

## Seasonal Influenza & COVID-19 Vaccination Among Hospital-based Health Care Workers (HCWs)

2024-2025 Season

A report from the Vaccine Preventable Disease Team, HPSC<sup>1</sup>

Report prepared by: VPD Team, HPSC

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<sup>1</sup>The Vaccine Preventable Disease Team is part of the Health Protection Surveillance Centre, National Health Protection Office, Health Service Executive

## What are the key messages in this report?

1. In this 2024-2025 season HCW-based survey, vaccine uptake was
  - *Public hospitals only*
    - 45.4% for Seasonal influenza vaccine
    - 14.9% for COVID-19 vaccine
  - *Public and Private hospitals*
    - 44.5% for Influenza vaccine
    - 13.7% for COVID-19 vaccine
2. A continuing downward trend in influenza vaccine uptake among HCWs since the 2021-2022 season was observed.
3. Participation by public and private hospitals in the latest annual survey remains steady, but 15 hospitals were not able to report on their staff COVID-19 vaccine uptake.

Note:  
The raw data used to develop the content of this report are available in both Appendix 1 and in a link at the end of this power-point document.



## Seasonal influenza Vaccination

- + Surveys on hospital-based health care workers (HCWs) uptake of the seasonal influenza vaccine have been conducted annually each winter season since 2011-2012
- + Influenza vaccine uptake reached its peak among public hospital-based HCWs at 71.4% in 2021-2022
- + In contrast, the uptake for public hospital-based HCWs in the latest 2024-2025 survey was 45.4%, an uptake difference of 26% since 2021-2022
- + In 2024-2025, the HSE Dublin and Midlands Hospitals reported the highest uptake at 49.0% and the lowest in the West and North West Hospitals at 34.5%
- + The Dublin and South East Hospitals were the only region to show a slight increase in uptake since the previous season, going from 56.6% in 2023-2024 to 57.2% in 2024-2025
- + Across all six categories of staff, uptake fell since the last season
- + Typically, uptake among medical and dental staff is highest each season and in the 2024-2025 season it was no different and was apparent across all HSE regions
- + Uptake was lowest among other patient and client care staff in the 2024-2025 season
- + No visible link is discernible between staff complement size and changes in uptake each season overall or among the different categories of staff



## COVID-19 Vaccination

- + The 2024-2025 survey marks the first time that the annual HPSC -based HCW survey begun monitoring of COVID-19 vaccine uptake
- + Whilst all 57 participating hospitals provided influenza vaccination data, 15 did not provide COVID-19 vaccination data
  - + This included all 8 of the 9 participating from the Dublin and North East region and all 7 of the participating hospitals
- + Of the 42 public hospitals that reported COVID-19 vaccine uptake
  - + Compared to the influenza vaccine, uptake of the COVID-19 vaccine in public hospitals was relatively low at 14.9%
  - + Uptake in public hospitals was highest among medical and dental staff at 28.1% and lowest among other patient and client care staff at 8.5%

## What background information is relevant when reading this report and how was it conducted?

1. What is the annual HPSC Hospital-based HCW survey?
2. What is the target vaccine uptake?
3. How many acute hospitals are there, both public and private?
4. When was the survey conducted?
5. How were the survey returns collated?
6. What were the key questions asked in the survey?

1. This HSE-HPSC survey report on the uptake of the influenza and COVID-19 vaccines in HCWs for the 2024-2025 season
2. Nationally, the HSE target influenza vaccine uptake for hospital-based HCWs of 75% remained unchanged from the previous season. In 2024-2025 the HCW target for COVID-19 vaccination uptake was 50%. All HSE managed/staffed/funded acute hospitals are obliged to participate in the annual survey whereas non HSE (section 38, 39 and privately run) hospitals are not, but are welcome to.
3. The survey presents results based on a number of data sources available to participants, focussing on returns obtained from acute hospitals, of which there were 53 public (HSE managed/staffed and funded) and 13 private targeted, a total of 66 in all.
4. The survey was undertaken on 4<sup>th</sup> November 2024 for provisional results and repeated again on 20<sup>th</sup> February 2025 for final returns. Validation of returns was completed on 10<sup>th</sup> April 2025.
5. The survey was conducted online using the Qualtrics platform.
6. Among the key questions asked in the survey include:
  - + Number of eligible HCWs for each of the six official categories of staff (General Support Staff, Health & Social Care Professionals, Management & Admin, Medical & Dental, Nursing and Other Patient & Client Care)
  - + Number of seasonal influenza and COVID-19 eligible and vaccinated HCWs
  - + Sources of information to collate the number of eligible and vaccinated HCWs



## Survey participation by hospitals/response rate as a percentage of total

- In 2024-2025 season, 50 out of a total of 53 (94.3%) acute public hospitals (including the National Children's Hospital Ireland (NCHI) participated in the survey. In contrast 7 out of 13 (53.9%) private hospitals did so (Figure 1).
- Completion of HPSC annual surveys on HCW vaccine uptake by private hospitals is not obligatory and it is one reason why the overall numbers of participating hospitals can vary season to season (Figure 1).
- Since 2017-2018 participation by public hospitals has been generally high with the exception of the 2021-2022 and 2022-2023 seasons when a number of hospitals in the Children Hospital Ireland Group did not submit returns.
- In 2024-2025, two HSE hospitals, Our Lady's Hospital, Navan and Connolly Hospital, Blanchardstown (adult) did not submit complete returns (see caveat on slide #7 regarding NCHI) .
- Note : The 2024-2025 season marks the beginning where it is possible for survey participants to complete a survey but record that they did not have access to their own seasonal influenza or COVID-19 vaccination data or both.

Figure 1. Number of participating hospitals by funding model by season, 2011-2012 to 2024-2025



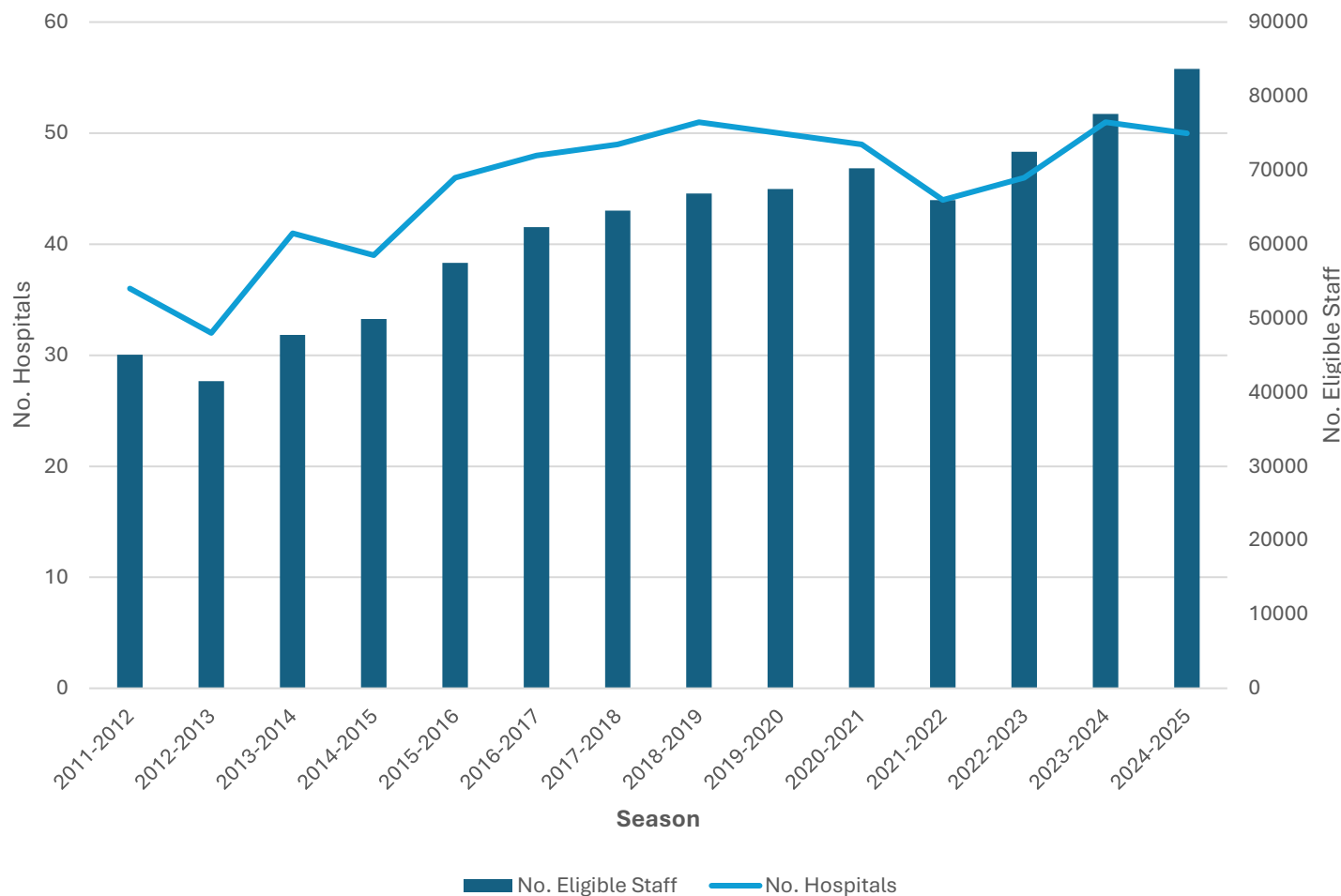
## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake among hospital-based HCWs-The overall picture

- Since 2021-2022 the number of eligible staff in the participating hospitals has risen.
- While overall vaccine uptake levels have dropped, the overall eligible staff count has risen, which means the absolute number of unvaccinated HCWs has also increased (Figure 2).

**Figure 2. Number of participating public hospitals and eligible HCWs by season, 2011-2012 to 2024-2025 seasons**



## SECTION A: SEASONAL INFLUENZA



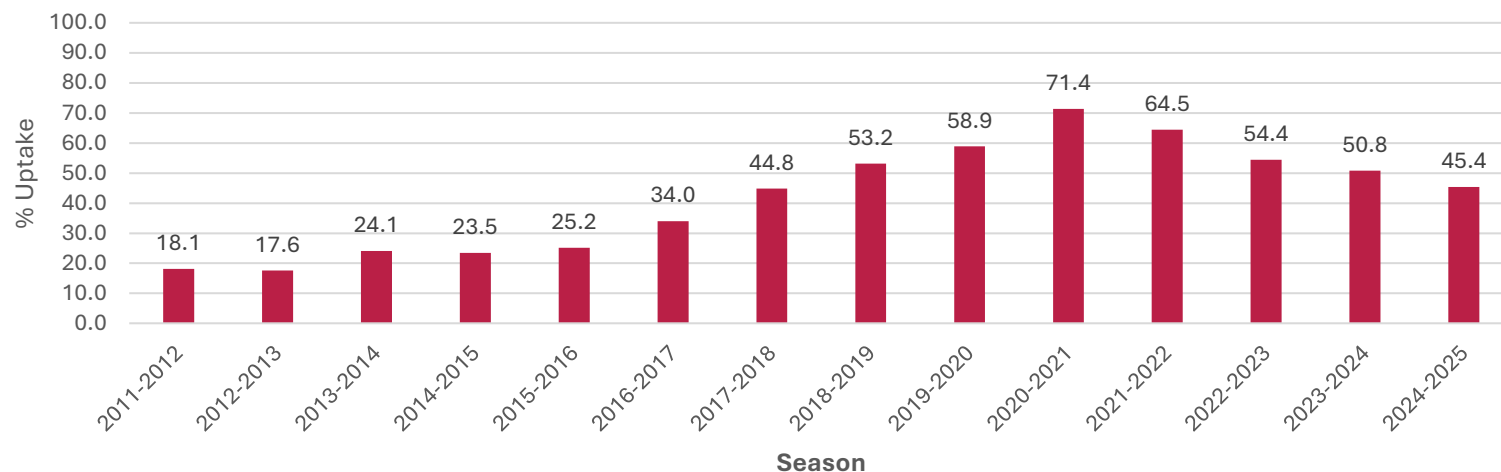
### Seasonal influenza vaccine uptake among hospital-based HCWs-The overall picture

- Since the 2021-2022 season, seasonal influenza vaccine uptake among public hospital based HCWs has declined sharply.
- In 2021-2022, uptake was 71.4% and in 2024-2025 it was 45.4%, an absolute difference of 26% (Figure 3, Table 1).

