

ZonMw programma second wave corona, april 2020

Projectvoorstellen met het Clb als hoofdaanvrager:

#	Indiener (centrum + naam)	Onderwerp	Korte beschrijving of abstract	Partners binnen RIVM	Partners buiten RIVM
1			With opening of primary schools and gradually relaxing the lock down, the need to monitor circulation of SARS-CoV-2 virus in the open population is urgent. We now also want to follow viral circulation and mucosal immunity in the open community in saliva samples. To this aim we make use of the PIENTER CORONA study, that evaluates the immune status of 3500 individuals, aged 1-90 yrs to monitor herd protection. In this study, blood samples from around 3500 individuals, aged 1-90 yrs, in the open community are tested for IgM and IgG antibodies against SARS-CoV-2. Dry blood spots are collected by self sampling at home and dry blood spot cards sent by post to the RIVM for evaluation. The first results were that only 4% of the population had circulating antibodies in the blood against SARS-CoV-2 as of April 2020. Saliva was shown to be a representative sample to detect SARS-CoV-2 virus. Recently, saliva was shown to be an appropriate, and perhaps even more sensitive, alternative to nasopharyngeal swab (Wyllie et al) . In fact, saliva may even be more suitable for screening asymptomatic or pre-symptomatic SARS-CoV-2 infections, in particular when more volume is collected. In contrast to the current golden standard of nasopharyngeal swabs or viral detection, that is difficult and uncomfortable to self-collect, self-sampling of saliva is easy. When collected in the right test medium, this can be posted along with the dry blood spots and evaluated at RIVM. In addition to SARS-CoV-2 detection and the determination of the viral load in saliva, salivary antibodies against SARS-CoV-2 as indicator for mucosal immunity, can be compared with detection of circulating antibodies in the blood as detected by the dry blood spots evaluation. For children, under 5 years of age, who cannot spit in test tubes, we will ask to collect saliva with a special sponge. We have ample experience with this way of collection of saliva and have found it easy, comfortable and participants are willing to repeat this non-invasive sampling	5.1.2e IIV 5.1.2e , IDS 5.1.2e , IDS Nog toevoegen anderen als: 5.1.2e (EPI) 5.1.2e IIV 5.1.2e & 5.1.2e 5.1.2e for bacterial pathogens 5.1.2e 5.1.2e 5.1.2e 5.1.2e 5.1.2e for microbiome 5.1.2e for mycobiome 5.1.2e , IDS	

			repeatedly when required. For this reason we propose , in the next round of PIENTER-CORONA collection of dry blood spots, to invite participants also to provide saliva samples. Aims of study Primary aim: Determine SARS-CoV-2 prevalence in the open population between May and Dec 2020 in individuals aged 1-90 yrs Secondary aims: 1. determine local mucosal anti -SARd0CoV-2 antibodies in saliva 2. relate mucosal antibody presence and levels levels to circulating antibodies in the blood as determined in the dry blood spot study 3. determine circulation of other respiratory viruses in saliva for co-circulation or viral interference 4. future microbiome and mycobiome studies by molecular diagnostics 5. future determination by PCR of bacterial pathogens and load like Streptococcus pneumoniae, H. influenzae and Staphylococcus and meningococcus. Approach: Recent findings demonstrate that saliva is a viable and sensitive alternative to nasopharyngeal swabs for SARS-CoV-2 detection and enables at-home self-administered sample collection for accurate large-scale SARS-CoV-2 testing (Wyllie et al.) Saliva samples will be self-collected by the participant Participants (age...) are invited to participate in the saliva study next to the dry blood spot collection. Upon waking in the morning, participants are asked to repeatedly spit in in a test tube until roughly up till 2 ml (without bubbles) before taking food, water and brushing of teeth. Saliva will be collected in RNA-protect medium that allows detection of SARS-CoV-2 and other respiratory viruses and viral load. Then the cup is securely closed. A second tube with EDTA medium is filled likewise, for mucosal serology i.e. IgA, and IgG anti SARS-CoV-2 antibody determination All samples are stored at room temperature and posted together with the dry blood spots to the research lab at RIVM		
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			The study will start at the next round of PIENTER CORONA scheduled in August 2020 and depending on the number of cycles and course of the pandemic end in February 2021. Data will be communicated after each round and wrapped up in 2021.		
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Projectvoorstellen met een andere partij als hoofdaanvrager en het Clb als partner:

#	Indiener (naam + organisatie)	Onderwerp	Toelichting	Partners binnen RIVM	Partners buiten RIVM
1					
2					