

FLU BITES

Oregon's Weekly Surveillance Report for Influenza and other Respiratory Viruses

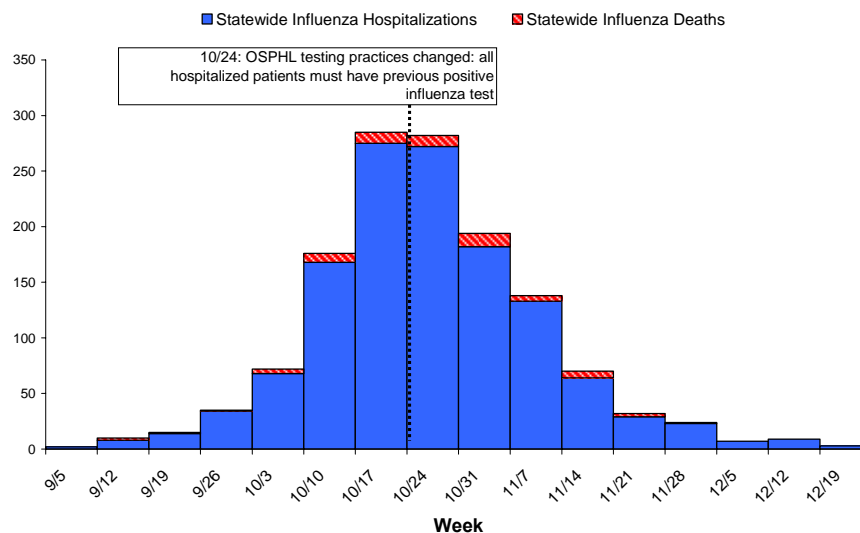
Published December 24th, 2009



Summary

- Since September 1, 2009, 1,291 patients have been hospitalized with laboratory-confirmed influenza statewide (939 adults and 352 children). Rates of hospitalization are substantially higher among individuals with underlying conditions that put them in a vaccine priority group, including pregnant women, children with neuromuscular disease or seizure disorder, children and adults with asthma, and adults with chronic lung disease or diabetes.
- For the week ending December 19, 2009, four hospitalizations were reported statewide (0.1 per 100,000 Oregonians), making this the third week in a row with fewer than 10 hospitalizations.
- No influenza-related deaths have been reported for three weeks. Since September 1, sixty-three people have died from influenza (59 adults and 4 children). Of the 58 individuals for whom information about underlying conditions is known, 52 (90%) had one or more underlying conditions.
- Oregon's death rate for the entire pandemic period (since April, 2009) is 1.9 deaths per 100,000 Oregonians. The Centers for Disease Control and Prevention (CDC) estimate the national rate of H1N1-related deaths from April – November 14th to be 3.2 per 100,000.
- Two of our influenza-like illness (ILI) syndromic surveillance systems showed slight increases in ILI this week, however ILINet providers are reporting ILI at levels below what would be expected when influenza is circulating, and Kaiser Permanente NW is reporting rates of illness expected for this time of year in a typical influenza season.

