MMR Protective Effect against COVID-19

Sadiq and Sabir et al. (2020) Does Early Childhood Vaccination Protect Against COVID-19? *Frontiers in Molecular Biosciences* **Vol 7(120)**

Theoretical:

- Rubella antibodies similar to epitopic regions of COVID-19
- <1 years old more susceptible than those in age groups >1 years old (Post MMR), and children strangely low proportion of hospitalised
- General humoral and/or non-specific protection induced by immunisation

We have available blood and questionnaires from participants of both PIENTER3 (2016/17) and PICO (2019/20) studies. Participants with samples for both:

- 2645 samples in NS
- 575 samples in LVC

What does the PICO questionnaire contain? Disease severity?

Will there be more blood samples from the PICO subsample as COVID progresses?

What is the proportion of symptomatic vs asymptomatic COVID positive cases in PICO?

a) SARs-CoV Abs
b) MMR Abs
c) Correlation between titres between MMR and SARs-CoV abs?
d) Correlation between disease severity and time since last (MMR or other?) vaccination
e) Correlation between SARs-CoV Abs titre and time since last MMR vaccination

Experimental questions:

MMR ABs neutralising capability against SARs-CoV

from vaccine derived vs natural exposure (presumed based on vaccination records in P3?)

from those recently vaccinated compared to not vaccinated (pre vaccine)/not recently vaccinated, and vaccinated but not with MMR (vaccines at point post maternal antibody decay, but pre MMR administration DTaP for example)