



**“You are overdue.”**

**Data and Outcome Measures from Text Message-Based  
Immunization Reminder Programs in Minnesota, Tennessee, and Colorado**



# Minnesota Immunization Information Connection (MIIC) Text Message-Based Immunization Reminders

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# Background and Implementation

- 2021- Identified need to implement reminder/recall to improve primary series completion rates of COVID-19 vaccination
- In March 2020, the COVID-19 pandemic permitted the emergency purpose exception of the Telephone Consumer Protection Act (TCPA) allowing governments to use phone/text to share information
  - MDH could text using MIIC data
- Use Amazon Web Services (AWS) and MIIC (fast start up)
- Provider opt in- partnership
- Texting implementation dates: May 2021- Present
- Use Tableau to visualize data
- Evaluation (quantitative, open ended question analysis)

# Text Message Language and Considerations

## Text content: Standards/Requirements

- Transparency about partnership
- Action step

## Text content: 2<sup>nd</sup> Dose COVID-19 immunizations

- This is a message from [Org Name] and the Minnesota Department of Health. You or someone in your household may be due for a second dose of COVID-19 vaccine. To learn more about when you should get your second dose and to make an appointment with [Org Name], please call [Phone Number] or visit this link: [Link Here]. You can have secure electronic access to you or your child's record; learn more by visiting: <https://www.health.state.mn.us/people/immunize/miic/records.html>. To stop receiving these messages, please reply with STOP. Para ESPAÑOL responde E, Rau LUS HMOOB teb rau H, Luuqada SOOMAALIGA ku jawaab S.

# Results: Implementing Provider Organizations

	Number of organizations implementing each type of texting campaign		
	COVID-19	Routine (either child or adolescent)	MMR only
Local Public Health	28	12	4
Pharmacy	11	0	-
Health system	4	6	2
FQHC	2	3	-
Other	3	5	-

# Results: COVID-19

**Table 3. Program Data (May 2021 –October 2022)**

Campaign	Clients texted N	Optout N (%)	Translation N (%)	Undeliverable N (%)
2nd Dose	67,282	9,498 (14.1%)	61 (< 0.0%)	12,043 (17.9%)
Booster	154,444	12,646 (8.2%)	249 (0.1%)	37,221 (24.1%)

**Table 5. Clients who received COVID-19 vaccine after text messages**

# Weeks overdue at first text	2 <sup>nd</sup> Dose N (%)	Booster Dose N (%)
1-4 weeks	21,746 (42.4%)	4,227 (18.3%)
5-9 weeks	3,032 (38.6%)	23,172 (51.3%)
10+ weeks	3,081 (40.4%)	35,444 (39.5%)
Total	27,722 (41.8%)	60,469 (39.3%)

# Results: Routine Child and Adolescent

**Table 1. Program Data (May 2022 – March 2023)**

Campaign	Clients texted N	Optout N (%)	Translation N (%)	Undeliverable N (%)
Child (24-35 months)	7,524	473 (6.3%)	7 (0.1%)	122 (1.6%)
Adolescent (13-16 years)	29,536	1,714 (5.8%)	30 (0.1%)	4,020 (12.1%)

**Table 2. Data (May 2022- March 2023)**

Campaign	Clients received immunization after text N (%)
Child (24-35 months)	1,592 (21.2%)
Adolescent (13-16 years)	6,489 (22.0%)

# Provider Survey Results

- 14 question feasibility/acceptability survey
- 18/52 (35%) providers participated
  - 18/18 (100%) said texting program startup was “simple” or “very simple”
  - 18/18 (100%) indicated the texting program improved their outreach processes to clients
  - 15/18 (83%) revealed that the main obstacle to reaching clients was undeliverable phone numbers
  - 17/18 (94%) said they would recommend the texting program to other providers



# Lessons Learned and Next Steps

- Well received; have not received a lot of negative feedback from providers or public
- URL: use URL in text that looks trustworthy
- Expanding to adult vaccine, schools (K-12)
  - Signed provider agreement to ensure clients not turned away for cost reasons, among other stipulations
- Working on automating texting, microservice in MIIIC user interface
- Further analyses:
  - Effectiveness study (2023): comparing texting to mailings
  - Undeliverable cohorts

# Thank you!

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# Text Message and Postcard Reminder/Recall

Vaccine Preventable Diseases and Immunization Program (VPDIP)

# Background

According to the 2018 National Immunization Survey-Teen (NIS-Teen), the coverage rates for adolescents aged 13-17 years old who were up-to-date for the human papillomavirus (HPV) vaccine series was 51.1% nationally and 48.9% in Tennessee.

Utilized CDC AA1 grant award to improve HPV immunization rates through the use of Reminder/Recall efforts in rural counties where coverage was low.

