

FLU BITES

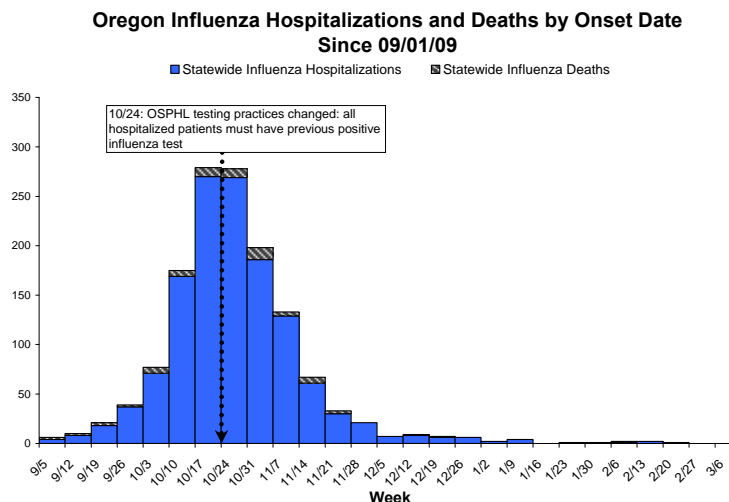
Oregon's Weekly Surveillance Report for Influenza and other Respiratory Viruses

Published March 12, 2010



Summary

- In the month of February, Oregon only had four hospitalizations and one death. There have been no hospitalizations or deaths reported to date in March.
- Since September 1, 2009, 1,312 patients have been hospitalized with laboratory-confirmed influenza statewide (956 adults; 356 children). Rates of hospitalization are substantially higher among individuals with underlying conditions, including pregnant women, children with neuromuscular disease or seizure disorder, and adults with chronic lung disease or diabetes.
- Since September 1, 2009, sixty-seven people have died from influenza (63 adults; 4 children). Of the four pediatric deaths, all had neuro-developmental conditions. Of the 64 deaths for whom information about medical conditions is known, 58 (91%) had one or more underlying conditions.
- Oregon's death rate for the entire pandemic period (since April, 2009) is 1.8 deaths per 100,000 Oregonians. The Centers for Disease Control and Prevention (CDC) estimate the national rate of H1N1-related deaths from April – February 13th to be 3.9 per 100,000.
- ILINet rates of influenza-like illness (ILI) are significantly below expected for this time of year, and Kaiser Permanente NW ILI levels are consistent with previous seasons.
- After increasing for three weeks in a row, respiratory syncytial virus (RSV) activity in Oregon decreased this week. The amount of observed activity this week is slightly less than previous seasons.
- No seasonal influenza viruses have been detected at Oregon State Public Health Laboratory since October 2009.

