November 7, 2022

Joseph A. Ladapo, MD, PhD
State Surgeon General
4052 Bald Cypress Way, Bin A-00
Tallahassee, Florida  32399

Dear Dr. Ladapo:

Pursuant to this office’s procedures for external audits, we are to update you on the status of corrective actions taken since June 1, 2022, when the Office of the Auditor General published Report Number 2022-200, Audit of COVID-19 Data Collection and Reporting.

We are pleased to announce that at six months after publication, management reports one of the corrective action plans made in response to recommendations from the Office of the Auditor General have been closed and four are still in progress. We will update you on the status of the remaining open corrective actions again approximately six months from the date of this letter.

If I may answer any questions, please let me know.

Sincerely,

Michael J. Bennett, CIA, CGAP, CIG
Inspector General

MJB/akm
Enclosure

cc: Melinda M. Miguel, Chief of Inspector General, Executive Office of the Governor
Samantha Perry, CPA, Office of the Auditor General
Kathy DuBose, Staff Director, Joint Legislative Auditing Committee
Cassandra G. Pasley, BSN, JD, Chief of Staff
Kenneth A. Scheppke, MD, FAEMS, Deputy Secretary for Health
Mike Mason, Assistant Deputy Secretary for Health
Melissa Jordan, MS, MPH, Assistant Deputy Secretary for Health
Michele Tallent, Deputy Secretary for Operations
Brittany B. Griffith, Assistant Deputy Secretary for Operation
Mark Lander, Interim Deputy Secretary for County Health Systems
Mark H. Boehner, CPA, Director of Auditing
### Status of Corrective Action Plans

**Report Number:** AG-2022-200  
**Report Title:** Audit of COVID-19 Data Collection and Reporting  
**Report Date:** June 1, 2022  
**Status As Of:** November 7, 2022

<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
<th>Status of Corrective Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To evaluate the completeness of the death records in the Merlin system (Merlin), used by the Department of Health (Department) to collect COVID-19 data, we compared Merlin death records to Bureau of Vital Statistics (Vital Statistics) death records where COVID-19 was included as a cause or contributing factor of death and identified differences between the records.</td>
<td>We recommend that Department management take steps to ensure the accuracy and completeness of information regarding reportable diseases and outbreaks such as COVID-19.</td>
<td>There are several reasons why COVID-19 deaths counted by Vital Statistics are different from COVID-19 deaths counted in Department’s surveillance reports. Vital Statistics deaths for COVID-19 are determined by the certifying physician completing the death certificate. For it to be considered a COVID-19 death within Vital Statistics records, COVID-19 needs to be listed on the death certificate either as an immediate cause, underlying cause, or a significant condition contributing to death. Additionally, Vital Statistics deaths are counted in the jurisdiction where the individual died and not where the individual lived. COVID-19 associated deaths counted for public health surveillance purposes are classified using a national case definition that classifies a COVID-19 case based on a recent positive COVID-19 laboratory test result, symptom and exposure criteria. Vital Statistics deaths are also included in the national case definition, but COVID-19 does not need to be listed on the death certificate for the death to count as a COVID-19 associated surveillance death. In addition, a COVID-19 surveillance death is reported based on where the individual lived and not where they died. During the time period of interest, Vital Statistics and surveillance data matching was performed manually by four trained epidemiologists who matched records in the two systems with identical or near identical demographic information (name, address, birth date, gender, race/ethnicity).</td>
<td>In progress. The Department has continued to expand electronic case reporting and has added close to 500 new facilities since July 2022. Additionally, the Department continues to match with the Vital Statistics database and works alongside Vital Statistics staff to improve the epidemiology staff knowledge of the registry. Lastly, the Department is continuing to modernize systems that allows for more timely capturing of death data as it becomes available. Anticipated Completion Date: June 30, 2023</td>
</tr>
</tbody>
</table>

*Continues on next page.*
Because of the differences in the process used to classify COVID-19 Vital Statistics deaths compared to COVID-19 associated surveillance deaths, differences in the number of deaths reported by the two systems are expected. If COVID-19 testing was not performed, occurred more than 30 days before the death, was not reported to the Department, or could not be matched to a Vital Statistics record because of data quality deficiencies, the death would not be counted as a COVID-19 associated surveillance death included in the Department’s COVID-19 surveillance reports.