# Implementation

- **Policies:** Text language required approval from TDH executive leadership, communications, and legal departments
- **Implementation:** Utilized IIS data to identify 10 counties with the lowest HPV series completion rates
  - 5 counties were randomly chosen to receive texts
  - 5 counties were randomly chosen to receive postcards
- **Sent:** March 2022 via InTouch Connections

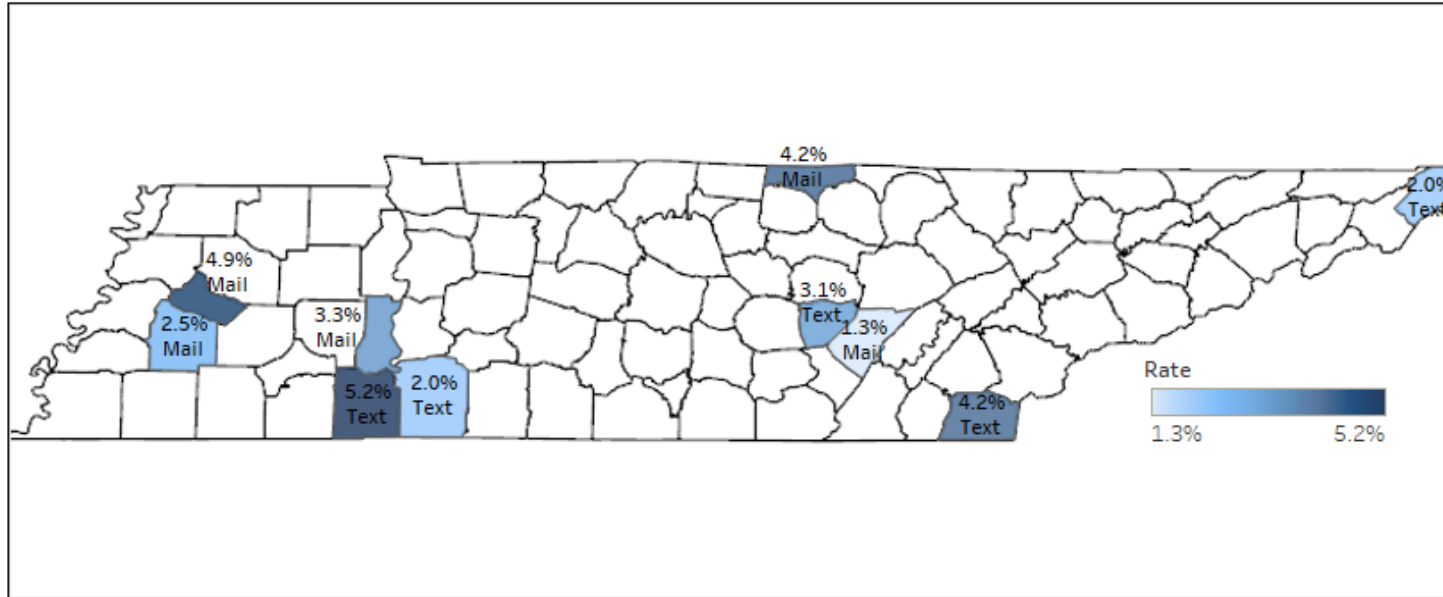
*“TN Dept of Health: If you or a family member received a HPV vaccine, they might be past due for the next dose. Protection against HPV & the six different cancers it can cause requires more than one dose. Contact your family healthcare provider or visit <https://www.tn.gov/health/hpv> for more info. Informacion acerca de la vacunas contra el HPV: <https://www.tn.gov/health/hpv>.”*

# Evaluation

- **Evaluated:** September 2022 (6 months post implementation)
- **Evaluation Approach:** Re-evaluated IIS cohort that completed HPV series
  - No repeated attempts for failures
  - Recall was for individuals >1 month past due
  - Difficult to determine recall activity responsible 100% of increases

# Results

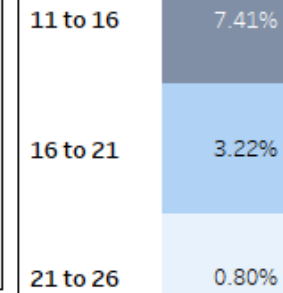
## Incomplete HPV Series Text and Postcard Evaluation



TOTAL  
VACCINATION  
RATE

**3.35%**

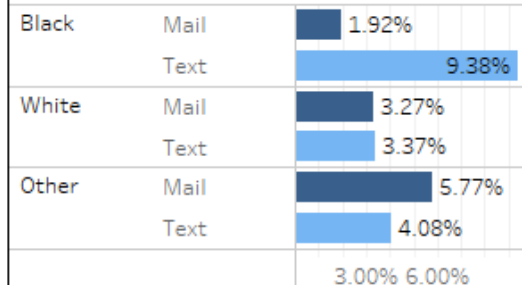
### Age



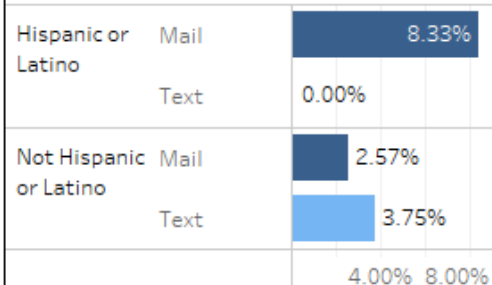
### HPV Vaccines Administered per Month to Recall Cohort



