Index

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Principles of Primary Care During a Pandemic

Primary care is characterized by "first-contact care, person-focused care over time, comprehensive care, coordinated care, as well as family orientation and community orientation" (Starfield, 2005). It does so by presenting patients with a low barrier to access this care. These strengths are needed during a pandemic, though they must be reconfigured to effectively care for patients and communities.

As primary care practices use both in-person visits and telehealth during the COVID-19 pandemic, deliberate approaches are required. Strategies for addressing the pandemic include:

1. Flattening the curve by reducing the transmission and illness rate
2. Establishing effective care for people with debilitating COVID-19
3. Development of population-level immunity via herd immunity (Howe, 2020) or vaccine
4. Developing and implementing methods to identify status of individuals, vis-a-vis COVID-19, e.g.:
    a. Susceptible
        - Susceptible and recently exposed; low risk of complications
        - Susceptible and recently exposed; high risk of complications
    b. Currently infected
        - Currently infected; no or minimal symptoms
        - Currently infected; moderate-severe illness
    c. Convalescence
        - Recovered from infection; possibly immune
        - Ongoing debilitating symptoms after acute infection
    d. Immunized (when vaccine is available)
        - Booster vaccination if indicated
5. When rate of infection is slower, contact tracing for new cases

Natural History of SARS-CoV-2 and COVID-19

Knowledge of SARS-CoV-2 and COVID-19's natural history is critical to formulating primary care strategies.

Epidemiology

SARS-CoV-2, a novel coronavirus, was identified as a cause of an outbreak of respiratory illness in Wuhan, China in late 2019 (Wu, 2020). In early 2020, this illness was named COVID-19 (coronavirus disease 2019) by the World Health Organization (WHO).

COVID-19 severity can range from mild to critical. Data from China has found the following disease outcomes (Wu, 2020):

a. Mild to Moderate (mild symptoms up to mild pneumonia): 81%
b. Severe (dyspnea, hypoxia, or >50% lung involvement on imaging): 14%
c. Critical (respiratory failure, shock, or multiorgan system dysfunction): 5%

In addition to these symptomatic cases, evidence is emerging that 25-50% of people infected with SARS-CoV-2 remain asymptomatic. The degree of viral spread from asymptomatic hosts is being actively studied; examinations suggest it is a contributor to community spread (Rothe, 2020; Day, 2020).

Incubation

a. Incubation period of the virus is approximately 5 days (CI, 4.5-5.8 days) (Laurer, 2020)
b. 97.5% of those who develop symptoms will do so within 11.5 days (CI, 8.2-15.6 days) of infection
c. This suggests that **14 days of quarantine (self-isolation) is adequate** for isolation of exposed individuals to reduce asymptomatic spread

Transmission

a. Human-to-human transmission via large droplet spread, (del Rio, 2020) similar to the spread of influenza; however, the R_0 for SARS-CoV-2 appears be larger (Sheikh, 2020)
b. Aerosolization has been confirmed by the World Health Organization (Mandavilli, 2020; WHO, 2020)
c. Fomite transmission appears to have only a minor role (Van Doremalen, 2020)
d. SARS-CoV-2 as been detected for up to 37 days in anal and rectal swabs, stool specimens and blood of infected patients, even after respiratory clearance of virus, though the infectivity of this viral shedding is not known (Guan, 2020; Li, 2020; Lauer, 2020; Zhang, 2020; Fenske 2020)

Complications

a. Are thought to be mediated in part by cytokine release syndrome (Vaninov, 2020)
b. Include acute respiratory distress syndrome (ARDS), septic shock, cardiac injury, and acute kidney injury (AKI) UMMHC Evaluation and Management of COVID-19 CPG
c. Evidence is accumulating for ongoing symptoms after acute infection, some of them debilitating (Carfi, 2020)

Risk Factors for Severe Disease and Outcomes
Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

a. Among U.S. COVID-19 cases with known disposition, 19% were hospitalized and 6% were admitted to the intensive care unit (ICU) (CDC, 2020a)
b. Risk factors associated with increased mortality include advanced age, tobacco use, cardiovascular disease, cerebrovascular disease, hypertension, diabetes, and chronic pulmonary disease
c. Socioeconomic factors, especially the inability to maintain physical distancing, possibly due to residential (congregate settings such as nursing homes and jails), employment, or transportation requirements
d. African-American and Latino ethnicity (Mays, 2020)

Four Parallel Efforts for Primary Care

1. **Care for patients at home with COVID-19 and their close contacts**
   Because COVID-19 treatment is currently supportive for outpatients, there is little role for affected patients to be seen in a primary care setting. These visits would jeopardize the health of patients and health care workers.

   Updated UMassMemorial ambulatory testing guidelines: COVID-19 Testing for Ambulatory Patients

   Current diagnostic testing via PCR for patients with a clinical picture consistent with COVID-19 does not affect management as it cannot rule out disease (though testing may be necessary in congregate settings to assist with cohorting). Such patients are considered to have COVID-19 on a clinical basis. Instead of testing, primary care practices need to maintain registries of their patients who have COVID-19 to allow:

   a. Establishing a patient's tier of COVID-19 severity
   b. Telemedicine visits on a standard schedule (see description below)
   c. Establishing advance care planning and the patient's goals of care [UMass Palliative Care Toolbox]
   d. Behavioral health support to identified patient and family, (family meetings, anxiety management, values clarification, grief counseling)
   e. Understanding the patient's in-home supports (or lack of them)
   f. Providing and maintaining supplemental oxygen as needed
   g. Taking comorbidities into account
   h. Advising close contacts as to their need for protection and self-isolation
   i. Collaborating with colleagues in visiting nurse and hospice programs

2. **Care for patients who have returned home after inpatient care for COVID-19**
   This care is the mirror-image of that for patients at home who may be worsening. Once patients have returned home, they must be followed to be sure of their continued improvement. In both cases the objective is to closely monitor their clinical course and provide supportive care. As with care in (1), registries are essential.

3. **Proactive outreach to already-vulnerable patients who do not yet have COVID-19**
   Were they to become seriously ill and approach death, most Americans prefer to die at home (NAM, 2014). Medically vulnerable patients who develop COVID-19 have a higher risk of morbidity and mortality. It better serves these patients to understand their goals of care before they are in distress (Lynn, 2020) (see Palliative Care section below).

   A fundamental decision to discuss is whether a patient would want to be hospitalized if they developed COVID-19. If their choice is to remain home, primary care must focus on coordinating outpatient palliative care should it be needed. If a patient chooses potential hospitalization, other advanced care planning is needed (e.g., code status). Massachusetts allows MOLST conversations and determinations to take place remotely.

4. **Ongoing care for patients' non-COVID-19 chronic conditions and exacerbations** Effective triage and care are discussed below.

Proactive Primary Care: Registries

The UMassMemorial Office of Clinical Integration (OCI) has created registries of patients who are especially vulnerable to COVID-19 morbidity. These registries may be used by primary care clinicians to proactively contact such patients and discuss advanced care planning should they develop COVID-19 as discussed below and in the UMass COVID-19 Palliative Care CPG.

1. **COVID Impact Risk**: Patients at elevated risk for severe complications from COVID-19 based on medical history
2. **High Cost -- High Risk**: ACO patients identified in these risk categories
3. **Seriously Ill Patients**: Patients identified as seriously ill based on recent history of hospitalization and/or ED visits

In addition to this proactive care for patients who do not currently have COVID-19, the following registry identifies recently-discharged patients:

4. **TCM (Transitional Care Management)**: Patients (including those with COVID-19) recently discharged from hospitalization (acute medical-surgical, rehabilitation, psychiatric) or skilled nursing facility

Outpatient Triage

Triage strategies should be streamlined to separate COVID-19-related concerns from other types, allowing for timely management of symptoms by the best suited teams.

Numerous strategies for triage have been described in recent literature. A BMJ article provides recommendations on triaging potential COVID-19 symptoms by phone or video. The description includes a rapid assessment that proceeds to EMS for severe symptoms, or to a telehealth general history and physical for non-emergency symptoms (Greenhalgh, 2020). It has an especially helpful workflow illustration for use in primary care.

