

**Hospital Infections Disclosure Act  
Healthcare Personnel Influenza Vaccination Report  
2015-2016 Influenza Season**

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## **INTRODUCTION**

Healthcare personnel (HCP) are at risk of transmitting influenza to their patients, coworkers and families if they become infected. The benefits of HCP influenza vaccination on patient outcomes and HCP absenteeism have been well documented. Influenza outbreaks are also documented in facilities with high influenza vaccine coverage rates among patients but low coverage among HCPs. Unfortunately, national influenza vaccination coverage in HCP remains low; A CDC survey conducted during the 2012-2013 influenza season, estimated influenza vaccination in HCPs was 72%.<sup>1</sup>

Increasingly hospitals and other health care facilities are requiring HCP influenza vaccination as a condition of employment and/or credentialing. Beginning July 2012, The Joint Commission established an Infection Control requirement for all Joint Commission accredited organizations to establish an annual influenza vaccination program for all employees including licensed independent practitioners and non-clinical staff. In addition to establishing a vaccination program, The Joint Commission expects organizations to also implement an incremental vaccination goal to reach 90 percent coverage by 2020. To reinforce efforts to increase HCP coverage, HCP influenza vaccination rates were monitored in 65 acute care facilities, 6 long term acute care (LTAC) facilities and 7 inpatient rehabilitation facilities (IRF) reporting under the South Carolina Hospital Infections Disclosure Act (HIDA) during the 2015-2016 influenza season.

## **METHODS**

Facilities were required to collect HCP influenza vaccination data from October 1<sup>st</sup>, 2015 through March 31<sup>st</sup>, 2016. Data were self-reported through the Healthcare Personnel Vaccination Module within the National Healthcare Safety Network's (NHSN) Healthcare Personnel Safety Component. Reporting facilities were required to follow standardized reporting definitions and methods as described in the NHSN Healthcare Personnel Safety Component Protocol.<sup>2</sup>

Denominator data in NHSN consisted of HCPs who were physically present within the healthcare facility for at least 1 working day between October 1<sup>st</sup>, 2015 and March 31<sup>st</sup>, 2016.

Denominators were to be collected separately for the following HCP type:

- 1) *Employees*: This included all persons who receive a direct paycheck from the reporting facility (i.e. on the facility's payroll).
- 2) *Licensed Independent Practitioners (LIPs)*: This included physicians, advanced practice nurses, and physician assistants who were affiliated with the reporting facility but not directly employed by it. Post-residency fellows were also included in this category if they were not on the facility payroll.
- 3) *Adult student, trainees, and volunteers (ASTVs)*: This includes medical, nursing, or other health professional students, interns, medical residents, or volunteers aged 18 or older who are affiliated with the healthcare facility, but are not directly employed by it (i.e., they do not receive a paycheck from the facility).
- 4) *Other contract personnel (optional)*: Facilities could also report on individuals who are contract personnel. However, reporting for this category was optional and the data

for this category is not included in this report. Contract personnel were defined as persons providing care, treatment, or services at the facility through a contract who do not fall into any of the above-mentioned denominator categories.

Numerator data in NHSN consisted of HCPs in each denominator HCP type, who were physically present within the healthcare facility for at least 1 working day between October 1<sup>st</sup>, 2015 and March 31<sup>st</sup>, 2016, and were:

- 1) Vaccinated, receiving an influenza vaccine administered at the healthcare facility;
- 2) Vaccinated, providing proof of receiving influenza vaccination elsewhere;
- 3) Unvaccinated, determined to have a medical contraindication or;
- 4) Unvaccinated, were offered but declined influenza vaccination or;
- 5) Unvaccinated, had unknown vaccination status or did not meet any of the above numerator categories.

HCPs who received vaccine prior to October 1<sup>st</sup> could be included in the summary data counts.

The formula used to calculate vaccination rate described in the results section of this report is:

$$\text{Vaccination Rate} = (\text{Total Vaccinated} / \text{Total Working}) \times 100$$

Total vaccinated includes personnel

- 1) Vaccinated, receiving an influenza vaccine administered at the healthcare facility; or
- 2) Vaccinated, providing proof of receiving influenza vaccination elsewhere.

