

Edinburgh Research Explorer

How can we improve self-isolation and quarantine for covid-19?

Citation for published version:

Patel, J, Fernandes, G & Sridhar, D 2021, 'How can we improve self-isolation and quarantine for covid-19?', BMJ Open, vol. 372. https://doi.org/10.1136/bmj.n625

Digital Object Identifier (DOI):

10.1136/bmj.n625

Link:

Link to publication record in Edinburgh Research Explorer

Document Version:

Peer reviewed version

Published In:

BMJ Open

General rights

Copyright for the publications made accessible via the Edinburgh Research Explorer is retained by the author(s) and / or other copyright owners and it is a condition of accessing these publications that users recognise and abide by the legal requirements associated with these rights.

Take down policy
The University of Edinburgh has made every reasonable effort to ensure that Edinburgh Research Explorer content complies with UK legislation. If you believe that the public display of this file breaches copyright please contact openaccess@ed.ac.uk providing details, and we will remove access to the work immediately and investigate your claim.



Analysis

International approaches to covid-19 self-isolation and quarantine: Insights on support, monitoring and adherence

Jay Patel^{1,2} Genevie Fernandes² Devi Sridhar²

¹ Faculty of Medicine and Health, University of Leeds, Leeds, UK
 ² Global Health Governance Programme, Usher Institute, University of Edinburgh, Edinburgh, UK

Correspondence to:

Full name: Jay Patel

Mailing address: Faculty of Medicine and Health, Worsley Building, Clarendon Way,

University of Leeds, Leeds, LS2 9JT, United Kingdom

Email: PatelJ01@outlook.com

Word count: 1998 words References: 33 references

KEY MESSAGES

- Inadequate financial support is a commonly cited factor for low adherence to self-isolation or quarantine.
- Comprehensive support models are required to make self-isolation or quarantine feasible.
- Alternative accommodation should be made available for individuals unable to safely isolate at home.
- Locally-delivered solutions and community engagement are highly effective, and have particular benefit amongst vulnerable or low-income populations.

International approaches to covid-19 self-isolation and quarantine: Insights on support, monitoring and adherence

Jay Patel and colleagues argue that comprehensive support initiatives driven by local government and community-based teams could significantly improve public adherence to self-isolation instructions—a cornerstone of the covid-19 response.

Lessons from international approaches to the covid-19 pandemic have consistently demonstrated the importance of a functional test-trace-isolate-support system.¹² The ability for people to isolate is foundational to this multi-pronged strategy, as this component is required to break chains of transmission and reduce infection rates in a population. Even the most effective mass testing and intense contact tracing systems have only marginal value, if positive cases and close contacts are unable or unwilling to self-isolate. Drawing from international experiences on self-isolation and quarantine, we discuss the current levels of public adherence and the measures instituted by governments to support and monitor individuals with confirmed or suspected covid-19 and their close contacts. Given the global resurgence of covid-19 and the spread of several variants, understanding what works for influencing and supporting self-isolation is critical to control the pandemic.

Public adherence to self-isolation

Adherence to self-isolation is generally low and both financial and logistical factors determine an individual's ability to comply.³ A series of online surveys conducted in the UK from over 30,000 participants found that only 18% of those who experienced symptoms in the last seven days, had not left home since developing symptoms, and only 11% of close contacts quarantined.³ These figures are far from stated public intention to self-isolate and quarantine, at around 70% and 65% respectively.³ Commonly cited reasons for low levels of adherence included, but were not limited to, childcare responsibilities, experience of pandemic hardship, less awareness of covid-19 guidance, working in a key sector.

