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Maintaining

# Immunization Coverage

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Preparedness in Action

Jody Anderson, Health Educator, Oregon Immunization Program

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# Overview

- Immunization as part of the Center for Public Health Practice
- The Assessment, Feedback, Incentive and eXchange (AFIX) program
- Tribal Memorandums of Understanding for Preparedness
- Immunized, Protected, Prepared

# OREGON PUBLIC HEALTH DIVISION

Office of the State Public Health Director

Public Health Director

Lillian Shirley, BSN, MPH, MPA

**Science and Evaluation**  
State Health Officer and  
State Epidemiologist,  
Katrina Hedberg, MD, MPH

**Policy and Partnerships**  
Director,  
Cara Biddlecorn, MPH

**Program Operations**  
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Allyson Ford, MBA

**Fiscal and Business Operations**  
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Karen Slothower, MBA

**Lead Communication Officer**  
Jonathan Modie

**Legislative Coordinator**  
Holly Heiberg, MPP

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André Ourso, MPH, JD

**Drinking Water Services**  
Manager, David Emme

**Environmental Public Health Section**  
Manager, Gabriela Goldfarb, MPP

**Health Care Regulation and  
Quality Improvement Program**  
Manager, Dana Selover, MD

**Health Licensing Office**  
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**Nutrition and Health Screening  
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**Health Security,  
Preparedness & Response**  
Manager,  
Akiko Saito, MPA, MPH

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Last updated: November 7, 2017

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**Oregon**  
**Health**  
Authority

Last updated: November 7, 2017



# Center for Public Health Practice

## How do we achieve our goals?

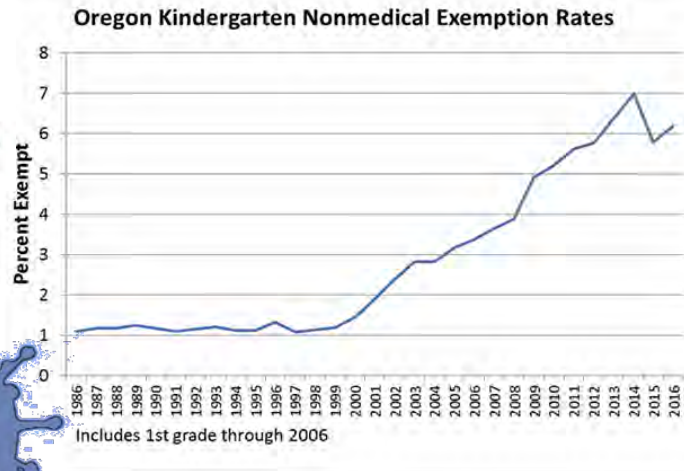
- We **focus** on health outcomes
- We **deliver** timely & accurate data
- We **learn** from experience & communities
- We **bring partners together** to plan, train and respond
- We **take care** of ourselves & our partners

# Oregon Immunization Program (OIP)



## ALERT

IMMUNIZATION INFORMATION SYSTEM



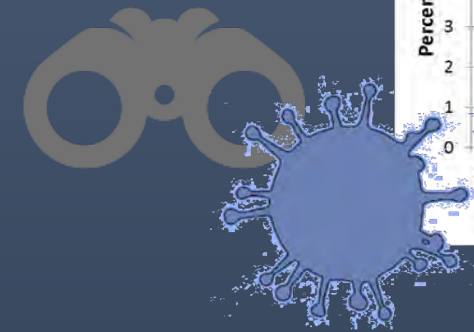
## Vaccines for Children

20 years of protecting America's children



20 Years of Success  
**VFC**  
Vaccines for Children Program

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention



# OIP working with ITU in Oregon

1. IHS, Tribal and Urban (ITU) Indian health clinics participate in the Oregon Vaccines for Children (VFC) program
2. ITU health clinics submit immunization information to the OR ALERT Immunization Information System (IIS)
3. Coordination with the Northwest Portland Area Indian Health Board and Portland Area Immunization team
4. ITU clinics participate in immunization quality improvement –AFIX
5. Tribal Memorandums of Understanding – Immunization Preparedness



A collaborative approach to improving a clinic's immunization program



# Goal

Increase vaccination of children and adolescents by **reducing missed opportunities** to vaccinate and **improving immunization delivery** practices at the provider level.





# Advisory Committee on Immunization Practices

## INFORMATION FOR PARENTS

## 2019 Recommended Immunizations for Children 7–18 Years Old

Talk to your child's doctor or nurse about the vaccines recommended for their age.

