Introduction

Influenza is a highly contagious and serious respiratory illness, particularly for certain vulnerable groups, such as the elderly, young children, and people with chronic medical conditions. During the 2012-13 Influenza Season, 1530 Coloradans were hospitalized for influenza, and 5 children under 18 years old died due to influenza complications. Because health care workers (HCWs) regularly come into contact with these vulnerable patients in hospitals, clinics and long-term care facilities, a high level of immunization coverage for this population is an essential part of any infection prevention and control program. The Centers for Disease Control and Prevention (CDC) has recommended influenza vaccination for all health care workers since 1981.

Background

On behalf of the Colorado Department of Public Health and Environment (CDPHE), the Health Facilities and Emergency Medical Services Division (HFEMSD) and Immunization Section in the Disease Control and Environmental Epidemiology Division (DCEED) partnered to convene stakeholders across the state to discuss the best approach to implementing a HCW influenza vaccination program to protect vulnerable populations. After more than a year of discussions on this topic, in February 2012, the Colorado Board of Health (BOH) passed rule 6 CCR 1011-1 Chap 02, regarding influenza vaccination of employees in licensed healthcare facilities.

The intent of the rule is to promote patient safety by protecting vulnerable patients from influenza. The rule is designed to encourage healthcare facilities, which are already appropriately implementing strategies to prevent influenza, to continue to do so; to assist those facilities that can improve; and to prompt facilities to adopt more effective policies to prevent influenza.

This rule applies to all healthcare facilities licensed by the CDPHE* and includes two requirements:

1. All licensed healthcare facilities must keep track of the number of its employees that are vaccinated against influenza, and annually report that number to CDPHE, either through the HFEMSD Portal or the National Healthcare Safety Network (NHSN), by March 31st of each year.

2. If certain vaccination targets are not met, a facility is required to implement a policy based on its facility type.

   • If a facility is licensed as a general hospital, hospital unit, ambulatory surgical center, or long-term care facility, the facility will need to implement an influenza vaccination policy for its healthcare workers, to ensure that each worker has been vaccinated, or has a medical exemption documented. Workers without proof of vaccination or medical exemption must wear a surgical/procedure mask through the entire influenza season.

   • If a facility is licensed as an assisted living residence, community clinic, community mental health center, facility for persons with developmental disabilities, hospice, dialysis treatment clinic, home care agency, psychiatric hospital, rehabilitation hospital, convalescent center, or acute treatment unit, the facility will need to conduct an assessment of its workforce, residents/patients, and influenza vaccination policies, and develop an influenza vaccination policy regarding the vaccination or masking of employees based on that assessment.

*Licensed facilities include acute treatment units, ambulatory surgical centers, assisted living residences, birthing centers, community mental health centers, community clinics, convalescent centers, renal disease centers, home health agencies, hospices, hospitals, developmentally disabled care facilities, nursing homes, & residential treatment homes
If certain vaccination targets are met, licensed facilities are eligible to be exempted from policy implementation requirements. The targets required for this exemption are as follows:

- 60% of all employees vaccinated by December 31, 2012;
- 75% of all employees vaccinated by December 31, 2013; and
- 90% of all employees vaccinated by December 31, 2014 and thereafter.

In the summer of 2012, in order to help facilities understand and adopt the rule, the Immunization Section shared a toolkit that included resources used locally and nationally to increase health care worker influenza vaccination rates. This toolkit can be found at [www.ColoradoImmunizations.com](http://www.ColoradoImmunizations.com) under the *Healthcare Professionals* tab. Additionally, the HFEMSD developed a reporting tool to enable facilities to easily report their data via the HFEMSD Portal or NHSN.

**Summary Data**

Below is a summary of the data reported from the 2012 rule requirement:

- 1449 (72%) out of 2020 licensed facilities required to report submitted data
  - 76 facilities reported data via NHSN
  - 1373 facilities reported data via HFEMSD Portal
- 1136 (78%) of reporting facilities had at least 60% of their HCWs vaccinated
- 913 (63%) of reporting facilities had at least 75% of their HCWs vaccinated
- 616 (43%) of reporting facilities had at least 90% of their HCWs vaccinated

The following pages contain 10 figures that provide a comprehensive view of the data collected in the initial year of reporting. For general information about the BOH Healthcare Worker Influenza Vaccination Rule requirements, please contact: 303-692-2836 or [CDPHE.FluVacReport@state.co.us](mailto:CDPHE.FluVacReport@state.co.us).
Figure 1

Summary Results For Reporting Licensed Facilities*
*n= 1449/2020

Note: This chart summarizes healthcare worker (HCW) classification, vaccination status, and the location where HCWs received their immunizations. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
Figure 2

All Licensed Facilities Vaccination Rates
'All Healthcare Workers Combined'
N= 2020

