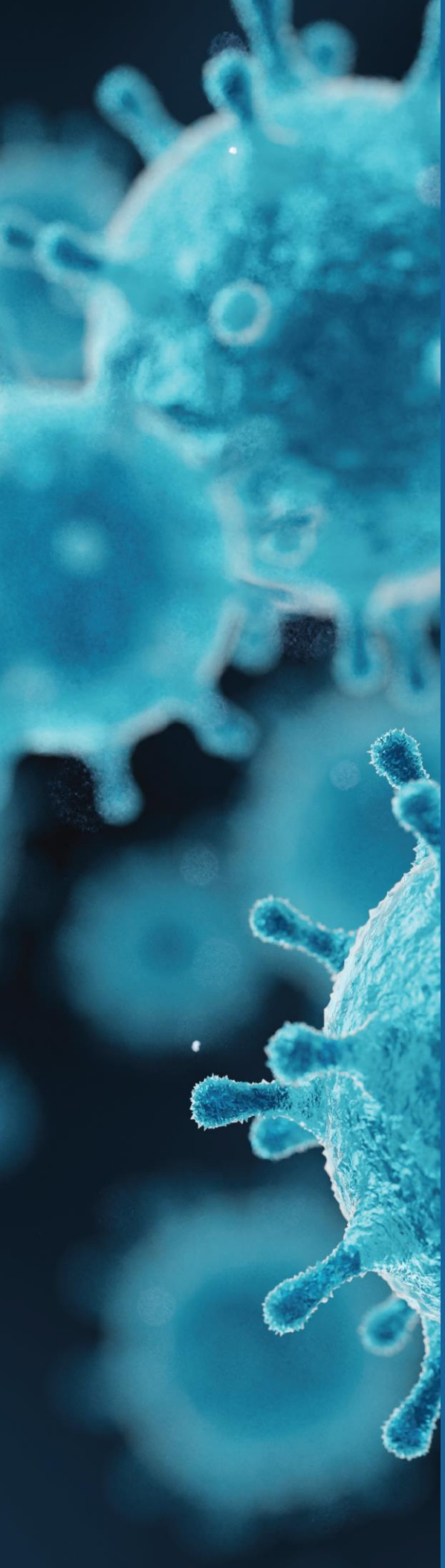

CORONAVIRUS COVID-19

dhec

Agency After Action Report

APRIL 2022

S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

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4. Delivery of this document to the Project Manager occurred on 8 April 2022.
5. For more information, please consult the following points of contact (POCs):

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PART 1: Introduction

Introduction and Overview

Executive Summary

This After-Action Report was commissioned by the South Carolina Department of Health and Environmental Control (DHEC) to assess the Agency response to the COVID-19 pandemic emergency. The assessment was not limited to any particular aspect of the agency's response, and no conditions or restrictions were placed on the Assessment Team relating to the scope or subjects of its investigative effort. The Assessment Team worked closely with DHEC staff to continually assess the trajectory of the information-gathering effort, and to validate observations and recommendations prior to publication.

The Assessment Team did not observe the DHEC response to the COVID-19 emergency as it was conducted, and subsequently was not capable of fairly assessing specific decisions or actions taken at specific points in time. Therefore, assessment of specific tactical actions taken by the agency are not generally included in this report. Instead, the goal of this review is to identify the fundamental causes or roots of observed or reported impacts to the operation of the agency during the emergency response.

This report contains 57 findings and associated recommendations based on research, interviews, and the consensus of the Assessment Team. While not all recommendations can be immediately implemented, and many may be rendered inapplicable by other organizational changes, we recommend that DHEC consider each one in earnest and develop implementation priorities.

Major Strengths

DHEC benefited from a tremendously dedicated workforce, composed of many individuals from both the Public Health Deputy area and the other areas of the agency. Due to its experience in past emergency responses, the Agency was able to pull talented leaders from across the Agency and insert them into the response.

The agency also consistently demonstrated dedication to the concept of continual improvement by regularly soliciting expert advice on aspects of their response operations. There is no better example of this than that the agency, in the midst of peak vaccine operations, enlisted the support of a regional All Hazards Incident

Management Team to review and provide feedback on their operation. The Agency also worked to implement best-practices in stakeholder collaboration, as well as resource management, by partnering with external supports.

Overall, the successes of DHEC during the COVID-19 emergency can certainly be credited to its people and their tireless efforts during 700+ days of response.

Key Opportunities

As with every disaster, there were challenges faced by the Agency, and areas where improvements can be made prior to the next DHEC response. Below are the major opportunities identified by the Assessment Team as most important for the Agency to consider.

1) Data collection, information management, and the development and distribution of intelligence products were some of the most discussed topics during the majority of interviews and hotwashes conducted for this effort. There is wide disagreement about a host of data/intelligence related topics, including:
    - What data is necessary for collection
    - Data ownership and responsibilities for authorizing distribution and use
    - How data and information are used internally to develop intelligence products
    - What systems and/or processes should be used to manage and share data and information
    - How data collected from other sources (such as hospitals) should be managed, evaluated, and cited

2) The Agency has a substantial pool of talented, disaster-experienced staff. However, much of this experience in the Agency resides in Bureau of Public Health Preparedness and in the Environmental Affairs and Healthcare Quality Deputy Areas. The combination of employment turnover and a lack of recent public health emergency responses forced the Agency to pull personnel from areas that do not traditionally train or prepare for public health operations. The subsequent length of the ongoing emergency meant that staff supported response operations for months or even years. The Agency faced substantial struggles in identifying sufficient staff to allow for rotation of emergency personnel, which not only impacted those involved, but also the blue-sky programs that they are responsible for during normal operations.

3) There is considerable disagreement, both internal and external to DHEC, as to 1) who is ultimately responsible for strategic decision-making during a public health emergency; 2) the role of the Governor, the Board of DHEC, and the DHEC Director in setting organizational policy or objectives during a public health emergency; and 3) where specific authorities rest during public health emergency situations, particularly those in which the Emergency Health Powers Act is activated due to a Governor's declaration of a State of Emergency or a Public Health Emergency.

The Assessment Team provides the following recommendations as of highest importance to the agency in the near-term:

Recommendation 1.1.1: The DHEC Director, along with emergency response subject matter experts, in coordination with the Director of SCEMD, should immediately work to clarify the composition, roles, and responsibilities of the Governor's Command Staff, and the state's Unified Coordination Group (UCG) / Multi-agency Coordination Group (MAC Group) during public health emergencies.

Recommendation 4.7.1: The DHEC Director should consider forming a multi-agency working group to examine the most practical and reasonable information and intelligence needs of DHEC, partner agencies, and local entities.

Recommendation 5.2.1: The DHEC Director should consider directing the Bureau of Public Health Preparedness (BPHP) to identify National Incident Management System (NIMS) and Incident Command System (ICS) training requirements for Agency personnel. This review should consider leadership and management-level staff positions from all DHEC elements that are slated to support specific IMT functions, and those people within the organization with skillsets that might be needed to support a large scale and/or long-term response.

Recommendation 5.2.2: The DHEC Director should consider developing and promulgating NIMS and ICS training requirements based on recommendations made by BPHP under Recommendation 5.2.1. to ensure that the Agency has a large leadership pool and sufficient depth to provide for staffing of the IMT and sufficient work/rest cycles during extended activations. The DHEC Director should task the appropriate staff to determine, on a position-specific basis, when it is appropriate to include such requirements in individual position descriptions.

COVID-19 Overview

On December 31, 2019, the world learned of an unknown pathogen causing respiratory pneumonia emerging from Wuhan, Hubei Province, China. One week later, a novel coronavirus (SARS-CoV-2) was identified, which had no known cure or vaccine, and had the potential to cause severe illness and death. By mid-January 2020, the United States identified a case of the virus in Washington State and on January 31, Secretary of Health and Human Services Alex Azar declared a public health emergency under Section 319 of the Public Health Service Act, dating back to January 27, 2020, to address the Coronavirus Disease 2019 (COVID-19) pandemic confronting the United States. On January 30, the World Health Organization (WHO) declared a Public Health Emergency of International Concern.

On March 6, 2020, the U.S. President signed an $8.3 billion spending package to combat the disease, and on March 11, the WHO declared a global pandemic for which most people had no natural immunity. On March 13, the U.S. declared a national state of emergency, and South Carolina Governor Henry McMaster issued Executive Order 2020-08, declaring a state of emergency based on the imminent threat to public health in the state. On March 16, the Centers for Disease Control and Prevention (CDC) recommended that in-person events of 50 or more people be canceled or postponed to slow the spread of the virus.[1]

In the face of the rapidly evolving public health emergency, the public quickly pivoted to remote work and learning and social distancing. While essential workers cared for the ill, staffed essential businesses, and struggled to find personal protective equipment (PPE), the majority of South Carolinians avoided public settings to the greatest degree possible. The federal and state governments immediately began working to deploy resources to assist in response, including PPE, laboratory testing kits, supplies, and medical countermeasures.

Testing was, and continues to be, a critical component of the public health response to the virus that causes COVID-19. Early in the pandemic, the CDC developed a diagnostic test for the virus and distributed it to certain public health laboratories at the state and local levels, pursuant to an Emergency Use Authorization (EUA) issued by the Food and Drug Administration (FDA) on February 4, 2020. However, problems with test performance limited access to testing at a local level. Therefore, the FDA issued guidance on February 29 to authorize certain certified labs, including non-governmental hospital labs, to use their own COVID-19

[1] The SCHA COVID-19 Journal - South Carolina Hospital Association

laboratory-developed tests for clinical diagnosis before an EUA was granted to promote increased testing capacity. The CDC reported 43 cases identified through public health surveillance, and an additional 48 cases among persons repatriated to the United States. The first instance of possible community spread was reported by the CDC on February 26, 2020.[2]

In early March 2020, only a few thousand tests for COVID-19 were performed each day. By mid-May 2020, that number was approximately 300,000 per day, growing steadily at 25%-30% per week. With expanded and sustainable supply chains, novel "front ends" for testing (e.g., retail stores, community-based testing sites), and States becoming empowered with enhanced knowledge and funding, testing capacity continued to grow significantly over the next several months. As of May 19, 2020, the FDA had worked with test developers and laboratories to grant 104 EUAs. In addition, more than 250 laboratories began testing under the regulatory flexibilities adopted in the Center for Devices and Radiological Health, March 2020 guidance (updated in May 2020).[3] Throughout the pandemic, the federal government worked with states, territories, localities, and tribes to support the development and availability of as many fully enabled tests as possible. Testing continued throughout the pandemic as determined by epidemiological factors (e.g. decreased numbers of cases), transmission, population immunity, and/or availability of safe and effective vaccines.

In early November 2020, federal officials began communicating that COVID-19 vaccine distribution might begin as early as January 2021, with some potential for early delivery of first vaccines in late December. The emergency response and management functions of the State of South Carolina were already in full activation to the COVID-19 public health emergency, having been so since March of 2020. Therefore, the initial discussions regarding vaccine roll-out began in earnest in the last quarter of 2020, concurrent to ongoing testing and hospital support missions.

South Carolina's Vaccine Plan articulated the State's goal of ensuring the ethical and equitable distribution and administration of COVID-19 vaccines to the people of South Carolina. The Department of Health and Environmental Control (DHEC) reviewed guidance and ethics documents, including "A Framework for Equitable Allocation of Vaccine for the Novel Coronavirus," developed by the U.S. National Academy of Sciences, Engineering, and Medicine to inform allocation plan

[2] Overview of U.S. Domestic Response to Coronavirus Disease 2019 (COVID-19) (congress.gov)
[3] U.S. Department of Health and Human Services Report to Congress: COVID-19 Strategic Testing Plan

development. DHEC also established collaborative stakeholder groups to help inform decisions on equitable distribution.

Vaccines typically require years of research and testing before clinical trials, but in 2020, scientists worked to produce safe and effective COVID-19 vaccines in a much shorter timeframe. Before approval by the U.S. Food and Drug Administration (FDA), a vaccine maker can ask the FDA for an emergency use authorization (EUA), which allows the sale of unapproved medical products. Ultimately, Pfizer and BioNTech were granted an EUA for their vaccine in the U.S. on December 11, 2020, and Moderna was granted an EUA on December 18. On December 13, Pfizer packaged and shipped freezer-packed COVID-19 vaccine vials to 636 distribution centers across the country, arriving beginning on December 14. South Carolina received its first doses of COVID-19 vaccine on this day, and in the three days that followed, the State received 42,900 doses of the Pfizer BioNTech vaccine. The U.S. Department of Health and Human Services (HHS) and Department of Defense (DoD) contracted with Walgreens and CVS to provide and administer COVID-19 vaccines to residents and staff of long-term care facilities nationwide, with no out-of-pocket costs. South Carolina chose to opt into this federal pharmacy partnership.

By March 2, 2021, exactly one year after DHEC began preparing in earnest for the potential arrival of the COVID-19 virus and only 78 days after the first doses of vaccine arrived in the state, the Agency announced that it had administered over 1 million COVID-19 vaccinations.

In the year that followed, DHEC would continue to oversee efforts to provide for the health of the State, administering a total of over 15 million tests and 6.8 million doses of vaccine. The Agency would oversee the introduction of monoclonal antibody treatments, respond to the emergence of virulent strains such as the Delta and Omicron variants, and eventually a societal shift toward pre-pandemic normalcy.

Key Dates in the DHEC Response:

21 January 2020	Staff from the South Carolina Department of Health and Environmental Control (DHEC) Division of Acute Disease Epidemiology begin monitoring COVID-19.
29 January 2020	DHEC staff hold a COVID-19 informational briefing for legislators and reporters.

31 January 2020	Governor McMaster and DHEC convene a meeting of the Public Health Emergency Plan Committee to discuss COVID-19 updates.
2 March 2020:	Governor McMaster and DHEC convene a meeting of the Public Health Emergency Plan Committee to discuss potential impact of COVID-19 to South Carolinians.
6 March 2020:	The first two cases of COVID-19 in South Carolina are detected.
9 March 2020:	The State Emergency Operations Center (SEOC) and DHEC Agency Coordination Center (ACC) are activated.
13 March 2020:	South Carolina Governor Henry McMaster declares a State of Emergency in South Carolina in response to the COVID-19 emergency.
19 March 2020:	A government employee work-from-home order is made by Governor Henry McMaster.
17 April 2020:	A newly hired Public Health Director arrives to fill a long vacant position. In consultation with the Association of State and Territorial Health Officials (ASTHO), this Director does not integrate into the Agency Incident Command, instead opting to direct COVID-19 operations through pre-activation structures.
22 May 2020:	South Carolina Emergency Management Division (SCEMD) / SC State Emergency Response Team (SERT) reduces operations tempo at the SEOC.
27 May 2020:	The Director of DHEC (initial Incident Commander) resigns from the Agency and from their role as Incident Commander (IC) of the ACC Incident Management Team (IMT). The Deputy Director of Public Health is appointed as the second ACC Incident Commander.
15 July 2020:	A Unified Command Group (UCG) is established, consisting of representatives of the Office of the Adjutant General, SCEMD, the South Carolina Hospital Association (SCHA), and DHEC.
24 July 2020:	The Public Health Deputy Director and many Bureau and Division Directors from the Public Health Deputy Area leave the

	ACC IMT to resume normal duties. The ACC IMT is staffed primarily by the Bureau of Public Health Preparedness (BPHP), as well as staff from Environmental Affairs, Healthcare Quality, and the Office of General Counsel. The Director of BPHP is appointed the third ACC Incident Commander.
20 August 2020:	Within DHEC, a new "policy group," called the Incident Leadership Team (ILT) is established. This group consists of the traditional DHEC Executive Leadership Team (ELT) but also includes additional members from throughout the Agency.
11 Sept 2020:	The Director of BPHP (the third Incident Commander) resigns from their position with the Agency five months after joining. The Assistant Chief of the Bureau of Air Quality (Environmental Affairs Deputy Area) is appointed as the fourth ACC Incident Commander.
15 Sept 2020:	Regional Public Health staff transition to normal duties, leaving in place select personnel to manage an increasingly larger temporary hire or contracted response team.
30 October 2020:	In addition to field-based testing locations, all Public Health clinics begin offering tests onsite or nearby.
14 Dec 2020:	The first doses of the Pfizer vaccine arrive in South Carolina and are administered the same day, and the Agency announces that 307 provider locations are enrolled.
4 Feb 2021:	Dr. Edward Simmer is confirmed as Director of DHEC, 253 days following the departure of the previous Director.
3 June 2021:	DHEC offices begin resuming full workplace duties and services alongside other state agencies.
5 June 2021:	Governor McMaster elects not to renew the declaration of a State of Emergency in South Carolina. The Governor-declared State of Emergency expires after being in effect for 450 days.
6 June 2021:	DHEC suspends the majority of weekend and holiday field operations and reporting.

17 Sept 2021:	The ACC Incident Commander is released after serving in that position for 371 days. The Chief of the Bureau of Healthcare Planning and Construction (Healthcare Quality Deputy Area) is appointed as the fifth ACC Incident Commander.
25 Feb 2022:	Demobilization begins with the release of the ACC IMT Medical Officer back to normal duties.
29 April 2022:	The ACC IMT fully demobilized effective 29 April 2022, 781 days after initial activation.

DHEC Structure

Public health governance structures vary from state to state. The relationship between state health agencies and regional/local public health departments also differs across states. These structural differences have important implications for the delivery of essential public health services. According to the Association of State and Territorial Health Officials (ASTHO), there are a number of different governance structures found across the US, spanning from fully centralized to fully decentralized.

DHEC is one of seven state health agencies in the US that is categorized as centralized by ASTHO. Other states with a fully centralized structure are Arkansas, Hawaii, Mississippi, New Mexico, Rhode Island, and Vermont. According to the 2020 US Census, South Carolina's population of 5.1 million people is the largest population to be served by a fully centralized state public health agency with Arkansas the second largest at 2.9 million. Additionally, DHEC is the only centralized state public health agency to also oversee environmental affairs in addition to its public health role. Because DHEC stands as a rather unique agency when considering its scope and structure, comparing its response to the COVID-19 emergency with that of other state health agencies is challenging. While this report does examine specific processes and the impact of centralized governance to those specific processes, it does so specifically in the context of emergency response. It is outside the scope of this assessment effort to make any determinations regarding the governance structure of the Agency as a whole, and nothing in this report should be interpreted to advocate for or against centralized state-administered public health programs or the combination of two or more major state-administered programs into one Agency.

After-Action Report Project

Project Overview

Witt O'Brien's (WOB) was asked by the South Carolina Department of Health and Environmental Control (DHEC) to conduct a review and to provide a written After-Action Report (AAR) that examines the Agency's efforts to respond to the COVID-19 pandemic. The scope of the AAR was focused on the DHEC agency-wide response to the COVID-19 pandemic, including the response of the DHEC headquarters and Regions.

The Witt O'Brien's Assessment Team did review the previous DHEC/SCEMD AAR for purposes of avoiding redundancy between the reports. Portions of that report are represented within this report but are based on observations or interview statements made during this investigative effort.

This new AAR includes:

- High-level incident narrative
- Report consisting of substantive findings and recommendations
- Tabular improvement plan

The Witt O'Brien's team which was assembled to conduct the review began project development work in August 2021. The review process relied heavily on interviews, allowing the review team to cast a wide but highly tailored net, capturing a variety of perspectives and observations that the review team would not otherwise be able to independently see. Interview-based reviews can effectively capture the observations of those who performed the work being assessed, and thus can benefit from their experience-based ideas for improvement. The review team identified themes through preliminary interviews, confirmed general concepts and focus areas through observation, and then achieved fuller clarity through structured key informant interviews.

Project Team and Methodology

Project Team

The project team consisted of the following individuals from Witt O'Brien's:

- Doug Mayne, CEM® – Client Lead
- Jeb Lacey, MPA – AAR Project Lead/Lead Assessor
- Joyce Hager, MPH – Assessor
- Jason Gwaltney, MPA, CBCP – Assessor

Project Firewalls

Other Projects: Simultaneous to this AAR, Witt O'Brien's staff were also supporting operational and tactical planning, data management and visualization, and general incident management advisory services for DHEC; this assessment does not engage directly with the activities of other Witt O'Brien's staff.

No Legal Advice: The information and opinions provided in this report are not, and are not intended to, constitute legal advice. The client is advised to always consult with the Office of General Counsel regarding any matter of law discussed herein.

Lead Assessor: Witt O'Brien's Lead Assessor on this AAR has had no role in the firm's direct operational support for DHEC, outside of development of this report.

Work Group Composition: The Assessment Team very rarely identified positions or agencies recommended to be in work groups. This was deliberately done in an effort to ensure DHEC retains maximum flexibility in designing the makeup of any work groups established. We recommend a close review of the subject(s) each work group is going to examine and the assignment of appropriate experts and/or stakeholders.

Methodology

Scoping Visit and Kick-Off: The Assessment Team conducted onsite project scoping interviews beginning July 14, 2021, and a project kick-off with senior staff on the following day. During this visit, the project team worked with the DHEC team to clearly identify project scope and limits, as well as identify any key areas of investigative interest.

Regional Visits: The Assessment Team facilitated onsite assessments, or "hotwashes," with each DHEC Region during the week of August 16-20, 2021. The

Assessment Team conducted interviews with regional leadership, open forum hotwashes with regional staff, and external partner interviews with healthcare providers and other interested community members. The following regional hotwashes were conducted:

- Lowcountry – 16 August 2021
- PeeDee – 17 August 2021
- Upstate – 19 August 2021
- Midlands – 20 August 2021

Agency Coordination Center (ACC) Visit: The Assessment Team facilitated a series of hotwashes with staff at DHEC headquarters on November 8-15, 2021.

- Testing Branch – 8 November 2021
- Plans & Logistics Branches – 8 November 2021
- Immunizations Branch – 8 November 2021
- ACC Open Hotwash – 9 November 2021
- Finance/Admin Virtual Hotwash – 15 November 2021

Key Informant Interviews: The Assessment Team utilized key informant style interviews for most of the information collection. These structured but flexible interviews were designed to leverage the observations and experiences of members of the response team of DHEC and its partners. Interviews followed an established interview guide, and all questions were drawn from a common questionnaire. Interviewees were informed that their specific responses would be confidential to ensure their candid cooperation, and they were encouraged to elaborate on specific topics at the discretion of the interviewer.

Qualitative In-Depth Interviews: The Assessment Team also used targeted, in-depth interviews to collect specific information regarding potential findings.

Collaborative Survey: The Witt O'Brien's team worked with staff from DHEC to design a survey tool within the Palmetto system that could serve the Agency in future events. As part of this system development, a survey was developed and distributed to solicit feedback from DHEC staff on the COVID-19 emergency response. This information was reviewed by the Assessment Team to validate findings and provide additional perspective on employee climate.

Draft Validation and Review: The draft was developed and thoroughly vetted and reviewed by an internal review team prior to delivery to the client for review. Only those findings and recommendations that garnered unanimous approval of project team members were included in the resulting draft. Collaboration between the Assessment Team and the client ensured that information contained in the report was both accurate and complete prior to delivery of the final After-Action Report.

The assessment phase of the After-Action Report investigation included key informant interviews of a number of individuals, followed by a series of qualitative, in-depth interviews with select participants. The following individuals participated in interviews to support the investigation:

DHEC Staff

Amy Painter	Brandi Hagman	Dr. Brannen Traxler
Chris Wimberly	Dan Drociuk	Danielle Maynard
Danielle Wingo	Dave Harbison	David Helps
Elizabeth Childers	Ellen Andrews	Erik Simensen
Holly Gillam	Jamie Blair	Keith Frost
Laura Renwick	Leslie Savage	Dr. Linda Bell
Louis Eubank	Marcus Robinson	Margaret DuBose
Marshall Taylor	Meredith Murphy	Nick Davidson
Patrick Brown	Raymond Barteet	Rick Lee
Sam Christmus	Sam Finklea	Stephen White
Suzanne Sanders	Dr. Edward Simmer	Tripp Clark
Veronica Moore	Wendell Gulledge	Whitney Cofield
Will Britt		

Former DHEC Staff:

Jennifer Read	Joan Dewve	Mi Sou Grey

State and Community Association Staff

Kristy Burch, SC Emergency Management Association

Richele Taylor, SC Medical Association

Steve Batson, SC Emergency Management Division

Thornton Kirby, SC Hospital Association

AAR Review Team

Will Britt	Louis Eubank	Dave Harbison

PART 2: Findings and Recommendations

Section 1. Leadership and Organization

Responsibilities and Authorities during Disaster

Observations: There is considerable disagreement, both internal and external to DHEC, as to 1) who is ultimately responsible for strategic decision-making during a public health emergency; 2) the role of the Governor, the Board of DHEC, and the DHEC Director in setting organizational policy or objectives during a public health emergency; and 3) where specific authorities rest during public health emergency situations, particularly those in which the Emergency Health Powers Act is activated due to a Governor's declaration of a State of Emergency or a Public Health Emergency.

FINDING 1.1: There is disagreement between agencies as to who should ultimately act as the "Incident Commander" and serve as the directive authority during public health emergency situations and how DHEC should interface with the SEOC and other agencies.

Discussion: DHEC is tasked by South Carolina law as being "the sole advisor of the State in all questions involving the protection of public health."[4] It is further tasked in the South Carolina Emergency Operations Plan (SCEOP) as the coordinating Agency for Emergency Support Function 8 (ESF 8): Public Health and Medical Services. Additionally, DHEC is granted the authority to make separate orders and rules to meet any emergency not provided for by general rules and regulations for the purpose of suppressing communicable, contagious and infectious diseases and other dangers to the public life and health.[5] The Agency can be granted even broader authorities found in the Emergency Health Powers Act by an Order of the Governor.[6] At the same time, the Governor is granted explicit authorities to direct all state activities during emergency situations occurring or impacting the state, as well as authority over all agencies and subdivisions of the state's government.[7] It appears that there are potential conflicts in statute, regulation, and practice regarding how statewide emergency situations, including public health emergencies, are to be managed. These actual or perceived conflicts led to confusion between

[4] S.C. Code Ann. § 44-1-110
[5] S.C. Code Ann. § 44-1-140 and S.C. Code Ann. § 1-23-130
[6] S.C. Code Ann. § 1-3-420 and S.C. Code Ann. § 44-4-130
[7] S.C. Code Ann. § 1-3-430, S.C. Code Ann. § 1-3-440(4), and S.C. Regs 58-101

DHEC and other state agencies over their respective authorities, roles, and responsibilities.

