State of Wyoming

Department of Health

Wyoming Influenza Summary Report
2003-2004 Season

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WYOMING INFLUENZA SUMMARY REPORT
2003 – 2004 SEASON*

SYNOPSIS

Influenza activity in Wyoming appeared earlier than usual (early November) this season, peaked in early December, and declined rapidly in January. This season was characterized by the predominance of a drifted influenza A strain, A/Fujian/411/2002-like (H3N2), that was not included in the 2003-2004 influenza vaccine**. Preliminary data from national influenza surveillance systems indicate that the current season was more severe than the previous three seasons but was within the range expected for a typical A (H3N2) season.

Influenza-associated pediatric deaths received considerable attention this season. For the first time, the Centers for Disease Control and Prevention (CDC) requested that state and local health departments report influenza-associated deaths in persons aged <18 years. As of March 27, 2004, CDC had received reports of 142 influenza-associated deaths in U.S. residents aged <18 years. One of these cases was a resident of Wyoming. All patients had evidence of influenza virus infection detected by rapid-antigen or other laboratory testing. Further data collection regarding these reports is ongoing, and efforts are under way to track national pediatric influenza-associated deaths annually in order to establish a baseline for comparison in future years.

Human infections with avian influenza A(H5N1) and A(H7N3) viruses were reported in Asia and Canada, respectively. Thirty-four human cases of influenza A(H5N1) infection occurred in Vietnam and Thailand, 23 of which were fatal. With the exception of a single family cluster in Vietnam, it is believed that all human H5N1 cases resulted from contact with infected birds or surfaces contaminated with excretions from infected birds. Two non-fatal cases of A(H7N3) were reported in British Columbia among workers assisting with poultry culling operations in infected farms. Both of these cases resulted from contact with infected birds or surfaces contaminated with excretions from infected birds. No human cases of infection with these viruses have been reported in the United States.

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* This summary includes data reported as of June 30, 2004. Numbers may change if more reports are received.

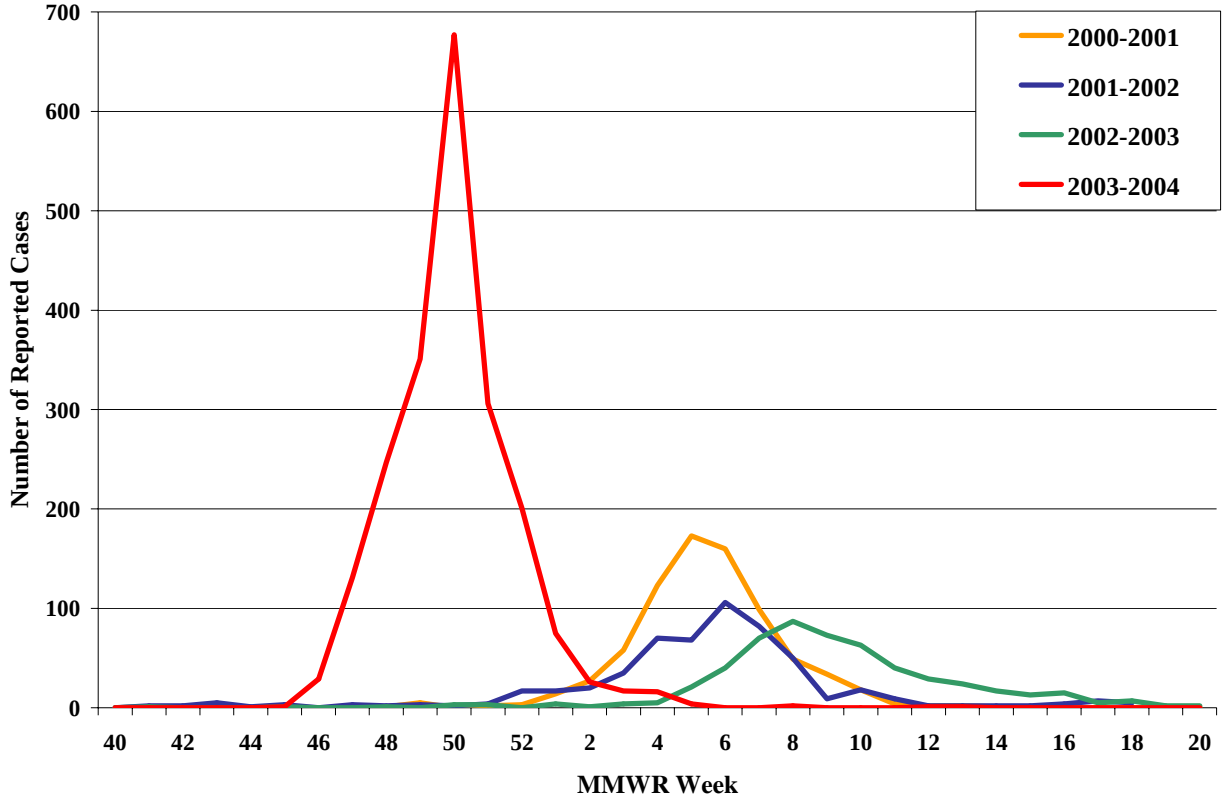
**The trivalent inactivated influenza vaccine prepared for the 2003-04 season included A/Moscow/10/99 (H3N2)-like, A/New Caledonia/20/99 (H1N1)-like, and B/Hong Kong/330/2001-like antigens. For the A/Moscow/10/99 (H3N2)-like antigen, manufacturers used the antigenically equivalent A/Panama/2007/99 (H3N2) virus, and for the B/Hong Kong/330/2001-like antigen, manufacturers used either B/Hong Kong/330/2001 or the antigenically equivalent B/Hong Kong/1434/2002.

