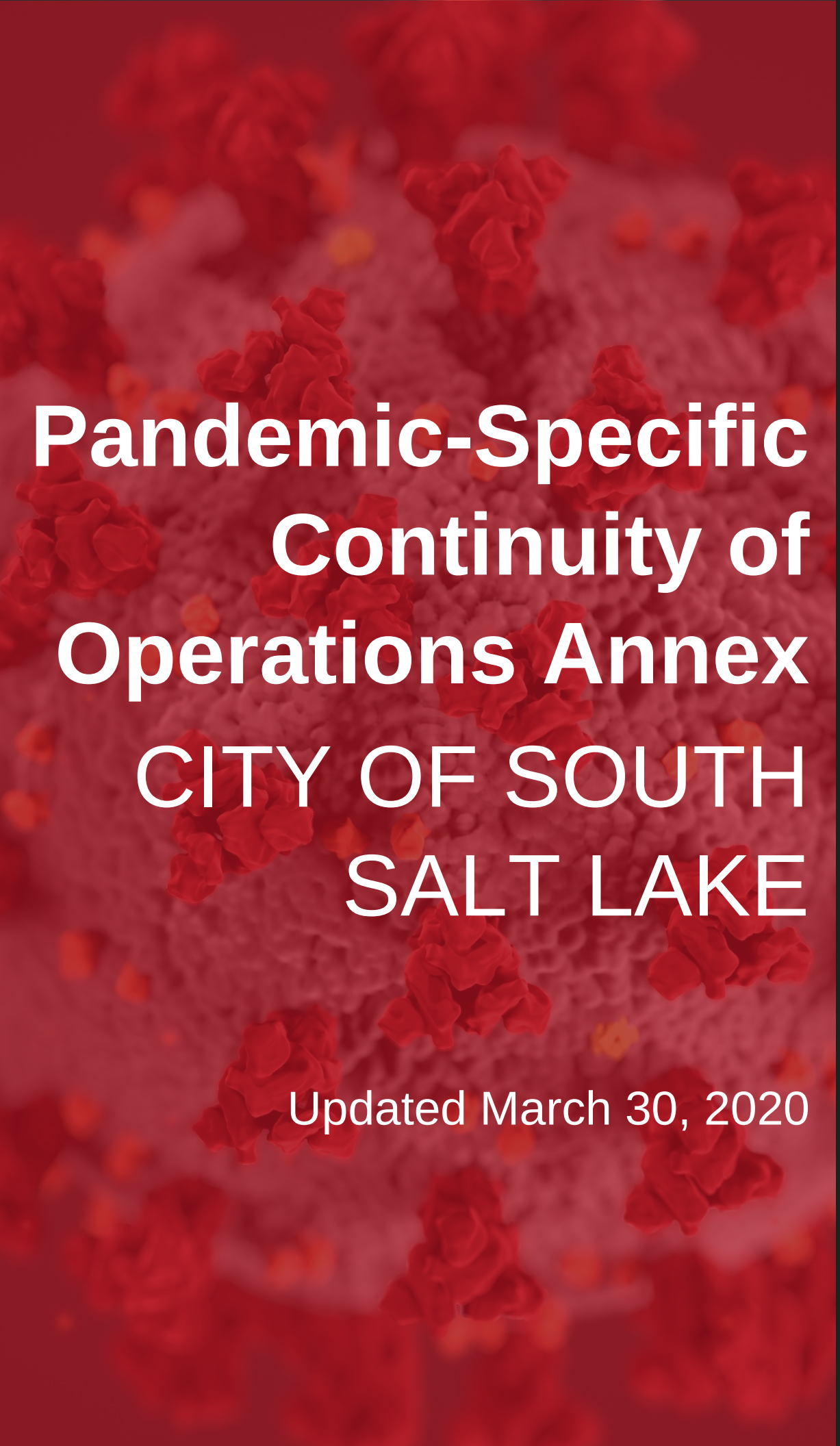

Pandemic-Specific Continuity of Operations Annex

CITY OF SOUTH SALT LAKE

Updated March 30, 2020

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TABLE OF CONTENTS

I. Introduction 4

A. Purpose 4

B. Relationship to COOP Planning Initiatives 4

II. Assumptions 5

A. Pandemic Planning Assumptions 5

B. Organizational Assumptions 5

C. County-Level Assumptions 6

III. Concepts of Operations 7

A. Programs, Plans, and Procedures 7

B. Risk Management 7

C. Budgeting and Acquisitions 7

D. Pandemic Continuity Planning Operational Phases and Implementation 8

Readiness and Preparedness in a Pandemic 8

Activation of Continuity Plans in a Pandemic 8

Continuity of Operations during a Pandemic 8

Reconstitution after a Pandemic Outbreak 8

IV. Elements of Viable Continuity Capabilities in a Pandemic 9

A. Organization-Wide Continuity Capabilities 9

Orders of Succession 9

Delegation of Authority 9

Human Resources 9

Review, Training, Exercise, and Updates 10

B. Essential Function-Centric Continuity Capabilities Overview 10

Essential Functions 10

Facility Guidelines (Primary and Alternate Continuity Facilities) 11

Continuity Communications 11

Vital Records Management 11

Devolution of Control and Direction 11

Reconstitution 11

V. Conclusion 12

Appendix A: Pandemic Background 13

A. The Overarching Pandemic Threat 13

B. Potential Global Impact of a Pandemic 14

C. Potential U.S. Domestic Impact of a Pandemic 15

Appendix B: COVID-19 Hygiene 17

Appendix C: Considerations of Hygiene Etiquette and Community-Based Measures to Mitigate Transmission of COVID-19 18

A. Introduction 18

B. Hand Hygiene 19

C. Respiratory Etiquette 20

D. Environmental Cleaning and Ventilation 20

Cleaning the home and co-living setting 20

Cleaning public spaces 20

Ventilation 21

E. Social Distancing 21

Isolation 21

Voluntary home sequestration ("self-isolation") 22

Protective self-separation 22

Voluntary avoidance of crowded places 22

Mandatory sequestration 22

F. Self-Monitoring 22

G. Use of Masks 22

H. Community-based Measures 23

I. Avoid Crowding 23

J. Workplaces 24

K. Mass Gatherings 25

L. Considerations for a Communications Response 26

Appendix D: Glossary of Acronyms 27

Appendix E: References 34

I. INTRODUCTION

The City of South Salt Lake (the "City") performs essential functions and services that may be adversely affected in the event of a natural or human-caused disaster. In such events, The City needs to have continuity plans to assist in the continuance of their essential functions. Continuing to perform essential functions and provide essential services is essential to its ability to remain a viable entity during times of increased threats from all hazards; whether natural and human-caused. Since the threat to The City's continuity of operations is heightened during any type of pandemic outbreak, it is important for it to have a Pandemic-Specific Continuity of Operations (COOP) Annex in place to ensure they can carry out their essential functions and services. While The City may be forced to suspend some operations due to the severity of pandemic outbreaks, as observed with the COVID-19 outbreak, an effective Pandemic-Specific COOP Annex can help the City to remain operational as well as strengthen their ability to resume operations upon endemic resolution.

A. Purpose

This annex provides guidance to City government and serves as the plan for maintaining essential functions and services of the City during a pandemic outbreak, such as COVID-19, in Utah.

The guidance in this annex stresses that essential functions can be maintained during the pandemic outbreak through mitigation strategies, such as increased hygiene, vaccinations of staff and families, social distancing, and similar approaches. Continuity operations in a pandemic outbreak may not require the traditional level of service and/or continuance of certain essential functions (as would otherwise be the case in a partial or full relocation of the organization's essential functions due to inaccessibility of primary facilities). Although this response may be concurrently necessary due to other extenuating circumstances, a pandemic outbreak may result in the need to either partially or fully devolve control and direction where it wouldn't be necessary in a typical all-hazards COOP plan.

B. Relationship to COOP Planning Initiatives

The guidance provided in the City's Pandemic-Specific COOP Annex neither replaces nor supersedes the current, approved continuity plan for the City but rather supplements it; bridging the gap between traditional, all-hazards continuity planning and the specialized continuity planning required for pandemic outbreaks. This is accomplished by addressing additional considerations, challenges, caveats and elements specific to the dynamic nature of a pandemic outbreak.

The City's Pandemic-Specific COOP Annex should be read in conjunction with its Base COOP Plan. It supplements the Base COOP plan by addressing considerations and planning assumptions specific to pandemic outbreaks.

