

Massachusetts Healthcare Personnel Influenza Vaccination in Health Care Facilities

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Background

- Health care personnel (HCP) are at high risk for influenza exposure and illness, and may be a source of influenza virus transmission in health care settings.
- Annual immunization is the best method of preventing influenza and potentially serious complications.*
- The Massachusetts Department of Public Health (DPH) considers the prevention of influenza by promoting vaccination an organizational priority that should be part of the overall institutional commitment to improvement for licensed healthcare facilities.

*<https://www.cdc.gov/flu/professionals/infectioncontrol/healthcaresettings.htm>

As a condition of licensure, DPH regulations require health care facilities, including hospitals, ambulatory surgical centers, dialysis centers, clinics, nursing homes, rest homes, and adult day health programs to:

- Offer free-of-charge, annual influenza vaccine to all personnel (full and part-time employees, contracted employees, volunteers, house staff and students);
- Document receipt of influenza vaccine administered within and outside the facility or document the declination of immunization for HCP; and
- Report information to DPH documenting compliance with the vaccination requirement, in accordance with reporting and data collection guidelines of the Commissioner (105 CMR.)

105 CMR 130.325, 105 CMR 140.150, 105 CMR 150.002(D)(8), 105 CMR 158.030(L)(8)

- Centers for Medicare & Medicaid Services (CMS) Quality Reporting Programs require acute care hospitals, ambulatory surgical centers, dialysis centers and non-acute hospitals to report HCP influenza data through the National Healthcare Safety Network (NHSN) of the Centers for Disease Control and Prevention (CDC).

Performance Goal

To protect the lives and welfare of patients, employees, and communities, as well as to improve quality and reduce healthcare costs, DPH has established an overall minimum influenza vaccination rate of 90% or greater for eligible HCP at all licensed healthcare facilities.

This performance goal is intended to advance patient and HCP health and safety by ensuring optimal HCP influenza vaccination coverage, and is in alignment with the National Healthy People 2020 target of 90% influenza coverage of HCP.

https://www.healthypeople.gov/node/4668/data_details

Health Care Facilities report HCP influenza vaccination rates to DPH in two ways:

- Consistent with the Centers for Medicare & Medicaid Services (CMS) Quality Reporting Programs, DPH requires acute care hospitals, ambulatory surgical centers, dialysis centers and non-acute hospitals to report HCP influenza data through the National Healthcare Safety Network (NHSN) of the Centers for Disease Control and Prevention (CDC).
- Clinics, nursing homes, rest homes, and adult day health programs are required to report health care personnel influenza data directly to the DPH Healthcare Associated Infection (HAI) Prevention Program.

For each category of HCP, for the period October 1, 2017 to March 31, 2018, facilities must collect and report the number of:

- HCP vaccinated at the facility;
- HCP vaccinated elsewhere (PCP office, pharmacy, etc.);
- HCP that declined vaccine;
- HCP with a medical contraindication to the vaccine; and
- HCP with unknown vaccine status

Calculated aggregate percentage for all HCP across Massachusetts acute care hospitals, ambulatory surgical centers, dialysis facilities and non-acute hospitals.

Percentage HCP vaccinated in 2017-2018

$$\text{Vaccine Coverage} = \frac{\text{HCP Vaccinated at Facility} + \text{HCP Vaccinated Elsewhere}}{\text{Total \# HCP at Facility}}$$

Percentage HCP in facility that declined vaccine in 2017-2018

$$\text{Vaccine Declination} = \frac{\text{\# HCP Declined Vaccine}}{\text{Total \# HCP at Facility}}$$

Percentage HCP in facility with a medical contraindication to vaccine in 2017-2018

$$\text{Medical Contraindication} = \frac{\# \text{ HCP with Medical Contraindication}}{\text{Total \# HCP at Facility}}$$

Percentage HCP in facility with unknown influenza vaccine status in 2017-2018

$$\text{Unknown Vaccine Status} = \frac{\# \text{ HCP with Unknown Vaccine Status}}{\text{Total \# HCP at Facility}}$$

Facilities are required to report directly to DPH via online survey by April 15, 2018:

- Number of healthcare facility employees who worked at the healthcare facility for at least 1 day between October 1, 2017 and March 31, 2018;
- Total number of employees receiving seasonal influenza vaccination provided by the health care facility between August 1, 2017 and March 31, 2018;
- Total number of employees receiving seasonal influenza vaccination administered outside the health care facility between August 1, 2017 and March 31, 2018;
- Total number of employees who reported medical contraindications to flu vaccination between August 1, 2017 and March 31, 2018;
- Total number of employees who declined vaccination between August 1, 2017 and March 31, 2018; and
- Total number of employees with unknown vaccination status between August 1, 2017 and March 31, 2018.

- The facility vaccination rate was calculated by dividing the number of facility HCPs vaccinated by the total number of facility HCPs.

