

# The coverage of influenza and pneumococcal vaccination among HIV-infected patients in Denmark: a cross-sectional survey

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## Background

Background: Annual influenza vaccination is recommended for all HIV-infected persons and so is pneumococcal vaccination at least once (1). This is due to higher incidence rates for both infections among HIV-infected persons (2-4) compared to HIV-negative controls even in the later ART era. To clarify the use of and attitude towards these recommended vaccines among HIV-infected persons in a high income country a questionnaire survey was performed.

## Materials and Methods

In a single HIV-outpatient clinic at a tertiary hospital adult HIV-infected persons were invited to participate in the survey during their regular visit in spring 2017. The questionnaire consisted of four parts:

1. Demography, educational level and household annual income.
2. Influenza vaccination for season 2016/17 and previous/next year and reasons for not being vaccinated.
3. Pneumococcal vaccine uptake ever and reasons for not being vaccinated.
4. Source of information for the patient regarding vaccination.

## Results

- Pneumococcal vaccination had been offered to 13 (6%) of the 203 participants and 9 (70 %) had accepted.
- Of the 203 participants, 31% had received the influenza vaccine in the latest influenza season.
- Older age and any prior influenza vaccination were significantly associated with a positive influenza vaccination status ( $p = <0.001$ ). Not receiving information about vaccination was significantly associated with a negative influenza vaccination status ( $p = <0.001$ ).
- In the group not vaccinated in the latest influenza season, 25% were not aware that they have a medical condition with elevated risk of complications if they contracted influenza.
- Frequent reasons for refusing any of the vaccines were "perception of own excellent health and can't see the need for or effect of vaccination" (39%) and lack of information (25%).
- Of all participants 29% stated that they had never received advice about vaccination from their doctor.

**Table 1: Patient demographics and characteristics**

Participants N= 203	Data available N (%)	Not available N (%)
Sex, Male	146 (72)	2 (1)
Age, mean, yrs (IQR)	50.8 (42-59)	8 (4)
Age > 64 yrs	30 (15)	-
Race:		-
•Caucasian	167 (83)	
•African	27 (13)	
•Asian	7 (3)	
•Mixed race	1 (<1)	
•Don't want to disclose	1 (<1)	
Education level:		1 (<1)
< High school	115 (57)	
≥ High School	84 (41)	
Don't want to disclose	3 (1)	
Annual household income		18 (9)
< 40375 EUR	86 (42)	
> 40375 EUR	99 (49)	
Source of information recommending influenza or pneumococcal vaccination:		12 (6)
•Infectious disease specialist	57 (28)	
•General practitioner	46 (23)	
•Other (family, nurse, work place and media)	14 (7)	
•Through personal information seeking	14 (7)	
•Not informed	60 (29)	
Reasons for refusal of influenza or pneumococcal vaccination (N=137):		12 (9)
•Perception of excellent health; don't see the need for or effect of vaccination; don't want vaccination	53 (39)	
•Not informed about the recommendation	35 (25)	
•Concern about side effects	15 (11)	
•Unaware that the vaccine was free of charge	12 (9)	
•Don't want to disclose	10 (7)	

## Conclusions

The vaccination coverage against influenza and *Streptococcus pneumoniae* is very low in this HIV-infected population.

The important reasons for this are lack of information and the patients' conception of own excellent health. Increased awareness of vaccination among HIV-patients is needed.

The significant impacts on influenza vaccination behaviour were older age and prior vaccination.

## References

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