

Influenza vaccination coverage for staff of residential care facilities British Columbia, 2015/16

Background

Immunization coverage assessment is an important part of a quality immunization program and serves three main functions:

- i) Identifying populations with low levels of immunization coverage
- ii) Evaluating the delivery of immunization programs
- iii) Informing program planning

Targets for coverage in this population have been identified at the provincial and national levels at 80%.^{1,2} At the national level, the target is 95% coverage for staff of long-term care facilities who have extensive contact with residents.²

From the 2005/06 to 2011/12 influenza seasons, annual influenza vaccination coverage for staff of residential care facilities in BC ranged from 49% to 68%. Coverage increased following implementation of the new BC Influenza Prevention Policy, ranging from 75-79% for seasons 2012/13 through 2014/15.

The BC Influenza Prevention Policy requires healthcare workers in all health authorities to be vaccinated against influenza or wear a surgical mask while in patient care areas during the influenza season. The policy covers all health authority staff who work in patient care areas: unionized and excluded staff, volunteers, paramedics, students, contractors, and physicians. The policy was widely communicated; it received extensive provincial and national media attention and its implementation was accompanied by strategies such as the use of peer immunizers. Staff reporting of their influenza immunization was enabled through an online immunization self-reporting website. Disciplinary measures for staff who do not comply with the Policy include loss of privileges and termination of employment. These measures were put in abeyance for the 2012/13 season but were enacted in all seasons from 2013/14 onward.

Objective

To quantify the percentage of staff in residential care facilities in British Columbia who were vaccinated against influenza during the 2015/16 influenza season.

Methods

Influenza immunization coverage for healthcare workers in residential care facilities was calculated at the facility level, health service delivery area level, health authority level, and for BC. There are five regional health authorities, which are comprised of 16 health service delivery areas.

Residential care facilities were defined as facilities with 50% or more residents aged 65 years and older that are either:

- licensed under the Hospital Act; or
- licensed under the Community Care and Assisted Living Act and provide some health care services.

There were two sources of influenza vaccination coverage data: an anonymised individual healthcare worker level dataset from the electronic Workplace Health Indicator Tracking and Evaluation (WHITE) database of occupational health records, and data entered by health authority staff into a BC Centre for Disease Control (BCCDC) web application. When data from both sources were available for an individual institution, WHITE data were used.

This was the fourth season of influenza coverage reporting using WHITE data. Staff whose records were included in the analysis must have been employed by a health authority and have worked for a minimum of 8 hours during the influenza season, defined as the period December 1, 2015 to April 15, 2016. Staff who were not on a health authority's payroll (contracted staff, trainees, etc.) were not included in the WHITE database. Physicians and medical residents were not included in the WHITE database for most facilities. The BCCDC web application data were aggregate data at the facility level, and were obtained by health authority staff directly from facilities or using administrative, including WHITE, databases.

Staff were defined as all persons who work or train on a full time, part time or casual basis in a facility or hospital who have direct or indirect contact with patients or residents, regardless of whether they are health care providers. This includes administrative and non-patient care staff (e.g., medical records, housekeeping and dietary) and excludes volunteers. This definition of staff is unchanged from the 2013/14 season and is based on the Ministry's Performance Agreements.

Some healthcare workers worked at multiple facilities during the influenza season. For **coverage statistics at the provincial, health authority or health service delivery area level**, each healthcare worker was included only in the facility where they worked the most hours. **For facility level coverage statistics**, healthcare workers were included in each facility where they worked for at least 8 hours during the influenza season. This is the same method that was used for last season's (2014/15) coverage report.

Changes in coverage rates over time should be interpreted with caution as the data collection methods have changed from aggregate facility level reporting of immunization coverage as of February 28th each year prior to the 2012/13 season to individual healthcare worker level reporting using WHITE data for facilities that use WHITE, and there have been incremental methodological changes in use of WHITE data.

The results were also calculated excluding privately funded facilities. Health authorities may have more influence over the immunization practices of owned and operated, and contracted facilities.

Results

Reporting of facilities (tables 1 and 2)

- 324/372 (87%) residential care facilities in BC are included in this report
- For 83/324 (26%) facilities, data from the WHITE database were used; for 241/324 (74%) facilities, data entered by health authority staff into the BCCDC web application were used because WHITE data were not available

2015/16 influenza vaccination coverage (tables 3 and 4; figures 1 to 5)

- 76% (27,363/36,068) of staff of residential care facilities in BC were vaccinated against influenza, a slight decrease from the prior two years (77% in 2014/15 and 79% in 2013/14).
- 63% to 86% coverage was the range across the five regional health authorities
- 50% to 88% coverage was the range across the sixteen health service delivery areas
- 5% to 100% coverage was the range across all residential care facilities in BC
- 163/324 (50%) facilities met the provincial and national target of 80% coverage target, compared with 151/296 (51%) in 2014/15 and 230/305 (75%) in 2013/14

Results excluding privately funded facilities (tables 6 and 7)

- 227/266 (85%) publicly funded or contracted residential facilities were included
- 74% (19,232/25,820) of staff were vaccinated against influenza

Summary

Influenza immunization data were available for the majority (87%) of residential care facilities. Influenza vaccination coverage for staff of residential care facilities in BC was 76%, 4% below the Immunize BC target of 80% coverage. The coverage was 74% when privately funded facilities were excluded from the analysis.

Within each health authority, there was a wide range of influenza vaccination coverage for residential care facilities. The reasons behind the variation in vaccination coverage between facilities were not assessed.

Influenza immunization coverage for residential facility healthcare workers in BC has been similar for the 2015/16 season (76%) compared to the 2014/15 season (77%) and 2013/14 (79%) season. Although there has been a slight downward trend in coverage since 2013/14, coverage during the last four influenza seasons was much higher than before the new BC Influenza Prevention Policy was implemented. The increased influenza immunization coverage was almost certainly due to the new Policy, as this was the only apparent change to the program. However, room for improvement remains.