	Flu Influenza	Tdap Tetanus, diphtheria, pertussis	HPV Human papillomavirus	Meningococcal		Pneumococcal	Hepatitis B	Hepatitis A	Polio	MMR Measles, mumps, rubella	Chickenpox Varicella
				MenACWY	MenB						
7-8 Years	Green	Orange		Purple		Purple	Orange	Orange	Orange	Orange	Orange
9-10 Years	Green	Orange	Purple, Blue	Purple		Purple	Orange	Orange	Orange	Orange	Orange
11-12 Years	Green	Orange	Green, Orange	Green, Orange		Purple	Orange	Orange	Orange	Orange	Orange
13-15 Years	Green	Orange	Orange	Orange		Purple	Orange	Orange	Orange	Orange	Orange
16-18 Years	Green	Orange	Orange	Green, Orange	Orange	Purple	Orange	Orange	Orange	Orange	Orange

**More information:**

Everyone 6 months and older should get a flu vaccine every year.

All 11- through 12-year olds should get one shot of Tdap.

All 11- through 12-year olds should get a 2-shot series of HPV vaccine. A 3-shot series is needed for those with weakened immune systems.

All 11- through 12-year olds should get one shot of meningococcal conjugate (MenACWY). A booster shot is recommended at age 16.

Teens 16-18 years old **may** be vaccinated with a serogroup B meningococcal (MenB) vaccine.

**A**ssessment

**F**eedback

**I**ncentive

**EX**change

# Two-year-old Assessment

**4th DTaP** (diphtheria, tetanus, and pertussis)

no 15 month visit

vaccine hesitancy

missed opportunities





*Clinic*  
**STRATEGIES**





# Quality of Immunization Services

- Reminder/Recall
- Immunization only appointments
- Measuring immunization coverage
- Scheduling next visit
- Contacting “no shows”
- Adolescent wellness visits
- Immunization champion

# Decreasing Missed Opportunities

- Educating parents
- Offering resources
- Training staff on immunizations
- Training front desk staff
- Standing orders
- Giving multiple shots

# Improving IIS Functionality and Data Quality

3. STRATEGIES TO IMPROVE IIS FUNCTIONALITY AND DATA QUALITY			
QUESTIONS	CHILD	ADOL	Selected QI Strategy
1. Does your staff report all immunizations you administer at your practice to your state/ city IIS?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/>
2. Does your staff report immunizations previously administered to your patients by other providers to the IIS (e.g. official shot record, other IIS report, copy of medical record)?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/>
3. Do you inactivate patients in the IIS who are no longer seen by your practice?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/>
4. Do you use your IIS to determine which immunizations are due for each patient at every visit?	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/> YES <input type="checkbox"/> NO	<input type="checkbox"/>

# Indian Health Service, Tribal and Urban Health Clinics

**11 enrolled in Oregon VFC**

**8 participated in AFIX**

# Strategies Chosen

- 5 reminder/recall
- 4 adding informational materials
- 3 immunization champion
- 1 documenting refusals
- 1 training front desk
- 1 adding 15 month wellness
- 1 HPV same way/same day
- 1 scheduling adolescent wellness
- 1 contacting “no shows”
- 1 sharing coverage rates with staff

# Custom Strategies

- Increasing visibility of info display
- Strengthening communication between clinic areas
- Asking providers and nurses to take more responsibility on decreasing missed opportunities
- Training staff on vaccine schedule
- Using text reminders
- Developing relationship with WIC program



A large, textured rock formation, possibly a cave or a natural rock wall, with many small holes and a rough surface. The rock is light brown and tan. The background shows green foliage and a blue sky. The text "A few stumbling blocks" is overlaid in white at the bottom.

