

The impact of pharmacist involvement on immunization uptake in Europe



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Why can impact of pharmacists' vaccination be expected?



Proximity: Patient/carer contact frequency

(Kari Maes, 2021, KULeuven)

	50-64y		≥ 65y		Chron. illness		HCP		Pregnant		Parent with child < 6m	
	GP	Ph	GP	Ph	GP	Ph	GP	Ph	GP	Ph	GP	Ph
Last visit												
Last month or 1 month ago	45,8	78,6	45,0	62,5	56,1	81,3	43,3	80,0	46,3	63,4	41,3	91,0
P-value	0,0000....		0,02643		0,00002		0,00004		0,12032		0,0000...	
Relative risk	1,72		1,39		1,45		1,85		/		2,20	
Average number of visits												
1 x/2months or more	16,8	47,3	16,3	37,5	26,0	58,5	8,3	56,7	12,2	26,8	13,7	73,7
P-value	0,0000...		0,00243		0,0000...		0,0000...		0,09453		0,0000...	
Relative risk	2,82		2,31		2,25		6,80		/		5,30	
P-value < α = 0,05												



Isenor et al.

(Isenor JE et al. Impact of pharmacists as immunizers on vaccination rates: A systematic review and meta-analysis. Vaccine (2016), <http://dx.doi.org/10.1016/j.vaccine.2016.08.085>)



- 2016
- Systematic review.
- 36 studies: 22 with pharmacists' role as sensitiser, 14 as vaccinator
- USA + Canada
- *"All studies reviewed found an increase in vaccination rates when pharmacists were involved in the immunisation process, regardless of the role (educator, facilitator, administrator) or the vaccine administered (e.g. influenza, pneumococcal), compared to vaccine delivery by traditional providers without pharmacist involvement."*
- "Convenience" and "accessibility" are found to be the greatest benefits.



RESEARCH ARTICLE

Open Access

“It’s easier in pharmacy”: why some patients prefer to pay for flu jabs rather than use the National Health Service

Claire Anderson^{1*} and Tracey Thornley²

Abstract

Background: There is a need to increase flu vaccination rates in England particularly among those under 65 years of age and at risk because of other conditions and treatments. Patients in at risk groups are eligible for free vaccination on the National Health Service (NHS) in England, but despite this, some choose to pay privately. This paper explores how prevalent this is and why people choose to do it. There is moderate to good evidence from several countries that community pharmacies can safely provide a range of vaccinations, largely seasonal influenza Immunisation. Pharmacy-based services can extend the reach of immunisation programmes. User, doctor and pharmacist satisfaction with these services is high.

Anderson et al.

- 89,011 'privately paying patients' in 479 pharmacies, only 6% of whom were entitled to a free vaccine
- 921 patients completed the questionnaire in 13 pharmacies. Of these, 199 (22%) were entitled to a free vaccine.
- Of the 199, 50% had been invited by their GP for flu vaccine but decided not to go.
- Reasons were accessibility, convenience and a preference for the pharmacy *'While people at risk can access flu vaccinations free via the NHS, some choose to pay privately because they perceive that community pharmacy access is easier.'*
- *There are opportunities for pharmacy to support the NHS in delivering free flu vaccinations to patients at risk by targeting people unlikely to access the service at GPsurgeries.'*

Table 1 Reasons given for not visiting a GP surgery to get a flu immunisation based on the patients who were contact by their GP (sub set survey sample, n = 100)

Reason given for not visiting a GP**	Number of patients	Proportion of patients (n = 100)
Not convenient to go there	44	44%
Difficult to get an appointment	34	34%
Vaccine unavailable	21	21%
Prefer to go to a pharmacy	15	15%
Other*	18	18%
Total responses	132	

*Other reasons given included not eligible at the surgery (10), unable to access GP (2), patients not wanting to wait (2), patient referred to a pharmacy (1), flu jab batch failures (1), limited flu clinics (1), surgeries considered too crowded (1).

**Note that some patients gave more than one reason, and therefore the total responses (132) exceed the number of patients who responded to this question (100).

Table 4 Reasons for visiting a pharmacy (all patients completing the survey, n = 921)

Reason for visiting a pharmacy**	Number of patients	Proportion of total (n = 921)
Convenient location	542	59%
Convenient opening hours	399	43%
Prefer the pharmacy environment and/or staff	207	22%
Saw the service advertised in-store	127	14%
Inconvenient getting to a surgery	115	12%
Employer-purchased voucher	51	6%
Spur of the moment decision	29	3%
Vaccine available	24	3%
Staff member	16	2%
Previous experience	13	1%
Trust pharmacist	12	1%
Not eligible at their GP	11	1%
Other*	94	10%
Total responses	1640	

*Other reasons given included patient referred to a pharmacy, the pharmacy being less expensive than elsewhere, more appointments available, surgery waiting times, pharmacist recommendation and word of mouth.