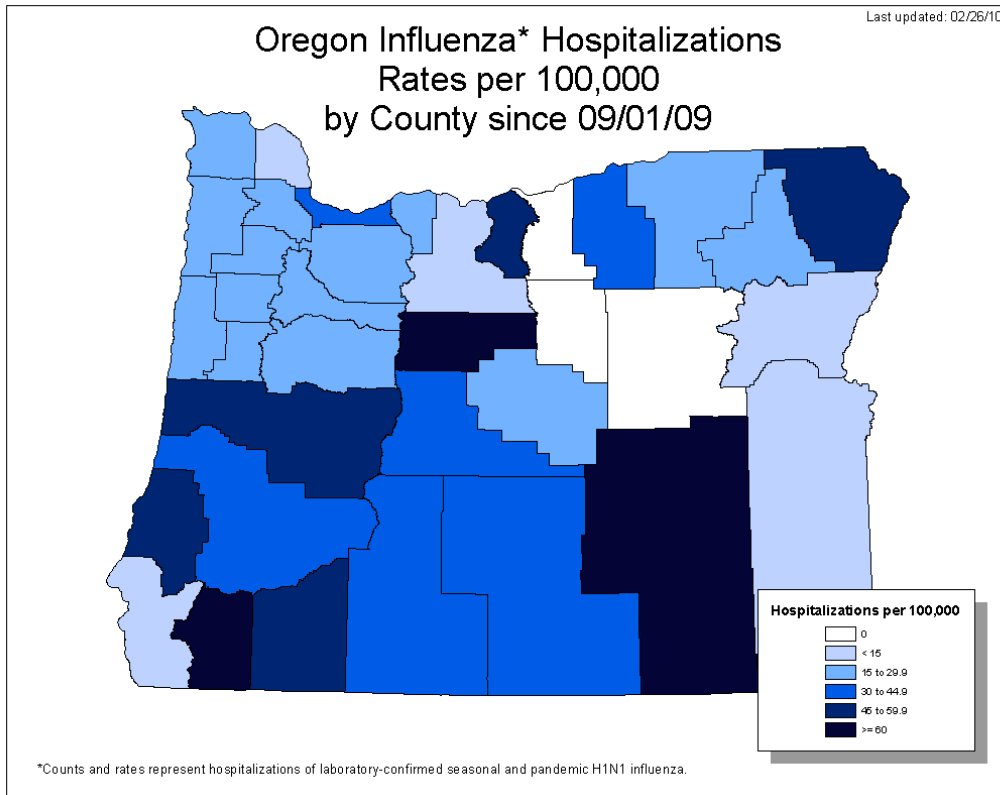


Statewide Hospitalizations and Deaths

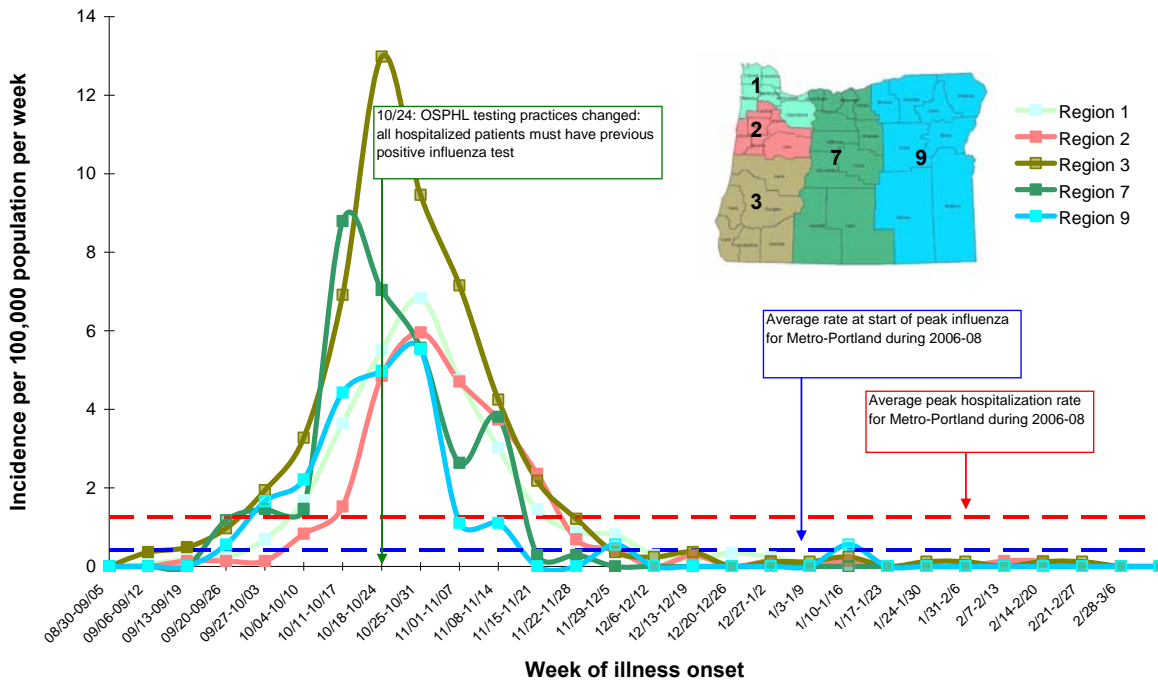
The mean and median age of individuals hospitalized statewide for influenza since September 1, 2009 are 36 and 37, respectively. Ages range from 0 to 93 years. Females constitute 712 (54%) of hospitalized cases.