II. ASSUMPTIONS

The following assumptions are inferred in the development of this annex for the COVID-19 Pandemic:

A. Pandemic Planning Assumptions

- Susceptibility to a pandemic virus will be universal.
- Efficient and sustained person-to-person transmission is ongoing.
- The clinical disease attack rate will likely be 30 percent or higher in the overall population during the COVID-19 pandemic.
- Illness rates may be higher among vulnerable populations, specifically older populations with existing co-morbidities such as COPD, cardiac conditions, acute hypertension, renal failure, smokers, and populations with compromised immune systems
- Rates of absenteeism will depend on the severity and cascading impact of the pandemic. In a severe pandemic, absenteeism may be attributed to several factors; including illness, the need to care for ill family members, self-imposed isolation, and/or the fear of infection.
- Absenteeism rates may reach 40 percent during peak weeks of a community outbreak, with lower rates of absenteeism prior to and following peak weeks.
- Certain public health measures are likely to increase rates of absenteeism.
- Some persons may become infected but not develop clinically significant symptoms. For COVID-19 to date, children and adults below the age of 65 are showing the fewest indications of clinical disease. Most who have been exposed to COVID-19 in these demographics are recovering without additional sequala.
- Asymptomatic or minimally symptomatic individuals can transmit infection and develop immunity to subsequent infection. This may prove to make previous epidemic and pandemic concepts including containment and quarantine only marginally effective enough measures to cease transmission.
- While the number of patients seeking medical care cannot be predicted with certainty, in previous pandemics (i.e., influenza), about half of those who become ill sought care. Without the availability of effective antiviral drugs for treatment, this proportion may be lower in the COVID-19 pandemic outbreak.
- Rates of serious illness, hospitalization, and deaths will depend on the virulence of the virus and differ in order of magnitude between more and less severe scenarios. Risk groups for severe and fatal infection cannot be predicted with certainty.
- Incubation periods (intervals between infection and onset of symptoms) have ranged widely with the COVID-19 virus, from two days to fourteen days and beyond.
- Persons who become ill may shed virus and can transmit infection before the onset of symptoms.
- The period of outbreak may last weeks to months.

B. Organizational Assumptions

- The City will be provided with guidance and/or direction by federal, state, and local government public health agencies (such as the SLCO Health Department, The Utah Department of Health, or the CDC) regarding current pandemic status in the area.
- The City will have actionable plans and procedures to assist in their ability to remain operational during the pandemic. Plans and procedures may include (but not be limited to) hygiene recommendations, telework, staggering of work hours, re-assignment in an

emergency response role, social distancing, use of personal protection equipment (PPE), and temporary suspension of some non-essential activities.

- Direction on mitigation of transmission will be provided under a unified communications strategy.
- The City has viable organization-wide continuity capabilities, and an executable Base COOP Plan.
- The City has and will review its viable organization-wide continuity capabilities to ensure that they are fully capable of supporting the response requirements of a pandemic outbreak, and consider supporting telework, virtual working options, and social distancing operations to facilitate disease transmission reduction.
- The City's facilities may be accessible, but right of entry may be limited during the pandemic period to facilitate disease transmission reduction to mission essential personnel and minimize overall community spread.
- The City may choose to deploy to alternate facilities (including telework options) to enhance virus exposure protection for mission essential personnel.
- During a COOP event, The City Government may make relocate to its alternate facilities which remain available to staff, in order to implement pandemic COOP protocols.
- The City's essential functions, operations, and support requirements may be people-dependent; however, human interactions may be limited, remote, or virtual, resulting in the employment of appropriate teleworking, remote meeting, and other approved social distancing protocols.
- Travel restrictions, such as limited travel, may affect the ability of some staff to report to work.
- Type of employment and start date may affect the ability of employees to be compensated.

C. County-Level Assumptions

- As with previous planning for incidents of national significance, responsibility for a domestic pandemic response will rest primarily with local, state, and tribal authorities, mandating an optimum level of readiness at the county-level where responsibility will be accepted and leadership demonstrated.
- A pandemic will increase the likelihood of sudden and potentially significant gaps in public service and safety provided by The City.
- A severe pandemic may overwhelm existing healthcare capabilities and capacity within the county and result in an increased number of deaths.
- Under certain scenarios, some of the usual functions of the The City will be significantly reduced or suspended in order to "surge support" and accomplish essential pandemic functions and critical public health and safety responsibilities associated with the response.
- Increased public anxiety within the community will cause increased psychogenic and stress-related illness among the citizens, compounding the strain on health care facilities and staff.
- Special needs populations within (including, but not limited to, geriatric populations that are homebound or in nursing homes; those with existing chronic medical conditions; mental health patients; alcohol and drug dependent persons; correctional facility inmates; individuals with language barriers; and the vulnerable populations) will not only require additional planning considerations to ensure they are being accommodated, but in the specific case of COVID-19, they represent the most at-risk populations in our county community, and will likely suffer far higher degrees of morbidity and mortality if left unaccommodated.
- A significant number of non-U.S. citizens as well as uninsured citizens within the county will require medical and public health intervention.

III. CONCEPTS OF OPERATIONS

The Concept of Operations (ConOps) is supported by four components, consisting of: (1) Programs, Plans, and Procedures, (2) Risk Management, (3) Budgeting and Acquisitions, and (4) Pandemic Continuity Planning Operational Phases and Implementation.

A. Programs, Plans, and Procedures

The City will develop and maintain continuity plans and procedures that, when implemented, support the continued performance of essential functions under all circumstances.

The City, and its principal emergency response agency, the Office of Disaster and Emergency Services, and Salt Lake County Public Health, will immediately provide the incident management response to pandemic outbreaks. It will engage in all available strategies in an attempt to delay and deter the introduction of a virus into the community. The City will provide assistance to public safety organizations and agencies across the spectrum of the first responder and first receiver communities to help them maximize their preparedness capacity and understand their roles in a pandemic incident management mission.

B. Risk Management

Risk Management is the process of identifying, assessing, and prioritizing the potential negative effects of uncertain events (risks) and applying resources to monitor, control, or minimize those negative effects. A risk management program supports the viable continuity capabilities by identifying risks to the continued performance of essential functions and suggesting strategies to mitigate those risks.

Risk management strategies during a pandemic outbreak introduce modifications to the Base COOP plan for The City to determine necessary adjustments of essential functions in order to maximize employee and public safety. These strategies might include implementation of limited, modified or relinquished staff and/or public access to facilities as well as the introduction of other techniques to minimize staff overlap at facilities; including staggered hours, social distancing and re-designed workspaces allowing at least six feet apart.

C. Budgeting and Acquisitions

To support the continuity program, it is necessary to align and allocate budget resources. Through the budgeting and planning process, The City's leaders can ensure that critical resources are available to support essential functions before, during, and after a continuity event. During a pandemic outbreak and, especially when extended periods of heightened absenteeism are observed or expected, fiscally conservative measures might need to be taken by The City as guided by its government leadership.

These measures might include decreasing the level of services for certain essential functions as well as placing other essential functions on hold temporarily. Additionally, considerations for staffing levels will need to be made to mirror the decrease in level of services and overall functions being provided by the City.

D. Pandemic Continuity Planning Operational Phases and Implementation

The City's leadership, through activation of the COOP Continuity Team, should be prepared to review their COOP plans in an emergency or disaster as it unfolds, make decisions about how to react to it at each stage, and then implement those decisions that are deemed the best course of action and integrate implementation procedures and criteria into continuity plans. The City's Base COOP plan addresses four phases: (I) readiness and preparedness, (II) activation and relocation, (III) continuity of operations, and (IV) reconstitution.

The City will refer to its COOP Plan for implementation procedures across these four phases, it will consider the following implementation procedures in the context of a pandemic outbreak:

Readiness and Preparedness in a Pandemic

The City's COOP Planning team reviews this Pandemic-Specific COOP Annex on at least an annual basis. In preparation for pandemic outbreaks, a number of caveats and modifications to each of the essential functions from the Base COOP plan have been identified and documented later in this annex.

The City's COOP Planning team shall explore needed interagency agreements, MOUs, and other pre-agreed upon contractual scopes of work necessary for a partial and/or total devolution of direction and control during a pandemic outbreak that, due to potential heightened absenteeism, would not depend as much on an alternate facility as on an alternate workforce.

Activation of Continuity Plans in a Pandemic

Upon the declaration of a pandemic by the World Health Organization (WHO) and/or a declaration of a public health emergency by the Salt Lake County Director of Public Health, The City shall immediately activate this Pandemic-Specific COOP Plan as well as all members of the COOP Continuity Team.

Continuity of Operations during a Pandemic

The City shall maintain the essential functions outlined in its Base COOP plan during a pandemic outbreak with any pre-determined modifications to that plan identified within this annex. Decisions related to essential functions will need to be made by members of the COOP Continuity Team as well as reinforced by the Office of the Mayor. For this reason, it is essential to ensure the membership of the COOP Continuity Team includes those responsible for such decisions as well as liaising authority with the Office of the Mayor.

