



CHESTER COUNTY COVID-19 Response After Action Report



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INTRODUCTION

Scope

The coronavirus disease 2019 (COVID-19) pandemic is a global outbreak of coronavirus – an infectious disease caused by the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Cases of novel coronavirus (nCoV) were first detected in China in December 2019, with the virus spreading rapidly to other countries across the world. This led the World Health Organization to declare a Public Health Emergency of International Concern on January 30, 2020, and to characterize the outbreak as a pandemic on March 11, 2020.

The Chester County Health Department carefully followed the spread of COVID-19 from other countries to the United States. Even before the Chester County's first COVID-19 case on March 13, 2020, the Health Department activated its Health Operations Center and ultimately integrated its coordination, operation and recovery activities into the Chester County Emergency Operations Center. A tremendous number of resources, staff, volunteers, etc. were engaged on multiple levels throughout the response to the pandemic to protect the residents of Chester County and Delaware County. Existing and new strategies and interventions were leveraged as new information was discovered. Changing guidance and new public health safety measures made retaining trust a critical need and an ongoing challenge. In November 2021, Chester County contracted a third-party emergency management and public health preparedness consulting firm, Constant Associates, to evaluate the County's COVID-19 response from January 2020 to June 2021 across eight planning areas:

- Communications
- Continuity of Operations
- Data Management
- Disease Investigation
- Laboratory Testing
- Medical Countermeasures (Mass Vaccination)
- Non-Pharmaceutical Interventions
- Operations Coordination

The culmination of their evaluation resulted in an After-Action Report (AAR) that focuses on the strengths and areas for improvement exhibited during Chester County's response to the COVID-19 pandemic for the period evaluated.

Methodology

In November 2021, Chester County contracted a third-party emergency management and public health preparedness consulting firm, Constant Associates (CONSTANT), to evaluate the County's COVID-19 response from January 2020 to June 2021 across eight separate topic areas and to develop individual AARs for each topic.



These COVID-19 AARs have been compiled using a mixed method data gathering approach. A team of subject matter experts collected data that informed the reports through a comprehensive documentation review, two online surveys (with a total of 226 respondents across County departments and community stakeholders), 28 virtual individual interviews with leaders in county-wide response, and topic-based virtual group debriefing sessions for stakeholders to discuss key themes. After a thorough analysis of the data collected, the findings and major areas for improvement were outlined. Strengths and best practices exhibited during response are included to share procedures, tactics, and solutions utilized during the pandemic so that Chester County agencies and their partners can enhance their preparedness and response capabilities.

Guiding Principles

This AAR is not intended to be comprehensive of all activities conducted during the identified evaluation period, but instead focuses on major themes and recommendations of highest potential impact.

While the findings and recommendations were elicited from COVID-19 pandemic feedback, they should not be limited to, and are not unique to a pandemic. In fact, many if not most of the findings and recommendations support an all-hazards perspective, and many are not new to Chester County. In fact, other recent AARs completed for smaller events such as Mpox, mass flu vaccinations, and potassium iodide dispensing include applicable strengths and recommendations.



COMMUNICATIONS

During the entirety of the COVID-19 response, Chester County, particularly the Health Department, implemented regular communications to ensure situational awareness of the public, its staff, and staff across county departments. Internal communication methods included situation reports, emails and calls to department staff, and innovative e-newsletters specific to pandemic-related scientific developments to ensure information was available to staff as the pandemic response evolved. Public-facing communications included frequent emails and calls, webinars, social media posts, website updates, and physical or digital newsletters to county residents.

The communications findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to communications are below and relevant to:

- Internal communications
- Public information and messaging.

Major Strengths	Major Areas for Improvement
The call center was a critical resource and provided valuable data while helping to alleviate public concerns and document community needs.	Internal communications from Health Department leadership to staff were sometimes infrequent and staff lacked context for changes to policies and procedures.
The Health Department established routine calls and communications with schools and healthcare organizations who were critical to information sharing and unified messaging during the pandemic.	There is a significant need for additional resources for county communications, including staff, software, and expertise within the Health Department.
The County worked diligently to maintain internal situational awareness across departments and within staffing structures.	Communications channels lacked accessibility accommodations for certain vulnerable populations.

