



April-May-June 2011

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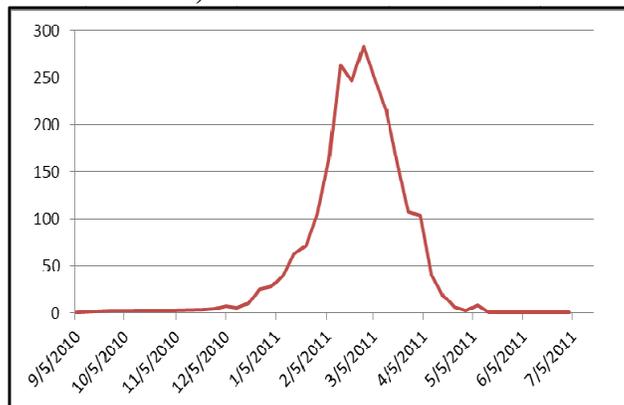
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2010-2011 Influenza Summary

Influenza surveillance activities officially started September 1, 2010, for the 2010-2011 influenza season. The North Dakota Department of Health (NDDoH) requires that all laboratory-identified cases of influenza be individually reported to the NDDoH. In addition, the NDDoH has multiple additional surveillance tools. These systems include (1) influenza-like illness reports from outpatient visits, (2) influenza-like illness syndrome surveillance at eight-emergency rooms and one ask-a-nurse call center, (3) laboratory influenza testing reports, (4) school absenteeism due to illness reports and (5) influenza-and pneumonia-related death reports.

Influenza activity in the state remained inactive to sporadic until after January 2011. Peak activity was reached during the week ending March 5, 2011 (Figure 1). During the 2010-11 Influenza Season, a total of 2,089 cases were identified via viral culture, DFA, IFA, PCR or rapid test.

Figure 1: Number of reported influenza cases, North Dakota, 2010-11 influenza season.



The largest number of positive cases was reported in the younger than 10 age range (783). Similar to the year before, type A was the predominant type identified during the 2010-11 influenza season. Seventy-three percent of cases were influenza type A (1,543).

The Division of Laboratory Services subtyped 264 influenza isolates. One hundred two cases were identified as type A-2009H1N1, 101 identified as type A-H3 and 61 identified as type B. Table 1 summarizes all 2010-11 influenza cases by age group and type. This type of even split between influenza A-2009 H1N1, A-H3 and B is atypical. Generally one influenza subtype is more prominent over other types, but this type of even split highlights the importance for influenza vaccination since infection with multiple strains is possible in a single season.

Table 1. Influenza cases by age group and type, North Dakota, 2010-11 influenza season.

Age Group	Inf A	Inf B	Unspecified	Total
<10	543	240	0	783
10-19	217	140	1	358
20-29	265	75	2	342
30-39	143	32	0	175
40-49	107	25	0	132
50-59	104	9	1	114
60+	164	21	0	185
TOTAL	1543	542	4	2089

As part of the National Notifiable Diseases Surveillance System (NNDSS), the state health department conducts surveillance for influenza-associated pediatric deaths. During the 2010-11 influenza season, one influenza-associated death in a child was identified in the state.

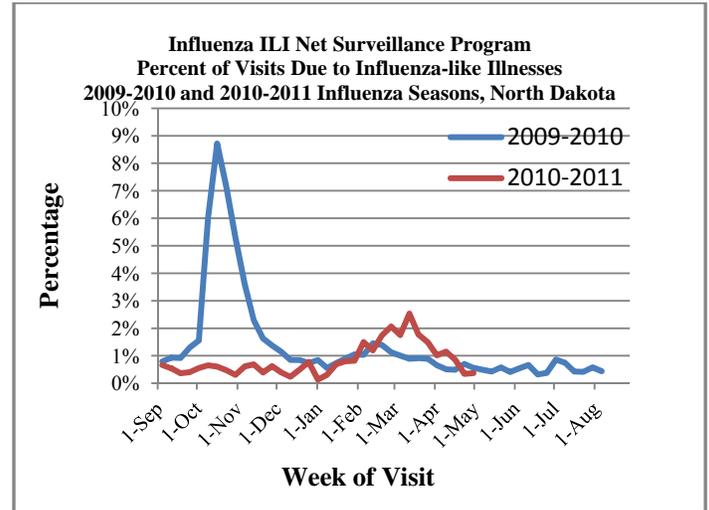
Influenza cases were identified in residents in 51 out of 53 counties this season, indicative of the wide geographical spread. Table 2 lists the number of cases by county.

