GOVERNMENT OF BERMUDA

Ministry of Health

COVID-19 PRIMARY CARE GUIDELINE

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Contents

Introduction

Recognizing the central role of primary care in the prevention and management of Covid-19, this guideline serves to standardize, update and refresh primary care practice. As well as being a support for best practice in clinical management, it includes sharing of the definitions and actions of surveillance standards and guides initial public health actions to take when managing a Covid-19 case or a contact.

It hopes to therefore achieve alignment with the actions of Ministry of Health surveillance teams, so that primary care teams are familiar with these processes and can communicate what to expect with their patients. This can help support greater collaboration with primary care and public health teams, while smoothing the transition through contact tracing and public health actions.

This living document aims to serve as a support rather than a comprehensive guideline, summarizing key points and actions before signposting onto more detailed resources for reference within Bermuda and internationally. Infographics are also used to prompt considerations for different scenarios. Where health promotional information sheets, posters and videos are available, these are also provided. Given most of the material has been lifted and adapted from existing resources, references are provided throughout. It is the intention that this document is reviewed and updated frequently as evidence and recommendations develop.

Aims

- Update and improve primary care processes and surveillance standards
- Ensuring primary care are using and implementing these procedures
- Alignment and familiarity with public health processes and knowing what to expect
- Supporting primary care to take initial public health actions
- Smoothing the transition through to contact tracing
- Building closer collaboration between public health and primary care partners

Acknowledgements

The content of this guideline has been developed in discussion with the Epidemiological Surveillance Unit at the Ministry of Health and those GPs who responded to an invitation via the Bermudan Medical Association.

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GPs consulted: Dr Laura Murphy, Dr Louise White, Dr Fiona Ross, Dr Jeff Macleod, Dr Benjamin Lau, Dr Sylvanus Nawab & Dr Heather Montgomery

It has been agreed that a joint Ministry of Health and primary care committee from this group will review periodically to ensure the guideline is kept up to date.

The first version of this guideline was compiled by Dr Eleanor Turner-Moss, a Public Health Registrar deployed to support the Covid19 response in Bermuda as part of UK Overseas Territories Team of the UK Health Security Agency (previously Public Health England).

Epidemiology

On 31 December 2019, the World Health Organization (WHO) was informed of a cluster of cases of pneumonia of unknown cause detected in Wuhan City, Hubei Province, China.

On 11 February 2020, WHO named the syndrome caused by this novel coronavirus COVID-19 (Coronavirus Disease 2019) using its best practice guidance. The causative agent was named 'severe acute respiratory syndrome coronavirus 2' (SARS-CoV-2). The virus belongs to a group of genetically related coronaviruses that includes SARS-CoV and viruses isolated from bat populations. MERS-CoV also belongs to this group but is less closely related.

The 2019 emergent SARS-CoV-2 strain (from here on referred to as Covid-19), usually referred to as the 'original' or 'wild' strain has changed or mutated over time. These mutations have given rise to new variants. Variants of the virus are being monitored by the UK Health Security Agency (UKHSA) and other agencies across the world, including WHO.

Most changes in the virus have little effect. Where changes have the potential to increase how fast or easily the virus spreads, escape immunity, cause more severe disease, or to reduce the effectiveness of treatment or control measures, the variant is designated a Variant Under Investigation (VUI). Where there is clear evidence of an effect on these factors, the variant is designated a Variant of Concern (VOC). On 31 May 2021, the WHO recommended a naming system for VUIs and VOCs of the virus that uses the Greek alphabet. UKHSA incorporates this recommended naming system in its surveillance of SARS-CoV-2 variants, and releases weekly information on VUIs and VOCs.

Transmission

Covid-19 is primarily transmitted between people through respiratory particles (droplet and aerosol) and indirect contact through fomite transmission (contact with contaminated surfaces). When someone with Covid-19 breathes, speaks, coughs or sneezes, they release droplet or aerosol particles containing Covid-19. Aerosol particles can also be released when certain procedures or support treatments are performed in health and care settings. A person can be infected when these particles are inhaled, or come into contact with the eyes, nose or mouth.

Transmission risk is highest where people are in close proximity (particularly within 2 metres) and/or in poorly ventilated indoor spaces, particularly if individuals are in the same room together for an extended period of time.

Clinical features

Covid-19 presents with a range of symptoms of varying severity. It is estimated that 1 in 3 people have Covid-19 without displaying any symptoms.

The main symptoms include fever, a new and continuous cough, anosmia (loss of smell) and ageusia (loss of taste). Examples of other symptoms include, shortness of breath, fatigue, loss of appetite, myalgia (muscle ache), sore throat, headache, nasal congestion (stuffy nose), runny nose, diarrhoea, nausea and vomiting.

Of those who develop symptoms, current data indicate that 40% have mild symptoms without hypoxia (low blood oxygen levels) or pneumonia, 40% have moderate symptoms and non-severe pneumonia, 15% have significant disease including severe pneumonia, and

5% experience critical disease with life-threatening complications. Refer to guidance on the investigation and initial clinical management of possible cases for further information.

Critical disease includes acute respiratory distress syndrome (ARDS), sepsis, septic shock, cardiac disease, thromboembolic events, such as pulmonary embolism and multi-organ failure.

Atypical symptoms, such as delirium and reduced mobility, can present in older and immunocompromised people, often in the absence of a fever.

Infants and children generally appear to experience milder symptoms than adults and require admission to hospital less frequently. The risk of death in children is extremely low and appears linked to severe comorbidities. There are a number of ongoing surveillance programmes to monitor the course, progression and outcomes of COVID-19 in children. A very rare multisystem inflammatory response (paediatric multisystem inflammatory syndrome (PIMS)) associated with COVID-19 in children and adolescents has been noted.

Risk of severe disease and death is higher in people who are older, male, from lower socioeconomic status or from certain non-white ethnic backgrounds. Certain underlying health conditions, as well as obesity, also increase risk of severe disease and death in adults.

Covid-19 vaccination significantly reduces the risk of infection, hospitalisation and death. However, fully vaccinated individuals can still be become infected.

There is growing evidence to suggest that individuals who have suffered from either mild or severe COVID-19 can experience prolonged symptoms or develop long-term effects. Refer to the long-term health effects guidance for further information.

Source: COVID-19: epidemiology, virology and clinical features - GOV.UK (www.gov.uk)

Monitoring

Bermuda is closely monitoring the global developments of the Coronavirus (COVID-19) through the World Health Organization (WHO) and with our regional public health partners – Public Health England, Pan-American Health Organization, CDC and Caribbean Public Health Agency.

Data are shared publicly on Coronavirus (COVID-19) update | Government of Bermuda (www.gov.bm) website including:

- Up to date numbers of hospitalisations and deaths - vaccinated and not fully vaccinated
- Total confirmed cases – recovered, active (hospitalized and non-hospitalised) and deceased
- Positivity of tests performed
- Transmission status of confirmed cases
- Covid-19 reopening indicators

The *WHO coronavirus dashboard* has international information on cases, deaths and vaccine doses administered. WHO also publishes a *Coronavirus Disease (COVID-19) Weekly Epidemiological and Operational Update (who.int).* *The Weekly Epidemiological Update*

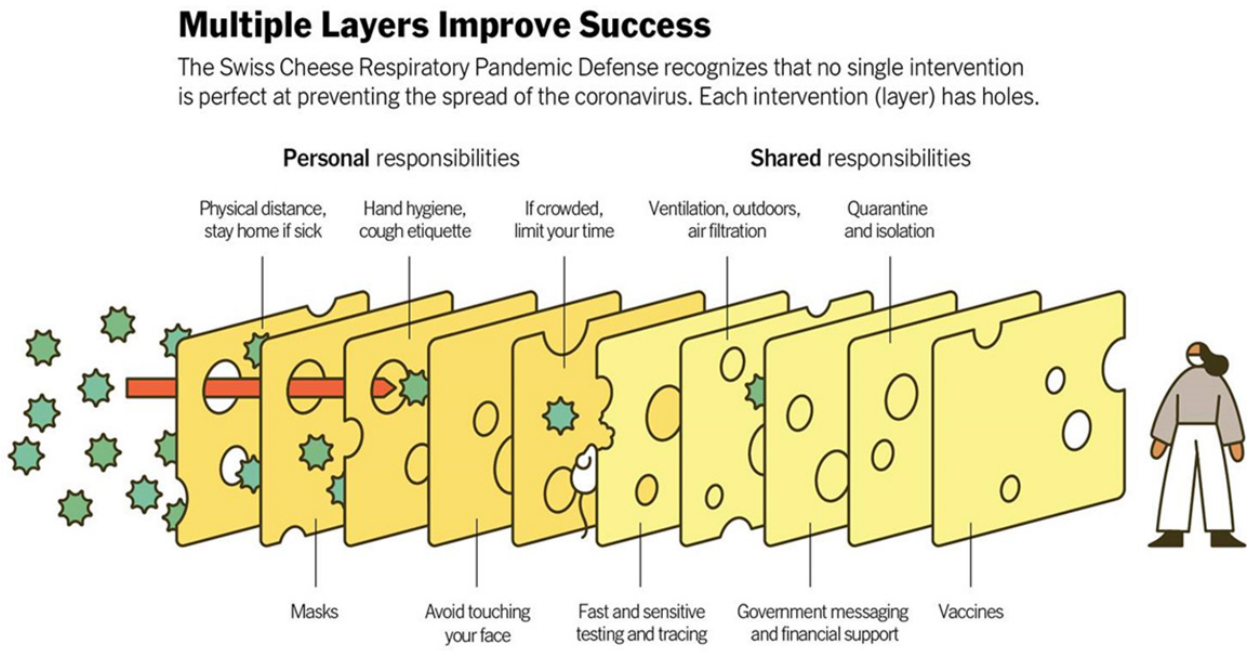
provides an overview of the global, regional and country-level COVID-19 cases and deaths, highlighting key data and trends; as well as other pertinent epidemiological information concerning the COVID-19 pandemic. The COVID-19 Weekly Operational Update reports on WHO and partners' actions in response to the pandemic.

There are several other trackers and databases including:

COVID-19 Global tracker - Reuters News Agency (reutersagency.com)

Covidtracker - Covid-19 Coronavirus Tracker

Primary Prevention



Source: Adapted from Ian M. Mackay (virologydownunder.com) and James T. Reason. Illustration by Rose Wong

Transmission of SARS-CoV-2 is thought to mainly occur through exposure to respiratory droplets transmitted to those within six feet (2 metres) of an infectious person. SARS-CoV-2 infection via airborne transmission of small particles tends to occur after prolonged exposure (i.e. more than 15 minutes) to an infectious person who is in an enclosed space with poor ventilation.

The risk of SARS-CoV-2 transmission can be reduced by covering coughs and sneezes and maintaining a distance of at least six feet (2 metres) from others. When consistent distancing is not possible, face coverings may reduce the spread of infectious droplets from individuals with SARS-CoV-2 infection to others. Frequent handwashing also effectively reduces the risk of infection alongside the appropriate use of personal protective equipment. Vaccination remains the most effective way to prevent SARS-CoV-2 infection.

Source: Prevention of SARS-CoV-2 | COVID-19 Treatment Guidelines (nih.gov)

Infection prevention and control

The infection prevention and control principles are relatively well known, but it can be helpful to refresh the plan to manage your practice through the new and unique operational challenges of Covid-19. Given the considerable overlaps with workplace health, guidelines for these are considered together in this section.