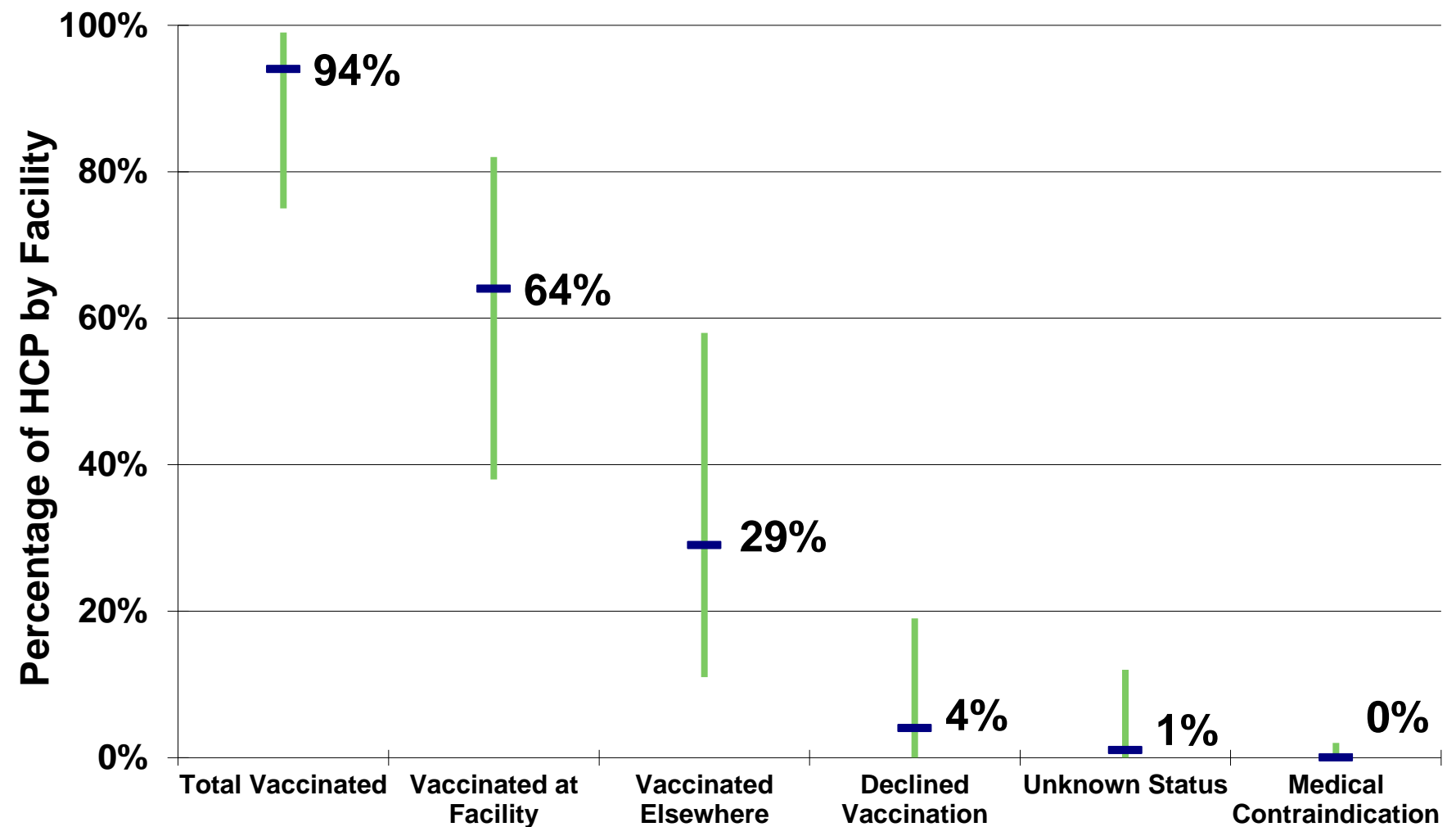
$$\text{Vaccine Coverage} = \frac{\text{HCP Vaccinated at Facility} + \text{HCP Vaccinated Elsewhere}}{\text{Total \# HCP at Facility}}$$

- The overall mean percentage of HCPs vaccinated by facility type was calculated as the mean of all facility vaccination rates.

Median and Range of HCP Influenza Vaccine Coverage at Massachusetts Acute Care Hospitals 2017-18

Key Findings

- The statewide median for vaccine coverage was 94%
- 56 (78%) facilities achieved vaccine coverage of 90% or greater
- Most HCP were vaccinated at their workplace
- Median declination was only 4%



N=72 acute care hospitals

*Median and range are measures of HCP vaccine coverage by reporting MA acute care hospitals, not state aggregate rates for HCP

Acute Care Hospital Healthcare Personnel Vaccine Coverage in Aggregate

	Mean State Aggregate HCP Vaccine Coverage	Range
Total HCP Vaccinated	249,224 (93%)	(75 - 99%)
Vaccinated at Facility	180,468 (72%)	(38 - 82%)
Vaccinated Elsewhere	68,756 (28%)	(11- 58%)
HCP Declined Vaccination	11,367 (4%)	(0 - 19%)
HCP with Unknown Vaccination Status	6,939 (3%)	(0 - 12%)
HCP with a Medical Contraindication	1,411 (1%)	(0 - 2%)

