



City of Appleton

100 North Appleton Street
Appleton, WI 54911-4799
www.appleton.org

Meeting Agenda - Final-revised Board of Health

Wednesday, May 11, 2022

7:00 AM

Council Chambers, 6th Floor

1. Call meeting to order
2. Roll call of membership
3. Approval of minutes from previous meeting

[22-0581](#) March Minutes

Attachments: [March Minutes.pdf](#)

[22-0587](#) Introduce guests

4. Public Hearings/Appearances

5. Action Items

[22-0582](#) Elect Chair and Vice Chair

6. Information Items

[22-0584](#) Set meeting date and time

[22-0585](#) Designate contact person

[22-0586](#) Approved noise variance requests

Attachments: [Approved Noise Variances.pdf](#)

[22-0636](#) COVID-19 update

Attachments: [Vaccination Update 5-06-22.pdf](#)

[22-0583](#) 2021 Annual Report

Attachments: [Graphs.pdf](#)

[2022.03_2021AnnualReport_b.pdf](#)

7. Adjournment

Notice is hereby given that a quorum of the Common Council may be present during this meeting, although no Council action will be taken.

Reasonable Accommodations for Persons with Disabilities will be made upon Request and if Feasible.



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100 North Appleton Street
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Meeting Minutes - Final Board of Health

Wednesday, March 9, 2022

7:00 AM

Council Chambers, 6th Floor

1. Call meeting to order

Chairperson Spears called the meeting to order at 7:01am

2. Roll call of membership

Present: 7 - Meltzer, Woodford, Spears, Fuchs, Werth, Vogel and Kane

Excused: 1 - Schultz

3. Approval of minutes from previous meeting

Woodford moved, seconded by Meltzer that the Minutes be approved. Roll Call. Motion carried by the following vote:

Aye: 7 - Meltzer, Woodford, Spears, Fuchs, Werth, Vogel and Kane

Excused: 1 - Schultz

[22-0229](#)

January Meeting Minutes

Attachments: [January Meeting Minutes.pdf](#)

4. Public Hearings/Appealances

5. Action Items

6. Information Items

[22-0280](#)

COVID-19 Update

Attachments: [2022.03.09 COVID.pdf](#)

This item was presented

[22-0241](#)

Fourth Quarter 2021 Budget Performance Review

Attachments: [Department Budget Review Q4 2021](#)
[2021 Budget.pdf](#)

This item was presented

[22-0279](#)

Fourth Quarter 2021 Report

Attachments: [Q4 2021 Report.pdf](#)
 [Q4 2021 Executive Summary.pdf](#)

This item was presented

[22-0230](#)

2021 Survey Results: Environmental / W&M

Attachments: [2021 Survey Results.pdf](#)

This item was presented

[22-0242](#)

Noise Variance Approvals

Attachments: [Approved Noise Variance.pdf](#)

This item was presented

7. Adjournment

Dr. Vogel moved, seconded by Meltzer, that the meeting be adjourned at 7:46am. Roll Call. Motion carried by the following vote:

Aye: 7 - Meltzer, Woodford, Spears, Fuchs, Werth, Vogel and Kane

Excused: 1 - Schultz

American Cancer Society – Sole Burner

City Park

May 6 (late pm set up)

May 7 (7:45am-10:30am)

Contact: Gary Akgulian 920.422.2166

Trout Museum of Art – Art in the Park

City Park

July 23 (9am-6pm)

July 24 (9am-4pm)

Contact: Christina Turner 415.549.9054

Family Radio - Family Fun Fest

Pierce Park

Aug 25 (4pm-7pm)

Contact: John Holst 262.443.9283

Lawrence University - LUaroo

May 28 & 29 (2pm-11pm)

Contact: Avery Reil/Ursa Anderson 715.899.0314

Lawrence University

Earthfest

April 24 (2pm-5pm)

Contact: Matthew Pavlik 847.347.0182

McGuinness Irish Pub

Kentucky Derby Party

May 7 (6pm-10pm)

Contact: Matt Miller 920.573.0959

Lawrence University – SOL Studies

Open MIC Event

May 13 (4pm-8pm)

Contact: Kate Stenson/Moreau Halliburton 920.489.5047

Lawrence University – SOL Studies

BSU Collaboration Event

May 21 (4pm-8pm)

Contact: Kate Stenson/Moreau Halliburton 920.489.5047

Lawrence University

Installation ceremony for president

May 13 (7pm-10pm)

Contact:

Lawrence University

Brighter Together Picnic

May 14 (11am-2pm)

Contact:

Lawrence University

711 E Boldt Way

April 23 – May 31 (Wed–Sat; 4pm-11pm)

Contact: Daniela Villagomez 847.505.4256

Area 509

1025 N Badger Ave

May 21 (4pm-10pm)

Contact: Reginald Desamour 920.702.7009

Cole's Crusade

Memorial Park

June 5 (10am-2pm)

Contact: Julie Stoffel 920.428.1875

Appleton Car Show & Swap Meet

Pierce Park

July 16 (5pm-9pm) & July 17 (8am-4pm)

Contact: Jay Stephany 920.960.5596

Lawrence University – Luaroo Line-Up Drop Event

April 29 (8pm-9pm)

Contact: Ursa Anderson 715.899.0314

Mical Attoe – backyard party – 824 W. Spencer

May 7 (5pm-10pm)

Contact: Mical Attoe 920.202.1354

Lawrence University – SOUP Foam Party

May 7 (3pm-11pm)

Contact: Sabrina Salas & Taeen Jidaan 646.244.0430

Lawrence University – Cultural Festival

May 20 (5pm-7pm)

Contact: Dr. Brittany Bell 920.832.7030

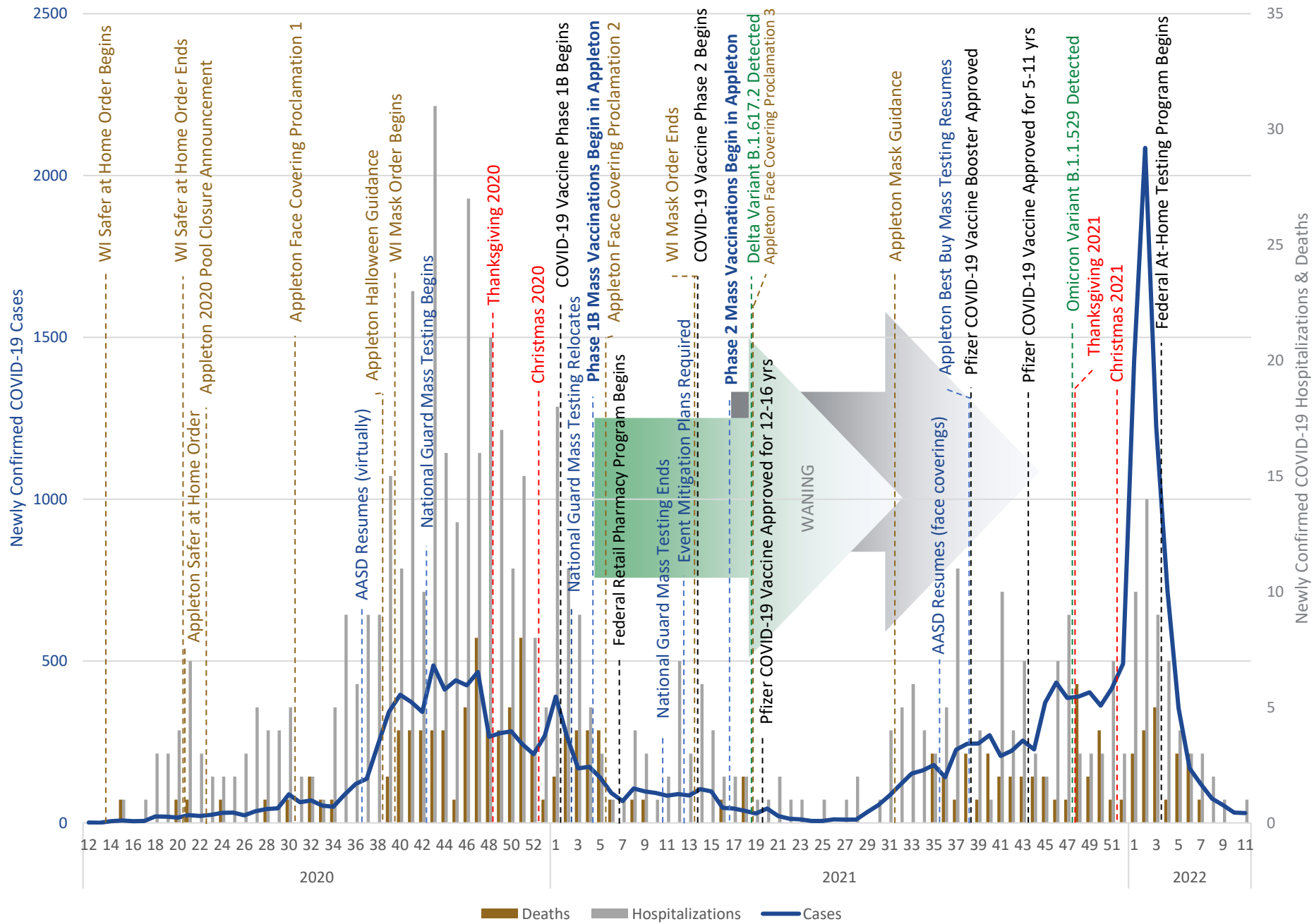
Rally - Houdini Plaza

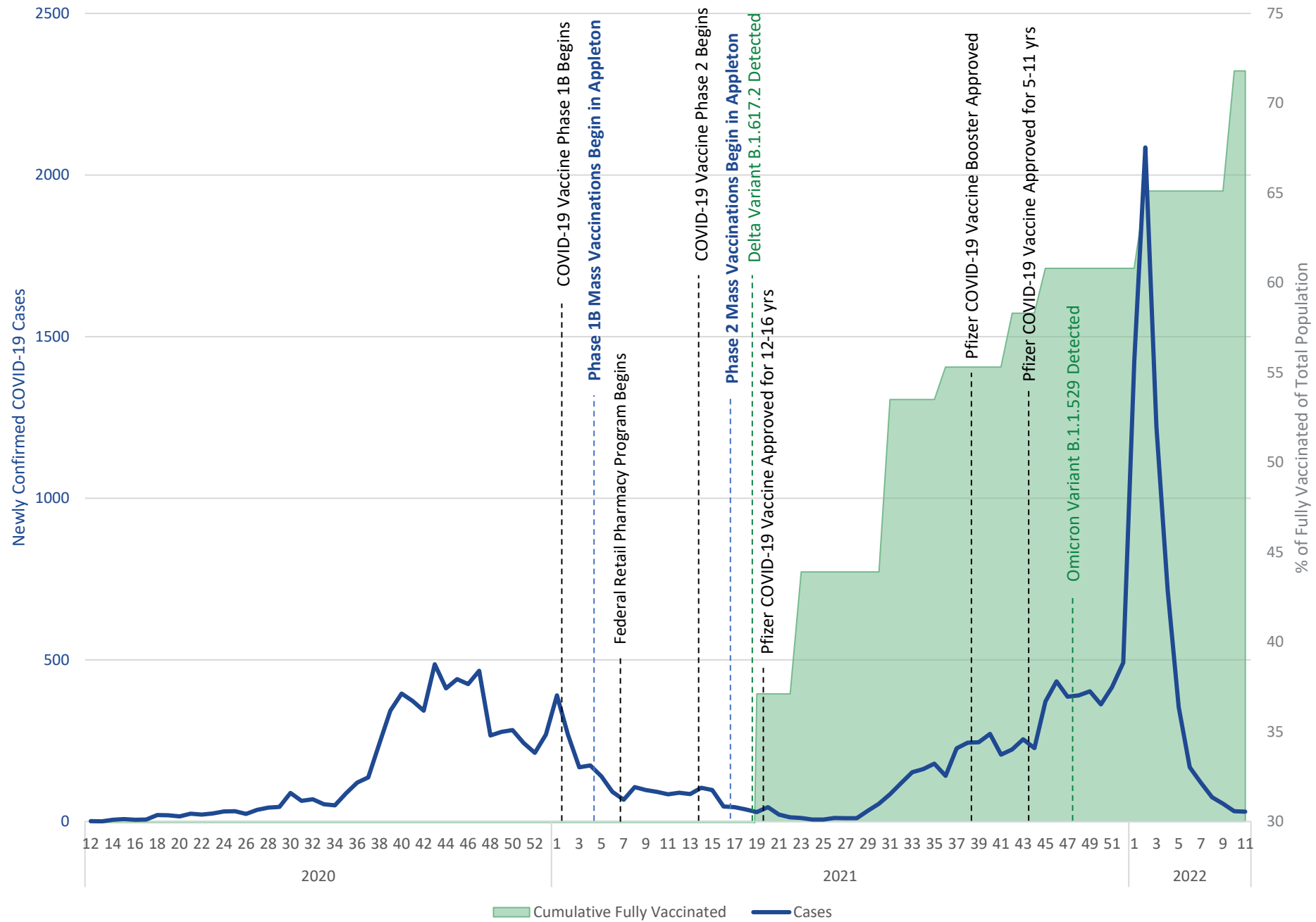
May 14 (1pm-3pm)

Contact: Fallon Buchholz 920.216.6534

VACCINATIONS TO DATE (05/06/22)

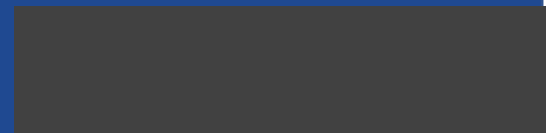
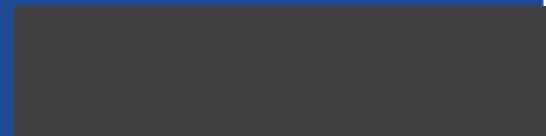
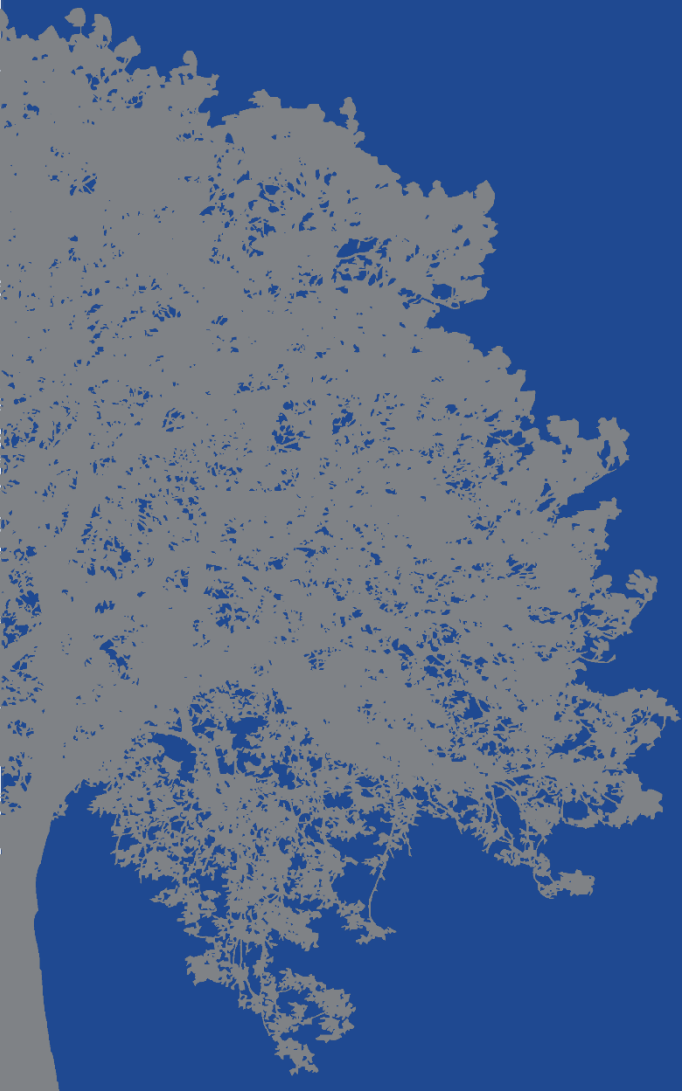
	FULLY VACCINATED	AT LEAST ONE SINGLE DOSE
UNITED STATES	66.3%	77.7%
WISCONSIN	61.1%	64.3%
CALUMET COUNTY	54.9%	57.0%
WINNEBAGO COUNTY	59.5%	62.4%
OUTAGAMIE COUNTY	61.8%	64.4%
CITY OF APPLETON (total pop.)	72.3%	73.4%
APPLETON 12-17 YEARS	66.3%	70.6%
APPLETON 5-11 YEARS	30.6%	35.3%
** 28,853 boosters and/or additional doses of COVID vaccines have been given to City of Appleton residents		





2021 ANNUAL REPORT

A YEAR OF CHANGE



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MESSAGE FROM THE HEALTH OFFICER

I am proud to present to you the 2021 Annual Report. This year, more than any, marked a year of profound change for the Appleton Health Department. Kurt Eggebrecht, having served the Department as Health Officer for more than 21 years, retired in June 2021, generously serving an extra year past his scheduled date of planned retirement. This year also saw the public deployment of COVID-19 vaccines, which played a critical role in reducing the severity of medically significant COVID-19 infections.



Health Officer Eggebrecht's leadership on behalf of the City of Appleton helped spur the passage of one of Wisconsin's first anti-smoking ordinances, helped lead the passage of the Health in All Policies ordinance, and led the City's COVID-19 response during its most challenging times. He was active in the Wisconsin Public Health Association, the Wisconsin Association of Local Health Departments and Boards, and numerous local organizations. His leadership is felt in all aspects of public health within the community, the Northeast Region, and the State of Wisconsin. Well-loved by all that knew him, Health Officer Eggebrecht's legacy of health and hope will be felt by all of us for years to come.

Sonja Jensen, the Department's Deputy Director, and Nursing Supervisor, served as Interim Health Officer from June 2021 until my hire in February 2022. In doing so, Deputy Director Jensen led the department through some of the most challenging months of the pandemic response with determination and professionalism. Deputy Director Jensen's leadership was most notable in that there was not any staff turnover during pandemic response, an accomplishment not only rare in the State of Wisconsin, but local health departments nationally grappled with burnout-induced staff turnover.

Change was also seen throughout the year with the many facets of the COVID-19 response. With the release of the COVID-19 vaccines to the general public, 2021 also brought with it a turning point in the fight against COVID-19, a novel disease that has claimed nearly one million Americans since March of 2020. The effectiveness of the COVID-19 vaccines authorized for emergency use authorization in the US were impactful for reducing medically significant disease and death. This vital turn in the pandemic response occurred ahead of the deadly Delta variant outbreak and later the virulent Omicron variant outbreak, which had overwhelmed much of the State of Wisconsin's hospital capacity unlike any time in recent history.

As with 2020, 2021 was met with much of the same challenges for health department staff as increased focus was needed to address the COVID-19 response through much of the year. Both local and State capacity for case investigation and contact tracing were stretched thin and exceeded in some cases, especially during the unprecedented Omicron surge.