**Table 1. Eligible and vaccinated public hospital-based HCWs for the seasonal influenza vaccine by season and key metrics, 2011-2012 to 2024-2025 seasons**

Season	No. Eligible Staff	No. Vaccinated Staff	Overall % Uptake	Average % Uptake	Range % Uptake	No. Hospitals
2011-2012	45058	8157	18.1	19.1	5.01-39.98	36
2012-2013	41490	7293	17.6	15.3	3.48-38.79	32
2013-2014	47760	11517	24.1	20.7	2.56-45.87	41
2014-2015	49917	11723	23.5	22.0	1.12-47.53	39
2015-2016	57494	14474	25.2	22.6	6.89-47.04	46
2016-2017	62324	21195	34.0	32.0	6.41-63.7	48
2017-2018	64554	28947	44.8	44.2	13.75-74.76	49
2018-2019	66857	35585	53.2	52.3	21.95-84.78	51
2019-2020	67452	39721	58.9	56.6	26.19-91.32	50
2020-2021	70263	50183	71.4	70.8	34.69-89.2	49
2021-2022	65947	42541	64.5	63.0	37.34-91.64	44
2022-2023	72512	39477	54.4	53.8	24.42-89.84	46
2023-2024	77588	39411	50.8	50.4	18.37-80.74	51
2024-2025	83687	38031	45.4	45.1	17.2-72.81	50

**Figure 3. Percentage uptake of influenza vaccine among public hospital-based HCWs by season, 2011-2012 to 2024-2025 seasons**



## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake among hospital-based HCWs by HSE region

- Dublin and South East region reported the highest vaccine uptake at 57.2% and the West and North West region the lowest at 34.0%.
- Uptake was highest among medical and dental staff at 60.6% (60.0% when private hospitals are included) (Table 2).
- Uptake was lowest among other patient and client care staff at 32.2% (31.5% when private hospitals are included), about half that of medical and dental staff.
- See supplementary slide #27 for more details on eligible staff numbers by HSE region and staff category

**Table 2. Uptake of the seasonal influenza vaccine among hospital-based HCWs by staff type and HSE region, 2024-2025 season**

HSE Region	No. Hospitals	% Uptake Total	% Uptake Management & Administration	% Uptake Medical & Dental	% Uptake Health & Social Care	% Uptake Nursing	% Uptake General Support	% Uptake Other Patient & Client Care
Dublin and Midlands Hospitals	11	49.0	39.3	65.4	55.0	50.0	44.5	33.0
Dublin and North East Hospitals	9	41.8	37.8	52.8	49.6	41.1	31.3	33.5
Dublin and South East Hospitals	11	57.2	50.6	69.6	74.5	52.1	57.9	45.0
Mid West Hospitals	6	42.3	32.9	68.6	47.2	40.7	37.2	25.9
South West Hospitals	7	43.3	42.5	56.3	58.0	37.9	44.4	22.2
West and North West Hospitals	6	34.5	27.7	53.9	47.1	29.2	28.1	25.5
Outside Regional Areas/Private	7	34.0	35.0	45.3	37.1	35.1	25.0	24.2
<b>Total excl private</b>	<b>50</b>	<b>45.4</b>	<b>39.1</b>	<b>60.6</b>	<b>56.1</b>	<b>42.9</b>	<b>41.5</b>	<b>32.0</b>
<i>Total incl private</i>	<i>57</i>	<i>44.5</i>	<i>38.7</i>	<i>60.0</i>	<i>54.0</i>	<i>42.3</i>	<i>39.6</i>	<i>31.5</i>

Note: No influenza vaccine uptake data was reported for HCWs based at the National Children's Hospital Ireland (NCHI) as they were vaccinated in Children's Health Ireland Hospital at Crumlin

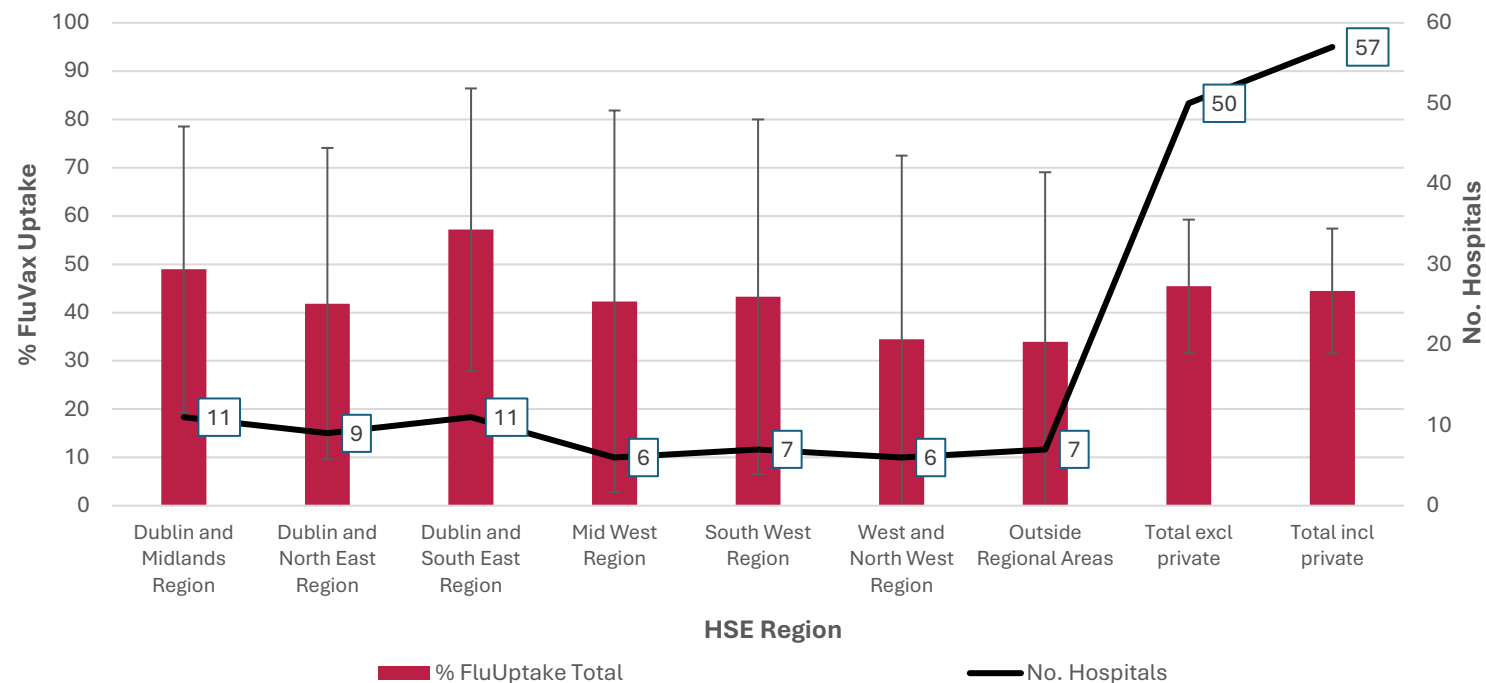
## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake by HSE region-The overall picture

- No HSE region had a seasonal influenza vaccine uptake that was significantly greater or less than the overall uptake for all regions combined (Figure 4).

Figure 4. Uptake among hospital-based HCWs for the seasonal influenza vaccine by HSE region, 2024-2025 season, with 95% CIs





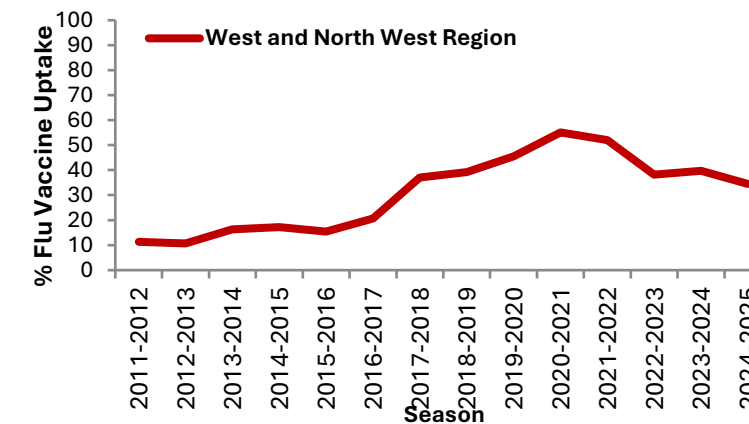
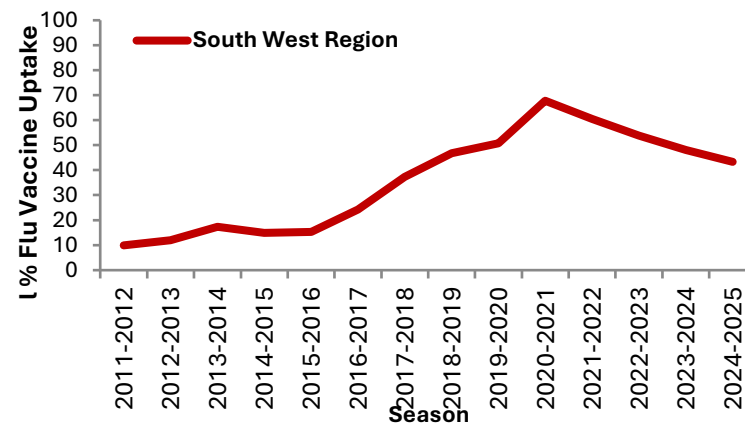
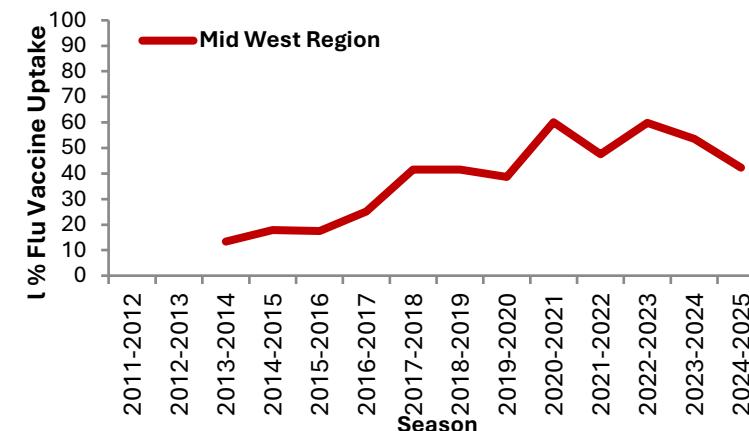
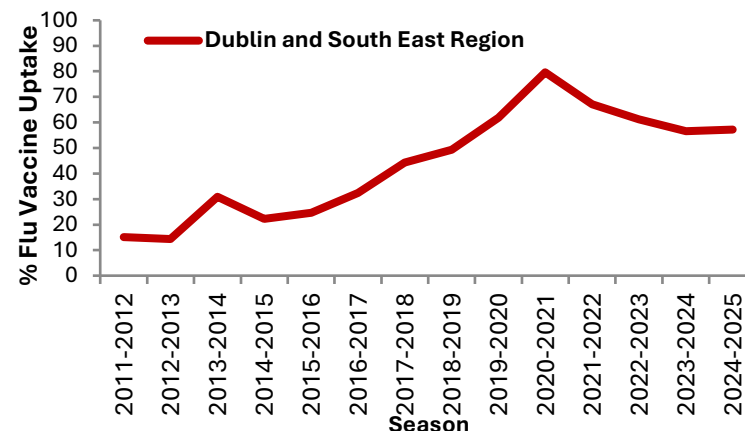
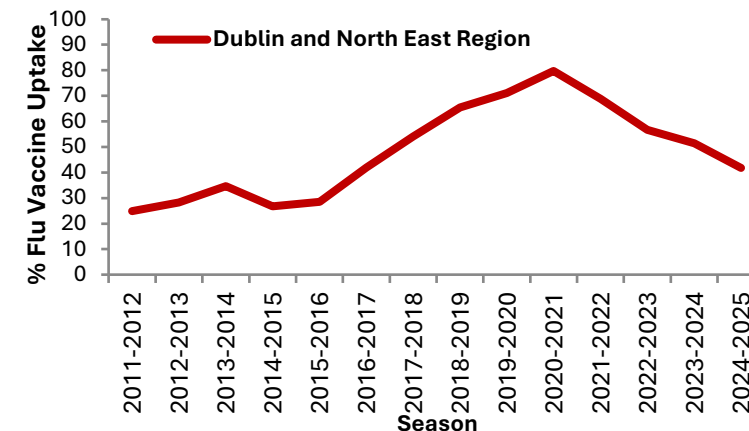
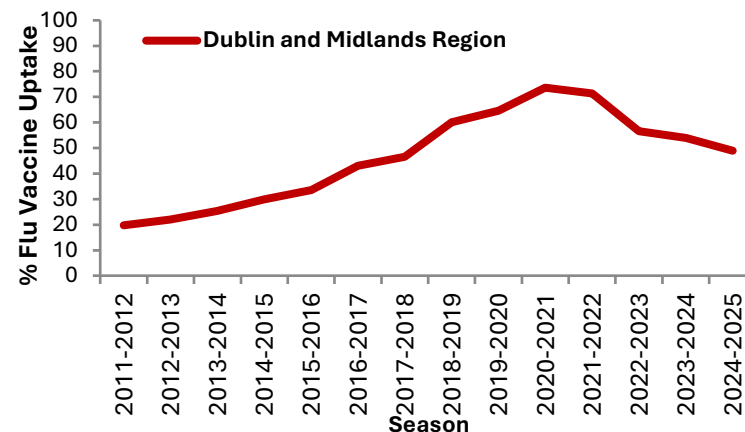
## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake by HSE region-Seasonal Trends, 2011-2012 to 2024-2025