**A few stumbling blocks**



Two-Year-Olds<sup>1</sup>  
30

Assessment Date<sup>2</sup>  
10/15/2018

Up to date rate<sup>1</sup>  
**43%**

4:3:1:3:3:1:4 series<sup>3</sup>

Immunization Rates at 24 Months and Healthy People 2020 Goals



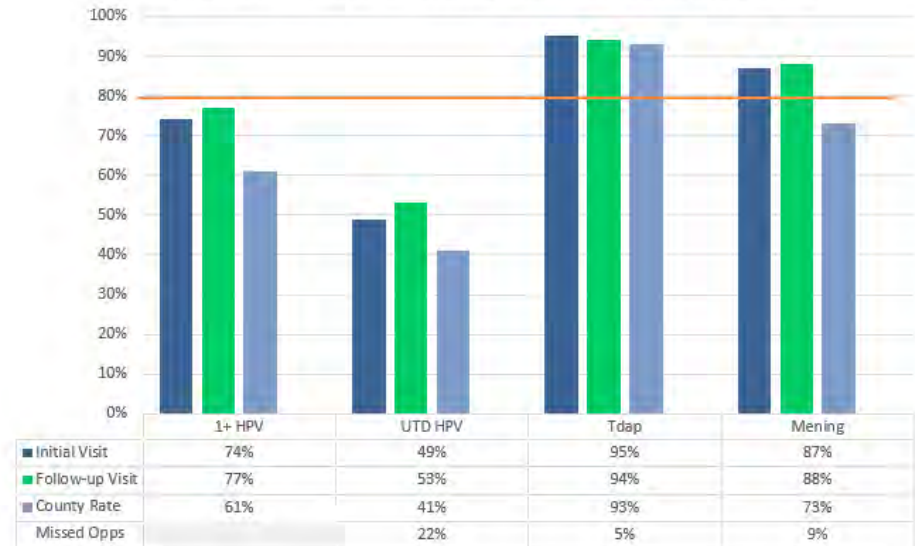
Missed Opportunities<sup>5</sup>: 27%

<sup>1</sup> Active patients in ALERT IIS that were 24-35 months old as of the assessment date.  
<sup>2</sup> Vaccination status is as of this date. Immunizations administered after this date are not included in this assessment.  
<sup>3</sup> 4+ DTaP, 3+ Polio, 1+ MMR, 3+ Hib, 3+ HepB, 1+ Varicella, 1+ PCV  
<sup>4</sup> County rates are based on all residents according to their most recent address in ALERT IIS  
<sup>5</sup> Not all recommended vaccines were administered at a patient's most recent immunization visit

13-17 Year-Olds  
243

Assessment Date  
10/15/2018

Immunization Rates at 13-17 Years and Healthy People 2020 Goals



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# Tribal Memorandums of Understanding (MOUs)

## What if.....

Several people in your community have developed a severe respiratory illness. They have tested negative for influenza and other common viruses. Medical staff at your clinic would like to order additional tests to determine the cause, but they aren't available through your usual contracting laboratory.

## What if.....

There is an outbreak of vomiting and diarrhea at the tribal casino. Many visitors to the casino are ill, and it is getting lots of coverage in the news. You want to bring in state public health and NW Tribal Epi Center staff to assist tribal staff with contact investigation.



## What if.....

Manufacturing problems result in shortages of a routine vaccine. The amount available to you won't cover all high-risk persons in your clinic population.

# Each scenario shares the following:

Time Sensitive

Direct public health impact on tribal community

May exceed routine capabilities

Unpredictable

Could be addressed:

- Using established partner relationships

- Drawing on past experience

- Creating a new process when needed

# Public Health Emergency Preparedness

The capability of the public health and health care systems, communities, and individuals, to prevent, protect against, quickly respond to, and recover from health emergencies, particularly those whose **scale, timing, or unpredictability threatens to overwhelm routine capabilities**. Preparedness involves a **coordinated and continuous** process of planning and implementation that relies on measuring performance and taking corrective action.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1854988/>

# Memorandums of Understanding

A memorandum of understanding (MOU) is a legal document describing a bilateral agreement between parties. It expresses a convergence of will between the parties, indicating an intended common line of action, rather than a legal commitment.

For Tribes, OHA, IHS and NPAIHB it defines roles and responsibilities ahead of the emerging event in the following areas:

