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Epidemiology *report*

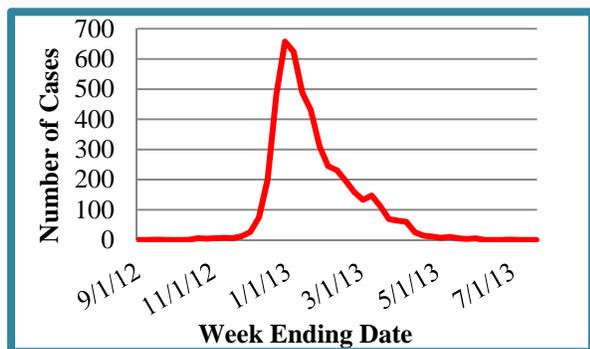
2012-2013 Influenza Summary

by Alicia Lepp, Surveillance Epidemiologist

Influenza surveillance activities officially started September 1, 2012, for the 2012-13 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) laboratory influenza testing reports, (3) school absenteeism due to illness reports and (4) influenza and pneumonia related death reports.

During the 2012-13 influenza season, a total of 4,831 cases were identified via viral culture, DFA, IFA, PCR or rapid test. Peak activity was reached early in the season during the week ending December 29, 2012 (**Figure 1**).

Figure 1: Number of reported influenza cases, North Dakota, 2012-13 influenza season.



The largest number of positive cases was reported in the <10 age range (1,641). Similar to the year before, type A was the predominant type identified during the 2012-13 season, with increasing type B occurring towards the later part of the season. Sixty-seven percent of cases were Influenza A (3,246). The Division of Laboratory Services subtyped 203 influenza isolates. Ten were identified as type A-2009H1N1, 130 identified as type A-H3 and 63 identified as type B. Table 1 summarizes all 2012-13 influenza cases by age group and type.

Table 1. Influenza cases by age group and type, North Dakota, 2012-13 influenza season.

Age Group	Inf A	Inf B	Unspecified	Total
<10	1014	627	0	1641
10-19	455	397	1	853
20-29	372	141	0	513
30-39	371	110	0	481
40-49	254	106	0	360
50-59	247	87	1	335
60+	533	115	0	648
TOTAL	3246	1583	2	4831



As part of the National Notifiable Diseases Surveillance System (NNDSS), the Department of Health conducts surveillance for influenza-associated pediatric deaths. During the 2012-13 influenza season, zero influenza-associated deaths in children were identified in the state. Nine deaths had been reported, all in people older than 60.

Influenza cases were reported in all of the 53 counties in North Dakota during the season, indicative of the wide geographical spread of influenza.

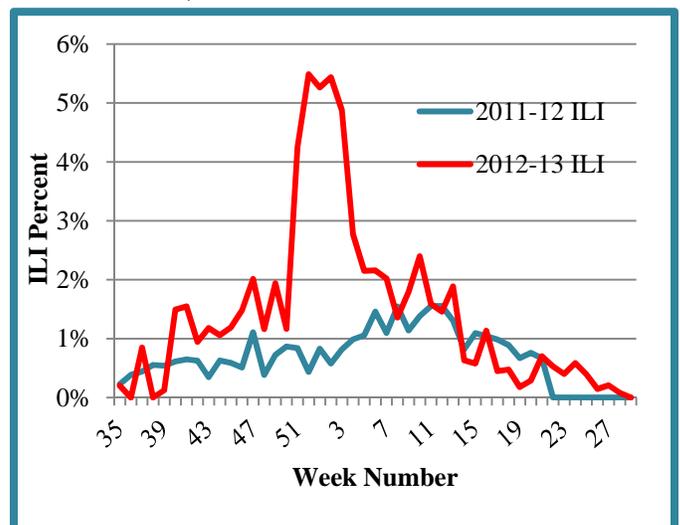
Table 2. Number of Influenza Cases by County, North Dakota, 2012-13 influenza season.