One strategy from China recommends separating fever-related complaints from others, with referral of fever and respiratory complaints to a dedicated team (Xiao, 2020). An Italian oncology group proposes a "double-triage" system for chronically ill patients. Symptomatic patients are immediately referred to PCP, while asymptomatic patients complete a second triage related to chronic disease symptoms. Based on the results of chronic disease symptom scores, patients are stratified into three categories: Red (severe symptoms and lowest life expectancy), Yellow (moderate symptoms and middle life expectancy) and Green (mildest symptoms and longest life expectancy). Visits are then assigned priority based on these levels (Porzio, 2020).

Key Points and Recommendations

1. Telemedicine (audio, or audio-video) should be employed to triage patients
2. At UMassMemorial, the COVID-19 Nurse Triage Center is in place for initial evaluation of all patients with fever and/or primary respiratory concerns (please contact Michelle.Drew@umassmemorial.org or Jonna.Dube@umassmemorial.org for further information)
3. Patients without fever or respiratory concerns, or unlikely COVID-19 symptoms, should be connected to the responsible primary care team for triage
4. Clinicians doing clinical assessments of non-COVID-19 related symptoms should take chronic disease burden into account when scheduling follow-up visits (see below for further detail on non-COVID-19 care)

Telemedicine Visits: General Approaches

Telemedicine allows patients to connect remotely with healthcare providers in real time by phone, screen device, or computer (Mehrotra, 2020). Telemedicine requires equipment (phone, computer), a communication network (cell service, broadband internet, WiFi), knowledge to operate the device, and buy-in (interest and willingness to use). Hesitancy to learn a new system can be a barrier to telehealth both for patients and clinicians (Hollander, 2020). An example of a low-barrier audiovisual system is available from Doximity. Visiting Nurse Agencies (VNA) can also be very helpful in introducing patients to telemedicine logistics.

There are costs and benefits to adding video to telephone contact. Video often requires app-based platforms that patients must access and install. However, video combined with audio can help patient comprehension via the McGurk effect (Randazzo, 2020).

Reimbursement structures are essential for making this work sustainable. Billing modifications now allow charging for routine and urgent telehealth visits. The Massachusetts Medical Society is maintaining an up-to-date collection of telehealth resources (MMS, 2020).

The US Department of Health and Human Services has modified HIPAA enforcement such that:

> A covered health care provider that wants to use audio or video communication technology to provide telehealth to patients during the COVID-19 nationwide public health emergency can use any non-public facing remote communication product that is available to communicate with patients (USHHS, 2020)

Effective, patient-centered approaches to telehealth have been studied. Recommendations for good telephone or "webside manner" include (MGH, 2020; RCGP, 2020a; RCGP 2020b):

1. Maintaining a quiet environment
2. If at home, choose a neutral setting and background so that the patient is not distracted by glimpses of domestic circumstances
3. Dress professionally
4. Avoid disruptions and ambient noise
5. Place camera at eye level or just above; be aware of the camera's location for your gaze
6. It is okay to name the awkward moment (that telehealth may be more awkward than in person)
7. Beware of overtalking
8. Substitute verbal or nonverbal cues for compassionate touch (i.e., "Take your time, I am here")

9. Closing the visit

    a. Summarize
    b. Verify patient understands correctly
    c. Provide time for questions
    d. Outline next steps/follow up plan
    e. Allow patient to be first to exit visit if possible

Key Points and Recommendations

a. Telemedicine is a vital tool for primary care during the pandemic
b. Take steps to ensure privacy and comfort with patients as they adapt to video; more best practices are here
c. Reach out to colleagues for support in using unfamiliar technology
d. HHS is allowing "any non-public facing remote communication product" to be used
e. Be aware of appropriate billing for telehealth visits; UMassMemorial guidance is here and here.
f. Ambulatory Provider Quick Start Guide for Telehealth Visit here.
g. Ambulatory Provider Checklist for Initiating Telehealth Visit here.
h. Patient instructions from UMMHC for using the AW Touchpoint app here.
i. How to find your telehealth device ID in Storyboard here.
j. Extensive Telehealth resources can be found on The Hub here.

In-Person Visits (non-COVID-19)

Practice-based visits should be made judiciously. In-person, in-practice visits should be scheduled only when it is not reasonably possible to perform a safe, effective telehealth visit. This supports physical distancing and reduces the risk of disease transmission. However, patient requests for in-person visits should be honored, where safe and appropriate.

There are also a number of situations where in-person care is required. At these times, a health center or home location should be considered (see section below on Home Visits). By seeing patients in-person for these indications, primary care helps to offload patient volume in the Emergency Department.

Clinic schedules should be reviewed in advance weekly to allow recategorization of visits to telehealth or in-person as needed. Patient circumstances and clinician workforce availability may change rapidly due to illness or re-deployment to other responsibilities.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Suggested Essential In-Person Visits

1. Patient request, after clarification with clinician as to patients' rationale
2. Traumatic pain from minor trauma or injury requiring XR to evaluate for fracture
3. Pain that needs an in-person physical exam for further management or pain that does not resolve with conservative management
4. Patients with urgent behavioral health concerns who can be diverted from higher levels of care with an in-person encounter
5. Patients with opioid use disorder (OUD) who are unstable and at risk of overdose
6. Patients with urgent, significant, non-respiratory symptoms that require in-person evaluation
7. Essential health maintenance care, such as well child care and immunizations for infants.
8. Prenatal visits
9. Non-COVID-19 related care that would prevent the need for an ED visit or hospital-based care

Suggested Essential Procedures

1. Laboratory testing
    a. INR if not possible with VNA
        i. A helpful alternative is an Alere home system for patient use
    b. Active electrolyte disturbances
    c. Recent acute kidney injury
    d. Initial prenatal labs
2. Injections
    a. Depo-Provera
    b. Naltrexone-ER (Vivitrol)
    c. Buprenorphine (Sublocade)
    d. Injectable antipsychotic
3. Procedures
    a. Lacerations requiring approximation (suture or dermabond) or suture removal (evaluate by video or image first if possible)
    b. Infected ingrown toenail for toenail avulsion
    c. IUD and etonogestrel (Nexplanon) placement
    d. Skin biopsy for high-risk lesions (i.e., vasculitis, infection, melanoma))
    e. Incision and drainage for abscess; if indicated, new wicks may be placed at home

f. Endometrial biopsy (EMB) if high suspicion for malignancy
g. Colposcopy for suspected high-grade lesions (CIN 2-3). (Should be performed within 3 months per ASCCP recommendations. Details available here.
h. Diagnostic and/or therapeutic joint aspiration (e.g., gout, concern for septic joint)

Clinic Preparation for In-Person Visits

1. All clinic staff wear surgical masks throughout the work day
2. Call a "time-out" with the clinical team to discuss plan for a specific patient
3. Minimize the number of healthcare workers interacting with the patient
4. Trained ambulatory staff screen all patients and those accompanying the patient for possible COVID-19 symptoms; if present, adjust plan accordingly
5. Patients and those accompanying them wear surgical masks
6. Health center staff also wear surgical masks and escort patients and others to the exam room.
7. Keep the exam room door closed
8. Collect all specimens and perform clinical interventions in the exam room if possible.
9. All used exam rooms should be thoroughly cleaned and disinfected

If patients arrive unannounced to clinic with fever, cough, shortness of breath or contact with someone having confirmed COVID-19 (Fenske, 2020; Waldman, 2020):

1. Place surgical mask on patient
2. Health center staff will escort to specific designated exam room as quickly as possible
3. Clinician will see the patient with both droplet and airborne precautions PPE, including N-95 mask, gown, gloves and eye protection.
4. Exam room should be left empty for as long as possible after the patient has left
5. Room to undergo careful cleaning of surfaces by personnel wearing PPE

Key Points and Recommendations:

1. Use of in-person visits should be determined on a case-by-case basis
2. Patients and clinicians should wear surgical masks at all times during in-person visits

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

3. COVID-19 precautions include surgical masks for patients and providers, keeping waiting rooms well-spaced with low-occupancy, keeping exam room doors closed, and careful cleaning of surfaces
4. Elective procedures should be rescheduled
5. In the event of an urgent visit that poses a risk to the patient if delayed, patients are screened for fever or respiratory symptoms prior to arrival at the clinic

Suspected COVID-19 Evaluation and Management

[For asymptomatic patients, please see Patient Education section below]

Updated UMMHC Ambulatory testing algorithm here.
Updated UMMHC Follow Up for COVID Positive Patient in Ambulatory Setting here.

