

**Hospital Infections Disclosure Act**  
**Healthcare Personnel Influenza Vaccination Data Report**  
**2014-2015 Influenza Season**

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## INTRODUCTION

Healthcare personnel (HCP) are at risk of contracting the influenza virus through contact with infected patients and transmitting the virus to their patients, coworkers and families. The benefits of HCP influenza vaccination on patient outcomes and HCP absenteeism have been well documented. 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>

There are currently no state regulations requiring influenza vaccination of HCPs in South Carolina hospitals. However, some hospitals do require HCP influenza vaccination as a condition of employment and/or credentialing. Influenza vaccination rates for HCP were monitored in 67 acute care facilities, six long term acute care (LTAC) facilities and seven inpatient rehabilitation facilities (IRF) reporting under the South Carolina Hospital Infections Disclosure Act (HIDA) during the 2014-2015 influenza season.

## METHODS

Facilities were required to collect HCP influenza vaccination data from October 1<sup>st</sup>, 2014 through March 31<sup>st</sup>, 2015. 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 consisted of HCPs who were physically present within the healthcare facility for at least 1 working day between October 1<sup>st</sup>, 2014 and March 31<sup>st</sup>, 2015. 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 included 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 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>, 2014 and March 31<sup>st</sup>, 2015, 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.

## **RESULTS**

*Note: The formula used to calculate vaccination rate described in the results section of this report is:  $Vaccination\ Rate = (Total\ Vaccinated / Total\ Working) \times 100$*

### **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, long term acute care and inpatient rehabilitation facilities had HCP influenza vaccination rates of 85%, 93% and 79%, respectively. The overall state influenza vaccination rate for all HCP at all facility types was 85%. A confidence interval (CI) 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, 2014-2015**  
**Influenza Season**

<b>Facility Type</b>	<b>Personnel Vaccinated</b>	<b>Total Personnel</b>	<b>95% Confidence Interval</b>	<b>% Vaccinated</b>
Acute Care	101,300	119,816	84%, 85%	85%
LTAC	1,463	1,571	88%, 98%	93%
IRF <sup>§</sup>	1,344	1,709	74%, 83%	79%
STATE (All Facility Types)	104,107	123,096	84%, 85%	85%