Tables and Figures

Table 1: Residential care facilities included by health authority, 2015/16

| Health authority | Reported | Residential care facilities | |
|-------------------|----------|-----------------------------|------------|
| | | Total | % reported |
| Interior | 76 | 94 | 81 |
| Fraser | 89 | 102 | 87 |
| Vancouver Coastal | 59 | 62 | 95 |
| Vancouver Island | 86 | 90 | 96 |
| Northern | 14 | 24 | 58 |
| British Columbia | 324 | 372 | 87 |

Table 2: Data source used to calculate influenza vaccination coverage, 2015/16

| Health authority | Residential care facilities | | |
|-------------------|-----------------------------|------------|-------|
| | WHITE* | Aggregate* | Total |
| Interior | 32 | 44 | 76 |
| Fraser | 7 | 82 | 79 |
| Vancouver Coastal | 17 | 42 | 59 |
| Vancouver Island | 15 | 71 | 86 |
| Northern | 12 | 2 | 14 |
| British Columbia | 83 | 241 | 324 |

Note: WHITE data were the 1st choice and aggregate reporting was the 2nd choice.

* WHITE: facility influenza immunization coverage statistics were calculated from the Workplace Health Indicator Tracking and Evaluation database.

Aggregate: facility influenza immunization coverage statistics were reported in aggregate format by health authority staff using an online database. Aggregate reporting from Fraser Health does not include casual staff.

Table 3: Influenza vaccination coverage for staff of residential care facilities by health authority, health service delivery area, 2015/16

| Health authority | Residential care facility staff | | |
|--------------------------|---------------------------------|---------------|-----------|
| | Immunized | Total | % |
| Interior | 5,627 | 7,803 | 72 |
| East Kootenay | 650 | 1,054 | 62 |
| Kootenay Boundary | 546 | 779 | 70 |
| Okanagan | 3,117 | 4,208 | 74 |
| Thompson/Cariboo/Shuswap | 1,314 | 1,762 | 75 |
| Fraser | 7,494 | 9,457 | 79 |
| Fraser East | 1,533 | 1,907 | 80 |
| Fraser North | 2,801 | 3,470 | 81 |
| Fraser South | 3,160 | 4,080 | 77 |
| Vancouver Coastal | 7,028 | 8,215 | 86 |
| Richmond | 789 | 894 | 88 |
| Vancouver | 4,493 | 5,267 | 85 |
| N Shore/Coast Garibaldi | 1,746 | 2,054 | 85 |
| Vancouver Island | 6,240 | 9,049 | 69 |
| South Vancouver Island | 3,316 | 4,936 | 67 |
| Central Vancouver Island | 2,194 | 3,212 | 68 |
| North Vancouver Island | 730 | 901 | 81 |
| Northern | 974 | 1,544 | 63 |
| Northwest | 271 | 382 | 71 |
| Northern Interior | 542 | 843 | 64 |
| Northeast | 161 | 319 | 50 |
| BC | 27,363 | 36,068 | 76 |

Table 4: Residential care facility staff influenza vaccination coverage by health authority, 2006/07 to 2015/16

| Health authority | Influenza immunization coverage (%) for staff of residential care facilities by influenza season | | | | | | | | | |
|-------------------|---|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 2006/07 | 2007/08 | 2008/09 | 2009/10 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| Interior | 56 | 60 | 56 | 42 | 48 | 49 | 69 | 73 | 74 | 72 |
| Fraser | 72 | 73 | 67 | 53 | 58 | 63 | 80 | 87 | 82 | 79 |
| Vancouver Coastal | 75 | 76 | 74 | 61 | 69 | 67 | 83 | 83 | 85 | 86 |
| Vancouver Island | 63 | 58 | 58 | 43 | 47 | 51 | 70 | 72 | 71 | 69 |
| Northern | 57 | 58 | 49 | 32 | 49 | 47 | 70 | 72 | 71 | 63 |
| British Columbia | 67 | 67 | 64 | 49 | 56 | 57 | 75 | 79 | 77 | 76 |

Figure 1: Influenza immunization coverage for staff of residential care facilities, 2005/06 to 2015/16

