

Making Immunization Data Available for Use at the Local Level

Empowering Local Health Through a Public/Private/University Partnership to Map Data from the Washington State Immunization Information System (IIS).

**Presented at the 11th National Conference on Immunization and Health Coalitions
May 22nd, 2014 by: Chris Halsell, Todd Faubion and Isaiah Berg**



Agenda

Part 1

Q: How can local health departments gain access to timely, accurate, useable – and *local level* immunization data?

A: Map local level immunization rates using data from the WA State Immunization Information System (WAIIS)

Part 2

Q: How do we do this with limited resources?

A: Public - Private (non-profit) - University Partnership

Current Immunization Data Is Limited

The National Immunization Survey (NIS): State-Level

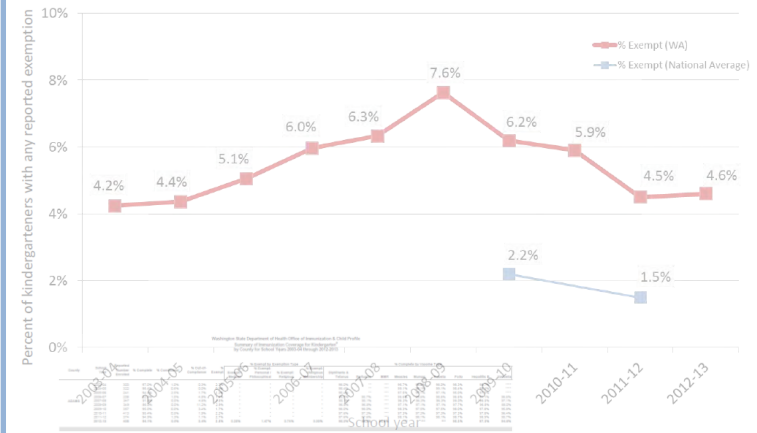
Morbidity and Mortality Weekly Report

TABLE 3. (Continued) Estimated vaccination coverage among children aged 19–35 months, by selected individual vaccines and vaccination series* and state/local area — National Immunization Survey, United States, 2012†

State/Area	MMR (≥1 doses)		DTaP (≥4 doses)		HepB (birth)‡		HepA (≥2 doses)§		Rotavirus**		Combined series*	
	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)	%	(95% CI)
North Carolina	89.0	(±4.9)	85.9	(±5.4)	78.2	(±5.9)	48.3	(±7.3)	66.0	(±7.1)	73.4	(±6.3)
North Dakota	95.6	(±5.4)	85.1	(±6.3)	82.3	(±5.8)	59.8	(±7.5)	75.4	(±7.1)	72.3	(±7.3)
Ohio	90.3	(±4.9)	83.3	(±6.0)	77.8	(±6.2)	53.8	(±7.0)	67.4	(±7.3)	66.5	(±6.9)
Oklahoma	90.0	(±4.8)	79.1	(±6.0)	67.4	(±7.4)	56.1	(±7.4)	56.4	(±7.7)	61.0	(±7.6)
Oregon	87.3	(±4.7)	81.2	(±5.8)	65.4	(±6.8)	57.6	(±7.0)	66.1	(±6.7)	66.7	(±6.7)
Pennsylvania	87.0	(±4.6)¶	80.1	(±5.3)	83.2	(±4.3)¶	58.5	(±6.1)	72.5	(±5.5)	68.3	(±5.9)
Philadelphia County	92.6	(±4.3)	85.4	(±5.7)	78.1	(±6.0)	58.1	(±7.6)	68.0	(±7.2)	73.8	(±7.1)
Rhode Island	85.9	(±5.5)¶	79.1	(±6.2)	84.2	(±5.1)¶	58.6	(±7.1)	73.4	(±6.4)	67.2	(±6.9)
South Carolina	94.3	(±3.1)	88.0	(±4.9)	68.3	(±6.7)	57.3	(±6.9)	79.8	(±5.4)	72.5	(±6.5)
South Dakota	93.2	(±5.3)	80.9	(±6.0)	76.4	(±5.8)¶	48.5	(±7.5)	70.6	(±6.7)¶	71.6	(±6.7)
Tennessee	93.3	(±3.0)	79.2	(±5.5)	76.6	(±5.8)	45.3	(±6.8)¶	59.5	(±7.0)	63.6	(±6.4)
Texas	92.2	(±4.0)	82.0	(±4.0)	68.8	(±7.0)	55.4	(±7.7)	64.3	(±7.6)	73.1	(±6.8)
Texas County	89.7	(±2.4)¶	77.4	(±3.6)¶	74.6	(±5.7)	57.4	(±7.0)	65.5	(±5.9)	64.6	(±4.0)¶
Utah	90.9	(±4.0)	77.5	(±6.4)	76.4	(±6.4)¶	62.6	(±7.6)	67.5	(±7.4)	65.7	(±7.3)
Vermont	92.2	(±4.7)	83.4	(±6.8)	84.3	(±5.8)	64.4	(±8.4)	79.7	(±7.0)¶	70.9	(±7.9)
City of Houston	96.5	(±1.6)	78.8	(±6.0)	72.3	(±7.0)¶	56.8	(±8.0)	72.0	(±7.3)	69.6	(±7.5)
Dallas County	87.1	(±4.7)	76.5	(±6.1)	77.9	(±5.6)	57.4	(±6.7)	68.4	(±6.7)	62.3	(±6.7)
El Paso County	89.7	(±3.3)¶	76.2	(±5.0)	72.8	(±5.2)	55.7	(±5.6)	64.5	(±5.4)¶	62.9	(±5.6)¶
Rest of state	89.7	(±5.5)	80.5	(±6.6)	78.6	(±6.3)	57.1	(±7.7)	74.5	(±6.8)	73.0	(±7.2)
Washington	91.7	(±3.8)	86.0	(±5.0)	86.0	(±4.7)¶	57.4	(±6.4)	64.2	(±6.6)	63.2	(±6.7)
West Virginia	94.3	(±3.9)	82.7	(±6.0)	71.4	(±7.4)	50.0	(±8.3)	71.9	(±7.9)	69.8	(±7.7)
Wisconsin	94.8	(±3.8)	84.0	(±5.5)	73.2	(±6.5)	51.0	(±7.4)	68.6	(±7.0)	65.2	(±7.2)
Wyoming	84.6	(±6.0)	79.1	(±6.8)	74.4	(±6.6)¶	54.9	(±7.9)	62.6	(±7.8)	60.8	(±7.9)
U.S. Virgin Islands	89.3	(±5.8)	82.2	(±6.3)	82.2	(±4.3)	52.1	(±7.4)	75.2	(±6.5)	73.4	(±7.2)
U.S. Virgin Islands	91.2	(±3.9)	79.4	(±6.0)	64.8	(±7.1)	32.3	(±6.8)¶	69.1	(±6.7)¶	67.2	(±6.8)
U.S. Virgin Islands	63.7	(±7.4)¶	55.6	(±7.7)	72.8	(±7.0)	12.0	(±4.7)	15.6	(±5.7)	41.5	(±7.8)

