

# Isolation on arrival of persons travelling from affected areas

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## Executive summary

- COVID-19 presents a significant threat to Ascension Island, and as such appropriate measures to combat this threat have been developed and implemented.
- An effective isolation and quarantine (isolation following arrival) policy is therefore necessary to safeguard against COVID-19 establishing itself within Ascension. This policy is applied to all persons arriving at Ascension who are considered by the Senior Medical Officer to be potential sources of COVID-19 infection.
- In recognition of local circumstances, such as the working nature of the island and the limitations of the facilities available within Ascension, a number of options for isolation have been developed. In order provide the Senior Medical Officer with suitable confidence in these protocols certain measures, such as testing during the isolation period, may be deployed in particular circumstances.

## Background

The SARS Coronavirus type II (COVID-19) poses a serious risk to Ascension Island, its community and the limited medical resources available within the territory. As a result it is necessary for the Ascension Island Government (AIG) to ensure that adequate measures are in place to protect the island community from possible infection or contamination by COVID-19 whilst the risk from COVID-19 remains.

## Issue

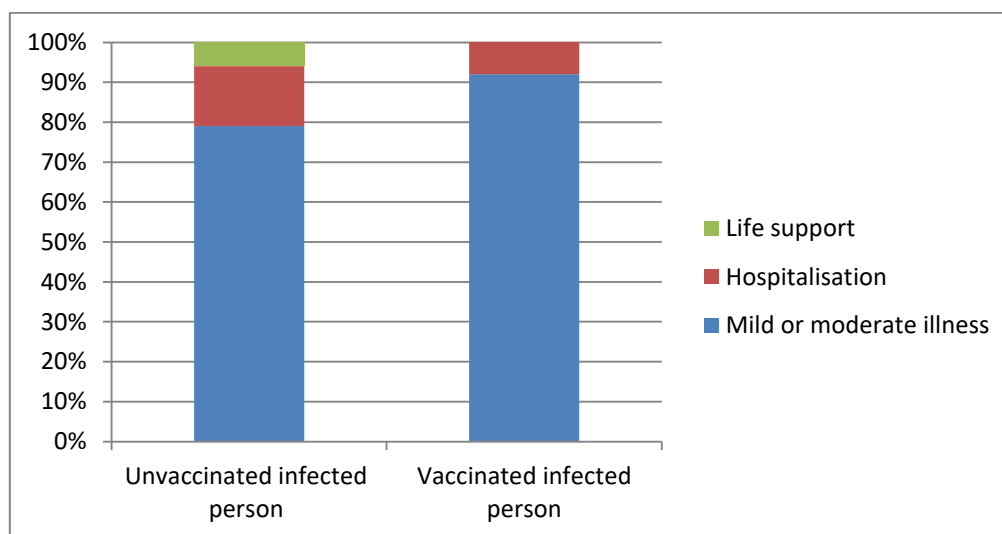
The SARS Coronavirus type II (COVID-19) is a highly contagious novel respiratory droplet spread infection in which transmission is most likely to occur amongst groups of individuals interacting without appropriate protective equipment (particularly facemasks and face coverings) within distances less than two metres for periods totalling 15 minutes or longer.

The known incubation period (from infection to clinical disease) in an unvaccinated person is between two to 14 days, with a mean incubation of four to seven days. In some studies as many as 40% of infected unvaccinated individuals may remain asymptomatic or only mildly symptomatic. Data is still emerging with regard to infection in fully vaccinated individuals but it is expected that symptomatic and contagious infection is reduced by up to 80% in fully vaccinated individuals. The greatest risk of transmission from an infected individual occurs approximately 48-72 hours before the onset of illness, and continues until about 10 days after onset. If no protective measures are taken each infected individual can be expected to infect at least three others, producing the exponentially explosive epidemics observed internationally.

On average, in unvaccinated persons around 80% of infected individuals have a mild or moderate illness, 15% are more seriously affected and require hospitalisation and oxygen

therapy; whilst about half of these more seriously affected individuals become critically ill and require life support<sup>1</sup>.

On average, in vaccinated persons around 92% of infected individuals have a mild or moderate illness, with the rest requiring hospitalisations and oxygen therapy<sup>2</sup>. Further work is underway to establish what percentage of those infected ultimately become critically ill and require life support.