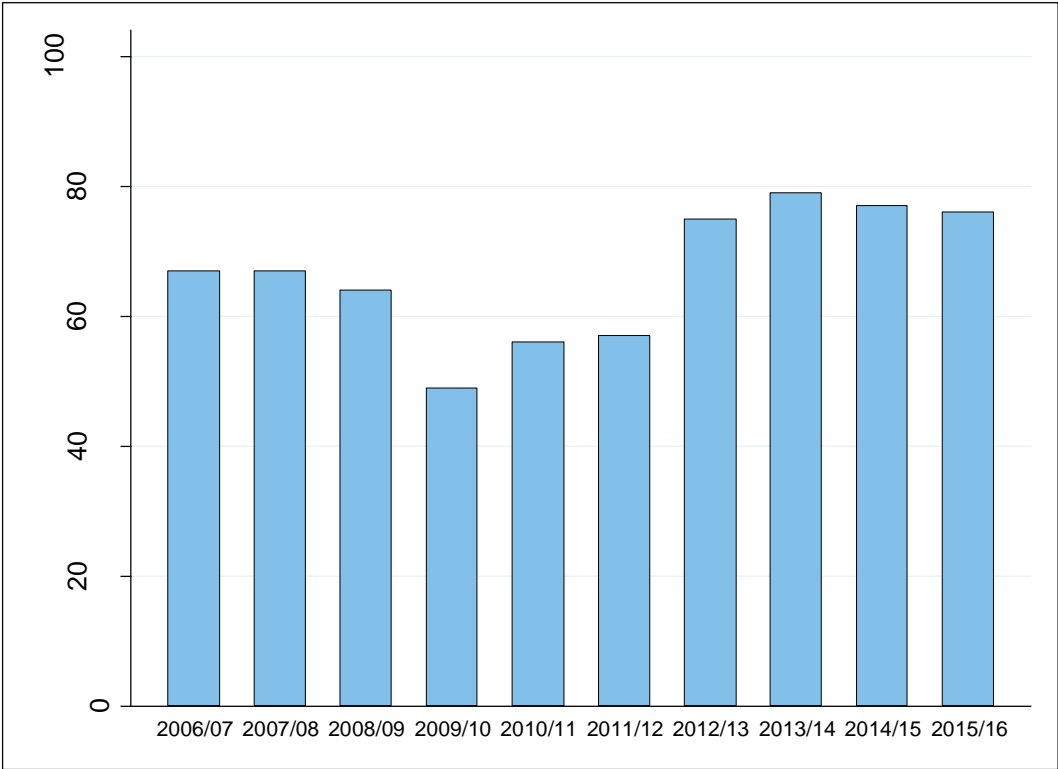


Figure 2: Influenza immunization coverage for staff of residential care facilities by health authority, 2015/16

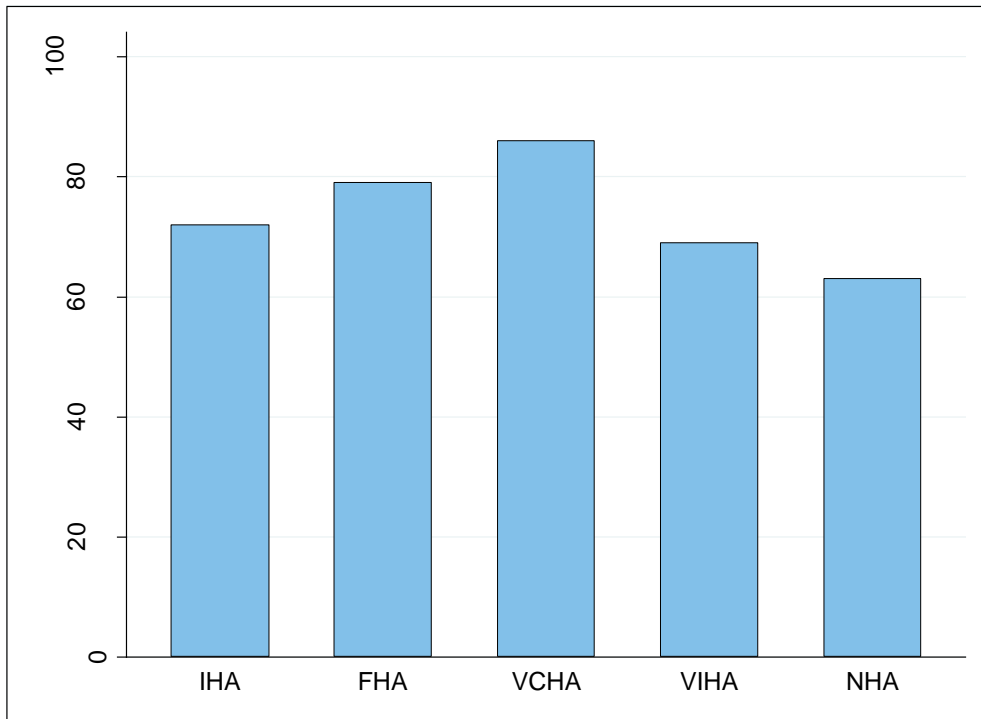


Figure 3: Influenza immunization coverage for staff of residential care facilities by health service delivery area, 2015/16

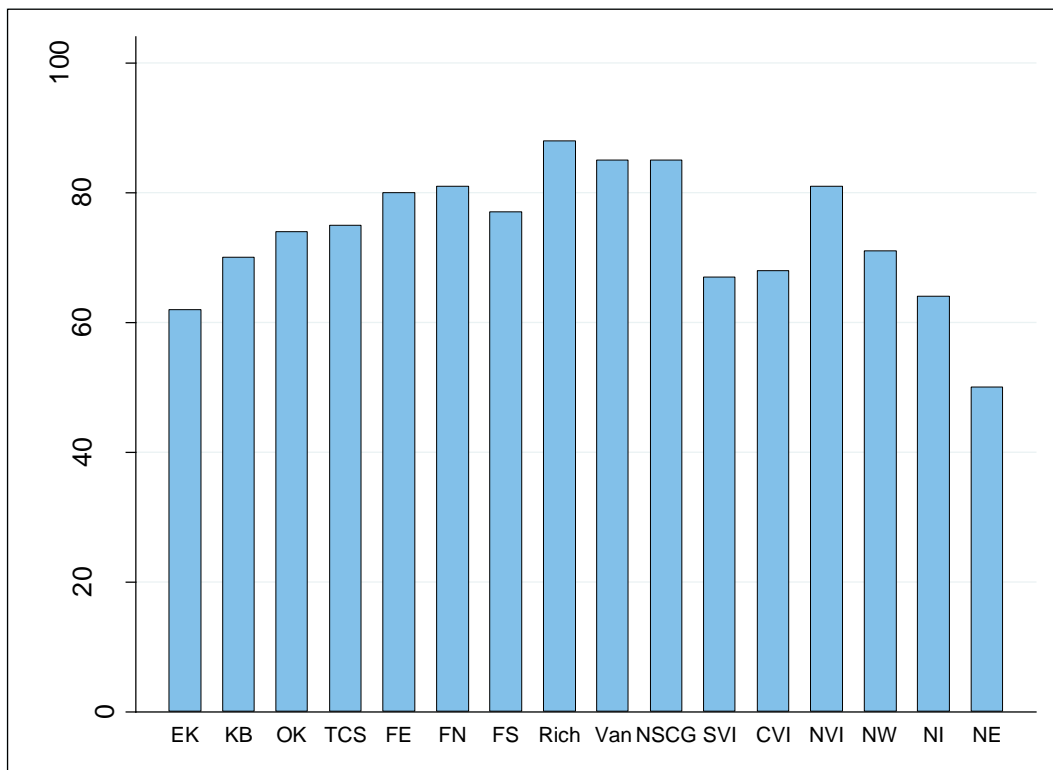


Figure 4: Influenza immunization coverage for staff of residential care facilities by facility size (number of staff), 2015/16

