



# Demystifying Data Discrepancies: Improving Uptake & Accurate Documentation of COVID-19 Vaccinations

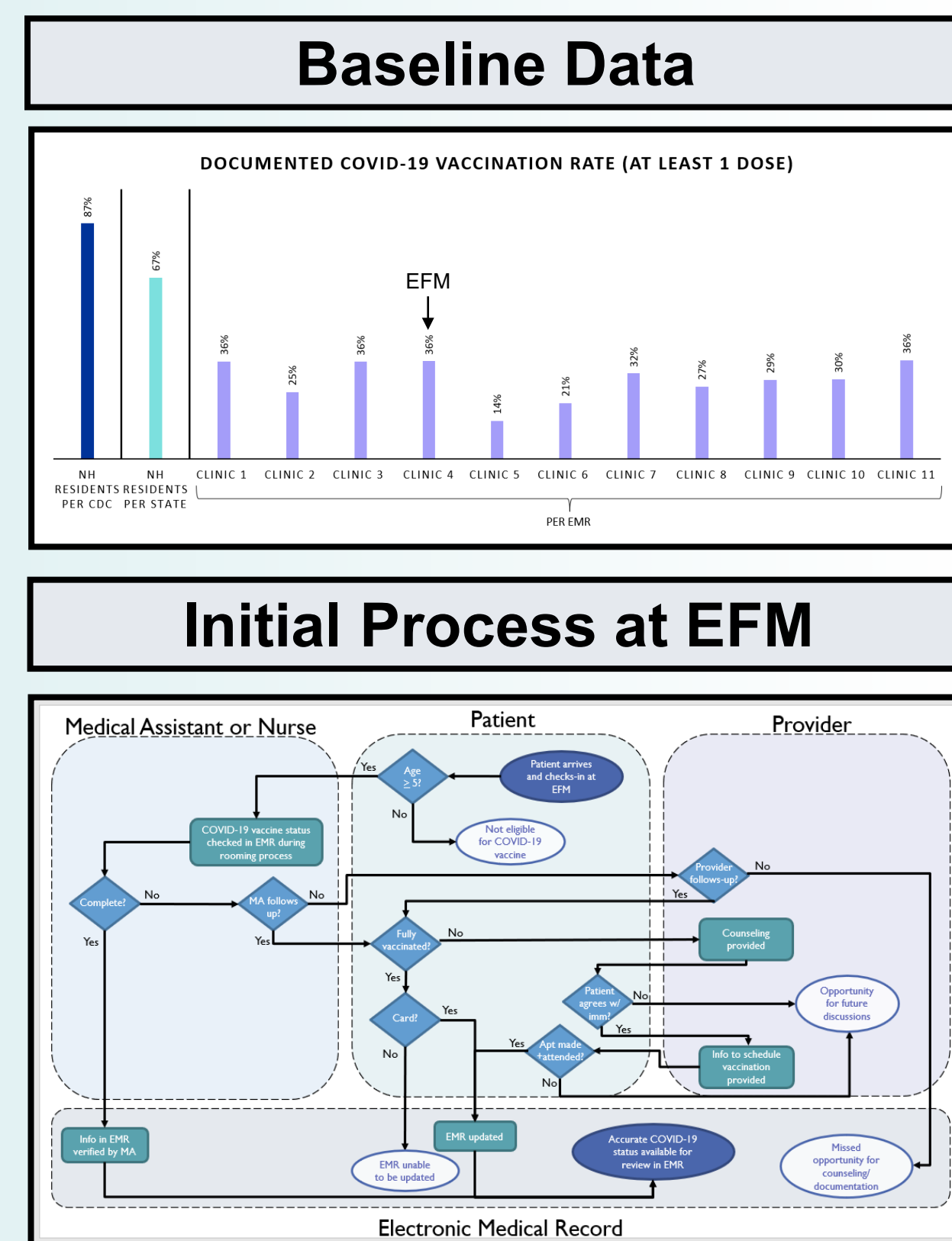
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## Opportunity for Improvement:

- New Hampshire (NH) was the last state in the nation to develop a centralized vaccine registry<sup>1</sup>
  - Data inaccuracies significantly limited efforts to increase COVID-19 vaccinations among vulnerable groups<sup>1</sup>
  - At the time of this initiative, there was no direct link between the electronic medical records (EMRs) used by primary care providers (PCPs) and the process of COVID-19 vaccination in NH; information was entered manually during clinical visits and was largely incomplete
- Project Aim = To increase the uptake and accurate documentation of COVID-19 vaccinations in a small hospital-affiliated primary care practice in rural NH