Self-reported ability to isolate was lower among black and minority ethnic groups and those with annual household incomes below £20 000, or savings less than £100.⁴ Interim evaluation from the Liverpool covid-19 community testing pilot concluded that a major barrier to testing uptake—mostly in deprived communities—was the fear of not having adequate support to isolate.⁵ Similarly in Iran, although the ability to adhere did not follow the social gradient, people of lower subjective social class were less likely to comply with social-isolation measures due to the lack of perceived social support.⁶

The reason for intent and actual practice of self-isolation is relevant in predicting compliance. In particular, symptomatic and positive cases are more likely to adhere than contacts of positive cases.⁷ In the Netherlands, public intention to isolate at home was around 95% if they were to receive a positive test result, reducing to 84% if a member of their household had tested positive and 43% if a close contact had covid-19.⁷ A Norwegian study found that 65% of people required to self-isolate had not adhered to this request, yet, compliance was twice as high for symptomatic cases.⁸ Whilst public adherence to protective behaviours have been high, where it is lower—as in full adherence to self-isolation—intention to adhere is high, suggesting the value of adequate support to enable these behaviours.⁹

Public trust in institutions is a key dimension for determining compliance to public health guidelines, especially in times of crisis.¹⁰ The West African response to the 2014 Ebola epidemic showed that mobilising local leaders and promoting community engagement helped build trust and improved the success of public health measures.¹¹ In the UK, longitudinal analysis confirmed the relationship between trust in government and covid-19 compliance intentions, but similar analyses on reported behaviours are currently lacking.¹²

Support measures being offered by governments

The term *support*, in the context of this analysis, refers to a financial or other non-financial measure, facilitating an individual to fulfil their self-isolation or quarantine guidance for the stipulated time period. In most countries, isolation is mandatory and lasts between 10 and 14 days, with France (7 days and voluntary) and Vietnam (21 days and mandatory) as notable exceptions. Four broad types of support packages are being offered across countries: financial support, employment benefits, practical support and comprehensive services.

First, some countries offer one-off financial support for positive cases and contacts to self-isolate. Amongst the most generous are Australia (up to \$1,500), UK (£500, on application and based on strict criteria), and South Korea (\$374), while in Taiwan daily reimbursements of \$35 per day are offered to individuals for each day spent in isolation including caregivers of confirmed cases. In the UK, eligibility applies only to those who receive government benefits, whereas Singapore, South Korea and Taiwan extend financial support to all individuals required to isolate, regardless of their economic context.

Second, employment benefits are commonly issued, often alongside nominal allowances. Generally, these benefits can only be availed for those with an employed status or those who meet a specified income level. In the UK, around 2 million low-paid workers are not entitled to statutory sick pay of £95.85 per week.¹⁴

Third, practical support in the form of home visits, help with food, medication and alternate accommodation have also been observed. The French government mobilised health teams to conduct home visits for confirmed cases, advising them to self-isolate, offering antigen (rapid) tests for household members and providing extra practical support. In the Netherlands, those isolating can contact local municipalities and the Red Cross for practical help.

Provision of alternate accommodation is particularly important given the heightened risk of household transmission and difficulties in adherence when living in large, crowded and multigenerational households. ¹⁶ In Denmark and Norway, local governments offer accommodation to anyone unable to isolate at home. In Vermont, housing policies, enabling people to safely isolate from household members, were considered central to their response. ¹⁷ This involved strengthening existing infrastructure to provide comprehensive housing protection for vulnerable communities.

Finally, local authorities in South Korea, Taiwan, New York (box 1) and San Francisco (box 2) offer comprehensive support packages to assist with self-isolation. In South Korea, quarantined individuals are provided with daily necessities and sanitary kits worth around \$60, financial support of \$374, and quarantine facilities for those who cannot isolate at home.²² In Taiwan, local government centres offer transport arrangements, food delivery, medical care and household services, including accommodation for people without a residence alongside aforementioned financial support.¹³ The San Francisco 'Right to Recover' programme provides eligible workers with two weeks of salary reimbursement at the minimum wage (\$1,285), practical support, and alternative accommodation if required.²³

Box 1: New York City's 'Take Care' initiative

The rationale underpinning the 'Take Care' initiative in New York City is to provide any resources an individual requires to safely observe their full self-isolation period either in a hotel, or if desired, at home. This initiative is coordinated locally, involving 'Resource Navigators' from community-based organisations to deliver a wide range of services including, financial help, food delivery, health insurance, medical kits, pet care, and mental health support across every neighbourhood. The support package has high acceptance,

with only a 2% return rate.¹⁹ Preliminary findings reveal that local contact tracers are able to locate between 82–87% of people at home, when random monitoring visits were conducted.¹⁹ Even amongst those who left their homes multiple times a day prior to symptom onset or receiving a positive test, around 90% of people reported not to have left their home during the self-isolation period.¹⁹ This figure is increasing as the initiative continues to strengthen, and adherence may be as high as 95%.²⁰