Despite there being many challenges, 2021 had many points of optimism and hope. Vaccines ensured an opportunity to reduce the transmission of COVID-19 cases, hospitalizations, and fatalities. New therapeutics, including COVID-19 antiviral therapies, showed dramatic effectiveness against hospitalization among those

with mild to moderate infections. Further, the COVID-19 vaccines proved effective against the deadly Delta variant, allowing health department staff pulled from regular duties, such as restaurant inspections, to return to their day-to-day duties to ensure the public's health.

As we look ahead to 2022, we become energized as we turn to many of the initiatives and projects that had been forced into a two-year pause, such accreditation, conducting a Community Health Assessment and resulting Community Health Improvement Planning, work indicated by the City's health in all policies, and reengaging the many community coalitions and partnerships.

I, like all of you, hope that we have seen the worst that the COVID-19 pandemic has to offer. I also hope that we, as a society, take with us the lessons learned while rising to meet the unprecedented challenges afforded to us these last two years. These lessons included learning the importance of paying kindness to others. We have also learned that our health and well-being, including behavioral health of ourselves and our loved ones, is what matters most.

As I join the City of Appleton both as a resident and the Health Officer, I join a community that cares for each other, lives by the Golden Rule, views its diversity as its strength, and is filled with and is surrounded by, caring, and dedicated, community partners. It is with great honor and extreme gratitude that I join the City of Appleton.

Gratefully yours,

Charles E Sepers, Jr, PhD, MPH
Health Officer
City of Appleton, WI

OUR VISION

Our vision is to provide the highest level of service and leadership to be the healthiest city in Wisconsin.

OUR MISSION

The Mission of the Appleton Health Department is to safeguard the environment, promote public health, and protect consumers by providing high quality services that are responsive to the needs of the community. Our belief is that prevention is the most effective public health strategy.

OUR BELIEFS

- The Appleton Health Department plays a vital role assessing and assuring the health needs and trade practices in the community.
- The Appleton Health Department consists of highly motivated and dedicated individuals who provide services to protect and promote the health and well-being of the citizen and consumer.
- The Appleton Health Department communicates with the public on health and consumer related issues.
- The Appleton Health Department provides services in a cost effective and efficient manner.
- The Appleton Health Department develops and evaluates departmental programs, policies, and procedures based on community needs. We collaborate with community agencies and providers to assess those needs and ensure high quality services.
- The Appleton Health Department has a professional staff that works together as a cohesive team by cooperating, communicating, and supporting each other to achieve departmental and individual goals.

2021 BOARD OF HEALTH



Cathy Spears
Chairperson



Lee Marie Vogel, MD
Medical Advisor



Kathleen Fuchs, PhD



Vered Meltzer
Alderperson



Alex Schultz
Alderperson



Deborah Werth, BSN, RN



Emma Kane, MPH

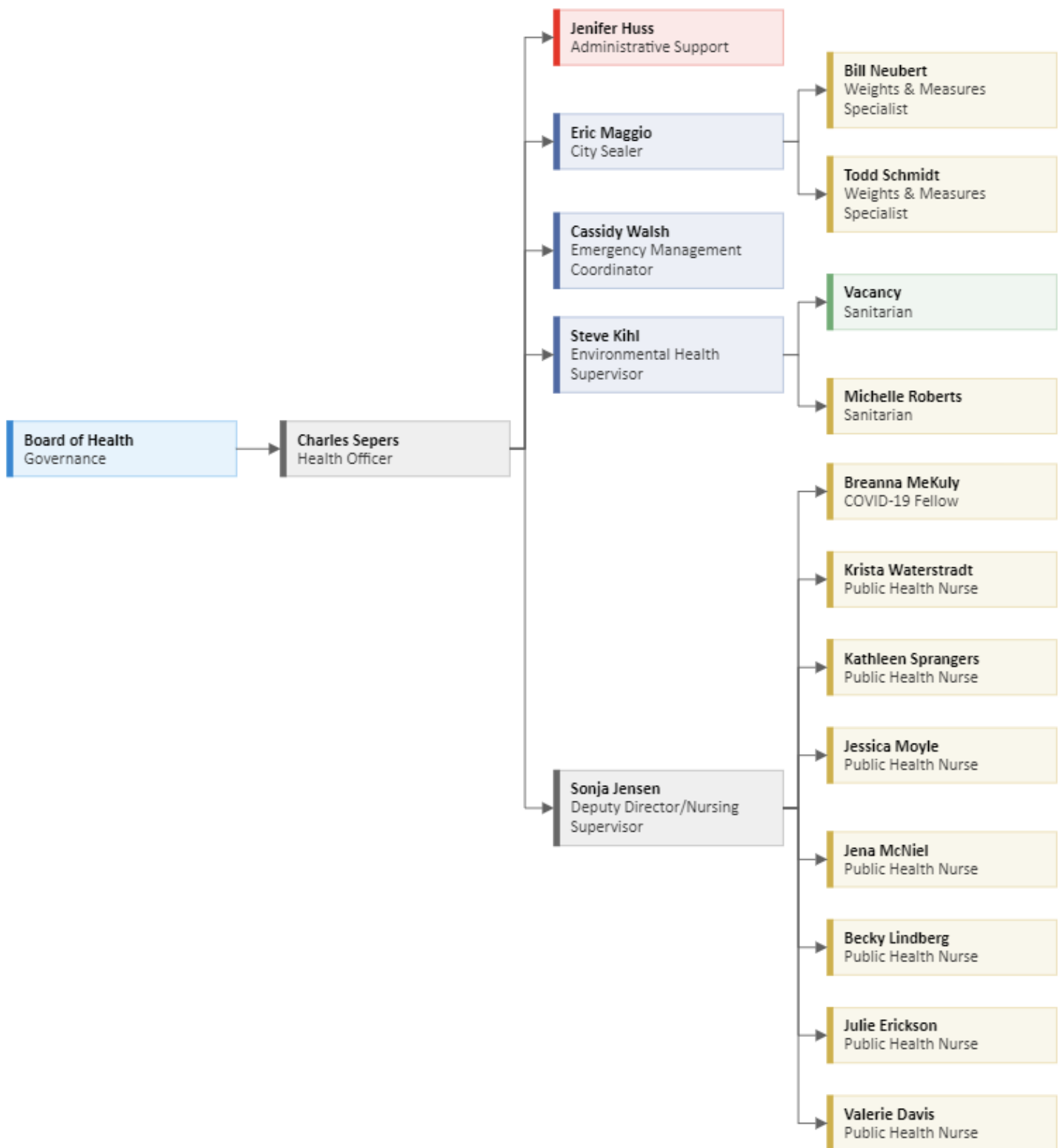


Jacob Woodford
Mayor

The Board of Health shall consist of eight (8) members who shall be the Mayor and seven (7) members appointed by the Mayor subject to confirmation by the Common Council. Two (2) of the seven (7) members of the Board shall be members of the Common Council. Members of the Board shall have a demonstrated interest or competence in the field of public health or community health, and a good faith effort shall be made to appoint a registered nurse and a physician. Members of the Board shall hold office for terms of two (2) years.

The Board of Health governs the City Health Department and assures the enforcement of state public health statutes, public health rules, and municipal health ordinances.

CURRENT TABLE OF ORGANIZATION



2021 ROSTER

BOARD OF HEALTH

Cathy Spears, Chairperson

Lee Marie Vovel, MD, Medical Advisor

Deborah Werth, RN

Kathleen Fuchs, PhD

Emma Kane, MPH

Alderpertson Alex Schultz

Alderpertson Vered Meltzer

Mayor Jacob Woodford

STAFF

Administration

Sonja Jensen, RN, Interim Health Officer/Nursing Supervisor

Jenifer Huss, Administrative Support

Environmental Health

Steve Kihl, RS, Environmental Health Supervisor

Michelle Roberts, RS, Sanitarian

Ryan Matthew, Sanitarian

Public Health Emergency Preparedness

Cassidy Walsh, Emergency Management Coordinator

Public Health Nursing

Valerie Davis, RN, Public Health Nurse

Julie Erickson, RN, Public Health Nurse (Part-Time)

Becky Lindberg, RN, Public Health Nurse (Part-Time)

Jena McNiel, MPH, RN, Public Health Nurse (Part-Time)

Jessica Moyle, RN, Public Health Nurse (Part-Time)

Kathleen Sprangers, RN, Public Health Nurse (Part-Time)

Krista Waterstradt, RN, Public Health Nurse (Part-Time)

Nichole Buckley, LPN, (Limited Term/PRN)

Julie Buelow, RN, (Limited Term/PRN)

Megan Ferguson, RN, (Limited Term/PRN)

Marie Hammen, RN, (Limited Term/PRN)

Amanda Hatch, RN, (Limited Term/PRN)

Brigitte Handevidt, RN, (Limited Term/PRN)

Hannah Jenkel, RN, (Limited Term/PRN)

Jane Klemp, RN, (Limited Term/PRN)

Cynthia Laluzerne, RN, (Limited Term/PRN)

Susan Larson, RN (PRN)

Christopher Meehan, RN, (Limited Term/PRN)

Anthony Moyle, RN, (Limited Term/PRN)

Stephanie Newlin, RN, (Limited Term/PRN)

Megan Peskie, RN, (Limited Term/PRN)

Vicky Xiong, RN, (Limited Term/PRN)

Weights and Measures


Eric Maggio, City Sealer

Todd Schmidt, Weights & Measures Specialist

Keith Verhagen, Weights & Measures Specialist

USING THIS REPORT

FOUNDATIONAL PUBLIC HEALTH SERVICES

 High-performing public health departments use data-driven, evidence-based practice to be good stewards of public money and address community priorities. Delivering protections in their communities at this level requires a strong foundation of public health infrastructure.

Foundational Public Health Services

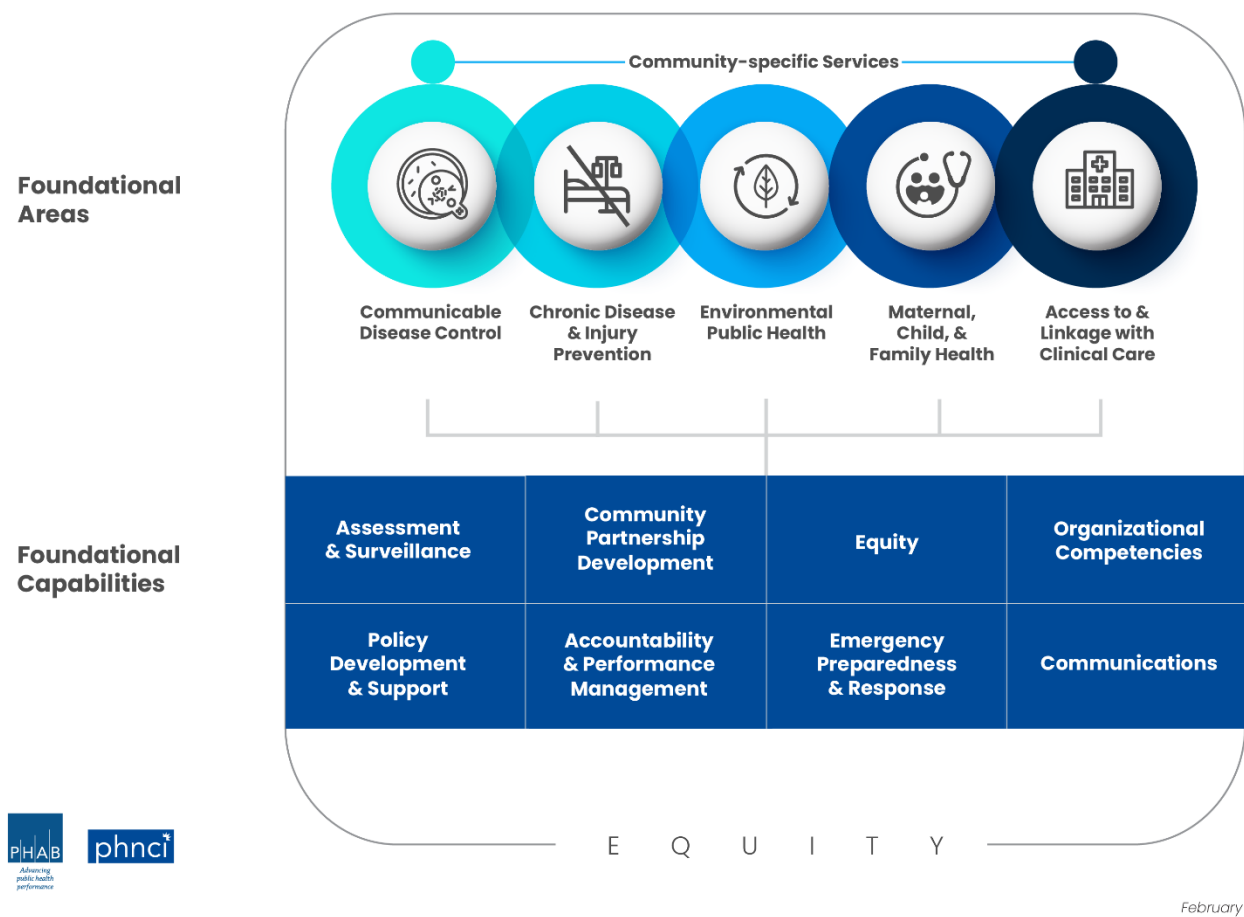



Figure 1. Foundational Public Health Services

 Local health departments in the State of Wisconsin are required to be organized by and operate according to this framework to ensure high-quality public health services and capabilities universally statewide.

This report is organized by these public health foundational areas, with the addition of consumer protection as a foundational area, which is a unique feature of the Appleton Health Department. Major headings correspond with these areas of foundational areas.

Additionally, those activities and data that correspond with the core foundational capabilities will be identified throughout the document. At a glance, this structure demonstrates compliance with these high standards.

- FC1. Assessment & Surveillance
- FC2. Policy Development & Support
- FC3. Community & Partnership Development
- FC4. Accountability & Performance Management
- FC5. Equity
- FC6. Emergency Preparedness & Response
- FC7. Organizational Competencies
- FC8. Communications

10 ESSENTIAL PUBLIC HEALTH SERVICES

While the Foundational Public Health Services define *what* work is required by local health departments, the 10 Essential Public Health Services illustrate *how* that work is done. This high-quality implementation of public health best practice is also required by State statute.



The 10 Essential Public Health Services provide a framework for public health to protect and promote the health of all people in all communities. To achieve equity, the Essential Public Health Services actively promote policies, systems, and overall community conditions that enable optimal health for all and seek to remove systemic and structural barriers that have resulted in health inequities. Such barriers include poverty, racism, gender discrimination, ableism, and other forms of oppression. Everyone should have a fair and just opportunity to achieve optimal health and well-being.



Figure 2. 10 Essential Public Health Services

- EPHS1. Assess and monitor population health status, factors that influence health, and community needs and assets
- EPHS2. Investigate, diagnose, and address health problems and hazards affecting the population
- EPHS3. Communicate effectively to inform and educate people about health, factors that influence it, and how to improve it
- EPHS4. Strengthen, support, and mobilize communities and partnerships to improve health
- EPHS5. Create, champion, and implement policies, plans, and laws that impact health

- EPHS6. Utilize legal and regulatory actions designed to improve and protect the public's health
- EPHS7. Assure an effective system that enables equitable access to the individual services and care needed to be healthy
- EPHS8. Build and support a diverse and skilled public health workforce
- EPHS9. Improve and innovate public health functions through ongoing evaluation, research, and continuous quality improvement
- EPHS10. Build and maintain a strong organizational infrastructure for public health

Throughout the report, icons depict which of the 10 Essential Public Health Services are being highlighted within the narrative.

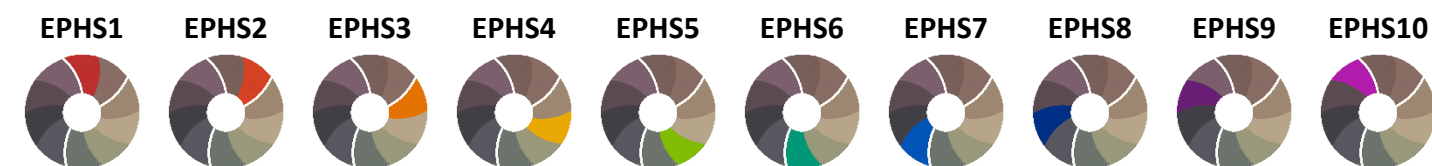


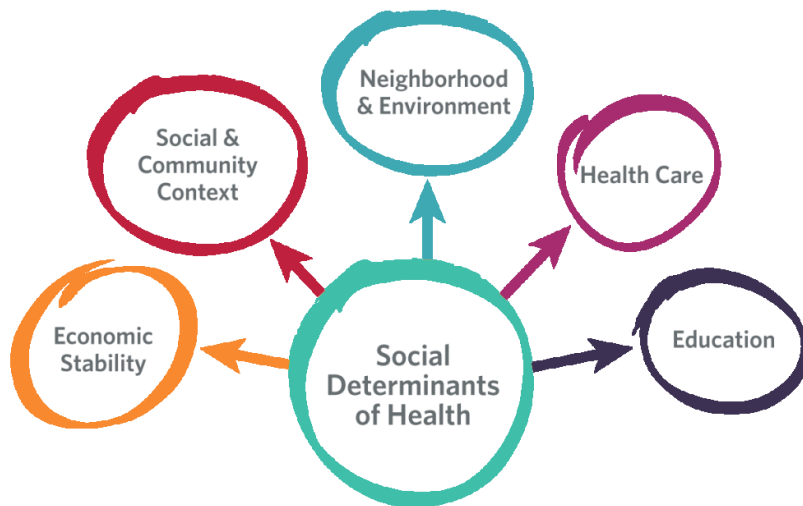
Figure 3. Navigation icons depicting essential public health services.

SOCIAL DETERMINANTS OF HEALTH



With equity interwoven into both the Foundational and 10 Essential Public Health Services, Public health departments and their partners need to consider how conditions in the places where people live, learn, work, and play affect a wide range of health risks and outcomes. These social determinants of health (SDOH)—Economic Stability, Social and Community Context, Neighborhood and Environment, Health Care, and Education, and actions to address the resulting health inequities, can be incorporated throughout all aspects of public health work. Through broader awareness of how the key public health practices can better incorporate consideration of SDOH, public health practitioners can transform and strengthen their capacity and impact to advance health equity.

Addressing social determinants of health is important for improving health and reducing health disparities. Though health care is essential to health, it is a relatively weak health determinant. Research shows that health outcomes are driven by an array of factors, including underlying genetics, health behaviors, social and environmental factors, and health care².



Health behaviors, such as smoking, diet, and exercise, and social and economic factors are the primary drivers of health outcomes, and social and economic factors can shape individuals' health behaviors. For example, children born to parents who have not completed high school are more likely to live in an environment that poses barriers to health such as lack of safety, exposed garbage, and substandard housing. They also are less likely to have access to sidewalks, parks or playgrounds, recreation centers, or a library.

Figure 4. Social Determinants of Health

Further, evidence shows that stress negatively affects health across the lifespan and that environmental factors may have multi-generational impacts. Addressing social determinants of health is not only important for improving overall health, but also for reducing health disparities that are often rooted in social and economic disadvantages.

PUBLIC HEALTH 3.0: THE ROLE OF LOCAL PUBLIC HEALTH PRACTICE



The role of governmental public health is changing. In a position paper published by the Centers for Disease Control and Prevention (CDC) in 2016, Karen DeSalvo laid out a new framework for modernizing the role of public health departments. Termed Public Health 3.0, this framework sets a clear agenda for local health departments in the transition from delivering programs, to the role of the chief public health strategist to address conditions, with partners, that ensure health and well-being.

