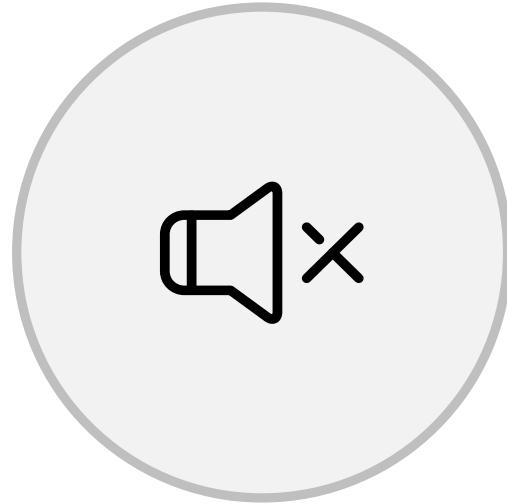


H1N1 Lessons Learned, and How They Are Informing the Response to COVID-19

Discovery Session
April 27, 2020
4pm EST

AIRA Discovery Session



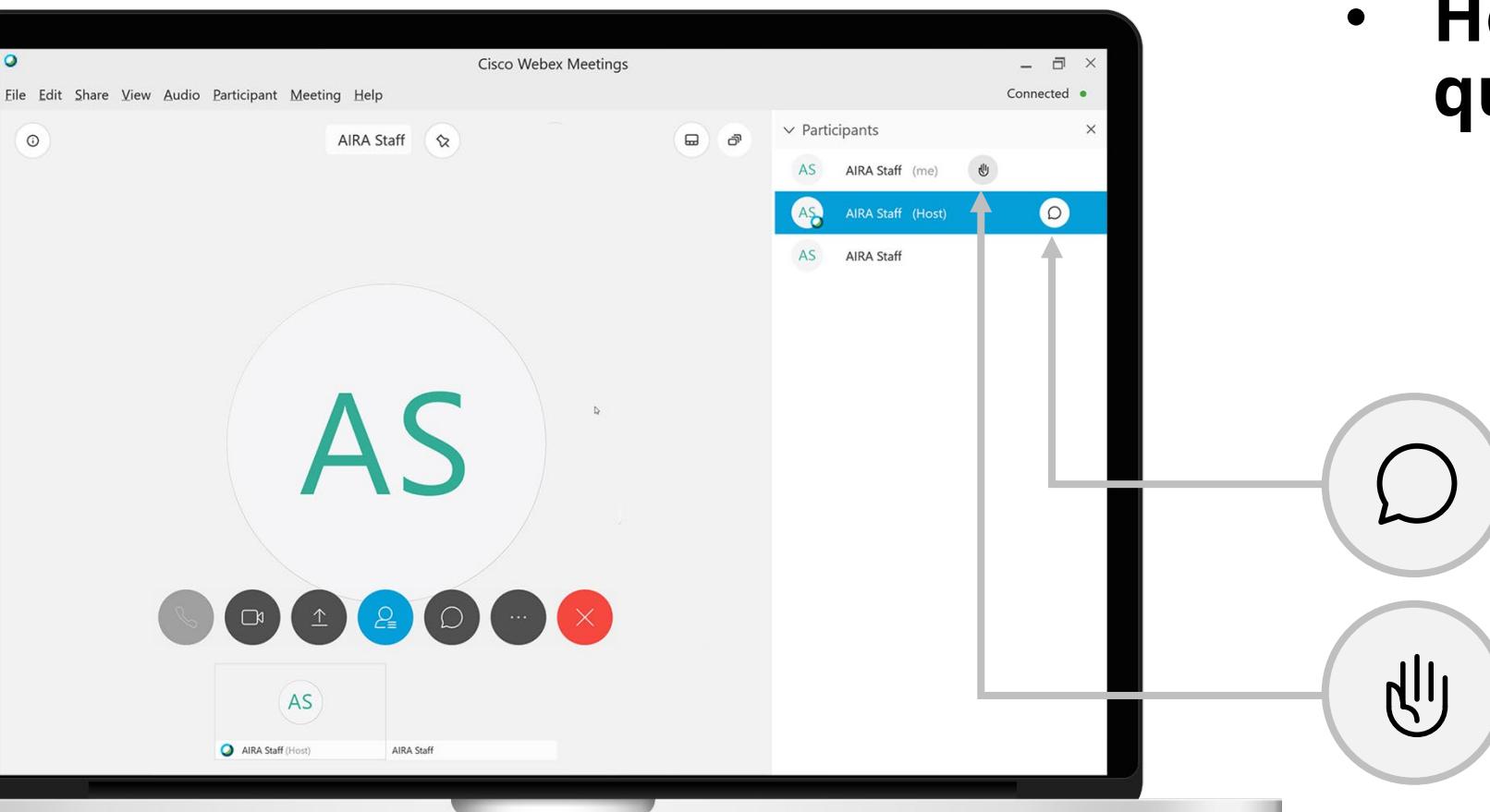
All phone lines
are muted



This meeting is being recorded
and will be posted on the
AIRA repository



AIRA Discovery Session



- How do I ask a question?**

- There will be time allotted for Q&A following each of the updates, to unmute your line **press *6**
- Via WebEx:

Select the chat icon next to the host and type question into the chat box.



Select the hand icon next to your name and you will be called on.



Today's Topic

- H1N1 Lessons Learned
- How Past Lessons are Informing the COVID-19 Response
- Questions, Comments, Discussion



Press *6 to unmute your line



Today's Speakers

- Rebecca Coyle, AIRA
- Amy Metroka, NYC
- Dr. Cindy Weinbaum, CDC/ISD
- Lynn Gibbs Scharf, CDC/ISD/ISSB



AIRA COVID-19 Updates

Background

- Interest in using IIS both for traditional uses and some less traditional uses
- Ultimately, planning the IIS response rests with CDC, and they are in the process of assessing needs and developing plans to assist jurisdictions
- There are several areas IIS and Immunization Programs can focus on to prepare for the arrival of a novel vaccine, potentially as early as this Fall.



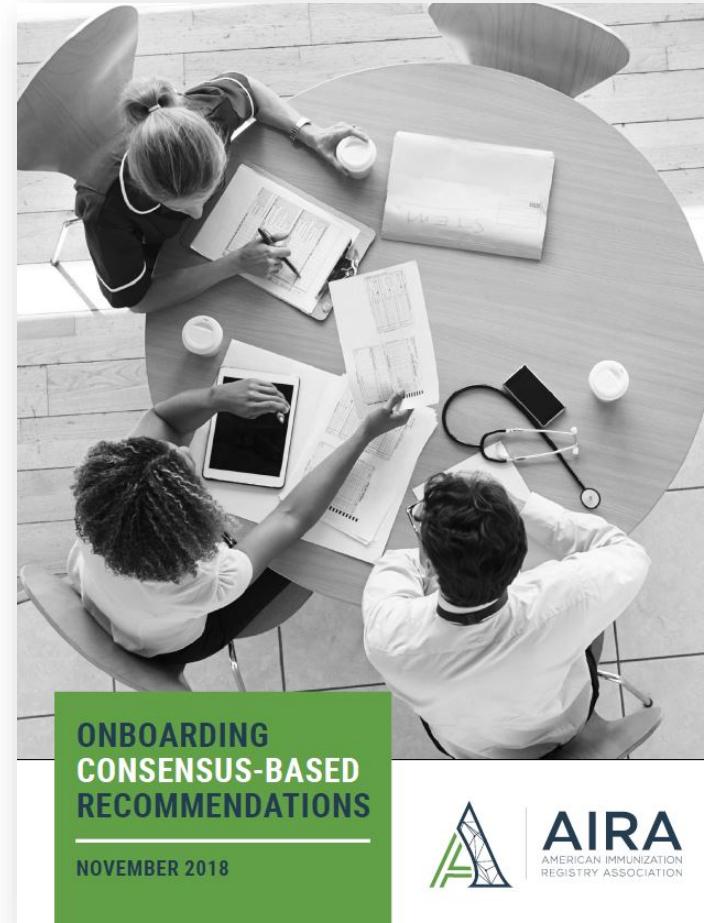
Member Support for COVID-19 Response

- Following CDC lead to better identify how we can best support jurisdictions
- Examples in the works
 - Policy and national partner coordination and alignment
 - Highlight importance of IIS infrastructure and role IIS can play in COVID-19 response
 - Assist CDC and community in assessing capabilities, needs and following CDC guidance to ensure readiness
 - AIRA as centralized forum to unify IIS efforts and develop a shared set of priorities to ensure readiness
 - i.e. SISC workgroups focused on specific issues like priority groups and/or serology
 - Resources
 - Education/Training



IIS can take steps now to better prepare

- Ensure **messaging practices are standards based**, using HL7 V2, SOAP/Web Services and the CDC WSDL, and are in full compliance with CDSi Specifications.
 - AIRA's Measurement and Improvement process can help IIS better understand enhancements that may be needed.