The fast-paced nature of the COVID-19 pandemic highlighted the need for additional investment in communications systems and staff, both County-wide and in specific departments that are often called upon to lead incident response, such as the Health Department and Department of Emergency Services. Public health



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emergencies, while complex and of varying scale, are only becoming more frequent. The pandemic has provided the County with a significant amount of data regarding its communications capacity, and the scale at which it must be able to provide information and guidance to its stakeholders during a large and sustained public health emergency. By using a whole community and all-hazards approach to the communications recommendations within this report, the County can continue to advance the health, safety, and resiliency of its community while serving as a model of other jurisdictions in the future.



Elected officials making outbound calls in the County EOC to schedule vaccination appointments.



County Commissioners and Department of Emergency Services staff participating in a phone-based town hall meeting for businesses – held in the early stages of the pandemic.



Elected officials held many press conferences.



CONTINUITY OF OPERATIONS

From the initial discovery of the novel coronavirus in Wuhan, China, jurisdictions had to prepare to change the way they did business day-to-day to maintain essential services and conduct response efforts. Changing guidance and new public health safety measures created the need for the Health Department to be nimble and adaptable while implementing their established plans. Following Chester County's first COVID-19 case on March 13, 2020, the Chester County Health Department activated their Continuity of Operations Plan (COOP) and began responding internally and externally to the incident. The Health Department's COOP included diverting staff and focusing County operations on mission essential functions. For the purposes of this report, the scope of "continuity" refers to the ability of the Health Department to continue both the COVID-19 response as well as its critical functions as a county department (e.g., pay employees, open up non-COVID services when needed, hire staff, provide technological support to employees, etc.).

The COOP findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to COOP are below and relevant to the:

- Health Department Overall
- Health Department's Bureau of Administration and Support Services
- Health Department's Bureau of Personal Health Services
- Health Department's Bureau of Environmental Health Services
- Health Department's Bureau of Population Health.

Major Strengths	Major Areas for Improvement
<p>In early 2020, the Health Department quickly organized activation of its COOP plan according to pre-identified essential and non-essential services, and published information on the Health Department website regarding which services would be impacted.</p>	<p>There was a lack of consistent Department-wide internal communications (particularly regarding employee resources and current response efforts).</p>
<p>Health Department staff not actively involved in COVID-19 response complimented the responsiveness of their supervisors and the Bureau</p>	<p>The Health Department was often severely understaffed to handle the spectrum of COVID-19 response roles, critical bureau functions, and</p>



Major Strengths	Major Areas for Improvement
Directors when they shared concerns about assignments or remote work.	program management tasks for grants expected of the Department.
The Health Department had a number of brand new employees who were lauded for their ability to quickly adapt to the changing needs of the pandemic, maintain the continuity of the response, and operate their COOP activation.	The Health Department needs to implement strategies to address the risks to staff retention resulting from COVID-19 fatigue and industry-wide demand for public health and medical staff.

The evolving nature of the COVID-19 response has shown that plans need to be adaptable enough to respond to any scale or length of disaster. A jurisdiction’s COOP plan must plan around these factors to ensure they can continue to meet the Mission Essential Functions that the public and local governments rely on. The Health Department has accomplished significant groundwork with their existing COOP plan and the processes they have developed through the COVID-19 response. As with all plans though, they are living documents that are meant to be improved upon in future iterations. Through staffing, documentation, training, and exercising, the Department can continue to improve their COOP plan and their resiliency as an organization overall.



DATA MANAGEMENT

Following Chester County’s first COVID-19 case on March 13, 2020, the Health Department was able to make available new data and maps for tracking COVID-19 cases on its website by March 15, 2020. The Health Department, with assistance from supporting County departments (e.g., Department of Emergency Services, Department of Computing and Information Services), continued to gradually expand publicly available data via dashboards and reports. The Health Department also balanced the influx of data it managed internally relating to testing, contact tracing, and later, vaccinations. Most data used during the response was surveillance data. Such data is not typically provided publicly due to the nature of the data. Surveillance data is dynamic data in that each week data is analyzed it will include data reported late and data corrections, therefore, historical data is updated with each analysis. It was not uncommon for the surveillance data to be mis-understood or misinterpreted. To manage data relating to different response activities, the Health Department and the broader County leveraged several different platforms and management tools while processing and reporting data. Different data management systems experienced varying levels of success as outlined on the following pages.

The data management findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to data management are below and relevant to:

- Electronic platforms and management tools
- Data processes and reporting.

