

COVID-19 Vaccine Acceptance and Hesitancy in Remote Alaska: A longitudinal perspective

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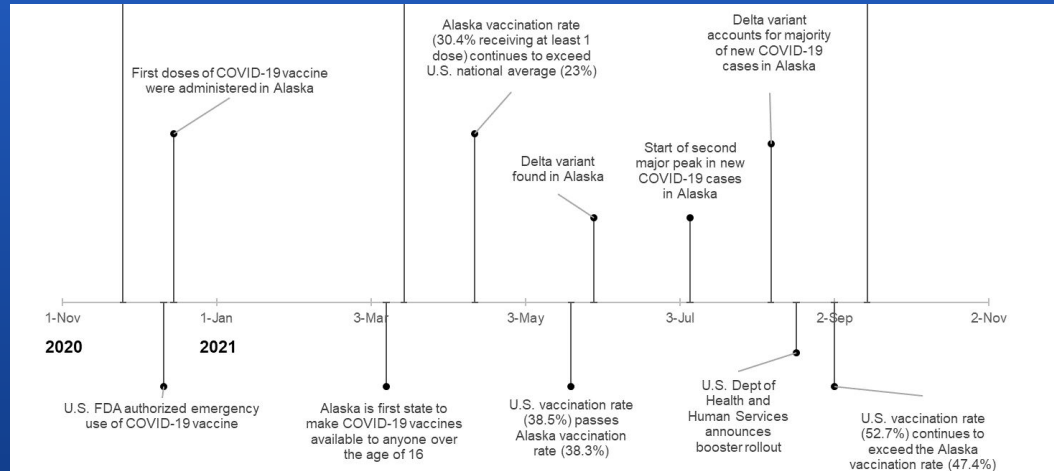


Dedication, Quyana, Thank you

To the people who have lost their lives, the families they leave behind,
To the people living through this pandemic without adequate resources,
And to those who share their stories with us.

Changing dynamics of vaccine acceptance/hesitancy

- Scientific information and misinformation
- Knowledge and understanding
- Risk perception of disease and vaccination
- Vaccine recommendations and uptake
- Booster shot



Longitudinal study in remote Alaska communities

- Parent study began September 2020
- Impacts on daily life of remote Alaska community residents
 - Life changes, coping strategies, emotions and worries, perceived risks, demographics, sources of information, vaccine and testing perceptions, food and water security.
- Survey and interview questions were informed by 23 key informant interviews with remote Alaska community leaders/providers and consultation with tribal and state representatives
 - 10,000 foot view

Historically-grounded responses

Native Alaskan Villages, Once Devastated by Spanish Flu, Are Taking Action Against Covid-19

To keep history from repeating itself, remote Native Alaskan communities are isolating themselves even further, and working to procure tests and other supplies.



Supplies arrive in the community of Red Devil, Alaska. (Photo courtesy of The Foundation Corporation)

Red Devil, AK; Source: Direct Relief

Today's presentation

- 1) Evolving perceptions of COVID-19 vaccines between Nov 2020 - Sept 2021
 - 3 waves of survey results
 - In-depth key survey follow-up interviews
- 2) Conclusions in context
- 3) Q&A



KYUK Reporter Greg Kim receives the first dose of the Pfizer vaccine from Public Health Nurse Tammy Kaboord on January 19, 2021 in Bethel, Alaska.

