



MISSISSIPPI STATE DEPARTMENT OF HEALTH

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**Mississippi
COVID-19
System of Care Plan**

Developed by the:

Bureau of Acute Care Systems

Mississippi State Department of Health

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Introduction

Introduction

Legal Authority and Purpose

Section § 41-3-15 of the Mississippi Code 1972 Annotated, as amended, provides the general powers, duties and authority of the State Board of Health and certain powers of the Mississippi State Department of Health. Included in this is the State Board of Health's powers and duties to formulate the policy of the State Department of Health regarding public health matters within the jurisdiction of the department; to adopt, modify, repeal and promulgate, after due notice and hearing, and enforce rules and regulations implementing or effectuating the powers and duties of the department under any and all statutes within the department's jurisdiction, and as the board may deem necessary; to apply for, receive, accept and expend any federal or state funds or contributions, gifts, trusts, devises, bequests, grants, endowments or funds from any other source or transfers of property of any kind; and to enter into, and to authorize the executive officer to execute contracts, grants and cooperative agreements with any federal or state agency or subdivision thereof, or any public or private institution located inside or outside the State of Mississippi, or any person, corporation or association in connection with carrying out the provisions of this chapter, if it finds those actions to be in the public interest and the contracts or agreements do not have a financial cost that exceeds the amounts appropriated for those purposes by the Legislature. The State Board of Health shall have the authority, in its discretion, to establish programs to promote the public health, to be administered by the State Department of Health. Specifically, those programs may include, but shall not be limited to, programs in the areas of chronic disease and other such public health programs and services as may be assigned to the State Board of Health by the Legislature or by executive order.

The system of care approach to public health provides a functional framework for making use of resources to optimize the care of patients. The intent is to address conditions, which have a significant impact on mortality and morbidity. This functional framework generally includes hospitals designated based on resources for the care of particular types of patients, destination guidelines for the transport of patients to the appropriate hospital via EMS, criteria for activation and/or the utilization of hospital resources, data collection and data use for improving system performance. In terms of patient care, the system of care framework promotes best practices for caring for patients.

System Introduction

SARS-CoV-2 is a novel (a new) coronavirus, which causes the disease called COVID-19. The disease, first identified in Wuhan, China on December 30, 2019, quickly spread outside China and became an international pandemic in less than three months. The disease spread exponentially and public health officials throughout the world and in the United States raised concerns about the potential worldwide effects of the disease. Within the first three months 1,000,000 people had been infected and 50,000 had died (“COVID-19, MERS and SARS,” 2020). The World Health Organization (WHO) declared the outbreak a “public health emergency of international concern” on January 30, 2020, and public health officials in the United States identified the first human to human transmission case of the disease on the same day (WHO: Statement on the second meeting of the International Health Regulations Emergency Committee,” 2020). The following day Health and

Human Services Secretary (HHS), Alex M. Azar II declared a public health emergency for the United States. (“Secretary Azar Declares Public Health Emergency for United States for 2019 Novel Coronavirus,” 2020). President Trump declared a national emergency on March 13, 2020. As provided for by law, the HHS Secretary subsequently issued 1135 waivers to aid in supporting the healthcare response to COVID-19. Meanwhile, in Mississippi Governor Tate Reeves signed Executive Order No. 1457 on March 4, 2020, which designated MSDH as the lead state agency to coordinate emergency response activities related to COVID-19 and established the Mississippi Coronavirus (COVID-19) Preparedness and Response Steering Committee. On March 14, 2020 Governor Reeves declared a State of Emergency to provide for the coordinated response of all levels of government and provide health officials with the necessary resources and guidance to effectively combat the spread of COVID-19. The same day the Mississippi State Board of Health issued a proclamation, which stated in part: “the State Health Officer, upon the documentation of the need for the waiver or amendment may, in writing, waive or amend any rule or regulation promulgated by the Mississippi State Board of Health.”

Currently, government at all levels, public health officials and healthcare providers throughout the United States are working together to reduce the incidence of COVID-19 and care for those affected. The country is in the acceleration phase of the pandemic. There are varied levels of activity and acuity throughout the country. Illness from the disease ranges from mild to severe; however, older persons and those with comorbidities are at a higher risk for bad outcomes, including death. The disease, a respiratory virus, has the potential to cause severe respiratory presentations and injure the lungs. Since the outbreak began significant numbers of COVID-19 positive patients have required supplemental oxygen and/or ventilators to support breathing. When death occurs, it is usually the result of respiratory pathology, which resembles Acute Respiratory Distress Syndrome, renal failure or multiple system organ failure. However, it may also be associated with exacerbation of comorbidities, i.e. cardiovascular disease, etc.

