

April-May-June 2009

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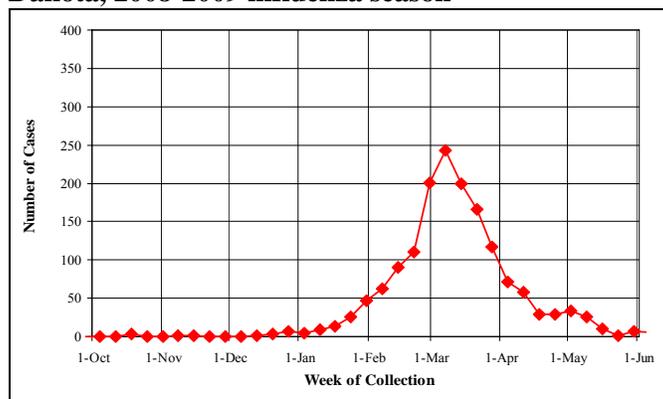
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2008-2009 Influenza Summary

Influenza surveillance activities resumed for the 2008-2009 season in October 2008. The North Dakota Department of Health (NDDoH) uses laboratory-identified influenza cases to track influenza activity in the state. In addition, the NDDoH has an influenza sentinel surveillance program consisting of 11 sentinel providers, nine emergency rooms, one ask-a-nurse call center, 25 laboratories and 13 schools contributing data that is used to actively monitor influenza illness.

Influenza activity in the state remained sporadic until the end of January 2009 and reached peak activity the week ending March 7, 2009 (**Figure 1**). During the 2008-2009 influenza season, a total of 1,582 influenza cases were identified via viral culture, DFA, IFA, PCR or rapid test.

Figure 1. Number of reported influenza cases, North Dakota, 2008-2009 influenza season



The largest number of positive cases was reported in the 11- to 19-year-old age range (427). Those ages 19 and younger comprised 60 percent of the total cases reported during the 2008-2009 influenza season.

Similar to the last influenza season, type A was the predominant type identified during the 2008-2009 flu season, with 74 percent of the cases being type A (1,181). The Division of Laboratory Services sub-typed 126 influenza isolates, with 87 identified as type A-H1 and 17 identified as type A-H3 (22 type B). Figure 2 summarizes the 2008-2009 influenza cases by age group and type.

Figure 2. Influenza cases by age group and type, North Dakota, 2008-2009 influenza season

		TYPE			Total
		A	B	Unspecified	
AGE GROUP	<1	47	6	0	53
	1-5	166	57	2	225
	6-10	146	94	2	242
	11-19	246	175	6	427
	20-24	108	20	1	129
	25-34	175	10	1	186
	35-44	107	6	2	115
	45-54	87	6	0	93
	55-64	42	8	0	50
65+	57	7	2	66	
Total		1181	389	16	

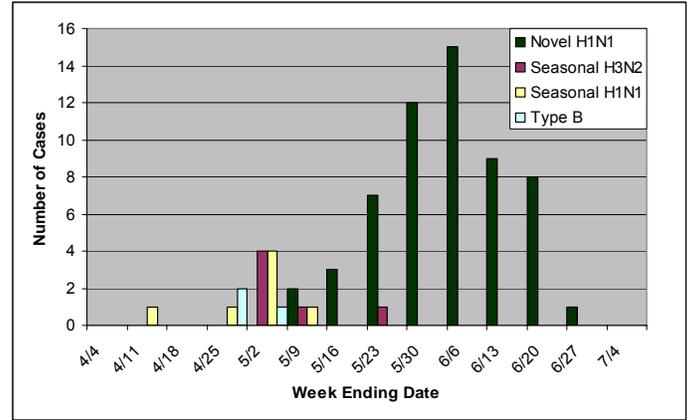
As part of the National Notifiable Diseases Surveillance System (NNDSS), the NDDoH conducts surveillance for influenza-associated pediatric deaths. During the 2008-2009 influenza season, no influenza-associated deaths among children were identified in the state.

A total of 49 out of the 53 counties in the state reported laboratory-identified influenza infection during the 2008-2009 season. In North Dakota, the influenza season typically runs from October through May.

