



IIS Data Visualization: Approaches, Successes and A Demo!

Tuesday, August 3, 2021

Why data visualization?

- Interest in IIS data has heightened
- Requests for IIS data from a variety of stakeholders
- Communicate IIS data, and its limitations, in simple, easy-to-understand visuals
- Learn from IIS peers, not reinvent the wheel

What will you gain from today's session?

- Hear from peers who have created Dashboards using IIS data
- Understand important considerations for developing visualizations
- See Tableau in action!

Today's Line-Up

IIS Presentation

IIS Presentation

Tableau Demo

Questions + Answers



IIS Sharing: Tennessee

Melisse Chassé, MPH
Epidemiologist
Tennessee Department of Health



IIS Sharing: Oregon

Paige Snow, MPH
Data Visualization Informaticist
Oregon Health Authority

Oregon's COVID-19 Vaccination Metrics Dashboard in Tableau

Paige Snow, MPH

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she, her, hers

AIRA 2021 National Meeting

August 3-5, 2021



COVID-19 RESPONSE AND RECOVERY UNIT
Office of the Director

Overview

1. Dashboard goals
2. Audience
3. Tips on how to get started
4. Check out the dashboard
5. Preparing the data
6. Feedback and approvals
7. Challenges and lessons learned
8. Successes

Dashboard goals

- State planning
 - Vaccination goals
 - 65% statewide
 - 80% for tribal and communities of color
 - Ground game, feedback on vaccination rates & people remaining by
 - Region, county and ZIP code
 - Demographic
 - Track progress and timelines
- Communication & transparency
- Support evidence-based decision making

Audience

- Leadership
 - Governor, legislature, agency directors, etc.
- People working pandemic response
 - State, county governments, local public health authorities (LPHAs)
 - Community-based organizations
 - Health systems
- Media
- Public
- So, anyone interested in COVID-19 vaccinations?

Tips on how to get started

- Network
- Attend and listen in meetings for data needs
- Watch pertinent news conferences
- Figure out which data are being used for decision making and how
- Be curious and explore the data – what would you want to know?
- Read the literature, look to other states, NYT, CDC, or even social media
- Familiarize yourself with population estimates

Let's check out the dashboard

- <https://public.tableau.com/app/profile/oregon.health.authority.covid.19/viz/OregonCOVID-19VaccineEffortMetrics/StatewideProgress>

Preparing the data

- SAS for data management
 - Familiar with procedures and can manipulate complex analyses
 - Can read and summarize weighted survey data
 - More secure? Connecting to a summarized file and not a row level file
 - Many people use Tableau Prep
- Tableau Desktop for visualization
- Summarize population estimates by demographic

DemographicType	DemographicCategory	Population	Population12	Population16	Population18
Age Groups	0 to 11	567299	.	.	.
Age Groups	12 to 17	297706	.	.	.
Age Groups	18 to 19	108525	.	.	.
Age Groups	20 to 29	550693	.	.	.
Age Groups	30 to 39	592770	.	.	.
Age Groups	40 to 49	539557	.	.	.
Age Groups	50 to 59	533824	.	.	.
Age Groups	60 to 69	547694	.	.	.
Age Groups	70 to 79	351853	.	.	.
Age Groups	80+	178134	.	.	.
All Oregonians	All Oregonians	4268055	3700756	3503122	3403051
Race	AI/AN	130416	113082	107043	103985
Race	Asian	235716	204386	193471	187944
Race	Black	124309	107786	102030	99115
Race	Hispanic	517713	448900	424927	412788
Race	NH/PI	37038	32115	30400	29531
Race	Other Race	3141	2723	2578	2504
Race	Unknown Ethnicity, Other Race	517713	448900	424927	412788
Race	White	3219722	2791765	2642674	2567183
Sex	F	2162928	1884843	1787619	1738907
Sex	M	2105127	1815914	1715503	1664144

Preparing the data

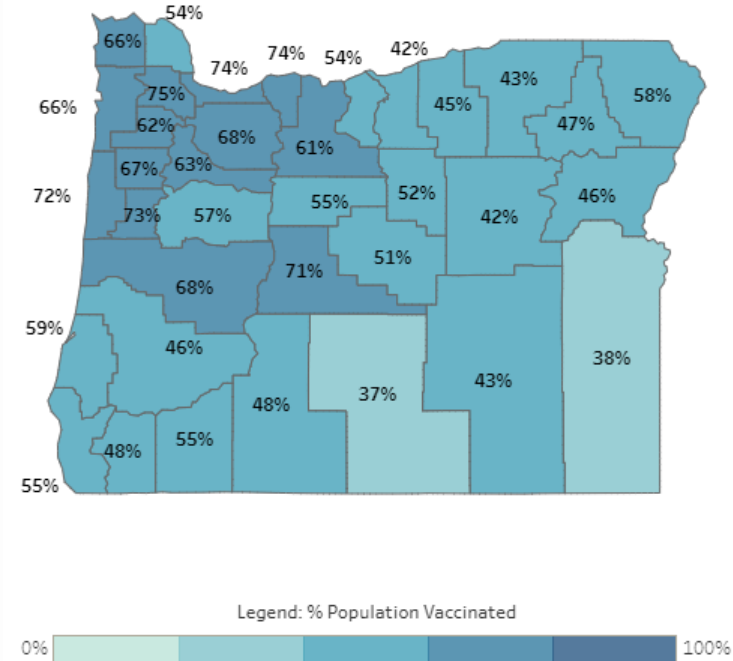
- Merge with summarized vaccination counts
 - by demographic
 - by day
 - by vaccine type

