

**Hospital Infections Disclosure Act
Healthcare Personnel Influenza Vaccination Data Report
2013-2014 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%.¹

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. Healthcare personnel influenza vaccination rates were monitored in 66 acute care facilities, 6 long term acute care (LTAC) facilities and 6 inpatient rehabilitation facilities (IRF) reporting under the South Carolina Hospital Infections Disclosure Act (HIDA) during the 2013-2014 influenza season.

METHODS

Facilities were required to collect HCP influenza vaccination data from October 1st, 2013 through March 31st, 2014. 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.²

Denominator data consisted of HCPs who were physically present within the healthcare facility for at least 1 working day between October 1st, 2013 and March 31st, 2014. 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 consisted of HCPs in each denominator HCP type, who were physically present within the healthcare facility for at least 1 working day between October 1st, 2013 and March 31st, 2014, 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 1st 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 and for 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 82.19%, 91.85% and 63.92%, respectively. The overall state influenza vaccination rate for all HCP at all facility types was 82.11%. A 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, 2013 – 2014 Influenza Season

Facility Type	Personnel Vaccinated	Total Personnel	95% Confidence Interval	% Vaccinated
Acute Care	97515	118639	81.99%, 82.41%	82.19
LTAC	1533	1669	90.51%, 93.19%	91.85
IRF [§]	916	1433	61.40%, 66.44%	63.92
STATE (All Facility Types)	99964	121741	81.89%, 82.32%	82.11

*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.

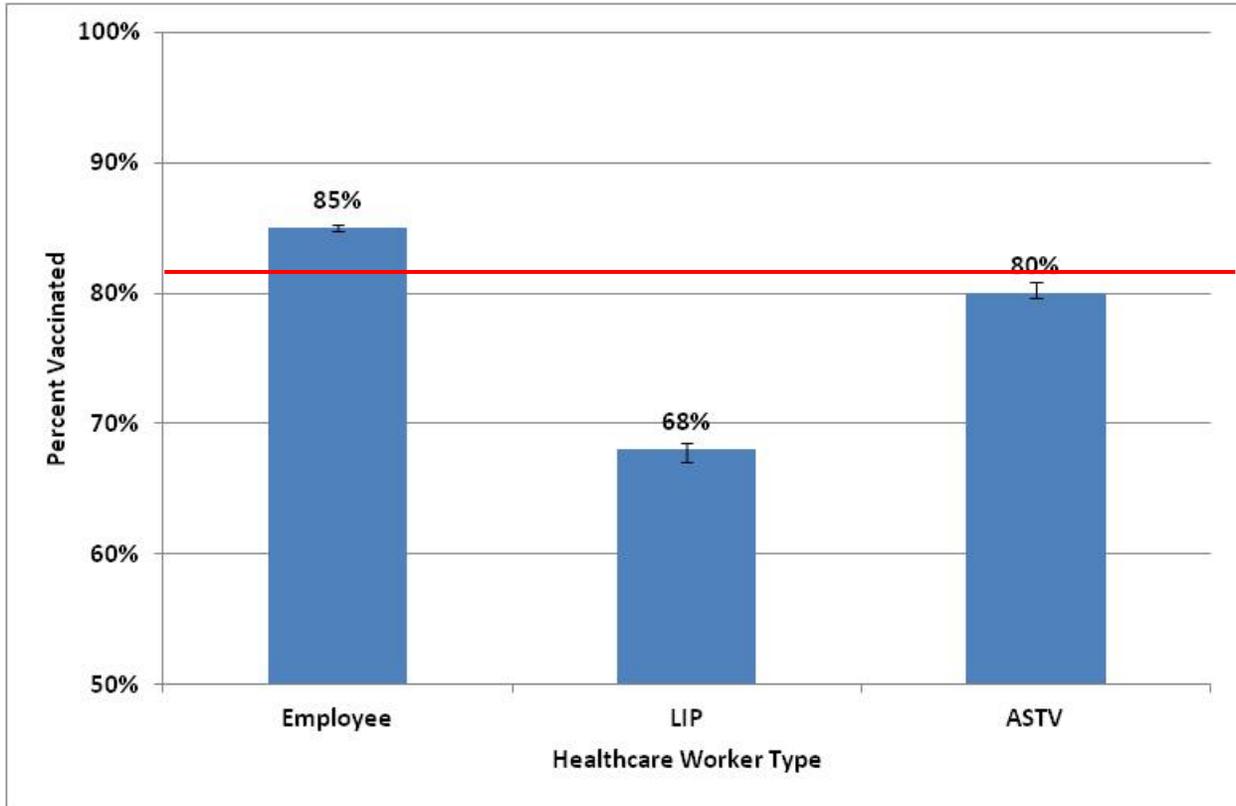
Personnel type is stratified into the three categories described in the above methods; 1)

Employee, 2) LIP, and 3) Adult trainees/volunteers. The overall state influenza vaccination rate

is shown in red. Influenza vaccination rates were statistically different among all HCP types.