Table 1. Number of influenza cases by county, North Dakota, 2008-2009 influenza season

COUNTY	CASES	COUNTY	CASES
Adams	17	McLean	17
Barnes	11	Mercer	96
Benson	2	Morton	197
Billings	1	Mountrail	8
Bottineau	3	Nelson	0
Bowman	37	Oliver	3
Burke	0	Pembina	88
Burleigh	381	Pierce	0
Cass	225	Ramsey	2
Cavalier	9	Ransom	4
Dickey	68	Renville	1
Divide	0	Richland	5
Dunn	11	Rolette	23
Eddy	0	Sargent	32
Emmons	15	Sheridan	1
Foster	1	Sioux	19
Golden Valley	19	Slope	0
Grand Forks	207	Stark	216
Grant	9	Steele	4
Griggs	0	Stutsman	122
Hettinger	4	Towner	0
Kidder	22	Traill	51
La Moure	12	Walsh	48
Logan	3	Ward	20
McHenry	1	Wells	8
McIntosh	1	Williams	53
McKenzie	32		

Figure 3. Distribution of confirmed influenza cases using PCR by week of onset, North Dakota, 2009



The NDDoH will continue monitoring the virus activity in the state through the summer and into the next influenza season.

Guidance has been issued for clinicians, laboratories, schools, business professionals and the public by the NDDoH and the CDC. This information can be found at www.ndflu.com/swineflu.

On June 11, 2009, the World Health Organization raised the worldwide pandemic alert level to phase 6 to reflect the ongoing spread of the virus in multiple countries around the world. Please note that this decision was not due to the severity of illness caused by the virus. A phase 6 designation means there is widespread human infection and indicates that an influenza pandemic is underway.

Novel H1N1 Influenza (Swine Flu)

The first novel H1N1 case in the United States was confirmed by CDC April 15, 2009. As the next few cases were identified, it became evident that person-to-person transmission of the virus was occurring. In response, the NDDoH initiated enhanced influenza surveillance that included working with physicians and laboratories across the state to submit specimens for testing on patients with influenza-like symptoms.

Since then, the Division of Laboratory Services tested more than 400 samples for novel influenza A H1N1 through June 30, 2009. Seasonal influenza virus transmission continued into May, and the first case of novel influenza A H1N1 in North Dakota was identified May 8, 2009 (**Figure 3**). As of June 30, 2009, there have been 57 confirmed cases reported to the NDDoH. The median age of reported cases is 18, and the cases have ranged from ages 3 to 57. Two cases have required hospitalization.

Bird Flu – What Is North Dakota Doing?

In 2005, the North Dakota Department of Health, North Dakota Game and Fish, USDA Wildlife Services, USDA – APHIS, State Board of Animal Health, U.S. Fish and Wildlife, North Dakota Turkey Growers Association, North Dakota Zoos, Department of Emergency Services and the NDSU Veterinary Diagnostic Laboratory formed an intra-agency work group to develop the state’s avian influenza response plan.

In the fall of 2006, three agencies set up surveillance activities to look for H5N1. These surveillance activities continued through 2008. A summary of their activities is listed below:



North Dakota Game and Fish

The North Dakota Game and Fish Department entered a cooperative agreement with USDA Wildlife Services to conduct surveillance for highly pathogenic H5N1 avian influenza in wild birds in North Dakota during 2008. The goal was to collect 800 samples from waterfowl throughout the state. It was decided that about 560 samples were to come from dabbling ducks and 240 were to come from diving ducks. Surveillance efforts began with sampling of waterfowl captured during banding efforts and was completed with sampling of hunter-harvested waterfowl.

In collaboration with the Central Flyway Council and Ducks Unlimited, banding efforts and sample collection occurred at Audubon and Lake Ilo. Sampling began in August, and by the end of September, a total of 251 bird samples (245 dabbling ducks and 6 divers) were collected.

Two seasonal employees were hired to conduct hunter-harvested surveillance. The goal was to sample about 560 hunter-harvested birds, consisting of 448 dabbling ducks and 112 diving ducks. Hunter-harvested sampling began September 27 and was completed November 1. A total of 576 hunter-harvested birds were sampled, including 434 dabbling ducks and 142 diving ducks.

A total of 827 birds were sampled (679 dabbling ducks and 148 diving ducks), and no highly pathogenic H5N1 was found.



USDA/APHIS/Wildlife Services

The USDA/APHIS/Wildlife Services program, in cooperation with the North Dakota Game and Fish Department and the U.S. Fish and Wildlife Service, began its avian influenza surveillance in August 2008. One seasonal employee was hired to collect environmental (fecal) samples and samples from both live birds and hunter-harvested birds. Sampling concluded in December 2008.

Wildlife Services collected 900 environmental samples. Analysis of the samples was conducted at Wildlife Services' National Wildlife Research Center located in Ft. Collins, Colo.

