

INFLUENZA CO-CIRCULATING WITH SARS-COV-2

Federal Bureau of Prisons Clinical Guidance

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PURPOSE

Management of influenza when SARS-CoV-2, the virus that causes COVID-19 disease, is co-circulating with influenza viruses requires additional considerations. For example, healthcare delivery may be severely disrupted at facilities with community spread of SARS-CoV-2 and superimposed influenza outbreaks. Influenza and COVID-19 may present with similar symptoms, such as fever, fatigue, myalgia, cough, and shortness of breath, making clinical differentiation between the two diseases difficult.

Therefore, inmates should be encouraged to receive influenza and COVID-19 vaccinations to reduce their risk of co-infection with influenza virus and SARS-CoV-2. Institutions also should have plans in place to manage individuals who are infected with influenza viruses, SARS-CoV-2, or influenza virus and SARS-CoV-2 co-infection. General infection prevention control measures, which include wearing facial coverings, hand hygiene, social distancing, and environmental cleaning, should be maintained at all times as directed.

→ Refer to the BOP COVID-19 Pandemic Plan, **MODULE 1. INFECTION PREVENTION AND CONTROL MEASURES** and **MODULE 2. PERSONAL PROTECTIVE EQUIPMENT (PPE)**

EPIDEMIOLOGICAL ASSESSMENT

Institutions should always be aware of their current epidemiological situation for any given disease. This includes knowledge of the incidence, distribution, contributing risk factors, and possible mitigation efforts needed to control diseases, including infectious diseases such as influenza in addition to COVID-19.

For COVID-19, the Level of Operational Modifications Dashboard should be consulted on a daily basis. It lists facilities' completed percentage of combined COVID-19 vaccination series for both staff and inmates, the

percentage of facility isolation rate, and the community transmission rates reported as new cases per 100 thousand persons in the last seven days in their respective counties.

To assist in a facility's epidemiological assessment, Health Services Units (HSUs) should address the following questions and develop plans for management of influenza and COVID-19 co-infections:

- Has the facility experienced widespread transmission of SARS-CoV-2 in the past? If so, what percentage of the inmate population tested positive for SARS-CoV-2?
- Is the population vulnerable to a concurrent influenza and COVID-19 outbreak? Are some persons more vulnerable than others due to, for example, underlying medical conditions or age?
- If the facility experienced widespread transmission of SARS-CoV-2, was a specific housing unit(s) or a satellite camp spared during the outbreak? Are these units vulnerable to a concurrent influenza and COVID-19 outbreak due to their layouts or population?
- Is there an increase in new COVID-19 and/or influenza cases or widespread transmission in the community of these diseases?
- Does the facility have low combined inmate and staff influenza or COVID-19 vaccination rates?
- Has any inmate presenting with new onset respiratory symptoms received an influenza and/or COVID-19 vaccine?
- Has any inmate presenting with new onset respiratory symptoms tested positive for SARS-CoV-2 during the past 90 days?

As an example, if a facility recently experienced widespread SARS-CoV-2 transmission or has a high COVID-19 vaccination rate but has a low influenza vaccination rate or the current influenza vaccine has a low efficacy rate, the facility could experience widespread influenza activity, if there is influenza activity in the local community. Similarly, if a facility has not recently experienced widespread SARS-CoV-2 transmission and has low influenza and COVID-19 vaccination rates, the facility could experience widespread transmission of SARS-CoV-2 and influenza viruses if both viruses are circulating in the local community.

Although it is unlikely that someone who has recovered from COVID-19 within the past three to six months will have a reoccurrence or become re-infected with SARS-CoV-2, much remains unknown about immunity. The possibility remains that a SARS-CoV-2 re-infection could occur.

MANAGEMENT OF SUSPECTED CO-OCCURRING INFECTIONS

To date, the rate of co-infection with influenza viruses and SARS-CoV-2 has been low due to low levels of circulating influenza viruses. Consequently, there is limited guidance on how best to manage co-infected patients, and there is limited published information describing clinical outcomes in co-infected patients. Therefore, once influenza activity has been documented either in a facility, in the community, or in the geographic areas based on a real-time epidemiologic assessment, institutions should consult with the BOP Regional Medical Director to determine whether each inmate presenting with new onset respiratory symptoms should be evaluated, isolated, and undergo testing for both influenza viruses and SARS-CoV-2. It is important to note the similarities and differences between seasonal influenza and COVID-19 illness. Refer to TABLE 1 for comparison of these illnesses.