The workplace plan you develop with your staff might include the following actions:

- Actively screen everyone (staff, clients, and visitors) for symptoms of COVID-19 before they enter your business.
- Encourage use of BHB patient screening tool that can be used to help identify individuals who may have been infected and reduce the potential risk of exposure to you, your staff and clients.
- Establish reporting procedures
- Know which of your clients are at higher risk of adverse outcomes from COVID-19. You may want to take extra precautions when they come into your business.
- Assess current and future personal protective equipment (PPE) supply needs to ensure you are prepared.
- Communicate your Covid-19 preparedness plan with your staff
- Review and update procedures regularly

Source: Coronavirus (COVID-19) Health Care Workers | Government of Bermuda (www.gov.bm)

Further guidance:

Employer's Resource Toolkit doc.pdf (www.gov.bm)

General-Health-Business-COVID-Operating-Guidance.pdf (www.gov.bm)

Coronavirus (COVID-19) Health Care Workers | Government of Bermuda (www.gov.bm)

COVID-19 Guidance for All Workplaces | Government of Bermuda (www.gov.bm)

Safe PPE for care of patients with respiratory symptoms/suspected/confirmed COVID-19 (www.gov.bm)

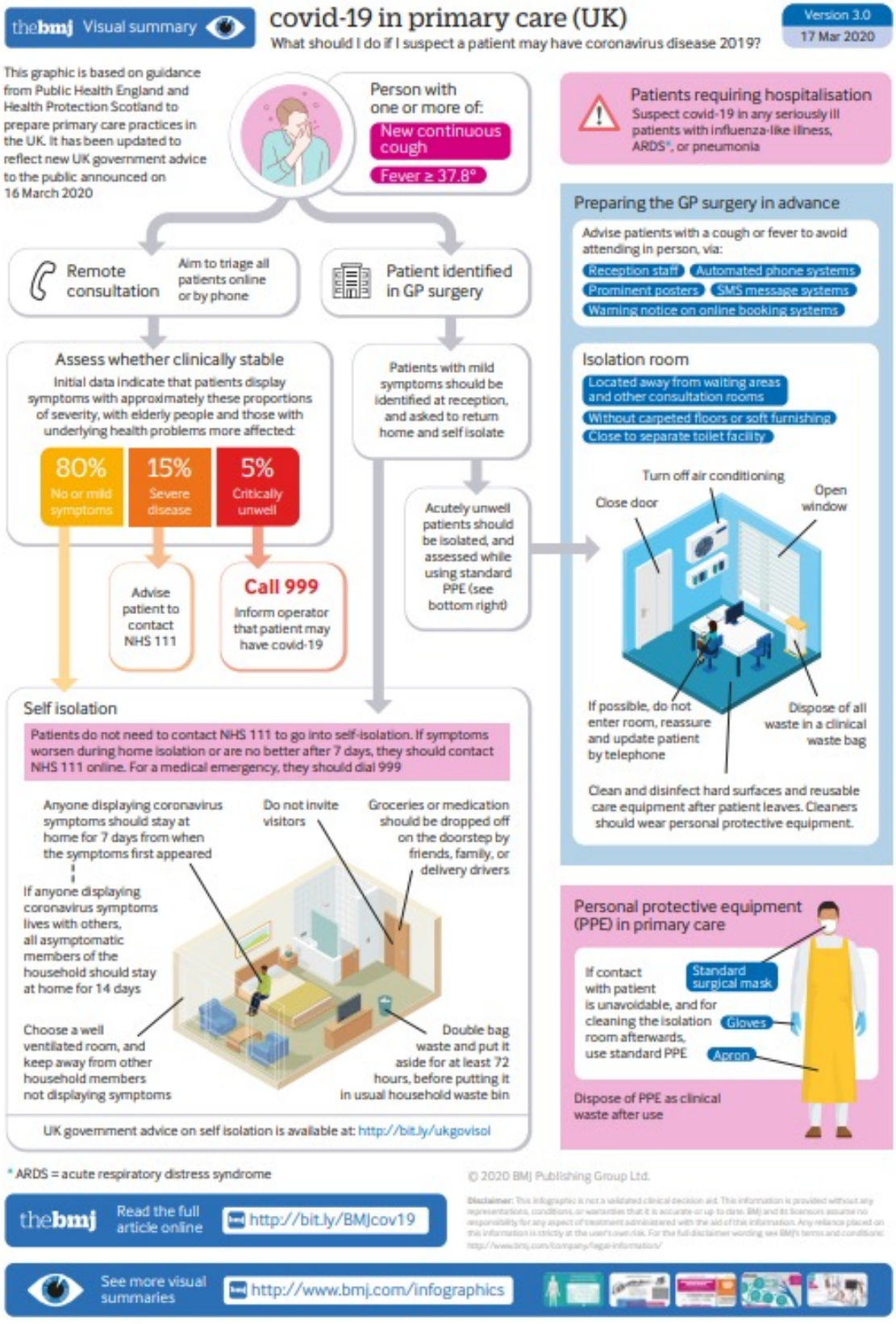
Workplace Quarantine for Immunised Workers | Government of Bermuda (www.gov.bm)

Coronavirus (COVID-19) Work Place Guidance | Government of Bermuda (www.gov.bm)

COVID-19: infection prevention and control (IPC) - GOV.UK (www.gov.uk)

CORONAVIRUS DISEASE (COVID-19) OUTBREAK: RIGHTS, ROLES AND RESPONSIBILITIES of health workers including key considerations for Occupational Safety and Health (www.who.int)

Source: Covid-19 in primary care infographic (bmj.com)



Vaccination

Vaccination is recognized globally as one of the single most important measures that individuals can take to protect themselves, their loved ones and their community. Comprehensive information including vaccination data, the vaccination process, how to book, health promotional information including myth buster videos is available on the Government of Bermuda website Source: Coronavirus (COVID-19) vaccine | Government of Bermuda (www.gov.bm).

- COVID-19 vaccination programme - GOV.UK (www.gov.uk) includes promotional leaflets, posters and other resources (eg social media), consent forms and letters, vaccinator training resources
- COVID-19 vaccinations received overseas - GOV.UK (www.gov.uk) This document provides clinical advice on whether additional doses would be beneficial to enhance protection for those who received coronavirus (COVID-19) vaccinations overseas.
- COVID-19 vaccination: booster dose resources - GOV.UK (www.gov.uk)
- Coronavirus » Standard operating procedure: Phases 1, 2 and 3 including vaccination of eligible children and young people (england.nhs.uk)

Patient information resources:

The Vaccination Process.pdf (www.gov.bm)

Fact and Fiction MOH.PDF (www.gov.bm)

COVID-19 Helpful Tips.pdf (www.gov.bm)

COVID19 FAQs.pdf (www.gov.bm)

COVID-19 Vaccine Information and Consent Form.pdf (www.gov.bm)

COVID-19 vaccination: resources for schools and parents - GOV.UK (www.gov.uk)

COVID-19 vaccination: resources for children and young people - GOV.UK (www.gov.uk)

Timing of vaccination

The Pfizer vaccine is designed to be given in two injections 21 days apart. One dose has been shown to be 52% effective, while two doses provide 95% effectiveness. This and further details are available on the Government of Bermuda Vaccine FAQs page.

Routine vaccinations including influenza

Routine vaccination is an essential preventive care service for children, adolescents, and adults (including pregnant people) that should not be delayed because of the COVID-19 pandemic. Because of Covid-19 related reductions in people accessing vaccination services, it is important to assess the vaccination status of all children and adolescents at each patient visit to avoid missed opportunities for vaccination and ensure timely vaccine catch-up. All vaccines due or overdue should be administered according to the recommended CDC immunization schedules during each visit, unless there is a specific contraindication. This will provide protection as soon as possible and minimize the number of healthcare visits needed to complete vaccination.

It is important to counsel patients about the risk of self-limited side effects after influenza vaccination, including local reactions, such as redness, pain, or swelling at the injection site, and systemic reactions, which include fever, chills, headache, and body aches. If they occur, such side effects normally resolve within 72 hours after vaccination. Because of concerns about Covid-19, if a vaccine recipient develops fever after vaccination, they should stay home until they have been fever-free for 24 hours without the use of fever-reducing medications. Influenza vaccination does not cause respiratory symptoms common in Covid-19, such as cough or shortness of breath. If the vaccine recipient develops new symptoms of Covid-19 (e.g., cough or shortness of breath), or if fever does not resolve within 72 hours of vaccination without the use of fever-reducing medications, the recipient should contact their healthcare provider. If the patient develops emergency warning signs for Covid-19, they should seek emergency medical care immediately. You can administer a flu vaccine at the same time you get a COVID-19 vaccine, including a COVID-19 booster shot.

Source: Interim Guidance for Routine and Influenza Immunization Services During the COVID-19 Pandemic

Public health professionals in the UK often refer to the green book for any information on vaccinations. The Covid-19 chapter Greenbook COVID-19 chapter 14a (publishing.service.gov.uk) includes information on the coronavirus vaccines, the dosage and schedule for the UK and recommendations for the use of the vaccine.

Vaccine Boosters

Data from recent studies suggest that the protection against infection provided by Covid-19 vaccination may decrease after 6-8months, and the vaccines may be less effective at protecting recipients against the Delta variant. Emerging evidence also shows that vaccine effectiveness against Covid-19 infection is decreasing over time among health care professionals and other frontline essential workers (Fowlkes 2021, Keehner 2021). A small clinical trial reported that a booster dose increased the vaccine-induced immune response in participants who had finished their primary series 6 months earlier (FDA 2021)

In Bermuda, Covid-19 vaccine booster shots are available for all adults who completed their initial vaccination schedule at least 6 months ago.

References

Fowlkes A, Gaglani M, Groover K, et al. Effectiveness of COVID-19 vaccines in preventing SARS-CoV-2 infection among frontline workers before and during B.1.617.2 (Delta) variant predominance—eight U.S. locations, December 2020-August 2021. *MMWR Morb Mortal Wkly Rep*. 2021;70(34):1167-1169. Available at: https://www.ncbi.nlm.nih.gov/pubmed/34437521.

Keehner J, Horton LE, Binkin NJ, et al. Resurgence of SARS-CoV-2 infection in a highly vaccinated health system workforce. *N Engl J Med*. 2021;385(14):1330-1332. Available at: https://www.ncbi.nlm.nih.gov/pubmed/34469645.

Food and Drug Administration. BNT162b2 evaluation of a booster dose (third dose): Vaccines and Related Biological Products Advisory Committee briefing document. 2021. Available at: https://www.fda.gov/media/152161/download.

Adverse events

The Covid-19 Pfizer/BioNTech Vaccine was evaluated in clinical trials involving more than 44,000 participants. The most frequent adverse reactions in trials were pain at the injection site, fatigue, headache, myalgia (muscle pains), chills, arthralgia (joint pains), and fever; these were each reported in more than 1 in 10 people. These reactions were usually mild or moderate in intensity and resolved within a few days after vaccination. Adverse reactions were reported less frequently in older adults (over 55 years) than in younger people.

Hypersensitivity and anaphylaxis

Events of anaphylaxis have been reported. Appropriate medical treatment and supervision should always be readily available in case of an anaphylactic reaction following the administration of the vaccine.

Close observation for at least 15 minutes is recommended following vaccination. A second dose of the vaccine should not be given to those who have experienced anaphylaxis to the first dose of the Covid-19 mRNA Vaccine BNT162b2.

Myocarditis and pericarditis

There have been very rare reports of myocarditis and pericarditis occurring after vaccination with Covid-19 mRNA Vaccine BNT162b2 often in younger men and shortly after the second dose of the vaccine. These are typically mild cases and individuals tend to recover within a short time following standard treatment and rest.

Healthcare professionals should be alert to the signs and symptoms of myocarditis and pericarditis. Vaccinated individuals should also seek immediate medical attention should they experience new onset of chest pain, shortness of breath, palpitations or arrhythmias.

Adverse reactions observed during clinical studies are listed below according to the following frequency categories:

- Very common (≥ 1/10),
- Common (≥ 1/100 to < 1/10),
- Uncommon (≥ 1/1,000 to < 1/100),
- Rare (≥ 1/10,000 to < 1/1,000),
- Very rare (< 1/10,000),
- Not known (cannot be estimated from the available data).

