

For my database concerning the vaccination status of patients for a particular pediatric practice group, I would utilize three entities. The first entity would be the patient, and the attributes of interest would include the patient's first and last name, address, date of birth, sex, ethnicity, and medical record number. These attributes will be important in determining whether there are correlations between vaccination status and the age, sex, ethnicity, and location of the individual. The unique identifier for the patient will be the medical record number, as there should be only one per patient.

The second entity would be the type of vaccination, with the relationship between the patient entity and vaccination entity being the visit date. The cardinality between patient and vaccination would be one to many, as a patient may have multiple visits for vaccination, but those visits should only be tied to that specific individual. There are currently 16 recommended vaccines which should be given from birth to age 18, some of which require multiple doses.

The final entity for my database would be reasoning, with the relationship between the vaccine and reasoning being whether they chose to receive vaccination or not. According to recent studies by Facciola, et al., (2019), approximately 1 in 8 children, less than 2 years old, are under-vaccinated in the United States due to parental choice. Majority of reasoning for refusal of vaccination revolve around the three C's. Parents' lack of Confidence in the vaccine and/or provider, Complacency or lack of perceived need or value of the vaccine, and Convenience of access to vaccines, were the commonly cited reasons for vaccination refusal (Bedford, et al., 2018). Documentation of reasons for refusal will be important for understanding influencing factors and creating opportunities for education.

References:

Bedford, H., Attwell, K., Danchin, M., Marshall, H., Corben, P., & Leask, J. (2018). Vaccine hesitancy, refusal and access barriers: The need for clarity in terminology. *Vaccine*, 36(44). 6556-6558. [\(Links to an external site.\)](#)

Facciola, A., Visalli, G., Orlando, A., Bertuccio, M., Spataro, P., Squeri, R., Picerno, I., & Di Pietro, A. (2019). Vaccine hesitancy: An overview on parents' opinions about vaccination and possible reasons of vaccine refusal. *Journal of Public Health Research*, 8(1).