No set of symptoms clearly distinguishes COVID-19 from other illnesses. Patients with increased severity, however, generally present with dyspnea and other respiratory problems. The undifferentiated constellation of symptoms in the community make it challenging to establish pre-test probability for a given patient. Testing characteristics have generally been studied with inpatient populations and are less well understood in the outpatient setting.

Patients may have not had, and may not need, a nasopharyngeal PCR COVID-19 test. **Many diagnoses of COVID-19 will be clinical.** The primary clinical purpose of PCR testing for COVID-19 is to rule in disease. A negative PCR result may not definitively exclude COVID-19 (Yang, 2020; Wang, 2020; Omer, 2020; Hong 2020; Cheng 2020, Carver 2020). A recent study from Spain found that 42% of symptomatic patients with negative PCR testing were subsequently found to have positive antibody testing (de la Iglesia, 2020).

Sensitivity may be lowered by the quality of specimen collection. Viral dynamics also play a part in that the highest viral shedding in nasopharynx seems to be in the first week of illness, so there is a greater chance of a positive test at that time. But if a patient is tested too early (i.e., on the first day of symptoms), PCR could be falsely negative (Beeching, 2020). Sensitivity may be lower both early and late in the clinical course. Pooled analysis of SARS-CoV-2 RT-PCR testing in symptomatic patients found the peak sensitivity to be 80% eight days after infection and only three days after initial symptoms; the least sick may have the highest chance of testing positive. The false negative rate the first two days after infection was 100%. This comprehensive review included only 54 outpatients, 4% of the 1330 total (Kucirka, 2020).

Patient Evaluation

Before beginning the visit, should it occur by telehealth, check that the patient is amenable to have family or friends accompany them to provide additional details.

No single set of symptoms can reliably distinguish COVID-19 from other infections. Most common symptoms for outpatients listed below. There is an expected range of prevalence depending on the cohort studied (Greenhalgh, 2020; Korownyk, 2020). Fever, if it develops, may be delayed.

1. Fever 37.5-38°C (22%)
2. Fever ≥38°C (22%)
3. Cough (60%)
4. Shortness of breath (19%)
5. Fatigue (38%)
6. Muscle aches (15%)

The history of the present illness should be sure to include:

1. Date of initial symptoms,
2. Impact of symptoms on function
3. Impact of symptoms on existing comorbidities
4. Sick contact exposure including any family members
5. Relevant occupational or other factors

A patient's risk of decompensation should be established, including:

1. Current pregnancy
2. Substance use including smoking
3. Respiratory disorders such as asthma and COPD
4. Other comorbid conditions including (Garg, 2020)
    a. Chronic kidney or liver disease
    b. Use of steroids or other immunosuppressants
    c. Cardiovascular disease
    d. Active malignancy
    e. Immunocompromised state or immunodeficiency

A telehealth physical exam can include:

1. Respiratory Rate
2. Temperature, if thermometer present at home

3. Blood pressure, if cuff present at home
4. Oxygen saturation, if pulse oximetry is at home

If video is possible, a telehealth physical exam includes evaluation of potential:

1. Toxic appearance
2. Respiratory distress
3. Perioral cyanosis

Telephone and visual assessments are largely clinical judgments. There are no validated telehealth assessments of acute dyspnea (Greenhalgh, 2020).

Additional evaluation by Chest XR or Chest CT are not recommended for outpatient management (Michigan 2020). If clinical suspicion warrants imaging, patients should be evaluated in an ER setting.

Assessment and Risk Stratification

After the clinical assessment, the patient's current severity and risk of decompensation should be discussed. Outpatient management of COVID-19 includes an initial assessment of patient risks including age, significant comorbidities, and social factors.

Patient tiering can use the following criteria (ACP-Emory):

1. Tier 1 (lowest risk for hospitalization)
2. Tier 2 (intermediate risk for hospitalization)
3. Tier 3: (highest risk for hospitalization)

The purpose of tiering is to assign patient to a level of follow-up care (scheduled call frequency and duration of follow-up during their illness and isolation) for example:

1. Tier 1 (lowest risk): RN call every 2 days
2. Tier 2 (intermediate risk): RN call daily
3. Tier 3: (highest risk) APP call twice daily

A risk tier can change with the patient's clinical course. Please see here for more detail regarding the ACP-Emory approach to the patient with COVID-19 at home.

Emory Initial Provider Risk Assessment Table

COVID19+ Virtual Follow-up Clinic -- Initial Provider Risk Assessment											
	Tier 1 (Low risk)	Tier 2 (Intermediate risk)				Tier 3 (High risk)					
Patient Characteristics	<60 & Healthy	60-69 & Healthy or mild comorbidity				>=70					
		<60 with	DM	Asthma	CKD	<70 with	CVD	ESRD	Immunocompromised		
			HTN	Smoker	Pregnant	COPD	Frail	Cirrhosis	Multimorbid	Cancer	
Symptoms	Non-specific, URI, and/or cough	Non-specific, URI, and/or cough				Severe cough, DOE, wheezing, chest tightness					
Course	Stable (if within first 6 days) or improving	Stable (if within first 6 days) or improving				Otherwise lower tier patient with new/worsening lower respiratory symptoms					
		Otherwise Tier 1 patient without improvement after 6 days				Otherwise tier 2 patient without improvement after 6 days					
						Non-respiratory COVID-19 complication or decompensated chronic condition amenable to outpt mgt					
Data (if available)	Normal BP, RR, pulse ox	Significant leuko/lymphopenia				Mild hypoxia (>92%)					
	Normal pulse or mild tachycardia if febrile	Elevated CRP									
	Normal CXR	Normal CXR				Mild infiltrates on CXR or CT Chest					
	No worrisome labs										
Support System	Able to self-isolate	Able to self-isolate				Able to self-isolate					
	Adequate support	Adequate support				Adequate support					
		Otherwise Tier 1 but uncertain support				Otherwise lower tier, but unstable support system					

The following criteria can also be used to determine the suitability of home -based care (CDC, 2020b):

1. The patient is stable enough to receive care at home.
2. Appropriate caregivers are available at home.
3. There is a separate bedroom where the patient can recover without sharing immediate space with others.
4. Resources for access to food and other necessities are available.
5. The patient and other household members have access to appropriate, recommended personal protective equipment (at a minimum, gloves and facemask) and are capable of adhering to precautions recommended as part of home care or isolation (e.g., respiratory hygiene and cough etiquette, hand hygiene);
6. There are household members who may be at increased risk of complications from COVID-19 infection (e.g., people >65 years old, young children, pregnant women, people who are immunocompromised or who have chronic heart, lung, or kidney conditions).

Shared Decision-Making

Given the risk of decompensation with COVID-19, all patients -- and their families or friends as they wish -- should be engaged in a discussion as to their wishes should they decompensate:

1. Would they prefer to go to the hospital if they worsen or stay at home?
2. Should they choose to go to the hospital, what are their DNR/DNI wishes?

A toolkit for this discussion is located in the Palliative Care Section below.

Plan

1. Most patients with COVID-19—generally 80% or more—can and should remain home and managed remotely via telehealth, in-person care from family and/or friends symptomatic (e.g., supplemental oxygen) management, and self-isolation until this can be discontinued (CDC, 2020a). Main goals of outpatient management include the application of strict infection prevention measures and clinical monitoring for signs of worsening.
2. The most common symptoms of COVID-19 are dyspnea, dry cough, fatigue, and fever, however alternative presentations certainly occur; there is no clinical presentation specific to COVID-19
3. Patients with mild symptoms are encouraged to remain home with supportive care. Teach patients self-management skills including encouraging fluids, pain and fever management (NICE, 2020a). Educate patients on when to call for concerns. Additional information on supportive care at home is discussed in the Treatment section below.
4. For patients with significant comorbidity, severe symptoms, or signs of impending respiratory distress, please refer to the Decompensation sections below.
5. Make use of the natural history of COVID-19 to help patients monitor at home. Because of the risk of "progression to lower respiratory tract disease in the second week of illness; all patients should be monitored closely" (CDC, 2020a).
6. Avoid overdiagnosis and treatment with antibiotics and antivirals in the absence of confirmation of bacterial infections and influenza. At present there is no guidance in the medical literature to address this question. Make an individualized decision based on each patient's duration of symptoms, symptom severity, risk factors, and potential for side effects.
7. Once symptoms improve and patient completes quarantine period along with the family members assessing the patient again for employment status including providing letters to go back to the job along with the precautions.
8. Coordinate with specialists who are involved with comorbidities if helpful for the patient.