Major Strengths	Major Areas for Improvement
Throughout the pandemic, the EOC/HOC staff continually adapted tools and systems such as Qualtrics, Acuity, ArcGIS, VaxCare, Sara Alert, and more to collect and/or report COVID-19-related data.	There are opportunities for the Health Department to continue to educate the public, its partners, and other County departments on how it collects and analyzes infectious disease data.
HOC staff were able to quickly consume large volumes of data and quickly make recommendations and decisions.	There was not a codified process for data requests and/or inquiries within the Health Department, with other County stakeholders, or with the public.
	There was a disconnect between the public health priority of getting shots in eligible arms as



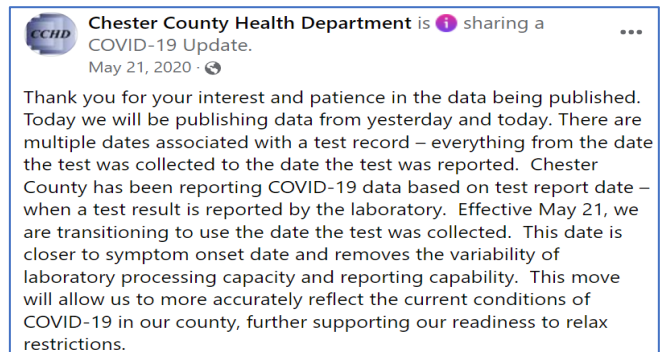
Major Strengths	Major Areas for Improvement
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quickly as possible and the priority to track individual interest and eligibility for vaccine appointments, which resulted in multiple approaches and systems for managing data and appointments having to be implemented while managing ongoing vaccination efforts

The COVID-19 response marked a critical shift in data management, as data was not only made publicly available and therefore faced intense scrutiny, but it was also available in droves from federal, state, and local sources. While managing the impacts of the pandemic remains the priority in the short-term, COVID-19 response exposed significant challenges in managing infectious disease data across the public health spectrum that requires attention in terms of infrastructure investment. The Health Department and its response partners were not immune to these challenges as they tried to use existing tools to initially respond to the pandemic before being forced to purchase and utilize new systems amidst response. There exist opportunities to analyze the Health Department’s use of these systems. Other opportunities include educating the public on infectious disease data reporting, fostering stronger data collaboration across County departments, and codifying processes relating to data requests among others.



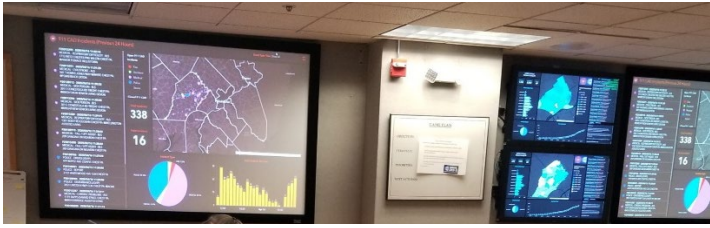
Health Department staff capture data.



Health Department shares post via Facebook about changes in data reporting methods.



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Data dashboards located in the HOC/EOC provided realtime data for both Chester County and Delaware County.



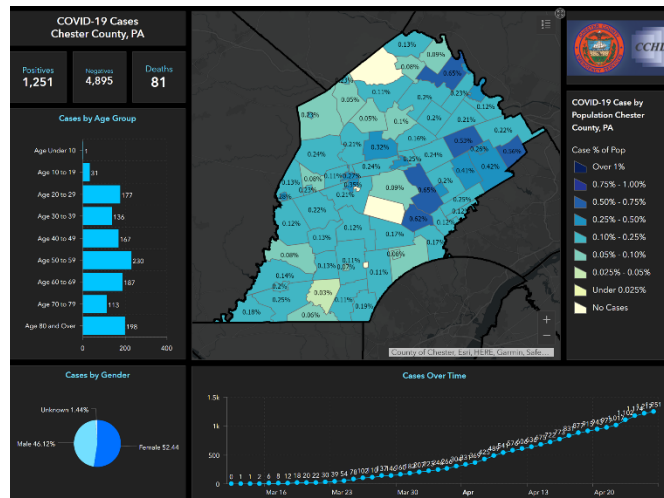
Chester County COVID-19 Weekly Internal Data Summary Most Current 7 Days: 07/29/2022-08/04/2022 Published: 08/05/2022

Data is calculated for 7-day periods beginning with the most current week as **Week 1** and looking back three weeks in the table below. Cumulative reflects totals since the start of the pandemic. Historical data is not updated.