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

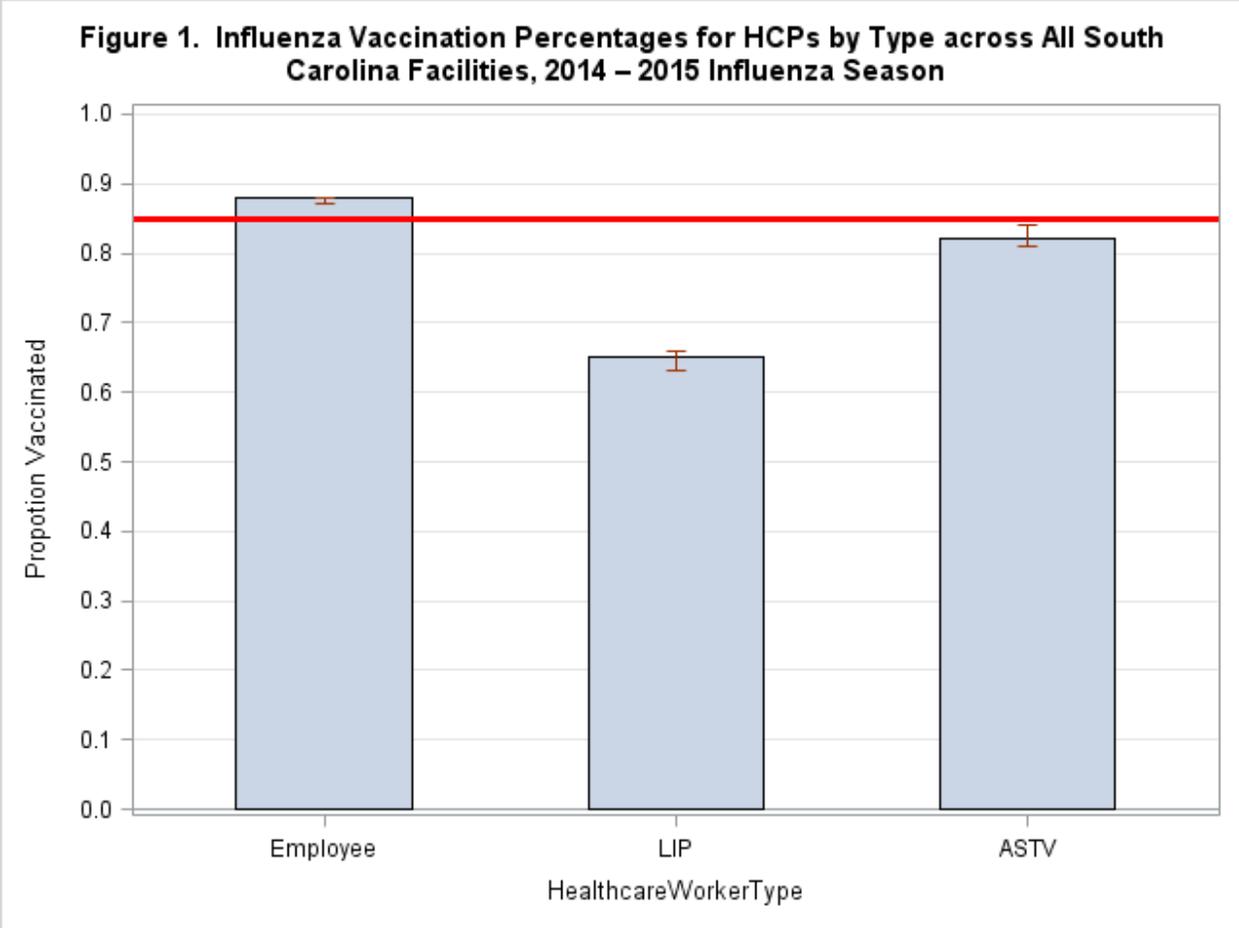
§IRF data in table reported by free standing IRFs only. IRF locations within acute care settings are included in the data presented for acute care facilities.

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

Personnel type is stratified into the three categories described in the above methods:

1. Employee,
2. LIP, and
3. Adult trainees/volunteers.

The overall state influenza vaccination rate is shown as a horizontal line. Influenza vaccination rates were statistically different among all HCP types. Employee personnel had the highest influenza vaccination rate at 88%, followed by ASTV and LIP personnel at 82% and 65%, respectively.



All South Carolina Facilities= Acute care, LTAC, free standing IRF

**Influenza Vaccination Policies for HCPs**

During the 2014-2015 influenza season, 14 (17.5%) of 80 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 12 (15%) facilities required influenza vaccination as a condition of employment only, 18 (22.5%) facilities required influenza vaccination as a condition of credentialing only, and 36 (45%) 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 85% (CI: 84%, 85%) and showed by the horizontal line. Facilities that required vaccination as a condition of both credentialing and employment reported a vaccination rate of 96%. Facilities that required HCP influenza vaccination as a condition of employment had a vaccination rate of 94% and facilities that required healthcare influenza vaccination as a condition of credentialing had a vaccination rate of 78%. HCPs at facilities where influenza vaccination was not required for either credentialing or employment had a 76% vaccination rate.