The Department is constantly exploring opportunities to capture timely and complete data for reportable diseases and conditions. During the COVID-19 response, the Department expanded electronic laboratory reporting, which improved the quality and completeness of laboratory test results reporting. The Department also established electronic linkage between Merlin, the database where surveillance data are kept, with the Vital Statistics database. As the response progressed, this greatly helped in capturing more timely and complete data on COVID-19 deaths. The Department is also working towards implementing and expanding electronic case reporting (eCR), which will provide complete medical records for cases electronically. Getting these data through eCR will give the Department another resource of timely and complete data. Lastly, as the Department continues to move forward in data modernization and science, additional data sources will be explored for supplementation purposes.
2 Certain COVID-19 data included in Merlin did not appear complete or contained anomalies that would limit the accuracy and usefulness of reported information.

Recommendation

We recommend that Department management take appropriate actions to ensure that public health data collected and reported is accurate and complete. Such actions should include the performance of edit checks and analyses, where practical and available, to detect errors, inconsistencies, and outliers in the data and efforts to resolve any issues noted.

Corrective Action Plan

The Surveillance Section (Section) within the Bureau of Epidemiology (Bureau) is pursuing the implementation of data quality practices that our data systems can perform in an automated fashion as opposed to a manual process. Such practices include the rejection and auto-correction of incomplete or inaccurate data. Implementing these automated data quality practices is a top priority for the Section.

However, it should be noted that most data quality issues the Department experienced during the COVID-19 pandemic originated from laboratories that submitted inaccurate or incomplete data to the Department. Challenges included receiving data from many new laboratories and other facilities with limited experience in reporting laboratory test results to the Department prior to the COVID-19 pandemic. The Department relies on laboratories and other facilities conducting COVID-19 tests to report their patients’ test results with complete and accurate data. The Department continues to work with laboratories to ensure that COVID-19 test result data is reported timely and accurately.

Status of Corrective Action Plan

In progress.

The Section is continuing to modernize data systems and implement an automated data quality process that will alleviate staff burden and improve timeliness of data quality measures. Additionally, the section is exploring data sharing opportunities with external partners that will assist in person matching. This can improve the quality and completeness of demographics data collected for cases. It is important to note that most demographic data quality issues stem from a lack of data received from laboratories and medical facilities.

Anticipated Completion Date: June 30, 2023

Previously Reported as Complete.

3 Department records did not always evidence that COVID-19 positive individuals were contacted, or timely contacted, in accordance with Department contact tracing guidance.

Recommendation

We recommend that Department management ensure that contact tracing activities are conducted in accordance with Department guidance and appropriately documented in Department records.

Corrective Action Plan

The Department no longer recommends that county health departments (CHD) perform investigations, or contact, every reported case of COVID-19 (i.e., all COVID-19 positive individuals). On January 11, 2022, the Bureau provided updated COVID-19 case investigation recommendations to CHDs which were aimed at improving the Department’s response to COVID-19 investigations in high-risk congregate settings. The Bureau continues to monitor investigations in high-risk congregate settings weekly. Conducting routine case interviews and contact tracing for all COVID-19 cases is no longer an objective for the Department, nor is it part of the Department’s guidance.

Continues on next page.
Prior to the above-mentioned guidance update, the Bureau completed a number of corrective actions in an effort to address the documented findings. In 2020, the Department added the ability to document case and contact follow-up attempts and outcomes. Furthermore, on June 23, 2020, the Department hosted a statewide training on the utilization of the recently implemented COVID-19 contact tracing task list in Merlin. Also in 2020, the Department provided access to the Centers for Disease Control and Prevention Text Illness Monitoring system to facilitate COVID-19 contact and case follow-up monitoring, and in November 2020, the Department went live with a mobile application, which enabled Florida residents to obtain their COVID-19 test results securely and electronically, as well as answer survey questions about their COVID-19 infection and provide close contacts to the Department through the application for contact tracing. The Department also hired a large number of case investigators available to offset CHD caseloads.