Public Health 3.0 builds on the extraordinary successes of our past. *Public Health 1.0* refers to the period from the late 19th century through much of the 20th century when modern public health became an essential governmental function with specialized federal, state, local, and tribal public health agencies. During this period, public health systematized sanitation, improved food and water safety, expanded our understanding of diseases, developed powerful prevention and treatment tools such as vaccines and antibiotics, and expanded capability in epidemiology and laboratory science. This scientific and organizational progress meant that comprehensive public health protection—from effective primary prevention through science-based medical treatment and tertiary prevention—was possible for the general population.

Public Health 2.0 emerged in the second half of the 20th century and was heavily shaped by the 1988 Institute of Medicine (IOM) report *The Future of Public Health*. In that seminal report, the IOM suggested that public health authorities were burdened by the demands of providing safety-net clinical care and were unprepared to address the rising burden of chronic diseases and new threats such as the HIV/AIDS epidemic. The report's authors declared, "This nation has lost sight of its public health goals and has allowed the system of public health activities to fall into disarray." With this call to action, the IOM defined a common set of core functions, and public health practitioners developed and implemented target capacities and performance standards for governmental public health agencies at every level.

Public Health 3.0 refers to a new era of enhanced and broadened public health practice that goes beyond traditional public department functions and programs. Cross-sectoral collaboration is inherent to the Public Health 3.0 vision, and the Chief Health Strategist role requires high-achieving health organizations with the skills and capabilities to drive such collective action.

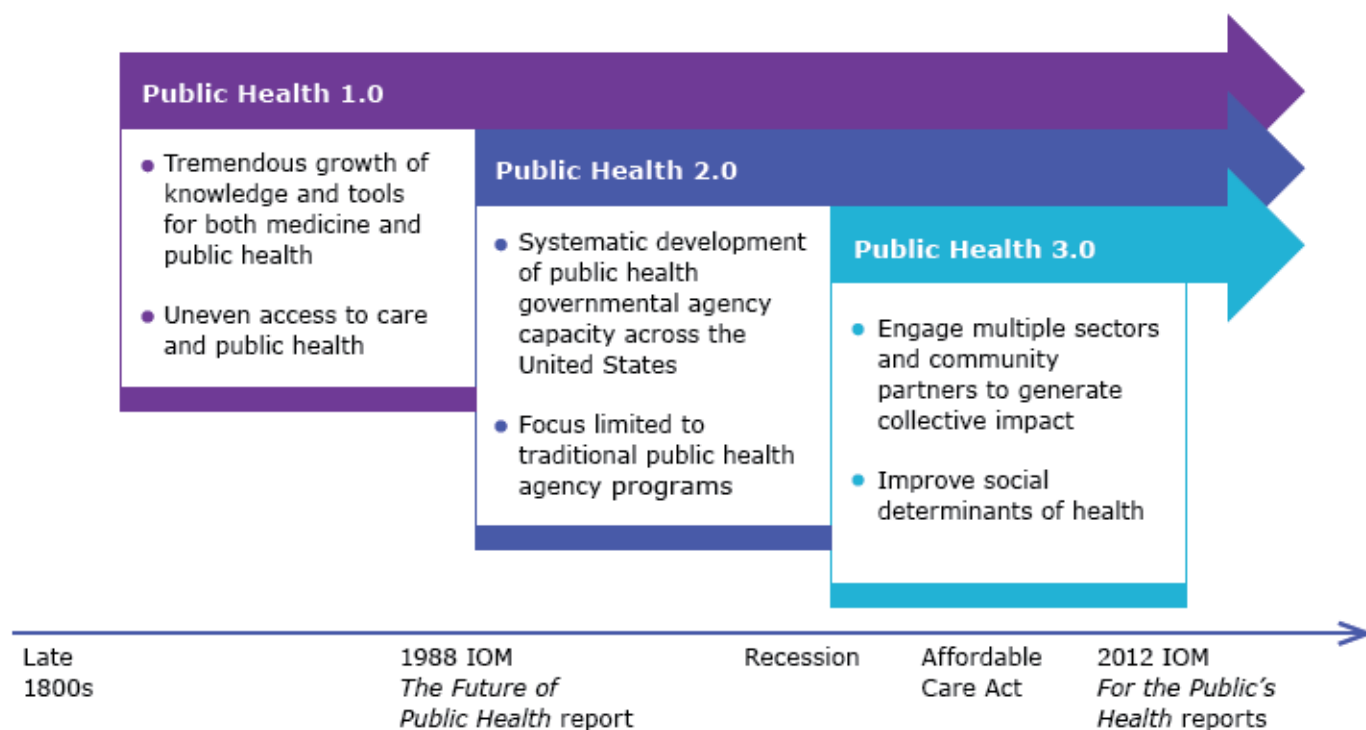


Figure 5. Public Health delivery models over time.

There are five goals of Public Health 3.0:

1. Public health leaders should embrace the role of **Chief Health Strategist for their communities** — working with all relevant partners so that they can drive initiatives including those that explicitly address “upstream” social determinants of health. Specialized Public Health 3.0 training should be available for the public health workforce and public health students.

Although the local health officer often may serve in the role of Chief Health Strategist, there are circumstances in which such leadership comes from those in other sectors.

Regardless, the public health workforce must acquire and strengthen its knowledge base, skills, and tools to meet the evolving challenges to population health, to be skilled at building strategic partnerships to bring about collective impact, to harness the power of new types of data, and to think and act in a systems perspective. This will require a strong pipeline into the public health workforce, as well as access to ongoing training and midcareer professional development resources.

2. Public health departments should engage with community stakeholders — from both the public and private sectors—to form vibrant, **structured, cross-sector partnerships** designed to develop and guide Public Health 3.0-style initiatives and to foster shared funding, services, governance, and collective action.



Communities should create innovative and sustained organizational structures that include agencies or organizations across multiple sectors and with a shared vision, which allows blending and braiding of funding sources, capturing savings for reinvestment over time, and a long-term roadmap for creating health, equity, and resilience in communities.

3. Public Health Accreditation Board (PHAB) criteria and processes for department **accreditation** should be enhanced and supported to best foster Public Health 3.0 principles, as we strive to ensure that every person in the United States is served by nationally accredited health departments.

As of August 2016, approximately 80% of the US population lived in the jurisdiction of one of the 324 local, state, and tribal health departments that has been accredited or is in the process of becoming accredited by the PHAB. The vision of ensuring that every community is protected by an accredited local or a state health department (or both) requires major investment and political will to enhance existing infrastructure. Although research found accreditation supports health departments in quality improvement and enhancing capacity, the health impact and return on investment of accreditation should be evaluated on an ongoing basis.

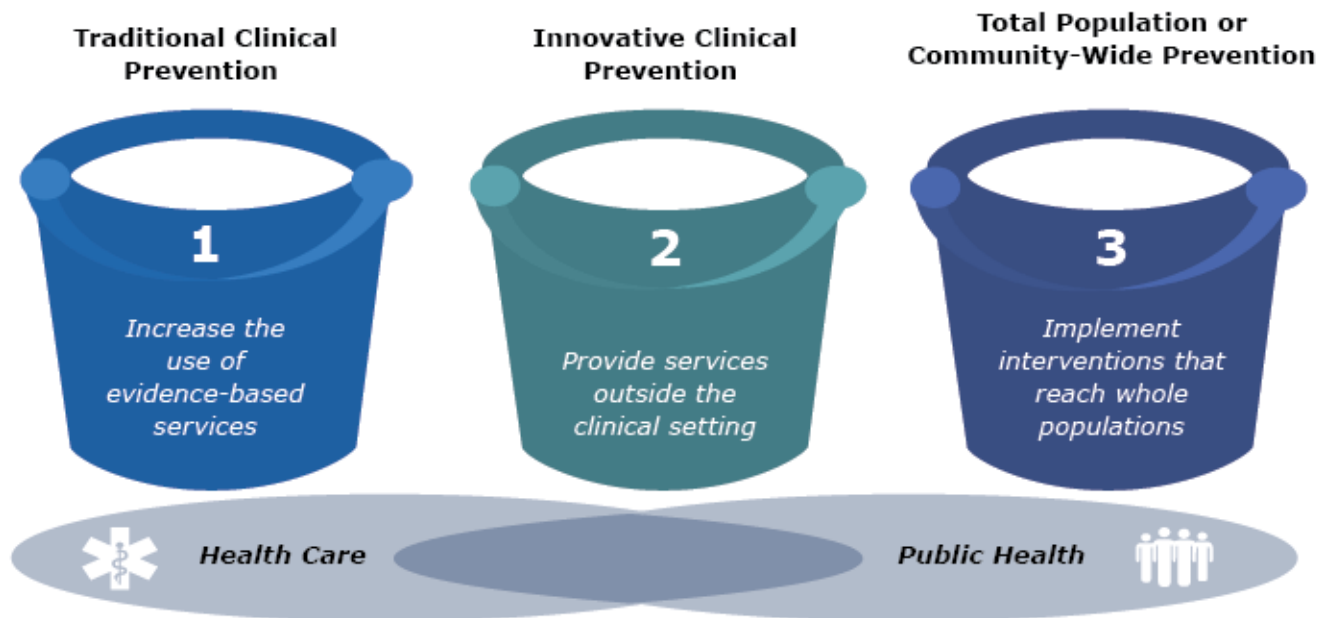
The further alignment with Wisconsin State Statute requirements

4. Timely, reliable, granular level (i.e., subcounty), and **actionable data** should be made accessible to communities throughout the country, and clear **metrics** to document success in public health practice should be developed to guide, focus, and assess the impact of prevention initiatives, including those targeting the social determinants of health and enhancing equity.

The public and private sectors should work together to enable more real-time and geographically granular data to be shared, linked, and synthesized to inform action while protecting data security and individual privacy. This includes developing a core set of metrics that encompass health care and public health, particularly the social determinants of health, environmental outcomes, and health disparities.

5. **Funding for public health should be enhanced and substantially modified**, and innovative funding models should be explored to expand financial support for Public Health 3.0—style leadership and prevention initiatives. Blending and braiding of funds from multiple sources should be encouraged and allowed, including the recapturing and reinvesting of generated revenue. Funding should be identified to support core infrastructure as well as community-level work to address the social determinants of health.

Driven by payment policy changes, our health care system is transforming from one focused on episodic, nonintegrated care toward one that is value-based and would benefit from collaboration with allied community efforts. The CDC developed a framework to conceptualize such integration across 3 areas of prevention—traditional clinical preventive interventions, interventions that extend care outside of the care setting, and population or community-wide interventions. Although work in all of these areas is necessary to improve health, the work of Public Health 3.0 is focused on the second and third areas.



To read more: <http://journal.lww.com/jphmp/toc/publishahead>



THE PUBLIC HEALTH SYSTEM

Public health systems are commonly defined as “all public, private, and voluntary entities that contribute to the delivery of essential public health services within a jurisdiction.” This concept ensures that all entities’ contributions to the health and well-being of the community or state are recognized in assessing the provision of public health services.

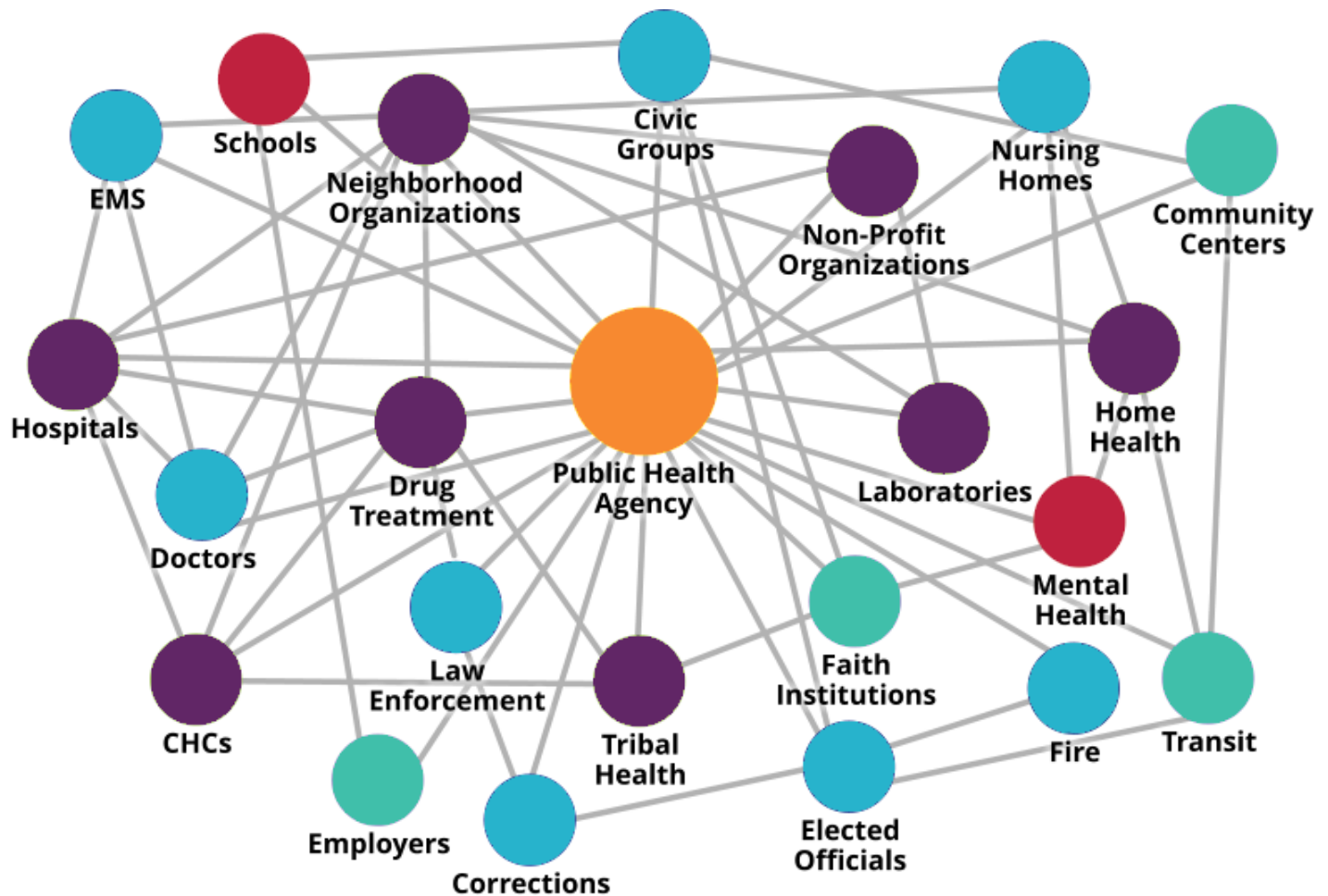
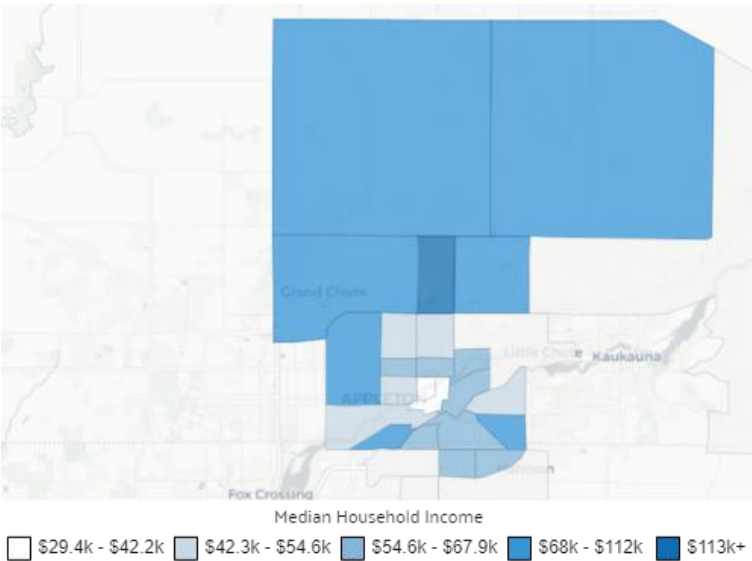


Figure 6. The Public Health System

The public health system includes:

- Public health agencies at state and local levels
- Healthcare providers
- Public safety agencies
- Human service and charity organizations
- Education and youth development organizations
- Recreation and arts-related organizations
- Economic and philanthropic organizations

COMMUNITY SNAPSHOT



The population of Appleton, WI has increased by 4.2% in the past ten years, with 75,644 residents in 2020. Of these residents, 93.5% of Appleton residents identified as just one race, 86% of whom are White (60,597), 7% of whom are Asian (4,827), 3% are Black or African American (2,171), and 3% of whom identified as another race (2,390). Seven percent of Appleton residents identified as more two races or more. Additionally, 5,499 (7.3%) also identified as Hispanic or Latino.

In 2020, the median age of an Appleton resident was 36.5 years old, the average family size was three, and almost half (48.9%) of the 29,729 households were composed of a married-couple

family. These households occupy 96% of available housing units within the city. In 2020, the homeownership rate in Appleton was 65.8%, with 60.8% of homes valued between \$100,000 and \$200,000; renters paid a median gross of \$796. Most residents drive alone to work (80.7%) with an average commute time of 19 minutes.

In 2020, Appleton had an employment rate of 66.1% and a median household income of \$61,475. A slight majority of residents work in manufacturing (21.4%), closely followed by occupations in Educational Services, Health Care and Social Assistance (21.0%). 33.6% of Appleton residents have completed a bachelor's or higher degree; 47.8% have a high school or equivalent degree but no college degree; and 7.4% have never completed a high school degree. Census data from 2020 reports 10.3% of Appleton residents as impoverished and that 5.6% of residents live without healthcare coverage.

Population (2020)

75,644

Median Family Income (2020)

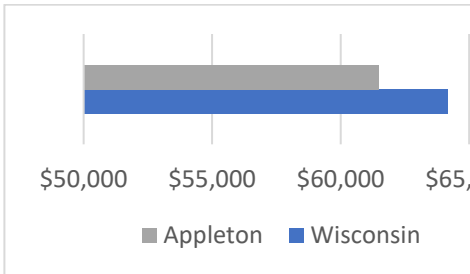
\$61,475

Median Age (2020)

36.5

Employed Population (2020)

50,001



Poverty Rate (2020)

10.3%



COMMUNICABLE DISEASE CONTROL

Population-level infectious disease prevention and case surveillance is foundational to public health practice. It helps us to understand diseases and their spread and determine appropriate actions to control outbreaks. Disease investigation or case surveillance occurs each time public health agencies at the local, state, or national levels collect information about a person diagnosed (or case) with a disease or condition that poses a serious health threat to Americans.

These diseases and conditions include

- infectious diseases, such as COVID-19
- foodborne outbreaks, such as *E.coli*
- noninfectious conditions, such as lead poisoning

Case surveillance starts at local, state, and territorial public health departments. Local laws and regulations specify which diseases and conditions must be reported. The health departments work with healthcare providers, laboratories, hospitals, and other partners to get the information needed to monitor, control, and prevent these reportable diseases and conditions in their communities.

