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Wilson et al 2021 - Schepen.pdf

Beste collega,
Bijgaand een interessant artikel dat een simulatiestudie beschrijft voor verspreiding van COVID-19 door passagierende crewleden vanuit de commerciële beroepsvaart. Wat opvalt is dat ook relatief kleine bemanningen langdurig een besmetting kunnen onderhouden. Interventies zoals testen en hygiënische maatregelen kunnen de risico's in belangrijke mate verminderen.
Met vriendelijke groet,

5.1.2e

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Estimating the risk of outbreaks of COVID-19 associated with shore leave by merchant ship crews: simulation studies for New Zealand

Nick Wilson, Tony Blakely, 5.1.2e G Baker, Martin Eichner

Abstract

Aim: We aimed to estimate the risk of COVID-19 outbreaks in a COVID-19-free destination country (New Zealand) associated with shore leave by merchant ship crews who were infected prior to their departure or on their ship.

Methods: We used a stochastic version of the SEIR model CovidSIM v1.1 designed specifically for COVID-19. It was populated with parameters for SARS-CoV-2 transmission, shipping characteristics and plausible control measures.

Results: When no control interventions were in place, we estimated that an outbreak of COVID-19 in New Zealand would occur after a median time of 23 days (assuming a global average for source country incidence of 2.66 new infections per 1,000 population per week, crews of 20 with a voyage length of 10 days and 1 day of shore leave per crew member both in New Zealand and abroad, and 108 port visits by international merchant ships per week). For this example, the uncertainty around when outbreaks occur is wide (an outbreak occurs with 95% probability between 1 and 124 days). The combination of PCR testing on arrival, self-reporting of symptoms with contact tracing and mask use during shore leave increased this median time to 1.0 year (14 days to 5.4 years, or a 49% probability within a year). Scenario analyses found that onboard infection chains could persist for well over 4 weeks, even with crews of only 5 members.

Conclusion: This modelling work suggests that the introduction of SARS-CoV-2 through shore leave from international shipping crews is likely, even after long voyages. But the risk can be substantially mitigated by control measures such as PCR testing and mask use.