- ≥ 90% Vaccination: 30.5%
- 75-89.9% Vaccination: 28.3%
- 60-74.9% Vaccination: 15.5%
- <60% Vaccination: 14.7%
- Non-Responders: 11.0%

Note: 71.7% of all licensed facilities required to report actually reported. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
**Figure 3**

*Reporting Vaccination Rates by Counties with 15 or more Licensed Facilities  
'All Healthcare Workers Combined'*

**Note:** Counties represented by this chart had at least 15 licensed facilities required to report. Non-responding licensed facilities are also shown. 'All Healthcare Workers Combined' includes Employees, Licensed Practitioners, and Students and Trainees.
Figure 4

Note: Counties represented by this chart had less than 15 licensed facilities required to report. Non-responding licensed facilities are also shown. Clear Creek, Dolores, Gilpin, Hinsdale, Jackson, Mineral, Ouray, Park, and San Juan Counties were excluded because there are no licensed facilities in these counties. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
Note: The licensed facility types shown above are generic and group over 35 different facility types into 14. Facility types where no facilities reported were excluded. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees. The generic categories include the following facility types below:

**Acute Treatment Units** include Acute Treatment Units.

**Ambulatory Surgical Centers** include Ambulatory Surgical Centers & Ambulatory Surgical Centers – Medicare.

**Assisted Living Residences** include Assisted Living Residence, Assisted Living Residence – ALR Only, Assisted Living Residence – ALR/ACF & Assisted Living Residence – ALR/RTF.

**Birth Centers** includes Birthing Centers.

**Comm. Mental Health Centers** include Community Mental Health Centers & Community Mental Health Centers – Medicare.

**Community Clinics** include Community Clinics & Emergency Community Clinics.

**Convalescent Centers** include Convalescent Centers.

**Renal Disease Centers** includes End Stage Renal Disease & End Stage Renal Disease – Medicare.

**Home Health Agencies** include Home Health Agency (HHA) – HCA License, In-Home Support Services HHA – HCA License, Personal Care Homemaker HHA – HCA License, Home Health Agency - HHA License Only, Cert. Eligible HHA – HHA License Only, & Not Cert. Eligible HHA – HHA License Only –Medicare/Medicaid

**Hospices** include Hospice – Licensed and Hospice – Medicare.

**Hospitals** include Hospital Unit – Hospital Unit, Hospital – Childrens, Hospital – Critical Access Hospitals, Hospital – Licensed General Hospital, Licensed Psych Hospital – Long Term, Hospital – Psychiatric Hospital & Rehabilitation Hospital – Short Term.

**Developmentally Disabled Care Facilities** include Intermediate Care Facility for Intellectually Disabled – Medicaid.

**Nursing Homes** include Nursing Home, Nursing Home – NF Only, Nursing Home – Private, Nursing Home – SNF Only, Nursing Home - SNF/NF Distinct Part & Nursing Home - SNF/NF Dual Certification.

**Residential Treatment Facilities** include RCF-DD Residential Treatment.
Figure 6

Note: This chart shows local public health agencies with at least 15 licensed facilities required to report. Non-responding licensed facilities are also shown. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
Figure 7

**Vaccination Rates by Local Public Health Agencies with less than 15 Licensed Facilities**  
'All Healthcare Workers Combined'

**Note:** This chart shows local public health agencies with less than 15 licensed facilities required to report. Non-responding licensed facilities are also shown. Local public health agencies without any licensed facilities required to report were excluded (Clear Creek, Dolores, Gilpin, Hinsdale, Jackson, Mineral, Ouray, Park and San Juan). ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
Figure 8

Note: Counties without licensed facilities required to report are excluded (Clear Creek, Dolores, Gilpin, Hinsdale, Jackson, Mineral, Ouray, Park, and San Juan). Counties with all licensed facilities reporting and all licensed facilities in compliance are also excluded (Moffat, Routt, Rio Grande, Sedgwick, Conejos, Kiowa, Pitkin, Costilla and Washington).
Note: This map shows the percentage of licensed facilities not in compliance with the BOH rule. It includes all facilities regardless of whether or not they reported. This map attempts to represent how well a county, as a whole, complied with the BOH rule. For the purposes of compliance, non-response is the same as <60% vaccination as they both demonstrate non-compliance. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.
Note: This map shows the percentage of licensed facilities compliant with the BOH rule based only on those that reported (non-responders are excluded). This map provides a better picture of how well employees were actually vaccinated in a county without introducing the unknown variable of non-responders. Non-responders could have 100% of their staff vaccinated, or 0%, but the vaccination rate is unknown. ‘All Healthcare Workers Combined’ includes Employees, Licensed Practitioners, and Students and Trainees.