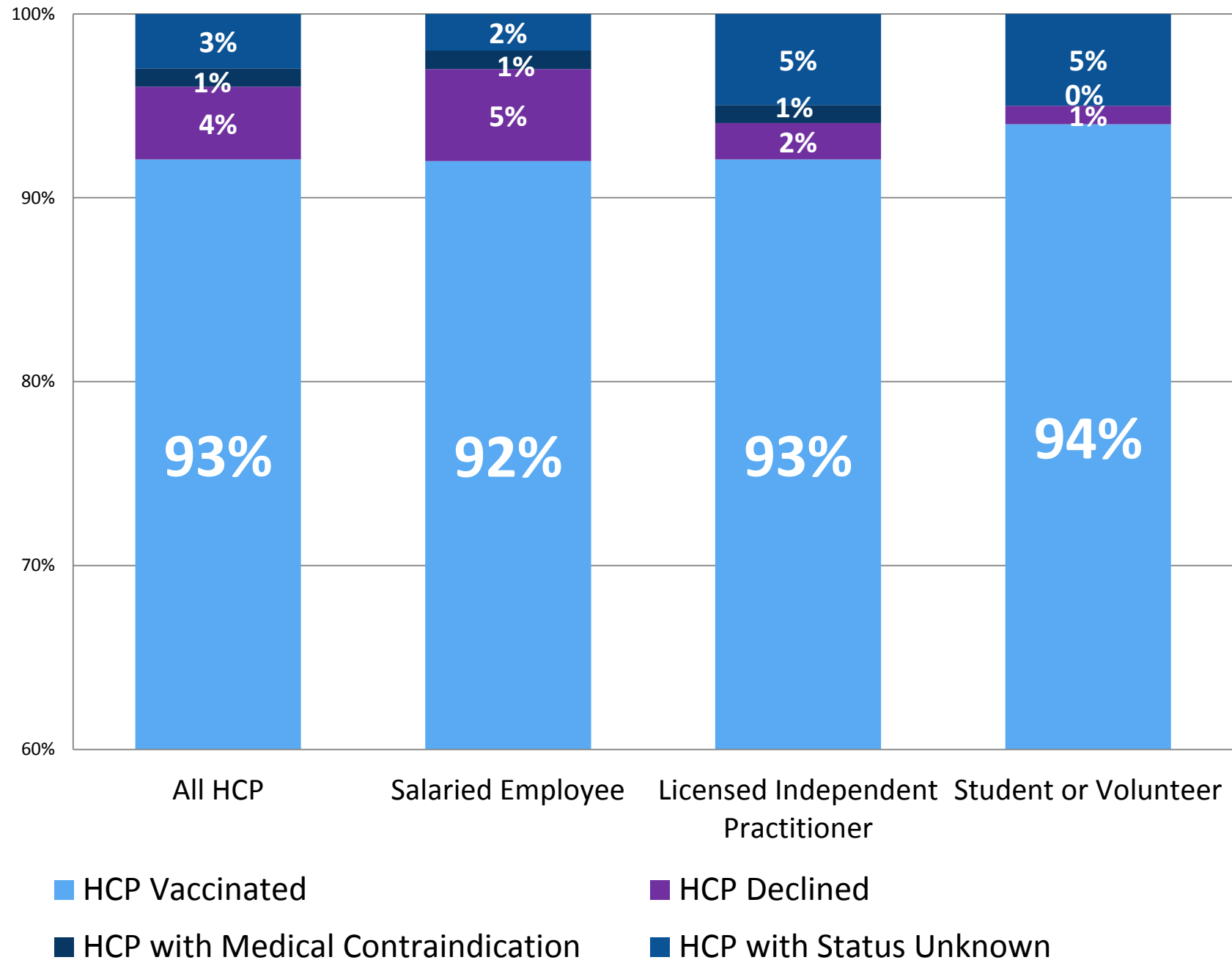
*Mean Percentages may add up to >100% due to rounding.

