

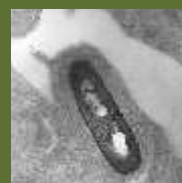
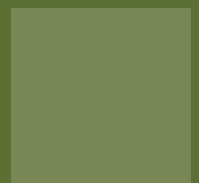
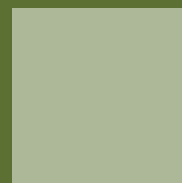
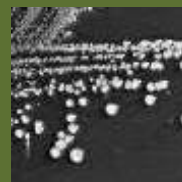
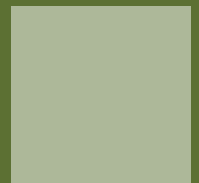
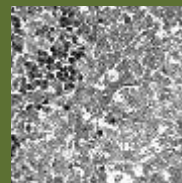
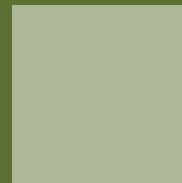
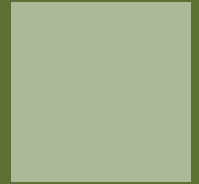
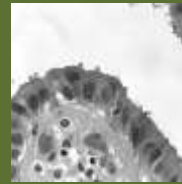
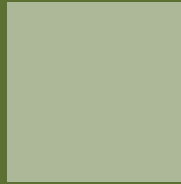
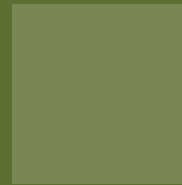
· For Healthcare Providers ·

# COMMUNICABLE DISEASE REPORT

2003-2007

The purpose of notifiable conditions reporting is to provide the information necessary for public health officials to protect the public's health by tracking communicable diseases and other conditions. Based on these reports, public health officials take steps to protect the public such as: ensuring treatment of persons already ill, ensuring preventive therapies for individuals who came into contact with infectious agents, investigating and halting outbreaks, and removing harmful health exposures. Public health workers also use the data collected during investigation to assess broader patterns, including historical trends and geographic clustering. By analyzing the broader picture, public health is able to take appropriate actions, including outbreak investigation, redirection of program activities, and policy development.

December  
2008



# ENTERIC DISEASE

Enteric (gastrointestinal) disease is most frequently caused by food or waterborne pathogens. These illnesses are largely preventable through good hygiene, proper food handling and thorough cooking. Campylobacteriosis remains the most frequent cause of reported bacterial gastroenteritis in Spokane County, as is true in Washington and the United States. Each year, giardiasis is reported significantly more often in Spokane County than in Washington State, although the state rate did rise significantly in 2007. Listeriosis, salmonellosis, shigellosis, yersiniosis and E. coli 0157 infection are reported less often in Spokane County residents as compared to state residents as a whole. Rates of these illnesses have generally remained stable statewide and locally. In Washington, campylobacter, E.

coli 0157, giardia, salmonella and shigella infections all occur most commonly in children under 5 years of age.

In 2007, one case of Hemolytic Uremic Syndrome was reported locally; it was presumably related to E. coli 0157 infection, although the organism was never isolated. Also in 2007, a 50% increase in cases of cryptosporidiosis was reported in Spokane County as compared to the previous year, but the total number is small. This mirrored a similar increase in cases in northern Idaho and in Washington State. Of note, the number of non-outbreak cryptosporidiosis cases reported nationally increased from 3,411 cases in 2004 to nearly 8,300 in 2007 (CDC, unpublished data, 2008). The observed increase may be due to increased testing

related to a newly available treatment, as well as the increased popularity of water and spray parks, which have been associated with hundreds of cases.

## Norovirus Gastroenteritis

Although not a reportable illness, SRHD monitors outbreaks of Norovirus illness, particularly those associated with long term care facilities, due to the fragile health of many residents in those institutions. In 2007, 29 such outbreaks were reported; 9 of those were confirmed to be caused by Norovirus. Although the total number of outbreaks was similar to that reported in 2006 (30 vs. 29), a significantly greater number of people (800 vs. 600) were affected in 2007.