Table 2. Number of influenza cases by county, North Dakota, 2010-11 influenza season.

County	Cases	County	Cases
Adams	15	McLean	44
Barnes	18	Mercer	25
Benson	10	Morton	139
Billings	2	Mountrail	21
Bottineau	3	Nelson	3
Bowman	14	Oliver	8
Burke	4	Pembina	26
Burleigh	439	Pierce	5
Cass	403	Ramsey	3
Cavalier	4	Ransom	23
Dickey	19	Renville	2
Divide	12	Richland	39
Dunn	6	Rolette	8
Eddy	2	Sargent	7
Emmons	15	Sheridan	0
Foster	5	Sioux	21
Golden Valley	5	Slope	0
Grand Forks	63	Stark	183
Grant	7	Steele	8
Griggs	1	Stutsman	33
Hettinger	21	Towner	2
Kidder	8	Traill	66
LaMoure	14	Walsh	32
Logan	18	Ward	125
McHenry	5	Wells	6
McIntosh	4	Williams	135
McKenzie	8	TOTAL	2089

The surveillance method used to gauge the burden of influenza in the community is the influenza-like illness sentinel surveillance program called ILI Net. Once the influenza season is established in a community, physicians often rely on clinical diagnosis versus laboratory confirmation to diagnose influenza. ILINet providers report each week the number of patients seen that meet the clinical case definition for influenza. In Figure 2, the trend for the 2010-11 influenza season is compared to the pandemic influenza season, 2009-10. The 2010-11 season appears to be more similar to what is seen traditionally with a lesser magnitude of burden when compared to the 2009-10 influenza season. To order influenza educational materials, please visit www.ndflu.com.

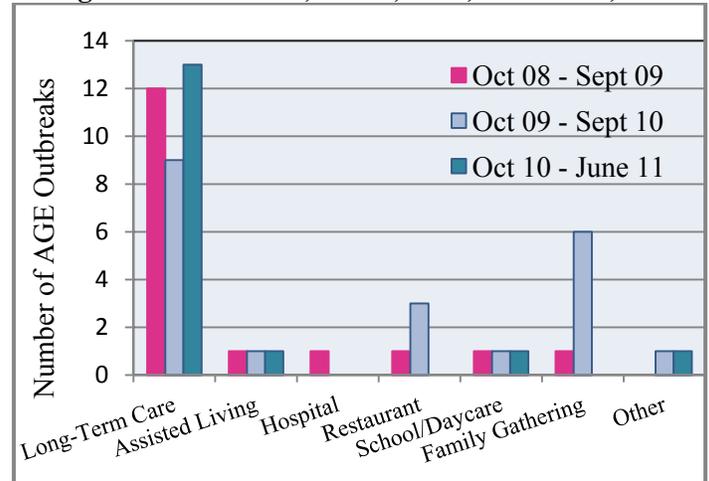
Figure 2. Influenza-like illness 2009-2010 and 2010-2011 influenza seasons.



Acute Viral Gastroenteritis

Between October 2010 and June 2011, 17 acute viral gastroenteritis (AGE) outbreaks were reported to the NDDoH from 13 counties, including Burleigh, Cass, Cavalier, Dickey, Foster, Grand Forks, McKenzie, Morton, Ransom, Stark, Stutsman, Ward and Wells. Since 2008, 63 percent of AGE outbreaks reported in North Dakota have occurred in long-term care facilities (Figure 3).

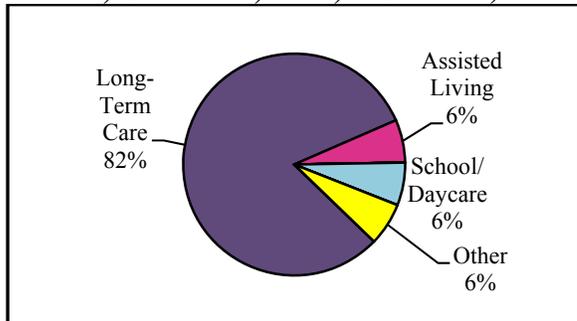
Figure 3. Number of AGE outbreaks reported by setting in North Dakota, Oct. 1, 2008, to June 30, 2011.