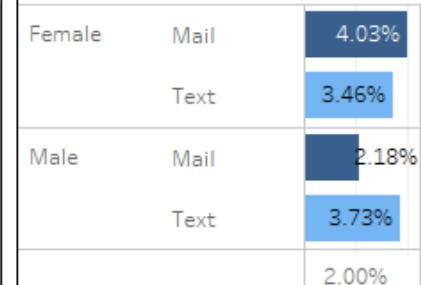
### Race



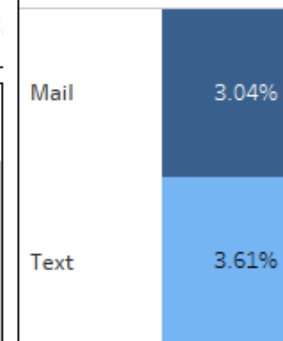
### Ethnicity



### Sex



### Notification Type



# Conclusion and Next Steps

- Text efforts were as effective or more effective than traditional postcard recall efforts
- Will continue to send COVID-19/MPOX/HPV text messages
- Traditional print efforts require more time for implementation
  - Design/Content development
  - Print resource constraints with large quantities
  - Cost of mail
- TN continues to see text message R/R as a viable and in some cases, a preferred activity but do seem to draw more negative attention from some individuals and legislatures surrounding personal data in the IIS



Contact the team: [VPDIP.Quality@tn.gov](mailto:VPDIP.Quality@tn.gov)



**Thank you!**

# Colorado Immunization Information System(CIIS) Statewide Reminder/Recall

- **March 2021-Present: Statewide Reminder/Recall efforts**
  - COVID-19 (1st, 2nd and booster) dose(s)
- Influenza

# Implementation and Evaluation

- Colorado is an Opt-Out state
- Press Release
- Weekly Local Public Health Agencies (LPHA) & Community of Practice (CoP) meetings
- Third party vendor, Teletask

# Press Release

## COVID-19 Recall Reminder

INFORMACIÓN SEGUIDA EN ESPAÑOL



FOR IMMEDIATE RELEASE

CONTACT:

COVID-19 MEDIA LINE: 303-900-2849 (Please leave a message)

Email: [media\\_info@state.co.us](mailto:media_info@state.co.us)

### CDPHE to send vaccine reminder messages to 30-39 year olds this week

REMOTE, (June 7, 2021): In the coming days, the Colorado Department of Public Health and Environment (CDPHE) will send text and email notifications to people between the ages of 30 and 39 who may be overdue for their second COVID-19 vaccine. CDPHE previously sent similar messages to people over 40.

Text messages will be sent from 45778 on June 8 and 11, and emails will originate from [ColoradoDPHE@teletask.com](mailto:ColoradoDPHE@teletask.com) on June 10 to notify people whose current records in the Colorado Immunization Information System (CIIS) indicate they may be more than 42 days past their first dose. These messages will include information on [how to find a vaccine provider](#) to schedule a second vaccination.

These reminders will be sent in English and Spanish. Anyone who has additional questions after receiving a message can contact our COVID-19 Vaccine Hotline at 877-268-2926 that offers translation service in more than 100 languages.

Continue to stay up to date by visiting [covid19.colorado.gov](https://covid19.colorado.gov).

## Influenza Reminder

INFORMACIÓN EN ESPAÑOL TAN PRONTO ESTÉ DISPONIBLE



FOR IMMEDIATE RELEASE

CONTACT: Joe Hollmann

Immunization Communications Manager, Division of Disease Control and Public Health Response

Email: [joe.hollmann@state.co.us](mailto:joe.hollmann@state.co.us)

### CDPHE to send flu vaccine text and email reminders to parents and guardians of young children

*Hospitalizations continue to rise in Colorado: Get your child/children vaccinated*

STATEWIDE (November 21, 2022) – Beginning today, the Colorado Department of Public Health and Environment will send text and email reminders to approximately 132,579 parents and guardians of children aged 6 months through 5 years old whose records in the Colorado Immunization Information System show they may be due for their annual flu vaccine. State health officials are working to increase flu vaccine uptake statewide as this flu season could be more severe than we have seen in years.

[Data from Centers for Disease Control and Prevention \(CDC\)](#) show seasonal flu activity is elevated across the country. Colorado's hospitalization rates are now ahead of the 2017-2018 flu season (our most severe on record). In some southeastern states, flu hospitalization rates are already at levels seen during the fall 2009 H1N1 pandemic. CDC estimates that, so far this season, there have been at least 4,400,000 illnesses, 38,000 hospitalizations, and 2,100 deaths from flu in the United States. The cumulative hospitalization rate is higher than the rate observed at this point in flu season during every previous season since 2010-2011.