## ENTERIC DISEASE



		2003		2004		2005		2006		2007	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Campylobacteriosis	Spokane County	67	15.6	49	11.3	74	17.0	67	15.1	73	16.2
	Washington State	943	15.5	861	14.0	1,045	16.7	993	15.6	1,020	15.7
Cryptosporidiosis	Spokane County	1	*	0	0.0	0	0.0	4	*	6	1.3
	Washington State	65	1.1	63	1.0	94	1.5	95	1.5	139	2.1
Enterohemorrhagic E. coli	Spokane County	10	2.3	2	*	3	*	9	2.0	3	*
	Washington State	128	2.1	153 (3 deaths)	2.5	149	2.4	162	2.5	141	2.2
Giardiasis	Spokane County	46	10.7	44	10.2	54	12.4	56	12.6	57	12.6
	Washington State	435	7.1	444	7.2	437	7.0	451	7.1	591	9.1
Listeriosis	Spokane County	0	0.0	0	0.0	1	*	0	0.0	0	0.0
	Washington State	13 (3 deaths)	0.2	13 (3 deaths)	0.2	14 (3 deaths)	0.2	18 (3 deaths)	0.2	25 (1 death)	0.4
Salmonellosis	Spokane County	30	7.0	31	7.2	40	9.2	29	6.5	37	8.2
	Washington State	699 (1 death)	11.5	660 (2 deaths)	10.7	626	10.0	626 (3 deaths)	9.8	758 (2 deaths)	11.7
Shigellosis	Spokane County	10	2.3	1	*	6	1.4	3	*	2	*
	Washington State	188	3.1	133	2.2	185	3.0	170	2.7	159	2.5

\*Incidence rates not calculated for <5 cases.

# VACCINE PREVENTABLE DISEASE

During 2003-2007, there was no significant change in overall rates for diseases prevented by standard childhood immunizations, except for pertussis. There were no reported cases of measles, mumps, rubella, tetanus, or diphtheria. In 2004, 2006 and 2007, pertussis was diagnosed and reported in much greater numbers than in 2003 or 2005. It is likely that pertussis remains endemic in our community, and that testing/reporting waxes and wanes. The duration of immunity to pertussis (whether vaccine-induced or following illness) is probably less than ten years and until 2005, no vaccine was available for those over age 7. Future incidence of pertussis may decline rapidly if uptake of the new adolescent/adult vaccines becomes widespread.

Statewide, the highest rate of and the most serious illness caused by pertussis continues to occur among children under


the age of one (90.3/100,000), and in children 1-4 years of age (26.5/100,000). The 2006 incidence rate of pertussis in Washington was the lowest it has been since 2001.

Along with pertussis and hepatitis A and B (see next section), two other vaccine preventable diseases occur with regularity in Spokane County; they are meningococcal disease and influenza. In the United States, almost all cases of meningitis are caused by serogroups B, C and Y, but the vaccine currently licensed in the U. S. protects against serogroups C and Y only. In 2007, of 26 Washington cases with serogroups identified, 12 were serogroup B, 10 were serogroup Y and 4 were serogroup C.

There is no case-based reporting of influenza, but sentinel surveillance showed that in the 2007-2008 season, influenza first appeared in November. Reports of

laboratory confirmed cases peaked in early February and fell off dramatically by March. In Spokane, only one outbreak of influenza-like illness in a long-term care facility was reported; this outbreak involved more than 15 individuals. One school reported an influenza-like illness outbreak involving more than 10% of their students. Deaths due to pneumonia and influenza peaked locally at 17.2% in the week ending May 3, 2008. Nationwide, influenza activity peaked in mid-February and was associated with greater overall mortality and higher rates of hospitalizations among children aged 0-4 years as compared with each of the previous three seasons. One child in Washington died as a result of influenza A infection.

