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Letter to the Editor

Parental enablers and barriers for using rapid antigen tests for symptomatic or close contact children: a national survey of Australian parents

Widespread transmission of coronavirus disease 2019 (COVID-19)¹ and reduced public health orders in Australia have led to increased reliance on parents to engage in rapid antigen testing (RAT) of their children to ensure public safety. The absence of a national asymptomatic school RAT regime places a further onus on parents to identify early symptoms of COVID-19 or the close contact status of their child and perform a RAT at home to ensure their child does not contribute to the spread of COVID-19 in the community. As parents are key to detecting COVID-19 in children as part of Australia's public health response, we have explored uptake of paediatric

RATs, and associated enablers and barriers to their use, providing an insight to optimize current COVID-19 public health strategies targeting children.

We collected data during 14–27 April 2022 via The Royal Children's Hospital National Child Health Poll, a periodic online survey of parents.² Parents were selected by stratified random sampling from a panel recruited by offline and online methods.² The study protocol was approved by the Royal Children's Hospital Human Research Ethics Committee (RCH HREC 35254). To explore uptake of RATs, and enablers and barriers towards uptake, we identified the parents of

Table 1
Parental enablers and barriers for child RAT uptake.^a

	Enablers for RAT compliance ^b					
	A lot		Somewhat		Not at all	
	Number	(% weighted ^c)	Number	(% weighted ^c)	Number	(% weighted ^c)
I was comfortable testing my child	223	(58.99)	134	(35.45)	21	(5.56)
I had enough RATs to test my child	223	(58.99)	112	(29.63)	43	(11.38)
I wanted to protect medically vulnerable people	213	(56.35)	133	(35.19)	32	(8.47)
I wanted to follow government recommendations	193	(51.06)	158	(41.80)	27	(7.14)
I was worried about the spread of COVID-19	188	(49.74)	156	(41.27)	34	(8.99)
I believe it is important to test regularly to make schools safer	188	(49.74)	155	(41.01)	35	(9.26)
It was convenient to test my child	187	(49.47)	154	(40.74)	37	(9.79)
I could get RATs for free or at a low cost	164	(43.39)	118	(31.22)	96	(25.40)
Barriers for RAT compliance ^b						
My child probably has a cold and not COVID-19	24	(25.81)	26	(27.96)	43	(46.24)
I did not want to perform frequent RATs on my child	18	(19.35)	23	(24.73)	52	(55.91)
It is too difficult or distressing to perform RATs on my child	14	(15.01)	21	(22.58)	58	(62.37)
I did not want my child to have to isolate and miss out on school or other activities	14	(15.01)	22	(23.66)	57	(61.29)
I am not worried about COVID-19	14	(15.01)	35	(37.63)	44	(47.31)
My child was isolated or did not attend school for other reasons	13	(13.98)	20	(21.51)	60	(64.52)
I do not trust RAT results	12	(12.90)	34	(36.56)	47	(50.54)
I took my child for a PCR test instead of doing a RAT	11	(11.83)	21	(22.58)	61	(65.59)
My child has had COVID-19 and does not need to retest	11	(11.83)	17	(18.28)	65	(69.89)
I did not want to find a positive result as it is too inconvenient for my family	9	(9.68)	21	(22.58)	63	(67.74)
I did not have enough RATs	5	(5.38)	24	(25.81)	64	(68.82)
I forgot to test my child	4	(4.30)	22	(23.66)	67	(72.04)
I did not have enough time to do a RAT	3	(3.23)	16	(17.20)	74	(79.57)
I did not know how to use the RAT	3	(3.23)	14	(15.05)	76	(81.72)

^a The enablers and barriers to parental uptake of paediatric rapid antigen testing for children reported as symptomatic or a close contact in the two weeks before survey completion.

^b 2035 parents were surveyed, with 599 children reported as symptomatic or a close contact (eligible for testing), representing 471 parents. Of those parents with children eligible for testing, 378 reported testing compliance while 93 reported non-compliance.

^c Estimates (i.e., proportions) were weighted for Socio-Economic Indexes for Areas (SEIFA), number of children, parents' age, sex, indigenous status, and state of residence based on 2016 Australian Bureau of Statistics census data.

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children classified as symptomatic or a close contact within the two weeks before survey completion. To limit overrepresentation of families with multiple eligible children, parents only answered barrier and enabler survey questions once. The estimates are weighted for Socio-Economic Indexes for Areas (SEIFA), number of children, parents' age, sex, indigenous status, and state of residence based on 2016 Australian Bureau of Statistics census data. Our sample included 2035 parents reporting for 2849 children aged 3 years and over representing the preschool and school-aged population. Among the total, 599 children were eligible for testing within the two weeks preceding the survey completion, representing 471 parents.

Encouragingly, 80.25% (weighted) of 471 parents reported that they were compliant with testing, while 19.75% (weighted) parents reported they were non-compliant. These testing uptake figures are substantially higher than RAT and PCR reports from adult populations in the USA³ and UK,⁴ respectively.

Enablers and barriers to testing are displayed in Table 1. The most frequently reported parental enablers of uptake of RATs were being comfortable with performing RATs (58.99%, weighted), the availability of tests within the home (58.99%, weighted) and wanting to protect medically vulnerable people (56.35%, weighted). Among those parents who were non-compliant with testing, an assumption that their child had a cold and not COVID-19 (25.81%, weighted) and not wanting to perform frequent tests on their child (19.35%, weighted) were the frequently reported barriers to testing symptomatic or close contact children.

In addition to vaccinations, Australia's public health approach towards COVID-19 is centred around widespread testing, education on when and how to perform a RAT at home, and repeated messaging about the symptoms of COVID-19. The strongest enablers identified in our study highlight the efficacy of government prioritization of convenient, free RATs and advice to empower parents to confidently use the test on their child. The high compliance of parents further reflects the impact of government investment in RAT availability and the altruistic motives driving Australian parents to test. The barriers identified by non-compliant parents highlight further education and resources are required to educate parents on the indiscernibility of COVID-19 and common cold symptoms. A UK study reported similar confusion among adult participants and a tendency to 'wait and see' if symptoms worsen before testing.⁵ Timely public health messaging to address this misconception is particularly pertinent leading into winter months when paediatric upper respiratory tract infections are likely to rise.

The potential for societal expectation to lead parents to overreport RAT compliance is the main limitation of our study. However, this novel investigation of the enablers and barriers to testing among children remains of value. The association of demographic characteristics such as primary language, rurality and socio-economic status on enablers and barriers is likely to yield valuable information for government messaging towards priority communities and warrants further investigation.

Overall, we provide strong evidence supporting government initiatives and substantial monetary investment to make RATs free for parents, so child testing rates remain high, especially given high child COVID-19 infection rates. For optimal utility, initiatives should be coupled with efforts to ensure parents are comfortable to test and educate on the fact that COVID-19 produces symptoms indistinguishable from those of the common cold.

Author statements

Ethical approval

The study protocol was approved by the Royal Children's Hospital Human Research Ethics Committee (RCH HREC 35254).

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Competing interests

The authors declare no competing interests.

Data availability

Raw data can be made available upon request.

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