Staff testing for COVID-19 via an online pre-registration form

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Introduction

Healthcare Workers (HCW's) are at increased risk of contracting SARS-CoV-2, potentially causing institutional outbreaks and spreading infection back to communities.

Isolation of potentially infected HCW's is critical to prevent nosocomial spread, but can cause workforce depletion.

Staff screening and testing is important to isolate infected individuals while enabling early return to work if negative.

This protects staff and vulnerable patients while mitigating against staff shortages.

We implemented an online pre-registration process to streamline the process (www.tbhcovid.co.za/register) (Fig. 1).

Aim

1. Identify presentations associated with positive or negative result for SARS-CoV-2.
2. Identify staff sectors where testing was deficient.

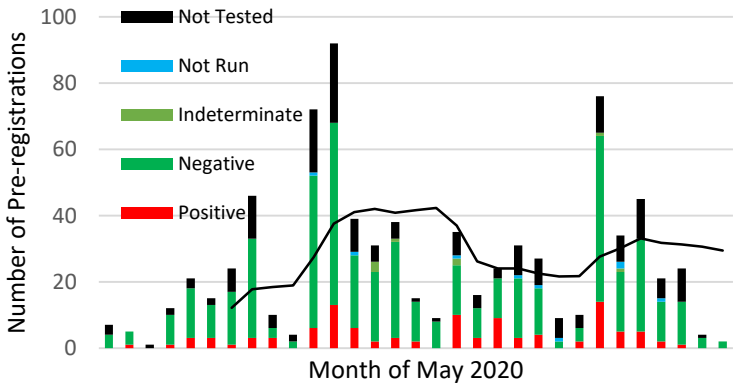

Figure 2 (above): Daily number of pre-registrations for testing and outcomes for the month of May 2020 (N=799).
Table 1/Figure 3 (below): Proportion of positive SARS-CoV-2 results by symptom together with relative risk compared to asymptomatic.

Symptom	Frequency	Valid	Positive (%)	
Fever	72	61	24	(39)
Altered smell	70	50	19	(38)
Altered taste	92	65	23	(35)
Chills	75	60	18	(30)
History of fever	68	50	14	(28)
Weakness	107	84	21	(25)
Cough	326	245	56	(23)
Myalgia	196	150	32	(21)
Headache	435	345	67	(19)
Nausea/vomiting	52	39	7	(18)
Short of breath	115	89	14	(16)
Sore throat	361	285	44	(15)
Diarrhoea	54	43	5	(12)
Irritability	23	12	1	(8)
Asymptomatic	145	99	12	(12)

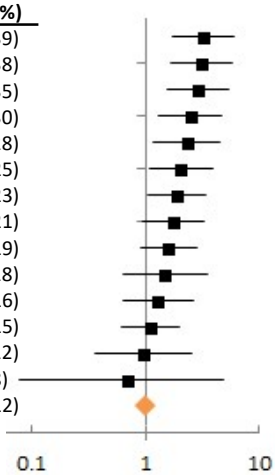

Figure 1: Client flow through presentation, pre-registration and Triage and Testing Centre.

Methods

Single-centre retrospective descriptive study involving all cases created via the TBH pre-registration system during May 2020.

Self-reported information algorithmically extracted from emails generated by the pre-registration system including demographics and symptoms.

Test results (RT-PCR for SARS-CoV-2 on nasopharyngeal swabs) accessed on the NHLS TrakCare Web Results Viewer.

Results

Of 799 cases, 703 were from TBH staff.

There were 349 nurses, 150 administrative staff, 63 doctors and 58 general assistants.

Median (IQR) time to presentation was 4 (2 to 7) days.

We found 105 (13%) positive results (Fig. 2).

Fever, altered smell, altered taste and chills were the symptoms most predictive of SARS-CoV-2 while diarrhoea and irritability were least predictive (Table 1/Fig. 3).

Discussion and Conclusion

There was rapid and sustained uptake of the online pre-registration system demonstrating its acceptability to staff.

Staff delayed several days prior to testing: any barriers need to be urgently identified and addressed.

Symptoms may be classified as high- or low-risk, but none can completely exclude the risk of SARS-CoV-2 infection.

Staff testing should form part of a broader strategy to protect staff including masks and face shields, hand washing, buddy screening, physical distancing and availability of PPE.

medRxiv Preprint and Reference List: doi.org/10.1101/2020.07.13.20152876 • Corresponding Author: saadiq.moolla@gmail.com