

Report for NPHE: Establishment of a National Seroepidemiology Unit in Health Protection

20th January 2021

Version 0.3

The National Public Health Emergency Team (NPHE) endorsed a proposal from the National Clinical Director Health Protection, Health Service Executive (HSE) on 27th August 2020 for the establishment of a national seroepidemiology surveillance system, including a seroepidemiology unit (SEU) in Health Protection (HP) at the HSE Health Protection Surveillance Centre (HPSC). The aim of the SEU unit is to measure community-based seroprevalence of COVID-19 (in the first instance, other infectious diseases in the future) by demographic characteristics including age, sex, and geographic area over time.

A business case was submitted to the Department of Health on 6th October 2020.

This model proposes using residual samples from routinely collected biochemistry samples as the source for this surveillance, similar to the model in place in Scotland.

Initial scoping work for the SEU had been undertaken in October 2020. The plan was to carry out a pilot that would serve 2 purposes: 1.) to identify logistical issues in the operation of the SEU and 2.) to provide up to date age-specific seroprevalence data (SCOPI seroprevalence data was collected in June/July 2020).

We prepared the pilot protocol, and engaged with several laboratories who might participate in the pilot. This work was paused in October pending approval of the business case and due to competing priorities.

However, since October there have been several significant changes. With the third wave, there are currently extreme pressures on the acute hospital system, potentially making it more difficult now to get engagement from the laboratories with this process, and so this may take longer to achieve. Also, since October COVID-19 vaccines have been licenced and are being administered as quickly as possible to the Irish population, in accordance with the priority groups identified nationally.

Therefore, we consider that a reassessment in light of these developments as to how the SEU work should progress is needed, taking into account expectations and requirements, and logistical aspects.

We would welcome input on the priority questions that NPHE would like sero-epidemiology surveillance to answer.

Perhaps these questions would include:

- What is the population seroprevalence outside the current groups prioritised for COVID-19 vaccination, to inform and refine population priority groups, including by age?
- Will seroprevalence studies be able to distinguish between vaccine-derived immunity and immunity following natural infection?

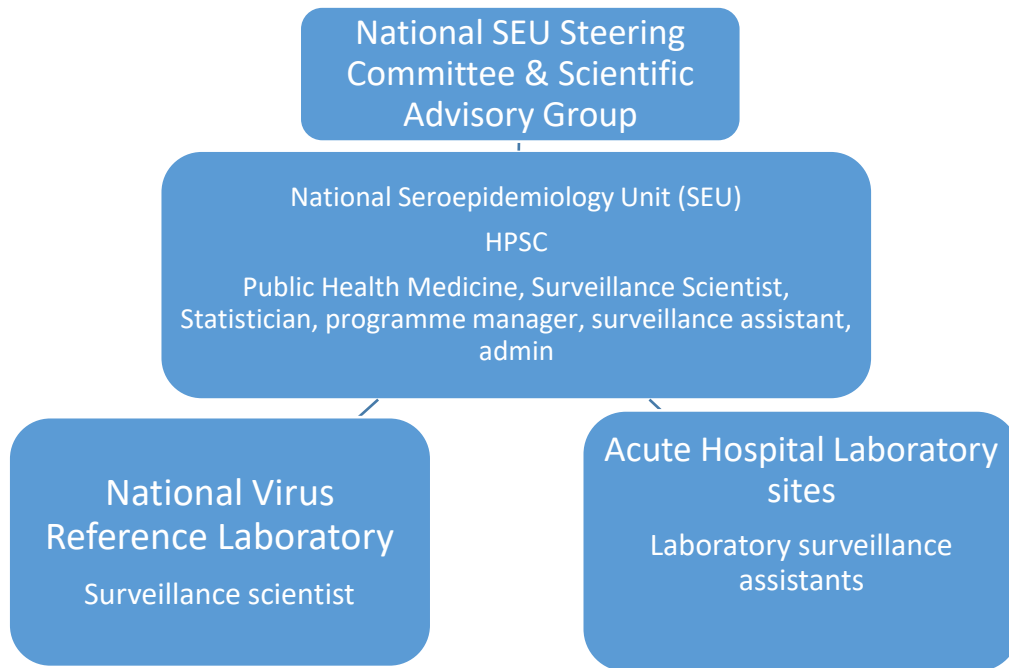
Using the proposed residual sampling methodology, where information will be collected from biochemistry samples, the information available will be limited to e.g. age, sex and geographic location, and thus won't have information on vaccination status or underlying conditions. It should be possible to distinguish vaccine derived from natural infection derived immunity at the National Virus Reference Laboratory.

Once the priority questions that are arising have been clarified, and knowing the capacity of the current model to deliver on these questions, the next steps in establishment of the SEU would be to:

1. **Finalise the model** so that it can address what is required, if feasible
2. **Staffing**
 - a. Appoint Project Manager and develop project plan
 - b. Reassign a core HPSC SCOPI team to work as a project team to establish the unit.
 - c. Employ the team required to undertake seroepidemiology at HPSC, at NVRL and on site in the participating laboratories as per the model (Appendix A)
3. **Governance, oversight**
 - a. Establish the multi sectoral, multi-disciplinary steering group to oversee this work and the scientific group who will guide how the samples will be sourced, number of samples, number and choice of labs, frequency, type of samples, type of test etc

Appendix A

Structures to support the surveillance system and the SEU



The national SEU will be overseen by a national SEU steering committee with a scientific advisory group providing the necessary scientific advice. The SEU key stakeholder groups operationally will include the National Virus Reference Laboratory and the laboratories at the acute hospital sites from which residual blood samples will be made available to the unit.