



RAPID COMMUNITY ASSESSMENT

Torrington Area Health District

**Crescendo Consulting Group
February 2024**

Contents

Introduction	4
Vaccine Hesitancy	4
A Brief History	4
Objectives & Methodology	5
People & Perspectives.....	5
Locations Visited	6
Environmental Analysis.....	7
Vaccine Exemption Data.....	29
Community-based Research	36
General Perceptions.....	37
Vaccine Facilitators.....	38
Vaccine Barriers.....	39
Community Survey.....	42
Survey Methodology.....	42
Survey Findings	45
Recommendations & Next Steps	61
Recommendations from the Community	62
Appendices.....	63
Appendix A: Community Survey	64
Appendix B: Stakeholder Interview Guide	82
Appendix C: Intercept Interviews Field Notes	86
Appendix D: Review of the Literature	91

INTRODUCTION

VACCINE HESITANCY

The World Health Organization (WHO) defines vaccine hesitancy as a *“delay in acceptance or refusal of vaccines despite availability of vaccination services.”* WHO also identifies several root causes of hesitancy such as safety concerns and *“negative beliefs based on myths, e.g. that vaccination of women leads to infertility; misinformation; mistrust in the health care professional or health care system; the role of influential leaders; costs; geographic barriers and concerns about vaccine safety.”*¹

Research shares that vaccine hesitancy is not a new issue in 2024, but it has escalated in scope and scale over the past few decades due to the emergence of social media and the worldwide pandemic. The introduction of new vaccines such as the COVID-19 vaccination prompted skepticism and questions from the public which individuals are attempting to answer in a confusing landscape of mis and disinformation.²



Image Source: Canva

¹ The World Health Organization, Vaccine hesitancy: A growing challenge for immunization programs (2015).

<https://www.who.int/news/item/18-08-2015-vaccine-hesitancy-a-growing-challenge-for-immunization-programmes>

² Larson, Heidi J., et al. “The vaccine-hesitant moment.” New England Journal of Medicine, vol. 387, no. 1, 7 July 2022, pp. 58–65, <https://doi.org/10.1056/nejmra2106441>

A BRIEF HISTORY

Vaccination hesitancy can be traced back to the early 1900's. In 1902, for example, as the smallpox virus spread throughout Cambridge, Massachusetts, the local health board mandated all adults to be vaccinated. However, in 1905, citizens challenged the state's authority to restrict personal freedom for public health reasons; the U.S. Supreme Court ruled that the state may be justified in restricting individual liberty under the pressure of great dangers to ensure public safety.³ Between 1920 and 1970, new vaccines were introduced throughout the United States for devastating diseases such as tuberculosis, yellow fever, whooping cough, tetanus, and polio, dramatically lowering childhood mortality.⁴

Despite these advances, history shares that since the beginning of vaccines being marketed, public concerns about their efficacy and overall safety have existed. For example, in 1955, despite successful mandatory safety testing, several batches of the polio vaccine were distributed to the public containing the active virus.⁵ In the mid-1970s, there was controversy over the safety of the diphtheria, tetanus, and pertussis (DTP) vaccination program. In 1974, a retrospective study was published which described 36 children who suffered severe neurological complications with DTP after being used for more than 20 years. Research shares that *"tragic stories of profoundly [intellectually disabled] children allegedly harmed by the vaccine were dramatized in the media, and concerned parents formed the Association of Parents of Vaccine-Damaged Children."*⁶ Consequently, the independent Joint Commission on Vaccination and Immunization launched a brain study (National Childhood Encephalopathy Study) to determine whether the vaccination was associated with an increased risk of negative outcomes. The study concluded that the risk was extremely low, but negative public sentiment and uncertainty within the medical profession led to a rapid decline in the immunization rate.⁷

Today, vaccine hesitancy has only grown with the pandemic as the COVID-19 vaccination has been specifically connected to political affiliation, ideological and partisan factors, information (including misinformation and disinformation), and satisfaction with government decision-making on other aspects of COVID-19 prevention strategies and/or management.⁸

³ Mariner W.K., Annas G.J., Glantz L.H. Jacobson v Massachusetts: It's not your great-great-grandfather's public health law. Am. J. Public Health. 2005;95:581–590. doi: 10.2105/AJPH.2004.055160. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1449224/>

⁴ Nature Milestones in Vaccines, Springer Nature, www.nature.com/immersive/d42859-020-00005-8/index.html.

⁵ Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases Division of Healthcare Quality Promotion, Historical Vaccine Safety Concerns (2020). <https://www.cdc.gov/vaccinesafety/concerns/concerns-history.html>

⁶ Kulenkampff M., Schwartzman J.S., Wilson J. Neurological complications of pertussis inoculation. Arch. Dis. Child. 1974;49:46–49. doi: 10.1136/adc.49.1.46.

⁷ Baker J.P. The pertussis vaccine controversy in Great Britain, 1974–1986. Vaccine. 2003;21:4003–4010. doi: 10.1016/S0264-410X(03)00302-5. <https://pubmed.ncbi.nlm.nih.gov/12922137/>

⁸ Kennedy E.B., Daoust J.F., Vikse J., Nelson V. "Until I Know It's Safe for Me": The Role of Timing in COVID-19 Vaccine Decision-Making and Vaccine Hesitancy. Vaccines. 2021;9:1417. doi: 10.3390/vaccines9121417. Link: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9612044/>

OBJECTIVES & METHODOLOGY

The Torrington Area Health District aims to utilize the findings of this RCA to understand how misinformation or too much information can influence perceptions while review existing literature focused on addressing vaccine-related misinformation, community concerns especially among vulnerable populations, best practices for vaccination campaigns, and public health community education. Between October 2023 and January 2024, Crescendo Consulting Group worked in collaboration with Torrington Area Health District leadership including the Director of Health, Director of Community Health Services, and Public Health Nursing, to implement a **mixed methodology approach** consisting of a combination of quantitative and qualitative research methods designed to evaluate the perspectives and opinions of community stakeholders. This assessment focused on vaccinations for COVID-19, Influenza, and other routine vaccinations based off of the United States child, adolescent, and adult recommended immunization schedule.

RECOMMENDED VACCINATION SCHEDULE

The following tables describe the current immunization schedule recommended in the United States from the U.S. Department of Health and Human Services Centers for Disease Control and Prevention.⁹

U.S Child & Adolescent Recommended Immunization Schedule for Ages 18 or Younger

- Respiratory syncytial virus (RSV)
- Rotavirus
- COVID-19
- Poliovirus
- Influenza
- Pneumococcal
- Diphtheria, tetanus, and pertussis (DTaP)
- Hepatitis A, B
- Varicella (Chicken pox)
- Human papillomavirus (HPV)
- Measles, mumps, and rubella

U.S Adult Recommended Immunization Schedule for Ages 19 or Older

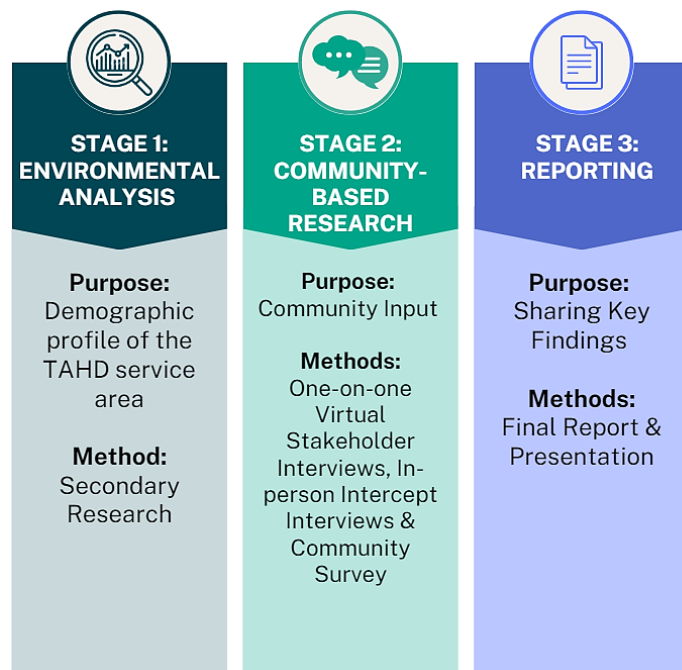
- COVID-19 (Moderna, Pfizer-BioNTech)
- Influenza
- Measles, mumps, and rubella
- Varicella (Chicken pox)
- Human papillomavirus (HPV)
- Hepatitis A, B
- Meningococcal
- Pneumococcal
- Respiratory syncytial virus (RSV)

⁹ U.S. Department of Health and Human Services Centers for Disease Control and Prevention. Recommended Adult, Child & Adolescent Immunization Schedule (2024).

THE MAJOR SECTIONS OF THE METHODOLOGY INCLUDE THE FOLLOWING:

An **Environmental Analysis** provided insight into the service area including key demographics. **Community-based Research** provided opportunities to collect qualitative data through:

- 18 virtual one-on-one stakeholder interviews
- 13 on-site intercept interviews at eight community sites
- A broad community survey with over 100 responses from community members across a variety of sectors



PEOPLE & PERSPECTIVES

This RCA engaged a wide variety of people and perspectives, including:



LOCATIONS VISITED



Cornwall Library



Goshen Public Library



Harwinton Public Library



Sullivan Senior Center



Torrington Parks & Recreation



Litchfield Community Center



Torrington Public Library

ENVIRONMENTAL ANALYSIS

The Torrington Area Health District (TAHD) provides health services and information to 20 cities, towns, and boroughs within the Northwest corner of Connecticut. TAHD provides local public health services for the towns of Bantam, Bethlehem, Canaan, Cornwall, Goshen, Harwinton, Kent, Litchfield, Middlebury, Morris, Norfolk, North Canaan, Plymouth, Salisbury, Thomaston, Torrington, Warren, Watertown, and Winsted.



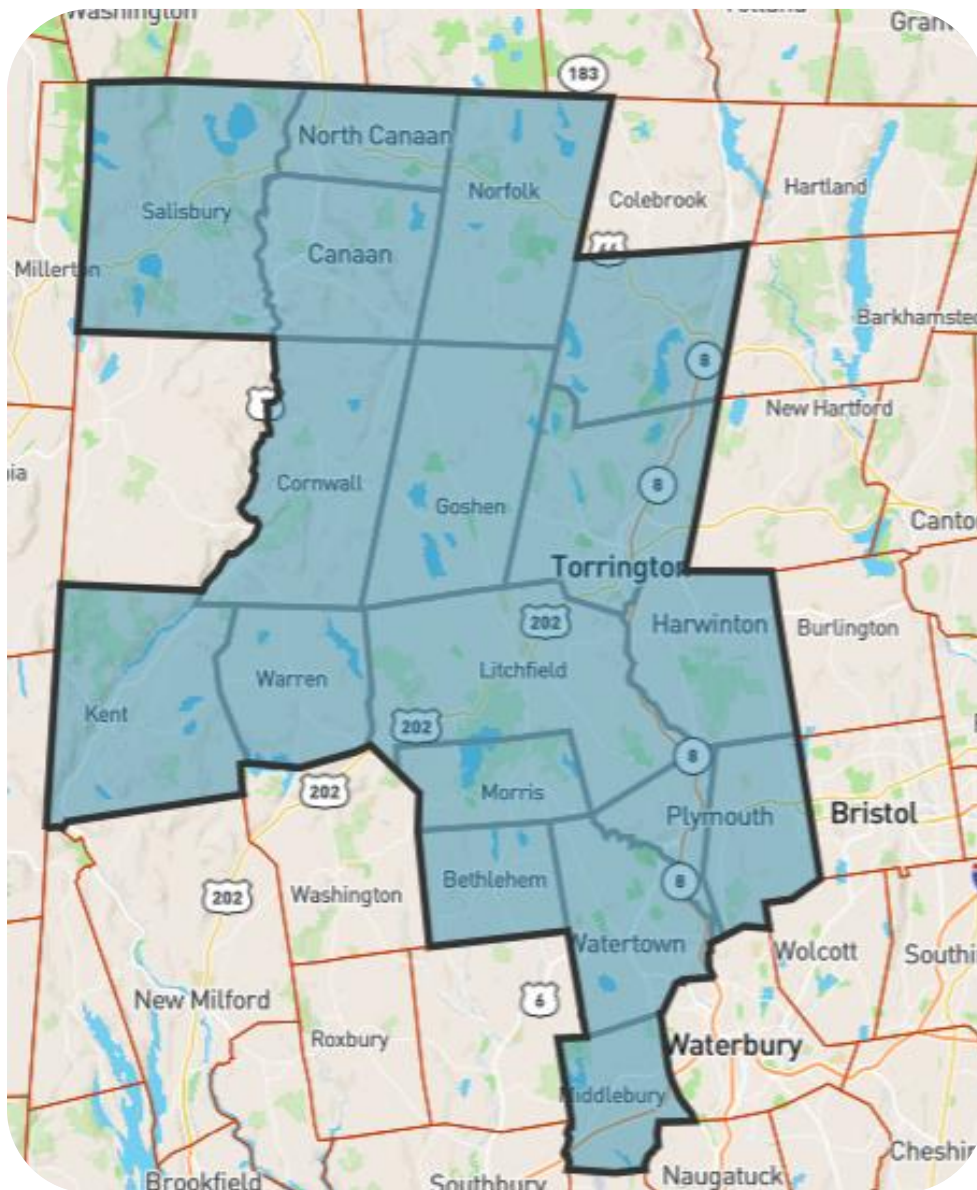
GOAL: TO PROMOTE AND PROTECT THE PHYSICAL AND ENVIRONMENTAL WELL-BEING OF THE CITIZENS OF THE TAHD THROUGH DIRECT SERVICES, WELLNESS AND PROMOTION PROGRAMS, AND COMMUNITY EFFORTS.

Analysis of secondary data provides an essential framework from which to better understand the fabric of the community. Data gathered from the United States Census Bureau 2018-2022 American Community Survey (ACS) incorporated five-year data compared to one-year data. ACS Five-year Estimates are intentionally utilized for this needs assessment as the five-year estimates represent data collected over

some time and provide a more accurate estimate of the measures, especially among vulnerable populations or subgroups compared to one-year estimates. For example, one-year data for a particular sub-population may be too small of a sample size to produce estimates within a useful range, however, the five-year estimate will have enough observations to make an estimate with a smaller margin of error.

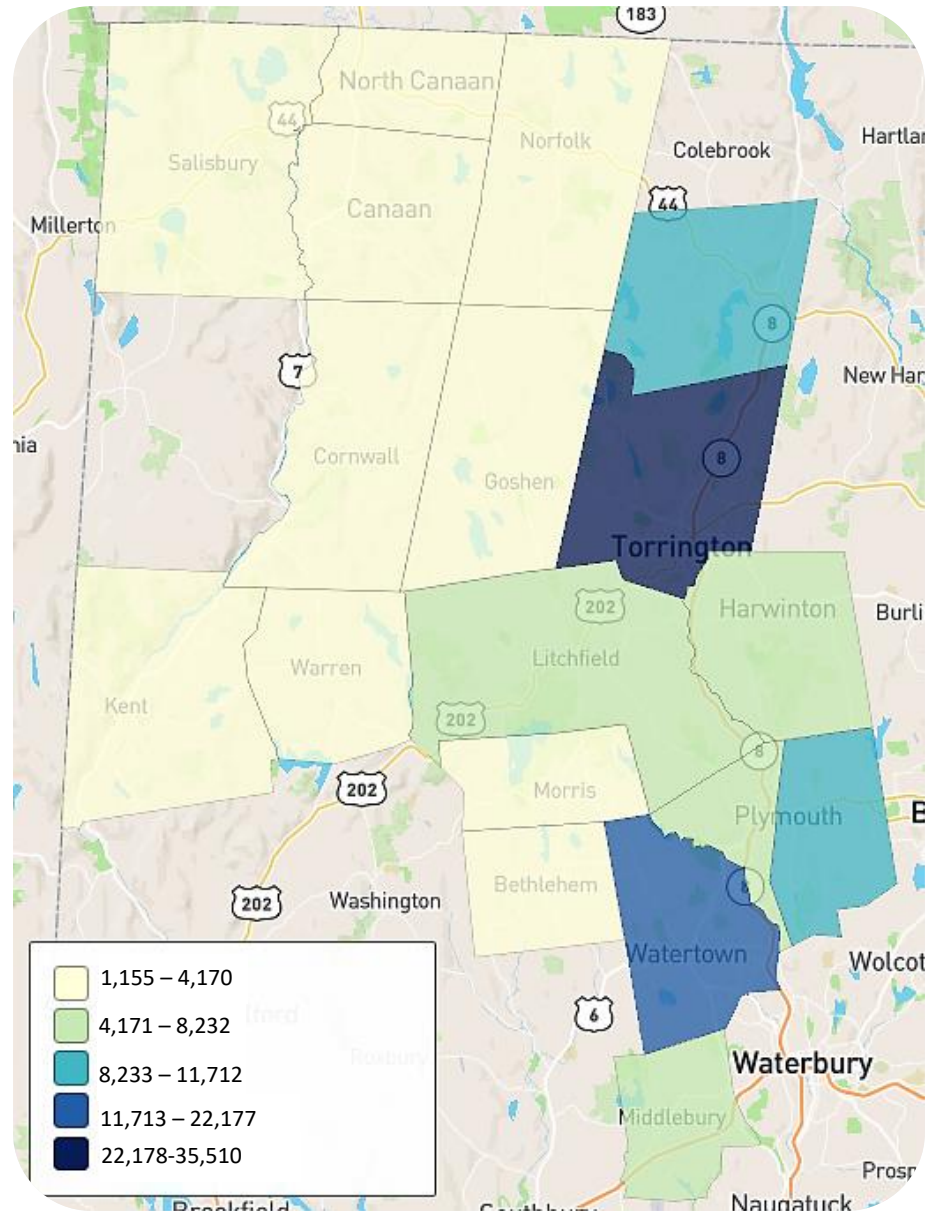
The TAHD service area consists of 17 towns within Litchfield County plus the town of Middlebury located in New Haven County. Litchfield County is in northwestern Connecticut and comprises the Torrington, Connecticut, Micropolitan Statistical Area. According to the U.S. Census Bureau, the county has a total area of 945 square miles, of which 921 square miles is land and 24 square miles (2.5%) is water. It is the largest county in Connecticut by area.