TABLE 1. COMPARISON OF SEASONAL INFLUENZA AND COVID-19 IN ADULTS

Characteristics	Seasonal Influenza	COVID-19
Primary route of transmission	Droplet	Droplet (airborne, fomite and fecal-oral possible but less important)
Dynamics of infectivity	Both viruses capable of asymptomatic transmission up to 48 hours prior to symptom onset	
Incubation period	1-4 days (median 2 days)	2-14 days (median 5 days)
Common conditions for increased risk of severe illness for influenza/ COVID-19	<ul style="list-style-type: none"> • Age ≥ 65 year old • Chronic Kidney Disease • Cardiac Disease (i.e., heart failure, coronary artery disease, or cardiomyopathies) • Chronic Obstructive Pulmonary Disease (COPD) 	
Other conditions for increased risk for severe illness	<ul style="list-style-type: none"> • Obesity BMI ≥ 40 • Immunosuppression due to disease (i.e., HIV/AIDS), some cancers (i.e., leukemia) or immune suppressing medications • Asthma • Cystic fibrosis • Advanced liver disease, • Pregnancy (through 2 weeks postpartum) • Residence in nursing homes or long-term care facilities • American Indian/Alaska Native heritage/non-Hispanic Black/ Hispanic or Latino persons • Neurologic and neurodevelopment conditions • Blood disorders (i.e., sickle cell) • Endocrine disorders (i.e., diabetes) • Liver disorders • Metabolic disorders • History of stroke • Age < 19 years on long-term aspirin or salicylate containing medications 	<ul style="list-style-type: none"> • Obesity BMI ≥ 30 • Immunocompromised state from solid organ transplant • Cancer • Sickle cell disease • Smoking (current or former smoker) • Type 2 diabetes mellitus • Pregnancy • Down Syndrome
Common clinical manifestations	Fever, chills, headache, myalgias, cough, nasal congestion, sore throat, fatigue, abrupt onset	Fever, chills, headache, myalgias, cough, shortness of breath, fatigue, loss of smell and taste
Dynamics of symptoms	Symptoms typically peak within 3-7 days of illness	Symptoms can peak during week 2-3 of illness
Vaccine	Multiple approved	Multiple approved
Available antiviral agents for treatment	<ul style="list-style-type: none"> • Neuraminidase inhibitors (zanamivir, oseltamivir, peramivir) • Endonuclease inhibitor (baloxavir) • M2 channel blockers (amantadine, rimantadine) 	<ul style="list-style-type: none"> • Nucleoside analogue (remdesivir) • Convalescent plasma • Monoclonal antibodies (casirivimab-imdevimab, sotrovimab)
Available antiviral agents for chemoprophylaxis	<ul style="list-style-type: none"> • Oseltamivir • Baloxavir 	None
Adapted from: Solomon DA, Sherman AC, Kanjilal S. (2020). Influenza in the COVID-19 Era. <i>JAMA</i> 2020;324(13):1342-1343.		

TESTING

Points to consider when determining testing strategies include:

- Even when an institution has multiple positive influenza laboratory test results, it may be appropriate, based on an epidemiologic assessment, to consider other causes, such as infection with SARS-CoV-2, for the new onset respiratory symptoms.
- Although point of care (POC) testing for both influenza viruses and SARS-CoV-2 is preferred for new onset respiratory symptom cases, commercial testing (i.e., confirmatory RT-PCR) may be used depending on the available POC testing supplies.
- Contact the Regional Medical Director prior to testing individuals with symptoms suggestive of COVID-19, if the inmate tested positive for SARS-CoV-2 during the last 90 days. Patients who tested positive for SARS-CoV-2 in the last 90 days are not routinely tested for reoccurrence of COVID-19 symptoms.

HOUSING CONSIDERATIONS

Facilities should review designated areas for medical isolation of symptomatic and/or test-positive inmates and designated quarantine areas for exposed inmates as documented in the institution's Influenza Pandemic Plan and as described in **MODULE 4. MEDICAL ISOLATION AND QUARANTINE** of the BOP COVID-19 Pandemic Plan. Refer to **TABLE 2** for options for areas for isolation and quarantine.