**Note some patients gave more than one reason and therefore the total responses (1640) exceed the number of patients who responded to this question (921).

J Am Pharm Assoc (2003). 2022 Sep-Oct; 62(5): 1499–1513.e16.

doi: 10.1016/j.japh.2022.06.008: 10.1016/j.japh.2022.06.008

PMCID: PMC9448680

PMID: [35961937](#)

The impact of pharmacist involvement on immunization uptake and other outcomes: An updated systematic review and meta-analysis

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Received 2022 Feb 2; Accepted 2022 Jun 21.



- Several studies have demonstrated the favorable impact of pharmacists, one of the most accessible health professionals, on immunization. We performed a systematic review and meta-analysis of pharmacist involvement in immunization rates (facilitators, advocates, or immunizers) compared with usual care or other intervention/services without pharmacists. Findings from both RCTs and observational studies indicated that the involvement of pharmacists in the immunization process regardless of their roles or vaccine provided had a substantial impact on immunization rate.
- All sensitivity analyses indicated statistically significant impact of pharmacist involvement on immunization rate that were in line with the main finding. Pharmacist involvement also had a favorable effect on other outcomes such as vaccine appropriateness, vaccine compliance, vaccine hesitancy, patient awareness and attitude toward immunization, and patient satisfaction, which in turn may increase the vaccine uptake.



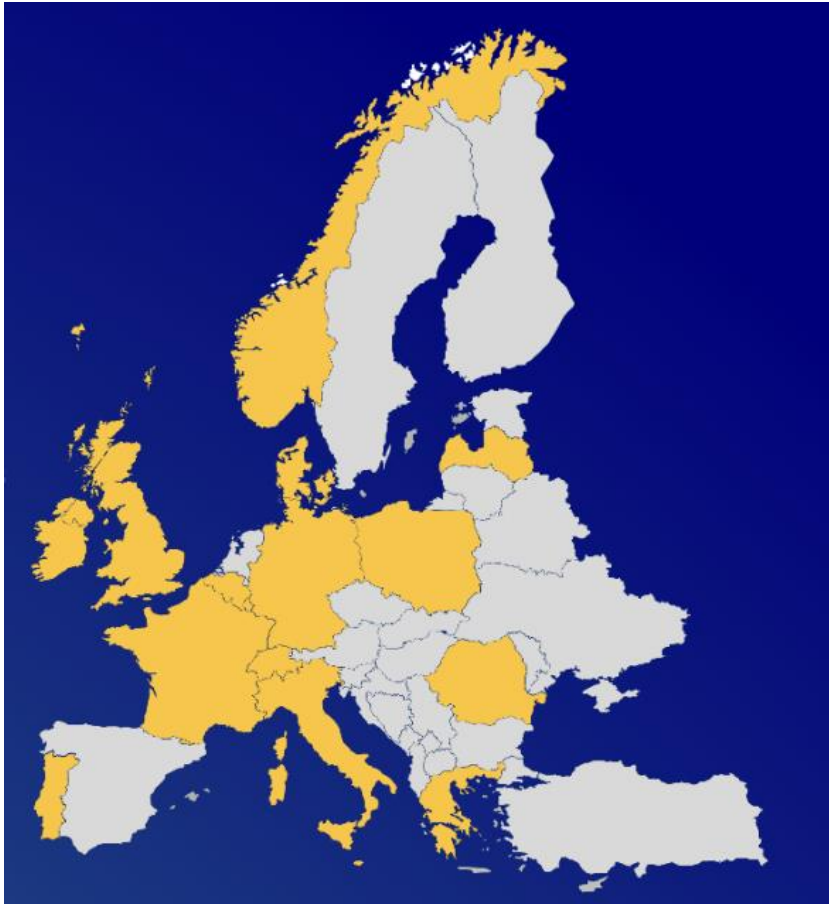
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Impact in Europe?



Vaccination in pharmacy



- **Influenza and/or covid-19-vaccination in 15 European countries:** Belgium, Denmark, France, Germany, Greece, Ireland, Italy, Latvia, Luxembourg, Poland, Portugal, Norway, Romania, Switzerland, and the United Kingdom.
- **Other vaccines in 9 European countries:** Denmark, France, Greece, Ireland, Italy, Norway, Portugal, Switzerland, and the United Kingdom (Eg: Pneumococcal, Travel vaccines, Herpes Zoster (shingles), Cholera, Diphtheria, Tetanus and Pertussis, Anti-Tetanus Serum injection, Meningococcal, Tick-borne Encephalitis, Typhoid Fever and Hepatitis A, Japanese-Encephalitis, Hepatitis A, Hepatitis B, Human Papillomavirus (HPV), Rabies, Human rotavirus, and Varicella.)

The role of the pharmacist in vaccination - position paper (PGU, 2022)

Vaccination in pharmacy

There are 180,000 pharmacies in Europe serving 3,245 citizens on average.