## RESULTS

### Influenza Vaccination Percentages by Facility and HCP Type

Table 1 displays influenza vaccination percentages for all HCP types for acute care facilities, long term acute care facilities (LTAC), and inpatient rehabilitation facilities (IRF). Acute care, LTAC, and IRF had HCP influenza vaccination rates of 88.79%, 93.32% and 78.64%, respectively. The overall state influenza vaccination rate for all HCP at all facility types was 88.71%. A 95% confidence interval is provided to assess any statistically significant difference in HCP influenza vaccination between facility types.

**Table 1. Influenza Vaccination Percentages for All\* HCP by Facility Type, 2015 – 2016 Influenza Season**

Facility Type	Personnel Vaccinated	Total Personnel	Percent Vaccinated	95% Confidence Interval
Acute Care	107,982	121,608	88.79%	88%, 89%
LTAC	1,468	1,573	93.32%	89%, 98%
IRF <sup>§</sup>	1,344	1,709	78.64%	74%, 83%
STATE (All Facility Types)	110,794	124,890	88.71%	88%, 89%

\*All HCPs = (Employees + LIPs+ ASTVs)

§IRF data in table reported by free standing IRFs only. IRF locations within acute care settings are included in the data presented for acute care facilities.

Figure 1 shows statewide influenza vaccination percentages for HCPs by personnel type.

Personnel type is stratified into the three categories as described in the methods section: 1)

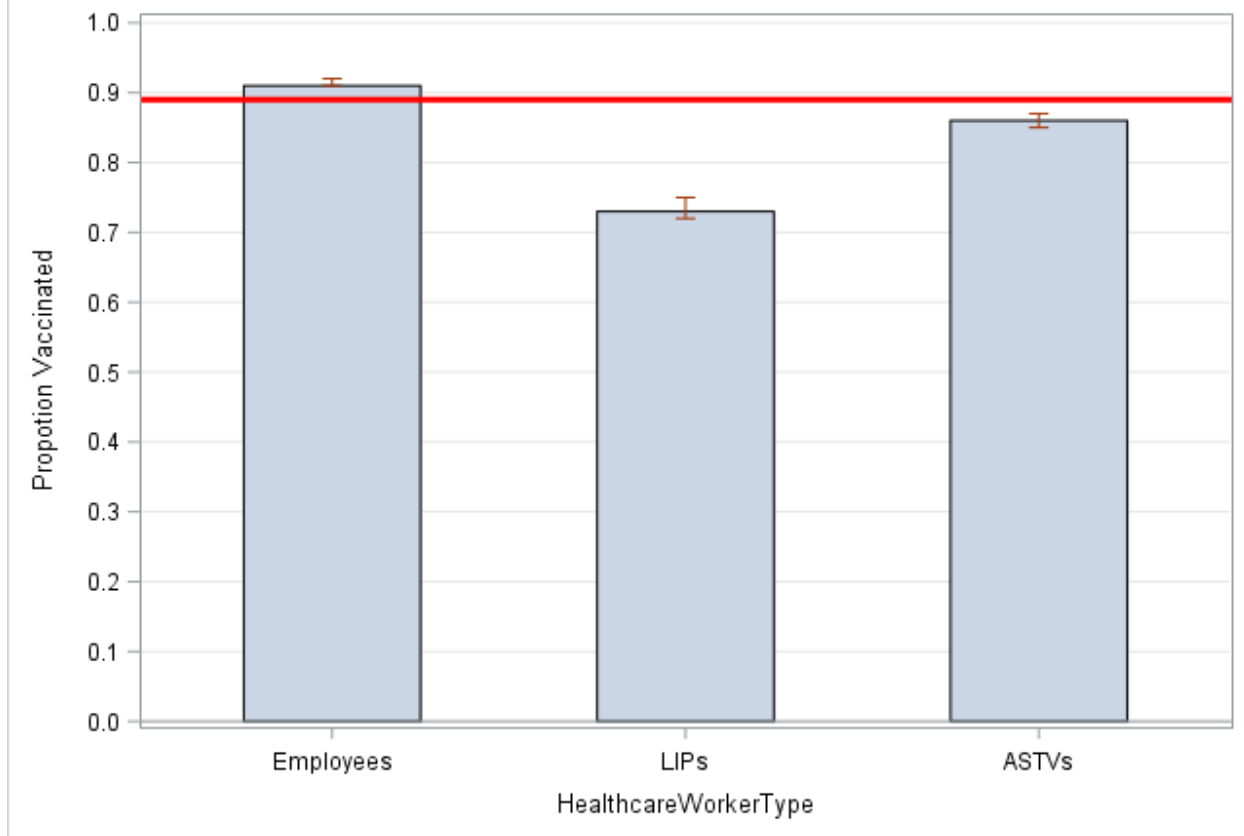
Employees, 2) LIPs, and 3) ASTVs. The overall state influenza vaccination rate is shown in red.