- Institutions should prepare for the possibility of concurrent influenza virus and SARS-CoV-2 activity with medical isolation and quarantine plans for each disease process as well as for co-infection with both viruses.
 - Facilities at increased risk for concurrent transmission should identify at least **FOUR SEPARATE** designated areas for medical isolation for each infectious disease
- Refer to the [Appendices for Inmate Screening & Management Algorithms](#) for new onset respiratory illness during influenza season and the COVID-19 pandemic.
- Institutions should also maintain separate areas for quarantine as required in **MODULE 4. MEDICAL ISOLATION AND QUARANTINE** of the BOP COVID-19 Pandemic Plan. Whenever possible:
 - Do not isolate inmates who test positive for influenza viruses **AND** SARS-CoV-2 with those who test positive for influenza viruses **BUT** test negative for SARS-CoV-2 due to possible transmission of SARS-CoV-2.
 - Do not isolate inmates who test positive for influenza viruses **AND** SARS-CoV-2 with those who test negative for influenza viruses **BUT** test positive for SARS-CoV-2 due to possible transmission of influenza viruses.
- If facilities are unable to identify suitable areas for isolation and quarantine or are experiencing widespread transmission of SARS-CoV-2, influenza viruses, or both SARS-CoV-2 and influenza viruses, they should consult with their Regional Infection Prevention & Control specialists, Regional Medical Directors, and/or Executive Staff for mitigation strategies.

TABLE 2. OPTIONS FOR DESIGNATED AREAS FOR ISOLATION AND QUARANTINE

Sporadic cases	Health services observation rooms
Sporadic, cluster cases¹	Special Housing Units <i>or</i> Individual cells with doors
Widespread transmission²	Open-bay housing units <i>or</i> Non-standard housing (e.g., visiting room, education, Unicor, tents)
¹ Isolation and quarantine should be housed on separate ranges or tiers	
² Designate one housing unit isolation and another quarantine	

INFLUENZA TREATMENT AND PROPHYLAXIS

Providers should follow the BOP *Seasonal Influenza Clinical Guidance* concerning influenza treatment and influenza antiviral prophylaxis.

➔ *Due to COVID-19, treatment of influenza is indicated as early as possible for any inmate with confirmed or suspected influenza, particularly for inmates who are hospitalized; have severe, complicated, or progressive illness; or have high risk conditions.*

Additionally, providers may consider providing post-exposure oseltamivir treatment (75 mg twice daily for 5 days) to:

- All close contacts* of inmates diagnosed with influenza.
- Roommates of long-term/nursing care center residents who have been diagnosed with influenza.
- Inmates with limited housing options because of concurrent influenza and COVID-19 outbreaks.

➔ ***CLOSE CONTACTS** are defined in accordance with the BOP COVID-19 Pandemic Plan.

Treatment of influenza with baloxavir can substantially reduce influenza virus shedding at 24 hours after a single treatment dose. However, due to the risk of emergence of baloxavir resistant influenza viruses that can be transmitted to close contacts, baloxavir use is reserved for those with high risk conditions and when influenza activity is moderate to very high and when SARS-CoV-2 is co-circulating. Regional Medical Directors should be notified when there is an outbreak, and when baloxavir is being considered as a treatment option, however every effort should be made to not delay care.

In the event of concurrent influenza and COVID-19 outbreaks, housing options may be limited. In such situations and in consultation with the Regional Medical Director, inmates who have tested positive for influenza may be housed with inmates who have tested negative, provided the following occurs:

- All test-positive inmates should be treated for influenza
- All test-negative inmates should be given post-exposure treatment with oseltamivir as soon as possible, if there are no contraindications.