COUNTY	CASES	COUNTY	CASES
Adams	31	McLean	107
Barnes	35	Mercer	175
Benson	10	Morton	380
Billings	3	Mountrail	51
Bottineau	22	Nelson	24
Bowman	70	Oliver	11
Burke	9	Pembina	112
Burleigh	1142	Pierce	16
Cass	466	Ramsey	26
Cavalier	41	Ransom	31
Dickey	24	Renville	7
Divide	32	Richland	38
Dunn	35	Rolette	23
Eddy	7	Sargent	16
Emmons	42	Sheridan	6
Foster	12	Sioux	27
Golden Valley	19	Slope	1
Grand Forks	250	Stark	371
Grant	30	Steele	3
Griggs	13	Stutsman	164
Hettinger	20	Towner	8
Kidder	29	Traill	5
LaMoure	22	Walsh	107
Logan	51	Ward	325
McHenry	29	Wells	16
McIntosh	55	Williams	148
McKenzie	134	TOTAL	4831

Another surveillance method the NDDoH uses to gauge the burden of influenza in the community is the influenza-like illness (ILI) sentinel surveillance program. We know that not everyone each year who has influenza seeks care at a doctor’s office. Also, even if they do, once the influenza season has been established in a community, many times physicians rely on clinical diagnosis versus laboratory confirmation to diagnose influenza. ILINet providers report each week the number of patients they see that week that meet the clinical case definition for influenza. In Figure 2, the trend for the 2012-13 influenza season is compared to the previous influenza season, 2011-12. The 2012-13 season has a higher percentage of ILI during most of the season, with a peak occurring the last weeks of December 2012 and through January 2013, compared with the 2011-12 season which showed low levels of ILI throughout the season. This is also reflected in the significant increase in number of cases reported, as well as other surveillance indicators that the 2012-13 influenza season in North Dakota was more severe than seen in recent years.

For more information about influenza and to order influenza educational materials, please visit www.ndflu.com or call the Division of Disease Control at 1.800.742.2180.

Figure 2: Influenza-like Illness Surveillance, North Dakota, 2011-12 & 2012-13 Seasons.





2012-2013 Acute Viral Gastroenteritis Outbreak Summary

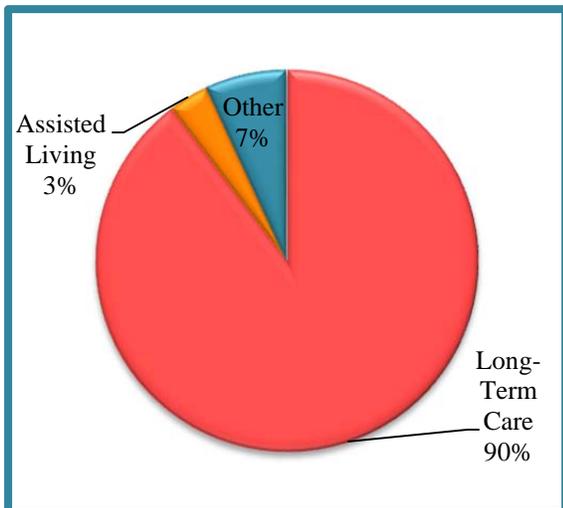
by Alicia Lepp, Surveillance Epidemiologist

Between October 2012 and June 2013, 30 acute viral gastroenteritis (AGE) outbreaks were reported to the North Dakota Department of Health (NDDoH) from 17 counties. 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.

Outbreaks of AGE often are reported in long-term care facilities. Twenty-nine of the 30 outbreaks reported to the NDDoH in 2012-2013 occurred in health-care settings. More than 609 residents and 348 staff of health-care settings were ill at the time the outbreaks were reported. One outbreak outside of health-care settings was reported compared to two reported during the same time period last year.