Sixty percent of EU citizens can reach the nearest pharmacy within a 5 minutes' walk and pharmacies are the first point of contact between patients and the healthcare system

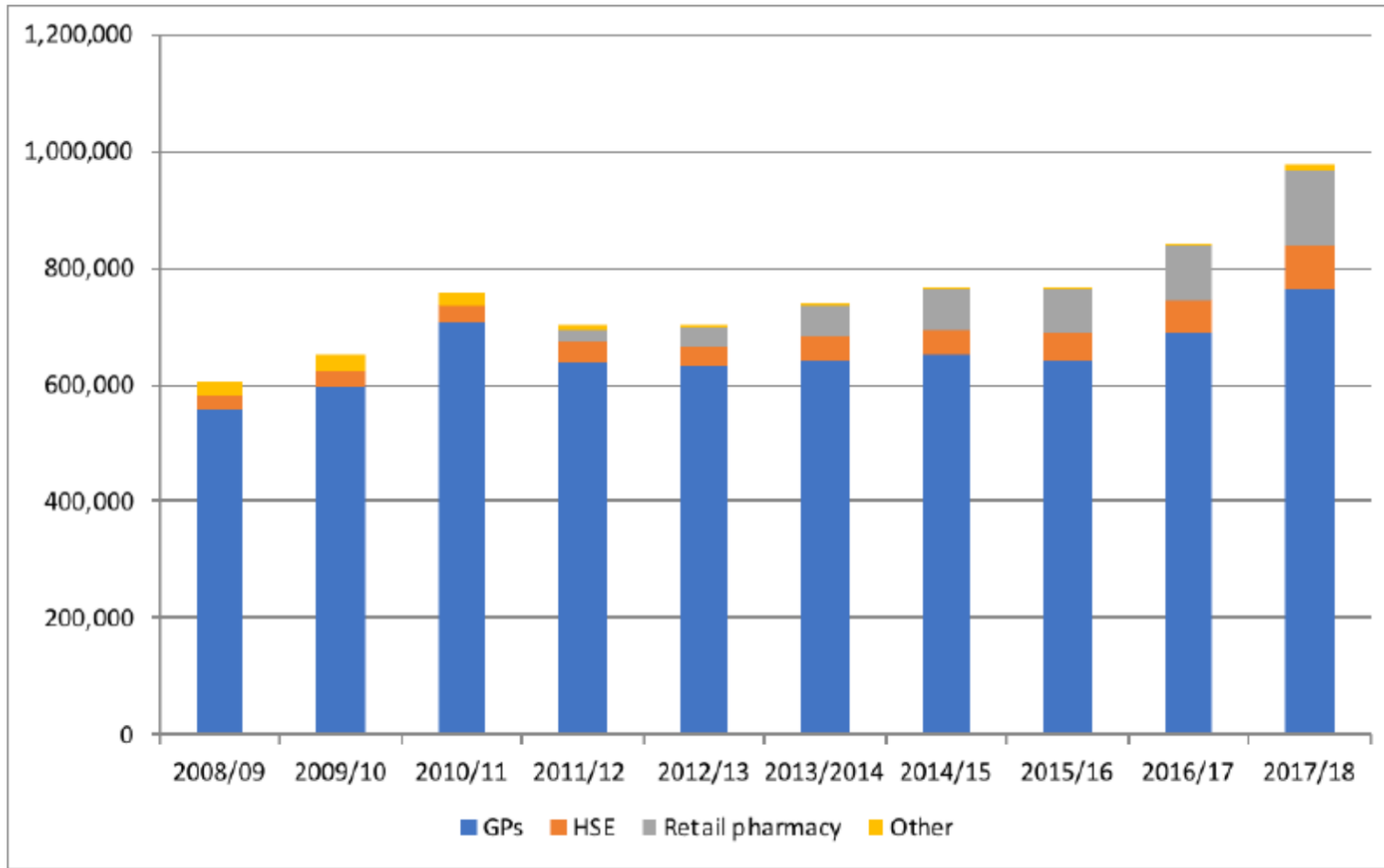
... just walk in...



Ireland

(Does Pharmacy vaccination increase overall uptake? VaccinesToday)

<https://www.vaccinestoday.eu/stories/does-pharmacy-vaccination-increase-overall-uptake/>





Some examples

Italy

- During the COVID-19 pandemic: need of a fast response to protect, build up the population immunity and to control the pandemic -> Approval of crucial regulations allowing a more active role of pharmacists in immunization and diagnostic areas (vaccines administration, swabs, and rapid blood tests).
- Why? **Acceleration of the de-hospitalization of various health procedures in Italy:** HCPs working were invited to **provide relief to hospitals and providing relief for in-hospital assistance, such as in ERs or ICUs.**
- Pharmacies were recognized as a key healthcare facility, already part of the national healthcare system, and able to connect with even the most rural and difficult to reach areas in the whole country.