Health departments monitor about 120 of these notifiable diseases and conditions. Following standard case definitions, case surveillance captures information that allows public health officials to understand where diseases are occurring, how they can be prevented, and which groups are most heavily impacted. This information includes:

- who is affected—the demographic, clinical, and epidemiologic characteristics
- where they are affected—the geographic distribution of disease
- how they are affected—the course of clinical illness and care received

Like 2020, 2021 was unprecedented due to the sheer number of disease investigations that needed to be completed as part of the COVID-19 response. With more than 8,400 COVID-19 cases in 2021, there were between 4,200 and 6,300 additional staff hours spent on case investigation and contact tracing. As with 2020, all health department staff were trained and mobilized, and 14 limited-term employees were hired to address the additional workload.

Table 1 identifies the number of education sessions delivered by public health nurses to community settings during the year. In total, there were 23,007 people immunized in 2021 by Appleton Health Department, compared to 58 in 2020, and 37,985 total immunizations in 2021, compared to 125 in 2020, see Table 2. This dramatic increase is due to the administration of the COVID-19 vaccine, which launched in January 2021.

Table 1. Community Education Sessions

	2021	2020
Group Education Sessions	2	4
Number of Attendees	18	71

Table 2. Number of Persons & Immunizations Administered

	2021	2020
Persons Immunized	23,007	58
Immunizations administered	37,985	125

Table 3 describes the number and type of vaccines given in 2021. COVID-19 vaccines accounted for the vast majority of all vaccines at 37,845. Influenza was the second-most administered vaccine at 76 doses, an increase from 10 in 2020.

Table 3. Number of Doses Administered by Vaccine Type

Vaccine	2021	2020
Covid-19	37,845	0
DtaP (Diphtheria, Tetanus, Acellular Pertussis)	0	0
Dtap/IPV	0	1
Dtap/IPV/Hep B	1	0
Flu (Influenza)	76	10
Flu Nasal	0	1
HBV (Hepatitis B)	1	2
Heb B/Hib Comvax	0	0
Hep A	4	4
Hep A/Hep B	0	0
HIB (Haemophilus Influenzae b)	1	0
HPV (Human Papillomavirus)	9	4
IPV (Inactivated Polio Vaccine)	3	1
MCV4 (Meningococcal)	11	4
MenB	5	0
MMR (Measles, Mumps, Rubella)	3	5
PCV13 (Prevnar)	1	0
Rotavirus	0	0
Td (Tetanus diphtheria)	2	4
Tdap	23	5
VZV (Varicella)	6	6



The Appleton Health Department is enrolled in the Federal Vaccines for Children (VFC) program. The VFC Program helps provide vaccines to children whose parents or guardians may not be able to afford them.

This helps ensure that all children have a better chance of getting their recommended vaccinations on schedule. Vaccines available through the VFC Program are those recommended by the Advisory Committee on Immunization Practices (ACIP). These vaccines protect babies, young children, and adolescents from 16 diseases.



A child is eligible for the VFC Program if he or she is younger than 19 years of age and is one of the following:

- Medicaid-eligible
- Uninsured
- Underinsured [1]
- American Indian or Alaska Native

Additionally, the health department is a Vaccines for Adults (VFA) program provider. The Vaccines for Adults program (VFA) is a new program to help uninsured and underinsured adults get their vaccinations. Adults 19 and older who are uninsured or underinsured are eligible. There are other eligibility criteria that are vaccine-specific and not all VFA-enrolled sites stock all the vaccines that adults need.

Table 4 describes the number and type of gastroenteric (stomach) communicable disease investigations in 2021.

Table 4. Communicable Disease Cases—Gastroenteric

Disease	2021	2020
Campylobacter	17	16
Cryptosporidiosis	10	9
Cyclosporiasis	7	6
E. Coli (STEC)	20	17
E. Coli (Other)	39	39
Giardiasis	12	12
Hemolytic Uremic Syndrome	0	0
Listeriosis	0	0
Salmonellosis	18	19
Shigellosis	3	4
Vibriosis	0	2
Yersinia	1	0

Table 5 describes the number of cases of other communicable diseases, including active and latent Tuberculosis, which requires Direct Observational Therapy (DOT). DOT means that a trained health care worker or other designated individual (excluding a family member) provides the prescribed TB drugs and watches the patient swallow every dose. Table 6 lists all vaccine preventable illnesses by year. It should be noted that COVID-19, although vaccine preventable in 2021, was not a vaccine preventable disease in 2020. Table 8 Describes the incidence of sexually transmitted diseases (STDs). There was a considerable increase in STDs from 2020 to 2021, this is a trend that has been occurring for several years across the nation.

Table 5. Other Communicable Disease Cases

Disease Type	2021	2020	Disease Type	2021	2020
Acute Flaccid Myelitis	0	0	Legionellosis	2	0
Babesiosis	0	2	Leprosy	0	0
Bacterial Meningitis	0	0	Lyme Disease	12	14
Blastomycosis	0	2	Malaria	0	0
Burkholderia Pseudomallei	0	0	Neisseria Meningitidis, Invasive Disease	0	0
Dengue Fever	0	0	Novel Influenza	0	0
Ehrlichiosis / Anaplasmosis	2	4	Rocky Mountain Spotted Fever	1	0
Haemophilis Influenza	0	1	Streptococcus group B invasive disease	14	12
Hep A	0	2	Streptococcus pneumoniae	3	4
Hep B	5	0	TB, Latent Infection	13	19
Hep C	24	40	TB: Atypical	10	12
Histoplasmosis	1	0	TB: Mycobacterium	3	3
Hospitalized Influenza	0	39	Viral Meningitis	0	0
Invasive Group A Strep	1	2	VISA	0	0
Invasive Strep, Other	0	1	West Nile Virus	0	0
Jamestown Canyon	0	0	Other	1	40
Kawasaki	0	0			

Table 6. Vaccine-Preventable Disease Cases

Disease Type	2021	2020
COVID-19	8,487	6,770*
Measles	0	0
Mumps	0	0
Pertussis	2	2
Rubella	0	0
Varicella	2	2

*Not vaccine preventable in 2020

Table 7. Tuberculosis Prevention and Control

	2021	2020
Number of TB (Chemoprophylaxis Referrals)	16	4
Number of TB Skin Tests	2	2
Number of Referrals for TB Blood Test	12	0
Number of TB positive tests	2	0

Table 8. Sexually Transmitted Diseases

	2021		2020	
	≤18	All Ages	≤18	All Ages
Chlamydia	22	327	33	283
Gonorrhea	7	103	9	99
Syphilis	2	20	1	12
HIV	0	1	0	4
Other STD	0	0	0	0
Partner/Referral Program (Contacts)	0	1	0	2

COVID-19 PANDEMIC RESPONSE



During the first quarter of 2021, we continued to activate the Public Health Emergency Preparedness plans. The Emergency Operations Center (EOC), led by Emergency Management Coordinator Cassidy Walsh, focused on the testing and vaccine distribution portion of the response.



January: Due to Wisconsin winter weather conditions it was a critical task to secure an indoor testing option for the Wisconsin National Guard. Fortunately, through city partnerships we were able to establish an indoor community testing site at the Fox Cities Exhibition Center. This site tested 1,113 individuals between January 11th and January 27th. During this time, vaccination planning ramped up and a Vaccine Coordinator was hired to assist.

February: Due to the Fox Cities Exhibition Center being the perfect location for a community vaccination clinic, the indoor testing site moved to Reid Golf Course as testing remained a critical component in mitigating the spread of COVID-19. On February 2nd, the Fox Cities Exhibition Center became the “Fox Cities COVID-19 Vaccine Clinic,” vaccinating the 65 years and older population with the launch of Phase 1B. The demand for vaccinations was so high that the registration system flooded, overbooking 6,000 appointments within 15 minutes of the site being launched. Appointments were rescheduled over the next two weeks. The demand for vaccination at this location remained extremely high for the next 10 weeks.

March: The indoor testing site at Reid Golf Course relocated on March 31st to the former Family Video at 2700 E Calumet St. The testing site at Reid Golf Course tested 1,773 individuals between February 1st and March 24th. With the vaccine becoming more readily available, planning began to bring City staff back to working on-site. March 15th, the city launched a soft opening for employees. Employees were able to return to workspaces with department director approval, with continued social distancing, limited capacity in areas with shared airspace, and virtual meetings only continued.

April: The soft launch in March was successful and the city was able to keep COVID-19 cases limited having had employees return to onsite work. In April, City of Appleton customer service operations were reopened. These points included City Hall 5th floor customer service, Reid Golf Course, among others.

May: Towards the end of April, demand for vaccine diminished considerably and it became difficult to fill appointments in May. The Fox Cities COVID-19 Vaccine Clinic closed on May 27th. Although demand dropped, the vaccination clinic proved to be extremely successful having vaccinated 32,984 individuals. This accounted for 87.2% of all vaccines



Figure 7. Emergency Management Coordinator, Cassidy Walsh, talks with a reporter about mass vaccinations.



Figure 8. Public Health Nurse Jess Moyle administers the Pfizer COVID-19 vaccine to firefighter Bryce Stenhagen Tuesday at City Hall. Photo credit: Dan Powers/USA Today Network Wisconsin.

received by Appleton residents. The demand for testing also declined in May, leading to the closure of the indoor testing site at the former Family Video on May 27th. A total of 597 individuals were tested between March 31st and May 27th at the Family Video location. On May 3rd, all employees were strongly encouraged to return to the workplace.

June: The EOC officially closed on June 1st, and a mandatory return to work was put into place for all City of Appleton staff. Although testing and vaccination was available at multiple locations throughout the city, a small vaccination clinic opened at the

Appleton Public Library and ran through August.



Figure 9. Public Health Nurse Jess Moyle prepares vaccine for a COVID-19 clinic.

August: The Appleton Health Department partnered with Appleton Area School District, provided clinics at three schools: Einstein, Kaleidoscope, and James Madison.

September: A community testing site, staffed by National Guard, opened September 21st at 2411 S Kensington. In September, 364 individuals received testing at this location. At the same time, the approval for a COVID-19 booster was underway. In order to meet the anticipated increase in vaccine demand, the Appleton Health Department opened another vaccination clinic on September 30th.

October: On September 21st, the new testing site opened. For much of October, the emergency management coordinator

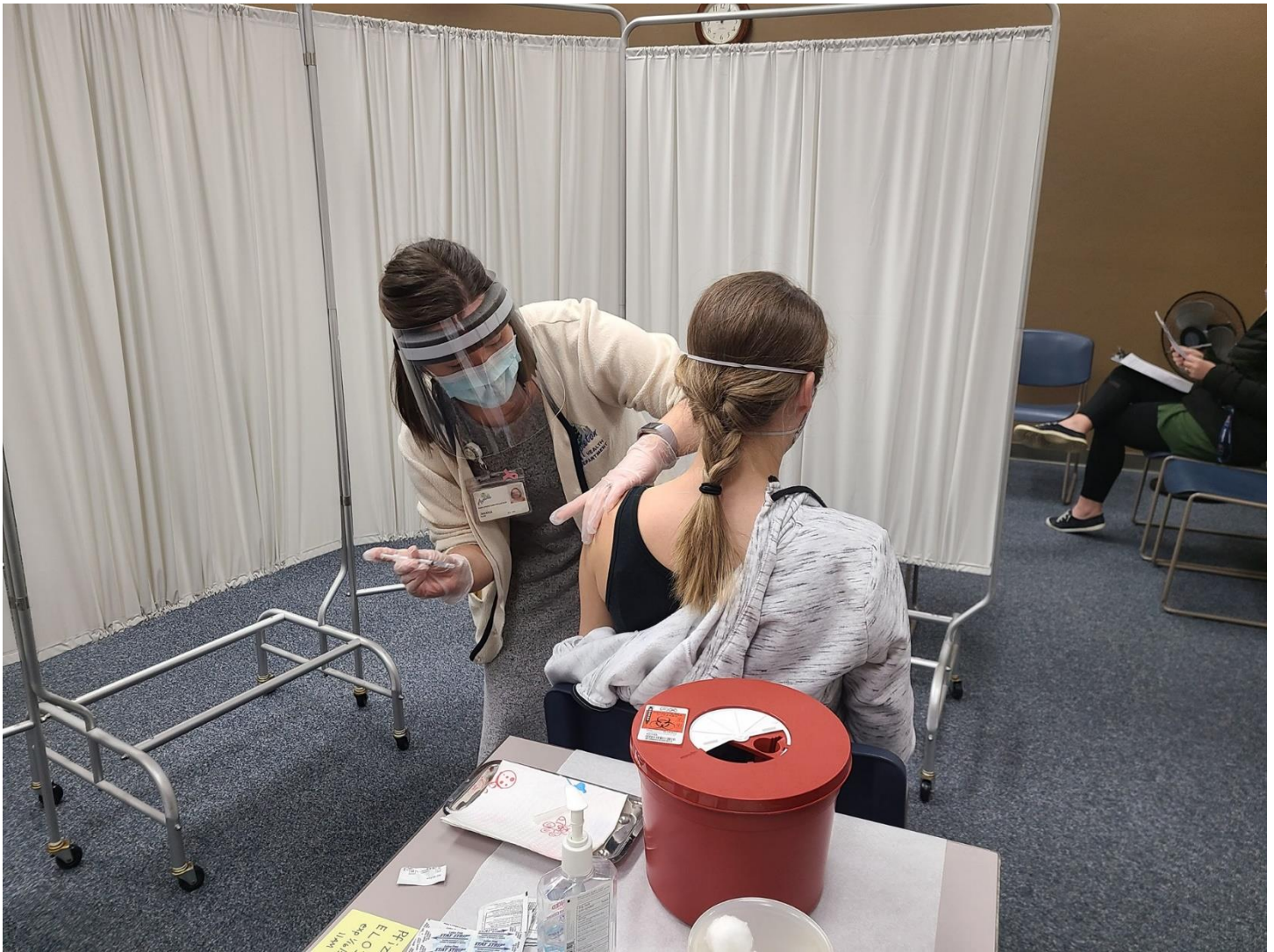


Figure 10. Public Health Nurse Jess Moyle administers a COVID-19 vaccine to a City of Appleton employee.

worked to identify alternative testing options. A plan was developed in partnership with Wisconsin Department of Health Services. However, the Wisconsin National Guard extended through the end of January of 2022, and the alternative testing arrangements were never implemented. In the month of October, 539 total individuals were tested. Moderna was approved for boosters 18+ and we received and began administering all three vaccines. October also saw the approval of the Pfizer vaccine for ages 5+ years. Appleton Health Department quickly organizing and deploying vaccine clinics targeting 5–11-year-old age group. In October, the Appleton Health Department held influenza vaccine clinics for City of Appleton staff at City Hall and Fox Valley Transit.

November: Worked closely with the Building for Kids organization and the Multi-cultural Committee to bring in additional activities for children attending the vaccine clinic on November 18th and 19th. Building for Kids programming was well-received by attendees, in that the vaccine was described as an afterthought by those in the 5–11-year-old age group.

December: The testing site concluded the year with testing 3,367 individuals between November 1st and December 29th. The last day of the vaccination clinic was December 30th, 2021, concluding in a total of 4,159 doses administered at 2411 S Kensington Dr.

COVID-19 Case Reporting



To report COVID-19 cases, rate of transmission, and other metrics stakeholders used for decision-making, the Appleton Health Department worked with the City of Appleton Department of Community Economic Development’s GIS team to create a data dashboard, see Figure 11. Additionally, each week the Appleton Health Department reported the number of new cases, rate of transmission, deaths, and other important COVID-19 statistics through social media.

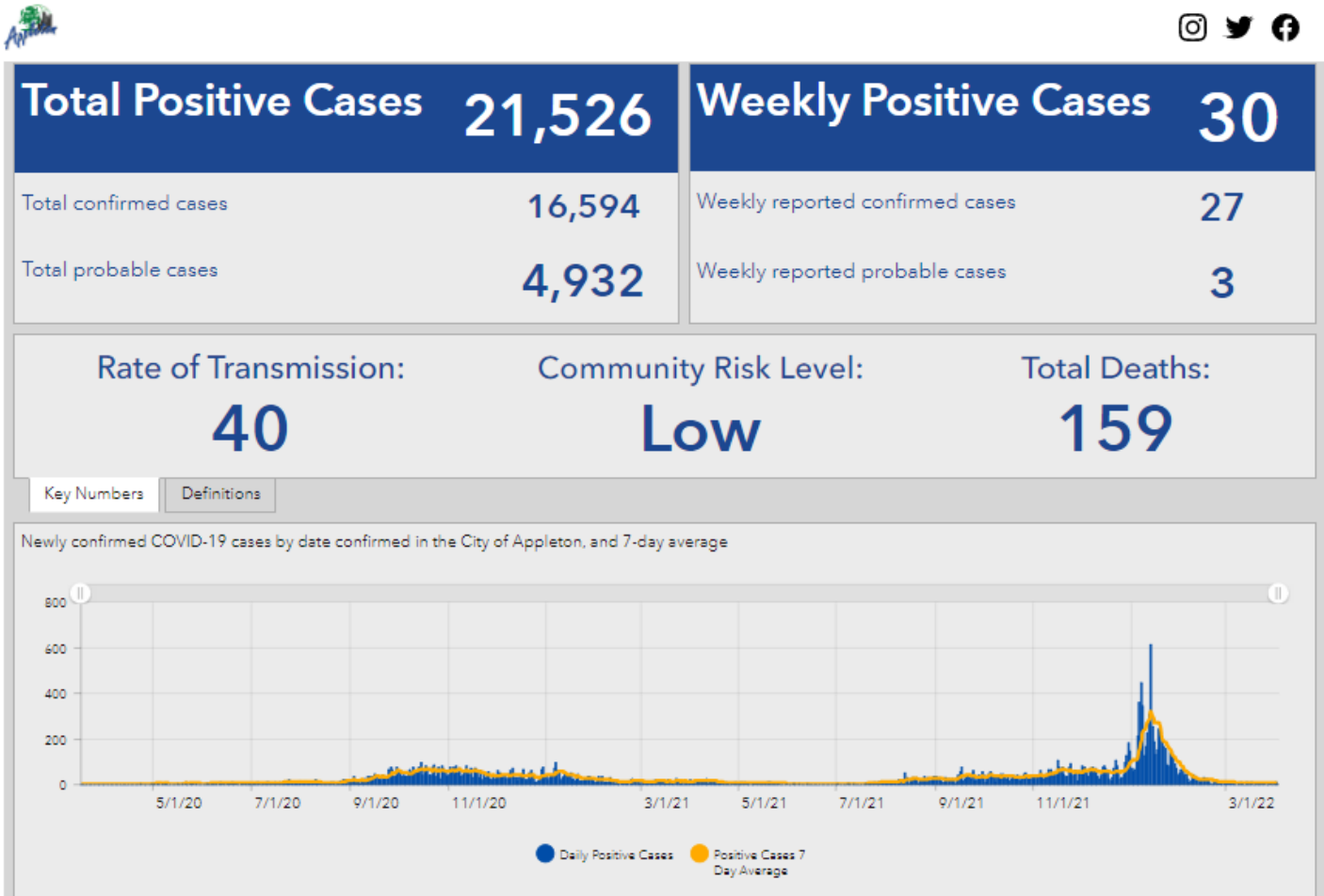


Figure 11. City of Appleton’s COVID-19 dashboard.