The Governor is granted the authority by regulation to approve the SCEOP and DHEC is charged with developing plans supporting ESF 8: Public Health and Medical. These same regulations require explicit concurrence from SCEMD regarding plans, annexes, and standard operating procedures (SOPs) developed to support the SCEOP.[8] Because many of these plans, annexes, and SOPs are created or revised during emergency situations, and in some cases, set strategies and goals in place for the operation, it is reasonable that the Governor, the DHEC Director, and the Director of SCEMD should be directly involved in the strategic management of a public health emergency.

During major emergencies, responsibilities for decision-making and actions are not limited to just the primary coordinating agency. The COVID-19 emergency impacted more than just public health, as evidenced by economic challenges, changes to methods in public safety, and even impacts to state and federal elections. The Governor possesses a broad authority to direct the actions of state agencies that oversee most of these functions through orders or proclamations,[9] but individual state agencies do not possess the same ability to direct the activities of other agencies during a coordinated, multi-agency response. State regulations designate SCEMD as responsible for "serv[ing] as the designated coordinating point between the State, state agencies, and county government during an emergency."[10] That said, many public health response authorities are granted by the legislature directly to DHEC, particularly during an activation of the Emergency Health Powers Act. It may be suitable that the established Multi-Agency Coordination Group, or MAC Group, referred to as the Governor's Command Section in regulation,[11] fulfills strategic coordination responsibilities and provides support to a Unified Command consisting of the Governor's Office, the SCEMD, and the agency or agencies with primary responsibility, which, in the case of a pandemic, would certainly include DHEC.

[8] S.C. Regs. 58-101 (D)
[9] S.C. Code Ann. § 1-3-430, S.C. Code Ann. § 1-3-440(4), and S.C. Regs 58-101
[10] S.C. Regs. 58-101 (D)
[11] S.C. Regs. 58-101 (A)

The most current DHEC Emergency Operations Plan (EOP) was published in August 2019 and was activated in response to the COVID-19 emergency. It identifies the DHEC Director as the "Agency Incident Commander" and allows for the Director to designate another to fill that role. It is not clear whether the DHEC EOP is considered supportive to the SCEOP and whether the designation of the Director as the Agency Incident Commander conflicts with the roles of other agencies and the Office of the Governor. It is also unclear how the Agency Incident Commander is to be supported by other agencies, particularly through the South Carolina State Emergency Operations Center (SEOC), if they are indeed in command of the state response to a public health emergency. While DHEC staff are adamant that the term "Incident Commander" is appropriate for the individual who manages the Agency response, the Assessment Team cannot fully conclude the same. It is possible that the most reasonable solution that provides for consistent application of the core principles of NIMS[12] would be to establish a Unified Command and subsequently treat the SEOC as the center point of the multi-agency coordination system (MACS) for purposes of information management, resource management, and planning efforts, while the DHEC Agency Coordination Center (ACC) serves in a capacity similar to an Incident Command Post, overseeing the state's actual public health related operations. This would likely require the integration into the DHEC IMT of representatives from other functional areas who, like DHEC, have response obligations as defined within the SCEOP.

An alternative would be to consider a structure similar to what is now the UCG as a MAC Group and assign command within the primary responsible agency (in some ways similar to how the Agency is currently operating). However, this would seem to potentially conflict with current regulation both due to the Governor's role and to the legislative establishment of a MAC Group/Policy Group (the Governor's Command Section).[13]

Regardless of how the relationship between responsible agencies is determined to be best structured for future public health emergencies, attention must be paid to improving multi-agency collaboration. DHEC struggled to fit into the SCEOP-defined role as ESF 8 Lead and to coordinate

[12] For reference, see the National Incident Management System Third Edition (October 2017), Section III, Command and Coordination
[13] S.C. Regs. 58-101 (A)

with other ESF 8 agencies and support agencies. During interviews with agencies outside DHEC, a common theme was that DHEC failed to effectively coordinate with other agencies that had interests in the pandemic response. From local governments to other state Agency representatives, the Agency was described as "isolationist" and "protective," while DHEC staff repeatedly stated that other agencies were unwilling to listen to or acknowledge their limitations. While many of these external perceptions are a result of statutory limitations placed on DHEC, particularly those relating to information sharing, it is also true that the Agency did not necessarily adhere strictly to the coordination structure laid out within the SCEOP or in the DHEC EOP. At least one interviewee indicated that these same issues were identified during the Crimson Contagion functional exercise conducted jointly with state and federal partners in 2019. That said, the scope and impact of the COVID-19 emergency surely rendered certain aspects of the Command, Coordination, and Control (C3) structure of the state insufficient and presented an unprecedented coordination challenge.

Recommendation 1.1.1: The DHEC Director, along with emergency response subject matter experts, in coordination with the Director of SCEMD, should immediately work to clarify the composition, roles, and responsibilities of the Governor's Command Staff, and the state's Unified Coordination Group (UCG) / Multi-agency Coordination Group (MAC Group) during public health emergencies.

Recommendation 1.1.2: The DHEC Director, in coordination with the Director of SCEMD, should immediately work to clarify the primary Command, Coordination, and Control structure for public health emergencies in a manner that adheres to statute and policies, and ensures that the leadership structure can effectively collaborate to provide strategic and operational direction to the primary responding agencies and the supporting agencies and effort during a public health emergency. This should include clearly establishing the primary command function (an Incident Command or Unified Command), including clarifying the role and composition of the function of the entity currently referred to as the Unified Coordination Group (UCG).

Recommendation 1.1.3: The DHEC Director should consider tasking the Office of General Counsel to develop a report that identifies each directive authority granted to the Governor, the Adjutant General, SCEMD, and DHEC

during a public health emergency, including those not specifically associated with a public health emergency. The report may include an examination of approaches used in other states that have a centralized public health system and subsequently do not defer any public health decision-making to independent local governments or sub-jurisdictions.

FINDING 1.2: The individual or position authorized to carry out many of DHEC's codified authorities during a statewide emergency is not clearly designated in statute or regulations, and delegation of authorities within DHEC are often not clear.

Discussion: During a review of the Agency's powers as found in code and regulation, it became apparent that in many cases in which an authority is granted to DHEC, the Agency is referred to by the Agency name or common acronym. In discussions with representatives of the DHEC Office of General Counsel, it was made clear that the Agency interpretation of statute is that the powers granted to "DHEC" are granted to the Agency Director. This is not clear to an outside observer. As an example, the responsibilities for promulgating regulations per the South Carolina Administrative Procedures Act, which are carried out by the Board of DHEC, are also granted to "DHEC," and that Administrative Code charges the Board as the responsible governing authority to "oversee, manage and control the operation."[14] It is also unclear who is ultimately responsible for strategic decision-making during a public health emergency. As an example, the Governor of South Carolina has, on a number of occasions, sent directive-like requests to the Chairperson of the Board of DHEC rather than directly to the Agency Director, which indicates that the Governor's Office believes that the Board has at least some capacity to determine or "direct" the tactics utilized by the Agency to respond to a public health emergency.

Also relating to authorities granted to "DHEC," discussions with staff at both the Central Office and within the Regions established that there was substantial confusion about which powers were delegated, and in what circumstances it was acceptable to utilize them, particularly within the context of the COVID-19 emergency. As an example, some staff in the Regions were aware of their ability to use public health powers to isolate individuals infected

[14] S.C. Code Ann. § 1-30-10.

with tuberculosis when they posed a bona-fide public health threat, but simultaneously believed that they did not have the authority to do so to a COVID-positive individual. The Assessment Team reviewed a Delegation of Authority document from February 2021 that did address some broad delegations of authorities. However, several interviewees expressed that the conditions and/or limitations on the delegated authorities were not clear, and others expressed that they were not aware that the document existed or what specific powers it delegated. Some interviewees expressed that they believed there was a substantial difference between what responsibilities were officially delegated and actual expectations and practices.

Recommendation 1.2.1: The DHEC Director should, in consultation with the Office of General Counsel, consider a thorough examination of all authorities found in statute (including those within the Emergency Health Powers Act) to determine:

1. How those authorities have historically been carried out and by whom;
2. Where the power to execute each authority granted to "DHEC" is most appropriately delegated (Board, Agency Director, or a program area) in the interest of public safety and emergency response;
3. The most appropriate method for clarifying such responsibilities, which may include any or all of the following:
    a. Developing a report on the potential uses and impacts of each authority, and through the most appropriate process, requesting legislative clarification from the South Carolina General Assembly;
    b. Creating and requesting Board approval for a policy or resolution that stipulates by position or title the person or persons authorized to carry out each specific authority and the conditions under which they can do so;
    c. Creating and requesting Board approval for a policy or resolution that authorizes the DHEC Director to specifically carry out any emergency authority named to "DHEC" in statute and to specifically assign authorities to positions within the Agency, including appropriate conditions and/or limitations for leveraging such authorities; and/or,
    d. Some other method determined most appropriate by the DHEC Director and the Office of General Counsel.

Recommendation 1.2.2: The General Counsel for DHEC and/or the Chief Counsel for Public Health should consider conducting or otherwise providing for the review and update of the "Public Health Emergencies: A Resource for Bench and Bar" dated 2012, that:

1. Addresses and clearly deconflicts authorities relating to authorizations to undertake each power or authority granted to the Agency, by declaration type;
2. Addresses laws and regulations not directly related to, but impacting, the operations of the Agency during declared emergencies;
3. Provides clear and concise directives and limitations that are suitable for use by staff within program areas in addition to those serving in a legal capacity, either within the Resource or as an Addendum to it;
4. Clarifies responsibilities and limitations relating to:
    a. Medical and standing orders;
    b. Medical information;
    c. Personally identifiable information (PII) and information derived from the same; and
    d. Ownership and sharing of other protected data or the products resulting from its analysis.

Recommendation 1.2.3: The DHEC Director should consider working with the Office of General Counsel to improve the clarity and specificity of any future internal delegations of authority. This may include an effort to identify, by type of emergency, who has the authority to make specific decisions or order specific public health activities to be undertaken.

FINDING 1.3: DHEC's dependence on an order from the Governor to conduct certain emergency operations or to exercise specific powers under the Emergency Health Powers Act (EHPA) creates a substantial limitation on the Agency during prolonged emergencies.

Discussion: Some powers contained within the EHPA, such as the ability to waive licensure requirements for certain health professionals or out-of-state providers of health services, were eliminated from the DHEC toolbox after June 6, 2021, when the Governor elected not to renew the Executive Order that had been in continuous effect since March 13, 2020. Despite a clear need for many of the powers granted to the Agency to combat the COVID-19 emergency, as

illustrated by the Agency letter "Implications of Rescinding the Governor-declared State of Emergency" dated April 7, 2021, the expiration of the Governors Declaration of Emergency has substantially impacted the Agency's response to subsequent variants. The ongoing COVID-19 response has demonstrated that there could be future public health emergency situations where, if changes to current law are not made, the Agency might not have available the powers it needs to suspend certain regulations and direct certain actions. There are also authorities that may be available without an Emergency Declaration that are not clearly defined or are considered politically unpalatable in the absence of a declaration. As of the end of 2021, only 24 US States had active COVID-19 emergency declarations or state health orders active despite the resurgence of the Omicron variant. A re-examination of the types of authorities that are needed for prolonged public health emergencies to respond to long-term cycles of disease resurgence, or the emergence of disease variants, is critical.

Recommendation 1.3.1: Within the confines allowed by South Carolina law and regulation, the DHEC Director should collaborate with the Office of the Governor; the Director of the Department of Labor, Licensing, and Regulation (SCLLR); the Director of the Department of Administration (SCDOA); and other relevant agencies to develop a report that identifies specific authorities that may be required to mitigate the impacts of emerging public health threats prior to a clear and compelling need for a Declaration of Emergency, or the same that may be required during a prolonged public health emergency for which there is not a broader need for a Declaration of Emergency.

Recommendation 1.3.2: The Office of General Counsel should consider working with the Bureau of Public Health Preparedness (BPHP) to develop an Emergency Declaration Crosswalk, comparing the authorities of DHEC when no emergency is declared, when a General State of Emergency is declared, and when a Public Health Emergency is declared. The crosswalk should not be limited to public health powers, but also regulatory authorities, procurement methods, and other implications to policy or practice that are associated with each declaration type.

FINDING 1.4: Members of the DHEC leadership team provided direct contact information for subordinates and other members of the ACC IMT to members of the South Carolina General Assembly, resulting in direct

requests to branches and divisions of the IMT that were often not consistent with current operational goals or led to the inefficient reallocation of resources.

Discussion: Multiple members of the DHEC IMT staff expressed that numerous requests were made directly to DHEC Executives and other staff within the IMT by members of the General Assembly to satisfy needs within their respective districts and with their own families. DHEC Executives were consequently pressured to reprioritize scarce commodities and services, causing the ACC to remain in a constant state of flux due to changing guidance within the Agency. In some cases, legislators reached out to ACC staff directly, having been provided contact information by DHEC Executives. Staff indicated that requests included asking for testing and vaccination clinics at specific locations or at specific times, testing of friends and family members, and requests for data or intelligence products. While the Agency was able to satisfy many of these requests, it often meant that resources were allocated to efforts that were considered less than optimal, and in some cases, quite inefficient. It is critically important that the Agency ensure that in future emergencies, those in leadership roles refer requests or inquiries to the appropriate staff within the Director's Office or Legislative Affairs via ICS processes, and refrain from facilitating direct lines to staff who are likely unprepared to manage requests from legislators.

It is important to note that the Agency did immediately establish a Legislative Affairs Liaison early in the response and maintained that capacity throughout the activation. However, the scale of the emergency, and the lack of sufficient staff depth within the function strained its ability to maintain a presence in the ACC and simultaneously liaise with the General Assembly, partner agencies, and other high-level interested parties.

The Agency struggled to communicate the methodology behind many of its decisions, such as where services were delivered. Multiple Agency leaders stated that, for example, if they had communicated the reasoning behind vaccine allocation decisions it might have, at least to some degree, alleviated the concerns of the state's elected officials. Furthermore, it would have provided those officials with a reasonable response to constituents who had questions or concerns about the availability of services within their district and

reduced the large volume of constituent inquires all forwarded through a single individual from the assigned staff.

Recommendation 1.4.1: The DHEC Director should consider increasing staff support to the Legislative Affairs Deputy Area, and specifically ensure that subject-matter expert (SME) support staff (with the ability to regularly participate in meetings and subsequently translate operational decisions and rationale into easily communicated talking points) are assigned as primary points of contact to answer questions for the Legislative Affairs Liaison.

Recommendation 1.4.2: The DHEC Director should ensure that the Legislative Affairs function is well represented in the ACC during activations by providing sufficient staff with applicable expertise. The DHEC Director should consider examining whether the Legislative Affairs function of the Agency is sufficiently staffed to support both the coordination needs of the General Assembly and other external stakeholders during emergencies.

Recommendation 1.4.3: The DHEC Director should coordinate with SCEMD to ensure that ESF 15 (External Affairs) functions beyond public information, particularly relating to both state and local elected officials, are addressed appropriately in accordance with the SCEOP.

Recommendation 1.4.4: The DHEC Director should consider implementing strategies designed to increase visibility on Agency operations during any prolonged response to allow senior elected officials, leadership from other cabinet-level agencies, and representatives from local government to witness DHEC operations first-hand.

Recommendation 1.4.5: The DHEC Director should ensure that policies, plans, and procedures specifically dictate that external requests from members of the General Assembly or other state officials are communicated through and managed by the Legislative Affairs Liaison.

Leadership Team

Observations: The Executive Leadership Team (ELT) of DHEC consists of senior leaders from the Agency's primary mission areas, as well as leadership from the support functions of the Agency. According to the DHEC EOP, its responsibilities during emergency operations are clearly focused on maintaining Continuity of Operations (COOP) for the Agency's ongoing mission. There is no mention of the ELT having any Command, Control, or Coordination role outside of COOP. It appears clear to the Assessment Team that the DHEC EOP is designed to promote the concept that the ELT is to be focused on the maintenance of the Agency's day-to-day responsibilities while the DHEC Director and the team assigned to the ACC perform or support emergency operations.

Several months into the COVID-19 response, the ELT was expanded into an Incident Leadership Team (ILT) with the ACC Incident Commander (IC) and Deputy Incident Commander, as well as other select support roles added (Lab Director, Director of Community Health Services Bureau, and the Director of Strategic Planning). The intent was to have the ILT provide strategic direction to the ACC IC and to create a forum for ensuring the elements of the Agency not directly tied to the response were kept apprised of the operations. A number of interviewees expressed that the ILT was explicitly designed to serve as a Policy Group (referred to as, and synonymous with, Multi-Agency Coordination Groups, or "MAC Groups" in the National Incident Management System). Policy/MAC Groups are intended to consist of individuals who have codified authorities. Examples are collections of elected officials who each have specific statutory or regulatory responsibilities that cannot be deferred or transferred, such as in a statewide emergency in which multiple state agencies have statutory responsibilities for aspects of the emergency or the resources brought to bear.

In the simplest terms, Policy/MAC Groups are traditionally created when conflicting authorities prevent a unity of command under a single responsible party, and multiple competing interests have responsibilities or control resources in the incident. This situation does not exist inside DHEC.

In the case of DHEC, it might be more appropriate to create a leadership advisory team modeled on those used by universities, often referred to as executive groups or advisory teams. This group provides expert advice to the decision-maker, coordinates resources to support the emergency, and ensures that established

policies are adhered to or recommends changes to support emergency operations, but do not exert any decision-making authorities or controls over the IC or the response.

FINDING 1.5: The roles and responsibilities of the senior leadership team of DHEC during a disaster are not clear, creating conflicts in command and control of the IMT and supporting functions.

Discussion: The Incident Leadership Team (ILT), which is comprised of DHEC executive leadership outside of the IMT, was intended to serve as what would traditionally be considered a "Policy Group" under an ICS construct. However, Policy Groups traditionally sit above a Unified Command and are traditionally comprised of chief officials or senior policymakers from all invested agencies. The ILT was established in a position of authority, essentially senior to the ACC IC, without clear lines of responsibility or limits to its authority to direct the ACC team within DHEC. This led to conflict within the ACC.

Leaders are appointed to the ILT by the DHEC Director, and their status as serving on the ILT at the will of the DHEC Director means that they likely cannot efficiently function as a traditional Policy/MAC Group. Because the DHEC Director has authority over both the composition of the ILT and the actual individuals who fill the roles, the individuals have little or no codified authority. Entities from time-to-time attempted to use the ILT to ensure that strategic leadership was involved in decision-making, and at other times as a method for deferring or abdicating responsibility for decisions. Doing so not only exacerbated the opportunity for conflict, it reduced the Agency heads' authority and blurred the lines of accountability.

It may be beneficial to the regulatory functions of the Agency to maintain the current construct and nomenclature for both the ELT and ILT, and ultimately, it is practical that the DHEC Director or his or her designee should receive advice and guidance from the vast experience pooled within them. However, strategic direction provided to the IC and the IMT staff should be the responsibility of the Director or his or her designee in order to effectively maintain a unity of command and ensure accountability. While the ILT could be asked to provide feedback on recommended strategic objectives, it is unlikely that the operational awareness required to provide substantive direction on specific operations and tactics can be gained from outside the

IMT. In short, advisement from well-structured groups during crisis operations can often lead to informed decisions by the individual leader, but decentralized decision-making or "management by committee" during crisis often leads to delay and sub-optimal or "compromised" decisions.

It was also discussed that members of the ILT have substantially different areas of expertise, backgrounds, and responsibilities, yet carry at least a perceived equality in the value of their input on the development of objectives. It was made clear that the ILT was at times the source of common bureaucratic challenges such as being slow to, or even unwilling/incapable of, identifying concrete benchmarks or objectives, and often selecting sub-optimal action-plans that were based on a need for consensus and to diffuse responsibility. Interviewees discussed that it often appeared as though the views of the main sources of expertise in the ILT, in particular public health related topics, were not prioritized over the views of other members. It was also discussed that the common challenge of "competition" in group decision-making was a source of contention.

From an organizational management standpoint, the hierarchy of the ILT construct itself does not appear to prioritize the strategic expertise of the Deputy Area Directors over the input of the support elements. This may create a situation in which the Agency is slow to set strategic guidance for both blue sky and emergency operations. It may also create situations in which the optimal decision for a Deputy Area is seen as equal, rather than more important, than the optimal decision for a support element. As noted by the SHaPE SC Committee in its report, and substantiated by numerous interviewees, the current construct does not allow for focused emphasis on any of the Agency's core missions within the primary service delivery/Deputy Areas.

Lastly, it should be noted that the size of both the ELT and the ILT and the diversity of their missions would likely create a challenging span of control for most organizational leaders.

Recommendation 1.5.1: The DHEC Director may consider restructuring the ELT to clearly prioritize the core missions, inputs, and needs of the Deputy Areas over those of the support elements. This could include restructuring the blue sky reporting hierarchy and establishing additional leadership positions

to oversee supporting functions. It could also include the decentralization of some support functions into the program areas and Regions.

Recommendation 1.5.2: The DHEC Director should consider institutionalizing continual examination of the Agency's internal structure used during emergencies, particularly those that have a substantial public health component. One overarching goal of such an examination should be achieving unity of command to ensure consistent direction and control, as well as accountability for critical tasks.

Recommendation 1.5.3: The DHEC Director should establish a working group to review the need for, and the role of, an executive policy group to support the Director's decision-making and Agency-wide resource coordination needs during emergencies. The role of this group should be clearly defined to promote unity of command within the Agency.

Recommendation 1.5.4: The DHEC Director should consider ensuring plans are reviewed and amended to stipulate that during emergencies in which the IMT is activated, the Incident Commander reports directly to the DHEC Director or his/her designee and receives strategic objectives directly from the DHEC Director or designee, or if established, the state's MAC Group.

FINDING 1.6: Some members of the ILT subverted the controls of the ACC organizational structure by leveraging blue sky supervisory authorities over IMT staff. This was often in direct contravention of the direction of the ACC leadership, and at times resulted in harm to the response and negative impacts to staff morale.

Discussion: A problem that commonly occurs when an ICS structure is activated is leaders continuing to exercise their day-to-day organizational structure and authority even when their subordinates are assigned to response roles within ICS. This often creates confusion, reduces effectiveness, and violates the principle of unity of command.

Interference by senior leaders not directly involved in the management of the IMT or listed within the incident command structure was repeatedly mentioned in interviews by senior and mid-level staff. Interviewees repeatedly expressed that direction would be provided by members of the ILT directly to IMT staff that clearly conflicted with direction given to them by their

supervisory chain in the IMT, and many of the individuals reporting such interference were hesitant to raise the issue with either chain due to a fear of reprisal.

Interference in the IMT was not limited to operational decisions. In some cases, Agency staff external to the IMT staff pushed for specific personnel to be responsible for or receive credit for specific tasks, or to be involved in certain aspects of decision-making. In other cases, particularly relating to support services, leaders outside the IMT would "override" decisions made within the structure or expressly refuse to authorize tasks to be carried out by their staff now working within the IMT or by external supporting staff.

It should be noted that on the surface, some requests or directives appeared to be reasonable to the recipient, such as when a leader requested that a specific SME have input on efforts that were closely related to the SME's field of expertise. However, even in these cases, bypassing the IMT command structure led to conflicts. In one example, an interviewee described a process step that was ordered by a superior from outside the IMT that added a substantial time delay to a task. The interviewee did not feel comfortable explaining the cause for the delay to IMT leadership due to fear of reprisal in their primary job area.

NOTE: During the interview process, several examples of such conflicting direction were provided to the Assessment Team. However, in the interest of protecting the anonymity of those interviewees, we have not included specific examples in this report.

Recommendation 1.6.1: The DHEC Director should consider developing policies and procedures that clearly establish boundaries between the response mechanism of the Agency and the blue sky operations that continue during emergency conditions (including activation and implementation of Continuity of Operations [COOP] activities), including a standard method and protocol for incorporating external support into response operations that is respectful of the concept of unity of command.

Recommendation 1.6.2: The DHEC Director should ensure that all supervisors of staff are trained on acceptable methods and protocols for providing feedback, direction, or SME support to the IMT to ensure that unity of command is maintained.

Recommendation 1.6.3: The DHEC Director should make clear in policy and plan that when assigning personnel to serve in roles in the IMT, those personnel have been empowered with the authority to make decisions consistent with their role in the IMT; the DHEC Director should also develop a method for clearly and regularly confirming and/or updating such authorities.

Recommendation 1.6.4: The DHEC Director should make clear in policy that personnel assigned to the IMT are relieved of all blue-sky responsibilities and that day-to-day supervisors should refrain from contacting staff while they are assigned to the IMT.

Strengthening the Response Capacity of DHEC

Observations: DHEC benefits from a strong employee base that is willing to commit to the effort at hand and is capable of creating solutions to challenges as they arise. While the Agency did not complete every task to perfection, it cannot be denied that it was successful in many of its core missions. Over the entirety of the response, the Agency has overseen the administration of approximately 15.5 million tests[15] and over 6.5 million vaccine doses, resulting in over half of the eligible population being fully vaccinated.

The Agency has continually adjusted its organizational structure, its staffing, and the tactics by which it has confronted the COVID-19 emergency. While being flexible is a key tenet of ICS and the Agency's ability to make these adjustments is laudable, the core reasons that changes were *continually* necessary should be reviewed, with the goal of developing plans, processes, and procedures to reduce change during future response operations.

One area for review is how the Agency can better prepare across all Deputy Areas to support pandemic response operations. Historically, the Environmental Affairs and Health Care Quality Deputy Areas have played a large role during hurricane response. Meanwhile, Agency-wide public health responses in the past decade have only been simulated in exercise. Because staff outside public health have had substantially more real-world response experience than staff within, a number of individuals from other Deputy Areas were leveraged in positions that a well-trained and prepared public health expert may have more efficiently or effectively filled, had they been available. Developing a capacity to conduct Agency-wide preparedness activities (planning, training, and exercises) at the Director level may alleviate these challenges. Such a capacity would likely require preparedness and response-oriented staff from each of the three Deputy Areas to be assigned to any preparedness function. It is important to note that maintaining a preparedness capacity within the Deputy Areas would still be appropriate as well. The Agency-level preparedness function could develop standards and provide guidance to each primary business area's preparedness and response staff, ensuring that threat/hazard specific standard operating procedures or procedures requiring a specific professional acuity are developed within their respective programs but that preparedness efforts were coordinated across the entire Agency.