EXHIBIT 1: TORRINGTON AREA HEALTH DISTRICT SERVICE AREA



LEARN MORE: <https://portal.ct.gov/ChooseCt/Regions/Litchfield>

EXHIBIT 2: TORRINGTON AREA HEALTH DISTRICT TOTAL POPULATION BY TOWN



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2018-2022

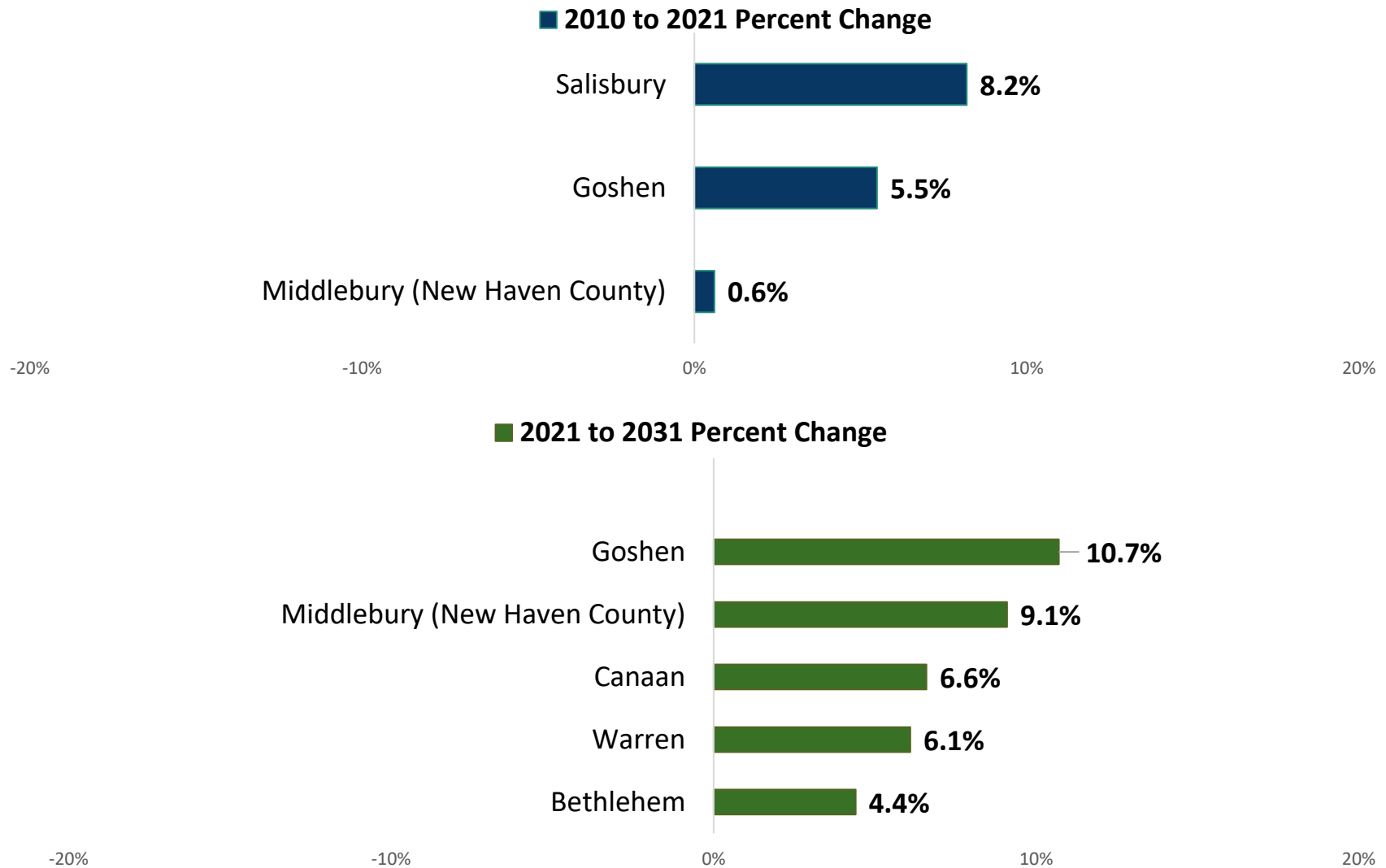
The estimated total population percent change varies notably among the service area, with Morris having the greatest decrease in population from 2010 to 2021 (-10%), and Salisbury experiencing the greatest increase in population from 2010 to 2021 (+8.2%).

EXHIBIT 3: TOTAL POPULATION & ESTIMATED PERCENT CHANGE IN TOTAL POPULATION

	2010	2021	2031	2010 to 2021 Percent Change	2021 to 2031 Percent Change
Litchfield County	189,927	185,175	190,338	-2.5%	+2.8%
Bethlehem	3,607	3,408	3,558	-5.5%	+4.4%
Canaan	1,234	1,223	1,304	-0.9%	+6.6%
Cornwall	1,420	1,379	1,365	-2.9%	-1.0%
Goshen	2,976	3,139	3,475	+5.5%	+10.7%
Harwinton	5,645	5,499	5,645	-2.6%	+2.7%
Kent	2,979	2,970	3,005	-0.3%	+1.2%
Litchfield	8,466	8,161	8,106	-3.6%	-0.7%
Middlebury (New Haven County)	7,575	7,617	8,309	+0.6%	+9.1%
Morris	2,388	2,149	2,206	-10.0%	+2.7%
Norfolk	1,709	1,685	1,550	-1.4%	-8.0%
North Canaan	3,315	3,209	3,178	-3.2%	-1.0%
Plymouth	12,253	11,705	11,747	-4.5%	+0.4%
Salisbury	3,741	4,048	4,000	+8.2%	-1.2%
Thomaston	7,877	7,497	7,749	-4.8%	+3.4%
Torrington	36,380	35,447	36,265	-2.6%	+2.3%
Warren	1,461	1,383	1,468	-5.3%	+6.1%
Watertown	22,514	22,110	22,838	-1.8%	+3.3%
Winchester	11,242	10,335	9,969	-8.1%	-3.5%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021, U.S. Census Bureau American Community Survey 2010 Five-year Estimates

EXHIBIT 4: GREATEST ESTIMATED & PROJECTED POPULATION CHANGE



Source: U.S. Census Bureau. American Community Survey

Post-pandemic research shares that gender may interact with socioeconomic status to shape people's vaccine hesitancy in a complex way. For example, women living in poverty or currently working were more vaccine-hesitant, while poverty and employment status did not affect men's vaccine hesitancy. However, not having a college education contributed to both women's and men's COVID-19 vaccine hesitancy. Moreover, women were more worried about the safety of the vaccine, but men's hesitancy tended to be driven by lower perceptions of COVID-19 dangers and belief in conspiratorial claims.¹⁰

EXHIBIT 5: POPULATION BY GENDER

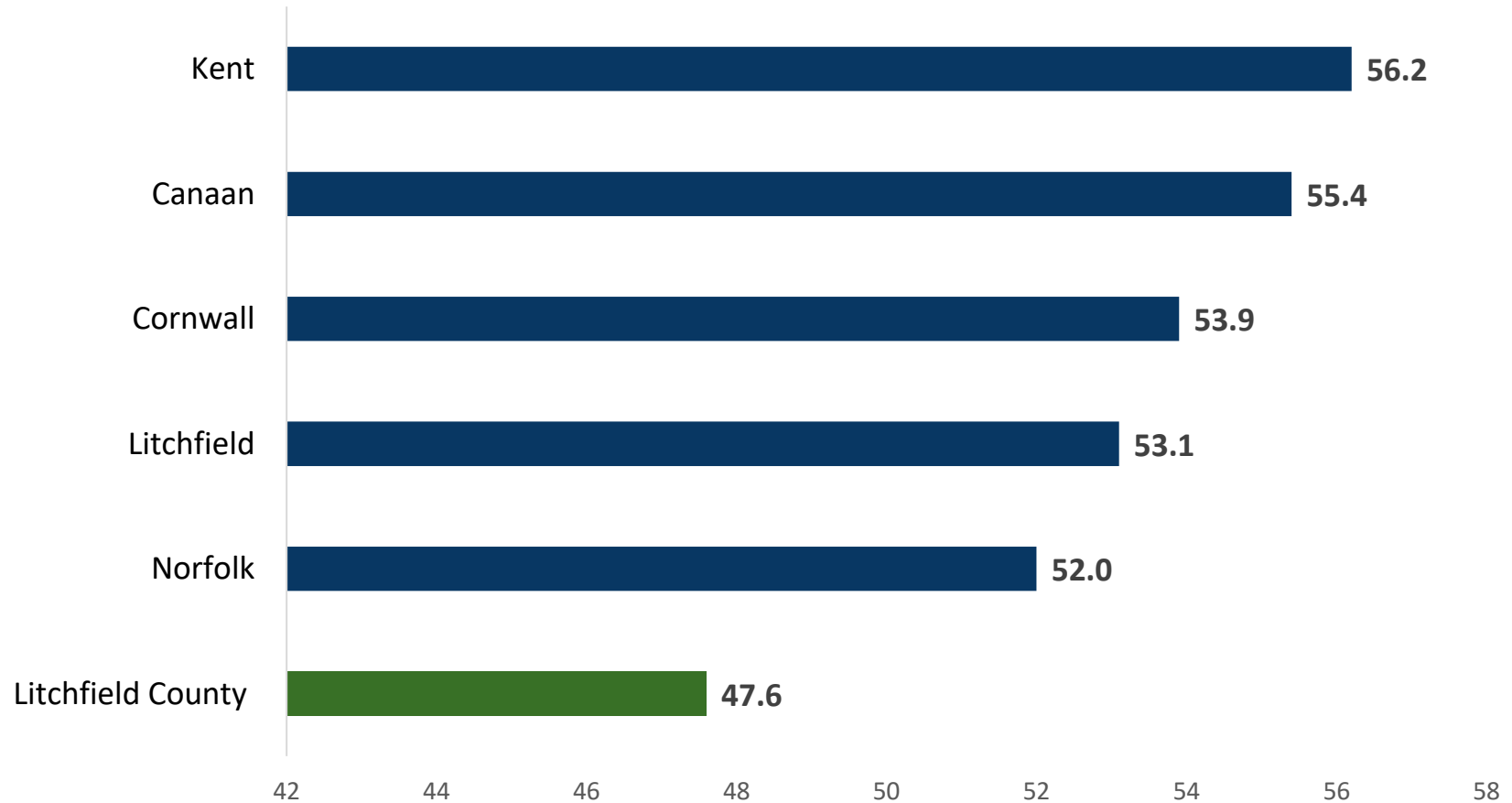
	Total Males	Total Females
Litchfield County	49.9%	50.1%
Bethlehem	51.8%	48.2%
Canaan	51.8%	48.2%
Cornwall	49.0%	51.0%
Goshen	51.7%	48.3%
Harwinton	53.1%	46.9%
Kent	53.9%	46.1%
Litchfield	48.4%	51.6%
Middlebury (New Haven County)	46.3%	53.7%
Morris	49.3%	50.7%
Norfolk	44.9%	55.1%
North Canaan	53.0%	47.0%
Plymouth	46.8%	53.2%
Salisbury	46.4%	53.6%
Thomaston	53.5%	46.5%
Torrington	50.7%	49.3%
Warren	57.6%	42.4%
Watertown	50.6%	49.4%
Winchester	51.2%	48.8%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

¹⁰ Morales DX, Beltran TF, Morales SA. Gender, socioeconomic status, and COVID-19 vaccine hesitancy in the US: An intersectionality approach. Social Health Illn. 2022 Jun;44(6):953-971. doi: 10.1111/1467-9566.13474. Epub 2022 May 2. PMID: 35500003; PMCID: PMC9348198. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9348198/>

Kent, Canaan, Cornwall, Litchfield, and Norfolk have the highest median ages within the TAHD service area (52.0 – 56.2).

EXHIBIT 6: HIGHEST MEDIAN AGES PER TOWN



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

EXHIBIT 7: MEDIAN AGE

	Median Age
Litchfield County	47.6
Bethlehem	50.3
Canaan	55.4
Cornwall	53.9
Goshen	47.8
Harwinton	49.3
Kent	56.2
Litchfield	53.1
Middlebury (New Haven County)	46.2
Morris	47.2
Norfolk	52.0
North Canaan	46.7
Plymouth	45.5
Salisbury	52.0
Thomaston	42.8
Torrington	45.6
Warren	51.3
Watertown	46.5
Winchester	50.7

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Children and older adults (aged 65 and over) require different series of immunizations because of their age and vulnerable immune systems. Understanding the breakdown of children, adults, and older adults gives insight into the percentage of population that requires age-specific immunizations.

- Nearly a quarter of the population in North Canaan is comprised of children.
- Salisbury and Cornwall have the highest percentages of older adults.

EXHIBIT 8: POPULATION BY AGE

	Under 18	18 to 64	65 and Over
Litchfield County	18.2%	60.4%	21.4%
Bethlehem	21.4%	57.4%	21.2%
Canaan	12.1%	65.2%	22.6%
Cornwall	13.7%	57.7%	28.6%
Goshen	17.7%	57.6%	24.7%
Harwinton	21.9%	56.5%	21.6%
Kent	10.4%	62.4%	27.2%
Litchfield	15.6%	57.3%	27.1%
Middlebury (New Haven County)	21.7%	54.5%	23.8%
Morris	19.5%	57.9%	22.6%
Norfolk	19.5%	52.9%	27.6%
North Canaan	23.0%	55.9%	21.1%
Plymouth	17.0%	67.2%	15.9%
Salisbury	21.7%	47.4%	30.9%
Thomaston	21.1%	61.9%	17.0%
Torrington	17.5%	63.4%	19.1%
Warren	15.5%	59.4%	25.1%
Watertown	16.8%	61.0%	22.2%
Winchester	13.7%	60.8%	25.5%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

During the early stage, the uptake of COVID-19 vaccines was higher among White, non-Hispanic populations compared to the Black or African American, American Indian or Alaska Native, Hispanic, and Native Hawaiian or Pacific Islander populations. Early racial and ethnic disparities in vaccination rates perpetuated a narrative that disparities in the uptake of COVID-19 vaccines among these communities were largely driven by vaccine hesitancy, while neglecting to focus on health inequities and other factors as drivers of disparities in vaccine intentions and uptake.¹¹

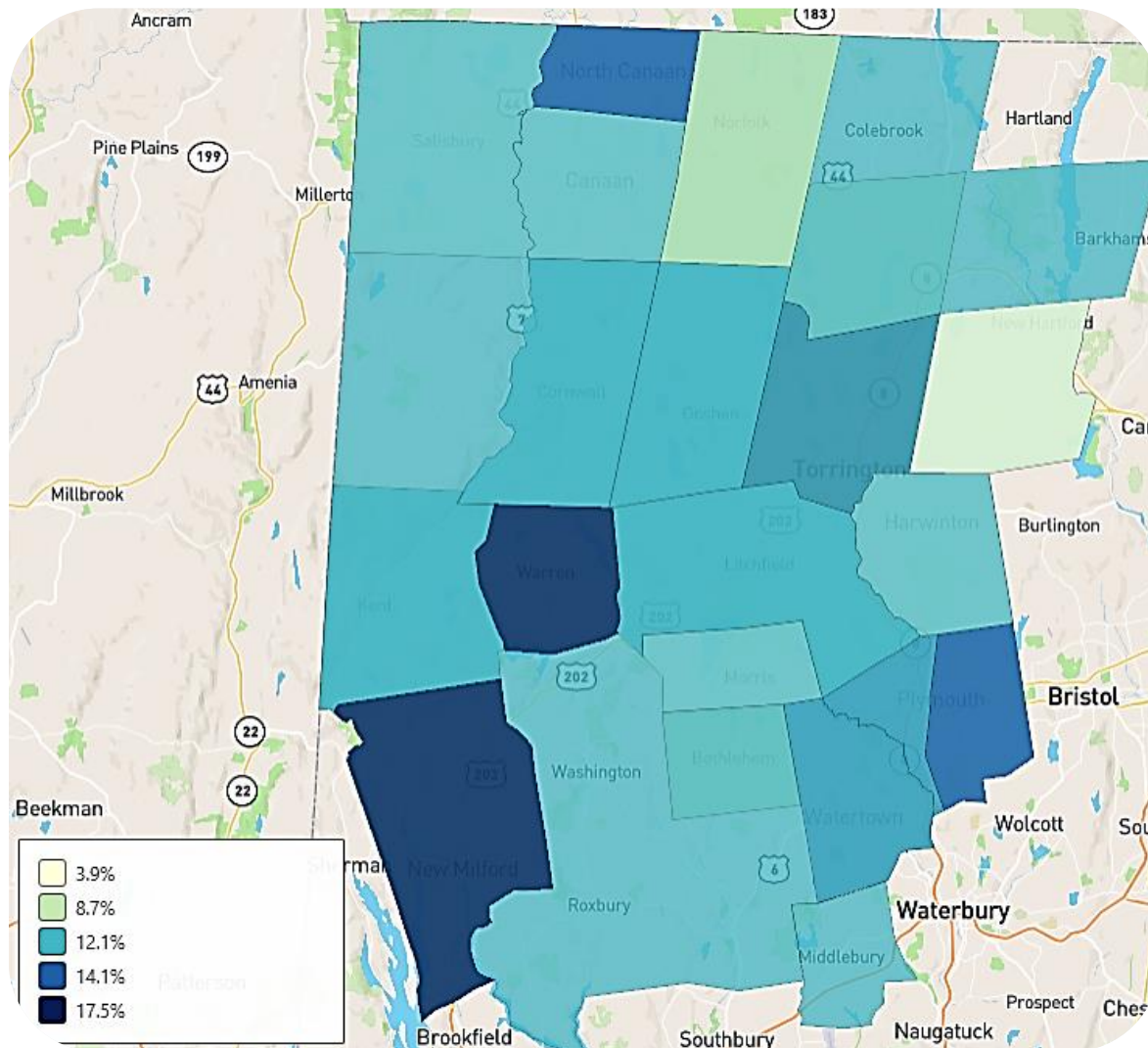
EXHIBIT 9: NON-HISPANIC POPULATION BY RACE