## VACCINE PREVENTABLE DISEASE

		2003		2004		2005		2006		2007	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
 <i>Haemophilus influenzae</i> disease▲	Spokane County	0	0.0	0	0.0	1	*	0	0.0	0	0.0
	Washington State	13 (1 death)	3.3	4	1.0	5	1.2	5	1.2	6	1.4
Measles	Spokane County	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Washington State	0	0.0	7	0.1	1	*	1	*	3	*
Meningococcal Disease	Spokane County	4	*	3	*	5	1.1	3	*	3	*
	Washington State	61 (7 deaths)	1.0	42 (4 deaths)	0.7	53 (4 deaths)	0.8	45 (1 death)	0.7	32 (8 deaths)	0.5
Mumps	Spokane County	0	0.0	0	0.0	0	0.0	2	*	0	0.0
	Washington State	11	0.2	2	*	3	*	42	0.7	53	0.8
Pertussis	Spokane County	4	*	43	10.0	19	4.4	39	8.8	34	7.5
	Washington State	844	13.8	842	13.7	1,026	16.4	377 (1 death)	5.9	482	7.4

\*Incidence rates not calculated for <5 cases.

▲ Rates are for persons aged 0-4 years.

# HEPATITIS

## Hepatitis A

The number of hepatitis A cases has been consistently five or fewer cases per year since 2001. This could be attributed to one or more of the following factors: historically, hepatitis A outbreaks occur in 10 year cycles and Spokane County experienced a hepatitis A outbreak (over 500 cases) in 1997-8. During the outbreak more than 35,000 community members were vaccinated. Hepatitis A vaccine, first licensed in 1995, has been a recommended component of the vaccination series for children since 1999, ensuring the protection of thousands of individuals born since then.

## Hepatitis B

The number of acute hepatitis B case reports has been fairly consistent since 2002. Typically, 15-31% of all hepatitis B cases reported are acute. Rates of acute hepatitis B in Spokane County are generally at least twice the state rate. The reason(s) for this disparity are unclear, but it is thought that Spokane County may

have better case finding and reporting of acute hepatitis than other counties. More than half of the cases of acute hepatitis B had injection drug use (IDU) and/or sexual contact with someone who has IDU as their most likely risk factor for disease acquisition.

Acute infection with hepatitis B leads to chronic disease in 5-10% of adults and in 90% of children born to infected mothers, if the infant is not prophylactically treated. No perinatal transmission of hepatitis B was reported in 2007.

SRHD began taking reports of chronic hepatitis B in 2000. There was an initial surge in case reporting, reflecting the significant number of previously diagnosed infections being routinely monitored. This was followed by a leveling off and consistent number of cases reported since then, except for an unexplained dip in 2005. To date, 57% of individuals reported with chronic hepatitis B are male and 68% were diagnosed between the ages of 25 and 54.

## Hepatitis C

Due to the often unrecognized symptoms of hepatitis C infection, acute disease is infrequently diagnosed (typically less than 1% of reported cases are acute) and reported cases are significantly fewer in number than those of acute hepatitis B. Infection with hepatitis C leads to chronic illness in 80-85% of adults. Consistent with its capacity to progress to chronic disease, hepatitis C constitutes the largest portion of hepatitis cases, with over 400 cases usually reported to SRHD each year. To date, almost 70% of individuals reported with chronic hepatitis C were diagnosed between the ages of 35 and 54. Hepatitis C is not vaccine preventable.

Newly available information indicates that the number of individuals diagnosed as co-infected with Hepatitis B and C has declined sharply since 2003.

## HEPATITIS

		2003		2004		2005		2006		2007	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Hepatitis A	Spokane County	4	*	2	*	1	*	5	1.1	3	*
	Washington State	76	1.2	69	1.1	63 (1 death)	1.0	52	0.8	60	0.9
Hepatitis B, Acute	Spokane County	12	2.8	9	2.1	14	3.2	19	4.3	21	2.7
	Washington State	90 (1 death)	1.5	64 (1 death)	1.0	80	1.3	80 (2 deaths)	1.3	72	1.1
Hepatitis B, Chronic**	Spokane County	58	13.5	46	10.6	4	0.9	25	5.6	67	14.8
	Washington State	1,032	16.9	1,048	17.0	1,208	19.3	1,370	21.5	1,393	21.5
Hepatitis C, Acute	Spokane County	1	*	6	1.4	2	*	5	1.1	2	*
	Washington State	21	0.3	23 (1 death)	0.4	21	0.3	23	0.4	18	0.3
Hepatitis C, Chronic**	Spokane County	556	129.7	489	113.2	436	99.9	305	68.7	485	107.5
	Washington State	4,683	76.8	5,563	90.2	5,698	91.1	6,503	102.0	5,421	83.6

\*Incidence rates not calculated for <5 cases.