REPORTED CASES

Rapid test and culture confirmed cases of influenza are reportable in the state of Wyoming. This season, 2085 cases of influenza (rapid test and culture positives combined) were reported from 22 of 23 Wyoming counties. The first case was reported November 8, 2003. Reporting of influenza peaked the week ending December 13, 2003, when 677 cases were reported. During the previous season, reporting of influenza peaked the week ending February 22, 2003, when 87 cases were reported. The table on the following page displays the number of cases reported by week, county, age group, and gender.

Although all positive laboratory tests for influenza should be reported to the Wyoming Department of Health, not all providers report these results. Additionally, the majority of ill persons either do not seek medical care or are not tested for the disease. Comparing reported cases of influenza from year to year or week to week may not be valid because many factors influence both testing and reporting.

REPORTED CASES OF INFLUENZA (RAPID AND CULTURE TEST POSITIVE)
WYOMING, 2003 - 2004 SEASON



REPORTED CASES OF INFLUENZA
WYOMING, 2003-2004 SEASON

Week Ending	Number
October 4	0
October 11	0
October 18	0
October 25	0
November 1	0
November 8	1
November 15	29
November 22	131
November 29	247
December 6	351
December 13	677
December 20	306
December 27	201
January 3	75
January 10	23
January 17	13
January 24	26
January 31	17
February 7	16
February 14	4
February 21	0
February 28	0
March 6	2
March 13	0
March 20	0
March 17	0
April 3	1
April 10	1
April 17	0
April 24	0
May 1	0
May 8	0
May 15	0
May 22	0
Total	2085

County	Number
Albany	71
Big Horn	18
Campbell	268
Carbon	13
Converse	24
Crook	32
Fremont	173
Goshen	18
Hot Springs	21
Johnson	0
Laramie	805
Lincoln	17
Natrona	252
Niobrara	2
Park	60
Platte	43
Sheridan	34
Sublette	11
Sweetwater	116
Teton	19
Uinta	51
Washakie	14
Weston	16
Unknown	6
Total	2085

Age	Number
0-4	771
5-10	221
11-19	310
20-39	337
40-59	196
60+	207
Unknown	43
Total	2085