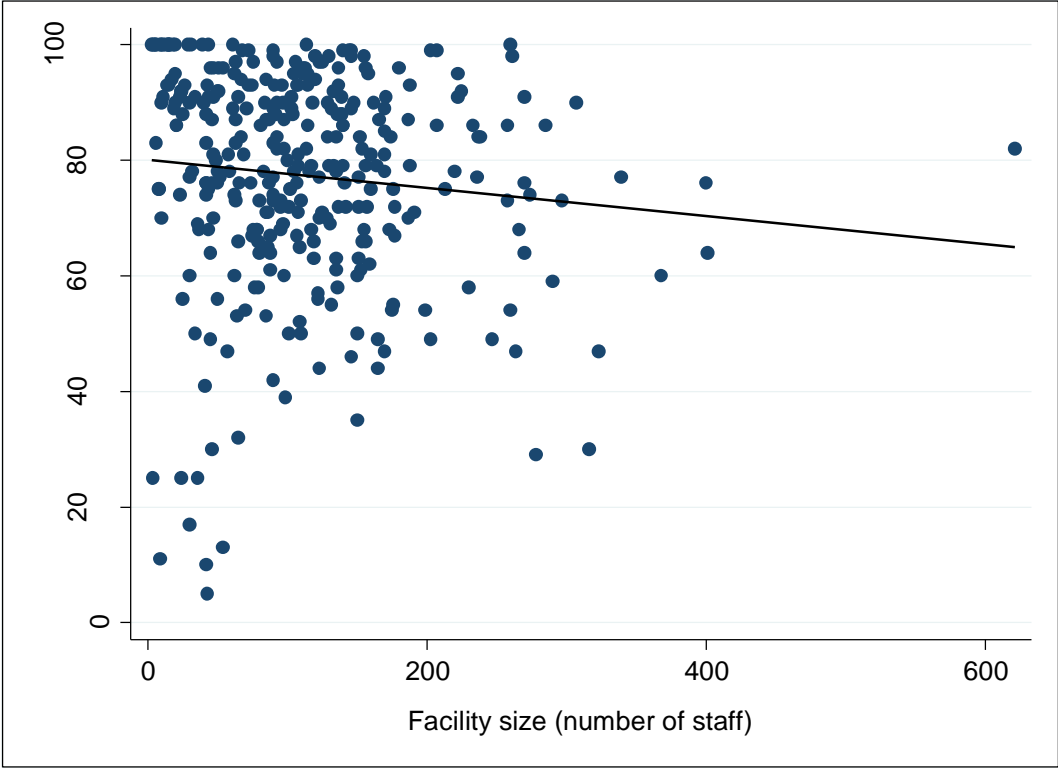


Figure 5: Influenza immunization coverage for staff of residential care facilities by facility within each health authority, 2015/16

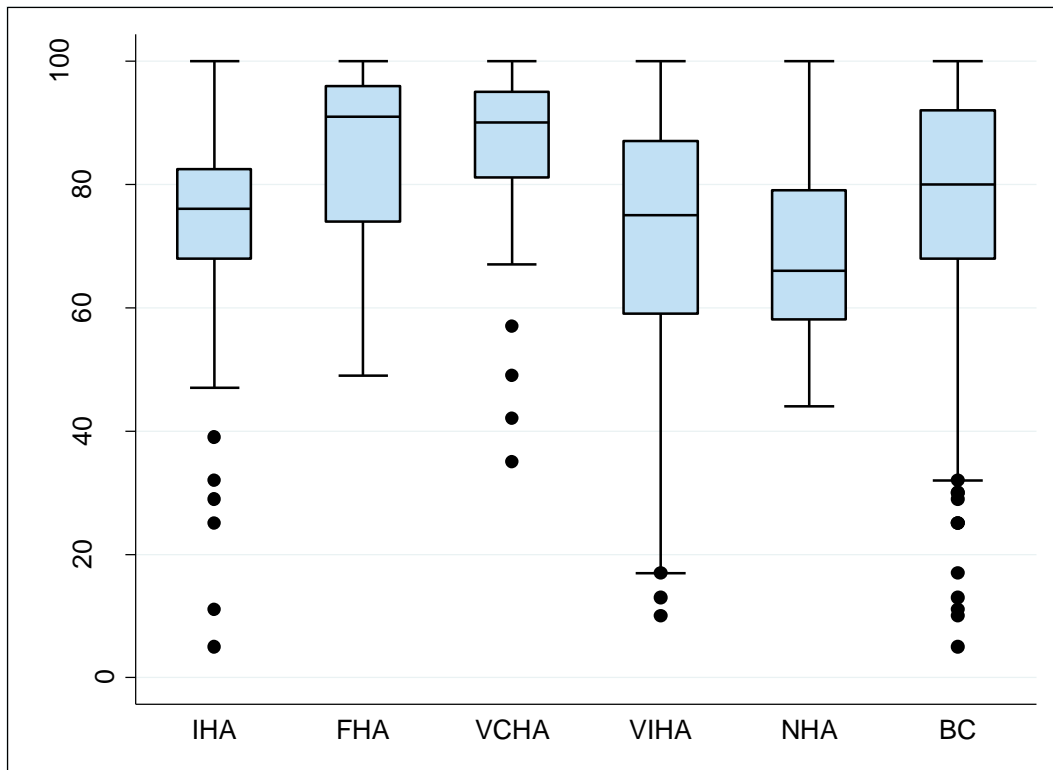


Figure 5 illustrates the range of influenza immunization coverage for residential care facilities in each health authority and for BC for the 2015/16 influenza season. The horizontal line below each box represents the lowest observed coverage value that is greater than or equal to the first quartile minus 1.5 times the interquartile range; the lower edge of each box represents the 25th percentile; the solid horizontal line within each box represent the median coverage value; the upper edge of each box represents the 75th percentile; the horizontal line above each box represents the highest observed coverage value that is less than or equal to the third quartile plus the interquartile range; and the dots represent facilities with unusually high or low coverage values which may be outliers.