## Local Context:

- Review of available data in February 2022 identified notable discrepancies between the rates of COVID-19 vaccination (at least 1 dose) documented within one hospital system's primary care network (n = 11 practices) and those reported by state and federal dashboards<sup>2-3</sup>
- Vaccination rates were relatively higher among patients of female sex, older age, preferred English language, and selected chronic conditions
  - It was not clear if these differences represented true disparities in immunization (as previously identified within the literature) or simply disparities in health care utilization and associated EMR updates<sup>4</sup>



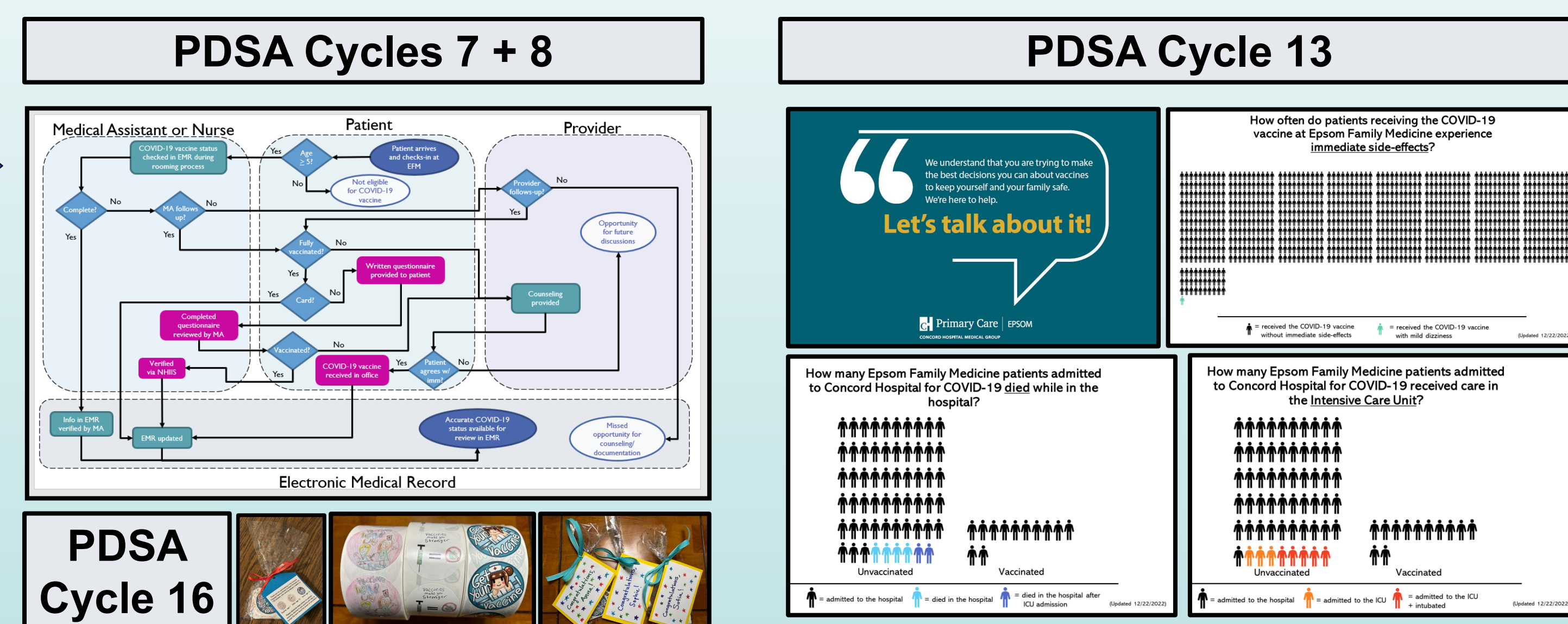
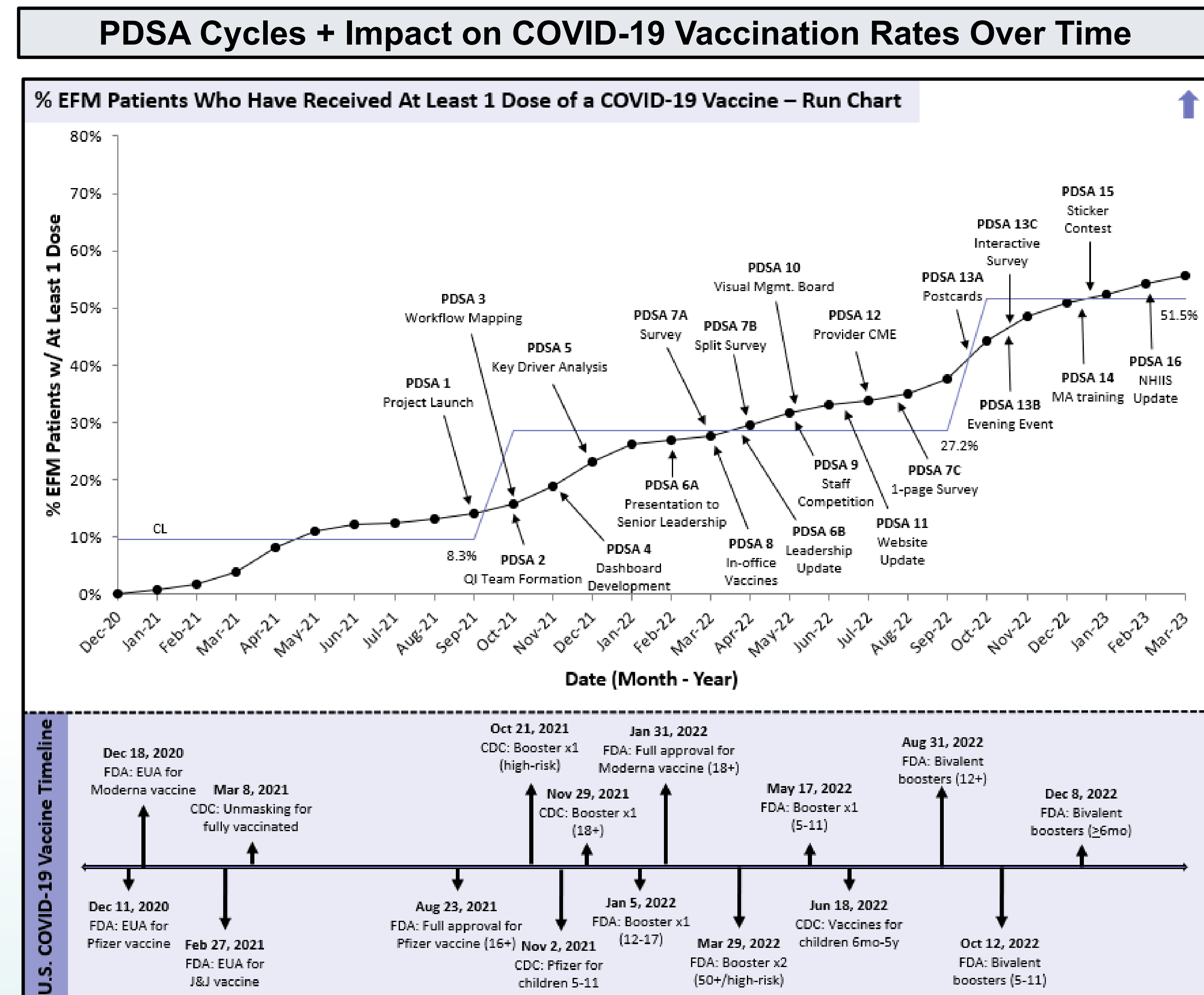
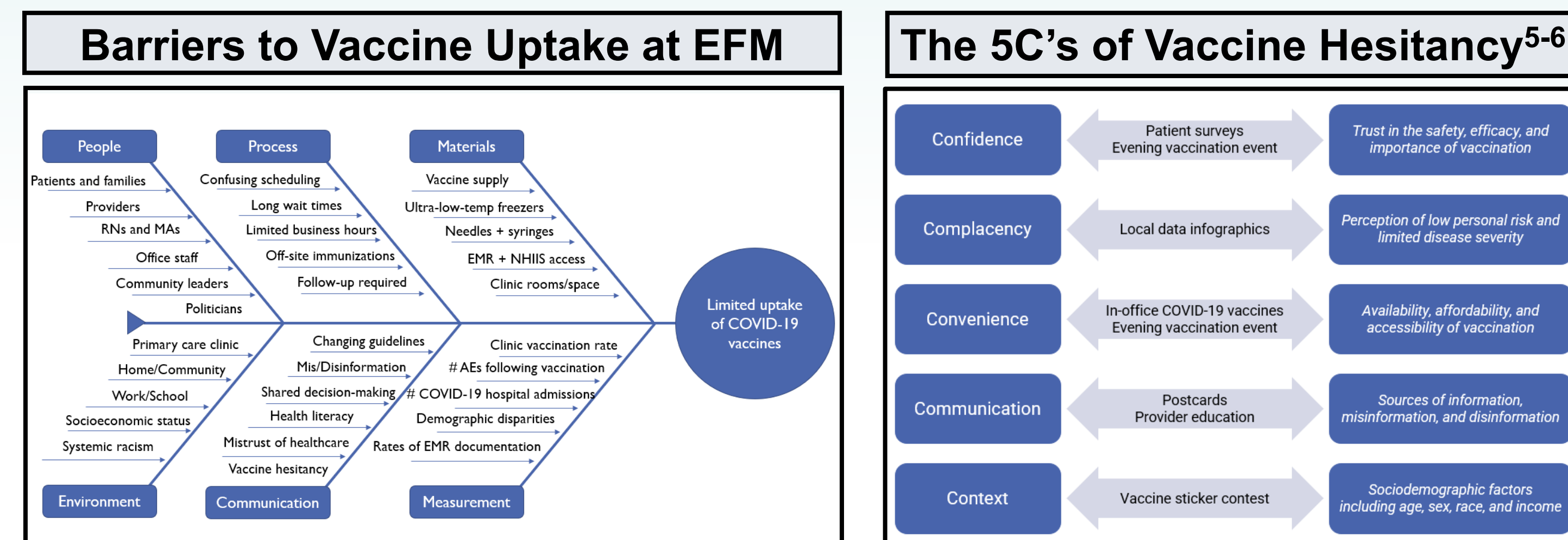
- Review of existing workflows at one primary care practice (EFM) highlighted key gaps in the process of COVID-19 vaccine screening, documentation, and counseling during routine office visits