# Text Message Language

## COVID-19 Recall

According to state public health records, you may be due for an omicron COVID-19 vaccine. Pfizer and Moderna's updated COVID-19 vaccines offer protection from the currently circulating omicron variant of COVID-19. More than 1 million Coloradans have already received their omicron booster! To find vaccine provider locations near you, visit: <https://covid19.colorado.gov/vaccinefinder> Opt Out=STOP

## Influenza

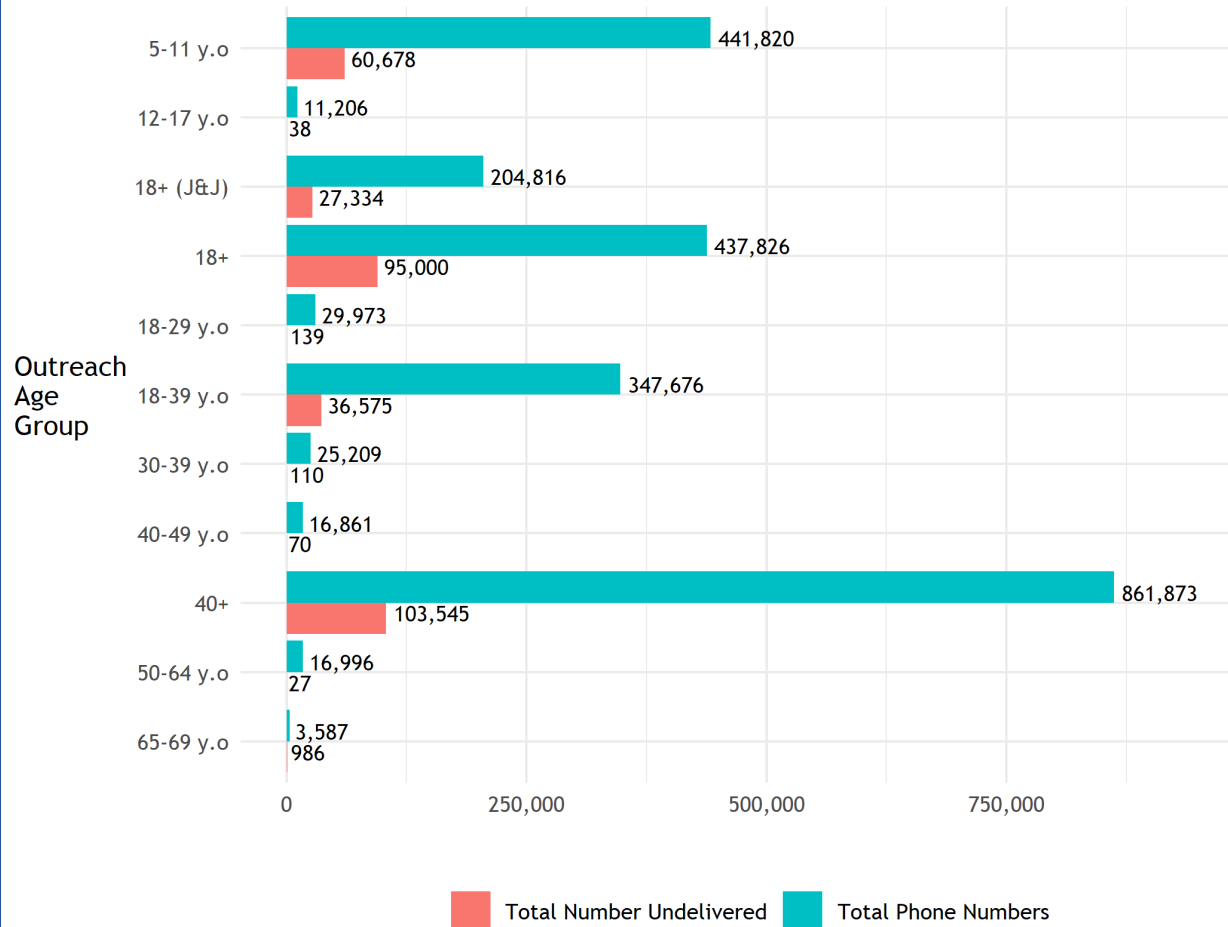
State public health records show your child/children between the ages of 6 and 17 years may be due for their annual flu vaccine. Protect your child/children against the flu. Contact a vaccine provider today! For locations near you, visit: <https://www.vaccines.gov/find-vaccines/> Opt Out= Stop