Italy (2)

- **How many?** 60% of community pharmacies in Italy are active in vaccination
- **Requirements?** certification of a specific training course and annual updates (Istituto Superiore di Sanità)
- **Prescriptions?** Pharmacists can not prescribe, but they can administer flu vaccines without prescription
- **Reimbursement?** Fully reimbursed by the National Health Service (NHS) for elderly, pregnant women, patients suffering from chronic medical conditions, health and police workers, veterinarians, and people working in close contact with animals
- **Next steps?** Shingles-vaccination: pilot started in Marche region (12/2023)

Grippe et vaccination : les pharmaciens touchent les 70 ans et plus, jusqu'ici jamais vaccinés



HuskyHerz/Pixabay

La vaccination en officine dans les 4 régions expérimentales (Auvergne-Rhône-Alpes, Hauts de France, Nouvelle Aquitaine, Occitanie) est un éclatant succès. Selon les compteurs de l'Ordre des pharmaciens arrêtés au 10 décembre 2018, 625 009 patients ont été vaccinés contre la grippe depuis le 6 octobre, date officielle de lancement de la campagne, par 13 000 pharmaciens disposant d'une autorisation des ARS.

Avec 236 589 patients vaccinés, la région Auvergne-Rhône-Alpes caracole en tête, s'adjugeant à elle-seule près de 38 % du nombre de vaccinations réalisées, alors que la part de ses pharmaciens vaccinateurs représente 29,5 % du total des pharmaciens autorisés. Le nombre de vaccinations par pharmacien ressort à 62 contre 48 pour la moyenne des 4 régions.

La vaccination contre la grippe rencontre une adhésion des officinaux en moyenne de 61 % dans les quatre régions où elle est

ENQUÊTE FLASH

Attendez-vous de l'État une reconnaissance officielle de votre rôle pendant la pandémie de Covid-19 ?

- Oui
- Non
- Ne se prononce pas

Votre commentaire

> Voter

France (2)

- Pilot in: Auvergne-Rhône-Alpes, Hauts de France, Nouvelle Aquitaine, Occitanie
- *'This means that vaccination in pharmacies in the four experimental regions has made it possible to reach people who have never used their reimbursement voucher in the last 5 years»*, argues Carine Wolf-Thal, présidente du Conseil national de l'Ordre des pharmaciens'.

France (3)

- Flu vaccination started in 2017, as a pilot project, but only in a limited group.
- 2018: the project expanded to vaccinate all adults who are eligible for influenza vaccination
- 2021: pharmacists had the authorization to vaccinate all adults, including those not included in the guidelines.
- **Requirements?** **1)** mandatory certified training and **2)** having a suitable place to practice.
- **Prescriptions?** Currently, pharmacists can prescribe and administer **all** vaccines (including flu) for patients aged more than 11 years.
- **Reimbursement?** vaccines are reimbursed with or without a medical prescription, by the public health system, or co-paid by private insurances.

Doctors and nurses: initially hesitant , but are now convinced:

- 1) the vast number of vaccines administered by pharmacists accounts (21 million/year) & more than 90% of French pharmacies active in vaccination;
- 2) pharmacists can offer relief on the burden on the healthcare system (lack of medical personnels and their general work overload).

Les pharmaciens peuvent désormais vous prescrire et vous administrer vos vaccins

Publié le 28 août 2023 - Mise à jour le 30 août 2023 - Direction de l'information légale et administrative (Premier ministre)

Un décret publié au *Journal officiel* le 9 août 2023 élargit les compétences des pharmaciens. Ils peuvent désormais prescrire et administrer l'ensemble des vaccins du calendrier vaccinal aux personnes âgées d'au mo



Les personnes immunodéprimées doivent encore se rendre chez leur médecin traitant pour les « vaccins vivants atténués » (qui sont constitués de virus ou bactéries atténués) comme ceux contre la rougeole, les oreillons, la rubéole, la varicelle ou le vaccin BCG.

Quels sont les vaccins concernés ?

La liste des vaccins obligatoires ou recommandés notamment en raison de sa profession ou de son état de santé, et qui peuvent être prescrits et administrés par les pharmaciens, comprend entre autres ceux contre :

- la diphtérie ;
- le tétanos ;
- la poliomyélite ;
- la grippe saisonnière ;
- la Covid-19 ;
- la rougeole ;
- les oreillons ;
- la rubéole ;
- les papillomavirus humains (HPV), une vaccination qui permet de prévenir les infections par les papillomavirus les plus fréquents, responsables de 70 à 90 % des cancers du col de l'utérus ;
- la varicelle.