Table 1: Adverse reactions from clinical trials and post authorisation experience

System Organ Class	Very common (≥ 1/10)	Common (≥ 1/100 to <1/10)	Uncommon (≥ 1/1,000 to < 1/100)	Rare (≥ 1/10,000 to < 1/1,000)	Not known (cannot be estimated from the available data)
Blood and lymphatic system disorders			Lymphadenopathy		
Cardiac disorders					Myocarditis, pericarditis(c)
Immune system disorders			Hypersensitivity reactions (e.g. rash, pruritus, urticaria(a), angioedema(a))		Anaphylaxis
Metabolism and nutrition disorders			Decreased appetite		
Psychiatric disorders			Insomnia		
Nervous system disorders	Headache		Lethargy	Acute peripheral facial paralysis(b)	
Gastrointestinal disorders	Diarrhoea(c)	Nausea; Vomiting(c)			
Skin and subcutaneous tissue disorder			Hyperhidrosis; Night sweats		
Musculoskeletal and connective tissue disorders	Arthralgia; Myalgia		Pain in extremity(d)		
General disorders and administration site conditions	Injection site pain; Fatigue; Chills; Pyrexia(e); Injection site swelling	Injection site redness	Asthenia; Malaise; Injection site pruritus		Extensive swelling of vaccinated limb(c);Facial swelling(f)

(a) The frequency category for urticaria and angioedema was Rare.

(b) Through the clinical trial safety follow-up period to 14 November 2020, acute peripheral facial paralysis (or palsy) was reported by four participants in the COVID-19 mRNA Vaccine group. Onset was Day 37 after Dose 1 (participant did not receive Dose 2) and Days 3, 9, and 48 after Dose 2. No cases of acute peripheral facial paralysis (or palsy) were reported in the placebo group.

(c) Adverse reaction determined post authorisation.

(d) Refers to vaccinated arm.

(e) A higher frequency of pyrexia was observed after the second dose.

(f) Facial swelling in vaccine recipients with a history of injection of dermatological fillers has been reported in the post-marketing phase.

Source: Information for Healthcare Professionals on COVID-19 Vaccine Pfizer/BioNTech

Traceability

In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded.

Reporting adverse events

Please use the following form for any patients who may have experienced an adverse event following immunization. Each reported adverse event is then investigated and reviewed by an expert Committee.

COVID-19 REPORTING FORM FOR ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI) (forms.gov.bm)

References

Thomas SJ, Moreira ED Jr, Kitchin N, et al. Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine through 6 Months. *N Engl J Med*. 2021;385(19):1761-1773. doi:10.1056/NEJMoa2110345 Available at: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8461570/

Safety and Efficacy of the BNT162b2 mRNA Covid-19 Vaccine. 2020 Dec 31;383(27):2603-2615. Available at: https://pubmed.ncbi.nlm.nih.gov/33301246/

Further information

Prevention of SARS-CoV-2 | COVID-19 Treatment Guidelines (nih.gov)

COVID-19 vaccination: blood clotting information for healthcare professionals - GOV.UK (www.gov.uk)

COVID-19 vaccination: myocarditis and pericarditis information for healthcare professionals - GOV.UK (www.gov.uk)

CDC: Understanding adverse events and side effects

Pfizer-BioNTech COVID-19 Vaccine VRBPAC Briefing Document (BNT162, PF-07302048) FDA VACCINES AND RELATED BIOLOGICAL PRODUCTS ADVISORY COMMITTEE BRIEFING DOCUMENT December 2020

Shielding

Coronavirus can make anyone seriously ill, but some vulnerable persons are at a higher risk and need to take extra steps to avoid becoming unwell – this is called shielding.

Who is vulnerable and needs to shield?

Vulnerable persons, including children, are persons who are at a high risk of severe illness from coronavirus (COVID-19), due to an underlying health condition, and may require an admission to hospital.

Vulnerable persons are those who have one or more of the following conditions or circumstances:

- Solid organ transplant recipients ie. kidney, liver.
- Specific cancers: Currently undergoing active chemotherapy
- Lung cancer currently undergoing radical radiotherapy
- Blood cancers or bone marrow cancers ie. leukemia, lymphoma or myeloma at any stage of treatment
- Immunotherapy or continuing antibody treatments for cancer
- Targeted cancer treatments, which can affect the immune system ie. protein kinase inhibitors
- Bone marrow or stem cell transplants in the last six months or are still taking immunosuppression drugs
- Severe respiratory conditions including ALL cystic fibrosis diagnoses, SEVERE asthma, SEVERE COPD.
- Rare disease and inborn errors of metabolism that significantly increase the risk of infections e.g. severe combined immunodeficiency.
- Currently taking immunosuppression therapies that will significantly increase the risk of infections, including prolonged use of corticosteroids or other immune weakening drugs, or those used in the management of other chronic illnesses.
- Women who are pregnant, especially those with significant congenital or acquired heart disease.
- Severe obesity, defined as a body mass index (BMI) of 40 or higher.
- Poorly controlled chronic conditions, especially related to heart disease, respiratory illness, or Diabetes.
- HIV that is not managed by HIV treatment or for those who have a low CD4 cell count.

What is shielding?

Shielding is a measure to protect the extremely vulnerable population by minimizing interaction between those who are extremely vulnerable and others.

The shielding measures that must be taken are:

- Stay home at all times
- Minimize all non-essential contact with other member of your household.
- Avoid any face-to-face contact
- Strictly avoid contact with someone who is displaying symptoms of coronavirus. These symptoms include high temperature and new or continuous cough.
- Visits from those who provide essential support to you such as healthcare, personal support with your activities of daily living should continue, however the caregiver and healthcare professionals should stay away if they have any symptoms of coronavirus.
- All people coming into your home should wash their hands with soap and water for at least 20 seconds upon arrival to your home and often while they remain in your home.
- Do not attend any gatherings i.e. religious services.

What is the difference between social distancing and shielding?

Shielding requires you to stay home at all times. Avoid going out for food and medicine. Ask a friend, neighbour or family member to bring supplies where possible. Utilize delivery services when possible. Most pharmacies on island are offering a delivery service. Contact your local pharmacy to inquire.

Patients who believe they fall into any of these categories are encouraged to discuss concerns with a local doctor for further guidance.

Source: Coronavirus_Vulnerable_People_Guidance.pdf (www.gov.bm)

Outbreak_Management_SHEILDING_JULY16.pdf (www.gov.bm)

Guidance for people previously considered clinically extremely vulnerable from COVID-19 - GOV.UK (www.gov.uk)

Public Health case definitions

WHO COVID-19: Case Definitions

Updated in Public health surveillance for COVID-19, published 16 December 2020

World Health Organization | Case Definitions

Suspected case of SARS-CoV-2 infection

A A person who meets the clinical **AND** epidemiological criteria:

Clinical Criteria:

- Acute onset of fever AND cough; OR
- Acute onset of **ANY THREE OR MORE** of the following signs or symptoms: Fever, cough, general weakness/fatigue[1], headache, myalgia, sore throat, coryza, dyspnoea, anorexia/nausea/vomiting[1], diarrhoea, altered mental status.

AND

Epidemiological Criteria:

- Residing or working in an **area with high risk of transmission of virus:** closed residential settings, humanitarian settings such as camp and camp-like settings for displaced persons; anytime within the 14 days prior to symptom onset; or
- Residing or travel to an **area with community transmission** anytime within the 14 days prior to symptom onset; or
- Working in **any health care setting**, including within health facilities or within the community; any time within the 14 days prior of symptom onset.

B A patient with **severe acute respiratory illness:**
(SARI: acute respiratory infection with history of fever or measured fever of ≥ 38 C°; and cough; with onset within the last 10 days; and requires hospitalization).

C Asymptomatic person not meeting epidemiologic criteria with a **positive SARS-CoV-2 Antigen-RDT[2]**

[1] Signs separated with slash (/) are to be counted as one sign.

[2] NAAT is required for confirmation, see Diagnostic testing for SARS-CoV-2

See Antigen detection in the diagnosis of SARS-CoV-2 infection using rapid immunoassays

Probable case of SARS-CoV-2 infection

A A patient who meets **clinical criteria** above **AND** is a **contact of a probable or confirmed case**, or linked to a **COVID-19 cluster[3]**

B A **suspect case with chest imaging** showing findings suggestive of COVID-19 disease[4]

C A person with recent onset of **anosmia** (loss of smell) or **ageusia** (loss of taste) in the absence of any other identified cause.

D **Death**, not otherwise explained, in an adult with **respiratory distress** preceding death AND **was a contact of a probable or confirmed case** or linked to a **COVID-19 cluster[3]**

Confirmed case of SARS-CoV-2 infection

A A person with a positive **Nucleic Acid Amplification Test (NAAT)**

B A person with a **positive SARS-CoV-2 Antigen-RDT AND** meeting either the **probable case definition or suspect criteria A OR B**

C An **asymptomatic person with a positive SARS-CoV-2 Antigen-RDT** who is a **contact of a probable or confirmed** case

[3] A group of symptomatic individuals linked by time, geographic location and common exposures, containing at least **one NAAT-confirmed** case or at least **two** epidemiologically linked, symptomatic (meeting clinical criteria of Suspect case definition A or B) persons with **positive Ag-RDTs** (based on ≥97% specificity of test and desired >99.9% probability of at least one positive result being a true positive)

[4] Typical chest imaging findings suggestive of COVID-19 include the following:

- **Chest radiography**: hazy opacities, often rounded in morphology, with peripheral and lower lung distribution
- **Chest CT**: multiple bilateral ground glass opacities, often rounded in morphology, with peripheral and lower lung distribution
- **Lung ultrasound**: thickened pleural lines, B lines (multifocal, discrete, or confluent), consolidative patterns with or without air bronchograms.

Note: Clinical and public health judgment should be used to determine the need for further investigation in patients who do not strictly meet the clinical or epidemiological criteria. Surveillance case definitions should not be used as the sole basis for guiding clinical management.

WHO reference number: **WHO/2019-nCoV/Surveillance_Case_Definition/2020.2**

World Health Organization

WHO COVID-19 Case definitions

COVID-19 Case

Suspect case

A person who meets the clinical and epidemiological criteria which includes:

Clinical criteria:

Acute onset of fever **AND** cough

OR

Acute onset of any three or more of the following signs or symptoms – fever, cough, general weakness/fatigue, headache, myalgia, sore throat, coryza, dyspnea, anorexia / nausea / vomiting, diarrhea, altered mental status

AND

Epidemiological criteria

Residing or working in an area with high risk of transmission of the virus

OR

Travel to an area with community transmission within the 14 days prior to the onset of symptoms

OR

Working in any health care setting within the 14 days

OR

A person with severe acute respiratory illness with history of a fever measured > 38 °C and cough with onset within the last 10 days requiring hospitalization.

OR

Asymptomatic person not meeting epidemiologic criteria with a positive lateral flow antigen test

Probable case:

A person who meets clinical criteria above **AND** is a contact of a probable or confirmed case, or epidemiologically linked to a cluster with at least one confirmed case

OR

A suspected case (described above) with chest imaging showing findings suggestive of COVID-19 disease

OR

A person with recent onset of anosmia (loss of smell) or ageusia (loss of taste) in the absence of any other identified cause

OR

The death of a person, not otherwise explained, who had respiratory distress and was a contact of a probable or confirmed case or epidemiologically linked to a cluster with at least one confirmed case.

Confirmed case

A person who has been confirmed to have COVID-19 by laboratory PCR testing, irrespective of clinical signs and symptoms.

Notification & early actions

When looking after a possible, probable, or confirmed case, it is always helpful for GPs to communicate with the patient what to expect including the process of isolation, contact tracing, and quarantine. Starting this conversation and alignment with the expectations from contact tracers is extremely helpful in making the process of contact tracing smoother.