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	2	0	0	0	0	1	1	0	12.2
Benton	21	1	3	3	5	5	4	0	24.4
Clackamas	112	15	20	10	38	21	8	0	29.7
Clatsop	6	0	0	2	2	1	1	0	15.9
Columbia	5	1	1	0	2	1	0	0	10.4
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	108	13	13	8	20	35	19	0	52.6
Jefferson	17	6	2	1	6	2	0	0	75.7
Josephine	51	8	4	2	16	13	8	0	61.2
Klamath	24	1	8	0	4	8	3	0	36.3
Lake	3	1	0	1	1	0	0	0	39.6
Lane	202	28	36	9	56	56	17	0	58.4
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	92	22	19	7	17	19	8	0	29.2
Morrow	4	1	1	0	1	1	0	0	32.0
Multnomah	260	31	23	17	92	68	29	0	36.2
Polk	11	2	2	1	3	1	2	0	16.1
Sherman	1	0	0	0	1	0	0	0	54.2
Tillamook	5	0	2	0	1	1	1	0	19.2
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	144	28	18	10	49	29	10	0	27.7
Wheeler	0	0	0	0	0	0	0	0	0.0
Yamhill	26	1	2	1	13	5	3	1	27.6
TOTAL	1312	186	186	92	392	319	136	1	34.6
% total		14	14	7	30	24	10		
Age group rate per 100,000 pop		79.4	26.5	29.6	29.8	43.0	27.8		34.6



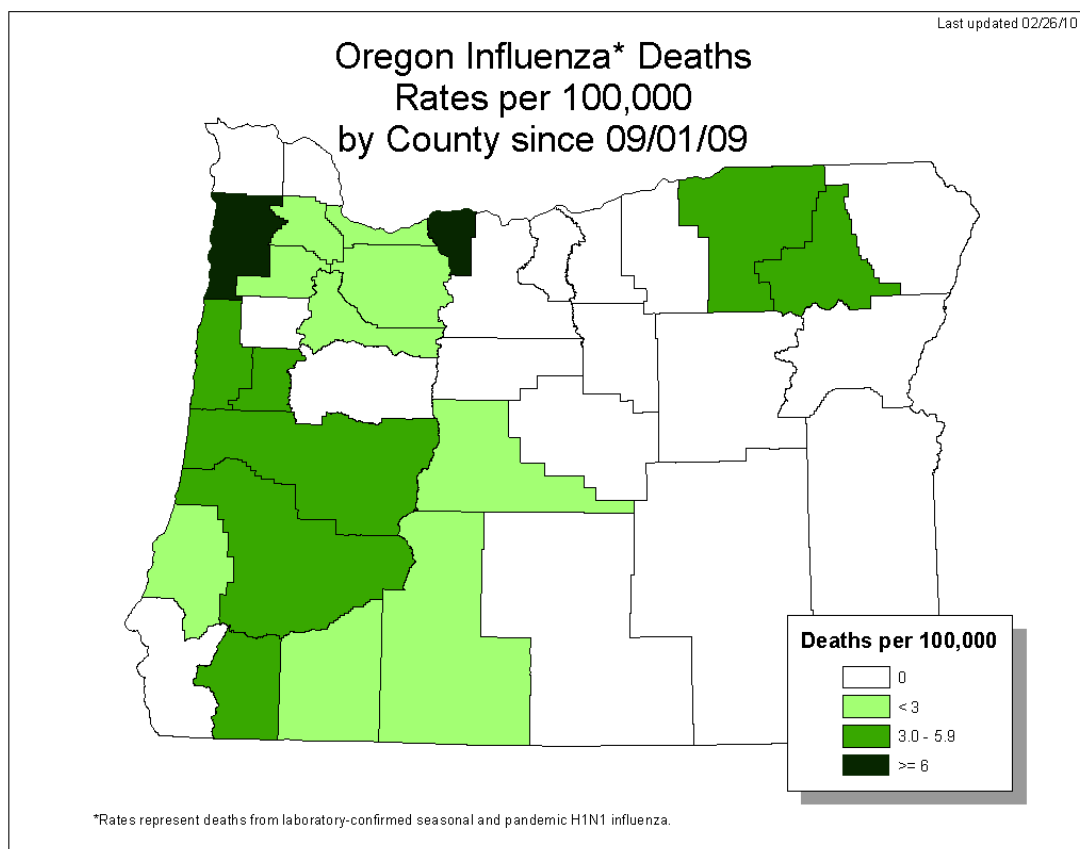
Influenza-related Hospitalization Rates by Region, Oregon, Since 09/01/09*