- A downward seasonal trend in seasonal influenza vaccine uptake is evident across all HSE regions since the 2020-2021 season at the height of the COVID-19 pandemic falling from 71.4% to 45.4% in public hospitals (Figures 5a-5f).
- Among the top performing HSE regions since 2011-2012 are Dublin and Midlands, Dublin and North East and Dublin and South East.

**Figures 5a-5f. Percentage uptake of seasonal influenza vaccine among HCWs by HSE region and season, 2011-2012 to 2024-2025**



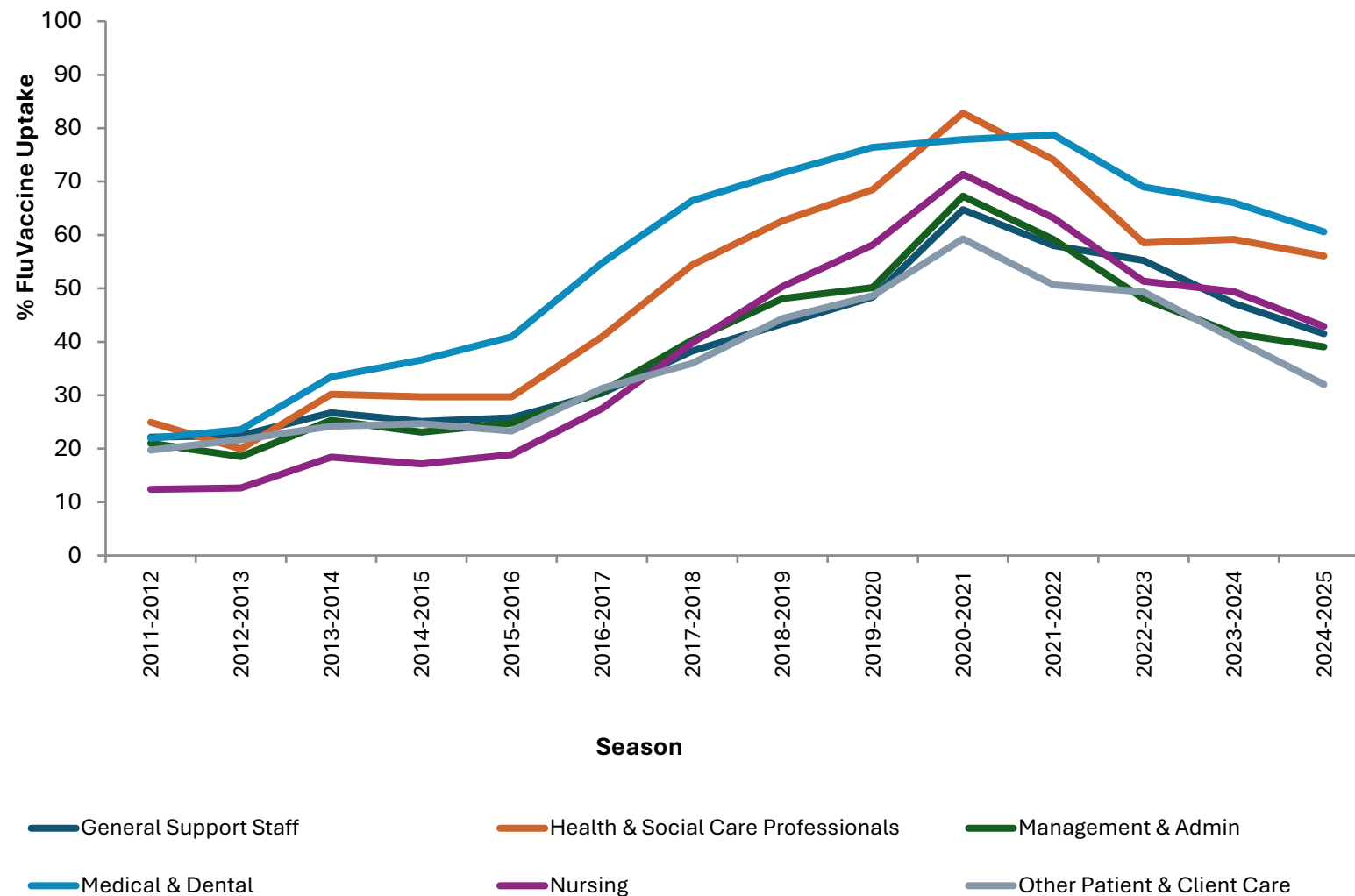
## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake by staff type- Seasonal Trends

- Apart from two seasons, 2011-2012 and 2020-2021, uptake of the influenza vaccine was consistently highest among medical and dental staff irrespective of the overall uptake level reported each season (Figure 6).
- See supplementary Figure 1 on slide # 28 for details of seasonal influenza vaccine uptake by hospitals staff complement size by season

**Figure 6. Percentage uptake of seasonal influenza vaccine among HCWs in public hospitals by staff type and season, 2011-2012 to 2024-2025**



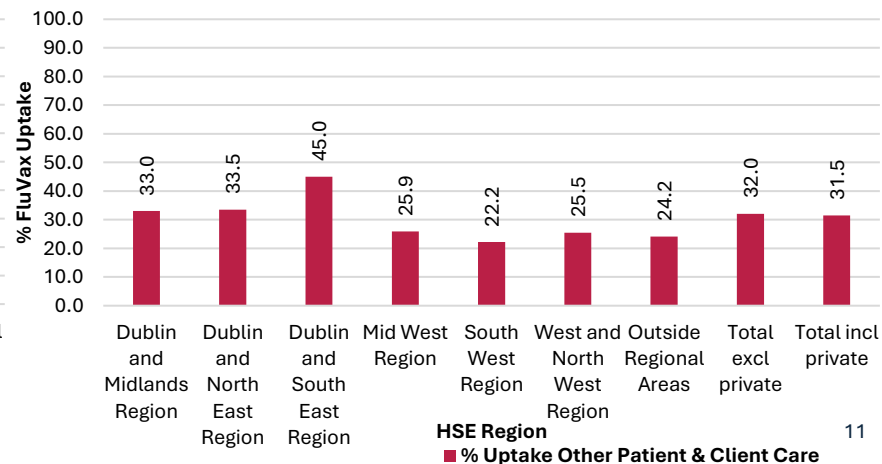
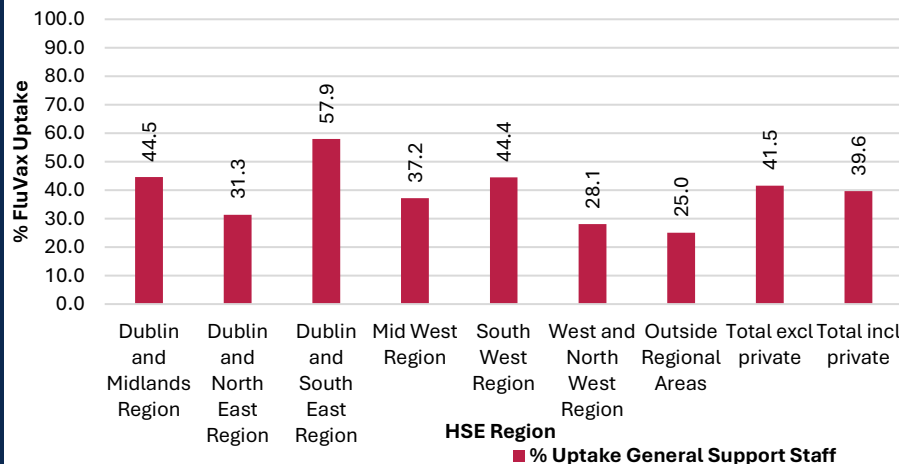
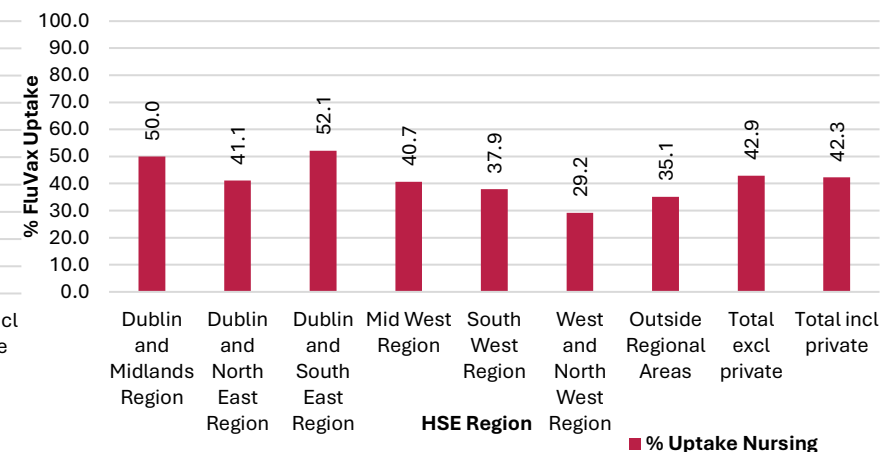
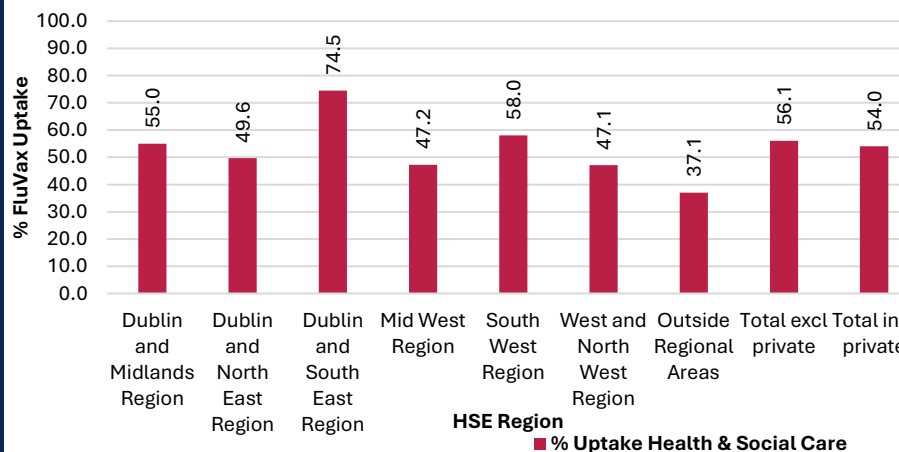
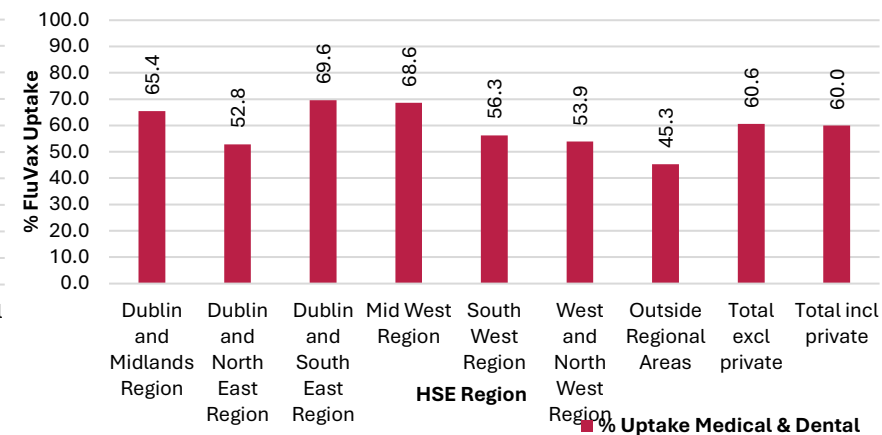
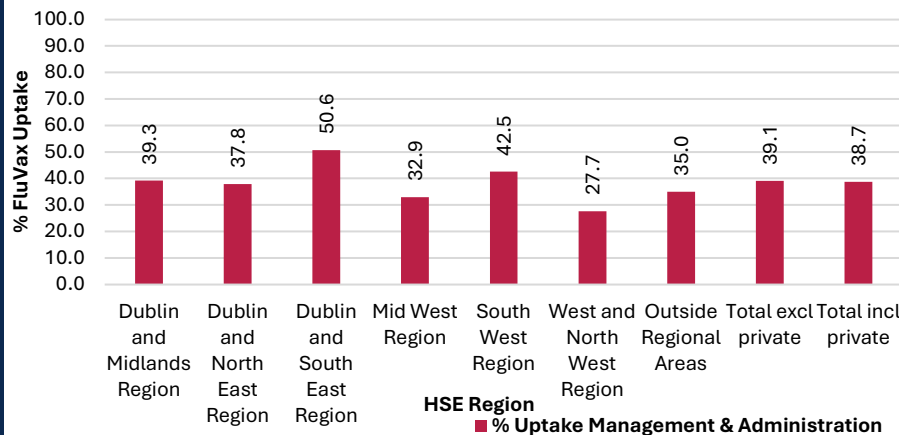
## SECTION A: SEASONAL INFLUENZA