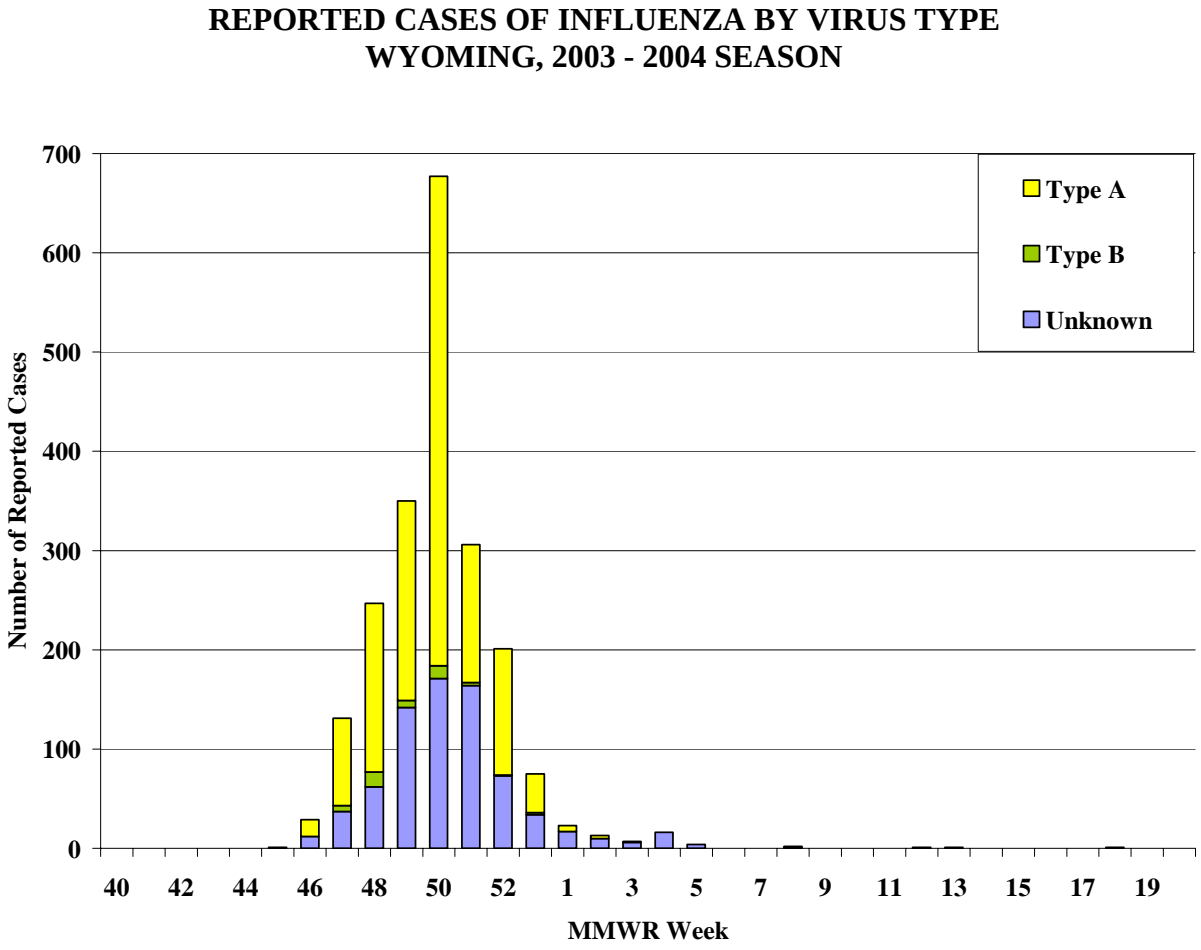
Gender	Number
Male	1022
Female	1045
Unknown	18
Total	2085

Type	Number
A†	1287
B	49
Unknown	749
Total	2085

†*36 H3N2*

LABORATORY DATA

Of the 2085 reported cases, 1287 were type A, 49 were type B, and 749 were not typed. There were 36 positive culture reports. All were type A, sub-type H3N2. Antigenic characterization was completed by the CDC on four type A, subtype H3N2 isolates. All four were A/Korea/770/02 (a Fujian-like strain).