Despite these corrective actions, data quality issues including case reports with missing or inaccurate contact information (e.g., name, address, phone number) along with the volume of reported cases during surges proved to be persistent barriers to case investigations. During the audit period, weekly case counts peaked at 80,000, and throughout the period, they averaged at 23,000 cases per week, 39 times higher than the average weekly total reportable disease count in 2019. After the audit period, weekly case counts peaked at 427,000, and throughout the period, they averaged at 63,000 cases per week. Contact tracing is a very resource intensive activity. Successfully, contacting tens of thousands of persons per week, especially when case data are oftentimes inaccurate or incomplete, is very challenging. It should be noted that other jurisdictions in the United States experienced similar challenges with contact tracing.
<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
<th>Status of Corrective Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Neither the Division of Emergency Management (Division) nor the Department reconciled the reported number of COVID-19 tests administered at State-led testing sites to laboratory results reported to the Department. Additionally, Division records did not always evidence that the Division reconciled the number of COVID-19 tests invoiced by laboratories to the number of tests reported in Division situation reports.</td>
<td>We recommend that Department management take steps to ensure that data regarding declared Statewide emergencies such as COVID-19 is subject to adequate review and control to promote complete and accurate reporting and appropriate payment of contractor invoices, as applicable.</td>
<td>The Department has the ability to match patient level electronic testing data to testing data reported in Merlin. The matching would allow us to determine completeness of public health reporting of data and can also serve as a way to verify that the invoice is accurate. The Department will draft standard language requiring electronic data management and reporting of patient level demographic information for auditing purposes in contractual agreements for testing paid for by the Department. The Department will share the standardized language with the Division and the Department of Management Services (DMS).</td>
<td>In progress.</td>
</tr>
<tr>
<td>6</td>
<td>Controls over access to Merlin need improvement to reduce the risk of unauthorized disclosure, modification, or destruction of Department data.</td>
<td>We recommend that Department management enhance information technology (IT) access controls to ensure that periodic Merlin user access privilege reviews are performed and documented in Department records and ensure that Merlin user access privileges are promptly deactivated upon a user’s separation from Department or contracted employment.</td>
<td>The Department will review options and implement a new process to promptly deactivate Merlin accounts when users are separated from the Department. The Department will work to identify a way to be notified promptly of an employee’s separation. However, it is important to note that to access Merlin, users must be on the Department’s IT network and have an active Department user login. As soon as a user is separated from the Department, they cannot access Merlin because they are unable to access the Department’s IT network, even if it is still showing the Merlin account as active. A user must be a current Department employee to access Merlin.</td>
<td>In progress.</td>
</tr>
</tbody>
</table>

The Section has taken multiple steps to reduce the risk of unauthorized users in Merlin. A message has been added to the homepage that reminds CHDs to follow the steps for deactivating users who are no longer with the Department, the auto-expire rule has been reduced from 90-days to 30-days, and a monthly list of active users for each CHD is sent out.

Anticipated Completion Date: June 30, 2023
12 Month Response Submitted as Follows:
Joseph A. Ladapo, MD, PhD  
State Surgeon General  
4052 Bald Cypress Way, Bin A-00  
Tallahassee, Florida 32399  

Dear Dr. Ladapo:  

Pursuant to this office’s procedures for external audits, we are to update you on the status of corrective actions taken since June 1, 2022, when the Office of the Auditor General published Report Number 2022-200, Audit of COVID-19 Data Collection and Reporting.  

We are pleased to announce that at 12 months after publication, management reports two of the corrective action plans made in response to recommendations from the Office of the Auditor General have been closed and three are still in progress. We will update you on the status of the remaining open corrective actions again approximately six months from the date of this letter.  