N=268,941

Overall HCP Influenza Vaccine Coverage in Massachusetts ACHs by HCP Type

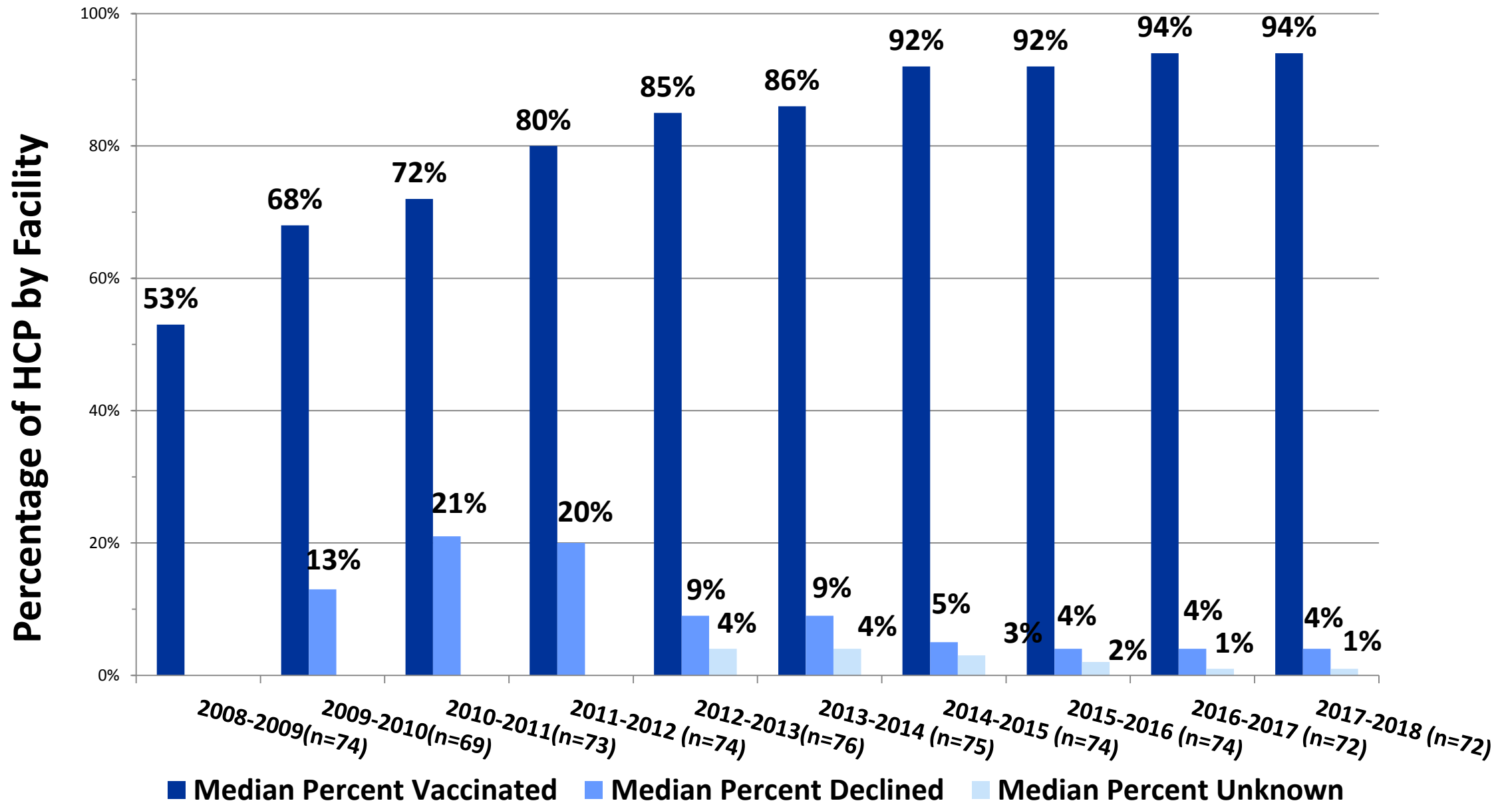
Key Findings

- Overall, salaried employees were most likely to decline vaccine when compared to other HCP types. This may be partially explained by salaried employees having the most complete reporting.
- Both Licensed Independent Practitioners and Students or Volunteers were most likely to have unknown vaccine status.



*Percentages may add up to >100% due to rounding.

Trends Over Time Acute Care Hospitals



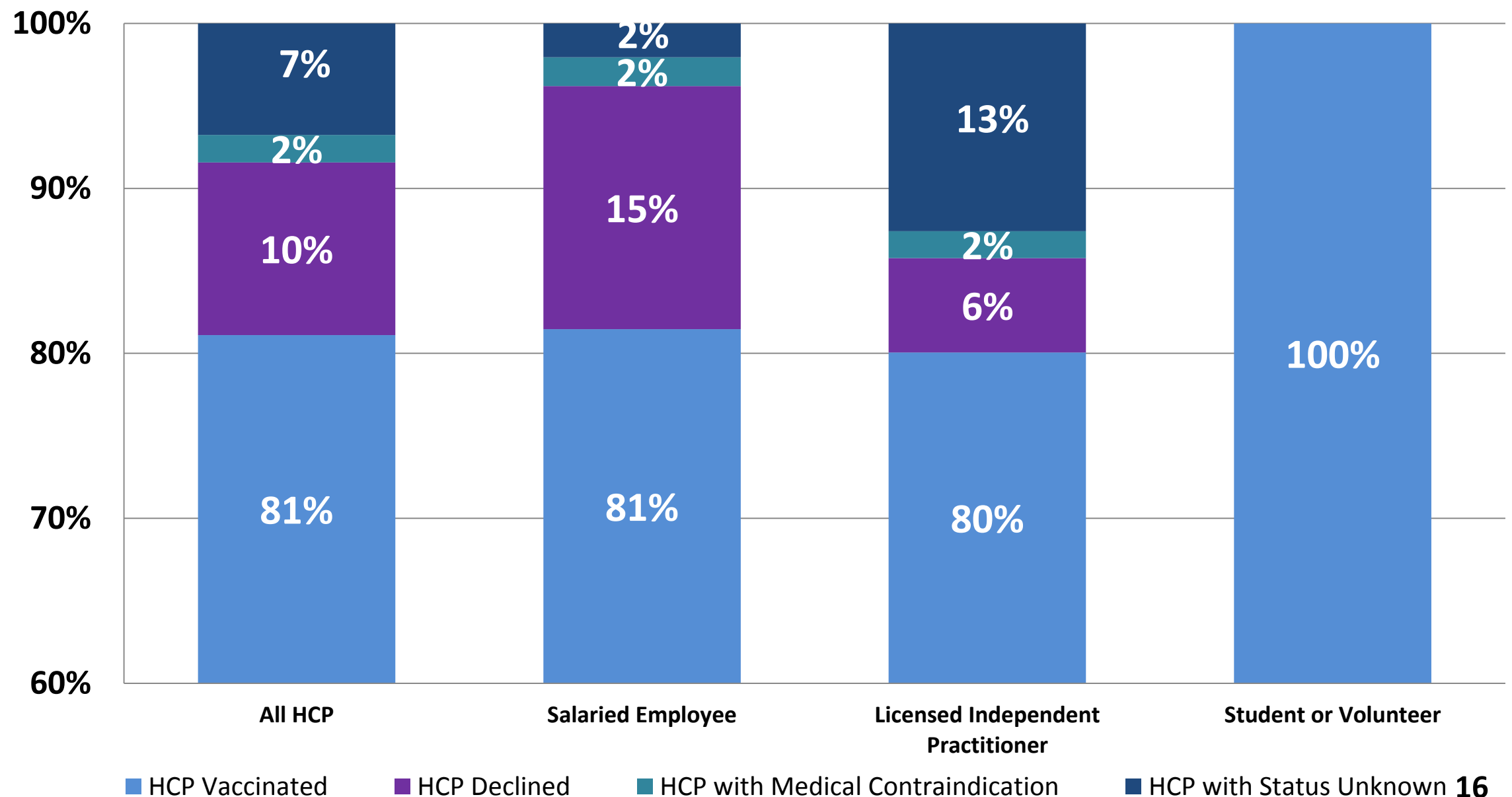
Median HCP vaccine coverage remained constant in 2017-18 and met the Healthy People 2020 benchmark of 90%. The median declination rate remained 4% in 2017-18. 14