For this report, the Appleton Health Department pulled all of the COVID-19 data available through the Wisconsin Electronic Disease Surveillance System (WEDSS) through the week ending on March 19th, 2022. Weeks in the report align with the CDC’s Morbidity and Mortality Weekly Report (MMWR) Week. MMWR weeks begin on Sunday and go through Saturday. All variables, including race, ethnicity, and sex were reported from WEDSS variables.

Table 9. Distribution of Cases by Reported Sex

Sex	Case Count	%
Female	11,024	52.0
Male	9,986	47.1
Unknown	216	1.0

Table 9 describes the distribution of COVID-19 by sex. Female residents comprised 52.0% of all COVID-19 infections. Table 10 describes the distribution of cases by race and ethnicity. While it is not surprising that White and not Hispanic/Latino were the largest

Table 10. Distribution of Cases by Reported Race & Ethnicity

Race/Ethnicity	Case Count	%
White	15,736	74.2%
Unknown	1,879	8.9%
Asian	1,402	6.6%
Other	1,099	5.2%
Black or African American	716	3.4%
American Indian or Alaska Native	268	1.3%
Multiple Races	76	0.4%
Native Hawaiian or Other Pacific Islander	50	0.2%
Not Hispanic or Latino	16,061	75.8%
Unknown	3,425	16.2%
Hispanic or Latino	1,740	8.2%

demographic groups experiencing COVID-19 infection, the percentage of those with reported unknown race (8.9%) and ethnicity (16.2%) is relatively high. While the distribution of cases is largely proportional to the racial and ethnic distribution of the Appleton resident population, it is unclear if these unreported data are masking equity issues around COVID-19 infections. Figure 12 describes the distribution of cases by MMWR Week. Described later in the report, the Omicron surge dominated the number of new COVID-19 cases at the end of 2021 and well into the first 4 weeks into 2022. To put things into perspective, there were

nearly 75% of cases (6,304 cases) in the first 11 weeks of 2022 as there were in all of 2021 (8,469 cases).

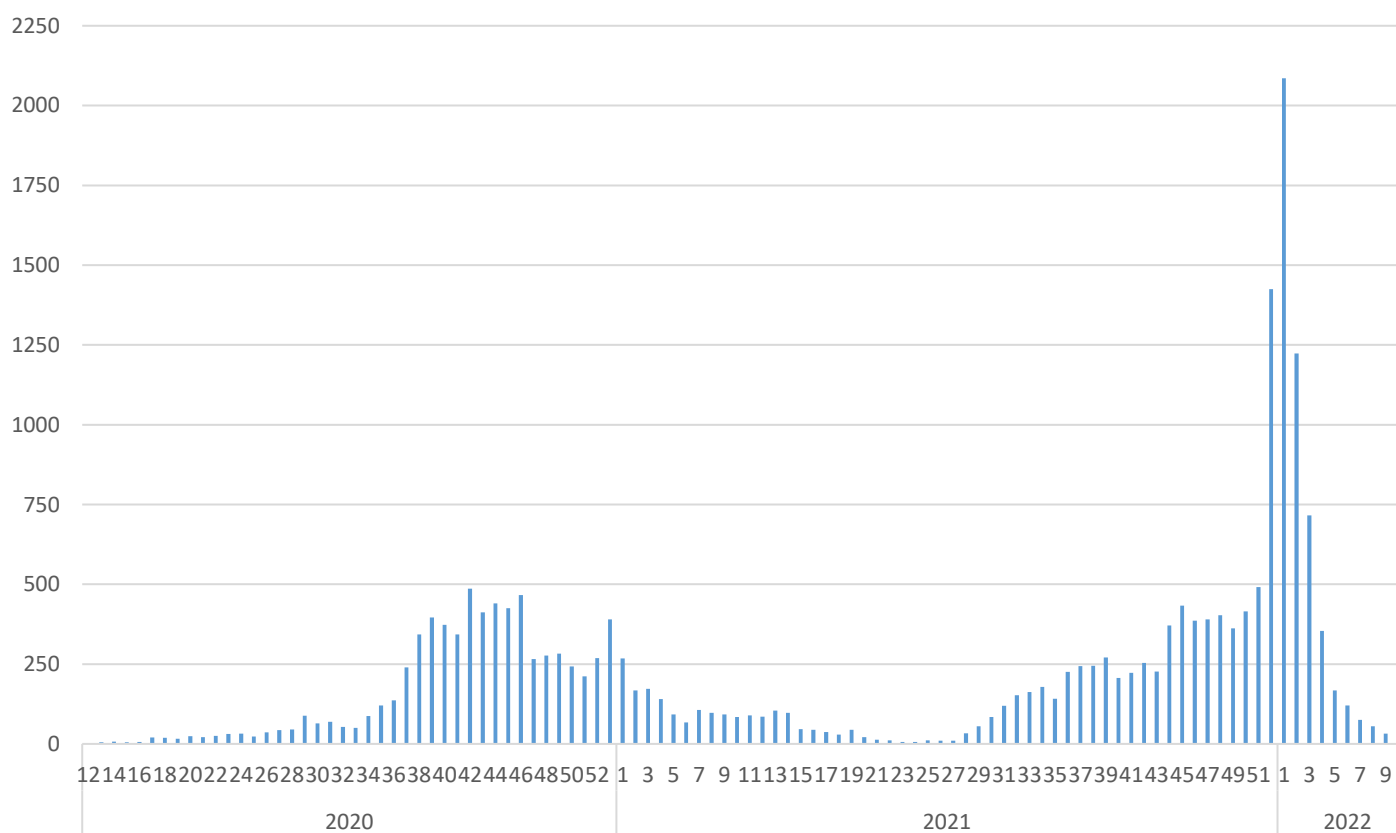


Figure 12. Distribution of new COVID-19 infections by MMWR Week.

Figure 13 describes the timeline of major pandemic response events at the national, state, and local levels that affected Appleton residents. The timeline is featured over the backdrop of cases, hospitalizations, and deaths by MMWR Week. Through visual inspection of these data, we can make some observations.

In 2020, we saw only a relatively small increase in cases for two consecutive weeks (2020-43 and 2020-44) after the National Guard community testing program was implemented in Appleton. One of the national conversations at the time was that increased testing will lead to dramatically higher new cases being reported. These data indicate that this is not the case. Additionally, while it is unclear the effect the Wisconsin Mask Order had in slowing the transmission of COVID-19 in Appleton, the surge in Fall and Winter of 2020 was dramatically blunted in comparison to the surge experienced in the same season in 2021 without the WI Mask Order. While it is true that the Omicron variant was the most transmissible of all the dominant COVID-19 variant types, the reduction in masking undoubtedly brought on by the absence of the WI Mask Order likely increased the rate of transmission of COVID-19 in 2021.

Two additional observations are immediately apparent with these data. First, the green arrow depicts anticipated waning of the COVID-19 vaccine of 27 weeks from the first Phase 1B mass testing clinic. This assumes a 3-week period between Pfizer Doses 1 and 2 and the 6-month anticipated waning period identified by the FDA and the CDC when emergency use authorization was granted for the booster dose of mRNA COVID-19 vaccine. This window was later reduced from 6-months to 5-months. These data indicate vaccine waning began to occur at Week 2021-28 exactly. Additionally, we saw the same pattern of 5-month vaccine waning about 23 weeks after vaccine Phase 2 began. These data provide clear evidence of the performance of the COVID-19 vaccine within the local population for reducing the rate of transmission.

Another important observation to be gleaned from these data is the rapid and dramatic increase in COVID-19 cases brought on by the Omicron variant. While the percentage of Appleton residents that received boosters was nearly half of those that had been initially vaccinated, it is unclear how well the vaccine, formulated for the initial variant, performed against case transmission of the Omicron variant.

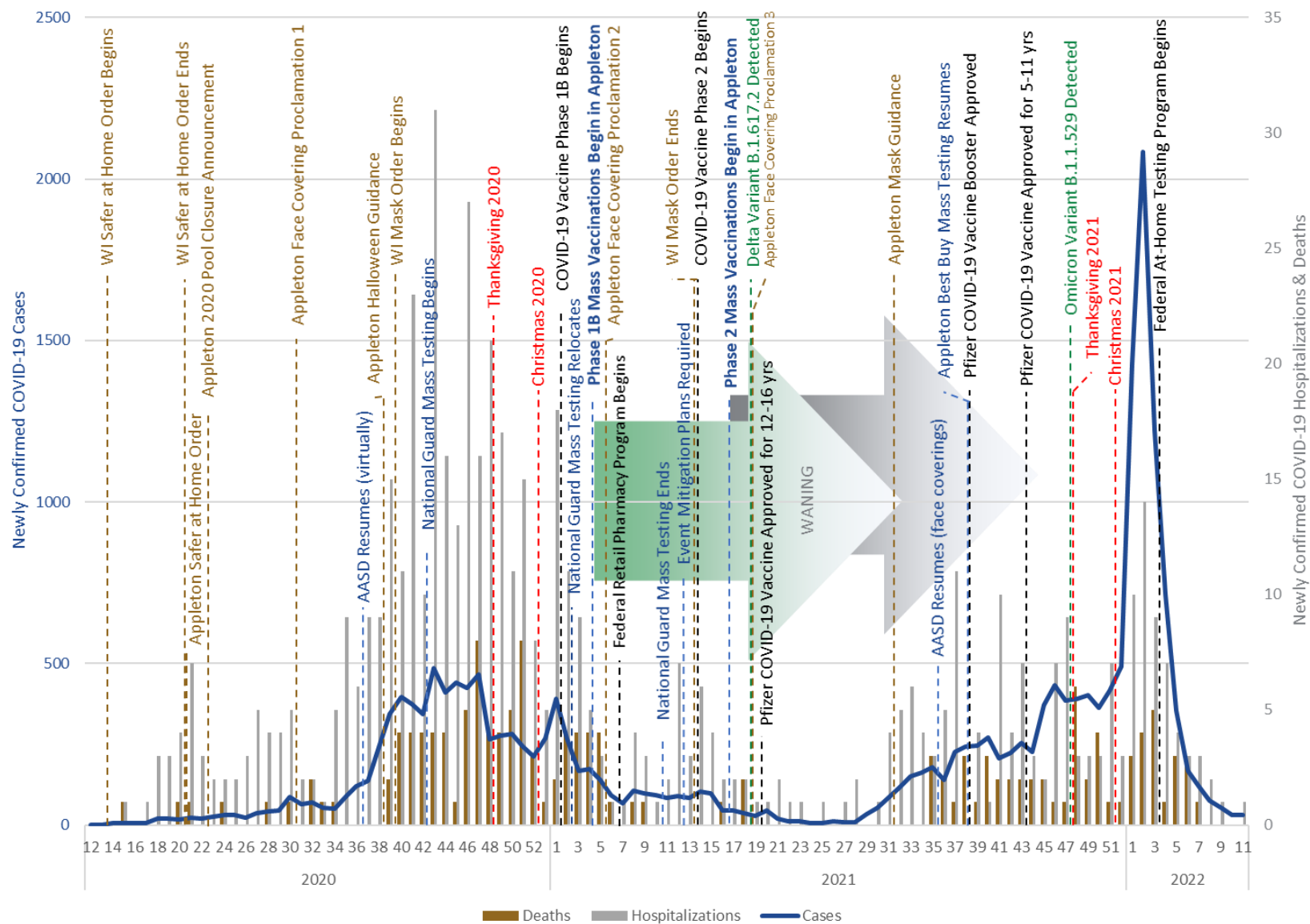


Figure 13. Timeline of the COVID-19 response at the National, State, and local levels as it relates to COVID-19 cases, hospitalizations, and deaths by MMWR Week.

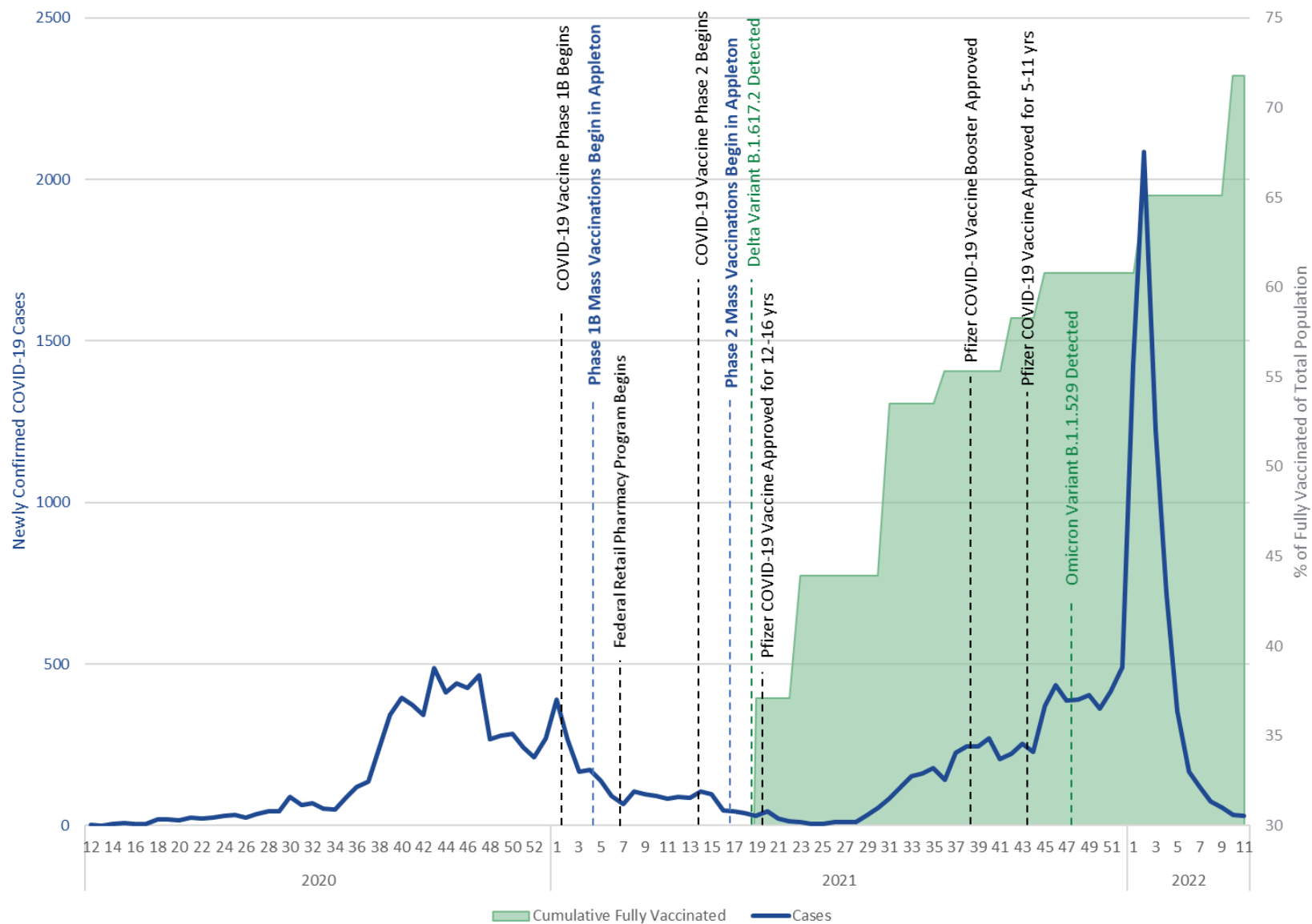


Figure 14. Timeline of the COVID-19 response at the National, State, and local levels as it relates to COVID-19 cases and percentage of fully vaccinated residents over time.

COVID-19 Hospitalizations



At the time of this report (for the week ending 3/19/22), there were a total of 584 reported COVID-19 hospitalizations (787.7 hospitalizations per 100k) among residents of Appleton. Overall, about 2.8% of those that residents with COVID-19 were hospitalized. Comparatively, 1.7% of Wisconsin residents with COVID-19 were hospitalized (448.7 hospitalizations per 100k).

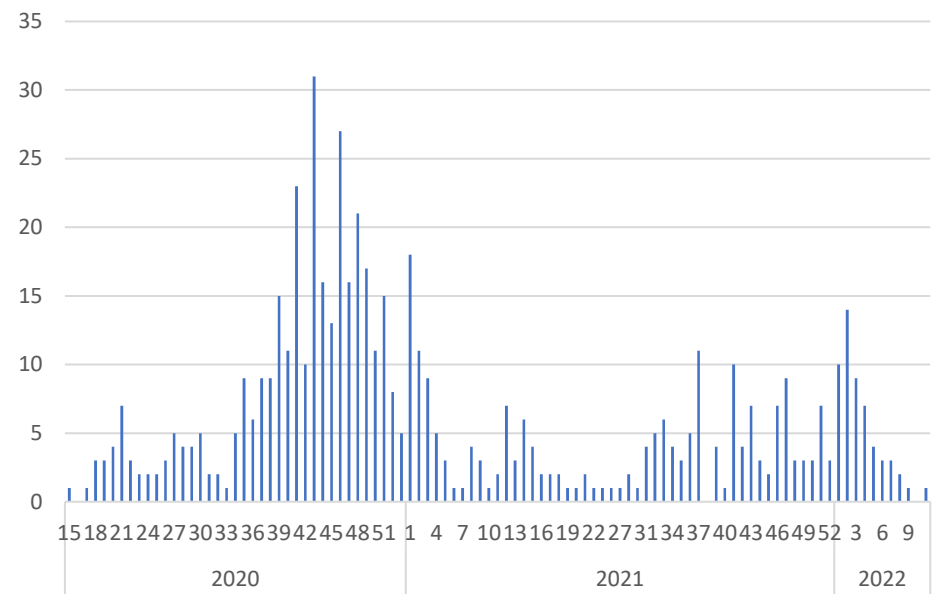


Figure 15. COVID-19 hospitalizations by MMWR Week.

Figure 15 displays the distribution of weekly COVID-19 hospitalizations experienced by Appleton residents since 2020.

Figure 16 displays the distribution of all COVID-19 hospitalizations by age category among Appleton residents. The most hospitalizations occurred among residents 70-79 years.



To help understand the economic impact of COVID-19 hospitalizations, we examined costs associated with both



Complex (hospitalized persons admitted to the ICU) and Noncomplex (hospitalized persons not the ICU). Using average costs per patient within the State of Wisconsin for both Complex (\$269,412) and Noncomplex (\$53,268) reported by the Becker Hospital Review, we calculated the gross economic impact (EI) and EI per 100k people. Hospitalization costs are important to understand, especially as cost-sharing waivers and premium relief

programs were unable to fully insulate COVID-19 patients from out-of-pocket hospitalization costs.