If I may answer any questions, please let me know.  

Sincerely,  

Michael J. Bennett, CIA, CGAP, CIG  
Inspector General  

MJB/akm  
Enclosure  

cc: Melinda M. Miguel, Chief of Inspector General, Executive Office of the Governor  
    Samantha Perry, CPA, Office of the Auditor General  
    Kathy DuBose, Staff Director, Joint Legislative Auditing Committee  
    Cassandra G. Pasley, BSN, JD, Chief of Staff  
    Kenneth A. Schepcke, MD, FAEMS, Deputy Secretary for Health  
    Mike Mason, Assistant Deputy Secretary for Health  
    Melissa Jordan, MS, MPH, Assistant Deputy Secretary for Health  
    Antonio D. Dawkins, MPA, PMP, Deputy Secretary for Operations  
    Mark Lander, Deputy Secretary for County Health Systems  
    Mark H. Boehmer, CPA, Director of Auditing
Status of Corrective Action Plans

Report Number: AG-2022-200
Report Title: Audit of COVID-19 Data Collection and Reporting
Report Date: June 1, 2022
Status As Of: May 26, 2023

<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
<th>Status of Corrective Action Plan</th>
</tr>
</thead>
</table>
| 1   | To evaluate the completeness of the death records in the Merlin system (Merlin), used by the Department of Health (Department) to collect COVID-19 data, we compared Merlin death records to Bureau of Vital Statistics (Vital Statistics) death records where COVID-19 was included as a cause or contributing factor of death and identified differences between the records. | We recommend that Department management take steps to ensure the accuracy and completeness of information regarding reportable diseases and outbreaks such as COVID-19.                                                                          | There are several reasons why COVID-19 deaths counted by Vital Statistics are different from COVID-19 deaths counted in Department's surveillance reports.  
Vital Statistics deaths for COVID-19 are determined by the certifying physician completing the death certificate. For it to be considered a COVID-19 death within Vital Statistics records, COVID-19 needs to be listed on the death certificate either as an immediate cause, underlying cause, or a significant condition contributing to death. Additionally, Vital Statistics deaths are counted in the jurisdiction where the individual died and not where the individual lived.  
COVID-19 associated deaths counted for public health surveillance purposes are classified using a national case definition that classifies a COVID-19 case based on a recent positive COVID-19 laboratory test result, symptom and exposure criteria. Vital Statistics deaths are also included in the national case definition, but COVID-19 does not need to be listed on the death certificate for the death to count as a COVID-19 associated surveillance death. In addition, a COVID-19 surveillance death is reported based on where the individual lived and not where they died. During the time period of interest, Vital Statistics and surveillance data matching was performed manually by four trained epidemiologists who matched records in the two systems with identical or near identical demographic information (name, address, birth date, gender, race/ethnicity).  
The Department has continued to expand electronic case reporting and has added close to 700 new facilities since July 2022. Additionally, the Department continues to match with the Vital Statistics database and works alongside Vital Statistics staff to improve the epidemiology staff knowledge of the registry. Transition to using Vital Statistics data to summarize death data and trends for COVID-19 is in progress to align with the national approach following the end of the Public Health Emergency declaration on May 11, 2023. Discrepancies between Vital Statistics data and Merlin data will exist as COVID-19 does not need to be listed on the death certificate to be considered COVID-related if a positive laboratory result occurred in the 30-days before date of death. System improvements are underway to use Vital Statistics data across all diseases in Merlin to improve death data reporting timeliness. A refreshable spreadsheet to identify, track, and correct data quality issues related to COVID-19 death cases has been in use by state staff to actively clean up data. Although, more sustainable solutions are still being determined.  
Anticipated Completion Date: December 31, 2023 | In progress.                                                                                                                                                                                                                                              |
Because of the differences in the process used to classify COVID-19 Vital Statistics deaths compared to COVID-19 associated surveillance deaths, differences in the number of deaths reported by the two systems are expected. If COVID-19 testing was not performed, occurred more than 30 days before the death, was not reported to the Department, or could not be matched to a Vital Statistics record because of data quality deficiencies, the death would not be counted as a COVID-19 associated surveillance death included in the Department’s COVID-19 surveillance reports.