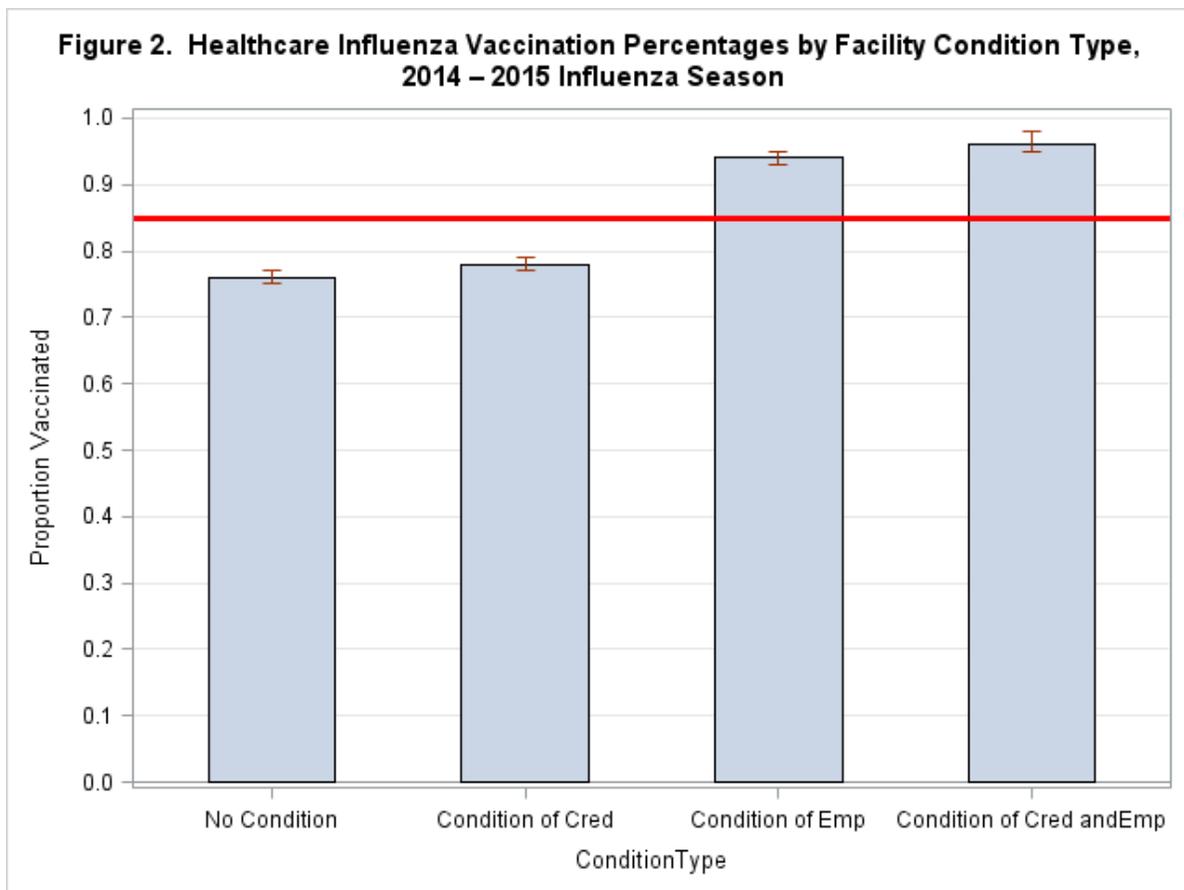


Table 2 shows influenza vaccination percentages for all HCPs at each reporting facility for the 2014-2015 influenza season. Facility vaccination percentages ranged from 44% to 100%. A confidence interval is provided to assess statistical differences in facility HCP influenza vaccination percentages compared to the statewide HCP influenza vaccination rate. The data presented in Table 2 shows that 2 facilities had HCP influenza vaccination percentages that were

similar to the overall state vaccination rate, 50 facilities reported HCP influenza vaccination percentages that were significantly higher than the overall state vaccination rate, and 28 facilities reported HCP influenza vaccination rate that were significantly lower than the overall state vaccination rate.

**Table 2. Influenza Vaccination Percentages for All\* Healthcare Personnel by Facility, 2014-2015 Influenza Season**

S.No	Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	Confidence Interval		Hospital % Compared to State %
					Lower Limit	Upper Limit	
1	Abbeville Area Medical Center <sup>§</sup>	416	433	96%	87%	100%	Higher
2	Aiken Regional Medical Centers <sup>^</sup>	1,479	1,589	93%	88%	98%	Higher
3	Allendale County	141	181	78%	65%	91%	Lower
4	AnMed Health <sup>§</sup>	2,412	2,424	100%	96%	100%	Higher
5	AnMed Health Rehabilitation Hospital	227	300	76%	66%	86%	Lower
6	AnMed Health Women's and Children's Hospital <sup>§</sup>	1,729	1,729	100%	95%	100%	Higher
7	Baptist Easley Hospital <sup>§^</sup>	1,351	1,364	99%	94%	100%	Higher
8	Barnwell County Hospital	83	144	58%	45%	70%	Lower
9	Beaufort Memorial Hospital <sup>§^</sup>	2,233	2,299	97%	93%	100%	Higher
10	Bon Secours St. Francis Eastside	1,462	1,531	95%	91%	100%	Higher
11	Bon Secours St. Francis Hospital - Downtown	2,187	2,381	92%	88%	96%	Higher
12	Bon-Secour St. Francis Xavier Hospital <sup>§</sup>	1,834	2,141	86%	82%	90%	Higher
13	Cannon Memorial Hospital <sup>§^</sup>	408	408	100%	90%	100%	Higher

