

Correspondence

Phase 2 of the Norwich COVID-19 testing initiative: an evaluation

University campuses have experienced widespread transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The virus is particularly prevalent in the student-age population¹ and more likely to be asymptomatic.²

The Norwich Testing Initiative phase 2 (NTI2) was an asymptomatic coronavirus disease 2019 (COVID-19) polymerase chain reaction (PCR) testing programme introduced at the University of East Anglia campus between September and December 2020. NTI2 followed a pilot which demonstrated a high level of engagement with asymptomatic testing in those who took up the offer, but highlighted concerns regarding overall uptake.³

The aim of this evaluation was to determine uptake of testing and positivity rates by user characteristics and location,

and in cases, to assess compliance with isolation and links between viral load and symptoms.

All staff and students on campus were eligible, apart from those with a previous positive result. User information was gathered using a web application and users self-administered a PCR swab. Additional information regarding symptoms and isolation was collected about cases at the time of result notification. Cases were recorded as symptomatic if they reported any symptoms listed by the ZOE COVID-19 symptom study.^{4,5}

User data were anonymized and downloaded into Microsoft Excel. They were cleaned and descriptive statistics produced using Microsoft Excel. Chi-squared and Fisher's Exact tests were used to test differences in observed vs expected

Table 1. Positive results by demographic group

Characteristic	Category	Total number in category	Number of positives	Positivity rate
Sex	Female	3819	101	2.6%
	Male	2622	87	3.3%
Ethnicity*	White	5163	137	2.7%
	BAME	1169	47	4.0%
	Not stated	205	4	2.0%
Staff/student status*	Student	5350	185	3.5%
	Staff	1097	2	0.2%
Location*	Off campus	4879	81	1.7%
	On campus	1658	107	6.5%
Age band	0–10	49	1	2.0%
	11–17	25	0	0%
	18–24	4777	180	3.8%
	25–34	665	2	0.3%
	35–44	411	4	1.0%
	45–54	365	0	0.0%
	55–64	207	1	0.5%
	65–74	40	0	0.0%
	75–84	1	0	0.0%
All users		6537	188	2.9%

*Significant difference between observed and expected values ($P < 0.05$).

uptake and positivity rates. Differences in proportions were calculated and tested using a two-sample t-test.

A total of 6537 users took part in the testing programme out of an eligible population of 21 762 (4333 staff and 17 429 students). In all, 188/6537 tested positive for SARS-CoV-2: this equates to an overall positivity rate of 2.9% or 1 in 35 users.

The table shows differences in positivity rates between groups, in particular demonstrating a high positivity rate on campus. There was evidence of clustering of cases within halls: the positivity rate in halls varied between 0 and 31%, and 18% of halls contained over half the cases on campus. The positivity rate peaked around the middle of October and then decreased rapidly. This contrasts with data for the local community which indicate a rise in incidence during this period.

Symptom and isolation data were available for 187 cases; 99/187 (53%) reported symptoms and 105/187 (56%) were isolating at some point between testing and receiving their result. Thirty-five percent of users with a positive test and symptoms were not isolating at the time of result notification. An analysis of cycle threshold (C_t) values in positive tests found no significant difference in the average N1 or RP value between those with and those without symptoms.

This evaluation indicates that NTI2 may have contributed to a reduction of cases on campus. It identified possible clustering of cases in halls, which has implications for other high-density housing. It also found that large numbers of cases had symptoms of some sort, suggesting that the NHS case definition may be too restrictive. The programme did not identify a significant cohort of cases with low viral load and there was no difference in viral load between symptomatic and asymptomatic cases.

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