Table 5: Immunization coverage for staff of residential care facilities by health authority, health service delivery area, 2007/08 to 2015/16

| Health authority | | Influenza season | | | | | | | | | |
|----------------------|-------------|------------------|---------|---------|-----------------|---------|---------|---------|---------|---------|---------|
| | | 2007/08 | 2008/09 | 2009/10 | 2009/10 H1N1 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| INTERIOR | immunized | 4,512 | 4,196 | 3,300 | - | 3,606 | 4,359 | 5,386 | 4,801 | 5,819 | 5,627 |
| | total staff | 7,491 | 7,491 | 7,913 | - | 7,576 | 8,807 | 7,815 | 6,547 | 7,878 | 7,803 |
| | % immunized | 60 | 56 | 42 | - | 48 | 49 | 69 | 73 | 74 | 72 |
| East Kootenay | immunized | 449 | 211 | 303 | - | 235 | 277 | 655 | 626 | 594 | 650 |
| | total staff | 750 | 400 | 786 | - | 633 | 690 | 946 | 935 | 802 | 1,054 |
| | % immunized | 60 | 53 | 39 | - | 37 | 40 | 69 | 67 | 74 | 62 |
| Kootenay Boundary | immunized | 386 | 365 | 260 | - | 307 | 324 | 538 | 583 | 522 | 546 |
| | total staff | 804 | 859 | 824 | - | 878 | 777 | 881 | 836 | 809 | 779 |
| | % immunized | 48 | 42 | 32 | - | 35 | 42 | 61 | 70 | 65 | 70 |
| Okanagan | immunized | 2,439 | 2,363 | 1,809 | - | 2,075 | 3,051 | 3,181 | 2,272 | 3,286 | 3,117 |
| | total staff | 4,146 | 4,142 | 4,572 | - | 4,332 | 5,943 | 4,640 | 3,105 | 4,515 | 4,208 |
| | % immunized | 59 | 57 | 40 | - | 48 | 51 | 69 | 73 | 73 | 74 |
| Thomps Carib Shuswap | immunized | 1,238 | 1,257 | 928 | - | 989 | 707 | 1,012 | 1,320 | 1,417 | 1,314 |
| | total staff | 1,791 | 2,090 | 1,731 | - | 1,733 | 1,397 | 1,348 | 1,671 | 1,752 | 1,762 |
| | % immunized | 69 | 60 | 54 | - | 57 | 51 | 75 | 79 | 81 | 75 |
| FRASER | immunized | 7,550 | 7,043 | 5,790 | 5,661 | 6,262 | 6,903 | 8,756 | 6,059 | 8,247 | 7,494 |
| | total staff | 10,319 | 10,500 | 10,890 | 10,795 | 10,746 | 11,041 | 10,955 | 6,937 | 10,084 | 9,457 |
| | % immunized | 73 | 67 | 53 | 52 | 58 | 63 | 80 | 87 | 82 | 79 |
| Fraser East | immunized | 1,386 | 1,246 | 1,118 | 1,010 | 1,303 | 1,370 | 1,409 | 875 | 1,434 | 1,533 |
| | total staff | 2,070 | 1,994 | 2,185 | 2,179 | 2,109 | 2,093 | 1,839 | 999 | 1,755 | 1,907 |
| | % immunized | 67 | 62 | 51 | 46 | 62 | 65 | 77 | 88 | 82 | 80 |
| Fraser North | immunized | 3,009 | 2,686 | 2,187 | 2,155 | 2,294 | 2,616 | 3,362 | 2,589 | 3,577 | 2,801 |
| | total staff | 4,003 | 3,926 | 3,818 | 3,806 | 3,982 | 3,955 | 4,213 | 3,025 | 4,562 | 3,470 |
| | % immunized | 75 | 68 | 57 | 57 | 58 | 66 | 80 | 86 | 78 | 81 |
| Fraser South | immunized | 3,155 | 3,111 | 2,485 | 2,496 | 2,665 | 2,917 | 3,985 | 2,595 | 3,236 | 3,160 |
| | total staff | 4,246 | 4,580 | 4,887 | 4,810 | 4,655 | 4,993 | 4,903 | 2,913 | 3,767 | 4,080 |
| | % immunized | 74 | 68 | 51 | 52 | 57 | 58 | 81 | 89 | 86 | 77 |

Table 5 (continued): Immunization coverage for staff of residential care facilities by health authority, health service delivery area, 2007/08 to 2015/16