IIS can take steps now to better prepare

- IIS will need to expand to many **new and non-traditional immunizing partners**; processes for onboarding and testing new immunization providers should be optimally automated and streamlined, including:
 - Swiftly onboarding any providers currently waiting in a testing queue
 - Identifying and contacting known new immunizing providers
 - Allowing for online registration
 - Auto-generating IDs or PINs
 - Allowing acceptance of electronic signatures, etc.
 - Consider/explore/expand options for allowing consumers access to their data



Future Interoperability & Capabilities?

- Priority/Tier Groups
- New Data Elements
 - Explore requirements and standards related to messaging, processing and storing of vaccine doses administered, immune globulin doses administered, vaccine distributed, evidence of immunity/titers/serology, COVID test results, and/or transfusions/serum/antibodies
- Consumer Access
- Mass Vaccination
 - i.e. adding options for rapid entry, barcode readers to ID vaccine shipments, mobile capacity, etc.
- Data Sharing
 - Frequent reporting at state and federal level



Policy & Infrastructure Priorities

- Elevate role of IIS and importance of using existing infrastructure
- Address policy barriers that inhibit data exchange and data sharing as well as ensure all providers administering COVID-19 vaccine report all doses to the IIS
- Funding to support infrastructure/IIS enhancements and workforce capacity to handle increased onboarding, training, data monitoring and reporting needs



More on Existing Infrastructure

- Connections already in place with a large number of health systems, pharmacies, and other data partners
- IIS currently hold demographics and immunization data on:
 - 95% of children 0-6 years
 - 80% of adolescents 7-18, and
 - 56% of adults age 19 years and older
- Nearly all IIS leverage CDC's VTrckS system to order, distribute, and account for vaccines
- IIS have demonstrated they serve as an essential tool for responding to H1N1 and recent outbreaks such as measles, HepA, etc.



Routine Immunization

- Assessing how AIRA can support efforts to evaluate and address impact of COVID-19 on routine immunization and vaccination coverage of children and adults
 - How to support IIS in case of multiple outbreaks (i.e. measles)
 - Important part of COVID-19 planning: how to address concurrent COVID-19 vaccination campaign and flu campaigns



H1N1 Resources Summary

Themes relevant to today

- Vaccine allocation and distribution strategies
- Pre-registration, Online provider registration
- Identifying & targeting priority groups
- Communication strategies (with both providers & public)
- Monitoring and reporting doses administered
- Implementing and adapting preparedness plans
- Monitoring routine immunization rates



Sampling of Available Resources

- [AIRA Resource Repository](#)
- [CDC H1N1 Pandemic Information](#)
 - [Including Planning & Pandemic Resources](#)
- [2010 National Immunization Conference](#)
- [AIM H1N1 Resource Archive](#) (members only)
- [Immunization Action Coalition \(IAC\) H1N1 Archives](#)
- Peer-Reviewed Literature



Other

- ASTHO Memorandum of Understanding Toolkit for Public Health Agencies and Pharmacies
- NAIIS Presentation: Pandemic Influenza Requirements in the 2019-2024 Public Health Emergency Preparedness Cooperative Agreement
- CDC Public Health Emergency Preparedness and Response Capabilities: National Standards for State, Local, Tribal and Territorial Public Health
- NAIIS Presentation: MN Preparedness Partnerships and Activities



AIRA Repository Examples

- Using the Citywide Immunization Registry for Pandemic Influenza Preparedness: Lessons Learned from the H1N1 Vaccination Campaign and Preparing for Future Pandemics
- Pharmacy-based childhood immunizations during a public health emergency
- Leveraging Partnerships Among Community Pharmacists, Pharmacies, and Health Departments to Improve Pandemic Influenza Response
- IIS Sentinel Sites Contributions to Preparedness/Response, April 2015



2010 NIC H1N1 Sample Presentations

- Evaluating Local Efforts to Assure Equitable Access to 2009 H1N1 Vaccine in Oregon
- The Struggle for Efficiency and Equity: H1N1 Vaccine Distribution in Minnesota, Beth Parilla
- A Model for Prioritizing Distribution of H1N1 Vaccine to Providers as it became Incrementally Available in Fall of 2009
- Use of An Electronic Health Record System to Guide 2009 Pandemic Influenza A (H1N1) Response in the Indian Health Service
- Implementing a Scanning System to Report H1N1 Vaccine Doses Administered to the North Dakota Immunization Information System
- Implementing a Scanning Solution for Data Capture into an IIS
- Primary Care Providers' Perspectives on a Registry-Based Indicator to Identify High-Risk Children for Influenza Vaccination
- 2009 H1N1 Vaccine Allocation in Tennessee
- Kansas's H1N1 Pandemic Experience
- Rhode Island's H1N1 Pandemic Experience: H1N1, Just Another Day in Vaccine Management
- Brother, can you spare a dose (of H1N1 vaccine)? Flexibility is key to efficient distribution
- Standing up in a crowd: Implementation of the H1N1 Vaccine Program in Washington State
- From Routine to Extreme: Promoting H1N1 Vaccine
- A Targeted Approach for Selecting Schools for H1N1 School-Located Vaccination Efforts
- Monitoring Influenza A (H1N1) Monovalent Vaccine Doses Administered Using CDC's Countermeasure and Response Administration System: Lessons Learned
- Bringin' Them out of the Woodworks: H1N1 and NYSIIS Participation



Relevant Publications

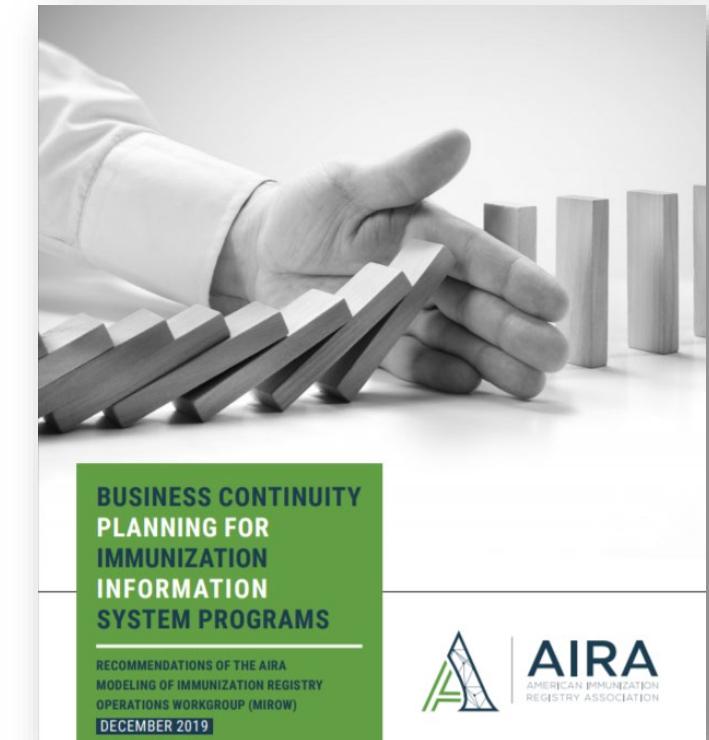
- Seib, K., et al. (2014). "Challenges and changes: immunization program managers share perspectives in a 2012 national survey about the US immunization system since the H1N1 pandemic response." *Human vaccines & Immunotherapeutics* **10**(10): 2915-2921
- Integrating pharmacies into public health program planning for pandemic influenza vaccine response
- Bednarczyk, R. A., et al. (2013). "Evaluating the most effective distribution strategies to assure administration of pandemic H1N1 influenza vaccine to New York State children and adolescents: Evaluation using the New York State immunization information system." *Journal of Public Health Management and Practice* **19**(6): 589-597
- Schauer, S. L., et al. (2012). "An immunization information system to meet evolving needs during the 2009-2010 Influenza A (H1N1) vaccination campaign." *Disaster Medicine & Public Health Preparedness* **6**(4): 402-407
- Butler, G. A., et al. (2010). "Mass immunization registry: Newfoundland and labrador's pandemic solution." *Canadian Journal of Infectious Diseases and Medical Microbiology* **21** (4): 207
- Pagliaro, A., et al. (2018). "Facilitating pandemic vaccination implementation in grocery store chain community pharmacies." *Journal of the American Pharmacists Association* **58** (3): e158
- Wilson, E., et al. (2017). "Identifying facilitators and barriers to operationalizing pandemic vaccinations at a regional grocery store chain pharmacy." *Journal of the American Pharmacists Association*
- Seib, K., et al. (2013). "Partners in immunization: 2010 survey examining differences among H1N1 vaccine providers in Washington state." *Public Health Reports* **128**(3): 198-211
- Howard, A. F., et al. (2012). "Characteristics of Kentucky local health departments that influence public health communication during times of crisis: information dissemination associated with H1N1 novel influenza." *Journal of Public Health Management & Practice* **18**(2): 169-174
- Seib, K., et al. (2012). "Partners on every corner: Pharmacies' role as H1N1 vaccine providers in Washington state." *Journal of the American Pharmacists Association* **52** (2): 229
- Dearinger, A. T., et al. (2011). "Communication efforts among local health departments and health care professionals during the 2009 H1N1 outbreak." *Journal of Public Health Management & Practice* **17**(1): 45-51
- Rosenfeld, L. A., et al. (2011). "Extending the reach: local health department collaboration with community pharmacies in Palm Beach County, Florida for H1N1 influenza pandemic response." *Journal of Public Health Management & Practice* **17**(5): 439-448
- McCarthy, N. L., et al. (2011). "Monitoring vaccine safety using the Vaccine Safety Datalink: utilizing immunization registries for pandemic influenza." *Vaccine* **29**(31): 4891-4896