Credit Katie Basile / KYUK

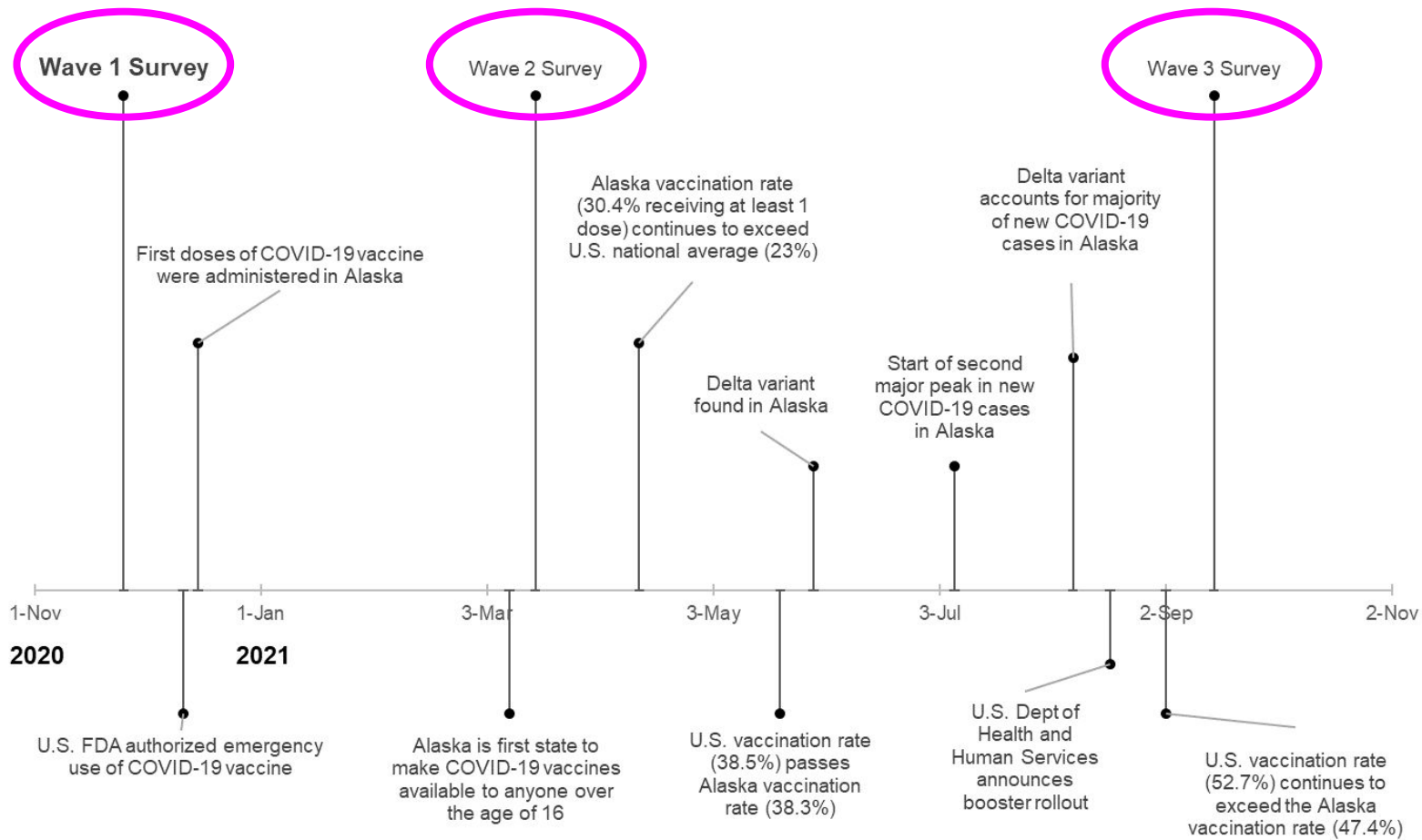
Recruitment & Participants

- Facebook advertisement for online survey (REDCap)
- Participants
 - Remote Alaska community residents (off road system, not Juneau)
 - 18 years old or older
- In-depth interviewees were subset of survey respondents
 - Purposively sampled: age, gender, regional distribution
- AAIRB Protocol #1590924-7, ANTHC and SCF



