A Rapid Review of the Asymptomatic Proportion of PCR-Confirmed SARS-CoV-2 Infections in Community Settings

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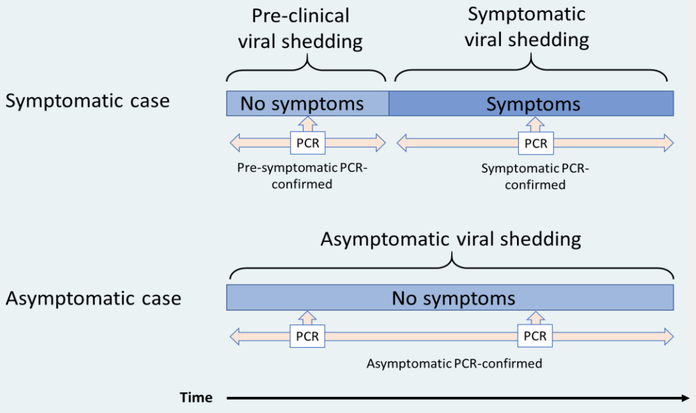
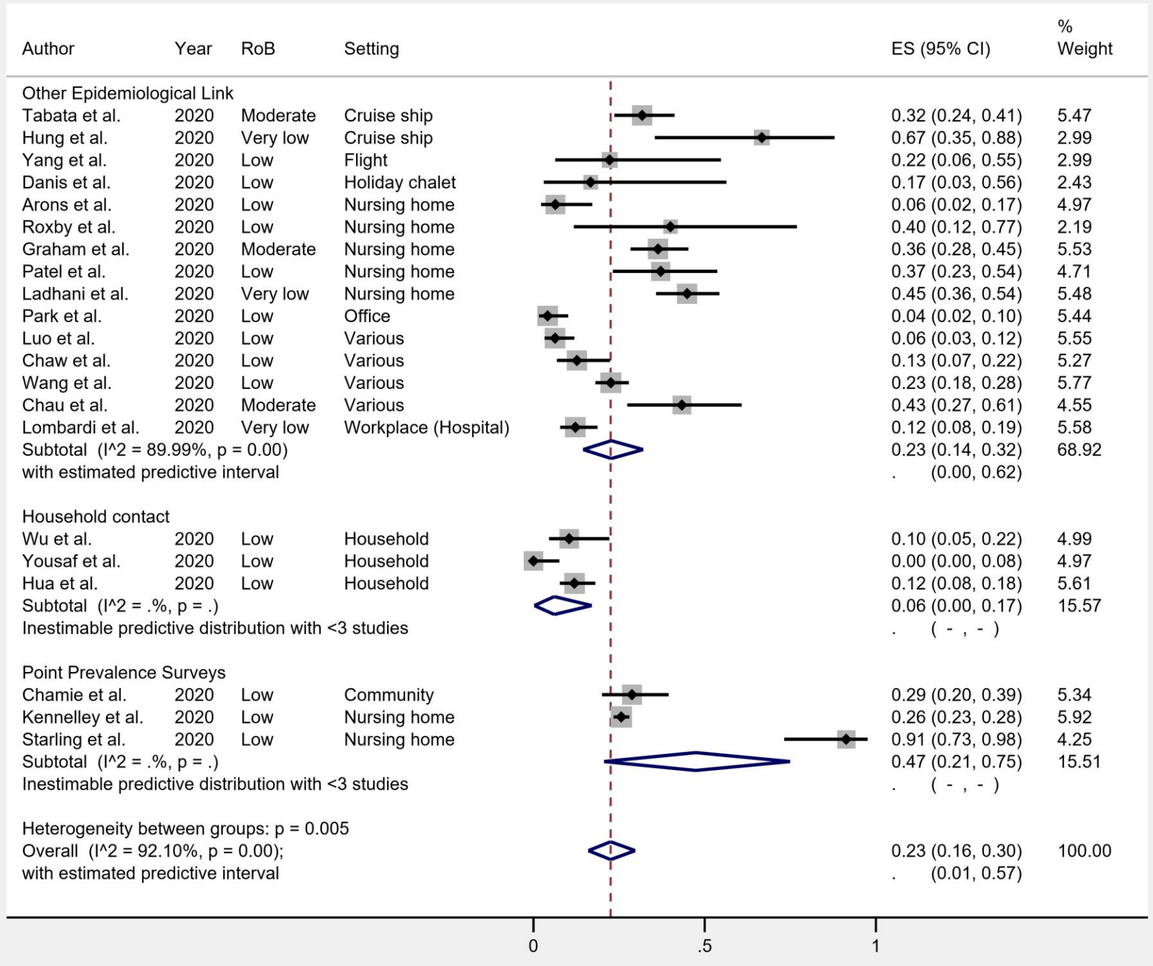
Background and Aims

- Many estimates of SARS-CoV-2 asymptomatic proportion based on cross-sectional studies, which cannot distinguish asymptomatic from pre-symptomatic cases
- Primary aim: to rapidly synthesise studies estimating the asymptomatic proportion of PCR-confirmed cases in community settings
- Secondary aim: to assess the relationship between symptom status and (1) viral load and duration of viral shedding and (2) participant age



Methods

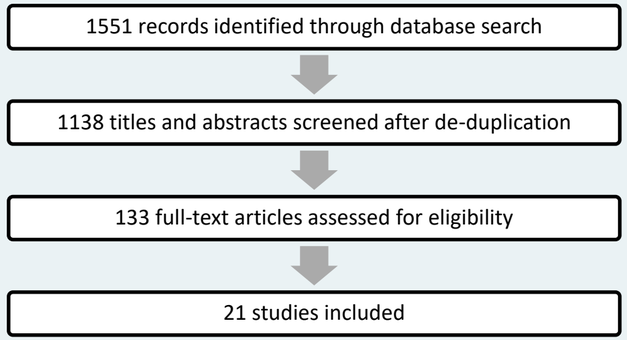
- Searched Medline, EMBASE, BioRxiv and MedRxiv up to 25/08/2020
- Included studies based in non-medical community settings with systematic PCR testing and follow-up symptom monitoring regardless of symptom status
- Stratified by testing context due to potential dose-response relationship with symptom severity



Conclusions

- Asymptomatic virus shedding comprises a substantial minority of SARS-CoV-2 infections
- Varies by testing context, possibly reflecting dose-response effect of exposure on symptom severity
- Further investigation into distinguishing features of asymptomatic and symptomatic cases needed

Results



Asymptomatic Proportion

- Overall estimate: 23% (95% CI: 16-30%)
- Substantial heterogeneity partially accounted for by testing context
- Lowest asymptomatic proportion in household contacts (6%, 95% CI: 0-17%), highest in point prevalence studies not directly linked to outbreak (47%, 95% CI: 21-75%)

Viral Load and Duration of Shedding by Symptom Status

- Similar CT values for symptomatic and asymptomatic cases
- Duration of shedding by symptom status unclear, with limited data

Age and Symptom Status

- Results split between studies finding that asymptomatic cases tended to be younger and others indicating no substantial difference
- Samples tended to comprise adults