School Immunization Status Reports: School-Level

Kindergarten Annual Average Exemption Rate
School Years 2003-04 to 2012-13



Provider Improvement (AFIX/CoCASA): Individual Provider - Level

CoCASA Report Title: **SUMMARY REPORT** Date Generated: 06/25/2013

REPORT CRITERIA Assessment date: 6/25/2013

Provider site name: SRC - Mount Vernon Peds (185001)

Age range: From 24 to 35 months as of 6/20/2013

Selected series/antigens: 4:3:1:3:3:1:4 (4DTaP, 3Polio, 1MMR, 3Hib, 3HepB, 1Var, 4PCV)

Compliance: ☒ By age: 24 months ☐ By date: ☐

Additional criteria: ☒ Apply ACIP Recommendations (valid doses only) ☒ Apply four-day grace period ☐ Limited by

Missed opportunities are defined as: On any previous visits, including non-immunization visits

IMMUNIZATION STATUS (based on user-selected criteria) Note: For a report listing specific patients, choose Lists under the Standard Reports tab.

305 # of patient records selected

0 # of patients moved or gone elsewhere (MOGE)

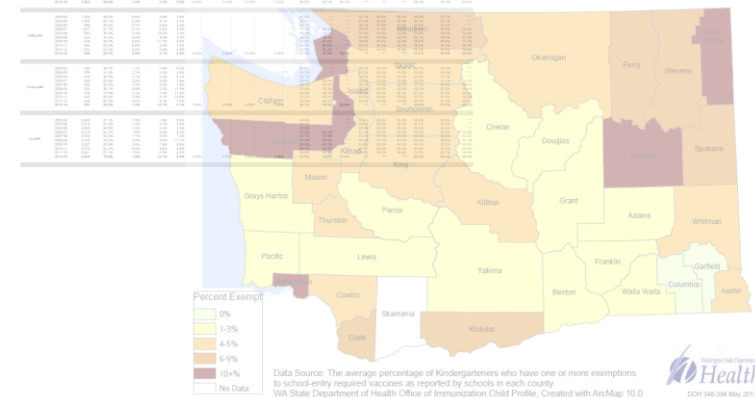
305 Total # of Patient Records Assessed

Immunizations Complete

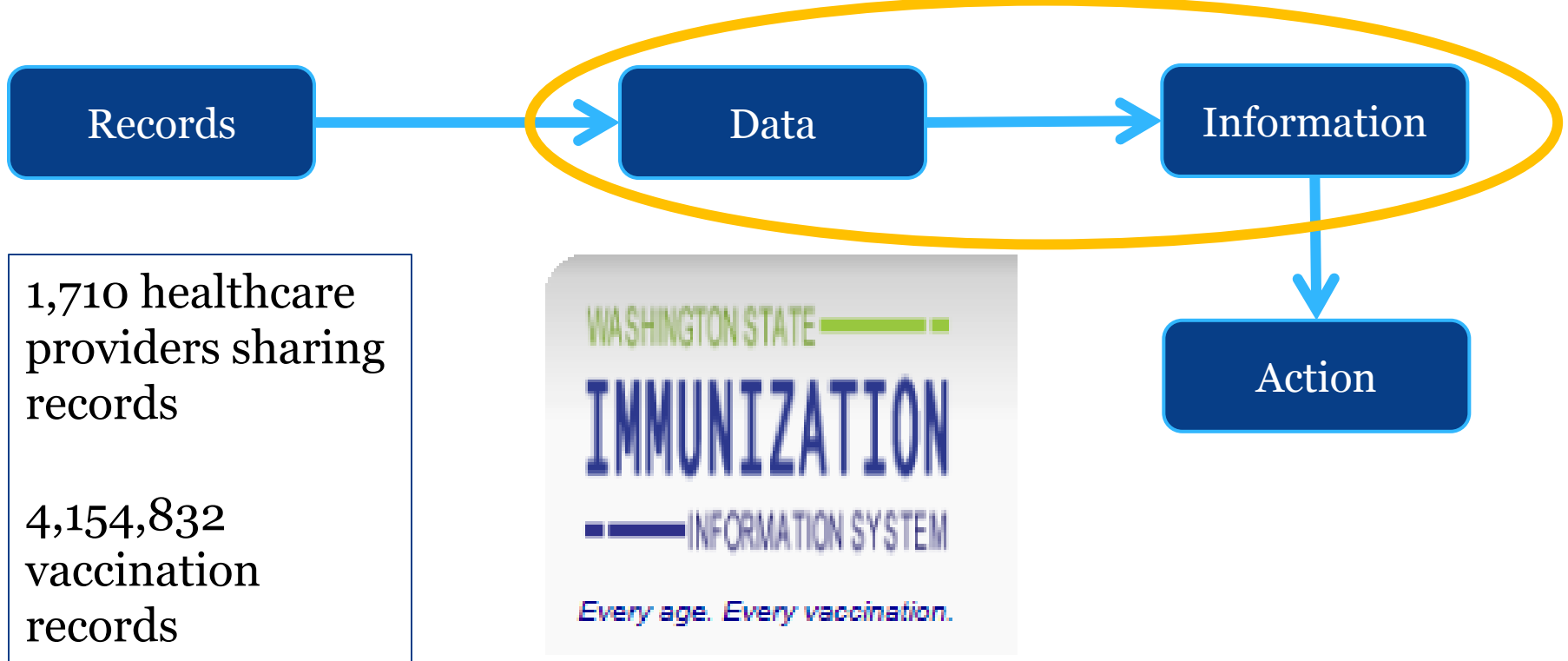
Immunization Status	# of patients	% of patients
Received immunizations by assessment date: 06/25/2013	34	11%
Late up-to-date - received immunizations but NOT by: 24 months of age	4	1%
Up-to-date and complete by: 24 months of age	30	10%