Influenza vaccination rates were statistically different among all HCP types. Employees had the

highest influenza vaccination rate at 91.29%, followed by ASTVs and LIPs at 85.88% and

73.35%, respectively.

**Figure 1. Influenza Vaccination Percentages for Healthcare Personnel by Healthcare WorkerType across All South Carolina Facilities, 2015 – 2016 Influenza Season**



### **Influenza Vaccination Policies for HCPs**

During the 2015-2016 influenza season, 22 (28.57%) of 77 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 12 (15.58%) facilities required influenza vaccination as a condition of employment only, 9 (11.69%) facilities required influenza vaccination as a condition of credentialing only, and 34 (44.15%) of facilities did not require influenza vaccination as a condition of either employment or credentialing.

Figure 2 displays influenza vaccination percentages for HCPs working at facilities with and without influenza vaccination conditions. HCPs at facilities that reported influenza vaccination as a condition of employment, and both employment and credentialing reported vaccination percentages statistically higher than the overall state influenza vaccination rate. The overall state

vaccination rate for HCPs was 88.71% (CI: 88%, 89%) and shown as a red horizontal line.

Facilities that required vaccination as a condition of both credentialing and employment reported a vaccination rate of 96.92%. Facilities that required HCP influenza vaccination as a condition of employment had a vaccination rate of 95.25% and facilities that required healthcare influenza vaccination as a condition of credentialing had a vaccination rate of 87.62%. HCPs at facilities where influenza vaccination was not required for either credentialing or employment had an 80.40% vaccination rate.