Oregon Influenza Hospitalizations and Deaths by Onset Date Since 09/01/09



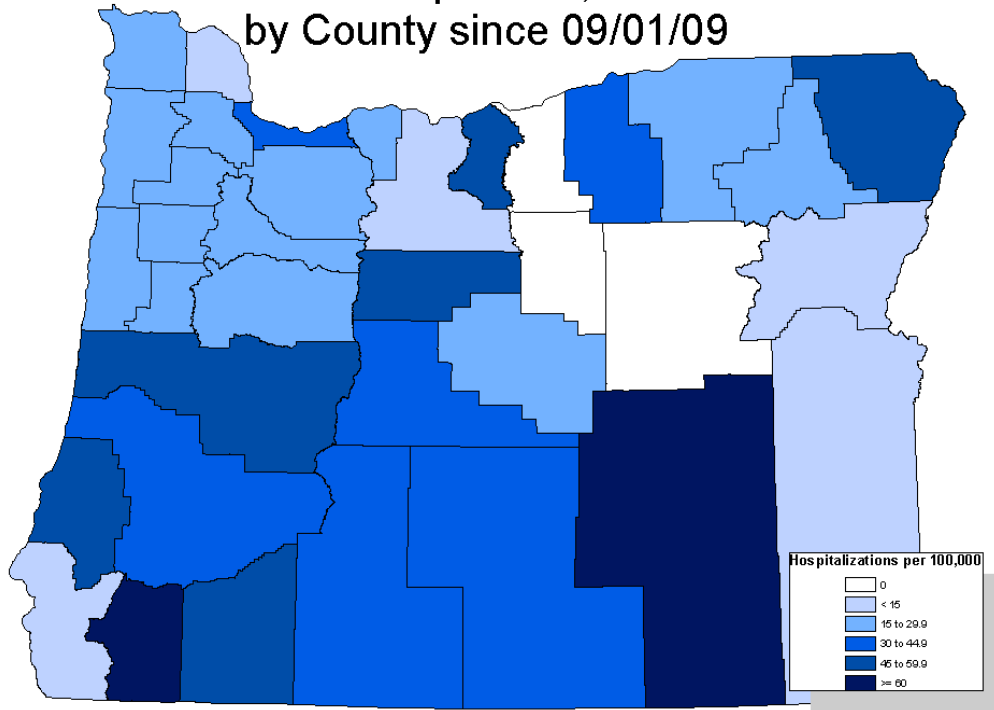
Statewide Hospitalizations and Deaths

The mean and median age of individuals hospitalized statewide for influenza since September 1, 2009 are 35 and 37, respectively. Ages range from 0 to 92 years. Females constitute 699 (54%) of hospitalized cases.

Distribution of Hospitalized Influenza Cases by County and Age Group Since September 1, 2009

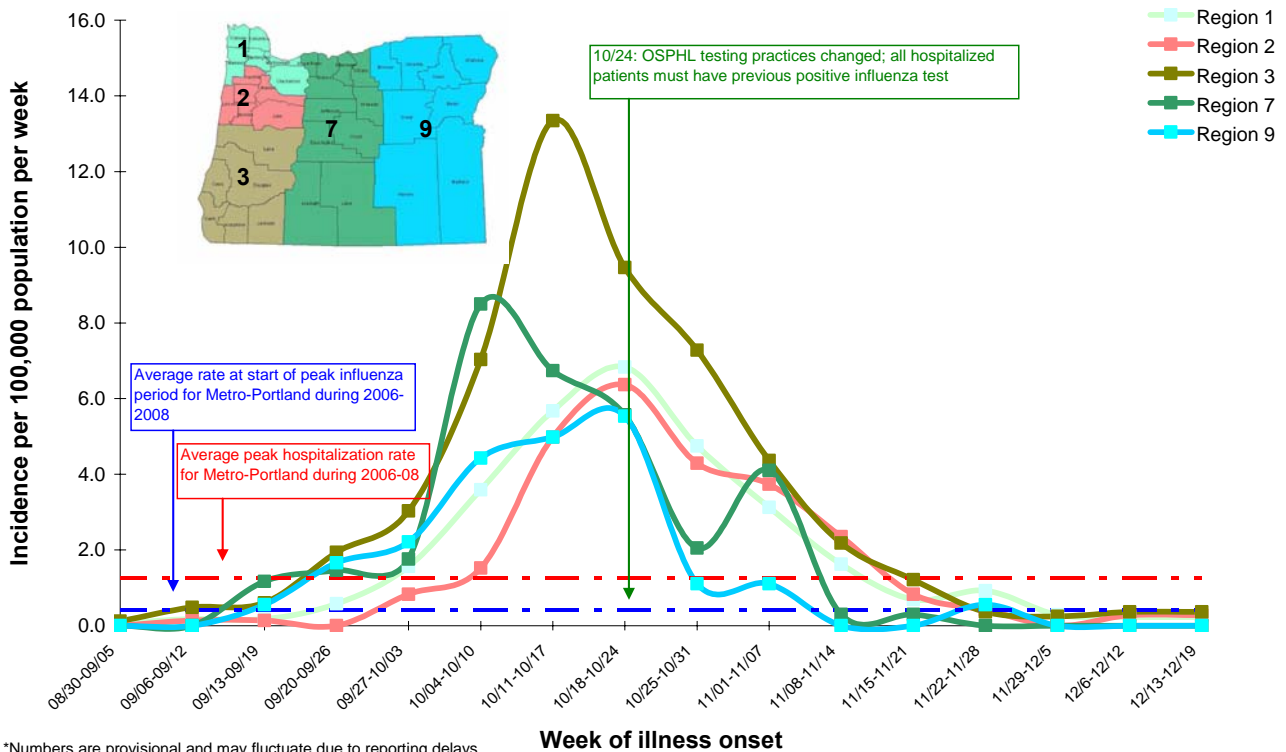
County	Total	0 to 4	5 to 18	19 to 24	25 to 49	50 to 64	65+	Unknown	County rate per 100,000 pop
Baker	1	0	0	0	0	1	0	0	6.1
Benton	19	1	3	3	5	5	2	0	22.1
Clackamas	110	15	20	10	37	21	7	0	29.2
Clatsop	6	0	0	2	2	1	1	0	15.9
Columbia	3	1	0	0	1	1	0	0	6.2
Coos	31	2	4	3	12	7	3	0	49.0
Crook	6	1	1	1	3	0	0	0	22.4
Curry	3	0	0	0	2	1	0	0	13.9
Deschutes	52	6	9	3	19	6	9	0	31.1
Douglas	43	4	3	4	8	19	5	0	40.9
Gilliam	0	0	0	0	0	0	0	0	0.0