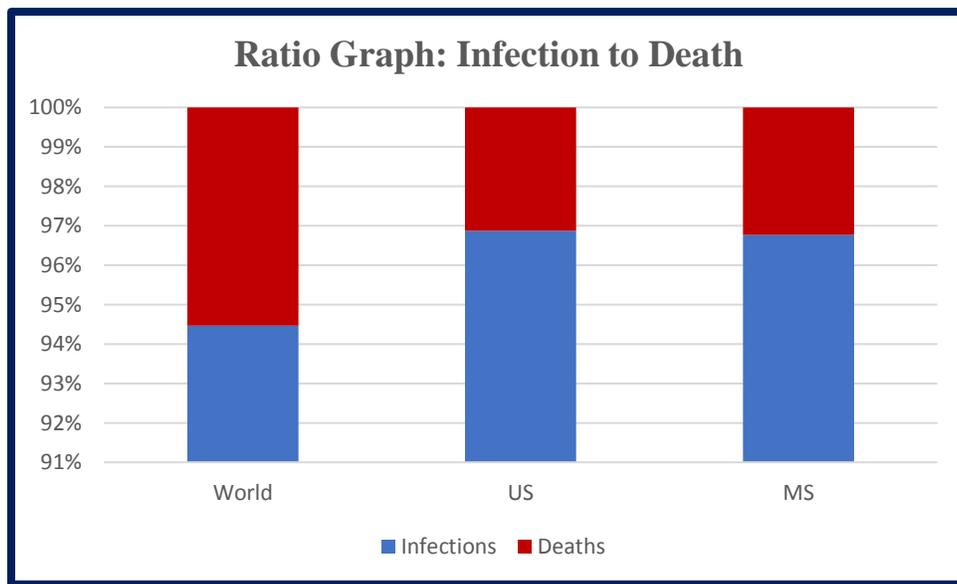
Mississippi State Department of Health (MSDH) functions as the lead agency in coordinating the emergency response to COVID-19. MSDH is working with other state agencies and community partners to slow the spread of the disease through monitoring, testing and providing guidance related to COVID-19. MSDH is working with other state agencies and community partners in support of the healthcare system to ensure preparedness and address issues related to capacity and resources. However, due to the varieties of activity and acuity characteristic of this disease the task group appointed by Governor Reeves also recommended the development and implementation of a statewide system of care, which may function to ensure the most efficient use of use all Mississippi hospitals’ inpatient hospital beds for COVID-19 patients who require admission during COVID-19 crisis. Accordingly, the COVID-19 System of Care will provide a framework for efficient use of resources to optimize the care of COVID-19 patients. This is facilitated by the designation of hospitals based on their ability to care for COVID-19 patients, the use of EMS guidelines for the care and transport of patients, guidelines for the immediate transfer of patients to a higher level of care when indicated and telemedicine consultation services. Telemedicine provides for consultation services between physicians and/or mid-level providers, when immediate transfer is not indicated as per the guidelines for immediate transfer, but consultation may otherwise offer a benefit in the management of the patient. However, this plan calls for automatic acceptance of acute COVID-19 patients when immediate transfer to a higher-level facility is indicated. University of Mississippi Medical Center, an Emergency Support Function – 8 (ESF-8) partner of MSDH, will offer statewide

telemedicine services; however, hospitals may partner with Level I COVID-19 centers in their geographic area for telemedicine services. Mississippi MEDCOM, a service of the University of Mississippi Medical Center will coordinate the ambulance transfer of all COVID-19 patients, including those transferred for higher level care and those transferred for convalescence. Transfers to a high level of care should be to the closest appropriate facility based on bed and resource availability. UMMC offers clinical trials specifically associated with COVID-19. Patients can be transferred to UMMC for advanced therapeutics.

Mississippi Facts

Mississippi’s mortality rate from COVID-19 is at present 3.3% (see Figure 1 below). While this rate is better than the global death rate of 5.8% (see also Figure 1 below), it is worse than the collective U.S. rate of 3.2% (see again Figure 1 below). This may be due to the prevalence of high-risk comorbidities such as obesity and cardiovascular disease in Mississippi. Whatever the cause of these variances in mortality, statistics such as these reflect the extent to which COVID-19 is a public health threat to the people of Mississippi.