Box 2: San Francisco's 'Test-to-Care' initiative

A novel 'Test-to-Care' model involves engaging with community members and local public health leaders in a densely populated, and predominantly Latin American neighbourhood of San Francisco, California. This model, designed to specifically address vulnerable, low-income populations, has three support strands: informational services, practical services (such as groceries, medication, hygiene products, and other necessities) and longitudinal medical, social and emotional support. Support is delivered by healthcare providers and community health workers. Although its evaluation did not directly assess adherence to isolation and quarantine, 65% of participants received ongoing community support for the duration of the self-isolation period.²¹ Additional advantages were also noted; around 1 in 10 participants disclosed more contacts than at the initial contact tracing interview.²¹

Monitoring self-isolation

Broadly, two mechanisms for monitoring compliance have been used at varying degrees of stringency: regular or random checks conducted in person or by telephone, and digital surveillance technologies. Checks are either coordinated by local public health authorities or private sector staff, and supported by the police. To be allowed to self-isolate at home in Slovakia, individuals must install a mobile application, allowing random facial recognition checks and tracking information. Digital surveillance of quarantined individuals is also conducted in Australia, Singapore, South Korea and Taiwan via mobile phone applications, location-based software, drones, video calls and CCTV footage, in combination with daily monitoring calls by local health teams. Violation can result in heavy fines and even prosecution. The transferability of digital surveillance measures is not straightforward, as countries in the Asia-Pacific region have a strong culture of surveillance combined with increased public trust in the government, whereas privacy laws in European countries and public attitudes towards governance and liberty may not support such measures.²⁴

Except in France, fines are imposed across countries on persons found violating isolation guidelines. Potential imprisonment for flouting self-isolation has been reported in Australia, Germany, Italy, Finland and Norway. In the absence of support, penalties alone are unlikely to encourage desirable behaviours during the pandemic.²⁵ Given the material threat posed by covid-19 on individual health, social support with a firm belief in collective responsibility, are more likely to achieve constructive actions across communities.²⁶

A key feature of monitoring compliance in countries that have been comparatively successful in controlling transmission, is that they are driven by local public health authorities linking testing, contact tracing and supported isolation efforts. In the UK, contact tracing under the national Test and Trace programme is divided between outsourced private companies and local health protection teams, while financial support for isolation is managed by local councils. Since the launch of Test and Trace, 98% of all contacts managed by local health protection teams have been successfully reached, falling to 68% for those coordinated by national call centre capacity. ²⁷ Without locally-delivered solutions, individuals are only loosely instructed to self-isolate without support or longitudinal monitoring. Improved coordination between local health protection teams, councils and community-based organisations for test-trace-isolate efforts could lead to improved public trust, reporting of contacts and adherence.

Effectiveness of support interventions in promoting adherence

Despite the scarce data on the effectiveness of isolation support measures, financial and comprehensive support seem beneficial. The Families First Coronavirus Response Act allowed some US employees (subject to eligibility criteria) to receive 14 days of emergency sick leave at full pay (limited by an upper threshold).²⁸ The estimated impact of this measure is a reduction of 400 confirmed cases per state, per day, or 1 case per 1,300 workers.²⁸ In Israel, 94% of adults would comply to self-quarantine when financial compensation was assumed, dropping to below 57% in the absence of financial support.²⁹

Whilst financial resources are important and enable the feasibility of self-isolation, they should not be relied upon solely; wider support models are necessary to elicit high levels of adherence. Where comprehensive support packages were offered, adherence to self-isolation guidelines was high and violations low. In South Korea, the median number of people that quarantined was 36,561 per day and around 6 violations were recorded each day—a rate of 1.6 violations per 10,000 self-quarantined individuals.²² Since isolation across the Asia-Pacific countries is usually managed via designated quarantine facilities, stringently

monitored by health care workers, compliance is assumed to be high. As presented in box 1, preliminary data from New York City shows high levels of adherence, reflecting the effectiveness of a comprehensive approach towards support.