**References:**

- Fam A. N.H.'s COVID-19 vaccination data hasn't been accurate since June. Why? *Concord Monitor*. Published November 4, 2021. Accessed November 14, 2021. <https://www.concordmonitor.com/N-H-s-COVID-19-vaccination-data-hasn-t-been-accurate-since-June-Why-43362714>
- CDC. COVID data tracker. Centers for Disease Control and Prevention. Published March 28, 2020. Accessed March 24, 2022. <https://covid.cdc.gov/covid-data-tracker/>
- New Hampshire COVID-19 Response. Vaccination Dashboard. COVID19.NH.gov. Published November 12, 2021. Accessed March 16, 2022. <https://www.covid19.nh.gov/dashboard/vaccination>
- Mackey K, Ayers CK, Kondo KK, et al. Racial and ethnic disparities in COVID-19-related infections, hospitalizations, and deaths: A systematic review. *Ann Intern Med*. 2021;174(3):362-373. doi:10.7326/M20-6306
- MacDonald NE. SAGE Working Group on Vaccine Hesitancy. Vaccine hesitancy: Definition, scope and determinants. *Vaccine*. 2015;33(34):4161-4164. doi:10.1016/j.vaccine.2015.04.036
- Razai MS, Oakeshott P, Esmail A, Wiyongse CS, Viswanath K, Mills MC. COVID-19 vaccine hesitancy: the five Cs to tackle behavioural and sociodemographic factors. *J R Soc Med*. 2021;114(6):295-298. doi:10.1177/01410768211018951

