

Public Health and Economic Impact of Influenza Immunization by Pharmacists: A Systematic Literature Review and Analysis of the French Experience

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Background

- Influenza vaccination by pharmacists** is a well-established health policy in several countries. Research have shown that influenza vaccination by pharmacists allows an **increase in vaccine coverage rate** (VCR) while also being **cost saving**
- In France, this policy has been effective since **2019**, but its effects have not been evaluated yet

Objective

- We conducted a SLR to assess the **public health and economic impact of influenza immunization by pharmacists** to inform what could be the **expected outcomes in France**
- We also looked at the number of influenza vaccinations performed in French community pharmacies over the last two influenza seasons

Methods

- A SLR was conducted in April 2021 in **PubMed, Embase** and **NHS EED**
- The search strategy combined three search strings related to **influenza, vaccination** and **pharmacists**
- Articles published **since 2016** in **North America** and **Europe** were considered
- The Scottish Intercollegiate Guidelines Network guidelines were considered for quality assessment¹
- All studies reporting on the **economic impact** and impact on **VCR** of immunization by pharmacists were considered. All relevant economic data included in the final review were converted in \$1 2020
- The full study protocol was registered and approved in PROSPERO (**CRD42021246681**)²
- The French '**Assurance Maladie**' database was consulted to inform the number of reimbursed influenza vaccinations in French CPs³

Results

- A total of **16** studies were included over the **532 identified** (Figure 1)
- Studies were conducted in the **US, UK, Ireland, Canada, Switzerland** and **Portugal**
- Thirteen** studies reporting on the impact of influenza immunization by pharmacists were identified, with **twelve** of them considered of **acceptable quality (Table I)**⁴⁻¹⁶
- The intervention was cost saving in **Nova Scotia (Canada)** and **Switzerland**, with a net benefit of **\$14.22** and **\$111.03** per vaccination respectively. Additionally, vaccination in CPs versus general practitioners was less costly in Canada and UK (**\$110.63 vs \$111.32** and **\$122.04 vs \$125.54** respectively)^{4,17-20}
- In France, 251 and 106,810 vaccination acts were reimbursed in 2019/20 and 2020/21 respectively

