The Human Factor: Implementing 2D Vaccine Barcode Scanning in Clinical Settings

2019 AIRA National Meeting
August 14, 2019

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Session Outline

- Background & Pilots
- Implementation Guide for Decision Makers
- Next Steps

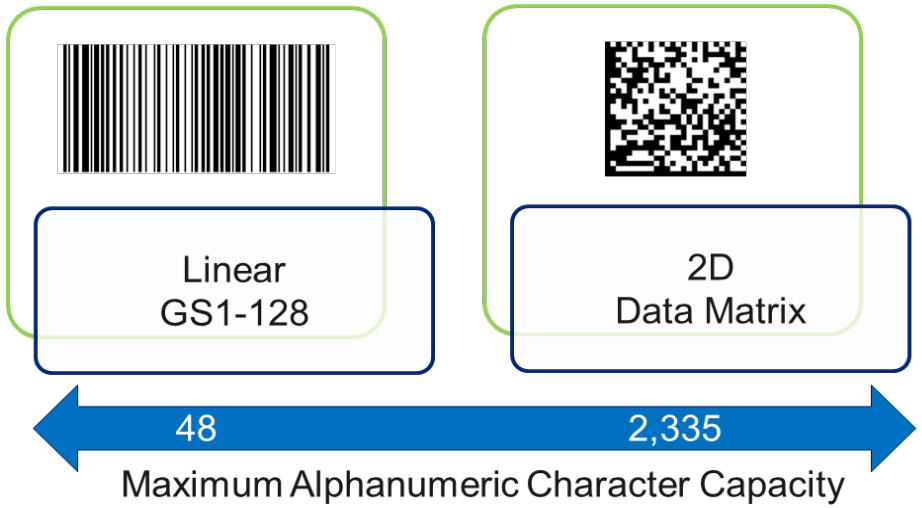
Background & Pilots

2D Barcoded Vaccine Information

■What's in a 2D barcode on a vaccine?

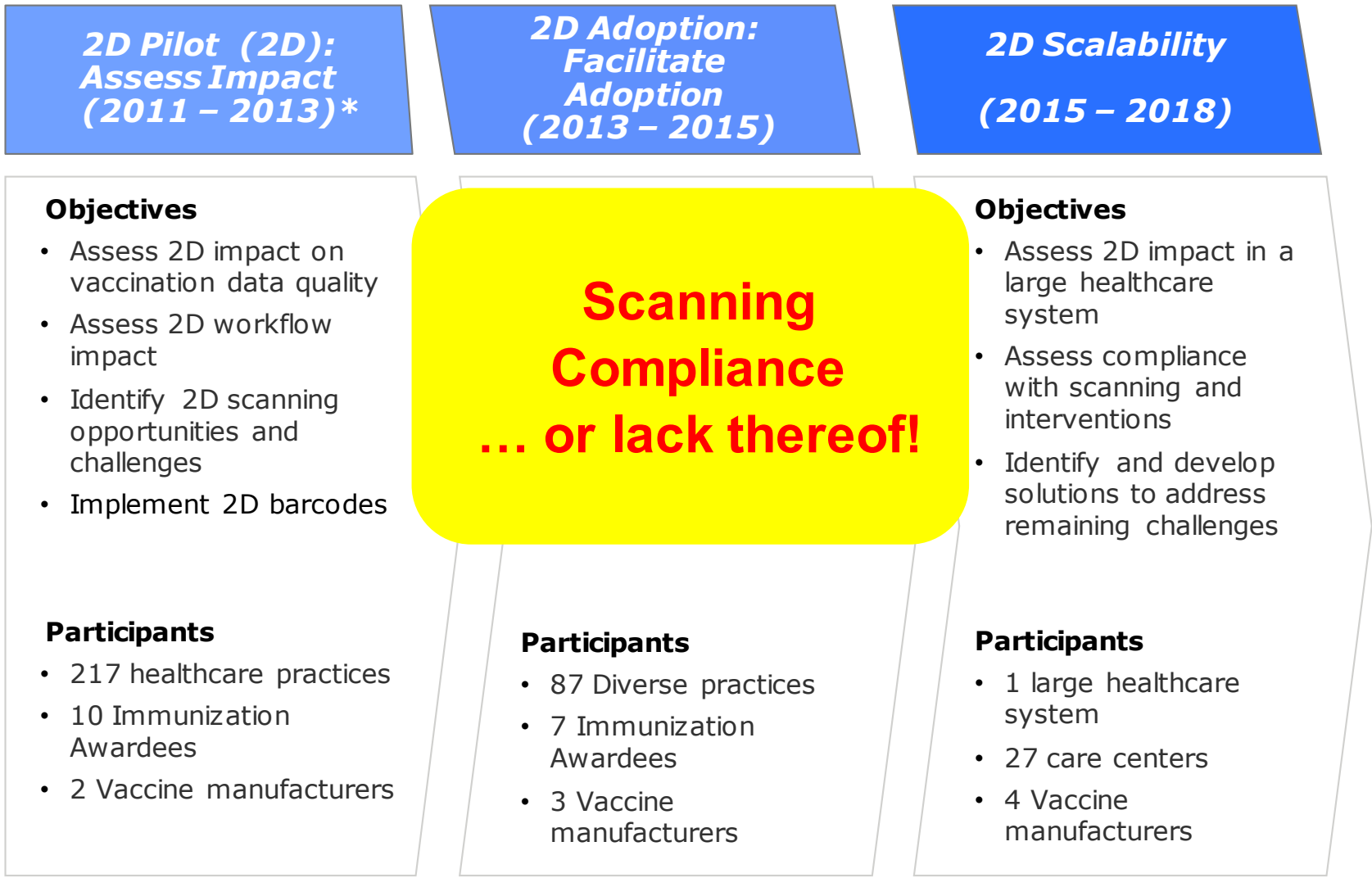
Vaccine two-dimensional (2D) barcodes contain more data than traditional, linear barcodes.

