

WHO Unity Studies for sero-epidemiological investigation of COVID-19. Evidence-based knowledge for public health response

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- 1) Population-based age-stratified sero-epidemiological investigation protocol for SARS-CoV-2 infection and
- 2) The First Few X (FFX) cases and contact and Households (HH) investigation protocols for SARS-CoV-2 infection.

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- Bergeri I, Lewis HC, Subissi L, Nardone A, Valenciano V *et al*. Early epidemiological investigations: World Health Organization UNITY protocols provide a standardized and timely international

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Accessed Oct 8 2021. <https://onlinelibrary.wiley.com/doi/full/10.1111/irv.12915>

- WHO website: <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/early-investigations>