Partner COVID-19 Resources

Partner COVID-19 Information

- Centers for Disease Control and Prevention (CDC)
 - Interim Updated Planning Guidance on Allocating and Targeting Pandemic Influenza Vaccine during an Influenza Pandemic
- American Academy of Pediatrics (AAP)
- Association of Immunization Managers (AIM)
- Association of State and Territorial Health Officials (ASTHO)
- Immunization Action Coalition (IAC)
- National Association of County and City Health Officials (NACCHO)
- Public Health Informatics Institute (PHII)



Using the Citywide Immunization Registry for Pandemic Influenza Preparedness: Lessons Learned from the H1N1 Vaccination Campaign and Preparing for Future Pandemics

Bureau of Immunization
New York City Department of Health and Mental Hygiene

Paul Schaeffer, Amy Metroka, Angel Aponte
Jane R. Zucker

AIRA 2013 IIS National Meeting
October 9, 2013

NYC IIS: Citywide Immunization Registry (CIR)

- Started in 1997
- Mandatory reporting for patients < 19 years
 - ≥ 19 yrs with consent (can be verbal)
- ~1,750 pediatric provider sites of which ~90% report regularly and ~80% participate in VFC

NYC IIS: CIR - Milestones

- In 2006, CIR reporting was linked to VFC ordering
 - Created CIR-generated VFC doses admin report (DAR) for each provider (# doses reported/ # doses distributed) with reduced VFC orders of providers with DAR < 90%
 - Large increase in reporting
 - More complete data made possible the use of CIR for multiple program functions
- All Providers report electronically since 2010
 - Online Registry; Batch file transfer; HL7 Web service (real-time, uni- or bidirectional)

The H1N1 Pandemic in NYC

- Spring 2009 - large outbreak in schools, rapid spread, high disease rates in children
- 12% of New Yorkers reported flu-like illness in May – June 2009
- Summer 2009 - Plan of Action was:
 - Offer vaccine in all elementary schools and at weekend PODs throughout the City
 - Recruit providers serving adults
 - Distribute vaccine widely to all immunizers

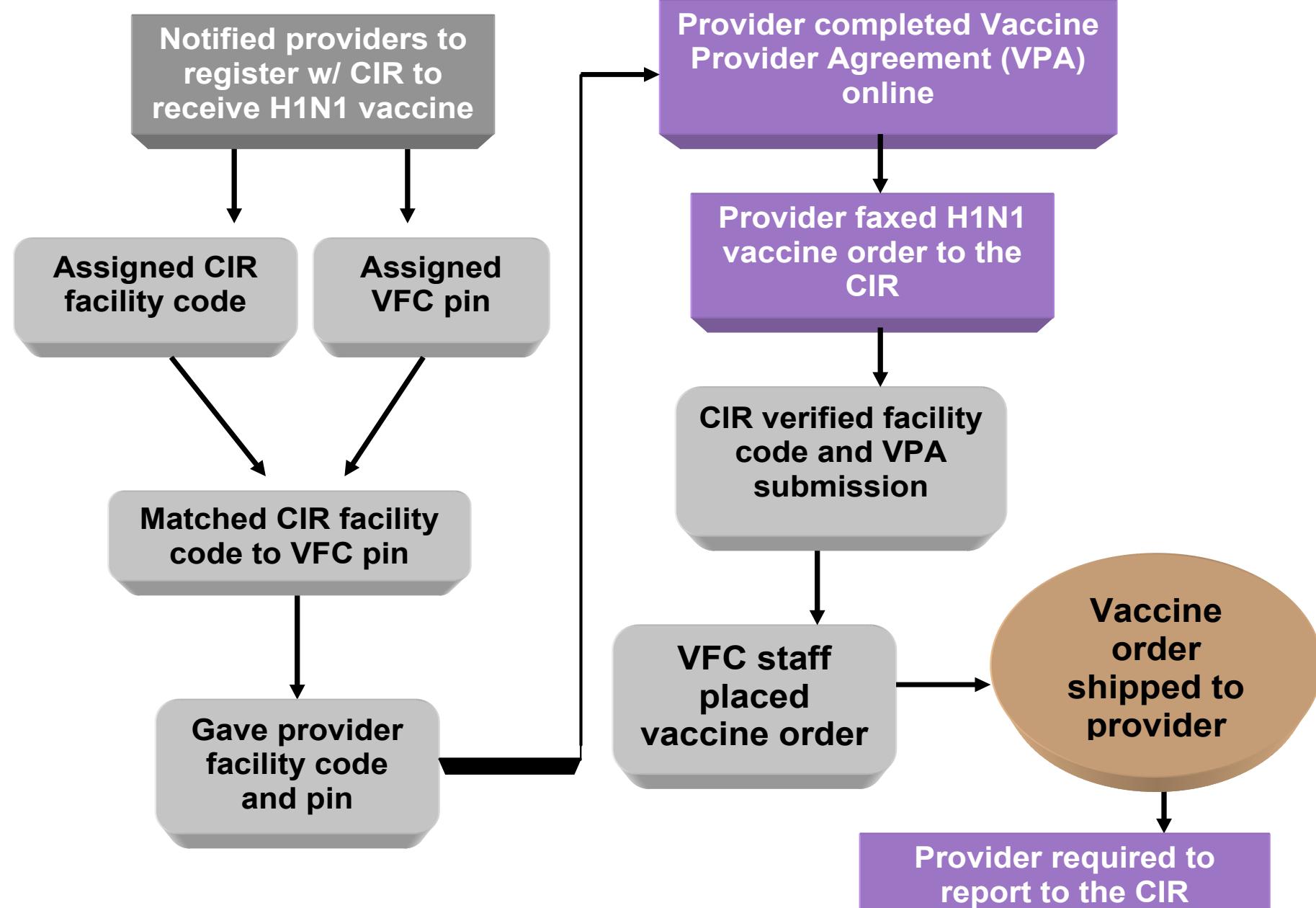
H1N1 – CIR Response

- CIR infrastructure was already in place
 - Existing relationships in place with hospitals and pediatric immunizing facilities
 - Ability to capture large amounts of data
 - Adverse Events module available in CIR
- Plan was to use CIR to:
 - Account for use of vaccine and re-supply
 - Track uptake in priority groups
 - Estimate coverage
 - Track adverse events and determine frequency

Challenges Faced during the H1N1 Response

- Mandatory reporting to CIR only included <19
- Needed large number of new adult providers to:
 - Register with the CIR
 - Order vaccine
 - Report H1N1 doses to CIR
- Need to prioritize allocation of limited vaccine supply
- Capture H1N1 doses administered at PODs
 - Health Department decided to use scannable forms – long delays in data collection

Use of CIR in H1N1 Vaccination Campaign



Challenges & Solutions: Expanding Mandatory Reporting

- **Challenges** – Mandatory reporting to CIR only included < 19 year-olds
- **Solutions** – NYS Governor suspended consent requirement and NYC Health Commissioner issued a Declaration of a Public Health Emergency to modify NYC Health Code to require reporting of H1N1 doses administered to the CIR, including \geq 19 years old

