

**Hospital Infections Disclosure Act
Healthcare Personnel Influenza Vaccination Report
2016-2017 Influenza Season**

For more information, please contact:

DHEC, Division of Acute Disease Epidemiology

Katie Waites, MPH
Epidemiologist, Healthcare-Associated Infections
Phone: (803) 898-0817
Email: waitesks@dhec.sc.gov

Chloë Scott, MPH
Epidemiologist, Healthcare-Associated Infections
Phone: (803) 898-1938
Email: scottca@dhec.sc.gov

TABLE OF CONTENTS

PAGE	SECTION TITLE
3	Introduction
4	Methods
6	Results
12	Conclusion
15	References

INTRODUCTION

Healthcare workers (HCW) are at risk of transmitting influenza to their patients, coworkers and families if they become infected. The benefits of HCW influenza vaccination on patient outcomes and HCW absenteeism are well documented. Influenza outbreaks are also documented in facilities with high influenza vaccine coverage rates among patients but low coverage among HCWs. Unfortunately, national influenza vaccination coverage in HCW remains low. A CDC survey conducted during the 2012-2013 influenza season, estimated influenza vaccination in HCWs to be approximately 72%. ¹

Steadily, more hospitals and other healthcare facilities are requiring HCW influenza vaccination as a condition of employment and/or credentialing. In July of 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 implement an incremental vaccination goal to reach 90% coverage by the year 2020. To reinforce these efforts, HCW influenza vaccination rates were monitored in 64 acute care facilities, 6 long-term acute care (LTAC) facilities and 7 inpatient rehabilitation facilities (IRF). Influenza vaccine reporting is mandated under the South Carolina Hospital Infections Disclosure Act (HIDA).

METHODS

Hospitals were required to collect HCW influenza vaccination data from October 1, 2016 through March 31, 2017. This information was self-reported by each facility through the Healthcare Personnel Vaccination Module within the National Healthcare Safety Network's (NHSN) Healthcare Personnel Safety Component. Facilities were required to follow standardized reporting definitions and methods as described in the NHSN Healthcare Personnel Safety Component Manual.²

Denominator data in NHSN consisted of healthcare workers who were physically present within the healthcare facility for at least one working day between October 1, 2016 and March 31, 2017. Denominators were collected separately for the following healthcare worker type:

- 1) *Employees*: includes all persons who receive a direct paycheck from the reporting facility (i.e. on the facility's payroll)
- 2) *Licensed Independent Practitioners (LIPs)*: includes 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 students, trainees, and volunteers (ASTVs)*: includes medical, nursing, and other health professional students, interns, medical residents, and volunteers age 18 years or older who are affiliated with the healthcare facility.
- 4) *Other contract personnel (optional)*: includes persons providing care, treatment, or services at the facility through a contract who do not fall into one of the aforementioned categories. Data for this category is not included in this report.

Numerator data in NHSN consisted of HCWs in each denominator HCW type, who were physically present within the healthcare facility for at least 1 working day between October 1, 2016 and March 31, 2017, 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.

HCWs who received vaccine prior to October 1st could be included in the summary data counts.

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

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

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 HCW Type

Table 1 displays influenza vaccination percentages for all HCW types for acute care facilities, long-term acute care facilities (LTAC), and inpatient rehabilitation facilities (IRF). Acute care, LTAC, and IRF had HCW influenza vaccination rates of 88.10%, 91.19% and 90.94%, respectively. The overall state influenza vaccination rate for all HCW at all facility types was 88.19%.

Table 1. Influenza Vaccination Percentages for All* HCW by Facility Type, 2016 – 2017 Influenza Season

Facility Type	Personnel Vaccinated	Total Personnel	Percent Vaccinated
Acute Care	108,873	123,565	88.10%
LTAC	1,428	1,566	91.19%
IRF [§]	1,647	1,811	90.94%
STATE (All Facilities)	111,948	126,942	88.19%

*All HCWs = (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 HCWs by personnel type.