[15] https://coronavirus.jhu.edu/testing/states-comparison/testing-state-totals-bypop

Furthermore, due to a lack of organizational depth (particularly in key leadership positions), many leaders in public health were divided between day-to-day or blue-sky obligations and response operations. This led to a number of negative consequences, including response staff burnout and insufficient focus on the part of some leaders on response requirements. In some cases, public health professionals were present in the IMT but were eager to return to their primary roles. Some of these professionals did not return to their IMT roles when the response again increased in intensity. This left non-SME staff to fill the gaps, and while these staff were clearly dedicated and performed their duties exceptionally well, there is no doubt that in some cases, having non-SME staff leading the response led to complications in the operation.

Another challenge was that as issues, requirements, or recommendations arose, they were solved at different, and sometimes inappropriate, levels without a formalized approval process. This was a particular issue when matters arose within the ACC, but the decision-makers possessing the knowledge or expertise needed to solve them were not part of the IMT leadership team.

A final consideration is that developing relationships and conferring with certain stakeholder groups during normal times could help guide the development of Agency policies, plans, and procedures. This would aid the Agency during disaster response activities.

FINDING 1.7: Preparedness efforts in DHEC are not uniform across program areas, impacting training and exercise requirements and participation, and ultimately DHEC's ability to respond to emergencies.

Discussion: Public health preparedness efforts are organizationally located within the Public Health Deputy Area in the Bureau of Public Health Preparedness (BPHP). However, BPHP is functionally responsible for Agency-wide disaster preparedness. There was a perception that public health emergencies only required the attention and response of the Public Health Deputy Area. While it was not observed in this review, it is possible that the placement of the entirety of the Agency preparedness function (BPHP) in the Public Health Deputy Area may contribute to a lack of participation or interest in preparedness (training and exercise) activities specific to a public health emergency scenario from the other Deputy Areas and support functions of the Agency. Additionally, the Agency has historically been involved in more

environmental and hospital-related responses than public health-related responses. As a result, most exercises and training for the bulk of the Agency has focused on environmental responses and hospital emergency scenarios, instead of public health emergency scenarios.

Recommendation 1.7.1: The DHEC Director should strongly consider establishing a Preparedness Division or Office that reports to the Agency Director or Deputy Director (if established) and oversees activities of preparedness offices within each Deputy Area. This Agency-level office could oversee multi-agency planning and coordination, Agency training and exercise efforts, and ultimately serve to coordinate Agency level support functions (such as IT, Human Resources, and Finance) as they integrate into the IMT structure. The office could be responsible for developing and managing an Employee Skills Database, to support the pre-identification and assignment of positions in the ACC (see Recommendation 2.7.2).

Recommendation 1.7.2: The DHEC Director should consider establishing an Agency-wide Integrated Preparedness Plan (IPP), also known as a Multi-Year Training and Exercise Program (MYTEP), that is all-hazards in nature and ensures that all functions of the Agency, including Deputy Areas and support functions, are fully trained and practiced in supporting emergency response. DHEC BPHP should ensure that the Agency IPP is aligned with the state MYTEP developed and maintained by SCEMD.

FINDING 1.8: DHEC lacks sufficient depth in key leadership positions at the Executive Level and within many of the bureaus in public health.

Discussion: Overall, the Agency appears to lack organizational depth in key leadership positions from the Agency Director down and through the Public Health Bureaus and Divisions. Many leadership positions do not have designated Deputy or Assistant positions identified. While the Assessment Team admittedly lacks the specific expertise to determine how to best organize a combined public health and environmental regulatory agency, it is clear that there are span of control challenges. These challenges have created issues regarding the inclusion of expert leaders in the response. Additionally, numerous interviewees discussed that leadership struggled to balance blue-sky operations with the demands of the response, and that many leaders who

might have otherwise provided substantial value in the IMT simply could not effectively strike a balance between competing responsibilities.

Best practices show that fairly narrow spans of control are preferred for organizational leaders who have broad responsibilities. Typically, a preferred span of control for these types of positions could be as low as three to five direct reports. The Agency Director, the Director of Public Health, and several leaders within Public Health have much wider spans of control than would be preferred by that standard. Many organizations periodically conduct assessments such as "spans and layers" studies or comparative assessments using peer agencies. Such efforts may be useful to better understand the challenges faced by the Agency during the COVID-19 emergency, but may also provide additional insight on other challenges.

One oft-discussed issue that may be explored by an examination of organizational spans and layering is the common feeling among staff that the Agency's structure inhibits vertical mobility. As the COVID-19 emergency becomes a program, and staff return to their normal work-life, the Agency will certainly need to prepare for the impacts of the fact that it has, through response to a global disaster, created a whole new batch of leaders prepared to take on the most significant of challenges.

Recommendation 1.8.1: The DHEC Director should consider establishing a position (such as a Deputy Director or Agency Executive Officer) with appropriate responsibilities to provide oversight to the non-affected Deputy Areas, agency regulatory functions, support functions, and other blue sky responsibilities during response operations. This would allow the Director to focus on and provide appropriate attention to emergency activities, in accordance with the SCEOP, the DHEC EOP, the DHEC COOP Plan, and other plans. *Note: The Assessment Team acknowledges that there are a substantial number of different approaches the DHEC Director could choose to structure leadership responsibilities during a disaster, and that many factors that fall outside the scope of this report would be considered prior to making any such decisions. This is especially true when considering which senior executive would be responsible for overseeing response operations.*

Recommendation 1.8.2: The DHEC Director should consider conducting an Agency-wide assessment of organizational layering and spans of control, to

determine whether it is necessary to establish deputies for certain positions, reduce the number of direct reports, increase the leadership development efforts, create capacity to manage disaster-related operations, and increase opportunities for upward mobility.

FINDING 1.9: DHEC lacks an organized process for anticipating and assessing external requirements or recommendations during emergencies, leading to adoption of programs, policies, and/or processes that may reduce response effectiveness.

Discussion: States across the US struggled with inconsistent direction and guidance from the federal government, particularly early on in the COVID-19 emergency. The National Homeland Security Consortium's COVID-19 Pandemic After-Action Report highlighted the challenges posed by the federal government's inconsistent messaging and guidance as the first priority in "Issues and Recommendations," specifically stating that future guidance from the federal level should be broader in order to promote flexibility in state response.[16] It was certainly clear through the interview process that many DHEC staff saw federal guidance as more rigid and directive than "broad" or "flexible."

A regularly cited example is the adoption of the Vaccine Administration Management System (VAMS) by DHEC. Issues with technology experience and usage impacting scheduling, differentiating first/second doses, lockouts, and appointment cancellations were observed by public health professionals in numerous US states. South Carolina was one of only 9 or 10 states (depending on source) to utilize VAMS.[17] Other VAMS adopters (such as New Hampshire) switched later in the response. Despite these same issues being clearly identified and communicated within DHEC, there was no formal mechanism to debate whether VAMS was required.

In another case, previously developed plans relating to Medical Countermeasure Distribution and Points of Dispensing (PODs) were set aside despite containing substantial relevant operational guidance. This was likely based on non-binding discussions with staff from the CDC Immunizations

[16] https://www.astho.org/COVID-19/NHSC-COVID-19-Pandemic-After-Action-Report/
[17] https://www.nhpr.org/nh-news/2021-02-03/while-most-states-avoiding-vams-for-covid-appointments-n-h-trying-to-make-flawed-system-work

Branch that directed the state to avoid using PHEP-funded plans. However, extensive investigation showed that no interviewee could clearly identify when or how the guidance was relayed to the Agency (among the sources named in interviews was a memo from CDC and/or HHS and a teleconference with ASPR, and most reliably, a phone call with the CDC Immunizations Branch and White House COVID-19 Task Force) and no evidence (such as an email, memorandum, or other publication) could be located. While these plans may not have been wholly applicable to the current emergency, many local and regional staffers have indicated that large portions of them are currently in use, but under different names and using different terminology. Staff have expressed that the guidance to abandon previously developed and well-practiced plans has led to fractures in relationships with local government representatives and hospital partners. While visiting one Region, a representative remarked that they received negative feedback from hospitals conducting "Points of Dispensing" operations but were not "allowed" to refer to them as such.

While there are certainly many advantages to DHEC's centralized structure, it is important to recognize that DHEC lacks an advantage of many of its decentralized peer agencies across the United States. Unlike in many other states, DHEC is the sole public health voice in South Carolina. While other states can use both state and local voices to emphasize concern with federal or even state mandates, burdensome requirements, or recommendations that could harm public health processes, DHEC is the lone voice for the entirety of the state. As a result, the Agency not only has a larger role in vetting requirements and recommendations, but a more challenging one when rebutting them is necessary. It is not unreasonable to believe that being the lone voice on matters of public health may sometimes lead to a reluctance to push back on undesired changes.

Recommendation 1.9.1: BPHP staff should work to pre-establish and fully develop relationships with federal partners, as well as partners from other agencies and states, to ensure that they have full visibility on potential requirements or recommendations, as well as a better understanding of the intent and context of guidance or requirements from federal partners. BPHP should work to identify pre-existing relationships and lines of communication within the Agency and with external stakeholders that may be leveraged in future disasters.

Recommendation 1.9.2: BPHP should consider a review of all DHEC plans to identify the most appropriate method and structure for creating a plan hierarchy that reduces the need for whole-plan development "just-in-time," and instead creates a framework for modifying only lower-level documents in response to unanticipated circumstances (See Finding 3.7).

Recommendation 1.9.3: The DHEC Director should consider adopting a formal method for use during both blue and gray sky operations to efficiently review external requirements and recommendations, make decisions, and disseminate those decisions throughout the IMT and the Agency, particularly for when the decision is outside the purview or ability of the IMT leadership.

FINDING 1.10: DHEC did not have pre-established stakeholder groups that could help guide its public health decision-making or provide validity to its efforts.

Discussion: DHEC did not appear to have adequately engaged with stakeholder groups to validate its pandemic strategy or plans prior to the COVID-19 emergency. While, at times, stakeholder groups were included in discussion and decision-making processes during the response, there is ample opportunity to extend this approach to the preparedness efforts of the Agency.

The efforts of the Agency to create and manage a Vaccine Advisory Committee (VAC) serves as both an example of how the Agency can engage stakeholders to ensure that marginalized and underserved voices are represented, and as a lesson on how establishing these relationships during the preparedness phase can reduce negative and unintended consequences.

A number of respondents inside and outside DHEC made it a point to discuss the successes of the VAC as an example of how the Agency could improve other processes and response-oriented programs. At the same time, multiple interviewees stated that the ad hoc nature of the VAC left some community stakeholders or functions under-represented, and others were misrepresented. A common example cited was that public safety representation was not included in the VAC. This lack of representation might have resulted in public safety personnel being lower on the vaccine allocation list. One outcome of this was ground level staff having to explain "why a med student studying podiatry at a local university was in line ahead of first

responders" for vaccination. The VAC effort also serves to demonstrate why establishing both relationships and boundaries of responsibility prior to disaster is so critical to both considering stakeholder input and also clearly defining final decision-making authority to all involved parties. Interviewees stated that the lack of clearly defined authorities and limits for the VAC created situations in which members of the VAC, as well as those receiving the VAC's advice or recommendations, perceived the committee's authority to determine courses of action as greater than they appropriately should have been. This could likely have been mitigated by having established these relationships and clearly settled the boundaries of authority prior to the emergency.

The Agency should also look to the efforts of DHEC and the South Carolina Retail Association (SCRA) in their development and roll-out of the Federal Retail Pharmacy Partnership (FRPP) program as a source of positive lessons for future relationship development. The SCRA, which includes retail pharmacies across the state, was instrumental in ensuring that before the FRPP was in place, pharmacies were included in the COVID-19 vaccination effort. SCRA leadership worked diligently with DHEC to place COVID-19 vaccine doses from state allocations into pharmacies until the FRPP could be stood up and pharmacies could begin receiving vaccines directly from the federal government. This partnership allowed pharmacies to administer doses early in the vaccine rollout, contributing tens of thousands of doses to vaccine recipients well ahead of some other states' programs. The SCRA coordinated regular meetings of its pharmacy members to discuss overall allocations, examine individual throughput capabilities of member pharmacies, and geographically determine where demand was highest to maximize the effectiveness of the limited supply of vaccine available at the time. While not a pharmacy-only association or network, the SCRA, in partnership with DHEC, contributed significantly to the overall success of the vaccine mission.

Fundamentally, though, efforts such as the VAC and the SCRA implementation of the FRPP should serve as lesson-sources for future efforts to ensure inclusive, whole-community planning efforts are undertaken and that the right stakeholders are involved prior to an emergency.

Recommendation 1.10.1: The DHEC Director should consider creating a working group to study the construct, efforts, results, and perceptions of

collaborative efforts such as the Vaccine Allocation Committee and Federal Retail Pharmacy Partnership roll-out to ensure that the best practices and lessons can be incorporated into future preparedness efforts.

Recommendation 1.10.2: The DHEC Director should consider directing Deputy Areas to identify those decision-points (during all-hazards emergencies) which may require community collaboration, input, or validation, and identify the most appropriate manner for creating and fostering those relationships prior to the next response.

Section 2. Agency Coordination Center (ACC)

ACC Leadership and Organization

Observations: The response to the COVID-19 emergency was primarily led by DHEC through a command and management structure within the DHEC Agency Coordination Center (ACC). This incident command structure primarily utilizes the national standard Incident Command System (ICS), although it exhibits some variation on responsibilities within Sections and Branches. The leader of the IMT is the Incident Commander, who reports to the DHEC Agency Director both directly, and at times through a Policy Group-like Incident Leadership Team (ILT) composed of DHEC senior leadership. At certain points during the response, the IC also reported to the Public Health Director.

The IMT underwent a number of organizational changes and experienced a substantial turnover in leadership positions during the early phases of the response to COVID-19. However, by the time the Agency began pivoting toward vaccination efforts, the players and positions had become relatively stable and would remain so until the Agency began transitioning to a COVID Office and demobilizing portions of the IMT.

The Agency utilized personnel from across the organization to staff and operate the ACC throughout the emergency. DHEC's collective human resource pool is experienced in disaster operations due primarily to a substantial history of severe weather events impacting the state. Additionally, the Agency does have several staff members who have experience in other agencies during disasters, including some who previously worked for SCEMD.

FINDING 2.1: Through multiple reorganization efforts during the ongoing emergency, the IMT has developed and solidified an effective internal operations structure at the operations branch level for pandemic emergencies.

Discussion: The evolution of the IMT over the course of the pandemic emergency has led to the development of an effective structure for managing testing, case investigation and management, and immunization operations at

the branch level. It is a consensus that the current Operations Section structure specific to the functions listed above is successful and can fulfill the Agency's needs both during the ongoing emergency and during future ones. However, it should be recognized that this same structural evolution has created specific challenges and that solutions currently implemented may cause inefficient workflows.

Each DHEC Region has a Regional Coordination Center (RCC) and the ability to create and staff a stand-alone command structure (Regional IMT) to direct operations in response to a localized threat or a confined public health challenge. However, because COVID-19 was seen as a statewide effort, DHEC established, and successfully operated, a fully functional Operations Section and centralized response structure directed by the IMT at the ACC. Under this organizational construct, the Regions served as Branches under the command and control of the Operations Section Chief.

There certainly exists an appropriate series of triggers to convert the Regional IMTs from independent commands to Branches within the Operations Section of the ACC, while still retaining the ability to establish local command with a Regional IMT for localized emergencies. By streamlining the Regional Branches and simplifying the ground-level response, the Regions would be tasked with service delivery (operationalizing command intent) through the centralized Operations Section and would likely have their operational footprint somewhat reduced.

Recommendation 2.1.1: BPHP should consider working with internal and external partners to develop and codify in plans a scalable IMT to coordinate and/or direct DHEC operations during public health emergencies as well as provide support during emergencies led by other agencies.

Recommendation 2.1.2: BPHP should consider developing and promulgating (in the appropriate plans) procedures for establishing command functions within a Regional IMT, as well as appropriate triggers for transitioning Regional IMTs from incident command to a branch or division of the AAC Operations Section.

FINDING 2.2: The IMT implemented a project management planning approach to solving certain issues within the Operations Section, leading to process refinements that benefited the mission.

Discussion: Many of the DHEC successes during the emergency were the result of forward-looking planning efforts that leveraged a practical project management approach to development. Perhaps no better example exists than the development and roll-out of the Rapid Hire process. The Agency was able to quickly develop a condensed hiring process that reduced onboarding from months to weeks to satisfy the demand for staffing. Members of the DHEC Project Management Office (PMO) worked with IMT staff and Human Resources staff to assess workflows for the Rapid Hire process, identify opportunities for process improvement, define challenges and gaps, and develop an implementation roadmap. The result was a successful program effort that met the needs of the Agency.

For long-term project scoping and development, the Agency successfully utilized staff from the DHEC PMO function to support several other initiatives, including scoping the DTRA/Aries project, organization of the Testing Branch, and vaccine allocation and distribution workflows. Using a traditional project management approach, the Agency was able to clearly define opportunities and goals, identify challenges, determine processes, and subsequently refine them. Using this approach provided for a more transparent and reliable decision process.

Recommendation 2.2.1: BPHP should consider developing guidance for engaging project management staff in operational challenges that are not easily resolved, particularly in cases where working groups or other task forces are created to address operational issues.

Recommendation 2.2.2: BPHP should consider providing training on basic principles of project management to staff who could be assigned to the IMT. This training could include implementing a simple and consistent PMP-based approach to each area and phase to assist in problem solving and opportunity exploitation, as well as to constantly review the achievement of goals and objectives.

FINDING 2.3: The DHEC Incident Management Team did not consistently set clearly defined and measurable objectives on which operational tasks could be based.

Discussion: Throughout the response, the IMT operated with few or no tangible, achievable goals to measure its success over any set period of time.

Furthermore, efforts to build capacity for easily measurable tasks such as testing or vaccination efforts were made challenging by ambiguously defined capability targets and a lack of capacity awareness.

There are likely several factors that contributed to the lack of clearly defined objectives for most of the COVID-19 response. This includes a lack of regular intelligence forecasts and delay in publishing regular operational objectives and direction through Incident Action Plans (IAPs).

Forecasting lays the groundwork for objective setting, as emergency operations objectives are required to be reasonable and achievable. What is considered reasonable and achievable cannot be realistically known without reliable forecasting being available to decision-makers. The Intel Section was efficient in providing current situational intelligence but struggled to provide "next period" and "next phase" forecasts. *NOTE: A full discussion of this is contained in Section 4, Information, Intelligence, and Communications.*

The Agency did not begin developing a written Incident Action Plan (IAP) for each operational period until March 2021, 12 months into the response. The cornerstone of the IAP development process is setting reasonable and achievable objectives and ensuring that the General Staff is able to gain awareness of proposed objectives, consider their individual Section's capacity and limitations, and provide feedback on those objectives to ensure that they are appropriate. With the publishing of the first IAP, the IMT began providing operational objectives. Beginning October 2021 (20 months into the response), the ILT began providing strategic level objectives (labeled "Management Objectives" in the IAP) that were specific, measurable, achievable, reasonable, and time-conditioned (SMART) to the IC. The IC provided these objectives to the Command and General Staff for them to use in developing operational objectives for the IAP. However, as of the IAP published January 26, 2022, Operational Objectives do not support Management Objectives and are not measurable.

Recommendation 2.3.1: BPHP should work with the bureaus primarily tasked with Intelligence and Data Analysis, including Division of Acute Disease Epidemiology (DADE), as well as those bureaus or divisions that will be primarily tasked to support situational awareness in the Planning Section to determine how to best create an operational forecasting capacity that

addresses the next operational period and the next emergency phase of operations, as appropriate and as data becomes available (See Finding 1.9, Finding 3.3, and Recommendation 4.7.3).

Recommendation 2.3.2: The DHEC Director should consider requiring that management and operational objectives are measurable and contain reasonable conditions for achievement prior to publication in the IAP.

Recommendation 2.3.3: BPHP should consider developing clear guidance, including examples, that demonstrates how public health management and operational objectives should be structured to ensure they are specific, measurable, achievable, reasonable, and time-conditioned, or "SMART objectives."

ACC Staffing and Training

Observations: The Agency utilized staff from across the organization to staff and operate the ACC throughout the emergency. As noted previously, DHEC's collective human resource pool is experienced in disaster operations due primarily to a substantial history of severe weather events impacting the state. Additionally, the Agency benefits from having current staff members who have experience in other agencies during disasters, including staff who previously worked for SCEMD. The Agency succeeded in leveraging internal talent and experience to staff the IMT, despite many individuals involved not having specific public health experience, particularly after the first four months of the response.

Prior to the emergency, policies were in place dictating that staff assigned certain roles were expected to have training in the National Incident Management System (NIMS) and the Incident Command System (ICS). However, many individuals who were assigned roles at both the IMT level and within the Regions were not provided with sufficient training. In fact, a survey of those who participated in the COVID-19 response revealed that of those who had an opinion on whether training provided prior to the emergency prepared them for their role, more than a third of those who responded felt it had not. Central Office staff were substantially more disappointed with training provided than regional staff. It should also be noted that Rapid Hire staff brought on after the start of the emergency had significantly better opinions of the training provided than those who were permanent employees.

FINDING 2.4: An All-Hazards Incident Management Team (AHIMT) assessed the DHEC IMT in the interest of identifying opportunities for improvement or increased efficiency.

Discussion: The DHEC Director enlisted the assistance of outside experts to evaluate the operations of the IMT and provide feedback on how to both improve structure and increase operational efficiency, which the Assessment Team recognizes as a best practice in organizational improvement.

It is important to highlight that DHEC's mission during disaster, public health related or otherwise, is often vastly different than public safety organizations. As such, establishing a familiarity with the unique nature of the ACC, as well as the diverse range of missions it may execute in disaster, is critical to being able to effectively provide recommendations and recognize practices worthy of sustainment.

Recommendation 2.4.1: BPHP should continue to establish and foster relationships with agencies and organizations capable of providing IMT support, including operational evaluation and staff augmentation during disasters.

Recommendation 2.4.2: BPHP should establish and foster relationships with agencies and organizations capable of providing ongoing support to Agency training and exercise efforts, including providing SMEs who can provide recurring evaluation support to the IMT as it conducts exercises.

FINDING 2.5: The inclusion of liaisons and planning support from other agencies in both the Operations Section Immunizations Branch (IZ Branch) and in the Planning Section afforded the IMT access to external capacity.

Discussion: The ACC Incident Commander and SCEMD collaborated to establish a liaison position that connected the IMT with staffing resources available via external partners, thereby increasing the capacity of the ACC Operations Section's IZ Branch and the ACC Planning Section to complete important tactical objectives.

Recommendation 2.5.1: BPHP should continually examine opportunities to leverage liaisons from interested agencies to provide staff support and interagency collaboration.

FINDING 2.6: DHEC has not clearly identified and standardized which organizational elements are responsible for specific functions during emergency response operations.

Discussion: There was broad agreement among DHEC personnel interviewed that it is essential to define which organizations within DHEC are responsible for the staffing and coordination of various positions within the IMT based on the type of emergency. Many interviewees stated that several subject matter experts and functional leaders within Public Health did not participate in the emergency response or withdrew from participation at critical times in the response, and that their absence created challenges. Interviewees also expressed that in some circumstances, SMEs that had substantial value to contribute to response decision-making did so from outside the ACC command structure, sometimes fracturing unity of command or creating

substantial decision-accountability challenges. Plainly stated, organizations within DHEC that have specific SME capabilities that were needed within the IMT did not provide personnel to support those capabilities. This reduced the effectiveness of the response and resulted in missed opportunities to gain experience in appropriate roles for future emergencies.

The Agency benefits from the ability to source qualified leaders with experience in disaster response and recovery from multiple Deputy Areas, including Public Health, Environmental Affairs, and Healthcare Quality. Environmental Affairs and Healthcare Quality have substantial experience in responding to disasters and provided many staff during the COVID-19 emergency. It may be helpful to use this same model for building capacity during other emergencies by ensuring that Public Health staff are assigned roles supporting other types of emergencies that the State faces with regularity.

Using the COVID-19 emergency response as a template, the Agency should work to identify the critical functions of a public health emergency and consider aligning them from the strategic level (command/management) to the tactical (field) level within the DHEC Regions to ensure a unity of command. Currently, multiple operational branches within the Operations Section of the IMT do not have directive authority over the teams and individuals performing their tasks in the field (e.g., Immunizations Branch does not have directive authority over those conducting immunizations clinics in the field; DADE does not have directive authority over those conducting surveillance in the field). Additionally, many operational tasks within the IMT are not being led or even conducted by staff from programs who house the SMEs for those tasks.

Recommendation 2.6.1: The DHEC Director should consider whether the Director of Public Heath should be designated in the DHEC EOP to serve as the Agency Incident Commander during a public health emergency and receive strategic direction directly from the Agency Director as a member of the MAC Group/UCG (See Finding 1.1, Finding 1.5, and Finding 1.6).

Recommendation 2.6.2: The DHEC Director should consider directing the BPHP to work with appropriate Agency personnel and identify the most appropriate Deputy Areas and bureaus that should have primary responsibility for each currently identified and established:

- Command and General Staff Position
- Branch, Group, and/or Division
- Emergency type and phase of emergency

Recommendation 2.6.3: The DHEC Director should consider assessing how the Agency can continue to effectively identify and foster disaster leadership capacity across Deputy Areas, bureaus, and divisions that are assigned primary responsibility for IMT functions, and ensure that creating depth of leadership in these areas is a part of future organizational development goals.

FINDING 2.7: DHEC did not prioritize position-specific training prior to the COVID-19 emergency, leading to a lack of trained personnel to fill key roles in the IMT.

Discussion: Despite having policies that provided for general NIMS/ICS training and for some position-specific training, the Agency did not have sufficient staff to put trained individuals in place in the IMT. As a result, many IMT positions, including General Staff positions, were filled by staff from BPHP rather than those with functional expertise relative to the emergency. While these staff members performed admirably, and certainly instituted organizational C3 practices that provided for numerous successful efforts, the lack of trained staff led to non-SMEs having to fill crucial roles, resulting in a lack of depth for work-rest cycles and staff relief, and other challenges.