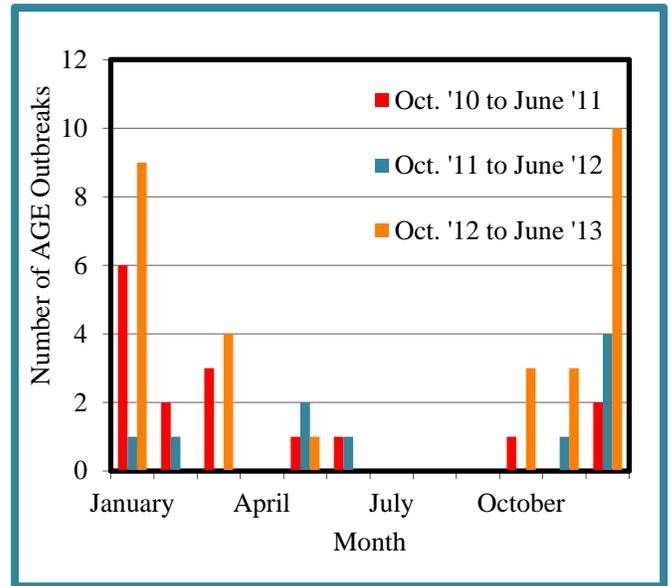
Ill food handlers are a common cause of AGE outbreaks outside of health-care settings that are spread by a common vehicle, such as food, and not via person-to-person contact.

Figure 3: AGE outbreaks by setting North Dakota, October 1, 2012, to June 30, 2013.



AGE outbreaks are known to be more common during the winter months. More than half (63%) of the AGE outbreaks reported since October 2010 have occurred from December to March (**Figure 4**).

Figure 4: Number of AGE outbreaks reported in North Dakota by month, October 1, 2010, to June 30, 2013.



Norovirus is the most common cause of AGE outbreaks and often is called the “stomach flu,” although it has no relationship to the influenza virus that causes respiratory infections. The CDC estimates noroviruses cause 21 million cases of acute gastroenteritis each year and are the most common cause of foodborne outbreaks in the United States.



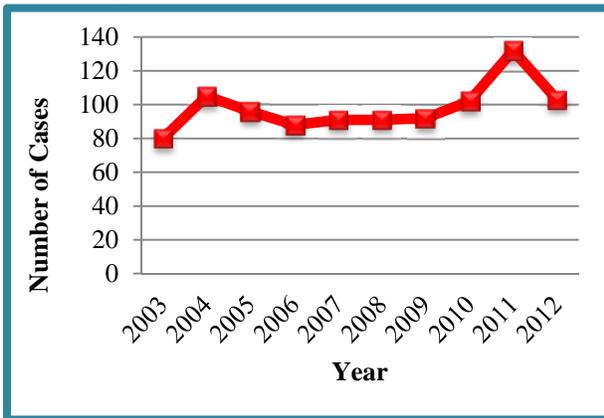
2012 Enteric Illnesses Summary

by Alicia Lepp, Surveillance Epidemiologist

Campylobacteriosis

In 2012, 103 cases of campylobacteriosis were reported to the North Dakota Department of Health (NDDoH), a 22 percent decrease from the 132 cases reported in 2011 (Figure 5). Statewide, campylobacter incidence was 15.3 cases for every 100,000 people in 2012. Twenty-eight counties reported cases with McIntosh (142.4 cases per 100,000 people), Emmons (56.3 cases per 100,000 people), Stark (53.7 cases per 100,000 people) and Logan (50.3 cases per 100,000 people) having the highest incidence of campylobacter.

Figure 5: North Dakota Campylobacter Case Counts by Year, 2003-2012.



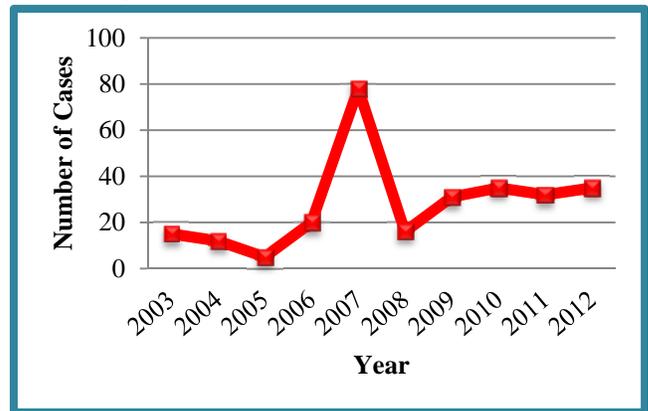
The median age of cases of campylobacteriosis was 32 years (range: 1-86 years). People ages 0-4 years had the highest age-specific incidence rate (29.2 cases for every 100,000 people). Fifty-nine (57%) of the reported cases were male. Nineteen (18%) cases were hospitalized, with the median length of hospitalization of two days (range: 1-6 days).