9. Add patient to the practice's COVID-19 Registry
10. Recognize the potential for ongoing debilitation from an acute COVID-19 illness that can include multiple organ systems

Key Points and Recommendations

1. Most cases of COVID-19 should be managed at home, observed by family or friends, and provided supportive care and close follow-up
2. If patients do not have in-person social supports, their place of convalescence and clinical follow-up will need to be discussed
3. PCR confirmation is not necessary for all patients; clinical diagnosis can be made with telehealth
4. Imaging is not recommended for outpatient evaluation
5. Patients should generally continue home medications, including ACE-i and ARBs
6. At this time, steroids, antibiotics, antivirals, and other prescribed medications are not indicated for outpatient treatment of COVID-19 (in the absence of other diagnoses)
7. Clinicians should assign a Tier (1, 2 or 3) to ill patients at home, based on comorbidities and symptoms, to determine how frequently to continue nursing and other follow-up
8. Patients should be added to a practice's COVID-19 registry to assure scheduled follow-up

Treatment

No specific treatment for COVID-19 is currently available for outpatient care. Treatment is with supportive care. Monitor symptoms closely.

Home care for patients will depend profoundly on their in-person support (CDC, 2020b), including:

1. Family
2. Friends
3. Neighbors
4. Pastoral
5. Existing Personal Care Attendant(s)
6. VNA
7. Hospice

At-home care of patients includes antipyretics, improving dyspnea, and pain management. Fever secondary to COVID-19 has been found to be high grade, which may lead to use of antipyretics beyond the recommended maximum daily doses. It has not been established conclusively that the benefits of antipyretic therapy outweigh its risks. It is important to discuss the maximum recommended daily dose of the antipyretic; for example, the maximum daily dose of acetaminophen is 4 grams per day in the absence of liver disease. Instruct patients and/or their caregivers to keep a written log of home dosing and review that log with nursing checks. Patients can't reasonably be relied on to remember these doses safely.

Patients and their caregivers can be guided on management of common COVID-19-related symptoms at home. Detailed NHS guidance below includes details and dosing (NICE, 2020a):

1. Fever
2. Cough
3. Dyspnea
    a. Consider an early trial of supplemental oxygen
    b. Advise on breathing techniques
    c. Dyspnea and anxiety often provoke each other
    d. Consider opioids +/- benzodiazepines
4. Anxiety

Non-Recommended Medications

The following medications should not be used as treatment for COVID-19 in the outpatient setting (IDSA 2020):

1. Corticosteroids
2. Lopinavir/Ritonavir
3. Chloroquine or Hydroxychloroquine
4. Azithromycin

ACEi or ARB:

No data demonstrating beneficial or adverse outcomes: A theoretical concern was raised that ACEi or ARB could increase risk of COVID-19 infection or disease severity given viral attachment to the pulmonary ACE receptor. Patients already on ACEi should be advised to continue (Bozkurt, 2020).

NSAIDs:

No data to support the claim that NSAIDs are contraindicated in COVID-19 treatment. A theoretical concern that NSAIDs could increase risk of COVID-19 infection, or predispose to more serious infection, has been raised. Acetaminophen should be used first-line for control of fever or pain in patients with COVID-19 due to a favorable side effect profile. However, NSAIDs may also be used if needed, with their usual cautions as to kidney function. UMass COVID-19 guidance states: "NSAID therapy should be treated no differently than any other condition (e.g use with caution with respect to acute kidney injury)."

Self-isolation for patients with likely or confirmed COVID-19

1. Patients with **diagnosed or suspected COVID-19** should isolate themselves within their home and minimize contact to family members, with living spaces separated as much as possible. Presence or absence of COVID-19 test should not affect isolation recommendations when COVID-19 is suspected.
2. If infected individuals do have to be around others for any reason, they should wear a facemask. A separate bathroom should be used, if available. Sharing of personal items (dishes, towels, bedding, etc) should be avoided.
3. Isolation can be discontinued when it is **both** 10 days from symptom onset **and** 72 hours from resolution of fevers and improvement in respiratory symptoms. Alternately, isolation can be discontinued when there are two negative viral tests >24 hours apart (see CDC guidance).
4. Once symptoms improve and patient completes quarantine period, assessing them as needed for employment eligibility including providing letters to go back to the job along with the precautions
5. Updated advice from the CDC on ending home isolation can be found here:
    a. Disposition of Non-Hospitalized Patients with COVID-19
    b. Ending Isolation for Immunocompromised Persons
    c. Return-to-Work Criteria for Healthcare Workers
6. Massachusetts DPH return to work guidance for non-essential workers with an exposure or confirmed COVID-19 can be found here (April 14, 2020)

Key Points and Recommendations

1. The most common symptoms of COVID-19 are dyspnea, dry cough, fatigue, and fever, however alternative presentations certainly occur; there is no clinical presentation specific to COVID-19
2. Most cases of COVID-19 should be managed at home, observed by family or friends, and provided supportive care (e.g., supplemental oxygen) and close follow-up
3. If patients do not have in-person social supports, their place of convalescence and clinical follow-up will need to be discussed

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

4. PCR confirmation is not necessary for all patients; clinical diagnosis can be made with telehealth
5. Imaging is not recommended for outpatient evaluation
6. Patients should generally continue home medications, including ACE-i and ARBs
7. At this time, steroids, antibiotics, antivirals, and other prescribed medications are not indicated for outpatient treatment of COVID-19 (in the absence of other diagnoses)
8. Clinicians should assign a Tier (1, 2 or 3) to ill patients at home, based on comorbidities and symptoms, to determine how frequently to continue outpatient follow-up
9. Patients should be added to a practice's COVID-19 registry to assure scheduled follow-up

Decompensation in Patients Choosing Hospital-Level Care

Advise patients to call 911 for severe symptoms, including:

1. Concerning shortness of breath
2. Cyanosis of lips or face
3. Chest pain or pressure in the chest
4. New-onset confusion
5. Oliguria or anuria
6. Hemoptysis

Decompensation in Patients choosing Home-Based and Palliative Care

Please see the Palliative Care section for details.

Post-Hospital and Post-Acute Care Facility (Transition of Care)

Primary care clinicians with access to EMR should check daily for updates on their own admitted patients. If a patient is admitted, contact the inpatient team by EMR Chat in order to collaborate and follow the patient's course. It would be important to communicate with their families.

If a patient meets discharge criteria to a skilled nursing facility (SNF) (Criteria for Transition to SNF) or home, the inpatient team and primary care clinician should confer prior to discharge. Patients will still need a skilled need to qualify for admission. Patients may elect to not be discharged to a SNF and this will need to be addressed by both teams.

Limited data is available on post-acute care for Covid-19 patients, including the percentage in need of post-hospital skilled nursing or rehabilitation care. In the US, Medicare has relaxed the 3-day rule previously required for the SNF benefit, allowing transfer of hospitalized patients to skilled nursing settings upon their recovery from the most acute phase of illness (Grabowski, 2020).

While patients at higher risk for post-discharge complications are generally older with the comorbidities listed above, all patients with COVID-19 require close follow up upon return to home. Prior to discharge, ensure a telehealth appointment is scheduled for the next day. Also ensure that services such as supplemental oxygen are successfully in place and that the patient has family or friends to assist and monitor. **Be aware that respiratory status may worsen up to 7-10 days from the start of illness** (CDC, 2020a)**.**

Once the patient returns home, categorize them as Tier 3 (2 calls daily) in order to initially monitor symptoms more closely (Emory Criteria above).

Special Populations

Peripartum Care

Please refer to UMMHC OB-GYN Care CPG.

Pediatrics

Please refer to (guidance under construction).

Patients Living in a Facility (nursing home, assisted living)

If you have patients who are cared for in such facilities, please contact the Medical Director there for details on institution-specific policies and best ways for you to follow your patients.