# Public Health Laboratory Services



Laboratory Compliance  
Laboratory Response Network

Communicable Disease Testing

General Microbiology  
Virology / Immunology

Newborn Screening





# Acute & Communicable Disease Prevention

Emerging infections

Healthcare-associated infections

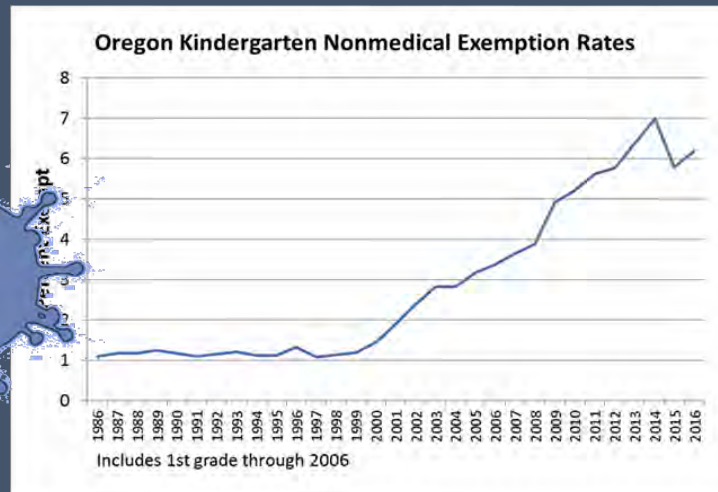
Outbreak investigations

Syndromic surveillance

CD surveillance



# Immunization & Medical Countermeasures



**Vaccines for Children**  
20 years of protecting America's children

20 Years of Success  
**VFC**  
Vaccine for Children Program

U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

# OIP Preparedness Standard Operating Procedures (SOP's)

Vaccine Education & Prioritization Plan Guidance – SOP E-12-1

Vaccine Shortage – SOP E-12-2

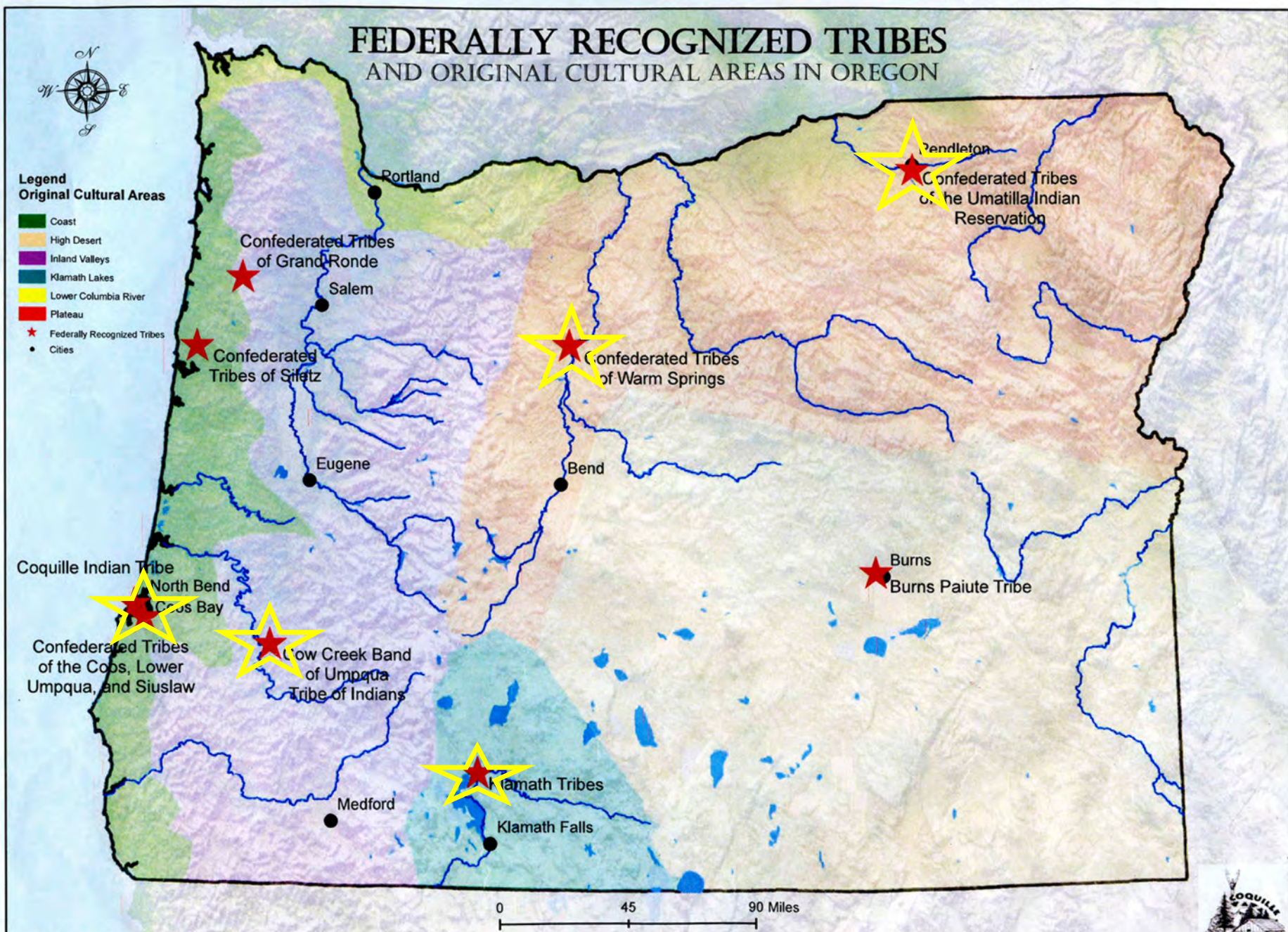
Allocation & Population Enumeration Methodology – SOP E-12-2

OR ALERT IIS response reporting – SOP E-12-12

OHA-PHD Immune Globulin Distribution Tool



# FEDERALLY RECOGNIZED TRIBES AND ORIGINAL CULTURAL AREAS IN OREGON



Source: NASA; USGS; US Census Bureau; EPA; Oregon Department of Education; Oregon Indians: Culture, History & Current Affairs, pgs. 9 and 16.  
Map created by the Coquille Indian Tribe GIS Program February 2006.



# Signed MOU's

- OSPHL and IHS Portland Area – May 2019
- The Klamath Tribes, Klamath Tribal Health & Family Services  
- March, 2019
- Yellowhawk Tribal Health Center – February 2019

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**Why is this important?**



# 10 Great Public Health Achievements in the 20th Century



1. Vaccinations
2. Motor vehicle safety
3. Safer workplaces
4. Control of infectious diseases
5. Decline in deaths from coronary heart disease and stroke
6. Safer and healthier foods
7. Healthier mothers and babies
8. Family planning
9. Fluoridation of drinking water
10. Recognition of tobacco use as a health hazard