\*\*Chronic hepatitis B and C case numbers have been revised. These numbers represent all unduplicated cases first diagnosed in Spokane County, and do not include incarcerated persons.

# VECTOR-BORNE DISEASE


Vector-borne diseases occur infrequently in Spokane County and in Washington State. However, surveillance for these diseases allows us to determine prevalence and geographic distribution. For example, since the tick vector for Lyme does not live in our environs, all Lyme Disease diagnosed in Spokane County is presumed to be acquired out of the area (primarily on the Eastern Seaboard or in Western Washington). Tick-borne relapsing fever, however, occurs more frequently in Eastern and Central Washington than in Western Washington.

Hantavirus Pulmonary Syndrome has never been diagnosed in a Spokane County resident, although cases have been reported from surrounding counties and Washington has the fifth-largest number of cases in the U.S.

In 2006, for the first time ever, West Nile Virus (WNV) disease was diagnosed in three Washington residents who had not traveled out of state, so it was expected in 2007. However, during 2007 WNV was detected in only 5 persons; all of them had traveled out of state.

In 2007, the use of Rabies Post-Exposure Prophylaxis (PEP) was reported for 9 individuals. SRHD investigates over 800 animal bite incidents each year. While many of these exposures do not warrant use of PEP, use of rabies PEP is thought to be greatly under-reported. Although terrestrial animals in our state rarely are found to carry rabies, in any given year 5-10% of bats tested are rabid.

## VECTOR-BORNE DISEASE & LEGIONELLOSIS

		2003		2004		2005		2006		2007	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
 Arboviral Disease <sup>▲</sup> (previously viral encephalitis)	Spokane County	0	0.0	0	0.0	0	0.0	1	*	0	0.0
	Washington State	8	0.1	3	*	6	0.1	8	0.1	16	0.2
Hantavirus pulmonary syndrome	Spokane County	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Washington State	2 (1 death)	*	2	*	1	*	3	*	2	*
Lyme Disease (travel-related)	Spokane County	1	*	1	*	1	*	1	*	1	*
	Washington State	7	0.1	14	0.2	13	0.2	8	0.1	12	0.2
Malaria (travel-related)	Spokane County	3	*	1	*	1	*	0	0.0	1	*
	Washington State	34	0.6	24	0.4	24	0.4	43	0.7	30	0.5
Tick-borne relapsing fever	Spokane County	0	*	3	*	4	*	0	0.0	5	1.1
	Washington State	6	0.1	6	0.1	6	0.1	2	*	9	0.1
Legionellosis	Spokane County	0	0.0	0	0.0	0	0.0	1	*	1	*
	Washington State	14 (1 death)	0.2	15 (4 deaths)	0.2	18 (1 death)	0.3	20 (1 death)	0.3	24 (2 deaths)	0.4

\* Incidence rates not calculated for <5 cases

▲ Including yellow fever, West Nile Virus illness, dengue, and Japanese encephalitis.

# HIV/AIDS

AIDS has been a reportable disease in Washington since 1982, and for many years the number of reports was used to estimate incidence of HIV infection. Over time, as treatment and longevity after diagnosis of HIV infection improved, HIV disease came to be regarded more as a chronic infection. Consequently, in 1999 HIV infection also became reportable, allowing the incidence of disease to be better monitored. There was an initial rise in HIV and AIDS case reports in 2000 and 2001 as a result of making HIV reportable. Rates of incident disease then stabilized during 2002-2006, but rose in 2007, likely due to greater access and acceptance of HIV screening services by those at highest risk for HIV infection.