Vaccine Barcode Contents by Type	
Linear	**2D**
NDC	NDC Lot Number Expiration Date



2D Barcodes provide a significant data capacity increase over linear barcodes

CDC 2D Barcoded Vaccine Initiatives



* Periods of primary data collection and project activities provided

Implementation Guide for Decision Makers

Overview of Implementation Guide Steps

***Aim*: to support decision-making and planning to implement 2D vaccine barcode scanning in clinical settings**

***Foundation*: 2D Scalability Pilot Findings**

Decide

Is adoption of 2D barcode scanning of vaccines right for your facility?

Plan

How will scanning fit into vaccine administration workflow? Which strategies will maximize scanning?

Train

Who will be trained? How will staff be trained? What materials/resources are needed?

Assess

How are scanning rates? What are the challenges? What additional support is needed?

Adjust

(*if needed*) What needs to change to achieve consistent scanning?

Sustain

Have we achieved consistency and long-term adoption? Shall we expand?

1. Decide

Decide Whether or Not to Adopt 2D Barcode Scanning

Is vaccine barcode scanning right for your organization?

Are needed elements (or tools) in place to use scanners?

Weigh potential benefits and up-front costs to implement scanning.

Technology & Support Needs

- EMR system that supports 2D vaccine barcode scanning
- Installing and Configuring Scanners for EMR interface

Potential Benefits

- Improved vaccine record accuracy
- Time savings
- Improved staff satisfaction

Up Front Costs & Time Needs

- Purchasing scanners/stands
- Training staff/leaders
- Revising vaccine entry and workflow processes
- EMR system's immunization module (if appropriate)

Technology & Support Needs

Electronic Medical Record (EMR) System

An organization needs (or be able to set up) an EMR able to capture data - at point of vaccine administration.

- Some EMRs - 2D barcode scanning functionality; third party apps vendors
- Able to capture all data in the barcode (product ID, lot number, expiration date).
- Able to indicate if a record was scanned vs. manually entered
- Alerts - scan prior to vaccine administration

Scanner Configuration and Installation

- Support from an IT resource will enable the configuration, testing, and installation of scanners.
  - Most scanners "out of the box" require some set-up to ensure that scanners function or interface with the specific EMR system.
  - This set-up or configuration, ensures that data encoded in the 2D barcode populates correctly in the EMR.
  - Configuration process may vary by scanner.
- An organization should determine the best type of scanner for their needs. American Academy of Pediatrics (AAP) outlines considerations when choosing a scanner.