Reconstitution after a Pandemic Outbreak

The reconstitution process begins when the City has regained the capability and physical resources necessary to return to normal (pre-pandemic) operations. The objective during reconstitution is to effectively manage, control, and, with safety in mind, expedite the return to normal operations. The City has developed reconstitution plans and procedures for each of the essential functions and in conjunction with local public health authorities, to ensure facilities/buildings are safe to return for both staff and public access.

The City's reconstitution plan considers the possibility that not all employees may be able to return to work at the time of reconstitution. It may be necessary to either maintain or implement reconstitution strategies such as staggered hours, social distancing or limited or no access for a period of time for

both staff and public and, in some cases, hire temporary or permanent workers in order to complete the reconstitution process if absenteeism rates continue.

IV. ELEMENTS OF VIABLE CONTINUITY CAPABILITIES IN A PANDEMIC

The ten elements of Viable Continuity Capabilities in continuity planning in this Pandemic-Specific COOP Plan outline special actions or deviations when responding to a pandemic outbreak as compared to responding to other hazards including earthquakes, fires, and floods. These continuity capabilities can be broken down as either organization-wide or essential mission-specific.

A. Organization-Wide Continuity Capabilities

Orders of Succession

Pandemic outbreaks may affect Salt Lake County differently than other regions in the United States in terms of timing, severity, and duration. Due to increased potential for extended absences of key personnel and to help assure continuity of operations over an extended period, the City has identified the following caveats to orders of succession during a pandemic outbreak:

[Enter any revisions to this capability based on a pandemic]

Delegation of Authority

At the height of a pandemic outbreak, absenteeism may be significant. Due to increased potential for extended absences of delegated authorities for each of key areas of operations: *Head of Organization Authorization*, *Travel Authorization*, *Leave Authorization*, *Purchase Requisitions / Spending Authorization*, and *Execution of Contracts*. The City has established the following caveats during a pandemic outbreak to established delegations of authority in each of the following key operational areas over an extended period:

Head of Organization Authorization

[Enter any revisions to this authority based on a pandemic]

Travel Authorization

[Enter any revisions to this authority based on a pandemic]

Leave Authorization

[Enter any revisions to this authority based on a pandemic]

Purchase Requisitions / Spending Authorization

[Enter any revisions to this authority based on a pandemic]

Execution of Contracts Authorization

[Enter any revisions to this authority based on a pandemic]

Human Resources

Although a pandemic outbreak may not directly affect physical infrastructure of an organization, a pandemic will ultimately threaten all operations by its impact on an organization's human resources. The public health threat to personnel is the primary threat to maintaining essential functions and services during a pandemic outbreak.

Review, Training, Exercise, and Updates

Review, training, exercise and updating this annex is essential to assessing, demonstrating, and improving an organization's ability to maintain its essential function and services. The City will conduct a COOP review, training, exercise series (a discussion-based exercise for organization management, and an operations-based drill), and update their plan and annex based off exercise findings on an annual basis. Additionally, the caveat for review, training, exercise and updates for continuity of operations in a pandemic applies:

The City's Office of Disaster and Emergency Management shall review the Pandemic-Specific Continuity of Operations Annex on an annual basis for accurate information and need to revise/update as needed.

The City's Office of Disaster and Emergency Management shall provide training to essential staff of the Pandemic-Specific Continuity of Operations Annex on an annual basis.

The Pandemic-Specific Continuity of Operations Annex shall be used as a primary document to validate in a discussion-based exercise and an operations-based drill every other year for the City, in tandem with a more traditional, physical hazard continuity exercise series.

The City's Office of Disaster and Emergency Management shall provide a reviewed and updated Pandemic-Specific Continuity of Operations Annex by March 31 of every year for final review of changes and storage of annex in paper and electronic form.

B. Essential Function-Centric Continuity Capabilities Overview

The following Viable Continuity Capabilities are considered essential function-specific and might vary for each essential function identified and prioritized in the base COOP Plan. General pandemic-specific considerations for each capability are detailed as follows:

Essential Functions

Given the expected duration and cascading impact(s) from pandemic outbreaks, organizations need to consider processes in carrying out essential functions and services in order to develop plans that mitigate the effects of the pandemic while simultaneously allowing for the continuation of operations which support essential functions.

The City's Office of Disaster and Emergency Management has identified the following modifications for each essential function when responding to a pandemic outbreak for all Tier 1, Tier 2, and Tier 3 essential functions identified in the base COOP Plan. All modifications would be reinforced by guidelines from the agency head and the COOP continuity team:

[Enter any revisions to an essential function based on a pandemic]

[Enter any revisions to an essential function based on a pandemic]

[Enter any revisions to an essential function based on a pandemic]

[Enter any revisions to an essential function based on a pandemic]

[Enter any revisions to an essential function based on a pandemic]

Facility Guidelines (Primary and Alternate Continuity Facilities)

The traditional use of primary and alternate continuity facilitates to maintain essential functions and services may not be a viable option during a pandemic. Rather, safe work practices, which may include telework, staggered work hours, or social distancing, reduce the likelihood of contact with other people that could lead to viral transmission. The City has identified procedures, including those stated above along with hygiene etiquette and postponement/cancellation of non-essential activities to reduce the spread of a pandemic (identified in Appendix B). The City has established the following caveats during a pandemic outbreak:

[Enter a caveat based on a pandemic]

Continuity Communications

Workplace risk of contraction and transmission may be minimized through implementation of systems and technologies that facilitate communication without person-to-person contact. The City has established the following caveats during a pandemic outbreak:

[Enter a caveat based on a pandemic]

Vital Records Management

The City shall identify, protect, and ensure the availability of electronic and hardcopy documents, references, records, and information systems needed to support essential functions during a pandemic. The City has established the following caveats during a pandemic outbreak:

[Enter a caveat based on a pandemic]

Devolution of Control and Direction

Devolution is the process of transferring operational control of one or more essential functions to a pre-determined alternate agency or third-party. Pandemic outbreaks will occur at different times, have variable durations, and may differ in severity. Therefore, full or partial devolution of essential functions may be necessary to continue essential functions and services. The City has established the following caveats during a pandemic outbreak:

[Enter a caveat based on a pandemic]

Reconstitution

Reconstitution is the process whereby an organization has regained the capabilities and resources necessary to return to normal (pre-disaster) operations. The objective during reconstitution is to effectively manage, control, and, with safety and precaution in mind, expedite the return to normal operations. The City has established the following caveats during a pandemic outbreak:

[Enter a caveat based on a pandemic]

V. CONCLUSION

Maintaining the City's essential functions and services in the face of a pandemic outbreak, especially novel viruses like COVID-19, requires additional considerations beyond traditional continuity planning.

Unlike other hazards that necessitate the relocation of staff performing essential functions to an alternate operating facility, pandemics may not directly affect physical infrastructure of any organization. Rather, a pandemic threatens an organization's human resources and delivery of services by removing personnel (some essential) from the workplace for extended amounts of time.

Protecting the health and safety of personnel in order to enable the continued operations and performance essential functions and services during a pandemic is the unified goal across all of The City of South Salt Lake.

APPENDIX A: PANDEMIC BACKGROUND

A. The Overarching Pandemic Threat

- Viruses have threatened the health of animal and human populations for centuries. The genetic and antigenic diversities and their ability to change rapidly due to genetic reassortment and mutation has made it very difficult to develop either vaccines or highly effective antiviral drugs.
- A pandemic occurs when a novel strain of virus emerges with the ability to infect and efficiently spread among humans. Because humans lack immunity to a new virus, a world-wide epidemic, or pandemic can result.
- There have been four declared pandemics in the 20th Century: 1) 1918-29 H1N1 Influenza A (erroneously dubbed the so-called "Spanish Flu"1); 2) 1952 H2N2 Influenza A (dubbed the "Asian Flu"); 1968 H3N2 Influenza A (dubbed the "Hong Kong Flu"; 4) 1981 HIV/AIDS (still ongoing); and one in the 21st Century, the 2009-10 H1N1 Influenza A (dubbed the "Swine Flu"). These pandemics resulted in infection of on average 30% of the world's population and the death of from 0.2 to 2 percent of those infected.
- Avian viruses were involved in all three of the 20th Century pandemics. The 1918-19 pandemic is generally regarded as the deadliest disease event in recorded history. Updated assessments of the morbidity and mortality of the pandemic indicate an attack rate of 50% of the entire human population at the time (1.8B) that is believed to have resulted in more than 100M deaths.
- On or about 21 December 2019, Chinese government officials were apprised of an index cluster of ~44 patients who had been admitted to hospitals in Wuhan City in the Hubei Province Eastern Central China for severe pneumonia of an unknown etiology. On 31 December, the Chinese government reported the outbreak to WHO China Country Authorities.
- The virus was quickly identified as a novel version of the coronavirus, which had caused severe outbreaks in 2002 (i.e., Sudden Acute Respiratory Syndrome or "SARS", which a resulted 8,098 cases with 774 deaths [9.6% CFR] in 17 countries world-wide); and 2012 (i.e., Middle East Respiratory Syndrome Coronavirus or "MERS-CoV [officially known as EMC/212], which resulted in 2,298 cases with 811 deaths [35% CFR] in 21 countries world-wide) (although most were centered in Middle Eastern countries). All three of these versions of coronavirus are believed to be zoonotic (i.e., originating in animals), and can be traced to bats.
- In February 2020, WHO officials officially named the latest strain of coronavirus "COVID-19," and declared it "a global public health emergency of grave concern". As of this writing (16 March 2020), COVID-19 has spread to over 120 countries world-wide with more than 180,000 confirmed cases causing more than 7,000 deaths (3.8% CFR).2 In the U.S., there are currently 16,638 cases with 212 deaths currently reported (1.2% CFR). Both the global and U.S. specific numbers continue to make significant progressions daily, making the overall morbidity and mortality (M&M) associated with the COVID-19 Pandemic a highly fluid event.
    - On 11 March 2020, COVID-19 was officially declared a global pandemic by the WHO.

