00%	29.20%	-1.88%
	65+y	N/A	64.60%	69.50%	70.70%	69.90%	70.30%	70.40%	2.03%
									

Meaningful difference at level of significance of 5% (*), 1% (**), 0.1% (***)

Abbreviation: AR: At-risk; VCR: Vaccine Coverage Rate; WHO: World Health Organization

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