Even with widespread full vaccination within a population it is vital that measures are in place to safeguard the community. Of those vaccinated, only 80% on average will actually have protection against virus and vaccines have been proven to be less effective than this against some of the more recently emerging variants<sup>3</sup>. Whilst widespread full vaccination will reduce the chance of serious illness and death for most it remains important to recognise that the unique dynamic of the island (for instance ~50% are served by messing facilities) means that viral spread can occur quickly and widely, so authorities need to take practical measures to safeguard against this.

Admission of any number of ill individuals to Georgetown Hospital poses a significant risk of onward transmission of COVID-19 to the limited number of available hospital staff, and thence into the community. Due to the limitations of medical facilities and supplies in Ascension, any person admitted to Georgetown Hospital with a severe COVID-19 illness could only be managed for a limited period of time before requiring medical evacuation to a third territory for substantive treatment.

The impact of sustained community-acquired cases within Ascension would be significant. The Hospital is staffed with two full-time doctors and eight nurses; it has capacity to care for up to 10 moderately ill patients, and two critically ill patients at any one time. In order to try to prevent the medical services and facilities being overwhelmed during community-established transmission, significant reactive public health mitigation measures would need to be observed, causing substantial disruption to individuals and employers for a potentially prolonged period of time.

An effective compulsory isolation and quarantine (isolation following arrival) policy is therefore necessary to prevent unchecked direct transmission of COVID-19 to the island

<sup>1</sup> <https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200306-sitrep-46-covid-19.pdf>

<sup>2</sup> PHE – Effectiveness of COVID-19 vaccines against hospital admission with the Delta (B.1.617.2) variant, <https://bit.ly/3gLdAFZ> - 14 June 2021

<sup>3</sup> The AstraZeneca COVID-19 Vaccine is currently reported as providing a 62% level of protection against the Delta variant

community, to protect the critically vulnerable hospital service from unnecessary risk of exposure and to allow the continued operation of island services and businesses.

## Principles

Measures should seek to ensure:

- The community is sufficiently safeguarded from unchecked direct transmission of COVID-19.
- Community-acquired infection and spread is prevented from becoming established.

## Advice received

Throughout the COVID-19 pandemic AIG has been in constant liaison with experts from Public Health England and a dedicated taskforce within Public Health England set up to support the Overseas Territories through this health crisis. This liaison has provided AIG with the opportunity to seek advice and guidance from some of the most highly qualified individuals in the world with access to the most up to date scientific understanding available. This advice has informed the approach taken by AIG to date, with ongoing refinement also informed by the advice and evidence provided by these colleagues.

The compulsory isolation of arrivals measures outlined below under **Application** are predicated on the following conditions being fulfilled:

- The level of full vaccination, considered to be two doses of a UK/EU/USA approved vaccine for a period of six months after application of the second dose, of the eligible population is maintained at 80% or higher.
- No pockets of unvaccinated persons are considered to be present within the community.
- Effective public health measures are in place to react to any outbreak as it is identified, such as contact tracing and precautionary isolation of known contacts.

## Application

### Pre-departure testing of arrivals

As travellers to Ascension pose a risk of introducing COVID-19 into Ascension, all travellers to Ascension will be required to produce a negative COVID-19 polymerase chain reaction (PCR) or molecular test result taken within three days of their scheduled departure time for Ascension, or where they are transiting St Helena within 72 hours of their scheduled departure time for St Helena. Evidence of the negative test should be provided prior to, or at, check-in. Evidence of a negative test result should also then be provided to an Immigration Officer and the Senior Medical Officer (SMO).

Several Overseas Territories have reported that fully vaccinated persons, including arrivals, have tested positive with high Ct values of between 14 and 18, indicating high loads of viral

RNA, despite being asymptomatic<sup>4</sup>. As such, the requirement for pre-departure testing will be applied to all travellers, regardless of vaccination status.

If arrivals are able to demonstrate that they have not travelled from an affected area within the last 14 days they will not be required to produce a pre-departure negative result from a COVID-19 PCR test taken within three days of their scheduled departure time for Ascension. However, a pre-departure negative result from a COVID-19 PCR test taken within three days of their last known point or port of departure may be considered when determining what isolation protocols that individual will be required to observe on arrival at Ascension.