# Vaccines prevent a lot of disease.

Disease	20 <sup>th</sup> Century Annual Morbidity*	Reported Cases, 2016†	Percent Decrease
Smallpox	29,005	0	100%
Diphtheria	21,053	0	100%
Measles	530,217	69	>99%
Mumps	162,344	5,311	99%
Pertussis	200,752	15,737	91%
Paralytic polio	16,316	0	100%
Rubella	47,745	5	>99%
Tetanus	580	33	96%
<i>Haemophilus influenzae</i> b <5 y.o.	20,000	22	>99%

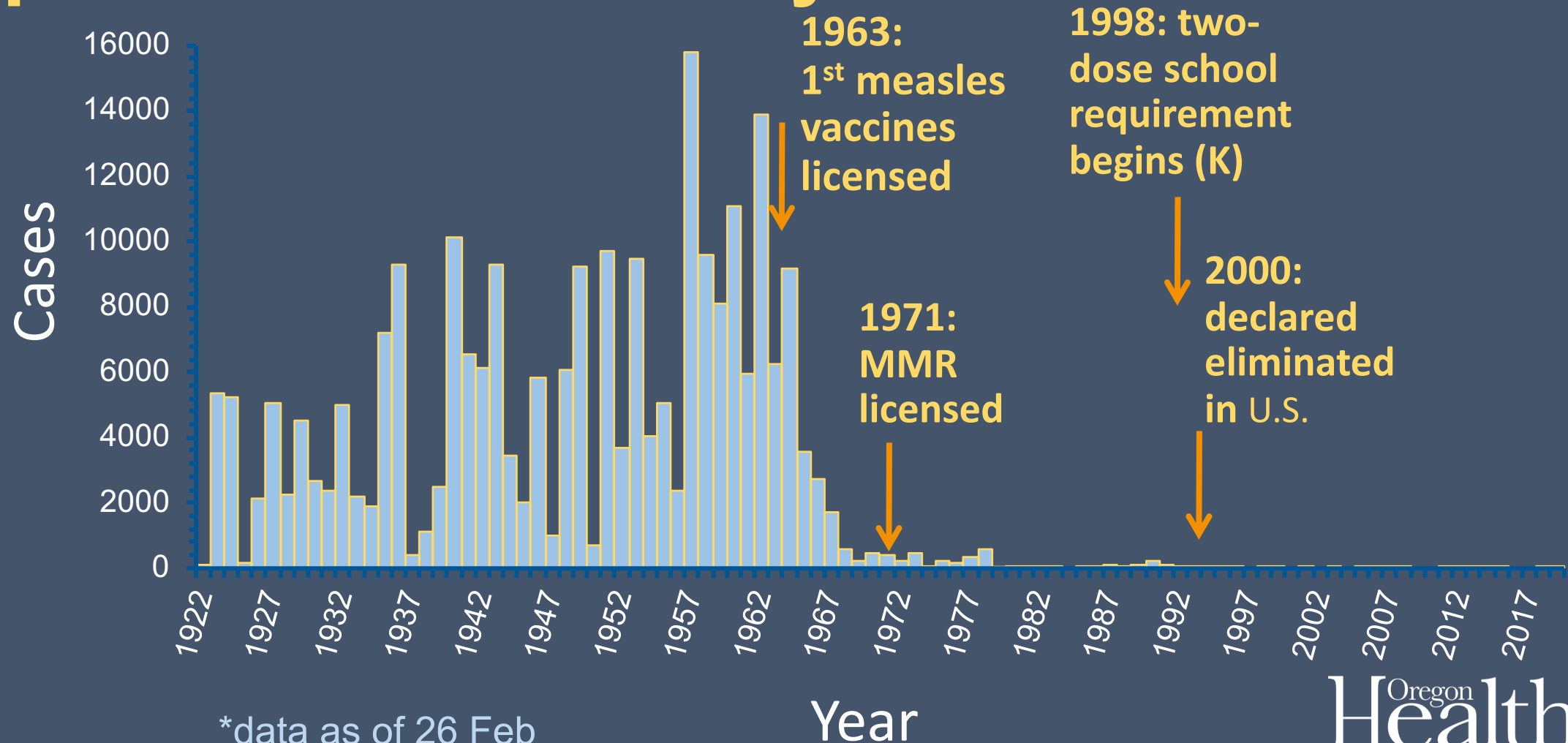
\*JAMA 2007; 298:2155–63. †MMWR 2017;64:ND924–41.

# Virtually everyone got measles before a vaccine was developed.

- Nearly universal disease of childhood: 3–4 million cases
- ~500,000 reports to CDC
- 48,000 hospitalizations
- 4,000 cases encephalitis
- 450–500 deaths