Grant	0	0	0	0	0	0	0	0	0.0
Harney	6	1	2	1	2	0	0	0	77.9
Hood River	5	1	1	1	2	0	0	0	23.1
Jackson	104	13	13	8	20	34	16	0	50.7
Jefferson	14	4	2	1	6	1	0	0	62.4
Josephine	51	8	4	2	16	13	8	0	61.2
Klamath	25	1	8	0	4	8	4	0	37.8
Lake	3	1	0	1	1	0	0	0	39.6
Lane	197	28	35	9	55	56	14	0	57.0
Lincoln	7	2	1	0	2	2	0	0	15.7
Linn	33	4	2	3	10	10	4	0	29.9
Malheur	3	1	0	0	0	2	0	0	9.5
Marion	91	22	19	7	16	19	8	0	28.9
Morrow	4	1	1	0	1	1	0	0	32.0
Multnomah	258	31	23	16	91	68	29	0	35.9
Polk	11	2	2	1	3	1	2	0	16.1
Sherman	1	0	0	0	1	0	0	0	54.2
Tillamook	4	0	2	0	0	1	1	0	15.3
Umatilla	16	3	4	4	3	2	0	0	22.1
Union	6	1	2	0	1	2	0	0	23.7
Wallowa	4	0	3	0	0	0	1	0	56.2
Wasco	3	1	0	0	1	1	0	0	12.4
Washington	145	27	19	10	49	30	10	0	27.9
Wheeler	0	0	0	0	0	0	0	0	0.0
Yamhill	26	1	2	1	13	5	3	1	27.6
TOTAL	1291	183	185	91	386	318	127	1	34.1
% total		14	14	7	30	25	10		
Age group rate per 100,000 pop		78.1	26.4	29.3	29.4	42.8	26.0		34.1