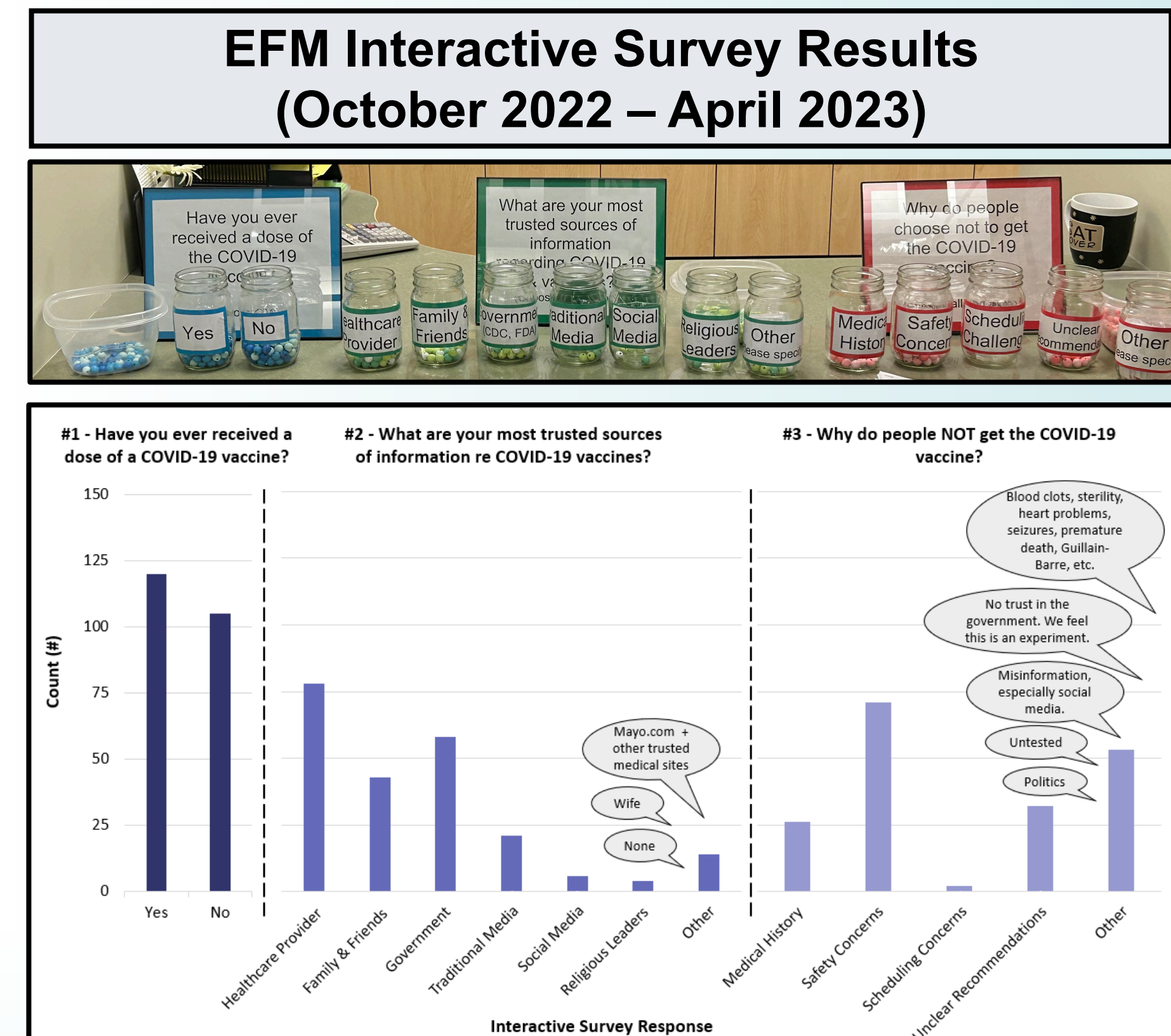
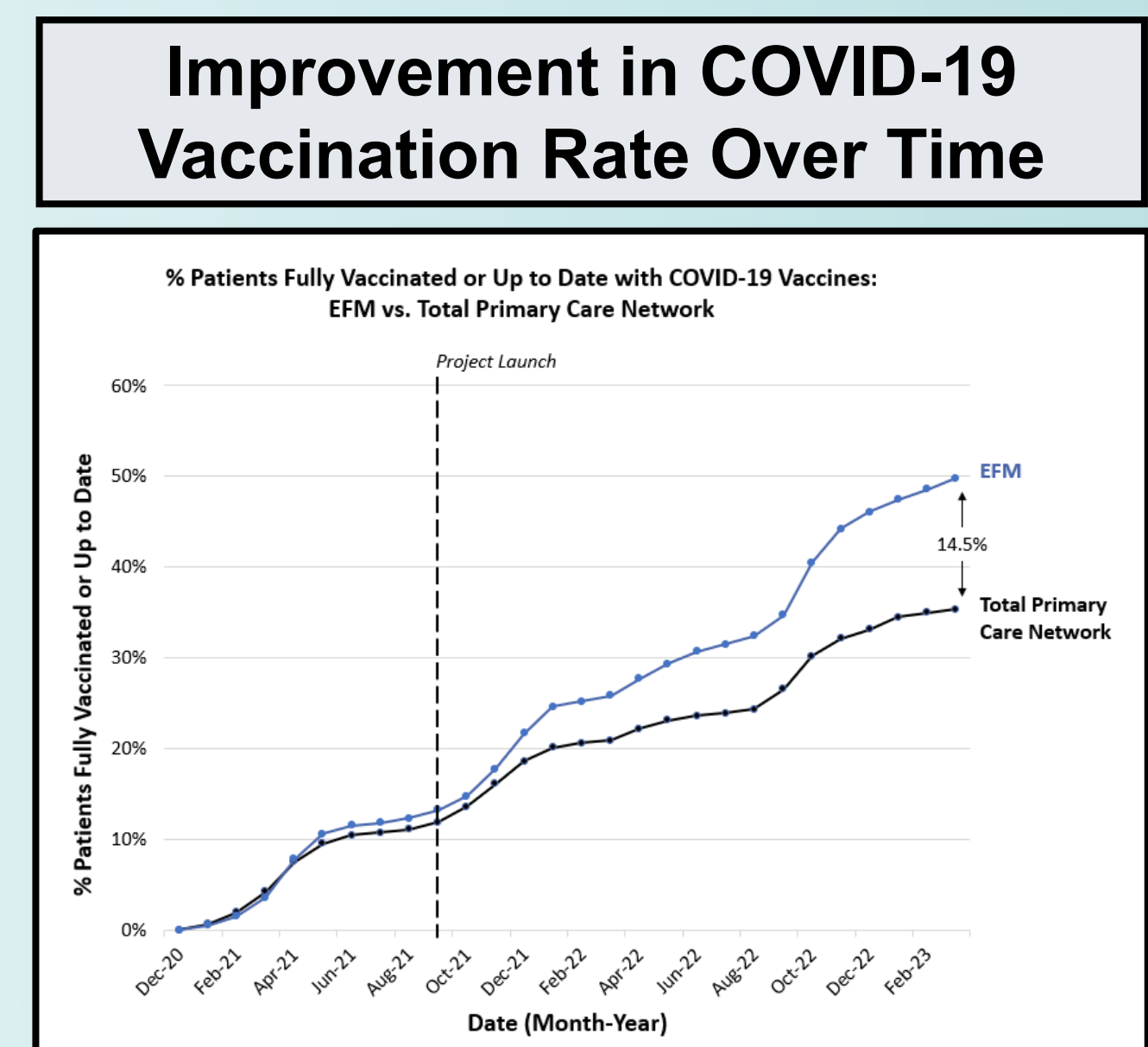
## Interventions:

- Between September 2021 and March 2023, a series of 16 Plan-Do-Study-Act (PDSA) cycles were used to address each of the 5C's of vaccine hesitancy



## Results:

- 999 COVID-19 vaccine doses were administered at EFM between March 2022 and March 2023; this was the 2<sup>nd</sup> highest of 11 practices based on total count and the highest of 11 practices when controlling for panel size:
  - 6 months – 98 years
  - 1<sup>st</sup> dose = 4.3%
  - 2<sup>nd</sup> dose = 7.4%
  - 3<sup>rd</sup> dose = 24.6%
  - 4<sup>th</sup> dose = 48.8%
  - ≥ 5<sup>th</sup> dose = 14.9%
- The documented COVID-19 vaccine rate (fully vaccinated or up to date) at EFM increased from 13.2% to 49.8% between September 2021 and March 2023



- Interactive survey participation was enthusiastic
- Patients consistently identified their healthcare provider as the most trusted source of vaccine information
- Safety concerns were the most common barrier to vaccination

## Lessons Learned:

- PCPs are uniquely positioned to impact COVID-19 vaccine confidence and uptake
- Despite widespread availability of vaccines in the community, patients continue to seek vaccine counseling and administration at their PCP's office, where staff are known and trusted
- Multimodal interventions that consider two or more of the 5C's are key to addressing vaccine hesitancy<sup>5-6</sup>
- Population-based data appears most meaningful to patients and clinicians when it is local, interactive, and visually appealing
- Stratification of data by sociodemographic factors is key to identifying and addressing ongoing inequities in the COVID-19 vaccine response