Newly diagnosed HIV cases in Spokane County were primarily among Caucasian men who had engaged in unprotected sex with other men. Women represented approximately 10% of the newly diagnosed HIV cases in Spokane County during 2007. African Americans are disproportionately impacted by HIV

disease in Spokane County. African Americans comprise less than 2% of the county's population, yet represent 8% of those with diagnosed HIV infection. Since the beginning of the epidemic, almost 700 individuals in Spokane County and over 16,000 people in Washington have been diagnosed with HIV infection.

In Washington State, there are 550 to 600 reports of newly diagnosed HIV disease each year. Approximately 85% of the new diagnoses from 2005 through 2007 were among males and 73% were among individuals age 30 and older. From 2005 to 2007, approximately 62% of all new HIV diagnoses were reported among White, non-Hispanic persons. Similarly, about 62% of the new diagnoses were attributed to male-to-male sexual contact (either by itself or in conjunction with injection drug use).

NOTE: HIV incidence data does not include persons who anonymously test positive who have not yet begun treatment for their infection.

The combined cases of new HIV infections and existing cases of HIV disease that may or may not have progressed to AIDS are used to estimate prevalence. As of December 31, 2007, there were 10,059 persons reported to be living with HIV infection in our state, 56% of whom had AIDS. The prevalence rate for HIV disease is 83.3/100,000 for Spokane County and for Washington State is 150.2/100,000 and is growing steadily at about 5% per year in both the county and the state.

NOTE: On August 3, the Centers for Disease Control and Prevention (CDC) announced the use of an innovative method to estimate new HIV infections in the United States, providing the clearest picture to date of the leading edge of the nation's epidemic. According to the new estimate, approximately 56,300 people in the U.S. became infected with HIV in 2006. Using this new method and based on national data, the CDC estimates that 700 people in Washington State were newly infected with HIV in 2006.

## HIV/AIDS

	2003		2004		2005		2006		2007	
	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Incident HIV Disease*	23	5.4	27	6.3	23	5.3	25	5.6	36	8.1
Spokane County	565	9.3	561	9.1	577	9.2	570	8.9	610	9.4
Washington State	(211 deaths)		(161 deaths)		(159 deaths)		(102 deaths)		(79 deaths)	

\*Incident HIV Disease refers to all newly identified cases of HIV disease, with or without AIDS.

# SEXUALLY TRANSMITTED DISEASE

Sexually Transmitted Diseases (STDs) continue to be the most commonly reported of all communicable diseases in Washington, comprising 80% of all reports received.

Spokane County experienced a marked increase from 2002 to 2006 in its combined reportable STD cases and this trend continued in 2007. Limited county-specific demographic data is available for STDs reported in 2007, but almost every condition was reported with greater frequency as compared to 2006.

Specifically, there was an increase of more than 12% in reported cases of chlamydia and a greater than 71% increase in the number of gonorrhea cases reported. Syphilis cases tripled but the total number of cases was small (6 vs. 2). Together with the increase in incident HIV disease, these are disturbing trends.

In Washington State, chlamydia is the most frequently reported notifiable disease. Reporting first began in July of 1987, and apart from an interlude in the mid-to-late nineties, chlamydia cases and rates increased steadily through 2004, and have remained statistically stable since then. Overall, the incidence rate was 276 per 100,000 population for 2007; almost 85% of all cases are in persons aged 29 or younger, with the highest rates in females aged 15-24. It is estimated that more than \$80 million is spent annually in Washington to treat complications of chlamydia infection.

Statewide, gonorrhea (GC) cases and rates were at a 13-year high in 2006, but decreased in 2007. GC incidence in both males and females is highest in those 20-24 years of age. Gonorrhea incidence is generally concentrated in urban settings,

and despite an overall decrease in statewide case numbers, incidence has increased in Eastern Washington. Chlamydia continues to be more widely dispersed than gonorrhea, with many rural counties having case rates similar to chlamydia rates in densely populated urban areas.

Primary and secondary syphilis infection denote those stages of the illness where infection can be transmitted. In 2007, 72% of syphilis cases were reported from King County. There continues to be a large disparity between male and female incidence rates, a pattern which has been observed for more than 10 years. This disparity is consistent with an ongoing outbreak among men who have sex with men, primarily in urban settings.