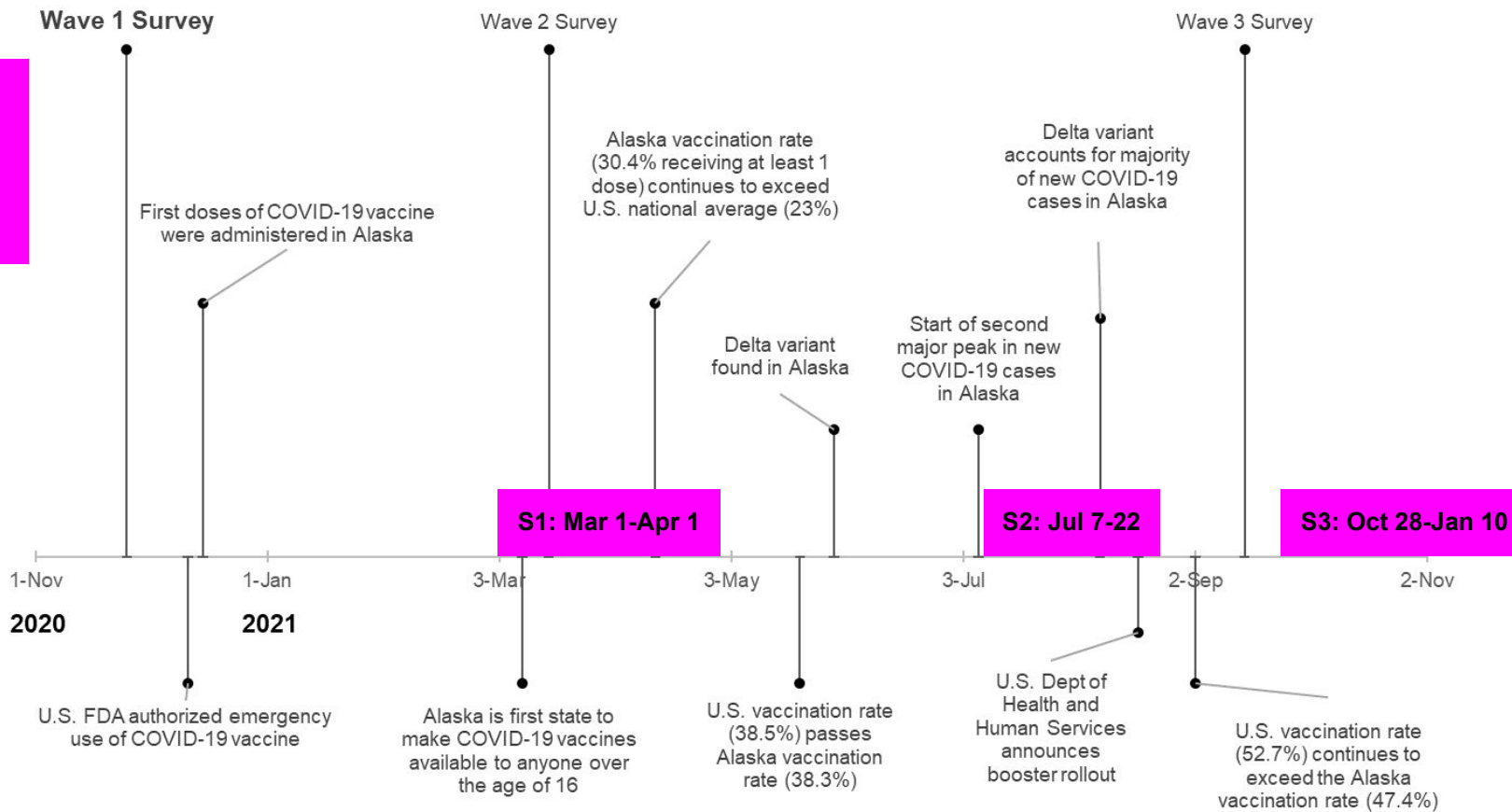
Buckland IRA, image used with permission

Study Timeline

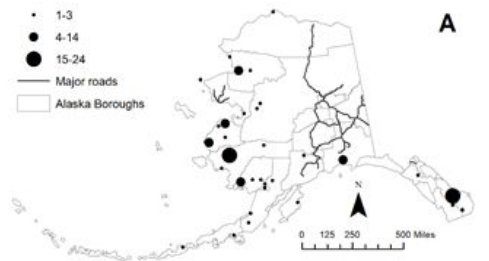


Follow-up
survey
interviews
(S1, S2, S3)

Study Timeline



Survey Reach



Wave 1: Nov 9- Dec 15, 2020

[Prior to vaccine availability]

N=107

34 communities



Wave 2: March 9-25, 2021

[Vaccine dist. well under way]

N=508

106 communities



Wave 3: Sept 2-27, 2021

[Delta variant dominant strain]