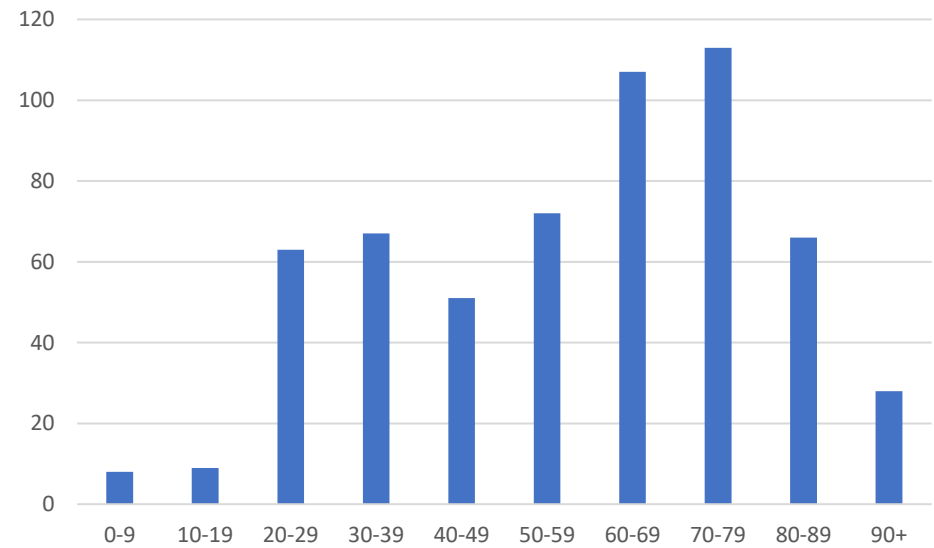


Figure 16. Total COVID-19 hospitalizations by age category.

Complex hospitalizations accounted for 7.55% (41) of all COVID-19 hospitalizations (584). Further, complex hospitalizations accounted for 27.6% (\$11.045m) of the economic impact of all hospitalizations (\$39.966m), see Table 11. These analyses indicated that one out of thirteen Appleton residents incurred more than one-fourth of the total cost of COVID-19 hospitalizations.

Table 11. Age Stratification and Economic Impact of COVID-19 Hospitalizations

	2020–2022	2020	2021	2022 YTD	2020	2021	2022 YTD
Age (years)	Total	ICU	ICU	ICU	NC	NC	NC
0-9	8	0	0	0	4	4	0
10-19	9	0	0	0	3	5	1
20-29	63	0	0	0	37	18	8
30-39	67	2	2	0	40	16	7
40-49	51	1	3	0	28	16	3
50-59	72	1	4	1	36	29	1
60-69	107	6	5	0	51	38	7
70-79	113	8	5	1	52	34	13
80-89	66	1	1	0	42	15	7
90+	28	0	0	0	19	4	5
Total Hosp	584	19	20	2	312	179	52
Economic Impact	\$39.97m	\$5.12m	\$5.388	\$539k	\$16.62	\$9.53m	\$2.77m
Hosp per 100k	787.7	25.6	27.0	2.70	420.8	241.4	70.1
Weekly avg per 100k	6.79	0.48	0.51	0.25	7.94	5.44	6.37
EI per 100k	\$50.97m	\$6.90m	\$7.27m	\$727k	\$22.42m	\$12.86m	\$3.74m

Note. ICU = Intensive Care Unit



Table 12 describes the proportion of total COVID-19 hospitalizations by race. Non-White minority groups and the category “Other” collectively experienced a disproportionately higher percentage of COVID-19 hospitalizations when compared to community demographics.

Some groups experienced higher proportion of COVID-19 hospitalizations when compared to their proportion of the population. For example, American Indian and Alaska Natives made up 2.2% of COVID-19 hospitalizations, more than three times higher than the proportion of the group’s population in Appleton (0.6%).

Asian residents were hospitalized at a proportion 12% less than what would be expected based on community demographics. White residents were hospitalized at a proportion of about 8.5% lower than expected, based on demographics.

Of those hospitalized, 331 were identified as female, 252 were identified as male, and one resident was identified as unknown gender.

Table 12. Distribution of COVID-19 Hospitalizations by Race.

Race	Hospitalizations	Percentage
White	451	77.2%
Asian	34	5.8%
Other	33	5.7%
Unknown	30	5.1%
Black or African American	20	3.4%
American Indian or Alaska Native	13	2.2%
Multiple Races	3	0.5%

COVID-19 Deaths



At the time of this report (for the week ending 3/19/22), there were a total of 155 verified COVID-19 deaths among Appleton residents. Per capita, this translates into 209.1 cases per 100k people. By comparison, the rate of COVID-19 deaths per 100k people for Wisconsin is 244.2. Table 13 describes the total number of deaths by age group and by year since 2020.



While the number of COVID-19 deaths had decreased from 2020 (83 deaths) to 2021 (60 deaths), the proportion of Appleton residents that had died of COVID-19 over the age of 75 years had decreased markedly each year, see Table 13. Weekly average deaths per 100k residents also decreased each year. Based on the 2022 COVID-19 year-to-date data, fewer COVID-19 deaths are expected this year.

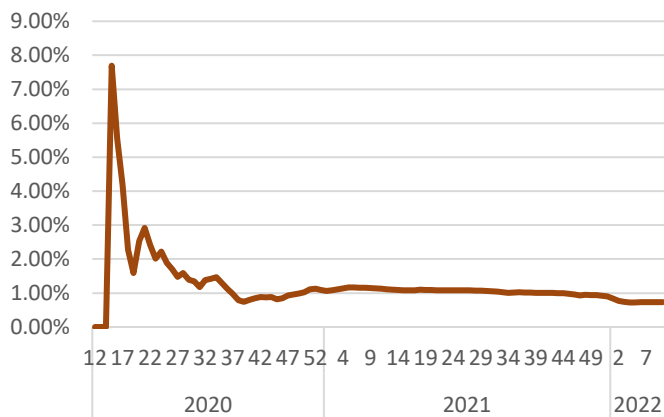


Figure 17. Total Case Fatality Ratio over time.

from 2020 MMWR Week 39 from 0.75% until reaching 1.13% on 2021 MMWR Week 4. This was the same week that Appleton Health Department in partnership with local stakeholders began offering COVID-19

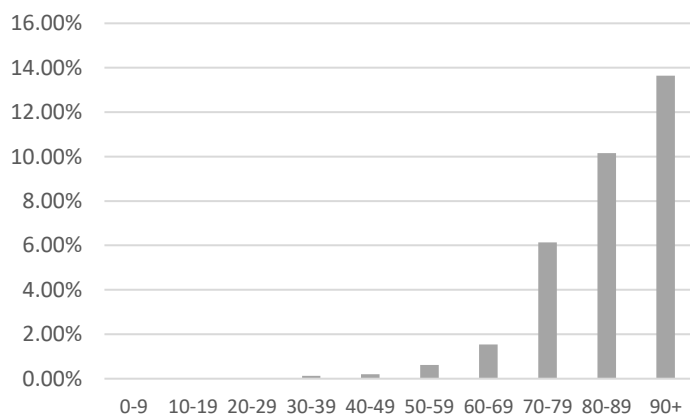


Figure 18. Overall CFR by age category.

comparison, residents aged 90 years and older were more than 18 times more likely to die due to COVID-19 than the Appleton average with a CFR of 13.64%.

Additionally, Figure 19 displays the COVID-19 CFR by age and year. We detected a reduction in CFR among residents 70-79 years and 80-89 years from 2020 to 2021 (7.12% to 5.04% and 12.8% to 11.7%, respectively)

Case Fatality Ratio (CFR) is a measure of the deadliness of an infectious disease. The CFR is the total number of deaths divided by the total number of cases multiplied by 100, in order to calculate a percentage. Using CFR, we can make comparisons in a standardized way. The total CFR for the City of Appleton was 0.73%. By comparison, CFR for Wisconsin was .84%, or about 12% higher than the Appleton CFR.

Figure 17 displays the CFR over time. These data show that CFR was considerably higher in the spring of 2020 when cases were relatively low, and fatalities were relatively high. Additionally, CFR had risen steadily from 2020 MMWR Week 39 from 0.75% until reaching 1.13% on 2021 MMWR Week 4. This was the same week that Appleton Health Department in partnership with local stakeholders began offering COVID-19 vaccines as part of Phase 1B. From 2021 MMWR Week 4 through present, CFR has dropped from 1.13% to 0.73%.

Figure 18 displays the overall COVID-19 CFR by age category. Similar to national data, older residents died at a higher proportion than younger residents as a result of COVID-19 infection, despite that more deaths had occurred among residents under 75 years, see Table 13. While those aged 50-59 years are below the Appleton average CFR at 0.62%, those aged 60-69 years were more than twice as likely to die than the Appleton average CFR (1.54%). By

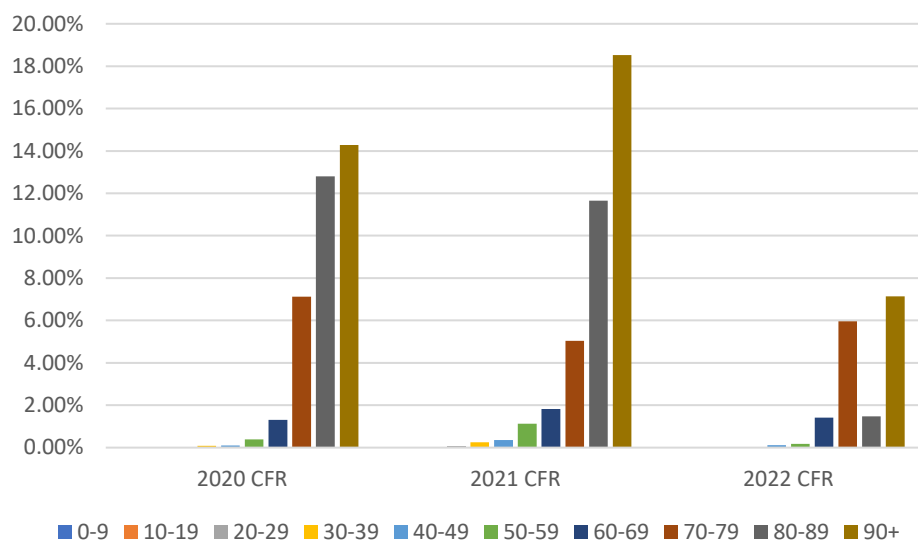


Figure 19. Case Fatality Rate by age and year

quality of life and the economic impact, had on the community.

Years of potential life lost (YPLL) is a measure of the number of years not lived by each individual who died before reaching a predetermined age. This measure weights deaths at younger ages more heavily than deaths

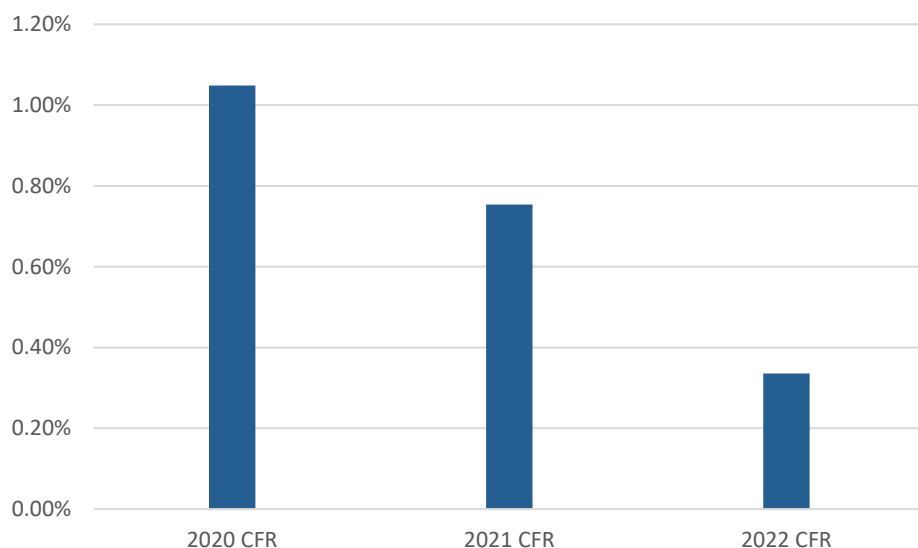


Figure 20. Total Case Fatality Rate by year.

at older ages; the younger the age at death, the greater the number of years of potential life lost. The YPLL for a population is computed as the sum of all the individual YPLL for individuals who died during a specific time period. For this annual report, we examined YPLL at the age of 75 to account for overall life expectancy, rather than age of retirement.

Table 13 describes COVID-19 deaths both by age and by year of occurrence, YPLL, and economic impact. To calculate economic impact, we used the US Federal calculation for Value of Statistical Life Year (VSLY), which includes direct and indirect financial impacts, of \$369,000 multiplied by YPLL. This is a first attempt to begin to understand the economic impact that COVID-19 had upon the residents of Appleton.

Despite COVID-19 deaths and CFR being lower from 2020 to 2021, crude YPLL nearly doubled from 367.0 to 684.5 YPLL, see Table 13. These data indicated that COVID-19 fatalities, which were less than the previous year, were occurring among younger residents at a greater proportion. For example, those aged 35-44 years experienced four COVID-19-related deaths in 2021, whereas there were no deaths from that age category the

and a dramatic reduction in CFR among residents 80-89 years and 90+ years from 2021 to 2022 (11.7% to 1.47% and 18.5% to 7.14%, respectively). Residents aged 50-59 years and 60-69 years increased from 2020 to 2021 (0.39% to 1.19% and 1.31% to 1.82%, respectively).

While CFR is important for understanding the proportion of the population that had died as a result of a COVID-19 infection, CFR is not sensitive to the impact of preventable deaths, both on

previous year. Deaths from other age groups under 75 years had doubled. In 2021, total COVID-19 deaths among residents aged 75 years and older decreased to 35.0% from 59.0% in 2020. Overall, the total YPLL among Appleton residents was 1,176.5 years.



The overall economic impact of COVID-19 deaths (VSLY x YPLL) among residents was \$434m. Because economic impact was linked to YPLL, we saw the same magnitude of change from 2020 to 2021. From 2020 to 2021, economic impact as a result of COVID-19 deaths increased, while overall deaths decreased, as did the age of those COVID-19 fatalities decreased from 2020 to 2021. When looking at the year to date data for 2022, we see that the weekly average of COVID-19 deaths per 100k was lower than 2020 and 2021 (1.47 weekly deaths per 100k residents), but the proportion of the COVID-19 fatalities skewed even younger than they did in 2021, suggesting that the economic impact of COVID-19 deaths has the potential be even greater in 2022 than in 2021 if similar rates of COVID-19 transmission are experienced and CFR for younger populations continue to grow.

Table 13. Age Stratification and Economic Impact of COVID-19 Deaths

	2020–2022	2020	2021	2022 YTD
Age (years)	Deaths	Deaths	Deaths	Deaths
<1	0	0	0	0
1-14	0	0	0	0
15-24	0	0	0	0
25-34	3	1	2	0
35-44	6	0	4	1
45-54	12	4	8	0
55-64	18	6	11	1
65-74	44	23	14	7
Total Deaths <75	83	34	39	9
Total YPLL <75	1,176.5	367.0	684.5	89.5
Population <75	66,040	66,040	66,040	66,040
YPLL Rate per 100k <75	1,781.5	555.7	1,036.5	135.5
Total Deaths >75	72	49	21	3
Total Deaths >75 %	46.5	59.0	35.0	25.0
Total Deaths (all ages)	155	83	60	12
Deaths per 100k	209.1	112.0	80.9	16.2
Weekly Avg per 100k	1.80	2.15	1.53	1.47
VSLY x YPLL	\$434,128,500	\$135,423,000	\$252,580,500	\$33,025,500
VSLY x YPLL per 100k	\$657,373,500	\$205,053,300	\$382,468,500	\$49,999,500

There are some important factors to consider when comparing YPLL and economic impact between these last two years of the COVID-19 pandemic. First, CFR among those residents infected with COVID-19 had dropped considerably as the proportion of residents became fully vaccinated against the virus. This is true even as population data suggest weaker performance of the COVID-19 vaccines against rates of overall COVID-19 infections when the Omicron variant appeared. The local Appleton data suggest that medically significant outcomes indicators, including CFR, continued to decrease as overall percentage of the population that was fully vaccinated increased.

Secondly, COVID-19 vaccines were not widely available to the general public until CDC distribution Phase 2. This would have strong implications for the dramatic decrease in CFR among older residents that had access to the COVID-19 vaccine earlier in the year. Younger residents were at increased risk of medically significant COVID-19 infection with decreased early availability of the COVID-19 vaccine.

Next, COVID-19 vaccine uptake among younger populations stalled just one to two months into the 16+ year COVID-19 vaccination effort began. With COVID-19 infections were subsiding, younger residents delayed getting the vaccine in many instances. With naturally immunity waning with the retreat of COVID-19 infections from the first wave and the stalling of vaccine uptake among young adults, the stage was set for deadlier COVID-19 outcomes among younger populations, who were at greater risk for medically significant COVID-19 infection.

Another important factor that is critical to understanding YPLL and economic impact is confusion around the changing CDC guidance. Just weeks prior to the more transmissible Delta variant was detected in the US, the CDC updated its mask guidance to remove masking recommendations under certain conditions just as vaccination rates were stalling nationally. This may have further exacerbated the risk to young people for developing medically significant COVID-19 infection in the fall.



Table 14 describes the distribution of COVID-19 deaths by race. Overall, the proportion of COVID-19 is similar to the racial composition of the community, despite there being some observed disparity among hospitalizations. In total, there were three residents that identified as Hispanic that died as a result of COVID-19 infection.

Table 14. COVID-19 Deaths by Race

	Deaths	Percentage
White	132	85.16%
Asian	12	7.74%
Other	4	2.58%
American Indian or Alaska Native	3	1.94%
Black or African American	3	1.94%
Unknown	1	0.65%



CHRONIC DISEASE & INJURY PREVENTION

The Appleton Health Department works to prevent chronic disease and injury within the City of Appleton by providing services, education, and working with a diversity of coalitions.

We work with the East Central Wisconsin Regional Planning Commission and their community partners as they strive to make the City of Appleton more walkable and bikeable. In addition, we participate as a general and steering member on the Fox Valley Safe Kids Coalition, which works on injury prevention objectives for children under the age of 18. Appleton Health Department is also a member of the Outagamie County Child Death Review Team, which reviews all child deaths and domestic abuse related deaths in order to better understand how and why these deaths occur with the hope of using the findings to take preventative action that will improve the health and safety of the community.

As a matter of prevention, Appleton Public Health Nurses provide education and resources to families about sudden infant death syndrome (SIDS). In 2021, the nurses were limited in their ability to visit homes of new families but were able to collaborate with the local family health center, Mosaic, so families in need could still obtain the education and “Baby Boxes” or “Pack’n’Play” resources distributed during their Safe Sleep Program. Nurses also counsel caregivers on safe sleep practices during pregnancy and baby care home visits.

LEAD SURVEILLANCE & ENFORCEMENT



The Appleton Health Department operates lead poisoning prevention to alleviate the harm caused by lead exposure which typically affects children under the age of 6 years old, particularly those living in low-income areas. Appleton Public Health Nurses receive referrals from physicians and then conduct home visits to determine where lead exposure is coming from. While with the families, our nurses educate them on best practices and how to keep their children safe.

Since 1973, the United States has taken drastic steps in reducing lead exposure by restricting or eliminating lead in gasoline, paint, faucets and pipes; however, elevated blood lead levels remain an issue for children, particularly those living in older houses where they may encounter old paint dust or contaminated drinking water via old plumbing lines. Further, children who live near manufacturing sites where lead may have contaminated the soil through gasoline, car exhaust, metal smelting, battery manufacturing or paint flakes experience more exposure.

In 2012, CDC introduced the [blood lead reference value](#) (BLRV) to identify children with higher levels of lead in their blood compared to most other children. Lead can get into one’s body by consuming contaminated water or food, or from breathing fumes or dust that contain lead.