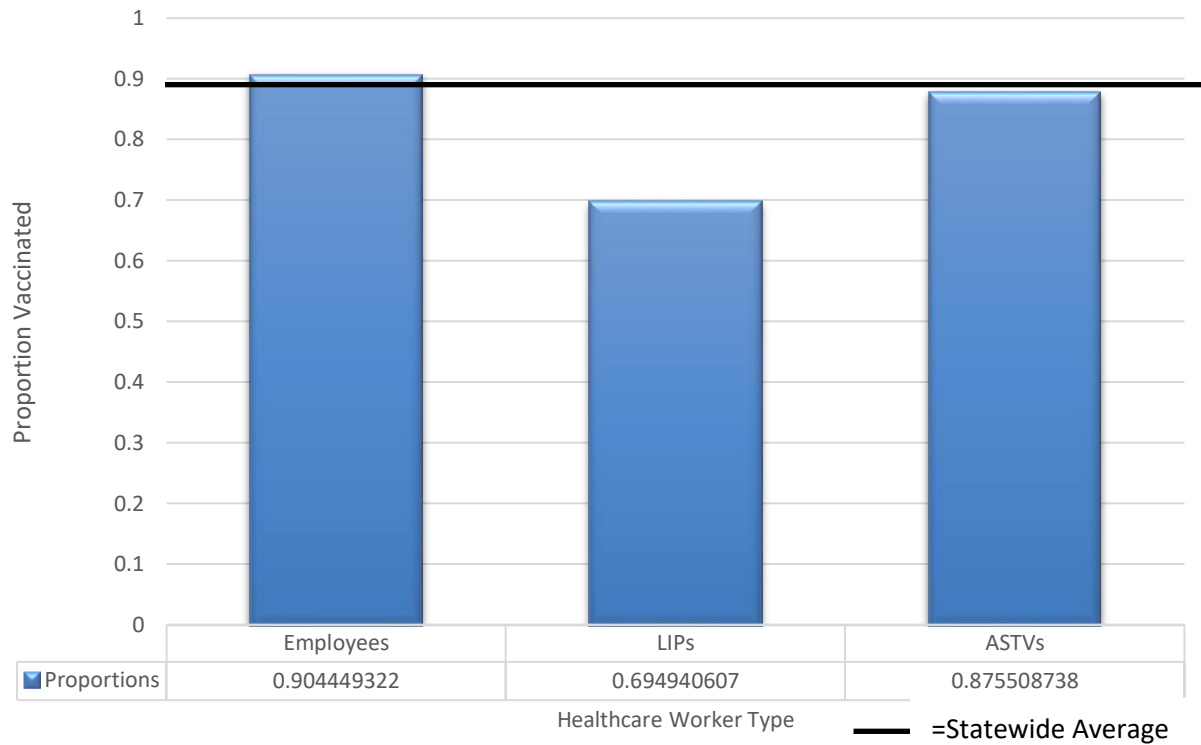
Personnel type is stratified into the three categories as described in the methods section: 1)

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

black. Employees had the highest influenza vaccination rate at 90.44%, followed by ASTVs

and LIPs at 87.55% and 69.49%, respectively.

Figure 1. Statewide Influenza Vaccination Percentages for Healthcare Workers by Type, 2016-2017 Season



Influenza Vaccination Policies for HCWs

During the 2016-2017 influenza season, sixty-nine facilities answered questions about their respective influenza vaccination policies. Of those sixty-nine facilities, seventeen (24.64%) facilities required HCW influenza vaccination as a condition of both employment and credentialing, thirteen (18.84%) facilities required influenza vaccination as a condition of employment only, fourteen (20.29%) facilities required influenza vaccination as a condition of credentialing only, and twenty-five (36.23%) facilities did not require influenza vaccination as a condition of either employment or credentialing.