### **Observation of compulsory isolation**

In order to safeguard against the introduction of COVID-19 into the community, AIG is currently implementing a period of strict quarantine (compulsory isolation) on arrival which is usually for a period of up to 14 days. It is to be observed by all arrivals considered by the SMO to be potential sources of COVID-19 infection. This is in accordance with the provisions laid out in the Public Health (Coronavirus)(Temporary Provisions) Regulations 2020.

Given the opportunity for onward transmission from one person to another, the ideal is for each arrival to be individually isolated away from others. However, it is recognised that practically and logistically this cannot always be achieved (e.g. for family units containing parents and children, or because of a lack of suitable accommodation). As such, isolation should seek to ensure that the lowest number as can be logistically accommodated takes place, noting that the higher the number of persons isolating together, the greater the risk of transmission of any as yet unidentified COVID-19 within the group will be, as well as potential transmission beyond the group into the community after the isolation period ends (due to “slow burn” transmission). Noting that there is an increased risk of transmission in a group isolation setting, it is not advisable for persons determined to be in a high-risk category for developing a severe illness as a result of contracting COVID-19 to undertake isolation in this form if avoidable.

Additionally, Georgetown Hospital currently has the ability to deploy COVID-19 testing using a Cepheid GeneXpert molecular test platform. As such it is also possible to utilise the negative predictive power of this testing platform to establish the potential for infection in arrivals and those who are observing isolation measures. Due to the highly sensitive nature of the test, persons testing negative on arrival will be highly unlikely to be shedding virus and hence non-contagious at that point, regardless of their actual infective status subsequent to that point. Therefore in certain circumstances bespoke measures can be put in place to mitigate the chance of infection from someone travelling from an affected area in the same conveyance as someone travelling from an unaffected area, and in doing so accommodate a travel corridor.

Current evidence indicates that placing an unvaccinated person in individual isolation for 10 days, with a test taking place at the beginning and the end of the isolation period, will result in an approximately <2% chance of a person infected with COVID-19 being released from quarantine without having already been identified. As such, a 10 day period of isolation following arrival, combined with testing, for unvaccinated persons offers a high-level of protection to the wider population.

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<sup>4</sup> Confirmation provided by two OTs during PHE teleconference on 10 June 2021.

Given the increase in risk of spread amongst a group observing isolation measures together, whether vaccinated or unvaccinated, it is necessary to deploy testing in order to provide suitable assurances that no transmission of infection is taking place within those groups.

Whilst strictly observed isolation in and of itself provides a high-level of confidence that upon release an individual will pose little risk to the public, deploying testing prior to releasing a person from isolation provides additional assurance that they are not in fact infectious at the point of release, and also offers a final fail-safe to guard against an as yet unidentified failure in the system of protocols and procedures which may have undermined the efficacy of the system of compulsory isolation.

Therefore all persons aged 11 years old and above who undergo compulsory isolation will be subject to a testing regime based on the category of arrival they are considered to be.

Given different arrivals pose different levels of risk to the community based on their travel history and vaccination status, it is possible to implement a variety of compulsory isolation protocols depending on the category of individual in question. It should be noted that these are not strictly determined by scientific modelling alone, and consider factors such as the ability to practically accommodate the level of testing required to support the system effectively and the facilities in which the compulsory isolation has been observed.

The length of time each category of individual is required to observe compulsory isolation following arrival is:

	8 days	10 days	14 days
<b>Vaccinated individuals</b>	x		
<b>Vaccinated households of four or less persons</b>	x		
<b>Unvaccinated individuals</b>		x	
<b>Unvaccinated, or mixed, households or bubbles of four or less persons</b>		x	
<b>Vaccinated bubbles of six or less persons</b>		x	
<b>Unvaccinated, or mixed, bubbles of more than four persons</b>			x

The rationale for the length of compulsory isolation applied to each category of individual is outlined in more detail below.

### Definitions

For the purposes of compulsory isolation on arrival the following definition apply:

A **household** is defined as a group of individuals who would ordinarily live together outside of compulsory isolation measures, and as such can be expected to have a common travel history.

A **bubble** is a group of individuals who are sharing accommodation for the purposes of compulsory isolation, who would not necessarily ordinarily live together and therefore would likely not be expected to have a common travel history.