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[1] The 1918-19 Influenza Pandemic was thought to have had its original index cluster and primary infectivity bloom in Spain as U.S. and Allied Forces staged for their movement to the Western Front of WWI, hence it's moniker "Spanish Flu". In reality, the index cluster occurred in a U.S. Army barracks located at Camp Funston in Kansas.

[2] While the CFR appears to remain relatively low, the true outcome of relational mortality globally won't be known until the outbreak reaches the peak of the epidemic (or now, more accurately, pandemic) curve. It should be pointed out that even what appears to be a low CFR may, in the end, demonstrate an exceptionally high level of mortality associated with COVID-19.

B. Potential Global Impact of a Pandemic

- All nations face considerable challenges in mounting a potentially unprecedented, coordinated global response to a pandemic. Global spread of COVID-19 has already occurred. Countries might, through measures such as border closures and travel restrictions, delay further transmission of the virus, but they cannot stop it. Containment—the first of a global three-part strategy (i.e., containment, stockpiling and use of effective antivirals, and rapid characterization of an emerging virus for vaccine development)—was proven to be useless in the 2009-10 Pandemic and quickly dropped. There is no reason to consider it will be effective now given symptomatic latency, previously porous international borders, and the ability of global air travel to hyper-speed disease around the globe.
- Pandemics of the previous century encircled the global in anywhere from 6 to 9 months, even when much of international travel was limited to rail and ship intra-continentally and inter-continentally, respectively. Given the speed and volume of international air travel today, the airline industry has become of unwitting vector accelerant of this declared (and any future) pandemic(s). Virus now spreads more rapidly than ever before, reaching all continents in weeks or months. An additional complication is that COVID-19—like many other viruses—can infect people and cause them to "shed" virus and infect others before they ever become symptomatic in the first place, making any strategy related to containment a virtual impossibility.
- Five discreet factors are showing an increased level of risk and the potential for significantly more profound impact in terms of the scope and scale of a pandemic (or for that matter, any other natural or man-made disasters that have the potential for the production of a catastrophic casualty event: 1) Since the first quarter of the 20th Century, the human population has more than tripled from 1.8B to 7.6B people. In terms of exposure to a disaster, we simply have a greater global "population-at-risk" (or "PAR"); 2) Climate change has significantly increased the number of (primarily) meteorological and hydrological disaster events. How climate change is affecting the incidence of disease, especially as it relates to newly emerging infectious diseases, has yet to be determined. However, it should be pointed out the glacier recession as a result of global warming has caused virologists to discover pathogens that have been seen before in the natural world. 3) The emergence of numerous "mega-cities" around the globe (populations with >20M residents occupying limited geographic space) has led to the phenomenon of "clustering" where these population end up placing an enormous burden on the critical infrastructure and key resource (CI/KR) necessary to support them. When disasters do occur, the limited CI/KR is likely to be propelled to a tipping point of collapse as demand increases. This is particularly true in the healthcare CI/KR, where demand from a rapid, vertical expansion of the epidemic curve may collapse healthcare resources in the most concentrated U.S. population centers. 4) By this year, 75% of the world's population is expected to reside within 75 miles of the world's littorals (i.e., coasts), making ports of embarkation and debarkation (APOE/D)—traditional jumping off points of disease outbreaks—more closely confluent with the global population. And, finally, 5) With the advent of global air travel now functioning as the principal transportation modality of the common era, the air industry is going to function as a vector accelerant of any pandemic-capable infectious disease outbreak involving a novel virus.
- Widespread illness is now occurring, although at the time of this writing the State of Utah has had a relatively small number of cases in comparison to other, harder hit states. Infection and illness are expected to significantly exceed seasonal epidemics of normal, non-pandemic strains of seasonal influenza (which have had considerably high levels of morbidity and mortality for the 2019-20 season, already considered have been the worst seasonal flu in more than 40 years). It is estimated that if the COVID-19 outbreak continues its present level of transmission, or if that level accelerates, a substantial portion of the

world's population will require some form of medical care.

- Antiviral medications—which treat only the symptoms of a virus and not its cause—and an effective vaccine to help prevent acquiring the disease will be in great demand. However, at this time, antiviral medications such as Oseltamivir ("Tamiflu") which have been used to treat severe influenza symptoms are demonstrating no efficacy against COVID-19, and an accurate characterization that can lead to the rapid development of an effective vaccine are thought to be at least a year to 18 months away at best.
- Inadequate supplies of vaccine—when they do become available—are of particular concern, as vaccines are generally considered the best countermeasure for protecting populations. Many resource poor countries may have no access to vaccines throughout the duration of the pandemic (assuming a vaccine becomes available during the actual declared pandemic period) and have very limited supplies of other infection control and supportive care material, which will further propel dangerous cascading failures amongst their populations. Even countries with large investments in healthcare and public health infrastructure will face significant challenges of scare resources and limited surge capacity in an atmosphere of extreme demand.
- The number of deaths during influenza pandemics has varied greatly. Death rates are largely determined by four factors: the number of people who become infected; the virulence of the virus; the underlying characteristics and vulnerability of affected populations; and the effectiveness of clinical interventions and preventive measures. Within some countries those who do not receive effective medical care during pandemic periods (e.g., low rates of influenza vaccine coverage) are likely to bear a disproportionate burden of excess deaths from a pandemic. Accurate predictions of mortality cannot be made before the pandemic reaches maximum transmissibility. Mass fatality management (MFM) will arguably be one of our greatest challenges, as noted from our experience with the 1918-19 Influenza Pandemic.[3]
- Economic and social disruption may be high. High rates of illness, hospitalization, and worker absenteeism are expected, and these will contribute markedly to social and economic disruptions. Social disruption may be greatest when rates of absenteeism impair essential services such as healthcare, public safety, power, food supply, transportation, and communications.

C. Potential U.S. Domestic Impact of a Pandemic

- Despite annual vaccination programs and advanced medical technologies, an estimated 36,000 seasonal influenza deaths and 226,000 hospitalizations occur on average each year in the United States. Based on current models of pandemic disease transmission involving a novel virus, a new pandemic could affect as much as 30-40% of the U.S. population and result in the deaths of 200,000 to two million U.S. residents. By comparison, there were 675,000 U.S. fatalities as a result of the 1918-19 pandemic.
- A pandemic's impact will extend far beyond human health. It will undermine many of the day-to-day functions within our society and thus could significantly weaken our economy and national security.
- Worker absentee rates (due to illness, care giving responsibilities, exposure avoidance, fear, etc.) are projected to reach 40% at the height of a pandemic. Businesses and government agencies must address how they will perform their essential tasks with a high rate of employee absenteeism.
- The longer it takes for an influenza pandemic to begin, the more likely it is that its effects can be mitigated by informed citizens, prepared healthcare teams and public health

[3] Barry, J.M. (2004). *The Great Influenza: The Story of the Deadliest Plague in History.* Penguin Books: New York, NY.

systems, and proactive leaders. Ultimately, the center of gravity of the pandemic response will be in communities where coordinated efforts will be essential.