## SEXUALLY TRANSMITTED DISEASE

		2003		2004		2005		2006		2007	
		Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
Chlamydia	Spokane County	988	230.5	1,101	254.9	1,071	245.5	1,121	252.6	1,258	278.8
	Washington State	16,796	275.6	17,635	285.9	18,617	297.6	17,819	279.5	19,123	276.5
Gonorrhea	Spokane County	97	22.6	152	35.2	121	27.7	120	27.0	206	45.7
	Washington State	2,073	34.0	2,153	34.9	2,331	37.3	4,231	66.4	3,646	56.2
Herpes (initial infection)	Spokane County	163	38.0	172	39.8	155	35.5	148	33.3	129	28.6
	Washington State	2,073	34.0	2,153	34.9	2,331	37.3	2,446	38.4	1,952	30.1
Syphilis, early infectious, <1 yr.	Spokane County	1	*	0	*	0	*	2	*	6	1.3
	Washington State	82	1.3	150	2.4	152	2.4	182	2.9	168	2.6

\*Incidence rates not calculated for <5 cases.

# TUBERCULOSIS

## Spokane County

The crude incidence rate for tuberculosis (TB) is consistently lower in Spokane County than it is in Washington State. During 2003-2007, 39 active TB cases were identified in our county.

In 2007, 5 active cases of TB (2 male and 3 female) were reported. Although only about 10% of the population of Spokane is foreign-born, 60% of active cases were foreign-born, reflecting the greater incidence of TB in foreign-born individuals, as is true statewide and nationwide. One hundred and twenty contacts of the 5 cases were tested and 4 were positive for TB. Three started latent TB infection (LTBI) treatment and one was treated previously. Note: individuals can continue to test positive even after treatment for LTBI or active TB.

An additional 107 individuals were identified as having LTBI. Seventy-three (67%) started treatment, 12 (11%) refused

treatment, 17 (16%) were lost to follow-up and 5 (~5%) were either treated previously or referred to their own provider. Altogether, 83 persons finished LTBI treatment (some of these treatments were continued from 2006).

## State Highlights

Washington experienced a slight increase in the number of TB cases with 291 cases reported in 2007, as compared to the 262 cases reported in 2006. The crude incidence rate of TB also increased for the third straight year, (4.1/100,000 in 2006 vs. 4.4/100,000 in 2007); this was slightly less than the national rate of 4.6 per 100,000. Sixteen of the 39 counties in Washington reported no new cases of TB in 2007, 13 reported five or fewer cases and ten counties reported more than five TB cases.

Seventy-five percent of the 2007 tuberculosis cases in Washington were among foreign-born immigrants or refugees from countries with high rates of

tuberculosis including Vietnam, Mexico, the Philippines, and Ethiopia. The proportion of foreign-born cases continues to rise in Washington (73% in 2006 vs. 75% in 2007).

Most TB cases among foreign-born people are likely the result of reactivation of infection acquired abroad, although some transmission is occurring in the U.S. The risk of disease among the foreign-born also appears related to chronological age and age at immigration; younger people and those who immigrated at younger ages are at lower risk for subsequent infection with TB. In Washington, the majority of foreign-born cases reported from 2004-2006 were in people 25 years of age and over who had been living in the U.S. for 10 years or more.

## TUBERCULOSIS



Tuberculosis

Spokane County  
Washington State

2003		2004		2005		2006		2007	
Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000	Cases	Rate per 100,000
4	*	7	1.6	13	2.9	10	2.2	5	1.1
250	4.0	245	3.9	256	4.0	262	4.1	291 (12 deaths)	4.5

\*Incidence rates not calculated for <5 cases.

## Prominent communicable disease issues for SRHD in 2008

- ◆ Meningococcal disease outbreak in homeless men
- ◆ Still waiting for West Nile Virus
- ◆ Outbreak of *Salmonella*-contaminated cantaloupe
- ◆ Rabies vaccine shortage
- ◆ Macaque monkey bites 3 Spokane residents
- ◆ New estimates of HIV incidence
- ◆ Outbreaks of chicken pox in 5 elementary schools
- ◆ Expansion of follow-up on STD cases
- ◆ Norovirus outbreaks in Long Term Care

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