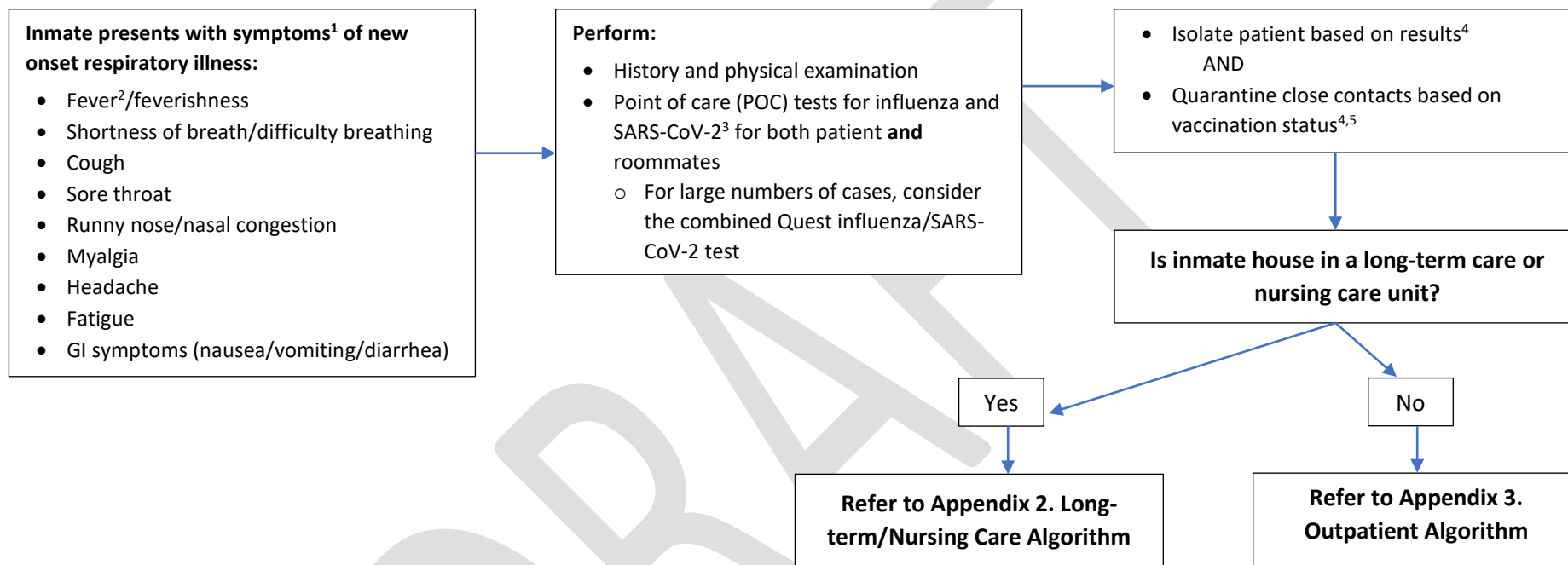
VACCINATIONS

Annual influenza vaccination is recommended for all inmates according to BOP clinical guidance. COVID-19 vaccination is also recommended for all inmates in accordance with FDA licensing and Emergency Use Authorization (EUA) labeling and ACIP and BOP recommendations.

Staff should take every opportunity to continuously encourage influenza and COVID-19 vaccination and continually offer opportunities for vaccination, including during routine health care encounters and after release from influenza and/or COVID-19 isolation or influenza quarantine. As a reminder:

- Vaccinations should not take place while an inmate is in medical isolation status.
- COVID-19 vaccine may be administered to inmates who are in COVID-19 quarantine.
- COVID-19 vaccine and influenza vaccine may be administered concurrently.
- Intake, transfer, and exposure quarantine procedures may differ for inmates who are fully vaccinated for COVID-19. Vaccination status will not affect final housing disposition or treatment plans.

APPENDIX 1. SCREENING & MANAGEMENT OF NEW ONSET RESPIRATORY ILLNESS WHEN INFLUENZA ACTIVITY IS MODERATE TO VERY HIGH AND SARS-COV-2 IS CO-CIRCULATING