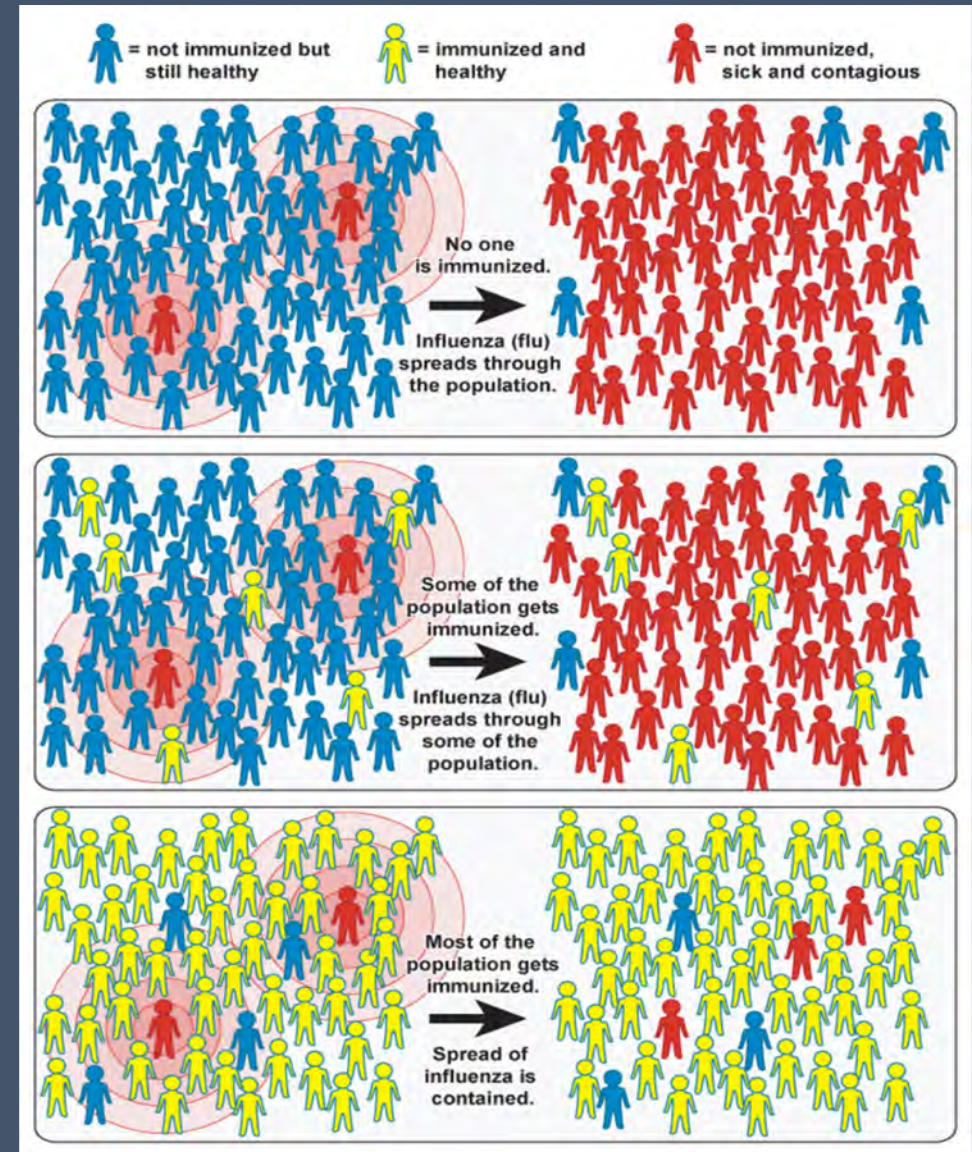
# Control of measles has been a public health victory.



\*data as of 26 Feb 2019

# Community immunity (a.k.a. “herd immunity”)

The resistance to the spread of a contagious disease within a population that results if a sufficiently high proportion of individuals are immune to the disease, especially through vaccination.





# (Reportable) Vaccine-preventable diseases Oregon, 2012–2018\*

	2013	2014	2015	2016	2017	2018
Diphtheria	0	0	0	0	0	0
Hepatitis A	28	14	26	15	20	23
Hep B, acute	34	34	28	21	24	20
Hep B, chronic	455	537	515	481	489	388
Measles	6	5	1	0	0	6
Mumps	3	1	3	27	67	17
Pertussis	486	406	593	192	248	495
Rubella	0	0	0	0	0	0
Tetanus	1	0	1	0	2	1

\*data as of 31 Jan 2019

# Immunization of 2-year-olds

## Oregon, 2014–2017

Vaccination series	Percent up to date			
	2014	2015	2016	2017
4:3:1:3:3:1:4*	60%	64%	66%	68%
4:3:1:3:3:1†	66%	68%	70%	72%

\*Fully immunized with 4 doses of DTaP, 3 doses IPV, 1 dose MMR, 3 doses Hib, 3 doses HepB, 1 dose Varicella, and 4 doses PCV. This is the official childhood vaccination series.

†The same series, minus PCV doses.