Figure 1: PRISMA diagram

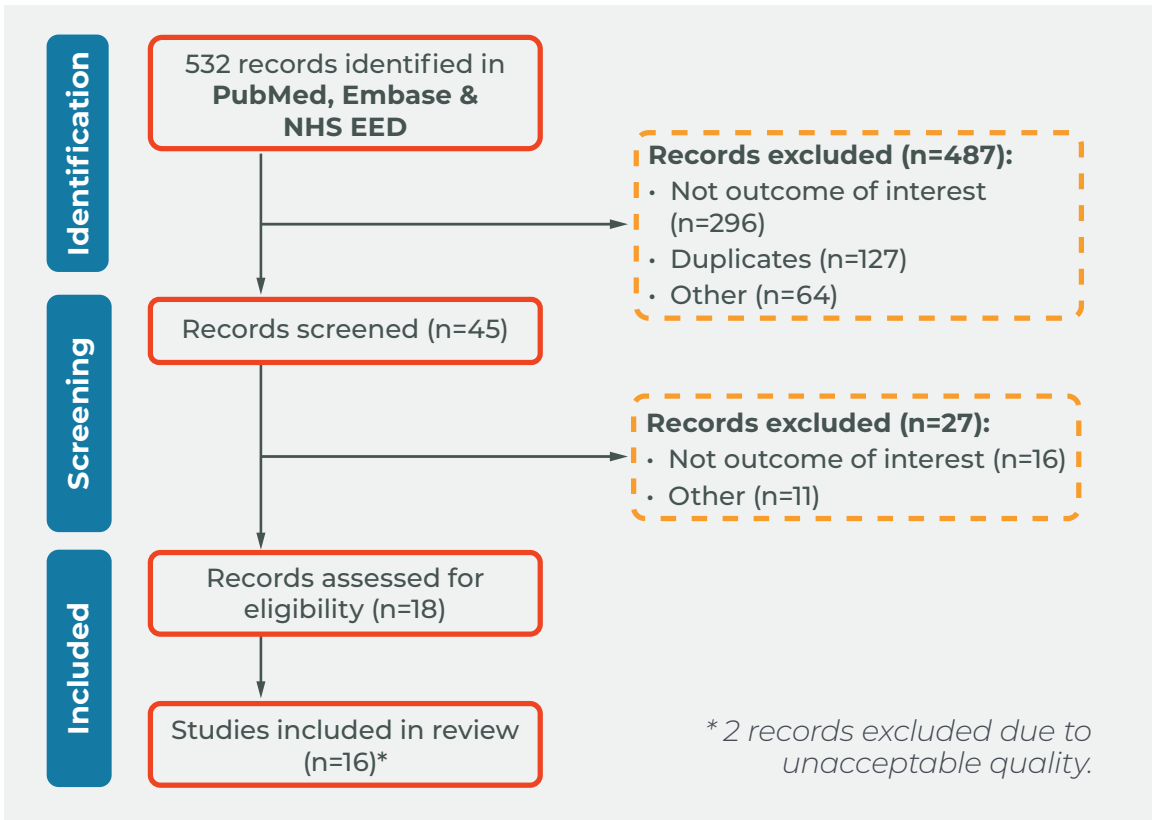


Table I: Impact of vaccination by pharmacists on VCR

Author	Country	Participants	Results
Atkins (2016) ⁴	UK	Adults 13–65 years	No significant change in VCR
Buchan (2017) ⁵	Canada	Adults ≥12 years	+2.2% increase in VCR
Deslandes (2019) ⁶	UK (Wales)	All ages	+0.3% absolute increase in 2012/13
Drozd (2017) ⁷	US	Adults ≥18 years	+5.5% relative increase in VCR between 2003–2013
Garofoli (2019) ⁸	US	Undergraduate students	Absolute decline in VCR from 43.6% in 2014 to 41.7% in 2015
Guerreiro (2020) ⁹	Portugal	Elderly ≥65 years	31.8% relative increase in VCR (+6.9% increase in 65+)
Hargrave (2020) ¹⁰	US	Undergraduate students	Absolute increase from 4.09% to 9.46% (+131%)
Isenor (2016) ¹¹	Canada (Nova Scotia)	Individuals ≥6 months	Absolute increase from 35.8% in 2012/13 to 41.8% in 2013/14 (71.6% to 73.3% in individuals ≥65 y)
Isenor (2016b) ¹²	International	All ages	Vaccination by pharmacists improve VCR regardless of the role (educator, facilitator, administrator) or vaccine administered
Isenor (2018) ¹³	Canada (Nova Scotia)	Individuals ≥6 months	Absolute increase from 35.7% in 2012/13 to 41.7% in 2013/14 (61.8% to 71.6% in individuals ≥65 y)
McConeghy (2016) ¹⁴	US	All ages	No significant increase in VCR
Patel (2018) ¹⁵	US	Adults	Vaccination by pharmacist is associated with greater odds of influenza immunization (1.02 (CI 1.01–1.03); 1.0 (CI 1.01–1.04) in individuals ≥65 y)
Robinson (2016) ¹⁶	US (Oregon)	Adolescents 11–17 years	Absolute increase from 18.7% in 2007/10 to 26.2% in 2011/14 (+39.9%)

Discussion

- Current literature suggests that influenza vaccination by pharmacists is associated with increased VCR while being economically favorable
- Results from our SLR are mainly focused on the US and Canada, which is understandable as this policy has been implemented for many years in those countries (90s for the US and 2013 for Canada)
- The applicability of these findings to the French context is uncertain. However, it can be expected that vaccination by pharmacists is well received in France and, as of today, CPs cover 34% of all influenza vaccinations²¹
- It is yet too soon to evaluate the full impact of influenza vaccination by pharmacists in France, and the COVID-19 pandemic will make the evaluation of this policy exceedingly challenging as it struck one year after the policy had been implemented
- Recently, pharmacists have been authorized to administer COVID-19 vaccines to support the fight against the pandemic. With time, it is possible that this authorization will be extended to all vaccines

Abbreviations: CP, Community Pharmacy; NHS EED, NHS Economic Evaluation Database; SLR, Systematic Literature Review; VCR, Vaccine Coverage Rate; WHO, World Health Organization.

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