Cryptosporidiosis

In 2012, 35 cases of cryptosporidiosis were reported to the NDDoH, a nine percent increase from 32 cases reported in 2011

(Figure 6). Statewide cryptosporidiosis incidence was 5.2 cases for every 100,000 people in 2012. Fourteen counties reported cases with Dunn (56.6 cases for every 100,000 people), Oliver (54.2 cases for every 100,000 people) and Emmons (28.2 cases for every 100,000 people) having the highest incidence of cryptosporidiosis.

Figure 6: North Dakota Cryptosporidiosis Case Counts by Year, 2003-2012.



The median age of cryptosporidiosis was 20 years (range: 1-86 years). People ages 0-4 years had the highest age-specific incidence rate (13.5 cases for every 100,000 people). Eighteen (51%) of the reported cases were female. Three (9%) cases were hospitalized, with a median length of hospitalization of 1.5 days (range: 1-2 days).

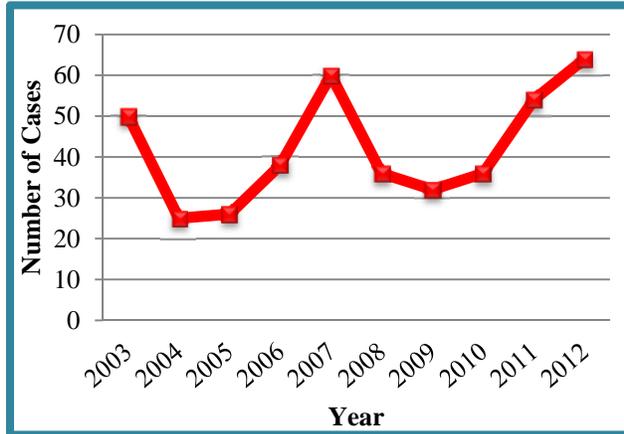
Giardiasis

In 2012, 64 cases of giardiasis were reported to the NDDoH, a 19 percent increase from 54 cases reported in 2011 (Figure 7). Statewide giardiasis incidence was 9.5 cases for every 100,000 people in 2012. Eighteen counties reported cases with Emmons (56.3 cases for every 100,000 people), Adams (42.7 cases for every 100,000 people) and Griggs (41.3 cases for every 100,000



people) having the highest incidence of giardiasis.

Figure 7: North Dakota Giardiasis Case Counts by Year, 2003-2012.

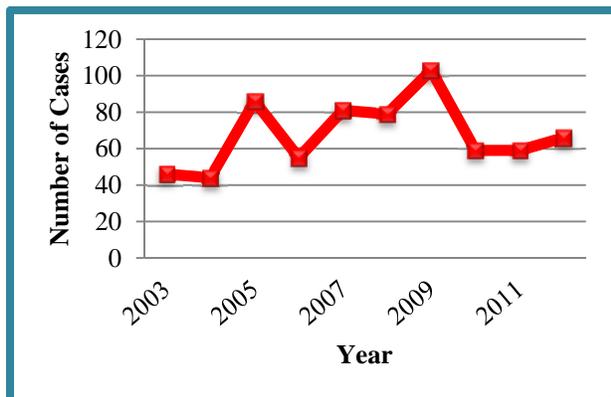


The median age of cases of giardiasis was 28 years (range: 1-83 years). People ages 0-4 had the highest age-specific incidence rate (31.4 cases for every 100,000 people). Thirty-eight (59%) were male. Two (3%) cases were hospitalized, with a median length of hospitalization of 3 days (range: 2-4 days).