### Isolation of units of ≤4 persons

A person placed into compulsory isolation is placed under strict measures during their period of isolation, mandating no interaction take place with others outside of their isolation group which could lead to virus transmission and/or infection. As such, whilst the individual could have been infected or contaminated with COVID-19 prior to entering isolation they will not have the opportunity to either be infected or contaminated by others during their period of isolation or to infect or contaminate anyone else, except for those they are observing isolation with.

Although the risk of transmission between individuals undergoing isolation together remains, given a household will have common travel history prior to arrival at Ascension, the risk is deemed to be lower than when compared to a bubble placed together for the purposes of observing compulsory isolation who shared no common travel history prior to their arrival at Ascension.

However, as the risk of intra-group transmission remains, it is important to monitor vigilantly these units for signs of potential COVID-19 infection.

Current evidence indicates that placing vaccinated persons in small isolation groups (either households or bubbles) of four or less persons for eight days, with a test taking place at the beginning and the end of the isolation period, will result in around a ≤2% chance of a person infected with COVID-19 being released from quarantine without having already been identified<sup>5</sup>.

Isolation	Test	Isolation						Test						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	

Current evidence indicates that placing unvaccinated persons, or vaccinated persons and unvaccinated persons, together in isolation groups of four or less (either households or bubbles) for 10 days provides an ~10% chance of a person infected with COVID-19 being released from quarantine without having already been identified. Applying a test at the beginning and a test at the end of the isolation period, spaced at least eight days apart, will result in a significant reduction in this, and is estimated to provide around a ≤2% chance of a person infected with COVID-19 being released from quarantine without having already been identified.<sup>6</sup>

Isolation	Test	Isolation								Test				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	

### Isolation of vaccinated bubbles of ≤6 persons

Increasing the number of persons placed into a bubble for the purposes of observing compulsory isolation on arrival increases the risk of intra-group transmission. However, full vaccination greatly reduces the chances that an individual who has been exposed to, or contracted, COVID-19 will infect others. As such, when combined with a two test strategy

<sup>5</sup> Correspondence from PHE to Dr Bill Hardy (AIG) on 10 June 2021.

<sup>6</sup> Report of meeting between OTs and PHE provided by AIG SMO on 10 June 2021.



vaccinated persons can be placed in bubbles of up to six persons and observe a 10 day period of compulsory isolation.

Current evidence indicates that placing vaccinated persons in isolation bubbles of six or less persons for 10 days, with a test taking place at the beginning and the end of the isolation period, will result in around a  $\leq 2\%$  chance of a person infected with COVID-19 being released from quarantine without having already been identified.

Isolation	Test	Isolation								Test				
1	2	3	4	5	6	7	8	9	10	11	12	13	14	

### Isolation of unvaccinated bubbles of >4 persons

As the number of persons in an isolation group increases, so does the risk of transmission of COVID-19 between those persons, particularly within a bubble containing unvaccinated persons. However, it is recognised that isolation of such persons in units of five or more may be necessary in certain situations, due to the logistics of accommodating arrivals required to observe compulsory isolation measures.

Given the increased risk of COVID-19 spread amongst a bubble containing unvaccinated persons and numbering five or more, a minimum of a two-test strategy is required<sup>7</sup>, with further individual isolation implemented for anyone found to be infected. This is to ensure that the additional risk posed by this form of bubble isolation is appropriately managed as the nature of bubble quarantine invalidates the eight to 10 day isolation periods applied to individuals and smaller groups.

As such it is necessary to test within 72 hours of arrival at Ascension, with an additional test 12 days following arrival. If two negative results are returned, the individuals within the bubble will be permitted to leave isolation after 14 days. Taken in combination, this provides around a  $\leq 2\%$  chance of a person infected with COVID-19 being released from compulsory isolation following arrival without having been identified.

Isolation	Test	Isolation									Test	Isolation	
1	2	3	4	5	6	7	8	9	10	11	12	13	14

Given the increased risk of transmission in a group isolation setting, it is not advisable for persons determined to be in a high-risk category for developing a severe illness as a result of contracting COVID-19 to undertake this form isolation if otherwise avoidable.

### Positive identification of COVID-19 cases

In the event that a positive case of COVID-19 is identified in a person undergoing compulsory isolation following arrival at Ascension (quarantine), it will be necessary to immediately place them into individual isolation. In some cases an immediate move to individual isolation might not be practical: whilst this is the best course of action from an epidemiological position, there may be instances where environmental factors prevent this from happening (e.g. a positive case in a child or a single parent with caring responsibilities).