N=408

92 communities

Total = 1020 survey responses

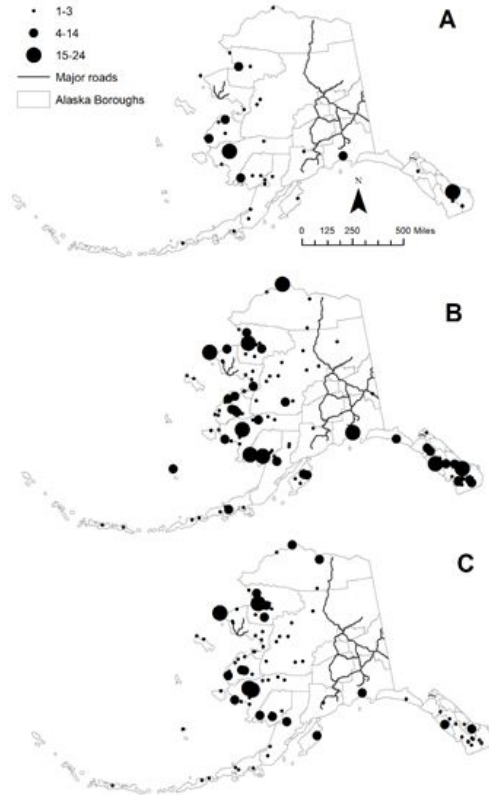
Over 100 unique communities

Survey Respondents

Overall, unweighted sample **overrepresented females, 25-54 year-olds, and Alaska Native people** compared to census-based estimates of age, sex, and race in remote Alaska

Post-stratification weights used to make the sample representative of remote Alaskan residents by age, sex, and race

Survey questions by wave



Wave 1: Nov 9- Dec 15, 2020

- "If vaccine were available, would you encourage ____ to get it?"
- Concerns about COVID-19 vaccine

Wave 2: March 9-25, 2021

- Vaccine acceptance
- Ease of getting vaccine
- Motivations to be vaccinated or not

Wave 3: Sept 2-27, 2021

- Risk perceptions and knowledge
- "When a booster is available, would you encourage ____ to get it?"

Survey Analysis

- Data from each survey wave were analyzed separately
- Results include responses from both closed and open-ended questions related to the COVID-19 vaccine

Nov-Dec
2020

Wave 1 - Concerns about getting a vaccine (Pre-availability)