Portugal

- Pharmacists allowed to vaccinate since 2017
- **How many?** 6900 pharmacists trained, 85% pharmacies active in vaccination
- **Requirements?** Specific Pharmaceutical Competence Certification (Portuguese Pharmaceutical Society)
- **Prescription?** Vaccination by the pharmacist without prescription
- **Reimbursement?**
 - not reimbursed by the National Vaccination Programme; reimbursed by the Government or paid out-of-pocket by the patient until 2023.
 - From 2023: reimbursed for adults over 60 years old and to HCPs
- **Registration?** From 2023 access to registration

Additional remarks:

- Satisfaction of patients: 99,5% with the service and 99,5% with pharmacies vaccination
- Most opposition from the Nursing Society

Germany

- Since 2021: first covid-19-vaccination, then flu-vaccination. Some older pilotprojects
- Pharmacists can vaccinate any patients over the age of 18 years
- **How many?** < 10% pharmacies are active in vaccination
- **Requirements?** specific medical training (administration techniques and safety procedures) and specific infrastructure requirements.
- **Reimbursement?** covered by many health insurance funds
- **Nex steps:** improve vaccination coverage rates include providing vaccination during off-peak hours, while doctors are usually closed (i.e., Afternoons after 5 p.m., Wednesday and Friday afternoons and Saturdays), providing vaccinations to people who work long hours, focusing on people who do not have their own family doctor, and people interested in getting quick vaccinations without prior appointments.

Poland

- January 2022: pharmacists who are authorized to perform vaccinations against COVID-19 are also authorized to perform vaccinations against influenza
- **Requirements?** certificate authorizing to perform the vaccinations
- **Prescription?** certified pharmacists can prescribe, qualify, and vaccinate all **adults** against influenza.
- **Reimbursement?** from September 2023, eligible individuals (adults 18-65 years, children, elderly and pregnant women) can receive the vaccination at the pharmacy with reimbursement, **but only if they present a prescription from a doctor.** Prescriptions issued by pharmacists are not reimbursed.

Belgium

- Since 2019, Belgian pharmacists were allowed to prescribe flu vaccines, but not administering them
- After the pandemic: pharmacists allowed to administer COVID-19 vaccine and administering flu (pilot) vaccines as of October 2023. The pilot has been prolonged until 31 December 2024.
- All patients (belonging to the target group or asking for a flu vaccination) can be vaccinated by the pharmacist, although it is recommended not to vaccinate children in pharmacy.
- Data driven approach
- **How many?** There are 4,737 pharmacies in Belgium, in which 5,250 pharmacists are trained for vaccination
- **Requirements? 1)** 8 hours training (4 hours of theory and 4 hours of practice, including mandatory BLS-training, valid for three years, after which it should be repeated and **2)** specific logistic requirements
- **Reimbursement?** there is no difference in reimbursement if it is prescribed and performed by a doctor or a pharmacist.
- **Registration?** Pharmacists make a registration for each vaccination in the appropriate digital system.
- **Next steps:** 1) working together with other HCP's in harmony, 2) expand indications when necessary and usefull