Additionally, the training and practice exercises that have historically been provided have been focused primarily on response to hurricanes or other natural disasters, and therefore, the Agency's position-specific training has not been geared toward positions that would be activated for a public health emergency.

NOTE: DHEC participated in the HHS/ASPR Crimson Contagion 2019 Functional Exercise that ran from January to August of 2019. Several lessons learned were identified during this exercise, but the Agency could not have been reasonably expected to create substantial change based on those lessons in the period following the publication of the AAR (December 2019) and the emergence of the COVID-19 pandemic emergency (February 2020).

Recommendation 2.7.1: The DHEC Director should order a review of Agency training policies and establish training standards, if necessary, to help ensure

that there is sufficient depth and expertise in all IMT positions, as well as in the Regional Coordination Centers.

Recommendation 2.7.2: The DHEC Director should consider developing a system or tool (commonly called Employee Skills Database) for identifying and maintaining a list of SMEs, specific skill sets and training, experience (inside and outside the Agency), and other tangible markers that may be used to identify staff suitable for employment in the ACC (See Recommendation 1.7.2).

Recommendation 2.7.3: The DHEC Director should, through policy or directive, create a system to continually assess the Agency's day-to-day blue sky organizational structure for commonalities or synergies with anticipated emergency organizational structures. Emphasis should be placed on considering these commonalities when contemplating making changes to the Agency's organizational structure.

FINDING 2.8: The DHEC IMT did not have an effective system in place to manage collaboration with external partners and stakeholders that were also actively engaged in response operations.

Discussion: Numerous interviewees both inside and outside the Agency expressed that DHEC continually struggled to coordinate their operations with other ESF 8 supporting agencies, and generally struggled to collaborate with external partners. While IMT leadership did establish several liaison functions within different sections, these individuals were not afforded the benefit of a consistent and focused collaboration effort, and the scope of their roles and the relationship of their work to that of the other liaisons was not always clearly defined. Additionally, the perception that DHEC did not effectively collaborate with other agencies tasked with supporting roles in the SCEOP could be mitigated in future emergencies by a more robust liaison function focused on consistently engaging and supporting those partners.

An observed best practice is to consolidate the liaison functions under one "Chief Liaison" or similar position, which could improve both the quality and consistency of the Agency's collaboration efforts. If DHEC considers implementing this best practice, the Agency could structure this position and function to support ESF 8 needs in the SEOC, support Legislative Affairs and Education efforts, and could establish regional/local government affairs capacities that may greatly improve the Agency's ability to solidify and

communicate its non-public information messaging. Additionally, it may be beneficial to have staff within the liaison function working directly with the Regional Health Directors to ensure that the outreach conducted at the local level is aligned with the overall mission of the Agency, and simultaneously improve relationships by providing consistent and reliable messaging.

During the COVID-19 emergency's prolonged response, many partner agencies/entities were forced to coordinate with numerous different positions or functions within the IMT and other elements within DHEC that were not formally part of the response. It will be important to ensure that, to the greatest degree possible, key external partners such as Federal Agencies, education partners, hospitals and affiliated associations, critical Infrastructure partners, and local government officials have a consistent point-of-contact within the Agency.

Recommendation 2.8.1: BPHP should consider establishing a liaison function that consolidates all of DHEC's liaison and coordination efforts under one leader as a direct report to the Director or the IMT Incident Commander.

Recommendation 2.8.2: BPHP may consider creating gray sky liaison positions to work directly with Regional Health Directors (RHDs) or regional response leads to increase coordination between the regions and the IMT.

Recommendation 2.8.3: BPHP should consider identifying and/or establishing dedicated liaisons during normal operations for purposes of regularly coordinating with key external partners.

Regional Responsibilities and Interface with the IMT

Observations: Interviews and hotwash sessions revealed that the relationship between the four DHEC Regional Offices and the IMT was very challenging. Issues identified by both Central Office and regional staff include, but are not limited to, organizational conflicts, communications challenges, span of control issues, duplicative efforts, and conflicts in authority.

Interviewees repeatedly communicated to the Assessment Team that the relationship between the four DHEC public health Regions, the county-level clinics they manage, and the Bureau and Division directors at DHEC Central Office is complex. Although this structure is likely suitable for delivery of DHEC's non-

emergency public health and regulatory responsibilities within the state, it may not provide operational efficiency during public health emergencies during which the IMT is activated. Future examination of this structure in a response context should ensure that regional and local health department staff can more easily coordinate with their peer corresponding capacity at the Central Office, likely through a more streamlined organizational chart.

There are numerous points of confusion regarding reporting processes, who could originate or approve requirements or operational standards, and even where medical standing orders applicable to the Regions and their staff should be developed and validated. There was substantial disagreement between the assigned "COVID Leads" within the Regions who reported to the ACC Operations Section and the Regional Health Directors who worked for the Operations Section and who were "in charge" of COVID response operations in the Regions. It appeared to the Assessment Team that conflict was eased somewhat in those Regions where the RHDs focused on maintaining the blue-sky operation of the Regional Health Departments, while the COVID leads managed all response-focused efforts.

There was often no clear delineation between regional and ACC IMT responsibilities, leading to disagreement about the optimum solution and sometimes duplicative efforts in the field. Examples include identifying sites for testing and vaccination clinics; management and staffing of clinics; and reporting standards, practices, and timelines for collected data.

It is also important to consider that some regional functions, such as case monitoring/management, may be suitable for regional management in most scenarios, but centralization in others (such as a long-term, statewide emergency). However, if the Agency determines that a responsibility for a function is to be centralized, it is important that it establish a clear methodology and timeline for the transfer of responsibility. As many interviewees at both Headquarters and the Regions expressed, if the Regions are delegated a task, they should look to the IMT for "standards" but not for tactical direction. If tactical direction is to be given by the Central Office or IMT, then that function should be considered for centralization.

Throughout the emergency, there has been substantial overlap in responsibilities between the Regions and the IMT/Central Office. As a well-discussed example, the Regions were tasked with operating testing sites and vaccination sites, but the same capacity was developed as "strike-teams" at the ACC. While it is entirely reasonable

(and even a best practice) to develop rapid strike-team capacity at headquarters, the deployment and management of such resources should be at the request and discretion of those who are tasked with that specific area of responsibility and functional activity.

The role of the Regions in supporting local governments, commercial interests, and community groups is not clear to regional staff who, prior to the COVID-19 emergency, had historically developed and fostered these relationships. Regional staff, including the RHDs, have long-standing relationships with local government officials, emergency management professionals, hospitals, school district leaders, local community leaders and those who are influential in local and regional commerce. These relationships have been forged, in some cases, over many years of regional collaboration in preparedness efforts, as well as numerous responses to real-world emergencies.

This needs to be examined closely. Such an examination may be best conducted considering the perspective of what is most efficient during a response to a public health emergency or other disaster. As one of only a handful of centralized state public health agencies in the nation, it may be valuable to examine specifically the concept of "One DHEC," and whether efforts over the last decade toward a culture of centralization has rendered the Agency more or less prepared to respond to disaster.

FINDING 2.9: The relationship between the IMT and the Regional Public Health Office staff is not clearly defined or optimized for disaster response and recovery.

Discussion: There are numerous conflicting opinions about the role of the Regions, where the focus of their efforts should be, how they should be integrated into the ICS structure at the ACC, whether they should be independent commands, and how they should be included in the objective-setting and decision-making processes. There are likewise numerous conflicting opinions regarding which responsibilities are best achieved through regionally led efforts, which are best accomplished by the Central Office, and which should be combined efforts. Lastly, there exists a number of operational tasks that may best be regionally managed during blue-sky operations and isolated responses, but centrally managed during statewide emergencies. *NOTE: During the assessment, it became clear that an effort to determine specifically how the Regions should interface with DHEC Central Office*

during disasters is dependent on the structure of the IMT, and how it is determined to best coordinate with the SEOC. The final determination of the IMT's role in response should be determined prior to attempting to clarify the roles of the RCCs/Regions in the overall structure.

There are essentially three "schools of thought" as to how the regions should interface with the IMT during pandemic emergencies. The first is through a series of independent Regional Coordination Centers (RCCs), where each Region operates a semi-autonomous ICS-based command, control, and coordination structure, which is closest to what is currently called for in the DHEC EOP but was crafted primarily for hurricane scenarios. The second is through a centralized structure in which the Regions perform as branches under the Operations Section or as Divisions under a Regional Branch Director. In this case, the Regions would have no general staff responsibilities or positions established at the regional level. The third, which is what is currently being implemented, is a hybridization of the first two approaches, where the Regions report through a Branch within the Operations Section, while simultaneously maintaining internal Command Staff (Liaison) and General Staff (Logistics, Finance/Admin) positions or responsibilities.

In order to determine which approach is best for the Agency in future disasters, DHEC must examine which functions are best performed by the Regions. For example, if regional coordination with regional Healthcare Coalitions (HCCs), local government officials, school districts, community groups, and providers is decided to be (at least in part) a regional responsibility, then the strictly centralized Branch/Division structure is not appropriate, and a hybridization or localization of command functions is needed. Likewise, if local coordination with stakeholders continues to be further centralized, such a construct may be sufficient.

Some responsibilities that should be considered for purposes of determining the appropriate structure include:

- Contact Tracing, Case Investigation, and Case Monitoring/Management
- Testing Site Selection and Management
- Vaccination/MCM Site/Clinic Management
- Regional Healthcare Coalition Management
- Local Provider Liaison functions

- Local Government, Local Education/School District, Business/Commerce Liaison functions
- Regional Logistics Management
- Regional Procurement
- Response Administration (finance, human resources, technology support)

Lastly, the current attempt to blend a regional command with an ACC Operations Section lead on operational tasks has worked for the Agency thus far, but with significant challenges. The sheer number of coordination (non-directive) connections to other portions of the IMT (e.g., public information, logistics, procurement, support, intel, etc.) have created an environment where the Regions have far too many connections to manage and have different levels of authority depending on the connection. Additionally, the numerous inroads by Central Office and IMT personnel into the regional operation, all with varying degrees of authority, have made identifying absolute responsibility (and subsequently accountability) for any frontline task nearly impossible, and has all but ensured that no one piece of the organization is fully aware of what the other pieces are doing.

Recommendation 2.9.1: The DHEC Director should establish a Regional Response Working Group consisting of Regional Public Health Office representatives, representatives of Bureaus that have tenant staff in regional offices, and those IMT functions with substantial operational task oversight, to conduct an examination of the roles and responsibilities of the Public Health Regions during emergencies. The goals of this working group would be to determine which specific functions during a public health emergency should be overseen in a command capacity in the Region and which, if any, should be centralized.

Recommendation 2.9.2: BPHP should identify in plans the responsible party for leading efforts such as testing, vaccination, and medical countermeasures site management and should develop and document a process for maintaining centralized support to these functions, the methods by which such support can be requested and accessed, and the structure under which they will be managed.

Recommendation 2.9.3: The DHEC Director should determine if it is appropriate to centralize to headquarters any functions that are currently regionalized, develop standards and triggers for centralization, and clearly communicate the method by which responsibility will be transferred (see Recommendation 2.9.1).

Recommendation 2.9.4: BPHP should coordinate with the Regional Response Working Group to develop and include in relevant plans the purpose and objectives of the local or regional collaborative bodies such as HCCs and provide guidance for standardization of coordination and use of such local collaborative groups during emergencies (see Recommendation 2.9.1).

FINDING 2.10: Regional subject matter expertise is not adequately represented on the IMT.

Discussion: Some regional leads (RHDs and COVID Leads) stated that, for most of the emergency response, they felt suppressed in the organizational structure and did not feel their "boots on the ground" expertise was being considered prior to decision-making at the Central Office or the ACC. Regional and IMT staff both cited a number of decisions made without prior discussion with the staff required to operationalize them, which negatively impacted regional operations. Staff within the Regions repeatedly identified circumstances in which the Central Office would "self-deploy" headquarters or partner agency staff, or allocate resources into the Regions, without coordinating with those on the ground, or would provide tactical guidance for programs or efforts that had already been developed in a different (and in the opinions of some, more efficient) manner. It should be noted that some successful standards were promulgated, such as the Case Investigation / Contact Tracing User Guides developed by the Data/Intel Section.

Regardless of what functions are centralized, the regional staff are substantially better prepared to appreciate the local impacts and even potential pitfalls of any operational decision carried out in communities across the state. Regional representation, either through those leaders at the Central Office who work directly with the Regions or through the Regions themselves, almost certainly would improve relationships between regional and ACC response staff, but more importantly, improve the provision of services on the ground.

Recommendation 2.10.1: The DHEC Director should consider directing the Regional Response Working Group to identify the most appropriate role for leadership within Community Health Services, as well as the Regional Health Directors or their designees, within the IMT leadership structure (See Recommendation 2.9.1).

FINDING 2.11: The breadth of the required case investigation and contact tracing efforts created a challenging personnel management situation for DHEC Region staff.

Discussion: It is widely accepted that during emerging disease emergencies, epidemiological efforts such as contact tracing and case investigation (CT/CI) are best performed by individuals in the Regions. Benefits of local CT/CI capacity include, among others, the ability to rapidly respond to emergent threats and intimate knowledge of local culture that may influence disease propagation. That said, the COVID-19 emergency presented a statewide (global) need for these activities that almost immediately outgrew local steady-state capacity. As a result, the regional offices were required to increase their staffing levels rapidly.

This rapid growth at the regional level led to a struggle to develop personnel supervisory and management systems and processes, and tremendously strained supervisory spans of control. One interviewee described going from less than five direct reports to over 100 in the span of days. While each Region expressed that they were able to eventually create management hierarchies to oversee the new employees, each region did so in a different manner, with some finding more success than others.

Staff in each Region expressed that rapidly onboarding such large numbers severely overstressed the human resource (HR) and information technology capacities present in the Regions. While there were Central Office HR staff located in the regional offices, they were not under the direction of the Regional Health Directors (RHDs). Some RHDs expressed frustration with their inability to manage the hiring process more directly. Others stated that they hired administrative staff as part of their regional office to support the hiring process. One regional leader asserted that locally hired staff were performing the lion's share of the hiring effort and were submitting completed packages to the official HR staff in the Region to expedite onboarding. Regional staff

also expressed that even if staff were able to be hired rapidly, the process to gain technology credentials (logins, email access, access to required technology tools) often delayed their effective start by weeks.

Additionally, it was clear that at a certain point in the response, contact tracing, case investigation, and case management were no longer "local," as staff were being hired to conduct remote work from areas outside the Regions. The fact that the local component of these efforts was no longer relevant indicates that the Agency should at least consider whether there are circumstances in which case investigation, case management, and even contact tracing efforts could be centralized. In discussions with interviewees, it was apparent that the local aspect of these efforts cannot be wholly abandoned. However, as technology tools are inevitably developed and increasingly adopted to assist in these functions as a result of the COVID-19 emergency, and in light of the obvious advantages of using remote labor when attempting to upstaff in large numbers, the concept warrants consideration.

Recommendation 2.11.1: The DHEC Director should consider examining the potential benefits and impacts of developing regional capacity for human resources and information technology support.

Recommendation 2.11.2: The DHEC Director should consider directing the Regional Response Working Group to immediately examine the regional management structures utilized to oversee the rapid growth in staffing in the Regions and identify best practices that can be standardized during future rapid expansions of the Agency in response to emergencies.

Recommendation 2.11.3: The DHEC Director should consider directing the Regional Response Working Group to examine the practicality of centralizing some functions during long-term, statewide emergencies. Functions that may lend to centralization during a large-scale emergency may include the epidemiological Investigation and case management functions.

Section 3. Planning

Planning Section

Observations: The ACC Planning Section evolved throughout the emergency response in support of the needs of the IMT. Early in the response, the Planning Section served primarily as the IMT facilitator. Planning Section personnel ensured that ACC staff engaged in operations were connected to required support. They also helped coordinate support to the numerous ad-hoc task forces and working groups that were being rapidly established to address emerging issues. Lastly, the Planning Section was tasked early in the response with developing an entirely new response plan for the COVID-19 emergency while simultaneously attempting to coordinate a response. The effort between the Planning and Operations Sections to accomplish this effort was described as "flying an airplane while building it."

In March 2021, the Planning Section began to take on a more traditional role, implementing a planning cycle, and standardizing some operational planning and reporting procedures. This was due, in part, to the input of an All-Hazards Incident Management Team (AHIMT) visit requested by Agency leadership that provided organizational feedback on the IMT staff.

In general, the Planning Section was not upstaffed to the degree required to fulfill all its traditional functions. For example, the Planning Section lacked a Resource Unit, which would be tasked with managing and tracking human, material, and team resources. This lack of a resource tracking and management function within the Planning Section may have led to duplication of efforts within the Regions, particularly relating to vaccination and testing sites, strike-team deployments, and even the regional staffing/rapid hire process.

Additionally, critical Situation Unit functions such as developing projections, forecasting operations, and advance operational planning were problematic. The Intelligence Section did assume some Situation Unit functions such as the development of some current day intelligence products and geospatial tools, but it would not project forward. The forward-looking aspects of the Situation Unit's role were never truly developed, leading to a reactive approach to response operations that most interviewees agreed had a profoundly negative impact on the Agency's ability to be successful.

FINDING 3.1: The IMT did not always follow a comprehensive, standardized operational or planning cycle, which led to reactive operations.

Discussion: The ACC Planning Section did not begin developing an Incident Action Plan (IAP) or any other commonly accepted style or method of operational planning until mid-March 2021, over a year into COVID-19 response and well into the rollout of vaccines. The lack of a comprehensive operational planning cycle resulted in operations within the ACC not always being clearly guided by explicit or validated objectives. Many interviewees expressed that the lack of clearly defined objectives and associated courses of action created challenges in prioritizing work efforts; one interviewee described the priorities they received as "a horizontal list, not a vertical one." It is probable that a lack of training on IMT operations prior to the COVID-19 emergency contributed to the delay in establishing a formal planning cycle.

IMT Planning staff did begin establishing objectives early in the response and included some level of objective-based planning in numerous operational products. The staff's recognition of a need for a standardized and comprehensive objectives-based planning cycle that included prioritized courses of action, task assignments, and measurable benchmarks, drove efforts to establish an objectives-driven planning cycle in March 2021.

Additionally, numerous interviewees reported that working group and task force meetings became burdensome due to a lack of specified goals and objectives that would have been embodied in a forward-looking action plan. A side effect of this lack of near-term objectives was a reduced emphasis on substantive decision-making, which further decreased the effectiveness of many meetings and working group efforts. During response operations, the development and operationalization of measurable and time-limited objectives is typically the driver of substantive decision-making. As the response staff identifies resource needs and shortfalls to meet identified objectives, they must prioritize the objectives and tasks. The prioritization of objectives and tasks helps identify to the Branches and Divisions where they should apply limited resources. By not going through the process of developing and resourcing objectives on a regular basis, the response staff at the ACC and the Regions were often left to determine their own priorities, sometimes leading to the duplication of efforts.

Finally, it is important to recognize that much of the delay in initiating formal tactical planning efforts was directly related to a lack of clear strategic direction from state and Agency leadership, and future efforts to codify the tactical planning process should include standards for both soliciting and actioning strategic direction.

NOTE: The following recommendations should not be interpreted as recommending the use of any specific planning cycle (such as the "ICS Planning P").

Recommendation 3.1.1: BPHP should consider establishing a planning cycle that includes developing objectives that, in turn, guide operational and tactical planning. It may be beneficial to structure the operational planning process around the meetings of the UCG or MAC Group, if in operation.

Recommendation 3.1.2: BPHP should consider establishing guidance that internal meetings are to align with the established cyclical planning process and that meeting organizers define and communicate meeting objectives, intended participation, and decision-authorities prior to scheduling meetings.

FINDING 3.2: DHEC did not establish a fully functioning Situation Unit to collect, analyze, and disseminate Common Operational Picture (COP) information about the emergency.

Discussion: The Agency performed various functions aimed at collecting and providing data and information. However, the responsibility for clearly understanding and communicating the status of the overall operation was not clearly assigned to any specific element within the IMT or DHEC staff. The Planning Section did produce a Situation Report that increased in focus and utility as the emergency progressed and the Data/Intel Section was effective in producing current-status data on disease progression. However, the Agency never fully developed the communication, display methods, or reporting products that could have assisted the Agency in understanding the:

1. Objectives driving the efforts of each response unit;
2. Tasks each response unit were conducting;
3. Anticipated resource needs and shortfalls;
4. Ongoing and anticipated procurement efforts to support response needs; and

5. Interdependencies between response units needed to meet the established objectives.

Recommendation 3.2.1: BPHP should coordinate an effort to clearly identify which organizational element within the IMT is responsible for collecting, collating, analyzing, and displaying information to support response operations (usually known as a Common Operating Picture).

Recommendation 3.2.2: BPHP should review information needs and develop tools to gather, display, and disseminate valid critical information for various stakeholder groups.

Recommendation 3.2.3: BPHP should coordinate an effort to clearly identify the roles of the Situation Unit and the Data/Intel Section to determine where the role of the Situation Unit should be placed during an emergency in which a Data/Intel Section or Data/Intel Branch is activated.

Recommendation 3.2.4: BPHP should consult with staff from each IMT Section, Information Technology, and those who conducted external coordination to identify the Essential Elements of Information (EEIs) for each anticipated emergency response and ensure that the appropriate function within the IMT has been assigned responsibility for maintaining the EEIs and providing them to the Situation Unit.

FINDING 3.3: The Situation Unit was not sufficiently staffed to conduct advanced planning.

Discussion: The ACC Planning Section did not establish an effective long-term planning capacity or emphasize "next phase" forecasting and strategic planning, resulting in plans often being developed on a last-minute basis.

One significant example was an operational transition in late 2020 from conducting testing to supporting vaccinations. Several interviewees expressed that the transition was abrupt and reactive, despite widespread awareness that the Pfizer-BioNTech COVID-19 vaccine had been in clinical trials since May 2020, and that there was widespread understanding by early November that the FDA would likely approve an EUA in December or January.

Indeed, many plans required for full vaccination roll-out did not exist prior to the vaccination operation beginning in late December 2020 and some remain in development during the production of this report. When conducted, tactical planning to support vaccination operations was delegated to the Immunization Branch, which, initially, did not have the staffing level needed to support the planning effort. This resulted in delaying the development of plans needed to support some underserved populations. Relegating vaccination planning to the Immunization Branch also increased the complexity of coordinating the planning effort across the IMT and with the Regions and external partners.

While it should be noted that a substantial factor in planning delay was a result of changes to planning assumptions, it was also expressed that although efforts to forecast plan needs were discussed, they were not implemented. It should also be noted that the Incident Commander initiated a series of efforts to plan for the next phase, but these efforts were either delayed past their useful window or ceased entirely, often due to unexpected changes in planning assumptions.

Recommendation 3.3.1: BPHP should develop a capacity to conduct advanced operational planning. This could include identifying staff with planning experience, developing staff capabilities through appropriate training and exercises, and providing staff experience by supporting other state agencies or jurisdictions in their respective Agency or Department Coordination Centers (DCCs) during emergencies when not needed at DHEC. This may also include activating advanced planning operations early in response to or anticipation of emergencies in order to both build capacity and to ensure an effective activation of the IMT.

Recommendation 3.3.2: BPHP should include an Advanced Planning Unit within the Situation Unit and ensure experienced planners and logistics subject matter experts are identified, trained, and assigned to the Unit.

Recommendation 3.3.3: All involved DHEC elements should review plans that were developed prior to the COVID-19 public health emergency to determine which, if any, could have been activated to reduce the “just-in-time” planning burden placed on the ACC IMT, and might be of use during future emergencies.

FINDING 3.4: A Demobilization Unit was not formally established.

Discussion: FEMA defines demobilization as the release and return of resources that are no longer required. This is intended to be a planned process. It is best practice to establish a Demobilization Unit at the beginning of response operations and conduct demobilization planning throughout the operation.

The IMT did not establish a Demobilization Unit and conducted demobilization planning on an ad hoc basis. Demobilization and transition of operations were discussed during Command and General Staff meetings, and plans were developed by various entities within the IMT, but this was never a formalized process. One result of this lack of formalization is that clear triggers were never developed to move from one phase to another, or to determine when functions could be moved from control by the emergency organization back to program office control.

An example is vaccine operations. Once vaccines became widely available with little demand on the system, the function could have transitioned back to the Immunization Division of the Bureau of Communicable Disease Prevention and Control. However, in part because no demobilization plan has been developed and there are no triggers for transitioning programs back to blue sky programs, it was being directed by the IMT until March 2022.

DHEC did identify as early as December of 2020 that the unique needs of the COVID pandemic would require a long-term dedicated staff. However, the process of developing a full-time COVID Office did not begin until the Spring of 2021. They identified staffing needs, developed duty descriptions, and began hiring in June 2021. As they were hired, COVID Office staff began assuming roles within the IMT, which should help ensure a smooth transition from emergent operations to day-to-day coordination and control structures. This should be considered a best practice.

Recommendation 3.4.1: BPHP should include a Demobilization Unit within the Planning Section and staff it whenever the IMT is activated.

Recommendation 3.4.2: BPHP should consider directing a review of all plans and ensuring that planning for transition to recovery or back to day-to-day operations is fully incorporated into all Agency plans. This should include

developing policies and procedures for return-to-work planning within the COOP Plan (See Finding 5.8).

Recommendation 3.4.3: The DHEC Director should consider convening a working group of appropriate personnel to review all transition and demobilization sections and develop triggers or thresholds for transitioning operations between phases and back to program office control.

