

JTM 15-033: Supplementary on line material

Appendix S4: Study characteristics

Influenza and air transport

Lab confirmed inflight transmission has been observed to 1-2 passengers in three studies and four passengers in one study [16-18, 20]

Attack rates of ILI have been observed at 2.8%, 4.3%, 11% & 20% but other sources of exposure could not be excluded [20-23].

Modelling studies show that theoretically the risk of inflight transmission increases with flight duration and seating proximity to a cases[26-28]

Two observational studies found an association between seating proximity and risk of transmission [16, 18], two found no significant association and transmission was observed at a distant seating location in one study [17, 20, 21].

Secondary cases have been observed at previously unaffected destinations after contact with air travel passengers in two studies [17, 32]]

Significant association between the volume of air travel passengers and the timing of the seasonal peak of influenza deaths has been observed [33, 34]

A significant association between air passenger volumes and the likelihood of A(H1N1)pdm09 was observed [35]

Influenza transmission has been modelled to large numbers passengers at airports arrivals and departures from terminal workers [36]

Influenza and sea transport

ILI has been observed to affect 2-7% of passengers [37-39] and higher proportions of crew (up to 13%) [37, 40].

Transmission of lab confirmed influenza has been observed to similar proportions of passengers [39, 40].

Sea transport accelerated influenza to new areas in the 1918 pandemic but no evidence has been identified for this occurring in the modern day [42]

No evidence of influenza transmission related to sea ports was identified

Influenza and ground transport

Transmission aboard busses has been observed in two studies [43, 44]

Transmission has been strongly suspected aboard a train but other sources of exposure could not be excluded [45]

Rail transport accelerated the spread of influenza to new areas in the 1918 pandemic [42], transmission at previously unaffected destinations from rail passengers has been observed I China [45].

SARS-CoV

Inflight transmission has been confirmed to one person and highly suspected to up to 22 people, other sources of exposure could not be excluded [49]

No evidence of transmission related to sea or ground transport or transport hubs was found

MERS-CoV

Inflight transmission was modelled to be possible and related to flight duration [53]. No inflight transmission has been observed

No studies were identified investigating MERS-CoV transmission on sea or ground transport or transport hubs