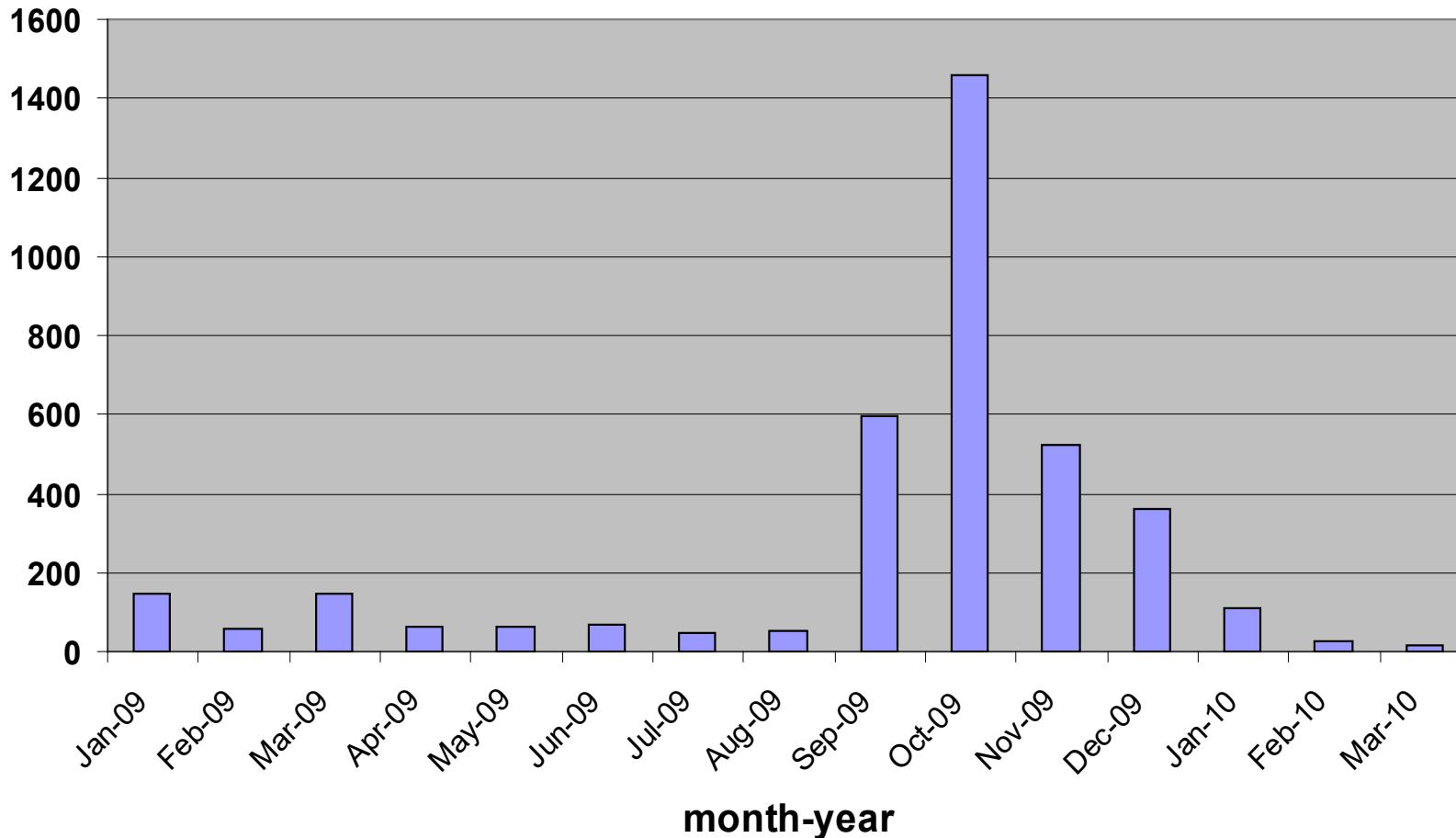
Challenges & Solutions: Provider Registration

- **Challenges** – needed to manually register large number of adult providers for both CIR and VFC programs
 - Telephone lines went down repeatedly; constantly busy when up
 - CIR and VFC - two separate units and databases
- **Solutions** – staff reallocated, overtime, redirected providers to use nycflu email box, increased CIR-VFC coordination

Total Registered Facilities

- Jan 1996 - Aug 2009
 - Registered ~2,000 facilities
 - ~1,800 were active in Aug 2009
- Aug 2009 – Mar 2010
 - Registered > 3,000 new facilities
 - 150% increase
- Current total: ~ 5,000
 - 1,997 new private adult sites registered
 - ~54% of all adult immunizing sites registered

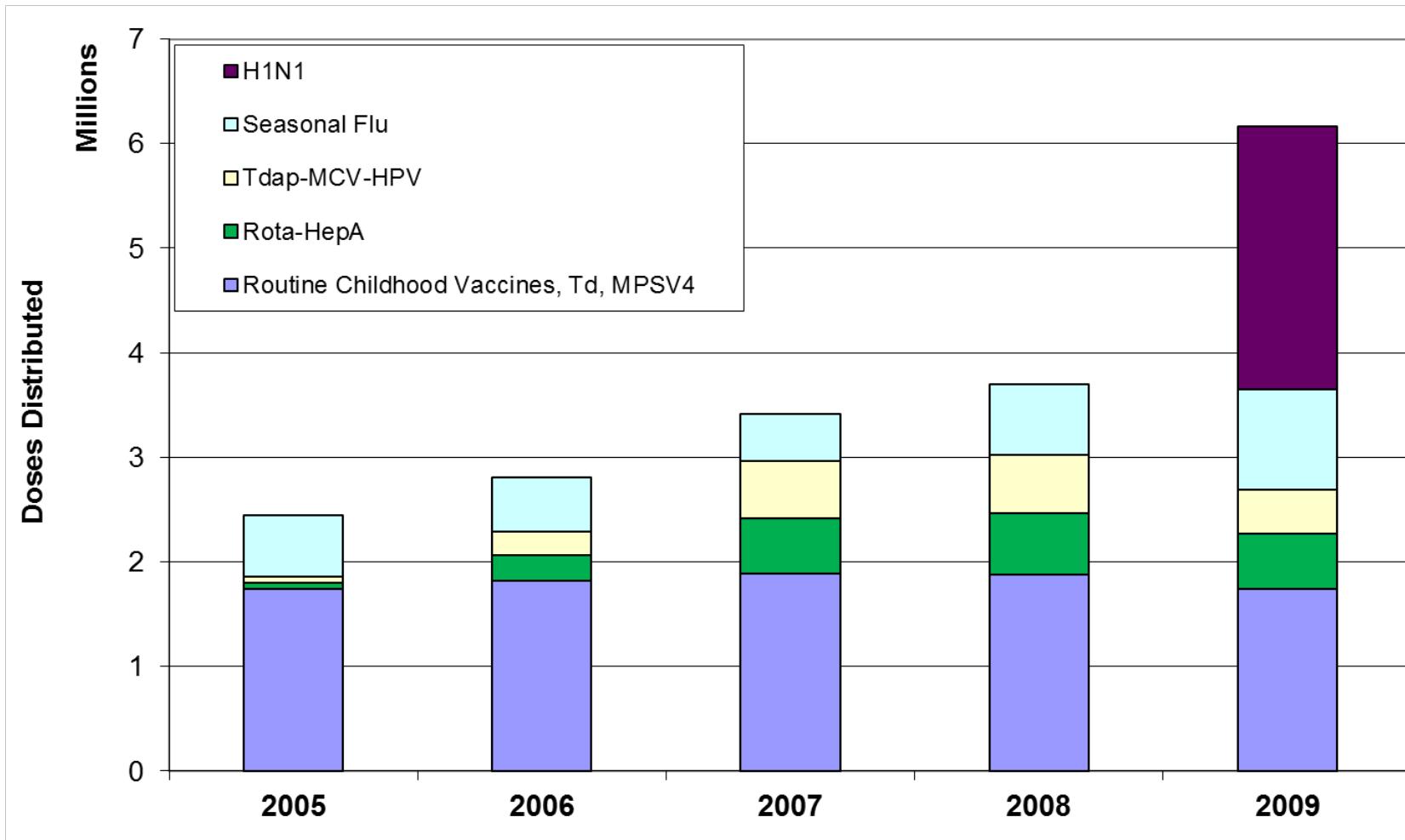
Number of New Facilities Registered in the CIR by Month (Jan 2009 - Mar 2010)



Challenges & Solutions: Vaccine Orders

- **Challenges** – needed to process large number of faxed orders
 - Fax lines went down repeatedly
 - Needed to verify vaccine provider agreement before processing order
 - Hard to determine what orders to prioritize
 - Overwhelmed by providers calling for order status
- **Solutions** – staff reallocated, overtime, redirected providers to inquire about orders via nycflu email box, increased CIR-VFC coordination

Doses Distributed by the Bureau of Immunization's VFC Program



Challenges & Solutions: Reporting of Vaccine

- **Challenges** – needed to facilitate reporting by newly registered providers (mostly adult providers)
- **Solutions** – CIR enhanced with Quick-Add Patient & H1N1 Vaccination feature, H1N1 vaccine forecasting rules and increased visibility of Adverse Event module; set-up of hundreds of new CIR Online Registry accounts and support and training for new users through Webinars, documentation

H1N1 Quick Add

Online Registry 

PATIENTS: Search, MyList, Reports, Add/Edit PRACTICE: Tools, VFC, Set Up, H1N1, Help, LogOut

Welcome Melissa Mickle
Facility: Citywide Immunization Registry (CIR)
Address: 2 Lafayette Street

Vaccine Antiviral

- This page is for the quick entry of H1N1 Influenza immunizations. You are required to report all H1N1 Influenza immunizations regardless of age. Click [here](#) for more information about CIR reporting requirements.
- For the most recent CDC MMWR guidance regarding H1N1 Influenza vaccine, click [here](#).
- For patients under 19 years of age, you may either use this quick entry form to report H1N1 vaccine administration, or use the [Search](#) or [MyList](#) screen.

