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TESTING COVID PATIENTS AND ISOLATING SICK STAFF REDUCED VIRUS SPREAD IN HOSPITALS

Interventions such as **testing** patients for COVID-19 upon admission, isolating healthcare workers (HCWs), and universal mask-wearing by HCWs from March 2020 to July 2022 significantly reduced the transmission of SARS-CoV-2 among patients and staff in UK hospitals.

Researchers used an individual-based model of SARS-CoV-2 spread within hospitals, and an expert group in infection prevention estimated the **effectiveness** of measures to limit spread during the first two years of the COVID-19 pandemic. The study period covered the dominance of various viral variants, availability of different **vaccines**, and the number of doses.

Model parameters and associated uncertainties were obtained using national and local data, literature reviews, and official expert opinions. Scenarios were simulated to explore how many nosocomial infections might have been observed in patients and medical staff if interventions had not been implemented.

Simulation results suggest that without COVID-19 testing upon hospital admission, other infection prevention protocols, or limits on occupancy and visitors, twice as many patients might have been infected in the first two years of the pandemic.

Testing and cohorting patients, along with isolating healthcare staff, were the most important interventions for reducing transmission to patients. Isolating sick

healthcare staff prevented up to 34% (30-40%) of infections.

A significant role was also identified for **mask-wearing**, having a greater impact compared to masking only patients (risk reduction of 40% (30-52%) vs. 17% (14-20%)).

However, the study focused on the overall impact of mask-wearing, without distinguishing between the use of other respirators or surgical masks.

Moreover, the study assumed full compliance with measures such as testing and **isolation** and did not consider individual HCW differences in terms of infection risk outside the hospital.

Infection prevention measures had the greatest effect during periods of limited immunity (early pandemic and during the rise of the Omicron variant) and were less effective during periods of high immunity due to COVID-19 vaccination or prior infection.

Cumulatively, interventions introduced during the SARS-CoV-2 pandemic in England prevented 400,000 (240,000 – 500,000) infections in hospitalized patients and 410,000 (370,000 – 450,000) infections among HCWs.

The authors stated that the findings indicate an important role for **limiting** patient visitation during periods of high community prevalence.

These results highlight the importance of maintaining high levels of compliance with infection prevention and control measures in hospitals and have significant implications as hospitals constantly prepare for increased demand due to emerging pressures during the cold season.

Adapted after Mary Van Beusekom, 14 May 2024

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