### Seasonal influenza vaccine uptake among different categories of staff and HSE region

- Across all categories of staff, uptake was highest in the Dublin and South East region (Figures 7a-7f).
- Apart from the South West region, uptake was highest among medical and dental staff.
- Apart from Dublin and North East region, uptake was lowest among other patient and client care staff.

**Figures 7a-7f. Uptake among hospital-based HCWs for the seasonal influenza vaccine by HSE region, and staff type, 2024-2025**



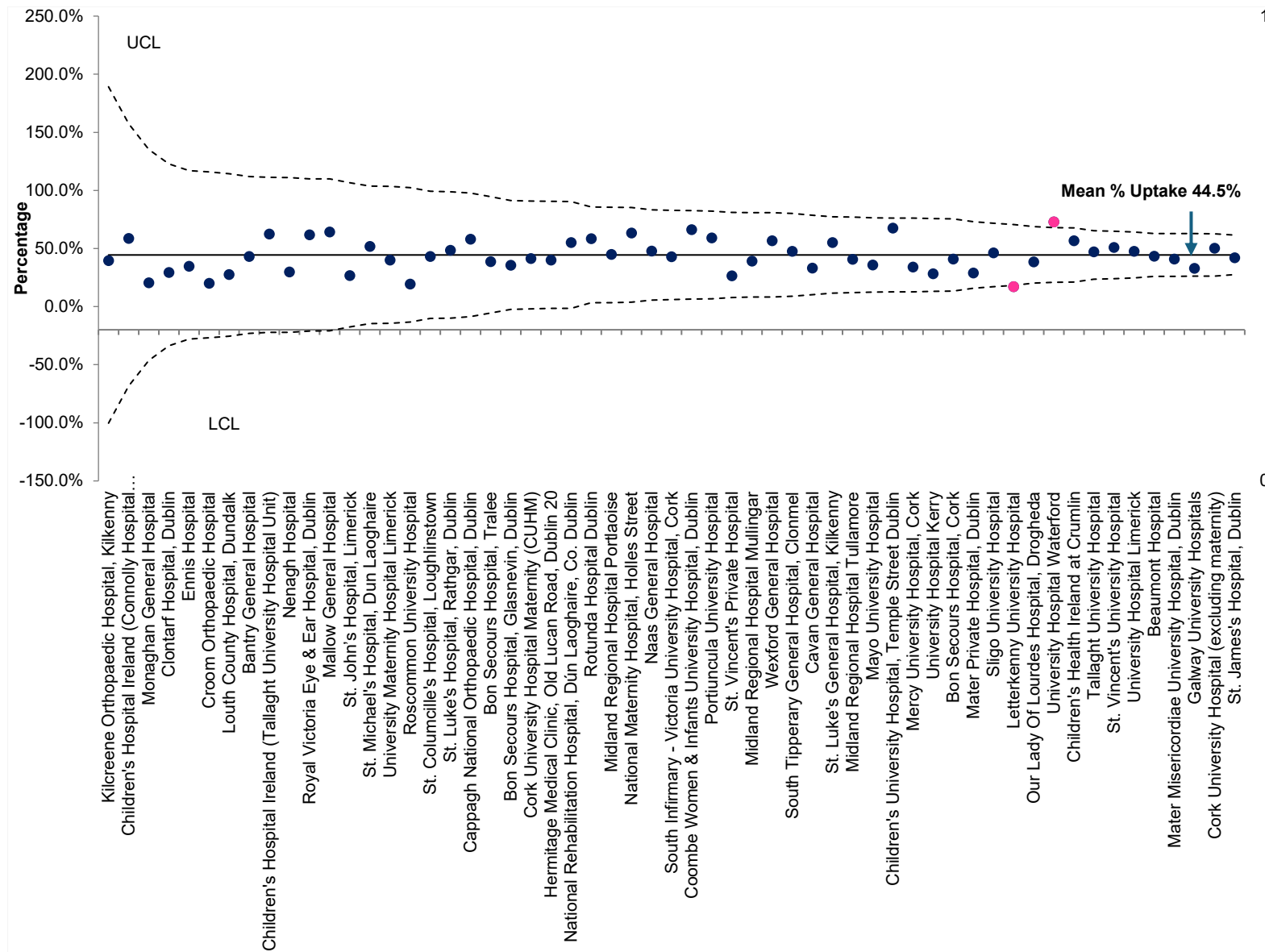
## SECTION A: SEASONAL INFLUENZA



### P prime funnel chart of hospital HCW seasonal influenza vaccine uptake

- One hospital, University Hospital Waterford, reported a seasonal influenza vaccine uptake of 72.8% that was significantly above the hospital average of 44.5%.
- One hospital, Letterkenny University Hospital had an uptake of 17.2% that was significantly below average (Figure 8).
- See supplementary notes on slide #31 for explanatory notes about P prime funnel charts

**Figure 8. Funnel chart of percentage uptake of seasonal influenza vaccine among HCWs by hospital with mean uptake with 95% confidence limits (CL), 2024-2025 season**



## SECTION B: COVID-19



### COVID-19 vaccine uptake among HCWs by HSE region

- Whilst all 57 reporting hospitals provided seasonal influenza vaccination data, 15 did not provide COVID-19 vaccination data
  - 8 were associated with the Dublin and North East hospital group
  - 7 were private (no other private hospitals participated in the survey). (Table 3)
- Compared to the seasonal influenza vaccine, uptake of the COVID-19 vaccine in public hospitals was quite poor at 14.9% (Table 3).
- Uptake in public hospitals was highest among medical and dental staff at 28.1% and lowest among other patient and client care staff at 8.5%.
- When the total eligible count of staff at hospital group level is considered, the fact that only one hospital (Children's Hospital Ireland (Connolly Hospital Blanchardstown) in the Dublin and North East hospital group provided COVID-19 vaccination figures (which was 6.0%), resulted in the Dublin and North East hospital group appearing to have an artificially low calculated uptake of 0.0% as should be considered incomplete.
- See supplementary slide #27 for more details on eligible staff numbers by HSE region and staff category

**Table 3. Uptake of the COVID-19 vaccine among hospital-based HCWs by staff type and HSE region, 2024-2025 season**

HSE Region	No. Hospitals	% Uptake Total	% Uptake Management & Administration	% Uptake Medical & Dental	% Uptake Health & Social Care	% Uptake Nursing	% Uptake General Support	% Uptake Other Patient & Client Care
Dublin and Midlands Hospitals	11	19.7	16.4	38.5	26.5	14.6	17.8	11.0
Dublin and North East Hospitals	9	0.0	0.0	0.1	0.1	0.0	0.0	0.0
Dublin and South East Hospitals	11	26.9	24.6	45.1	41.8	19.3	24.8	16.8
Mid West Hospitals	6	9.1	9.5	19.2	14.3	5.1	7.2	6.9
South West Hospitals	7	16.2	15.5	31.7	24.9	9.2	18.3	8.1
West and North West Hospitals	6	14.2	12.5	32.1	21.7	8.1	10.7	7.8
Outside Regional Areas/Private	7	-	-	-	-	-	-	-
<b>Total excl private</b>	<b>50</b>	<b>14.9</b>	<b>13.3</b>	<b>28.1</b>	<b>22.6</b>	<b>10.0</b>	<b>13.7</b>	<b>8.5</b>
<i>Total incl private</i>	<i>57</i>	<i>13.7</i>	<i>12.1</i>	<i>27.1</i>	<i>20.1</i>	<i>9.2</i>	<i>12.1</i>	<i>8.0</i>

## SECTION B: COVID-19



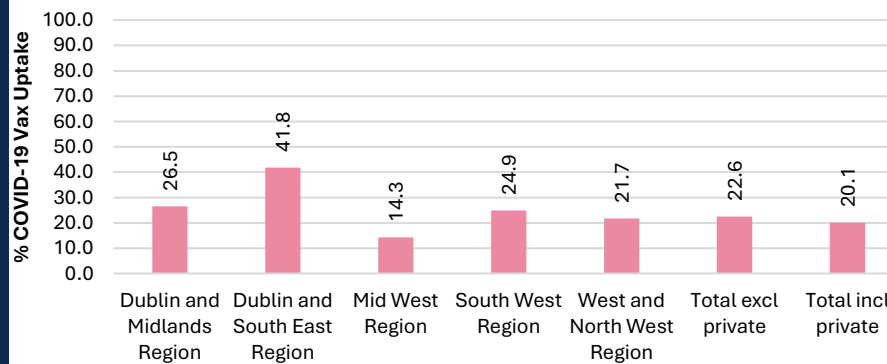
### COVID-19 vaccine uptake among different categories of staff and HSE region

- Overall, uptake of the COVID-19 vaccine was less than half that of the seasonal influenza vaccine and this was generally the case across all categories of staff (Figures 9a-9f)
- None of the 7 participating private hospitals were in a position to provide COVID-19 vaccine uptake figures and only one hospital in the Dublin and North East region was able to do so.
- Across all categories of staff, uptake was highest in the Dublin and South East region.
- As was the case with seasonal influenza vaccination, uptake was highest among medical and dental staff and lowest among other patient and client care staff.