Figure 21. Blood Lead Levels

Repeat Venous lead levels 10 - 19 ug/dl	2021	2020
Capillary lead levels >10 ug/dl	2	10
Capillary lead levels 5 - 9 ug/dl	17	8
Venous lead levels 5 - 9 ug/dl	10	14
Home Inspections	3	2
Education	3	11
Formal Enforcement Action	1	1

The good news: Lead poisoning is **100% preventable.**

Take these steps to make your home lead-safe.



Talk with your child's doctor about a simple blood lead test. If you are pregnant or nursing, talk with your doctor about exposure to sources of lead.



Talk with your local health department about testing paint and dust in your home for lead if you live in a home built before 1978.



Renovate safely. Common renovation activities (like sanding, cutting, replacing windows, and more) can create hazardous lead dust. If you're planning renovations, use contractors certified by the Environmental Protection Agency (visit www.epa.gov/lead for information).



Remove recalled toys and toy jewelry from children and discard as appropriate. Stay up-to-date on current recalls by visiting the Consumer Product Safety Commission's website: www.cpsc.gov.



Visit www.cdc.gov/nceh/lead to learn more.

As noted, children under the age of 6 years old are at an increased risk for lead exposure, due to their rapid rate of growth and their tendency to place toys and other objects in their mouths that could contain lead or leaded dust.

However, adults may also experience elevated blood lead levels. Most are exposed to lead at work. A greater chance for lead exposure is found in people who work in occupations related to mining, ironwork or welding, construction including building renovation and remodeling, smelters, shooting ranges, manufacture and disposal of car batteries, automobile radiator repair, and manufacture of pottery or stained glass. High lead levels in adults are associated with cardiovascular effects, nerve disorders, decreased kidney function, and fertility problems, including delayed conception and adverse effects on sperm and semen, such as lower sperm counts and motility, increases in blood pressure, hypertension, and incidence of essential tremor, a degenerative disorder of the central nervous

system whose most recognizable feature is a tremor of the arms or hands during voluntary movements, such as eating and writing.

Lead Safe Homes Program



Along with testing lead levels and educating families on lead poisoning prevention, the Appleton Health Department also refers families to the Lead Safe Homes Program (LSHP) which is a Health Services Initiative with the Children's Health Insurance Program (CHIP), otherwise known as Medicaid or BadgerCare Plus in Wisconsin. This program provides repairs to owner-occupied and rental properties to make them lead-safe. It is available to persons enrolled in Medicaid or BadgerCare Plus as a way to prevent lead poisoning. Families with children under the age of 19 and pregnant women may qualify for the program.

In 2021, two homes in Appleton (1217 N Harriman Street and 509 N State Street) were renovated in the Summer of 2021 to mitigate a discovered lead hazard.

Table 15. Lead Indicators

Lead	2021	2020
Initial Venous lead levels >19 ug/dl	0	1
Repeat Venous lead levels >19 ug/dl	0	0
Initial Venous lead levels 10 - 19 ug/dl	2	1

Table 16. Carbon Monoxide Poisoning

	2021	2020
Carbon Monoxide Poisoning	5	8



Environmental health is the branch of public health that: focuses on the relationships between people and their environment; promotes human health and well-being; and fosters healthy and safe communities. Environmental health is a key part of any comprehensive public health system. The field works to advance policies and programs to reduce chemical and other environmental exposures in air, water, soil, and food to protect people and provide communities with healthier environments.

Highlights of 2021

January 2021: Our Environmental program is evaluated by the WI Department of Agriculture, Trade and Consumer Protection every three years to ensure the requirements of our Agent Contract Licensing and inspection program are met. A typical evaluation is done on-site, over the course of several days. This year's evaluation was done virtually with Environmental Supervisor, Steve Kihl, requiring all documentation be compiled and uploaded. Inspection policies, procedures, fee schedules, quantity of completed inspections, and staff training policies are a few examples of contract items reviewed. Our evaluation results were very positive. The only area requiring attention is keeping up with annual routine inspections. Our Environmentalists continued to pivot from COVID related duties to more inspection work.

April 2021: The Wisconsin Department of Agriculture, Trade and Consumer Protection enacted changes to Wisconsin Administrative Code Ch ATPC 75 impacting license types assigned to food establishments. Changes included renaming Retail Food Establishment types and the assessment criteria used to issue a license. Restaurants are now referred to as "Retail Food Establishments – Serving Meals" and general retail food stores are called "Retail Food Establishments – Not Serving Meals". Establishments fall into one of several subcategories based on the complexity of the operation and risk of the processing activities. License category names for all food establishments have been changed to reflect this new terminology.

June 2021: Steve Kihl conducted annual training for the ADI Farm Market food vendors. Approximately 30 vendors participated in the training.

July 2021: In July, Environmental Health Staff completed the establishment license renewal process. One establishment elected to close, rather than pay the Health License fee and other debts owed to the City.

Steve Kihl successfully completed DATCP Standardization maintenance. The purpose of standardization is to promote statewide uniformity and establish proof of inspector proficiency in the food establishment inspection process and knowledge of the Wisconsin Food Code.

September 2021: All Environmental staff renewed their Lead Risk Assessor certification virtually through the WI Lead Program. Recertification is required every 2 years.

November 2021: Annual survey sent to 160 locations, 19% completed and returned surveys. Of those respondents, satisfaction rating was 99.01%.

Table 17. Environmental Public Health Licensed Establishment Actions

Licensed Establishments	Plan Reviews		Inspections		Complaints		Consultations	
	2021	2020	2021	2020	2021	2020	2021	2020
Public Eating and Drinking	7	6	242	149	19	37	423	355
Retail Food	1	3	58	53	3	11	79	111
Hotel/Motel and Tourist Rooming House	0	0	3	4	1	0	6	1
Bed and Breakfast	0	0	2	0	0	0	0	0
Manufactured Home Communities	0	0	1	1	0	0	3	0
Vending Machines	0	0	0	0	0	0	0	1
Swimming Pools	0	0	17	17	3	1	43	30
Tattoo and Body Piercing	1	0	8	6	0	0	44	23
Temporary Restaurants	0	0	19	8	0	0	39	26
Non-profit	0	0	1	0	0	1	44	21
Rec/Ed Campground	0	0	0	0	0	0	0	0
Campground	0	0	0	0	0	0	0	0
Pigeon Permit	0	0	0	0	0	0	1	5
Temporary Retail	0	0	14	11	0	0	31	39
Special Organization Serving Meals	0	0	0	0	0	0	3	1
Apiary	0	0	1	0	0	0	31	20
Chicken Keeping	0	0	1	0	0	1	35	49
Total	9	9	367	249	26	51	782	682

Table 18. Food- & Water-Borne Disease Actions

Food- & Water-Borne Disease	2021	2020
Number of Outbreaks	0	0
Number of Interviews	0	0
Number symptomatic	0	0

Table 19. Swimming Pool Actions

Swimming Pool Water Samples	2021	2020
Total number of pools sampled	269	138
Total number of pools resampled	4	1
Total positive HPC	1	1
Total positive coliform	4	0

Table 20. Rabies Specimens Shipped by Type

Rabies Specimens Shipped	2021	2020
Dog	0	0
Cat	1	2
Bat	3	7
Raccoon	0	0
Ferret	0	0
Skunk	0	0
Other	0	0
Total shipped	4	9
Total positive results	0	0

Table 21. Environmental Investigation Actions

Environmental Investigations	Consultations		Complaint Follow-Up	
	2021	2020	2021	2020
Community water supplies	1	0	0	0
School/Day Care	3	4	0	0
Private water supplies	1	0	0	0
Surface water pollution	0	0	0	0
Animal nuisances	10	9	1	2
Rabies control	25	31	0	0
Insect control	24	24	0	1
Rodent control	5	2	0	0
Hazardous substance control	1	2	0	0
Air pollution - Indoor	12	2	4	0
Air pollution - Outdoor	2	1	0	0
Noise	21	16	3	6
Radiation	1	3	0	0
Garbage/rubbish nuisance	1	0	4	1
Private residence/housing	14	7	3	3
Lead	25	13	0	0
Other Programs	25	11	0	0
Other Business	14	38	0	4
Mold	41	26	3	2
Totals	226	189	18	19



Improving the well-being of mothers, infants, and children is an important public health goal for the United States. Their well-being determines the health of the next generation and can help predict future public health challenges for families, communities, and the health care system. The objectives of the Maternal, Infant, and Child Health topic area address a wide range of conditions, health behaviors, and health systems indicators that affect the health, wellness, and quality of life of women, children, and families.



Figure 22. Public Health Nurses Becky Lindberg, Krista Waterstradt, & Jess Moyle pose with the Breastfeeding Awareness Month Proclamation.

Human milk is the preferred and most appropriate source of nutrition for infants. Breastfeeding is a proven primary prevention strategy, protecting both infants and mothers from chronic and acute diseases and conditions. To recognize these benefits and show support for lactating families Mayor Woodford proclaimed the month of August as Breastfeeding Awareness Month. To celebrate this month, public health nurses created this display in City Hall, see Figure 22.

There was a 65.5% overall decrease in referrals of cases to public health nurses (PHNs) from 2020 (194) to 2021 (67), see Table 25. Among Community Health Visits, there were similar amounts of admissions in 2021 (47) in comparison to the previous year (50), see Table 26. Discharges increased 150% from 2020 (6) to 2021 (15), see Table 22.

Table 23. Type of Referrals to Public Health Nurses

	2021	2020
Family	0	1
Maternal/Child	63	193
Adult/Elderly	4	0
Total	67	194

Table 24. Community Health Visits

	2021	2020
MCH	35	48
Adult	9	2
Elderly	3	0
Total	47	50

Table 25. Primary Reason for Home Visit

	2021	2020
General Health Promotion	1	18
Prenatal	14	24
Postpartum	87	60
Infant and Child Health	101	84
Communicable Disease	192	35
Endocrine/Nutritional/Immunity Disorders	0	1
Nervous system and sense organs	0	0
Circulatory system	4	6
Respiratory system	2	7
Other	0	3
Total	401	238

Table 26. Adult/Elderly Clients by Referral Source

	2021	2020
Self	0	0
Case Finding	0	0
Physician (Unhospitalized)	5	0
Hospital	0	0
Social Service/Counseling	0	1
Community Agency	0	0
Other Public Health Agency	0	1
Licensed Home Health Agency	0	0
State Agency	2	0
Carried Over from Previous Year	4	0
Other	0	0
Total	11	2

Overall, there was an increase in the number of health problems reported by Appleton residents in 2021 of 68.5%, see Table 27. Notably, general health promotion decreased considerably from 2020 (18) to 2021 (1), for an overall reduction of 94.4%. On the contrary, contacts related to communicable disease

Highlights of 2021

- Provided a limited amount of home visits to pregnant women and new families. Assisted clients in connecting to clinical care through resource sharing and referrals.
- Several of our childcare centers were re-designated as “Breastfeeding Friendly” after participation in a statewide workgroup focused on the equity and improvement of the Breastfeeding Friendly Child Care toolkit.
- Nurses participated and presented virtually at the Young Parent Conference Topics presented were pregnancy discomforts, breastfeeding and safe sleep.



ACCESS TO & LINKAGE WITH CLINICAL CARE

The Appleton Health Department provides access to health care via immunizations and lab tests, along with referrals to, or linkage with, critical care providers when needed to best ensure community wellness.

Throughout the COVID-19 pandemic, the Health Department has worked to connect the public to testing and vaccination resources along with clinical care. During 2021, the Appleton Health Department received hundreds of calls asking questions about COVID-19. Public Health nurses provided guidance and support for families struggling to understand where to get tested, what to do with a positive test and how to manage symptoms. Public Health nurses made many of their own follow-up calls with patients in which they checked on symptom-management, encouraged individuals to get immediate care when needed, and assisted the uninsured with cost-effective healthcare community partners, such as Mosaic Family Health and Partnership Community Health Center.

Beyond assisting patients over the phone, in the summer of 2021, the Health Department facilitated multiple COVID-19 testing and vaccination sites. Two mass vaccination sites were held for the public at the Appleton Library with another three at Appleton area schools (Einstein, Kaleidoscope, and James Madison) during the back-to-school events. The Department also hosted several COVID-19 testing sites.

In addition to COVID-19 clinics, in the summer of 2021 the Health Department re-opened immunization clinics offering vaccines through the VFC and VFA programs to residents of Appleton. Not all residents qualify for VFC or VFA; for those who do not, Appleton's Public Health nurses connected each with other community healthcare providers as appropriate.

An agreement with the Wisconsin State Laboratory of Hygiene allows the Appleton Health Department to provide selected clinical lab testing in situations where insurance or other payor sources are not available. Some examples of clinical lab services regularly provided by the Health Department include testing specimens for: mycobacteria (such as Tuberculosis), norovirus, and rabies.

To better reach all residents of Appleton, the Health Department is an active member of the Appleton Refugee Resettlement Team. This team, led by World Relief Fox Valley, works to ensure coordinated services for successful refugee transition while welcoming refugees to the community. Through this organization, Appleton Public Health nurses help to connect families with healthcare resources necessary to become healthy active citizens in Appleton workplaces, schools, and beyond.

Table 27. Planned Parenthood STD Testing

	2021	2020
Individuals served	51	36
Number of tests	148	67
Individuals treated	15	15



The City of Appleton's Weights and Measures team is responsible for regularly monitoring the accuracy of gas pumps, price scanners, scales, and package weights. A City Sealer along with Weights & Measures Inspectors, ensure consumers are receiving their money's worth at stores within Appleton and surrounding communities.

Most businesses have employees assigned to maintain scanner price databases, manage price changes, post sales, and shelf tags and verify systems. The City of Appleton's City Sealer, Eric Maggio along with Weights and Measures Inspectors regularly conduct price verification inspections. These inspections are always conducted unannounced. During normal inspections, a sample of items are tested using a hand-held bar code reader. The bar code reader produces duplicate bar codes to be scanned at checkouts, and the shelf or advertised price is compared with the scanned price. If a complaint is received, items are purchased undercover. Enforcement actions against stores that violate price accuracy laws include written warnings, administrative civil penalties, and criminal or civil prosecution. In recent years, high-profile statewide actions have resulted in large monetary judgments against several grocery, drug, and department store corporations.

The East Central Weights and Measures Consortium consists of Appleton, Ashwaubenon, Berlin, Fox Crossing, Kaukauna, Kimberly, Little Chute, New London, Ripon, and Waupaca. In May of 2021, Eric Maggio met with officials in Neenah to discuss the addition of the city to the Consortium. After several months of meetings and surveys, a contract of 35 days was agreed upon beginning in 2022. No additional city staff was required due to processes that had changed during the pandemic, leading to increased productivity.

Table 28. Number of Establishments Requiring Inspection

	2018	2019	2020	2021
Food and Convenience Stores	162	158	114	150
Restaurants	34	37	28	30
Bakery and Candy Stores	13	17	11	13
Dairy Plants and Stores	11	10	9	9
Drug Stores	22	22	20	19
Hardware Stores	26	34	24	27
Variety and Department Stores	95	94	85	88
Gas and Service Stations	33	30	30	30
Salvage Dealers and Recyclers	6	3	3	3
Pet Shops and Garden Centers	16	14	12	12
Industrial Manufacturing Plants	10	11	8	9
Concrete-Asphalt Plants and Road Materials	15	10	9	10
Transient Merchants (markets, product, seafood)	189	183	131	169
Package Shipping and Freight	10	8	7	6
Service Laundries and Dry Cleaners	1	1	1	1
Government Agencies	10	8	6	8
Solicitors and Door to Door Merchants	29	20	52	52
Close-Out Business and Termination Sales	0	1	0	0
Second-Hand Dealers	31	32	31	30
Laundromats, Car Washes, and other Timing Devices	6	5	5	5
Miscellaneous	38	33	11	32
Mobile Petroleum Dealers	26	23	21	20
Total	783	754	618	724

Table 29. Consumer Business Complaints

	Received	Violations	Received	Violations	Received	Violations	Received	Violations
	2018	2018	2019	2019	2020	2020	2021	2021
Foods	1	0	2	0	2	0	2	0
Liquid foods	0	0	0	0	0	0	1	0
Non-food Products	0	0	0	0	1	0	0	0
Heating Oil and LP gas	0	0	0	0	0	0	0	0
Firewood	0	0	0	0	0	0	3	3
Gas station pumps	13	3	14	3	3	3	7	0
Gas station service console	1	0	7	0	0	0	3	0
Gas station price signage	1	0	6	2	2	1	1	1
Gas station gasoline quality	2	0	3	0	0	0	5	1
Scales: food	1	0	0	0	0	0	0	0
Scales: scrap metal	0	0	1	0	0	0	0	0
Scales: other	0	0	0	0	0	0	1	1
Scanning	13	2	5	0	3	0	5	1
Trade practices	5	1	4	1	1	1	0	0
Advertising	3	1	0	0	2	0	1	0
Going out of business sales	0	0	1	1	1	1	0	0
Temporary sales	0	0	0	0	0	0	0	0
Miscellaneous	0	0	0	0	0	0	0	0
Totals	40	7	43	7	15	6	29	7

Businesses inspected include food and convenience stores, restaurants, bakery and candy stores, dairy plants and stores, drug stores, hardware stores, variety stores, gas stations, salvage and recyclers, pet shops, garden centers, industrial manufacturing plants, concrete, and asphalt plants. In 2021 there were 498 total inspections, up from 413 in 2020.

Highlights of 2021

January 2021: The annual Weights and Measures Policy and Procedure training was held in Madison, WI. Local City Sealers and State Inspectors attended the meeting along with State Management. Policy changes and the annual schedule for training and state surveys were communicated to attendees. As a member of the Policies and Procedures Committee, Eric Maggio was responsible for overseeing and implementing recent changes.

June 2021: City Sealer, Eric Maggio and Weights & Measures Inspectors participated in the annual Appleton Downtown Saturday Farm Market Vendor virtual meeting. The team presented policies and procedures. Following the meeting, Weights and Measures staff tested 47 vendor scales and conducted package and labeling inspections. This mandatory event provided a great foundation, ensuring high compliance throughout the season. The farmer's market was closely monitored by staff throughout the summer.

August 2021: Of the 40 vendors inspected at the Appleton Downtown Farm Market, only two labeling issues were discovered. The overall compliance was very high reflecting the success of the annual vendor

information meeting. Staff presence and current city seals visible on scales provide great value to the community.

September 2021: City Sealer, Eric Maggio, met with the nine contracted Consortium municipalities of Ashwaubenon, Berlin, Fox Crossing, Kaukauna, Kimberly, Little Chute, New London, Ripon, and Waupaca. The annual meetings provide a chance for face-to-face meetings to discuss the program and answer questions about the work done during the year. The municipalities were very satisfied with our work and partnership of shared services. The program continues to be a success, and all look forward to a continued collaboration.

November 2021: Annual survey sent to 81 locations, 14% completed and returned surveys. Of those respondents, satisfaction rating was 99.13%.