	Native American/ American Indian	Asian	Black or African American	Other Race	Two or More Races	White
Litchfield County	0.1%	1.9%	1.6%	0.3%	2.5%	86.5%
Bethlehem	0.0%	2.2%	0.9%	0.6%	1.7%	91.3%
Canaan	0.0%	1.6%	1.4%	0.0%	2.2%	94.4%
Cornwall	0.0%	4.4%	0.6%	0.0%	1.9%	87.4%
Goshen	0.0%	4.7%	0.1%	1.5%	3.8%	86.3%
Harwinton	0.0%	0.2%	1.1%	0.0%	1.5%	96.1%
Kent	0.1%	3.2%	0.9%	0.6%	3.6%	86.2%
Litchfield	0.0%	2.4%	2.1%	0.7%	3.7%	87.0%
Middlebury (New Haven County)	0.0%	4.7%	0.4%	0.0%	2.4%	87.9%
Morris	0.3%	0.0%	2.7%	0.0%	1.2%	94.5%
Norfolk	0.0%	0.7%	0.4%	0.6%	4.3%	89.9%
North Canaan	0.0%	0.0%	1.9%	0.0%	2.0%	85.1%
Plymouth	0.1%	0.2%	1.0%	0.2%	5.1%	85.9%
Salisbury	0.0%	1.0%	0.7%	0.0%	2.3%	94.0%
Thomaston	0.0%	2.6%	1.1%	0.0%	2.9%	84.7%
Torrington	0.1%	2.4%	2.9%	0.3%	2.7%	81.3%
Warren	0.0%	5.9%	2.3%	0.3%	1.5%	80.8%
Watertown	0.0%	1.8%	1.3%	0.0%	1.5%	85.2%
Winchester	0.3%	0.0%	1.1%	0.0%	2.0%	91.3%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

¹¹ Wilson, R.F., Kota, K.K., Sheats, K.J. et al. Call out racism and inequity in reports on vaccine intentions. Nat Hum Behav 7, 300–302 (2023). <https://doi.org/10.1038/s41562-023-01532-w>

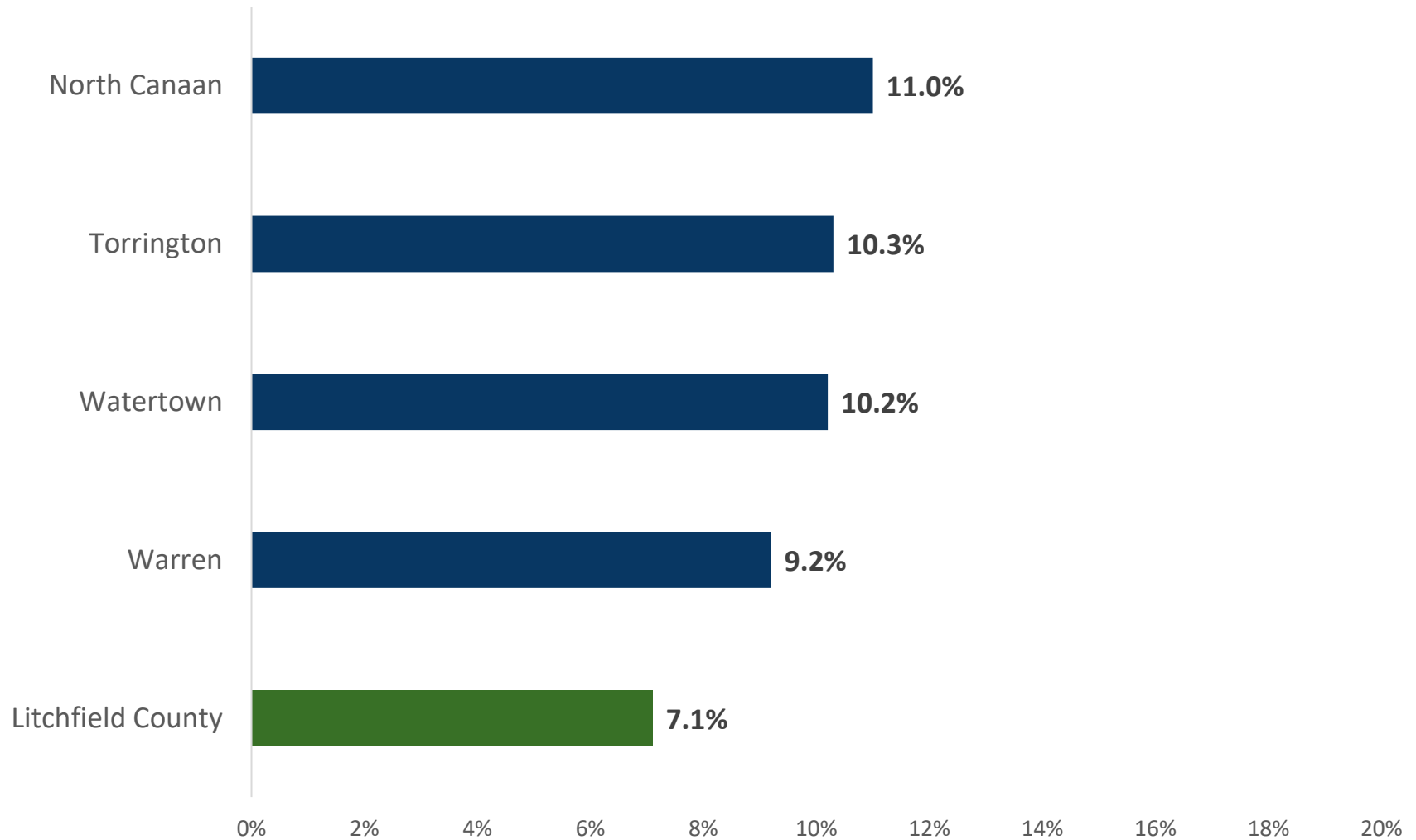
EXHIBIT 10: BLACK OR AFRICAN AMERICAN, INDIGENOUS & PEOPLE OF COLOR PER CAPITA



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

- The map below represents Black, Indigenous, and People of Color (BIPOC), and was calculated by taking the total population minus the white (not Latino, not Hispanic) population.
- Approximately 13.5% of the TAHD service area population is identified as Black, Indigenous, and People of Color. Higher concentrations of this population include Warren (19.2%), and Torrington (18.7%).

EXHIBIT 11: GREATEST PERCENTAGES OF THE HISPANIC POPULATION PER TOWN



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Concentrations of Hispanic populations may suggest a need for culturally appropriate providers, translation services, and more intentional outreach to the Hispanic community.

EXHIBIT 12: HISPANIC POPULATION

	Hispanic
Litchfield County	7.1%
Bethlehem	3.3%
Canaan	0.4%
Cornwall	5.8%
Goshen	3.6%
Harwinton	1.2%
Kent	5.5%
Litchfield	4.1%
Middlebury (New Haven County)	4.6%
Morris	1.2%
Norfolk	4.1%
North Canaan	11.0%
Plymouth	7.5%
Salisbury	2.1%
Thomaston	8.8%
Torrington	10.3%
Warren	9.2%
Watertown	10.2%
Winchester	5.2%

- A portion of the service area has a Hispanic population with as many as one in 10 people in various towns identifying as Hispanic. Those towns where approximately one in 10 people identify as Hispanic include,
 - North Canaan (11%), Torrington (10.3%), Watertown and (10.2%).
- Towns with the lowest percentage of the population identifying as Hispanic include Canaan (0.4%).

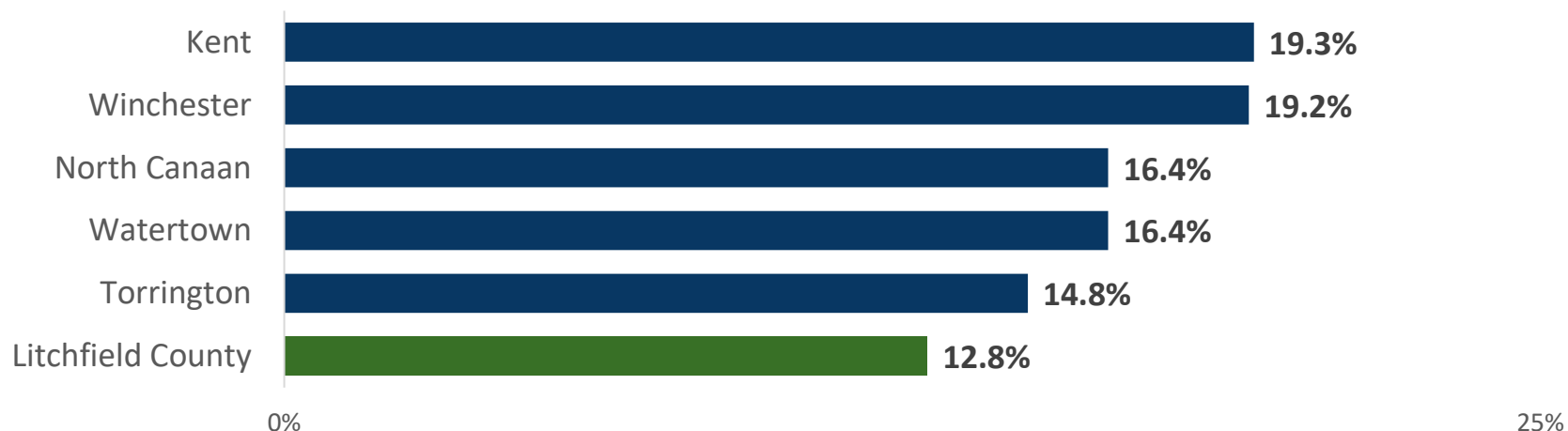
Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Nearly one in five people in the towns of Kent and Winchester are living with a disability (19.3%, 19.2%). People living with a disability may experience additional barriers to immunization. According to the CDC, adults with disabilities are *“more likely ... to report difficulty getting vaccinated against COVID-19”* than adults without disabilities.¹²

A community with a high percentage of people living with a disability may need to utilize specific strategies for reaching people with limited access to vaccines, including COVID. These strategies include systems, such as case managers, community organizations, residential facilities, and other systems that help schedule vaccination appointments and transportation arrangements to the appointment; vaccinating paid and unpaid caregivers; addressing vaccine hesitancy; and identifying and reaching people who are homebound or isolated.¹³

Of the total population, there are small percentages of children under age 18 who are living with a disability. Less than one percent of the population under age 18 in most of the service area towns are living with a disability.

EXHIBIT 13: HIGHEST CONCENTRATIONS OF PEOPLE LIVING WITH A DISABILITY



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

¹² National Center on Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention, Building Back Better: Toward a disability-inclusive, accessible, and sustainable post COVID-19 world (2021). Link: <https://www.cdc.gov/ncbddd/disabilityandhealth/features/COVID-19-and-disabilities.html>

¹³ National Center for Immunization and Respiratory Diseases, Strategies for Reaching People with Limited Access to COVID-19 Vaccines (2022). Link: <https://www.cdc.gov/vaccines/covid-19/vaccinate-with-confidence/limited-access.html>

Understanding the various types of disabilities is important for emergency response planning such as worldwide pandemics. For example, many persons with physical disabilities who worked in informal sectors during the pandemic could not adopt the new working conditions such as remote working or physical distancing. These people lost their livelihood and face disproportionate financial challenges.¹⁴

EXHIBIT 14: PEOPLE LIVING WITH A DISABILITY

	Total Population	Under 18
Litchfield County	12.8%	0.8%
Bethlehem	12.9%	0.3%
Canaan	9.9%	0.2%
Cornwall	9.3%	0.2%
Goshen	8.0%	1.1%
Harwinton	11.5%	0.5%
Kent	19.3%	0.0%
Litchfield	12.3%	1.4%
Middlebury (New Haven County)	8.2%	0.5%
Morris	13.2%	1.3%
Norfolk	13.2%	0.9%
North Canaan	16.4%	1.2%
Plymouth	14.8%	0.8%
Salisbury	12.7%	0.5%
Thomaston	13.0%	0.8%
Torrington	14.8%	1.3%
Warren	10.5%	0.5%
Watertown	16.4%	0.8%
Winchester	19.2%	0.3%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

¹⁴ International Disability Alliance, Reach the furthest behind first: Persons with disabilities must be prioritized in accessing COVID-19 vaccinations (2020). Link: https://www.internationaldisabilityalliance.org/sites/default/files/ida_recommendations_on_accessing_covid-19_vaccinations_final_01.12.20.pdf

- Compared to the other towns, Kent has a high percentage of people living with disabilities, with the third-highest levels of people with hearing difficulty (7.0%), cognitive difficulty (6.5%), ambulatory difficulty (9.5%), and self-care difficulty (3.8%). Winchester has the highest percentage of people living with hearing difficulty (9.2%), cognitive difficulty (8.2%), and self-care difficulty (4.6%), and the second-highest percentage of people living with vision difficulty (3.5%).
- The majority of the population is living with an ambulatory difficulty, which is difficulty with walking or climbing stairs. Watertown has the highest percentage of the population living with an ambulatory difficulty (10.1%).

EXHIBIT 15: POPULATION LIVING WITH A DISABILITY BY TYPE

	Vision Difficulty	Hearing Difficulty	Cognitive Difficulty	Ambulatory Difficulty	Self-Care Disability
Litchfield County	1.8%	4.0%	5.2%	6.8%	2.5%
Bethlehem	1.1%	2.7%	3.8%	9.6%	2.8%
Canaan	2.9%	3.4%	3.1%	3.1%	0.9%
Cornwall	0.9%	3.1%	4.3%	2.8%	0.8%
Goshen	0.6%	2.2%	4.5%	2.4%	1.7%
Harwinton	2.0%	3.0%	6.0%	5.9%	3.4%
Kent	2.4%	7.0%	6.5%	9.5%	3.8%
Litchfield	0.6%	4.1%	5.9%	5.7%	2.9%
Middlebury (New Haven County)	0.5%	4.3%	2.0%	3.4%	2.4%
Morris	2.2%	3.4%	7.3%	3.0%	1.6%
Norfolk	2.7%	5.7%	4.3%	6.4%	1.0%
North Canaan	1.8%	7.5%	5.7%	7.6%	3.9%
Plymouth	2.3%	4.7%	5.0%	7.2%	2.7%
Salisbury	1.4%	3.7%	6.0%	4.7%	2.0%
Thomaston	3.6%	2.9%	6.1%	7.3%	2.5%
Torrington	1.8%	3.8%	6.3%	8.6%	2.9%
Warren	1.8%	5.6%	3.5%	4.1%	1.8%
Watertown	2.9%	4.5%	6.1%	10.1%	2.7%
Winchester	3.5%	9.2%	8.2%	9.3%	4.6%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Research has found that people with language preferences other than English, and those needing interpreters, were more likely to experience delays in vaccinations compared to their English-speaking peers. Unmet language access needs are a key barrier to high-quality healthcare and health equity, as seen with COVID-19, but also widely applicable to other health conditions.¹⁵

EXHIBIT 16: POPULATION THAT SPEAKS ENGLISH LESS THAN VERY WELL

	Percent
Litchfield County	2.9%
Bethlehem	1.5%
Canaan	0.8%
Cornwall	3.0%
Goshen	0.7%
Harwinton	0.4%
Kent	3.2%
Litchfield	3.0%
Middlebury (New Haven County)	3.0%
Morris	1.2%
Norfolk	0.9%
North Canaan	7.2%
Plymouth	1.8%
Salisbury	1.0%
Thomaston	0.8%
Torrington	4.8%
Warren	0.0%
Watertown	4.3%
Winchester	3.9%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Approximately 7.2% of the population in North Canaan speak English less than very well. The data also shows that there are populations throughout the service area, albeit small, that speak English less than very well.