Data driven approach in Belgium

GP

- Starting from Med-EPD
- Invitations by letter from their GP

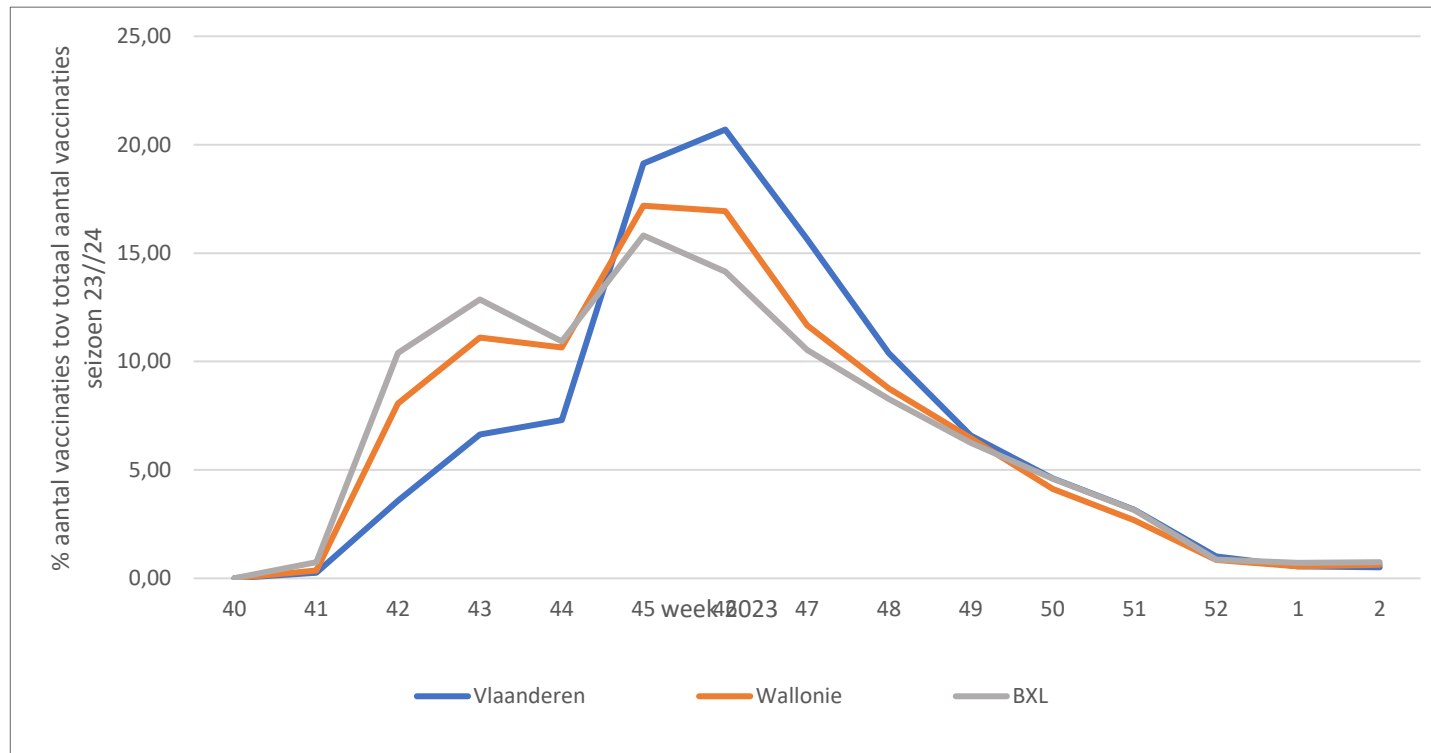
Administrative burden

Pharmacist

- Starting from the Pharm-EPD
- Identification by medication profile, age, ..., software alert
- Immediate sensibilisation
- Registration in Vaccinnet, + in his own SW leading to yes/no renewal pop-up at later visit