Figure 2 displays influenza vaccination rates for HCWs working at facilities with and

without influenza vaccination requirements. HCWs at facilities that reported influenza vaccination as a condition of employment, and both employment and credentialing reported vaccination rates higher than the overall state influenza vaccination rate. The overall state vaccination rate for HCWs was 88.19% and shown as a black horizontal line. Facilities that required vaccination as a condition of both credentialing and employment reported a vaccination rate of 94.27%. Facilities that required HCW influenza vaccination as a condition of employment had a vaccination rate of 97.18% and facilities that required healthcare influenza vaccination as a condition of credentialing had a vaccination rate of 76.42%. HCWs at facilities where influenza vaccination was not required for either credentialing or employment had an 86.71% vaccination rate.

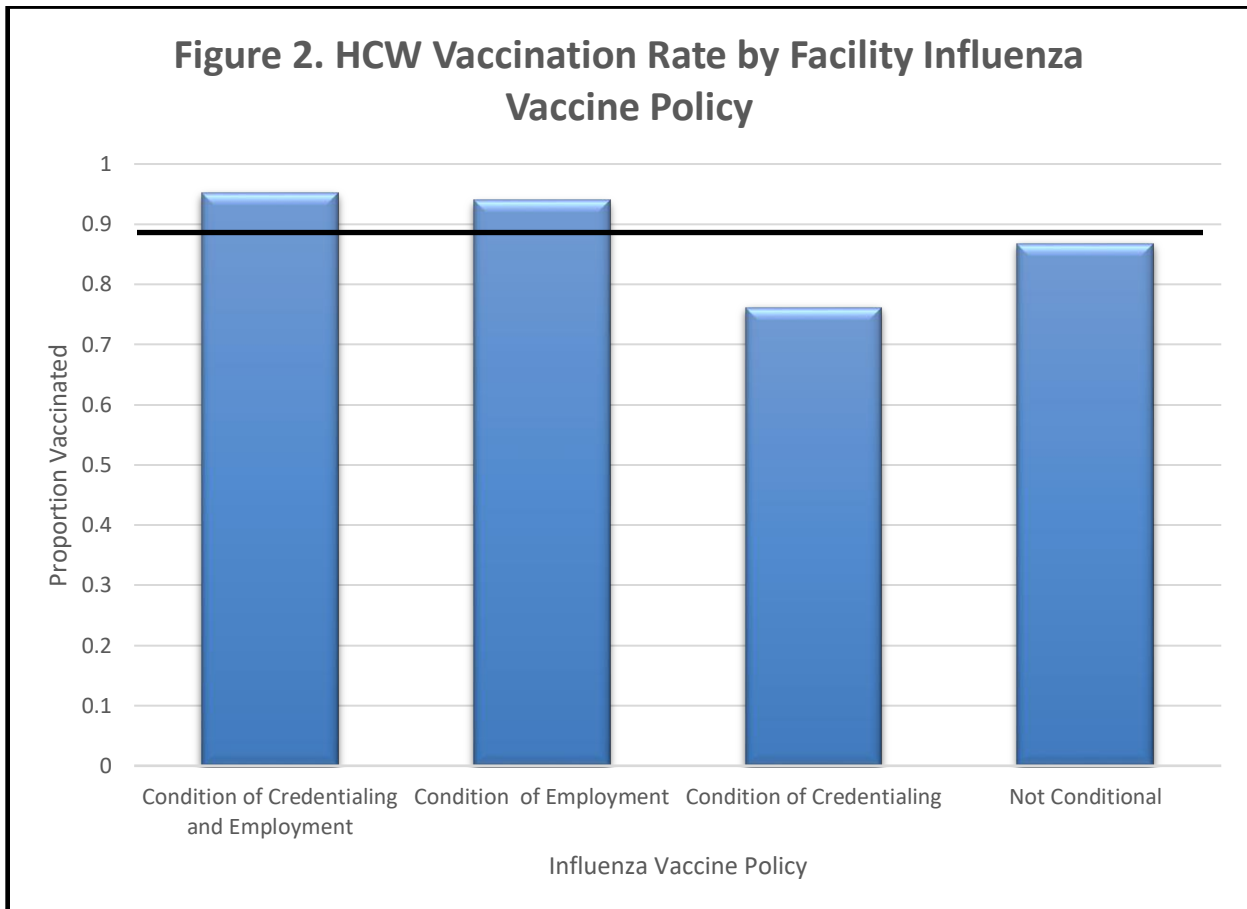


Table 2 shows influenza vaccination percentages for all HCWs at each reporting facility for the 2016-2017 influenza seasons. Facility vaccination percentages ranged from 49% to 100%.

The data presented in Table 2 shows that 46 facilities reported higher overall HCW influenza vaccination rate compared to the overall state vaccination rate, while 29 facilities reported lower overall HCW influenza vaccination rate compared to the overall state vaccination rate.

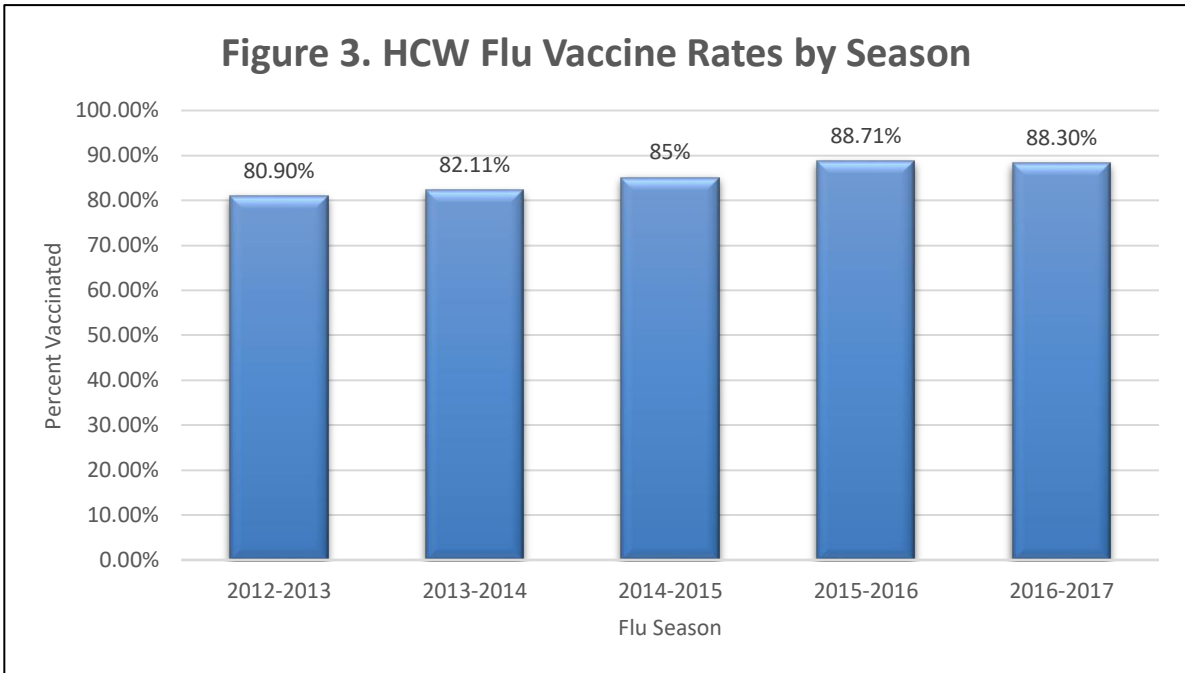
Three facilities reported vaccination rates almost equal to the state vaccination rate.