Mean percentage of HCP at Ambulatory Surgical Centers Vaccinated against Influenza During 2017-2018 season

	Mean % Vaccinated	Range
Total Vaccinated	83%	(38-100%)
Vaccine Declination Rate	12%	(0-62%)
HCP with Unknown Vaccination Status	4%	(0-53%)
HCP with a Medical Contraindication	2%	(0-10%)
Location Vaccinated		
At Place of Employment	46%	(0-97%)
Outside Place of Employment	37%	(0-100%)

N=48 reporting ASCs

Overall Ambulatory Surgical Center Vaccination of HCP by Personnel Category



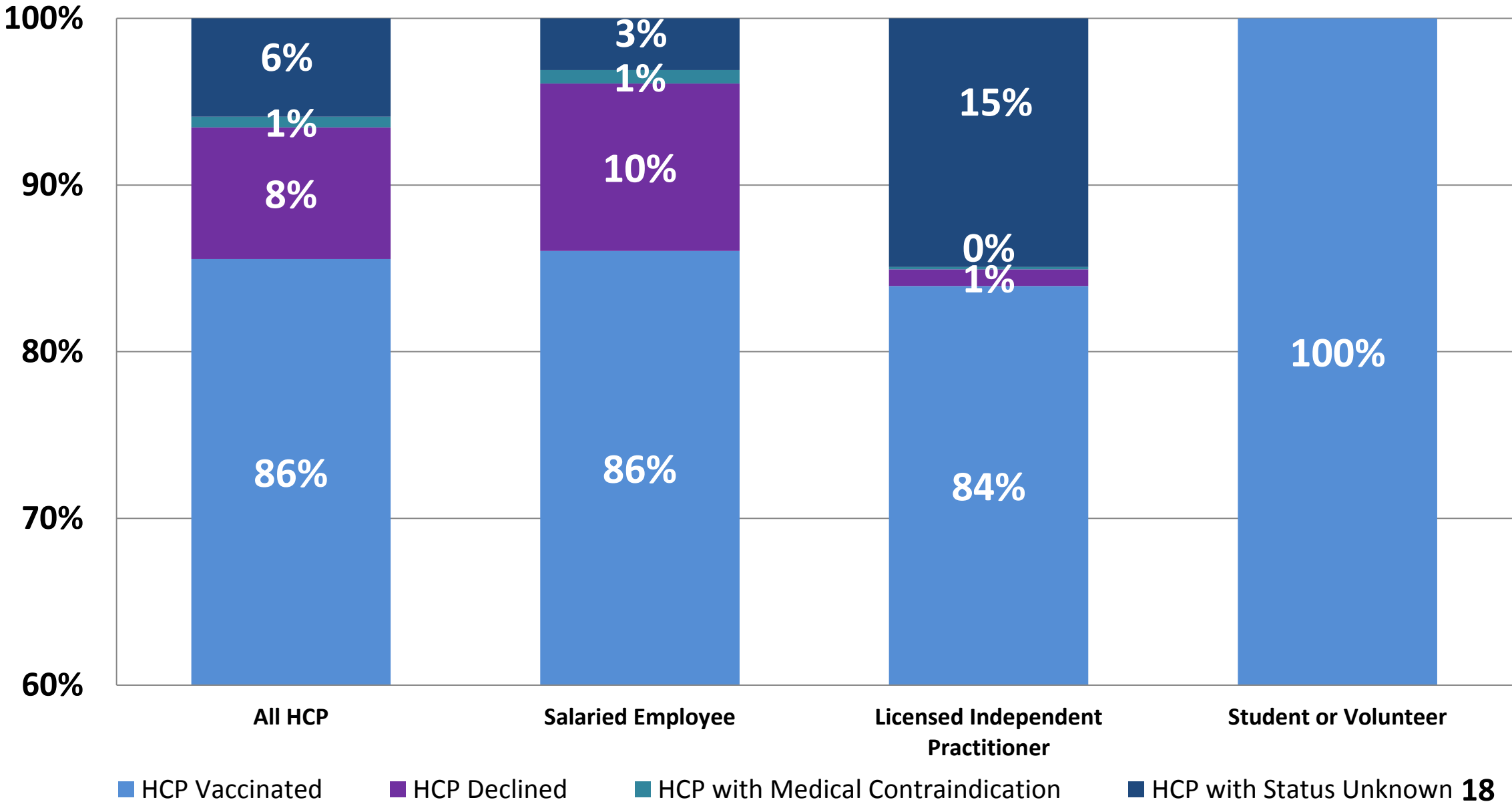
N=48 reporting ASCs

2017-2018 Results: Dialysis Centers

Mean Percent of Dialysis Center HCP Vaccinated against Influenza During the 2017-2018 Season

	Mean % Vaccinated	Range
Total Vaccinated	86%	(50-100%)
Vaccination Declination Rate	8%	(0-42%)
HCP with Unknown Vaccination Status	5%	(0-34%)
HCP with a Medical Contraindication	1%	(0-9%)
Location Vaccinated		
At Place of Employment	60%	(11-100%)
Outside Place of Employment	26%	(0-60%)

