

# "Evaluation of influenza vaccination services and users' perception about its utility: a study in a community pharmacy in Lisbon, Portugal"

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## Introduction

Flu is an acute infectious respiratory tract disease responsible for outbreaks and annually affecting 5-20% of the population.<sup>1</sup> Vaccine administration is the most important preventive measure to avoid complications in susceptible individuals, such as the elderly, diabetic and asthmatic patients, to name a few. The recognition of the pharmacist's role in this context led to the inclusion of this service in the Portuguese law (2007) classified as an advanced service possible to provide by Portuguese pharmacies.<sup>2</sup>

## Objectives

To evaluate flu vaccination services in a community pharmacy in the Lisbon area. To estimate the seasonal flu vaccine coverage in the population served by the pharmacy in the study; to estimate the proportion of the population served by this pharmacy resorting to pharmacy based vaccination services; to demographically characterize the population vaccinated at the pharmacy; to assess potential determinants for choosing the vaccination site; to assess the practical storage of the flu vaccine and to evaluate the health beliefs of those who do not resort to vaccination.

## Methods

In an attempt to evaluate the service of flu vaccination in a community pharmacy in the Lisbon area, two studies were performed. One retrospective study, using existing records (paper and computer) in the pharmacy from 2008 till 2013 and, a descriptive cross-sectional study, using the information gathered from a face-to-face questionnaire developed for the study, and conducted during the 2013 flu season. The technical director of the pharmacy signed a consent form authorizing the data collection by the research team and all information was treated anonymously. Statistical analysis was done using IBM SPSS version 21.0, resorting to univariate and bivariate analysis, with a 95% confidence interval.

## Results

### Influenza vaccine administration

The retrospective data included 1741 cases. Considering the theoretical population covered by the pharmacy (24500 inhabitants), one can estimate that, depending on the year, the flu vaccine coverage ranged between 5,17% (2013) and 11,06% (2009) (Table 1).

The majority of patients who had their vaccine administered in the pharmacy were female (n=1017; 58,4%) and the mean age was 66,6 years old (SD=17,9).

The pharmacy vaccinated more than 50% of the sold vaccines, however there was a sharp decline in vaccination over the years (5,89%), particularly since 2010 (Fig. 1).

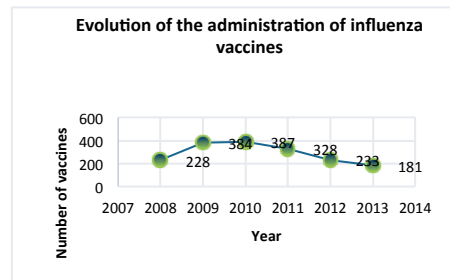


Fig. 1 - Evolution of the administration of influenza vaccine (2008-2013) - absolute data.

	2008	2009	2010	2011	2012	2013
Nº of vaccines	228	384	387	328	233	181
% of vaccination in relation to population	6,51	10,97	11,06	9,37	6,66	5,17

Table 1 - Flu vaccine coverage provided by the pharmacy administering the flu vaccine, from 2008 to 2013

A substantial decrease in influenza vaccine sales and demand for flu vaccine administration was observed in this pharmacy, from the season of 2011/2012 to 2012/2013. This may be due to governmental measures implemented in 2012/2013, administering free flu vaccines (and without prescription) in Health Centers, to individuals belonging to risk groups (e.g. elderly, patients with chronic conditions such as asthma, etc.)<sup>3</sup>

### Vaccination services and users' perception

A total of 260 questionnaires were collected. It was found that the main determinant for vaccination was the inclusion in a risk group (p=0,001) (Table 2). Users opting for vaccination at the pharmacy, instead of any other location, reported waiting time and trust as key reasons.

		Risk group				Total	Significance
		Yes	%	No	%		
Did you get the flu shot this year?	Yes	97	51,9	14	19,2	111	0,001
	No	90	48,1	59	80,8		
Total		187	100	73	100	260	

Table 2 - Chi-square test between variables vaccination and risk group.

Noteworthy is the fact that, most people who bought the flu vaccine at the pharmacy, and didn't immediately vaccinate, did not know how to store it correctly.

The main reasons given by people for not wanting to be vaccinated were: 1. the fact that they had never considered this hypothesis (41,6%), 2. believing they never had a cold (17,4%), and 3. that the vaccine itself causes the flu (14,8%) .

## Discussion/Conclusions

The community pharmacy is a convenient and safe place for the administration of the flu vaccine to the general population.

The present study warns that, since its legalization in 2007, administration of influenza vaccine in pharmacies has been declining over the flu seasons, and an intervention to revert the situation could be relevant.

People belonging to risk groups, essentially elderly, constitute the majority who use this service, however with the new measures adopted by the Portuguese government, there will be a tendency to change vaccination sites and the risk of pharmacies losing this service is substantial.

In the future, vaccination strategies should be implemented among the least vaccinated individuals, through encouraging vaccination programmes, namely in pharmacies. Pharmacists should also alert users for the extreme importance of the correct storage of vaccines.

Finally, a better disclosure of information on the importance, safety and efficacy of the flu vaccine may well change the perception of the unvaccinated population.

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