Figures 9a-9f. Uptake among hospital-based HCWs for the COVID-19 vaccine by HSE region, and staff type, 2024-2025



HSE Region  
% Uptake Management & Administration



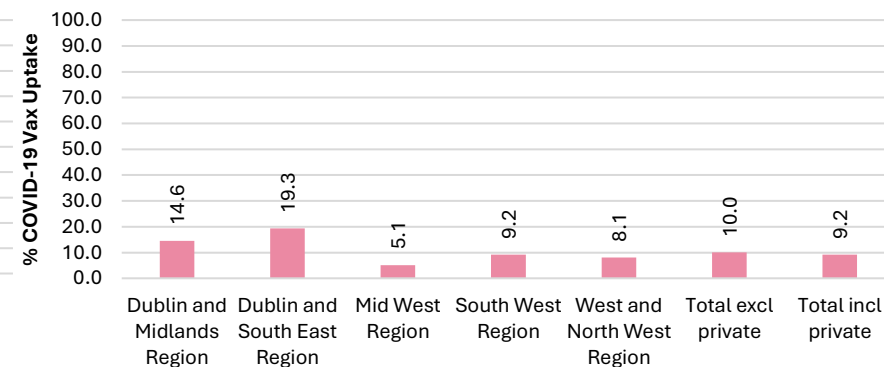
HSE Region  
% Uptake Health & Social Care



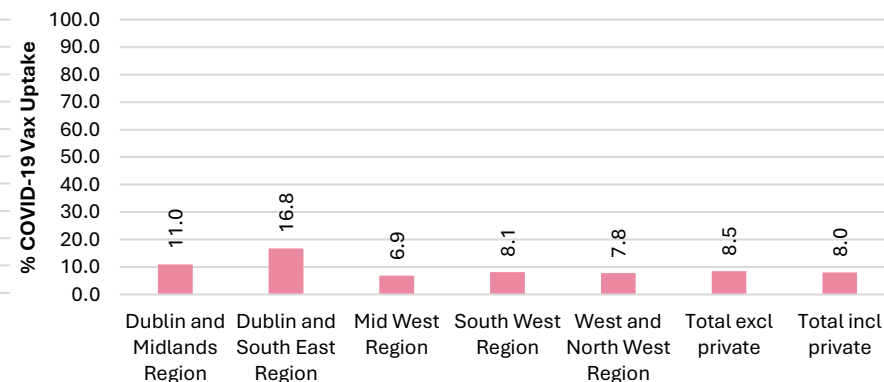
HSE Region  
% Uptake General Support Staff



HSE Region  
% Uptake Medical & Dental



HSE Region  
& Uptake Nursing



HSE Region  
% Uptake Other Patient & Client Care

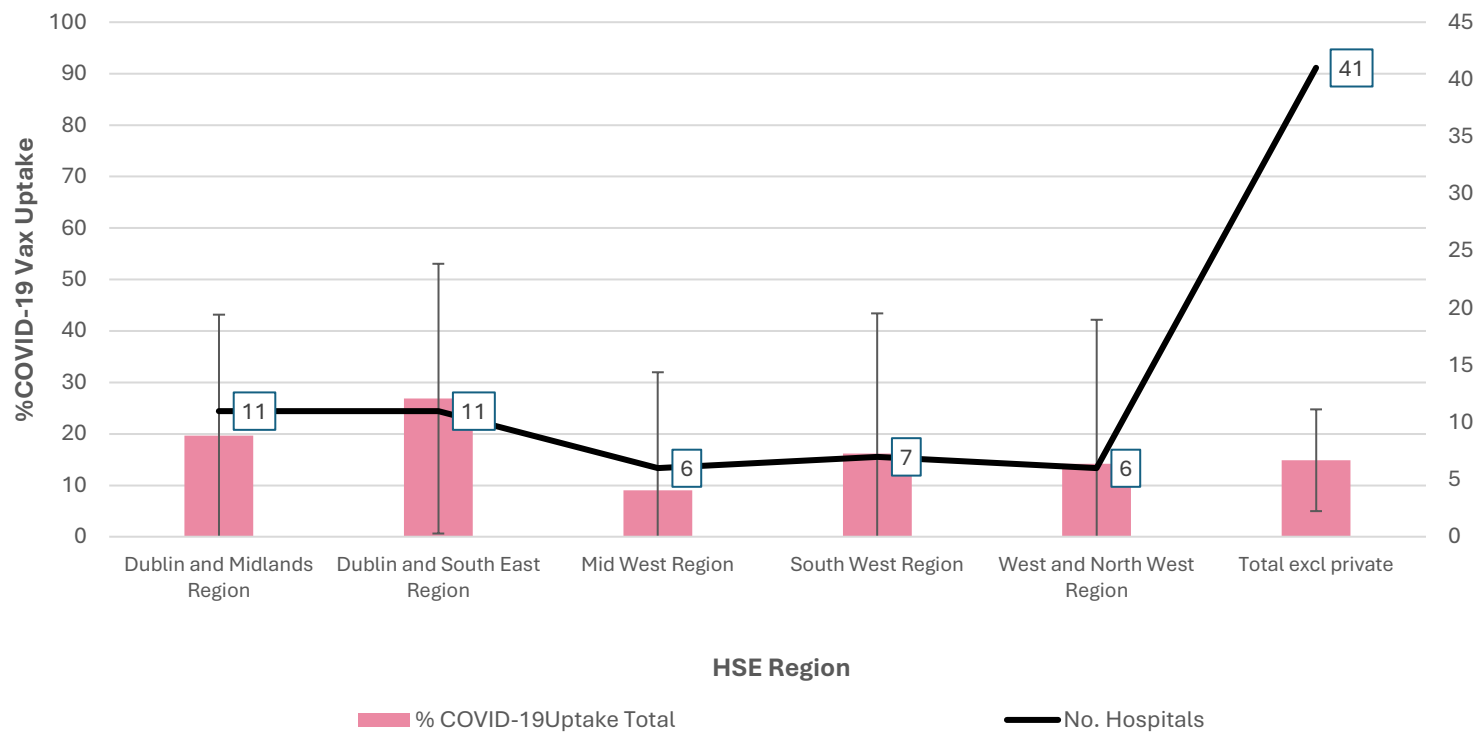
## SECTION B: COVID-19



### COVID-19 vaccine uptake by hospital group/region-The overall picture

- Of the HSE regions none had an COVID-19 vaccine uptake that was significantly greater or less than the overall uptake reported (Figure 10).
- Note: no uptake data was reported for Dublin and North East region or the private hospitals (outside regional areas)

Figure 10. Uptake among hospital-based HCWs for the COVID-19 vaccine by HSE region, 2024-2025 season, with 95% CIs





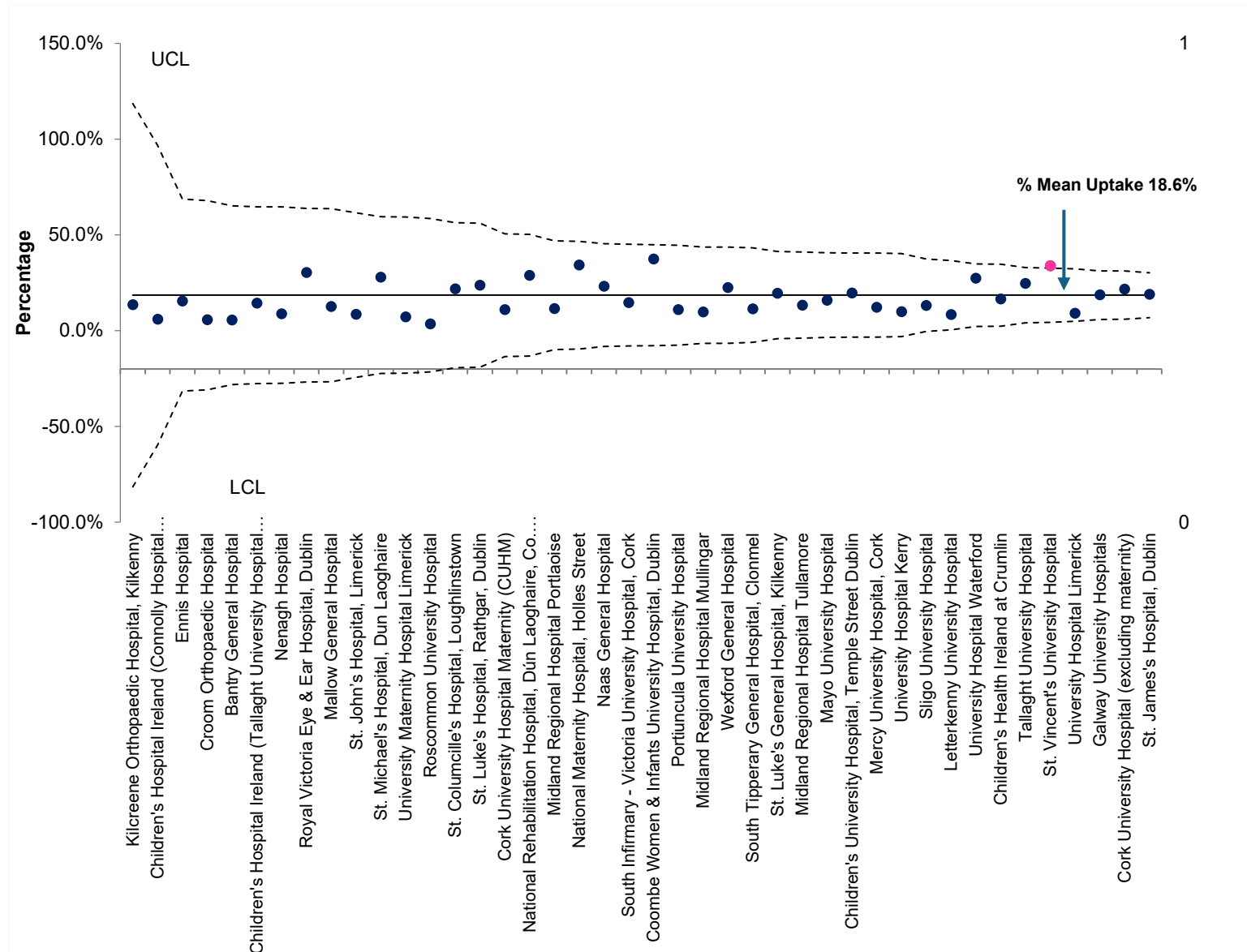
## SECTION B: COVID-19



### P prime funnel chart of hospital HCW COVID-19 vaccine uptake

- One private hospital, St. Vincent's University Hospital recorded a COVID-19 vaccine uptake of 33.9% that was significantly above the hospital average of 18.6% (Figure 11).
- See supplementary notes on slide #32 for explanatory notes about P prime funnel charts

**Figure 11. Funnel chart of percentage uptake of COVID-19 vaccine among HCWs by hospital with mean uptake with 95% confidence limits (CL), 2024-2025 season**



Note: excludes 15 participating hospitals as they had no data on COVID-19 vaccine uptake to report





## SECTION C: Sources of eligible HCWs and vaccine uptake information cited by participating hospitals

- 25 of the 57 (43.9%) survey participating hospitals cited the HR office as the sole source of information for eligible staff counts, followed by the hospital group HR office (14/57=24.6%).
- The COVAX/IIS excel reports as the sole source of information on vaccinated HCW numbers was cited by 18 hospitals (31.6%), followed by COVAX/IIS vaccination dashboards only by 12 hospitals (21.0%) and by local hospital records only by 9 others (15.8%) (Table 4).

**Table 4. Sources of eligible and vaccinated hospital-based HCW figures cited by participating hospitals, 2024-2025 season**

Sources of information used to collate the number of ELIGIBLE hospital-based HCWs	Sources of information used to collate the number of VACCINATED hospital-based HCWs	Total	% Total
Hospital HR office	Local hospital records	8	14.0
	COVAX/IIS dashboard	4	7.0
	COVAX/IIS system Excel reports, COVAX/IIS dashboard, Local hospital records	2	3.5
	COVAX/IIS system Excel reports	2	3.5
	COVAX/IIS system Excel reports, COVAX/IIS dashboard	2	3.5
	COVAX/IIS system Excel reports, Local hospital records	2	3.5
	COVAX/IIS dashboard, Local hospital records	2	3.5
	Local hospital records, Self-reporting by HCWs, Other	1	1.8
	Self-reporting by HCWs, Other	1	1.8
	Self-reporting by HCWs	1	1.8
<b>Hospital HR office Total</b>		<b>25</b>	<b>43.9</b>
Hospital group HR office	COVAX/IIS dashboard	8	14.0
	COVAX/IIS system Excel reports	4	7.0
	COVAX/IIS system Excel reports, COVAX/IIS dashboard	2	3.5
<b>Hospital group HR office Total</b>		<b>14</b>	<b>24.6</b>
Hospital HR office, Hospital group HR office	COVAX/IIS system Excel reports	11	19.3
	COVAX/IIS system Excel reports, COVAX/IIS dashboard	1	1.8
	COVAX/IIS dashboard, Local hospital records	1	1.8
<b>Hospital HR office, Hospital group HR office Total</b>		<b>13</b>	<b>22.8</b>
Other	COVAX/IIS system Excel reports, Local hospital records, Other	1	1.8
	COVAX/IIS system Excel reports, COVAX/IIS dashboard, Local hospital records, Self-reporting by HCWs	1	1.8
	COVAX/IIS dashboard, Local hospital records	1	1.8
	COVAX/IIS system Excel reports	1	1.8
<b>Other Total</b>		<b>4</b>	<b>7.0</b>
Unsure	Local hospital records	1	1.8
<b>Unsure Total</b>		<b>1</b>	<b>1.8</b>
<b>Total</b>		<b>57</b>	<b>100</b>