The Washington exemption rate is the average of the individual schools that reported the number of students who have at least one exemption to school-entry requirement for their age and grade as of 12/31/2012. WA State Department of Health, Office of Immunization and Child Profile.

For persons with disabilities, this document is available at: **WA State Kindergarten Immunization Exemption Rates by County School Year 2012-2013**



WAIS: Underutilized Local-Level Data

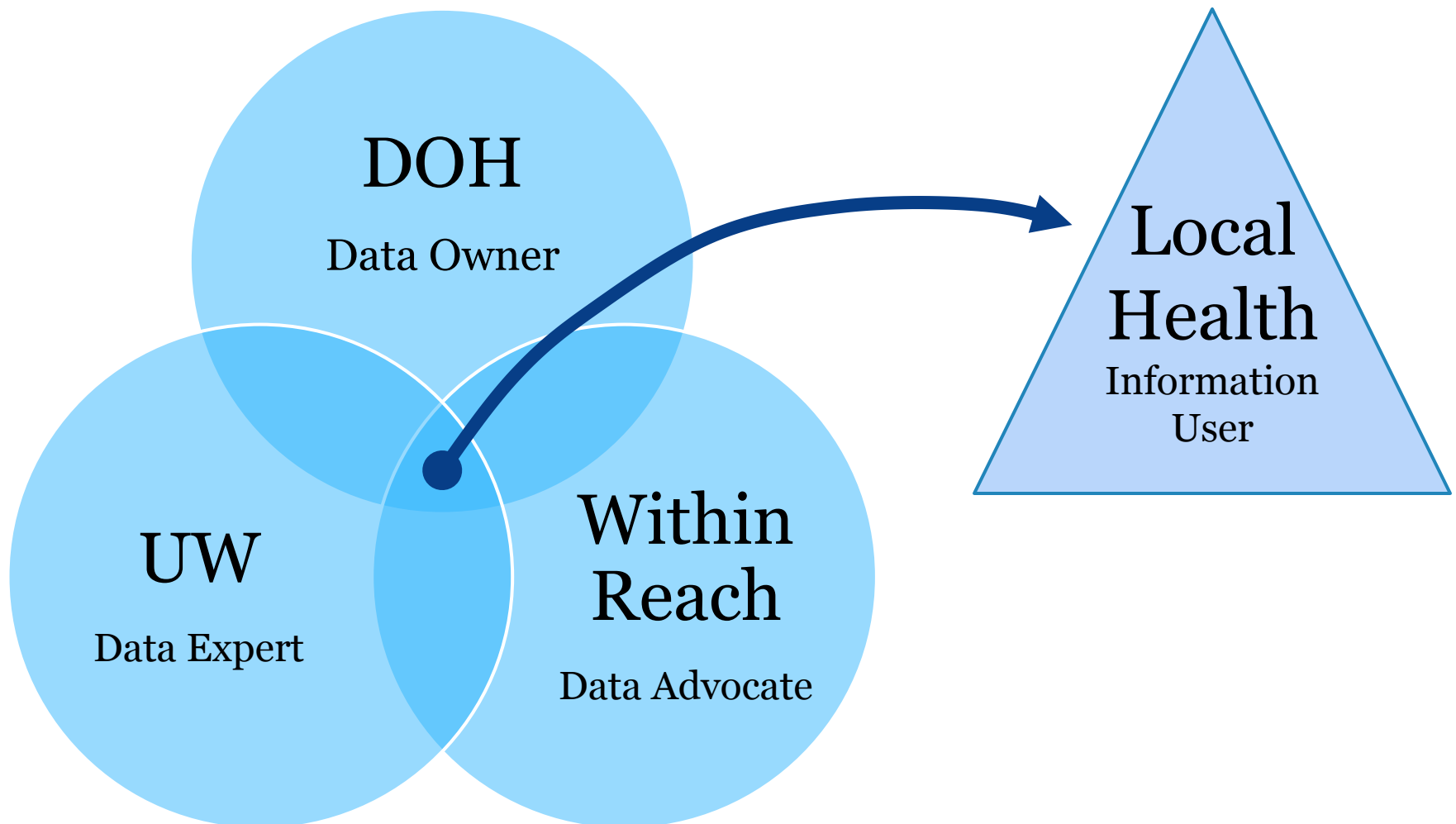


From Idea to Practice

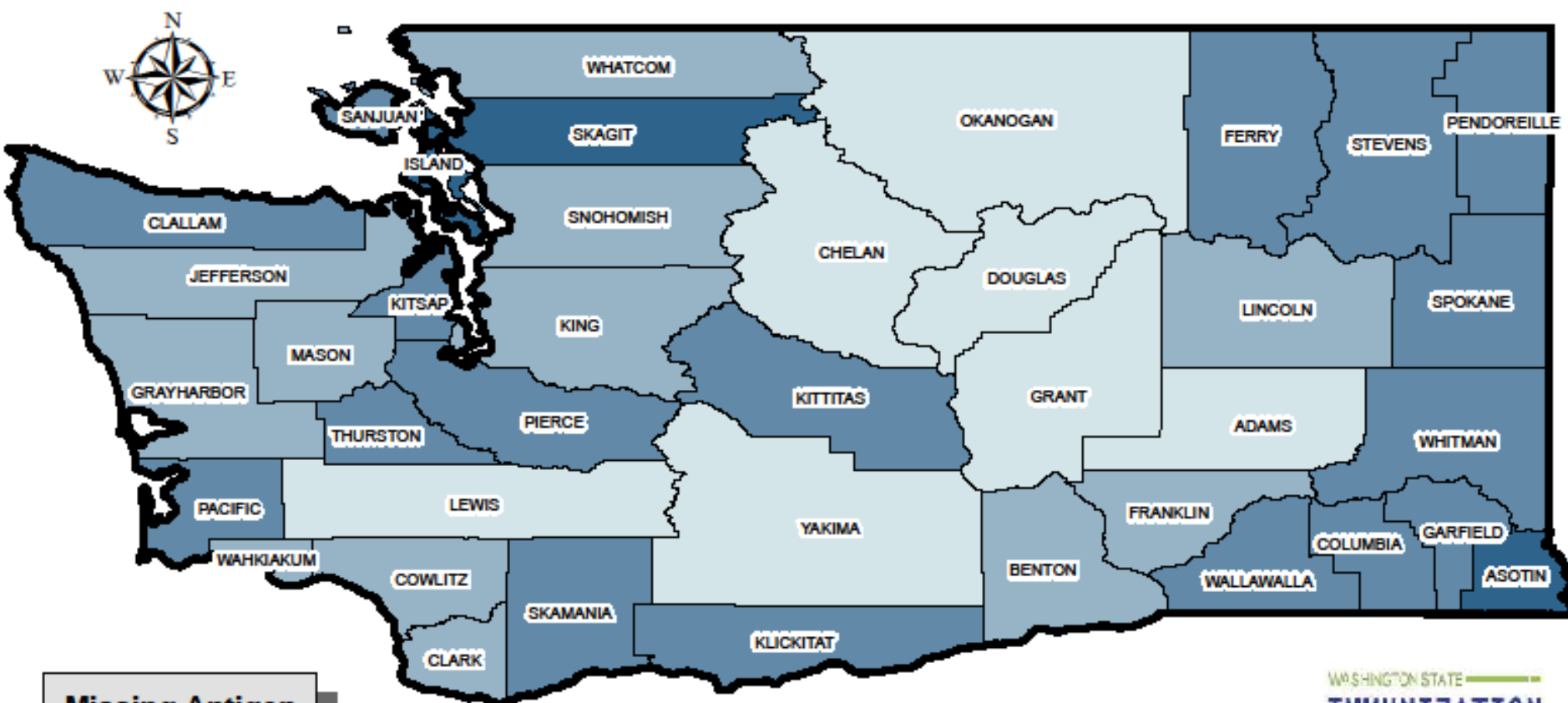
WASHINGTON STATE
IMMUNIZATION
— INFORMATION SYSTEM



Collaborating to Make IIS Data Available for Local Use