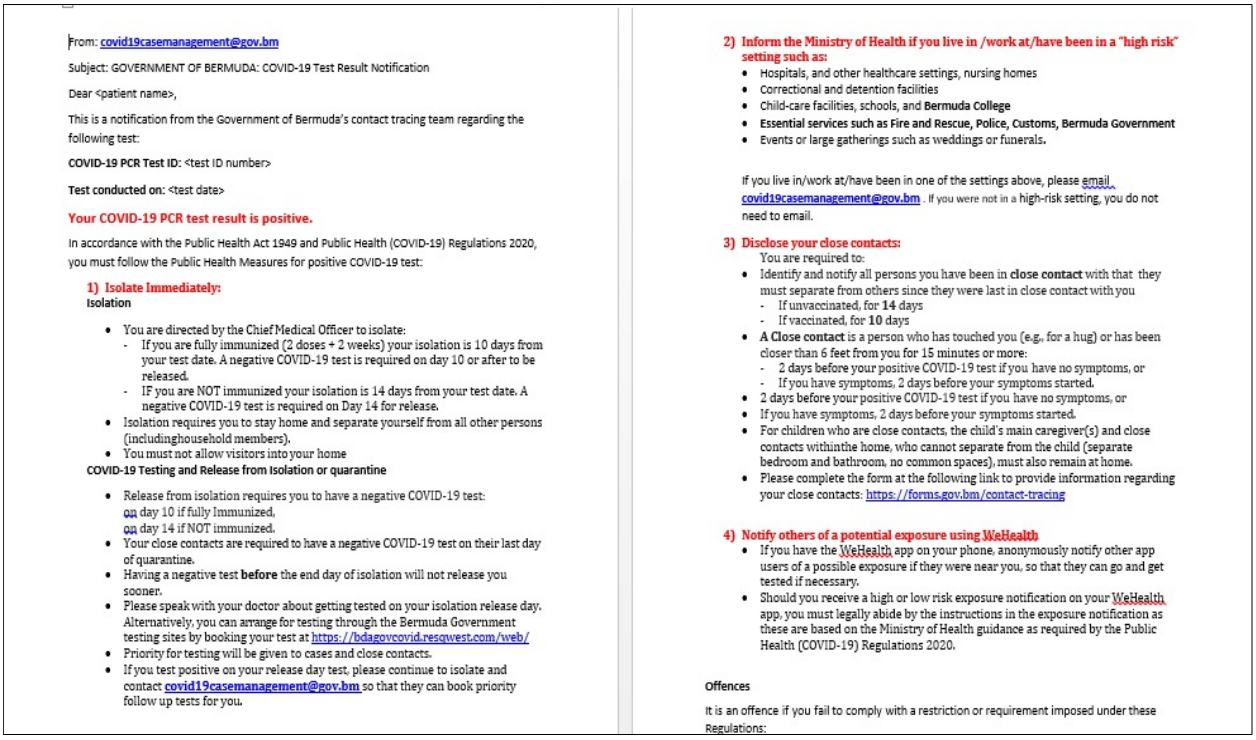
Primary care can take early actions including:

- Communicating need for testing and isolation to symptomatic cases and close contacts
- Informing of positive test results (particularly for private labs, where letters may not be automatically generated)
- Health promotion messaging – reinforcing basic principles of ICP and quarantine procedures
- Clarity of recommendations on isolation (until day 10 if fully vaccinated or day 14, even if a test in the interim comes back negative)
- Arrange initial confirmatory PCR and testing out on last day - at doctor's office or elsewhere Get Tested for COVID-19 | Government of Bermuda (www.gov.bm)
- GP and case to please email covid19casemanagement@gov.bm with case details (date of onset of symptoms, testing performed, details of close contacts, contact details). Ask case to inform close contacts to email covid19closecontacts@gov.bm
- Inform case that contact tracer will be in contact to follow up

(Portal system to automatically generate letters for close contacts is not working at the time of writing)

Anyone with COVID-19 symptoms or a positive test result should stay at home and self-isolate immediately. If you have symptoms of COVID-19, you should arrange to have a PCR test as soon as possible. This still applies even if you have received one or more doses of COVID-19 vaccine.

If you live in the same household as someone with COVID-19, you should stay at home and self-isolate.



From: covid19casemanagement@gov.bm

Subject: GOVERNMENT OF BERMUDA: COVID-19 Test Result Notification

Dear <patient name>,

This is a notification from the Government of Bermuda's contact tracing team regarding the following test:

COVID-19 PCR Test ID: <test ID number>

Test conducted on: <test date>

Your COVID-19 PCR test result is positive.

In accordance with the Public Health Act 1949 and Public Health (COVID-19) Regulations 2020, you must follow the Public Health Measures for positive COVID-19 test:

1) Isolate Immediately:

Isolation

- You are directed by the Chief Medical Officer to isolate:
  - If you are fully immunized (2 doses + 2 weeks) your isolation is 10 days from your test date. A negative COVID-19 test is required on day 10 or after to be released.
  - IF you are NOT immunized your isolation is 14 days from your test date. A negative COVID-19 test is required on Day 14 for release.
- Isolation requires you to stay home and separate yourself from all other persons (includinghousehold members).
- You must not allow visitors into your home

COVID-19 Testing and Release from Isolation or quarantine

- Release from isolation requires you to have a negative COVID-19 test:
  on day 10 if fully Immunized,
  on day 14 if NOT immunized.
- Your close contacts are required to have a negative COVID-19 test on their last day of quarantine.
- Having a negative test **before** the end day of isolation will not release you sooner.
- Please speak with your doctor about getting tested on your isolation release day. Alternatively, you can arrange for testing through the Bermuda Government testing sites by booking your test at https://bdagovcovid.resqwest.com/web/
- Priority for testing will be given to cases and close contacts.
- If you test positive on your release day test, please continue to isolate and contact covid19casemanagement@gov.bm so that they can book priority follow up tests for you.

2) Inform the Ministry of Health if you live in /work at/have been in a "high risk" setting such as:

- Hospitals, and other healthcare settings, nursing homes
- Correctional and detention facilities
- Child-care facilities, schools, and **Bermuda College**
- **Essential services such as Fire and Rescue, Police, Customs, Bermuda Government**
- Events or large gatherings such as weddings or funerals.

If you live in/work at/have been in one of the settings above, please email covid19casemanagement@gov.bm . If you were not in a high-risk setting, you do not need to email.

3) Disclose your close contacts:

You are required to:

- Identify and notify all persons you have been in **close contact** with that they must separate from others since they were last in close contact with you
  - If unvaccinated, for **14** days
  - If vaccinated, for **10** days
- **A Close contact** is a person who has touched you (e.g., for a hug) or has been closer than 6 feet from you for 15 minutes or more:
  - 2 days before your positive COVID-19 test if you have no symptoms, or
  - If you have symptoms, 2 days before your symptoms started.
- 2 days before your positive COVID-19 test if you have no symptoms, or
- If you have symptoms, 2 days before your symptoms started.
- For children who are close contacts, the child's main caregiver(s) and close contacts withinthe home, who cannot separate from the child (separate bedroom and bathroom, no common spaces), must also remain at home.
- Please complete the form at the following link to provide information regarding your close contacts: https://forms.gov.bm/contact-tracing

4) Notify others of a potential exposure using WeHealth

- If you have the WeHealth app on your phone, anonymously notify other app users of a possible exposure if they were near you, so that they can go and get tested if necessary.
- Should you receive a high or low risk exposure notification on your WeHealth app, you must legally abide by the instructions in the exposure notification as these are based on the Ministry of Health guidance as required by the Public Health (COVID-19) Regulations 2020.

Offences

It is an offence if you fail to comply with a restriction or requirement imposed under these Regulations:

An example notification email is presented above that would be automatically generated by a positive case before follow up by contact tracers.

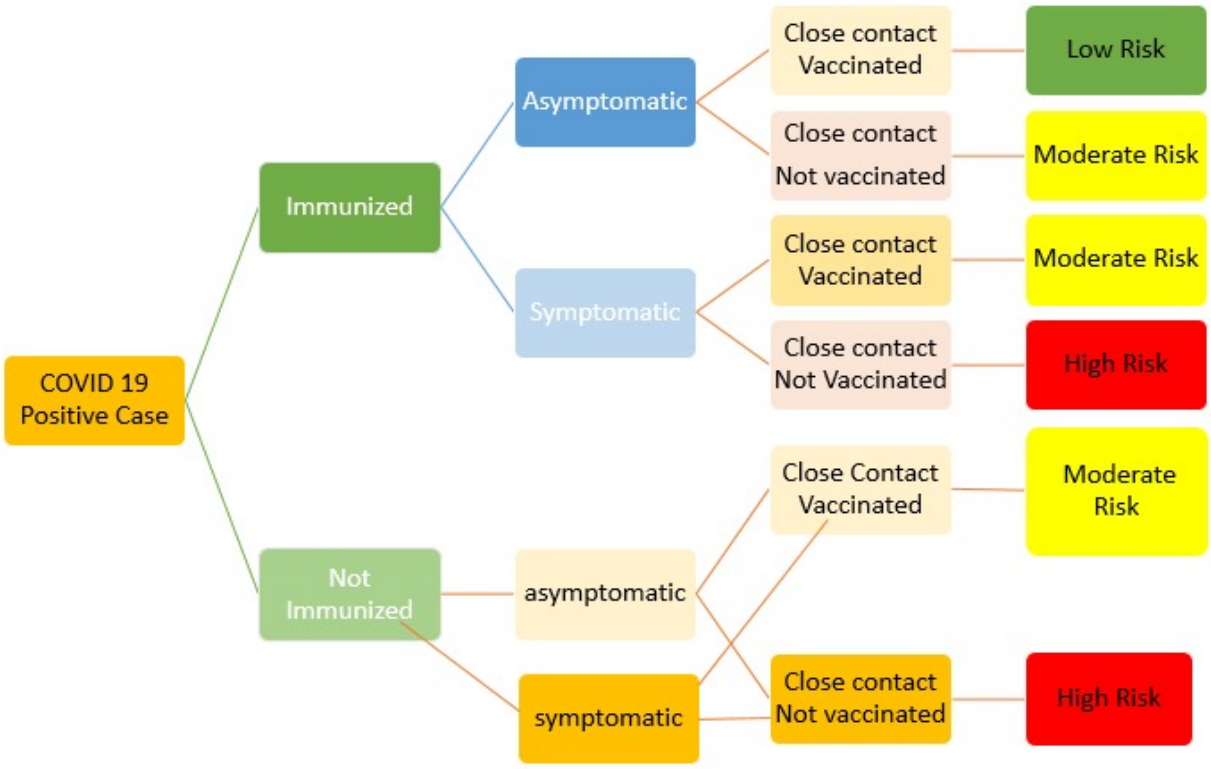
Patient information

Close_Contact_Infographic (www.gov.bm)

Contact-tracing.pdf (www.gov.bm)

Self Quarantine precautions poster & symptom log (www.gov.bm)

Case management



LOW*	• No Quarantine required, testing on Day 4 and Day 10 for travelers. Non travelers test on notification and on day 10. • Needs workplace/school risk assessment before return to work/school.
MODERATE*	• Quarantine x 10 days. Testing on notification and day 10. • Needs workplace/school risk assessment before return to work/school.
HIGH	• Quarantine x 14 days. Testing on notification and day 14.

* Note: all persons who are household contacts, partners or travel companions to a positive case are at increased risk of contracting COVID19, therefore risk level goes up one level by contact tracer/case manager after following flowchart.

Please also contact case management if you are aware of possible outbreaks or symptomatic patients in the following settings as these are priorities for contact tracing:

- living, working, or visiting healthcare facilities, healthcare settings
- congregate living facilities (corrections, nursing homes, homeless shelters, group homes)
- congregate settings (day care facilities, schools, and Bermuda College)
- large events like weddings/funerals, etc.
- critical infrastructure (Public Works and other Government services, BELCO, telecommunications) and essential service workers (police, fire, EMS, Customs)

Persistently positive patients

New positive results after clearance may represent:

- Ongoing positive from initial infection
- Re-Infection/suspected re-infection
- If there is uncertainty as to whether a new positive after clearance represents a re-positive or reinfection, repeat testing as soon as possible. The case (including contacts) is managed as current infectious if reinfection is suspected.
- If there is evidence that the new positive result is likely to be ongoing persistent detection from the first infection, then no further public health case and contact management is required. Supporting evidence of a re-positive case includes
  - Repeat testing is negative
  - Both specimen(s) are close to limit of detection (e.g cycle threshold >35 if tested at a Public Health laboratory.
- If there is evidence that the new positive result is likely to be suspected, implement of actions reflective of a positive case.