Community Level	Week1	Week2	Week 3	Week 4	Cumulative
Overall Community Level	Medium	Medium	Medium	Medium	N/A
Cases, Deaths, Outbreaks	Week1	Week2	Week 3	Week 4	
New Cases	651	764	734	718	104,926
New Deaths	0	1	4	1	1,157
Past 7-Day Incidence Rate per CDC (CCHD)*	127.62 (124.2)	154.67 (146.9)	132.38 (139.8)	132.19 (136.0)	N/A
Past 7-Day Percent Positivity	14.5	15.7	16.0	14.9	N/A
Active Outbreaks	56	46	40	70	N/A
Hospitals (COVID Only)	Week1	Week2	Week 3	Week 4	
Patient Hospitalizations	29	35	34	38	N/A
Hospital Admissions per 100k*	13.4	13.8	13.7	11.8	N/A
Inpatient Bed Utilization*	4.40%	4.30%	4.10%	3.60%	N/A
Patients in ICU	3	3	5	2	N/A
Patients on Ventilators	3	1	2	1	N/A
People Vaccinated	Week1	Week2	Week 3	Week 4	
Partially Vaccinated	82,406	82,126	81,950	79,901	82,406
Fully Vaccinated	392,587	391,785	391,109	390,454	392,587
First Booster Dose Received	197,900	197,054	196,335	195,369	197,900
Second Booster Dose Received	41,833	40,577	39,152	37,369	41,833

*Used to determine Community Level; CCHD's incidence rate may differ from CDC's as local data are consistently a few days ahead of national data.

The Health Department provided weekly data to the public throughout the response.



COVID-19 data dashboards published to the public.



DISEASE INVESTIGATION & SURVEILLANCE

The Chester County Health Department was able to provide disease investigation and surveillance as a primary tenet of public health to serve Chester County during the COVID-19 pandemic. As with many jurisdictions throughout the nation, it was a challenge to conduct timely disease investigation and maintain contact tracing to match the growing surge of COVID-19 cases throughout the community. Sustaining a surveillance system to conduct field investigations, record and analyze data, and detect possible outbreaks relied on a network of dedicated students and volunteers, in addition to the permanent and temporary staff. Innovation did occur as new processes and procedures were developed including resources to support disease investigation and contact tracing staff. This also included a dashboard of disease surveillance information that was continuously updated for the public online tracking disease spread within the community.

The disease investigation and surveillance findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to:

- Planning – interpretation and development of guidance, resources, and procedures
- Operations – coordination with internal/external partners and Health Department staff for conducting timely disease investigations
- Logistics – human resources and staffing.

Major Strengths	Major Areas for Improvement
The Health Department ensured that the Disease Investigation and Surveillance (DIS) team had the resources, information, and support they needed to successfully keep up with rapidly changing information and provide critical support to community partners.	There was a consistent need for additional staff surge capacity for disease investigation and contact tracing. COVID investigation and contact tracing needs were not always met during significant case surges when the amount of follow-up was simply not feasible with current staffing levels.
The DIS team leveraged multiple technologies to support and streamline response activities.	The Health Department relied heavily on temporary staff positions and temporary staffing agencies to provide surge capacity for COVID investigations and contact tracing, which led to some gaps in necessary qualifications and skills.
The partner liaison teams which functioned within and alongside the DIS team ensured that	



Major Strengths	Major Areas for Improvement
technical assistance was readily available for community partners and stakeholders.	

COVID-19 response marked an incredible spike in the demand for disease investigation and surveillance capabilities for the Health Department. While managing the impacts of the pandemic remains the priority in the short-term, COVID-19 response exposed significant challenges in keeping up with disease investigation and contact tracing needs across the community, which requires attention in the long-term related to infrastructure investment and staffing. Other opportunities include educating the public on infectious disease data reporting, streamlining hiring practices, investing in the expansion of current disease investigation tools and practices, and building on relationships established with unique partners, among others.



LABORATORY TESTING

In response to the COVID-19 pandemic, the Chester County Health Department took the lead on testing operations in the County. The Health Department capitalized on partnerships to support testing operations, using private entities, other Chester County departments, as well as state agencies to supplement their own efforts. The role of the Health Department in testing and laboratory operations had to be repeatedly clarified throughout operations, as testing at this scale had never been executed previously by the Health Department, or any other organization in the County. Many processes had to be developed ad-hoc, such as notification procedures for test results and payment to international companies for scarce resources. Overall, Chester County established and maintained testing operations effectively given the extreme circumstances.