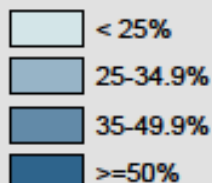


Washington State Children With Missing Antigens for: DTaP/DT



Statewide Missing Antigen rate for DTaP/DT is 32%

Missing Antigen For DTaP/DT



For Children 19-35 Months as of 10/21/2012. Missing Antigen for DTaP/DT,

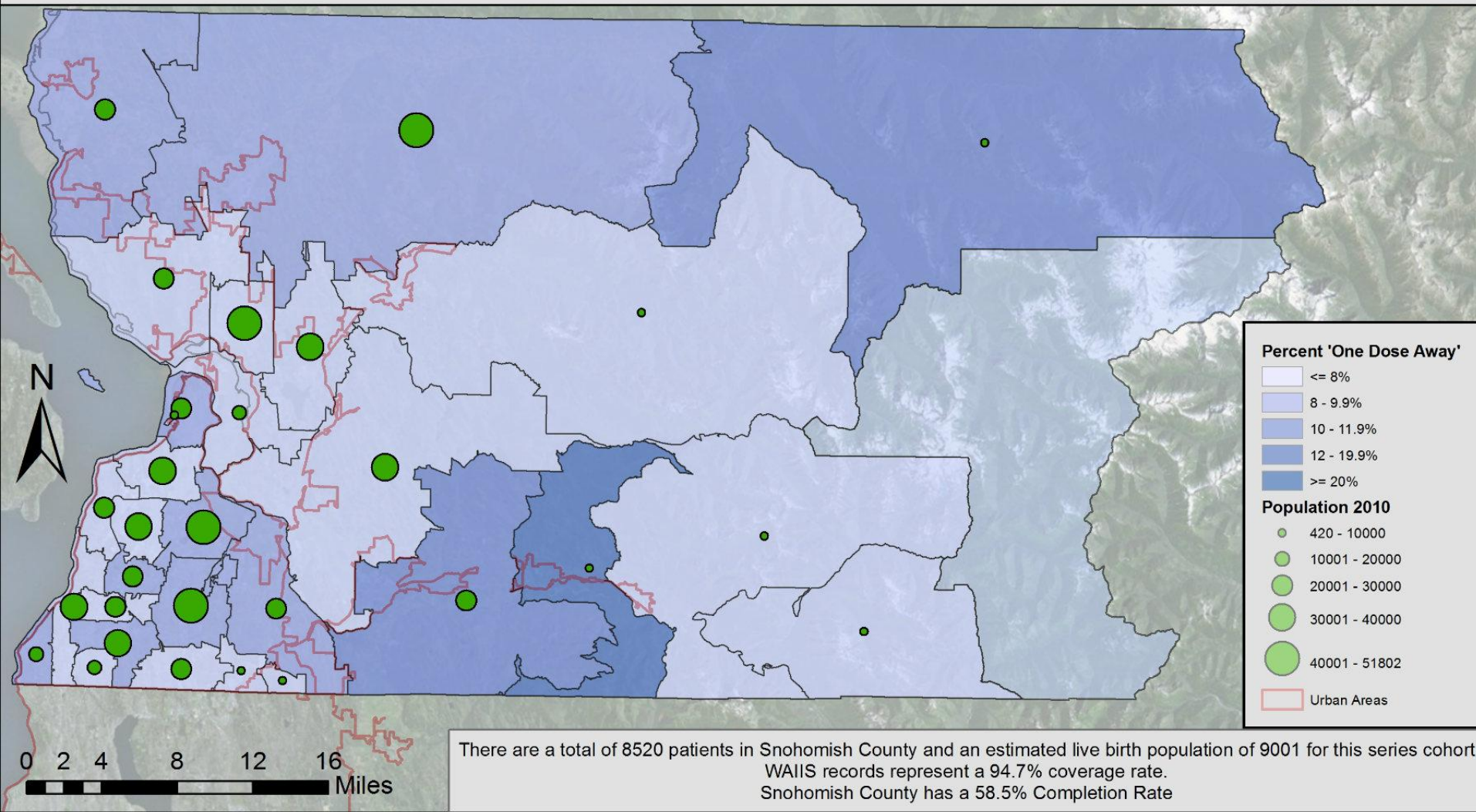
Data Source: Washington State Department of Health Immunization Information System database (IIS).-User Defined Pocket of Need Report Coordinate System: GCS North American 1983
Map By: Isaiah berg

WASHINGTON STATE
IMMUNIZATION
INFORMATION SYSTEM

Washington State Department of
Health

WithinReach
working together to protect health

Children Considered 'One Dose Away' From Being Completely Immunized In Snohomish County