Home Visits

Home Visits for COVID-19 Positive Patients

There are risks and benefits to weigh for home-based care for a person who has COVID-19. A Taiwanese-based group recently pre-published recommendations that health care professionals should *avoid home visits* in

cases where family members or other in-home caregivers are able to provide in-home care. In-home caregivers should wear masks. When healthcare professionals perform home visits, they should monitor their temperature daily and self-monitor symptoms before and after visits (Tseng, 2020).

Home Visits for COVID-19 Negative Patients

In an Italian-based group, clinicians proposed administration of two measurements in their oncology population: PERSON (a chronic disease severity score) and PaP score (palliative life expectancy score). Based on the results of these two scores, patients are stratified into three categories: Red (severe symptoms and lowest life expectancy), Yellow (moderate symptoms and middle life expectancy) and Green (mildest symptoms and longest life expectancy). After ruling out COVID-19 symptoms, home visits are assigned priority based on these levels (Porzio et al 2020).

Key Points and Recommendations

1. Patients at home (and members of their household) without COVID-19 can be visited using health center guidance for in-person visit PPE and infection control.
2. Patients with COVID-19 should be managed by in-home caregivers (inclusive of VNA and hospice, if present) for as long as it remains safe to do so, to avoid contact with healthcare professionals
3. A possible approach is for the primary care clinician to go to the patient's home and converse through a window or via an electronic device to allow in-person connection in this serious situation
4. If care in the home becomes necessary for a patient with COVID symptoms or confirmed case, visiting clinicians should wear full PPE, that includes eye protection, N-95 mask, gown and gloves for home visits. Patients should wear a surgical mask for the duration of the visit.
5. If care in the home becomes necessary for a patient with no respiratory symptoms, visiting clinicians and patients should wear surgical masks for the duration of the visit
6. Given this exposure to COVID-19, visiting clinicians should self-monitor symptoms and temperatures daily as per CDC guidelines (CDC Self Checker)
7. Chronically ill and home-bound patients should be stratified into priority groups based on severity of symptoms, life expectancy, and disease burden, to inform urgency of scheduling telehealth visits

Care for Select Chronic Conditions

Chronic Respiratory Conditions

Patients with underlying lung disorder (asthma, COPD, emphysema, lung cancers, etc) are at high risk for severe complications from COVID-19 infection. These patients should be monitored remotely for any change in symptoms necessitating increased evaluation. Patients should confer with clinicians before using nebulized treatment given potential risk of viral dispersal.

Non-Respiratory Chronic Conditions

A wide variety of cardiovascular and solid organ disease increases risk of complication from COVID-19 illness. Patients with CKD are at increased risk of more severe morbidity and mortality from COVID19. Close monitoring of patient symptoms is recommended. Early detection of symptoms is recommended (Henry and Lippi, 2020) Cardiovascular disease, diabetes mellitus and hypertension have been associated with high risk for severe complications from COVID-19 (Fang et al 2020; Wang et al 2020). However, patients should confer with clinicians before using nebulized treatment given potential risk of viral dispersement. Home heart rate and blood pressure monitoring, as well as blood sugar monitoring, should be used whenever feasible and possible.

Chronic Pain

Chronic pain is affected by numerous social determinants of health, which are exacerbated by a global pandemic, ie. social isolation, income inequality, psychosocial factors (anxiety), access to care. They are at higher risk for developing significant morbidity and mortality related to COVID-19. Numerous studies have shown the benefit of virtual visits (telehealth and video health) as a substitute for in-person care. Recommendations include: careful scheduling as possible to offer best privacy at home, maximize use of supplemental materials (books, online resources, apps) to aid in symptom monitoring and engagement, positive behavior reinforcement, goal setting between visits, and increased sensitivity to psychological needs (Eccleston, 2020).

Controlled substance prescribing is discussed in section “Behavioral Health Including Substance Use Disorders”.

Key Points and Recommendations

1. Patients with underlying chronic illness are at higher risk for complications from COVID-19
2. Patients with chronic illness should be strongly encouraged to self-isolate and reach out to primary care for any new symptoms

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

3. Home vital signs, blood pressure, blood sugar, and oxygen saturation (as available; consider advising purchase by patient as possible) monitoring can be helpful in managing chronic illness remotely
4. Nebulizers should not be used at home unless the patient has conferred with their clinician
5. Chronic pain that includes opioid treatment can be managed remotely (prescribing of controlled substances is discussed below)

Behavioral Health Including Substance Use Disorders

Behavioral health and substance use will change dramatically, and unpredictably, in the setting of widespread stress, unemployment, and illness. In general, outpatient care for behavioral health and substance use should be utilized as much as possible. Inpatient mental health treatment should be strictly reserved for life - threatening emergencies (i.e., patients who are actively suicidal). Telemedicine is strongly recommended in frequent monitoring of patients with behavioral and substance use histories (SAMHSA, 2020).

During this medical emergency, SAMHSA has determined that for CFR-42, "patient identifying information may be disclosed by a Part 2 program or other lawful holder to medical personnel, without patient consent, to the extent necessary to meet a bona fide medical emergency in which the patient's prior informed consent cannot be obtained." (SAMHSA, 2020b). Primary care clinicians and the patient's mental health and substance use disorder providers can therefore collaborate more readily.

Collaboration with Behavioral Health Colleagues

A warm handoff to a behavioral health clinician providing telehealth services can be especially helpful. Dual visits with patients -- ones that involve the patient together with their primary and behavioral health clinicians -- can be used in practices that may or may not have integrated behavioral health.

Mood Disorders

While patients will have dynamic individual responses to the pandemic, there are a set of general principles for maintaining and improving mental health during a traumatic event. The CDC resource on "Stress and Coping" includes a number of strategies to share with patients (CDC, 2020d):

1. Sharing basic education with patients about the normal stress responses is an essential tool in helping patients cope, both those with pre-existing anxiety conditions as well those with anxiety specific to COVID-19 fears;

2. Explore what new day-to-day changes are creating increased stress (or the possibility of increased stress), such as children being home, not being able to go to work, financial difficulties, and health concerns. Engage patients in problem-solving as possible.
    a. Especially important for patients with chronic conditions and pre-existing challenges (for example, patients with substance use are potentially going to face increased likelihood of return to use and have less social support and other resources that are normally readily available)
3. Maintain regular a sleep and eating schedule to meet basic needs
4. Maintain regular exercise or physical activity; engage in problem-solving with patients to adapt to new or difficult circumstances or restrictions that potentially inhibit exercise ability
5. Maintain healthy coping strategies and monitor engagement in unhealthy or unhelpful coping strategies (such as an increase in alcohol or other substance use)
6. Maintain social connection as much as possible while following social distancing guidelines.
7. Normalizing patients' experiences, feelings, and reactions, and informing them that these may change on a daily basis. Helping patients to accept their emotions and practice self -compassionate self-talk rather than judgment.
    a. This adaptation of Acceptance and Commitment Therapy specific to COVID-19 concerns can be particularly useful for individuals experiencing increased emotional distress during this time.
    b. This resource may help patients learning about and managing anxiety specifically brought on or increased by COVID-19.

Acute Stress Disorder and Trauma History

Acute stress disorder involves acute stress reactions within the first month of a traumatic event. It is typically associated with periods of extreme anxiety and can progress to PTSD if symptoms last for longer than a month. Clinical trials with multiple medication classes, including SSRIs, have not shown significant benefit. CBT is first-line treatment and can be provided through telehealth. Early intervention with education on normal stress reactions and providing information on appropriate coping skills are also essential. Connecting individuals with social supports, and linking them with collaborative services that are needed either in the immediate moment (crisis services, connection with a behavioral health provider) or that may be needed in the future.

Patients with pre-COVID-19 trauma histories, including but not limited to those diagnosed with PTSD, will frequently experience a worsening of those symptoms in the context of the COVID-19 pandemic. These are

likely to include worsened sleep, increased arousal and hypervigilance, and potentially intrusive thoughts and memories associated with trauma. Counseling and peer support are recommended.

Both of the above can be helped with the Psychological First Aid approach.

Sleep

Sleep is integral to emotional and physical health. Maintaining and improving quality sleep during COVID -19 can have a profound impact on a patient's mood. Recent publications address sleep during COVID-19 and extended home isolation, including CBT for insomnia (CBT-I) techniques (Altena, 2020; SRS, 2020). Contact a behavioral health clinician versed in CBT-I for additional patient help or refer patients to an evidence-based CBT-I app.