Oregon Influenza* Hospitalizations Rates per 100,000 by County since 09/01/09



*Counts and rates represent hospitalizations of laboratory-confirmed seasonal and pandemic H1N1 influenza

Influenza-related Hospitalization Rates by Region, Oregon, Since 09/01/09*

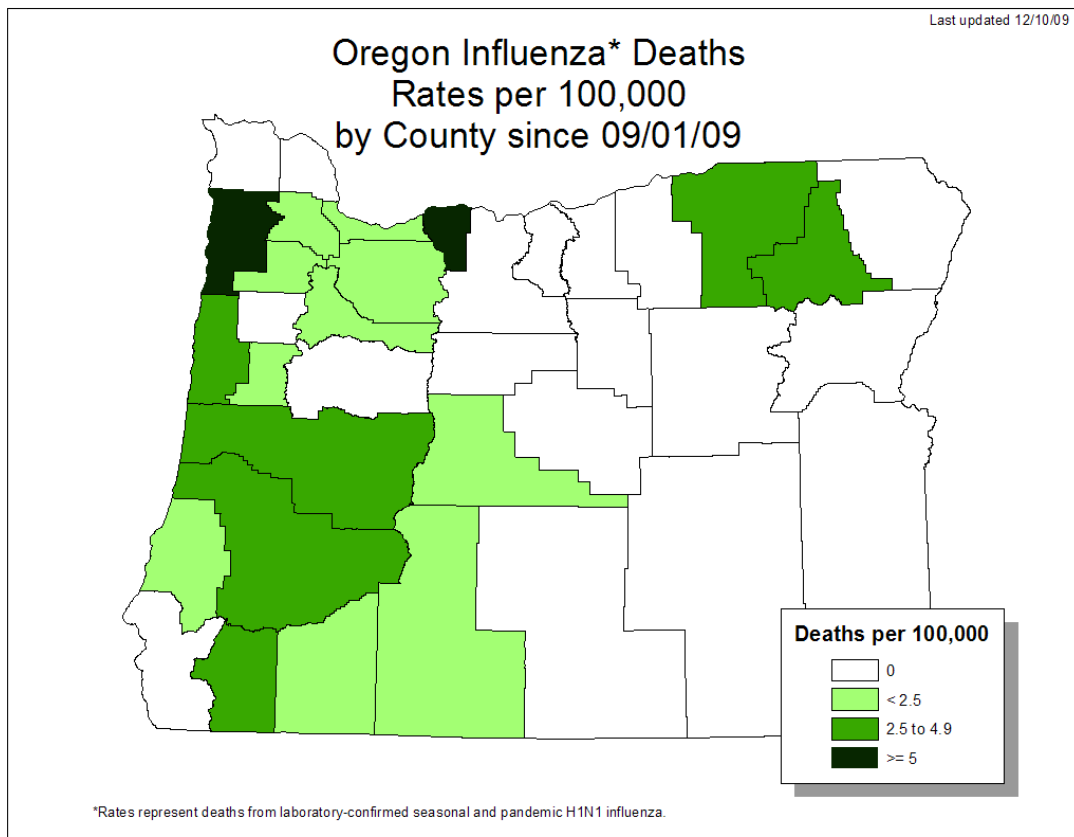


*Numbers are provisional and may fluctuate due to reporting delays

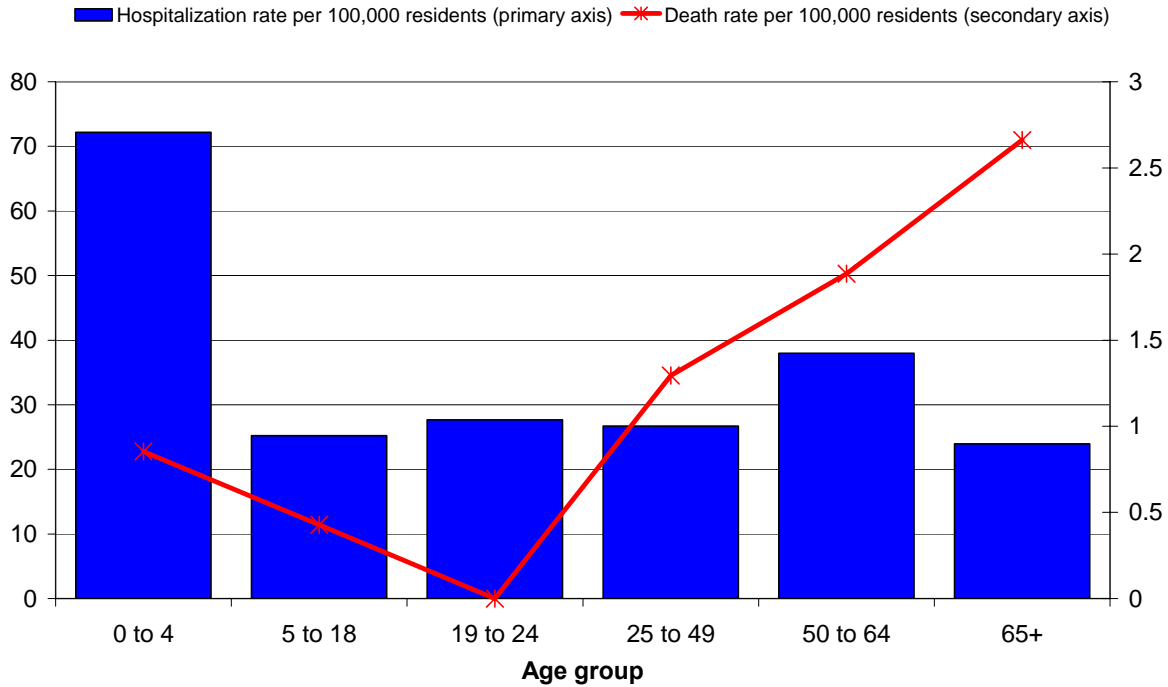
The mean and median age of influenza deaths statewide since September 1, 2009 are 51 and 50 years, respectively. Ages range from 2 to 87 years. Males constitute 59% of influenza deaths.

Distribution of Influenza Deaths, by County of Residence and Age Group Since September 1, 2009

County	Total	0 to 4	5 to 18	19 to 24	25 to 49	50 to 64	65+	County rate per 100,000 pop
Benton	1	0	0	0	0	1	0	1.2
Clackamas	1	0	0	0	0	0	1	0.3
Coos	1	0	0	0	0	1	0	1.6
Deschutes	4	0	0	0	1	0	3	2.4
Douglas	4	0	0	0	1	1	2	3.8
Hood River	2	0	0	1	1	0	0	9.2
Jackson	2	0	0	0	1	0	1	1.0
Josephine	4	0	0	0	2	1	1	4.8
Klamath	1	0	0	0	0	1	0	1.5
Lane	12	0	0	0	4	4	4	3.5
Lincoln	2	0	0	0	2	0	0	4.5
Marion	2	0	0	0	0	1	1	0.6
Multnomah	16	1	0	0	5	7	3	2.2
Tillamook	2	0	1	0	0	1	0	7.7
Umatilla	3	0	1	0	2	0	0	4.1
Union	1	0	0	0	1	0	0	3.9
Washington	3	1	1	0	1	0	0	0.6
Yamhill	2	0	0	0	2	0	0	2.1
TOTAL #	63	2	3	1	23	18	16	1.7
Percentage		3	5	2	37	29	25	
Age Group rate per 100,000 pop		0.9	0.4	0.3	1.8	2.4	3.3	1.7