| Health authority | | Influenza season | | | | | | | | | |
|--------------------------|-------------|------------------|---------|---------|-----------------|---------|---------|---------|---------|---------|---------|
| | | 2007/08 | 2008/09 | 2009/10 | 2009/10 H1N1 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| VANCOUVER COASTAL | immunized | 6,107 | 6,045 | 5,239 | 4,645 | 5,604 | 5,272 | 6,350 | 7,077 | 5,652 | 7,028 |
| | total staff | 8,070 | 8,185 | 8,564 | 8,564 | 8,073 | 7,816 | 7,652 | 8,491 | 6,672 | 8,215 |
| | % immunized | 76 | 74 | 61 | 54 | 69 | 67 | 83 | 83 | 85 | 86 |
| Richmond | immunized | 716 | 755 | 669 | 443 | 586 | 625 | 701 | 805 | 644 | 789 |
| | total staff | 921 | 951 | 930 | 930 | 820 | 903 | 803 | 918 | 706 | 894 |
| | % immunized | 78 | 79 | 72 | 48 | 71 | 69 | 87 | 88 | 91 | 88 |
| Vancouver | immunized | 4,128 | 3,818 | 3,342 | 3,138 | 3,734 | 3,445 | 4,196 | 4,827 | 3,881 | 4,493 |
| | total staff | 5,344 | 5,077 | 5,421 | 5,421 | 5,257 | 4,922 | 5,020 | 5,662 | 4,514 | 5,267 |
| | % immunized | 77 | 75 | 62 | 58 | 71 | 70 | 84 | 85 | 86 | 85 |
| N Shore/Coast Garibaldi | immunized | 1,263 | 1,472 | 1,228 | 1,064 | 1,284 | 1,202 | 1,453 | 1,445 | 1,127 | 1,746 |
| | total staff | 1,805 | 2,157 | 2,213 | 2,213 | 1,996 | 1,991 | 1,829 | 1,911 | 1,452 | 2,054 |
| | % immunized | 70 | 68 | 55 | 48 | 64 | 60 | 79 | 76 | 78 | 85 |
| VANCOUVER ISLAND | immunized | 4,331 | 4,528 | 3,596 | - | 4,101 | 4,166 | 5,852 | 6,068 | 6,350 | 6,240 |
| | total staff | 7,420 | 7,809 | 8,382 | - | 8,681 | 8,244 | 8,370 | 8,429 | 8,941 | 9,049 |
| | % immunized | 58 | 58 | 43 | - | 47 | 51 | 70 | 72 | 71 | 69 |
| South Van Island | immunized | 2,462 | 2,352 | 2,069 | - | 2,255 | 2,170 | 3,263 | 3,273 | 3,487 | 3,316 |
| | total staff | 3,930 | 4,027 | 4,364 | - | 4,322 | 4,016 | 4,563 | 4,475 | 4,992 | 4,936 |
| | % immunized | 63 | 58 | 47 | - | 52 | 54 | 72 | 73 | 70 | 67 |
| Central Van Island | immunized | 1,492 | 1,724 | 1,132 | - | 1,398 | 1,441 | 1,894 | 2,107 | 2,163 | 2,194 |
| | total staff | 2,715 | 2,931 | 3,043 | - | 3,283 | 3,218 | 2,828 | 3,106 | 3,117 | 3,212 |
| | % immunized | 55 | 59 | 37 | - | 43 | 45 | 67 | 68 | 69 | 68 |
| North Van Island | immunized | 377 | 452 | 395 | - | 448 | 555 | 695 | 688 | 700 | 730 |
| | total staff | 775 | 851 | 975 | - | 1,076 | 1,010 | 979 | 848 | 832 | 901 |
| | % immunized | 49 | 53 | 41 | - | 42 | 55 | 71 | 81 | 84 | 81 |

Table 5 (continued): Immunization coverage for staff of residential care facilities by health authority, health service delivery area, 2007/08 to 2015/16

| Health authority | | Influenza season | | | | | | | | | |
|-------------------|-------------|------------------|---------|---------|-----------------|---------|---------|---------|---------|---------|---------|
| | | 2007/08 | 2008/09 | 2009/10 | 2009/10 H1N1 | 2010/11 | 2011/12 | 2012/13 | 2013/14 | 2014/15 | 2015/16 |
| NORTHERN | immunized | 845 | 779 | 529 | 424 | 777 | 835 | 1,273 | 1,035 | 1,099 | 974 |
| | total staff | 1,470 | 1,578 | 1,651 | 1,647 | 1,584 | 1,792 | 1,828 | 1,432 | 1,558 | 1,544 |
| | % immunized | 57 | 49 | 32 | 26 | 49 | 47 | 70 | 72 | 71 | 63 |
| Northwest | immunized | 277 | 183 | 177 | 132 | 284 | 296 | 394 | 287 | 327 | 271 |
| | total staff | 516 | 514 | 434 | 457 | 458 | 511 | 495 | 368 | 401 | 382 |
| | % immunized | 54 | 36 | 41 | 29 | 62 | 58 | 80 | 78 | 82 | 71 |
| Northern Interior | immunized | 402 | 427 | 270 | 225 | 369 | 423 | 616 | 574 | 594 | 542 |
| | total staff | 617 | 652 | 828 | 801 | 842 | 875 | 866 | 769 | 857 | 843 |
| | % immunized | 65 | 65 | 33 | 28 | 44 | 48 | 71 | 75 | 69 | 64 |
| Northeast | immunized | 166 | 169 | 82 | 67 | 124 | 116 | 263 | 174 | 178 | 161 |
| | total staff | 337 | 412 | 389 | 389 | 284 | 406 | 467 | 295 | 300 | 319 |
| | % immunized | 49 | 41 | 21 | 17 | 44 | 29 | 56 | 59 | 59 | 50 |
| BC | immunized | 23,345 | 22,591 | 18,454 | - | 20,350 | 21,535 | 27,617 | 25,040 | 27,167 | 27,363 |
| | total staff | 34,770 | 35,563 | 37,400 | - | 36,660 | 37,700 | 36,620 | 31,836 | 35,133 | 36,068 |
| | % immunized | 67 | 64 | 49 | - | 56 | 57 | 75 | 79 | 77 | 76 |

Coverage excluding privately funded residential care facilities

Table 6: Number and proportion of residential care facilities reporting coverage by health authority, 2015/16
(excluding privately funded residential care facilities)

| Health authority | Residential care facilities | | |
|-------------------|-----------------------------|-------|------------|
| | Reported | Total | % reported |
| Interior | 47 | 58 | 81 |
| Fraser | 78 | 91 | 86 |
| Vancouver Coastal | 20 | 21 | 95 |
| Vancouver Island | 70 | 74 | 95 |
| Northern | 12 | 22 | 55 |
| British Columbia | 227 | 266 | 85 |