The laboratory testing findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to:

- Laboratory testing planning, operations, communication, and coordination
- Partnerships established and called upon as part of testing operations
- COVID-19 testing scheduling and registration
- COVID-19 testing accessibility.

Major Strengths	Major Areas for Improvement
Chester County agencies worked together in creative ways to procure scarce testing site supplies in March – June of 2020, even looking to international suppliers.	There was tremendous pressure to establish large-scale testing capabilities in the spring of 2020 that were not feasible based on available resources.
The Health Department identified a need to improve the COVID-19 test appointment scheduling system and quickly identified the system’s shortfalls and remained agile to solve problems.	The exact role of the Health Department was unclear in certain elements of testing operations such as laboratory results tracking/reporting or testing for certain populations.
Chester County began exploring options for private laboratory surge capacity around May of 2020 and eventually partnered with HNL.	Despite a strong foundation of Point of Dispensing (POD) based planning within the County’s Medical Countermeasure (MCM) plans and policies, the scale and novel nature of COVID-



Major Strengths	Major Areas for Improvement
	19 exceeded the Health Department’s capabilities and required a larger countywide response.
Other County and state departments offered their support and services as part of COVID-19 testing operations.	
The Health Department leveraged multiple partnerships to ensure equitable access to testing for all populations within Chester County.	

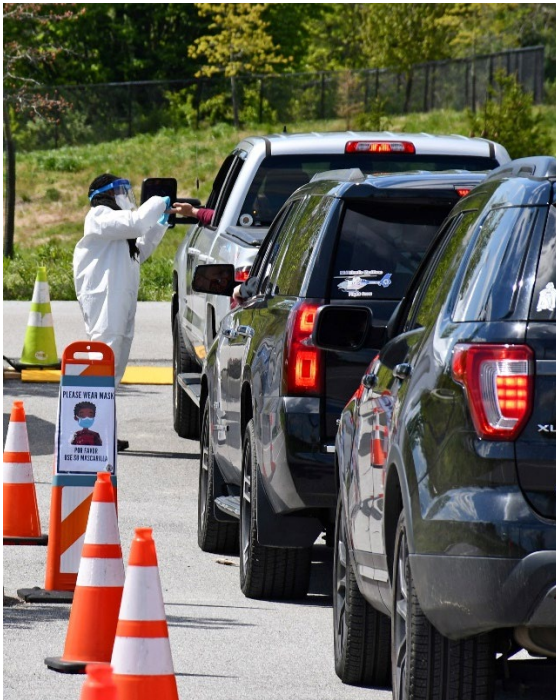
Chester County showed immense commitment to the COVID-19 pandemic response through their testing operations. The Health Department led these efforts, having to navigate a response never before done at this scale. Throughout operations, the Health Department and other supporting County and private entities overcame many challenges, such as how to procure scarce resources, how to run large-scale testing sites, how to conduct procurement with international vendors, and how to notify individuals of test results, all while having limited support. Partnerships with private laboratories were established, that if maintained can prove beneficial for future initiatives and emergency responses. Furthermore, new partnerships between Chester County departments, such as the Health Department, Department of Emergency Services, and Department of Community Development, were able to support testing accessibility for unhoused persons and other vulnerable populations. This exemplifies the County’s larger commitment to ensuring access to testing by all populations. Given the unprecedented nature of the event, Chester County was successful in establishing and operating testing sites, providing a critical need to the community during a time of great distress.



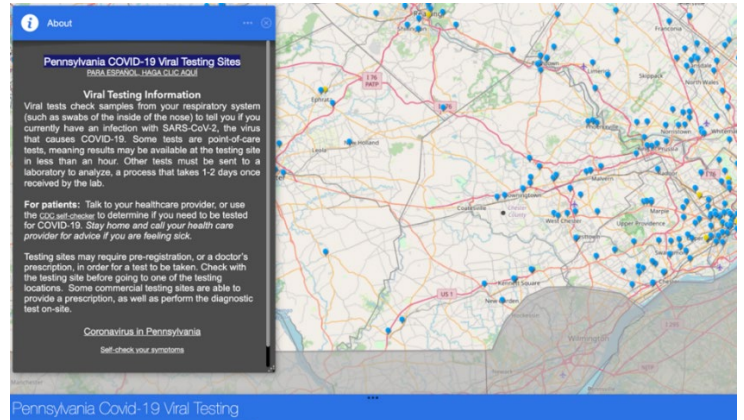
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Chester County drive through COVID-19 test sites.