Employee personnel had the highest influenza vaccination rate at 85.02%, followed by ASTV and LIP personnel at 80.20% and 67.83%, respectively.

Figure 1. Influenza Vaccination Percentages for HCPs by Type Across All South Carolina Facilities, 2013 – 2014 Influenza Season



Influenza Vaccination Policies for HCPs

During the 2013-2014 influenza season, 21 (27%) of 78 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 10 (13%) facilities required influenza vaccination as a condition of employment only, 8 (10%) facilities required influenza vaccination as a condition of credentialing only, and 39 (50%) 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, credentialing or both employment and credentialing reported vaccination percentages statistically higher than the overall state influenza vaccination rate. Facilities that required vaccination as a condition of both credentialing and employment reported a vaccination rate of 97%. Facilities that required HCP influenza vaccination as a condition of employment had a vaccination rate of 92% and facilities that required healthcare influenza vaccination as a condition of credentialing had a vaccination rate of 88%. HCPs at facilities where influenza vaccination was not required for either credentialing or employment had a 63% vaccination rate.

Figure 2. Healthcare Influenza Vaccination Percentages by Facility Condition Type, 2013 – 2014 Influenza Season

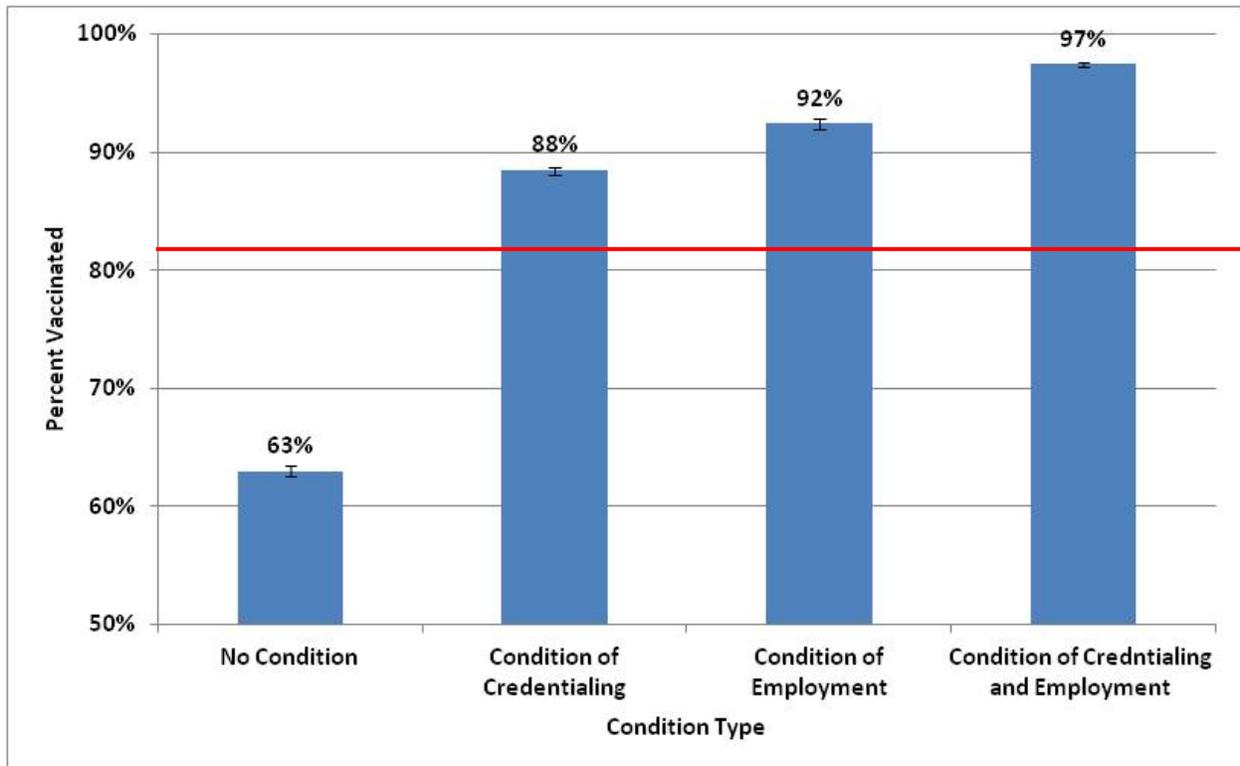


Table 2 shows influenza vaccination percentages for all HCPs at each reporting facility for the 2013-2014 influenza season. Facility vaccination percentages ranged from 34% to 100%. A confidence interval is provided to assess statistical differences in facility HCP influenza vaccination percentages compared to the statewide HCP influenza vaccination rate. The data presented in Table 2 shows that 10 facilities had HCP influenza vaccination percentages that were similar to the overall state vaccination rate, 44 facilities reported HCP influenza vaccination percentages that were significantly higher than the overall state vaccination rate, and 24 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, 2013-2014 Influenza Season