The Department is constantly exploring opportunities to capture timely and complete data for reportable diseases and conditions. During the COVID-19 response, the Department expanded electronic laboratory reporting, which improved the quality and completeness of laboratory test results reporting. The Department also established electronic linkage between Merlin, the database where surveillance data are kept, with the Vital Statistics database. As the response progressed, this greatly helped in capturing more timely and complete data on COVID-19 deaths. The Department is also working towards implementing and expanding electronic case reporting (eCR), which will provide complete medical records for cases electronically. Getting these data through eCR will give the Department another resource of timely and complete data. Lastly, as the Department continues to move forward in data modernization and science, additional data sources will be explored for supplementation purposes.
2 Certain COVID-19 data included in Merlin did not appear complete or contained anomalies that would limit the accuracy and usefulness of reported information.

Recommendation

We recommend that Department management take appropriate actions to ensure that public health data collected and reported is accurate and complete. Such actions should include the performance of edit checks and analyses, where practical and available, to detect errors, inconsistencies, and outliers in the data and efforts to resolve any issues noted.

Corrective Action Plan

The Surveillance Section (Section) within the Bureau of Epidemiology (Bureau) is pursuing the implementation of data quality practices that our data systems can perform in an automated fashion as opposed to a manual process. Such practices include the rejection and auto-correction of incomplete or inaccurate data. Implementing these automated data quality practices is a top priority for the Section.

However, it should be noted that most data quality issues the Department experienced during the COVID-19 pandemic originated from laboratories that submitted inaccurate or incomplete data to the Department. Challenges included receiving data from many new laboratories and other facilities with limited experience in reporting laboratory test results to the Department prior to the COVID-19 pandemic. The Department relies on laboratories and other facilities conducting COVID-19 tests to report their patients’ test results with complete and accurate data. The Department continues to work with laboratories to ensure that COVID-19 test result data is reported timely and accurately.

Status of Corrective Action Plan

In progress.

The Section is continuing to modernize data systems and implement an automated data quality process that will alleviate staff burden and improve timeliness of data quality measures. A data quality tracking tool for COVID-19 data in Merlin was implemented in May 2023 to identify data quality issues. This file will be managed by the Merlin team and reviewed routinely to continue improving data completeness and accuracy. Additionally, the Section is in discussion with external partners on a tool that would assist with person matching to minimize incomplete demographic data through batch matching against multiple data sources. This can improve the quality and completeness of demographics data collected for cases. It is important to note that most demographic data quality issues stem from a lack of data received from laboratories and medical facilities. With the end of the Public Health Emergency declaration and the current shift in prioritization of COVID-19 investigations to be surveillance focused, individual cases of COVID-19 are no longer required to be investigated by local county health departments (CHD), unless cases are tied to an outbreak. Therefore, reliance on data received by healthcare and laboratory facilities through electronic reporting will be heavily relied on for data completeness.

Anticipated Completion Date: December 31, 2023
<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
<th>Status of Corrective Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Department records did not always evidence that COVID-19 positive individuals were contacted, or timely contacted, in accordance with Department contact tracing guidance.</td>
<td>We recommend that Department management ensure that contact tracing activities are conducted in accordance with Department guidance and appropriately documented in Department records.</td>
<td>The Department no longer recommends that CHDs perform investigations, or contact, every reported case of COVID-19 (i.e., all COVID-19 positive individuals). On January 11, 2022, the Bureau provided updated COVID-19 case investigation recommendations to CHDs which were aimed at improving the Department’s response to COVID-19 investigations in high-risk congregate settings. The Bureau continues to monitor investigations in high-risk congregate settings weekly. Conducting routine case interviews and contact tracing for all COVID-19 cases is no longer an objective for the Department, nor is it part of the Department’s guidance. Prior to the above-mentioned guidance update, the Bureau completed a number of corrective actions in an effort to address the documented findings. In 2020, the Department added the ability to document case and contact follow-up attempts and outcomes. Furthermore, on June 23, 2020, the Department hosted a statewide training on the utilization of the recently implemented COVID-19 contact tracing task list in Merlin. Also in 2020, the Department provided access to the Centers for Disease Control and Prevention Text Illness Monitoring system to facilitate COVID-19 contact and case follow-up monitoring, and in November 2020, the Department went live with a mobile application, which enabled Florida residents to obtain their COVID-19 test results securely and electronically, as well as answer survey questions about their COVID-19 infection and provide close contacts to the Department through the application for contact tracing. The Department also hired a large number of case investigators available to offset CHD caseloads.</td>
<td>Previously Reported as Complete.</td>
</tr>
</tbody>
</table>