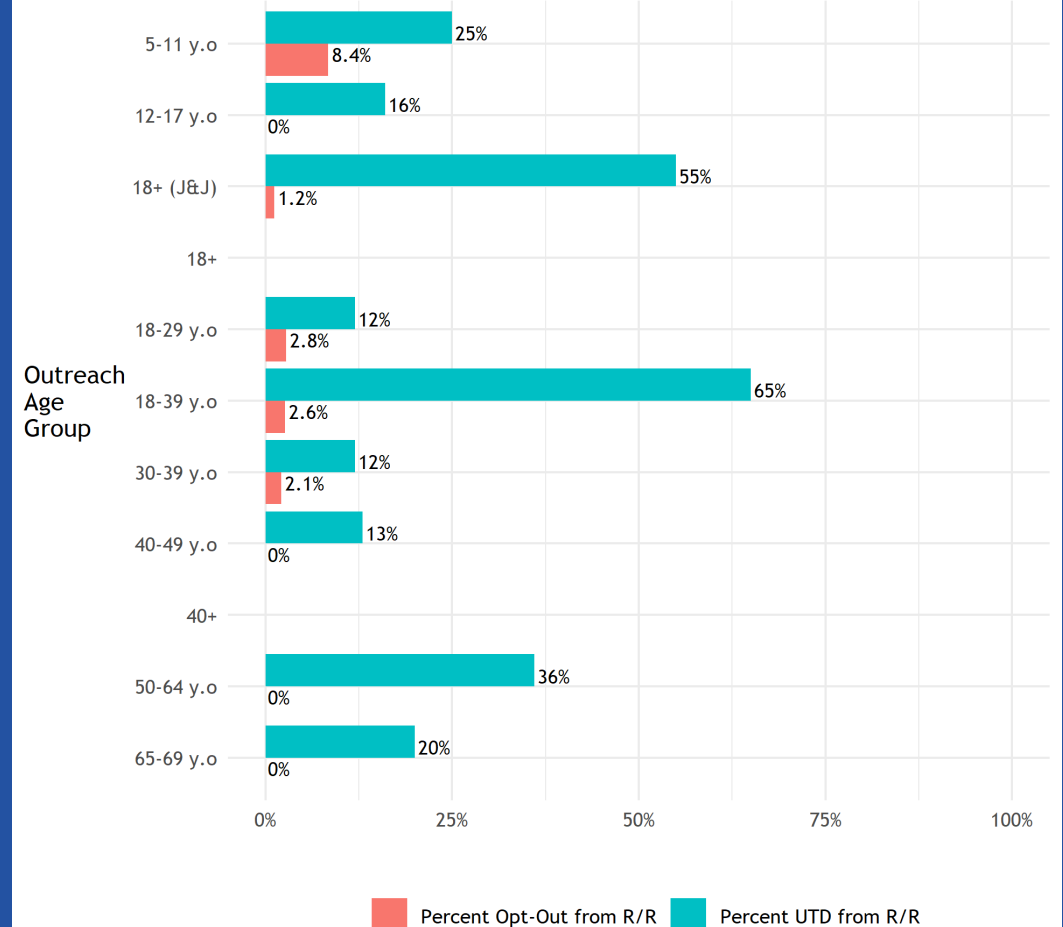


# Rates: COVID-19 2021

COVID Data: 2021

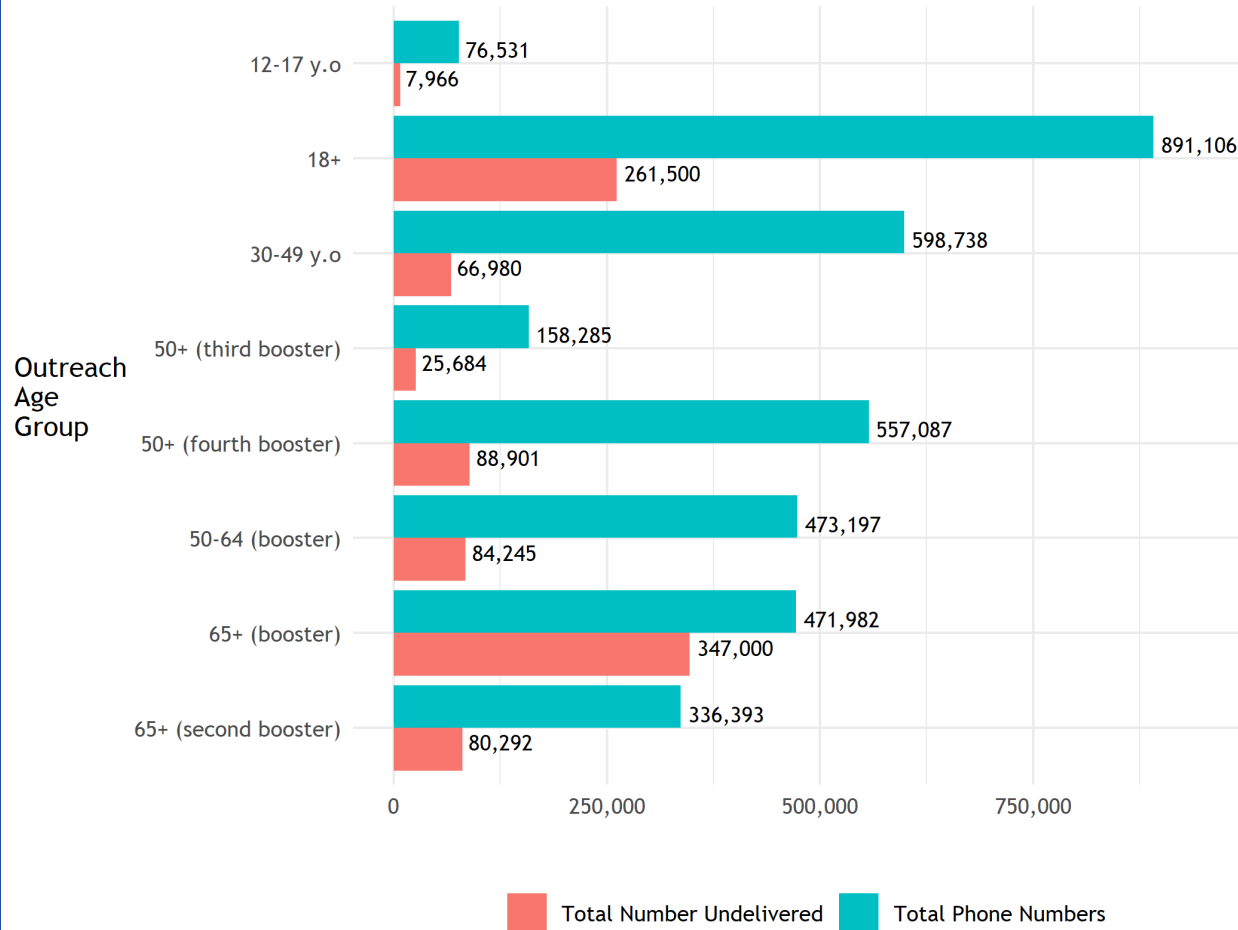


Percent UTD and Opt-Out

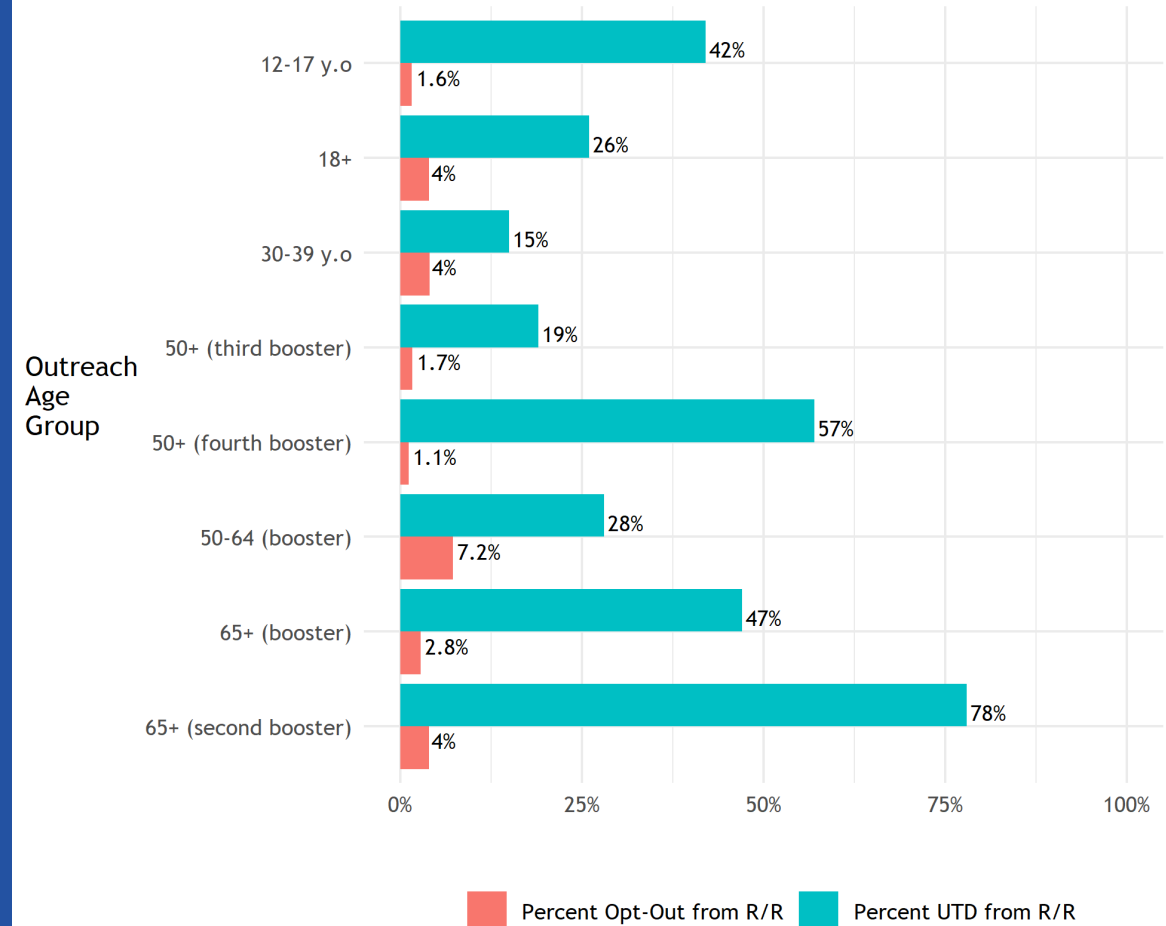


# Rates: COVID-19 2022

COVID Data: 2022