### Interaction between those under isolation measures and other persons

Isolation measures are in place in order to protect the wider community from the threat of COVID-19. As such they must be strictly observed, noting all statistical modelling is predicated on this.

<sup>7</sup> Correspondence from PHE to Dr Bill Hardy (AIG) on 12 August 2020.

However, if appropriate mitigation measures are observed interaction may still take place between those in isolation and others. Appropriate distancing should always be observed, with no direct contact between the parties or encroachment into the property under which isolation is taking place.

If it is necessary to enter a property currently being used for isolation in an emergency, agreed plans and procedures are to be strictly followed and appropriate PPE worn at all times and as advised by the SMO.

### Co-isolation of arrivals with non-arrivals

Although some arrivals will arrive at Ascension as family units and enter into isolation, or will be placed into group isolation where household isolation is not possible, others will arrive alone and are currently required to complete their isolation period alone. Given this can be for up to 14 days, if not more, this can have a detrimental impact on their health and wellbeing. Equally, certain island critical work is time critical and may require the skills of both a person present in Ascension and that of a person who has arrived within the last 14 days.

As such, in certain circumstances consideration may be given to co-isolating an arrival with a person already present in Ascension. However, accommodating an individual who has recently arrived from a territory affected by COVID-19 with an otherwise healthy person from a COVID-19 free territory is not without risks. The most notable of these is the risk of potential infection or contamination of an otherwise healthy person who enters isolation with the arrival. Therefore this will only be considered if the SMO determines the risks to be manageable and the individuals in question acknowledge that co-isolation takes place at their own risk.

In order to provide some level of reassurance, testing will need to be deployed on the person under isolation measures prior to any others joining them in isolation. In order to then manage the risk to the wider community the point at which the individuals in question enter isolation together and become a group for isolation purposes is the point at which the relevant isolation period will be considered to have begun. Any further testing during this time will be determined by the number of individuals considered to be in the isolation group. As an example, a 14 day isolation period would be undertaken as follows:

Isolation		Test	Isolation												Test	Isolation	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	

### Restrictions Short of Compulsory Isolation

In recognition of the fact that Ascension is a working island, AIG has made special provision within the isolation protocols to permit individuals to undertake certain island critical activities during the period when they would otherwise be subject to compulsory isolation. Such instances are considered exceptional, are risk assessed and are considered on a case-by-case basis. It should be noted that these measures are only considered for healthy individuals, and under these circumstances isolation is still observed with any permitted activities taking place in isolation from the wider community, and with appropriate mitigations in place to prevent infection or contamination from occurring.

### Exceptional circumstances



It may be the case that under certain exceptional circumstances the release of persons under isolation measures ahead of the completion of their relevant isolation periods is considered (e.g. medical emergency, release of a critical emergency worker, etc.).

Such instances will need to be considered on a case-by-case basis and will be evaluated in liaison with experts from Public Health England, ensuring that any COVID-19 risk resulting from the exceptional circumstances is managed as effectively as possible based on the facilities and apparatus available.

### Potential reduction or exemption to compulsory isolation requirements through air travel corridors

Where a territory remains free of community established COVID-19, the threat posed by travellers from such places is significantly reduced. Although risk remains if these travellers share a conveyance with other passengers or crew travelling from an affected area, a decision to reduce the length of compulsory isolation, or to remove the requirement, can take account of the following principles:

1. The change to the compulsory isolation requirement does not increase the risk to the wider community from COVID-19;
2. The process of managing arrivals remains robust, observing agreed protocols to mitigate effectively the potential risk from COVID-19 in a precautionary way, until the SMO is satisfied that no COVID-19 infection or contamination is likely to have occurred in transit.

The comprehensive policy and protocols to be observed for potential reductions or exemptions to compulsory isolation requirements through air travel corridors are detailed separately in the *Policy on HLE-ASI Reduced Length Compulsory Isolation*.

### Isolation of known contacts of COVID-19 cases

It is vital that an effective, comprehensive and robust contact tracing and isolation apparatus exists within the territory to effectively manage and address any signs of COVID-19 within Ascension as they appear. If a COVID-19 case is identified immediate contact tracing will take place, with close contacts that are identified as possible candidates for contagion directed to observe compulsory isolation for a period of time prescribed by the SMO.