Mutual aid groups—rapidly and widely developed to support vulnerable and shielded members to isolate—have helped protect community health and well-being.³⁰ The support requests and activities of such groups represent the needs of those in self-isolation and serve as an important indicator towards building effective isolation support policies, particularly through collaboration between local government bodies and community-based organisations.

Moving forward

Policies around self-isolation should be supportive and compassionate in acknowledging individual challenges. While strategies centred around strict monitoring and issuing penalties for individuals seen to violate instructions have not been thoroughly evaluated, these may even be counter-productive, compromising testing uptake, honest reporting during contact tracing, and erode public trust.²⁰ Regular reporting of self-isolation behaviours is also needed to monitor, in real-time, the effectiveness of test-trace-isolate systems.

Local government driven efforts are central to successful crisis management, but remains a largely overlooked and ignored tool.³¹ Local health protection teams leading test-trace-isolate systems is an important, perhaps defining feature of its effectiveness. The covid-19 pandemic presents many opportunities to improve links between local public bodies and community-based organisations, empower and mobilise community stakeholders for multiple aspects of the covid-19 response, including supportive strategies to encourage and practically facilitate self-isolation and quarantine.

Public knowledge and perceptions are varied and influence personal choices.³² The reasoning pertaining to a person's need to self-isolate is relevant in determining the likelihood of their full adherence. Particular emphasis should be placed on explaining the rationale for self-isolation. Informational support is therefore a key component, necessitating clear public health messaging, accessible in a range of languages and to communities with varying degrees of health literacy.

Finally, all individuals instructed to self-isolate or quarantine should be entitled to adequate comprehensive support, allowing them to safely observe their allocated time period. Sufficient baseline support should be offered to make isolation feasible. Particular

consideration is warranted for those unable to safely separate at home and require designated quarantine facilities to accommodate this.

Given the fast-evolving nature of covid-19 policies, this analysis provides a timely snapshot of current international approaches. Our findings add strength to the call for urgent action around isolation measures, endorsing locally-delivered, comprehensive support models.³³ Without effective policies enabling people to safely self-isolate and quarantine, the success of test and trace infrastructures are jeopardised.

Contributors and sources

JP and GF jointly collated data for this analysis. JP drafted the manuscript. GF and DS critically revised the draft. All authors conceived this analysis and approved the final version of the manuscript. This analysis was drawn from experiences in twenty countries, which were purposively selected based on available information on isolation-related government schemes. Data for this article was triangulated from sources including government reports and websites, peer-reviewed articles, pre-prints and news media reports. DS is on the Scottish Government COVID-19 advisory group, on the Royal Society DELVE group that feeds into SAGE and a member of the UK Cabinet Office's International Joint Comparisons Unit.

Acknowledgements

Financial Support

We acknowledge support of Wellcome Trust [106635/Z/14/Z].

Patient involvement

None

Conflicts of Interest

We have read and understood <u>BMJ policy on declaration of interests</u> and have the following interests to declare: DS is on the Scottish Government COVID-19 advisory group, on the Royal Society DELVE group that feeds into SAGE and a member of the UK Cabinet Office's International Joint Comparisons Unit.

Licence

The Corresponding Author has the right to grant on behalf of all authors and does grant on behalf of all authors, an exclusive licence (or non exclusive for government employees) on a worldwide basis to the BMJ Publishing Group Ltd ("BMJ"), and its Licensees to permit this article (if accepted) to be published in The BMJ's editions and any other BMJ products and to exploit all subsidiary rights, as set out in <u>The BMJ's licence</u>.

Table 1: Summary of findings from 20 countries on support, monitoring, and penalties pertaining to covid-19 self-isolation and quarantine.