DHEC Plans

Observations: Prior to the COVID-19 pandemic, the State and DHEC had several applicable plans in place. They included the South Carolina Emergency Operations Plan (SCEOP), DHEC's Emergency Operations Plan (DHEC EOP), the Pandemic Influenza Plan, the Infectious Disease Plan, the Medical Countermeasures (MCM) Plan, the Mass Fatality Plan, and the ESF 8 Annex. However, none of the pre-existing plans adequately described the State's incident management structure for a public health emergency or provided strategies to prepare the State for the complex challenges of something like a COVID-19 response. While some key concepts and approaches defined in these plans were applicable, many were not, which led to significant departures from what was planned and practiced. Additionally, DHEC and other state agencies participated in an exercise of applicable plans in 2019 through the federally-led ASPR Crimson Contagion Functional Exercise. However, there was insufficient time between the conclusion of that exercise and the onset of the COVID-19 emergency to implement any plan changes identified in the Crimson Contagion AAR (Federal AAR published 31 March 2020). It is of note that the Crimson Contagion AAR did highlight the need for an update to the Novel Influenza Surveillance Plan, development of remote work/telework policies, development of written procedures and position guides, and development and/or refinement of Continuity of Operations (COOP) plans and procedures.

A number of existing plans, particularly within the Regions, had been developed and were well-practiced, but were not used. Many of the local hospitals and public safety professionals that were interviewed were very frustrated by the fact that they were told they could not use their Point of Distribution (POD) plans but that, from their perspective, DHEC subsequently used the POD concept to run vaccine clinics. In many counties, DHEC created PODs at locations previously identified in the local POD plans without notifying or coordinating with local agencies that felt they could have assisted in implementing the POD.

DHEC developed a significant number of new operational and tactical plans during the pandemic response. The new plans included:

- COVID-19 Response Plan
- COVID-19 Vaccine Plan
- Homebound Vaccination Plan
- Homeless Vaccination Plan

- Congregated and Underserved Populations Vaccination Plan
- Medical Surge Contingency Plan (developed by SCEMD – not adopted by DHEC)
- Several Standard Operating Procedures (SOPs) for the IMT and units within the IMT

DHEC undoubtedly suffered as a result of such a substantial planning burden being placed on top of an already over-tasked Agency responding to a pandemic emergency. While it is clear that many of these plans were absolutely required, and "just-in-time" development was fully warranted, the fact that many of them did not exist prior to the emergence of the COVID-19 emergency must be recognized. Specifically, plans relating to providing MCM to underserved, disadvantaged, and/or individuals with access needs should have existed and been well-practiced prior to the pandemic.

NOTE: Witt O'Brien's provided staff augmentation that supported developing many of the plans identified above. This assessment will not, therefore, discuss the quality or efficacy of the plans developed or revised during the response period.

FINDING 3.5: Existing plans that were implemented and sustained during the emergency led to successes in response and support.

Discussion: There were several well-practiced support plans that were regularly tested prior to the COVID-19 emergency, particularly due to responses to other emergency situations. The state successfully implemented its Receive, Store, Ship (RSS) Facilities plans, which is likely due to having used its logistics capacity recently during real-world responses as well as having conducted an RSS Functional Exercise in 2019.

The sheer size of DHEC, and the broad diversity of its mission(s), means that it has literally dozens of operational plans that require testing and evaluation. It is likely that a dedicated function devoted to designing tabletop and functional exercises for each Deputy Area to ensure all plans are regularly tested would be tremendously beneficial.

Recommendation 3.5.1: The DHEC Director should consider establishing a full-time Exercise and Evaluation Program that is staffed to support each Deputy Area. Such a program could also oversee the development and implementation of the DHEC Integrated Preparedness Plan (IPP). (See Recommendation 1.7.2).

FINDING 3.6: Many tactical plans, such as the State's Medical Countermeasures Plan and local POD plans, were developed using very narrow threat scenarios (novel influenza and acts of bioterrorism) that reduced emphasis on the development of procedures for responding to widespread pandemic emergencies.

Discussion: Existing plans were focused on threat scenarios that would be associated with a rapid distribution to a smaller, more specific population. Plans addressing equitable mass vaccination were not developed. Required Federal plans and guidelines did not exist. Additionally, some approaches applicable to mass vaccination were discarded based on perceived guidance from the CDC. The most impactful example was DHEC's choice not to use existing POD plans or the local partnerships established pre-pandemic to staff and operate PODs. The actual source and basis of this decision remains debated, but it is likely that it was based on CDC's approach to vaccine roll-out and guidance on how "vaccinators" would be identified and employed in the response. The CDC and DHEC required all vaccine providers to enroll and meet specific requirements prior to being approved to receive and administer vaccine. This was not required under the POD Plan. This small difference in approach to onboarding providers perhaps prompted DHEC staff to believe that it negated all the pre-existing agreements DHEC had established with POD partners. However, DHEC could have implemented those sections of the POD Plan that supported dispensing site organization and support where partner support was available. Many of the partners that were enrolled as COVID vaccine providers had been party to the development and exercising of the POD plans and subsequently felt disenfranchised when new plans were developed without their input.

Plans for targeting long-term care facilities (LTCs), confined populations (prisons, jails), homeless populations, indigent and homebound individuals who lack healthcare access, and other plans that were critical to responding to the COVID-19 emergency were simply not considered given the previously assumed threat scenario on which state public health plans were based. Additionally, the State had no documented approach to medical surge exceeding individual hospital CMS-required surge planning, despite having individual surge plans at the local and regional level.

Recommendation 3.6.1: BPHP should set up planning discussions with existing POD partners to reassess the existing medical countermeasures and POD plans, determine what modifications are necessary to make them more applicable to medical countermeasure roll-out during any emergency, and update the plans as necessary.

Recommendation 3.6.2: BPHP should review all plans relating to vaccination operations, update them based on experience and best practices, and determine if there are additional tactical plans that should be developed.

FINDING 3.7: DHEC emergency preparedness and response plans, SOPs, job aids, and other guidance documents do not adhere to a planning standard or plans hierarchy.

Discussion: DHEC plans, particularly those developed "just-in-time" during the COVID-19 emergency, do not follow a clear planning standard. Planning standards ensure that plans contain necessary information; are constructed, ordered, and presented in a manner that is familiar and intuitive to the reader; and are horizontally aligned with other plans of the same significance or scope. Planning standards may set rules for approval, distribution, and review, and often set requirements for version control, which ensures that the reader can determine the currency of a plan. Lastly, they often contain planning hierarchies, which serve to reduce duplication in plans, ensuring that the right level of detail and the correct focus is contained in plans, SOPs, job aids, and other guidance.

The Assessment Team found difficulty in navigating the current plans, guides, SOPs, and other tools utilized by DHEC during the COVID-19 emergency. It was not always clear whether plans had been approved by an appropriate authority, or whether a plan or SOP was current. Plans developed during the emergency often duplicated the intent of other plans already in existence, with no clear differentiation as to which portions of each plan were valid or invalidated by the development of the newer plan or document.

NOTE: It is not clear whether a dedicated planning hierarchy exists in SCEMD for use by coordinating ESF agencies. It is also not clear whether agencies would be required to follow any standard for the development of internal plans or guides that are developed to support the activities described in an ESF Annex if one were

developed. This should be considered prior to developing any internal planning standard.

Recommendation 3.7.1: BPHP should review all emergency preparedness and response plans and ensure they have been reviewed and approved by the appropriate authority.

Recommendation 3.7.2: BPHP should consider developing planning standards and planning hierarchy guidance that provide for vertical and horizontal alignment of all plans, procedures, SOPs, job aids, and other supporting documents. BPHP could consider utilizing Comprehensive Preparedness Guide (CPG) 101 as a baseline to developing such a standard.

Recommendation 3.7.3: BPHP should consider conducting a consolidation of emergency preparedness and response plans to reduce duplication and confusion, better promote all-hazards planning at the strategic level, and reduce the number of tactical level documents.

Recommendation 3.7.4: BPHP should consider working with the appropriate program staff to review all SOPs and job aids to incorporate lessons learned and best practices, ensure they align with existing plans, and develop additional SOPs and job aids as needed.

Recommendation 3.7.5: BPHP should consider establishing a central, electronically accessible location where all current emergency plans are located. Additionally, the plans should be organized in this on-line location using a clear file management structure and naming convention that is consistent with the defined planning hierarchy.

Section 4. Information, Intelligence, and Communications

Data Collection and Information Management

Observations: Data collection, information management, and the development and distribution of intelligence products were some of the most discussed topics during the majority of interviews and hotwashes conducted for this effort. There is wide disagreement about a host of data/intelligence related topics, including:

- What data is necessary for collection
- Data ownership and responsibilities for authorizing distribution and use
- How data and information are used internally to develop intelligence products
- What systems and/or processes should be used to manage and share data and information
- How data collected from other sources (such as hospitals) should be managed, evaluated, and cited

DHEC made substantial efforts during the emergency to refine data management and intelligence development procedures. Several working groups were established over the response period to address data collection, information sharing, and intelligence, all with slightly different aims or audiences. The result of each of these was continuous improvement, and the Agency should be commended for their efforts. That said, there still exists a substantial gap in public health-related intelligence creation and dissemination across the State. Without significant revisions to both statute and regulation, these gaps, and the issues they created, will manifest again during future public health emergencies.

It is the Assessment Team's opinion that the State's own laws regarding sharing public health information, particularly protected health information (PHI), appear to be more restrictive than many states, particularly relating to sharing with other state agencies for the purposes of responding to a public health emergency. It must be said that DHEC staff are rightly concerned anytime there is a request or even bona-fide need for public health information, particularly information derived from protected health information (PHI), to be shared.

FINDING 4.1: Data working groups were established to address information and intelligence shortfalls and led to substantial improvement in information sharing and the development of actionable intelligence.

Discussion: DHEC developed an internal Data Working Group consisting of DHEC staff that was able to develop and gain consensus through a series of data and intelligence sub-working groups, including:

- Data Ownership
- Public-Facing Data
- Data Processes
- Education and Training

In response to wide recognition of several data and information challenges, an interagency Data/Intelligence Working Group was convened starting in February 2021. This working group met regularly throughout most of 2021 and has streamlined several information processes, and it has improved information flow among agencies and even internally within agencies.

Recommendation 4.1.1: The DHEC Director should consider establishing a standing interagency data and intelligence working group, or similar team, that continually works to identify data, information, and intelligence gaps, opportunities, and best practices to support the needs of the ACC IMT and other state agencies. It is reasonable that DHEC DADE, DHEC IT, DHEC Office of the General Counsel, and BPHP would have a substantial lead in such a group, as well as incorporating data, intelligence, and visualization professionals from other agencies.

FINDING 4.2: DHEC lacks a planned intent and adequate systems to collect non-PHI, but still critical information, from hospitals, care facilities, and private providers.

Discussion: DHEC has the authority to compel hospitals, physicians, and other health facilities to provide medical records for purposes of disease investigation, as well as "non-medical" records needed to conduct disease surveillance. However, there is a prevalent perception among DHEC staff that there is no reliable mechanism for the Agency to solicit other critical information from these healthcare entities, particularly when it is information

needed for emergency public health functions not directly tied to disease investigation.

A number of interviewees mentioned that many other states have mechanisms for collecting critical, resource related information from hospitals and care facilities such as bed counts, durable medical equipment (DME) usage rates, or other key information not directly related to disease progression. It is widely perceived that DHEC does not have a clear authority to compel hospitals, long-term care facilities, and private providers to disclose many key information pieces that may be used to develop and maintain overall situational awareness.

Recommendation 4.2.1: The DHEC Director should consider directing the currently established Data Management Task Force to work with the Office of General Counsel to develop a report highlighting what information may be beneficial for collection during both blue-sky periods of operation and during an activation of the EHPA or declaration of a state of emergency; the tools and methods that would be required to collect it; and the changes to regulation or statute necessary to facilitate it.

FINDING 4.3: Individuals and groups with subject matter expertise in certain aspects of the information/intelligence development process were not part of the IMT but were actively involved in the oversight of data management and intelligence development processes.

Discussion: The Agency obviously has numerous reasons for leveraging SMEs who are not part of the IMT in the ACC. However, individuals who are responsible for approving work products or otherwise are providing operational direction to staff within the ACC should be part of the ACC IMT. Numerous interviewees identified that leaders who were not involved in the overall management of the incident exerted regular approval authority over data products intended to support the IMT and Agency response operations. While this interference at times likely provided value, it was expressed that on some occasions the direction of the non-participating leader conflicted directly with the direction of the IC. It was also expressed that the "outside the chain" processes contributed to delays in satisfying requests for data products.

Recommendation 4.3.1: The DHEC Director should consider developing and promulgating guidance that leaders outside the response organization shall

not exercise directive or approval authority for actions taken within it. If there is a belief that actions being contemplated by response staff might contravene law, statute, or policy, these concerns should be raised with the IC, the legal representative for the response, and the DHEC Director.

Recommendation 4.3.2: DADE, in consultation with BPHP, should work to identify individuals or positions that are critical to creating and/or validating information and intelligence products in or for the IMT. These critical individuals or positions should be formally included in the IMT or specific and transparent processes should be established to ensure that the ACC IC has visibility on their participation in those specific processes or products.

FINDING 4.4: Information management and sharing tools already in place and well-utilized by both DHEC and partner agencies were not prioritized for use during the COVID-19 emergency and unproven or unfamiliar systems were used instead.

Discussion: Perhaps the best example of new technology applications being introduced to replace existing tools was the decision to move away from utilizing ArcGIS for geospatial products developed by the Agency. Interviewees indicated that there has been long-standing collaboration between multiple state agencies in using and sharing ArcGIS-based visualizations during emergencies. Multiple agencies in the State have experience in developing and validating ArcGIS, and so it is unsurprising that deviating from known tools created challenges both inside and outside the Agency.

A few interviewees indicated that some motivation to move away from well-practiced visualization tools was due to the fact that some technology staff were unfamiliar with sharing limitations that needed to be observed for PHI data, and were subsequently relying on past experience with hurricane operations when making data-sharing decisions. It is equally important that all agencies involved in shared technology efforts understand that the limitations placed on data and intelligence will vary during different types of emergencies.

Recommendation 4.4.1: The DHEC Director should consider directing Information Technology to work with the Data Management Task Force and the COVID-19 Data/Intelligence Working Group to identify and standardize existing systems and tools that will be utilized for functions such as geospatial visualization; chart, table, and graph visualization; and operational

dashboards that can be effectively leveraged across multiple agencies and in an all-hazards environment, ensuring that such tools are regularly employed and that staff are sufficiently familiarized with their use. It is critically important that the Agency work with partners to ensure data visualization products are suitable for all appropriate parties, both inside and outside the Agency.

FINDING 4.5: Systems were adopted or put into use for specific tasks, leading to numerous, independent systems housing related information, which led to a substantial increase in workload for some staff.

Discussion: Interviewees discussed a number of processes that were complicated by disparate systems being employed in different aspects of the same overall process. For example, case information was put into SCION, while case management functions were conducted in a separate system, ARIAS. It is imperative that the COVID-19 emergency serve as a lesson for the Agency in how it should streamline data/information warehousing and validation, as well as how related or sequential processes can be aligned more efficiently through integrated technology tools. It should also serve as justification for investment in public health technology infrastructure that will likely be needed to respond to future emergencies.

Recommendation 4.5.1: The Data Working Group, in conjunction with DADE and IT, should examine all systems and develop a process-focused technology implementation plan with a goal of streamlining and consolidating data gathering and warehousing tools.

FINDING 4.6: The organization and duties of the data/intelligence system within DHEC, including the individual roles, responsibilities, and collaborative obligations of DADE, IT, and Population Health Data Analytics and Informatics (PHDAI), were unclear and created roadblocks to intelligence development and sharing.

Discussion: Clarity is lacking regarding the roles and responsibilities of the various data and information gathering elements within Public Health. Because the different elements (DADE, IT, and PHDAI) were unclear about their roles and authorities, there was conflict throughout the response regarding who "owned" which processes or data, or who had the authority to change or implement new processes or release information. Because some of these data organizations resided in part or wholly outside of the response structure,

it was difficult for the IC to get them to collaborate and provide data and information needed by the IMT and partner agencies. Some interviewees identified specific instances where one group or another deliberately withheld support or would not provide data or information needed by the IMT or external partners.

Recommendation 4.6.1: The DHEC Director should convene a working group, including outside experts, to review and define the roles, responsibilities and collaborative obligations of all data and information management and analysis elements within the Agency relating to data management and subsequent analysis.

NOTE: Based in part on the advice of the Data Management Working Group, the Director of Public Health has initiated an effort to streamline data analysis and informatics functions within the Public Health Deputy Area.

Information and Intelligence Sharing

Observations: There is substantial disagreement both inside and outside the Agency as to DHEC's roles and responsibilities regarding intelligence development and dissemination. Some interviewees indicated that the primary responsibility of the Agency was to provide "current" information about conditions (such as daily case counts, disease clusters, etc.) and provide historical context. These functions are successfully occurring in the Intel/Data Section, although they ordinarily would be the function of a Situation Unit, whereas the role of an Intelligence Section is normally to create intelligence products and forecasts.

Others, particularly those outside DHEC, indicated that they felt the Agency's primary role was to provide actionable forecasts of potential future conditions. The reality is that it is essential to understand past conditions, current conditions, and future potential conditions, as each of these are key to different aspects of response and recovery planning and decision-making. DHEC has the primary responsibility to collect, collate, and interpret public health data and information. This information is needed to inform three strategic information roles:

1. Identifying current conditions,
2. Conducting trend analysis, and
3. Forecasting.

The products of these three roles are critical to the success of any response, often by partner agencies. There must be an organization assigned responsibility for developing and distributing each of these products. The Agency responsible should be DHEC, which has the data and trained personnel to perform each of these roles, perhaps with outside assistance from academia. However, if DHEC will not provide all of these products, then it must provide the data required for completion of the products to another state agency.

Essentially, there is a need for a philosophical discussion to be held, and decisions to be made at the highest levels, as to how intelligence forecasting should be conducted in the State, particularly forecasting of non-public health impacts that are dependent on information regarding disease progression. There is a need for DHEC to provide information based on public health data to support needs identified by other agencies. Examples often cited are forecasts of essential employee shortages at

critical infrastructure sites, acquisition of critical resources or supplies other than medical equipment and personal protective equipment, impacts to key economic sectors, return-to-work forecasting, and many others. If DHEC continues to keep close hold on data and information needed by other state agencies to conduct forecasting, it should reasonably be expected that the agencies will use other information sources to create forecasts. Likewise, if DHEC declines to provide forecasts or modeling needed by other state agencies, other agencies could develop their own modeling and/or forecasting capabilities, which will result in different agencies using different models and forecasts, creating confusion as to which numbers are "correct." In fact, during the COVID-19 response, when the Emergency Management Division did not receive forecast models they felt were adequate to support future planning, they created their own modeling, even though they had no trained epidemiologists or experts skilled in pandemic modeling. Conversely, if DHEC determines, in consultation with its partner agencies, that such intelligence forecasting should be conducted elsewhere, then the Agency should strive to create mechanisms to quickly and efficiently share the data and information needed with those entities who are better suited to create and distribute such intelligence products.

Ultimately, the Assessment Team recognized that there were likely four fundamental issues that contributed to an exceedingly difficult information sharing process:

- DHEC is bound by State and federal law to protect personally identifiable information (PII) and protected health information (PHI), but it has not created standards for clearly defining or managing that information during emergency situations.
- Numerous State, local, and even private-sector entities have valid and well-justified information needs that were not clearly identified or forecasted prior to the creation or modification of both data-collection processes and data-management tools; this created substantial roadblocks to the reporting of useful information.
- Goals and objectives, including benchmarks or decision points, were generally not required to be clearly measurable by the UCG or IMT during the observed period. As a result, essential elements of information (EEIs) required for decision-making and forecasting were not identified, meaning information processes and development tools could not be established to effectively measure status or success.

- Information tools were initially unsuccessful in fully meeting valid needs of the public and partners; this was alleviated, to some degree, by establishing the DHEC Data Working Group and Interagency Data/Intelligence Working Group with weekly meetings.

Ultimately, the Assessment Team observed that the challenges faced by DHEC to protect certain information, combined with a general lack of collaboration early in the operation to identify, qualify, and validate information and intelligence needs, led to an information-sharing environment that failed to fully meet the needs of the organizations involved in the response to the COVID-19 public health emergency. As a result, information products often were not fully capable of serving as decision-support tools, supporting assessment of progress against objectives, or for future forecasting.

FINDING 4.7: Statute appears to be overly restrictive, placing untenable limitations on DHEC's ability to share critical information that contains or in some cases, is derived from, protected health information (PHI).

Discussion: DHEC is substantially limited in its ability to share information with partner agencies that may be considered vital to other non-health operations due to the strict limitations placed on the sharing of PHI in state statute that go beyond those found in the federal Health Insurance Portability and Accountability Act (HIPAA). While other states with overly restrictive information sharing laws elected to suspend those provisions during the COVID-19 emergency, South Carolina only did so to very limited degree relating to sharing with local first responders. As an example, the State of Nebraska faced a similar challenge and broadly suspended restrictions through an Executive Order.[18] Some states, such as neighboring North Carolina, have explicit allowances codified into statute addressing the release of PHI for non-health related investigative purposes.[19]

While DHEC does have a broad authority to collect both medical and non-medical records, and to analyze them to investigate, analyze, and fully understand the impact of infectious diseases during an emergency, they have consistently struggled to provide partners with intelligence products focused

[18] State of Nebraska Executive Order No 21-14
[19] 10A N.C. Admin. Code 47A .0102 - RELEASE OF MEDICAL RECORDS FOR RESEARCH PURPOSES and 10A N.C. Admin. Code 69 .0502 - DISCLOSURE FOR THE PURPOSE OF RESEARCH

on goals or outcomes not directly related to a public health effort. Many interviewees both inside and outside DHEC expressed that the reluctance to share information was based on the concern that it may contain PHI, specifically information that would or could potentially expose, or allow to be constructed, information that could reveal the identity of a patient. It is absolutely clear that this broad hesitance to share information with external agencies is entirely based in a good-faith desire to comply with the existing laws and regulations. However, the outcome is that many external partners struggled to develop their own tactical decisions due to the lack of available intelligence. Effort should be undertaken to examine how other states successfully utilized existing state allowances or leveraged Executive Orders in order to improve information sharing.

Recommendation 4.7.1: The DHEC Director should consider forming a multi-agency working group to examine the most practical and reasonable information and intelligence needs of DHEC, partner agencies, and local entities. This working group could examine standards from other states relating to sharing of PHI or intelligence derived from PHI. This could include considering in a written report how aspects of other states' PHI-sharing statutes, or statute-models could be used to guide future changes to public health information sharing rules. Some examples of agencies that may be considered include, but are not limited to:

- Office of the Governor
- SCEMD
- South Carolina National Guard
- South Carolina Law Enforcement Division
- Department of Education
- Department of Corrections
- Department of Juvenile Justice
- Department of Commerce
- Department of Labor, Licensing, and Regulation
- Office of Regulatory Staff

Recommendation 4.7.2: The DHEC Director should consider tasking the working group identified in 4.7.1 to collaborate with the Governor's Office and the Office of General Counsel to develop a standard or guide for Governor's Executive Orders relating to the sharing of protected health information (PHI)

and other public health information. This standard should address the information needs of all state agencies in circumstances in which an Executive Order of the Governor regarding information-sharing is appropriate and state agencies must undertake actions "to avert a clear danger to an individual or the public health." [20]

Recommendation 4.7.3: The DHEC Director should consider tasking the working group identified in 4.7.1 to examine methods by which partners, such as institutions of higher education, the SCNG, and others with intelligence analysis capacity may be of assistance in forecasting future impacts not directly relating to, but dependent on, an understanding of disease progression.

Recommendation 4.7.4: The DHEC Director should direct appropriate staff to collaborate with the appropriate internal and external working groups to assess common "fusion center" operational practices currently used by numerous emergency management, homeland security, and law enforcement agencies in order to develop methods for improving interagency intelligence collaboration. This should include assessing and documenting the analysis capacity of other state agencies.

FINDING 4.8: There was at times a lack of collaboration internal to DHEC that led to challenges and conflicts in efforts to develop and deliver data and intelligence products.

Discussion: There were several conflicts identified by interviewees relating to the ownership of data inside the Agency, primarily between DADE, IT, and PHDAI. Numerous interviewees discussed concerns relating to improper data handling and improper analysis methodologies being utilized inside the Agency.

There was also substantial discussion in interviews regarding the sharing of data and information between the Intel Section and the Operations Section. Interviewees detailed that there were numerous occurrences in which one section withheld data or information from the other, or in some cases,

[20] **SECTION 44-4-560.**

performed independent assessments of data and information without providing the other section(s) with either the purpose or the product.

Recommendation 4.8.1: BPHP should work with the Data Management Working Group to identify and document in plan the data and information interdependencies between the Operations Section and other sections of the ICS. Specifically, the required collaboration between operational functions (such as Lab, Testing, and Immunizations) and those conducting data/information analysis and intelligence development should be clarified.

FINDING 4.9: There is a widespread lack of awareness at the state and local level as to the statutory restrictions placed on DHEC to protect private health information as well as a lack of understanding of the ethical responsibility of public health professionals to maintain confidentiality.

Officials and interested parties at the state and local levels lack an appreciation for the restrictions placed on DHEC to protect PHI, and how that impacts the information and intelligence products they produce. It is critical that DHEC work to clarify with its partner agencies where its limitations exist, but also to identify methods for satisfying the information needs of its partners. Given the pace and intensity of emergency response, it is probable that accomplishing this prior to emergency response would be much more effective.

As a result of what was perceived as an unwillingness to share information, multiple state and local officials attempted to create back-channels to solicit data from both regional and Central Office sources. Some interviewees expressed that information was sometimes getting down to local officials, but it was coming through informal communications with DHEC employees who were not authorized to release it. Because these efforts were successful in providing additional information to the external stakeholders, it created a loss in confidence in DHEC's ability to provide honest and accurate information that can be acted upon.

A number of state agency representatives and local officials did express that the current administration of DHEC has made strides in addressing what many perceived as a lack of transparency and collaboration. State partners

repeatedly stated that DHEC as a whole has become more responsive to their needs and were hopeful that the trend would continue.

Recommendation 4.9.1: The DHEC Director should consider creating an educational product that is designed for partner agencies that highlights DHEC's statutory and ethical roles in protecting health data, how data requests are received and processed by the department, and how external agencies can assist in forecasting information and intelligence needs during public health emergencies.

FINDING 4.10: Some IMT staff were not familiar with the information needs or priorities of other agencies and political sub-jurisdictions; in some limited cases, staff failed to recognize the legitimate needs of both internal DHEC and external entities to access public health sensitive information in order to fulfill their missions.