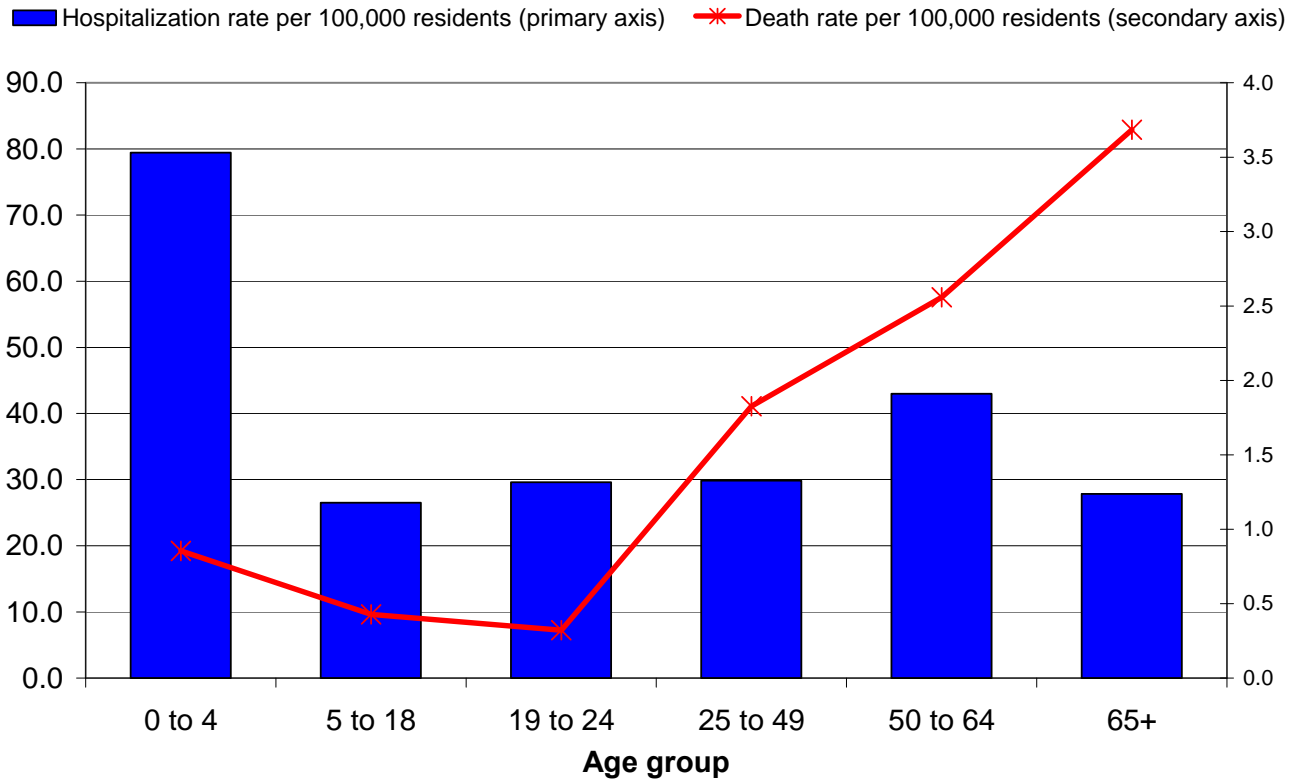
The mean and median age of influenza deaths statewide since September 1, 2009 is 52 years. Ages range from 2 to 93 years. Males constitute 58% of influenza deaths.