Salmonellosis

In 2012, 66 cases of salmonellosis were reported to the NDDoH, a 12 percent increase from 59 cases reported in 2011 (Figure 8). Statewide salmonellosis incidence was 9.8 cases for every 100,000 people in 2012. Twenty-five counties reported cases with Nelson (96.0 cases for every 100,000 people), Adams (85.4 cases for every 100,000 people) and Oliver (54.2 cases for every 100,000 people) having the highest incidence of salmonellosis.

Figure 8: North Dakota Salmonellosis Case Counts by Year, 2003-2012.

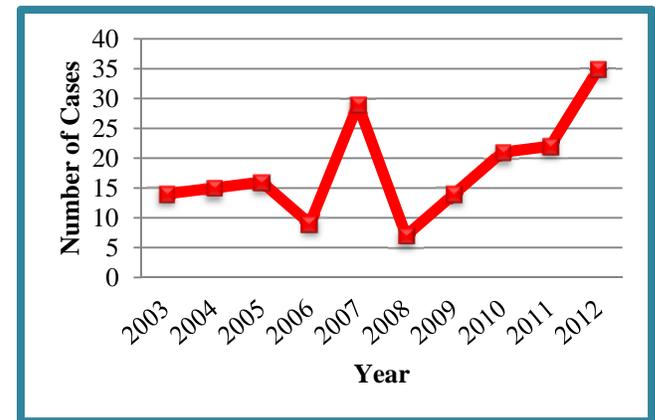


The median age of cases of salmonellosis was 42 years (range: 1-86 years). People ages 0-4 years had the highest age-specific incidence rate (17.9 cases for every 100,000 people). Thirty-nine (59%) were female. Twenty-four cases were hospitalized, with the median length of hospitalization of 2.5 days (range: 1-16 days).

Shiga-toxin Producing E.coli (STEC)

In 2012, 35 cases of STEC were reported to the NDDoH. Of those 35 cases, 13 were *E.coli* O157:H7. In 2011, 22 cases of STEC were reported with three of those cases being *E.coli* O157:H7 (Figure 9). Statewide STEC incidence was 5.2 cases for every 100,000 people in 2012. Thirteen counties reported cases with Oliver (54.2 cases for every 100,000 people), Sargent (52.2 cases for every 100,000 people) and McHenry (37.1 cases for every 100,000 people) having the highest incidence of salmonellosis.

Figure 9: North Dakota STEC Case Counts by Year, 2003-2012.



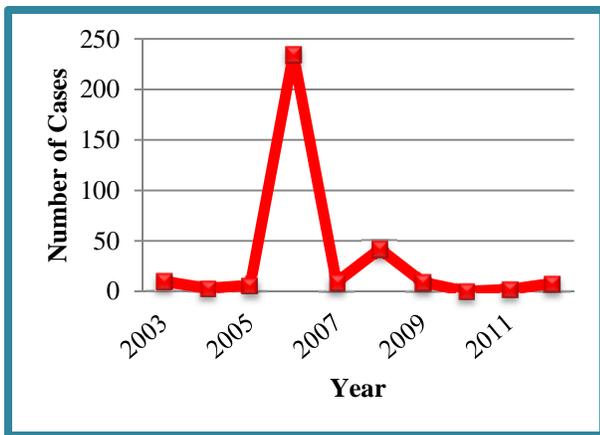
The median age of cases of STEC was 15 years (range: 1-61 years). People ages 0-4 years had the highest age-specific incidence rate (24.7 cases for every 100,000 people). Twenty-two (63%) were female. Seven cases were hospitalized, with a median length of hospitalization of 6.5 days (range: 2-10 days).



Shigellosis

In 2012, eight cases of shigellosis were reported to the NDDoH. In 2011, two cases of shigellosis were reported (**Figure 10**). Statewide shigellosis incidence was 1.2 cases for every 100,000 people in 2012. Five counties reported cases with Adams (42.7 cases for every 100,000 people), Mountrail (13.0 cases for every 100,000 people) and Williams (4.5 cases for every 100,000 people) having the highest incidence of shigellosis.

Figure 10. North Dakota Shigellosis Case Counts by Year, 2003-2012.