¹⁵ National Resource Center for Refugees, Immigrants, and Migrants, Analysis: COVID-19 vaccination and clinical outcomes are associated with patients' preferred language (2023). Link: <https://nrcrim.org/analysis-covid-19-vaccination-and-clinical-outcomes-are-associated-patients-preferred-language>

Economic indicators can help to highlight potential disparities among populations that may hinder access to vaccinations. For example, by September 2021, higher median household income was associated with higher community vaccination coverage across all percentiles of income.¹⁶

EXHIBIT 17: ECONOMIC INDICATORS¹⁷

	Median Household Income	Population Living in Poverty	Unemployed Population
Litchfield County	\$84,797	7.8%	3.9%
Bethlehem	\$95,338	5.9%	1.1%
Canaan	\$80,938	14.3%	3.4%
Cornwall	\$95,089	9.4%	2.8%
Goshen	\$127,344	6.2%	2.9%
Harwinton	\$118,508	3.5%	2.4%
Kent	\$89,348	3.6%	3.5%
Litchfield	\$98,286	5.4%	3.3%
Middlebury (New Haven County)	\$124,619	3.6%	3.1%
Morris	\$94,167	10.0%	8.4%
Norfolk	\$76,382	11.5%	2.6%
North Canaan	\$60,789	17.8%	2.8%
Plymouth	\$84,550	8.3%	2.9%
Salisbury	\$87,688	4.3%	7.7%
Thomaston	\$81,013	4.4%	2.6%
Torrington	\$63,135	13.6%	4.3%
Warren	\$133,125	3.2%	2.4%
Watertown	\$81,357	4.2%	4.2%
Winchester	\$65,537	11.4%	3.5%

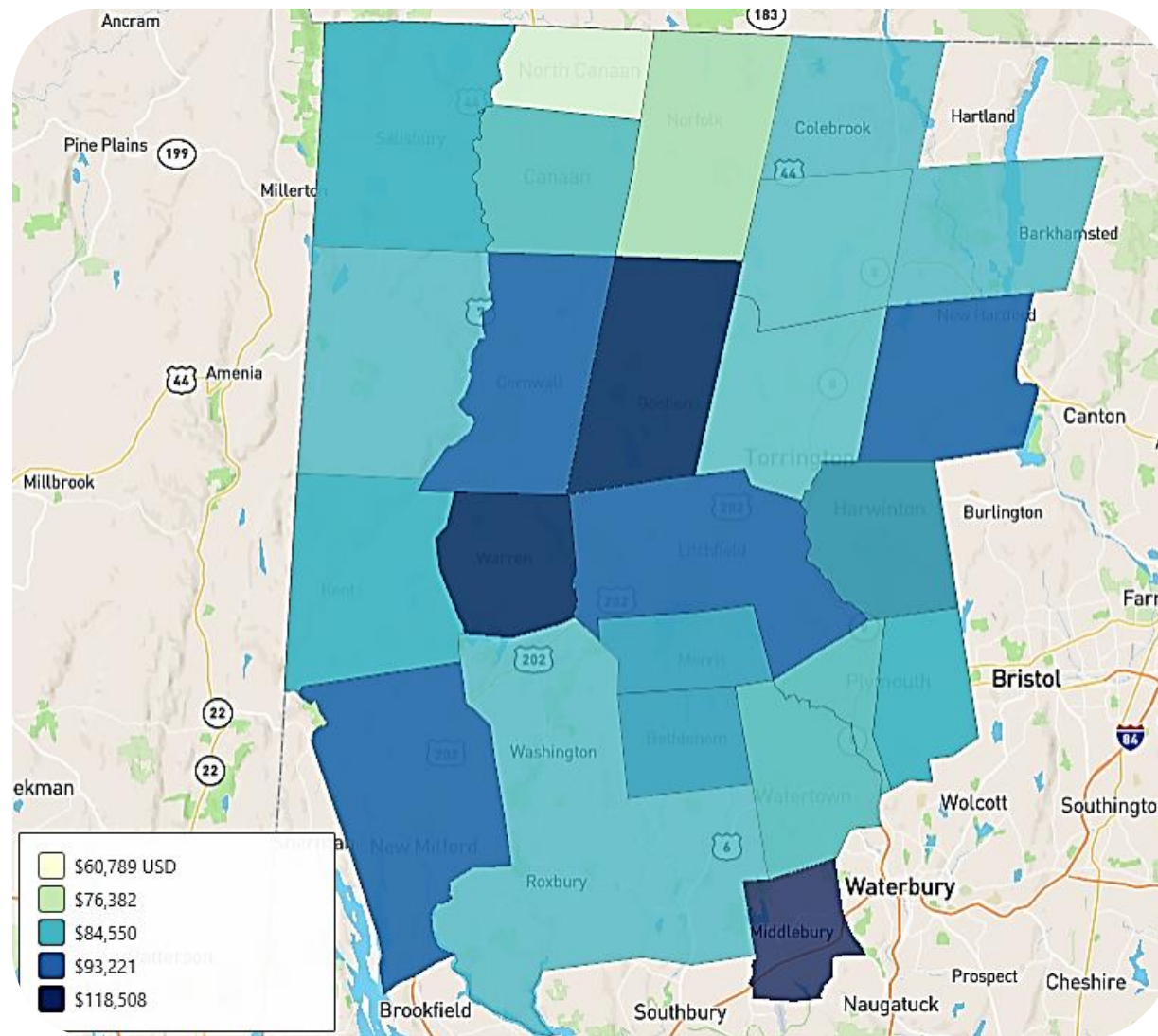
Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Approximately 17.8% of the population in North Canaan are living in poverty, notably higher than elsewhere in the service area. Canaan has the second highest percentage of population living in poverty (14.3%), followed by Torrington (13.6%).

¹⁶ Masterson JM, Luu M, Dallas KB, Daskivich LP, Spiegel B, Daskivich TJ. Disparities in COVID-19 Disease Incidence by Income and Vaccination Coverage — 81 Communities, Los Angeles, California, July 2020–September 2021(2023). Link: [https://www.cdc.gov/mmwr/volumes/72/wr/mm7226a5.htm#:~:text=By%20September%202021%2C%20higher%20median,\(p%3C0.001\)%20\(Supplementary](https://www.cdc.gov/mmwr/volumes/72/wr/mm7226a5.htm#:~:text=By%20September%202021%2C%20higher%20median,(p%3C0.001)%20(Supplementary)

¹⁷ Unemployed: Aged 16 and Over

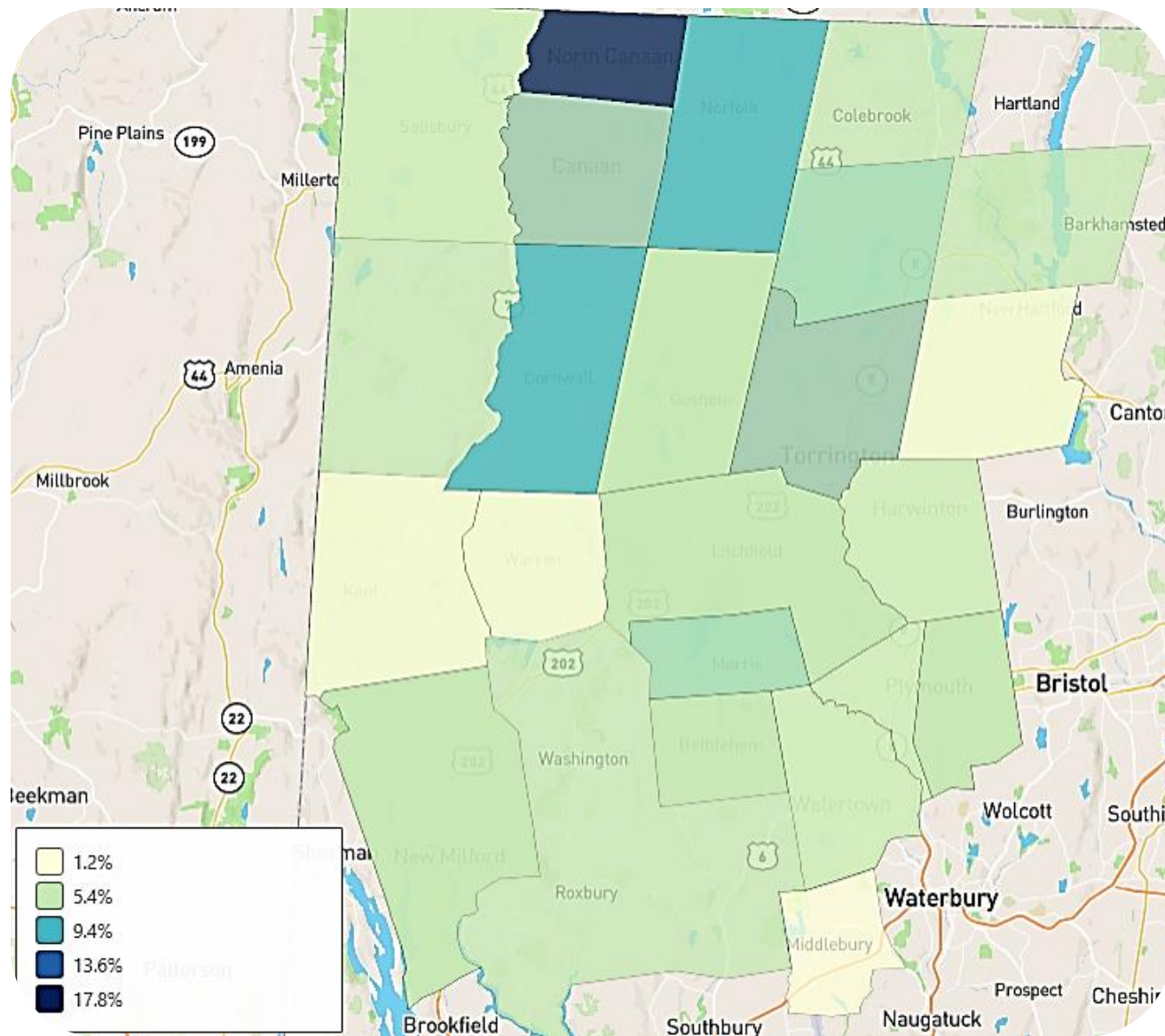
EXHIBIT 18: MEDIAN HOUSEHOLD INCOME BY TOWN



Warren, Goshen, Middlebury (New Haven County), and Harwinton have the highest annual median household incomes within the service area.

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

EXHIBIT 19: NUMBER OF PEOPLE LIVING IN POVERTY BY TOWN



Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

Uninsured adults who are unable to access free vaccines sometimes must pay out of pocket for the full cost of the vaccines or receive them on a sliding fee scale at certain safety net providers despite free vaccines that may be largely distributed through state and local health departments and community health centers.¹⁸

Norfolk has the highest percentage of people without insurance.

EXHIBIT 20: UNINSURED POPULATION

	Total Population	Number of People	Percent of Population
Litchfield County	185,175	6,709	1.6%
Bethlehem	3,408	17	3.1%
Canaan	1,223	77	1.3%
Cornwall	1,379	117	2.0%
Goshen	3,139	62	2.5%
Harwinton	5,499	136	3.9%
Kent	2,970	114	3.9%
Litchfield	8,161	312	1.3%
Middlebury (New Haven County)	7,617	97	0.7%
Morris	2,149	14	1.3%
Norfolk	1,685	17	7.7%
North Canaan	3,209	240	3.6%
Plymouth	11,705	416	1.0%
Salisbury	4,048	182	2.9%
Thomaston	7,497	220	4.3%
Torrington	35,447	1,497	6.8%
Warren	1,383	94	5.6%
Watertown	22,110	589	5.6%
Winchester	10,335	580	2.1%

Source: U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021

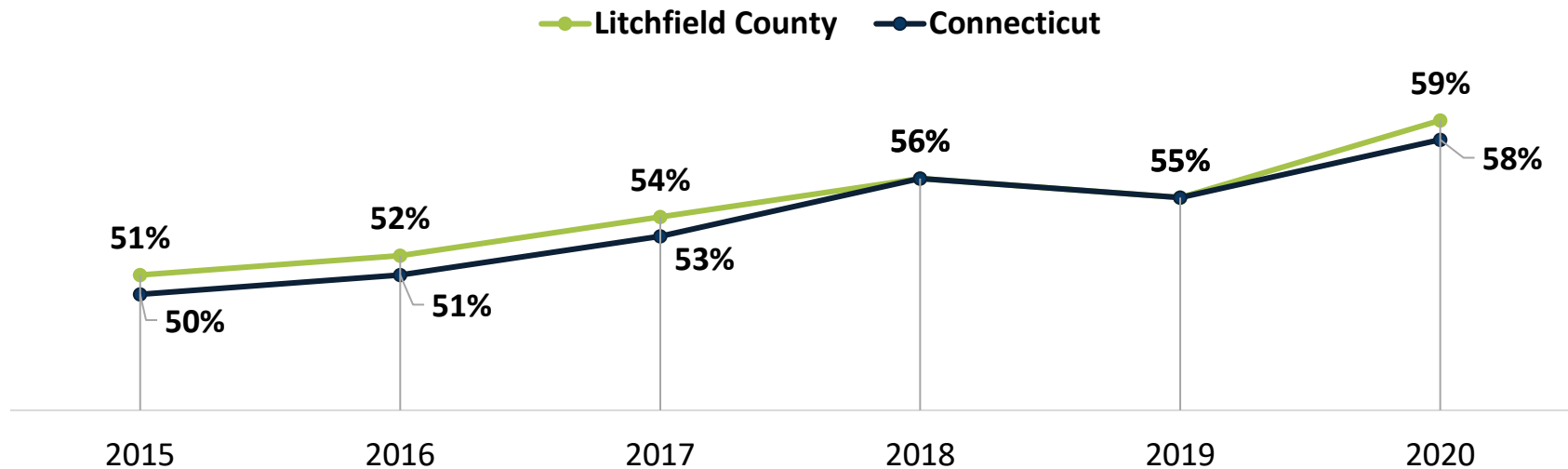
¹⁸ KFF, COVID-19 Vaccine Access for Uninsured Adults this Fall (2023). Link: <https://www.kff.org/policy-watch/covid-19-vaccine-access-for-uninsured-adults-this-fall/#:~:text=Free%20vaccines%20are%20largely%20distributed,at%20certain%20safety%20net%20providers.>

- From 2015 to 2020, there was a 16% increase in the percentage of Medicare enrollees who had an annual flu vaccination. There was a 15.7% increase in the percentage of Medicare enrollees during that same period in Litchfield County.
- The Black population in Litchfield County has the lowest percentage of Medicare enrollees that had an annual flu vaccination.

EXHIBIT 21: PERCENTAGE OF FEE-FOR-SERVICE MEDICARE ENROLLEES THAT HAD AN ANNUAL FLU VACCINATION

	Litchfield County
Total	59.0%
Asian	60.0%
Black or African American	52.0%
Hispanic	56.0%
White	59.0%

Source: County Health Rankings & Roadmaps, 2020



VACCINE EXEMPTION DATA

School vaccination assessment is a local-level data reporting system implemented as part of state or local school vaccination requirements. States and local areas put school vaccination requirements in place to minimize the risk from vaccine-preventable diseases. School vaccination requirements help safeguard children and adolescents by making sure they are protected when they get to school, where potential for vaccine-

preventable disease transmission is higher. School vaccination assessments identify pockets of under-vaccinated students. The local school and classroom level data can be used by schools and health departments to ensure high vaccination coverage and to help during a response to an epidemic, identify those students most at risk of disease, allowing them to be vaccinated and protected.¹⁹

The following data includes all schools where data was present through the State of Connecticut Data and Policy Analytics website. Schools within the TAHD service area were not intentionally excluded.

¹⁹ National Center for Immunization and Respiratory Diseases, Why School Vaccination Assessments are Important (2017). Link:

<https://www.cdc.gov/vaccines/imz-managers/coverage/schoolvaxview/data-reports/importance.html>

Among the schools in the service area, Litchfield Intermediate School has the highest percentage of students who have a religious exemption for vaccination (7.4%), followed by St. John Paul The Great Academy (6.1%). Woodhall School has the highest percentage of medical exemption rates among the service area (2.4%).

In August 2023, a federal appeals court upheld a 2021 Connecticut law that eliminated the state's longstanding religious exemption from childhood immunization requirements for schools, colleges, and day care facilities.²⁰

EXHIBIT 22: 2022-2023 VACCINE EXEMPTION RATES BY SCHOOL

School Name	School Type	City	County	Religious Exemption	Medical Exemption	Total Exemptions
Litchfield Intermediate School	Public	Litchfield	Litchfield	7.4%	0.0%	7.4%
Saint John Paul The Great Academy	Non-public	Torrington	Litchfield	6.1%	0.0%	6.1%
Goshen Center School	Public	Goshen	Litchfield	4.9%	0.7%	5.6%
Center School	Public	Litchfield	Litchfield	4.6%	0.4%	4.9%
Bethlehem Elementary School	Public	Bethlehem	Litchfield	4.3%	0.0%	4.3%
Warren School	Public	Warren	Litchfield	4.3%	0.0%	4.3%
Wamogo Regional School District 6	Public	Litchfield	Litchfield	3.1%	0.6%	3.7%
St. John The Evangelist	Non-public	Watertown	Litchfield	3.6%	0.0%	3.6%
Long Meadow Elementary School	Public	Middlebury	New Haven	2.9%	0.4%	3.3%
Fletcher W Judson Elementary School	Public	Watertown	Litchfield	3.1%	0.0%	3.1%
Litchfield Middle/High School	Public	Litchfield	Litchfield	2.7%	0.3%	3.0%
Woodhall School	Non-public	Bethlehem	Litchfield	0.0%	2.4%	2.4%

Source: Connecticut Open Data, CT Department of Public Health, 2023

²⁰ Associated Press, Federal appeals court upholds Connecticut law that eliminated religious vaccination exemption (2023). Link: <https://apnews.com/article/connecticut-religious-exemption-school-vaccinations-ab9258436372abee7e415e186caf55a4#:~:text=Federal%20appeals%20court%20upholds%20Connecticut%20law%20that%20eliminated%20religious%20vaccination%20exemption,-FILE%20%2D%20Opponents%20of&text=A%20federal%20appeals%20court%20on%20Friday%20upheld%20a%202021%20Connecticut,colleges%20and%20day%20care%20facilities.>