Quick-Add Patient and H1N1 Vaccination

* - Required Fields
+ - Recommended Fields

Patient Information:

First Name: * Middle Name: + Last Name: *
Gender: * Male Female DOB: * / / (mm/dd/yyyy)

Patient's Address and Phone:

Building #: * Street: * Apartment/Suite #: +
City: * Please Select... State: * NY Zip: *
Phone: +

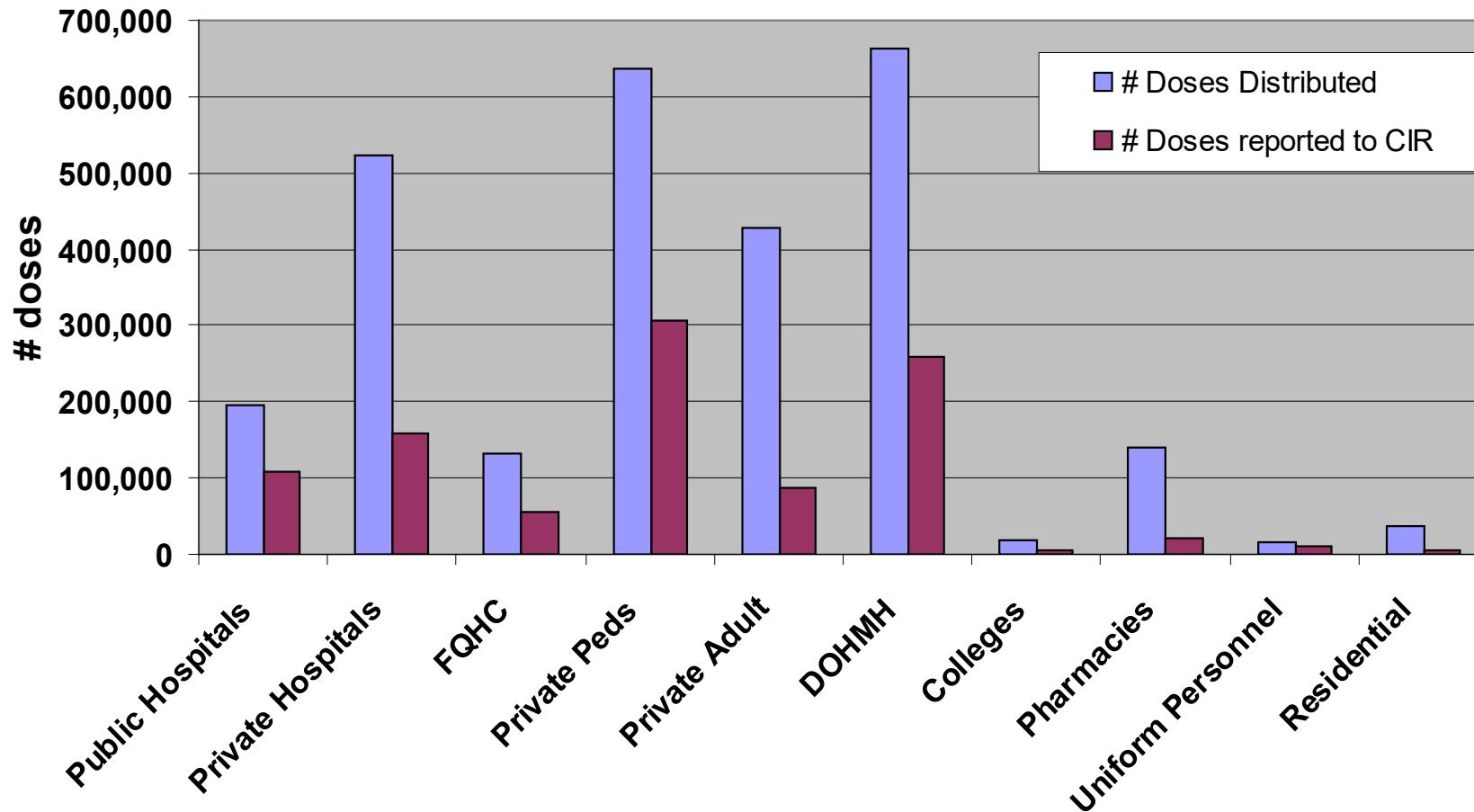
We are asking for your address so we can locate your record more easily when you return for your 2nd dose.

Vaccine Information:

Vaccination Date: * / / 2009 (mm/dd/yyyy)
Vaccine Administered: * Select Vaccine...
Lot: + Select Lot... Add New Lot to List

Clear Confirm 

H1N1 Doses Distributed and Reported to the CIR by Facility Type (Oct 2009 – Mar 2010)



Estimated Coverage for H1N1 Based on CIR Data as of April 14, 2010

Age*	# with 1 H1N1 (per CIR)*	Census Denominator	% with 1 dose (per CIR)
6 months - 3 years	119,621	394,475	30.3%
4 - 10 years	244,452	716,678	34.1%
11 - 18 years	119,578	839,347	14.2%
Total	483,651	1,950,500	24.8%

*The number of children in each age group includes all children that were at that age at the time of the H1N1 administration. Some children may have aged out of that cohort at the time of this report. As a consequence, coverage for that age group is slightly overestimated

Challenges & Solutions: Vaccine Allocation

- **Challenges** – needed to prioritize distribution and communicate to providers about vaccine and product availability with changing CDC forecasts and not enough vaccine or right kind to meet initial demand, then huge surplus!
- **Solutions** – all orders reviewed by senior staff, started sending weekly update letters via CIR blast email, brand of vaccine no longer honored, resupplied based on doses reported to CIR

Lessons Learned & Post-H1N1 Enhancements (1)

- **Lesson Learned** - need to streamline CIR registration and vaccine ordering processes and fully integrate CIR and VFC units
- **Post H1N1 Enhancements**
 - CIR\VFC Programs under CIR director – Late 2010
 - Online Vaccine Ordering Tool – deployed May 2010
 - No more faxes! Allows providers to track orders
 - Order file automatically populates VTrcks eliminating duplicate data entry
 - CIR Online Registration System – deployed Oct 2013
 - Providers register online and information pre-populates CIR tables for quicker processing

Lessons Learned & Post-H1N1 Enhancements (2)

- **Lesson Learned** - need to make reporting easy for newly registered providers
- **Post H1N1 Enhancements**
 - Created recorded webinars and documentation to facilitate use of Online Registry
 - Began connecting sites to HL7 Web Service for reporting of doses administered in 2009/2010

Lessons Learned & Post-H1N1 Enhancements (3)

- **Lesson Learned** – need to better classify providers for prioritization of vaccine orders and need to communicate regularly with providers
- **Post H1N1 Enhancements**
 - Built provider classification schema which better defines provider type
 - Built automated blast email application
 - CIR staff regularly clean up provider email addresses for regular communication

Next Steps

- Continue to enhance CIR Provider Registration System
 - Integrate with Vaccine Provider Agreement
 - Integrate with DOHMH registration systems including Pharmacy and Long Term Care registration application
- Streamline Online Registry account set-up
 - Enable online vaccine ordering and tracking
- Onboard adult immunizing sites for HL7 reporting
 - Capture reporting of vaccine doses administered via from provider EHRs

Next Steps (continued)

- Implement CDC Sentinel Site Grant
 - Add adjuvant capture to CIR applications
 - Continue to recruit adult providers
 - Maintain ability to report to CDC for next pandemic – already successful for H1N1 vaccine campaign