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	3	0	0	0	0	2	1	3.5
Clackamas	2	0	0	0	0	0	2	0.5
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	3	0	1	0	1	1	0	11.5
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 #	67	2	3	1	24	19	18	1.8
Percentage		3	4	1	36	28	27	
Age Group rate per 100,000 pop		0.9	0.4	0.3	1.8	2.6	3.7	1.8



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



EIP Surveillance Area Hospitalizations

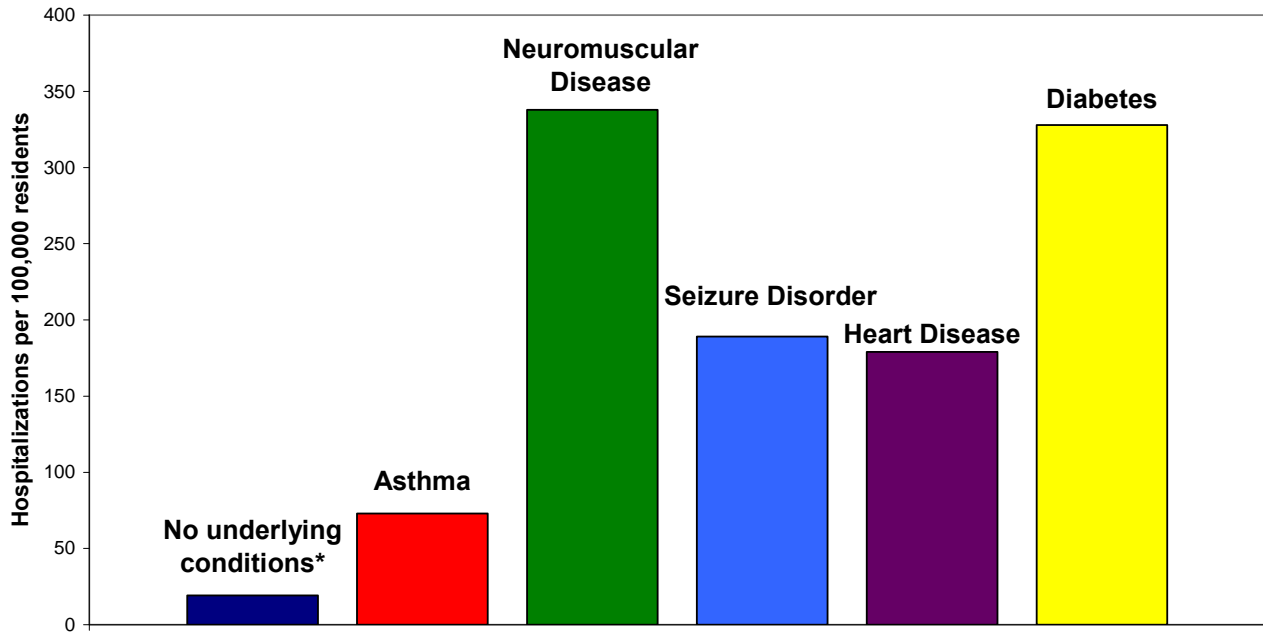
As a component of the Emerging Infections Program (EIP), extensive chart reviews are conducted for all influenza-associated hospitalizations in the Portland tri-county area (Clackamas, Multnomah and Washington counties). Preliminary chart reviews have been conducted for 99% of the cases hospitalized in the surveillance area since September 1st.