Country	Available support	Eligibility for	Self-isolation	Enforcement and	Penalties for
		support	guidance	monitoring	violation
Australia	Employees in Victoria can	Any individual who	Mandatory self-	Public health staff can	\$5,000 in Victoria.
	apply for a \$450 COVID-	has to isolate and	isolation for 14	monitor through telephone	Up to \$11,000 (with
	19 Test Isolation Payment	does not have paid	days.	checks. Isolation in	a further \$5,500 fine
	to support self-isolation	sick leave or any		designated facilities, may	for each day the
	whilst waiting for test	government income		be required if adherence is	offence continues)
	results, and \$1,500 if	support.		breached. Periodic checks	and/or 6 months in
	income is lost while			by police officers.	prison in New South
	isolating as a confirmed				Wales.
	case or close contact.				Up to \$13,000 in
	\$300 available in South				Queensland.
	Australia.				
Belgium	70% of earnings and a	Employed individuals	7 days positive	Spot checks by public	Fine of €250 rising
	nominal allowance of €150	required to isolate.	cases (including	health staff.	to €4,000 for serious
	per month.		3 days without		or repeat offences.
			experiencing		
			symptoms) and		
			10 days for		
			close contacts		

			or 7 days with a		
			negative test.		
Canada	Income support of \$450	Missed at least 50%	Voluntary self-	Public health agencies are	Repay Canada
	per week through the	of work week due to	isolation for 14	responsible for monitoring	Recovery Sickness
1	Canada Recovery	an instruction to self-	days.	adherence.	Benefit back to the
	Sickness Benefit, for up to	isolate.			Canada Revenue
	two weeks.				Agency.
Denmark	Voluntary quarantine	Individuals unable to	Mandatory self-	Random physical checks or	Fine of 3,500 DKK.
	facility offered (exclusive	self-isolate at home.	isolation for 14	phone calls.	
	of food).		days.		
Finland	100% of lost income	Employees that have	At least 10 days	Official quarantine and self-	Fine depending on
	during isolation period.	suffered a financial	since symptom	quarantine are not	annual income, or
	Alternative	loss due to self-	onset and until	monitored. Police can	up to 3 months
	accommodation can be	isolation and cannot	symptoms have	investigate if violation has	imprisonment.
	provided if required.	isolate at home.	resolved for 48	been reported.	
			hours.		
France	90% of gross salary	Employed individuals	Voluntary self-	Occasional home visits by	No penalties.
	reimbursed plus daily	required to isolate.	isolation for 7	public health officials.	
	allowance (50% of daily		days.		
	basic wage for 30 days).				
1	Health teams can offer				

	home visits, providing				
	practical and support.				
Germany	Employees who test	Employed individuals	Mandatory self-	Containment scouts can	Fine of up to
	positive are entitled to	required to isolate.	isolation for 10	conduct phone checks or	€25,000 (dependent
	remuneration (for up to six		days.	home visits.	on monthly income
	weeks) as per statutory				and location), or up
	sick pay.				to 5 years in prison.
lanasi	La clation Dan afit	Fundamentin dividuale	Mandatanialif	Dalias and Ministry of	Fig. of the \$440
Israel	Isolation Benefit,	Employed individuals	Mandatory self-	Police and Ministry of	Fine of up to \$140,
	equivalent to sick pay, but	required to isolate.	isolation for 10	Health inspectors perform	and potential
	standard deduction		days and until a	checks to detect violations.	imprisonment.
	applies. No more than 4		certificate of		
	days sick days will be		recovery is		
	deducted for each		issued.		
	isolation duration.				
Italy	Daily phone calls by a	Unclear. Italian	Mandatory self-	Public health operators	Fines of €500 to
	public health professional	officials determined	isolation for 10	monitor cases through	€5,000, with risk of 3
	for a small minority of	that isolating people in	days.	telephone checks.	to 18 months
	people.	dedicated facilities is		Geolocation data used to	imprisonment.
		not feasible.		monitor movement.	
Japan	Sickness allowance equal	Any employed and	Voluntary self-	No monitoring.	No penalties for
	to two thirds of their	insured individuals	isolation for 14		refusing to self-
	average daily wage over		days either at		isolate.

	the most recent 12-month	who have to self-	home or in		
	period.	isolate.	designated		
			facilities.		
Netherlands	Temporary self-	Anyone that has	Voluntary self-	Police and special	Fine of €95.
	employment income	suffered a financial	isolation for 10	investigating officers can	
	support and loan scheme.	loss due to self-	days.	enforce fines. Public health	
	Local municipality and	isolation.		messaging around morals	
	Red Cross can offer			and self-discipline used to	
	practical support and			maximise compliance.	
	alternate accommodation.				
New	The Covid-19 Leave	Must have been told	Mandatory self-	Medical officials with the	Under the COVID-19
Zealand	Support Scheme pays	to self-isolate by a	isolation for 14	help of police.	Public Health
	employees \$585 per week	health official.	days.		Response Act 2020,
	of full-time work (>20				either 6 months
	hours/week) and \$350 for				imprisonment or a
	part-time work (<20				\$4000 fine.
	hours/week) for 2 weeks.				
	COVID-19 Short-Term				
	Absence Payment is a				
	one-time \$350 payment				
	available for workers who				
	are self-isolating whilst				
	awaiting test results.				