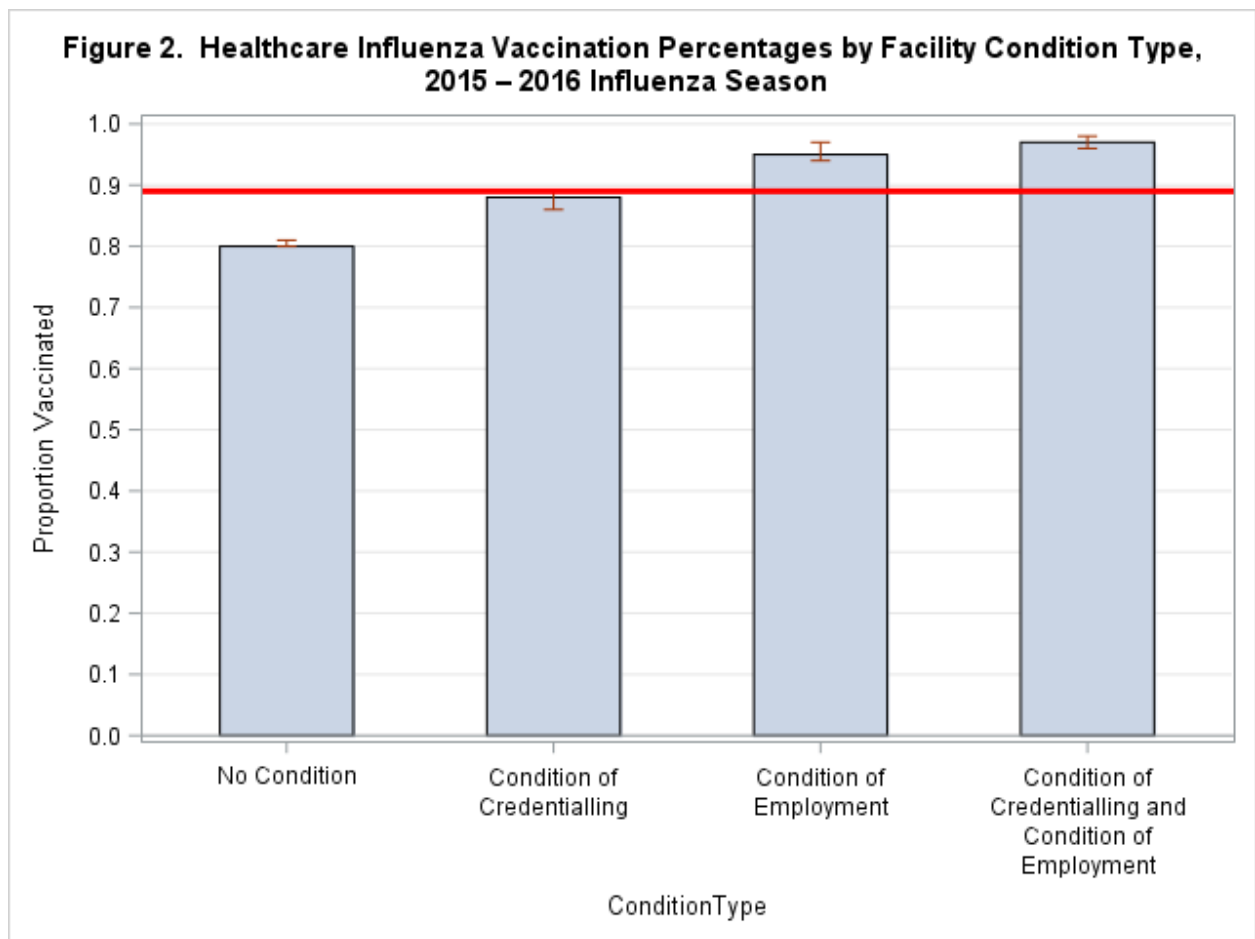




Table 2 shows influenza vaccination percentages for all HCPs at each reporting facility for the 2015-2016 influenza seasons. Facility vaccination percentages ranged from 43.70% to 100%. A confidence interval is provided to assess statistical differences in facility's HCP influenza vaccination percentages compared to the statewide HCP influenza vaccination rate. The data presented in Table 2 shows that 48 facilities reported significantly higher overall HCP influenza vaccination rate compared to the overall state vaccination rate, and 29 facilities reported significantly lower overall HCP influenza vaccination rate compared the overall state vaccination rate.

**Table 2. Influenza Vaccination Percentages for All\* Healthcare Personnel by Facility, 2015-2016 Influenza Season**

Hospital	Personnel Vaccinated	Total Personnel	Percent Vaccinated	95% Confidence Interval		Hospital % Compared to State %
				Lower Bound	Upper Bound	
Abbeville Area Medical Center	348	449	77.51%	69%	86%	Lower
Aiken Regional Medical Centers	1,426	1,489	95.77%	91%	100%	Higher
Allendale County Hospital	153	185	82.70%	70%	96%	Lower
AnMed Health	2,910	2,921	99.62%	96%	100%	Higher
AnMed Health Rehabilitation Hospital	227	300	75.67%	66%	86%	Lower
AnMed Health Women's and Children's Hospital	1,343	1,343	100.00%	95%	100%	Higher
Baptist Easley Hospital	1,247	1,263	98.73%	93%	100%	Higher
Beaufort Memorial Hospital	2,081	2,237	93.03%	89%	97%	Higher
Bon Secours St. Francis Eastside	1,824	1,870	97.54%	93%	100%	Higher
Bon Secours St. Francis Hospital - Downtown	2,590	2,701	95.89%	92%	100%	Higher
Bon-Secour St. Francis Xavier Hospital	2,040	2,103	97.00%	93%	100%	Higher
Cannon Memorial Hospital	410	410	100.00%	90%	100%	Higher
Carolina Pines Regional Medical Center	718	796	90.20%	84%	97%	Higher
Carolinas Hospital System	1,924	2,345	82.05%	78%	86%	Lower
Chester Regional Medical Center	408	429	95.10%	86%	100%	Higher
Clarendon Health System	552	994	55.53%	51%	60%	Lower
Coastal Carolina Hospital	563	568	99.12%	91%	100%	Higher
Colleton Medical Center	591	628	94.11%	87%	100%	Higher
ContinueCARE Hospital at Palmetto Health Baptist	70	71	98.59%	75%	100%	Higher