**Influenza Hospitalizations and Deaths,
Rates per 100,000 Oregon Residents, Since 09/01/09**



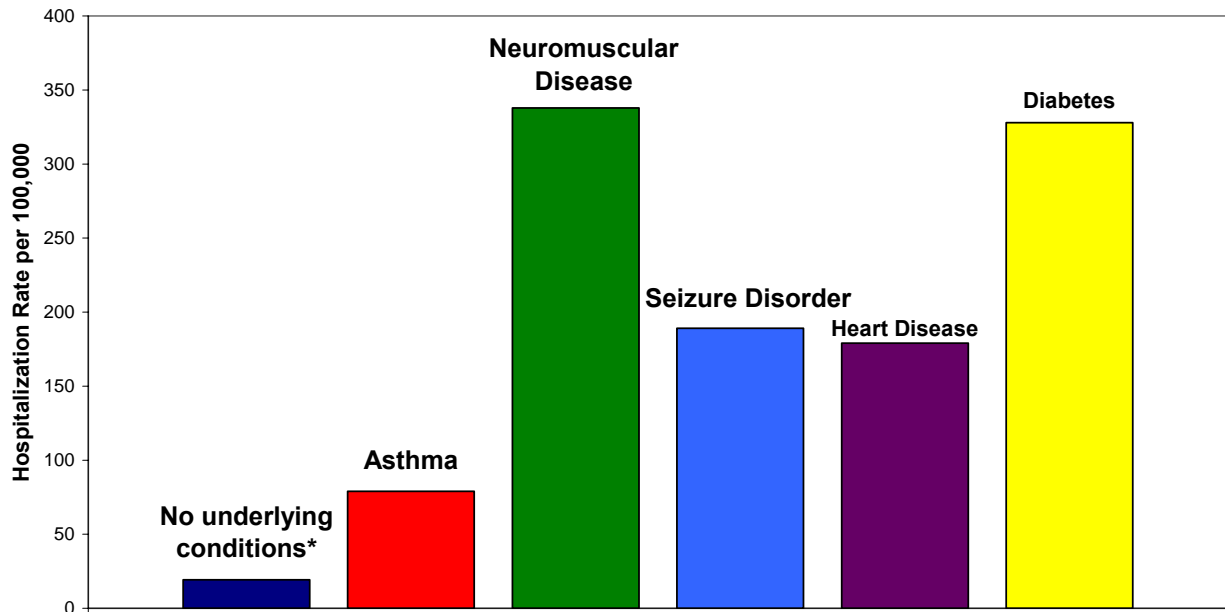
EIP Surveillance Area Hospitalizations

As a component of the Emerging Infections Program (EIP), extensive chart reviews are conducted for all influenza-associated hospitalizations in the Portland tri-county area (Clackamas, Multnomah and Washington counties). Preliminary chart reviews have been conducted for 89% of the cases hospitalized in the surveillance area since September 1st.

Characteristics of EIP area Hospitalized Cases

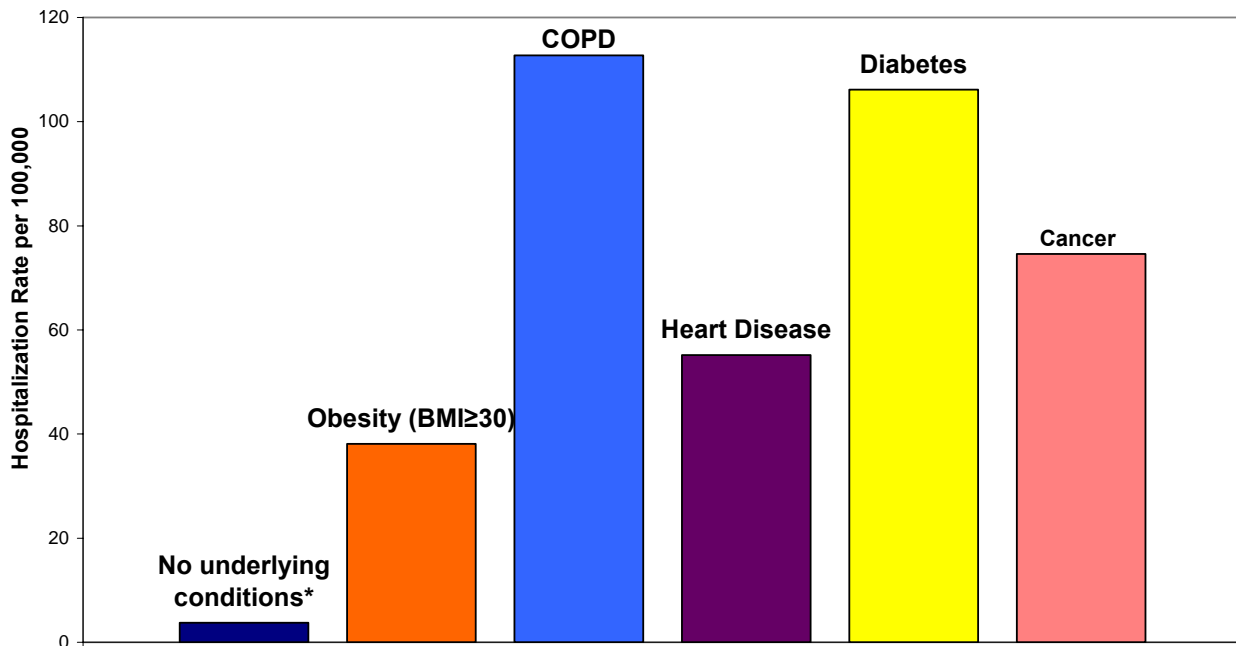
	Pediatric (ages 0 – 18) N=126 N (%)	Adult (age >18 years), N=323 N (%)
Treatment		
Received antivirals	102 (82)	285 (89)
Outcomes		
Pneumonia	35 (28)	157 (49)
Bronchiolitis	1 (1)	0
Acute encephalopathy	1 (1)	7 (2)
Admitted to ICU	19 (16)	82 (26)
ARDS	2 (2)	24 (7)
Mechanically Ventilated	7 (6)	48 (15)
ECMO	1 (1)	2 (1)
Died	3 (2)	9 (3)