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Abbeville Area Medical Center [§]	489	508	96%	94%, 98%	Higher
Aiken Regional Medical Centers [§]	1371	1478	93%	91%, 94%	Higher
Allen Bennett Memorial Hospital ^{§^}	582	586	99%	98%, 100%	Higher
Allendale County Hospital	75	167	45%	37%, 53%	Lower
AnMed Health ^{§^}	2371	2390	99%	99%, 100%	Higher
AnMed Health Rehabilitation Hospital	169	315	54%	48%, 59%	Lower
AnMed Health Women's and Children's Hospital ^{§^}	2002	2002	100%	100%, 100%	Higher
Baptist Easley Hospital ^{§^}	1299	1320	98%	98%, 99%	Higher
Barnwell County Hospital	89	136	65%	57%, 73%	Lower
Beaufort Memorial Hospital ^{§^}	1963	2034	97%	96%, 97%	Higher
Bon Secours St. Francis Eastside [§]	1632	1670	98%	97%, 98%	Higher
Bon Secours St. Francis Hospital - Downtown [§]	2525	2592	97%	97%, 98%	Higher

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Bon-Secour St. Francis Xavier Hospital ^{§^}	2605	2634	99%	98%, 99%	Higher
Cannon Memorial Hospital ^{§^}	360	360	100%	99%, 100%	Higher
Carolina Pines Regional Medical Center [§]	647	701	92%	90%, 94%	Higher
Carolinas Hospital System	1781	2164	82%	81%, 84%	Similar
Chester Regional Medical Center ^{§^}	205	209	98%	95%, 99%	Higher
Chesterfield General Hospital [^]	238	269	88%	84%, 92%	Higher
Clarendon Health System	520	765	68%	65%, 71%	Lower
Coastal Carolina Hospital	338	362	93%	90%, 96%	Higher
Colleton Medical Center ^{§^}	585	656	89%	87%, 91%	Higher
Conway Medical Center [^]	1397	1904	73%	71%, 75%	Lower
East Cooper Medical Center	833	1062	78%	76%, 81%	Similar
Edgefield County Hospital	206	229	90%	86%, 93%	Higher
Fairfield Memorial Hospital	141	221	64%	57%, 70%	Lower
Georgetown Memorial Hospital [§]	1496	1729	87%	85%, 88%	Higher

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Grand Strand Regional Medical Center	1688	1852	91%	90%, 92%	Higher
Greenville Health System Laurens County Memorial Hospital ^{§^}	488	488	100%	99%, 100%	Higher
Greenville Memorial Hospital ^{§^}	11228	11295	99%	99%, 100%	Higher
Greenwood Regional Rehabilitation Hospital	151	201	75%	69%, 81%	Similar
Hampton Regional Medical Center	211	237	89%	85%, 93%	Higher
HealthSouth Rehabilitation Hospital of Charleston	156	209	75%	68%, 80%	Lower
HealthSouth Rehabilitation Hospital of Columbia	236	263	90%	86%, 93%	Higher
HealthSouth Rehabilitation Hospital of Florence [^]	137	246	56%	49%, 62%	Lower
HealthSouth Rehabilitation Hospital of Rock Hill	67	199	34%	27%, 40%	Lower
Hillcrest Memorial Hospital ^{§^}	373	376	99%	98%, 100%	Higher
Hilton Head Hospital	783	840	93%	91%, 95%	Higher
InterMedical Hospital of SC [§]	94	120	78%	70%, 85%	Similar
KershawHealth Medical Center	622	1128	55%	52%, 58%	Lower
Lake City Community Hospital	364	407	89%	86%, 92%	Higher

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Lexington Medical Center	2773	4960	56%	55%, 57%	Lower
Marion Regional Hospital	498	572	87%	84%, 90%	Higher
Marlboro Park Hospital	189	233	81%	76%, 86%	Similar
Mary Black Health System, LLC	829	1272	65%	63%, 68%	Lower
McLeod Loris	550	898	61%	58%, 64%	Lower
McLeod Medical Center - Darlington	122	160	76%	69%, 82%	Similar
McLeod Medical Center - Dillon	329	542	61%	57%, 65%	Lower
McLeod Regional Medical Center	3319	5212	64%	62%, 65%	Lower
McLeod Seacoast	238	307	78%	73%, 82%	Similar
Medical University of South Carolina Medical Center ^{§^}	12001	12666	95%	94%, 95%	Higher
Mount Pleasant Hospital ^{§^}	1126	1227	92%	90%, 93%	Higher
Newberry County Hospital	543	702	77%	74%, 80%	Lower
North Greenville Long Term Acute Care Hospital ^{§^}	175	179	98%	95%, 99%	Higher
Novant Health Gaffney Medical Center [§]	472	496	95%	93%, 97%	Higher