Barriers

- Capturing Adult Immunization Reporting
 - Difficult to engage providers not actively involved in IIS
 - Consent still required for adults (can be verbal)
 - Challenge to EHR systems as many do not capture adult consent in their systems
- Lack of Emergency Preparedness Funding
 - Further enhancements \$\$
 - Need for servers, equipment

Conclusions

- CIR facilitated H1N1 vaccine distribution, tracking of uptake and helped target re-supply during shortage
- Established relationships with adult immunizers
 - Registered in CIR database – included in blasts and receive communications about influenza vaccination
- Post H1N1 enhancements improved CIR functions for day-to-day operations and better prepared us for a pandemic, especially streamlining of registration and online ordering of vaccine
- Further enhancements are necessary to fully automate processes

COVID-19 Vaccine Planning

- Enhance online facility registration system
 - Increase automation
- Further automate set up of UI accounts for vaccine ordering
- Outreach to adult provider sites
 - Contact those who participated in H1N1 response (most have been inactive)
 - Work with Emergency Response staff to identify and register long-term care facilities
 - Onboard adult provider sites for HL7 reporting
- Investigate solutions for capturing vaccination data in PODs

Contact Information

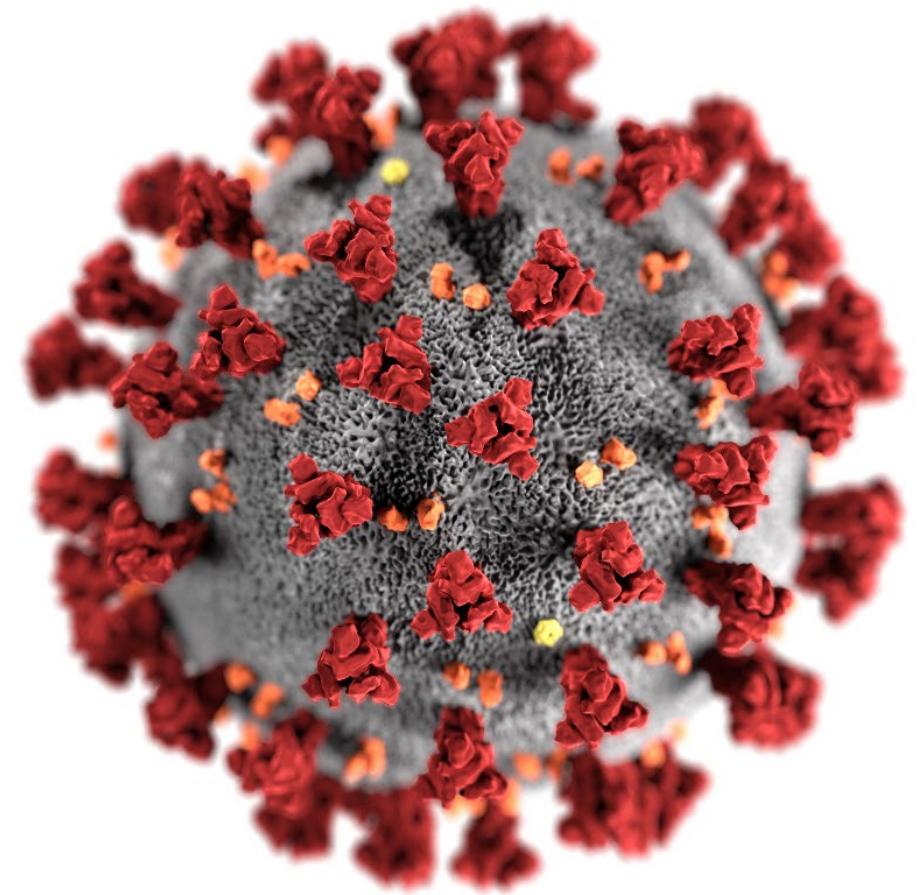
Citywide Immunization Registry
NYC Department of Health & Mental Hygiene
www.nyc.gov/health/cir

Amy Metroka, DrPH, MSW
ametroka@health.nyc.gov



Coronavirus disease 2019 (COVID-19) vaccines

AIRA Discovery Session
April 27, 2020



COVID-19 in the United States*

USA
802,583
CASES

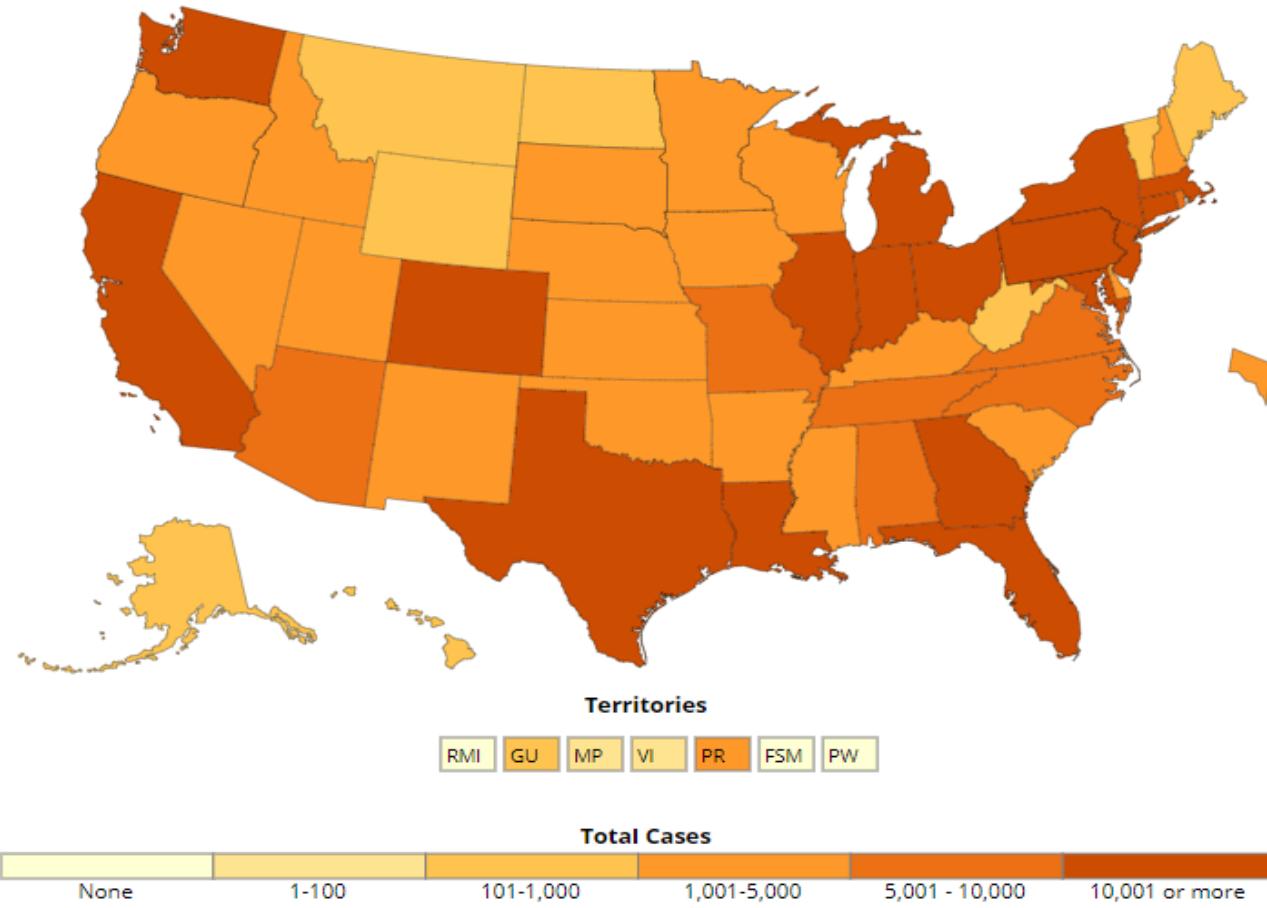
CDC | Updated: Apr 22 2020 2:35PM

USA
44,575
TOTAL DEATHS

CDC | Updated: Apr 22 2020 2:35PM

Total Number of COVID-19 Cases in the US Reported to the CDC, by Jurisdiction

[Total Cases](#) [Cases in Last 7 Days](#) [Rates](#)



* As of April 22, 2020. Numbers updated daily at
<https://www.cdc.gov/coronavirus-interactive/index.html>

Key epidemiologic findings

- Disproportionate risk of severe disease in older adults, persons with underlying conditions, and African-Americans.¹
- Substantial number of cases in health care workers.²
- Asymptomatic transmission observed.³
- Increased transmission in congregate populations (e.g., long term care facility residents, persons experiencing homelessness, prison inmates).⁴