EIP Surveillance Area Pediatric Influenza Hospitalization Rates by Underlying Condition



Diseases are not mutually exclusive
 Denominator: NHIS, 2003 & OR DHS, 2009
 *No ACIP underlying conditions

EIP Surveillance Area Adult Influenza Hospitalization Rates by Underlying Condition



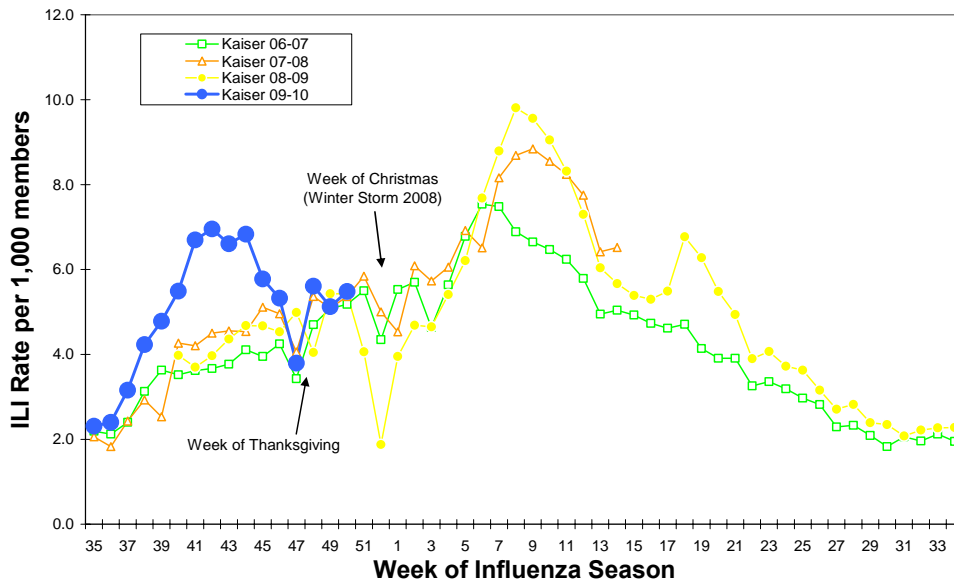
Diseases are not mutually exclusive
 Denominator: BRFSS 2007, NHIS, 2003
 * No ACIP underlying conditions

Outpatient Influenza-like Illness

Kaiser Syndromic Surveillance

Oregon Public Health Division receives discharge diagnoses data for Kaiser Permanente Northwest member outpatient visits. The number of influenza-like illness outpatient visits increased slightly to 5.48 per 1,000 Kaiser members during the week ending December 19, 2009. The decrease in activity reported during the week of November 22-28th, corresponds to the Thanksgiving holidays. Decreases in activity have been seen in years prior for both Thanksgiving and Christmas holidays.

**Respiratory Illness Surveillance
Kaiser Permanente Northwest
2006-07, 2007-08, and 2008-09, 2009-10**



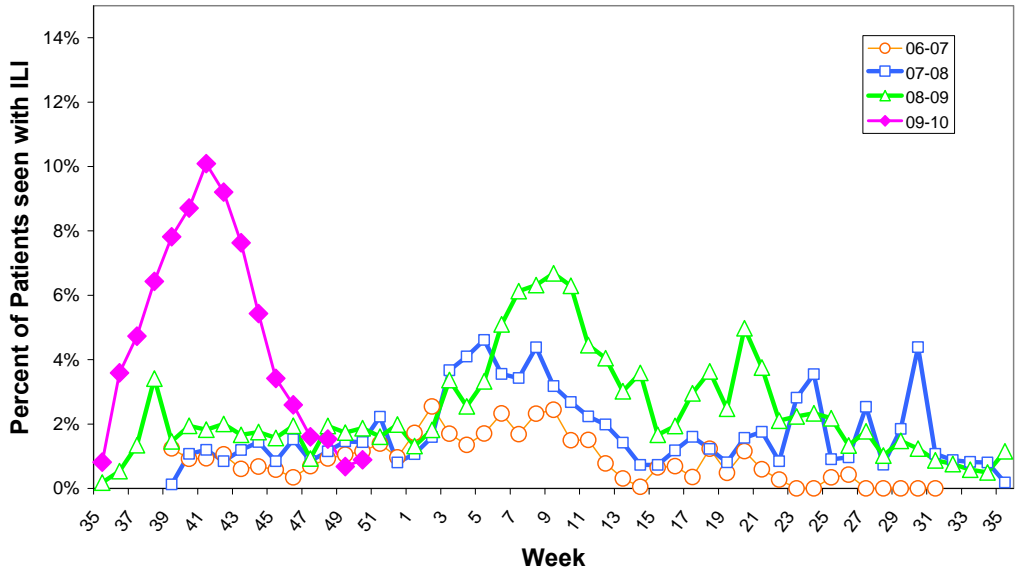
ILINet: Oregon's Outpatient Influenza-like Illness Surveillance Network