Wildlife Services also collected samples from 791 live birds and hunter-harvested birds. The samples were collected from 19 different species of wild

migratory ducks and geese. Analysis of the bird samples was conducted by the North Dakota State University Diagnostics Laboratory.

No highly pathogenic H5N1 avian influenza was identified.



State Board of Animal Health

The Avian influenza (AI) testing program, which began in the spring of 2006, is continuing to provide AI surveillance for North Dakota in order to monitor the health of our birds.

Since the program began in 2006, approximately 3100 birds have been sampled and surveyed. All test results were negative for highly pathogenic H5N1.

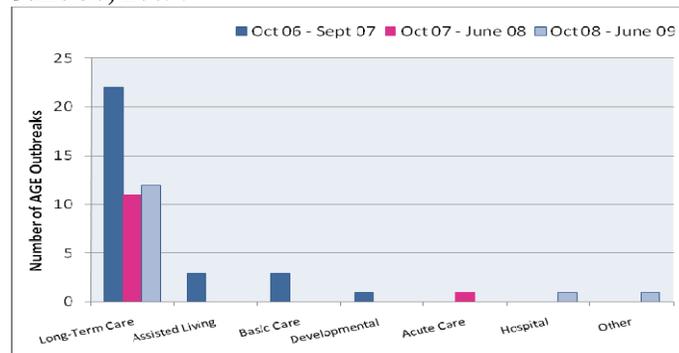
Bird owners participating in this program receive free testing for up to 20 birds depending on size of flock (as funding is available). Testing is conducted via tracheal swab, which causes minimal stress to the bird and is not harmful to the animal.

Poultry owners wishing to participate are encouraged to contact Jeanne Beitelspacher, AI coordinator for North Dakota, at 701.220.0151 or the North Dakota Board of Animal Health at 701.328.2655 to schedule on-site testing.

Acute Viral Gastroenteritis

Between October 2008 and June 2009, 14 acute viral gastroenteritis (AGE) outbreaks were reported to the NDDoH from health-care settings in 12 counties, including Barnes, Burleigh, Cass, Grand Forks, Mountrail, Nelson, Pembina, Ramsey, Sargent, Stark, Stutsman and Walsh. The majority of AGE outbreaks reported in North Dakota since 2006 have occurred in long-term care facilities. **(Figure 3)**

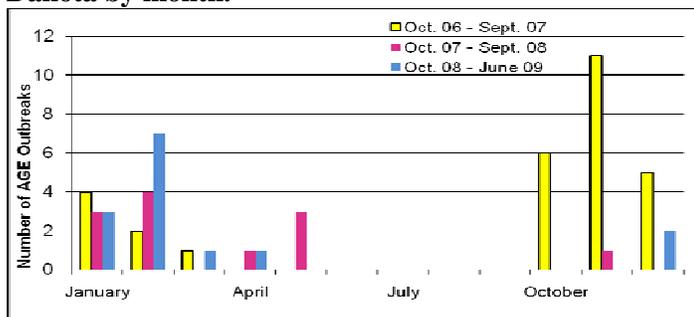
Figure 3. Number of AGE outbreaks reported from health-care settings in North Dakota, Oct. 1, 2006, to June 30, 2009.



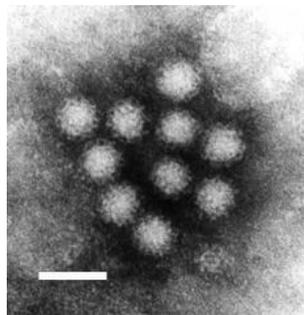
A viral gastroenteritis outbreak is defined as two or more people associated with a common venue having acute vomiting and/or diarrhea lasting 24 to 48 hours. In 2008/2009, more than 400 residents and 300 staff were ill at the time the outbreaks were reported. Ten stool specimens collected from four facilities reporting outbreaks tested positive for norovirus.

Outbreaks of gastroenteritis in long-term care facilities are not uncommon, occurring most often during the winter and early spring. More than half of the AGE outbreaks as of October 2008 have occurred in January and February. The number of AGE outbreaks between October 2008 and June 2009 has increased by two reported outbreaks compared with the previous year (**Figure 4**). More data is needed to establish a baseline of AGE outbreaks occurring at health-care settings and to establish the predominant seasonal trend in North Dakota.

Figure 4. Number of AGE outbreaks reported in North Dakota by month.



