To: 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e [5.1.2e @rivm.nl]; 5.1.2e 5.1.2e [5.1.2e @ggdhm.nl]; 5.1.2e [5.1.2e @rivm.nl]
From: 5.1.2e
Sent: Thur 12/10/2020 3:56:23 PM
Subject: RE: Discussion: Clusters of COVID-19 cases among singing groups
Received: Thur 12/10/2020 3:56:29 PM

Hartmann2020 singing.pdf
Alsved 2020 Exhaled respiratory particles during singing and talking.pdf
muerbe_etal_2020_aerosols-singing.pdf
Lelieveld 2020 Aerosol transmission of COVID-19 and infection risk in indoor environments published.pdf
Prentiss 2020 Superspreading Events Without Superspreaders - Using High Attack Rate Events to Estimate No for Airborne Transmission of COVID-19 .pdf
Shao 2020 Risk assessment of airborne transmission of COVID-19 by asymptomatic individuals under different practical settings .pdf
Riedliker 2020 Simulation of SARS-CoV-2 Aerosol Emissions in the Infected Population and Resulting Airborne Exposures in Different Indoor Scenarios.pdf

Hi all,

Attached some literature from our collection, that might be relevant supporting information for the choir paper. Perhaps these studies are already known to you.

Two other choir modelling studies:

- Lelieveld et al. 2020 "Model Calculations of Aerosol Transmission and Infection Risk of COVID-19 in Indoor Environments" a modelling study that reproduces the high attack rates during choir rehearsals. And, similarly to our work, suggests that high emitters are the top 20% of infected individuals, while the top 5-10% are 'super-infective' individuals that can efficiently spread COVID-19 via aerosols in indoor environments.
- Hartmann et al. 2020 "Risk assessment of rehearsal rooms for choir singing regarding aerosols loaded with virus": a modelling study that, similarly to our work, concludes that even in ventilated rooms, aerosol concentrations are possible to build up.

Two observational studies on aerosol generation during singing:

- Mürbe et al. "Aerosol emission is increased in professional singing": a study that counted emitted particles during singing, and shows that this is higher in singing than during breathing or speaking, basis of our model
- Alsved et al. 2020: "Exhaled respiratory particles during singing and talking": a second study that counted emitted particles during singing, and shows that this is higher in singing than during breathing or speaking, also basis of our model

Other modelling studies, not specifically focused on choirs, that look at factors like the viral load, superspreading and ventilation

- Prentiss et al. 2020 "Superspreading Events Without Superspreaders: Using High Attack Rate Events to Estimate N o for Airborne Transmission of COVID-19": a study that suggests that exceptionally high viral loads are not required for an airborne superspreading event to occur, in general an interesting study
- Riedliker et al. 2020 "Simulation of SARS-CoV-2 aerosol emissions in the infected population and resulting airborne exposures in different indoor scenarios": a modelling study that concludes that very high emitters (99th percentile) are likely to cause aerosol concentrations relevant for infection
- Shao et al. 2020 "Risk assessment of airborne transmission of COVID-19 by asymptomatic individuals under different practical settings": a modelling study focusing on airborne transmission from asymptomatic individuals with more attention for ventilation

In case we're going for a bit longer paper (choice up to you), I think these are all relevant to refer to in the discussion, to support our findings.

Best,
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Volgende 2 pagina's verwijderd i.v.m. dubbel.