Table 2. Influenza Vaccination Percentages for All* Healthcare Personnel by Facility, 2016-2017 Influenza Season

Hospital	Personnel Vaccinated	Total Personnel	Percent Vaccinated	Vaccine Rate Compared to State Average
Abbeville Area Medical Center	381	500	76%	Lower
Aiken Regional Medical Centers	1210	1244	97%	Higher
Allendale County Hospital	104	200	52%	Lower
AnMed Health	2926	2931	100%	Higher
AnMed Health Cannon	414	414	100%	Higher
AnMed Health Rehabilitation Hospital	273	277	99%	Higher
AnMed Health Women's and Children's Hospital	1024	1025	100%	Higher
Baptist Easley	1215	1234	98%	Higher
Beaufort Memorial Hospital	2227	2308	96%	Higher
Bon Secours St. Francis Downtown	2235	2512	89%	Higher
Bon Secours St. Francis Eastside	1255	1355	93%	Higher
Bon Secours St. Francis Xavier	1800	1910	94%	Higher
Carolina Pines Regional Medical Center	700	761	92%	Higher
Carolinas Hospital System	1803	2103	86%	Lower
Carolinas Hospital System-Marion	448	532	84%	Lower
Chester Regional Medical Center	319	377	85%	Lower
Coastal Carolina Medical Center	603	610	99%	Higher
Colleton Medical Center	651	739	88%	Same
Continue Care at Palmetto Baptist	101	115	88%	Same
Conway Medical Center	1182	1760	67%	Lower
East Cooper Regional Medical Center	732	925	79%	Lower
Edgefield County Hospital	229	239	96%	Higher
Fairfield Memorial Hospital	178	182	98%	Higher
Grand Strand Regional Medical Center	1834	2066	89%	Higher
Greenville Health System Laurens County Hospital	405	405	100%	Higher
Greenville Memorial Hospital	14672	14751	99%	Higher
Greenwood Regional Rehabilitation Center	223	230	97%	Higher
Greer Memorial Hospital	603	615	98%	Higher
Hampton Regional Hospital	235	259	91%	Higher
Health South Rehabilitation Hospital -Rock Hill	165	235	70%	Lower
Health South Rehabilitation Hospital-Charleston	310	322	96%	Higher
Health South Rehabilitation Hospital-Columbia	286	325	88%	Same
Health South Rehabilitation Hospital-Florence	209	236	89%	Higher
Hillcrest Memorial	407	408	100%	Higher
Hilton Head Hospital	772	778	99%	Higher

Kershaw Health Medical Center	1070	1101	97%	Higher
Lake City Community Hospital	367	399	92%	Higher
Lexington Medical Center	3506	4798	73%	Lower
Mary Black Health System	1149	1448	79%	Lower
Mary Black Health System Gaffney	287	437	66%	Lower
McLeod Health Cheraw	255	368	69%	Lower
McLeod Medical Center-Darlington	72	108	67%	Lower
McLeod Medical Center-Dillon	349	520	67%	Lower
McLeod Clarendon Health System	345	545	63%	Lower
McLeod Regional Medical Center	5097	8032	63%	Lower
McLeod Seacoast	381	527	72%	Lower
McLeod-Loris	475	794	60%	Lower
Medical University of South Carolina	11390	11701	97%	Higher
Mount Pleasant Hospital	841	925	91%	Higher
Newberry County Hospital	617	627	98%	Higher
North Greenville Long Term Acute Care	221	224	99%	Higher
Oconee Medical Center	976	978	100%	Higher
Palmetto Health Baptist	3946	4245	93%	Higher
Palmetto Health Parkridge	965	1060	91%	Higher
Palmetto Health Richland	7982	8385	95%	Higher
Palmetto Health Tuomey	1722	2229	77%	Lower
Patewood Memorial Hospital	427	429	100%	Higher
Pelham Medical Center	721	936	77%	Lower
Piedmont Medical Center	1974	2797	71%	Lower
Regency Hospital of Florence	169	185	91%	Higher
Regency Hospital of Greenville	201	226	89%	Higher
Regional Medical Center	1843	2122	87%	Lower
Roper Hospital	3833	3969	97%	Higher
Self Regional Healthcare	2798	2811	100%	Higher
Shriners Hospital for Children	350	355	99%	Higher
Sisters of Charity Providence Hospital-Downtown	1076	2210	49%	Lower
Sisters of Charity Providence Hospital-Northeast	326	608	54%	Lower
Spartanburg Hospital for Restorative Care	518	561	92%	Higher
Spartanburg Medical Center	5910	7093	83%	Lower
Spartanburg Rehabilitation	181	186	97%	Higher
Springs Memorial Hospital	944	1181	80%	Lower
Summerville Medical Center	783	815	96%	Higher
Tidelands Georgetown	1147	1171	98%	Higher
Tidelands Waccamaw	1156	1180	98%	Higher
Trident Medical Center	2662	2861	93%	Higher
Union Medical Center	349	401	87%	Lower
Vibra of Charleston	218	255	85%	Lower
Williamsburg Regional Hospital	218	256	85%	Lower

