

Exploring Staff COVID-19 Lateral Flow Testing Engagement and Compliance at Imperial College Healthcare Trust (ICHT)

Fauzi Alhakmi¹, Danny Alhakmi² and Ecem Mimoglu¹

¹Imperial College School of Medicine ² Peninsula Medical School

Imperial College
London



BACKGROUND

Asymptomatic infections have driven the COVID-19 pandemic, accounting for 40.5% of all cases.¹ Consequently, a duty to undertake routine testing has been imposed on healthcare staff. Lateral flow tests (LFTs) are a cornerstone of this, providing absolute sensitivity above 80% in individuals shedding SARS-CoV-2 antigens.² Modelling data led NHS England to require biweekly self-testing and reporting, which Imperial College Healthcare Trust (ICHT) initiated in November 2020.³ The peak pan-London testing compliance rate of 32% was reached in December 2020 but was followed by a steady decline to 7% in September 2021.⁴ The comparable trend across ICHT, coupled with limited published literature, highlight a need for further investigation.

OBJECTIVES

- This ICHT study was conducted in September 2021 with three primary objectives:
- 1) Review compliance with Asymptomatic Lateral Flow Testing
 - 2) Identify factors and barriers preventing enrolment and compliance
 - 3) Implement small-scale interventions to test efficacy and sustainability

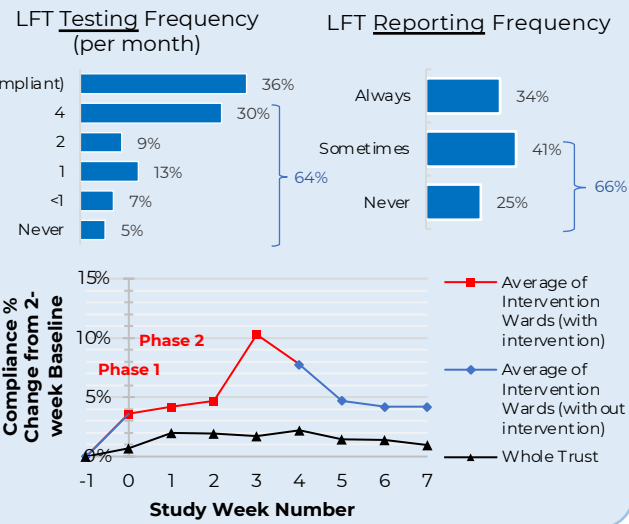
RESULTS

Phase 1 – Survey Outcomes

ICHT data analysis identifies staff as compliant if they test and report at least twice a week. Though only 36% of staff claimed biweekly compliance, 52% reported testing 1-4 times a month. Similarly, only 34% always reported results, while 41% reported results sometimes. This reveals a discrepancy between published compliance rates and actual engagement levels. Barriers disclosed by staff focused on their lack of time (23%), forgetfulness (32%) and frustration with the reporting process (34%). Staff had strong preferences about interventions, with approval rates of 48% for more frequent reminders, 71% for allocated ward testing time, and 79% for mandatory testing.

Phase 2 – “Two-pronged” Intervention

Hospital-wide compliance fluctuated throughout the study but its percentage-point change from baseline average (calculated from the preceding 14 days) never rose above 2.5%. In contrast, there was a peak of 10% increase in compliance rates among targeted wards on week 3 of the study, though this fell to 7.75% the following week. In the 3 weeks following intervention withdrawal, compliance rates fluctuated around 4% above baseline.



METHODS & MATERIALS

Background & Survey Design

Phase 1: Survey Rollout

Phase 2: “Two-pronged” approach

Interventions Terminated & Sustainability Assessment

Phase 1 - Survey Rollout
A questionnaire was given to 56 staff on 8 wards and promoted with poster 7. Section one of the survey quantified staff’s self-testing and reporting tendencies and identified factors and barriers influencing them. Section two identified potential interventions and probed for staff sentiment towards them.

Phase 2 – “Two-pronged” Approach
Drawing on phase 1 results and the efficacy of nudge-theory in a prior ICHT hand-hygiene campaign, a two-pronged intervention approach was piloted across seven poorly compliant wards.^{5,6} ‘Gentle-nudging’ posters (posters 2-7) were strategically placed in high-footfall ward locations to encouraging engagement through popular references. A ward-led initiative with test kits and QR codes for the Trust’s reporting form was also piloted, alongside large visual aid signposts (poster 8).

Posters

DISCUSSION & CONCLUSION

This study highlights that healthcare staff are more engaged and supportive towards the asymptomatic testing scheme than compliance rates suggest. Prominent barriers to testing and reporting by staff included forgetfulness, frustration and testing fatigue (in line with existing literature⁷), as opposed to outright objection. Short-term, intense interventions improved ward compliance, and a long-term, enduring positive (albeit less significant) effect remained. As focus begins to shift away from COVID, these findings are highly relevant to future public health policies. ‘Nudge-theory’ and frequent reminders are cost-effective, powerful methods to improve engagement with policies, and due consideration should be given to the time-pressured environment that healthcare staff are working in to improve compliance further.

REFERENCES

- (1) Ma Q, et al. Global Percentage of Asymptomatic SARS-CoV-2 Infections Among the Tested Population & Individuals With Confirmed COVID-19 Diagnosis: A Systematic Review & Meta-analysis. JAMA Network Open. 2021; 4 (12): e2137257.
- (2) Petersen I, et al. Recalibrating SARS-CoV-2 Antigen Rapid Lateral Flow Test Relative Sensitivity from Validation Studies to Absolute Sensitivity for Indicating Individuals Shedding Transmissible Virus. Clinical epidemiology. 2021; 13 935-940.
- (3) NHS England and NHS Improvement coronavirus. Standard operating procedure for the use of lateral flow devices for asymptomatic staff testing for SARS CoV-2 in all NHS Staff.
- (4) NW London CCG. Asymptomatic Combined London Testing Figures. Unpublished confidential document; 2021.
- (5) Ledderer L, et al. Nudging in Public Health Lifestyle Interventions: A Systematic Literature Review & Metasynthesis. LA, CA: SAGE Publications; 2020.
- (6) Design Science. Hand Hygiene campaign for Imperial College Healthcare NHS Trust.
- (7) Tulloch JSP, et al. Enhanced lateral flow testing strategies in care homes are associated with poor adherence and were insufficient to prevent COVID-19 outbreaks: results from a mixed methods implementation study. Age and ageing. 2021; 50 (6): 1868-1875.