

MANAGING PEOPLE WITH **DIABETES** DURING **COVID-19**

CONSIDERATIONS FOR HEALTH PROVIDERS

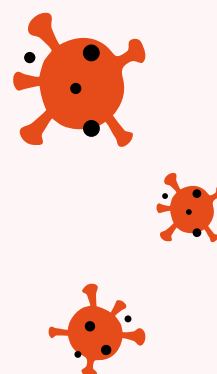
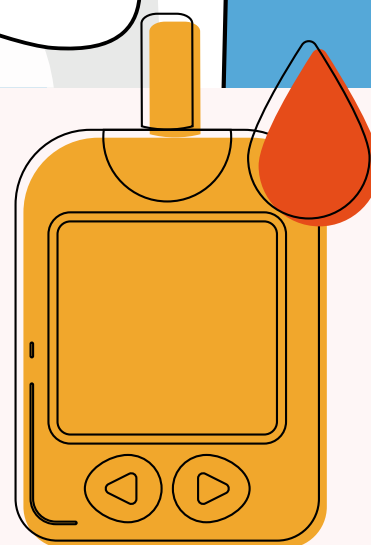


INTRODUCTION

Individuals with diabetes have a higher risk of developing severe symptoms and dying from COVID-19 than persons without diabetes. For examples, some studies show that approximately 20% of persons hospitalized as a result of COVID-19 have diabetes and approximately 26% of individuals who die from COVID-19 have diabetes.^{1,2}

At the same time, however, individuals with diabetes are at increased risk of developing diabetes-related complications as a result of COVID-19-related restrictions. These complications include severe hyperglycemia, diabetic ketoacidosis, skin and soft-tissue infections, and foot ulcers. The increased risk of complications is due to multiple factors: limited access to primary care services as a result of social distancing measures, disrupted access to chronic medications, challenges obtaining refill approvals, accessing pharmacies, and supply chain shortages. This is compounded by difficulty in adhering to healthy lifestyle during COVID-19 restrictions: limited physical activity and increased sedentary behavior, limited access to fruits and vegetables, and overall greater food insecurity.³

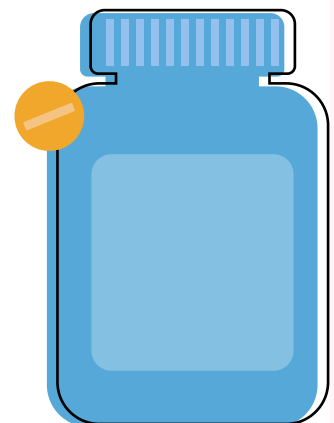
Primary care health centers and providers who care for individuals with diabetes have an important role to play in ensuring continued access to care, reduced risk of infection, and appropriately managing patients with these comorbidities who acquire COVID-19. The following are considerations for the management of people with diabetes in the era of COVID-19.



STRATEGIC CONTINUATION OF SERVICES UNDER STRICT INFECTION CONTROL MEASURES

Due to COVID-19, primary health centers have limited or eliminated in-person clinic visits. Some countries have the infrastructure to set up audio/phone consultations and tele-health visits. In order to avoid exacerbations of diabetes as a result of inability to access care, it is important that there is a strategic continuation of health service.

- If audio visits or tele-health visits are feasible, ensure that people with diabetes can continue to consult with their practitioner, and have information on how to reach their clinic/provider and how to schedule a phone consultation.
- When audio/tele-health visits are not feasible, in-person access to care should be made available while adhering to strict infection risk reduction procedures described below. Even when audio/tele-health visits are taking place, some patients will still need to be seen in-person and the same provisions should be instituted.
- Primary health centers should consider actively reaching out to their most vulnerable patients. These are the elderly and those with multiple comorbidities (hypertension, cardiovascular disease, or kidney disease). In addition, increased vulnerability may be a result of poverty, food insecurity, lack of education, unemployment. These individuals should also be considered at higher risk of developing complications related to diabetes. These more vulnerable patients should be actively followed and called by phone or have an appropriate home visit with necessary precautions.
- Work with local pharmacies to ensure uninterrupted access to essential medication for the management of diabetes. People should have the ability to obtain a 90-day supply of medication to reduce likelihood of missed doses.
- If available, community health workers, with appropriate personal protective equipment (PPE), can help deliver medication to individuals with chronic disease and conduct home visits.