date	vaccine	county	DemographicType	DemographicCategory	vaccinated	in_progress	people_count	vaccinated16	in_progress16	people_count16	population	population12	population16	population18
4/1/2021	Moderna	Oregon	Age Groups	70 to 79	575	62	637	575	62	637	351853	.	.	.
4/1/2021	Pfizer	Oregon	Age Groups	70 to 79	534	35	569	534	35	569	351853	.	.	.
4/1/2021	Johnson & Johnson	Oregon	Age Groups	70 to 79	179	.	179	179	.	179	351853	.	.	.
4/1/2021	Unspecified	Oregon	Age Groups	70 to 79							351853	.	.	.
4/2/2021	Moderna	Oregon	Age Groups	70 to 79	475	79	554	475	79	554	351853	.	.	.
4/1/2021	Moderna	Oregon	Race	Asian							235716	204386	193471	187944
4/1/2021	Pfizer	Oregon	Race	Asian	770	25	795	758	25	783	235716	204386	193471	187944
4/1/2021	Johnson & Johnson	Oregon	Race	Asian	54	.	54	54	.	54	235716	204386	193471	187944
4/2/2021	Moderna	Oregon	Race	Asian	287	16	303	286	14	300	235716	204386	193471	187944
4/2/2021	Pfizer	Oregon	Race	Asian	1028	16	1044	999	16	1015	235716	204386	193471	187944
4/1/2021	Moderna	Oregon	All Oregonians	All Oregonians	9961	476	10437	9961	461	10422	4268055	3700756	3503122	3403051
4/1/2021	Pfizer	Oregon	All Oregonians	All Oregonians	12840	421	13261	12617	414	13031	4268055	3700756	3503122	3403051
4/1/2021	Johnson & Johnson	Oregon	All Oregonians	All Oregonians							4268055	3700756	3503122	3403051
4/1/2021	Unspecified	Oregon	All Oregonians	All Oregonians							4268055	3700756	3503122	3403051
4/2/2021	Moderna	Oregon	All Oregonians	All Oregonians	7483	593	8076	7482	572	8054	4268055	3700756	3503122	3403051

Challenge: repeat this process for all counties in the state

Depending on the county, between 37% to 75% of people 18+ years old are vaccinated*

Percent change between 07/15/2021 to 07/22/2021



Feedback and approvals

- Subject matter experts – epidemiologists
- Peers – data visualization informaticists
- Leadership
- External communications
 - Public information officers
 - Social media experts
 - Web team
- Iterative process

Challenges and lessons learned

- Time constraints
 - Short deadlines
 - Daily data processing and refreshing
- Expertise in Tableau and other population data, not immunization data
- Incorporation & sharing of federal data
- High visibility of dashboards, communication with media and data literacy
- Piloting new methodology for race and ethnicity

Successes

- Data dis-aggregation → providing stratified analyses for demographics and smaller geographies
- Informing ground game
- Aligning leadership analyses with public reporting

Questions??

Paige Snow, MPH

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she, her, hers

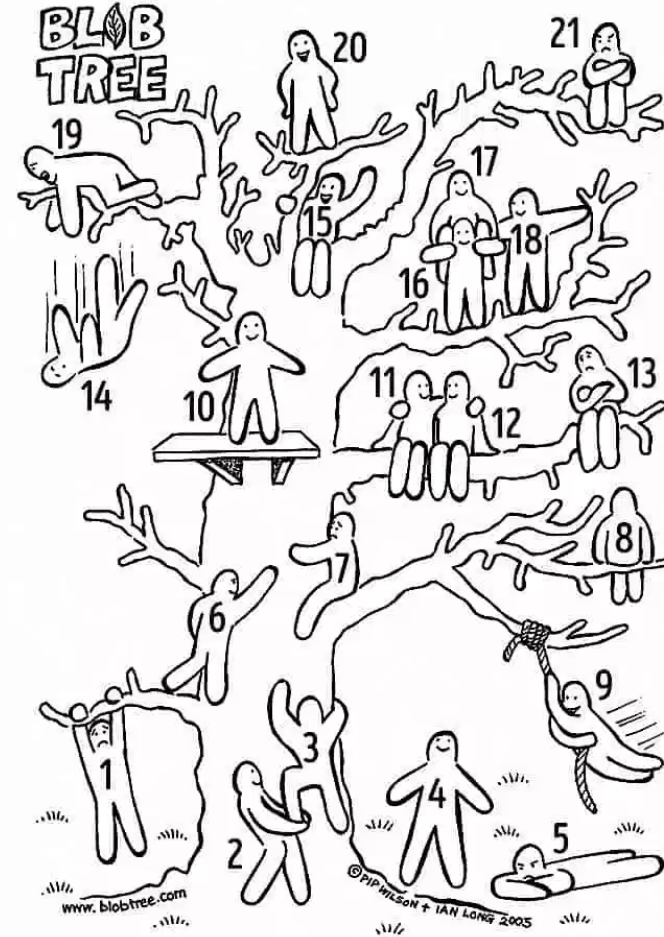




Tableau Demo

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Epidemiologist
American Immunization Registry
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AIRA 2021

NATIONAL MEETING

AUG. 3-5, 2021 | PORTLAND, OREGON

Questions?