Characteristics of EIP area Hospitalized Cases

	Pediatric (ages 0 – 17) N=126 N (%)	Adult (age >17 years), N=365 N (%)
Treatment		
Received antivirals	100 (79)	323 (88)
Outcomes		
Pneumonia	36 (28)	176 (48)
Bronchiolitis	1 (1)	---
Acute encephalopathy	1 (1)	7 (2)
Admitted to ICU	18 (14)	93 (25)
ARDS	2 (2)	28 (8)
Mechanically Ventilated	8 (6)	55 (15)
ECMO	1 (1)	2 (1)
Died	2 (2)	10 (3)

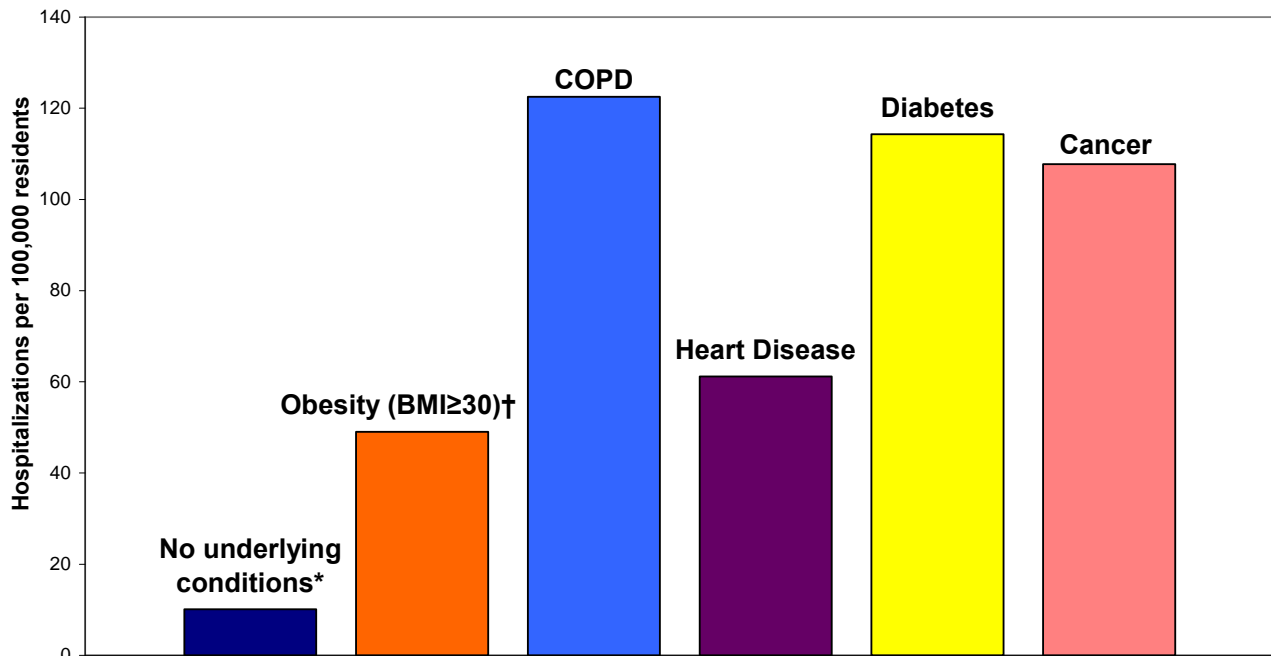
* EIP surveillance case definition for pediatrics and adults is 0-17 and >18 years of age, respectively

EIP Surveillance Area Pediatric Influenza Hospitalization Rates by Underlying Condition per 100,000 Oregon Residents



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

EIP Surveillance Area Adult Influenza Hospitalization Rates by Underlying Condition per 100,000 Oregon Residents