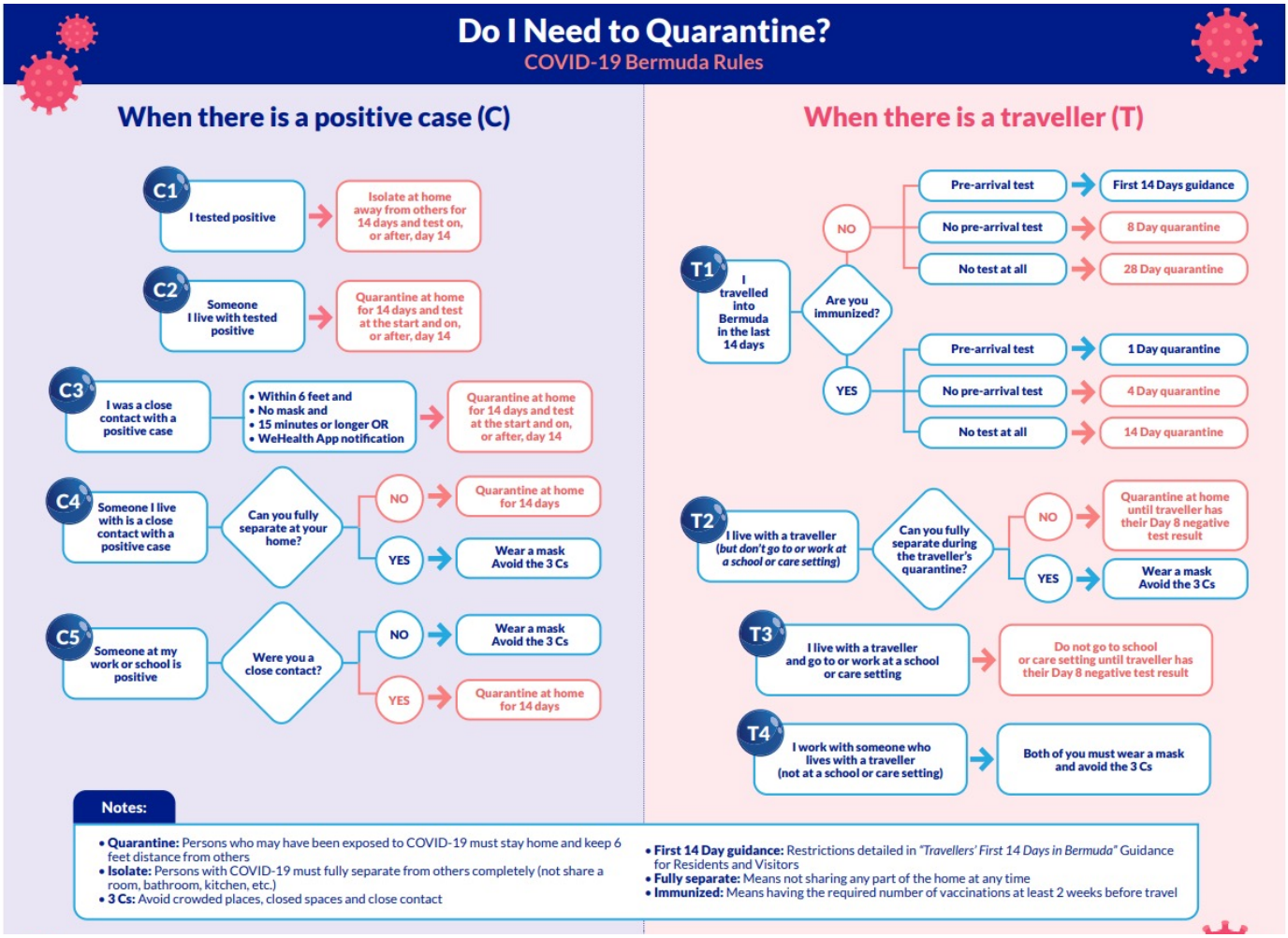
Previously Positive COVID 19 PCR Risk Assessment (within the past 90 days, in Bermuda)

- Symptoms of COVID 19 in the past 7 days
- New exposure in the past 14 days including
  - Traveled overseas
  - Close contact with a someone who traveled
  - Close contact with acute respiratory infection
  - Close contact with a probable or confirmed case
  - Attended any community events, funerals, large gathering
  - Linked to an institutional outbreak

Testing

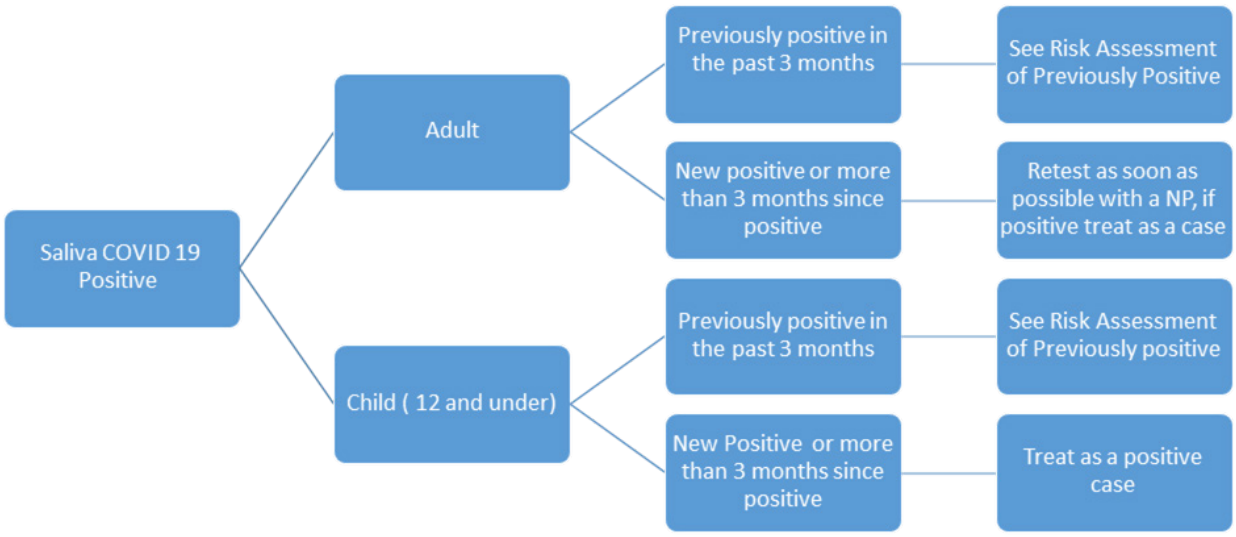
[Get Tested for COVID-19 | Government of Bermuda (www.gov.bm)]

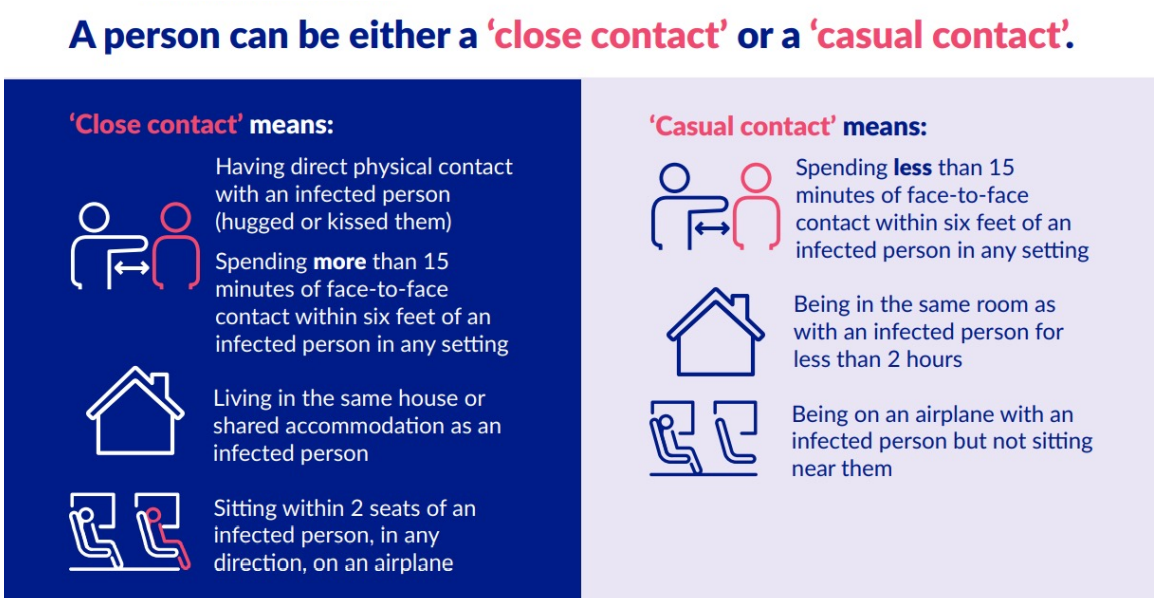
Contact tracing & isolation



Interpretation of Saliva PCR Positive Results

PCR tests based on Saliva samples have lower sensitivity when compared with nasopharyngeal samples. Both of these samples have very good specificity. Saliva test also have the advantage of being more acceptable to majority of people. Saliva samples are used for screening/occupational testing in Bermuda. In adults, they need to be followed by a nasopharyngeal sample. In children, saliva samples are very sensitive when properly conducted. Positive saliva PCR tests are accepted for case management. The figure below gives the decision tree for positive saliva samples.





Close_Contact_Infographic.pdf (www.gov.bm)

Quarantine & Contact Tracing | Government of Bermuda (www.gov.bm)

A person who tests positive must disclose their close contacts. These are the instructions the positive case must follow:

- Identify and notify all persons you have been in close contact with that they must separate from others since they were last in close contact with you:
  - If unvaccinated, for 14 days
  - If vaccinated, for 10 days
- A Close contact is a person who has touched you (e.g., for a hug) or has been closer than 6 feet from you for 15 minutes or more:
  - 2 days before the positive COVID-19 test if you have no symptoms, or
  - 2 days before your symptoms started, if you have symptoms
- For children who are close contacts, the child's main caregiver(s) and close contacts within the home, who cannot separate from the child (separate bedroom and bathroom, no common spaces), must also remain at home. See guidance: https://www.gov.bm/sites/default/files/Household.pdf

A positive case must complete an online form to provide information regarding their close contacts. The link is provided to the positive individual directly.

If you are notified that you are a close contact - whether by a positive case directly, WeHealth or ESU - you must:

1. Go into quarantine immediately (see https://www.gov.bm/sites/default/files/11984_COVID19_When_to_Quarantine%20%5BUpdated%20Apr%201%5D%20%283%29.pdf)
2. Get tested as soon as possible (book at https://bdagovcovid.resqwest.com/web/)
3. Quarantine for 10 (immunised) or 14 days (unimmunised) from the last date of contact with the positive person (see below and How To guide)
4. Book and get tested on day 10 (immunised) or 14 (unimmunised)
5. Unless otherwise instructed by ESU, return to work/school when you receive your Day 10 or 14 negative result (guidance)

Close contacts can contact ESU at covid19casemanagement@gov.bm

Contacts of a 'close contact' do not quarantine. They are 'casual contacts'. See the Close contact vs Casual contact Guidance

- Why and when to Quarantine?
- How to Quarantine? Tips for caring for others quarantining in your household
- What is Contact Tracing?
- Contact Tracing Requires Your Help

WeHealth Bermuda - a COVID-19 Exposure Notification App

To aid Bermuda in closely monitoring the local developments of the Coronavirus (COVID-19), the Government has launched WeHealth Bermuda, a free smartphone application that provides anonymous COVID-19 exposure notifications. It is one of the most sophisticated apps available anywhere in the world for helping to control the spread of COVID-19. It uses Bluetooth Signals to measure exposure distance and duration. Notifications are sent automatically and guidance of what to do according to the Ministry of Health's recommendations. We urge all Bermudians and visitors to the island to download the app from the App Store or Google Play.