¹ The COVID-19 screening form is available in BEMR → Chart → Screenings → add

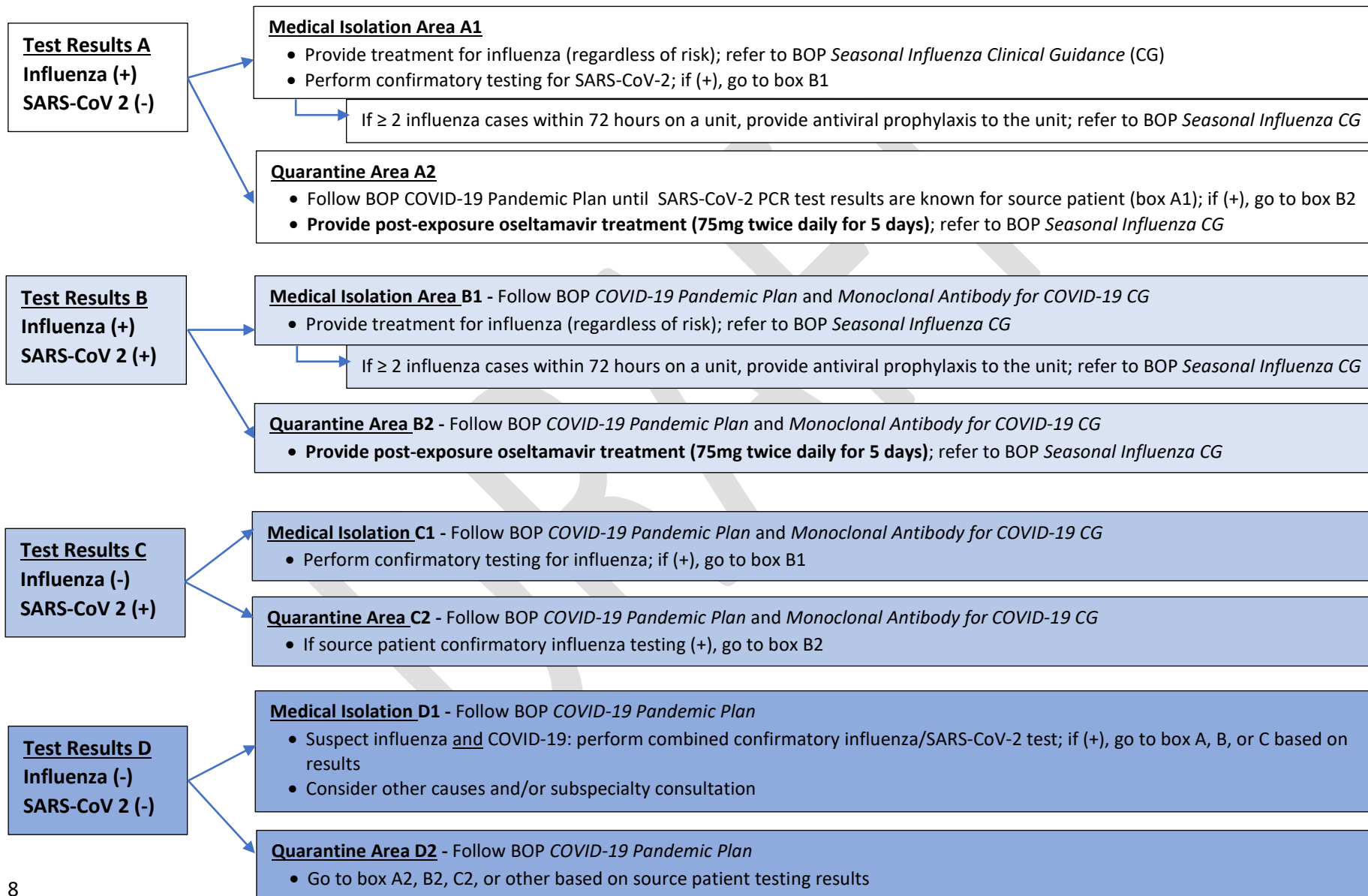
² Not everyone presents with fever.

³ Contact the Regional Medical Director prior to testing inmates with a SARS-CoV-2 test, if the inmate tested positive for SARS-CoV-2 during the last 90 days.

⁴ If at all possible, institutions should not intermingle any of the isolation groups or quarantine groups.

⁵ Close contacts are defined in accordance with the BOP COVID-19 Pandemic Plan.

APPENDIX 2. LONG-TERM/NURSING CARE CENTER ALGORITHM WHEN INFLUENZA ACTIVITY IS MODERATE TO VERY HIGH AND SARS-COV-2 IS CO-CIRCULATING



APPENDIX 3. OUTPATIENT ALGORITHM WHEN INFLUENZA ACTIVITY IS MODERATE TO VERY HIGH AND SARS-COV-2 IS CO-CIRCULATING