EXHIBIT 23: 2022-2023 VACCINE EXEMPTION RATES BY SCHOOL CONTINUED

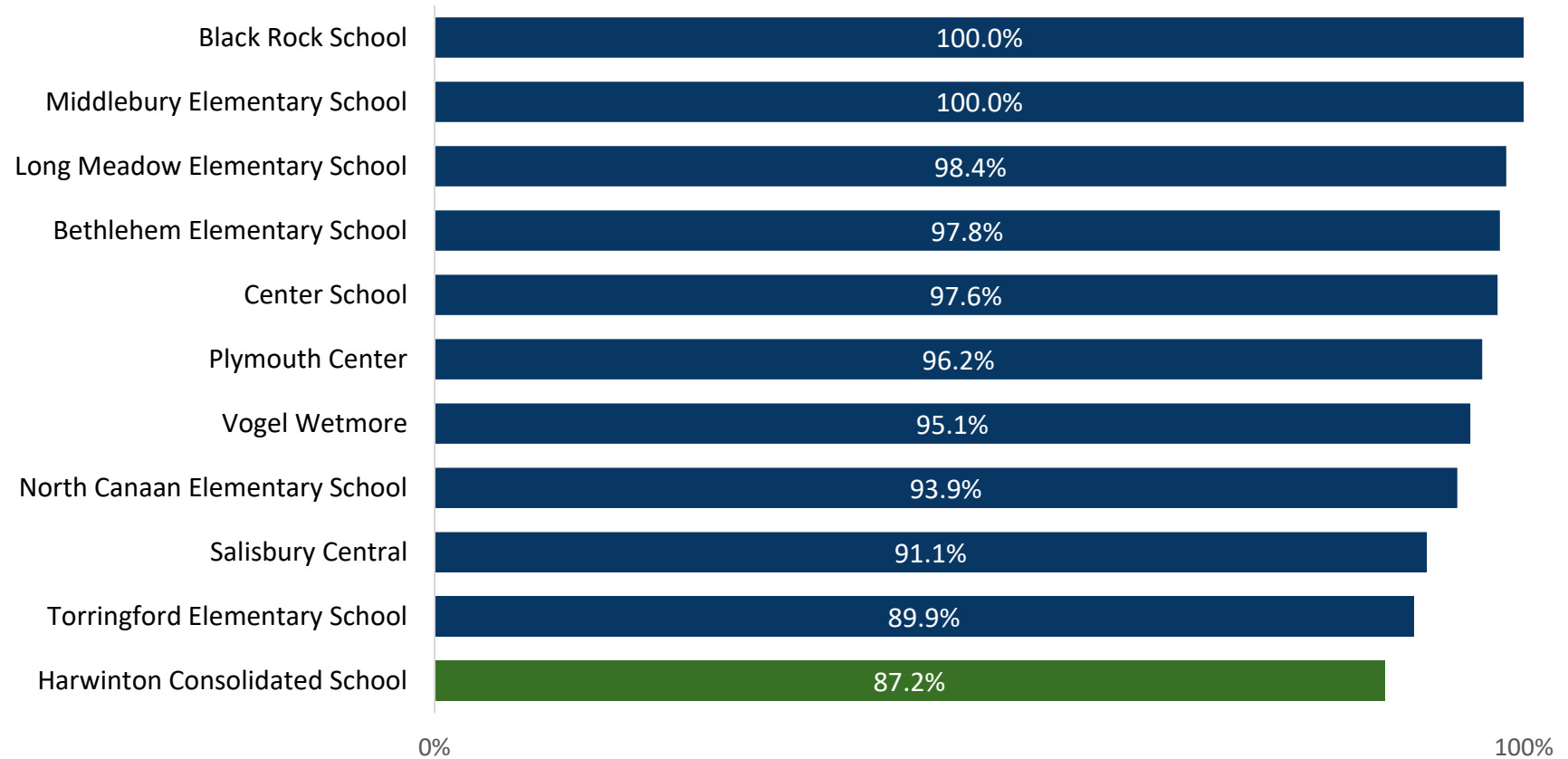
	School Type	City	County	Religious Exemption	Medical Exemption	Total Exemptions
Memorial Middle School	Public	Middlebury	New Haven	2.4%	0.0%	2.4%
Watertown High School	Public	Watertown	Litchfield	2.4%	0.0%	2.4%
Salisbury Central	Public	Salisbury	Litchfield	2.0%	0.3%	2.3%
Marvelwood School	Non-public	Kent	Litchfield	1.9%	0.0%	1.9%
Middlebury Elementary School	Public	Middlebury	New Haven	1.9%	0.0%	1.9%
Harwinton Consolidated School	Public	Harwinton	Litchfield	1.8%	0.0%	1.8%
Oliver Wolcott Tech	Public	Torrington	Litchfield	1.7%	0.0%	1.7%
James Morris School	Public	Morris	Litchfield	1.6%	0.0%	1.6%
Torrington Elementary School	Public	Torrington	Litchfield	1.6%	0.0%	1.6%
Kent Center School	Public	Kent	Litchfield	1.5%	0.0%	1.5%
Southwest	Public	Torrington	Litchfield	1.0%	0.0%	1.0%
Salisbury School	Non-public	Salisbury	Litchfield	0.3%	0.3%	0.7%
Plymouth Center	Public	Plymouth	Litchfield	0.3%	0.3%	0.6%
Thomaston High School	Public	Thomaston	Litchfield	0.6%	0.0%	0.6%
Torrington Middle School	Public	Torrington	Litchfield	0.5%	0.0%	0.5%
North Canaan Elementary School	Public	Canaan	Litchfield	0.0%	0.4%	0.4%
Torrington High School	Public	Torrington	Litchfield	0.3%	0.1%	0.4%
Forbes School	Public	Torrington	Litchfield	0.3%	0.0%	0.3%
Kent School	Non-public	Kent	Litchfield	0.0%	0.2%	0.2%
The Taft School	Non-public	Watertown	Litchfield	0.2%	0.0%	0.2%
Botelle School	Public	Norfolk	Litchfield	0.0%	0.0%	0.0%
Black Rock School	Public	Thomaston	Litchfield	0.0%	0.0%	0.0%
Vogel Wetmore	Public	Torrington	Litchfield	0.0%	0.0%	0.0%

Source: Connecticut Open Data, CT Department of Public Health, 2023

The data below represents 2022-2023 Kindergarten Immunizations rates for schools where data was available.

Exemption rates for kindergarteners are high across service area schools. Harwinton Consolidated School has the lowest 2022-2023 kindergarten immunization rate (87.2%).

EXHIBIT 24: 2022-2023 KINDERGARTEN IMMUNIZATION RATES BY SCHOOL



Source: Connecticut Open Data, CT Department of Public Health, 2023

EXHIBIT 25: 2022-2023 AVAILABLE KINDERGARTEN IMMUNIZATION RATES BY PUBLIC SCHOOL

School Name	City	County	Polio ²¹	DTaP ²²	MMR ²³	HepB ²⁴	Varicella ²⁵	HepA ²⁶	All
Middlebury Elementary School	Middlebury	New Haven	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Black Rock School	Thomaston	Litchfield	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Long Meadow Elementary School	Middlebury	New Haven	100.0%	100.0%	100.0%	100.0%	100.0%	98.4%	98.4%
Bethlehem Elementary School	Bethlehem	Litchfield	100.0%	100.0%	100.0%	100.0%	97.8%	100.0%	97.8%
Center School	Litchfield	Litchfield	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%	97.6%
Plymouth Center	Plymouth	Litchfield	98.8%	97.5%	98.8%	100.0%	98.8%	97.5%	96.2%
Vogel Wetmore	Torrington	Litchfield	98.6%	98.6%	97.9%	98.6%	97.2%	96.5%	95.1%
North Canaan Elementary School	Canaan	Litchfield	97.0%	97.0%	97.0%	97.0%	97.0%	93.9%	93.9%
Salisbury Central	Salisbury	Litchfield	100.0%	100.0%	97.8%	93.3%	100.0%	100.0%	91.1%
Torrington Elementary School	Torrington	Litchfield	95.0%	97.8%	98.6%	98.6%	97.8%	96.4%	89.9%
Harwinton Consolidated School	Harwinton	Litchfield	92.3%	94.9%	96.2%	97.4%	94.9%	100.0%	87.2%

Source: Connecticut Open Data, CT Department of Public Health, 2023

- Harwinton Consolidated School and Torrington Elementary School have the lowest percentages of kindergarten immunization rates at 87.2% and 89.9%, respectively.
- Middlebury Elementary School and Black Rock School are the two schools within the service area that have a 100% immunization rate.

²¹ Polio vaccine can prevent polio, which is a disabling and life-threatening disease caused by poliovirus, which can infect a person's spinal cord, leading to paralysis, [Vaccine Information Statement: Polio Vaccine - What You Need to Know \(immunize.org\)](#).

²² DTaP vaccine can prevent diphtheria, tetanus, and pertussis. Diphtheria and pertussis spread from person to person. Tetanus enters the body through cuts or wounds, [Vaccine Information Statement: DTaP Vaccine - What you need to know \(immunize.org\)](#).

²³ MMR vaccine can prevent measles, mumps, and rubella, [Vaccine Information Statement: MMR Vaccine - What you need to know \(immunize.org\)](#).

²⁴ Hepatitis B vaccine can prevent hepatitis B, which is a liver disease that can cause mild illness lasting a few weeks, or it can lead to a serious, lifelong illness, [Vaccine Information Statement: Hepatitis B Vaccine - What you need to know \(immunize.org\)](#).

²⁵ Varicella vaccine can prevent varicella, also called "chickenpox," which causes an itchy rash that usually lasts about a week, [Vaccine Information Statement: Chickenpox vaccine - what you need to know \(immunize.org\)](#).

²⁶ Hepatitis A vaccine can prevent hepatitis A, which is a serious liver disease usually spread through close, personal contact with an infected person or when a person unknowingly ingests the virus from objects, food, or drinks that are contaminated by small amounts of stool from an infected person, [Vaccine Information Statement: Hepatitis A Vaccine \(immunize.org\)](#).

EXHIBIT 26: 2022-2023 AVAILABLE KINDERGARTEN EXEMPTION RATES BY PUBLIC SCHOOL

School Name	City	County	Religious Exemption	Medical Exemption	Total Exemptions
Center School	Litchfield	Litchfield	2.4%	0.0%	2.4%
Bethlehem Elementary School	Bethlehem	Litchfield	0.0%	0.0%	0.0%
North Canaan Elementary School	Canaan	Litchfield	0.0%	0.0%	0.0%
Harwinton Consolidated School	Harwinton	Litchfield	0.0%	0.0%	0.0%
Long Meadow Elementary School	Middlebury	New Haven	0.0%	0.0%	0.0%
Middlebury Elementary School	Middlebury	New Haven	0.0%	0.0%	0.0%
Plymouth Center	Plymouth	Litchfield	0.0%	0.0%	0.0%
Salisbury Central	Salisbury	Litchfield	0.0%	0.0%	0.0%
Black Rock School	Thomaston	Litchfield	0.0%	0.0%	0.0%
Torrington Elementary School	Torrington	Litchfield	0.0%	0.0%	0.0%
Vogel Wetmore	Torrington	Litchfield	0.0%	0.0%	0.0%

Source: Connecticut Open Data, CT Department of Public Health, 2023

EXHIBIT 27: 2022-2023 AVAILABLE SEVENTH GRADE IMMUNIZATION RATES BY PUBLIC SCHOOL

School Name	City	County	MMR ²⁷	Var ²⁸	HepA ²⁹	MCV ³⁰	Tdap ³¹	All
Litchfield Middle/High School	Litchfield	Litchfield	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Thomaston High School	Thomaston	Litchfield	100.0%	100.0%	100.0%	98.5%	98.5%	98.5%
Torrington Middle School	Torrington	Litchfield	99.4%	99.4%	98.7%	97.8%	98.1%	97.5%
Memorial Middle School	Middlebury	New Haven	97.1%	97.1%	97.1%	97.1%	97.1%	97.1%
Wamogo Regional School District 6	Litchfield	Litchfield	94.3%	94.3%	94.3%	94.3%	94.3%	94.3%
Salisbury Central	Salisbury	Litchfield	93.5%	93.6%	93.6%	93.6%	93.6%	93.6%

Source: Connecticut Open Data, CT Department of Public Health, 2023

²⁷ MMR vaccine can prevent measles, mumps, and rubella, [Vaccine Information Statement: MMR Vaccine - What you need to know \(immunize.org\)](#).

²⁸ Varicella vaccine can prevent varicella, also called “chickenpox,” which causes an itchy rash that usually lasts about a week, [Vaccine Information Statement: Chickenpox vaccine - what you need to know \(immunize.org\)](#).

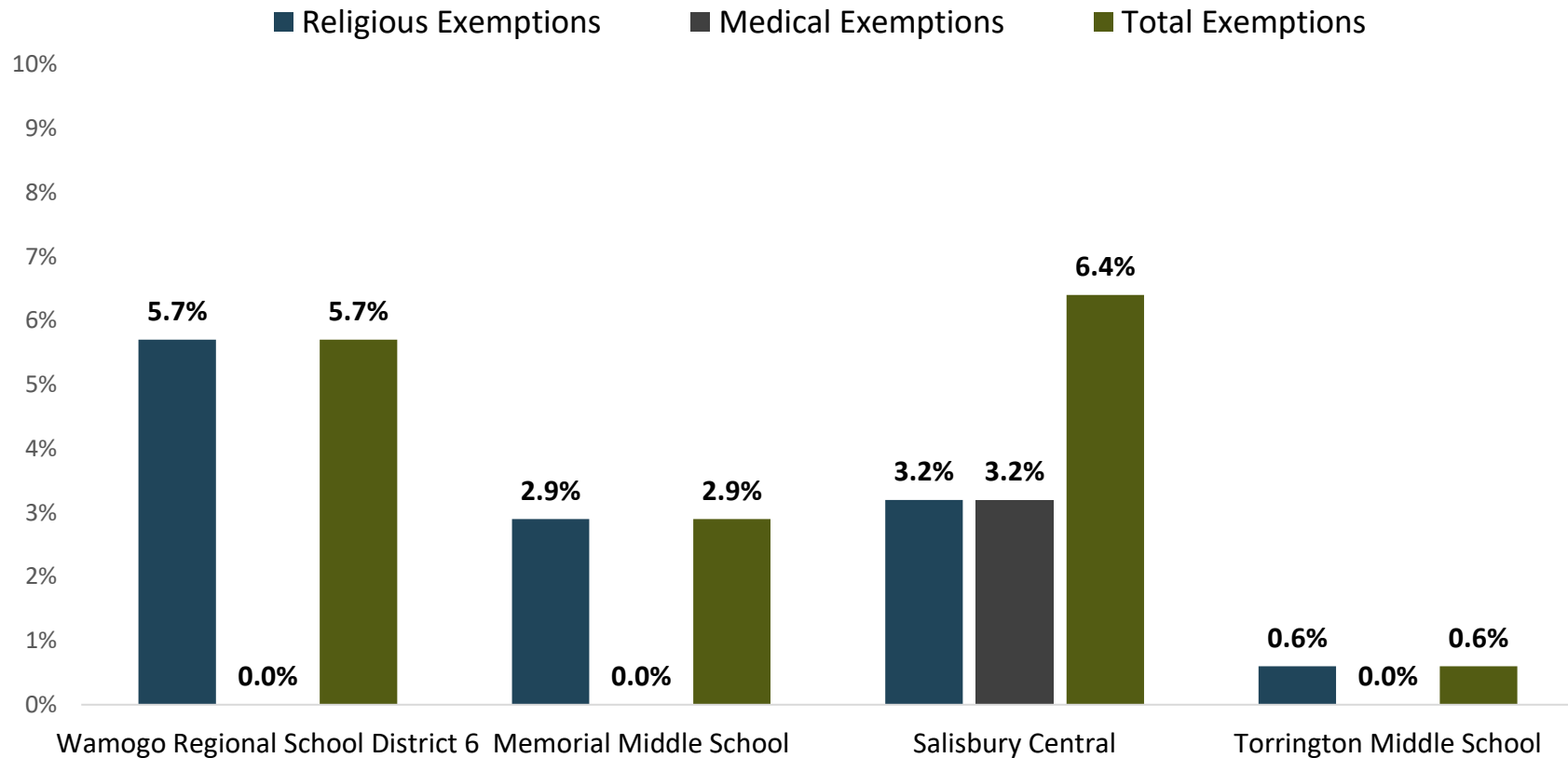
²⁹ Hepatitis A vaccine can prevent hepatitis A, which is a serious liver disease usually spread through close, personal contact with an infected person or when a person unknowingly ingests the virus from objects, food, or drinks that are contaminated by small amounts of stool from an infected person, [Vaccine Information Statement: Hepatitis A Vaccine \(immunize.org\)](#).

³⁰ Meningococcal conjugate or MenACWY vaccine, which protects people against meningococcal disease caused by serogroups A, C, W, and Y. A different meningococcal vaccine is available that can help protect against serogroup B, [Vaccine Information Statement: Serogroup A, C, W, Y Meningococcal Vaccines \(MenACWY and MPSV4\): What you need to know \(immunize.org\)](#), [Vaccines for Meningococcal | CDC](#).

³¹ Tdap vaccine can prevent tetanus, diphtheria, pertussis. Diphtheria and pertussis spread from person to person. Tetanus enters the body through cuts or wounds, [Vaccine Information Statement: Tdap \(immunize.org\)](#).

All of the non-public schools listed in the data set did not provide exemption rate data, along with three public schools. The majority of exemptions fall under the 'religious exemption' category. Salisbury Central is the only school among those listed with any seventh graders who have medical exemptions from vaccinations.

EXHIBIT 28: 2022-2023 SEVENTH GRADE EXEMPTION RATES BY SCHOOL



Source: Connecticut Open Data, CT Department of Public Health, 2023

COMMUNITY-BASED RESEARCH

The following insight was provided from one-on-one virtual stakeholder Interviews and intercept interviews on-site throughout the service area.

A **stakeholder interview** is a qualitative research method designed to capture perceptions and significant concerns around routine vaccinations. Interviews capture insights regarding the influenza and COVID-19 vaccinations, in addition to identifying vaccination barriers. The results of these interviews provide critical information necessary for developing strategies for reinforcing vaccine confidence among communities of focus and addressing barriers preventing individuals from getting vaccinated.

An **intercept interview** is a qualitative research method used to gather feedback from a community of focus in a central location. The interview is conducted by approaching respondents in public places and is an informal conversation that includes a brief set of open-ended questions. Once feedback is received from the respondent, a clearer view of each of their perspectives is captured regarding vaccinations.



GENERAL PERCEPTIONS

Study participants were asked to answer questions to gauge general perceptions around vaccines (routine, influenza, and/or COVID-19). Overall, responses suggest that most study participants believe that routine vaccinations are necessary for the community to remain safe and healthy. Broadly, participants expressed more caution and negative experiences with COVID-19 vaccinations.