14	Carolina Pines Regional Medical Center	801	861	93%	87%	99%	Higher
15	Carolinas Hospital System	1,881	2,182	86%	82%	90%	Higher
16	Chester Regional Medical Center <sup>§^</sup>	279	294	95%	84%	100%	Higher
17	Chesterfield General Hospital <sup>€</sup>	273	291	94%	83%	100%	Higher
18	Clarendon Health System <sup>^</sup>	546	886	62%	56%	67%	Lower
19	Coastal Carolina Hospital	467	486	96%	87%	100%	Higher
20	Colleton Medical Center	641	715	90%	83%	97%	Higher
21	Conway Medical Center	1,193	1,764	68%	64%	71%	Lower
22	East Cooper Medical Center <sup>§^</sup>	871	944	92%	86%	98%	Higher
23	Edgefield County Hospital	199	232	86%	74%	98%	Higher
24	Fairfield Memorial	106	180	59%	48%	70%	Lower
25	Georgetown Memorial hospital <sup>§</sup>	1,411	1,628	87%	82%	91%	Higher
26	Grand Strand Regional Medical Center <sup>^</sup>	1,805	1,962	92%	88%	96%	Higher
27	Greenville Health System Laurens County Memorial Hospital <sup>§^</sup>	511	511	100%	91%	100%	Higher
28	Greenville Memorial Hospital <sup>§^</sup>	13,134	13,786	95%	94%	97%	Higher
29	Greenwood Regional Rehabilitation Hospital	176	213	83%	70%	95%	Lower
30	Greer Memorial Hospital <sup>§^</sup>	558	589	95%	87%	100%	Higher
31	Hampton Regional Medical Center	162	191	85%	72%	98%	Similar
32	HealthSouth Rehabilitation Hospital of Charleston	223	277	81%	70%	91%	Lower
33	HealthSouth Rehabilitation Hospital of Columbia <sup>^</sup>	282	319	88%	78%	99%	Higher

34	HealthSouth Rehabilitation Hospital of Florence	142	228	62%	52%	73%	Lower
35	HealthSouth Rehabilitation Hospital of Rock Hill	156	220	71%	60%	82%	Lower
36	Hillcrest Memorial Hospital <sup>§^</sup>	374	390	96%	86%	100%	Higher
37	Hilton Head Hospital	756	787	96%	89%	100%	Higher
38	Inter Medical Hospital of SC <sup>§</sup>	94	95	99%	79%	100%	Higher
39	Kershaw Health Medical Center ^	1,414	1,453	97%	92%	100%	Higher
40	Lake City Community Hospital	384	432	89%	80%	98%	Higher
41	Lexington Medical Center	3,101	4,982	62%	60%	64%	Lower
42	Marion Regional Hospital	443	517	86%	78%	94%	Higher
43	Marlboro Park Hospital <sup>^¥</sup>	161	196	82%	69%	95%	Lower
44	Mary Black Health System Gaffney <sup>§</sup>	492	503	98%	89%	100%	Higher
45	Mary Black Health System, LLC ^	991	1,446	69%	64%	73%	Lower
46	McLeod Lorris ^	448	877	51%	46%	56%	Lower
47	McLeod Medical Center - Darlington ^	102	178	57%	46%	68%	Lower
48	McLeod Medical Center - Dillon ^	343	535	64%	57%	71%	Lower
49	McLeod Regional Medical Center ^	3,366	6,575	51%	49%	53%	Lower
50	McLeod Seacoast ^	239	378	63%	55%	71%	Lower
51	Medical University of South Carolina Medical Center <sup>§</sup>	11,276	12,006	94%	92%	96%	Higher
52	Mount Pleasant Hospital <sup>§</sup>	1,048	1,110	94%	89%	100%	Higher
53	Newberry County Hospital	719	790	91%	84%	98%	Higher
54	North Greenville Long Term Acute Care Hospital <sup>§^</sup>	200	210	95%	82%	100%	Higher
55	Oconee Medical Center <sup>§^</sup>	834	841	99%	92%	100%	Higher
56	Palmetto Health Baptist	2,926	3,827	76%	74%	79%	Lower