Conway Medical Center	1,336	1,953	68.41%	65%	72%	Lower
East Cooper Medical Center	790	935	84.49%	79%	90%	Lower
Edgefield County Hospital	230	251	91.63%	80%	100%	Higher
Fairfield Memorial Hospital	155	166	93.37%	79%	100%	Higher
Georgetown Memorial hospital	1,259	1,307	96.33%	91%	100%	Higher
Grand Strand Regional Medical Center	1,825	1,945	93.83%	90%	98%	Higher
Greenville Health System Laurens County Memorial Hospital	475	475	100.00%	91%	100%	Higher
Greenville Memorial Hospital	14,434	14,453	99.87%	98%	100%	Higher
Greenwood Regional Rehabilitation Hospital	176	213	82.63%	70%	95%	Lower
Greer Memorial Hospital	644	649	99.23%	92%	100%	Higher
Hampton Regional Medical Center	213	233	91.42%	79%	100%	Higher
HealthSouth Rehabilitation Hospital of Charleston	223	277	80.51%	70%	91%	Lower
HealthSouth Rehabilitation Hospital of Columbia	282	319	88.40%	78%	99%	Lower
HealthSouth Rehabilitation Hospital of Florence	142	228	62.28%	52%	73%	Lower
HealthSouth Rehabilitation Hospital of Rock Hill	156	220	70.91%	60%	82%	Lower
Hillcrest Memorial Hospital	404	406	99.51%	90%	100%	Higher
Hilton Head Hospital	831	839	99.05%	92%	100%	Higher
Kershaw Health Medical Center	1,277	1,312	97.33%	92%	100%	Higher
Lake City Community Hospital	326	372	87.63%	78%	97%	Lower
Lexington Medical Center	3,329	4,818	69.10%	67%	71%	Lower
Marion Regional Hospital	425	488	87.09%	79%	95%	Lower
Mary Black Health System Gaffney	316	515	61.36%	55%	68%	Lower

Mary Black Health System, LLC	673	1,344	50.07%	46%	54%	Lower
McLeod Health Cheraw	233	341	68.33%	60%	77%	Lower
McLeod Loris	480	727	66.02%	60%	72%	Lower
McLeod Medical Center - Darlington	83	111	74.77%	59%	91%	Lower
McLeod Medical Center - Dillon	343	558	61.47%	55%	68%	Lower
McLeod Regional Medical Center	4,082	6,784	60.17%	58%	62%	Lower
McLeod Seacoast	328	442	74.21%	66%	82%	Lower
Medical University Hospital Authority	11,796	12,246	96.33%	95%	98%	Higher
Mount Pleasant Hospital	1,078	1,128	95.57%	90%	100%	Higher
Newberry County Hospital	885	893	99.10%	93%	100%	Higher
North Greenville Long Term Acute Care Hospital	213	215	99.07%	86%	100%	Higher
Oconee Medical Center	1,142	1,145	99.74%	94%	100%	Higher
Palmetto Health Baptist	4,039	4,141	97.54%	95%	100%	Higher
Palmetto Health Baptist Parkridge	859	883	97.28%	91%	100%	Higher
Palmetto Health Richland	7,515	7,660	98.11%	96%	100%	Higher
Palmetto Health Tuomey	1,161	2,310	50.26%	47%	53%	Lower
Patewood Memorial Hospital	455	458	99.34%	90%	100%	Higher
Pelham Medical Center	634	817	77.60%	72%	84%	Lower
Piedmont Medical Center	2,082	2,591	80.36%	77%	84%	Lower
Providence Hospitals NE	208	476	43.70%	38%	50%	Lower
Regency Hospital of Florence	144	158	91.14%	76%	100%	Higher
Regency Hospital of Greenville	264	292	90.41%	80%	100%	Higher
Regional Medical Center of Orangeburg and Calhoun Counties (RMC)	1,947	2,086	93.34%	89%	97%	Higher
Roper Hospital	3,534	3,654	96.72%	94%	100%	Higher
Self-Regional Healthcare	2,741	2,772	98.88%	95%	100%	Higher