OBSERVATIONS FROM THE COMMUNITY

- *"I think they are lifesaving and I continue to endorse them, for individual and population health."*
- *"I've had all my vaccines including COVID and flu; we know vaccines save lives."*
- *"I am very much thankful as an ex-hospital worker and feel so lucky to have access. I'm always surprised when people are reluctant."*
- *"I wanted to run in line to get the COVID-19 vaccine. That didn't happen for everyone and now I can tell you that I have had four vaccinations and COVID-19 twice, and I am never getting another vaccination. Furthermore, people are having really bad reactions to the vaccine. Now they are starting to say, 'I don't know' about this vaccination technology."*
- *"I thought I had to get the COVID-19 vaccination to show that as a nurse, that I'm healthy and that this is okay. When I had COVID-19, I lost my sense of smell and I've never gotten it back three years later. I get dizzy spells and visual auras, but it's not debilitating."*
- *"I've never had a flu vaccination and I would never get another COVID vaccination now. Some of the things we are seeing officials don't want to admit have a correlation, and it is scary."*
- *"The anti-vax movement is vocal but it's not huge out here. As far as childhood vaccinations minus COVID, we have compliance from most of our parents. Exemptions are not allowed in the state anymore so you can only have a medical exemption in school but it's quite a process. They have to follow the vaccine schedule and Connecticut has come down hard on vaccine compliance, excluding COVID."*
- *"I'm in a more rural area with a more natural approach and less afraid of every sickness or bug. I have that mindset and I'm not personally one to recommend vaccines because they are popular like the RSV vaccine."*

- *“Parents of autistic kids have evolved into parents who are selective about vaccines for kids without medical issues – some separate out vaccines or straight up deny all vaccines when religious exemptions were allowed. I have seen parents homeschool their two children when the law changed.”*
- *“For the flu vaccine, parents are pretty split. The argument against it is ‘my child is young and healthy.’ When people throw barriers to getting vaccinated, it’s from a self-centered viewpoint. When people begin to consider they are living in a community with babies and older adults and vulnerable populations, that is when you find good arguments for vaccines.”*

VACCINE FACILITATORS

Observations collected from the community-based research indicate vaccine facilitators, or techniques, that are working well to maintain vaccination compliance within the TAHD service area.

Community members were able to cite public information campaigns or public health-related messaging in a positive way. Mobile vaccination clinics have been successful in the Torrington area throughout the pandemic and may be a useful tool for future initiatives. Local pharmacies have been a key location in light of health care provider shortages and long wait times for appointments. Utilizing technology (e.g., QR codes to make appointments) has led to increased participation in vaccines.

OBSERVATIONS FROM THE COMMUNITY

- *“There’s a great ad on television now showing all of the public figures and celebrities showing the latest COVID vaccination. I think that really works because it might be someone’s idol. It could make someone reconsider, but I don’t think there’s a lot of convincing health departments can do.”*
- *“There’s a few TV commercials – I don’t know who they are sponsored by – keeping up with the latest vaccines can help protect you – the messaging is great.”*
- *“In terms of access, I know the mobile vaccine clinics were great. The hospital I’m on the board for did a medical mission throughout the entire state. They did everything from immunizations to mammography, full rectum screenings, washing people’s feet, and giving people coats. It mobilized whole communities. You went to the places where people are, and you didn’t just say I’m going to immunize you. You gave people food and clothing that met other needs. It was amazing.”*

- *“During COVID, neighborhood health clinics paid attention to special populations and there was a vaccination trailer outside of emergency departments to help special populations and arrange for transportation if needed and helped with translation services.”*
- *“In the past few years, the Federally Qualified Healthcare Centers conducted on-site vaccinations and partnered with TAHD to go into homes for those who were home bound.”*
- *“Thomaston pharmacy just opened up here and they have all of the vaccines, and no appointment is necessary. You might have to wait a little bit but never more than ten minutes.”*
- *“One thing we did this year that seemed to work in schools is we made our student vaccination sign-ups on a QR code, and it was instant and easy versus emailing their parents a form. It would populate a Google sheet, so it made it easier.”*

VACCINE BARRIERS

The research brought to light several challenges within the community regarding negative perceptions and significant concerns around routine vaccinations, as well as the influenza and COVID-19 vaccinations, in addition to a number of accessibility barriers. Scheduling an appointment with primary care providers can be a challenge, especially for parents. Cost was mentioned in a few conversations as barriers for low-income communities that may not have health insurance. Without insurance, an RSV vaccination could cost up to \$325 while a flu vaccination could cost as much as \$63 for an individual without insurance.³²

Misinformation and mistrust arose in nearly every conversation. Misinformation and mistrust have impacted sectors of the community, especially vulnerable populations such as seniors and people living with mental health challenges. Additionally, taking time off from work can be difficult especially for low-income individuals, while the undocumented population have little to no resources to identify where to find vaccinations.

³² Researchers independently contacted local Walgreens in the Torrington area.

OBSERVATIONS FROM THE COMMUNITY

- *“A barrier is appointments. People, especially parents, want to run in and get it done. I have parents calling me in a panic saying their kids can’t get a flu shot until December because of their primary care provider. Trying to schedule is a huge barrier.”*
- *“I feel like vax scheduling is increasingly self-led which leads to people falling through the cracks.”*
- *“Scheduling several vaccinations at different times and dates is a challenge – you can’t get certain ones together.”*
- *“If vaccinations were free like during the emergency, people who aren’t getting vaccinated would get vaccinated.”*
- *“It’s about cost and knowing where to get them. Professionally speaking with a local public health department, there has been a struggle to know how much of a vaccination to order for COVID-19 and RSV and where to get it from. For people, it’s expensive especially if you don’t have health insurance. It may be a few hundred dollars.”*
- *“Sometimes people don’t know that they are eligible or wondering if they are covered by insurance.”*
- *“Originally seniors had bought into flu shots and the majority get the COVID shot but there is an increasing number now engaged in social media engaging in mistruths revolving around being a heavily republican area.”*
- *“Seniors have no concept of algorithms. They think the newspaper tells the truth and therefore the internet tells the truth. Some of them have gone away from being vaccinated.”*
- *“On the flipside, there’s a distrust and not an understanding of the timeline for how the vaccine was developed. There’s a lot of information and misinformation out there. Even locally, state-level politicians are not spreading correct information. They aren’t putting the weight of their voices behind why people should get vaccinated.”*
- *“We do a lot of outreach to folks in the community who are struggling with addiction, mental health issues, homelessness. When you see a news story of young people who died of cardiac arrest – they’re contributing that to people who got the COVID shot. People are vulnerable to many things including misinformation.”*
- *“Some of the people that we serve are transient, high risk, and drug using. There is a mistrust of the system as this vague loosely defined thing especially among that population because they’ve been hurt by the system.”*

- *“Taking time off of work is a barrier. It’s always more convenient when there’s a vaccination drive at work, but I can see how some people think that’s authoritarian. There’s always been a paranoia among a certain segment of the population but now it’s pronounced.”*
- *“For the undocumented community, the number one barrier is finding an appointment for a vaccine, they don’t even know where to begin.”*

COMMUNITY SURVEY

The Community Survey enabled a greater share of people across the service area to share their perspectives on unique beliefs, challenges, barriers, and behaviors related to vaccinations.

SURVEY METHODOLOGY

The community survey was made available online in English and in Spanish. The questionnaire included closed-ended, need-specific questions; open-ended questions; and demographic questions. Invitations to participate were distributed by project partners through channels including social media and email. There were **104** valid survey responses, most of which (94.2%) were to the English language survey.

Special care was exercised to minimize the amount of non-sampling error through assessment of design effects (e.g., question order, question wording, response alternatives).

The survey was designed to maximize accessibility and comprehensively evaluate respondents' insights. The survey served as a practical tool for capturing insights of individuals across the service area. This was not a random sample, and findings should not be interpreted as representative of the full population.

Additionally, sample sizes of demographic subpopulations are not large enough to consider samples to be representative of the broader populations from which responses were received. Differences in responses have not been tested for statistical significance as part of this assessment. **See appendix A for the survey instrument.**

RESPONDENT DEMOGRAPHICS

Among respondents to the community survey (n=104), nearly half reported residing in Thomaston or Torrington zip codes (25.0% and 22.1%, respectively). More than four in five respondents (84.1%) identify as female, and two in five respondents (40.5%) are ages 25 to 44.

Most respondents (93.8%) identify as White or Caucasian and not Hispanic, Latino, or other Spanish origin (91.4%).

EXHIBIT 29: SURVEY RESPONDENT DEMOGRAPHICS

DEMOGRAPHIC VARIABLE	PERCENT OF RESPONDENTS
ZIP CODE (TOP FIVE)	
06787 (Thomaston)	25.0%
06790 (Torrington)	22.1%
06796 (West Cornwall)	6.7%
06759 (Litchfield)	5.8%
06754 (Cornwall / Warren)	4.8%
GENDER IDENTITY	
Female	84.1%
Male	13.4%
Other	2.4%
AGE	
18-24	3.6%
25-34	14.3%
35-44	26.2%
45-54	33.3%
55-64	14.3%
65 or older	8.3%
RACE[^]	
White or Caucasian	93.8%
Black or African American	2.5%
Native American or Alaska Native	2.5%
Another race	3.7%
Asian or Asian American	0.0%
Native Hawaiian or other Pacific Islander	0.0%
ETHNICITY	
Hispanic, Latino, or other Spanish origin	8.6%
Not Hispanic Latino, or other Spanish origin	91.4%

[^] Percentages sum to more than 100% because respondents were encouraged to select all options that apply to them.

EXHIBIT 30: SURVEY RESPONDENT DEMOGRAPHICS

DEMOGRAPHIC VARIABLE	PERCENT OF RESPONDENTS
ANNUAL HOUSEHOLD INCOME	
Under \$15,000	1.3%
\$15,000-\$29,999	0.0%
\$30,000-\$49,999	10.5%
\$50,000-\$74,999	10.5%
\$75,000-\$99,999	13.2%
\$100,000-\$150,000	30.3%
Over \$150,000	34.2%
EDUCATIONAL ATTAINMENT	
Less than high school or GED or equivalent	0.0%
High school diploma or equivalent	4.8%
Some college	6.0%
Technical or trades school	3.6%
Associate's degree	9.6%
Bachelor's degree	37.3%
Graduate or professional degree (Masters, PhD, MD, etc.)	38.6%
ROLE	
Parent or caregiver	81.7%
Parent or caregiver, with children under 18 years of age currently living in their household	70.5%
Healthcare provider	25.0%

- Seven in 10 (70.5%) reported being a parent or caregiver with children under age 18 currently living in their household.
- The median household income reported by respondents falls in the \$100,000-\$150,000 range, which is greater than the median household income estimated for the population in Litchfield County (\$84,797).³³
- A majority of respondents (75.9%) reported having a Bachelor's degree or higher, and one in four (25.0%) reported working as a healthcare provider.

³³ U.S. Census Bureau. American Community Survey Five-Year Estimates, 2017-2021.

SURVEY FINDINGS

PARENT/CAREGIVERS

About half of parent/caregiver respondents (53.2%) reported having at least one child in more than one of the age group categories, some with children in as many as four of the five categories.

EXHIBIT 31: AGE OF CHILD(REN) AMONG RESPONDENTS IDENTIFYING AS PARENT/CAREGIVERS

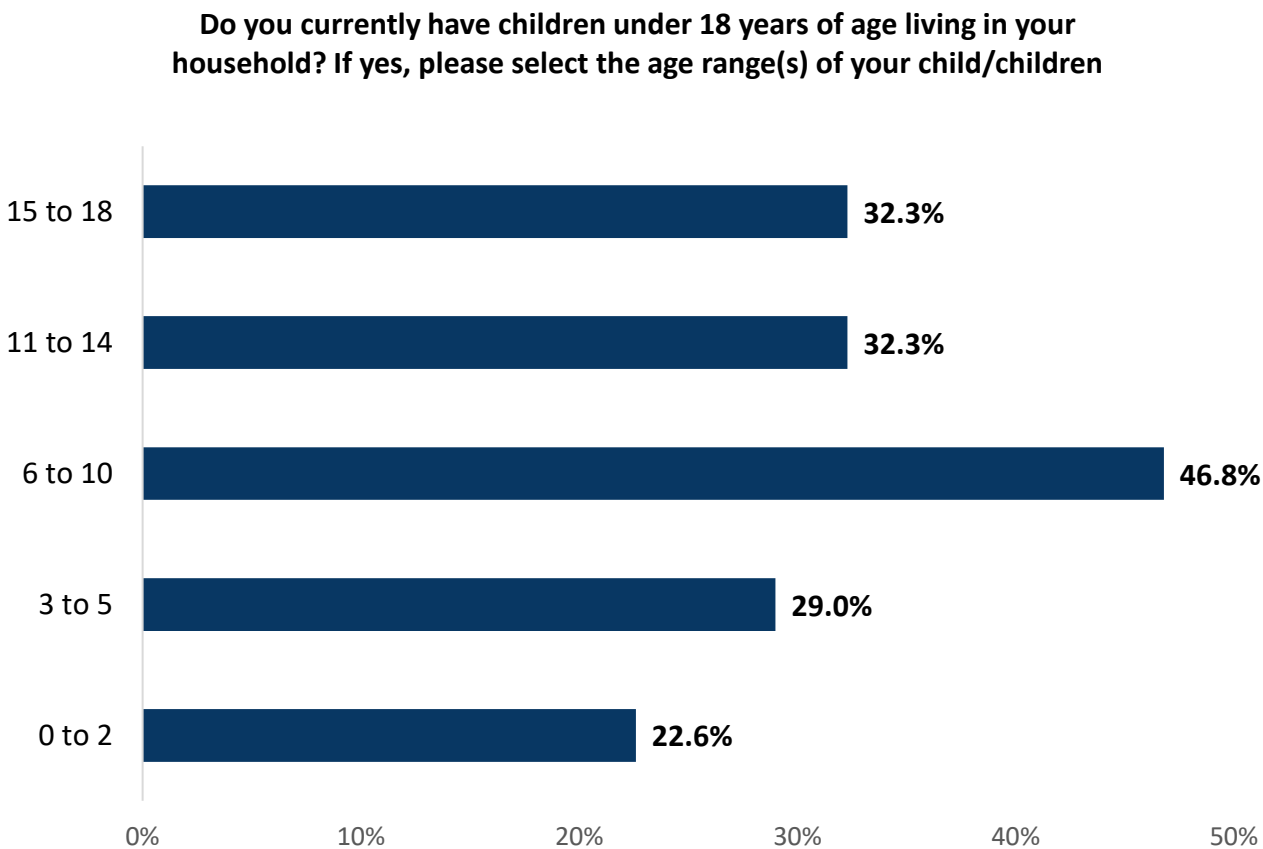
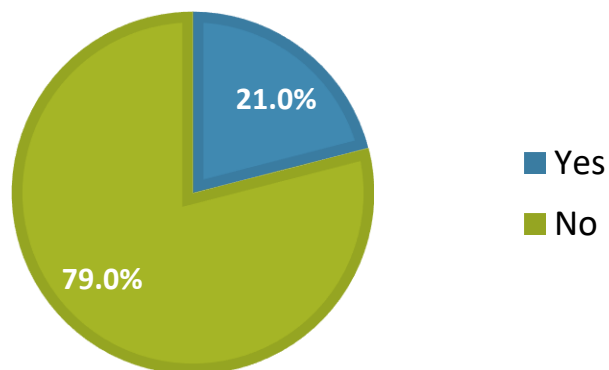


EXHIBIT 32: PARENT/CAREGIVER CHILD HEALTH CONDITIONS

- One in five parent/caregiver respondents (21.0%) reported that at least one of their children had a health condition that might put them at a higher risk for illness.
- The most common condition identified was asthma. Other conditions included autism, autoimmune disorders, heart conditions, Lyme Disease, and sleep disorders.

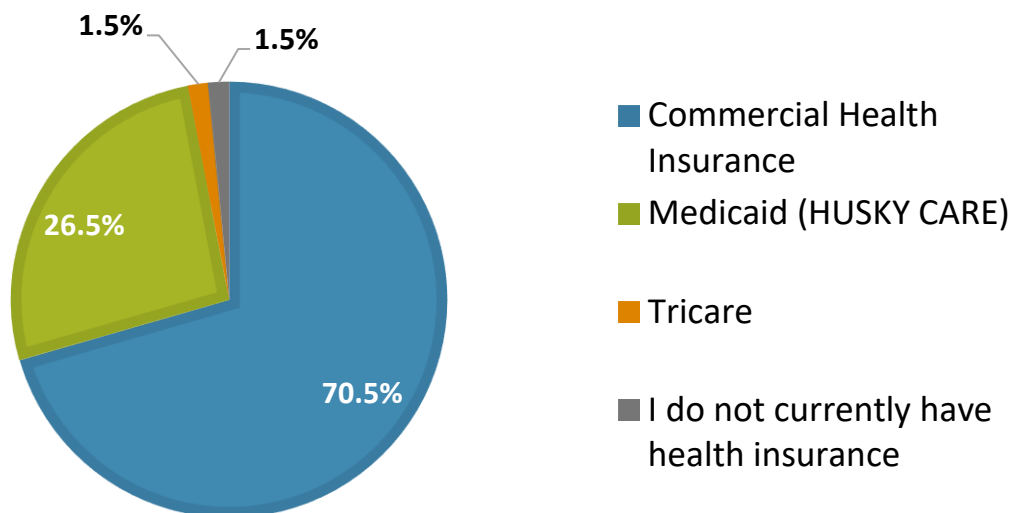
Does your child (or at least one child) have a health condition that may put him/her at a higher risk for illnesses?



A majority of parent/caregiver respondents reported their child(ren) to have commercial health insurance (70.6%). An additional one in four (26.5%) reported having one or more children on Medicaid (HUSKY CARE).