REDUCING RISK OF INFECTION TO PATIENT AND PROVIDERS

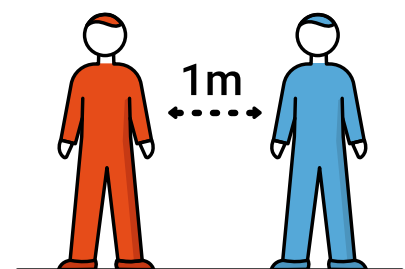
Providing in-person care at primary health centers for individuals with chronic disease requires significant fore-planning and preparation in order to minimize risk of exposure to the patient and the provider.

- This starts before the patient arrives at the clinic. Messaging needs to be conveyed that if they are experiencing COVID-19 like symptoms, they should come into the clinic only if they are feeling distressed and need to be seen in-person.

- For those patients who need to be seen in the clinic the following should be put in place:
 - Triage of patients outside the clinic building to take advantage of air circulation. Triage can occur under a shaded area or tent without the side walls. Patients waiting to be triaged should stand/sit in line using 2 m social distancing. Triage should entail a list of symptoms and an infrared temperature screen. If there is no concern for COVID-19, the patient can be triaged into the clinic for primary health care services. Individuals triaging should have adequate PPE and be trained on screening and triage based on the most recent WHO case definition for COVID-19.
 - If a patient does have COVID-19-related symptoms they should be triaged to a “COVID-19 rule out and management” area. This initial COVID-19 rule out area can also be outside the building. This part of the clinic should be clearly separated in space than the areas where patients without COVID-19 symptoms are being cared for.
- Providers should be wearing appropriate PPE in triage, COVID-19, and non-COVID-19 areas. This entails at a minimum a surgical facemask and gloves. Providers caring for patients with COVID-19 (or suspected cases) should wear a facemask with shield, N95 when available, gown, and gloves. All patients entering the clinic should be provided with a mask.
- Ensuring practicing providers and staff are COVID-free is also critical, so that the clinic setting does not become a source for spreading coronavirus.
 - » If a provider or clinic staff tests positive for COVID-19, they can only return to work when: at least 3 days (72 hours) have passed since recovery, defined as resolution of fever without the use of fever-reducing medications, and improvement in respiratory symptoms (e.g., cough, shortness of breath); and at least 10 days have passed since symptoms first appeared.
 - » If a provider or clinic staff has had “contact” with a person infected with COVID-19, then the following recommendations may be considered if feasible: self-quarantine for 14 days; when self-quarantine for all potential contacts is not possible, then providers/staff should check their temperature twice a day and self-isolate if any temperature or symptoms develop.

A significant contact is:

- Face-to-face contact with a probable or confirmed case within 1 meter and for more than 15 minutes;
- Direct physical contact with a probable or confirmed case;
- Direct care for a patient with probable or confirmed COVID-19 disease without using proper PPE;
- Other situations as indicated by local risk assessments.



PROMOTE DIABETES SELF-MANAGEMENT

Critical during this time of limited access is the patient's ability to undertake some diabetes self-management. It has been shown that diabetes self-management education can improve glycemic control. People with diabetes on insulin should have a reliable means of checking their blood sugar when feasible. When available, government-subsidized glucometers and test strips should be provided.