Key Points and Recommendations:

1. Partner with behavioral health colleagues
2. Specific interventions for anxiety should be tailored to address individuals' needs
3. Cognitive behavioral therapy can be essential at this time and help those with pre-existing symptoms or those with onsetdue to COVID-19
4. Acute stress disorder can progress to PTSD if not addressed; the use of psychological first aid interventions can be especially important during this time.
5. Medications for acute stress disorder have limited utility
6. Provide behavioral techniques for improving sleep
7. Use sleep medications sparingly, and only after non-pharmacologic efforts

Below are additional specific recommendations on supporting individuals suffering from anxiety during the current pandemic:

https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/managing-stress-anxiety.html

Opioid Use Disorder

Telemedicine is an appropriate substitute to in-person care and should be recommended for widespread use. During the pandemic response, allowances can be made to help patients stay at home, avoid clinics and hospitals, avoid contact with other patients, and remain in good contact with their care teams.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Telemedicine should be employed for routine visits with the same frequency and schedule otherwise used in clinics. Requirements for drug monitoring (urine and oral drug screens) are less stringent during th is time. Numerous guidelines are available online at SAMHSA, listed in the Clinical Resources section at the end of this document.

The DEA has waived the requirement that patients require a face-to-face visit in order to initiate treatment with buprenorphine/naloxone.

Acute Alcohol Withdrawal

The UMass Bridging Clinic is currently preparing to offer support to patients who are actively withdrawing and safe for outpatient management. This guideline will be updated when this is finalized. In the interim, please call the UMass ED to be connected with the Bridging Clinic. Additional guidance is provided by SAMHSA (SAMHSA, 2020c).

Inpatient Substance Abuse Treatment and Rehabilitation

Changes to facility protocols for COVID screening, admission, medical treatment for respiratory illness, and discharge are likely to be dynamic. We recommend checking directly with local treatment facilities for COVID-related updates.

Worcester AdCare Hospital
Spectrum Health Systems

Key Points and Recommendations

1. Offer telehealth/video for single visits and group visits as a substitute for in-person visits
2. Buprenorphine induction can take place at home without in-person evaluation
3. Beginning care with buprenorphine can occur by phone (without video)
4. Routine buprenorphine visits for existing patients by telehealth are an acceptable alternative to in-person visits
5. In-person evaluations are not required by DEA to prescribe a controlled substance
6. Generally, prescribe 28 (or 30) day supply for patients (with or without refills).
7. For less stable patients, a shorter prescription has both risks and benefits
8. Any appropriately licensed clinician can provide visits and scripts.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

9. Generally, defer urine or oral fluid toxicology monitoring until after the pandemic emergency period
10. Confer with the UMass Bridging Clinic for help with substance use disorders, including opioid and alcohol use disorders

Palliative Care

See UMass UMMHC COVID-19 Palliative Care CPG.

Clinician Preparation List

1. Become familiar with outpatient oxygen supply providers and their contacts
2. Outpatient providers should reach out to VNA and home-based care organizations to coordinate home-based care
3. Maintain communication with office staff regularly
4. Check EMR daily for patient admissions
5. Office practices should regularly discuss updating guidelines and protocols at least weekly and revise as needed
6. Identify staff members who may be more vulnerable to COVID-19 complications (e.g., immunosuppression) and create plan for their safety

Clinical Resources

American College of Physicians
COVID-19: An ACP Physician's Guide + Resources

CDC Clinical Guidance of Management of COVID patients
Management of Patients with Confirmed 2019-nCoV

MGH Grand Rounds Series for COVID-19
https://www.massgeneral.org/news/coronavirus/grand-rounds

Multnomah COVID-19 Guidance for Small Health Clinics
COVID-19 Guidance for Small Health Clinics

CDC Clinical Guidance of Management of COVID patients
Management of Patients with Confirmed 2019-nCoV

COVID-19 Guidance for Small Health Clinics
https://multco.us/novel-coronavirus-covid-19/covid-19-guidance-small-health-clinics

National Institute for Health and Care Excellence
Symptomatic COVID-19 Management
General advice for managing COVID-19 symptoms | COVID-19 rapid guideline: managing symptoms (including at the end of life) in the community | Guidance

Royal College of General Practitioners
10 Tips for Successful GP Video Consultations

Substance Abuse and Mental Health Agency (SAMHSA)
Coronavirus (COVID-19)
Training and Technical Assistance Related to COVID-19

United States Drug Enforcement Agency
Use of Telemedicine While Providing Medication Assisted Treatment (MAT)

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

United States Department of Justice
US Department of Justice: Buprenorphine and Telehealth during COVID-10

United States Department of Health and Human Services
FAQs on Telehealth and HIPAA during the COVID-19 nationwide public health emergency

Mental Health Resources for Clinicians, Patients and Parents

Below is information and resources available for patients and providers to help manage the stress, anxiety, and isolation of COVID.

1. Who to Contact
    a. Remind patients that clinics and their PCP are available to discuss any change in mental health symptoms.
    b. For concern for suicidal or homicidal ideation, call 911.
    c. University of Massachusetts Psychiatry emergency number: 866-549-2142 (community-based care) or 508-334-3562 (available 24/7).
    d. National Suicide Prevention Hotline: 1-800-273-TALK (8255)
    e. Crisis Text Hotline: Text "HOME" to 741741; http://www.crisistextline.org/textline
    f. Substance Abuse and Mental Health Services Administration (SAMHSA)
        i. Disaster Distress Hotline: 1-800-985-5990
        ii. Website: https://www.samhsa.gov/disaster-preparedness
    g. National Domestic Violence Hotline:
        i. Hotline: 1-800-799-7233 and TTY 1-800-787-3224
        ii. Website: https://www.thehotline.org/

    CDC: Mental Health and Coping During COVID-19

2. Simple steps to help cope with a disaster/pandemic:
    a. Take breaks from watching, reading, or listening to news stories, including social media. Hearing about the pandemic repeatedly can be upsetting
    b. Take care of your body. Take deep breaths, stretch, or meditate. Try to eat healthy, well-balanced meals, exercise regularly, get plenty of sleep, and avoid alcohol and drugs
    c. Make time to unwind. Try to do some other activities you enjoy
    d. Connect with others. Talk with people you trust about your concerns and how you are feeling
    e. Reach out for help when you continue to feel the signs of distress

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Free Apps:

- DownDog: Yoga, Yoga for Beginners, HIIT, Barre, and 7 Minute Workout
- PlanetFitness: Home workouts
- Mindfulness app Aura offers 3 months free
- 19 Minute Yoga – Free live streamed yoga classes on YouTube

For parents:

1. CDC: Helping Children Cope with Emergencies: https://www.cdc.gov/childrenindisasters/helping-children-cope.html
   Includes PDFs of activity sheets to help children learn about coping, as well as multiple links to additional resources from organizations like the Red Cross, AAP, SAMHSA

2. CDC: Coping After a Disaster (pdf) – A Ready Wrigley activity book for children age 3-10

3. Apple Books (app) offering 'stay at home' collection of free read-alongs for kids, cozy mysteries, and audiobooks

General COVID-19 Patient Education

Talking with Patients and Families

Focus on 5 topics: information sources, signs & symptoms, what to do if concerned about symptoms, prevention, and planning ahead.

1. Advise patients on where they can find *reliable information* regarding COVID-19
   a. CDC: www.cdc.gov/COVID19
   b. Their primary care clinic
2. Be sure patients understand the *signs and symptoms* of COVID-19
   a. Respiratory symptoms: Cough, SOB; sore throat; increasing requirements if on O2.
   b. GI symptoms: Diarrhea or loose stools (10% of all cases)
   c. Constitutional symptoms: Fever (>100.4F or 38.3C), malaise, myalgias, headache
   d. Further details at beginning of document above.