Norway	Statutory sick pay: 80% of	Employed individuals	Mandatory self-	Police checks.	Fine of 20,000 NK
	salary up to annual salary	required to isolate.	isolation for 10		and up to 15 days
	cap of 60,000 NOK	Accommodation	days.		imprisonment.
	(£52,600).	provided for persons			
	Local municipality can	who cannot isolate at			
	cover the cost of an	home.			
	alternate accommodation				
	if necessary.				
Singapore	Employed residents	Any individual	Mandatory self-	The Ministry of Health will	If found to be non-
	receive paid sick leave.	required to quarantine	isolation or	establish if a quarantine	compliant,
	\$75 daily compensation.	eligible for sick pay.	quarantine for	order should be served in	quarantined
	Unemployed residents can	Daily compensation of	14 days.	the home or in dedicated	individuals may have
	contact agents for social	\$75 available to self-		government facilities.	to wear an electronic
	and financial assistance.	employed citizens,		Individuals monitored by	tag or receive an
		permanent residents,		video calls and/or mobile	order to be detained
		Permanent Residents		applications at least 3 times	and isolated in a
		or Workpass Holders.		daily, along with spot	hospital/other
				checks.	suitable facility.
					Violation risks
					prosecution under
					Section 21A of the
					Infectious Disease
					Act.

Slovakia	State-run quarantine	Individuals unable to	Mandatory self-	Installation of the	Fine of up to €1,659
	facilities available if home	self-isolate at home.	isolation for	eQuarantine	
	isolation is not possible.		minimum 14	mobile application is	
			days.	mandatory for home	
				isolation, providing location-	
				based tracking and random	
				facial recognition requests.	
Spain	Employed individuals	Employed individuals	Mandatory self-	Random physical checks or	Fine of €3,000 rising
	entitled to a benefit in	required to isolate.	isolation for 10	phone calls.	to €600,000 for
	addition to a dedicated		days.		repeat offences.
	sickness benefit, of 60%				
	salary up to 15 days.				
South	Quarantined individuals	Any individual	Mandatory	Mobile application or twice	Fine of up to 10
Korea	are provided with daily	required to	quarantine for	daily telephone calls, plus	million Korean Won
	necessities and sanitary	quarantine.	14 days.	random checks by public	(\$8273) in fines, a
	kits (valued at \$60), and			health workers.	so-called "1-strike
	financial support of \$374.				out policy."
Taiwan	Daily compensation of	Any individual	Mandatory self-	Twice daily checks by local	Fine of up to NT
	NT\$ 1000. Local centres	required to	isolation for 14	health	\$150,000.
	provide support services,	quarantine.	days.	agencies. Additionally, a	
	daily follow-up calls,			mobile application uses	
	transport, medical care,			location-tracking and	
	household services,			geofencing.	

	accommodation for people				
	without a residence, and				
	food delivery.				
Sweden	Salary paid if cases	Medical certificate	Voluntary	No monitoring.	No penalties.
	cannot go to work. Sick	required to confirm	personal		
	pay for anyone considered	diagnosis of covid-19.	responsibility to		
	ill. Infected individuals who		stay home.		
	are still able to work are				
	supported through the				
	Disease Carrier				
	Allowance.				
United	£500 each time an	Low-income groups,	Mandatory self-	NHS Test & Trace call	Fine of £1,000 rising
Kingdom	individual is required to	including those	isolation for 10	handlers make follow-up	to £10,000 for repeat
	isolate. Local authorities	receiving government	days and 14	calls to those isolating to	offences in England,
	may provide practical	benefits.	days for close	monitor compliance. Police	£480 in Scotland,
	support for vulnerable		contacts.	checks can be conducted in	and up to £1000 in
	individuals.			high incidence areas.	Wales.
				Employers have	
				responsibilities to ensure	
				their staff observe self-	
				isolation guidelines.	