Figure 3 provides a snapshot of HCW statewide vaccination rates over the past five flu seasons. South Carolina has experienced nearly an 8% improvement in HCW vaccination rates by season since the 2012-2013 season.



CONCLUSIONS

This report displays South Carolina HCW influenza vaccination surveillance data by facility and healthcare personnel type for the 2016 – 2017 influenza season. The information is self-reported by each facility and has not been validated by the South Carolina Department of Health and Environmental Control.

There are some limitations to the data that is presented in this report. Although hospitals may not require mandatory flu shots for employment and/or credentialing, it is possible that they have active flu shot campaigns that may even incentivize employees to receive the shot. Information regarding incentives and educational campaigns are not taken into account for this report. Some hospitals may rely on employee health nurses to track vaccination

numbers while others may rely on infection preventionists to gather the data. Depending on staff capacity and workload, it may not be feasible for assigned staff to follow up with employees to ascertain whether they were vaccinated offsite. Finally, this report reflects healthcare worker flu vaccine rates in acute care and critical access hospitals, inpatient rehabilitation facilities, and long-term acute care facilities. Information regarding outpatient providers and long term care or skilled nursing facilities is not reflected in this data. Despite limitations, this report provides a view into HCW influenza vaccination data which can be used by healthcare facilities for improvement in their HCW's influenza vaccination rates. It also allows healthcare consumers to make more informed decisions when selecting healthcare providers in South Carolina.

Key findings:

- All HIDA reporting facilities in South Carolina complied with the HAI mandatory reporting requirement to report HCW influenza vaccination summary data for the 2016 – 2017 influenza season. All reported data were submitted to the Healthcare Personnel Vaccination Module within the NHSN Healthcare Personnel Safety Component.
- Vaccination rates for all HCW types by facility during the 2016– 2017 influenza season ranged from 49% to 100%. The overall state influenza vaccination rate for all HCW types was 88.19% HCWs in acute care facilities, long term acute care facilities, and inpatient rehabilitation facilities reported influenza vaccination rates of 88.10%, 91.19%, and 90.94% respectively.
- When compared to the overall state influenza vaccination rate, LIP influenza vaccination rates are low at 69.49%. It is important to note that ASTV and LIP may be underreported due to barriers in capturing the vaccination statuses of ASTV and

LIP healthcare personnel by facility's employee health departments.

- Forty-three South Carolina facilities had conditional influenza vaccination policies for healthcare personnel during the 2016-2017 influenza season; 18 (24.64%) of 69 reporting facilities required HCW influenza vaccination as a condition of both employment and credentialing, 13 (18.84%) facilities required vaccination as a condition of employment only, 14 (20.29%) facilities required vaccination as a condition of credentialing only. Twenty-five (36.23%) facilities did not require vaccination as a condition of employment or credentialing.

REFERENCES

1. CDC. Influenza Vaccination Coverage Among Health-Care Personnel – 2012 – 13 Influenza Season, United States. Morbidity and Mortality Weekly Report; 62(38); 781-786. Available online at: http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6238a2.htm?s_cid=mm6238a2_w
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>