Oregon's outpatient influenza-like illness network is comprised of 30 voluntary healthcare providers from all across Oregon who report the number of patients with influenza-like illness (ILI) as well as total number of patient visits for each week during the surveillance season.

Influenza-like illness (ILI) is defined as fever ($\geq 100^{\circ}\text{F}$) and cough or sore throat. The number of patient visits and the percent of patients with ILI for the last 3 weeks are presented below. The average influenza-like illness reported during non-influenza weeks, when percent positive for influenza at the Oregon State Public Health Laboratory is $< 10\%$, is 1.29%. For the week ending December 19th, 0.89% of patients seen had ILI, which is well below the average for non-influenza weeks.

	Number of Patients Visits	Percent Patients with ILI	Number of Provider Reports
Week ending December 19th	896	0.89	9
Week ending December 12th	4404	0.68	20
Week ending December 5th	4945	1.54	20

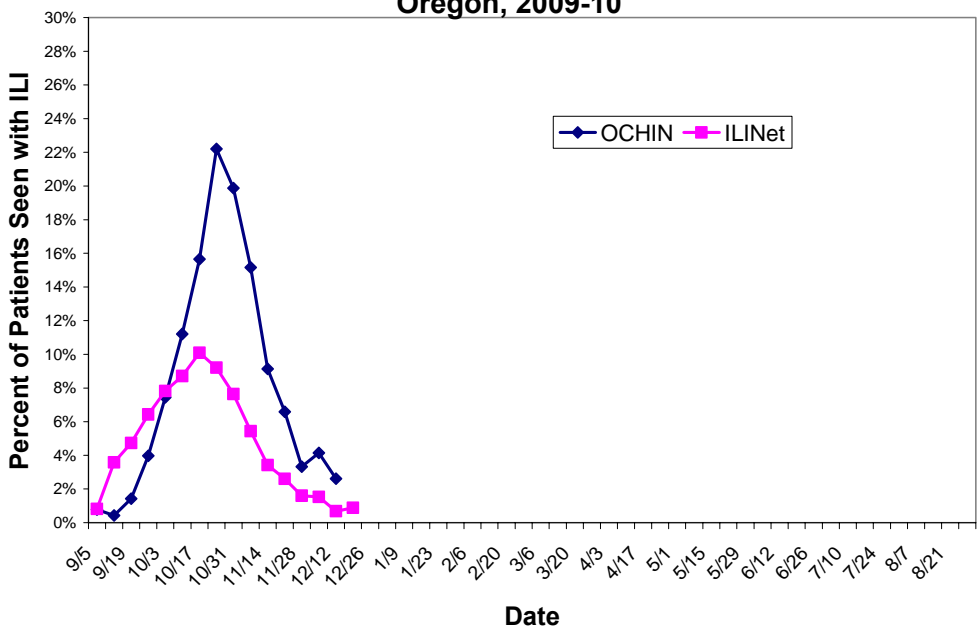
**Oregon Outpatient Influenza-Like Illness Surveillance Network (ILINet)
Percent of Outpatients with Influenza-like Illness (ILI)
2006-07, 2007-08, 2008-09, 2009-10**



OCHIN Influenza-like Illness Surveillance

Oregon Public Health Division also receives discharge diagnoses data from OCHIN Inc., a fast-growing collaborative comprising 28 federally qualified health centers (FQHC) and rural health centers. OCHIN reports of ILI are one week behind our other syndromic surveillance system reports. The percent of OCHIN patients with ILI during the week ending December 12th was 2.61%.