2. Plan

Develop a Protocol and Identify Ways to Maximize Scanning Use

Plan

Develop a Protocol

Create a protocol to determine how 2D barcode scanning will fit in the workflow and be evaluated.

- Develop evaluation questions
- Include strategies that will be used to promote scanning
- Create a timeline

Identify Sites or Practitioners that May Need Additional Support

Scanning rate provided information on challenges and identified where additional support was needed.

- Sites with a lower volume of vaccines given (e.g., Internal Medicine) may require more support to fully implement scanning

Identify Strategies ("Nudges") to Maximize Scanning

Examples of nudges that can be used are:

- Signing commitment cards, providing scanning rate reports, and leader visits

Strategically Select Sites When Resources Limited

An organization might not have resources to implement scanning across all of their sites initially

- Higher-volume **<or>** Low-volume sites

Select Scanner Location

Four key considerations to identifying the best location for scanners.

- **Determine Most Convenient Location**
- **Ensure Location Works For Staff Using the Scanners**
- **Location Supports Scanning Prior to Administration of Vaccines**
- **Weigh Different Potential Locations**

3. Train

Plan Training and Implementation Support

Gather the right people and training environment

Identify Scanning Champion and Implementation Support Team

- Identify a scanning champion (site leader or system leader)
- Identify person(s) to support implementation: testing the scanners, working with staff to determine the best workflow, planning logistics, and setting up trainings

Identify Trainers and Staff to Train

- Identify trainers—this may be a champion at each site or a resource dedicated to trainings
- Confirm which staff to train at each site

Plan Set-up and Logistics for Training

- Create a training (or sandbox) environment in your EMR—preload dummy data for use during training
- Collect assorted vials/syringes - bring scanners to provide hands-on scanning practice during training
- Identify space for training - This may be a desktop at a station, a breakroom with a computer, or a dedicated training room
- Set training schedule - may take place one on one in intervals or in a large group session at a predefined time (lunch, before/after patients)
- Have a mechanism to train new staff or staff who missed initial training

4. Assess

Assess Implementation of Scanning

Gather Information

Assess Early Status

- Collect data for early assessment of scanning
- Gather feedback from staff/leaders
- Continue data collection to evaluate implementation broadly and identify any changes taking place

Analyze Data

- Analyze data at regular intervals, including within the first few weeks
- Use scanning indicator to monitor scanning rates
- Identify types and extent of challenges faced
- Assess whether protocol is being followed

Check Status

- Use collected data to determine how implementation is going for sites and staff
- Determine which sites or staff need additional support/adjustment and those finding early implementation success

5. Adjust

Overview: Adjust *(if needed)*

An assessment of implementation - may have found that some sites or staff still struggle with consistent scanner use. Troubleshooting challenges and making adjustments to improve workflow integration and increase scanner use.

Identify Challenges

- Use data collected in *"Assess"* phase to understand types and extent of challenges
- Gather more detailed information from specific sites/staff
- Determine if a few specific solutions can address most challenges or need multiple solutions

Develop Solutions and Adjust

- Develop solutions specific to challenges faced by sites or staff
- Revisit previous steps/suggestions from the *"Plan"* phase for potential resolutions to challenges
- Implement solutions to address challenges
- Allow integration period for changes
- Assess whether changes have improved scanning use

6. Sustain

Sustain and Expand Use of Barcode Scanning

Strategies to further improve and expand barcode scanning.