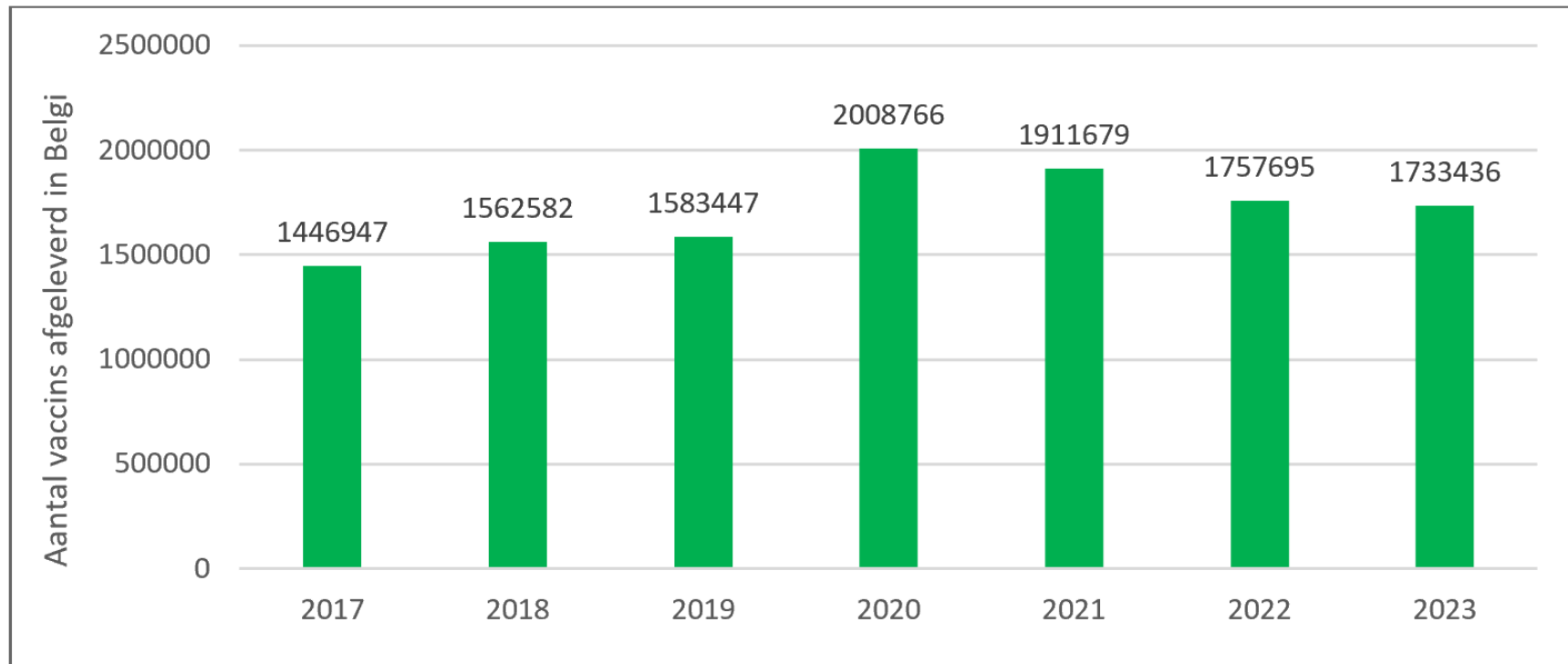
Limited administrative burden

Vaccinations as % of total delivered vaccines



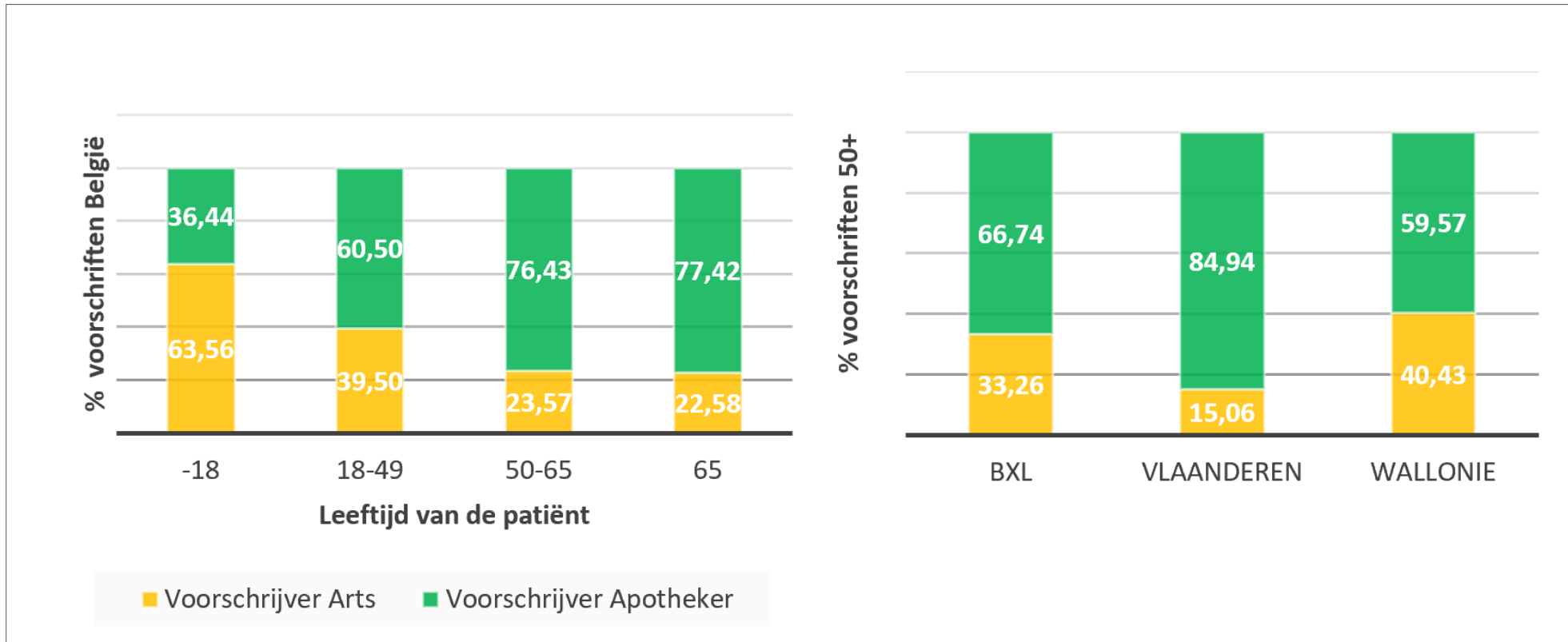
Influenza vaccination in pharmacies by region. % vaccination compared to total number of vaccinations in pharmacies within that region - data from Farmaflux (Flu vaccination by the Pharmacist. 2023-2024 - Task Force Vaccination APB-VAN-Pharmacy Brussels - AUP - Ophaco)

Data driven sensibilisation in Belgium



Reimbursed delivered flu vaccines, from 2017 to 2023. (Flu vaccination by the Pharmacist. 2023-2024 - Task Force Vaccination APB-VAN-Pharmacy Brussels - AUP - Ophaco)