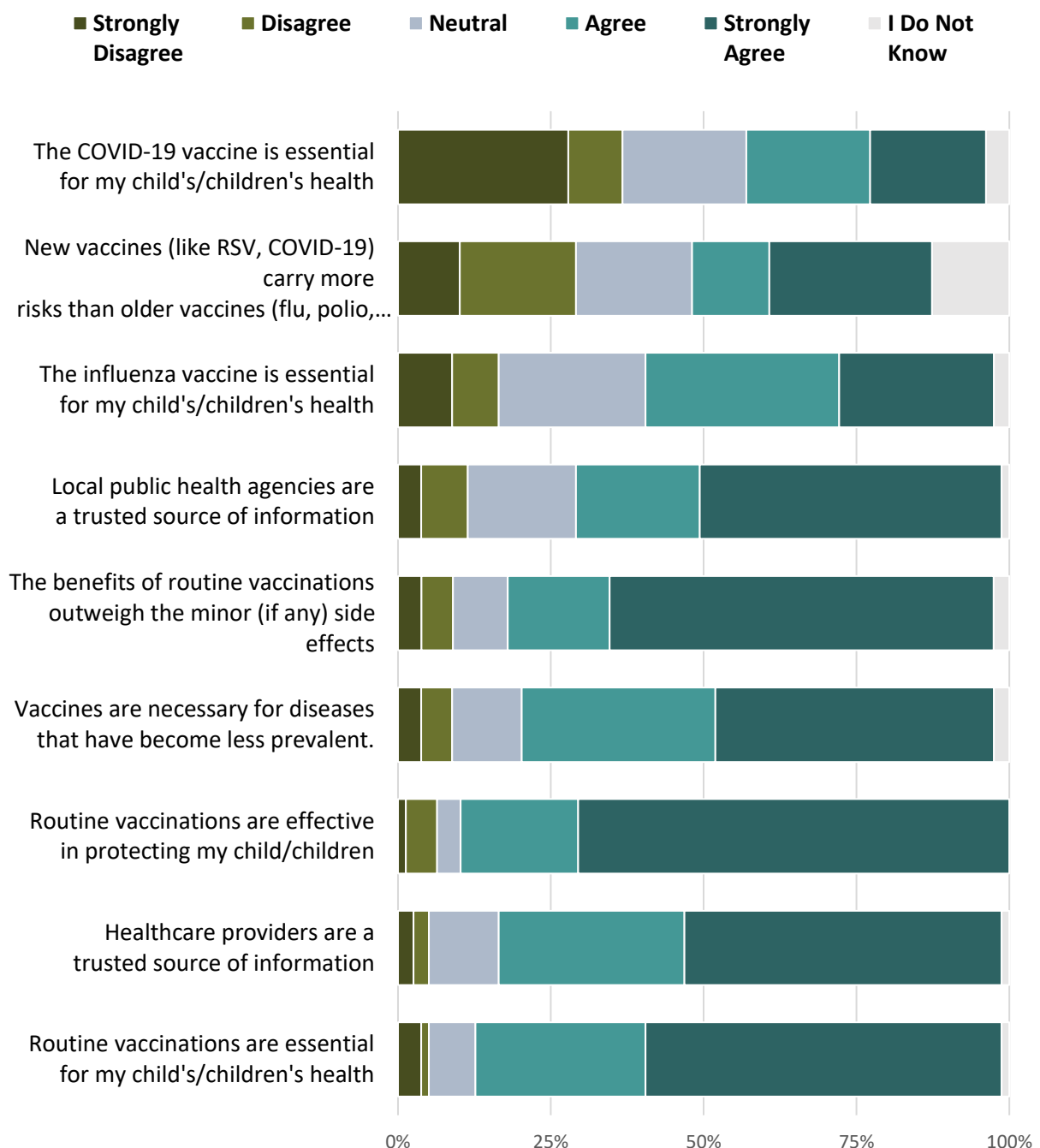
EXHIBIT 33: PARENT/CAREGIVER CHILD HEALTH CARE COVERAGE

What type of health care coverage does your child/children have?



Parent/caregivers most frequently disagreed (or strongly disagreed) that the COVID-19 vaccine is essential for their child's/children's health (36.7%). By contrast, a far smaller fraction (5.1%) of these respondents reported that routine vaccinations are effective in protecting their child/children. Respondents reported the most uncertainty with regards to new vaccines (like RSV and COVID-19).

EXHIBIT 34: PARENT/CAREGIVER AGREEMENT WITH STATEMENTS ABOUT VACCINATIONS FOR THEIR CHILDREN



Thinking about vaccinations for your child/children, please rate the statements below.	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I Do Not Know
The COVID-19 vaccine is essential for my child's/children's health	27.8%	8.9%	20.3%	20.3%	19.0%	3.8%
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)	10.1%	19.0%	19.0%	12.7%	26.6%	12.7%
The influenza vaccine is essential for my child's/children's health	8.9%	7.6%	24.1%	31.6%	25.3%	2.5%
Local public health agencies are a trusted source of information	3.8%	7.6%	17.7%	20.3%	49.4%	1.3%
The benefits of routine vaccinations outweigh the minor (if any) side effects	3.8%	5.1%	9.0%	16.7%	62.8%	2.6%
Vaccines are necessary for diseases that have become less prevalent.	3.8%	5.1%	11.4%	31.6%	45.6%	2.5%
Routine vaccinations are effective in protecting my child/children	1.3%	5.1%	3.8%	19.2%	70.5%	0.0%
Routine vaccinations are essential for my child's/children's health	3.8%	1.3%	7.6%	27.8%	58.2%	1.3%
Healthcare providers are a trusted source of information	2.5%	2.5%	11.4%	30.4%	51.9%	1.3%

EXHIBIT 35: PARENT/CAREGIVER CHILD VACCINATION COVERAGE

- Nine out of 10 parent/caregiver respondents (89.6%) reported their child(ren) to be currently up to date with their vaccinations.
- One in 20 (5.2%) reported not being sure about their child's vaccine coverage.

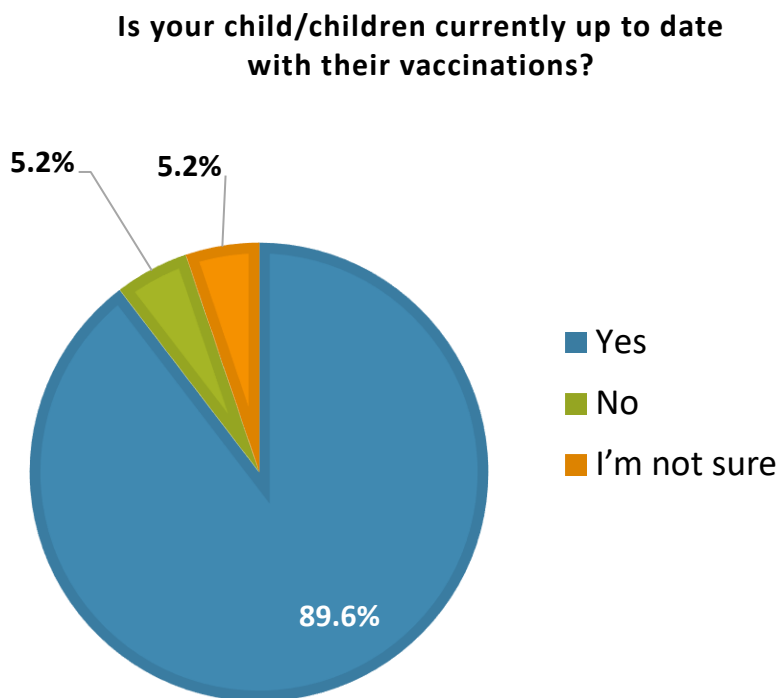


EXHIBIT 36: PARENT/CAREGIVER CONCERN ABOUT THEIR CHILD(REN) GETTING VACCINE PREVENTABLE ILLNESSES

How concerned are you about your child getting...	Not at all concerned	A little concerned	Somewhat concerned	Very concerned	I Do Not Know
COVID-19	31.2%	31.2%	16.9%	20.8%	0.0%
Influenza	23.4%	39.0%	18.2%	19.5%	0.0%
Any vaccine preventable illnesses	31.2%	27.3%	22.1%	19.5%	0.0%

- A majority of parent/caregiver respondents reported being 'not at all concerned' or 'a little concerned' about their child(ren) getting COVID-19 (62.3%), influenza (62.3%), and/or any vaccine preventable illnesses (58.4%).

Among those who provided a reason for having one or more children not up to date with vaccinations, the most common reasons were distrust of pharmaceutical companies (54.2%), safety concerns (45.8%), and/or distrust of government health authorities (45.8%).

EXHIBIT 37: PARENT/CAREGIVER REASONS FOR LACK OF UP-TO-DATE CHILD VACCINATION COVERAGE

Is your child/children currently up to date with their vaccinations? If no, what are the main reasons that you would not to vaccinate your child/children against routine vaccines, influenza or COVID-19? Check all that apply.		PERCENT
Distrust of pharmaceutical companies		54.2%
Safety concerns		45.8%
Distrust of government health authorities		45.8%
Too many vaccines		33.3%
Lack of knowledge about specific vaccines		33.3%
Distrust of medical/healthcare system		33.3%
Serious adverse events		29.2%
I do not want to		25.0%
Personal beliefs		25.0%
Vaccines are not effective		25.0%
Vaccine additives are harmful		25.0%
I need for more information from medical providers		20.8%
Ethical, moral, or religious reasons		16.7%
Parents know what's best for their child		16.7%
Overload the immune system		16.7%
Vaccines are unnecessary		4.2%
Not accessible		0.0%
Cost too high		0.0%
Cannot take time off of work		0.0%
Vaccine preventable diseases have disappeared		0.0%
Other (please specify)		29.2%

- 'Other' reasons specified by respondents included concerns and beliefs specific to the COVID-19 vaccine, including distrust, as well as the belief that vaccination is less important among members of lower risk populations.

HEALTHCARE PROVIDERS

One in four respondents (25.0%) reported working as a healthcare provider. Among healthcare provider respondents, the largest fraction reported being nurses (44.4%), with others working as physicians (14.8%), paramedic/first responders (11.1%), or community health workers (11.1%). ‘Other’ healthcare provider roles included a registered dietitian and a worker in a treatment facility.

EXHIBIT 38: HEALTHCARE PROVIDER RESPONDENT PRIMARY ROLE

Please select which type of healthcare provider you most identify as.	PERCENT
Nurse	44.4%
Physician (MD/DO)	14.8%
Paramedic/first responder	11.1%
Community health worker	11.1%
Allied health (e.g., MAs, tech, CNAs)	7.4%
Physician assistant	3.7%
Nurse practitioner	0.0%
Pharmacist	0.0%
Other (please specify)	7.4%

EXHIBIT 39: HEALTHCARE PROVIDER RESPONDENT WORK LOCATION(S)

Do you currently work in any of the following locations? (Select all that apply)	PERCENT
School	37.0%
Emergency medical service (EMS) setting (e.g., pre-hospital EMS setting, ambulance, paramedic, or patient transport service, or fire department)	14.8%
Hospital	11.1%
Physician’s office, or other non-hospital setting (e.g., medical clinic, urgent care outpatient surgery center, or any other outpatient or ambulatory care setting)	7.4%
Home health agency or home health care	7.4%
Nursing home, assisted living facility, or other long-term care facility	3.7%
Dentist office or dental clinic	0.0%
Pharmacy	0.0%
Other (please specify)	22.2%

- Healthcare provider respondents most commonly reported working at schools (37.0%).
- Other less common settings included emergency medical service settings (14.8%) and/or hospitals (11.1%).
- ‘Other’ locations included nonprofit/nonclinical setting, a treatment facility, and being currently unemployed (among others).

Few healthcare providers indicated feeling uncomfortable addressing concerns about any of the vaccine options listed.

EXHIBIT 40: HEALTHCARE PROVIDER COMFORT ADDRESSING VACCINE CONCERNS

How comfortable do you feel addressing concerns about...	Very uncomfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
The COVID-19 vaccine	0.0%	8.3%	12.5%	37.5%	41.7%
The Influenza vaccine	0.0%	8.3%	12.5%	29.2%	50.0%
Other routine vaccines	0.0%	8.3%	8.3%	25.0%	58.3%

EXHIBIT 41: HEALTHCARE PROVIDER FREQUENCY ENCOUNTERING ROUTINE VACCINE HESITANCY

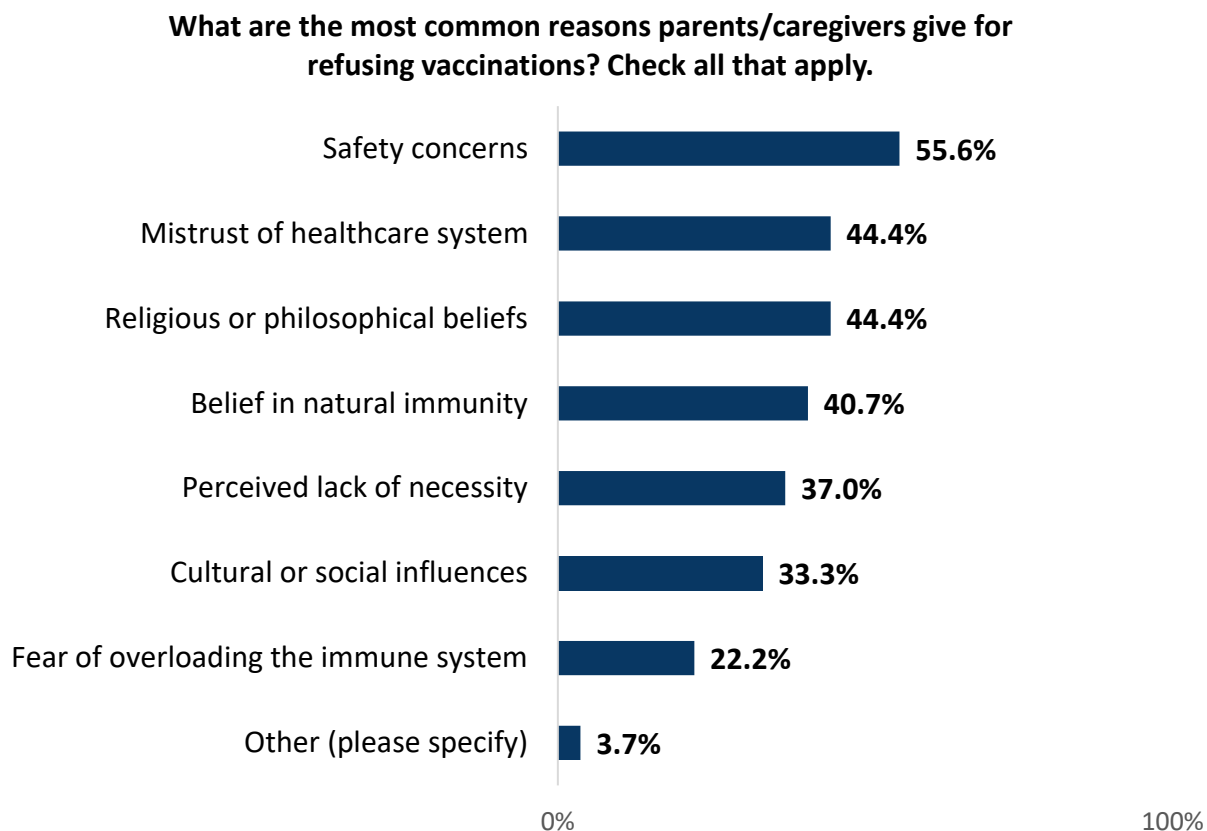
In your experience, how frequently do you encounter parents/caregivers who express hesitancy or refusal towards routine vaccinations for their children?



- Healthcare providers most commonly reported encountering parents/caregivers who express hesitancy or refusal towards routine vaccinations for their children on a monthly basis (63.2%), the lowest frequency option presented in the question.
- Nearly one in three (31.6%) reported encountering such hesitancy on a weekly basis.

Healthcare providers most commonly reported hearing about safety concerns (55.6%) as a reason parent/caregivers give for refusing vaccinations. Other common reasons include religious or philosophical beliefs and/or mistrust of the healthcare system (44.4% each).

**EXHIBIT 42: COMMON PARENT/CAREGIVER REASONS FOR REFUSING VACCINATIONS
(REPORTED BY HEALTHCARE PROVIDERS)**



- Providers most frequently reported observing (anecdotally) higher rates of hesitancy or refusal with the COVID-19 and flu vaccines.

Healthcare providers had the most varying confidence levels in the statement about risks of new vaccines compared to those associated with older vaccines. Apart from this statement, providers were generally ‘somewhat confident’ or ‘very confident’ in most statements about the importance and benefits of vaccination, and trust in local public health agencies.

EXHIBIT 43: HEALTHCARE PROVIDER CONFIDENCE IN STATEMENTS ABOUT VACCINATION

Thinking about vaccinations listed above, please rate your confidence in the statements below.	Not at all confident	A little confident	Somewhat confident	Very confident	I Do Not Know
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)	25.0%	16.7%	33.3%	16.7%	8.3%
The COVID-19 vaccine is essential for people's health	12.5%	8.3%	45.8%	33.3%	0.0%
The influenza vaccine is essential for people's health	4.2%	8.3%	25.0%	62.5%	0.0%
The benefits of routine vaccinations outweigh the minor (if any) side effects	0.0%	4.2%	16.7%	79.2%	0.0%
Local public health agencies are a trusted source of information	0.0%	4.2%	8.3%	87.5%	0.0%
Routine vaccinations are essential for people's health	0.0%	4.2%	0.0%	95.8%	0.0%
Vaccines are necessary for diseases that have become less prevalent	4.2%	0.0%	8.3%	87.5%	0.0%
Routine vaccinations are effective in the community	0.0%	0.0%	8.3%	91.7%	0.0%

- More than one in five (20.8%) reported being ‘not at all confident’ or ‘a little confident’ that the COVID-19 vaccine is essential for people’s health, compared to 12.5% reporting the same type of lower confidence in the influenza vaccine.

COMMUNITY MEMBERS

A series of general questions was asked of all respondents, including those who completed the ‘parent/caregiver’ and/or ‘healthcare provider’ sections of the survey.

EXHIBIT 44: RESPONDENT HIGHER RISK FOR ILLNESSES

- Most respondents (84.3%) reported not having a health condition that might put them at a higher risk for illnesses.
- Among those who reported having one or more such conditions, these included asthma, heart, and respiratory conditions, among others.

Do You Have A Health Condition That May Put You At A Higher Risk For Illnesses?