- Because of poverty, household crowding, and higher prevalence of chronic conditions that suppress immunity, the incidence, complications, and mortality from the pandemic may be higher among some sectors of society than among others. During a pandemic, historically lower rates of vaccine coverage in these populations may become exacerbated by shortages. Efforts to distribute vaccines and antiviral drugs (should they become available in such populations) may be hampered by deterioration in usual sources of medical care. Real or perceived injustice may impede the acceptance and effectiveness of isolation and quarantine measures.
- There is little doubt that the Achilles' Heel of our U.S. critical infrastructure and key resource (CI/KR) sectors will be the healthcare sector. If the epidemic curve (i.e., the apogee of the casualty load) associated with the COVID-19 Pandemic exceeds the static and ultimately finite capacity of the Nation's healthcare system, there is real risk of propelling the system to collapse. Markedly exacerbating this situation is the fact that the managed care system that dominates the U.S. healthcare industry has turned hospital beds into profit centers. If beds remain unfilled, healthcare organizations and systems remain unprofitable and many ultimately close. The net result is that we lack virtually any extent surge capacity in our healthcare system to accommodate sudden spikes in casualty loads. Surge capacity planning—including the development and staging of alternate care facilities to accommodate the surge load—must be given careful and prioritized planning at these earliest stages of the COVID-19 Pandemic.

APPENDIX B: COVID-19 HYGIENE

The following limitations may affect the ability to successfully execute COVID-19 specific continuity operations and incident management efforts under this annex.

- Defining the magnitude of the COVID-19 pandemic is impossible due to both the lack of scientific data associated with the COVID-19 virus, as a newly emerging infectious disease, and the current unpredictability of the virus and any future possible mutations.
- If there is a moderate to severe pandemic, there is insufficient surge capacity throughout the healthcare infrastructure of the U.S. Even with innovative attempts at accommodating substantially increased patient care requirements (e.g., fielding deployable medical contingency stations, leveraging "locations of opportunity," etc.), it is highly unlikely that sufficient treatment facilities would be available to support affected populations across the U.S. even if the pandemic presents itself as "the moderate scenario (i.e., 1958/68-like Pandemic)" (HHS Pandemic Influenza Plan/Part 1 Strategic Plan, p. 18).
- Simultaneous or near-simultaneous outbreaks of COVID-19 in communities across the U.S. will limit the ability of any jurisdiction to provide support and assistance to another area (e.g., Emergency Management Assistance Compacts [EMACs] in place from state-to-state.)
- There is no COVID-19 vaccine or effective antivirals.
- There are critical shortages of equipment and supplies (e.g., ventilators) to adequately support projected requirements for hospitalized patients.
- There are burgeoning shortages of masks and personal protective equipment [PPE] to support the occupational health requirements of healthcare workers during the pandemic outbreak.
- Reliance on non-U.S., overseas manufacturers for high-demand items will exacerbate existent shortfalls and further complicate our ability to effectively respond to the COVID-19 Pandemic outbreak.
- By its nature, vaccine production must await the appearance of the strain of a newly emerging virus which meets the criteria of easy transmissibility among humans and high virulence (which has occurred). Even if aggressive methods are used to shorten the manufacturing cycle, it is reasonable to believe that vaccine stocks may not be available for at least 12 to 18 months after the start of the COVID-19 outbreak.
- In accordance with the planning assumptions of the National Response Framework, it is possible that the Universal Adversary may find it opportunistic to launch an attack against the United States. In addition, it is possible that currently circulating strains of Influenza A that have been assessed as having pandemic potential (i.e., H5N21, H7N9, and H1N1) may emerge either during or after the COVID-19 Pandemic. In either case, mounting successful incident management efforts will prove extraordinarily difficult.

APPENDIX C: CONSIDERATIONS OF HYGIENE ETIQUETTE AND COMMUNITY-BASED MEASURES TO MITIGATE TRANSMISSION OF COVID-19

The U.S. Centers for Disease and Prevention (CDC), in collaboration with U.S. public health experts has developed this guidance for federal/state/tribal/local public health authorities (PHA) on the use of public health measures (PHM) to reduce and delay transmission of COVID-19 in the community.

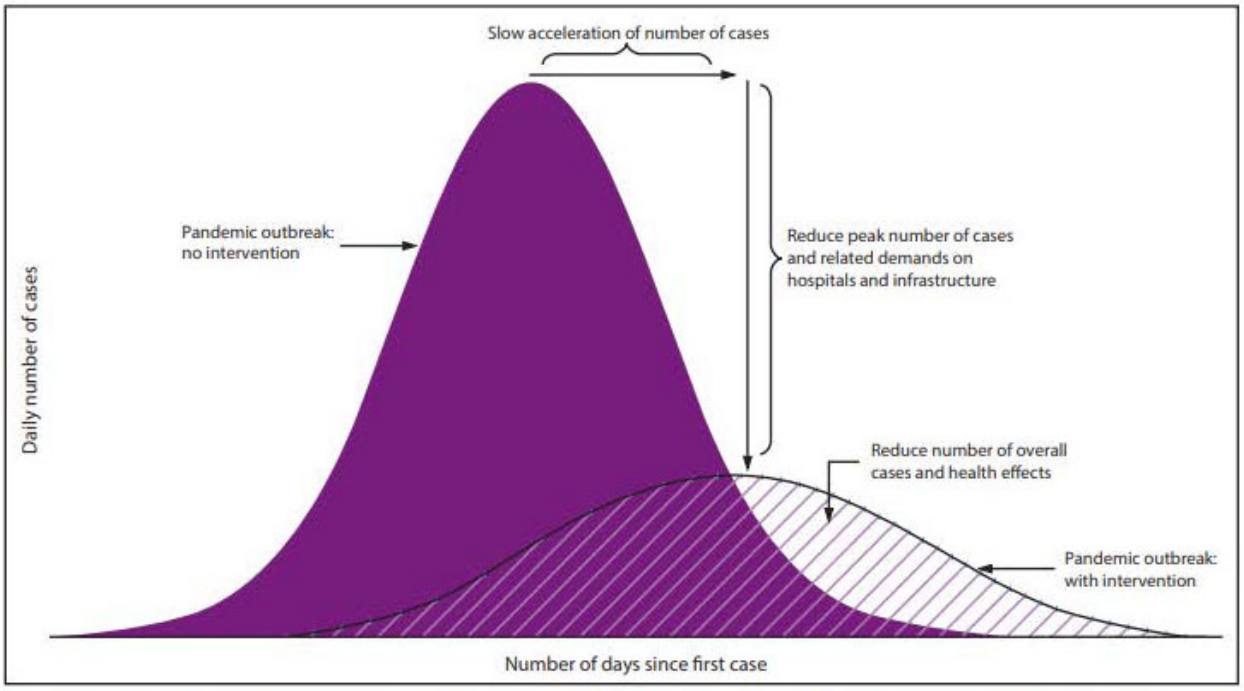
Our nation's pandemic goals, which are first, to minimize serious illness and overall deaths, and second to minimize societal disruption, will guide our response to COVID-19. This guidance is based on currently available scientific evidence, expert opinion and public health assumptions. Given the evolving nature of COVID-19 epidemiology, the intent of this guidance is to prepare in the event of community-based spread seen in the U.S. and elsewhere in the world. This guidance is subject to change as information emerges on transmissibility and epidemiology, and if treatment options or new information on clinical management becomes available. It is expected that the timing and intensity of virus activity will vary across the U.S. and within state and local environments, i.e., some may be experiencing sustained community transmission while others are only having isolated cases with limited person-to-person transmission. The focus of this guidance is to delay and mitigate the community transmission of COVID-19; however, the containment approaches outlined in Public Health Management of cases and contacts associated with novel coronavirus disease (COVID-19) are applicable and are still in the containment strategy given the relatively limited number of cases in the U.S.. This guidance should be read in conjunction with relevant state and local legislation, regulations, and policies. For information regarding COVID-19, visit the CDC and WHO web sites.

A. Introduction

Public health measures (PHM) include non-pharmaceutical interventions that can be used to reduce and delay community transmission of the novel coronavirus that causes COVID-19. Implemented early, PHM seek to reduce the speed with which cases are occurring to delay and to reduce the peak of virus activity in the community (see figure 1) and reduce the demand for health care services. Some measures are used commonly in the U.S. for seasonal influenza and other communicable disease outbreaks, while others will likely only be considered during a more severe pandemic. Given that there is currently no effective vaccine or specific treatment (e.g. antiviral medication) for COVID-19, public health measures will be the only tools available to mitigate the impact of the virus. A crucial aspect of PHM is effective communications by PHA to promote and support public trust. Refer to the section below on public education and communication for additional considerations.

Public health measures are usually implemented as combinations of two or more measures, which is sometimes referred to as "layered use". The theoretical rationale for layering public health measures is based on the expectation that combinations are likely to be more effective than the partial effectiveness of a single measure.