Chester County drive through COVID-19 test sites.



Chester County COVID-19 testing sites as of December 2021.



MEDICAL COUNTERMEASURES (MASS VACCINATION)

The Chester County Health Department began to plan for potential COVID-19 vaccination efforts early in 2020 alongside annual influenza clinic planning efforts. Following approval of an Emergency Use Authorization (EUA) by the U.S. Food and Drug Administration (FDA) for the Pfizer COVID-19 vaccine in December 2020, Chester County immediately began preparations for the imminent vaccine arrival. Chester County recognized the need to vaccinate healthcare workers and those directly working in vaccination distribution clinics. There were some challenges including a lack of clarity from the Pennsylvania Department of Health (PA DOH) on when the Health Department would receive vaccines initially, technological challenges with vaccine appointment scheduling systems, and confusion over vaccine eligibility in mid to late January 2021. However, there was countywide acknowledgement that Chester County staff were committed to take every action they could to vaccinate their communities, and that throughout 2021, Chester County did the utmost to continually promote and expand vaccine access wherever feasible.

The medical countermeasures for mass vaccinations findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to:

- Planning – guidance from the state, coordination within Chester County, clinical guidance, and timetable of clinic rollouts
- Operations – general technology/training, clinical training, onsite clinic training and operations, and at-home vaccinations
- Logistics – vaccine management, staffing, data management, public information, partner engagement, non-clinical supply procurement, and fiscal accounting.

Major Strengths	Major Areas for Improvement
<p>The County’s medical countermeasures plans, processes, and policies, exercised through annual flu planning and flu clinics as Points of Dispensing (PODs), were adaptable for the large scale COVID-19 response.</p>	<p>In December 2020, when vaccines became available, county and municipal health department were not recognized as primary providers by the PA DOH, nor was there communication regarding when county and municipal health departments would be given the vaccine.</p>
<p>Despite burnout from the ongoing response, public health and clinical staff were eager and driven to provide the vaccine in local communities and successfully continued to</p>	<p>The state’s direct allocation of a supply of the Johnson & Johnson vaccine to Intermediate Units (IUs) and their lack of coordination with the Health Department regarding this strategy led to tension</p>



Major Strengths	Major Areas for Improvement
scale vaccination efforts according to supply and demand.	between the Health Department and local schools and duplication of efforts.
Clinical contract staff, Medical Reserve Corp (MRC) volunteers, and outside vendors provided critical surge capacity for vaccination sites.	The state’s expansion of Phase 1A to include individuals 65+ as well as those with high-risk conditions was not expected. Further, the expansion was implemented with no-notice to local jurisdictions, resulting in a huge surge in demand for appointments which overwhelmed Chester County’s infrastructure.
The Chester County Health Department was successful at forecasting supply, demand, and scheduling appointments and ordering vaccine supplies accordingly.	There were multiple issues with outdated platforms and systems that were utilized to fill gaps in vaccine management and registration, which could have been solved if a reliable, countywide solution had been implemented before the pandemic.
COVID-19 vaccine management and scheduling systems optimized workflow and eliminated the need for live data entry at vaccination clinic sites.	Chester County did not have access to a mass vaccination “mega-site” capable of serving a larger population (e.g., 2,000+) each day. This would have aided in consolidating limited staffing and resources at certain times during the pandemic.
Chester County worked diligently to create and implement a comprehensive equity plan to provide vaccination services to those who may have had access challenges.	There seemed to be a disconnect between the Policy Group, HOC planning staff, and vaccine site personnel in terms of on-the-ground needs, and a perception that the site staff were not being recognized for their efforts.
	There were initially significant IT issues at vaccination sites and an onsite IT staff member was not available to help to reduce operational challenges.

Chester County had solid plans in place ahead of time for large-scale influenza vaccination efforts and other medical countermeasures responses which gave the County an advantage in scaling up for COVID-19 mass vaccination efforts. However, the size, scale, and timeline of the COVID-19 pandemic called for significant investment in new resources, staffing, and in particular, sites. Further, issues occurred due to delayed procurement processes, a lack of foresight into statewide decision-making, unrealistic public expectations, a lack of collaboration with the Department of Emergency Services, and at times micromanagement from Policy Group members.