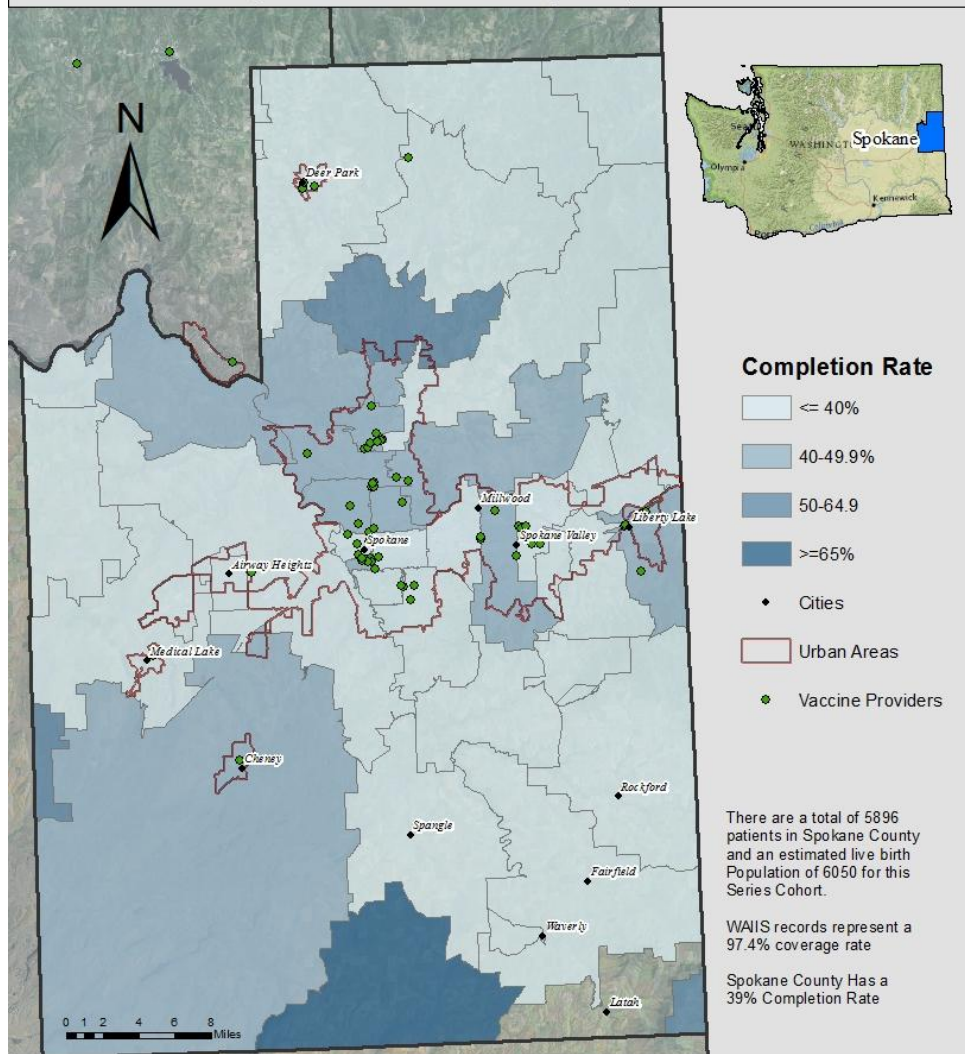


Data Source: Washington State Department of Health Immunization Information System Database (WAIS)

User Defined Pocket of Need Report. For Children 24-35 Months old as of 12/31/2012.

Series 4313314 Includes: 4 DTaP/DT/Td, 3 HEP-B 3 DOSE, 3 HIB, 1 MMR, 4 PNEUMO(PCV), 3 POLIO, 1 VARICELLA Map By Devin Hackett & Isaiah Berg

Child Immunization Completion Rates In Spokane County Zip Codes

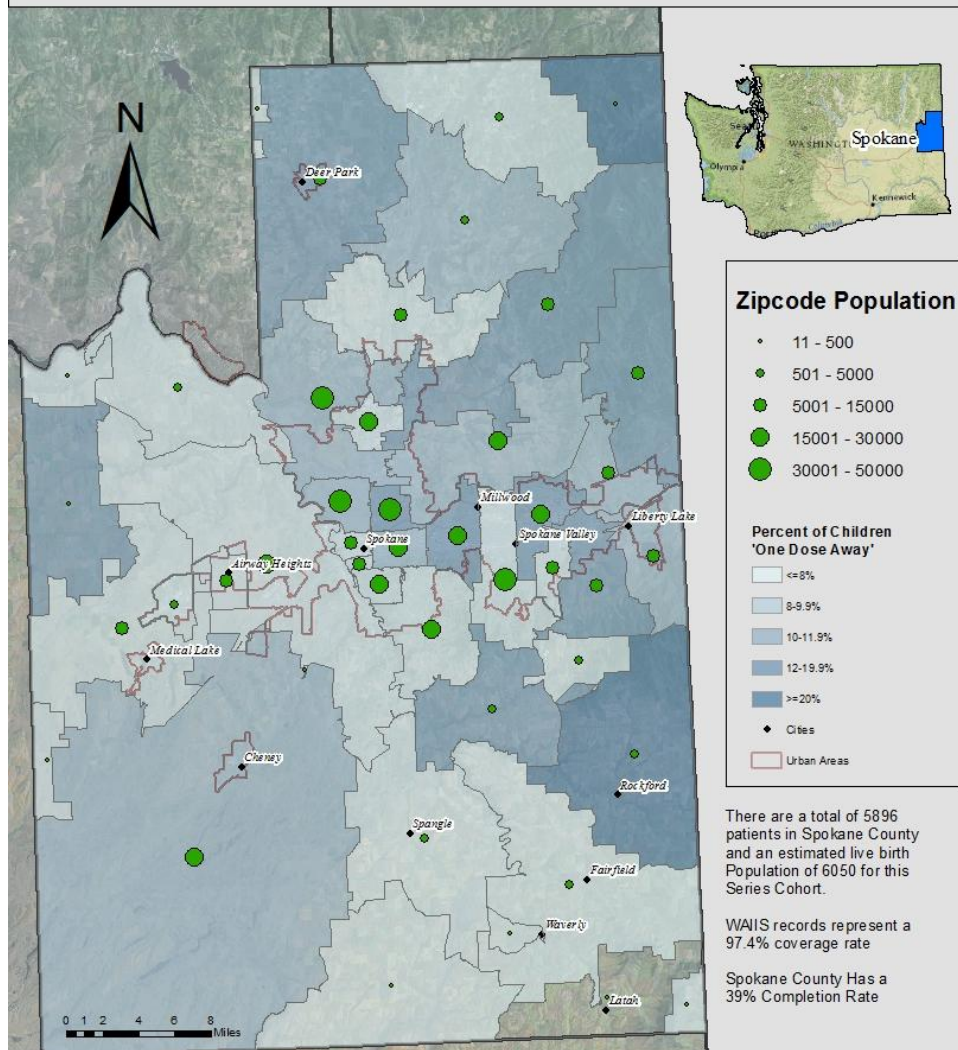


Data Source: Washington State Department of Health Immunization Information System database (WAIS)
User Defined Pocket of Need Report. For Children 24-35 Months old as of 12/31/2012. Series 43331431 Includes:
4 DTap/DT/d, 3 HEP-B 3 DOSE, 3 Hib, 1 MMR, 4 PNEUMO(PCV), 3 POLIO, 1 VARICELLA. Map By Isaiah Berg

Spokane County

Mapping Immunization Series Completeness Rate at the Zip Code Level

Children Considered 'One Dose Away' From Being Completely Immunized In Spokane County