FAQs & WeHealth Bermuda App Walk-Through - YouTube

Patient information

COVID-19: guidance for households with possible coronavirus infection - GOV.UK (www.gov.uk)

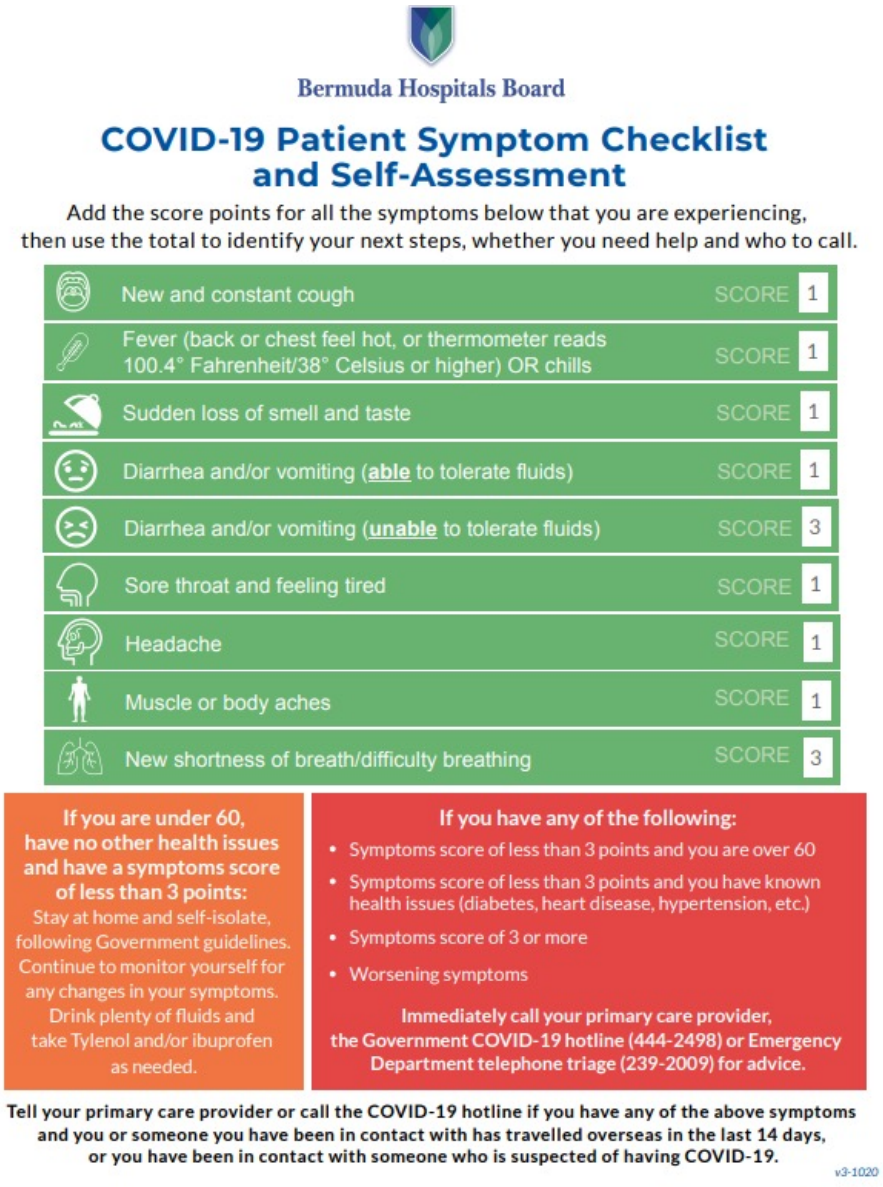
Stay at home guidance for households with possible or confirmed coronavirus - ILLUSTRATED GUIDE (publishing.service.gov.uk)

Stay at home guidance for households with possible or confirmed coronavirus - EASY READ (publishing.service.gov.uk) – also available in multiple different languages

Case management

The review and management of Covid19 patients within primary care can be challenging particularly where this involves remote consultations.

Patients can be directed to the BHB patient symptom checklist and Self-Assessment tool to know when to seek help. Additional tools such as oximetry can be very useful for patients who are symptomatic or otherwise at higher risk with clear rules of when to escalate.



Bermuda Hospitals Board

COVID-19 Patient Symptom Checklist and Self-Assessment

Add the score points for all the symptoms below that you are experiencing, then use the total to identify your next steps, whether you need help and who to call.

New and constant cough	SCORE 1
Fever (back or chest feel hot, or thermometer reads 100.4° Fahrenheit/38° Celsius or higher) OR chills	SCORE 1
Sudden loss of smell and taste	SCORE 1
Diarrhea and/or vomiting (**able** to tolerate fluids)	SCORE 1
Diarrhea and/or vomiting (**unable** to tolerate fluids)	SCORE 3
Sore throat and feeling tired	SCORE 1
Headache	SCORE 1
Muscle or body aches	SCORE 1
New shortness of breath/difficulty breathing	SCORE 3

If you are under 60, have no other health issues and have a symptoms score of less than 3 points:
Stay at home and self-isolate, following Government guidelines. Continue to monitor yourself for any changes in your symptoms. Drink plenty of fluids and take Tylenol and/or ibuprofen as needed.

If you have any of the following:
- Symptoms score of less than 3 points and you are over 60
- Symptoms score of less than 3 points and you have known health issues (diabetes, heart disease, hypertension, etc.)
- Symptoms score of 3 or more
- Worsening symptoms

Immediately call your primary care provider, the Government COVID-19 hotline (444-2498) or Emergency Department telephone triage (239-2009) for advice.

Tell your primary care provider or call the COVID-19 hotline if you have any of the above symptoms and you or someone you have been in contact with has travelled overseas in the last 14 days, or you have been in contact with someone who is suspected of having COVID-19.

v3-1020

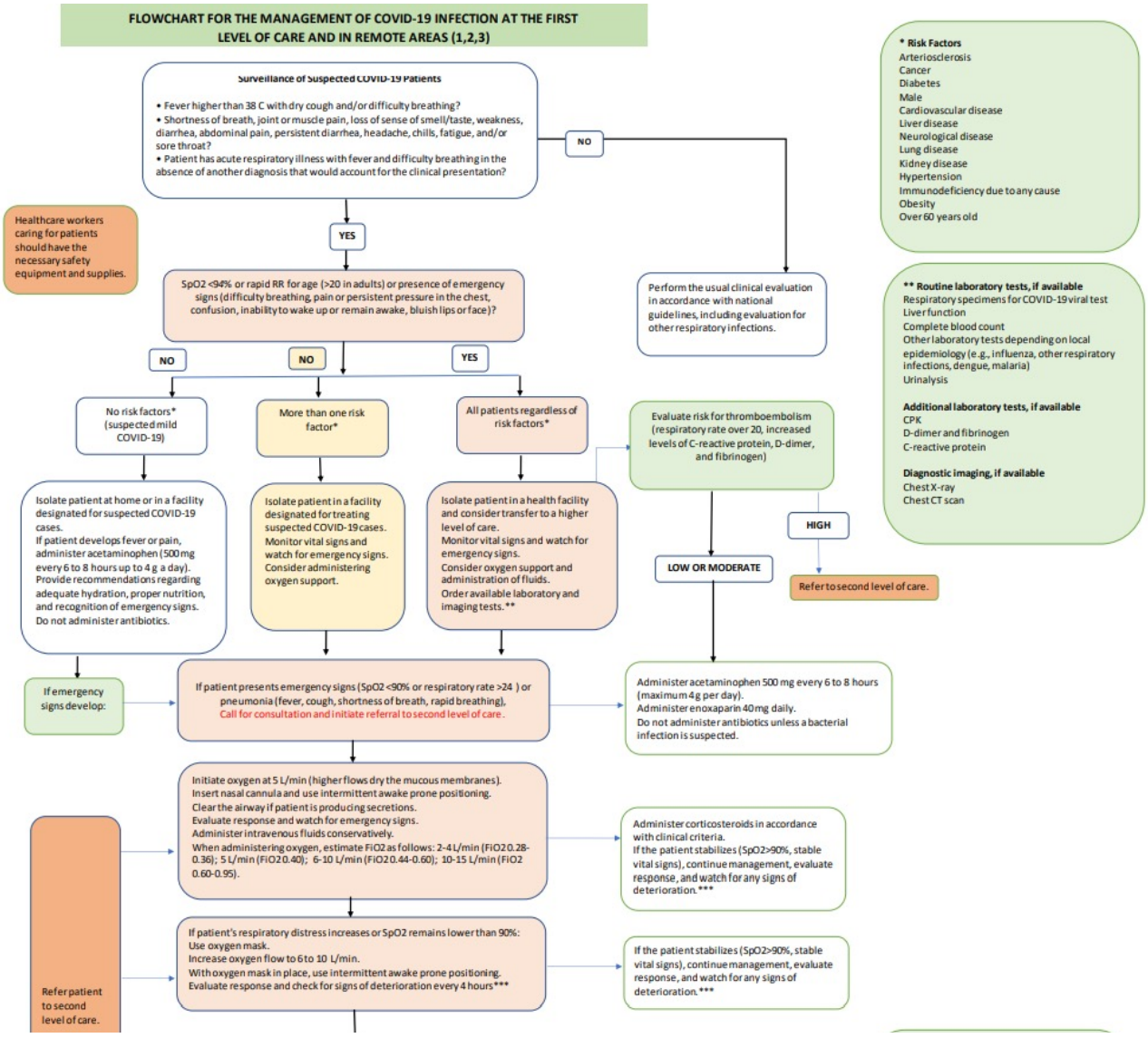
As elsewhere in this document the infographics shared below are intended as a prompt for considerations based on guidelines used internationally.

For example, in the UK, the Novel coronavirus (COVID-19) standard operating procedure COVID Oximetry @home (england.nhs.uk) is recommended to be available to people who are:

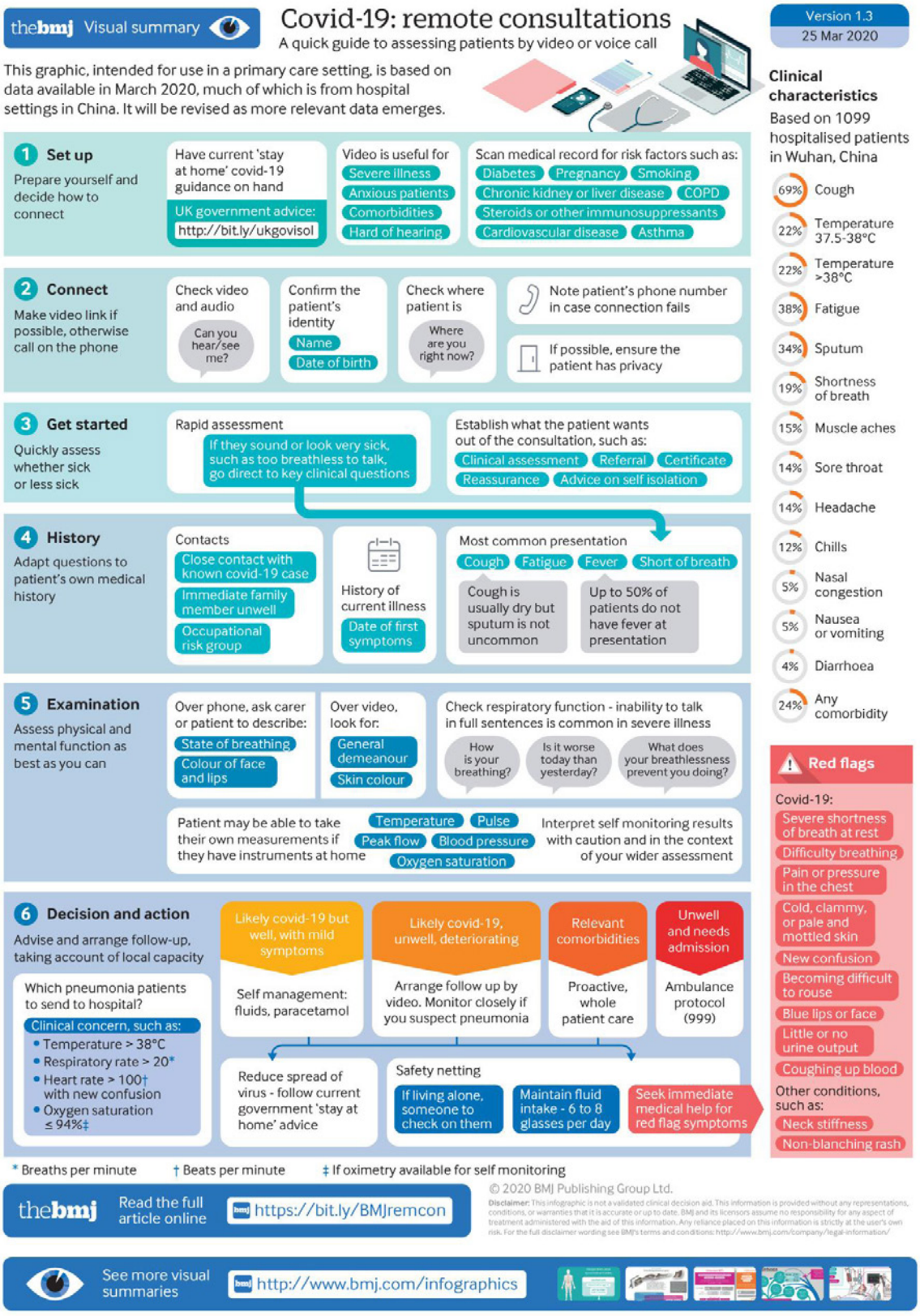
1. Diagnosed with COVID-19: either clinically or positive test result AND
2. Symptomatic AND EITHER
3. Aged 65 years or older OR
4. Under 65 years and at higher risk from COVID-19, or where clinical judgement applies considering individual risk factors such as pregnancy, learning disability, caring responsibilities and/or deprivation. Further information about clinical judgement can be found on our website.

Pregnant women being referred to a COVID Oximetry @home service should also be asked to contact their maternity team for specific advice around pregnancy and COVID-19. A lighter touch pathway should be available to any adult aged 18 – 64, that has tested positive and has not been double vaccinated. This pathway is fully self managed and escalated.

[BHB COVID-19 Patient Symptom Checklist and Self-assessment - v3 (www.gov.bm)]



Management of suspected COVID-19 patients at the first level of care (PAHO).pdf



Covid-19: a remote assessment in primary care | The BMJ

Other resources

COVID-19: investigation and initial clinical management of possible cases - GOV.UK (www.gov.uk)

Community assessment of acute COVID-19 and referral to secondary care (Sign.ac.uk) – comprehensive guideline including Scottish primary care hub triage guide

Management of Patients with Confirmed 2019-nCoV | CDC - several quick reference guides for different situations and management of special populations (including pregnant women and children)

National Institute of Health COVID-19 Treatment Guidelines (nih.gov) & Nonhospitalized Patients: General Management | COVID-19 Treatment Guidelines (nih.gov)

Therapeutics not recommended

Home oxygen

The use of oxygen in the community should only be commenced in secondary care for continuation for particular conditions. Oxygen should not be initiated in the community by primary care physicians. The advice of a secondary care physician should be sought where needed.

Do not routinely administer oxygen, but monitor oxygen saturation using pulse oximetry as soon as possible, ideally before hospital admission. Only offer supplemental oxygen to people with oxygen saturation (SpO2) of less than 94% who are not at risk of hypercapnic respiratory failure, aiming for SpO2 of 94 to 98%.

Source: Do not routinely administer oxygen| NICE

Dexamethasone

The use of **dexamethasone or other systemic glucocorticoids is not recommended** to treat outpatients with mild to moderate Covid-19 who do not require hospitalization or supplemental oxygen. There is currently a lack of safety and efficacy data on the use of these agents, and systemic glucocorticoids may cause harm in these patients. Patients who are receiving **dexamethasone** or **another corticosteroid** for other indications should continue therapy for their underlying conditions as directed by their health care providers.

Source: Nonhospitalized Adults: Therapeutic Management | COVID-19 Treatment Guidelines (nih.gov)

Chloroquine and Hydroxychloroquine

The Ministry of Health alongside expert panels globally **recommends against** the use of **hydroxychloroquine** for Covid19. Both chloroquine and hydroxychloroquine have in vitro activity against SARS-CoV and SARS-CoV-2 (Yao 2020, Vincent 2005). A small cohort study without a control group suggested that hydroxychloroquine might reduce the risk of transmission to close contacts (Lee 2020). There have been several large trials to determine whether hydroxychloroquine can reduce the risk of infection after exposure to

infected individuals. These studies used different dosing schedules and targeted different at-risk populations. In addition, some studies were unable to confirm infection using molecular or antigen tests. None of these studies demonstrated any evidence of efficacy for hydroxychloroquine, and all showed a higher risk of generally mild adverse events in those who received the drug (Barnabas 2021, Boulware 2020, Mitja 2020).

Source: Prevention of SARS-CoV-2 | COVID-19 Treatment Guidelines (nih.gov)

References

Yao X, Ye F, Zhang M, et al. In vitro antiviral activity and projection of optimized dosing design of hydroxychloroquine for the treatment of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). *Clin Infect Dis*. 2020;71(15):732-739. Available at: https://www.ncbi.nlm.nih.gov/pubmed/32150618.

Vincent MJ, Bergeron E, Benjannet S, et al. Chloroquine is a potent inhibitor of SARS coronavirus infection and spread. *Virol J*. 2005;2:69. Available at: https://www.ncbi.nlm.nih.gov/pubmed/16115318.

Lee SH, Son H, Peck KR. Can post-exposure prophylaxis for COVID-19 be considered as an outbreak response strategy in long-term care hospitals? *Int J Antimicrob Agents*. 2020;55(6):105988. Available at: https://www.ncbi.nlm.nih.gov/pubmed/32305587.

Barnabas RV, Brown ER, Bershteyn A, et al. Hydroxychloroquine as postexposure prophylaxis to prevent severe acute respiratory syndrome coronavirus 2 infection: a randomized trial. *Ann Intern Med*. 2021;174(3):344-352. Available at: https://www.ncbi.nlm.nih.gov/pubmed/33284679

Boulware DR, Pullen MF, Bangdiwala AS, et al. A randomized trial of hydroxychloroquine as postexposure prophylaxis for COVID-19. *N Engl J Med*. 2020;383(6):517-525. Available at: https://www.ncbi.nlm.nih.gov/pubmed/32492293.

Mitjà O, Corbacho-Monné M, Ubals M, et al. A cluster-randomized trial of hydroxychloroquine for prevention of COVID-19. *N Engl J Med*. 2020. Available at: https://www.nejm.org/doi/pdf/10.1056/NEJMoa2021801.

Ivermectin

Ivermectin is a medicine developed in the 1970s to treat parasitic infections including neglected tropical diseases. It is also used to kill worms in animals and lifestock. It is usually taken as a single dose.

The interest in a possible inhibitory effect in Covid19 came from in vitro studies (Caly 2020, Belhadjey 2020). This was thought to be through an effect on a protein that viruses hijack for cell replication. However, the inhibitory concentration required is not achievable in humans (100 times less). Some studies also report some potential anti-inflammatory effects. There has been several agents showing promise in laboratory studies that have not translated to effectiveness in human use.

Population data have indicated that country-wide, mass-use of prophylactic chemotherapy for parasitic infections, including the use of ivermectin, could be associated with a lower incidence of COVID-19 (Hellwig 2021). At this time, few clinical trials have evaluated the safety and efficacy of using ivermectin for SARS-CoV-2 pre-exposure prophylaxis (PrEP) or PEP. Although several studies have reported potentially promising results, the findings

are limited by the design of the studies, their small sample sizes, and the lack of details regarding the safety and efficacy of ivermectin. For example in a descriptive, uncontrolled interventional study of 33 contacts of patients with laboratory-confirmed COVID-19, no cases of SARS-CoV-2 infection were identified within 21 days of initiating ivermectin for PEP (Aguirre Chang 2020). In a small case-control study in SARS-CoV-2-exposed health care workers, 186 participants who became infected were matched with 186 uninfected controls. Of those who received ivermectin after exposure to SARS-CoV-2, 38 were in the infected group and 77 were in the uninfected group, which led the investigators to conclude that ivermectin reduced the incidence of SARS-CoV-2 infection (Behera 2021).

Concerns have been raised by independent scientists about some reported positive findings of the use of ivermectin. More than a third of 26 major trials have serious errors or signs of potential fraud. These include; non-random patient selection, duplication of patient data, numbers unlikely to occur naturally, incorrectly calculated percentages and local health bodies unaware of the research (BBC 2021). In more than half of these studies, authors seem unwilling to release their results. Even Ivermectin's manufacturer, Merck, has cautioned there is no scientific basis for a potential therapeutic use in Covid19.

Harm from Ivermectin can occur through direct side effects including nausea, vomiting, diarrhea, hypotension (low blood pressure), allergic reactions (itching, skin reactions and breathing problems), dizziness, hallucinations, confusion, tremors, ataxia (problems with balance), seizures, coma and even death. There are multiple reports of Ivermectin poisoning causing harm and hospitalization. In the USA, for instance, there have been 1,143 reported suspected poisonings so far this year. Ivermectin can also interact with other medications and may cause particular harm in groups such as pregnant women (for whom we have very limited safety data), but there is some evidence of harm to the fetus.

Ivermectin is particularly harmful in formulations intended for animal consumption. This is due to higher concentrations (often intended for larger animals such as horses or cows). There are often other ingredients that are unsafe for humans. Medications intended for veterinary use have also not gone through the same rigorous manufacturing processes to ensure quality and purity (FDA 2021, CDC 2021).

Given Ivermectin is usually taken as a single dose, we have limited evidence of the likely harms caused by longer term use. Indirect harm can also occur by giving people a false sense of security. People may feel they are safe to not get vaccinated. There have also been cases of people not seeking hospital treatment when they are unwell, which can sadly result in deaths.

The fourth version of the WHO living guideline in March 2021 contained a recommendation on Ivermectin and in the BMJ as Rapid Recommendations. No changes were made for the ivermectin recommendation in this sixth version of the guideline (WHO 2021, BMJ 2021). At the time of writing there is no robust or conclusive evidence to support use of Ivermectin for the prevention and treatment of Covid19. Some studies show no benefit or worsening of disease with Ivermectin use. However, given the interest in Ivermectin as a potential agent, several large, well designed trails are ongoing which aim to return initial results at the end of 2021 (University of Oxford 2021, NIH 2021).

Further information and references

Caly L, Druce JD, Catton MG, Jans DA, Wagstaff KM. The FDA-approved drug ivermectin inhibits the replication of SARS-CoV-2 in vitro. *Antiviral Res*. 2020;178:104787. Available at: https://www.ncbi.nlm.nih.gov/pubmed/32251768.

Belhadjer Z, Meot M, Bajolle F, et al. Acute heart failure in multisystem inflammatory syndrome in children in the context of global SARS-CoV-2 pandemic. *Circulation*. 2020;142(5):429-436. Available at: https://www.ncbi.nlm.nih.gov/pubmed/32418446.

Hellwig MD, Maia A. A COVID-19 prophylaxis? Lower incidence associated with prophylactic administration of ivermectin. *Int J Antimicrob Agents*. 2021;57(1):106248. Available at: https://www.ncbi.nlm.nih.gov/pubmed/33259913.