Table 7: Influenza vaccination coverage for staff of residential care facilities by health authority, health service delivery area, 2015/16
(excluding privately funded residential care facilities)

| Health authority | Residential care facility staff | | |
|--------------------------|---------------------------------|---------------|-----------|
| | Immunized | Total | % |
| Interior | 3,381 | 4,633 | 73 |
| East Kootenay | 370 | 483 | 77 |
| Kootenay Boundary | 308 | 462 | 67 |
| Okanagan | 1,636 | 2,261 | 72 |
| Thompson/Cariboo/Shuswap | 1,067 | 1,427 | 75 |
| Fraser | 6,764 | 8,603 | 79 |
| Fraser East | 1,520 | 1,893 | 80 |
| Fraser North | 2,547 | 3,178 | 80 |
| Fraser South | 2,697 | 3,532 | 76 |
| Vancouver Coastal | 2,473 | 2,976 | 83 |
| Richmond | 355 | 400 | 89 |
| Vancouver | 1,298 | 1,496 | 87 |
| N Shore/Coast Garibaldi | 820 | 1,080 | 76 |
| Vancouver Island | 5,716 | 8,233 | 69 |
| South Vancouver Island | 2,900 | 4,320 | 67 |
| Central Vancouver Island | 2,086 | 3,012 | 69 |
| North Vancouver Island | 730 | 901 | 81 |
| Northern | 898 | 1,375 | 65 |
| Northwest | 271 | 382 | 71 |
| Northern Interior | 466 | 674 | 69 |
| Northeast | 161 | 319 | 50 |
| BC | 19,232 | 25,820 | 74 |

References

1. Immunize BC: a strategic framework for immunization in B.C. 2007. Victoria, BC: British Columbia Ministry of Health. Available at: <http://www.health.gov.bc.ca/library/publications/year/2007/immunizebc.pdf>
2. Public Health Agency of Canada. Final Report of Outcomes from the National Consensus Conference for Vaccine-Preventable Diseases in Canada. *Can Commun Dis Rep* 2007;33S3:1-56. Available at: <http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/08pdf/34s2-eng.pdf>

APPENDIX

Additional vaccination and Policy compliance information for staff of residential care facilities British Columbia, 2015/16

Since 2013/14, health authority staff covered by the Influenza Prevention Policy have been required to self-report their influenza vaccination via an online self-reporting website. For the first time, in the 2015/16 season, all staff were asked to self-report either being vaccinated, or declining vaccination with the commitment to wear a mask in patient care areas throughout the influenza season. Online self-reporting was only possible for facilities that use the electronic Workplace Health Indicator Tracking and Evaluation (WHITE) database of occupational health records.

This appendix presents self-reported compliance with the policy and other vaccination information for all residential care staff in the WHITE database.

Objectives

- i) To quantify the percentages of staff in residential care facilities in British Columbia who self-reported vaccination or vaccine declinations as per the Influenza Prevention Policy
- ii) To quantify self-reported vaccination and vaccine declinations by job type among residential care staff
- iii) To quantify the source of influenza vaccination among residential care staff by immunizer type

Methods

The only source of data for analyses in this appendix is an anonymized individual healthcare worker level dataset from the electronic Workplace Health Indicator Tracking and Evaluation (WHITE) database of occupational health records.

Staff whose records were included in the analysis must have been employed by a health authority and have worked for a minimum of 8 hours during the influenza season, defined as the period December 1, 2015 to April 15, 2016. Staff who were not on a health authority's payroll (contracted staff, trainees, etc.) were not included in the WHITE database. Physicians and medical residents were not included in the WHITE database for most facilities.

Staff were defined as all persons who work or train on a full time, part time or casual basis in a facility or hospital who have direct or indirect contact with patients or residents, regardless of whether they are health care providers. This includes administrative and non-patient care staff (e.g., medical records, housekeeping and dietary) and excludes volunteers. This definition of staff is unchanged from the 2013/14 season and is based on the Ministry's Performance Agreements.

Some healthcare workers (HCWs) worked at multiple facilities or in multiple positions during the influenza season. For coverage statistics at the provincial, health authority or health service delivery area level, each healthcare worker was included only in the facility and the job at which they worked the most hours.

Data on 'policy compliance status' (Table 2) originates from the self-reporting website at which staff have the option to record their vaccination or vaccine declination. The self-reporting website populates each HCW's WHITE database record. Data on HCWs' job descriptions (Table 3) is recorded in WHITE using job codes designated by Health Sector Compensation Information Systems (HSCIS). HSCIS codes are grouped into 162 subfamilies, which have been further collapsed into 11 job categories and 1 'other' category for the purposes of this report. Data on the immunizer type (Table 4) is reported by staff on the self-reporting website.

Table 1: Residential care facilities with healthcare worker immunization data in WHITE database, by health authority 2015/16

| Health authority | WHITE data | Residential care facilities | |
|-------------------|------------|-----------------------------|------------|
| | | Total | % in WHITE |
| Interior | 32 | 94 | 34 |
| Fraser | 7 | 102 | 7 |
| Vancouver Coastal | 17 | 62 | 27 |
| Vancouver Island | 15 | 90 | 17 |
| Northern | 12 | 24 | 50 |
| British Columbia | 83 | 372 | 22 |

Table 2: Policy compliance status for staff of the 83 residential care facilities with healthcare worker immunization data in WHITE database by health authority, health service delivery area, 2015/16