It is equally important to acknowledge the size and scale of the successes that Chester County has achieved in the face of an unprecedented need to vaccinate its population against a novel virus. The dedication and commitment of the County's workforce and its partners to fight for vaccine supplies, ensure equitable access, identify those in need of at-home visits, and to solve problems through innovations as they occurred onsite was truly astonishing. Chester County was frequently a leader in vaccination rates in the State of Pennsylvania and often served as a model for other counties and jurisdictions. The immensity of this achievement should not be diminished by the identification of areas for improvement within this AAR but should instead be supported by the commitment shown by Chester County to continue to improvement through this report.



Signage at a Health Department vaccination site.



Staff of the Chester County Health Department administering the COVID-19 vaccine.



A vaccine clinic at Kennett Middle School. Parents and children wait in line for their turn.



NON-PHARMACEUTICAL INTERVENTIONS

Following Chester County’s first COVID-19 case on March 13, 2020, the Chester County Health Department was able to mobilize teams to assist with resource requests, as personal protective equipment was a priority for partners to maintain their health and safety. As state and federal authorities worked to disseminate information about the disease, the Health Department and the Chester County Department of Emergency Services were able to quickly adapt guidance for Chester County while responding to the ever-increasing demand for supplies and logistics associated with the response.

The non-pharmaceutical interventions findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement.

Major Strengths	Major Areas for Improvement
<p>There was a lot of education done regarding the resource request process throughout the pandemic for community partners and stakeholders, as well as consistent communication to requestors.</p>	<p>Staff in procurement roles were often not dedicated to it full-time or did not have prior experience with the role, which made it difficult as they faced challenges such as urgent requests, a lack of storage space, and a lack of documented procedures.</p>
<p>The Health Department compiled critical guidance and procedures around isolation and quarantine as well as infection prevention and control quickly and effectively throughout the response.</p>	<p>Often throughout the pandemic, the procurement process was delayed or backlogged, whether because of increased scrutiny from county stakeholders or the expiration of the emergency declaration.</p>
<p>The implementation of an Emergency Use Authorization (EUA) to utilize additional N95 masks from H1N1 did provide critical additional supplies early in the pandemic.</p>	<p>EOC/HOC staff felt that the decision-making process around NPIs was unclear and lacked bi-directional collaboration with the Policy Group.</p>
<p>Allocation decisions for scarce resources were made as equitably as possible, and requesting agencies understood and respected the transparency from the County on how decisions were made based on need, size, and capacity of the agency in question.</p>	<p>Community partners were often calling the Health Department to provide interpretation or enforcement of public health guidance, when the Health Department did not always have the authority or responsibility to do so.</p>



Major Strengths

The Health Department implemented screening tools for staff and visitor building entry to reduce transmission risk.

Major Areas for Improvement

The COVID-19 response highlighted significant challenges for the County as they battled a novel event. The nature of an infectious disease response required a multi-layered approach, utilizing both pharmaceutical and non-pharmaceutical intervention methods. The focus on non-pharmaceutical interventions proved to be vital and an integral part of the pandemic response. It underscored the importance of resource request processes, which were largely successful in providing the County and its constituents with vital PPE during the early onset of the response. The County was also able to adapt to the everchanging guidance throughout the response. However, the response did expose gaps in the County's operations regarding fulfilling requests and mitigating impacts in the face of a resource shortages. Additionally, the County became aware of the significant challenges the frequent amendments to public health guidance had on the community.



County Commissioner assists another County staff member in bottling donated hand sanitizer.



Department of Emergency Services staff receive and organize personal protective equipment.



OPERATIONAL COORDINATION

The unprecedented nature of this pandemic required similarly unprecedented response coordination efforts by Chester County. The Chester County Health Department and the Chester County Department of Emergency Services (DES) worked to integrate their Health Operations Center (HOC) and Emergency Operations Center (EOC) in innovative ways. The Policy Group was fully activated and expanded where it had never been fully leveraged in prior exercises or other emergencies. Chester County also extended their efforts to provide coverage and services to the neighboring Delaware County, which lacked a health department of their own. Most of the challenges that arose were a direct result of the size, scale, and unprecedented nature of the response when compared with previous incidents or exercises. Other challenges occurred largely outside of Chester County’s direct span of control, such as limited information flow from Commonwealth entities. However, there are many valuable recommendations which have been identified to help built trust and collaboration between Chester County departments and their partners as the pandemic continues.