Figure 1: Goal of Public Health Measures



Source: Adapted from: CDC. Interim pre-pandemic planning guidance: community strategy for pandemic influenza mitigation in the United States—early, targeted, layered use of nonpharmaceutical interventions. Atlanta, GA: US Department of Health and Human Services, CDC; 2007. https://stacks.cdc.gov/view/cdc/11425.

Public health measures outlined in this guidance include actions taken by individuals (healthy, those potentially exposed, and those with COVID-19) designed to protect themselves and others as well as community-based approaches whereby planners, employers, community organizers can implement strategies to protect groups and the community at large. Compliance with recommendations and sustainability of them over time may be influenced by a variety of factors, including, but not limited to cultural, financial, social, and spiritual circumstances. Some communities may require tailored approaches based on geography, culture and living circumstances.

Guidance for individuals who are self-isolating or caring for someone in the home or co-living setting (including university dormitories, shelters, communal living facilities) has been developed: Public Health Management of cases and contacts associated with novel coronavirus disease (COVID-19).

Public health measures such as hand hygiene, respiratory etiquette, and environmental cleaning in the home are the cornerstone public measures to protect individuals, their families and others against seasonal influenza and other respiratory viruses. The same measures are also effective when COVID-19 is circulating in the community. The application of these principles will help prevent and control transmission of any respiratory infectious disease, including COVID-19.

B. Hand Hygiene

Refers to hand washing with soap and water or hand sanitizing with alcoholic solutions, gels or tissues to maintain clean hands and fingernails. It should be performed frequently with soap and water for at least 30 seconds:

- Before and after preparing food
- Before and after eating
- After using the toilet

- After coughing/sneezing into a tissue (or if non-compliant with respiratory etiquette)
- Before and after using a surgical/procedure mask and after removing gloves
- After handling body fluid-contaminated waste or laundry
- Whenever hands look dirty

If soap and water are not available, hands can be cleaned with an alcohol-based hand sanitizer (ABHS) that contains at least 60% alcohol, ensuring that all surfaces of the hands are covered (e.g. front and back of hands as well as between fingers) and rubbed together until they feel dry. For visibly soiled hands, soiling should be removed with an alcohol-based hand wipe first, followed by use of ABHS.

Touching one's eyes, nose, and mouth with unwashed hands should be avoided.

C. Respiratory Etiquette

Describes a combination of measures intended to minimize the dispersion of large particle respiratory droplets when an ill person is coughing, sneezing and talking to reduce virus transmission.

Cover coughs and sneezes with a surgical/procedure mask or tissue. Dispose of tissues in a lined waste container and perform hand hygiene immediately after a cough or sneeze.

OR

Cough/sneeze into the bend of your arm, not your hand.

D. Environmental Cleaning and Ventilation

Refers to routine cleaning of frequently used surfaces and objects to help to prevent the transmission of COVID-19 to help to mitigate the risk of people becoming infected through self-inoculation after touching contaminated surfaces. The virus that causes COVID-19 has the potential to survive in the environment for up to 3-5 days. Cleaning, particularly of frequently touched surfaces, can kill the virus, making it no longer possible to infect people.

Cleaning the home and co-living setting

Frequently touched areas such as toilets, bedside tables, light switches and door handles should be first cleaned (to physically remove dirt) and disinfected daily with water and regular household cleaning products or a diluted bleach solution (0.5% sodium hypochlorite). If they can withstand the use of liquids for disinfection, frequently touched electronics such as phones, computers and other devices may be disinfected with 70% alcohol (e.g. alcohol prep wipes). All used disposable contaminated items should be placed in a lined container before disposing of them with other household waste.

Cleaning public spaces

Cleaning of high traffic public spaces (e.g. malls, airports, public transportation) should follow regular cleaning and disinfecting regimes, both in terms of products used and surfaces targeted, as it is not likely practical/sustainable to increase the frequency of cleaning. Community settings are encouraged to develop protocols for cleaning public spaces if they currently do not have an established cleaning routine.

Workplaces and other similar community settings are encouraged to clean highly touched surfaces (e.g. phones, elevator buttons, washrooms, tables) frequently and to recommend and facilitate

increased hand hygiene. It is also recommended that items that cannot be easily cleaned (e.g., newspapers, magazines, stuffed toys) be removed.

Ventilation

Increasing ventilation (e.g. opening windows when weather permits) may help reduce transmission, though evidence is limited as to its effectiveness. Simulation studies show that increased ventilation was shown to reduce influenza transmission and is usually simple and feasible in many locations.

E. Social Distancing

Social distancing measures are approaches taken to minimize close contact with others in the community and include: quarantine and self-isolation at the individual level as well as other community based approaches (e.g. avoiding crowding, school measures and closures, workplace measures and closures, public/mass gathering cancellations) which are further described in the section titled **community-based measures** below.

Social distancing measures are likely to have secondary consequences for individuals, families and communities, such as loss of income, an elevated need for support services, and potentially reduced availability of certain services. Some measures require extensive preparation and engagement across sectors. During a pandemic of lesser severity, the infection control benefits of implementing some community measures (e.g., proactive school closures) may not be offset by the cost and societal disruption caused by these measures.

Whenever public health authorities impose restrictions on individual freedoms, the intervention should be proportional to the magnitude of the threat. This principle of 'least restrictive means' should always be a consideration when enacting social distancing measures. Reference 8 outlines the ethical considerations with respect to the selection and use of PHMs in a pandemic.

It is crucial that individuals follow self-isolation recommendations properly to prevent transmission of COVID-19 to others in the home setting or in the community. It is recommended that all individuals in the community plan ahead by maintaining a supply of essential medications, home supplies and extra non-perishable food in the event they require voluntary self-isolation.

Isolation

Isolation is recommended for a symptomatic individual that is suspected of having, or known to have, COVID-19. They are directed by PHA to isolate themselves in the home-setting and avoid contact with others until PHA has advised that they are no longer considered contagious. Isolation includes:

- Not going out of the home setting. This includes school, work, or other public areas
- Not using public transportation (e.g. buses, subways, taxis)
- Identifying a "buddy" to check on and do errands for each another, especially for those who live alone or at high risk for developing complications.
- Having supplies delivered home instead of running errands (supplies should be left on the front door or at least a 2-meter distance maintained between people)
- If leaving the home setting cannot be avoided (e.g. to go to a medical appointment), wear a mask (if not available, cover mouth and nose with tissues) and maintain a 2-meter distance from others. The health care facility should be informed in advance that the person may be infectious.

Voluntary home sequestration ("self-isolation")

Self-isolation is recommended for an asymptomatic person, when they have a high risk of exposure to the virus that causes COVID-19, (i.e., through close contact with a symptomatic person or their body fluids). They are asked to self- isolate in the home-setting to avoid contact with others in order to prevent transmission of the virus at the earliest stage of illness (i.e., should they develop COVID-19).

Protective self-separation

Protective self-separation is recommended for a person who is at high-risk for severe illness from COVID-19 (e.g., older adults, those with chronic underlying medical conditions or immunocompromised) when the virus is circulating in their community.

Voluntary avoidance of crowded places

This is recommended for a person who is asymptomatic and who is considered to have had a medium risk of exposure to the virus that causes COVID-19. This involves avoiding crowded public spaces and places where rapid self-isolation upon onset of symptoms may not be feasible. Examples of these settings include mass gatherings, such as concerts and sporting events; not including hospitals (for HCWs) and schools.

Mandatory sequestration

This is the imposed separation or restriction of movement of individuals, groups or communities, for a defined period of time and in a location determined by the PHA. As local circumstances will vary across the U.S. and within states, quarantine may be used to contain, delay or mitigate COVID-19, although its effectiveness once there is widespread community transmission is unknown. An individual in mandatory quarantine is asymptomatic but may have been exposed to the virus causing COVID-19. A decision to implement mandatory quarantine requires careful consideration of the safety of the individual/group/community, the anticipated effectiveness, feasibility and implications.

F. Self-Monitoring

Self-monitoring is implemented when individuals are potentially exposed to the virus and includes monitoring for the occurrence of symptoms compatible with COVID-19. If symptoms develop, the individual should follow the recommended public health actions regarding convalescing at home versus seeking medical care, depending on severity of symptoms and the presence of underlying medical conditions.

G. Use of Masks

Masks should be used by a symptomatic individual, if available, to provide a physical barrier that may help to prevent the transmission of the virus by blocking the dispersion of large particle respiratory droplets propelled by coughing, sneezing and talking. A face mask should always be combined with other measures such as respiratory etiquette and hand hygiene. They can be worn by people suspected or confirmed of having COVID-19 when in close contact with other people in the home-setting or if they must leave the home-setting for medical attention.

The use of a mask by a healthy person who is providing direct care for a person with COVID-19 should always be combined with eye protection and gloves and other droplet/contact prevention measures including hand hygiene and environmental cleaning. Refer to the CDC's Case and Contact Management Guidance for additional advice.