| Health authority | Residential care facility staff | | | | | | Total |
|--------------------------|---------------------------------|-----------|------------|----------|--------------|-----------|---------------|
| | Vaccinated | % | Declined | % | Not reported | % | |
| Interior | 2,594 | 75 | 289 | 8 | 583 | 17 | 3,466 |
| East Kootenay | 491 | 77 | 58 | 9 | 90 | 14 | 639 |
| Kootenay Boundary | 308 | 67 | 55 | 12 | 99 | 21 | 462 |
| Okanagan | 1,177 | 75 | 123 | 8 | 269 | 17 | 1,569 |
| Thompson/Cariboo/Shuswap | 618 | 78 | 53 | 7 | 125 | 16 | 796 |
| Fraser | 1,168 | 76 | 130 | 9 | 231 | 15 | 1,529 |
| Fraser East | 91 | 78 | 3 | 3 | 22 | 19 | 116 |
| Fraser North | 607 | 79 | 75 | 10 | 86 | 11 | 768 |
| Fraser South | 470 | 73 | 52 | 8 | 123 | 19 | 645 |
| Vancouver Coastal | 2,346 | 84 | 209 | 7 | 249 | 9 | 2,804 |
| Richmond | 355 | 89 | 20 | 5 | 25 | 6 | 400 |
| Vancouver | 1,298 | 87 | 81 | 5 | 117 | 8 | 1,496 |
| N Shore/Coast Garibaldi | 693 | 76 | 108 | 12 | 107 | 12 | 908 |
| Vancouver Island | 1,440 | 62 | 103 | 4 | 779 | 34 | 2,322 |
| South Vancouver Island | 673 | 55 | 45 | 4 | 503 | 41 | 1,221 |
| Central Vancouver Island | 597 | 67 | 38 | 4 | 258 | 29 | 893 |
| North Vancouver Island | 170 | 82 | 20 | 10 | 18 | 9 | 208 |
| Northern | 898 | 65 | 130 | 9 | 347 | 25 | 1,375 |
| Northwest | 271 | 71 | 30 | 8 | 81 | 21 | 382 |
| Northern Interior | 466 | 69 | 56 | 8 | 152 | 23 | 674 |
| Northeast | 161 | 50 | 44 | 14 | 114 | 36 | 319 |
| BC | 8,446 | 73 | 861 | 7 | 2,189 | 19 | 11,496 |

†This coverage percentage differs from the overall 2015/16 coverage for residential care staff (76%) due to the under-representation of residential care facilities in WHITE data. Only 83 of 372 (22%) of residential care facilities in the province have data in the WHITE database. The data presented in this appendix do not include aggregate reporting from the BCCDC Web application.

Table 3: Policy compliance status for staff of the 83 residential care facilities with healthcare worker immunization data in WHITE database by job description, 2015/16

| | Residential care facility staff | | | | | | Total |
|----------------------------|---------------------------------|------------|------------|----------|--------------|-----------|---------------|
| | Vaccinated | % | Declined | % | Not reported | % | |
| Health care assistant | 4,245 | 72 | 439 | 7 | 1,252 | 21 | 5,936 |
| Nurse | 2,319 | 77 | 252 | 8 | 459 | 15 | 3,030 |
| Admin and Support | 1,140 | 70 | 109 | 7 | 374 | 23 | 1,623 |
| Allied health [‡] | 315 | 84 | 24 | 6 | 35 | 9 | 374 |
| Management or Leadership | 279 | 83 | 15 | 4 | 44 | 13 | 338 |
| Business | 71 | 68 | 15 | 14 | 18 | 17 | 104 |
| Pharmacy staff | 36 | 82 | 5 | 11 | 3 | 7 | 44 |
| Laboratory worker | 11 | 79 | 1 | 7 | 2 | 14 | 14 |
| Non-lab technologists | 8 | 89 | 0 | 0 | 1 | 11 | 9 |
| Other | 16 | 89 | 1 | 6 | 1 | 6 | 18 |
| Public health | 6 | 100 | 0 | 0 | 0 | 0 | 6 |
| Total | 8,446 | †73 | 861 | 7 | 2,189 | 19 | 11,496 |

[†]This coverage percentage differs from the overall 2015/16 coverage for residential care staff (76%) due to the under-representation of residential care facilities in WHITE data. Only 83 of 372 (22%) of residential care facilities in the province have data in the WHITE database. The data presented in this appendix do not include aggregate reporting from the BCCDC Web application.

[‡]Allied health refers to professions in health care other than medicine and nursing (e.g. dietitians, occupational/physical/respiratory therapists, social workers etc.).

Table 4: Immunizer type for staff of the 83 residential care facilities with healthcare worker immunization data in WHITE database by health authority, 2015/16

| Health Authority | | IHA | FHA | VCHA | VIHA | NHA | BC |
|-------------------------|------------|--------------|--------------|--------------|--------------|------------|--------------|
| Flu Clinic Nurse | No. | 1,032 | 430 | 572 | 580 | 279 | 2,893 |
| | % | 40 | 37 | 24 | 40 | 31 | 34 |
| Peer Nurse Immunizer | No. | 884 | 399 | 501 | 536 | 377 | 2,697 |
| | % | 34 | 34 | 21 | 37 | 42 | 32 |
| Pharmacist | No. | 358 | 170 | 816 | 167 | 119 | 1,630 |
| | % | 14 | 15 | 35 | 12 | 13 | 19 |
| Public Health | No. | 163 | 31 | 72 | 52 | 85 | 403 |
| | % | 6 | 3 | 3 | 4 | 9 | 5 |
| Family Physician | No. | 54 | 70 | 193 | 43 | 16 | 376 |
| | % | 2 | 6 | 8 | 3 | 2 | 4 |
| Other | No. | 78 | 56 | 138 | 40 | 17 | 329 |
| | % | 3 | 5 | 6 | 3 | 2 | 4 |
| Not Selected | No. | 25 | 12 | 54 | 22 | 5 | 118 |
| | % | 1 | 1 | 2 | 2 | 1 | 1 |
| Total | No. | 2,594 | 1,168 | 2,346 | 1,440 | 898 | 8,446 |

Summary

2015/16 is the first season in which WHITE data was analyzed to determine use of the self-reporting system, vaccination rates by job type, and immunizer type. Interpretation of these data is limited by the low participation in WHITE for residential care facilities.

The pattern of lower influenza vaccine uptake for 'Admin and Support' as well as 'Business' staff, also seen in the acute care staff data, suggests that direct patient care is influential in the decision to be vaccinated.

The majority of residential care staff are immunized at work by a flu clinic nurse or peer nurse immunizer. Regional variability in immunizer type may be indicative of the availability of immunizing personnel in the community (e.g. family physicians or pharmacist immunizers) as well as management decisions in how to deliver the influenza vaccine program to HCWs at the workplace.