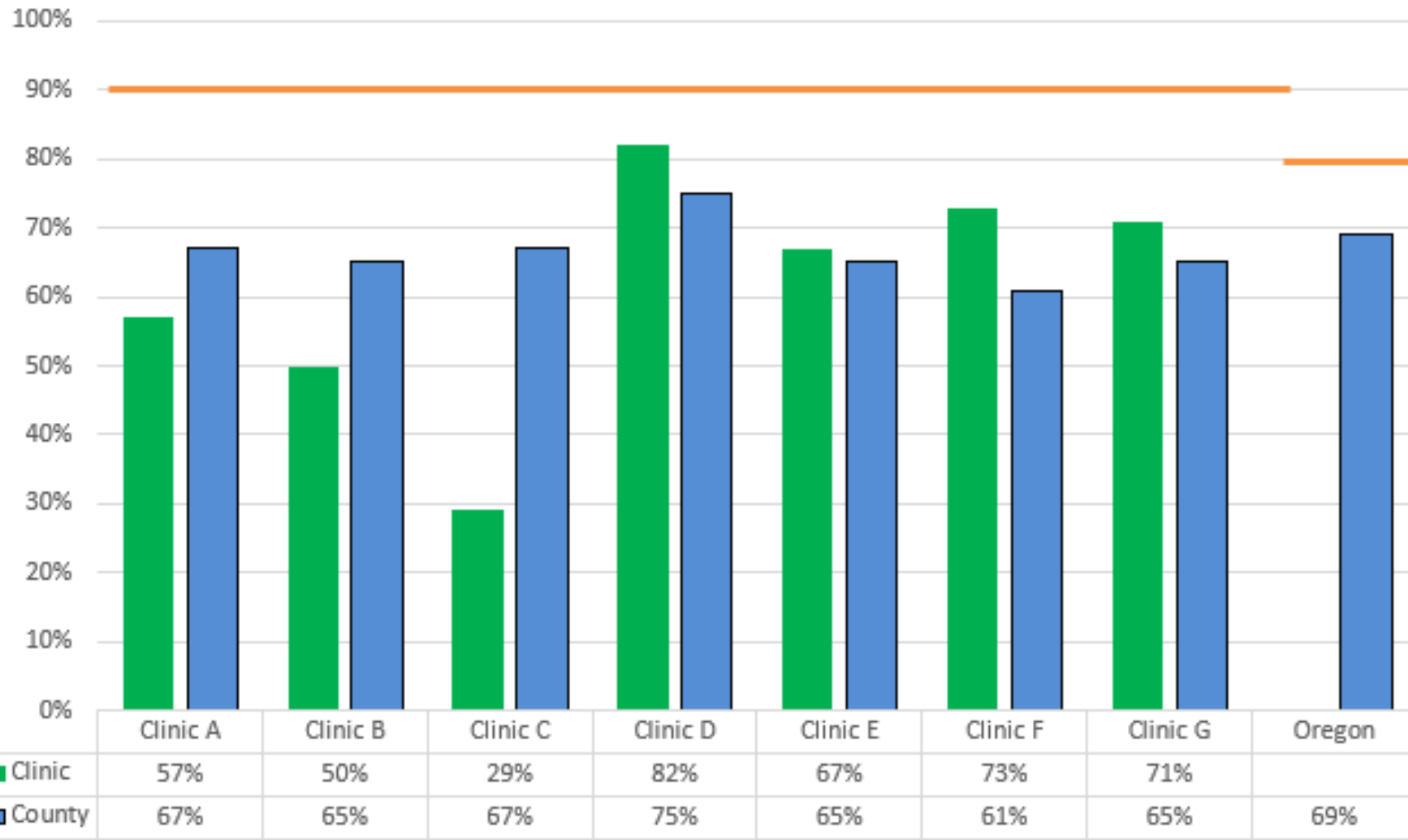
Source: ALERT Immunization Information System