3. Advise patients on *what to do if they have symptoms*:
    a. Stay home from work, school, and away from other public places. If they must go out, avoid using any kind of public transportation, ridesharing, or taxis.
    b. Monitor their symptoms carefully. If their symptoms get worse, advise them to call their healthcare provider immediately.
    c. Get rest and stay hydrated.
    d. If they have a medical appointment, have them call their healthcare provider ahead of time and tell them that they have or may have COVID-19.
    e. For medical emergencies, have them call 911 and notify the dispatch personnel that they have or may have COVID-19.
    f. Cover their coughs and sneezes.
    g. Wash their hands often with soap and water for at least 20 seconds or clean their hands with an alcohol-based hand sanitizer that contains at least 60% alcohol.
    h. As much as possible, stay in a specific room and away from other people in their home. Also, they should use a separate bathroom, if available. If they need to be around other people in or outside of the home, advise them to wear a facemask.
    i. Avoid sharing personal items with other people in their household, like dishes, towels, and bedding.
    j. Clean all surfaces that are touched often, like counters, tabletops, and doorknobs. Use household cleaning sprays or wipes according to the label instructions.

4. Remind them the best ways to *prevent getting infected*:
    a. Washing hands with soap and water for 20 seconds.
    b. Avoiding touching their eyes, nose, and mouth.
    c. Clean and disinfect frequently touched objects and surfaces.
    d. Remind patients that they have a responsibility and the ability to reduce the transmission/spread of COVID-19 by adhering to aggressive social distancing as much as possible.

5. Advise them to *plan ahead*, in case they or someone in their household becomes sick:
    a. Consider a 4-week supply of prescription and over the counter medications, food and other essentials. Know how to get food delivered if possible.
    b. Establish ways to communicate with others (e.g., family, friends, co-workers).
    c. Establish plans to telework, what to do about childcare needs, how to adapt to cancellation of events.
    d. Know about emergency operations plans for schools/workplaces of household members.

6. CDC Information for Patients:

   a. FAQs: https://www.cdc.gov/coronavirus/2019-ncov/faq.html#anchor_1584386215012
   b. Symptoms & Testing: https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/index.html
   c. Prevent Getting Sick: https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/index.html
   d. Daily Life and Coping: https://www.cdc.gov/coronavirus/2019-ncov/daily-life-coping/index.html
   e. People Who Need Extra Precautions: https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/index.html
   f. Print Resources: https://www.cdc.gov/coronavirus/2019-ncov/communication/factsheets.html

References

Altena E, Baglioni C, Espie CA, et al. Dealing with sleep problems during home confinement due to the COVID-19 outbreak: practical recommendations from a task force of the European CBT-I Academy. *J Sleep Res*. 2020. doi:10.1111/jsr.13052.

Beeching NJ, Fletcher TE, Beadsworth MBJ. Covid-19: testing times. *BMJ*. 2020;369:m1403. doi:10.1136/bmj.m1403.

Bhimraj A, Morgan R, Shumaker A, Valery V, Baden L, Chi -Chung Cheng, V et al. Infectious Diseases Society of America Guidelines on the Treatment and Management of Patients with COVID-19 Infection [Internet]. Idsociety.org. 2020 [cited 11 April 2020]. Available from: Link to Full Text

Bozkurt B, Kovacs R, Harrington B. HFSA/ACC/AHA Statement Addresses Concerns Re: Using RAAS Antagonists in COVID-19. Published online March 17, 2020. Link to Full Text

Carfì A, Bernabei R, Landi F. Persistent Symptoms in Patients after Acute COVID-19. *JAMA - J Am Med Assoc*. 2020. doi:10.1001/jama.2020.12603.

Carver C, Jones N. Comparative accuracy of oropharyngeal and nasopharyngeal swabs for diagnosis of COVID - 19. *Oxford Univ -- Cent Evidence-Based Med*. Available at: https://www.cebm.net/covid-19/comparative-accuracy-of-oropharyngeal-and-nasopharyngeal-swabs-for-diagnosis-of-covid-19/. Accessed April 16, 2020.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

CDC (2020a). Management of Patients with Confirmed 2019-nCoV. Available at: Management of Patients with Confirmed 2019-nCoV.

CDC (2020b) Interim Guidance: Home Care for 2019-nCoV

CDC (2020c) Interim US Guidance for Risk Assessment and Public Health Management of Healthcare Personnel with Potential Exposure in a Healthcare Setting to Patients with Coronavirus Disease 2019 (COVID-19)

CDC (2020d) Mental Health and Coping During COVID-19

Cheng MP, Papenburg J, Desjardins M, et al. Diagnostic Testing for Severe Acute Respiratory Syndrome - Related Coronavirus-2: A Narrative Review. *Ann Intern Med*. 2020. doi:10.7326/M20-1301.

Day M. Covid-19: identifying and isolating asymptomatic people helped eliminate virus in Italian village. *BMJ*. 2020;368:m1165. doi:10.1136/bmj.m1165.

del Rio C, Malani PN. COVID-19—New Insights on a Rapidly Changing Epidemic. *JAMA*. 2020;323(14):1339. doi:10.1001/jama.2020.3072.

Eccleston C; Blyth F, Dear BF, Fisher E, Keefe F, Lynch M, Palermo T, Reid, M; Williams A. Managing patients with chronic pain during the Covid-19 outbreak. Considerations for the rapid introduction of remotely supported (e-health) pain management services. PAIN: April 02, 2020. Link to Full Text

Fang L, Karakiulakis G, Roth M. Are patients with hypertension and diabetes mellitus at increased risk for COVID-19 infection?. The Lancet Respiratory Medicine. 2020 Apr 1;8(4):e21. Link to Full Text

Fenske J, Greenberg J, Jones E, et al. DFM COVID-19 Guidelines (Ongoing). *Univ Michigan Dep Fam Med*. Available at: https://docs.google.com/document/u/0/d/1u3hMEwgeTeysGccFpwMTjjqYRvRK9pa7fIIp-w23y8Y/mobilebasic. Accessed April 15, 2020.

Glauser W. Proposed protocol to keep COVID-19 out of hospitals. CMAJ March 09, 2020 192 (10) E264-E265. Link to Full Text

Grabowski D, Maddox K. Postacute Care Preparedness for COVID-19. JAMA. Published online March 25, 2020. Link to Full Text

Greenhalgh T. Covid-19: a remote assessment in primary care BMJ 2020;368:m1182. Link to Full Text

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Guan WJ, Ni ZY, Hu Y, Liang WH, Ou CQ, He JX, Liu L, Shan H, Lei CL, Hui DS, Du B. Clinical characteristics of coronavirus disease 2019 in China. New England Journal of Medicine. 2020 Feb 28. Link to Full Text

Henry, B.M., Lippi, G. Chronic kidney disease is associated with severe coronavirus disease 2019 (COVID -19) infection. *Int Urol Nephrol* (2020). Link to Full Text

Hollander JE, Carr BG. Virtually Perfect? Telemedicine for Covid-19. *N Engl J Med*. 2020. doi:10.1056/nejmp2003539.

Hong KH, Lee SW, Kim TS, et al. Guidelines for Laboratory Diagnosis of Coronavirus Disease 2019 (COVID -19) in Korea. *Ann Lab Med*. 2020;40(5):351–360.

Howe J. The only way this ends: herd immunity. *Boston Globe*. Available at: https://www.bostonglobe.com/2020/04/10/opinion/its-possible-flatten-curve-too-long/. Accessed April 15, 2020.

Infectious Diseases Society of America (IDSA) Guidelines on the Treatment and Management of Patients with COVID-19. Available at: https://www.idsociety.org/practice-guideline/covid-19-guideline-treatment-and-management/. Accessed April 16, 2020.

Korownyk C, Kolber MR. Stealth style transmission? Covert data on COVID-19 Clinical Question: What is the evidence for asymptomatic transmission of COVID-19 (including those who will remain asymptomatic and those who are early and not symptomatic yet)? 2020. doi:10.3201/eid2606.200357.

Lauer SA, Grantz KH, Bi Q, Jones FK, Zheng Q, Meredith HR, Azman AS, Reich NG, Lessler J. The incubation period of coronavirus disease 2019 (COVID-19) from publicly reported confirmed cases: estimation and application. Annals of internal medicine. 2020 Mar 10.

Li Q, Guan X, Wu P, Wang X, Zhou L, Tong Y, Ren R, Leung KS, Lau EH, Wong JY, Xing X. Early transmission dynamics in Wuhan, China, of novel coronavirus–infected pneumonia. New England Journal of Medicine. 2020 Jan 29.

Liu Y, Yan LM, Wan L, et al. Viral dynamics in mild and severe cases of COVID-19. *Lancet Infect Dis*. 2020;0(0). doi:10.1016/S1473-3099(20)30232-2.