Discussion: Prior to the creation of the Interagency Data/Intelligence Working Group, there was limited cooperation between agencies when developing or refining data or information products. Because the providers of data and data tools within DHEC did not fully understand partner requirements, and some partners failed to clearly articulate these needs, DHEC sometimes produced information systems and data analysis tools that did not fully serve legitimate partner needs. This resulted in increased workload and analysis challenges for agencies receiving data and information products.

Staff from agencies tasked with being the custodian of data products may benefit from being exposed to external agency roles and responsibilities during disasters. During interviews, numerous interviewees expressed a lack of understanding as to how data and resulting information and intelligence products could be helpful to the requesting Agency. In many of these cases, when specifics were discussed, the Assessment Team recognized that the interviewee simply lacked an understanding of the requesting Agency's role and would have benefited from a better understanding of their external partners' responsibilities. Interviewees identified several efforts that struggled from a lack of forecasted planning assumptions, including the creation of return-to-work plans for critical industries, development of PPE/ancillary resource warehousing capacity, and staffing forecasts for critical infrastructure, among others.

Data ownership both inside and outside DHEC was also observed to be unclear. Portions of the Agency, as well as external agencies, were known to update or change data prior to conducting analyses for their specific organizational needs. In some cases, this was in response to discovering inconsistencies or omissions in data sets, and in other cases it was due to validation efforts exposing errors. But because the source data were being adjusted or corrected independently by multiple agencies, the resulting analysis products sometimes conflicted with similar products developed by other agencies.

It is critically important to have accurate data prior to conducting analyses, but it is equally important to have consistent data as the foundation for all Agency analyses. There are several categories of protected data, information, and intelligence products that are potentially useful during emergency situations, and so it is in the interest of all agencies that create or rely on information or intelligence products to ensure that there is a single and dependable source and custodian for data. Underlying data used for analysis should be consistent across agencies and approving and maintaining standardized data for analysis should be the responsibility of a data custodian.

Fundamentally, the Agency should clarify its strategy and direction on the sharing of information. If the Agency is to be the keeper of public health and related information during an emergency and employs a strategy that information sharing decisions should be approached cautiously, then the Agency appears obligated to create a mechanism for developing all external intelligence products for partners that require them. Conversely, if DHEC is to take a less conservative approach, and instead lean toward the sharing of data whenever possible, then the Agency can focus on creating the mechanisms to share information, and less on the ability to create intelligence products that are not tied to the Agency's mission.

Recommendation 4.10.1: The DHEC Director should coordinate with the Director of SCEMD to ensure that regular meetings of the Data/Intelligence Working Group continue, focusing sessions on educating all members on information protection, requirements, and developing standardized processes and products, as well as standards for information requests and information flow processes for all-hazards emergency response.

Recommendation 4.10.2: The DHEC Director should identify or create a joint-working group to develop training for State Agency data custodians or similar information managers that highlights each Agency's role in emergency response and recovery, and specifically clarifies how information is vital to State executives and agencies, and local emergency managers, public safety professionals, and elected officials.

Recommendation 4.10.3: BPHP should consider working with the Data Management Task Force and/or the Interagency Data/Intelligence Working Group to codify in plan each category of protected information that may be required for emergency operations and establish a data or information custodian for each category of information, similar to the recommendations discussed in the Data Management Task Force whitepaper on data ownership. Such plans should be supported by appropriate standards for the maintenance of information that is necessary for emergency response and recovery.

FINDING 4.11: Data and intelligence products have in many cases been provided without context, analysis, or defined trends or forecasts. In these cases, the data provide little or no operational utility, and often detracted from valuable interagency messaging or collaboration.

Discussion: The Assessment Team observed numerous examples of data products being provided without necessary context or analysis, both within and across agencies. It is vitally important that even raw data products be accompanied by or associated with contextual information that provides the audience a narrative. Ultimately, it is often best to avoid distributing raw data at all, and instead provide refined information products with a clear messaging goal. Numerous interviewees indicated that the volume of raw data provided as a substitute for information products made it difficult for users to identify what mattered for decision-support and made setting metric-based objectives challenging. This resulted in a consensus that using data to define success was not possible.

Additionally, DHEC did not place sufficient emphasis on forecast development, despite being the primary custodian of all data on which most impact forecasts would be based. Not only did the Agency struggle to forecast actual disease progression, but also impacts such as healthcare system strain, equipment

and PPE usage and anticipated burn-rate, and other impacts. When the Agency did begin producing a "three-week forecast" for disease progression, it was in reality a two-week trend analysis and a one-week forecast, insufficient to assist most partners in creating actionable plans. The lack of forecasting also created challenges in assessing impacts relating to employment and return-to-work planning, education system impacts, impact to staffing and production in critical infrastructure sectors, and other non-health related areas. Although in the beginning stages of the pandemic sufficient data was not available to accurately create forecasts, as data and forecasts (or forecast tools) became available, DHEC could have either provided forecasts or recommended using forecasts from other sources that could meet the needs of requesting agencies.

Recommendation 4.11.1: Using the experience of the COVID-19 emergency as a base scenario, BPHP should work with the IMT, the Data Management Working Group, the Interagency Data/Intelligence Working Group, DHEC's Office of General Counsel, SCEMD, partner state agencies, and other interested entities to identify essential elements of information (EEIs) required by internal and external partners during a pandemic emergency and define impact-based forecasts that are required to support internal and external planning and operations.

Recommendation 4.11.2: BPHP should consider stipulating in plan that information and intelligence products be directly linked to measurable objectives or defined EEIs (either DHEC EEIs or those of a partner agency) set by leadership whenever possible; in all cases, information and intelligence products should have a reasonable and articulable message associated with them.

Recommendation 4.11.3: BPHP should consider stipulating in planning documents or Planning Section/Situation Unit guides or job aids that data or information that is provided in regular intervals should, ideally and whenever possible, be accompanied by a trend analysis or other historical reference.

Recommendation 4.11.4: BPHP should work with Agency partners to develop a streamlined and potentially automated process for receiving, evaluating, and actioning external information requests.

Communications and Public Information

Observations: The effort to communicate with the public at-large during the COVID-19 emergency was primarily the responsibility of the DHEC Communications Department. Staff turnover immediately prior to the start of the emergency response, as well as early turnover during the response, led to a staffing shortage that was challenging to fill. Efforts to collaborate with partner agencies such as SCEMD were successful in some areas, yet the Agency never took solid steps to up-staff the communications and public information function. An informal Joint Information Center (JIC) was established but was primarily staffed only by DHEC and SCEMD. The Governor's Office, or the Governor's Press Secretary, did not appear to be explicitly involved in the JIC's efforts, and there seemed to be only limited collaboration with state agencies outside SCEMD for the purposes of unifying the State's message.

During interviews, it was repeatedly stated that public information staff often lagged in awareness about operational changes or issues arising from operations. Staff mentioned that these challenges had begun to lessen in early December 2020 and were mostly resolved by February 2021, when communication staff began to attend operational meetings and decision-making discussions more regularly.

Public information staff did not have operational control or review authority over all messaging tools and dashboards. As a result, many of these lack a clear message associated with the data or information they are disseminating. The Assessment Team observed that there are several sources of public data that do not provide sufficient context to tell the audience something of value. As one interviewee expressed, the dashboards "aren't telling how the State is doing. Is it good, bad, or indifferent?"

The Assessment Team did observe that the public information teams had identified some specific audiences and had developed limited messaging objectives for them. However, there was an overall lack of a public information plan that addressed audience-specific messaging objectives, clear and consistent standards for message development and delivery, and a process for standardizing messaging, coupled with the challenges of defining and communicating "successes," and an early lack of access to decision-making. These shortcomings and disconnects led to numerous,

and often inaccurate, public and media criticisms of, for example, the vaccine roll-out operation.

FINDING 4.12: There was a marked disconnect between DHEC's communications effort and the Office of the Governor and other agencies (other than SCEMD).

Discussion: State regulation identifies the Governor as the "official point of contact within the state government for public information during an emergency" and further states that the supporting roles of state agencies such as DHEC in providing for public information may be delegated to them in the SCEOP and by the Governor's Press Secretary.[21] That said, DHEC took an active and likely necessary role in creating public messaging designed to inform the citizenry on important issues such as current status of disease, personal protective measures, and information regarding accessing care.

Interviewees did note that at times communication to the public from the Governor's Office relating to the COVID-19 emergency came as a surprise to staff within the IMT. It is likely that the overall public information effort would have benefited from a more formally established JIC and a more efficient collaboration between DHEC communicators and the Office of the Governor.

Recommendation 4.12.1: The DHEC Director should consider implementing practices that increase both the blue sky and gray sky collaboration between the Governor's staff and the lead communications staff of the Agency.

Recommendation 4.12.2: The DHEC Director, supported by Communications, should work with SCEMD and other relevant stakeholders to clearly define the roles and responsibilities of each agency under a JIC established during a public health emergency to ensure consistency in public messaging.

FINDING 4.13: DHEC developed a Public Information Officer (PIO) capability for the COVID response but did not provide sufficient staffing to the effort.

Discussion: DHEC's public relations staff consists of approximately a dozen positions, four of whom were dedicated to supporting COVID response

[21] S.C. Reg. 58-101, Section D(1)(C)

operations. The DHEC Communications Department was understaffed by five positions (between outreach, web services, and media relations) for much of the COVID-19 emergency response. While leadership did commit roughly half of all available public relations staff to the response, the scope of the emergency was far too great for a team of four to effectively manage. For context, many local health departments across the US had larger public information and communications teams during the COVID-19 emergency than did the State of South Carolina. In comparison, the Assessment Team was informed by staff from one large US county similarly sized to South Carolina that they had over 20 staff members dedicated to the public information effort in their county office alone. It is clear that the communications effort for South Carolina DHEC was understaffed by a significant degree.

Recommendation 4.13.1: BPHP should assist the Director of Communications in determining messaging needs during a prolonged pandemic, identify staffing requirements for a dedicated communications support team for the assigned PIO, and establish a scalable organization chart for the PIO in all plans.

Recommendation 4.13.2: The Director of Communications should examine methods for leveraging the multi-agency JIC to supplement communications staff shortfalls, identify agencies within State government that may have staff available to supplement DHEC, and determine other avenues of requesting staff, such as through the Emergency Management Assistance Compact (EMAC) or developing a trained reserve corps.

FINDING 4.14: DHEC successfully leveraged contract support to overcome capacity shortfalls and limitations on its ability to leverage certain types of media directly.

Discussion: During the response it was recognized that the Agency either lacked the capacity to perform certain functions or could not perform functions due to policy or statute. The Agency identified needs and contracted with several companies to support their needs in developing material and buying social media ads to support messaging. Specifically, the Agency contracted media purchasing capacity that improved their ability to reach multiple markets and acted as a staff-multiplier. They also utilized private

sector partners to purchase social media advertising, which the Agency cannot do directly.

Recommendation 4.14.1: The Director of Communication should consider establishing standing contracts to support identified needs, including social media purchasing capacity, ad buying efforts, and the provision of surge staffing.

FINDING 4.15: DHEC struggled to create local messaging and lacked the tools to create local, targeted messaging impact.

Discussion: Many of DHEC's efforts were focused on statewide dissemination, leading to items that may be of substantial local significance but not applicable to the whole state often being missed. Because the Agency has worked to centralize so much of its communication effort under "One DHEC," the ability to communicate locally has waned. No local or regional capacity for targeted media, particularly electronic/social media, currently exists. By not having this local capacity, numerous locally relevant and newsworthy occurrences went uncelebrated.

The Agency did hire a minority outreach strategist in summer of 2020, which was certainly helpful in reaching some vulnerable or underserved communities within the Regions, is a demonstratable success, and should be sustained. The Agency also made initial efforts to create local communication capacity through establishing relationships with community-based organizations.

It was also observed that the Agency conducted outreach outside of the IMT structure through a function in the Environmental Quality Deputy Area. This outreach effort attempted to assist the IMT by providing direct contact with local community groups, but was not coordinated closely with the Operations Section and PIO. This resulted in the effort sometimes providing incorrect information to groups they were working with, creating confusion particularly at the local and regional level.

Recommendation 4.15.1: The Director of Communication should collaborate with BPHP to develop a local/regional outreach capacity that can be rapidly activated during emergencies to leverage local, trusted voices. This could include establishing and fostering regional social media tools, even if

centralized in their maintenance, that communicate in a local voice and focus on issues of local/regional relevance.

Recommendation 4.15.2: The Director of Communication should consider establishing a regional communication position or positions that work directly with Regional Health Directors and their teams to craft regional messaging. These positions should be well-versed in local and regional culture, have the latitude to establish and foster local relationships, and be capable of translating state-led messaging into a locally consumable product.

Recommendation 4.15.3: The Director of Communication should work with the Director of Public Health to identify methods for supporting health advocates or health educators in the Regions that are locally cultivated and can be supported directly by the Agency during public health emergencies.

Recommendation 4.15.4: The Director of Communication should lead and coordinate efforts to establish relationships with local and regional community leaders, particularly those who represent or provide support to underserved or marginalized communities or groups, who may be well-equipped to personalize and broadcast DHEC's public health messaging prior to and during emergencies.

Recommendation 4.15.5: The Director of Communication should consider identifying all public outreach positions across DHEC and determining which should be included in staffing models to support emergency operations.

Section 5. Human and Material Resources

Human Resource Management

Observations: The Human Resource (HR) function of DHEC conducted perhaps the largest rapid-hiring effort in the history of the Agency, and quite possibly one of the largest hiring efforts in the State's history. Despite not increasing HR staffing to any appreciable degree, the Agency was able to both increase its hiring capacity and shorten hiring timelines exponentially. The efforts made by the Agency's HR function were absolutely instrumental to a multitude of successes and created standards that can be used in the future to improve both the Agency's response capacity and its day-to-day capacity. Aspects of the rapid-hire process and streamlined onboarding process particularly should be memorialized for future use.

As mentioned previously, the Agency has a substantial pool of talented, disaster-experienced staff. However, the majority of this experience in the Agency resides in BPHP and in the Environmental Affairs and Healthcare Quality Deputy Areas. The combination of employment turnover and a lack of recent public health emergency responses forced the Agency to pull personnel from areas that do not traditionally train or prepare for public health operations. The subsequent length of the ongoing emergency meant that staff supported response operations for months or even years. The Agency faced substantial struggles in identifying sufficient staff to allow for rotation of emergency personnel, which not only impacted those involved, but also the blue-sky programs that they are responsible for during normal operations. One of the biggest challenges in the future will be developing ways to increase the disaster cadre of the Agency, and institutionalizing methods for both developing talent and identifying applicable skills and experience.

FINDING 5.1: DHEC Human Resources staff developed and implemented a streamlined process for hiring and onboarding staff that greatly reduced the hiring/onboarding timeline, reduced or eliminated face-to-face contact with new-hires, and enabled the Agency to rapidly up-staff in the face of an emergency.

Discussion: DHEC was able to rapidly increase its staffing footprint in the face of the emerging COVID-19 emergency, and this was certainly due in part to the efforts made by human resources staff and others to streamline the selection and onboarding process. The individuals involved in this effort should be commended for finding the many process improvements that led to reducing onboarding from months to weeks, and for sustaining it throughout the response.

The Agency has created and proven several best practices relating to the rapid hire process. It was noted during interviews that those involved have worked to standardize rapid hire documents, including applications, processing procedures, job descriptions, and "known hire" standards. This effort to document and solidify the final rapid-hire process should not only be continued, but shared for future use.

Lastly, the rapid-hire process increased DHEC staffing quickly and efficiently, and by some accounts increased the overall force assigned to the COVID response by around 70% in a short period of time. However, some interviewees mentioned that rapid-hires for positions requiring technical skills, certifications, or those that required specific traits were not always filled with qualified candidates, and it was expressed that including the reporting supervisor in the rapid-hire process to a greater degree may reduce rapid-hire turnover in the future.

Recommendation 5.1.1: The Director of Human Resources should consider tasking involved staff to identify best practices that can be implemented during blue-sky operations to shorten hiring times, as well as those that can be shared with other state agencies in the event that a rapid-hire process must be established due to another emergency or circumstance.

Recommendation 5.1.2: BPHP should collaborate with the Director of Human Resources to solidify rapid hire processes into emergency plans and SOPs and develop both regular and just-in-time training to support implementing a rapid hire program. This would ensure that documentation and training is available to assist future staff, as well as surge staff, in implementing a rapid-hire program.

Recommendation 5.1.3: The DHEC Director should consider developing a method for including reporting supervisors in the selection process for any

position requiring specific skills, certifications, or other candidate qualifications specific to a functional area, particularly when a rapid hire process is implemented.

FINDING 5.2: The operational demands of both the testing and the immunization effort caused the IMT to outgrow its pool of trained and experienced staff.

Discussion: The ACC IMT struggled to fill skill-positions within the IMT with individuals trained in emergency response operations. Numerous interviewees identified that as operations expanded to include vaccine operations while simultaneously providing for over a million COVID-19 tests per month, the need for skilled and experienced staff significantly exceeded the pool of available personnel who were trained in the National Incident Management System (NIMS) and the Incident Command System (ICS), or who had experience in emergency response operations. Additionally, a substantial number of the leadership positions were staffed by individuals with little or no prior experience in emergency response. While these individuals performed admirably, this gap highlights the importance of DHEC prioritizing emergency response training and exercise participation for leadership outside the Bureau of Public Health Preparedness.

It was additionally noted that DHEC had attempted to create a "skills-profile" system (Employee Skills Database) prior to the commencement of COVID-19 operations, but that the system was not built out to the degree needed to be useful for this emergency. Nevertheless, this system had utility, if insufficient scale. Several interviewees indicated that they utilized informal skills-profiles to identify staff within the Agency that could be pulled from their normal roles to fulfill response related activities.

Recommendation 5.2.1: The DHEC Director should consider directing BPHP to identify NIMS and ICS training requirements for Agency personnel. This review should consider leadership and management-level staff positions from all DHEC elements that are slated to support specific IMT functions, and those people within the organization with skillsets that might be needed to support a large scale and/or long-term response.

Recommendation 5.2.2: The DHEC Director should consider developing and promulgating NIMS and ICS training requirements based on

recommendations made by BPHP under Recommendation 5.2.1. to ensure that the Agency has a large leadership pool and sufficient depth to provide for staffing of the IMT and sufficient work/rest cycles during extended activations. The DHEC Director should task the appropriate staff to determine, on a position-specific basis, when it is appropriate to include such requirements in individual position descriptions.

Recommendation 5.2.3: The DHEC Director may consider directing BPHP to develop skills standards or other experience-based guidance for staffing the IMT. This would assist in identifying employees within agencies who have the appropriate skills or experience to fill roles in a response, and it would also identify skills or experience preferred in new-hires or rapid-hires that are brought onboard to support operations.

Recommendation 5.2.4: The DHEC Director should consider directing the development and maintenance of a searchable Skills Inventory Database for Agency personnel. The Skills Inventory Database that would identify various hard and soft skills for each employee, to be used when staffing the ACC.

FINDING 5.3: Despite being tasked with rapidly up-staffing DHEC during a public health emergency, Human Resources was not sufficiently up-staffed to support ongoing Agency staffing acquisition and support needs.

Discussion: Discussions with staff both inside and outside the hiring process revealed that while the process for rapid-hiring staff was a tremendous benefit to the Agency, there were still struggles observed. In interviews and during a number of group hotwashes, respondents mentioned not being fully informed on organizational policy, benefits, and other topics due to the limited footprint of the HR team. The increase in staff not only impacted the hiring process, but also other aspects of the Agency. Due to the increase in employee base, and the change in work-tempo and focus, employee complaints rose significantly, as did reports of occupational safety issues. This increase in workload placed substantial strain on those responsible for employee relations and occupational safety, and the staffing required to adequately address these issues was not always available.

Human Resources staff clearly communicated that the use of the state's personnel management system, part of the South Carolina Enterprise

Information System (SCEIS), is a substantial barrier to hiring human resources support staff, particularly during an emergency. Staff related that because the processes used by the state are burdensome to learn and master, the Agency focused instead on doing what they could with what they had. As a result, despite the Agency growing tremendously as a whole, the HR function never expanded.

While DHEC faced a momentous hiring task, many other agencies did not. In future emergency situations in which agencies must rapidly expand their employee base, it may benefit the state to create a mechanism for staff sharing to ensure qualified state employees who are well-versed in systems such as SCEIS are available to support the efforts of other agencies. For DHEC, it may be beneficial to document the impacts of the COVID-19 emergency, including those challenges associated with rapid up-staffing and substantial turnover, and address the future potential of staff-sharing with the SCDOA and other partner agencies.

As mentioned in Finding 2.11, hiring and onboarding challenges were especially apparent at the regional level, where the vast majority of the rapid hire upstaffing occurred. Regional HR staffing was not increased by the Agency, leaving Regional Health Directors to supplement HR staff with administrative hires in several regions.

Recommendation 5.3.1: The Director of Human Resources should collaborate with BPHP and program SMEs to ensure existing and future plans clearly provide for the assessment and forecasting of staffing needs expected to be required to respond to the emergency. Staffing forecasting should be associated with triggers to up-staff the Human Resources function in the IMT.

Recommendation 5.3.2: The Director of Human Resources should collaborate with BPHP to immediately begin identifying state agencies that did not see a substantial increase in staffing during the COVID-19 emergency and may have staff available during future emergencies who are experienced in onboarding staff in SCEIS.

Recommendation 5.3.3: The DHEC Director, likely through Human Resources, should consider working with SCEMD and SCDOA to determine and codify the most appropriate processes for long-term interagency mutual aid relating to staff support, including processes for requesting aid, fulfilling

requests, reporting requirements and standards, compensation considerations, and other issues that may arise from staff sharing during emergencies.

Recommendation 5.3.4: The Director of Human Resources should coordinate with BPHP to assign the appropriate number of dedicated HR personnel to directly support the IMT during an activation to improve coordination of HR needs within the response organization and in support of its initiatives.

Supporting the Workforce

Observations: The Agency workload since the beginning of the COVID-19 emergency has been only manageable due to the remarkable will of the people who have undertaken it. The Agency did make several moves to improve the compensation of Agency staff, as well as to attempt to compete with private sector as it attempted to staff up rapidly. DHEC should closely examine these efforts to ensure that they can be effectively replicated in the face of future disasters.

However, even considering the improved compensation and benefit efforts made by the Agency, the impact of prolonged disaster response on that workforce has been profound. Staff have repeatedly expressed that the impacts to their physical and emotional well-being are real and profound. In fact, some leaders and key figures of the organization's response effort candidly discussed the emotional and physiological impacts the emergency has had on them and their colleagues in a newspaper article published in September of 2021. The content of the article only further demonstrates what the Assessment Team clearly observed: the staff that led and supported DHEC's response have, and will continue to have, needs that go beyond renumeration and fringe benefits.

FINDING 5.4: DHEC implemented an overtime policy that allowed COVID-19 response staff to receive overtime pay rather than compensation time-off for excess hours worked.

Discussion: The time demands placed on response staff during the COVID-19 emergency were unparalleled in Agency history, causing staff to work substantial overtime, often seven days a week for extended periods of time. When Agency leadership recognized that the response would likely be prolonged, effort was made to transition from a comp time system to a paid overtime system. As the emergency response continued, staff absolutely benefited from seeing the result of their overtime efforts in their pay. For many months, including the most challenging vaccine roll-out period over the 2020 winter holidays, it was obvious to staff that taking vacation was impossible. By rewarding employees immediately for their additional work through paid overtime, the Agency surely reduced some of the potential for animosity regarding compensation, or even turnover.

Recommendation 5.4.1: DHEC should develop an emergency compensation policy that includes a section on the conditions under which a transition to paid overtime should be determined by the Agency Director, or establishes triggers for transition to the same. The policy should include considerations for exempt employees, and both permanent and temporary/rapid-hire hourly employees. It should also contain guidance for considering the anticipated length of the emergency, whether the situation will or could potentially still exist during the transition to a new calendar year, and whether other special circumstances need to be considered.

FINDING 5.5: State rules regarding the use of accrued benefits such as vacation time do not account for the impacts of prolonged emergencies or those that overlap a change in calendar year.

Discussion: The extreme length of the COVID-19 response was not anticipated by many people in or outside the field of public health, and it certainly could not have been foreseen that the effort to initiate vaccine distribution would begin shortly before the winter holiday season and the end of the year. However, the impact of these realities was that many individuals who were tirelessly giving of their time, focus, and energy during the initial roll-out of vaccines were not able to take scheduled leave, which was subsequently forfeited due to state vacation accrual/forfeiture rules.

This challenge, like many others, was not unique to South Carolina. However, a standard for how such a challenge could be mitigated comes from the US Government's Office of Personnel Management (OPM), which in August 2020 published a rule stipulating that "employees who would forfeit annual leave in excess of the maximum annual leave allowable carryover because of their work to support the nation during a national emergency will have their excess annual leave deemed to have been scheduled in advance and subject to leave restoration."[22]

While a "rule-change" in South Carolina may not be sufficient to alter statutory limits on leave carry-over, the standards used by the OPM can certainly be used as a template for future changes to law and regulation.

[22] https://www.govinfo.gov/content/pkg/FR-2020-08-10/pdf/2020-16823.pdf

Recommendation 5.5.1: The Office of Human Resources should develop a report that captures the impact to employees within the Agency, particularly in the 2020-2021 transition, and identify in that report recommendations for rule or regulation changes that could better protect the fringe compensation of staff dedicated to an emergency response.

FINDING 5.6: Compensation inequities in DHEC were exacerbated by the COVID-19 emergency.

Discussion: Pay inequities, both inside DHEC and when comparing DHEC to other state agencies and the private sector, were apparent to staff prior to the COVID-19 emergency. The impacts of both inconsistent pay across positions/responsibilities and pay compression in professional and leadership positions was discussed by numerous interviewees and well-documented by the SHaPE SC committee. The increased workload for many talented and dedicated staff that was necessitated by the COVID-19 emergency clearly brought these issues to the forefront.

The initial roll-out of very limited and targeted Temporary Salary Adjustments (TSAs) prior to the establishment of a formal TSA policy and associated standards also created animosity in DHEC, with some interviewees alleging that initial targeted TSAs were clear evidence of interference by influential senior leaders outside the IMT. Likewise, the expanded TSA effort was viewed by some to be inconsistently applied, with some interviewees stating that many have been receiving TSAs despite not having roles in COVID-19 response.