Overall Dialysis Center Vaccination of HCP by Personnel Category

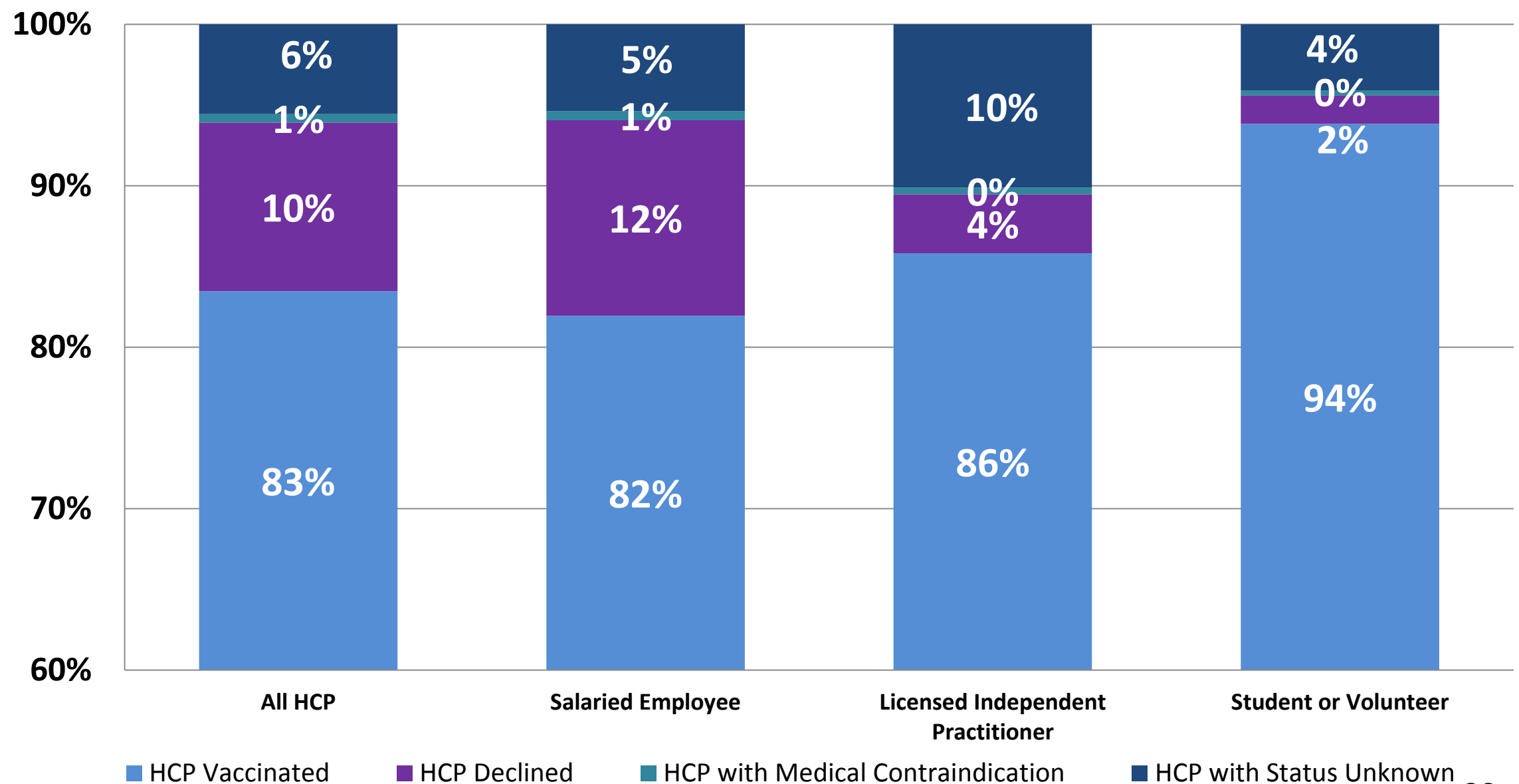


N=71 Reporting Facilities

Mean Percent of Non-Acute Care Hospital HCP Vaccinated against Influenza During the 2017-2018 Season