Note: IIS/COVAX= HSE Integrated Information Services (IIS) and COVAX Implementation system

## SECTION D: National vaccine uptake targets

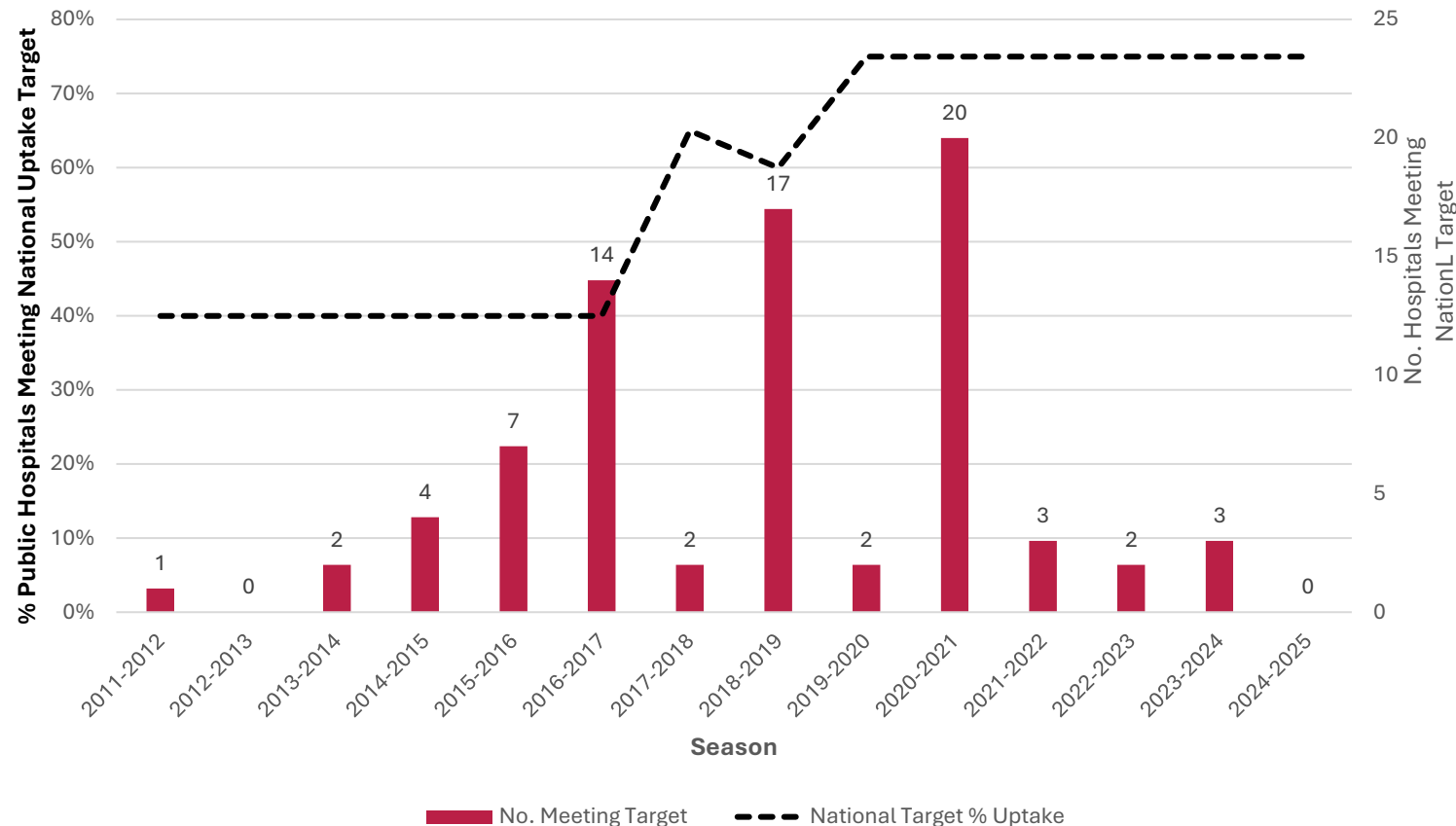
### Seasonal influenza vaccination:

- The number of participating public hospitals that met the national uptake of 75% reached its highest level of 20 during the 2020-2021 season when the uptake was 71.4% (Figure 12).
- Since then, the number meeting that same target has fallen sharply and for the 2024-2025 season, it is now zero which is consistent with the recent decline in vaccine uptake and is the lowest recorded level since the 2012-2013 season.

### COVID-19 vaccination:

- No hospital reached a 50% overall uptake target.

**Figure 12. Number of participating public hospitals meeting the national seasonal influenza vaccine target by season, 2011-2012 to 2024 -2025**



## What do I need to know about how the data for this report was collected?

- + Results from HPSC vaccination surveys are subject to both reporting and representation/participation bias
- + Factors:
  - + Administrative: out of date contact details held by HPSC, high turnover in local reporting staff
  - + Technical: Lack of IT hardware, software, knowhow by local staff, online access
  - + Access to data: Hospitals not having access to COVID-19 vaccination data
- + It is not clear why some hospitals reported seasonal influenza vaccination uptake and not for the COVID-19 vaccine.
  - + The decision to do so is likely to have resulted in staff having to attend clinics set up by HSE teams or attend their GP clinic or local pharmacy.
  - + This means that local hospital managers are likely to not have had access to their own hospital's COVID-19 vaccination records on the IIS/COVAX portal or dashboard.

## There are limitations in these data...

### 1. Reporting bias

- Acute hospitals that have access to IIS/COVAX dashboard/portal for vaccination details of their staff or that maintain their own staff vaccination records are more likely to submit a complete survey return.

### 3. Sources of Information-Limited access to IIS/COVAX portal or dashboard

- Only 25 of the 57 (43.9%) survey participating hospitals in 2024-2025 cited the HR office as the sole source of information for vaccinated staff counts by staff category, presumably because the quality of their own staff vaccination data sources was more accurate (or there was no other alternative available to them).

**Note: IIS/COVAX= HSE Integrated Information Services (IIS) and COVAX Implementation system**

### 2 . Representation Bias

- Of the estimated 13 private hospitals, 7 participated in the latest survey, all 7 of which were unable to provide COVID-19 vaccine uptake returns for their staff.
- Private hospitals are not obliged to report their vaccine uptake reports, but for those who do not, it means that the nationwide vaccination coverage reporting of this survey is less complete than would otherwise be the case.
- The absence of reporting by any HSE hospital is unfortunate. In 2024-2025, three acute hospitals\* did not submit complete returns, which means that a full compliment of responses from all public acute hospitals is again not reflected in the latest survey results.

\* see caveat on slide #7 regarding the National Children's Hospital Ireland (NCHI)

## What can we interpret from the findings in this report about vaccination?

- **Seasonal Influenza vaccine**
- The recent decline in the uptake of the influenza vaccine continues among hospital-based HCWs.
- This decline was widespread in that it occurred across all hospital groups/regions, all types of staff and all categories of staff complement sizes.
- Only 2% of hospitals exceeded the national influenza vaccine uptake target of 75% in the most recent 2024-2025 survey
- No hospital group/region reported an uptake that was significantly above (or below) the overall mean uptake.
- **COVID-19 vaccine**
- Overall, uptake was a third of that of seasonal influenza vaccine among HCWs.
- Even though both the COVID-19 and seasonal influenza vaccines were offered to HCWs, it appears that many chose not to avail of the COVID-19 vaccine, including those who opted to get the seasonal influenza vaccine.
- This low uptake was also observed among RCF-based HCWs in the latest season too, see separate survey report on that.

## The continuing seasonal downward trend in HCW influenza vaccine uptake is a serious concern

- + Between 2020-2021 and 2024-2025, uptake among all hospital-based HCWs fell from 71.0% (71.4 % among HSE hospitals) to 44.5% (45.4 % among HSE hospitals). This marked decline has occurred despite a number of HSE initiatives and the allocation of considerable resources designed to arrest and reverse this worrying trend, including:
  - + On-going development and expansion of the Integrated Information Service (IIS)/COVAX influenza vaccination record system
  - + Review and updating of infectious disease infection and control guidelines
  - + Improvements in the monitoring and surveillance of cases and outbreaks, including biostatistical modelling
  - + Concerted social media and communications campaigns to promote the protective health benefits of vaccines

## Other on-going issues contributing to under-reporting of influenza vaccine uptake by HCW place of work

- + Local hospital managers using the COVAX system not being able to validate where staff were working and in what capacity (staff category) if they choose to get vaccinated elsewhere, in GP clinics or in pharmacies, for example.
- + Local managers not having the means to query/correct inconsistencies and omissions on GP and pharmacy COVAX records.
- + Training of vaccinators and administrators on the COVAX input systems being subject to significant turnover and a lack of consistency in relation to how HCW details are assigned to their correct place of work/vaccination and, to a lesser extent, their staff category type.

## What can we interpret from the findings in this report about vaccination?

The continuing reduction in uptake of the seasonal influenza vaccine and the even lower uptake of the COVID-19 vaccine among hospital-based HCWs is disappointing despite the considerable resources and efforts that have been assigned to addressing the problem.

The likelihood that the key performance target of 75% for seasonal influenza vaccine uptake will be reached in the next few seasons is low without a concerted public health effort, significant input of additional resources, including financial, and a turnaround in vaccine hesitancy by HCWs generally.

### Underlying factors that impact vaccine uptake

- + The declining uptake among HCWs in hospitals over the past four seasons can partly be attributed to a range of technical, administrative and behavioural factors (see also slide #19).
- + Bridging the gap between actual and reported uptake is an on-going technical challenge for any data collection process, but as long as it is undertaken consistently over time, the trends observed in this survey are likely to be genuine.

### Local hospital operational activities

- + It is not entirely clear why acute hospitals don't all offer to provide both the seasonal influenza and COVID-19 vaccines to their staff.
- + This is particularly the case in relation to private hospitals.

### Implications of low vaccine uptake among hospital-based HCWs

- + Greater pressure on hospital services during the peak winter months arising from unvaccinated HCWs transmitting infection to each other and to their patients and, also, arising from staff who are absent from sick leave.
- + For the forthcoming 2025/2026 vaccination season, the National Immunisation Advisory Committee (NIAC), in May 2025, recommended that HCWs who are 'aged 60 years and above or those aged 18-59 years with medical conditions associated with a higher risk of COVID-19 hospitalisation, severe disease or death should continue to receive a COVID-19 vaccine once or twice each year as indicated by their underlying condition'.

### Importance of HPSC vaccine uptake survey

- + The survey itself fulfils a useful purpose as it provides a comprehensive profile of acute hospital HCW uptake that other reports do not provide

## Recommendations

- Increasing hospital survey participation/reporting and their access to the IIS/COVAX portal/vaccination dashboards
- Address data reporting/validation concerns
- Research to guide more effective public health strategies

### **Increasing hospital survey participation/reporting and their access to the IIS/COVAX portal/vaccination dashboards**

- + In order to minimise reporting and representation bias in future surveys and improve vaccination coverage
  - + All private hospitals need to be encouraged to report their HCW vaccination figures
  - + Access to IIS/COVAX resources should be granted to all hospitals, including private ones, in relation to their staff seasonal influenza and COVID-19 vaccination uptake counts, regardless of whether the hospitals themselves conduct clinics or not

### **Role of Research help gain insights that can guide more effective public health strategies**

- + There is a need for a more in-depth understanding of the personal, cultural, and contextual factors influencing HCWs' vaccination decisions and underlying barriers to vaccination

### **Addressing data reporting/validation concerns**

- + Need for data providers to access one single source of information, rather than a range of different data sources, in order to compile an accurate set of staff uptake figures that can then be reported.
- + Need for agreement among data providers that denominator values (eligible staff counts) are taken from the same point in time, for example, either from the beginning of the winter vaccination campaign or at the end of it.
- + Need for greater consistency with which HCW job titles are assigned by data providers to their correct HSE official category of staff .
- + Need to identify the reasons why some data providers are unable to report on COVID-19 vaccination uptake or why some were unable or unwilling to participate in the survey at all, particularly private hospitals.
- + Need for the IIS/COVAX portal/dashboards to capture different staff types details by all six official HSE categories, including 'other patient and client care, which is currently not the case.