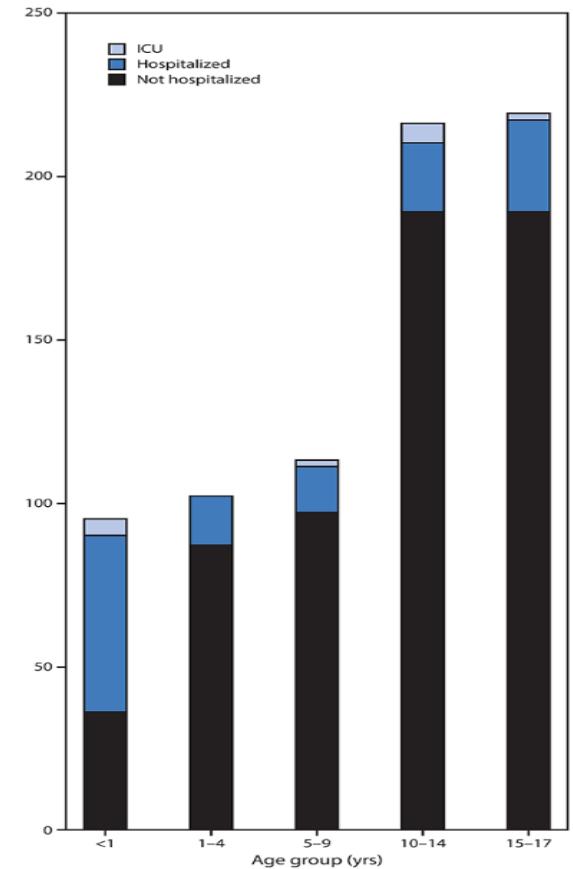
¹Garg S, et al. MMWR Morb Mortal Wkly Rep 2020;69:458–464. ²CDC COVID-19 response team. MMWR Morb Mortal Wkly Rep 2020;69:477–481.

³Wei WE, et. al. MMWR Morb Mortal Wkly Rep 2020;69:411–415. ⁴McMichael TM, et. al. MMWR Morb Mortal Wkly Rep 2020;69:339-342.

COVID-19 in U.S. children*

- <2% of confirmed U.S. cases.¹
- Reduced severity among children: 5.7-20% hospitalization rate (vs. 10-33% among adults aged 18-64 years).¹
 - 0.6-2% admitted to ICU; 3 pediatric deaths.
- 23% of pediatric patients had an underlying condition.¹

COVID-19 cases in children aged <18 years by age and hospitalization status.*



* From February 12-April 20, 2020. Among patients with known information.

¹CDC COVID-19 Response Team. MMWR Morb Mortal Wkly Rep 2020;69:422-426.



COVID-19 vaccines



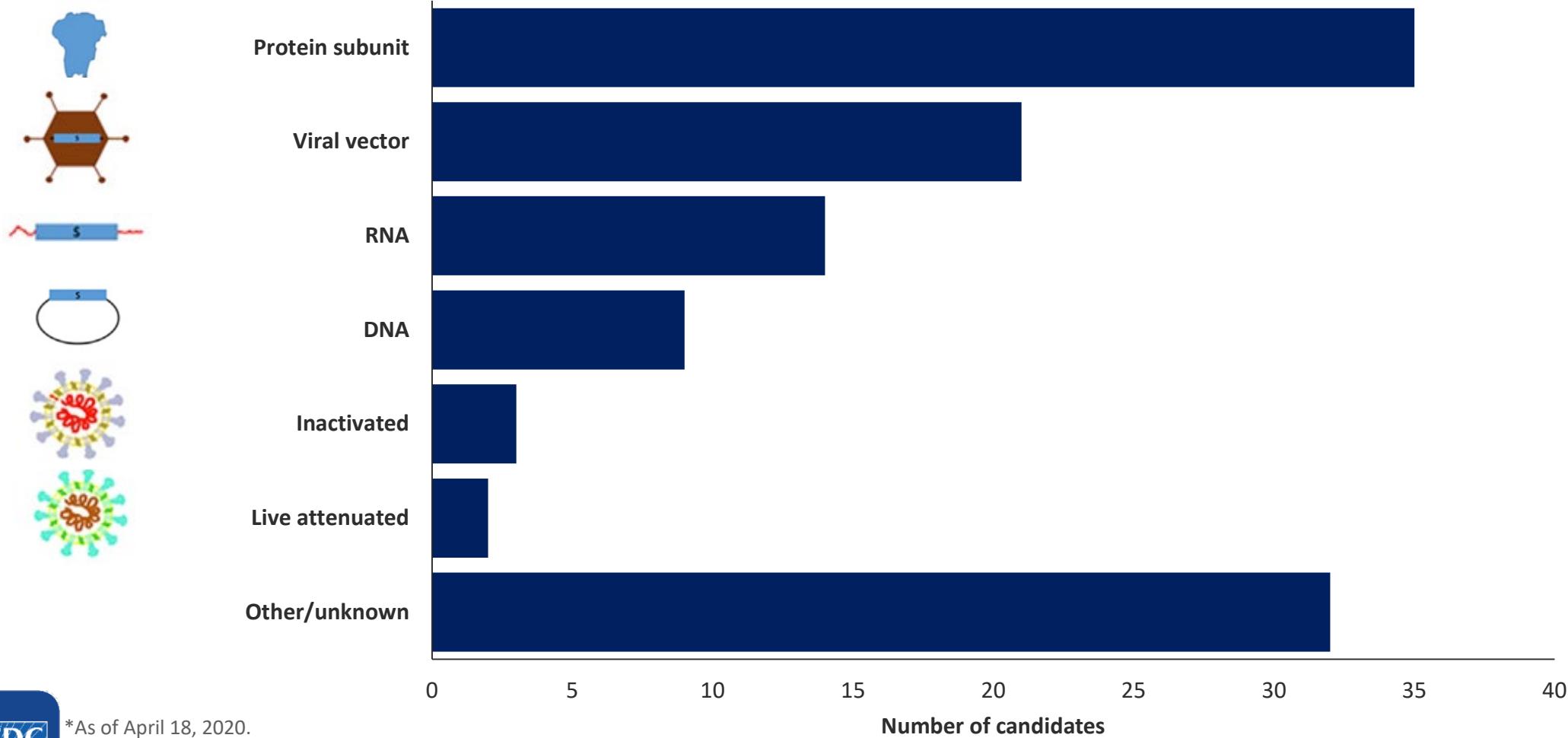
Approach to COVID-19 vaccine development

- Multiple and diverse vaccine technologies to increase likelihood of success.
- Novel development paradigm:
 - Parallel development phases
 - Adaptive regulatory processes
 - Rapid manufacturing scale-up



Benedetto Cristofani. *The Economist*.

COVID-19 vaccine landscape*



*As of April 18, 2020.

Source: https://vac-lshtm.shinyapps.io/ncov_vaccine_landscape/
Figures adapted from Amanat, et. al. *Immunity* (2020).



COVID-19 vaccines in human clinical trials*

Candidate	Manufacturer	Type	Trial location	Phase
ad5-nCov	CanSino Biologics, Inc.	Viral vector	China	II
mRNA-1273	Moderna TX, Inc.	mRNA	U.S.	I
INO-4800	Inovio Pharmaceuticals, Inc.	DNA	U.S.	I
Pathogen-specific aAPC	Shenzhen Geno-Immune Medical Institute	Viral vector	China	I
LV-SMENP-DC	Shenzhen Geno-Immune Medical Institute	Viral vector	China	I
ChAdOx1	University of Oxford	Viral vector	U.K.	I
--	Beijing Institute of Biological Products	Inactivated	China	I



*As of April 20, 2020.

Source: <https://milkeninstitute.org/sites/default/files/2020-04/Covid19%20Tracker%20NEW4-20-20.pdf>

COVID-19 vaccines in human clinical trials*

Candidate	Manufacturer	Type	Trial location	Phase
ad5-nCov	CanSino Biologics, Inc.	Viral vector	China	II
mRNA-1273	Moderna TX, Inc.	mRNA	U.S.	I
INO-4800	Inovio Pharmaceuticals, Inc.	DNA	U.S.	I
Pathogen-specific aAPC	Shenzhen Geno-Immune Medical Institute	Viral vector	China	I
LV-SMENP-DC	Shenzhen Geno-Immune Medical Institute	Viral vector	China	I
ChAdOx1	University of Oxford	Viral vector	U.K.	I
--	Beijing Institute of Biological Products	Inactivated	China	I



*As of April 20, 2020.