There is no evidence on the usefulness of face masks worn by healthy/asymptomatic persons as a mitigation measure, therefore it is not recommended. Globally masks are in short supply and the current demand for masks cannot be met; therefore, appropriate use of face masks should be encouraged.

H. Community-based Measures

Community-based measures are actions taken by planners, administrators, and employers to protect groups, employees and the population. The measures outlined below are relevant to all non-health care settings and aim to reduce transmission within the community settings such as workplaces, schools, public transportation, communal living settings, spiritual and cultural settings, community centers and other places where people gather such as shopping centers, camps and entertainment facilities. These measures will always be layered with personal protective measures described above.

Guidance developed for acute health settings is available and can be applied to any setting where healthcare is being provided.

Many of these community-based actions require extensive preparation and engagement across sectors, and secondary consequences (e.g. financial implications, interruptions in social supports, reduction in services, societal disruptions) may be anticipated and should be considered in planning. The implementation of some public health measures may be more disruptive (e.g., school closures) and their use should be based on a risk assessment [in] collaboration with local authorities, which may result in jurisdictional variations across the states. These measures are usually associated with pandemics of moderate to high impact given their societal and economic costs. As much as possible, a harmonized approach should be taken. It is recognized that some individuals, groups, or communities may adopt or decline to adopt measures that are inconsistent with public health advice or are based on cultural norms (e.g., healthy individuals wearing masks). PHAs should reinforce the rationale for the recommendations, avoid stigmatization of these groups or communities, and plan communications and stakeholder outreach accordingly.

I. Avoid Crowding

Measures taken to reduce the amount of time individuals spend in large crowds or in crowded spaces can be effective to reduce the transmission of COVID-19 in a community. It is recognized that while this intervention may reduce the viral transmission, some measures (e.g. closing public transit) could also have significant impact on societal function and compliance may be challenging. Restrictions on non-essential gatherings could pose a barrier to accessing group support and personal freedoms (e.g., cancelling church services, closing community centers). It may also have cultural or religious implications (e.g. funerals, religious services, weddings). The feasibility of avoiding crowds is uncertain as crowding occurs in large cities daily (e.g. public transportation, subways, airports, shopping centers, movie theatres). Discretionary gatherings, like churches and theatres, might be left to individual groups, rather than PHAs. Refer to mass gatherings, which provides advice related to mass gathering events in the context of COVID-19.

Factors to consider when making decisions:

- The likelihood that people will comply with crowd avoidance.
- People who are suspected or confirmed of having COVID-19 who are self-isolating, should isolate in the home setting and not go out in public.

- People who are self-monitoring for symptoms (see section above) should always avoid crowded settings (e.g. sporting events, concerts, airplanes, subway) and places where rapid self-isolation may not be feasible should symptoms develop.
- When in crowded settings, people should practice personal protective measures (e.g., frequent hand hygiene, avoid touching eyes/nose/mouth).
- Employers/businesses could consider implementing staggered work hours to reduce crowding on public transit during peak commuting hours and in large workplaces during normal workday hours.
- Voluntary quarantine of a community can be considered based on the local epidemiologic and social assessment of the situation.
- If public transportation is shut down, transportation alternatives may need to be considered for emergency medical services or medical treatments (dialysis, chemotherapy), as well as for critical infrastructure workers.

J. Workplaces

Public health measures implemented in workplaces can be taken to prevent the spread of the virus causing COVID-19 in workplaces and other similar community settings. Further information on preparing workplaces for COVID-19 is available from the CDC or WHO.

Strategies that workplaces can put into effect include:

- Increased awareness about and communication to staff about COVID-19.
- Encouraging the use of individual measures described above such as frequent hand hygiene, respiratory etiquette and self-isolation when ill.
- Evaluate the workplace for areas where people have frequent contact with each other and share spaces and objects.
- Workplaces/community settings should identify possible COVID-19 exposure risks and mitigation approaches. Although not conclusive, there may be benefit to increasing the spatial separation between desks and workstations as well as individuals (e.g., employees, customers) from each other, ideally a 2 meter separation should be maintained, unless there is a physical barrier (e.g., cubicle, Plexiglas window).
- Workplaces and other similar community settings are encouraged to increase frequency of cleaning of frequently touched surfaces (e.g., phones, elevator buttons, computers, desks, lunch tables, kitchens, washrooms, cash registers, seating areas, surface counters, customer service counters, bars, restaurant tables/menus).
- Provide access to handwashing facilities and place hand sanitizing dispensers in prominent locations throughout the workplace, if possible.
- Consider providing additional tissues should someone develop respiratory symptoms. If symptoms develop the person should immediately be separated from others, instructed on respiratory etiquette and sent home (not using public transit, if possible).
- Where feasible, adjustments to policies and procedures may be put in place to reduce social contact, such as teleworking arrangements, flexible hours, staggering start times, use of email and teleconferencing.
- For business travel, employers should be aware of the latest information on COVID-19 affected areas and any travel health advisories. The risks and benefits related to upcoming business travel should be assessed and consideration given to alternative approaches such as virtually attending meetings. Returning international business travelers returning from affected areas should self-monitor for symptoms and follow advice provide by PHAs regarding the recommended actions.
- Consider relaxing sick leave policies that support employees in self-isolating when ill. This includes suspending the need for medical notes to return to work (reduces the burden on an already stressed health care system).

- Employers should prepare for increases in absenteeism due to illness among employees and their families or possibly school closures. Employers should access their business continuity plans, which should include a plan for how to maintain key business functions if faced with high absenteeism. Consideration should also be given to the need for cross-training personnel to function in key positions. This is an important element of Business Continuity Planning.
- Workplace and community setting closures may be considered, based on local conditions and a risk assessment in an exceptional circumstance, such as if COVID-19 evolves into one with high severity and if many employees must be off to prevent transmission. The selection of measures will depend on the company and the type of work; some measures (e.g. cancellation or closures) may have significant economic consequences and decisions should be made based on a risk-benefit analysis.

K. Mass Gatherings

Mass gatherings are highly visible events with the potential for serious public health consequences if they are not planned and managed carefully. They can amplify the spread of infectious diseases and have the potential to cause additional strain on the health care system when held during outbreaks. The transmission of respiratory infections such as influenza has been frequently associated with mass gatherings. There have been examples of COVID-19 transmission during mass gatherings. Such infections can be transmitted during a mass gathering, during transit to and from the event, and in participants' home communities upon their return. Examples of mass gatherings include large meetings, conferences, sporting events, religious events, national and international events. It is recognized that while cancelling a mass gathering may reduce the viral transmission, it may also pose a barrier to personal freedoms. Mass gatherings may have cultural or religious implications (e.g. pilgrimages, large religious events) and cancelling such events may have significant cost considerations for jurisdictions, organizations and individuals. Decisions about whether to proceed with, restrict, cancel or postpone a mass-gathering event should be based on thorough risk assessment undertaken by event organizers in consultation with all relevant PHAs (e.g., local, state, federal).

Considerations used in the risk assessment generally include transmission dynamics, severity of illness, periods of communicability, incubation period, treatment options, potential for prevention (e.g., available vaccine, pharmaceuticals). Organizers should also consider the type of event (crowd density, nature of contact between participants, whether the event will be attended by registered on non-registered participants) and the host communities' capacity to respond to and mitigate the impacts of virus activity (e.g. health system capacity). A tool has been developed to assist planners with the risk assessment.