## Promoting Vaccination Uptake among HCWs

- A multi-faceted and evidence-based approach to HCW vaccination promotion requires engagement, planning, and resources tailored locally to the needs of different professional groups in a variety of clinical settings.
- Details on nine key priority areas of focus were identified and kindly shared by the [National Immunisation Office](#) and are presented here.
- More details on these are available in a systematic review of strategies used to improve vaccine uptake among healthcare providers by R. de Koning *et al.* Vaccine: Volume 19, August 2024,100519. <https://doi.org/101016/j.jvacx.2024.100519>
- Additional details are also included from a recent focus group analyses on improving influenza vaccine uptake among HCWs conducted by Melanie Barnes, Dr. Breda Cosgrove and colleagues in [HSE Mid West Public Health](#).
- Please note: Some of these promotional approaches may already be implemented and should be continued or strengthened as appropriate. Other approaches may not be suitable or feasible for specific settings. All approaches, however, should be discussed and tailored to local needs.

### + **Priority Area 1: Access solutions/Removing barriers**

- + Expanding local and on-site access in order to make it easier for staff to avail of vaccination services
  - + Mobile vaccination units
  - + Extended period/hours of clinics including for those working shifts
    - + Start clinic early to facilitate night duty staff
    - + Extra clinics to facilitate shift worker days
  - + Consider mass vaccination days
- + Bring vaccinations to staff in clearly defined locations such as
  - + Delivering vaccines ward-to-ward via mobile trollies
  - + Vaccinating at routine multidisciplinary meetings, during ward rounds, during outpatient clinics or other meetings
  - + Vaccinating of staff in common areas and high-traffic areas for example, inside front door or outside canteen
  - + Integrating vaccination opportunities into handovers/shift changes

### + **Priority Area 2: Leadership**

- + Importance of visible leadership support
- + Vaccine advocacy from leaders to improve vaccine uptake
- + Strengthening leadership by
  - + Encouraging clinical leaders to lead and support vaccine promotion locally and nationally
  - + Using appropriate staff channels to share photos/videos of leader vaccination
  - + Ensuring leaders and managers at all levels support vaccination for staff
  - + Promoting a vaccination culture so that vaccination becomes the workplace norm
  - + Putting in vaccine champions representing peer/professional groups
  - + Activating peer networks to encourage peer leadership within different professional groups locally

## Promoting Vaccination Uptake among HCWs (continued)

### + **Priority Area 3: Reminders/Communications**

- + Clear, accessible, consistent communication from trusted and reliable sources before the programme begins and early in the programme
- + Promote positive vaccination messages emphasising the benefits of vaccination for HCWs personally as well as for others in their lives
- + Increase awareness by communication through multiple channels e.g. awareness campaigns, programme launches, promotional campaigns and educational campaigns using tools such as invitations, reminders, lectures, leaflets, posters, (infographics style with local statistical data posted in prominent staff areas), screensavers, pins, stickers, badges, newsletters etc.
- + Involve staff in campaign planning and promotion
- + Consider specific local initiatives e.g., “Vaccine Day” and try to make initiatives fun and engaging
- + Send vaccine invitations to HCWs via text messages
- + Consider sending opt-out appointments to HCWs and consider messaging such as “a vaccine has been reserved for you”
- + Send regular reminders and consider target personalised reminders to HCWs by name/unit/department if possible

### + **Priority Area 4: Fact –based educational initiatives**

- + Materials such as posters, pamphlets
- + Lessons delivered via communication channels and networks for specific types of HCWs such as work-based intranet alerts and infographics, staff meetings and webinars
- + Ensuring that there is clear, consistent and accessible messaging that emphasises the benefits of vaccination for HCWs
- + Increase awareness of the importance of vaccination for their own safety, their families and that of their patients
- + Promote role specific training on vaccination by explore CPD and allowances for vaccine education and training
- + Addressing vaccine safety concerns
  - + Promoting trust in the policies and advice provided by HSE, Department of Health and the Health Products Regulatory Authority
  - + Emphasising COVID-19 vaccine efficacy and quality control
  - + Combat misinformation by focussing the campaign messages on the benefits of vaccination and the risks of not getting vaccinated and minimising fears over vaccine side effects and the risk of illness



## **Promoting Vaccination Uptake among HCWs (continued)**

- + **Priority Area 5: Incentives for staff and workplaces and promoting competition**
  - + Acknowledge that the evidence for incentives is mixed and incentives can be implemented as part of multifaceted approaches
  - + Facilitate greater collaboration between public health and occupational health departments in hospitals
  - + Involve staff in local vaccination promotion and campaign planning
  - + Acknowledge high-uptake units/wards and units with improvements
  - + Emphasise that vaccination is free can be effective
  - + Consider how to tailor interventions to specific setting consider local context
    - + Consider incentives such as free coffee, coffee cups, water bottles, coffee/lunch vouchers
    - + Consider organising raffles and prizes for vaccinated staff once a target has been reached
    - + Offer prizes with a preference for site-based draws and local prizes for team/departments/regions
    - + Allocate budget towards giveaways rather than mass-distributed merchandise

- + **Priority area 6: Policy implementation**
  - + A focus on supportive workplace strategies that build and maintain trust is important
  - + Highlight the fact that vaccination for HCWs can be seen as a duty of care and a professional responsibility
  - + Consider making education and training mandatory for HCWs as that may be viewed as a more acceptable alternative and may be effective when combined with other interventions

## Promoting Vaccination Uptake among HCWs (continued)

### + **Priority Area 7: Quality improvement focus**

- + Promotes compliance and increase accountability
- + Frames vaccination as part of
  - + patient safety
  - + quality of care
- + Encourages staff to report their vaccination status to management
- + Have local and real time data on staff category vaccination status and provide feedback within settings/organisations

### + **Priority Area 9: Multifaceted focus**

- + Vaccine acceptance may be multifaceted and therefore addressing the issue requires multi-level interventions
- + Clear and consistent high-level evidence indicates that combination strategies involving multicomponent interventions are effective to improve HCW vaccine uptake

### + **Priority area 8: A customised approach**

- + Acknowledge that HCWs fall into a wide range of staff categories (medical, nursing, social care professionals etc) and that a 'one size fits all' approach may not be effective
- + Consider conducting local surveys of HCW attitudes and behaviours to inform how best to design tailor made approaches/strategies
- + Consider the organisational context in which the programme is being implemented
- + Target interventions to meet the characteristics and needs of the HCW population e.g., targeted communication and education and information materials
- + Ensure that leaders promoting vaccination are from diverse professional groups

# Acknowledgements

Thanks to all acute hospitals that provided information for this report. All gratefully received. A special thanks to Dr. Louise Marron in the National Immunisation Office on her input on suggested priority areas of focus to improve HCW vaccine uptake.

## Further information available on HPSC website:

[Link here to survey reports on seasonal influenza and COVID-19 vaccine uptake in healthcare workers and residents of long-term care residential facilities](#)

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DISEASE DATA

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Q

VACCINE UPTAKE IN HCWS AND RESIDENTS OF LTCFS

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Influenza vaccine uptake in healthcare workers and residents of long term care facilities

Report on the uptake of the Influenza Vaccine for Health Care Workers (HCWs) and residents in Long-Term Care Residential Facilities (LTCFs) 2023-2024 Season

File Size: 932 KB

Publication Date: 12 February 2025

Appendices for HPSC report on Flu Vaccine Uptake in Hospitals and Long-Term Care Residential Facilities (LTCFs) in Ireland, 2023-2024 [EXCEL file]

File Size: 316 KB

Publication Date: 23 September 2024

# Appendix 1: List of participating hospitals in the 2024-2025 survey with details of their overall eligible and vaccinated staff numbers for both seasonal influenza and COVID-19

## Notes:

Whilst all 57 reporting hospitals provided influenza vaccination data, 15 did not provide COVID-19 vaccination data, seven of which were private (no other private hospital participated in the survey).

An excel file listing of the 57 participating hospitals in the 2024-2025 survey with details of the eligible and influenza (flu) and COVID-19 vaccinated staff by HSE category is available to download [here](#)

Hospital Group	Name of Hospital:	Total Eligible	Total FluVaccinated	% Total FluVaccineUptake	Total COVID-19Vaccinated	% Total COVID-19VaccineUptake
Dublin and Midlands Hospitals	Children's Health Ireland at Crumlin	3106	1760	56.7	515	16.6
	Children's Hospital Ireland (Tallaght University Hospital Unit)	381	238	62.5	55	14.4
	Children's University Hospital, Temple Street Dublin	1683	1138	67.6	331	19.7
	Coombe Women & Infants University Hospital, Dublin	1170	775	66.2	438	37.4
	Midland Regional Hospital Mullingar	1285	504	39.2	126	9.8
	Midland Regional Hospital Portlaoise	1004	451	44.9	116	11.6
	Midland Regional Hospital Tuillamore	1607	652	40.6	214	13.3
	Naas General Hospital	1126	539	47.9	261	23.2
	St. James's Hospital, Dublin	5863	2462	42.0	1114	19.0
	St. Luke's Hospital, Rathgar, Dublin	574	278	48.4	136	23.7
	Tallaght University Hospital	3891	1832	47.1	960	24.7
	<b>Dublin and Midlands Hospitals Total</b>	<b>21690</b>	<b>10629</b>	<b>49.0</b>	<b>4266</b>	<b>19.7</b>
Dublin and North East Hospitals	Beaumont Hospital	4989	2161	43.3	ND	ND
	Cappagh National Orthopaedic Hospital, Dublin	599	347	57.9	ND	ND
	Cavan General Hospital	1452	481	33.1	ND	ND
	Children's Hospital Ireland (Connolly Hospital Blanchardstown)	133	78	58.6	8	6.0
	Louth County Hospital, Dundalk	347	96	27.7	ND	ND
	Mater Misericordiae University Hospital, Dublin	5024	2058	41.0	ND	ND
	Monaghan General Hospital	206	42	20.4	ND	ND
	Our Lady Of Lourdes Hospital, Drogheda	2876	1109	38.6	ND	ND
	Rotunda Hospital Dublin	1000	585	58.5	ND	ND
	<b>Dublin and North East Hospitals Total</b>	<b>16626</b>	<b>6957</b>	<b>41.8</b>	<b>8</b>	<b>0.0</b>
Dublin and South East Hospitals	Kilcreene Orthopaedic Hospital, Kilkenny	81	32	39.5	11	13.6
	National Maternity Hospital, Holles Street	1024	648	63.3	352	34.4
	National Rehabilitation Hospital, Dún Laoghaire, Co. Dublin	803	442	55.0	232	28.9
	Royal Victoria Eye & Ear Hospital, Dublin	395	244	61.8	120	30.4
	South Tipperary General Hospital, Clonmel	1333	635	47.6	152	11.4
	St. Columcille's Hospital, Loughlinstown	567	244	43.0	124	21.9
	St. Luke's General Hospital, Kilkenny	1565	861	55.0	306	19.6
	St. Michael's Hospital, Dun Laoghaire	484	251	51.9	135	27.9
	St. Vincent's University Hospital	4052	2063	50.9	1375	33.9
	University Hospital Waterford	3046	2218	72.8	836	27.4
	Wexford General Hospital	1285	728	56.7	290	22.6
	<b>Dublin and South East Hospitals Total</b>	<b>14635</b>	<b>8366</b>	<b>57.2</b>	<b>3933</b>	<b>26.9</b>
Mid West Hospitals	Croom Orthopaedic Hospital	333	67	20.1	19	5.7
	Ennis Hospital	323	112	34.7	50	15.5
	Nenagh Hospital	382	114	29.8	34	8.9
	St. John's Hospital, Limerick	440	117	26.6	38	8.6
	University Hospital Limerick	4341	2064	47.5	395	9.1
	University Maternity Hospital Limerick	488	195	40.0	35	7.2
	<b>Mid West Hospitals Total</b>	<b>6307</b>	<b>2669</b>	<b>42.3</b>	<b>571</b>	<b>9.1</b>
South West Hospitals	Bantry General Hospital	373	161	43.2	21	5.6
	Cork University Hospital (excluding maternity)	5127	2571	50.1	1113	21.7
	Cork University Hospital Maternity (CUHM)	789	327	41.4	87	11.0
	Mallow General Hospital	397	255	64.2	50	12.6
	Mercy University Hospital, Cork	1683	572	34.0	206	12.2
	South Infirmary - Victoria University Hospital, Cork	1150	492	42.8	168	14.6
	University Hospital Kerry	1724	488	28.3	172	10.0
	<b>South West Hospitals Total</b>	<b>11243</b>	<b>4866</b>	<b>43.3</b>	<b>1817</b>	<b>16.2</b>
West and North West Hospitals	Galway University Hospitals	5068	1670	33.0	950	18.7
	Letterkenny University Hospital	2482	427	17.2	211	8.5
	Mayo University Hospital	1660	594	35.8	263	15.8
	Portiuncula University Hospital	1195	706	59.1	132	11.0
	Roscommon University Hospital	507	98	19.3	18	3.6
	Sligo University Hospital	2274	1049	46.1	301	13.2
	<b>West and North West Hospitals Total</b>	<b>13186</b>	<b>4544</b>	<b>34.5</b>	<b>1875</b>	<b>14.2</b>
Outside Regional Areas	Bon Secours Hospital, Cork	1753	715	40.8	ND	ND
	Bon Secours Hospital, Glasnevin, Dublin	774	275	35.5	ND	ND
	Bon Secours Hospital, Tralee	676	261	38.6	ND	ND
	Clontarf Hospital, Dublin	277	81	29.2	ND	ND
	Hermitage Medical Clinic, Old Lucan Road, Dublin 20	800	320	40.0	ND	ND
	Mater Private Hospital, Dublin	2065	598	29.0	ND	ND
	St. Vincent's Private Hospital	1264	335	26.5	ND	ND
	<b>Outside Regional Areas Total</b>	<b>7609</b>	<b>2585</b>	<b>34.0</b>	<b>ND</b>	<b>ND</b>
<b>Total</b>		<b>91296</b>	<b>40616</b>	<b>44.5</b>	<b>12470</b>	<b>13.7</b>