## **Considerations for further adaptations**

### Maintenance of community vaccination levels and status

Based on current evidence and understanding of the efficacy of approved COVID-19 vaccines against known variants, it is estimated that the percentage of full vaccination coverage in a population required to ensure the breakdown of COVID-19 transmission chains is ~88%<sup>8</sup>. At this level it is expected that the rate of infection will be less than one. Whilst this should be aimed for, recognising that it will be very difficult to achieve and sustain this level of vaccination coverage, as noted a minimum of 80% full vaccination amongst eligible individuals is required<sup>9</sup>.

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<sup>8</sup> PHE UKOTs-Crown Dependencies SARS-CoV-2 Teleconference Meeting Note 10/06/2021 and 11/06/2021

<sup>9</sup> PHE UKOTs-Crown Dependencies SARS-CoV-2 Teleconference Meeting Note 10/06/2021 and 11/06/2021

## Ongoing program of vaccination

Present evidence suggests that full vaccination from approved vaccines provides an immune response that lasts for at least six months<sup>10</sup>. As such those that have already been fully vaccinated will need to be provided with additional vaccinations within six months of their second dose to ensure that community vaccination rates remain at a level considered to be necessary for the current entry control measures to be effective.

## Full vaccination as a requirement of entry to Ascension

Were full vaccination to be applied as a condition of entry it would ensure that the percentage of fully vaccinated individuals within the community remains at a certain level, or even improves, even if those currently within the community depart the territory.

## Vaccination of those aged 12 to 17 years old

Amongst populations with widespread full vaccination status, younger age groups tend to be responsible for a significant proportion of transmission<sup>11</sup>. Persons aged 17 years and younger represent approximately 10% of the territory's population<sup>12</sup> and as such pose a potential bridge for transmission between vaccinated persons, as well as the rest of the community.

Vaccination of this cohort, or as high of a proportion of this cohort as possible, is therefore desirable. At present several vaccines have been approved for use on the proportion of this age group aged 12 years and older. If access to these vaccines could be secured, it would provide an opportunity to further increase the vaccination coverage within the population and challenge the potential for virus transmission.

## **Reactive capacity**

Ensuring authorities have the capacity and capability to respond effectively to any observed community outbreak will be pivotal to further adaptations, and in particular any potential relaxation, of compulsory isolation measures for arrivals.

## Ability to deploy mass community testing

Whilst the PCR platform remains the most effective testing regimen in detecting COVID-19 in an individual, it is relatively labour intensive, and therefore slow, to collect and process large numbers of tests at once. As such, rapid COVID-19 tests performed by handheld devices could provide opportunities to quickly respond to observed community outbreaks and as such influence wider COVID-19 measures.

Although non peer-reviewed, a recent study has estimated that the most sensitive antigen lateral-flow devices could have the potential to detect up to four in five COVID-19 cases that have the potential to lead to an infected contact<sup>13</sup>. This is based on the current understanding of Ct values and the estimated infectivity of those values.

If confirmed evidence becomes available as to the effectiveness of rapid handheld tests in detecting cases that could lead to an infected contact, it could provide additional confidence

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<sup>10</sup> N. Doria-Rose *et al.* *N. Engl. J. Med.* <https://doi.org/f5c6>; 2021

<sup>11</sup> PHE UKOTs-Crown Dependencies SARS-CoV-2 Teleconference Meeting Note 10/06/2021 and 11/06/2021

<sup>12</sup> AIG population statistics 31 March 2021 (101 of a total population of 1023)

<sup>13</sup> L. Y. W. Lee *et al.* Preprint at medRxiv <https://doi.org/f5jc>; 2021

in the ability to manage any observed outbreaks, and as such could support potential future adaptations to the compulsory isolation of arrivals model in Ascension.

In order to be able to deploy this form of testing effectively, such as over several weeks to targeted sections of the territory's population, a significant reserve of test kits would need to be secured and held. If this were possible however, it would bolster the reactive capability of authorities to respond to community cases and transmission.

## **Conclusion**

The measures presently in place have been informed by the current understanding of COVID-19 and the circumstances specific to Ascension Island. AIGs approach to managing the threat posed by COVID-19 remains under constant review and may be subject to change as the understanding of the virus evolves, the resources available to manage the threat of COVID-19 changes and/or the advice and evidence received from expert colleagues in Public Health England is adapted.