Recommendation 5.6.1: The DHEC Director should consider tasking the Director of Human Resources to develop a temporary salary adjustment (TSA) policy based on lessons-learned during the COVID-19 emergency. Such a policy should strive to provide transparency on the TSA process, rules, and requirements. It may also be beneficial to clearly define the role of the Agency IMT leadership in supporting the determination of appropriate TSA increases for emergency response related work.

FINDING 5.7: DHEC staff experienced substantial personal, family, and social strains due to the extensive period of engagement in response, the unprecedented operational tempo, and the overall impact of the emergency to family and social structures.

Discussion: The Assessment Team observed a tremendous dedication to mission throughout the entire staffing of the IMT and recognized it as a source of pride among those carrying out the mission. However, the Agency has experienced an operational tempo and a period of sustained operations that greatly exceeds what staff are familiar with from previous disasters. As a result, numerous staff members repeatedly expressed that the continued operations were having a negative impact on their peers and themselves. While interviewees did identify that some resources were available if requested, many indicated that more routine attention to staff wellness may would be helpful.

Given the gravity of the operation, the length of time that staff have been committed at an extremely high level, and the intensity of the work daily, it is clear from interviews that attention to the welfare of staff is essential to both continued operations and to organizational well-being.

Recommendation 5.7.1: The DHEC Director should consider consulting with internal divisions or partner agencies to identify and access individuals or teams trained in psychological first aid or some other appropriate methodology for reducing workplace stress during and after emergencies or disasters, and work toward providing additional support services regularly to the IMT. Providing more regular group-based support may reduce barriers to access and encourage staff who are otherwise reluctant to engage much-needed support systems.

Recommendation 5.7.2: Human Resources should consider documenting a process in plans for assigning properly trained response staff to monitoring operations for evidence of emerging staff stress of overwork challenges, ensuring adherence to rest/relief standards, and providing during- and post-event support.

Recommendation 5.7.3: The DHEC Director should consider developing capacity to provide research-supported behavioral and mental health supports to agencies or individuals conducting traumatic, high-intensity, and/or long-term operations. This could include support staff trained in psychological first aid or other acute stress management intervention methodologies.

FINDING 5.8: DHEC implemented a remote work effort that was developed "just-in-time," and was able to successfully isolate staff while still accomplishing critical operations.

Discussion: The COVID-19 emergency forced governments and businesses everywhere to rapidly implement social distancing measures, including remote-work and shift cycling efforts that fundamentally altered their onsite operations. DHEC was able to immediately identify functions that could be conducted remotely and was able to quickly move to a remote work operation, despite not having a formal remote work plan previously developed (a recommendation of the Crimson Contagion Exercise AAR, as previously noted).

Some interviewees indicated that there was some challenge in returning functions to the in-person/onsite environment from time to time when it was deemed beneficial to have staff back in an in-person environment (prior to the statewide return to work), but it was generally agreed that such challenges were to be expected considering the lack of a formalized remote-work plan and standard return-to-work policies.

The Agency certainly has a wealth of experience available to it now that it can leverage to develop appropriate plans, policies, and procedures to strengthen its capacity to leverage alternate work locations during future emergencies or business continuity challenges.

Recommendation 5.8.1: The BPHP should consider developing a remote work plan as part of the COOP Plan that includes provisions for identifying alternate worksites, ensuring technology support, and establishing baselines for return-to-work forecasting and planning.

Recommendation 5.8.2: The DHEC Director should consider tasking the Office of General Counsel or other appropriate staff to coordinate with the BPHP to develop and promulgate appropriate policies and procedures to facilitate the functions of a dispersed workforce during emergencies.

Logistics Management, Acquisitions and Contracting

Observations: The logistics and finance functions were well-staffed and supported by internal and external partners during the operations. Both sections were successful in their primary missions during the response and staff inside and outside DHEC stated during interviews that the two sections provided outstanding support throughout the response.

The Logistics Section distinguished itself by continually working to collaborate with internal and external partners to ensure continuity of the Receive-Store-Ship (RSS) warehouse and supply chain. Bolstered by extensive experience working alongside logistics functions in other agencies during numerous natural disasters in recent years, the resource management and procurement functions were lauded by their peers as being successful in their respective missions, regardless of the challenges faced.

There are substantial opportunities to streamline procurement efforts, improve documentation originating from requestors, and generally assist the finance staff in ensuring the Agency can communicate and justify emergency expenditures. It should be noted, though, that many of these opportunities exist outside the Section, and instead in the operational functions of the Agency.

FINDING 5.9: The establishment of the Logistics Working Group created a mechanism for early collaboration among DHEC, SCEMD, and SCNG and led to a successful interagency resource management effort.

Discussion: Early collaboration among DHEC, SCEMD, and SCNG to clearly delineate responsibilities and authorities through a Logistics Working Group was a best-practice and led to an efficient and well-respected supply and distribution operation. Regional and local interviewees were clear that the state resource management support, particularly early in the pandemic, was wholly successful.

Recommendation 5.9.1: BPHP should examine the successes found by the Logistics Working Group to codify best practices in multi-agency collaboration that can be used in other functions.

FINDING 5.10: The Logistics Working Group conducted a functional test (exercise) of the RSS immediately prior to vaccine arriving in the State, which ensured that warehouse challenges were identified in advance.

Discussion: By conducting a multi-disciplinary functional exercise of the RSS prior to the arrival of vaccine, staff were able to identify gaps in plans, contract support, and equipment. This ensured that even in the early days of the vaccine distribution operation, vaccine was safely and efficiently transported, stored, and placed into the hands of providers.

Recommendation 5.10.1: BPHP should identify opportunities for increased multidisciplinary participation in DHEC exercises and should include participation goals in the Integrated Preparedness Plan.

FINDING 5.11: Early collaboration among SEOC ESF 7 Procurement staff, the Logistics Working Group, and the ACC Finance/Administration Section facilitated early activation of key contracts and the efficient pre-positioning of ancillary resources.

Discussion: Staff from both the DHEC and SCEMD logistics teams recognized lessons learned during the H1N1 event, as well as during recent exercises. This led them to quickly activate key contracts for ancillary resources to ensure that the State was sufficiently supplied before vaccine arrived in South Carolina. The result was that the State had sufficient storage capacity, as well as a stockpile of items such as gloves, masks, needles, sharps disposal containers, and other equipment that was required to immediately implement a vaccine distribution operation.

Recommendation 5.11.1: BPHP should assess contract support utilized within the first months of the emergency, as well as the first months of the vaccination phase to determine what support was critical to successful operations. (See also Recommendations 5.13.3 and 5.13.4)

FINDING 5.12: Procurement staff in the Finance Section were often not provided with sufficient information by requestors, resulting in delays in procurement or contracting and potentially leaving the Agency without wholly adequate justification for some purchases or contracts.

Discussion: Operations and Logistics staff often did not clearly communicate requirements for procurement efforts. Often, these procurement requests were of high importance and equally high urgency, and in the midst of a global public health emergency, procurement staff would accommodate them to the greatest degree possible. In some cases, procurement requests were so

critical to mission accomplishment that they would be made through informal communications, and while procurement staff would absolutely ensure that the process for acquiring those critical goods or services followed state procurement laws, this process certainly can lead to a number of challenges, including missed collaborative purchasing opportunities, duplicative purchasing/contracting, justification challenges, missing procedural documentation, and other common disaster procurement issues.

Additionally, procurement staff expressed that there was at times a lack of clarity from staff performing operations on accomplishment of specific objectives associated with grant funding. While there were clear methods for ensuring visibility on what had been spent, there was no efficient system for clearly documenting what that spending accomplished.

Procurement/resource tracking systems (such as Palmetto) are vital to ensuring that disaster resource management and acquisition is orderly and efficient. Such systems ensure that only appropriate staff make requests and that requests are associated with objectives and tactics. They assist in identifying resources for needs that may be operationally or fiduciarily more appropriate, and provide operational transparency to Logistics and Administrative staff. Lastly, through controls, they ensure that the appropriate processes are followed and documented for future audits or reviews.

Recommendation 5.12.1: The Finance/Admin Section should have a physical presence in the ACC to facilitate awareness of ongoing and upcoming operations, as well as to improve the Section's appreciation for the "purpose" of requests.

Recommendation 5.12.2: BPHP should consider working with the Finance/Administration and Logistics Sections to examine utilizing the Palmetto Resource Request process for all resource and procurement requests during emergencies. This would help ensure that required information is provided to the procurement staff and provide advanced visibility on resource and procurement requests.

Recommendation 5.12.3: DHEC Finance should consider working with BPHP to develop requirements and publish an SOP on the use of emergency procurement during declared emergencies public health emergencies.

FINDING 5.13: Staff both inside and outside the IMT regularly used day-to-day approval channels instead of going through the ICS structure for purchasing, procurement, and staffing needs.

Discussion: Numerous instances of sub-optimal procurement and resource allocation practices and/or directives were discussed by staff in both the Central Office and within the Regions. As an example, Information Technology staff were sometimes excluded from technology acquisition efforts that were done "in-program" but billed to COVID-19. In other cases, some interviewees stated that staff would utilize their blue-sky reporting structure to make purchases rather than utilizing the processes in place within the ACC, and often without the knowledge of the IMT.

Recommendation 5.13.1: The DHEC Director should ensure that staffing plans include dedicated procurement SMEs, empowered with appropriate authority, and are assigned to both the Logistics and the Finance Administration Sections.

FINDING 5.14: The lack of a formal, centralized collective purchasing effort for high demand supplies and equipment led to competitive purchasing efforts and inefficiencies at the state, regional, and local levels.

Discussion: Many states and governmental Regions have established extensive disaster-related cooperative purchasing systems, including those that regularly pre-qualify providers for hundreds of services directly related to disaster response and recovery. South Carolina does have a cooperative purchasing system and program, but does not appear to have a cooperative purchasing/contracting effort aimed at disaster response and recovery, particularly for public health emergency response.

Recommendation 5.14.1: Using the COVID-19 emergency as a standard, the BPHP should work with procurement staff to identify those critical services and supplies that would be immediately necessary in a future public health emergency as well as reasonable standards for delivery.

Recommendation 5.14.2: The DHEC Chief Financial Officer should consider coordinating with the South Carolina Division of Procurement Services to identify the most appropriate method to create and sustain collective

purchasing capacity for critical supplies and services that may be required by state, local, and private-partner entities during a future public health emergency.

Recommendation 5.14.3: The BPHP should coordinate with the South Carolina Division of Procurement Services to identify and implement the most appropriate method for ensuring that critical services contracts essential to the response can be pre-qualified for rapid activation in emergency situations.

PART 3: Improvement Plan

This improvement Plan is one template available to track progress toward completing recommended actions, however DHEC may use the Improvement Plan template they find most useful.

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	FINDING 1.1: There is disagreement between agencies as to who should ultimately act as the "Incident Commander" and serve as the directive authority during public health emergency situations and how DHEC should interface with the SEOC and other agencies.	Recommendation 1.1.1: The DHEC Director, along with emergency response subject matter experts, in coordination with the Director of SCEMD, should immediately work to clarify the composition, roles, and responsibilities of the Governor's Command Staff, and the state's Unified Coordination Group (UCG) / Multi-agency Coordination Group (MAC Group) during public health emergencies. Recommendation 1.1.2: The DHEC Director, in coordination with the Director of SCEMD, should immediately work to clarify the primary Command and Control structure for public health emergencies in a manner that adheres to statute and policies… *See Part 2 of this report for complete recommendation text.* Recommendation 1.1.3: The DHEC Director should consider tasking the			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Office of General Counsel to develop a report that identifies each directive authority granted to the Governor, the Adjutant General, SCEMD, and to DHEC during a public health emergency, including those not specifically associated with a public health emergency… *See Part 2 of this report for complete recommendation text.*			
	FINDING 1.2: The individual or position authorized to carry out many of DHEC's codified authorities during a statewide emergency is not clearly designated in statute or regulations and delegation of authorities within DHEC are often not clear.	Recommendation 1.2.1: The DHEC Director should, in consultation with the Office of General Counsel, consider a thorough examination of all authorities found in statute (including those within the Emergency Health Powers Act) … *See Part 2 of this report for complete recommendation text.* Recommendation 1.2.2: The General Counsel for DHEC and/or the Chief Counsel for Public Health should consider conducting or otherwise providing for the review and update of the "Public Health Emergencies: A			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Resource for Bench and Bar" dated 2012... *See Part 2 of this report for complete recommendation text.* Recommendation 1.2.3: The DHEC Director should consider working with the Office of General Counsel to improve the clarity and specificity of any future internal delegations of authority... *See Part 2 of this report for complete recommendation text.*			
	FINDING 1.3: DHEC's dependence on an order from the Governor to conduct certain emergency operations or to exercise specific powers under the Emergency Health Powers Act (EHPA) creates a substantial limitation on the Agency during	Recommendation 1.3.1: Within the confines allowed by South Carolina law and regulation, the DHEC Director should collaborate with the Office of the Governor, the Director of the Department of Labor, Licensing, and Regulation (SCLLR), the Director of the Department of Administration (SCDOA), and other relevant agencies to develop a report that identifies specific authorities that may be required to mitigate the impacts of emerging public health threats prior to a clear and compelling			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	prolonged emergencies.	need for a Declaration of Emergency, or the same that may be required during a prolonged public health emergency for which there is not a broader need for a Declaration of Emergency. Recommendation 1.3.2: The Office of General Counsel should consider working with the Bureau of Public Health Preparedness to develop an Emergency Declaration Crosswalk, comparing the authorities of DHEC when no emergency is declared, when a General State of Emergency is declared, and when a Public Health Emergency is declared… *See Part 2 of this report for complete recommendation text.*			
	FINDING 1.4: Members of the DHEC leadership team provided direct contact information for subordinates and other members of the ACC IMT to members of the	Recommendation 1.4.1: The DHEC Director should consider increasing staff support to the Legislative Affairs Deputy Area, and specifically ensure that subject-matter expert (SME) support staff (with the ability to regularly participate in meetings and			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	South Carolina General Assembly, resulting in direct requests to branches and divisions of the IMT that were often not consistent with current operational goals or led to the inefficient reallocation of resources.	subsequently translate operational decisions and rationale into easily communicated talking points) are assigned as primary points of contact to answer questions for the Legislative Affairs Liaison. Recommendation 1.4.2: The DHEC Director should ensure that the Legislative Affairs function is well-represented in the ACC during activations by providing sufficient staff with applicable expertise… *See Part 2 of this report for complete recommendation text.* Recommendation 1.4.3: The DHEC Director should coordinate with SCEMD to ensure that ESF 15 (External Affairs) functions beyond public information, particularly relating to both state and local elected officials, are addressed appropriately in accordance with the SCEOP.			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Recommendation 1.4.4: The DHEC Director should consider implementing strategies designed to increase visibility on Agency operations during any prolonged response to allow senior elected officials, leadership from other cabinet level agencies, and representatives from local government to witness DHEC operations first-hand. Recommendation 1.4.5: The DHEC Director should ensure that policies, plans, and procedures specifically dictate that external requests from members of the General Assembly or other state officials are communicated through and managed by the Legislative Affairs Liaison.			
	FINDING 1.5: The roles and responsibilities of the senior leadership team of DHEC during a disaster is not clear, creating conflicts in command and control	Recommendation 1.5.1: The DHEC Director may consider restructuring the ELT to clearly prioritize the core missions, inputs, and needs of the Deputy Areas over that of the support elements… *See Part 2 of this report for complete recommendation text.*			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	of the IMT and supporting functions.	Recommendation 1.5.2: The DHEC Director should consider institutionalizing continual examination of the Agency's internal structure used during emergencies, particularly those that have a substantial public health component… *See Part 2 of this report for complete recommendation text.* Recommendation 1.5.3: The DHEC Director should establish a working group to review the need for, and the role of, an executive policy group to support the Director's decision-making and Agency-wide resource coordination needs during emergencies… *See Part 2 of this report for complete recommendation text.* Recommendation 1.5.4: The DHEC Director should consider ensuring plans are reviewed and amended to stipulate that during emergencies in which the IMT is activated, the Incident			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Commander reports directly to the DHEC Director or his/her designee and receives strategic objectives directly from the DHEC Director or designee, or if established, the state's MAC Group.			
	FINDING 1.6: Some members of the ILT subverted the controls of the ACC organizational structure by leveraging blue sky supervisory authorities over IMT staff. This was often in direct contravention of the direction of the ACC leadership, and at times resulted in harm to the response and negative impacts to staff morale.	Recommendation 1.6.1: The DHEC Director should consider developing policies and procedures that clearly establish boundaries between the response mechanism of the Agency and the blue sky operations that continue during emergency conditions… *See Part 2 of this report for complete recommendation text.* Recommendation 1.6.2: The DHEC Director should ensure that all supervisors of staff are trained on acceptable methods and protocols for providing feedback, direction, or SME support to the IMT to ensure that unity of command is maintained.			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Recommendation 1.6.3: The DHEC Director should make clear in policy and plan that when assigning personnel to serve in roles in the IMT, they have been empowered with the authority to make decisions consistent with their role in the IMT, and should develop a method for clearly and regularly confirming and/or updating such authorities. Recommendation 1.6.4: The DHEC Director should make clear in policy that personnel assigned to the IMT are relieved of all blue-sky responsibilities and that day-to-day Supervisors should refrain from contacting staff while they are assigned to the IMT.			
	FINDING 1.7: Preparedness efforts in DHEC are not uniform across program areas, impacting training and exercise requirements and participation, and	Recommendation 1.7.1: The DHEC Director should strongly consider establishing a Preparedness Division or Office that reports to the Agency Director… *See Part 2 of this report for complete recommendation text.*			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	ultimately DHEC's ability to respond to emergencies.	Recommendation1.7.2: The DHEC Director should consider establishing an Agency-wide Integrated Preparedness Plan (IPP), also known as a Multi-Year Training and Exercise Program (MYTEP), that is all-hazards in nature and ensures that each function of the Agency… *See Part 2 of this report for complete recommendation text.*			
	FINDING 1.8: DHEC lacks sufficient depth in key leadership positions at the Executive Level and within many of the bureaus in public health.	Recommendation 1.8.1: The DHEC Director should consider establishing a position (such as a Deputy Director or Agency Executive Officer) with appropriate responsibilities to provide oversight to the non-affected Deputy Areas, Agency regulatory functions, support functions, and other "blue-sky" responsibilities during response operations… *See Part 2 of this report for complete recommendation text.* Recommendation 1.8.2: The DHEC Director should consider conducting an Agency-wide assessment of			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		organizational layering and spans of control, to determine whether it is necessary to establish deputies for certain positions, reduce the number of direct reports, increase the leadership development efforts, create capacity to manage disaster-related operations, and increase opportunities for upward mobility.			
	FINDING 1.9: DHEC lacks an organized process for anticipating and assessing external requirements or recommendations during emergencies, leading to adoption of programs, policies, and/or processes that may reduce response effectiveness.	Recommendation 1.9.1: BPHP staff should work to pre-establish and fully develop relationships with federal partners, as well as partners from other agencies and states, to ensure that they have full visibility on potential requirements or recommendations, as well as a better understanding of the intent and context of guidance or requirements from federal partners… *See Part 2 of this report for complete recommendation text.* Recommendation 1.9.2: BPHP should consider a review of all DHEC plans to			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		identify the most appropriate method and structure for creating a plan hierarchy that reduces the need for whole-plan development "just-in-time", and instead creates a framework for modifying only lower-level documents in response to unanticipated circumstances (See Finding 3.7). Recommendation 1.9.3: The DHEC Director should consider adopting a formal method for use during both blue and gray sky operations to efficiently review external requirements and recommendations, make decisions, and disseminate those decisions throughout the IMT and the Agency, particularly for when the decision is outside the purview or ability of the IMT leadership.			
	FINDING 1.10: DHEC did not have pre-established stakeholder groups that could help guide its public health	Recommendation 1.10.1: The DHEC Director should consider creating a working group to study the construct, efforts, results, and perceptions of collaborative efforts such as the Vaccine			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	decision-making or provide validity to its efforts.	Allocation Committee and Federal Retail Pharmacy Partnership… *See Part 2 of this report for complete recommendation text.* Recommendation 1.10.2: The DHEC Director should consider directing Deputy Areas to identify those decision-points (during all-hazards emergencies) which may require community collaboration, input, or validation, and identify the most appropriate manner for creating and fostering those relationships prior to the next response.			
	FINDING 2.1: Through multiple reorganization efforts during the ongoing emergency, the IMT has developed and solidified and effective internal operations structure at the operations branch level for pandemic emergencies.	Recommendation 2.1.1: BPHP should consider working with internal and external partners to develop and codify in plans a scalable IMT to coordinate and/or direct DHEC operations during public health emergencies as well as provide support during emergencies led by other agencies. Recommendation 2.1.2: BPHP should consider developing and promulgating (in the appropriate plans) procedures for			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		establishing command functions within a Regional IMT, as well as appropriate triggers for transitioning Regional IMTs from incident command to a branch or division of the AAC Operations Section.			
	FINDING 2.2: The IMT implemented a project management planning approach to solving certain issues within the Operations Section, leading to process refinements that benefited the mission.	Recommendation 2.2.1: BPHP should consider developing guidance for engaging project management staff in operational challenges that are not easily resolved, particularly in cases where working-groups or other task forces are created to address operational issues. Recommendation 2.2.2: BPHP should consider providing training on basic principles of project management to staff who could be assigned to the IMT… *See Part 2 of this report for complete recommendation text.*			
	FINDING 2.3: The DHEC Incident Management Team did not	Recommendation 2.3.1: BPHP should work with the bureaus primarily tasked with Intelligence and Data Analysis,			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	consistently set clearly defined and measurable objectives on which operational tasks could be based.	including Division of Acute Disease Epidemiology (DADE), as well as those bureaus or divisions that will be primarily tasked to support situational awareness in the Planning Section to determine how to best create an operational forecasting capacity that addresses the next operational period and the next emergency phase of operations, as appropriate and as data becomes available (See Finding 1.9, Finding 3.3, and Recommendation 4.7.3). Recommendation 2.3.2: The DHEC Director should consider requiring that management and operational objectives are measurable and contain reasonable conditions for achievement prior to publication in the IAP. Recommendation 2.3.3: BPHP should consider developing clear guidance, including examples, that demonstrates how public health management and operational objectives should be			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		structured to ensure they are specific, measurable, achievable, reasonable, and time-conditioned, or "SMART objectives".			
	FINDING 2.4: An All-Hazards Incident Management Team (AHIMT) assessed the DHEC IMT in the interest of identifying opportunities for improvement or increased efficiency.	Recommendation 2.4.1: BPHP should continue to establish and foster relationships with agencies and organizations capable of providing IMT support, including operational evaluation and staff augmentation during disasters. Recommendation 2.4.2: BPHP should establish and foster relationships with agencies and organizations capable of providing ongoing support to Agency training and exercise efforts, including providing SMEs who can provide recurring evaluation support to the IMT as it conducts exercises.			
	FINDING 2.5: The inclusion of liaisons and planning support from other agencies in both	Recommendation 2.5.1: BPHP should continually examine opportunities to leverage liaisons from interested			

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	the Operations Section Immunizations Branch (IZ Branch) and in the Planning Section afforded the IMT access to external capacity.	agencies to provide staff support and interagency collaboration.			
	FINDING 2.6: DHEC has not clearly identified and standardized which organizational elements are responsible for specific functions during emergency response operations.	Recommendation 2.6.1: The DHEC Director should consider whether the Director of Public Heath should be designated in the DHEC EOP to serve as the Agency Incident Commander during a public health emergency and receive strategic direction directly from the Agency Director as a member of the MAC Group/UCG (See Finding 1.1, Finding 1.5, and Finding 1.6). Recommendation 2.6.2: The DHEC Director should consider directing the BPHP to work with appropriate Agency personnel and identify the most appropriate Deputy Areas and bureaus that should have primary responsibility for each currently identified and			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		established (position) … *See Part 2 of this report for complete recommendation text.* Recommendation 2.6.3: The DHEC Director should consider assessing how the Agency can continue to effectively identify and foster disaster leadership across Deputy Areas, bureaus, and divisions that are assigned primary responsibility for IMT functions, and ensure that creating depth of leadership in these areas is a part of future organizational development goals.			
	FINDING 2.7: DHEC did not prioritize position-specific training prior to the COVID-19 emergency, leading to a lack of trained personnel to fill key roles in the IMT.	Recommendation 2.7.1: The DHEC Director should order a review of Agency training policies and establish training standards, if necessary, to help ensure that there is sufficient depth in all IMT positions, as well as in the Regional Coordination Centers. Recommendation 2.7.2: The DHEC Director should consider developing a system or tool (commonly called			