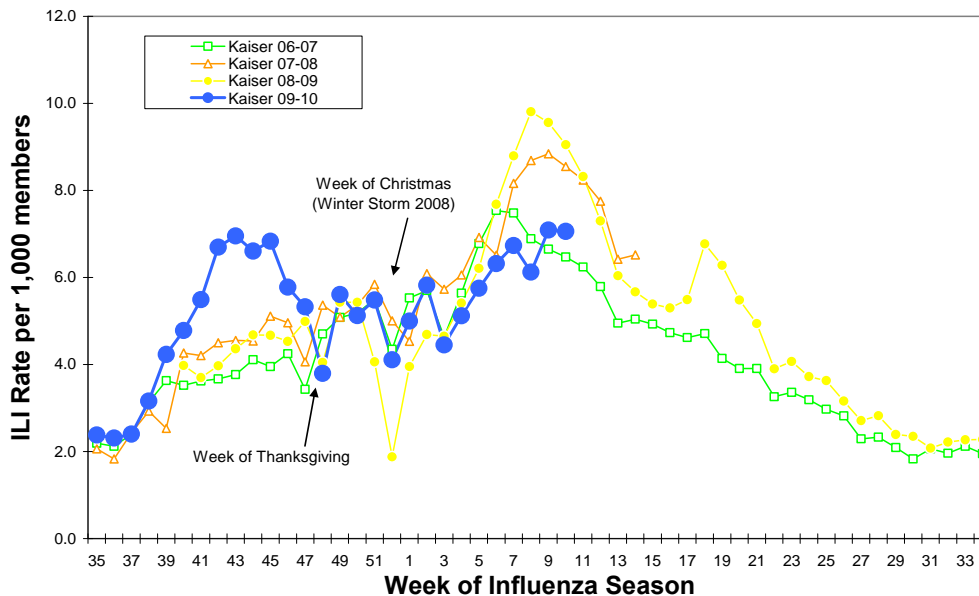
Diseases are not mutually exclusive
 Denominator: BRFSS 2007 (Obesity, Heart Disease, Diabetes); NHIS 2003 (COPD, Cancer)
 * No ACIP underlying conditions
 † Based on 77% of adult patients with available height and weight information, Obesity is not an ACIP underlying condition

Outpatient Influenza-like Illness (ILI)

Kaiser Syndromic Surveillance

Oregon Public Health Division receives discharge diagnoses data for Kaiser Permanente Northwest member outpatient visits. The number of ILI outpatient visits decreased slightly to 7.06 per 1,000 Kaiser members for the week ending March 6, 2010. The number of outpatient visits remains below those observed at the same point in the last two seasons and only slightly above the level observed in the 06-07 season.

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



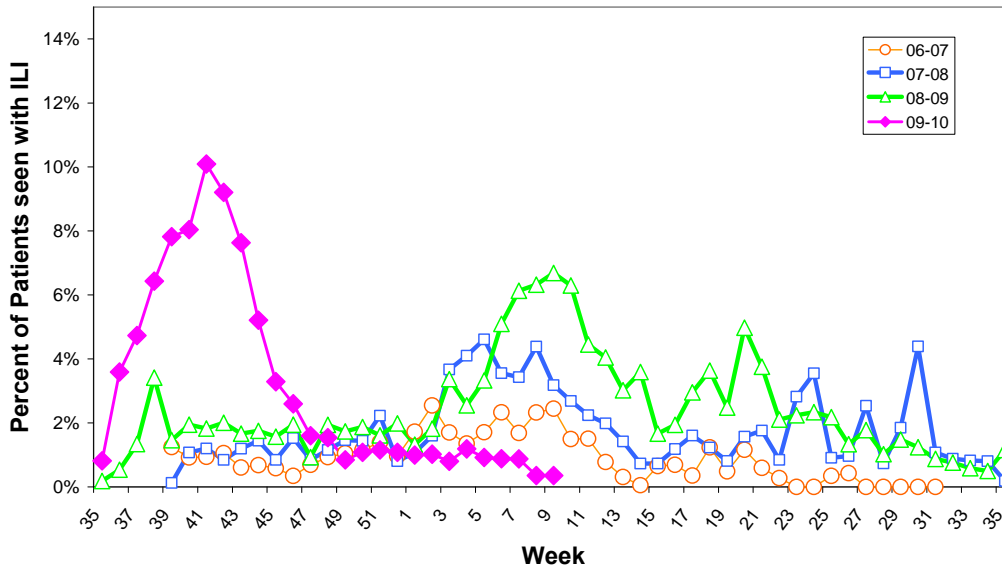
ILINet: Oregon's Outpatient Influenza-like Illness Surveillance Network

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.