Norovirus is the most common cause of viral gastroenteritis outbreaks and is often called the “winter vomiting disease” or “stomach flu.” Although it is commonly referred to as the stomach flu, it has no relationship to the influenza virus that causes respiratory infections. The CDC estimates noroviruses cause 23 million cases of acute gastroenteritis each year and about 50 percent of all foodborne outbreaks.



Prevention and control of norovirus outbreaks may be challenging, as the agent is resistant to common disinfectants, offers no long-lasting immunity and is highly contagious. According to the CDC MMWR publication *Norovirus Activity—United States, 2006-2007* (Aug. 24, 2007), control of norovirus outbreaks depends on consistent enforcement of measures such

as strict hand hygiene and use of the effective environmental disinfectants listed in Box 1.

Box 1. Recommended measures for the prevention and control of norovirus infection.

- ✔ Practice good hand hygiene. Wash hands frequently with soap and water. Alcohol-based sanitizing hand gels ($\geq 62\%$ ethanol content) may be used to complement hand washing.
 - ✔ Disinfect contaminated surfaces with either of the following methods:
 - ❑ Use a chlorine bleach solution with a concentration of 1,000 – 5,000 ppm (1:50-1:10 dilution of household bleach [5.25%]) for hard, nonporous surfaces.
 - ❑ Use disinfectants registered as effective against norovirus by the Environmental Protection Agency (EPA)* in accordance with the manufacturers’ instructions.
 - ✔ Do not return to work or school until 24 to 72 hours after symptoms resolve.
 - ✔ Additional measures for outbreaks in health-care and long-term-care facilities include the following:
 - ❑ Use contact precautions for preventing gastroenteritis.
 - ❑ Avoid sharing staff members between units or facilities with affected patients and units and facilities that are not affected.
 - ❑ Group symptomatic patients and provide separate toilet facilities for ill and well people.
 - ❑ Instruct visitors about appropriate hand hygiene and monitor compliance with contact isolation precautions.
 - ❑ Close affected units to new admissions and transfers.
- *List of EPA-approved products is available at www.epa.gov/oppad001/list_g_norovirus.pdf

Source: www.cdc.gov/mmwr/preview/mmwrhtml/mm5633a2.htm

For more information about prevention of viral gastroenteritis or to report an outbreak, visit www.ndhealth.gov/disease/GI/norovirus.aspx.

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Summary of Selected Reportable Conditions

North Dakota, 2008-2009

Reportable Condition	April-June 2009*	January-June 2009*	April-June 2008	January-June 2008
Campylobacteriosis	49	56	33	39
Chickenpox	9	57	22	49
Chlamydia	386	775	415	875
Cryptosporidiosis	9	10	2	3
<i>E. coli</i> , shiga toxin positive (non-O157)	4	7	8	9
<i>E. coli</i> O157:H7	3	4	3	3
Enterococcus, Vancomycin-resistant (VRE)	50	152	47	123
Giardiasis	7	15	5	16
Gonorrhea	34	49	24	55
Haemophilus influenzae (invasive)	1	5	3	7
Acute Hepatitis A	0	0	0	1
Acute Hepatitis B	0	0	1	1
Acute Hepatitis C	0	0	0	0
HIV/AIDS ¹	10	16	5	12
Influenza	263	1575	344	3778
Legionellosis	0	1	0	0
Listeria	1	1	0	0
Lyme Disease	0	0	1	1
Malaria	0	0	0	0
Meningococcal disease ²	0	0	2	2
Mumps	0	2	0	2
Pertussis	4	16	3	3
Q fever	0	0	0	0
Rabies (animal)	1	4	6	14
Rocky Mountain spotted fever	0	0	1	1
Salmonellosis	65	82	20	35
Shigellosis	7	8	11	35
Staphylococcus aureus, Methicillin-resisitant (MRSA)	18	52	25	43
Streptococcal pneumoniae ³ , (invasive, children < 5 years of age)	1	3	4	5
Syphilis, Primary and Secondary	1	2	0	0
Trichinosis	0	0	0	0
Tuberculosis	0	1	1	1
Tularemia	0	0	0	0
Typhoid fever	0	0	1	3
West Nile Virus Infection	0	0	4	4

*Provisional data

¹ Includes newly diagnosed cases and cases diagnosed previously in other states that moved to North Dakota.

² Includes confirmed, probable and suspect meningococcal meningitis cases.

³ Includes invasive infections caused by streptococcal disease not including those classified as meningitis.