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Oconee Medical Center ^{\$^}	1789	1849	97%	96%, 97%	Higher
Palmetto Health Baptist	2376	5109	47%	45%, 48%	Lower
Palmetto Health Richland	4248	7723	55%	54%, 56%	Lower
Patewood Memorial Hospital ^{\$^}	402	407	99%	97%, 100%	Higher
Pelham Medical Center [^]	690	761	91%	88%, 93%	Higher
Piedmont Medical Center ^{\$^}	1827	1918	95%	94%, 96%	Higher
Providence Hospitals NE	236	433	55%	50%, 59%	Lower
Regency Hospital of Florence	169	212	80%	74%, 85%	Similar
Regency Hospital of Greenville ^{\$}	297	302	0.98	96%, 99%	Higher
Regional Medical Center of Orangeburg and Calhoun Counties (RMC)	1119	2126	53%	51%, 55%	Lower
Roper Hospital ^{\$^}	4438	4480	99%	99%, 99%	Higher
Self Regional Healthcare [^]	2766	2783	99%	99%, 100%	Higher
Shriners Hospitals for Children--- Greenville ^{\$^}	305	316	97%	94%, 98%	Higher

Hospital	Personnel Vaccinated	Total Personnel	% Vaccinated	95% Confidence Interval	Hospital % Compared to State %
Sisters of Charity Providence Hospitals Downtown [^]	1118	2208	51%	49%, 53%	Lower
Spartanburg Hospital for Restorative Care	566	613	92%	90%, 94%	Higher
Spartanburg Medical Center [^]	5102	5535	92%	91%, 93%	Higher
Springs Memorial Hospital	643	881	73%	70%, 76%	Lower
Summerville Medical Center [^]	670	703	95%	94%, 97%	Higher
Trident Medical Center [^]	2257	2515	90%	89%, 91%	Higher
Tuomey Healthcare System	1075	2417	44%	43%, 46%	Lower
Vibra Hospital of Charleston	232	243	95%	92%, 98%	Higher
Waccamaw Community Hospital [§]	1382	1664	83%	81%, 85%	Similar
Wallace Thomson Hospital	300	452	66%	62%, 71%	Lower
Williamsburg Regional Hospital	276	341	81%	77%, 85%	Similar
STATE	99964	121741	82%	81%, 82%	

*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.

Data for Spartanburg Rehabilitation Institute is excluded from this table due to noncompliance to the HIDA reporting requirement and deadline for HCW influenza vaccination summary data submission.

CONCLUSIONS

This report displays South Carolina HCP influenza vaccination surveillance data by facilities and healthcare personnel type for the 2013 – 2014 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:

- Seventy eight out of 79 HIDA reporting facilities in South Carolina complied with the HAI mandatory reporting requirement to report HCP influenza vaccination summary data for the 2013 – 2014 influenza season. Data from Spartanburg Rehabilitation Institute is excluded from this report due to noncompliance to the HIDA reporting requirement and data submission deadline. 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 2013 – 2014 influenza season ranged from 34% to 100%. The overall state influenza vaccination rate for all HCP types was 82%. HCPs in acute care facilities and long term acute care facilities reported influenza vaccination rates of 81% and 92%, respectively. Only 64% of HCPs in inpatient rehabilitation facilities received the influenza vaccine.
- When compared to the overall State influenza vaccination rate, LIP and ASTV influenza vaccination rates were statistically significantly lower at 68% and 80%, respectively. The employee influenza vaccination rate of 85% was significantly higher when compared to

the overall state vaccination rate of 82%. 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.

- Thirty-nine South Carolina facilities had conditional influenza vaccination policies for healthcare personnel during the 2013-2014 influenza season; 21 (27%) of 78 reporting facilities required HCP influenza vaccination as a condition of both employment and credentialing, 10 (13%) facilities required vaccination as a condition of employment only, 8 (10%) facilities required vaccination as a condition of credentialing only. Thirty-nine (50%) 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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2. CDC. Division of Healthcare Quality and Promotion. Healthcare Personnel Safety Component Protocol, Healthcare Personnel Vaccination Module: Influenza Vaccination Summary. Available online at: <http://www.cdc.gov/nhsn/PDFs/HPS-manual/vaccination/HPS-flu-vaccine-protocol.pdf>