Percent UTD and Opt-Out



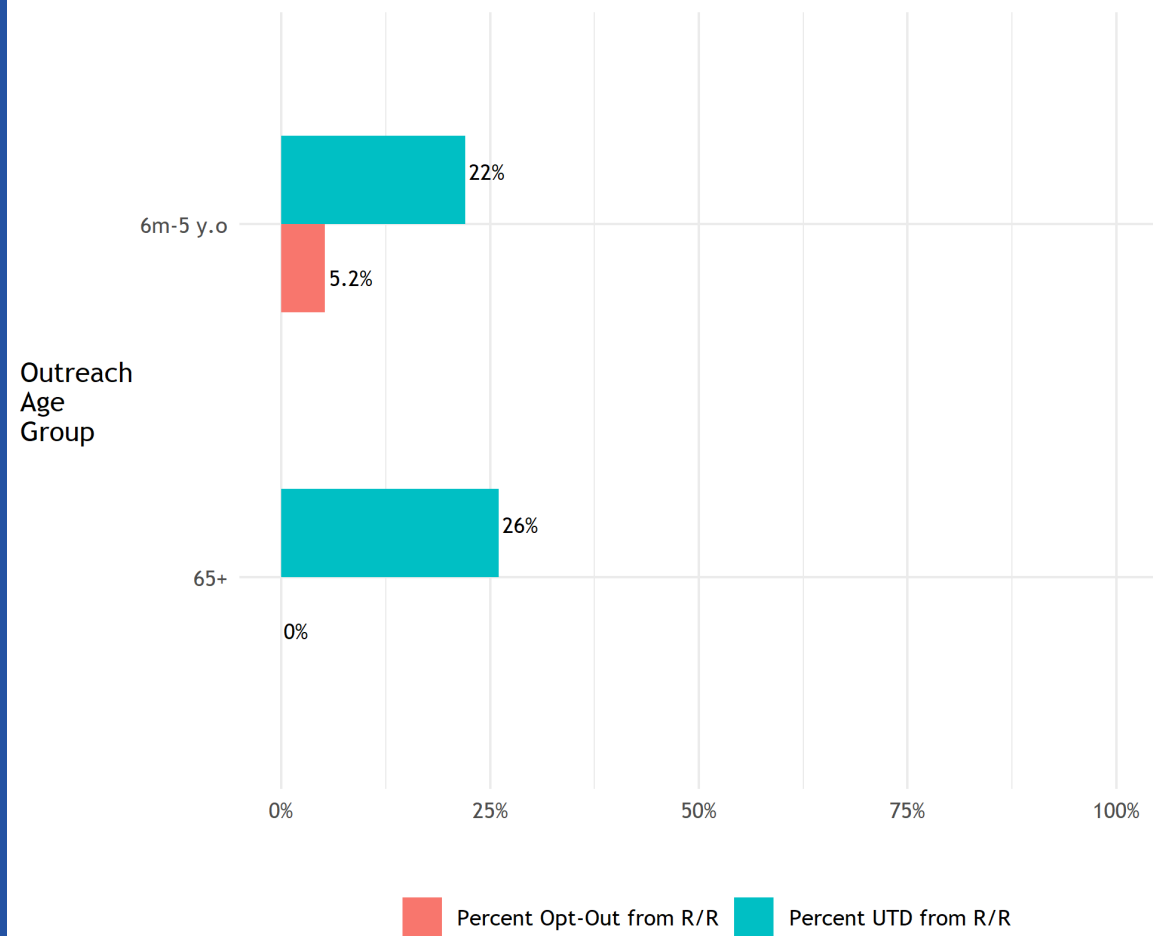


# Rates: Influenza 2021

Flu Data: 2021

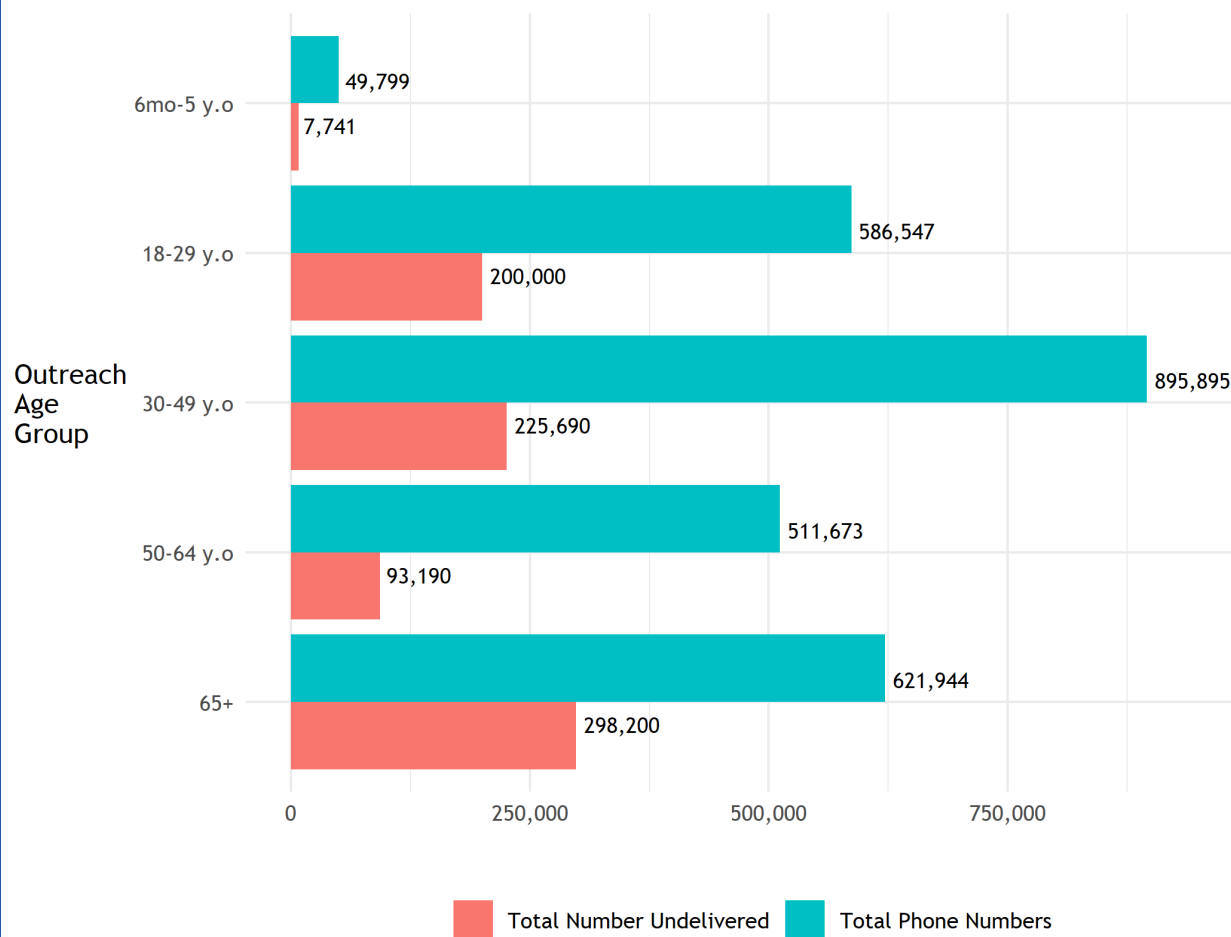


Percent UTD and Opt-Out

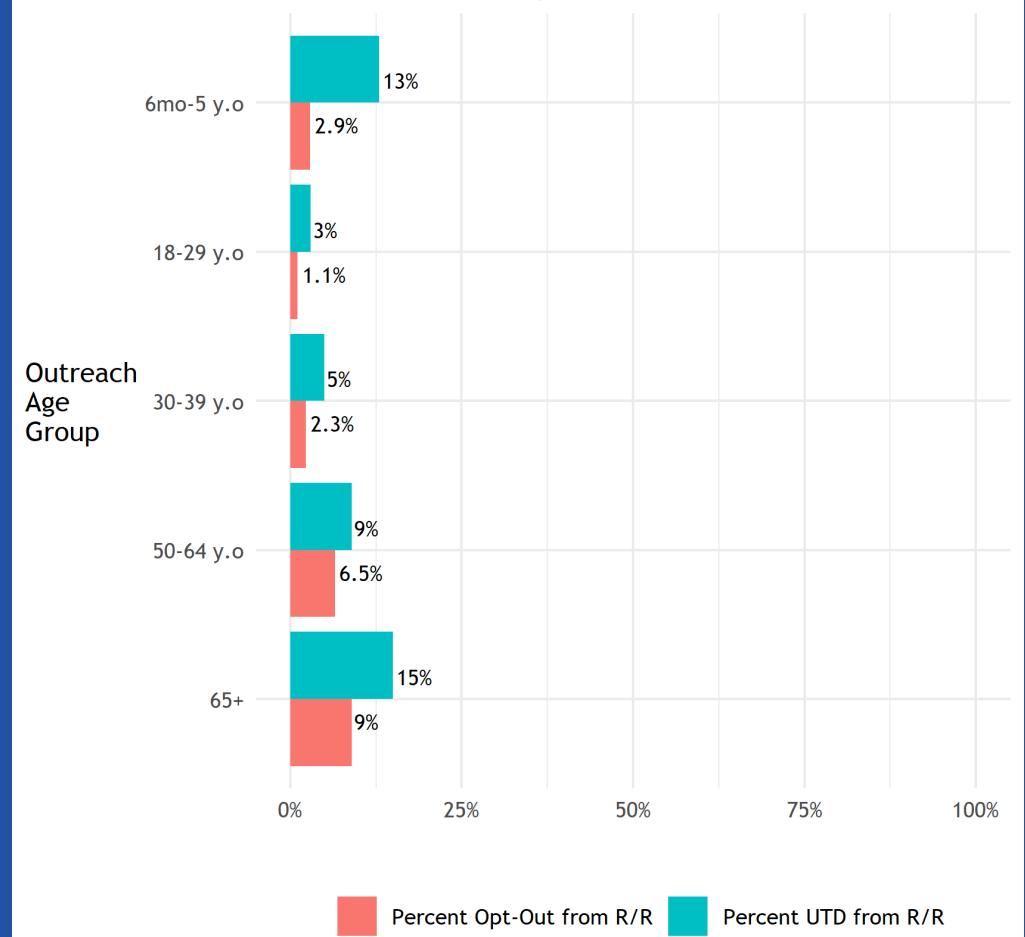


# Rates: Influenza 2022

Flu Data: 2022



Percent UTD and Opt-Out



# Conclusion and Next Steps

- Positive feedback from public
  - Up take in Immunization rates
  - Updated patient demographic data
  - Designated R/R Email
  - Designated Google Form
- Childhood and MPX vaccinations
- Email and phone call reminder/recall
- Equity Group and local public health counties



# Questions?

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Thank you!