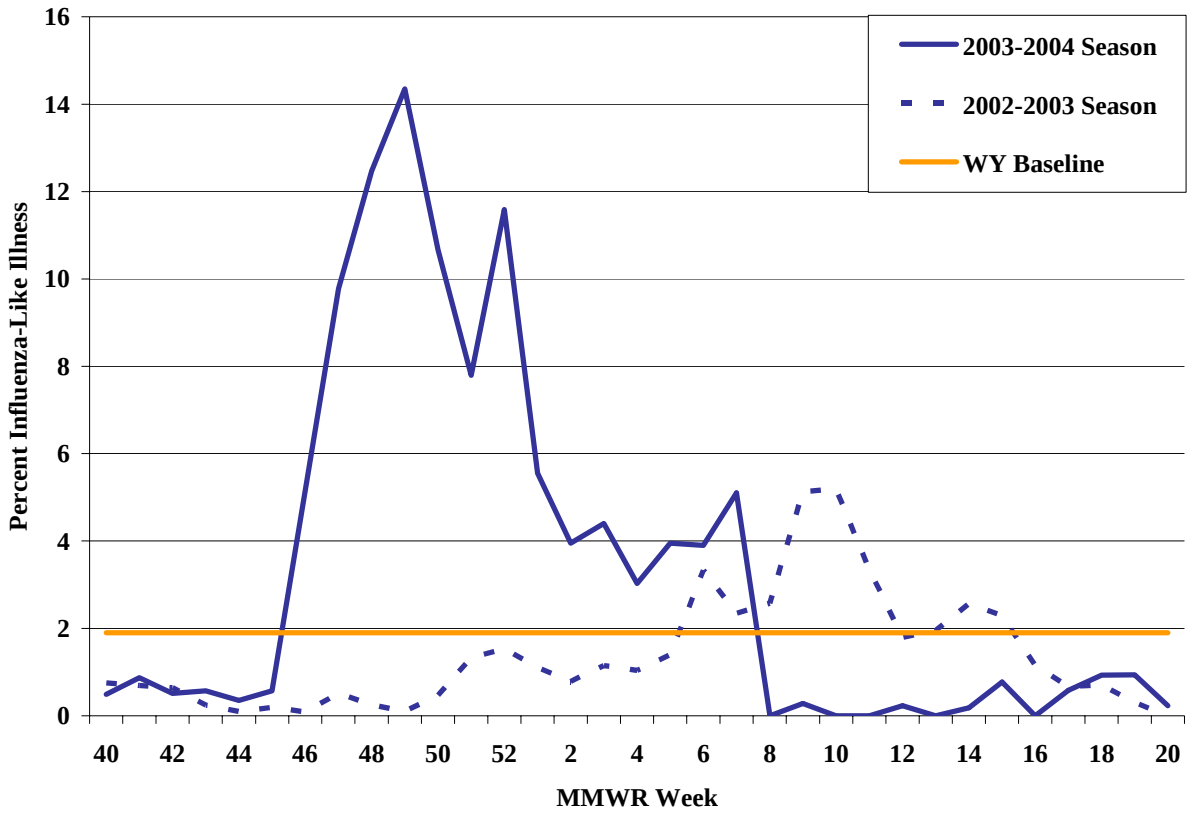


INFLUENZA-LIKE ILLNESS REPORTS FROM WYOMING SENTINEL SITES

Each week, 10-15 health care providers around the state reported the total number of patients seen and the number of those patients with influenza-like illness (ILI) by age group. For this surveillance system, ILI is defined as fever (temperature of ≥100°F) plus either a cough or a sore throat. These symptoms are common to many different diseases besides influenza; however, large sudden increases in the number of ILI cases are usually attributed to influenza.

Influenza morbidity as reported by Wyoming sentinel physicians exceeded baseline levels (0-1.9%)*** each consecutive week during the weeks ending November 15, 2003 - February 21, 2004. The peak percentage of patient visits for ILI was 14.4% during the week ending December 6, 2003. During the 2002-2003 influenza season, the peak percentage of patient visits for ILI was 5.2%, during the week ending March 8, 2003.

PERCENTAGE OF VISITS FOR INFLUENZA-LIKE ILLNESS REPORTED BY SENTINEL PROVIDERS; WYOMING, 2003-2004 SEASON



***This baseline was calculated as the mean percentage of visits for ILI during non-influenza weeks plus two standard deviations.