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 ILI reported during non-influenza weeks (defined as percent positive for influenza at the Oregon State Public Health Laboratory $< 10\%$) is 1.29%. For the week ending March 6th, 2010 (and the second week in a row) 0.35% of outpatients 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 March 6th	1695	0.35	9
Week ending February 27th	3400	0.35	14
Week ending February 20th	1949	0.87	10

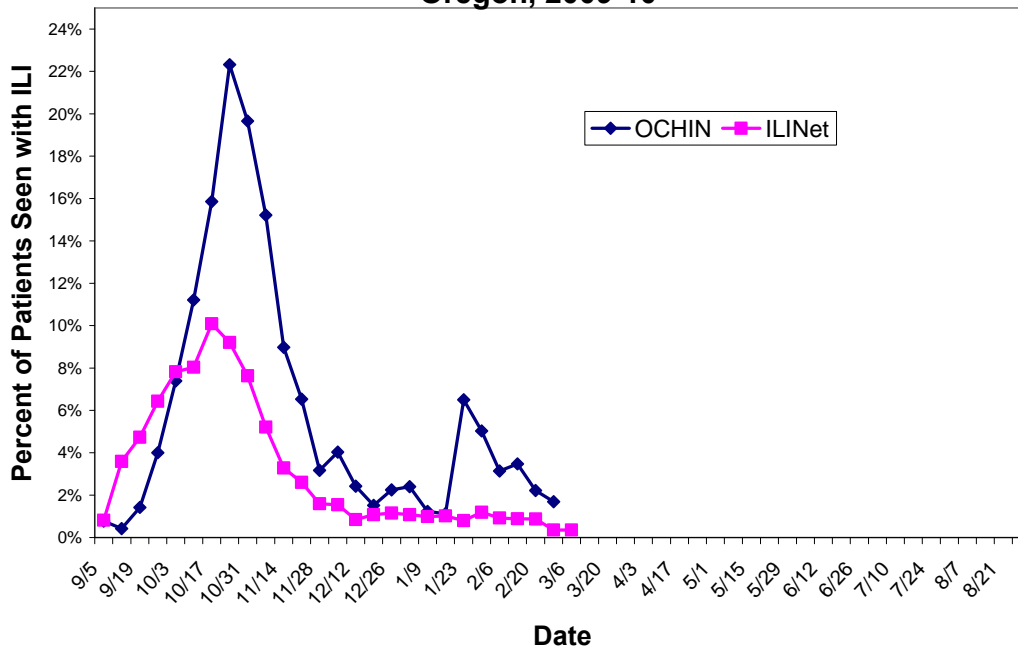
**Oregon Outpatient Influenza-Like Illness Surveillance Network (ILINet)
Percent of Outpatients with Influenza-like Illness (ILI)
2006-07, 2007-08, 2008-09, 2009-10**



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 February 27th was 1.69.

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



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. No seasonal influenza has been identified since October, 2009.

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

	Cumulative since September 1st, 2009				Current Week
	ILINet N (%)	Hospitalized* or Died N (%)	Outbreaks N(%)	Total N (%)	Total N(%)
Influenza A					
Pandemic H1N1	153 (53)	1,087 (62)	23 (61)	1,263 (60)	0
Seasonal A (H1)	1 (0)	1 (0)	0	2 (0)	0
Seasonal A (H3)	0	1 (0)	0	1 (0)	0
Influenza B	1 (0)	0	0	1 (0)	0
Parainfluenza type 1	2 (1)	1 (0)	0	3 (0)	0
Parainfluenza type 2	0	0	0	0	0
Adenovirus	2 (1)	0	0	2 (0)	1 (7)
Pending	1 (0)	0	0	0	11 (79)
Undetected	129 (45)	676 (38)	15 (39)	820 (39)	2 (14)
Total Tested	289	1,766	38	2,093	14

* Although we make our best effort to only include hospitalized patients in our laboratory surveillance, submissions for hospitalized cases include some ER visits.

These numbers are provisional. We are currently updating the numbers of hospitalizations and deaths on our web page once weekly at:

http://www.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:

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

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