The operational coordination findings and major areas for improvement were developed based upon information provided by stakeholders during a debriefing session, findings that emerged from a documentation review as well as a review of publicized information (social media, press releases, etc.), interviews with key staff members, and an analysis of responses from the two surveys. Below are the most notable strengths and recommendations for improvement relating to:

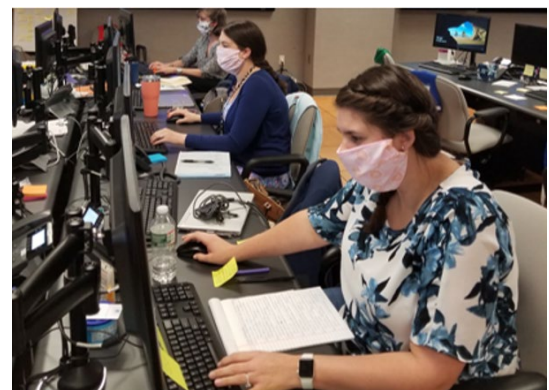
- Policy Group operations
- Health Department and Emergency Services 2020 and 2021 integrations
- Human Resources guidance development, adoption, and dissemination.

Major Strengths	Major Areas for Improvement
<p>The decision to move Health Department operations into the EOC and to integrate HOC/EOC operations in March of 2020 demonstrated Chester County’s early commitment to significantly invest in resources towards the COVID-19 pandemic.</p>	<p>Shifting priorities and decisions made by the Policy Group often resulted in a continuously frenetic pace for EOC and HOC staff without a mechanism to provide feedback.</p>
<p>Health Department and Department of Emergency Services had exercised and trained together previously, as recently as in 2019, though the current HOC/EOC integration model had not been fully tested yet.</p>	<p>Exact roles and responsibilities were often unclear during the HOC/EOC integrations and in between.</p>



Major Strengths	Major Areas for Improvement
<p>In January through March of 2020, the HOC and EOC were properly activated according to pre-established triggers within emergency response plans.</p>	<p>The Policy Group could have incorporated other members such as finance/procurement and human services staff earlier on in the pandemic.</p>
<p>The Policy Group was activated according to established procedures and helped to determine critical steps moving forward for the County as a whole.</p>	<p>The Health Department’s requests for staff from other County departments to assist with the pandemic needs such as testing and vaccination operations on an ongoing basis were often rejected, with few exceptions.</p>
<p>The County stepped in to provide critical services for Delaware County since it did not have a health department.</p>	<p>There was little warning from state entities to local health jurisdictions when new policies and guidance were released, which resulted in Chester County staff and leadership feeling like they were often the last to be informed about policy changes or resource allocations.</p>

Overall, Chester County was frequently complimented by those who provided input for this report for the breadth and scope of the resources the County invested in the COVID-19 response overall, especially when compared with other counties within the state. Chester County had many advantages including strong pre-pandemic relationships with their healthcare coalition and community partners, a demonstrated record of exercises which built critical relationships between County departments, and emergency plans with comprehensive activation triggers that helped to structure their initial response. The County also has made a concerted effort to continue to adjust their operations in response to feedback from the community while remaining committed to the public health mission.





CHESTER COUNTY COVID-19 After Action Report

Health Department staff working in the HOC/EOC.



Chester County's Elected Officials assisting in the EOC.



A joint press conference is held by Chester and Delaware Counties to discuss the ongoing COVID-19 pandemic response.



CONCLUSION

The intent of this AAR is to identify best practices and lessons learned, as well as address key challenges during the response period. Documenting these items will strengthen response capabilities of County leadership, the Health Department and Department of Emergency Services, as well as Chester County as a whole.

This report is written with acknowledgement of the dedication demonstrated by Chester County staff, partners, and volunteers in the face of an unprecedented pandemic. The COVID-19 response highlighted significant challenges for the County as they battled a novel event. The nature of an infectious disease response required a multi-layered approach, utilizing a variety of strategies and intervention methods.

The findings and recommendations of this AAR are made with full appreciation to the Chester County staff and the community it serves in the hopes that the content herein will support and benefit ongoing response to COVID-19 and future disaster response and recovery efforts.