National Center for Immunization & Respiratory Diseases

Vaccine 2D Barcode Scanning for Routine Vaccinations

More than 100 million doses[1,2] of vaccines are given annually in the United States. Manual entry of these vaccines into the Electronic Health Record (EHR) can be inefficient and result in data entry errors. Today, most vaccines have two-dimensional (2D) barcodes, which can help healthcare providers track product identifiers and capture accurate and complete data upon vaccine administration.

2D barcode scanning can replace manual entry to improve data accuracy and completeness and ensure high quality of patient care.

Since 2011, CDC and its partners have been exploring the potential of 2D barcoding to streamline immunization practices and improve data quality. Three pilot projects demonstrated that 2D barcoding can lead to improved vaccine record accuracy and time savings.

Improved Vaccine Record Accuracy[3]

Scanning can lead to **a large increase in vaccine record accuracy** as compared to manual data entry.

+4.6% for lot number	+5.7% for NDC	+9.2% for expiration date

1% change impacts +1.3M records
Small accuracy improvements affect large numbers of vaccine records.

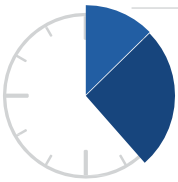
1 in 9 records missing or inaccurate with manual entry

vs.

1 in 5,000 records missing or inaccurate when scanned

Time Saved[3]

An **average of 21 seconds** can be saved per vaccine by switching from manual to scanned data entry.



7 seconds for scanned entry

28 seconds for manual entry

12+ vaccine appointments added weekly with time savings (at one pilot site)

> It saves time, ensures accurate and consistent data entry, and provides an extra safety step prior to administration.
>
> **Survey Respondent**

[1]Estimated 130+ million vaccine administrations to ages <18 years, extrapolated from sample in Rodgers, et al 2018: www.ncbi.nlm.nih.gov/pubmed/29249524

[2]Estimates of flu vaccines administrations 2022-23 for all ages from CDC, NCIRD: https://www.cdc.gov/flu/fluvaxview/dashboard/vaccination-dashboard.html

[3]Centers for Disease Control and Prevention. "Findings Report: 2D Barcoding Scalability Pilot." https://www.cdc.gov/vaccines/programs/iis/2d-barcodes/downloads/2D-Findings-Report-508.pdf

For recent findings and publications: www.cdc.gov/vaccines/programs/iis/2d-vaccine-barcodes/providers.html

CDC
Centers for Disease Control and Prevention