Concerns = 58 (51.3%) - 33.6% were about safety

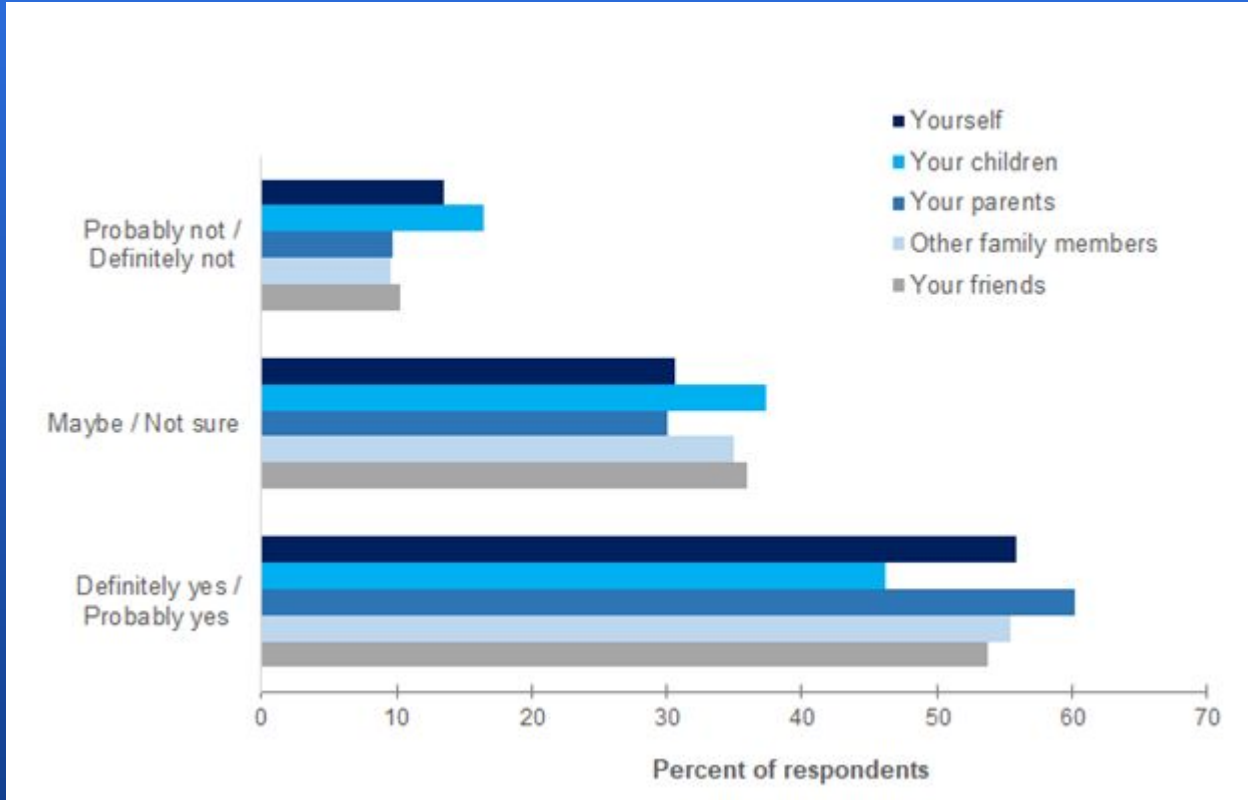
- Unknown side effects
- Perceived lack of sufficient testing + rushed production
- Lack of efficacy
- Distribution logistics
- Political/outsider involvement with distribution
- Lack of trust in politicians/vaccine dist. Process
- Unfair distribution of vaccine to remote communities

No concerns = 10 (8.8%) - No answer = 39 (34.5%) - Unwillingness to be vaccinated = 2 (2%)

Nov-Dec
2020

Wave 1 - Hypothetical vaccine acceptance

Survey Results



Nov-Dec
2020

Wave 1 - Hypothetical vaccine acceptance

→ **65+ years were more likely to say that they would get the vaccine for themselves or their children,** and that they would encourage others as well (parents, other family members, friends)

Responses did not vary significantly by any other age group, sex, race, education, or income

March
2021

Wave 2 - High vaccine acceptance

<u>Response</u>	<u>% Participants</u>
Received at least one dose	80.7%
Planning to get vaccinated	5.0%
Unsure	7%
Not planning on getting vaccinated	7.9%

Survey Results

March
2021

Wave 2 - Ease of obtaining vaccination

Had received at least one dose of vaccine:

→ 93.9% said it was very or somewhat easy to get a vaccine

Had not received a vaccine but planned to get one:

→ 48.3% said it would be very or somewhat easy to get a vaccine

→ 45.7% said it would be somewhat or very difficult

Reasons cited for difficulty getting a vaccine included having to travel too far, not knowing where to get a vaccine, not being eligible, or not knowing where to make an appointment

March
2021

Wave 2 - Motivations for getting the vaccine*

Protecting their own and others' health

- 36.5%: Protect their health
- 34.2%: Protect the health of their friends and family
- 12.9%: Protect the health of their community
- 6.2%: Resume traveling
- 4.0%: Resume social activities
- 2.2%: Encouragement from others
- 1.6%: Get back to school/work
- 1.4%: Protect the health of co-workers

*Respondents could choose more than one option

Sept
2021

Wave 3 - Vaccine misconceptions

- “COVID-19 vaccine is not recommended if you’re young and healthy” (82.9%)
- Vaccine recommendations for those who are pregnant
 - Not recommended (22.8%)
 - Unsure about recommendations (26.5%)
- Unsure if vaccine affects fertility (28.1%)
- Unsure if the vaccine affects your DNA (19.2%)

Sept
2021

Wave 3 - Still, high vaccine acceptance

Despite misconceptions, 88.5% reported being fully vaccinated (two doses)

Sept
2021

Wave 3 - Reasons for vaccine hesitancy

Of those who were not vaccinated (n=54)...

