The COVID-19 pandemic and the associated community mitigation efforts enacted have altered the delivery of and access to healthcare across the U.S. For example, emergency department (ED) visits are down by an estimated 40% in many communities across the country; many in-person office visits have been either postponed or changed to telehealth visits; elective procedures have been postponed indefinitely; and other forms of healthcare delivery have been changed to accommodate social distancing and community mitigation measures.

Community mitigation actions, often driven by government orders and mandates, lead to a change in demand for traditional healthcare services. This tip sheet can help healthcare system planners continue to mitigate these potential healthcare delivery impacts.

For a more in-depth review of considerations and potential mitigation strategies, access the ASPR TRACIE COVID-19 Healthcare Delivery Impacts tip sheet.

**Behavior Changes Leading to Long-term Health Problems**
- Behaviors that may be used as coping mechanisms during times of increased stress (e.g., increased use of alcohol and medications and food intake, lack of physical activity) may also have long-term impacts on health.
- Providers should ensure they ask patients about these behaviors and provide patient education about safe coping mechanisms.

**Concurrent or Secondary Disasters during COVID-19**
- The mitigation measures necessary to protect the population from spread of COVID-19 make certain secondary disasters much more impactful on disaster affected communities.
- ASPR TRACIE has developed a dedicated Tip Sheet, Secondary Disasters During COVID-19, with additional, detailed information on this issue.

**Continued Disruption of the Supply Chain**
- The supply chains for personal protective equipment, some medications, medical supplies and equipment, and disinfection and hygiene products have been stressed by increased demand.
- Carefully track use of critical supplies to anticipate future needs and implement conservation strategies; switch from just-in-time inventory; and consider collaborating with partners for larger purchase power.

**Decreased ED Visits/Patients Delaying Emergency Care**
- Visits to the ED are down by nearly 40% in some areas; acute care outpatient visits have also decreased.
- Medical practices, health systems, and health insurers can reach out directly to patients with chronic medical conditions or use education campaigns to encourage community members to seek care for emergent conditions and to keep up with their preventive or routine care.

**Decreased Immunization Rates**
- Orders for childhood vaccinations from the Centers from Disease Control and Prevention have dropped by about 11 million doses in 2020 from previous yearly averages.
- Consider offering drive-through vaccination clinics or sending mobile vaccination units into communities. Providers should reach out to all patients with scheduled vaccination appointments to explain safety procedures and encourage them to keep appointments.

**Delayed Elective Procedures**
- Many hospitals and ambulatory surgical facilities delayed elective procedures due to COVID-19.
- Providers can review the joint statement Roadmap for Maintaining Essential Surgery during the COVID-19 Pandemic for strategies for scheduling and timing procedures and managing other related logistics.

**Delayed Organ Transplants**
- The number of organ procurements and transplants decreased by about half, nationwide, in April 2020, but rebounded and overall increased over 2019 numbers. There has been one confirmed case of COVID-19 transmission through infected lungs, in Michigan, in the Fall of 2020.
- Review lessons learned to determine if any changes in protocol or process are possible for subsequent waves, while closely monitoring all organ transplant patients, via telehealth and home health services, if appropriate.

**Financial Impacts to the Healthcare System**
- All healthcare system partners have been financially impacted by COVID-19 community mitigation measures, leaving some facilities and private practices unable to financially recover.
- Healthcare entities experiencing financial impacts due to COVID-19 should review financial assistance programs associated with COVID-19 appropriations for eligibility.
Increased Use of Telehealth

1. A FAIR Health review of 2020 insurance claims showed a 3,060% increase in telemedicine claims over 2019 claims.
2. Plan to continue telehealth services as part of long-term (possibly permanent) healthcare delivery strategy. Determine what technology investments may be necessary to improve telehealth delivery.
   - The ASPR TRACIE COVID-19 and Telehealth Tip Sheet provides more detail on current uses, challenges, and the potential uses of telehealth.