57	Palmetto Health Baptist Parkridge	600	817	73%	68%	79%	Lower
58	Palmetto Health Richland	5,414	7,055	77%	75%	79%	Lower
59	Patewood Memorial Hospital <sup>§^</sup>	431	448	96%	87%	100%	Higher
60	Pelham Medical Center ^	637	764	83%	77%	90%	Lower
61	Piedmont Medical Center	2,139	2,259	95%	91%	99%	Higher
62	Providence Hospitals NE	271	466	58%	51%	65%	Lower
63	Regency Hospital of Florence <sup>§</sup>	161	176	91%	77%	100%	Higher
64	Regency Hospital of Greenville	253	265	95%	84%	100%	Higher
65	Regional Medical Center of Orangeburg and Calhoun Counties (RMC) ^	1,528	1,666	92%	87%	96%	Higher
66	Roper Hospital <sup>§</sup>	3,236	3,323	97%	94%	100%	Higher
67	Self-Regional Healthcare <sup>§^</sup>	2,603	2,612	100%	96%	100%	Higher
68	Shriners Hospital for Children <sup>§^</sup>	318	327	97%	87%	100%	Higher
69	Sisters of Charity Providence Hospitals Downtown	926	2,114	44%	41%	47%	Lower
70	Spartanburg Hospital for Restorative Care ^	495	536	92%	84%	100%	Higher
71	Spartanburg Medical Center ^	6,303	6,895	91%	89%	94%	Higher
72	Spartanburg Rehabilitation Institute	138	152	91%	76%	100%	Higher
73	Springs Memorial Hospital	751	985	76%	71%	82%	Lower
74	Summerville Medical Center ^	700	823	85%	79%	91%	Similar
75	Trident Medical Center ^	2,591	3,000	86%	83%	90%	Higher
76	Tuomey Healthcare System	1,124	2,133	53%	50%	56%	Lower
77	Vibra Hospital of Charleston	260	289	90%	79%	100%	Higher
78	Waccamaw Community Hospital <sup>§</sup>	1,342	1,563	86%	81%	90%	Higher

79	Wallace Thomson Hospital	199	333	60%	51%	68%	Lower
80	Williamsburg Regional	197	284	69%	60%	79%	Lower

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

§Facility requires healthcare Personnel influenza vaccination as a condition of employment.

^Facility requires healthcare Personnel influenza vaccination as a condition of credentialing.

€The data from Chesterfield General was not validated as this facility was sold to McLeods Cheraw on June 22, 2015

¥The data from Marlboro Park Hospital was not validated as the facility was closed on May 1st, 2015.

## CONCLUSIONS

This report displays South Carolina HCP influenza vaccination surveillance data by facilities and healthcare personnel type for the 2014-2015 influenza season. The data in this report are self-reported and have not undergone validation 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 in South Carolina complied with the HAI mandatory reporting requirement to report HCP influenza vaccination summary data for the 2014 – 2015 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 2014 – 2015 influenza season ranged from 44% to 100%. The overall state influenza vaccination rate for all HCP types was 85%. HCPs in acute care facilities, long term acute care facilities, and inpatient rehabilitation facilities reported influenza vaccination rates of 85%, 93%, and 79% respectively.
- When compared to the overall State influenza vaccination rate, LIP and ASTV influenza vaccination rates were statistically significantly lower at 65% and 82%, respectively. The employee influenza vaccination rate of 88% was significantly higher when compared to the overall state vaccination rate of 85%. 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 employee health departments.
- Forty-four South Carolina facilities had conditional influenza vaccination policies for healthcare personnel during the 2014-2015 influenza season; 14 (18%) of 80 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 12 (15%) facilities required vaccination as a condition of employment only, 18 (23%) facilities required vaccination as a condition of credentialing only. Thirty-

six (45%) 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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