- 38.5% of participants said they were “probably not” or “definitely not” planning to get the vaccine.

Reasons for avoiding the vaccine included:

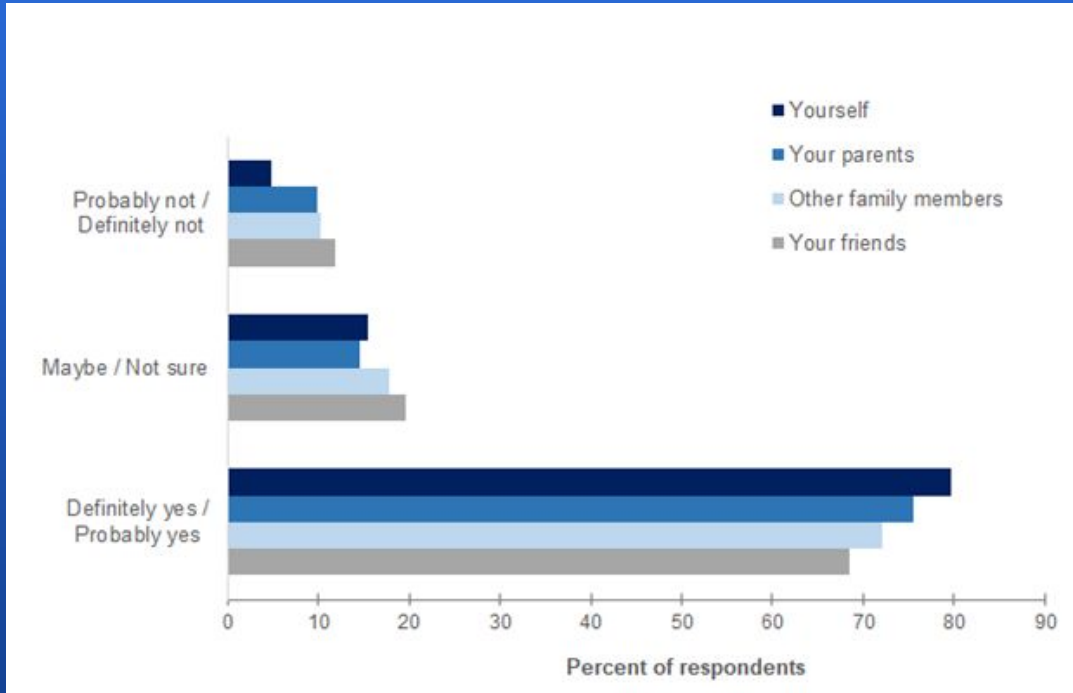
- Chronic health conditions (they were not sure their body could handle it)
- Unknown side effects
- Natural antibodies from previous COVID-19 infection
- They were pregnant or breastfeeding
- Low concern about COVID-19

63.8% reported that their children were vaccinated (of the 180 participants with children between the ages of 12-17)