ABOUT THE WYOMING INFLUENZA SENTINEL SURVEILLANCE NETWORK

The Wyoming Department of Health is always seeking new providers to participate in this important surveillance system. Data reported by sentinel providers, in combination with other influenza surveillance data, provide a national picture of influenza virus and ILI activity.

Sentinel providers report the total number of patient visits each week and number of patient visits for ILI by age group (0-4 years, 5-24 years, 25-64 years, >65 years). These data are transmitted once a week via a website, a touch-tone telephone, or fax to a central data repository at CDC. Most providers report that it takes them less than 30 minutes a week to compile and report their data.

Providers of any specialty (e.g., family practice, internal medicine, pediatrics, infectious diseases) in any type of practice (e.g., private practice, public health clinic, urgent care center, emergency room, university student health center) are eligible to be sentinel providers.

Influenza viruses are constantly evolving and cause substantial morbidity and mortality almost every winter. Data from sentinel providers are critical for monitoring the impact of influenza and, in combination with other influenza surveillance data, can be used to guide prevention and control activities, vaccine strain selection, and patient care.

Participating sentinels are offered summaries of state and national influenza data, free subscriptions to CDC's Morbidity and Mortality Weekly Report and Emerging Infectious Diseases journal, and a number of viral isolation test kits for free influenza testing. The most important consideration is that the data provided are critical for protecting the public's health.

Thank you to all of those providers who participated in the Influenza Sentinel Surveillance Network during the 2003-2004 influenza season. Your efforts are greatly appreciated!

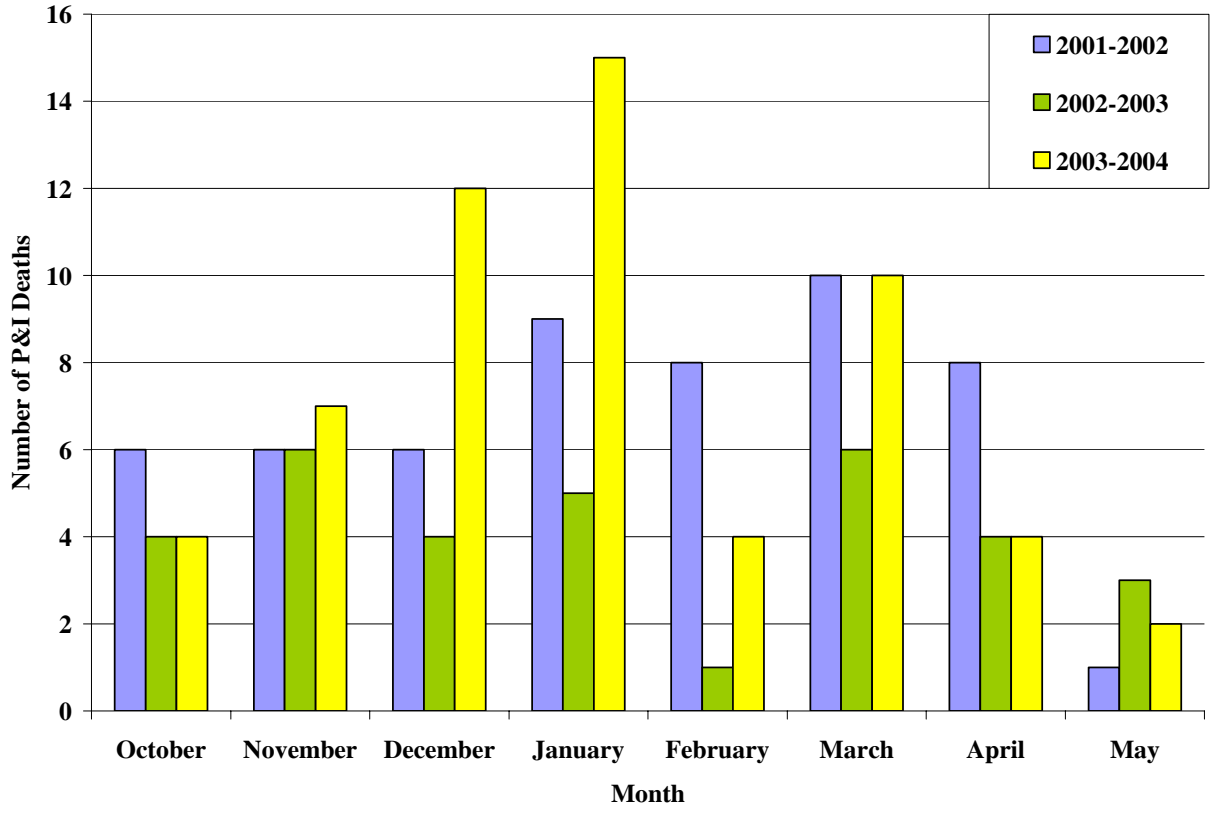
For more information on the Influenza Sentinel Surveillance Network, or if you are interested in becoming a sentinel provider, please contact Nicole Lindsey, Influenza Surveillance Coordinator at (307) 777-8640.