Interrupted Clinical Research and Clinical Trials

1. Many clinical trials have been postponed or are experiencing some form of disruption and funding for future non-COVID-19 related medical research may be redirected or reduced.
2. Consider ways to adjust protocols to minimize the amount of in-person contact needed to complete a study and utilize telehealth options where possible.

Interrupted Medical Treatments and Delays in Care

1. Visits to ambulatory care practices were down by 60% in March and April 2020, this includes missed preventative care appointments, dental and eye care, interrupted cancer treatments, and disruptions in screening and ongoing management of chronic conditions.
2. Outpatient practices can reach out to patients with upcoming preventative procedures or appointments and those with chronic conditions that need routine management and explain safety procedures, encourage them to keep appointments, shift in-person visits to telehealth visits, and collect lab specimens by home health visit.

Later-stage Cancer Diagnosis

1. Since COVID-19 started, one study found a 76% decrease in urgent referrals from general practitioners to major cancer centers for suspected cancer.
2. For future pandemic waves, healthcare facilities should identify infection control practices to put in place to allow continued delivery of cancer-related therapies.

Long-term Morbidity and Mortality of COVID-19 Patients

1. Data shows between 13% and 87% of COVID-19 patients will experience mid to long-term continuation of at least one symptom post infection.
2. Providers treating recovered COVID-19 patients should conduct ongoing follow-up appointments to monitor recovery and consider implementing multi-disciplinary COVID-19 rehabilitation programs.

Mental and Behavioral Health

1. There has been a significant increase in new patients seeking mental health services, including healthcare workers, challenging the already overtaxed mental health workforce.
2. Healthcare workers will need continued behavioral health support, especially as the effects of the pandemic and pandemic-like working conditions continue.
3. Healthcare employers should ensure all personnel have access to employee assistance programs and information on self-care and should encourage peer-to-peer and more structured counseling and support as necessary.
4. Mental health providers should reach out to their high-risk patients to encourage continued appointments (e.g., through telehealth), and support continued substance abuse treatment programs.

Possible Decrease in Seasonal Communicable Disease Transmission

1. There is a potential for a decrease in the spread of all communicable diseases, such as influenza and other commonly occurring diseases, if community mitigation measures change to continue into the fall.
2. Continue to encourage social and physical distancing practices and support and encourage a robust seasonal flu vaccination program.

Reproductive and Maternal Health

1. Lack of access to reproductive health services across the country could lead to increased maternal and fetal morbidity and mortality. Pregnant patients are not at higher risk for contracting COVID-19, but pregnant patients with COVID-19 may experience more adverse outcomes compared to non-pregnant COVID-19 patients.
2. Providers should continue telehealth visits where feasible and identify at risk populations and establish an outreach program to ensure continuity of care. Provide education to pregnant and breastfeeding patients on the COVID-19 vaccine.

School Health and Childhood Wellness

1. With many schools across the U.S. providing virtual education, initial diagnosis of select health problems may be delayed and services provided through school districts suspended, more children may experience food insecurity, and rates of child abuse and neglect may increase, but without school-based mandated reporting, these rates may appear to decrease.
2. School professionals should review individual education plans and other medical plans for children and work with parents and community providers to transition their therapies outside of the school setting and follow CDC guidelines for safe school reopening.

Shortage of Healthcare Professionals

1. Healthcare workers have been furloughed, laid off, or had work hours reduced due to low (non-COVID) patient volume; some of these jobs may not be able to be re-staffed upon re-opening, due to continued financial strain. Some healthcare workers may not return to the workforce or may return in different roles, due to many factors, including child care issues, fear of COVID-19, and due to stress and burn out.
2. Employers should look into financial aid available due to COVID-19; establish an employee wellness program to prevent and mitigate burn out; and review pay and benefits compared with industry average.

Surge in Out-of-Hospital Care

1. Local COVID-19 patient surge will tax community-based healthcare providers, such as home healthcare providers, rehabilitation facilities, and long-term care facilities.
2. In-patient and community-based providers should review the current capacity for patients in both settings and plan for future surge needs now.

The ASPR TRACIE COVID-19 Healthcare Delivery Impacts Tip Sheet has additional considerations, information, and sources cited.