Figure 1



Graphic Sources: WHO, CDC and MSDH SITREPS, April 8, 2020

Mississippi’s experience with systems of care, i.e. trauma, STEMI and stroke care systems, continues to yield improved outcomes for patients with specific types of conditions by matching respective patients with the most appropriate hospitals, based on acuity and clinical criteria. Mississippi’s Trauma Care System is the oldest such system in the state. Established in 1998, the Trauma Care System consists of 86 designated trauma centers, which offer various levels of trauma care and expeditious transfer of patients to higher level facilities when more advanced services are

needed. Conversely, the Trauma Care System provides for repatriating patients back to local community hospitals when patients no longer require high-level care. Transfer for convalescing or respite care will be an important part of the COVID-19 System of Care and will result in decompressing the higher level facilities.

This process of matching patients with resources offers the best possible opportunities for best outcomes, and over the course of their development the State Board of Health has adopted rules and regulations for each system of care to ensure participant hospitals meet minimum prescribed standards. In the case of the Trauma Care System statute mandates hospital participation in the system, and the rules and regulations apply to all licensed hospitals. In the case of the STEMI and Stroke care systems hospitals voluntarily apply to become designated centers, but those designated must comply with the rules and regulations recommended by their respective advisory committee and approved by the State Board of Health. So, as each system has matured each has recognized the need for minimum standards for participant hospitals.

Moreover, as experience also shows, the systems of care depend on the support of Emergency Medical Services (EMS), who care for and transport the patient to the right hospital the first time, which reduces the time from the onset of illness to definitive care. Recently, EMS operators have noted excessive “wall times” (the time to transfer of patient after arrival at the hospital). Moreover, it has been noted that excessive wall times are counterintuitive within the system of care framework, because the acute, time sensitive conditions should receive priority attention at receiving facilities. Wall times must be minimized in the case of COVID-19 patients. Expeditious transfers of care and appropriate isolation measures are an important part of COVID-19 care.

Chronology of COVID-19 Care in Mississippi

COVID-19 is a new disease, as noted above. Clinically, the disease presents as an influenza like illness (ILI). So, as the disease began to spread in the United States clinicians began testing patients presenting with ILI, new onset cough and chest pain for COVID-19. MSDH began partnering with the University of Mississippi Medical Center (UMMC) and community partners to offer drive-up COVID-19 testing. Clinicians and healthcare facilities began providing care based on the patient’s presentation, while making efforts to ensure appropriate personal protective measures for staff. However, the disease is resource heavy, and statewide there is limited supply of personal protective equipment (PPE). There are concerns to ensure sufficient numbers of critical care resources and ventilators. Measures have been taken to secure additional ventilators, which may be dispensed based on need. The supply has been sufficient to date.

However, as noted above, due to the varieties of activity and acuity characteristic of this disease the governor’s task recommended the development and implementation of a statewide system of care, which may function to ensure the efficient use of all Mississippi hospitals’ inpatient hospital beds for COVID-19 patients who require admission during COVID-19 crisis. The intent is to improve on outcomes and improve on efficiency in the care of COVID-19 patients. The time to act is now so as to ensure all Mississippians who become infected receive the best possible opportunities for care.

Mississippi COVID-19 System of Care Plan

Mississippi COVID-19 System of Care Plan

This Plan outlines the statewide COVID-19 system. The Plan provides for a system, which is efficient and inclusive, matching appropriate resources to the needs of COVID-19 patients from initial infection detection through convalescence.

Vision

The Mississippi COVID-19 System of Care Plan when fully implemented throughout Mississippi will result in a more efficient use of all Mississippi hospitals' inpatient hospital beds and other resources for COVID-19 patients who require admission during COVID-19 crisis to achieve the best possible outcomes in terms of patient care for COVID-19 patients.