PNEUMONIA AND INFLUENZA (P&I) MORTALITY REPORTS

Each week, the Wyoming Vital Records Services reported the total number of death certificates filed and the number of those for which pneumonia or influenza was listed as the underlying or as a contributing cause of death. The percentage of pneumonia and influenza deaths reported in Wyoming peaked at 6.4% during the week ending March 13, 2004.

The total number of death certificates filed each week was reported for the first time during the 2003-2004 season. In order to compare this season with the previous two seasons, the number of deaths for which pneumonia or influenza was listed as the cause of death were charted by month (see below). This season, the highest number of deaths due to pneumonia and influenza occurred during the month of January, when 15 pneumonia and influenza deaths were reported.

NUMBER OF DEATHS DUE TO PNEUMONIA AND INFLUENZA REPORTED TO VITAL RECORDS SERVICES; WYOMING, OCTOBER 2001 - MAY 2004



REPORTING OF HOSPITALIZED INFLUENZA CASES

Due to early predictions of a particularly severe influenza season, the Wyoming Department of Health implemented enhanced surveillance of all hospitalized cases of influenza. Of the 2085 reported cases of influenza, 140 (6.7%) were hospitalized for their illness. Follow-up was completed for 128 of the 140 cases. The age range of the hospitalized cases was 19 days – 95 years. The majority of these cases were in the very young and elderly age groups. Forty-eight percent were aged ≤ 5 years and 19% were aged ≥ 80 years.

Patients were hospitalized for an average of 3 days (range 1-17 days), mostly for pneumonia, bronchitis, hypoxia, and dehydration. Two of the 128 cases died due to complications arising from their influenza infection. Fifty-three cases had not been vaccinated against influenza, 26 had, and for 49 cases, the vaccination status was unknown. All of the hospitalized cases that had been previously vaccinated were ≥ 60 years old, with the single exception of a 2 year old child.

INFLUENZA STRAINS CONTAINED IN THE 2004-2005 VACCINE

The Food and Drug Administration's Vaccine and Related Biological Products Advisory Committee recommended that the 2004-05 trivalent influenza vaccine for the United States contain A/New Caledonia/20/99-like (H1N1), A/Fujian/411/2002-like (H3N2), and B/Shanghai/361/2002-like viruses. Both the influenza A (H3N2) and influenza B components have been changed from the 2003-2004 season vaccine components. This recommendation was based on antigenic analyses of recently isolated influenza viruses, epidemiologic data, and post-vaccination serologic studies in humans.

REPORTING REMINDER

All of the following are reportable to the Wyoming Department of Health: laboratory confirmed cases of influenza; an unusual incidence of influenza-like illness; and outbreaks or unusual clusters of influenza or influenza-like illness in schools, nursing homes, and other institutions. A report is required by state statute from <u>both</u> the attending health care provider/hospital <u>and</u> any laboratory performing diagnostic testing. Reports can be faxed to our secure fax machine at (307) 777-5573 or can be made by phone to (307) 777-3593.