Aguirre Chang GF, A. N. T. COVID-19: post-exposure prophylaxis with ivermectin in contacts. At homes, places of work, nursing homes, prisons, and others. *ResearchGate*. 2020;Preprint. Available at: https://www.researchgate.net/publication/344781515_COVID-19_POST-EXPOSURE_PROPHYLAXIS_WITH_IVERMECTIN_IN_CONTACTS_At_Homes_Places_of_Work_Nursing_Homes_Prisons_and_Others.

Behera P, Patro BK, Singh AK, et al. Role of ivermectin in the prevention of SARS-CoV-2 infection among healthcare workers in India: A matched case-control study. *PLoS One*. 2021;16(2):e0247163. Available at: https://www.ncbi.nlm.nih.gov/pubmed/33592050.

Why You Should Not Use Ivermectin to Treat or Prevent COVID-19 - FDA

Rapid Increase in Ivermectin Prescriptions and Reports of Severe Illness Associated with Use of Products Containing Ivermectin to Prevent or Treat COVID-19 - CDC

Ivermectin: How false science created a Covid 'miracle' drug - BBC News

How ivermectin became the latest false cure for the coronavirus – Washington Post

Ivermectin for COVID: How do we know what to believe? - Medscape

Therapeutics and COVID-19: living guideline (who.int)

A living WHO guideline on drugs for covid-19 | The BMJ

University of Oxford Ivermectin to be investigated as a possible treatment for COVID-19 in Oxford's PRINCIPLE trial News and Events June 2021

NIH US National Library of Medicine Efficacy and Safety of Ivermectin in Treatment of Mild to Moderate COVID-19 Infection: a Randomized ,Double Blind,Placebo,Controlled Trial October 13 2021 Available at https://clinicaltrials.gov/ct2/show/NCT05076253

Long covid

A clinical case definition of post Covid-19 condition by a Delphi consensus, 6 October 2021 (who.int)

WHO has developed a clinical case definition of post Covid-19 condition by Delphi methodology that includes 12 domains, available for use in all settings. This first version was developed by patients, researchers and others, representing all WHO regions, with the understanding that the definition may change as new evidence emerges and our understanding of the consequences of COVID-19 continues to evolve.

Post COVID-19 condition occurs in individuals with a history of probable or confirmed SARS CoV-2 infection, usually 3 months from the onset of Covid-19 with symptoms and that last for at least 2 months and cannot be explained by an alternative diagnosis. Common symptoms include fatigue, shortness of breath, cognitive dysfunction but also others and generally have an impact on everyday functioning. Symptoms may be new onset following initial recovery from an acute Covid-19 episode or persist from the initial illness. Symptoms may also fluctuate or relapse over time.

Key Points | Evaluating and Caring for Patients with Post-Covid Conditions | CDC

Advanced care planning

It is helpful to review advanced care planning proactively, however this conversation should be had sensitively, involving patients and their families in balance with the views of the medical professional in relation to comorbidities, frailty and how likely resuscitation attempts are likely to be successful. In the UK concerns have been raised in relation to the use of clinical frailty scales to assess younger patients with a stable long term physical need, learning disability or autism which triggers the following statement to be released Joint statement on advance care planning (rcgp.org.uk).

Some guidelines are available here Guidance: DNACPR and CPR decisions | Resuscitation Council UK and Do not attempt cardiopulmonary resuscitation (DNACPR) decisions - NHS (www.nhs.uk). Information leaflets and FAQs are also available

Certification of deaths

General practitioners are expected to certify deaths following usual guidance. Where Covid19 is suspected to have contributed to a cause of death the following WHO resource should be followed Guidelines_Cause_of_Death_COVID-19.pdf (who.int).

Persistent positivity

A persistently positive case (still testing positive after 10/14 days) should remain in isolation for another 7 days. If still positive after 17/21 days release from isolation if

- Immune competent
- Symptom free in the last 48 hours

This is more conservative than in larger countries, but it is designed to reduce the residual risk to a level manageable for our health system.

There should be no need to contact the CMO for permission where these circumstances apply, however expert input can be requested from the CMO or Dr Ashton where needed.

Further information from CDC can be found here Ending Isolation and Precautions for People with COVID-19: Interim Guidance (cdc.gov)

Wellbeing

Coronavirus (COVID-19) Health and Well-being | Government of Bermuda (www.gov.bm)

For emotional support call the **Emotional Wellbeing Hotline** on **543-1111.** The line is operated **Monday to Saturday**, from **5pm-9pm.**

Engaging families and communities

Operational guide for engaging communities in contact tracing (who.int)

Contact tracing is a key component of a public health response to infectious disease outbreaks. The purpose of this guidance is to reinforce the place of community engagement and participation in the contact tracing process. The guidance and related products articulate best practice principles for community engagement and how they can be operationalized as part of any community-centered contact tracing strategy. The material provided can stand on its own or be used to complement other documents that support strategies, implementation plans or training and capacity building modules.

A family toolbox for managing health and happiness during COVID-19 (who.int)

Managing family risk: A facilitator's toolbox for empowering families to manage risks during COVID-19 (who.int)

People-centered approaches that help communities maintain protective behaviours and follow guidelines set out by public health and government agencies are more important than ever. The evidence is clear, communities play a role in preventing and controlling epidemics and they are best able to take action and slow or stop the spread of disease when properly engaged and empowered. This toolbox in 2 parts offers best practice approaches to community engagement with families. **Promoting individual and joint responsibilities for the safety of the family, this toolbox aims to bring families and households together to manage shared risks and agree to safe behaviours critical for their safety and the safety of their community.**

Testing for travelers

Outbound test to travel

Advise review of the country requirements for testing. Some countries such as Canada, the UK and the USA require a test taken 72 hours before departure to travel:

1. The Ministry of Health recommends that residents get tested at a designated site 48 hrs before their planned departure date. This leaves time for the lab to process the lab result and ensures that the test will still be valid should travel take more than 24 hrs.
2. Those people who require time-sensitive outbound travel tests should use the services of one of the private labs, Helix Genetic and Scientific Solutions, helixbermuda.bm, or C & S West Limited, cswest.bm. Both of these labs are certified to carry out Covid-19 testing and diagnostics. The MDL is processing thousands of tests each day, and for those who must travel, a private lab may be a quicker option at this time.
3. If a resident has travelled in the last 14 days and needs to travel again, they are still in the traveller 14 day guidance window and can book an appointment at Perot Post Office to get their outbound test.
4. Many gateway cities in the USA and the UK will accept Antigen tests as entry requirements and others will not. The traveler should be encouraged to find out the requirements of their destinations.

Further details can be found at Get Tested for Covid-19 | Government of Bermuda (www.gov.bm)

Inbound testing

All Travellers to Bermuda must follow the requirements set-out in the Quarantine (COVID-19) (No. 3) Order 2020.

All Visitors, 2-years-old and older, must apply for and complete a Bermuda COVID-19 Travel Authorisation 1 to 3 days prior to arriving in Bermuda in order to travel to the island. Failure to do so could result in repatriation to the gateway city.

All visitors 2-year-old and older must have a negative pre-arrival test taken within four days of arrival in Bermuda.

Immunised residents and visitors, 2 years and older, must test upon arrival, day 4, and day 10 while in Bermuda.

Immunised residents, 2-years-old and older without a pre-arrival test, will quarantine for the first 4 days in Bermuda. The requirements for a valid test can be found here.

All immunised travellers will be given a **red wristband** upon arrival. Immunized travellers WITH pretest must wear it until receiving the negative arrival test. Immunized travellers WITHOUT pretest must wear it until receiving the negative DAY 4 test.

Unimmunised travellers will quarantine for 14 days in their accommodation, or a self-funded location.

Unimmunised children travelling with immunised parents/guardians must test upon arrival, day 4, day 10, and day 14 while in Bermuda.

Unimmunised travellers must complete their mandatory 14 day quarantine at an accommodation of their choice (at home or other accommodation).

Unimmunised travellers will be required to specify if they can quarantine alone or if they will be sharing a household with others. If sharing a household with others:

- The traveller will have to list the names and contact information for all household members.
- All adult members of the household will be contacted and asked to sign a waiver agreeing to:

  - quarantine with the traveller for the remainder of the traveller's quarantine,
  - wear a red wristband during their quarantine, and
  - get tested 14 days after the traveller's arrival to Bermuda (this test will be scheduled for household members at Perot).

For your specific travel instructions before and after arrival, please select one of the following:

Perot Post Office – *Operating seven (7) days a week, 10:00am – 4:00pm*

This testing site is used for travellers (visitors and residents flying into Bermuda) and outbound travellers (visitors ONLY). This location will be utilized for their day 4, 10, 14 and OUTBOUND test, and will only provide Nasopharyngeal (NP) for adults. Minors will be offered Oropharyngeal (OP) testing if they prefer. Adults can only have Oropharyngeal (OP) testing if they have a doctors note indicating they are not medically fit for nasal test.

Note: If you are a traveller (resident or visitor), your appointed dates, times and locations have been booked for you. You will receive a reminder email 24 hours before the test day. DO NOT BOOK AN APPOINTMENT.

Further details can be found at: Applying for a Bermuda Travel Authorisation | Government of Bermuda (www.gov.bm)

Charging for swabbing and vaccination

The Bermudan Health Council governs the framework and memorandum for reimbursement of Covid testing. Details of this alongside many other resources are available here: COVID-19 Resources | Bermuda Health Council (bhec.bm)

Further primary care resources

Novel Coronavirus (COVID-19) | Government of Bermuda (www.gov.bm)

COVID-19 hub for primary care | Information | Guidelines

Coronavirus » Primary care (england.nhs.uk)

Coronavirus disease (COVID-19): Guidance documents - Canada.ca

BC_COVID_primarycare_outpatient_mgmt.pdf (bccdc.ca)

Ending Isolation and Precautions for People with COVID-19: Interim Guidance (cdc.gov)

Information for healthcare workers

General-Health-Business-COVID-Operating-Guidance.pdf (www.gov.bm)

Safe use of Mask (1).pdf (www.gov.bm)

Bda_5-Hand-Hygiene.pdf (www.gov.bm)

Safe PPE for care of patients with respiratory symptoms/suspected/confirmed COVID-19

Coronavirus (COVID-19) Health and Well-being | Government of Bermuda (www.gov.bm)

Information for patients

Coronavirus (COVID-19) advice for the public | Government of Bermuda (www.gov.bm)

The Vaccination Process.pdf (www.gov.bm)

Fact and Fiction MOH.PDF (www.gov.bm)

COVID-19 Helpful Tips.pdf (www.gov.bm)

COVID19 FAQs.pdf (www.gov.bm)

COVID-19 Vaccine Information and Consent Form.pdf (www.gov.bm)

COVID-19 vaccination: resources for schools and parents - GOV.UK (www.gov.uk)

COVID-19 vaccination: resources for children and young people - GOV.UK (www.gov.uk)

CDC: Understanding adverse events and side effects

Coronavirus_Vulnerable_People_Guidance.pdf (www.gov.bm)

FAQs & WeHealth Bermuda App Walk-Through - YouTube

Quarantine & Contact Tracing | Government of Bermuda (www.gov.bm)

Close_Contact_Infographic (www.gov.bm)

Contact-tracing.pdf (www.gov.bm)

Self Quarantine precautions poster & symptom log (www.gov.bm)

COVID-19: guidance for households with possible coronavirus infection - GOV.UK (www.gov.uk)

Stay at home guidance for households with possible or confirmed coronavirus - ILLUSTRATED GUIDE (publishing.service.gov.uk)

Stay at home guidance for households with possible or confirmed coronavirus - EASY READ (publishing.service.gov.uk) – also available in multiple different languages

Get Tested for Covid-19 | Government of Bermuda (www.gov.bm)

Applying for a Bermuda Travel Authorisation | Government of Bermuda (www.gov.bm)

Coronavirus (COVID-19) Health and Well-being | Government of Bermuda (www.gov.bm)