References

- Sheikh A, Sheikh A, Sheikh Z, Dhami S, Sridhar D. What's the way out? Potential exit strategies from the COVID-19 lockdown. *J Glob Health* 2020;10:010370. doi: 10.7189/jogh.10.010370 pmid: 32566161
- Baker MG, Wilson N, Blakely T. Elimination could be the optimal response strategy for covid-19 and other emerging pandemic diseases. *BMJ* 2020;371:m4907 doi: 10.1136/bmi.m4907.
- Smith LE, Potts HWW, Amlot R, et al. Adherence to the test, trace and isolate system: results from a time series of 21 nationally representative surveys in the UK (the COVID-19 Rapid Survey of Adherence to Interventions and Responses [CORSAIR] study). medRxiv2020:2020.09.15.20191957. [Preprint.] doi: 10.1101/2020.09.15.20191957
- 4. Atchison C, Bowman LR, Vrinten C, et al. Early perceptions and behavioural responses during the COVID-19 pandemic: a cross-sectional survey of UK adults. *BMJ Open* 2021;11:e043577. doi:10.1136/bmjopen-2020-043577 pmid:33397669
- University of Liverpool. Liverpool Covid-19 Community Testing Pilot Interim Evaluation Report. 2020. https://www.liverpool.ac.uk/media/livacuk/coronavirus/Liverpool,Community,Testing,Pilot,Interim,Evaluation.pdf
- Paykani T, Zimet GD, Esmaeili R, Khajedaluee AR, Khajedaluee M. Perceived social support and compliance with stay-at-home orders during the COVID-19 outbreak: evidence from Iran. *BMC Public Health* 2020;20:1650. doi: 10.1186/s12889-020-09759-2. pmid: 33148209.
- 7. RIVM. Research on behavioural rules and well-being: round 3. 2020. https://www.rivm.nl/en/novel-coronavirus-covid-19/research/behaviour/behavioural-measures-and-well-being/round-3
- Carlsen EØ, Caspersen IH, Trogstad L, et al. Public adherence to governmental recommendations regarding quarantine and testing for COVID-19 in two Norwegian cohorts. medRxiv2020:2020.12.18.20248405. [Preprint.] doi: 10.1101/2020.12.18.20248405
- Independent SAGE. Independent SAGE briefing note on use of punishments in the Covid response. 2021. https://www.independentsage.org/wp-content/uploads/2021/02/Crime-and-punishment-John-4.1-1.pdf
- 10. Bargain O, Aminjonov U. Trust and compliance to public health policies in times of COVID-19. *J Public Econ* 2020;192:104316. doi: 10.1016/j.jpubeco.2020.104316. pmid: 33162621

- 11. Bavel JJV, Baicker K, Boggio PS, et al. Using social and behavioural science to support COVID-19 pandemic response. *Nat Hum Behav* 2020;4:460–471. doi: 10.1038/s41562-020-0884-z. pmid: 32355299.
- 12. Wright L, Steptoe A, Fancourt D. What predicts adherence to COVID-19 government guidelines? Longitudinal analyses of 51,000 UK adults.