Sept
2021

Wave 3 - Vaccine BOOSTER acceptance

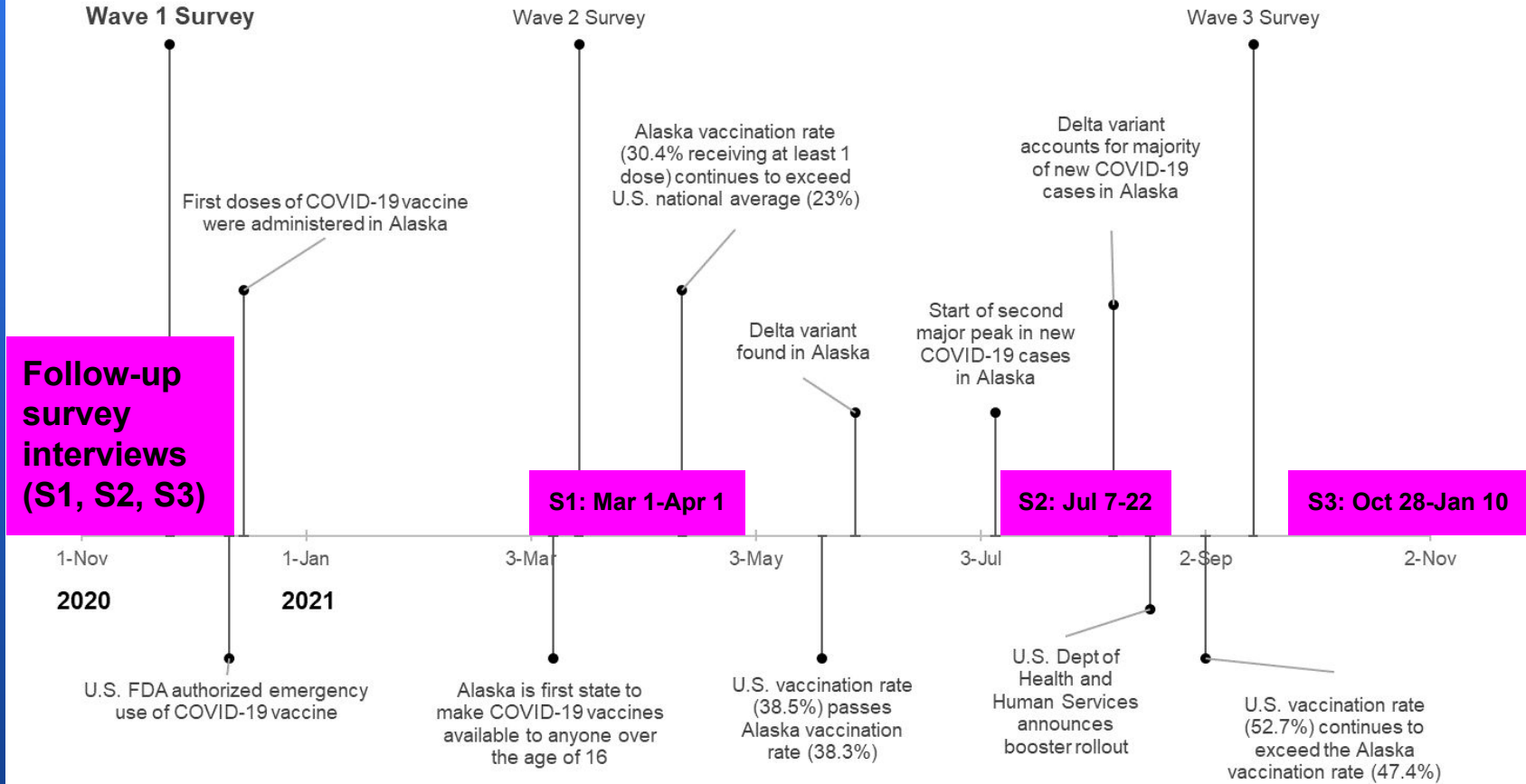
Survey Results



CONCERNS:
Side effects from previous
COVID-19 vaccinations

No mention of the booster
when they received their
original vaccinations

Survey follow-up interviews



Survey Follow-up Interviews

March
2021

July
2021

- **38 interviews: all after vaccine roll-out**
 - Wave 1: March 2021 (AK #1!)
 - Wave 2: July 2021 (delta variant)
- Purposively sampled based on topics of interest, represent sub-groups
- Analysis:
 - Invivo, Thematic grouping
 - Overlapping codes

- **Experiences, interpersonal-interactions, and sense of control drive vaccine decisions**
Not knowledge

Interviewee characteristics

<u>Characteristic</u>	<u>n=38</u>	<u>% Total</u>
Female	27	71%
AI/AN	26	68%
Some college/post high-school education	36	95%
Full time work	21	55%

Median age: 41 years

Do you plan to get a vaccine? (Survey responses)

16 (42%) of interviewees had low intention of getting a vaccine, or were deliberating (i.e. waiting)

-purposefully sampled-

<u>Intention category</u>	<u>Response</u>	<u>#</u>
Low intention (7, 18%)	definitely not	2
	no	4
	probably not	1
Deliberating (9, 24%)	Maybe / Not sure	9
High intention (9, 24%)	Probably	3
	Yes	3
	Definitely	3
N/A (already vaccinated, 34%)	n/a	13

Vaccination intention: survey vs. status at interview

13 (76%) of 16 low intention/deliberation got vaccinated between survey and follow-up interview.