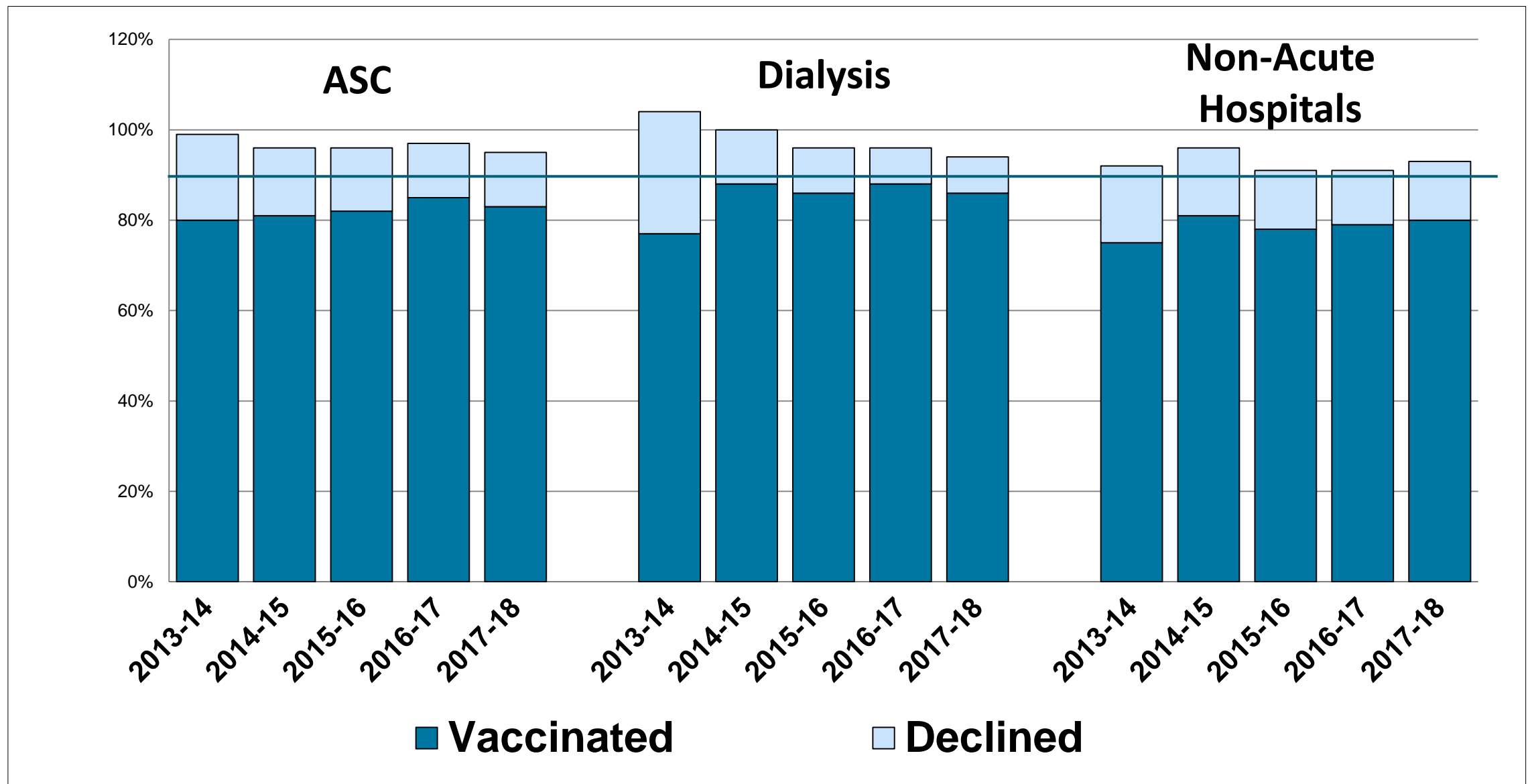
	Mean % Vaccinated	Range
Total Vaccinated	80%	(30-97%)
Vaccination Declination Rate	13%	(2-45%)
HCP with Unknown Vaccination Status	7%	(0-39%)
HCP with a Medical Contraindication	1%	(0-4%)
Location Vaccinated		
At Place of Employment	55%	(14-75%)
Outside Place of Employment	25%	(5-41%)

Overall Non-Acute Care Hospital Vaccination of HCP by Personnel Category



Trends Over Time: ASCs, Dialysis Centers and Non-Acute Hospitals

**Mean Percent of HCP Vaccination and Declination Rates for Ambulatory Surgical Centers,
 Dialysis Centers and Non-Acute Hospitals: 2013-2018 Influenza Seasons**



Mean Percent of Clinic HCP Vaccinated against Influenza During the 2017-2018 Season

	Mean % Vaccinated	Range
Total Vaccinated	75%	(10-100%)
Total Exceptions		
Medical	1%	(0-14%)
Declined	20%	(0-100%)
Unknown	7%	(0-90%)
Location Vaccinated		
At Place of Employment	31%	(0-100%)
Outside Place of Employment	44%	(0-100%)

2017-2018 Results: Nursing Homes

Mean Percent of Nursing Home HCP Vaccinated Against Influenza During the 2017-2018 Season

	Mean % Vaccinated	Range
Total Vaccinated	71%	(0-100%)
Total Exceptions		
Medical	1%	(0-16%)
Declined	18%	(0-71%)
Unknown	12%	(0-100%)
Location Vaccinated		
At Place of Employment	52%	(0-100%)
Outside Place of Employment	19%	(0-98%)

2017-2018 Results: Rest Homes

Mean Percent of Rest Home HCP Vaccinated Against Influenza During the 2017-2018 Season