*Continues on next page.*
<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Neither the Division of Emergency Management (Division) nor the Department reconciled the reported number of COVID-19 tests administered at State-led testing sites to laboratory results reported to the Department. Additionally, Division records did not always evidence that the Division reconciled the number of COVID-19 tests invoiced by laboratories to the number of tests reported in Division situation reports.</td>
<td>We recommend that Department management take steps to ensure that data regarding declared Statewide emergencies such as COVID-19 is subject to adequate review and control to promote complete and accurate reporting and appropriate payment of contractor invoices, as applicable.</td>
<td>Despite these corrective actions, data quality issues including case reports with missing or inaccurate contact information (e.g., name, address, phone number) along with the volume of reported cases during surges proved to be persistent barriers to case investigations. During the audit period, weekly case counts peaked at 80,000, and throughout the period, they averaged at 23,000 cases per week, 39 times higher than the average weekly total reportable disease count in 2019. After the audit period, weekly case counts peaked at 427,000, and throughout the period, they averaged at 63,000 cases per week. Contact tracing is a very resource intensive activity. Successfully, contacting tens of thousands of persons per week, especially when case data are oftentimes inaccurate or incomplete, is very challenging. It should be noted that other jurisdictions in the United States experienced similar challenges with contact tracing. The Department has the ability to match patient level electronic testing data to testing data reported in Merlin. The matching would allow us to determine completeness of public health reporting of data and can also serve as a way to verify that the invoice is accurate. The Department will draft standard language requiring electronic data management and reporting of patient level demographic information for auditing purposes in contractual agreements for testing paid for by the Department. The Department will share the standardized language with the Division and the Department of Management Services (DMS).</td>
</tr>
</tbody>
</table>

Status of Corrective Action Plan | In progress. | The Department has the ability to match patient level electronic testing data to testing data reported in Merlin. The matching would allow us to determine completeness of public health reporting of data and can also serve as a way to verify that the invoice is accurate. The contracts for state-funded testing sites have ended. When new facilities are onboarded, the procedures for validating demographic data have been enhanced so that the matching process is more accurate. |

Anticipated Completion Date: September 30, 2023
<table>
<thead>
<tr>
<th>No.</th>
<th>Finding</th>
<th>Recommendation</th>
<th>Corrective Action Plan</th>
<th>Status of Corrective Action Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Controls over access to Merlin need improvement to reduce the risk of unauthorized disclosure, modification, or destruction of Department data.</td>
<td>We recommend that Department management enhance information technology (IT) access controls to ensure that periodic Merlin user access privilege reviews are performed and documented in Department records and ensure that Merlin user access privileges are promptly deactivated upon a user’s separation from Department or contracted employment.</td>
<td>The Department will review options and implement a new process to promptly deactivate Merlin accounts when users are separated from the Department. The Department will work to identify a way to be notified promptly of an employee’s separation.</td>
<td>Completed.</td>
</tr>
</tbody>
</table>

However, it is important to note that to access Merlin, users must be on the Department’s IT network and have an active Department user login. As soon as a user is separated from the Department, they cannot access Merlin because they are unable to access the Department’s IT network, even if it is still showing the Merlin account as active. A user must be a current Department employee to access Merlin.