López de la Iglesia J, Fernández-Villa T, Rivero A, et al. Predictive factors of COVID-19 in patients with negative RT-qPCR. *Semergen*. 2020. doi:10.1016/j.semerg.2020.06.010.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Lynn J. Getting Ahead Of COVID-19 Issues: Dying From Respiratory Failure Out Of The Hospital. *Heal Aff Blog*. 2020. Available at: https://www.healthaffairs.org/do/10.1377/hblog20200330.141866/full/. Accessed April 15, 2020.

Mahase E. Coronavirus: home testing pilot launched in London to cut hospital visits and ambulance use. BMJ 2020;368:m621.(Published 14 February 2020). Link to Full Text

Mandavilli A. W.H.O. to Review Evidence of Airborne Transmission of Coronavirus. *New York Times*. Available at: https://www.nytimes.com/2020/07/07/health/coronavirus-aerosols-who.html. Accessed July 30, 2020.

Massachusetts General Hospital. Department of Medicine COVID-19 Grand Rounds Series : Palliative Care in a Pandemic (4.2.2020). Available at: https://www.massgeneral.org/news/coronavirus/grand-rounds. Accessed April 15, 2020.

Mays J, Newman A. Virus Is Twice as Deadly for Black and Latino People Than Whites in N.Y.C. *New York Times*. 2020. Available at: https://www.nytimes.com/2020/04/08/nyregion/coronavirus-race-deaths.html. Accessed April 15, 2020.

Mehrotra A, Ray K, Brockmeyer DM, Barnett ML, Bender JA. Rapidly Converting to "Virtual Practices": Outpatient Care in the Era of Covid-19. *NEJM Catal*. 2020;1(2). doi:10.1056/CAT.20.0091.

National Academies of Sciences, Engineering and Medicine (NAM)
US Health System Not Properly Designed to Meet Needs of Patients Nearing End of Life, Says IOM Report

National Institute for Health and Care Excellence (NICE). Overview | COVID-19 rapid guideline: managing symptoms (including at the end of life) in the community | Guidance. 2020a.

National Institute for Health and Care Excellence (NICE). Overview | COVID-19 rapid guideline: managing suspected or confirmed pneumonia in adults in the community | Guidance . 2020b.

Omer SB, Malani P, Del Rio C. The COVID-19 Pandemic in the US: A Clinical Update. *JAMA*. 2020. doi:10.1001/jama.2020.5788.

Porzio G, Cortellini A, Bruera E, Verna L, Ravoni G, Peris F, Spinelli G. Homecare for cancer patients during COVID-19 pandemic: the "double triage" protocol. Journal of Pain and Symptom Management (2020). Link to Full Text

Randazzo M. Audiovisual Integration. In: *The SAGE Encyclopedia of Human Communication Sciences and Disorders*. SAGE Publications, Inc.; 2019. doi:10.4135/9781483380810.n65.

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Rothe C, Schunk M, Sothmann P, Bretzel G, Froeschl G, Wallrauch C, Zimmer T, Thiel V, Janke C, Guggemos W, Seilmaier M. Transmission of 2019-nCoV infection from an asymptomatic contact in Germany. New England Journal of Medicine. 2020 Mar 5;382(10):970-1. Link to Full Text

Royal College of General Practitioners 2020a
Covid-19 -Practical-things-for-general-practice-to-do

Royal College of General Practitioners 2020a
Top 10 tips for successful GP video consultations

Russell B, Moss C, Rigg A, Van Hemelrijck M. COVID-19 and treatment with NSAIDs and corticosteroids: should we be limiting their use in the clinical setting?. ecancermedicalscience. 2020;14. Link to Full Text

Sheikh K, Watkins D, Wu J, Gröndahl M. How Bad Will the Coronavirus Outbreak Get? Here Are 6 Key Factors - The New York Times. Available at: https://www.nytimes.com/interactive/2020/world/asia/china-coronavirus-contain.html. Accessed April 13, 2020.

Sleep Research Society. Sleeping tips when staying indoors during isolation period. 2020. Available at: https://www.sleepresearchsociety.org/wp-content/uploads/2020/03/Sleeping-Tips-Isolation.pdf. Accessed April 16, 2020.

Smith A, Thomas E, Snoswell C, Haydon H, Mehotra A, Clemensen J, Caffery L. Telehealth for global emergencies: Implications for coronavirus disease 2019 (COVID-19). Journal of Telemedicine and Telecare. Vol 0(0): 1-5. Link: Link to Full Text

Starfield B, Shi L, Macinko J. Contribution of primary care to health systems and health. The Milbank Quarterly. 2005 Sep;83(3):457-502.

Substance Abuse and Mental Health Administration (SAMHSA) (2020a)
Considerations for the Care and Treatment of Mental and Substance Use Disorders in the COVID-19 Epidemic

Substance Abuse and Mental Health Administration (SAMHSA) (2020b)
COVID-19 Public Health Emergency Response and 42 CFR Part 2 Guidance

Substance Abuse and Mental Health Administration (SAMHSA) (2020c)
Considerations for Crisis Centers and Clinicians in Managing the Treatment of Alcohol or Benzodiazepine Withdrawal

Modified: 07/30/2020
By: Stephen Martin, MD and Anne Gifford, MD

Substance Abuse and Mental Health Administration (SAMHSA) (2020d) Considerations for Outpatient Mental and Substance Use Disorder Treatment Settings

Tseng TG, Wu HL, Ku HC, Tai CJ.The Impact of the COVID-19 Pandemic on Disabled and Hospice Home Care Patients. J Gerontol A Biol Sci Med Sci. 2020 Apr 3. [Epub ahead of print). Link to Full Text

van Doremalen N, Bushmaker T, Morris DH, Holbrook MG, Gamble A, Williamson BN. & Lloyd-Smith, JO (2020). Aerosol and Surface Stability of SARS-CoV-2 as Compared with SARS-CoV-1. New England Journal of Medicine.

Vaninov N. In the eye of the COVID-19 cytokine storm. *Nat Rev Immunol*. 2020:1–1. doi:10.1038/s41577- 020-0305-6.

Waldman G, Mayeux R, Claassen J, Agarwal S, Willey J, Anderson E, Punzalan P, Lichtscien R, Bell M, Przedborski S, Ulane C. Preparing a neurology department for SARS-CoV-2 (COVID-19): Early experiences at Columbia University Irving Medical Center and the New York Presbyterian Hospital in New York City. Neurology. 2020 Apr 3. Link to Full Text

U.S. Department of Health and Human Services. Notification of Enforcement Discretion for Telehealth. 2020. Available at: https://www.hhs.gov/hipaa/for-professionals/special-topics/emergency-preparedness/notification-enforcement-discretion-telehealth/index.html. Accessed April 14, 2020.

Wang B, Li R, Lu Z, Huang Y. Does comorbidity increase the risk of patients with COVID-19: evidence from meta-analysis. Aging (Albany NY). 2020 Apr 8;12. [Epub ahead of print] Link to Full Text

Wang W, Xu Y, Gao R, et al. Detection of SARS-CoV-2 in Different Types of Clinical Specimens. *JAMA - J Am Med Assoc*. 2020. doi:10.1001/jama.2020.3786.

World Health Organization. Transmission of SARS-CoV-2: implications for infection prevention precautions. 2020. Available at: https://www.who.int/news-room/commentaries/detail/transmission-of-sars-cov-2-implications-for-infection-prevention-precautions. Accessed July 30, 2020.

Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID -19) outbreak in China: summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. Jama. 2020 Feb 24.

Yang Y, Yang M, Shen C, et al. Evaluating the accuracy of different respiratory specimens in the laboratory diagnosis and monitoring the viral shedding of 2019-nCoV infections. *medRxiv*. 2020:2020.02.11.20021493.

doi:10.1101/2020.02.11.20021493.

Zhang W, Du RH, Li B, Zheng XS, Yang XL, Hu B, Wang YY, Xiao GF, Yan B, Shi ZL, Zhou P. Molecular and serological investigation of 2019-nCoV infected patients: implication of multiple shedding routes. Emerging microbes & infections. 2020 Jan 1;9(1):386-9.

Xiao Y, Tan C, Duan J, Wu A, Li C. An Effective Model for the Outpatient Management of COVID-19. Infect Control Hosp Epidemiol. 2020. doi:10.1017/ice.2020.9