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		Employee Skills Database) for identifying and maintaining a list of SMEs, specific skill sets and training, experience… *See Part 2 of this report for complete recommendation text.* Recommendation 2.7.3: The DHEC Director should, through policy or directive, create a system to continually assess the Agency's day-to-day "blue-sky" organizational structure for commonalities or synergies with anticipated emergency organizational structures… *See Part 2 of this report for complete recommendation text.*			
	FINDING 2.8: The DHEC IMT did not have an effective system in place to manage collaboration with external partners and stakeholders that were also actively engaged in response operations.	Recommendation 2.8.1: BPHP should consider establishing a liaison function that consolidates all the Agency's liaison and coordination efforts under one leader as a direct report to the Director or the IMT Incident Commander. Recommendation 2.8.2: BPHP may consider creating gray sky liaison			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		positions to work directly with Regional Health Directors (RHDs) or regional response leads to increase coordination between the regions and the IMT. Recommendation 2.8.3: BPHP should consider identifying and/or establishing dedicated liaisons during normal operations for purposes of regularly coordinating with key external partners.			
	FINDING 2.9: The relationship between the IMT and the Regional Public Health Office staff is not clearly defined or optimized for disaster response and recovery.	Recommendation 2.9.1: The DHEC Director should establish a Regional Response Working Group consisting of Regional Public Health Office representatives, representatives of Bureaus that have tenant staff in regional offices, and those IMT functions with substantial operational task oversight, to conduct an examination of the roles and responsibilities of the Public Health Regions during emergencies… *See Part 2 of this report for complete recommendation text.*			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Recommendation 2.9.2: BPHP should identify in plans the responsible party for leading efforts such as testing, vaccination, and medical countermeasures site management and should develop and document a process for maintaining centralized support to these functions, the methods by which such support can be requested and accessed, and the structure under which they will be managed. Recommendation 2.9.3: The DHEC Director should determine if it is appropriate to centralize to headquarters any functions that are currently regionalized, develop standards and triggers for centralization, and clearly communicate the method by which responsibility will be transferred (see Recommendation 2.9.1). Recommendation 2.9.4: BPHP should coordinate with the Regional Response Working Group to develop and include in			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		relevant plans the purpose and objectives of the local or regional collaborative bodies such as HCCs and provide guidance for standardization of coordination and use of such local collaborative groups during emergencies (see Recommendation 2.9.1).			
	FINDING 2.10: Regional subject-matter expertise is not adequately represented on the IMT.	Recommendation 2.10.1: The DHEC Director should consider directing the Regional Response Working Group to identify the most appropriate role for leadership within Community Health Services, as well as the Regional Health Directors or their designees, within the IMT leadership structure (See Recommendation 2.9.1).			
	FINDING 2.11: The breadth of the required case investigation and contact tracing efforts created a challenging personnel management	Recommendation 2.11.1: The DHEC Director should consider examining the potential benefits and impacts of developing Regional capacity for human resources and information technology support.			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	situation for DHEC Regional staff.	Recommendation 2.11.2: The DHEC Director should consider directing the Regional Response Working Group to immediately examine the regional management structures utilized to oversee the rapid growth in staffing in the Regions and identify best practices that can be standardized during future rapid expansions of the Agency in response to emergencies. Recommendation 2.11.3: The DHEC Director should consider directing the Regional Response Working Group to examine the practicality of centralizing some functions during long-term, statewide emergencies... *See Part 2 of this report for complete recommendation text.*			
	FINDING 3.1: The IMT did not always follow a comprehensive, standardized operational or planning	Recommendation 3.1.1: BPHP should consider establishing a planning cycle that includes developing objectives that in turn guide operational and tactical planning. It may be beneficial to structure the operational planning			

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	cycle, which led to reactive operations.	process around the meetings of the UCG or MAC Group, if in operation. Recommendation 3.1.2: BPHP should consider establishing guidance that internal meetings are to align with the established cyclical planning process and that meeting organizers define and communicate meeting objectives, intended participation, and decision-authorities prior to scheduling meetings.			
	FINDING 3.2: DHEC did not establish a fully functioning Situation Unit to collect, analyze, and disseminate Common Operational Picture (COP) information about the emergency.	Recommendation 3.2.1: BPHP should coordinate an effort to clearly identify which organizational element within the IMT is responsible for collecting, collating, analyzing, and displaying information to support response operations (usually known as a Common Operating Picture). Recommendation 3.2.2: BPHP should review information needs and develop tools to gather, display, and disseminate			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		valid critical information for various stakeholder groups. Recommendation 3.2.3: BPHP should coordinate an effort to clearly identify the roles of the Situation Unit and the Data/Intel Section to determine where the role of the Situation Unit should be placed during an emergency in which a Data/Intel Section or Data/Intel Branch is activated. Recommendation 3.2.4: BPHP should consult with staff from each IMT Section, Information Technology, and those who conducted external coordination to identify the Essential Elements of Information (EEIs) for each anticipated emergency response… *See Part 2 of this report for complete recommendation text.*			
	FINDING 3.3: The Situation Unit was not sufficiently staffed to	Recommendation 3.3.1: BPHP should develop a capacity to conduct advanced operational planning… *See Part 2 of this report for complete recommendation text.*			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	conduct advanced planning.	Recommendation 3.3.2: BPHP should include an Advanced Planning Unit within the Situation Unit and ensure experienced planners and logistics subject-matter experts are identified, trained, and assigned to the Unit. Recommendation 3.3.3: All involved DHEC elements should review plans that were developed prior to the COVID-19 public health emergency to determine which, if any, could have been activated to reduce the "just-in-time" planning burden placed on the ACC IMT, and might be of use during future emergencies.			
	FINDING 3.4: A Demobilization Unit was not formally established.	Recommendation 3.4.1: BPHP should include a Demobilization Unit within the Planning Section and staff it whenever the IMT is activated. Recommendation 3.4.2: BPHP should consider directing a review of all plans			

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		and ensuring that planning for transition to recovery or back to day-to-day operations is fully incorporated into all Agency plans… *See Part 2 of this report for complete recommendation text.* Recommendation 3.4.3: The DHEC Director should consider convening a work group of appropriate personnel to review all transition and demobilization sections and develop triggers or thresholds for transitioning operations between phases and back to program office control.			
	FINDING 3.5: Existing plans that were implemented and sustained during the emergency led to successes in response and support.	Recommendation 3.5.1: The DHEC Director should consider establishing a full-time Exercise and Evaluation Program that is staffed to support each Deputy Area… *See Part 2 of this report for complete recommendation text.*			
	FINDING 3.6: Many tactical plans, such as	Recommendation 3.6.1: BPHP should set up planning discussions with existing			

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	the State's Medical Countermeasures Plan and local POD plans, were developed using very narrow threat scenarios (novel influenza and acts of bioterrorism) that reduced emphasis on the development of procedures for responding to widespread pandemic emergencies.	POD partners to reassess the existing medical countermeasures and POD plans, determine what modifications are necessary to make them more applicable to medical countermeasure roll-out during any emergency, and update the plans as necessary. Recommendation 3.6.2: BPHP should review all plans relating to vaccination operations, update them based on experience and best practices, and determine if there are additional tactical plans that should be developed.			
	FINDING 3.7: DHEC emergency preparedness and response plans, SOPs, job aids, and other guidance documents do not adhere to a planning standard or plans hierarchy.	Recommendation 3.7.1: BPHP should review all emergency preparedness and response plans and ensure they have been reviewed and approved by the appropriate authority. Recommendation 3.7.2: BPHP should consider developing planning standards and planning hierarchy guidance that provide for vertical and horizontal			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		alignment of all plans, procedures, SOPs, job aids, and other supporting documents. BPHP could consider utilizing Comprehensive Preparedness Guide (CPG) 101 as a baseline to developing such a standard. Recommendation 3.7.3: BPHP should consider conducting a consolidation of emergency preparedness and response plans to reduce duplication and confusion, better promote all-hazards planning at the strategic level, and reduce the number of tactical level documents. Recommendation 3.7.4: BPHP should consider working with the appropriate program staff to review all SOPs and job aids to incorporate lessons learned and best practices, ensure they align with existing plans, and develop additional SOPs and job aids as needed. Recommendation 3.7.5: BPHP should consider establishing a central,			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		electronically accessible location where all current emergency plans are located… *See Part 2 of this report for complete recommendation text.*			
	FINDING 4.1: Data working groups were established to address information and intelligence shortfalls and led to substantial improvement in information sharing and the development of actionable intelligence.	Recommendation 4.1.1: The DHEC Director should consider establishing a standing interagency data and intelligence working group, or similar team, that continually works to identify data, information, and intelligence gaps, opportunities, and best practices to support the needs of the ACC IMT and other state agencies… *See Part 2 of this report for complete recommendation text.*			
	FINDING 4.2: DHEC lacks a planned intent, and adequate systems to collect non-PHI, but still critical information, from hospitals, care facilities, and private providers.	Recommendation 4.2.1: The DHEC Director should consider directing the currently established Data Management Task Force to work with the Office of General Counsel to develop a report highlighting what information may be beneficial for collection during both blue-sky periods of operation and during an activation of the EHPA or declaration			

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		of a state of emergency… *See Part 2 of this report for complete recommendation text.*			
	FINDING 4.3: Individuals and groups with subject-matter expertise in certain aspects of the information/intelligence development process were not part of the IMT but were actively involved in the oversight of data management and intelligence development processes.	Recommendation 4.3.1: The DHEC Director should consider developing and promulgating guidance that leaders outside the response organization shall not exercise directive or approval authority for actions taken within it… *See Part 2 of this report for complete recommendation text.* Recommendation 4.3.2: DADE in consultation with BPHP should work to identify individuals or positions that are critical to creating and/or validating information and intelligence products in or for the IMT. These critical individuals or positions should be formally included in the IMT or specific and transparent processes should be established to ensure that the ACC IC has visibility on their participation in those specific processes or products.			

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	FINDING 4.4: Information management and sharing tools already in place and well-utilized by both DHEC and partner agencies were not prioritized for use during the COVID-19 emergency and unproven or unfamiliar systems were used instead.	Recommendation 4.4.1: The DHEC Director should consider directing Information Technology to work with the Data Management Task Force and the COVID-19 Data/Intelligence Working Group to identify and standardize existing systems and tools that will be utilized for functions such as geospatial visualization, chart, table, and graph visualization, and operational dashboards… *See Part 2 of this report for complete recommendation text.*			
	FINDING 4.5: Systems were adopted or put into use for specific tasks, leading to numerous, independent systems housing related information, which led to a substantial	Recommendation 4.5.1: The Data Working Group, in conjunction with DADE and IT, should examine all systems and develop a process-focused technology implementation plan with a goal of streamlining and consolidating data gathering and warehousing tools.			

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	increase in workload for some staff.				
	FINDING 4.6: The organization and duties of the data/intelligence system within DHEC, including the individual roles, responsibilities, and collaborative obligations of DADE, IT, and PHDAI, were unclear and created roadblocks to intelligence development and sharing.	Recommendation 4.6.1: The DHEC Director should convene a working group, including outside experts, to review and define the roles, responsibilities and collaborative obligations of all data and information management and analysis elements within the Agency relating to data management and subsequent analysis.			
	FINDING 4.7: Statute appears to be overly restrictive, placing untenable limitations on DHEC's ability to share critical information that	Recommendation 4.7.1: The DHEC Director should consider forming a multi-agency working group to examine the most practical and reasonable information and intelligence needs of DHEC, partner agencies, and local			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	contains or in some cases, is derived from, Protected Health Information (PHI).	entities. *… See Part 2 of this report for complete recommendation text.* Recommendation 4.7.2: The DHEC Director should consider tasking the working group identified in 4.7.1 to collaborate with the Governor's Office and the Office of General Counsel to develop a standard or guide for Governor's Executive Orders relating to the sharing of protected health information and other public health information*… See Part 2 of this report for complete recommendation text.* Recommendation 4.7.3: The DHEC Director should consider tasking the working group identified in 4.7.1 to examine methods by which partners, such as Institutions of Higher Education, the SCNG, and others with intelligence analysis capacity may be of assistance in forecasting future impacts not directly relating to, but dependent on, an understanding of disease progression.			

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		Recommendation 4.7.4: The DHEC Director should direct appropriate staff to collaborate with the appropriate internal and external working groups to assess common "fusion center" operational practices currently used by numerous emergency management, homeland security, and law enforcement agencies in order to develop methods for improving interagency intelligence collaboration. This should include assessing and documenting the analysis capacity of other state agencies.			
	FINDING 4.8: There was at times a lack of collaboration internal to DHEC that led to challenges and conflicts in efforts to develop and deliver data and intelligence products.	Recommendation 4.8.1: BPHP should work with the Data Management Working Group to identify and document in plan the data and information interdependencies between the Operations Section and other sections of the ICS… *See Part 2 of this report for complete recommendation text.*			
	FINDING 4.9: There is a widespread lack of	Recommendation 4.9.1: The DHEC Director should consider creating an			

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	awareness at the state and local level as to the statutory restrictions placed on DHEC to protect private health information as well as a lack of understanding of the ethical responsibility of public health professionals to maintain confidentiality.	educational product that is designed for partner agencies that highlights DHEC's statutory and ethical roles in protecting health data, how data requests are received and processed by the department, and how external agencies can assist in forecasting information and intelligence needs during public health emergencies.			
	FINDING 4.10: Some IMT staff were not familiar with the information needs or priorities of other agencies and political sub-jurisdictions; in some limited cases, staff failed to recognize the legitimate needs of both internal DHEC and external entities to access public health	Recommendation 4.10.1: The DHEC Director should coordinate with the Director of SCEMD to ensure that regular meetings of the Data/Intelligence Working Group continue, focusing sessions on educating all members on information protection, requirements, and developing standardized processes and products, as well as standards for information-requests and information flow processes for all-hazards emergency response .			

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	sensitive information in order to fulfill their missions.	Recommendation 4.10.2: The DHEC Director should identify or create a joint-working group to develop training for State Agency data custodians or similar information managers that highlights each agency's role in emergency response and recovery, and specifically clarifies how information is vital to State executives and agencies, and local emergency managers, public safety professionals, and elected officials. Recommendation 4.10.3: BPHP should consider working with the Data Management Task Force and/or the Interagency Data/Intelligence Working Group to codify in plan each category of protected information that may be required for emergency operations and establish a data or information custodian for each category of information… *See Part 2 of this report for complete recommendation text.*			

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	FINDING 4.11: Data and intelligence products have in many cases been provided without context, analysis, or defined trends or forecasts. In these cases, the data provide little or no operational utility, and often detracted from valuable interagency messaging or collaboration.	Recommendation 4.11.1: Using the experience of the COVID-19 emergency as a base scenario, BPHP should work with the IMT, the Data Management Working Group, the Interagency Data/Intelligence Working Group, DHEC's OGC, SCEMD, partner state agencies, and other interested entities to identify Essential Elements of Information (EEIs) required by internal and external partners during a pandemic emergency and define impact-based forecasts that are required to support internal and external planning and operations. Recommendation 4.11.2: BPHP should consider stipulating in plan that information and intelligence products be directly linked to measurable objectives or defined EEIs (either DHEC EEIs or those of a partner agency) set by leadership whenever possible; in all cases, information and intelligence products should have a reasonable and			

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		articulable message associated with them. Recommendation 4.11.3: BPHP should consider stipulating in planning documents or Planning Section/Situation Unit guides or job aids that data or information that is provided in regular intervals should, ideally and whenever possible, be accompanied by a trend analysis or other historical reference. Recommendation 4.11.4: BPHP should work with Agency partners to develop a streamlined and potentially automated process for receiving, evaluating, and actioning external information requests.			
	FINDING 4.12: There was a marked disconnect between DHEC's communications effort and the Office of the Governor and other	Recommendation 4.12.1: The DHEC Director should consider implementing practices that increase both the blue sky and gray sky collaboration between the Governor's staff and the lead communications staff of the Agency.			

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	agencies (other than SCEMD).	Recommendation 4.12.2: The DHEC Director, supported by Communications should work with SCEMD and other relevant stakeholders to clearly define the roles and responsibilities of each agency under a JIC established during a public health emergency to ensure a consistency in public messaging led by the Governor and supported by all state agencies.			
	FINDING 4.13: DHEC developed a Public Information Officer capability to the COVID response but did not provide sufficient staffing to the effort.	Recommendation 4.13.1: BPHP should assist the Director of Communications in determining messaging needs during a prolonged pandemic, identify staffing requirements for a dedicated communications support team for the assigned PIO, and establish a scalable organization chart for the PIO in all plans. Recommendation 4.13.2: The Director of Communications should examine methods for leveraging the multi-agency JIC to supplement communications staff shortfalls, identify agencies within State			

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		government that may have staff available to supplement DHEC, and determine other avenues of requesting staff, such as through the Emergency Management Assistance Compact or developing a trained reserve corps.			
	FINDING 4.14: DHEC successfully leveraged contract support to overcome capacity shortfalls and limitations on its ability to leverage certain types of media directly.	Recommendation 4.14.1: The Director of Communication should consider establishing standing contracts to support identified needs, including social media purchasing capacity, ad buying efforts, and providing surge staffing.			
	FINDING 4.15: DHEC struggled to create local messaging and lacked the tools to create local, targeted messaging impact.	Recommendation 4.15.1: The Director of Communication should collaborate with BPHP to develop a local/regional outreach capacity that can be rapidly activated during emergencies to leverage local, trusted voices… *See Part 2 of this report for complete recommendation text.*			

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		Recommendation 4.15.2: The Director of Communication should consider establishing a regional communication position or positions that work directly with Regional Health Directors and their teams to craft regional messaging… *See Part 2 of this report for complete recommendation text.* Recommendation 4.15.3: The Director of Communication should work with the Director of Public Health to identify methods for supporting health advocates or health educators in the Regions that are locally cultivated and can be supported directly by the Agency during public health emergencies. Recommendation 4.15.4: The Director of Communication should lead and coordinate efforts to establish relationships with local and regional community leaders, particularly those who represent or provide support to underserved or marginalized			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		communities or groups, who may be well-equipped to personalize and broadcast DHEC's public health messaging prior to and during emergencies. Recommendation 4.15.5: The Director of Communication should consider identifying all public outreach positions across DHEC and determining which should be included in staffing models to support emergency operations.			
	FINDING 5.1: DHEC Human Resources staff developed and implemented a streamlined process for hiring and onboarding staff that greatly reduced the hiring/onboarding timeline, reduced or eliminated face-to-face contact with new-hires,	Recommendation 5.1.1: The Director of Human Resources should consider tasking involved staff to identify best-practices that can be implemented during blue-sky operations to shorten hiring times, as well as those that can be shared with other state agencies in the event that a rapid-hire process must be established due to another emergency or circumstance.			

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	and enabled the Agency to rapidly up-staff in the face of emergency.	Recommendation 5.1.2: BPHP should collaborate with the Director of Human Resources to solidify rapid hire processes into emergency plans and SOPs and develop both regular and just-in-time training to support implementing a rapid hire program… *See Part 2 of this report for complete recommendation text.* Recommendation 5.1.3: The DHEC Director should consider developing a method for including reporting supervisors in the selection process for any position requiring specific skills, certifications, or other candidate qualifications specific to a functional area, particularly when a rapid hire process is implemented.			
	FINDING 5.2: The operational demands of both the testing and the immunization effort caused the IMT to outgrow its pool of	Recommendation 5.2.1: The DHEC Director should consider directing BPHP to identify NIMS and ICS training requirements for Agency personnel… *See Part 2 of this report for complete recommendation text.*			

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	trained and experienced staff.	Recommendation 5.2.2: The DHEC Director should consider developing and promulgating NIMS and ICS training requirements based on recommendations made by BPHP… *See Part 2 of this report for complete recommendation text.* Recommendation 5.2.3: The DHEC Director may consider directing BPHP to develop skills standards or other experience-based guidance for staffing the IMT… *See Part 2 of this report for complete recommendation text.* Recommendation 5.2.4: The DHEC Director should consider directing the development and maintenance of a searchable Skills Inventory Database for Agency personnel… *See Part 2 of this report for complete recommendation text.*			
	FINDING 5.3: Despite being tasked with	Recommendation 5.3.1: The Director of Human Resources should collaborate			

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	rapidly up-staffing DHEC during a public health emergency, Human Resources was not sufficiently up-staffed to support ongoing Agency staffing acquisition and support needs.	with BPHP and program SMEs to ensure existing and future plans clearly provide for the assessment and forecasting of staffing needs expected to be required to respond to the emergency… *See Part 2 of this report for complete recommendation text.* Recommendation 5.3.2: The Director of Human Resources should collaborate with BPHP to immediately begin identifying state agencies that did not see a substantial increase in staffing during the COVID-19 emergency and may have staff available during future emergencies who are experienced in onboarding staff in SCEIS. Recommendation 5.3.3: The DHEC Director, likely through Human Resources, should consider working with SCEMD and SCDOA to determine and codify the most appropriate processes for long-term interagency mutual aid relating to staff support, including			

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		processes for requesting aid, fulfilling requests, reporting requirements and standards, compensation considerations, and other issues that may arise from staff sharing during emergencies. Recommendation 5.3.4: The Director of Human Resources should coordinate with BPHP to assign the appropriate number of dedicated HR personnel to directly support the IMT during an activation to improve coordination of HR needs within the response organization and in support of its initiatives.			
	FINDING 5.4: DHEC implemented an overtime policy that allowed COVID-19 response staff to receive overtime pay rather than compensation time-off	Recommendation 5.4.1: DHEC should develop an emergency compensation policy that includes a section on the conditions under which a transition to paid overtime should be determined by the Agency Director, or establishes triggers for transition to the same… *See Part 2 of this report for complete recommendation text.*			

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	for excess hours worked.				
	FINDING 5.5: State rules regarding the use of accrued benefits such as vacation time do not account for the impacts of prolonged emergencies or those that overlap a change in calendar year.	Recommendation 5.5.1: The Office of Human Resources should develop a report that captures the impact to employees within the Agency, particularly in the 2020-2021 transition, and identify in that report recommendations for rule or regulation changes that could better protect the fringe compensation of staff dedicated to an emergency response.			
	FINDING 5.6: Compensation inequities in DHEC were exacerbated by the COVID-19 emergency.	Recommendation 5.6.1: The DHEC Director should consider tasking the Director of Human Resources to develop a temporary salary adjustment (TSA) policy based on lessons-learned during the COVID-19 emergency... *See Part 2 of this report for complete recommendation text.*			
	FINDING 5.7: DHEC staff experienced substantial personal,	Recommendation 5.7.1: The DHEC Director should consider consulting with internal divisions or partner agencies to			

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	family, and social strains due to the extensive period of engagement in response, the unprecedented operational tempo, and the overall impact of the emergency to family and social structures.	identify and access individuals or teams trained in psychological first aid or some other appropriate methodology for reducing workplace stress during and after emergencies or disasters…*See Part 2 of this report for complete recommendation text.* Recommendation 5.7.2: Human Resources should consider documenting a process in plans for assigning properly trained response staff to monitoring operations for evidence of emerging staff stress of overwork challenges, ensuring adherence to rest/relief standards, and providing during- and post-event support. Recommendation 5.7.3: The DHEC Director should consider developing capacity to provide research-supported behavioral and mental health supports to agencies or individuals conducting traumatic, high-intensity, and/or long-term operations. This could include			

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		support staff trained in psychological first aid or other acute stress management intervention methodologies.			
	FINDING 5.8: DHEC implemented a remote work effort that was developed "just-in-time", and was able to successfully isolate staff while still accomplishing critical operations.	Recommendation 5.8.1: The BPHP should consider developing a remote work plan as part of the COOP Plan that includes provisions for identifying alternate worksites, ensuring technology support, and establishing baselines for return-to-work forecasting and planning. Recommendation 5.8.2: The DHEC Director should consider tasking the Office of General Counsel or other appropriate staff to coordinate with the BPHP to develop and promulgate appropriate policies and procedures to facilitate the functions of a dispersed workforce during emergencies.			
	FINDING 5.9: The establishment of the Logistics Working	Recommendation 5.9.1: BPHP should examine the successes found by the Logistics Working Group to codify best			

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	Group created a mechanism for early collaboration between DHEC, SCEMD, and SCNG and led to a successful interagency resource management effort.	practices in multi-agency collaboration that can be used in other functions.			
	FINDING 5.10: The Logistics Working Group conducted a functional test (exercise) of the RSS immediately prior to vaccine arriving in the State, which ensured that warehouse challenges were identified in advance.	Recommendation 5.10.1: BPHP should identify opportunities for increased multidisciplinary participation in DHEC exercises and should include participation goals in the Integrated Preparedness Plan.			
	FINDING 5.11: Early collaboration between SEOC ESF 7 Procurement staff, the	Recommendation 5.11.1: BPHP should assess contract support utilized within the first months of the emergency, as well as the first months of the			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	Logistics Working Group, and the ACC Finance/Administration Section facilitated early activation of key contracts and the efficient pre-positioning of ancillary resources.	vaccination phase to determine what support was critical to successful operations. (See also Recommendations 5.13.3 and 5.13.4)			
	FINDING 5.12: Procurement staff in the Finance Section were often not provided with sufficient information by requestors, resulting in delays in procurement or contracting and potentially leaving the Agency without wholly adequate justification for some purchases or contracts.	Recommendation 5.12.1: The Finance/Admin Section should have a physical presence in the ACC to facilitate awareness of ongoing and upcoming operations, as well as to improve the Section's appreciation for the "purpose" of requests. Recommendation 5.12.2: BPHP should consider working with the Finance/Admin and Logistics Sections to examine utilizing the Palmetto Resource Request process for all resource and procurement requests during emergencies... *See Part 2 of this report for complete recommendation text.*			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
		Recommendation 5.12.3: DHEC Finance should consider working with BPHP to develop requirements and publish an SOP on the use of emergency procurement during declared emergencies public health emergencies.			
	FINDING 5.13: Staff both inside and outside the IMT regularly used day-to-day approval channels instead of going through the ICS structure for purchasing, procurement, and staffing needs.	Recommendation 5.13.1: The DHEC Director should ensure that staffing plans include dedicated procurement SMEs, empowered with appropriate authority, are assigned to both the Logistics and the Finance Administration Sections.			
	FINDING 5.14: The lack of a formal, centralized collective purchasing effort for high demand supplies and equipment led to	Recommendation 5.14.1: Using the COVID-19 emergency as a standard, the BPHP should work with procurement staff to identify those critical services and supplies that would be immediately necessary in a future public health			

Functional Area	Finding	Recommendations	Primary Department	Start Date	Completion Date
	competitive purchasing efforts and inefficiencies at the state, regional, and local levels.	emergency as well as reasonable standards for delivery. Recommendation 5.14.2: DHEC Chief Financial Officer should consider coordinating with the South Carolina Division of Procurement Services to identify the most appropriate method to create and sustain collective purchasing capacity for critical supplies and services that may be required by state, local, and private-partner entities during a future public health emergency. Recommendation 5.14.3: The BPHP should coordinate with the South Carolina Division of Procurement Services to identify and implement the most appropriate method for ensuring that critical services contracts essential to the response can be pre-qualified for rapid activation in emergency situations.			

Disclaimer and Disclosure

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Witt O'Brien's is a global leader in emergency preparedness, crisis management, and disaster response and recovery. Witt O'Brien's has worked with public and private sector organizations throughout the United States to enhance, improve, and implement their emergency planning, training, and exercise programs, as well as assist and assess prevention, protection, mitigation, preparedness, response, and recovery operations. For the past 15 years, Witt O'Brien's has been supporting communities and others in the development of independent after-action reports that identify critical challenges, highlight capabilities that require enhancement, and establish roadmaps for future success in emergency management.

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