Source: <https://milkeninstitute.org/sites/default/files/2020-04/Covid19%20Tracker%20NEW4-20-20.pdf>

Vaccine safety considerations

- With many novel vaccine platforms, vaccine safety is a significant concern
- Enhanced disease: development of more severe disease in vaccine recipients upon exposure to the pathogen.¹
 - Observed in animal or human trials for multiple viruses, including respiratory syncytial virus, dengue, Zika, SARS- and MERS-CoV.



¹S matti MK, et. al. *Frontiers in microbiology* 9 (2018): 2991.

²Roper RL, et. al. *Expert review of vaccines* 8.7 (2009): 887-898

Preparation for COVID-19 vaccines in the United States

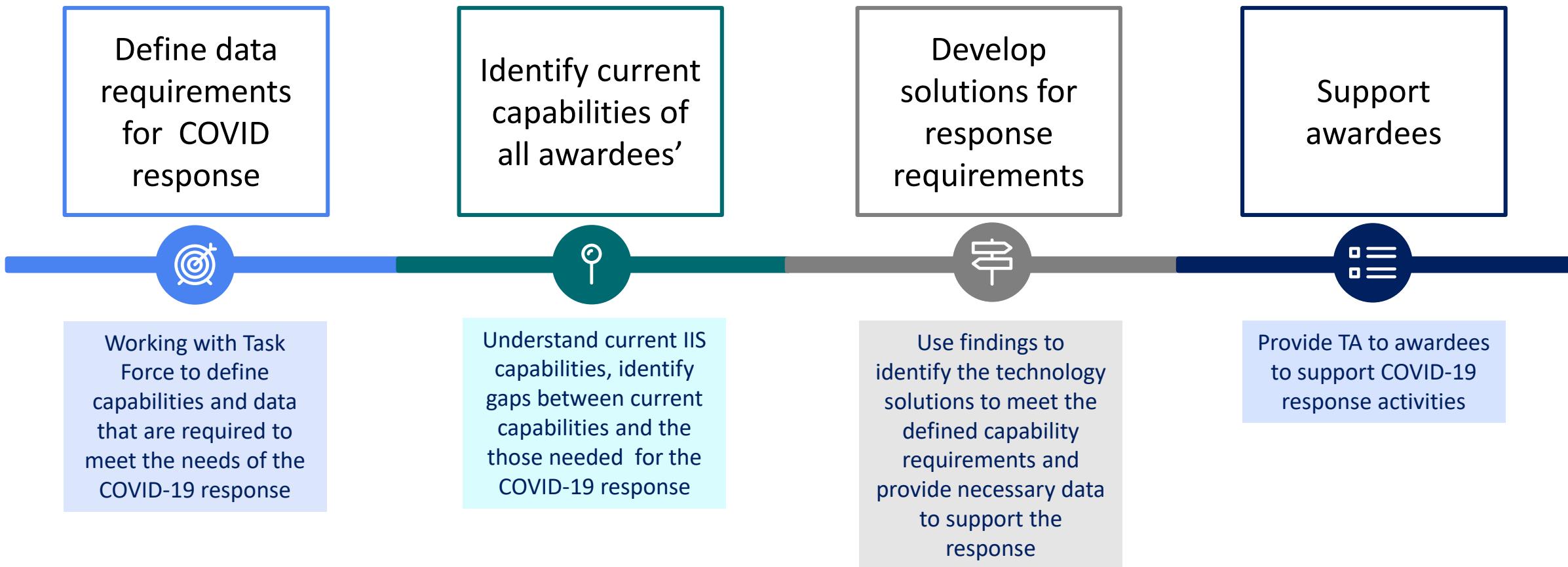
- Timeline depends on clinical trial progress and regulatory proceedings.
- An Advisory Committee on Immunization Practices (ACIP) COVID-19 vaccine work group recently established.
 - A primary responsibility of ACIP will be to determine priority groups for vaccination in the setting of limited initial supply.
- Planning for implementation and vaccine delivery networks underway.



Immunization Information Systems



IISSB COVID-19 Response - Activities Overview



IIS Preparation

- Infrastructure
 - Latest versions
 - Cloud hosting and storage
 - Immunization gateway
 - Address M&I findings
- Provider enrollment and onboarding
 - Backlogs
 - Those that may vaccinate front-line healthcare providers and critical workforce, including pharmacies
- Ordering
 - ExIS KPI Report
- Assess/address reporting policies
- Patient matching and de-duplication
- Reminders





For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348 www.cdc.gov

Thank you!

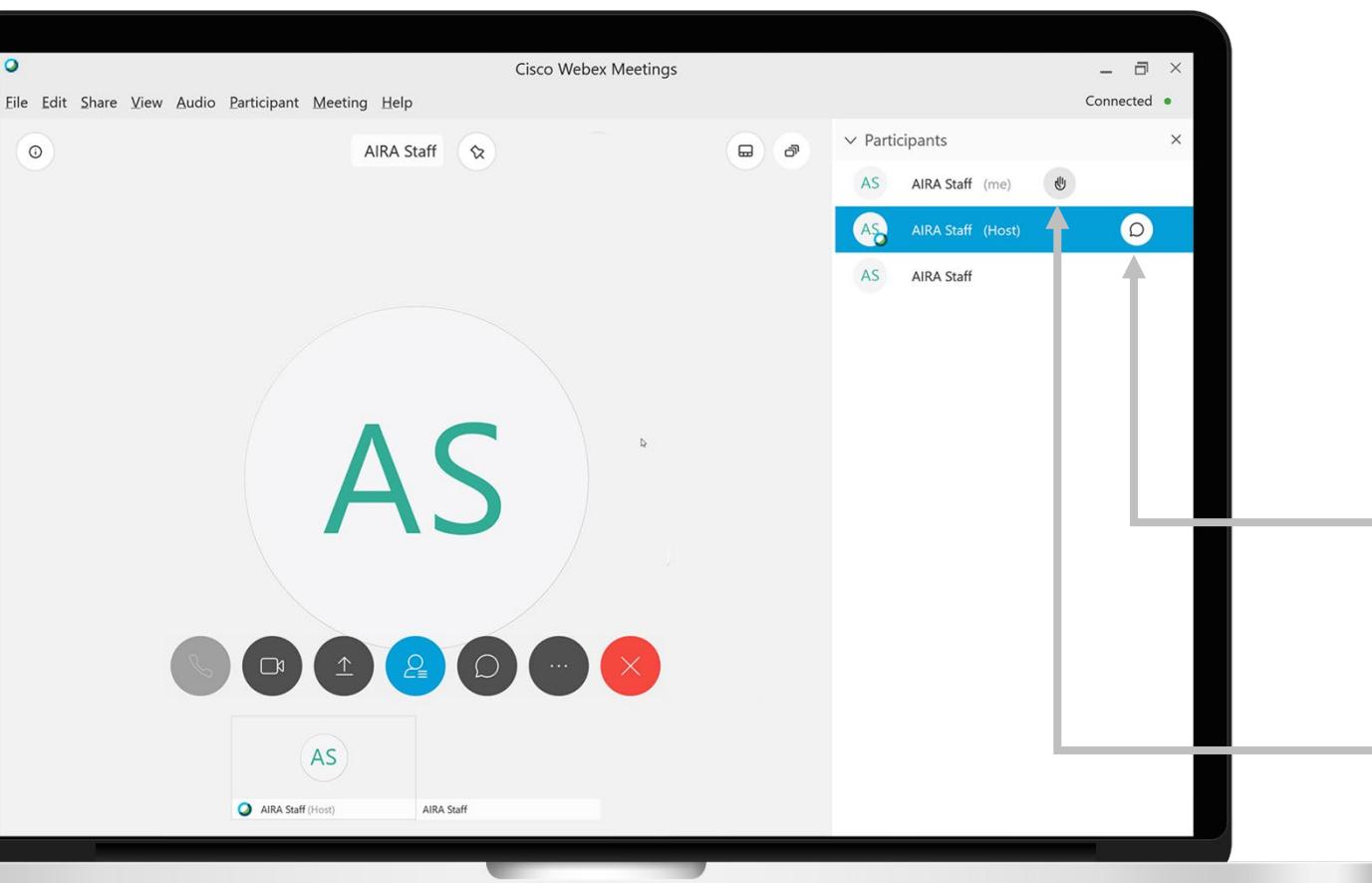
The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



Questions, Comments, Discussion?



Questions, Comments, Discussion?



- **How do I ask a question?**

- To unmute your line press ***6**
- Via WebEx:

Select the chat icon next to the host and type question into the chat box.



Select the hand icon next to your name and you will be called on.



Thank you to our presenters,
and thanks to all of you for
joining us!

A brief evaluation survey will be sent out
following this webinar

The next Discovery Session will be
May 28th at 4pm ET