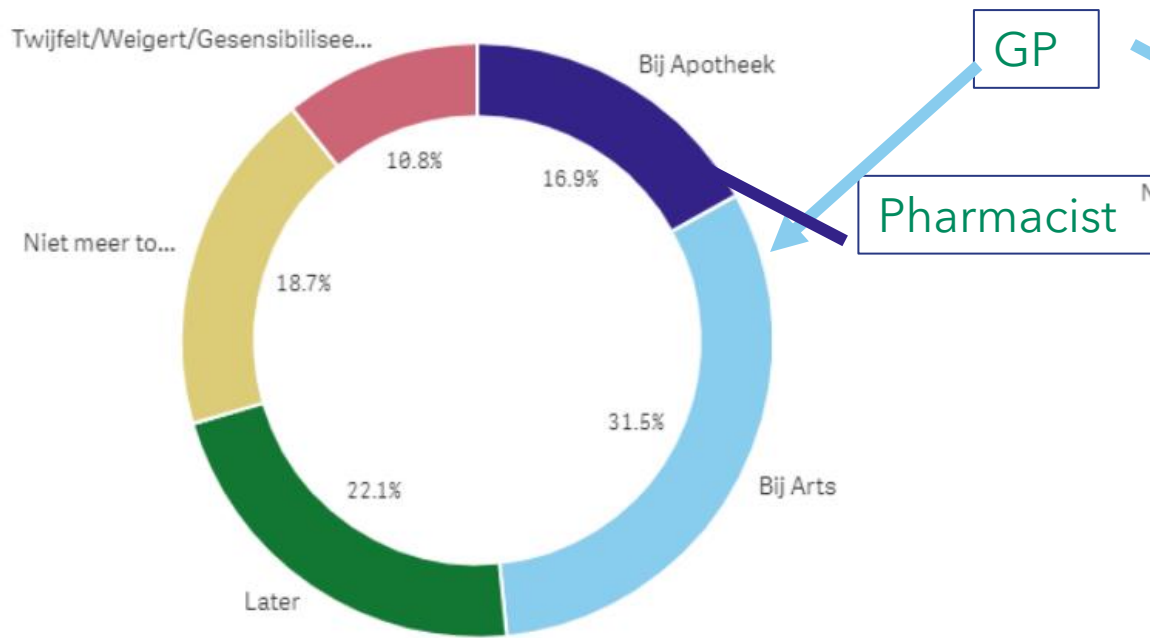
Prescription by doctor or pharmacist



Left: Percentage distribution of prescription between doctor and pharmacist for different age groups for flu season 23/24. **Right:** Differences for those aged 50+ in different regions. Data via Iostat between Aug 2023 to Jan 2024 - (Flu vaccination by the Pharmacist. 2023-2024 - Task Force Vaccination APB-VAN-Pharmacy Brussels - AUP - Ophaco)

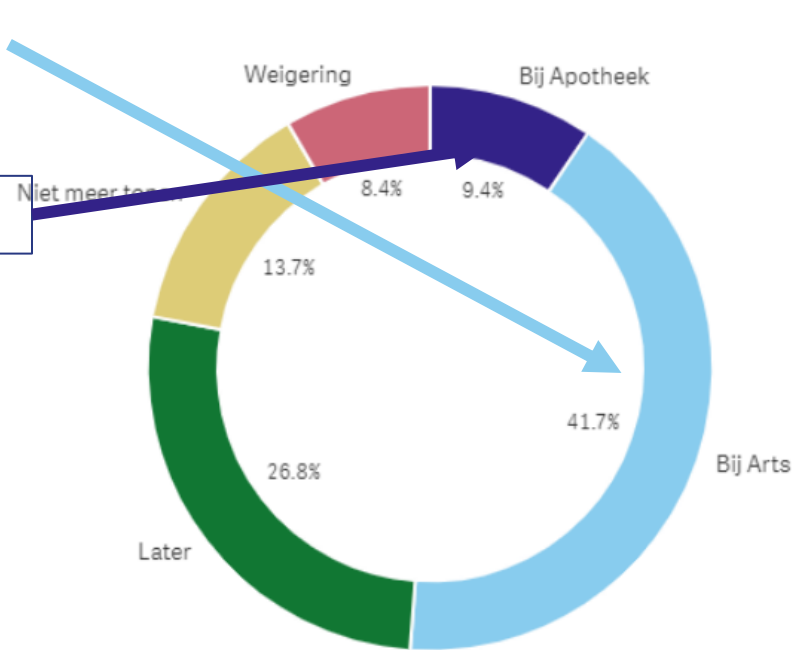


Data driven approach: which choice does the patient make during sensibilisation talk (Farmaflux data for Flanders data)



Figuur 4: Resultaten COVID-19 PopVax pop-up

Covid-19 vaccination



Figuur 5: Resultaten griep PopVax pop-up

Flu vaccination

Conclusions

- Assigning the right place to the different types of vaccine administrators in the vaccination landscape.
- The solution lies in doctors continuing to do most of the vaccination, aided by nurses for persons with reduced mobility or at collectively organized vaccination events.
- Because of their unique accessibility, pharmacists complement them in reaching patients for whom the step to the doctor is too big and who do not use a home nurse either.
- On the field a large part of doctors is overburdened and consider the inclusion of pharmacists in vaccination programs as a welcome step.