Measures to reduce the risks posed by mass gathering events include:

- Providing clear communication to participants before attending about the risks and advice on how to protect themselves and others to reduce virus transmission to allow for individual decision making about attending the event
- Encouraging personal protective, individual and environmental measures by all attendees
- Increasing interpersonal distancing (ideally separation of at least 2 meters, not shaking hands, avoiding communal sleeping areas)
- Eliminating self-serve buffet style eating at social/religious gatherings
- Support frequent hand hygiene by providing hand sanitizers dispensers in prominent locations
- Discourage attendees from sharing food or drinks

- Requiring that ill or those with high-risk medical conditions be excluded from attending gatherings and ensuring event organizers have arrangements in place to safely isolate and transport people who become ill on-site.
- Implementing organizational measures for the event such as cancellation, postponement, or rearrangement of the event (e.g., offering virtual participation, live streaming to allow participation from a distance, moving venue from indoors to outdoors)

L. Considerations for a Communications Response

- Proactively communicate when information (or even limited information) is available that the public can use to protect themselves.
- Anticipate that higher transmissibility will heighten public concern and increase demand for information from the public and media.
- Anticipate that public risk perception plays an important role in taking public health advice. Early, pro-active communications by public health authorities is important to influence early decisions and establish public health authorities as a trusted source of expert guidance and advice.
- Engage community leaders and non-public health groups to transmit accurate messages where there is a trust-based relationship with the community (e.g. Elders, spiritual leaders, educators, and community leaders/organizations)
- Leverage opportunities to use stakeholder networks and information vehicles to share information (and obtain feedback on) the relevance and value of these materials. Consider using existing networks (e.g. those already in place for seasonal influenza messaging)
- Rumors and misinformation can circulate rapidly and widely via social media. Communicate with audiences early, with a commitment to provide additional information when it becomes available and as the situation evolves. Monitor social media and identify rumors, adapt messages and strategies as needed.
- Address stigma at every opportunity through general education about the disease, considering tailored messages to schools and workplaces. Stigma can undermine social cohesion and prompt possible social isolation of groups, which might contribute to a situation where the virus is more, not less, likely to spread. Guidance on how to address social stigma, including communication tips and messages, is available.
- Develop communications tools/products to empower people and reinforce public health measures (e.g. hand hygiene, social distancing measures) and caring for the ill. Tailor information products and tools to the specific needs and capacities of target audiences and ensure materials are culturally relevant.
- Anticipate that more disruptive social distancing measures (e.g. cancellation of large/popular public events) may be met with resistance.

APPENDIX D: GLOSSARY OF ACRONYMS

Acronym	Term
AAFP	American Academy of Family Physicians
AAP	American Academy of Pediatrics
ACP	American College of Physicians
AERS	Adverse Event Reporting System
AI	Avian Influenza
AIC	Antivirals Issues Coordinator
AI/NA	American Indian/Native American
ANA	American Nurses Association
AOA	Administration on Aging
APEC	Asia-Pacific Economic Cooperation
APHA	American Public Health Association
APIC	Association for Practitioners in Infection Control and Epidemiology
ARC	American Red Cross
ASPA	Assistant Secretary for Public Affairs
ASTHO	Association of State and Territorial Health Officers
BRFSS	Behavioral Risk Factor Surveillance System
BT	Bioterrorism
CAN	Cost Accounting Number
CBP	Customs and Border Patrol
CC	Coordinating Centers
CCID	Coordinating Center for Infectious Diseases
CDC	Centers for Disease Control and Prevention

Acronym	Term
CERT	Center for Education and Research in Therapeutics
CIO	Centers, Institutes and Offices
CMS	Centers for Medicare & Medicaid Services
cGMP	Common Good Manufacturing Practices
CISA	Clinical Immunization Safety
CMRS	Cities Mortality Reporting System
COCA	Communication Outreach Conference Calls
CoCHIS	Coordinating Center for Health Information and Service
COG	Continuity of Government
COOP	Continuity of Operations
COTPER	Coordinating Office of Terrorism Preparedness and Emergency Response
CoV	Coronavirus
COVID-19	“2019-nCoV” or 2019 Novel Coronavirus
CSTE	Council of State and Territorial Epidemiologists
DEO	Director of Emergency Operations
DEOC	Director’s Emergency Operations Center
DHQP	Division of Healthcare Quality Promotion
DGM	Division of Global
DGMQ	Division of Global Migration and Quarantine
DMR	Division Media Relations
DOD	Department of Defense
DOI	Department of the Interior
DOS	Department of State

Acronym	Term
DOT	Department of Transportation
DSNS	Division of the Strategic National Stockpile
DTAC	Disaster Technical Assistance Center
DTC	Direct to Consumer
EAG	Enterprise Architecture Group
EARS	Early Aberration Reporting System
ECS	Emergency Communications System
EDRP	Electronic Death Registration Project
EIP	Emerging Infections Program
EMAC	Emergency Management Assistance Compact
ESF	Emergency Support Function
EUA	Emergency Use Authorization
FDA	Food and Drug Administration
FETP	Field Epidemiology Training Programs
FIS	Federal Inspection Service
FMO	Financial Management Office
FQHC	Federally Qualified Health Centers
FTE	Full-time Employees
GISN	Global Influenza Surveillance Network
GOARN	Global Outbreak Alert and Response Network
HAN	Health Advisory Network
HHS	Health and Human Services
HPAI	Highly Pathogenic Avian Influenza

Acronym	Term
HRSA	Health Resources and Services Administration
HUD	Housing and Urban Development
ICLN	Integrated Consortium of Laboratory Networks
IEIP	International Emerging Infections Program
IIS	Immunization Information Systems
ILI	Influenza-like Illness
IND	Investigational New Drug
IPOE	International Point-of-Entry
ISO	Immunization Safety Office
KABP	Knowledge, Attitudes, Beliefs and Perceptions
LIS	Laboratory Information System
LRN	Laboratory Response Network
MCO	Managed Care Organizations
MERS-CoV	Middle Eastern Respiratory Syndrome-Coronavirus
MIDAS	Models of Infectious Disease Agent Study
MMSA	Metropolitan and Micropolitan Statistical Areas
MoH	Ministry of Health
NACCHO	National Association of County Health Officers
NAHDO	National Association of Health Data Organizations
NCCDPHP	National Center for Chronic Disease Prevention and Health Promotion
NCHM	National Center for Health Marketing
NCHS	National Center for Health Statistics
NCPHI	National Center for Public Health Informatics

Acronym	Term
NDMS	National Disaster Medical System
NEDSS	National Electronic Disease Surveillance System
NEISS-CADE	National Electronic Injury Surveillance System Cooperative Adverse
NIH	National Institutes of Health
NIMS	National Incident Management System
NIOSH	National Institute of Occupational Safety and Health
NIP	National Immunization Program
NIS	National Immunization Survey
NIVS	National Influenza Vaccine Summit
NRP	National Response Plan
NVPO	National Vaccine Policy Office
NVSN	New Vaccine Surveillance Network
OD	Office of the Director
OEC	Office of Enterprise Communication
OGC	Office of General Council
OPHEP	Office of Public Health Emergency Preparedness
OSG	Office of the Surgeon General
OSHA	Occupational Safety and Health Administration
OWCD	Office of Workforce and Career Development
PAM	Program Area Module
PCB	Process Coordination Branch
PCR	Polymerase Chain Reaction
PDD	Presidential Disaster Declaration

Acronym	Term
PHEP CA	Public Health Emergency Preparedness Cooperative Agreement
PHLIS	Public Health Laboratory Information Systems
PI	Pandemic Influenza
PICA	Pandemic Influenza Communications Activity
QA/QC	Quality Assurance/Quality Control
REDI	Regional Emerging Disease Intervention
RFI	Requests for Information
RT-PCR	Reverse Transcriptase Polymerase Chain Reaction
SAMHSA	Substance Abuse and Mental Health Services Administration
SARS	Sudden Acute Respirator Syndrome
SHEA	Society for Healthcare Epidemiology of America
SLC	Salt Lake County
SLCo EM	Salt Lake County Division of Emergency Management
SME	Subject Matter Experts
SNS	Strategic National Stockpile
SOC	Secretary's Operations Center
SPN	Sentinel Provider Network
THAN	Traveler's Health Advisory Notice
TSA	Transportation Safety Administration
USDA	U.S. Department of Agriculture
USG	U.S. Government
VAERS	Vaccine Adverse Event Reporting System
VODS	Vaccine Ordering and Distribution System

Acronym	Term
VIC	Vaccine Issues Coordinator
WHO	World Health Organization

APPENDIX E: REFERENCES

1. World Health Organization COVID-19 Pandemic Declaration, 11 March 2020

2. Global Influenza Preparedness Plan, World Health Organization, 2005

3. Federal Implementation Plan for the National Strategy for Pandemic Influenza, National Security Council, May 2009

4. The Department of Homeland Security National Response Framework, February 2020

5. Emergency Support Functions #8 (Public Health and Medical Support Annex) to the National Response Framework, February 2020

6. Pandemic Influenza Plan, Department of Health and Human Services
   Part 1 – Strategic Plan, April 2009

   Part 2 – Public Health Guidance for State and Local Partner, April 2009

   Part 3 – HHS Implementation Plan, April 2009

7. Pandemic Influenza Operational Plan, Department of Health and Human Services, April 2009

8. Ethical Guidelines in Pandemic Influenza, Center for Disease Control and Prevention, February 2007

9. State of Utah Pandemic Response Plan, XXXXX XX

10. Salt Lake County Division of Emergency Management Incident Action Plan, 10 March 2020

11. The Robert T. Stafford Disaster Relief and Emergency Assistance Act
    (Referred to herein as “The Stafford Act”), 42 USC § 5121-5206

    a. Public Health Service Act, 42 USC § 201

    b. Social Security Act, 42 USC § 301

    c. The Economy Act of 1932, 31 USC § 1535-1536