Plan Goals

- To develop and promote awareness of the Mississippi COVID-19 System of Care
- To designate Mississippi-licensed acute care hospitals as COVID-19 Centers at the appropriate level based on resources
- To ensure patients presenting with COVID-19 symptoms are transported to the most appropriate COVID-19 Center by EMS from the field
- To ensure coordinated COVID-19 patient movement to appropriate destinations, which includes transfers to higher levels of care and transfers to convalescence facilities
- To ensure Level 1 and II COVID-19 Centers offer telemedicine for consultation with physicians and mid-level providers for the management of COVID-19 patients
- To coordinate with other systems of care and inter-agency emergency preparedness programs as it relates to COVID-19 services

COVID-19 System Design

The COVID-19 System of Care is comprised of a number of separate components:

- Emergency Medical Services (Pre-hospital)
 - EMS is a critical part of the COVID-19 System
 - EMS providers should have a basic knowledge and awareness of system elements and function, specific knowledge includes:
 - COVID-19 EMS Response and Treatment Guidelines

- For the latest version of these guidelines refer to EMS COVID-19 Guidelines from the State EMS Medical Director
- Communication procedures
 - When dispatched by local authorities during an emergency response to the EMS provider will follow local communications procedures
 - When dispatched by Mississippi Med-Com for transfer services the EMS provider will follow the process for communications with Mississippi Med-Com prescribed in this document
- On-line and off-line medical control physicians will be aware of system elements, functions and expected outcomes
- MSDH Bureau of EMS will provide guidelines specific to EMS providers as part of the Mississippi COVID-19 System of Care
 - COVID-19 EMS Guidelines will assist EMS providers in the decision-making process regarding hospital destination selection and clinical decision-making under difficult conditions
 - These guidelines are intended to guide EMS administrators and medical directors in developing alternate standards of care for EMS services during a COVID 19 pandemic
 - They are intended for use only during a declared state of emergency during which time an EMS system or service is overwhelmed
 - These guidelines may be implemented, all or in part, by the local EMS medical director with approval of the MSDH EMS Medical Director and, once implemented, will remain in effect until such time as resources allow for the transition back to conventional standards of care
- Hospital Component
 - Hospital participation in the Mississippi COVID-19 System is voluntary
 - Hospitals must participate at the assessed capability
 - All Mississippi hospitals and healthcare facilities will be classified based on their abilities to provide clinical management for COVID-19 patients
 - The Mississippi State Department of Health designates participating hospitals at one of four levels (and provides a fifth level of convalescing facilities):
 - **Level I COVID-19 Center:**
 - Level I COVID-19 Centers act as tertiary/quaternary care facilities at the hub of the COVID-19 system of care

- A Level 1 COVID-19 center must have adequate depth and availability of both resources and personnel
- These centers also have the responsibility of providing leadership in education, COVID-19 research, and system planning
- These centers may provide telemedicine services for consultation with physicians and advanced practice providers at lower-level facilities for the management of COVID-19 patients
- Required components include:
 - Dedicated COVID-19 Negative Pressure Intensive Care Unit (ICU)
 - Dedicated COVID-19 negative pressure hospital beds
 - Pulmonologist
 - Intensivist
 - Infectious Diseases
 - Emergency Medicine
 - Anesthesia
 - Continuous Renal Replacement Therapy (CRRT)
 - Extracorporeal Membrane Oxygenation (ECMO)
 - Intra-Aortic Balloon Pump
 - Hospital-based critical care transport teams for COVID-19 patient transfers
 - Telemedicine consultation for COVID-19
 - Rapid turn-around-time testing (<12 hours)
 - Active in-patient COVID-19 clinical trials
- **Level II COVID-19 Center:**
 - Level 2 COVID-19 Centers are acute care facilities with the commitment, resources and

specialty training necessary to provide sophisticated COVID-19 care

- Level 2 COVID-19 Centers should transfer COVID-19 patients to Level 1 centers for advanced therapeutics and/or participation in clinical trials
- Required components include Intensive Care Unit (ICU)
 - Negative Pressure Hospital Beds
 - Pulmonologist and/or Intensivist
 - Infectious Diseases
 - Emergency Medicine
 - Anesthesia
 - Continuous Renal Replacement Therapy (CRRT)
 - Telemedicine consultation for COVID-19
 - Intra-Aortic Balloon Pump
- **Level III COVID-19 Center:**
 - Level 3 COVID-19 centers are acute care facilities with the commitment, medical staff, personnel and specialty training necessary to provide initial care of the COVID-19 patient
 - Level 3 COVID-19 centers are expected to provide isolation and stabilization of the COVID-19 patient and will transfer COVID-19 to the appropriate higher Level based on clinical needs
 - The decision to transfer a patient rests with the physician attending the COVID-19 patient
 - All Level 3 COVID-19 centers will work collaboratively with other COVID-19 facilities under the Mississippi COVID-19 System of Care
 - These facilities must have an Intensive Care Unit (ICU)
- **Level IV COVID-19 Center:**