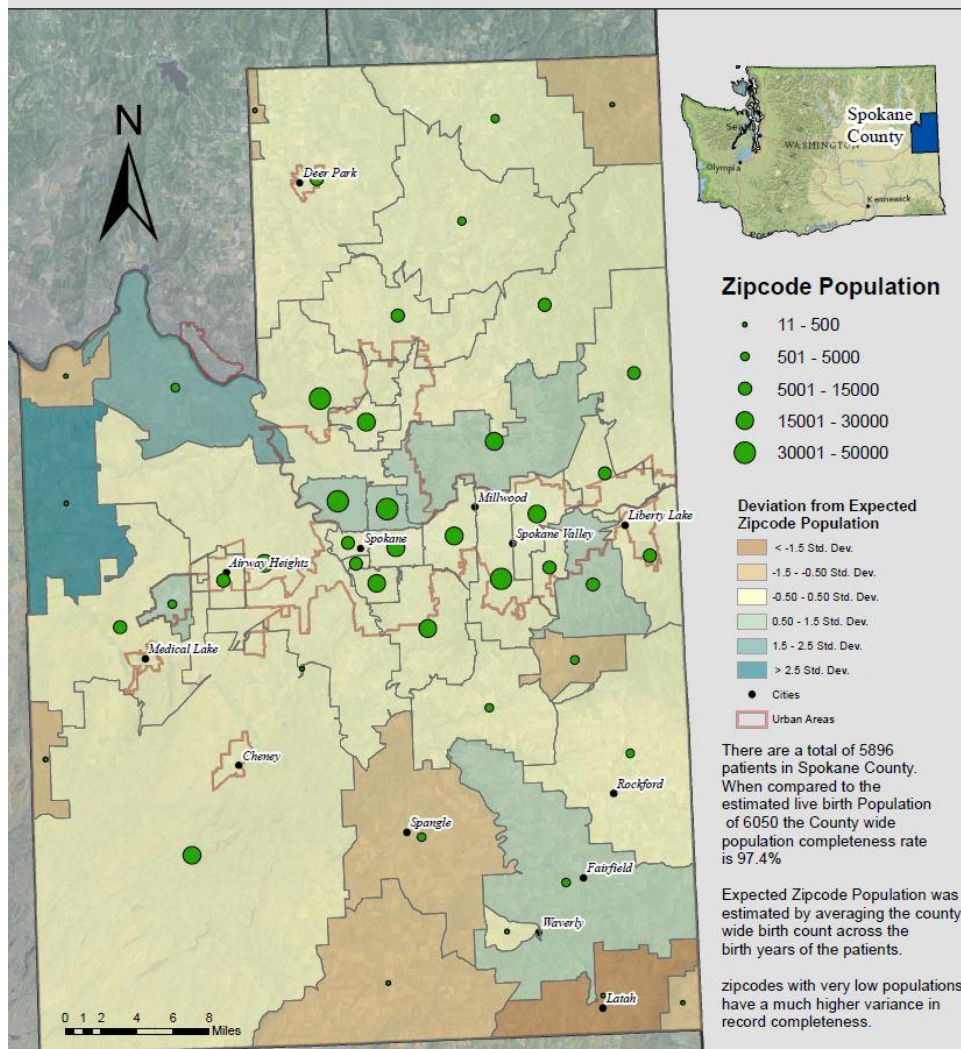


Data Source: Washington State Department of Health Immunization Information System database (WAIS)
User Defined Pocket of Need Report. For Children 24-35 Months old as of 12/31/2012. Series 4313314 Includes:
4 DTaP/DT/d, 3 HEP-B 3 DOSE, 3 HIB, 1 MMR, 4 PNEUMO(PCV), 3 POLIO, 1 VARICELLA. Map By Isaiah Berg

Spokane County

Mapping "One Dose Away" at the Zip Code Level

Measure of Dispersion In Patient Record Completeness across Spokane County Zipcodes.



Data Source: Washington State Department of Health Immunization Information System database (WIIIS)
User Defined Pocket of Need Report. For Children 24-35 Months old as of 12/31/2012. Series 4313314 Includes:
4 DTap/DT/d, 3 HEP-B 3 DOSE, 3 Hib, 1 MMR, 4 PNEUMO(PCV), 3 POLIO, 1 VARICELLA. Map By Isaiah Berg

There are a total of 5896 patients in Spokane County. When compared to the estimated live birth Population of 6050 the County wide population completeness rate is 97.4%

Expected Zipcode Population was estimated by averaging the county wide birth count across the birth years of the patients.

zipcodes with very low populations have a much higher variance in record completeness.

Immunization Completion Rate For Kitsap County Children

For Children 19-35
Months. Immunization
Series 4313314

Zipcode	Patients	complete
98329	12	75%
98332	3	67%
98110	185	67%
98359	48	65%
98392	42	62%
98337	116	57%
98310	358	56%
98366	588	56%
98346	140	55%
98367	382	52%
98380	52	48%
98383	300	46%

Data Source:
Washington State
Department of
Health Immunization
Information System
database.
Coordinate System:
GCS North
American 1983
Map By: Isalah berg

Completion Rate



● Vaccine Providers

Kitsap County: 47% Complete
Washington State: 53% Complete



0 1.5 3 6 9 12 Miles

Lessons Learned

- **Students:** Energetic, talented and opportunity to apply classroom knowledge to real-world, but limited by short-term projects, difficult to find the right people with the right skills.
- **Non-Profits:** Bridge between academia and government, student support/advisor role, and policy broker/advocate, but limited funding.
- **Governments:** Access to data, authority, but limited staff resources and daily work load limits time for innovation.