Key self-management messages/learnings should be relayed to clients via phone, WhatsApp, social media, etc. The following topics could be discussed to promote self-caring behaviors:⁴

- monitor personal health data
- treatment options
- healthy eating
- being physically active everyday
- medication usage
- preventing, detecting, and treating acute complications: hypoglycemia, hyperglycemia, medicine supply management
- preventing, detecting, and treating chronic complications: immunizations, eye care, foot care, dental care, kidneys
- healthy coping strategies

MANAGEMENT OF PATIENTS WITH DIABETES WHO HAVE COVID-19⁵

People with diabetes and COVID-19 are more likely to experience severe disease than those without. Clinical presentation often includes fever, cough, shortness of breath, fatigue. Other symptoms include headache, gastrointestinal symptoms, and upper respiratory tract symptoms (rhinorrhea and sore throat) are less common. Some patients will develop smell and taste disorders. Severe COVID-19 results in acute respiratory distress syndrome (ARDS), respiratory failure, arrhythmias, acute cardiac injury, shock, multiple organ failure and death. Individuals with diabetes and COVID-19 are more likely to develop severe COVID-19, require ICU care, and die.

During the clinical management of patients with diabetes and COVID-19 intensive glucose monitoring and aggressive management of hyperglycemia is critical. Hyperglycemia is a risk factor for developing severe COVID-19. These people will have significant hyperglycemia due to the infection, inflammation, and stress of the infection. However, one must be vigilant as hypoglycemic events may also occur. This has especially been the case with the use of hydroxychloroquine.

Laboratory examinations will often show decreased white blood cell counts, particularly lymphocytopenia. Patients with severe COVID-19 will have elevated neutrophil counts, inflammatory markers, positive D-dimer, raised blood urea and creatinine levels. Chest computed tomography most commonly shows ground-glass opacifications with or without consolidative abnormalities. They are also more likely to be bilateral, have a peripheral distribution, and involve the lower lobes. This is the main reason that prone positioning of awake patients has shown improved ventilatory capacity.

ANGIOTENSIN CONVERTING ENZYME INHIBITORS AND COVID-19

Coronavirus binds to target cells through angiotensin-converting enzyme 2 (ACE2), which is expressed by epithelial cells of the lung, intestine, kidney, and vessels. The expression of ACE2 is increased in patients with diabetes, especially those taking either ACE inhibitors or angiotensin II type-1 receptor blockers. There is no evidence to support the discontinuation of angiotensin converting enzyme inhibitors or angiotensin receptor blockers in patients with diabetes. Inappropriately discontinuing drugs with well-defined and scientifically proven health benefits increase cardiovascular risk.^{6,7}

DPP4 INHIBITORS AND COVID-19

The role of DPP4 inhibitors in COVID-19 is still being explored. At this time there are no recommendations to start or stop DPP4 inhibitors in people with diabetes.^{8,9}

ADDRESSING THE MENTAL HEALTH NEEDS OF PATIENTS WITH DIABETES



Stress and anxiety imposed by the uncertainty and the social isolation of the COVID-19 may affect people with chronic disease, such as diabetes. Social distancing regulations have kept people away from family and loved ones that often form a critical support group. It is important that providers continue to ask about and address mental health problems. Discussing the importance of emotional well-being opens the space for candid conversation.

Management of People with Diabetes in the Time of COVID-19

PREVENTION OF INFECTION IN PATIENTS AND PROVIDERS

- pre-arrival screening
- on-arrival screening outside the clinic
- separated areas for COVID symptoms versus no COVID symptoms

SELF-MANAGEMENT

- diabetes self-management education
- glucometer and testing supplies
- provider contact information



DIABETES MANAGEMENT DURING COVID-19

- continue in person service
- vulnerable and elderly patients should be identified and targeted for care
- process for uninterrupted refill of medications should be instituted
- address mental health needs

HEALTHY INDIVIDUAL WITH DIABETES

- aggressive control of hyperglycemia
- be aware of hypoglycemic events especially with hydroxychloroquine
- no evidence to support discontinuation of ACE-I or ARB
- no evidence to support change to or from DPP4 inhibitors

STRATEGIC CONTINUATION OF HEALTH SERVICES

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