Shriners Hospitals for Children---Greenville	320	326	98.16%	87%	100%	Higher
Sisters of Charity Providence Hospitals Downtown	735	1,687	43.57%	40%	47%	Lower
Spartanburg Hospital for Restorative Care	538	575	93.57%	86%	100%	Higher
Spartanburg Medical Center	5,876	6,195	94.85%	92%	97%	Higher
Spartanburg Rehabilitation Institute	138	152	90.79%	76%	100%	Higher
Springs Memorial Hospital	778	1,159	67.13%	62%	72%	Lower
Summerville Medical Center	714	752	94.95%	88%	100%	Higher
Trident Medical Center	2,457	2,588	94.94%	91%	99%	Higher
Union Hospital	315	343	91.84%	82%	100%	Higher
Vibra Hospital of Charleston	239	262	91.22%	80%	100%	Higher
Waccamaw Community Hospital	1,092	1,143	95.54%	90%	100%	Higher

\*All HCPs = (Employees + LIPs +ASTVs)

For detailed facility specific HCP report follow the link:

<http://www.scdhec.gov/Health/docs/hai/2015%202016%20Healthcare%20Personnel%20Vaccination%20Facility%20specific%20Report.pdf>

## CONCLUSIONS

This report displays South Carolina HCP influenza vaccination surveillance data by facilities and healthcare personnel type for the 2015 – 2016 influenza season. The data in this report are self-reported and has not been validated by the South Carolina Department of Health and Environmental Control. This report provides a picture of HCP influenza vaccination data that can be used by healthcare facilities for improvement in their HCP's influenza vaccination rates, as well as healthcare consumers to make informed decisions regarding HCP influenza vaccination in South Carolina.

Key findings described in this report include the following:

- All HIDA reporting facilities except one facility in South Carolina complied with the HAI mandatory reporting requirement to report HCP influenza vaccination summary data for the 2015 – 2016 influenza season. All reported data were submitted to the Healthcare Personnel Vaccination Module within the NHSN Healthcare Personnel Safety Component.
- Vaccination rates for all HCP types by facility during the 2015 – 2016 influenza season ranged from 43.70% to 100%. The overall state influenza vaccination rate for all HCP types was 88.71%. HCPs in acute care facilities, long term acute care facilities, and inpatient rehabilitation facilities reported influenza vaccination rates of 88.79%, 93.32%, and 78.64% respectively.
- When compared to the overall State influenza vaccination rate, LIP influenza vaccination rates were significantly lower at 73.35% compared to the overall state vaccination rate of 88.71%, and the employee influenza vaccination rate of 91.29% was significantly higher when compared to the overall state vaccination rate. It is important

to note that ASTV and LIP influenza vaccination rates may be underreported due to barriers in capturing the vaccination statuses of ASTV and LIP healthcare personnel by facility's employee health departments.

- Thirty-two South Carolina facilities had conditional influenza vaccination policies for healthcare personnel during the 2015-2016 influenza season; 22 (28.57%) of 76 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 12 (15.58%) facilities required vaccination as a condition of employment only, 9 (11.69%) facilities required vaccination as a condition of credentialing only. Thirty-four (44.15%) of facilities did not require vaccination as a condition of employment or credentialing. Influenza vaccination rates of all HCP types were higher at facilities with conditional influenza vaccination policies compared to the facilities that did not have conditional vaccination policies in place.

## REFERENCES

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