## Appendix 2: Improving Influenza vaccine uptake in HCWs

- **A literature review by the National Immunisation Office** has identified key priority areas of focus to inform the strengthening and the development of tailored multifaceted approaches to **improve vaccine uptake in HCWs in the 2025/2026** winter season in Ireland
- **Access, local leadership and building and maintaining trust is key**
- There is a **positive association** between **interventions and HCW vaccine uptake** and most interventions increase vaccination rates particularly by **combining interventions** in different areas
- The **key priority areas of focus** to improve vaccine uptake should be:
  - Removing any and all access barriers to vaccination
  - Strengthening visible clinical leadership
  - Ensuring that there is clear, consistent and accessible messaging that emphasises the benefits of vaccination for HCWs
  - Offering personalised vaccine invitations and reminders for HCWs
- **Mandatory vaccination has been shown to be effective** but it is **controversial** and can be met with opposition
- **Mandatory education for HCWs may be a more acceptable alternative** and may be effective combined with other interventions
  - A focus on **supportive workplace strategies** that build and maintain trust is important
- **Multifaceted interventions** to improve HCW vaccine uptake should be informed by the priority areas identified and tailored locally to the requirements of different professional groups in a variety of clinical settings
  - This will require **engagement, planning, resources and local leadership**



## Seasonal influenza and COVID-19 vaccine uptake among hospital-based HCWs by HSE region

**Supplementary Table 1. Eligible and vaccinated hospital-based HCWs for the seasonal influenza vaccine by staff type and HSE region, 2024-2025 season**

Hospital Region	No. Hospitals	Total Eligible	Total Vaccinated	Eligible Management & Administration	Vaccinated Management & Administration	Eligible Medical & Dental	Vaccinated Medical & Dental	Eligible Health & Social Care	Vaccinated Health & Social Care	Eligible Nursing	Vaccinated Nursing	Eligible General Support	Vaccinated General Support	Eligible Other Patient & Client Care	Vaccinated Other Patient & Client Care
Dublin and Midlands Hospitals	11	21690	10629	3482	1367	2907	1901	3215	1767	8520	4261	1352	602	2214	731
Dublin and North East Hospitals	9	16626	6957	2481	939	2513	1328	1984	985	6646	2733	1508	472	1494	500
Dublin and South East Hospitals	11	14635	8366	2154	1091	2041	1421	1810	1348	5879	3061	1603	928	1148	517
Mid West Hospitals	6	6307	2669	929	306	882	605	614	290	2506	1019	823	306	553	143
South West Hospitals	7	11243	4866	1441	613	1575	886	1464	849	4694	1779	1258	559	811	180
West and North West Hospitals	6	13186	4544	1915	530	1998	1076	1601	754	5368	1568	1112	312	1192	304
Outside Regional Areas/Private	7	7609	2585	1304	456	468	212	1308	485	3002	1055	1014	253	513	124
<b>Total excl private</b>	<b>50</b>	<b>83687</b>	<b>38031</b>	<b>12402</b>	<b>4846</b>	<b>11916</b>	<b>7217</b>	<b>10688</b>	<b>5993</b>	<b>33613</b>	<b>14421</b>	<b>7656</b>	<b>3179</b>	<b>7412</b>	<b>2375</b>
<i>Total incl private</i>	57	91296	40616	13706	5302	12384	7429	11996	6478	36615	15476	8670	3432	7925	2499

**Supplementary Table 2. Eligible and vaccinated hospital-based HCWs for the COVID-19 vaccine by staff type and HSE region, 2024-2025 season**

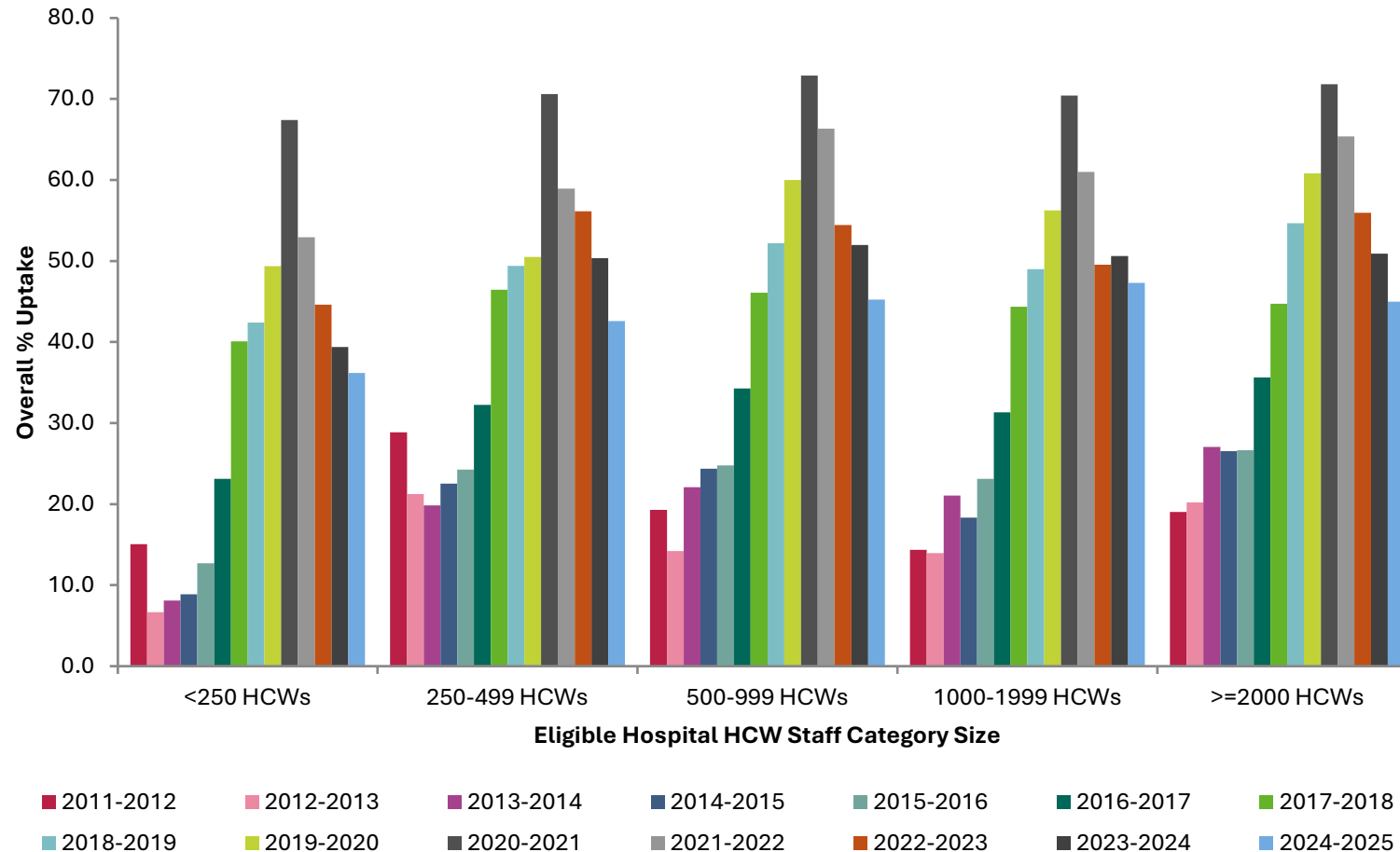
Hospital Region	No. Hospitals	Total Eligible	Total Vaccinated	Eligible Management & Administration	Vaccinated Management & Administration	Eligible Medical & Dental	Vaccinated Medical & Dental	Eligible Health & Social Care	Vaccinated Health & Social Care	Eligible Nursing	Vaccinated Nursing	Eligible General Support	Vaccinated General Support	Eligible Other Patient & Client Care	Vaccinated Other Patient & Client Care
Dublin and Midlands Hospitals	11	21690	4266	3482	571	2907	1118	3215	853	8520	1240	1352	241	2214	243
Dublin and North East Hospitals	9	16626	8	2481	1	2513	3	1984	1	6646	3	1508	0	1494	0
Dublin and South East Hospitals	11	14635	3933	2154	529	2041	921	1810	757	5879	1135	1603	398	1148	193
Mid West Hospitals	6	6307	571	929	88	882	169	614	88	2506	129	823	59	553	38
South West Hospitals	7	11243	1817	1441	224	1575	499	1464	364	4694	434	1258	230	811	66
West and North West Hospitals	6	13186	1875	1915	239	1998	641	1601	348	5368	435	1112	119	1192	93
Outside Regional Areas/Private	7	7609	-	1304	-	468	-	1308	-	3002	-	1014	-	513	-
<b>Total excl private</b>	<b>50</b>	<b>83687</b>	<b>12470</b>	<b>12402</b>	<b>1652</b>	<b>11916</b>	<b>3351</b>	<b>10688</b>	<b>2411</b>	<b>33613</b>	<b>3376</b>	<b>7656</b>	<b>1047</b>	<b>7412</b>	<b>633</b>
<i>Total incl private</i>	57	91296	12470	13706	1652	12384	3351	11996	2411	36615	3376	8670	1047	7925	633



## Seasonal influenza vaccine uptake by staff compliment size-Seasonal Trends

- No obvious difference in seasonal influenza vaccine uptake between the different categories of staff compliment sizes in public hospitals is discernible since 2011-2012 (Supplementary Figure 1 ).

**Supplementary Figure 1 Percentage uptake of seasonal influenza vaccine among HCWs in public hospitals by staff compliment size and season, 2011-2012 to 2024-2025**





## Explanatory notes about P prime funnel charts on slides #12 and 16

- Eligible hospital staff denominator data used in this graph have been sorted from smallest to highest
- Funnel plots are a form of scatter plot in which observed area rates are plotted against area populations. Control limits are then overlaid on the scatter plot. The control limits represent the expected variation in rates assuming that the only source of variation is stochastic (i.e. having a random probability distribution or pattern that may be analysed statistically, but may not be predicted precisely).
- A p chart is an attributes control chart used with data collected in subgroups of varying sizes such as counties with different population densities.
- A p prime chart is an alternative to the standard P chart when the denominators are large and when there is over or under dispersion in the data.
- A p prime funnel chart is a variation of the p prime chart.
- For more information on SPC charts and funnel plots, please refer to the Quality and Patient Safety Data for Decision Making Toolkit, available here:  
<https://www.lenus.ie/bitstream/handle/10147/635034/Quality%20and%20Patient%20Safety%20Data%20for%20Decision%20Making%20Toolkit.pdf?sequence=10&isAllowed=y>.