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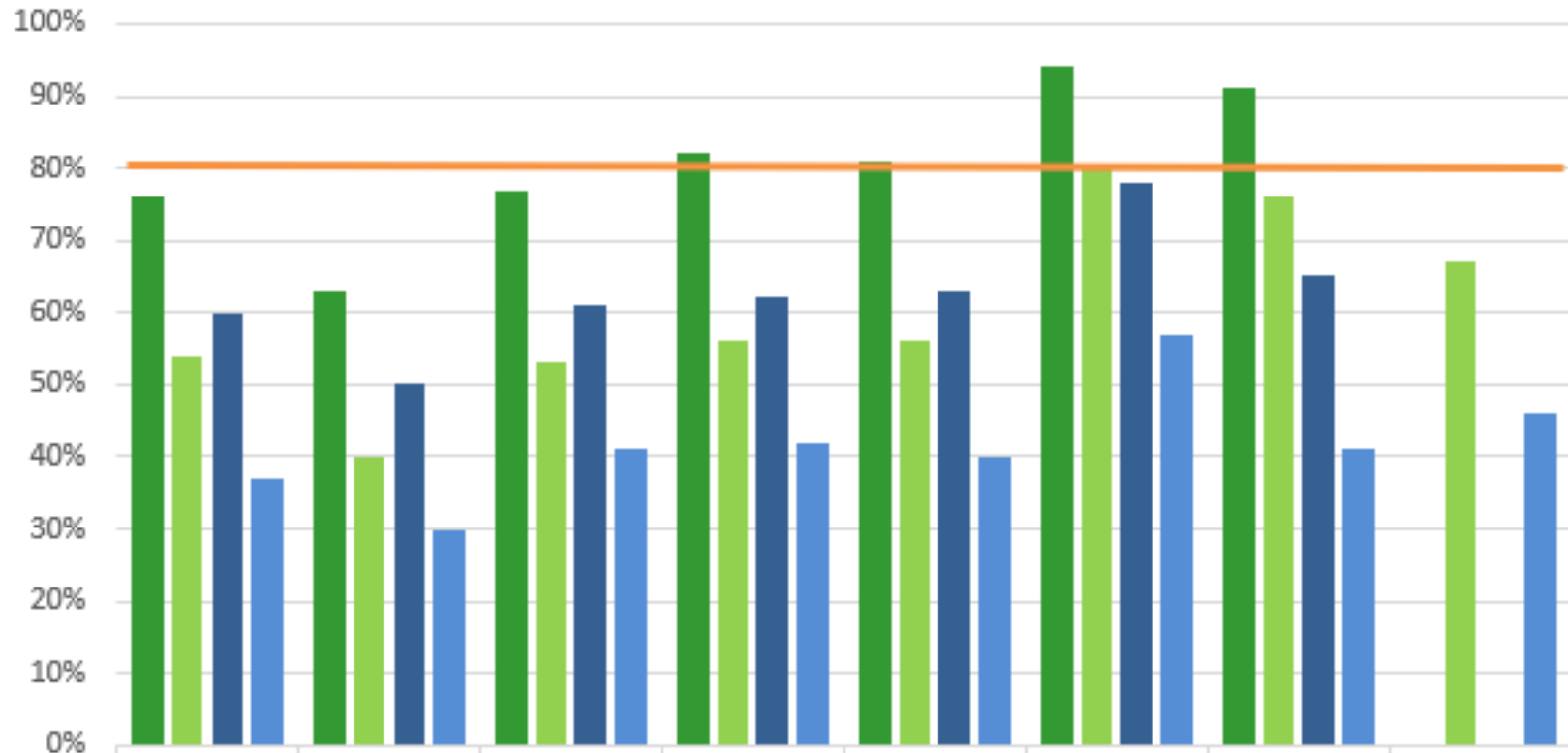
## Immunization Rates at 24 Months and Healthy People 2020 Goals



# 2 year-olds, ITU Clinics, June 2019

Based on 4,3,1,3,3,1,4 CDC Benchmark

## HPV Rates for 13 to 17 year-olds and Healthy People 2020 Goals



	Clinic A	Clinic B	Clinic C	Clinic D	Clinic E	Clinic F	Clinic G	Oregon
■ HPV 1	76%	63%	77%	82%	81%	94%	91%	
■ County HPV 1	54%	40%	53%	56%	56%	80%	76%	67%
■ HPV UTD2	60%	50%	61%	62%	63%	78%	65%	
■ County HPV UTD	37%	30%	41%	42%	40%	57%	41%	46%

**13-17 year olds, HPV rates for ITU clinics, June 2019**



# Combining our best efforts works!

- AFIX visits happening since 2017  
Outcomes: rate awareness, new strategies, clinic follow-up on quality improvement
- MOU process combined with AFIX  
Successes:
  1. utilized existing OIP/clinic relationships
  2. opportunity for face to face meetings
  3. showcased immunization practice at clinic
  4. reinforced immunizations as a public health success for communities
  5. increased follow through of strategies and support for them at administrative level

## Next steps

- Two clinics scheduled for AFIX follow up
- MOU Visits continue
- ITU eXchange meeting in late 2018
- Quality improvement measure at 13 years
- What about adults?

# PREPAREDNESS EXERCISES



- NARA conference
- Employee UTD
- Swag night
- University/College
- Parent/Teacher night
- Exclusion day
- Drive through flu
- University/College
- Parent/Teacher night

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# Thank you!

Contact:

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971-673-0562

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# Acknowledgements

- Tom Weiser, NPAIHB
- Richard Leman, OHA ACDP
- Sarah Humphrey, OHA OSPHL

# “Herd immunity” depends upon how contagious the disease is.

Infection	$R_0$	Crude Herd Immunity Threshold
Diphtheria	6–7	83%–85%
Influenza	1.4–4	30%–75%
Measles	12–18	92%–94%
Mumps	4–7	75%–86%
Pertussis	5–17	80%–94%
Polio	2–20	50%–95%
Rubella	6–7	83%–85%
Smallpox	5–7	80%–85%
Varicella	8–10?	?

Fine PEM, Mulholland K, Scott JA, Edmunds WJ. Community Protection.

In: *Vaccines*, 7<sup>th</sup> edition. Plotkin S, Orenstein W, Offit P, Edwards KM. Elsevier Inc, 2018:1515