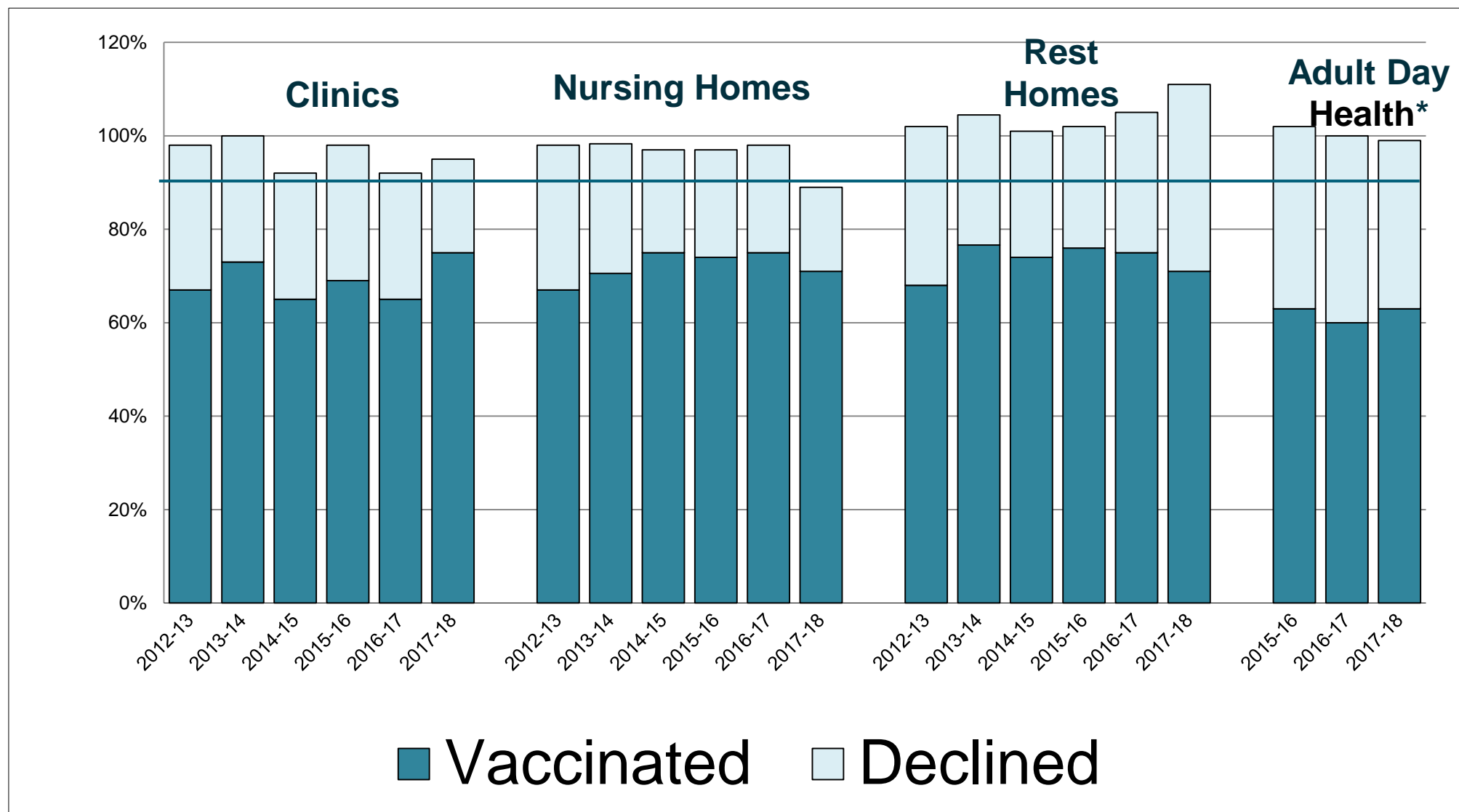
	Mean % Vaccinated	Range
Total Vaccinated	71%	(16-100%)
Total Exceptions		
Medical	1%	(0-8%)
Declined	40%	(0-100%)
Unknown	6%	(0-63%)
Location Vaccinated		
At Place of Employment	30%	(0-76%)
Outside Place of Employment	41%	(4-100%)

2017-2018 Results: Adult Day Health Programs

Mean Percent of Adult Day Health HCP Vaccinated against Influenza During the 2017-2018 Season

	Mean % Vaccinated	Range
Total Vaccinated	63%	(0-100%)
Total Exceptions		
Medical	3%	(0-25%)
Declined	36%	(0-100%)
Unknown	4%	(0-50%)
Location Vaccinated		
At Place of Employment	34%	(0-100%)
Outside Place of Employment	29%	(0-100%)

Mean Percent of HCP Influenza Vaccinations and Declinations as Reported by Massachusetts Clinics, Nursing Homes, Rest Homes and Adult Day Health Programs: 2012-2018 Seasons



* 2015-2016 Season was the first year Adult Day Health Programs were required to report.

Conclusions

- All facility types have reported higher vaccination rates in 2017-2018 when compared to 2012-2013 season. (Adult Day Health facility vaccination rates are equal to their earliest reported season, 2015-2016).
- Overall acute care hospital vaccine coverage exceeds the DPH and Healthy People 2020 benchmark for the fourth consecutive year.
- No other facility type reached the established overall performance goal.

NEW

- DPH is hosting an October 2018 webinar to improve healthcare personnel influenza coverage. Program content will include: Influenza disease burden, key facts about the current season; surveillance and reporting; and strategies for increasing HCP coverage.

NEW

- DPH Quality improvement initiative targeting facilities from the lowest quartile of HCP influenza vaccination coverage during the 2017-18 season.
 - Direct outreach to assess previous vaccination strategies and perceived barriers to implementation.
 - Provide facility specific evidence-based recommendations to improve vaccination coverage.
 - January 2019: Conduct outreach to monitor progress and provide additional support to promote success.
 - Post-season interview to review performance and to assess strategies utilized during the 2018-2019 influenza season.
 - Share aggregate findings with facilities and public health partners.

Ongoing DPH Public Health Actions

- Reinforcement of the reporting requirement and statewide performance goal during trainings, and on-site visits in adult day health programs, rest homes and nursing homes.
- Monitoring trends and reporting annual compliance with the HCP influenza vaccination requirements.
- Promotion of continuous quality improvement, by recommending licensed facilities share vaccination rates with all staff, including administrators, boards of directors, practice managers, ombudsperson and patient/family councils.
- Encouraging facilities to evaluate their current influenza vaccination program and policies and develop an action plan to maximize influenza vaccination coverage of HCP to achieve the Healthy People 2020 and DPH target of 90% vaccination.
- Collaboration with public health partners to intensify efforts to improve immunization rates among HCP, especially among low outliers.

Next Steps

- DPH will share this update with all licensed facilities with recommendations to distribute broadly within each facility and to use the reported data to drive improvement.
- This update and facility specific results will be available on the MDPH website:
<https://www.mass.gov/service-details/flu-vaccination-reports-healthcare-personnel>

- Please direct any questions to:

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