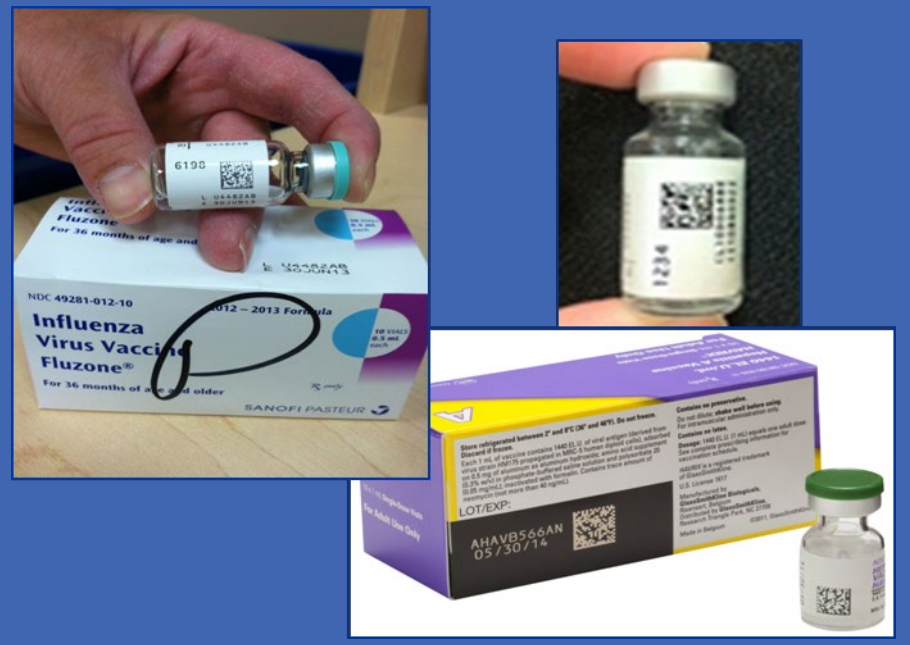
Sustain Use of Scanning

- Establish threshold for regular or consistent scanning to move into sustain phase
- Continue to monitor scanning rates
- Ensure ongoing use and buy-in of staff and leaders

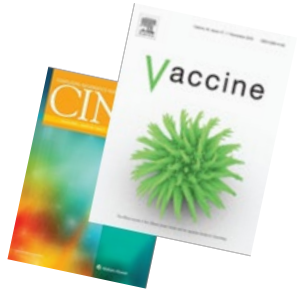
Expand Use of Scanning

- Expand scanning to other sites within the health system (if appropriate)
- Engage immunization community to support scanning efforts

Next Steps

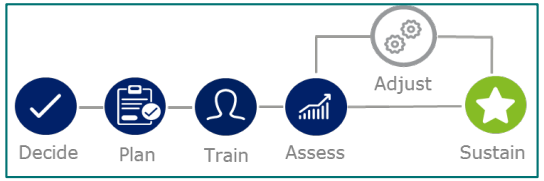

NDC 49281-012-10
Influenza
Virus Vaccine
Fluzone®
For 36 months of age and older
SANOFI PASTEUR
LOT/EXP:
AHAVB566AN
05/30/14

Next Steps



Share 2D Barcode Findings – Reports/ Articles/ Presentations

Provide Technical Assistance / Refine the *Implementation Guide for Decision-Makers*



Maintain National Drug Codes (NDC) Crosswalk Tables

Unit of Sale (UoS) & Unit of Use (UoU)

Maintain Functional Capabilities Report – for software developers

Maintain 2D Barcodes – Vaccine Information Statements (VIS)

CVX-VIS table

Monitor - Drug Supply Chain Security Act (DSCSA) – Requires 2D barcode on Unit of Sale (package)

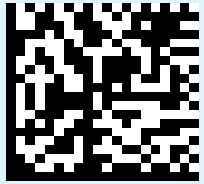
Engagement with Immunization Community Partners

Vaccine Manufacturers – EMR Vendors – Scanner Vendors - Providers

Website Resources

2D Vaccine Barcodes for Providers with Implementation Guide for Decision Makers - https://www.cdc.gov/vaccines/programs/iis/2d-vaccine-barcodes/providers.html

American Academy of Pediatrics (AAP) Immunizations - https://www.aap.org/en-us/advocacy-and-policy/aap-health-initiatives/immunizations/Pages/Immunizations-home.aspx



“Thank You! Happy Scanning.”

For more information please contact Centers for Disease Control and Prevention

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