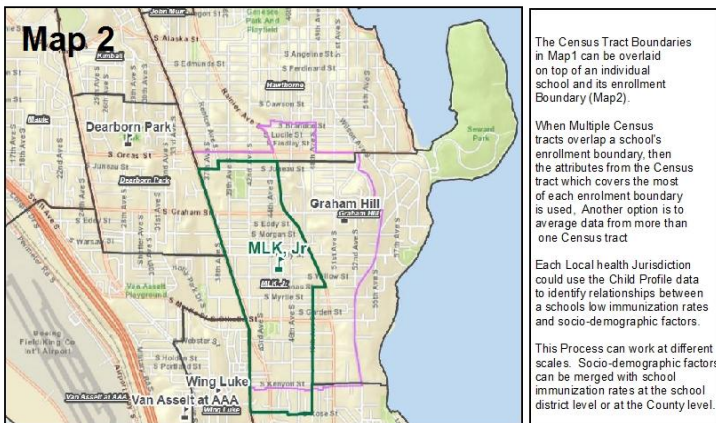
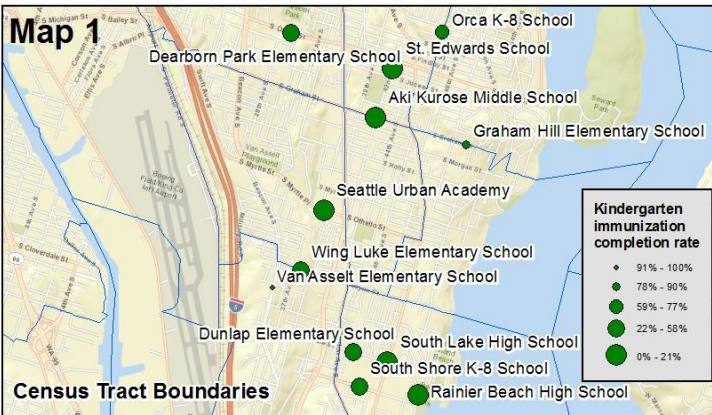
Where do we go from here?

- An opportunity to make Health data more accessible and usable in Washington State.
- Support the State “Agenda for Change” with IIS data
- Partnering With the UW and Local Health Jurisdictions
- But First: engaging LHJs so our work is useful for them...

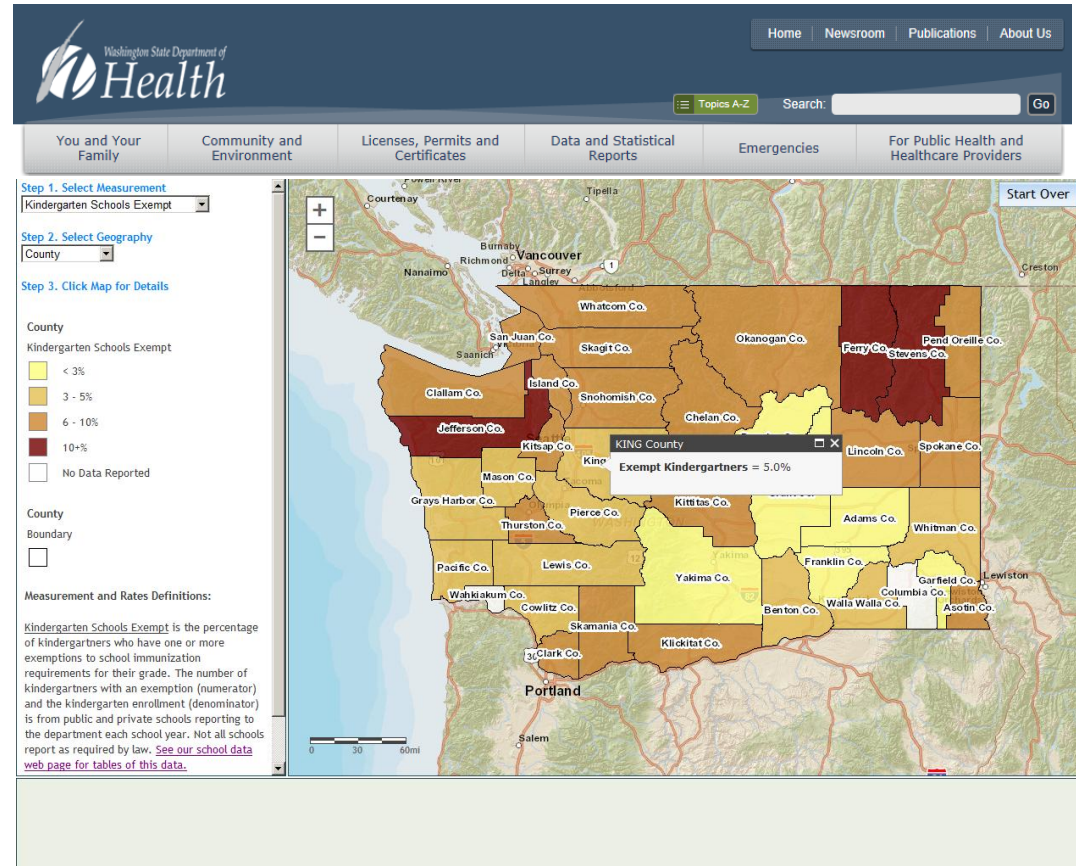
Future of IIS Mapping

- Linking data sets and stakeholders
- Web-based interactive maps auto updated from the IIS

A case study in merging Census socio-demographic statistics to South Seattle School Enrollment Boundaries.



School enrollment boundaries (PDF from Seattle School District)



Contact:

Questions?

Isaiah Berg
MPA Candidate 15'
UW Evans School of Public Affairs
Berg2@uw.edu
206-375-7533

Todd Faubion
Immunization Program Manager
WithinReach
toddf@withinreachwa.org
206-830-5169

Chris Halsell
Immunization Assessment Coordinator
WA State Department of Health
Chris.halsell@doh.wa.gov
360-236-3527