What changed?

SURVEY	INTERVIEW	
<u>Plan to receive vaccine?</u>	<u>Yes</u>	<u>No</u> <u>(No change)*</u>
low intention (7, 18%)	5	2
deliberation (9, 24%)	8	1
high intention (9, 24%)	8	1
n/a (already vaccinated, 34%)	13	n/a
	34	4

Multiple sources used to make vaccine decisions

Interview results

Source of information	#	%
Media	18	49%
Social Media & Internet	11	
News	9	
Science Articles & Reports	4	
Radio	2	
Interpersonal interactions	15	41%
Healthcare providers	7	
Friends	6	
Professional network	5	
Elders, Historical Memory	2	
"Word of mouth"	2	
Public Presentations & Advertising	8	22%
Independent Research (unspecified)	6	16%
Interviews coded	37	100%

*Codes are not mutually exclusive; segments may be coded with multiple codes

Interviewees relied on multiple sources to make their decisions:

- Media (18, 49%)
- Interpersonal interactions (15, 41%)
- **Healthcare providers & friends = trusted sources**

Processes of decision-making & experiences important in building trust & vaccine acceptance

Interview results

<u>Theme</u>	<u>#</u>	<u>%*</u>
Trust in information and source	12	40%
Others' experiences	9	30%
Personal experiences	5	17%
Efficacy of vaccine	2	7%
Total interviews coded	30	81%

*Codes are not mutually exclusive; segments may be coded with multiple codes

Healthcare providers & friends = trusted sources

Over 1/3 of vaccinated interviewees had concerns about the vaccines.

What made you feel confident and/or safe about getting a COVID-19 vaccine?

- Conversations with friends/healthcare providers who could explain the science
- “Independent research”=sense of control
- Learning from others’ experiences

“What would make you feel confident/safe about getting the vaccine?”

Interview results

Low intention (3)

“Time and more testing. I have not liked all of the incentives as they seem like bribes for people to get the vaccine...I feel like they should be more neutral and just give out information.”

“...**Knowing which scientists worked on it and what all went into it...**Like, was the vaccine made in America, was it made by the world, what was put into it.” **(Vaccinated!)**

Deliberating (2)

“Other moms talking about their experience with it.”

“The guidelines keep switching back and forth with CDC and WHO because it's a new and changing virus, but also sometimes **what they say just feels so contradictory.**”

Conclusions: It's not just knowledge!

Having vaccine concerns/misconceptions ≠ anti-vaccine

- 1/3 of vaccinated interviewees had concerns/misconceptions
- Also evident in survey data

Interpersonal interactions & experiences critical in building trust & vaccine acceptance

- **Main info sources = BOTH media + interpersonal interactions**
 - Healthcare providers and friends = most trusted sources
 - Consistent information is key
- **Learning from others builds confidence**
 - Ability to ask questions
 - Pictures and stories of personal experiences

Sense of independence/power in information gathering (emergent theme)

- Ability to wait to decide

Conclusions

Longitudinal study reflecting lived experiences of remote Alaska residents

Opportunity for evidence- and strengths-based responses to the impacts of COVID-19

Application of conclusions to other remote communities

- Misconceptions about COVID-19 vaccines are fairly consistent across time
- High, but uneven vaccine acceptance in remote Alaska

Next steps



- New research initiative in Northwest Alaska - vaccines
 - Partnership with Maniilaq Association
 - Decision-making processes and motivating factors for vaccine acceptance
- Additional analyses of the present study - stay tuned!
 - Survey follow-up interviews, round 3
 - Longitudinal analyses of stress and coping, child vaccine acceptance

Thank you & Contact Information

Quyana to **all participants**, Patricia Cochran, NWABOR Mayor Lucy Nelson, Carl Weisner and the members of the Northwest Arctic Borough COVID-19 Taskforce, Tricia Howe, Jordan Randolph, Christy McDonald, Dr. Thomas Hennessy, Dr. Tim Thomas, Dr. Leisha Nolan, and to the National Science Foundation.



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