The median age of cases of shigellosis was 4 years (range: 1-66 years). People ages 1-4 years had the highest age-specific incidence rate (9.0 cases for every 100,000 people). Four (50%) were female. Two cases were hospitalized, with a median length of hospitalization of 2 days (range: 1-3 days).

For more information about enteric infections and foodborne gastrointestinal illness, visit www.ndhealth.gov/disease/GI.

Preventing Enteric Diseases

By following these four steps, you can prevent many enteric diseases that occur from unsafe food handling and preparation.

1) Clean!

Wash hands, countertops, cutting boards, utensils and produce before and after handling food.

2) Separate!

Use separate plates or surfaces for raw foods and ready-to-eat foods.

3) Cook!

Use a food thermometer to measure internal temperatures of cooked foods. Visit www.foodsafety.gov for safe minimum cooking temperatures.

4) Chill!

Refrigerate perishable foods within 2 hours of cooking or purchasing, or within 1 hour if the temperature outside is above 90 degrees Fahrenheit.

Table 3. Potential Risk Factors Among Enteric Cases, North Dakota, 2012.

Risk Factor (not mutually exclusive)	Number of Campylobacteriosis Cases (%)	Number of Cryptosporidiosis Cases (%)	Number of Giardiasis Cases (%)	Number of Salmonellosis Cases (%)	Number of STEC Cases (%)	Number of Shigellosis Cases (%)
Contact with animals	68 (66)	19 (54)	25 (39)	31 (47)	16 (46)	3 (38)
Contact with similarly ill person	1 (1)	4 (11)	5 (8)	9 (14)	5 (14)	1 (13)
Travel	15 (15)	7 (20)	14 (22)	20 (30)	7 (20)	2 (25)
Recreational water exposure	11 (11)	8 (23)	12 (19)	4 (6)	5 (14)	0 (0)
Drink untreated water	4 (4)	6 (17)	10 (16)	1 (2)	2 (6)	1 (13)



**Summary of Selected Reportable Conditions
North Dakota, 2012-2013**

Reportable Condition	April – June 2013*	January – June 2013*	April – June 2012	January – June 2012
Campylobacteriosis	51	69	35	46
Chickenpox	7	16	12	17
Chlamydia	696	1380	669	1400
Cryptosporidiosis	15	20	11	19
E. coli, shiga toxin-producing (non-O157)	11	14	7	12
E. coli O157:H7	6	10	4	6
Enterococcus, Vancomycin-resistant (VRE)	69	172	108	258
Giardiasis	7	16	6	18
Gonorrhea	119	221	59	138
Haemophilus influenza (invasive)	2	5	4	8
Acute Hepatitis A	0	2	1	1
Acute Hepatitis B	0	0	0	0
Acute Hepatitis C	0	0	0	0
HIV/AIDS ¹	12	26	10	20
Influenza	131	3192	661	1483
Legionellosis	0	0	1	2
Listeria	0	0	0	0
Lyme Disease	3	3	4	5
Malaria	0	1	0	0
Meningococcal disease ²	2	2	0	0
Mumps	2	2	0	0
Pertussis	34	38	51	84
Q fever	0	0	0	0
Rabies (animal)	0	0	0	0
Rocky Mountain spotted fever	2	2	1	1
Salmonellosis	32	52	10	25
Shigellosis	6	9	1	2
Staphylococcus aureas, Methicillin-resistant (MRSA)	26	48	22	52
Streptococcal pneumoniae ³ , (invasive, children < 5 years of age)	2	3	1	1
Syphilis, Primary and Secondary	4	5	1	2
Trichinosis	0	0	0	0
Tuberculosis	5	8	3	6
Tularemia	0	0	1	1
Typhoid fever	0	0	0	0
West Nile Virus Infection	0	0	0	0

*Provisional data

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

²Includes confirmed, probable and suspect meningococcal meningitis cases.

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

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Published by the North Dakota Department of Health, Division of Disease Control, 2635 E. Main Ave., Bismarck, N.D. 58506-5520,
Phone 701.328.2378 or in N.D. 1.800.472.2180

Publication also appears on the department's home page at www.ndhealth.gov