An AGE 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 2010-2011, more than 250 residents and 100 staff of health-care settings were ill at the time the outbreaks were reported. Seventeen stool specimens collected from six outbreaks tested positive for norovirus. Five of the six outbreaks confirmed to be norovirus were in long-term care or assisted-living facilities.

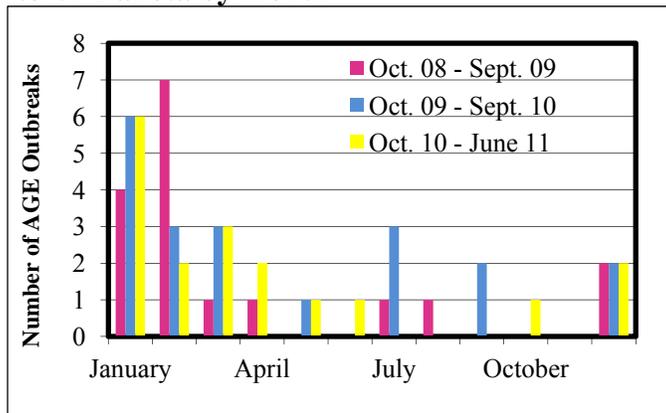
Outbreaks of AGE often are reported in long-term care facilities, but also can occur in non-institutional settings (**Figure 4**). In 2010-2011, one AGE outbreak was reported to the NDDoH from a non-health-care setting compared to eight reported during the same time period last year. Non-health-care setting AGE outbreaks are reported from family gatherings, restaurants, schools, daycares etc. Ill food handlers are a common cause of AGE outbreaks in non-health-care settings, that are spread by a common vehicle, such as food, and not via person-to-person contact.

Figure 4. AGE outbreaks by setting in North Dakota, October 1, 2010, to June 30, 2011.



AGE outbreaks are known to be more common during the winter months. More than half (56%) of the AGE outbreaks reported since October 2008 occurred in January and February (**Figure 5**).

Figure 5. Number of AGE outbreaks reported in North Dakota by month



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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Norovirus is the most common cause of AGE outbreaks and often is 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 depend 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:
 - 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

Summary of Selected Reportable Conditions

North Dakota, 2009-2010

Reportable Condition	April - June 2011*	January - June 2011*	April - June 2010	January - June 2010
Campylobacteriosis	52	69	46	54
Chickenpox	8	22	12	30
Chlamydia	545	1099	640	1106
Cryptosporidiosis	12	20	11	17
E. coli, shiga toxin positive (non-O157)	8	11	4	7
E. coli O157:H7	0	1	1	1
Enterococcus, Vancomycin-resistant (VRE)	61	124	102	177
Giardiasis	19	30	5	12
Gonorrhea	49	107	49	94
Haemophilus influenzae (invasive)	5	9	3	8
Acute Hepatitis A	0	0	1	2
Acute Hepatitis B	0	0	0	0
Acute Hepatitis C	0	0	0	0
HIV/AIDS ¹	8	14	7	14
Influenza	189	2001	7	30
Legionellosis	0	1	1	3
Listeria	1	1	0	0
Lyme Disease	4	4	7	8
Malaria	0	0	0	0
Meningococcal disease ²	0	0	1	1
Mumps	2	5	0	1
Pertussis	10	29	19	22
Q fever	0	0	0	0
Rabies (animal)	3	6	4	6
Rocky Mountain spotted fever	0	0	1	1
Salmonellosis	18	28	8	18
Shigellosis	0	0	0	0
Staphylococcus aureus, Methicillin-resistant (MRSA)	16	43	19	33
Streptococcal pneumoniae ³ , (invasive, children < 5 years of age)	0	0	2	2
Syphilis, Primary and Secondary	0	0	0	0
Trichinosis	0	0	0	0
Tuberculosis	5	6	4	7
Tularemia	0	0	0	0
Typhoid fever	0	0	1	1
West Nile Virus Infection	0	0	1	1

*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.