- Level IV COVID-19 Centers are facilities with a commitment to the care of the COVID-19 patient
 - These facilities are typically staffed by a physician, or an advanced practice provider
 - The principal role of Level 4 COVID-19 centers will be to provide isolation and stabilization of COVID-19 patients and transfer these patients to the appropriate higher level of care based on the clinical presentation of the patient
 - **Level V COVID-19 Center:**
 - During a public health emergency, a fifth level of COVID-19 center Level may be required for providing convalescing or respite care
 - Level V centers will be locations utilized as Alternate Care Sites (ACS) in buildings of opportunity for receiving convalescing COVID-19 patients from higher Level centers
 - These facilities will be managed by the State of Mississippi for the purpose of convalescing COVID-19 patients
- **Communication Component**
 - Communications are critical to the function of the COVID-19 System
 - Communications provide:
 - essential knowledge of the overall status of pre-hospital activities and hospital resource availability on a continual basis
 - access to system organization and function protocols whenever such information is requested by pre-hospital or hospital-based personnel
 - collection of uniform system-wide data for Performance Improvement (PI) activities
- **Performance Improvement and Patient Safety Component**
 - This component is essential for evaluating and improving system performance and safety considerations
 - Each Mississippi licensed hospital will submit data as required by this plan for performance improvement processes

System Operations

Virtual Consultation

All Levels of COVID-19 facilities will provide logistics and operational support to ensure the following capabilities:

- Virtual consultations may be accomplished with audio/visual conferencing or traditional telephonic conferencing
- Contact numbers for telemedicine resources will be provided by appropriate Level 1 and 2 Centers to other designated COVID-19 Centers
- Specialists at Level 1 and 2 COVID-19 centers will be available for consultations:
 - Pulmonologist and/or Intensivist
 - Infectious Disease Specialists
 - Internists
 - Others as needed
- Duties and responsibilities of specialists at Level 1 and 2 COVID-19 centers:
 - Provide consultation, advice, and guidance to the best of their abilities, given the capabilities of the requesting center
 - Accurate and complete documentation of consultations, notes, and communications on patients after interactions with requesting physicians
 - Work cooperatively with requesting physicians with on-going patient care needs related to COVID-19 (e.g. reassessments, follow-up consultations, etc.)
- Duties of physicians or advanced practice providers at Level 3, 4, and 5 COVID-19 centers:
 - Has sole responsibility for the care of the patient, including all orders, etc.
 - Accurate and complete documentation of the patient's condition, progress, plans, etc., not less than daily
 - Work cooperatively with Level 1 or 2 telemedicine physicians
- Liability Coverage for Level 1 and 2 physicians providing virtual consultations
 - Executive Order 1471 confers immunities related to COVID-19 care

Transfer and Transport

An interfacility transfer of a suspected or known COVID-19 patient should be coordinated through Mississippi Med-Com as part of the Mississippi COVID-19 System of Care.

- Sending COVID-19 facility should call Mississippi Med-Com at 601-984-4367. The sending facility should provide:
 - Name of sending center
 - Name of sending provider
 - Patient name, DOB, vitals signs, chief complaint, interventions performed/in place
 - Level being requested
- Mississippi Med-Com will locate the closest appropriate level facility
 - Mississippi Med-Com will contact the accepting center and inform them of the transfer request

- All patients accepted by higher level facilities will be accepted by the ED physician at the accepting facility
- These transfers should be automatically accepted unless the higher tier does not have an open bed
- Mississippi Med-Com will not perform COBRA, EMTALA, insurance screenings or similar patient financial data collection
- Once the patient is accepted, Mississippi Med-Com will coordinate the patient transfer with the closest appropriate COVID-19 designated ambulance
- Transport ambulance will give radio report to the receiving facility as per normal process when they are 5 – 10 minutes out
- Patient may be taken directly to assigned inpatient room, when applicable
- Transport ambulance will report back to Med-Com when the transfer is complete and they are back in their service area ready for the next call

Mississippi COVID-19 Advisory Committee

The Mississippi Coronavirus (COVID-19) Task Force will advise the Mississippi State Department of Health on the continued development of the COVID-19 System.

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