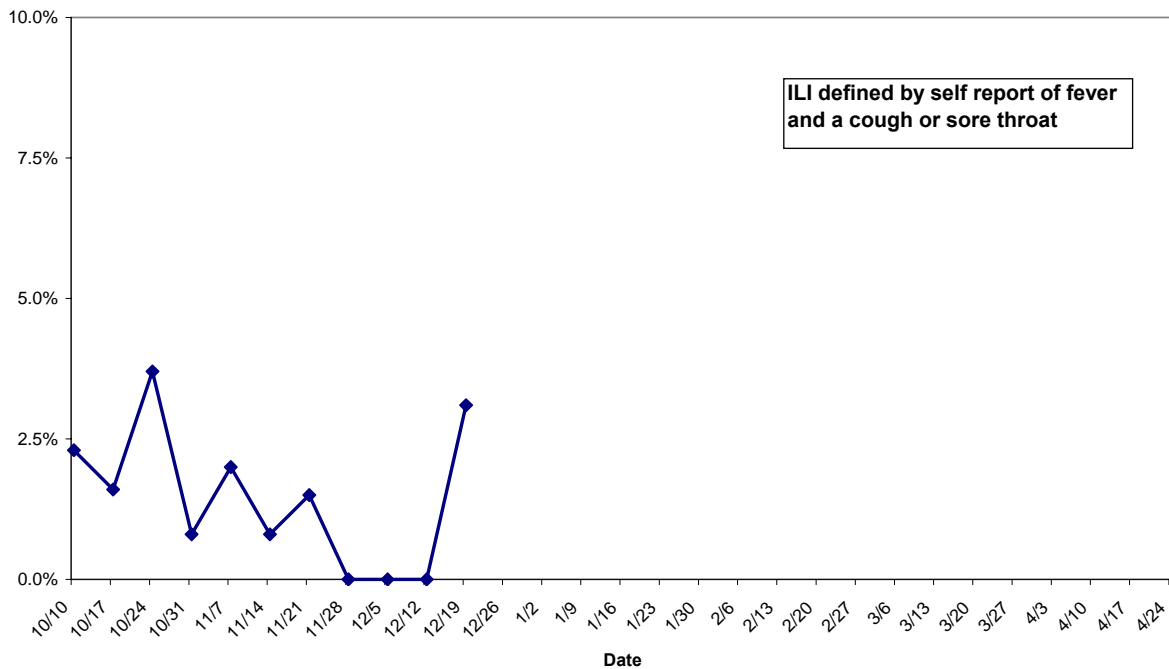
**Oregon Outpatient Influenza-Like Illness (ILI) Surveillance
ILINet & OCHIN
Oregon, 2009-10**



Community Surveillance for Influenza-like Illness

Oregon Public Health Division collects community level data on influenza-like illness via the Behavioral Risk Factor Assessment Surveillance System (BRFSS). During the week ending December 5th, two of sixty-two (3.1%) respondents statewide reported having symptoms of ILI with an onset in the last 7 days

**BRFSS Influenza-Like Illness (ILI) Surveillance
Percent Reporting ILI with Onset in Last 7 Days**



Laboratory Surveillance

The Oregon State Public Health Laboratory is performing the following surveillance activities for subtype specific influenza testing:

- Sentinel providers submissions (ILINet)
- Lab-confirmed hospitalization surveillance among individuals with a previous positive influenza test (viral culture, DFA, PCR or any commercially available rapid test).
- Lab-confirmed death surveillance
- Outbreak investigations

Specimens will only be tested if submitted for the above-mentioned activities.

OSPHL will NOT be accepting specimens for 'rule out influenza' submissions for the 2009-10 influenza season in order to allocate public health laboratory resources to H1N1 surveillance. Nearly 100% of influenza identified at OSPHL this season has been pandemic H1N1.

**Oregon State Public Health Laboratory
Specimen Type and Subtype, 2009-10**

	Cumulative since September 1, 2009				Current Week
	ILINet N (%)	Hospitalized* or Died N (%)	Outbreaks N(%)	Total N (%)	Total N (%)
Influenza A					
Pandemic H1N1	152 (57)	1,075 (62)	23 (79)	1,250 (62)	4 (40)
Seasonal A (H1)	1 (0)	1 (0)	0	2 (0)	0
Seasonal A (H3)	0	1 (0)	0	1 (0)	0
Influenza B	0	0	0	0	0
Pending	0	1 (0)	0	1 (0)	0
Undetected	113 (42)	661 (38)	6 (21)	780 (38)	6 (60)
Total Tested	266	1,739	29	2,034	10

*Submissions for hospitalized cases may include some ER visits.

The pandemic influenza A (H1N1) situation in Oregon continues to evolve on a daily basis and these numbers are provisional. We are currently updating the numbers of hospitalizations and deaths on our web page on Tuesdays and Fridays:

http://www.flu.oregon.gov/DHS/ph/acd/swineflu_investigation.shtml.

For more information on pandemic influenza A (H1N1) and seasonal influenza in Oregon please see: <http://www.flu.oregon.gov/>.

Additional resources:

More Oregon influenza surveillance data is available at:

<http://egov.oregon.gov/DHS/ph/acd/flu/surveil.shtml>

CDC Weekly Surveillance Report: <http://www.cdc.gov/flu/weekly/>