Table 30. Equipment and Devices Examined and Percentage of Noncompliant

	2018	2019	2020	2021
Scales and Balances	609 (0.5%)	574 (2.8%)	499 (1.2%)	561 (2.9%)
Measures (Includes gas pumps and fuel oil truck meters)	1,008 (3.5%)	1,056 (3.5%)	946 (6.1%)	824 (6.6%)
Weights	14 (0.0%)	26 (0.0%)	32 (0.0%)	7 (0.0%)
Total	1,631	1,656	1,477	1,392

Table 31. Commodity Inspections

	2018	2019	2020	2021
Total units of product investigated	131,856	162,981	64,854	157,599
Random sample size	20,716	19,225	10,948	22,882
Total products/units found short weight	1,267 (1.0%)	1,210 (0.7%)	440 (0.7%)	2,092 (1.3%)
Total products/units found mislabeled	723 (0.5%)	1,985 (1.3%)	215 (0.3%)	1,326 (0.8%)

Table 32. Price Scanning Inspections

	2018	2019	2020	2021
Number of Inspection	141	144	111	129
Number of items scanned	4,602	4,775	3,552	4,232
Pricing errors found	130	103	74	121
Pricing error %	2.8	2.2	2.08	2.9

Table 33. License Investigations

	2020	2021
Closeout sales	0	0
Secondhand dealers	31	30
Commercial solicitation	52	52
Taxicab	7	5
Pet store	3	4
Firewood	19	20
Total	112	111

APPENDIX A: BIRTH DATA

Birth by ZIP Code

ZIP Code of Mother	Birth Count	Percent
53704	1	0.08%
54130	1	0.08%
54136	1	0.08%
54911	273	22.03%
54913	194	15.66%
54914	317	25.59%
54915	449	36.24%
54952	2	0.16%
94915	1	0.08%
Total	1,239	100.00%

Age of Mother

Age of Mother	Birth Count	Percent
15-17	5	0.40%
18-19	19	1.53%
20-24	170	13.72%
25-29	382	30.83%
30-34	432	34.87%
35-39	193	15.58%
40-44	35	2.82%
45+	3	0.24%
Total	1,239	100.00%

Race/Ethnicity of Mother

Race/Ethnicity of Mother	Birth Count	Percent
Non-Hispanic White	925	74.66%
Non-Hispanic Black	58	4.68%
Non-Hispanic American Indian/Alaska Native	15	1.21%
Hispanic	112	9.04%
Non-Hispanic Laotian/Hmong	70	5.65%
Non-Hispanic Other Race	46	3.71%
Non-Hispanic Multi-race	7	0.56%
Non-Hispanic Unknown	6	0.48%
Total	1,239	100.00%

Education of Mother

Education of Mother	Birth Count	Percent
8th grade or less	11	0.89%
9th-12th grade-no diploma	71	5.73%
High school grad/GED	278	22.44%
Some college	332	26.80%
Bachelors degree	373	30.10%
Masters/Professional degree	170	13.72%
Unknown	4	0.32%
Total	1,239	100.00%

Marital Status of Mother

Marital Status of Mother	Birth Count	Percent
Married	850	68.60%
Unmarried	388	31.32%
Unknown	1	0.08%
Total	1,239	100.00%

Trimester Prenatal Care Began

Trimester Prenatal Care Began	Birth Count	Percent
1st trimester	1,026	82.81%
2nd trimester	133	10.73%
3rd trimester	54	4.36%
None	3	0.24%
Unknown	23	1.86%
Total	1,239	100.00%

Trimester Prenatal Care Began

Trimester Prenatal Care Began	Birth Count	Percent
1st trimester	1,026	82.81%
2nd trimester	133	10.73%
3rd trimester	54	4.36%
None	3	0.24%
Unknown	23	1.86%
Total	1,239	100.00%

Number of Prenatal Care Visits

Number of Prenatal Care Visits	Birth Count	Percent
0	3	0.24%
1-4	18	1.45%
5-9	110	8.88%
10-12	287	23.16%
13-98	796	64.25%
Unknown	25	2.02%
Total	1,239	100.00%

Sex of Infant

Sex	Birth Count	Percent
Male	639	51.57%
Female	600	48.43%
Total	1,239	100.00%

Plurality

Plurality	Birth Count	Percent
Singleton	1,211	97.74%
Multiple	28	2.26%
Total	1,239	100.00%

Live Birth Order

Birth Order	Birth Count	Percent
1	432	34.87%
2	428	34.54%
3	217	17.51%
4	86	6.94%
5+	76	6.13%
Total	1,239	100.00%

Attendant at Birth

Attendant at Birth	Birth Count	Percent
MD	942	76.03%
DO	200	16.14%
CNM	72	5.81%
Licensed Midwife	22	1.78%
Other	3	0.24%
Total	1,239	100.00%

Births to women with one or more medical risk factors by Sex

Medical Risk Factors by Sex	Male	Female	Total
Total Birth Count	639	600	1,239
Pre-Pregnancy Diabetes	3	6	9
Gestational Diabetes	29	27	56
Pre-Pregnancy Hypertension	5	4	9
Gestational Hypertension	18	21	39
Eclampsia	0	0	0
Previous Preterm Birth	32	48	80
Other Previous Poor Pregnancy Outcome	27	17	44
Pregnancy resulted from infertility treatment	8	6	14
Fertility enhancing drugs, artificial insemination or intrauterine insemination	1	2	3
Assisted reproduction technology	4	4	8
Mother had previous C-section	99	89	188
Unknown if mother presented any of the medical risk factors listed	0	1	1
None - mother did not present any of the listed medical risk factors	454	426	880

Births by Birthweight

Birthweight	Birth Count	Percent
<1000 grams	8	0.65%
1000-1499 grams	9	0.73%
1500-2499 grams	71	5.73%
2500-3999 grams	1,035	83.54%
4000+ grams	115	9.28%
Unknown	1	0.08%
Total	1,239	100.00%

Low Birthweight

Low Birthweight	Birth Count	Percent
<2500 grams	88	7.10%
2500+ grams	1150	92.82%
Unknown	1	0.08%
Total	1239	100.00%

Mother smoked during pregnancy by Infant Birthweight

Mother smoked during pregnancy	No		Yes		Missing/Unknown		Total	
Birthweight	Birth Count	Percent	Birth Count	Percent	Birth Count	Percent	Birth Count	Percent
<1000 grams	8	0.65%	0	0.00%	0	0.00%	8	0.65%
1000-1499 grams	9	0.73%	0	0.00%	0	0.00%	9	0.73%
1500-2499 grams	60	4.84%	11	0.89%	0	0.00%	71	5.73%
2500-3999 grams	961	77.56%	73	5.89%	1	0.08%	1,035	83.54%
4000+ grams	110	8.88%	5	0.40%	0	0.00%	115	9.28%
Unknown	0	0.00%	1	0.08%	0	0.00%	1	0.08%
Total	1,148	92.66%	90	7.26%	1	0.08%	1,239	100.00%

Method of Delivery

Method of Delivery	Birth Count	Percent
VBAC	38	3.07%
Vaginal Spontaneous	820	66.18%
Vaginal Forceps	4	0.32%
Vaginal Vacuum	29	2.34%
Primary C-Section	197	15.90%
Repeat C-Section	150	12.11%
Unknown	1	0.08%
Total	1,239	100.00%

Prematurity

Prematurity	Birth Count	Percent
Term/Postterm (37-47 weeks)	1,121	90.48%
Preterm (17-36 weeks)	118	9.52%
Total	1,239	100.00%

Gestation Age

Gestation Age	Birth Count	Percent
17-31 weeks	15	1.21%
32-35 weeks	54	4.36%
36 weeks	49	3.95%
37-38 weeks	314	25.34%
39-41 weeks	804	64.89%
42-47 weeks	3	0.24%
Total	1,239	100.00%

Infants transferred to NICU or other hospital

Infant Transferred	Birth Count	Percent
No	1,169	94.35%
Yes	69	5.57%
Unknown	1	0.08%
Total	1,239	100.00%

Abnormal Conditions of Newborn by Sex

Abnormal Conditions by Sex	Male	Female	Total
Total Birth Count	639	600	1,239
Assisted ventilation immediately following delivery	67	46	113
Assisted ventilation for more than 6 hours	9	10	19
NICU admission	61	54	115
Surfactant Replacement Therapy	2	2	4
Antibiotics Received for Suspected Neonatal Sepsis	1	4	5
Seizure or Serious Neurologic Dysfunction	0	0	0
Significant Birth Injury	1	1	2
Unknown if any of the listed abnormal conditions was present	2	0	2
None of the listed abnormal conditions was present	532	513	1,045

Birth with Reported Congenital Anomalies by Sex

Congenital Anomalies by Sex	Male	Female	Total
Total Birth Count	639	600	1,239
Anencephaly	0	0	0
Meningomyelocele/Spina Bifida	0	0	0
Cyanotic Congenital Heart Disease	1	0	1
Congenital Diaphragmatic Hernia	0	0	0
Omphalocele	0	1	1
Gastroschisis	0	1	1
Limb Reduction Defect	1	0	1
Cleft Lip With or Without Cleft Palate	1	0	1
Cleft Palate Alone	0	0	0
Down syndrome	0	2	2
Karyotype Confirmed Down syndrome	0	0	0
Karyotype Pending for Down syndrome	0	2	2
Suspected Chromosomal Disorder	1	0	1
Karyotype Confirmed for Suspected Chromosomal Disorder	0	0	0
Karyotype Pending for Suspected Chromosomal Disorder	1	0	1
Hypospadias	0	0	0
Unknown if any of the listed congenital anomalies was present	21	18	39
None of the listed congenital anomalies was present	615	578	1193

APPENDIX B: TOTAL DEATHS, ALL CAUSES

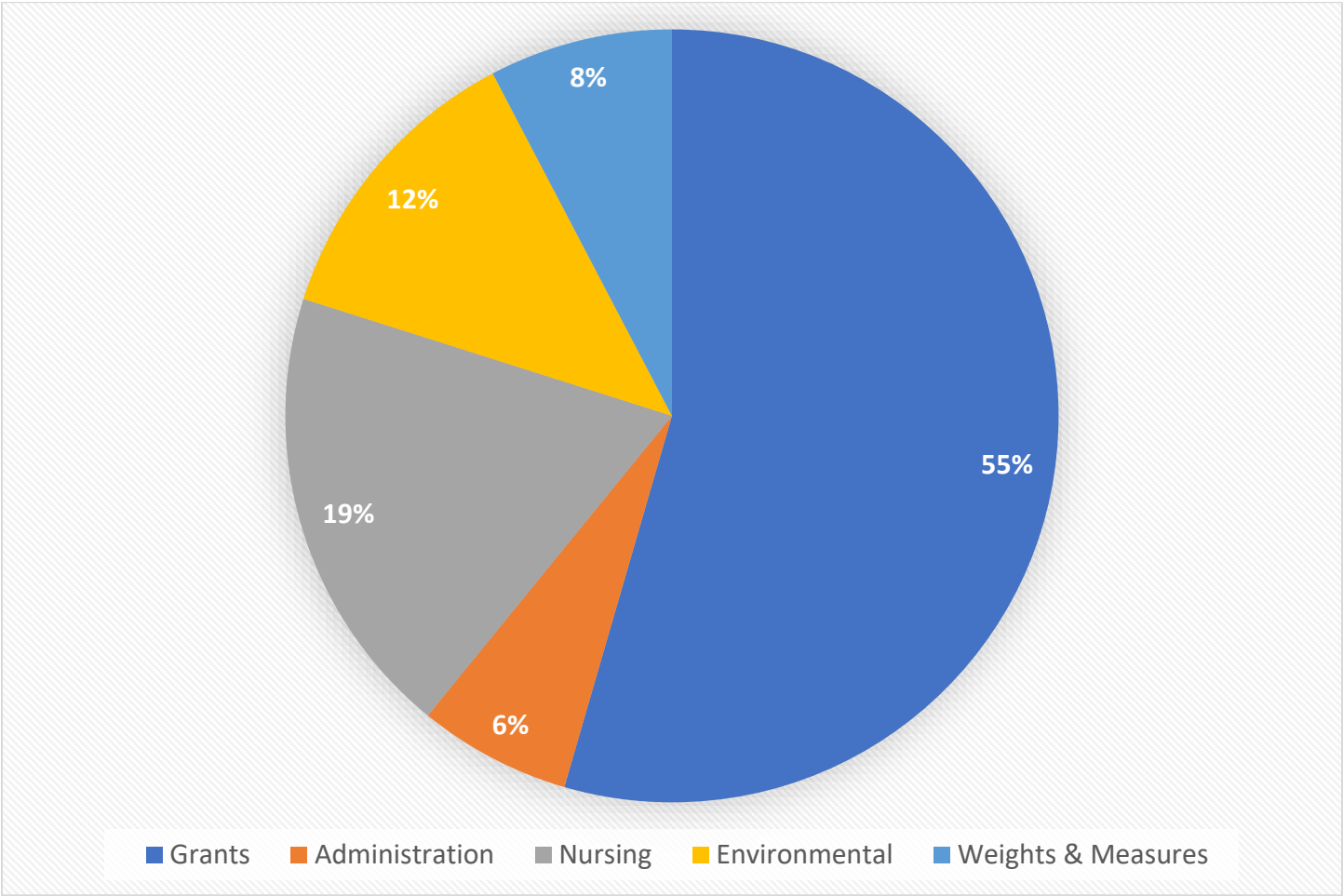
2021

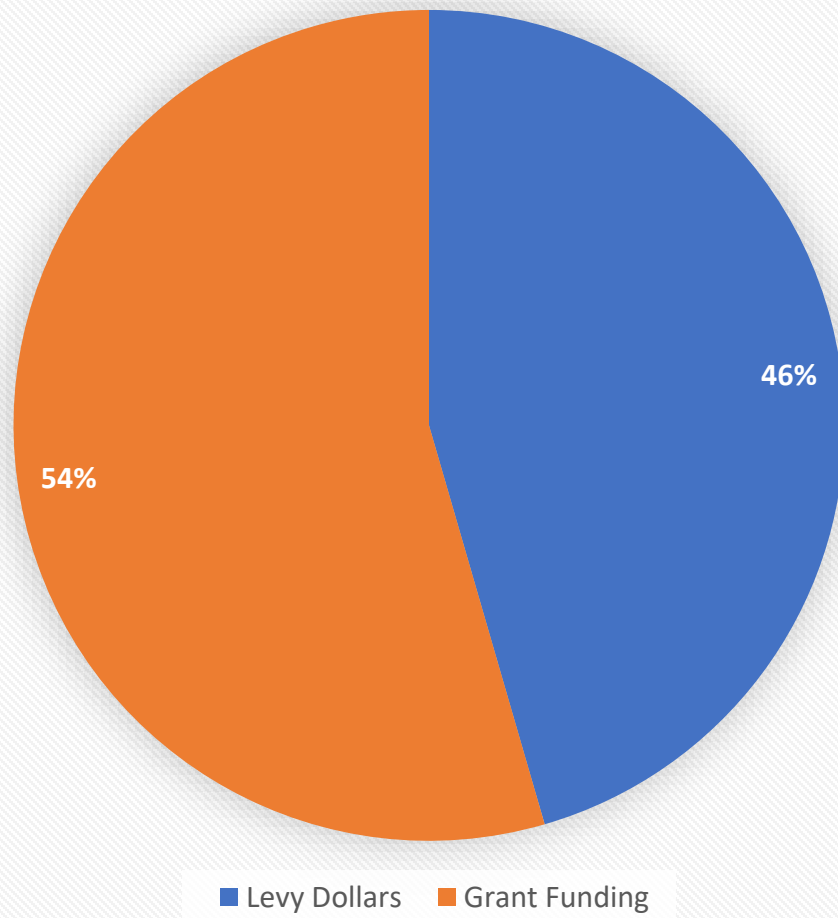
Total Deaths, All Causes is: 819		
	Cause of Death Category	Number of Deaths
1	ALL OTHER (ALL OTHER CODES)	165
2	MALIGNANT NEOPLASMS	164
3	DISEASES OF THE HEART	158
4	COVID-19	64
5	ALZHEIMER DISEASE	35
6	ACCIDENTS (UNINTENTIONAL INJURIES)	33
7	CEREBROVASCULAR DISEASES	31
8	DIABETES MELLITUS	28
9	CHRONIC LOWER RESPIRATORY DISEASES	23
10	NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS	22
11	INTENTIONAL SELF-HARM (SUICIDE)	15
12	HYPERTENSION	12
13	NUTRITIONAL DEFICIENCIES	11
14	CHRONIC LIVER DISEASE AND CIRRHOSIS	9
15	PARKINSON DISEASE	7
16	PNEUMONITIS DUE TO SOLIDS AND LIQUIDS	7
17	SEPTICEMIA	6
18	AORTIC ANEURYSM AND DISSECTION	4
19	BENIGN NEOPLASMS	3
20	INFLUENZA AND PNEUMONIA	3
21	ANEMIAS	3
22	CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD	3
23	CONGENITAL MALFORMATIONS	2
24	CHOLELITHIASIS AND OTHER DISORDERS OF GALLBLADDER	2
25	COMPLICATIONS OF MEDICAL AND SURGICAL CARE	2
26	PREGNANCY, CHILDBIRTH AND AND THE PUERPERIUM	1
27	HERNIA	1
28	ENTEROCOLITIS DUE TO CLOSTRIDIUM DIFFICILE	1
29	INFECTIONS OF KIDNEY	1
30	ASSAULT (HOMICIDE)	1
31	SALMONELLA INFECTIONS	1
32	HYPERPLASIA OF PROSTATE	1

2020

Total Deaths, All Causes is: 833		
	Cause of Death Category	Number of Deaths
1	ALL OTHER (ALL OTHER CODES)	181
2	DISEASES OF THE HEART	159
3	MALIGNANT NEOPLASMS	148
4	COVID-19	71
5	ACCIDENTS (UNINTENTIONAL INJURIES)	52
6	CEREBROVASCULAR DISEASES	37
7	CHRONIC LOWER RESPIRATORY DISEASES	35
8	ALZHEIMER DISEASE	27
9	DIABETES MELLITUS	17
10	PARKINSON DISEASE	13
11	CHRONIC LIVER DISEASE AND CIRRHOSIS	12
12	NEPHRITIS, NEPHROTIC SYNDROME AND NEPHROSIS	10
13	SEPTICEMIA	10
14	BENIGN NEOPLASMS	9
15	HYPERTENSION	9
16	PNEUMONITIS DUE TO SOLIDS AND LIQUIDS	8
17	INTENTIONAL SELF-HARM (SUICIDE)	6
18	NUTRITIONAL DEFICIENCIES	5
19	CONGENITAL MALFORMATIONS	5
20	INFLUENZA AND PNEUMONIA	4
21	CERTAIN CONDITIONS ORIGINATING IN THE PERINATAL PERIOD	3
22	AORTIC ANEURYSM AND DISSECTION	3
23	ANEMIAS	2
24	CHOLELITHIASIS AND OTHER DISORDERS OF GALLBLADDER	2
25	LEGAL INTERVENTION	1
26	ASSAULT (HOMICIDE)	1
27	HERNIA	1
28	ENTEROCOLITIS DUE TO CLOSTRIDIUM DIFFICILE	1
29	HUMAN IMMUNODEFICIENCY VIRUS (HIV) DISEASE	1

APPENDIX C: 2021 BUDGET





Account	Budget
Public Health Administration	171,307
Public Health Nursing	509,992
Public Health Environmental	333,476
Public Health Weights & Measures	205,812
MCH Grant	41,031
Prevention Grant	7,900
Lead Grant	10,839
Immunization Grant	37,208
COVID-19 ELC	872,278
COVID-19 Vaccination	389,457
Bioterrorism Grant	102,819
Total	2,682,119