 medRxiv2020:2020.10.19.20215376. [Preprint.] doi: 10.1101/2020.10.19.20215376
- 13. Global Health Governance Programme. Self-isolation-related support, monitoring and adherence: International approaches. 2021. globalhealthgovernance.org/s/Covid-Isolation-Review-GHGP-20012021.pdf
- 14. HM Government. Health is everyone's business. Proposals to reduce ill health-related job loss. 2019.
 <a href="https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/815944/health-is-everyones-business-proposals-to-reduce-ill-health-related-job-loss.pdf#page=33</p>
- 15. The Connexion. France Covid-19: Self-isolation recommended but not forced. 2020. https://www.connexionfrance.com/French-news/France-Covid-19-Self-isolation-recommended-but-not-forced-as-new-home-visits-introduced
- Public Health England (PHE) Transmission Group. Factors contributing to risk of SARS-CoV2 transmission in various settings.
 https://www.gov.uk/government/publications/phe-factors-contributing-to-risk-of-sars-cov2-transmission-in-various-settings-26-november-2020
- 17. Vermont Legal Aid. Housing is Health: Building on Vermont's Pandemic Success to Advance Health Equity. 2021. https://www.vtlegalaid.org/sites/default/files/Housing-is-Health-Legislative-Brief-Jan-2021.pdf
- 18. NYC Health and Hospitals. Take Care. 2020. https://www.nychealthandhospitals.org/test-and-trace/take-care/
- 19. Personal communication from a member of New York City's Test & Trace Corps.
- 20. Reicher S, Drury J. Pandemic fatigue? How adherence to covid-19 regulations has been misrepresented and why it matters. BMJ Opinion. 7 Jan 2021.
 https://blogs.bmj.com/bmj/2021/01/07/pandemic-fatigue-how-adherence-to-covid-19-regulations-has-been-misrepresented-and-why-it-matters/
- 21. Kerkhoff AD, Sachdev D, Mizany S, et al. Evaluation of a novel community-based covid-19 'test-to-care' model for low-income populations. *PLoS One* 2020;15:e0239400. doi: 10.1371/journal.pone.0239400 pmid: 33035216
- 22. Ryu S, Hwang Y, Yoon H, Chun BC. Self-Quarantine Noncompliance During the COVID-19 Pandemic in South Korea. *Disaster Med Public Health Prep* 2020;Oct 12:1-4. [Epub ahead of print.] doi: 10.1017/dmp.2020.374. pmid: 33040761

- 23. Office of Economic and Workforce Development. For Employees Impacted By Covid-19. 2021. https://oewd.org/employees-impacted-covid-19
- 24. Sonn JW. Coronavirus: South Korea's success in controlling disease is due to its acceptance of surveillance. *The Conversation*. 2020.
 https://theconversation.com/coronavirus-south-koreas-success-in-controlling-disease-is-due-to-its-acceptance-of-surveillance-134068
- 25. The British Psychological Society. Encouraging self-isolation to prevent the spread of Covid-19. 2020. bps.org.uk/sites/www.bps.org.uk/files/Policy/Policy%20-%20Files/Encouraging%20self-isolation%20to%20prevent%20the%20spread%20of%20Covid-19.pdf
- 26. Jetten J, Reicher SD, Haslam A, Cruwys T. Together Apart: The Psychology of COVID-19. 2020. London: SAGE Publications.
- 27. Department of Health and Social Care. Weekly statistics for NHS Test and Trace (England): 14 January to 20 January 2021. 2021. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/956634/Test_and_Trace_Week34.pdf
- 28. Pichler S, Wen K, Ziebarth NR. COVID-19 Emergency Sick Leave Has Helped Flatten The Curve In The United States. *Health Aff (Millwood)* 2020;39:2197-2204. doi: 10.1377/hlthaff.2020.00863. pmid: 33058691.
- 29. Bodas M, Peleg K. Self-Isolation Compliance In The COVID-19 Era Influenced By Compensation: Findings From A Recent Survey In Israel. *Health Aff (Millwood)* 2020;39:936-941. doi: 10.1377/hlthaff.2020.00382. pmid: 32271627.
- 30. Tiratelli L, Kaye S. Communities vs. coronavirus: The rise of mutual aid. 2020. newlocal.org.uk/wp-content/uploads/2020/12/Communities-vs-Coronavirus_New-Local.pdf
- 31. Gilmore B, Ndejjo R, Tchetchia A, et al. Community engagement for COVID-19 prevention and control: a rapid evidence synthesis. *BMJ Glob Health* 2020;5:e003188. doi: 10.1136/bmjgh-2020-003188.
- 32. SPI-B. Impact of financial and other targeted support on rates of self-isolation or quarantine. 2020.
 - https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/925133/S0759 SPI-
 - B The impact of financial and other targeted support on rates of self-isolation or quarantine .pdf
- 33. Cevik M, Baral SD, Crozier A, Cassell JA. Support for self-isolation is critical in covid-19 response. *BMJ* 2021;372. doi: 10.1136/bmj.n224. pmid: 33504501