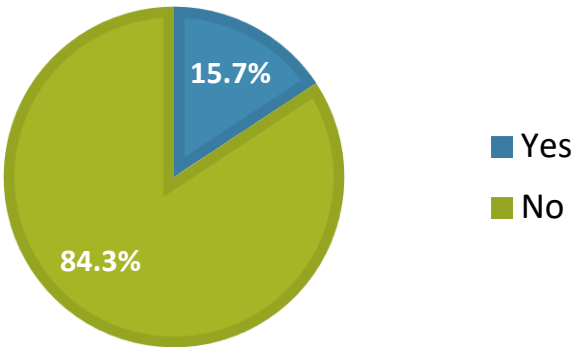


EXHIBIT 45: RESPONDENT COMFORT ASKING THEIR HEALTHCARE PROVIDER QUESTIONS ABOUT VACCINES

How comfortable do you feel asking questions to your healthcare provider about...	Very uncomfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
The COVID-19 vaccine	13.1%	3.6%	8.3%	13.1%	61.9%
The Influenza vaccine	11.8%	3.5%	7.1%	10.6%	67.1%
Other routine vaccines	12.8%	4.7%	4.7%	12.8%	65.1%

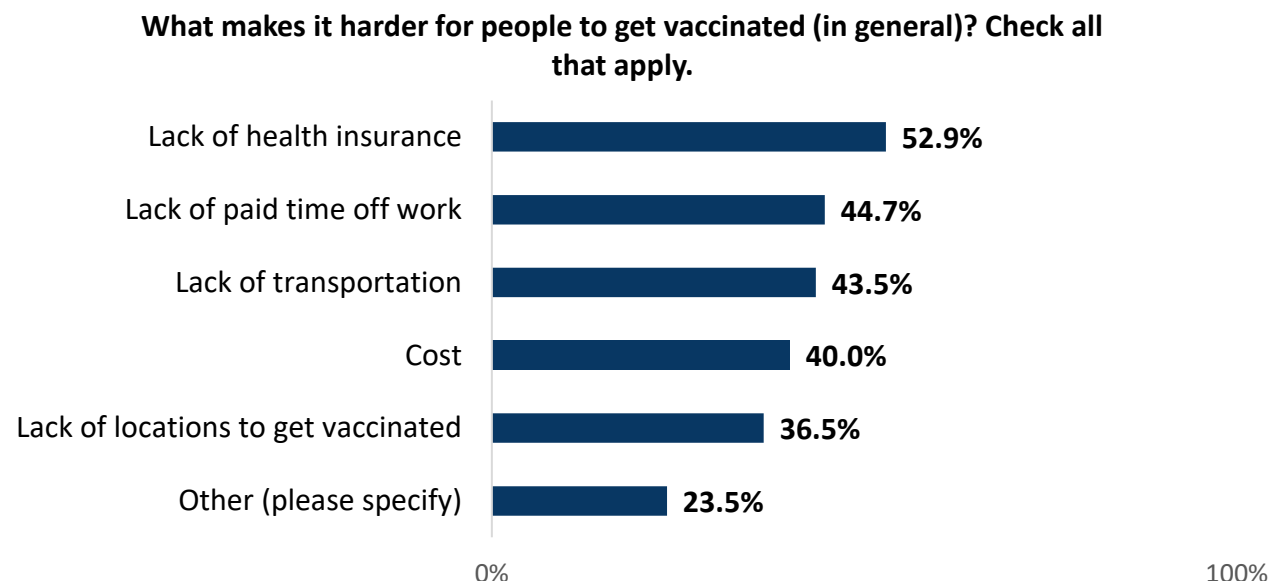
- Relatively few respondents indicated feeling ‘very uncomfortable’ or ‘somewhat uncomfortable’ addressing concerns about any of the vaccine options listed.

Similarly, relatively few respondents indicated that it would be ‘very difficult’ or ‘somewhat difficult’ to get any of the vaccine options listed. Slightly more than one in 10 (11.8%) reported expecting that degree of difficulty getting a COVID-19 vaccination/booster, greater than the routine vaccinations listed or the influenza vaccine.

EXHIBIT 46: RESPONDENT PERCEIVED DIFFICULTY OF GETTING VACCINATIONS

How difficult would it be for you to get...	Very difficult	Somewhat difficult	A little difficult	Not at all difficult	I do not know
Any of the routine vaccinations listed above ³⁴	1.2%	3.5%	5.9%	89.4%	0.0%
A COVID-19 vaccination/booster	4.7%	7.1%	5.9%	81.2%	1.2%
An influenza vaccination	2.4%	4.7%	5.9%	87.1%	0.0%

EXHIBIT 47: RESPONDENT REASONS PEOPLE HAVE DIFFICULTY GETTING VACCINATED (IN



GENERAL)

- Respondents indicated a range of reasons people have difficulty getting vaccinated, from lack of health insurance (52.9%) to lack of paid time off work (44.7%) and/or lack of transportation (43.5%).
- ‘Other’ reasons specified included misinformation or lack of information, childcare, and distrust, among others.

³⁴ Routine vaccinations listed were rotavirus, poliovirus, pneumococcal (pneumonia, meningitis), diphtheria, tetanus, and pertussis (DtaP), hepatitis A and B, varicella (chicken pox), human papillomavirus (HPV), and measles, mumps, rubella.

Like healthcare providers, this broader group of respondents had the most varying confidence levels in the statement about risks of new vaccines compared to those associated with older vaccines.

EXHIBIT 48: RESPONDENT CONFIDENCE IN STATEMENTS ABOUT VACCINATION

Thinking about vaccinations listed above, please rate your confidence in the statements below.	Not at all confident	A little confident	Somewhat confident	Very confident	I Do Not Know
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)	22.5%	12.4%	21.3%	27.0%	16.9%
The COVID-19 vaccine is essential for people's health	23.6%	11.2%	23.6%	38.2%	3.4%
The influenza vaccine is essential for people's health	11.2%	14.6%	25.8%	46.1%	2.2%
Local public health agencies are a trusted source of information	6.7%	7.9%	24.7%	59.6%	1.1%
Vaccines can make illnesses shorter and less severe	5.6%	9.0%	21.3%	58.4%	5.6%
Vaccines can help prevent hospitalizations	5.6%	6.7%	21.3%	60.7%	5.6%
The benefits of routine vaccinations outweigh the minor (if any) side effects	5.6%	5.6%	16.9%	68.5%	3.4%
Routine vaccinations are effective in the community	4.5%	4.5%	14.6%	74.2%	2.2%
Routine vaccinations are essential for people's health	3.4%	5.6%	21.3%	67.4%	2.2%
Vaccines are necessary for diseases that have become less prevalent	3.4%	4.5%	21.3%	69.7%	1.1%

- In contrast to healthcare providers, more respondents from this group reported being 'not at all confident' or 'a little confident' that the COVID-19 vaccine is essential for people's health (20.8% vs. 34.8%), and there was a comparable gap with regards to a similar statement about the influenza vaccine (12.5% vs. 25.8%).
- A majority of respondents (85.4%) were somewhat confident or very confident that the benefits of routine vaccinations outweigh the minor (if any) side effects.

SOURCES OF INFORMATION

Respondents overwhelmingly described their healthcare provider (87.1%), and to a slightly lesser degree the health department (75.3%), as a trusted source of information. ‘Other’ trusted sources included research and medical organizations, while some described nuances with regards to the options provided (e.g., “When it comes to social media, it depends on the source.”).

EXHIBIT 49: RESPONDENT TRUSTED SOURCES OF GETTING INFORMATION

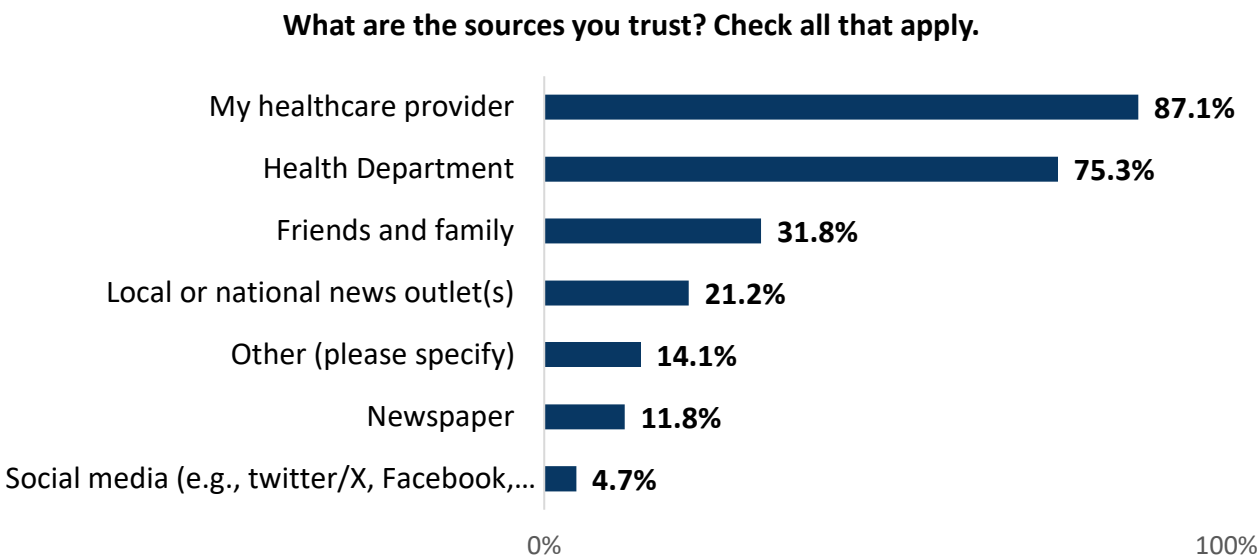
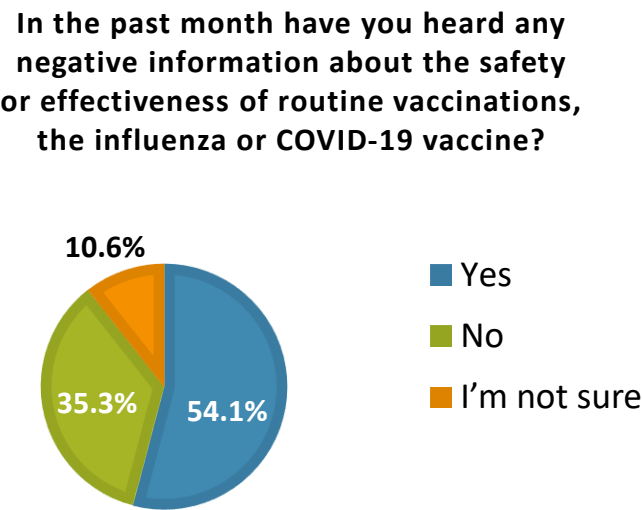


EXHIBIT 50: RESPONDENT EXPERIENCE WITH NEGATIVE INFORMATION ABOUT VACCINES, PAST MONTH

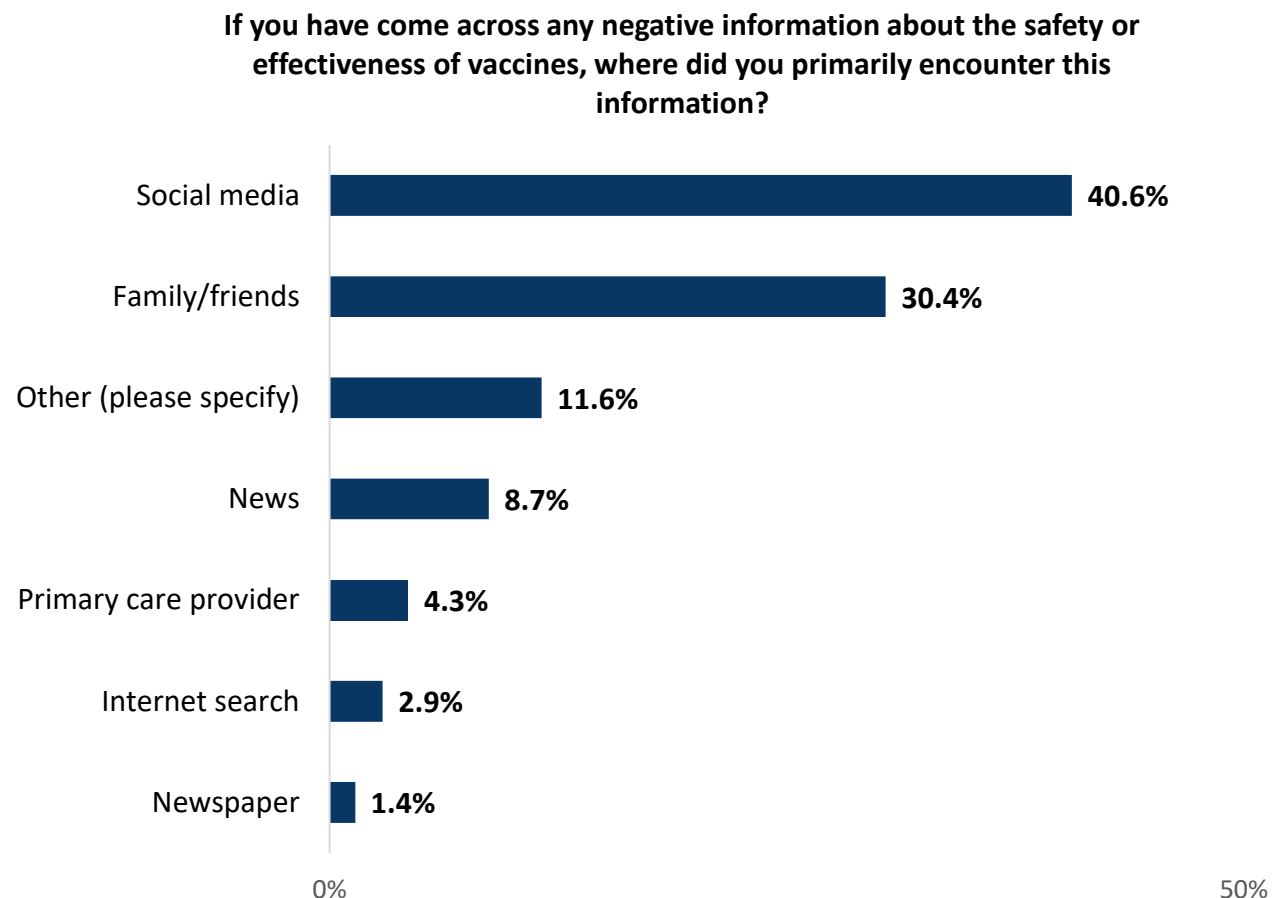
- A slight majority of respondents (54.1%) reported having heard any negative information about the safety or effectiveness of routine vaccinations, the influenza or COVID-19 vaccine in the past month.



Two of five respondents (40.6%) reported finding negative information about safety or effectiveness of vaccines primarily on social media. An additional one in three (30.4%) reported encountering this type of information primarily through family and/or friends.

‘Other’ responses included “all of the above” and talk radio, among others.

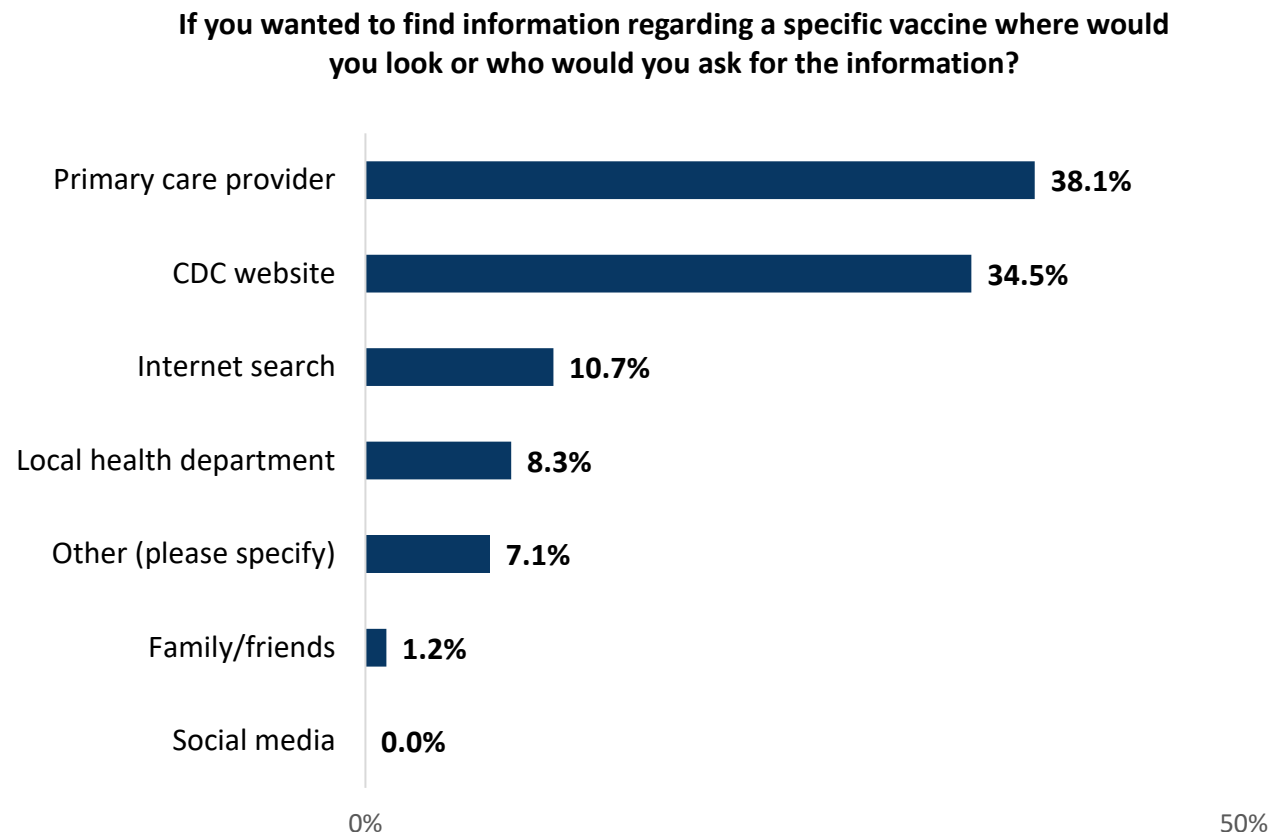
EXHIBIT 51: RESPONDENT SOURCE OF NEGATIVE INFORMATION ON VACCINE EFFECTIVENESS



When it comes to finding information regarding a specific vaccine, a third of respondents reported that they would seek this out via their primary care provider (38.1%) while another third said they would look on the CDC website (34.5%). One in 10 said that they would conduct an internet search (10.7%).

‘Other’ responses included consulting several of the sources listed, as well as seeking out information from medical/research sources and organizations.

EXHIBIT 52: RESPONDENT PREFERRED SOURCE FOR VACCINE INFORMATION



RECOMMENDATIONS & NEXT STEPS

The following matrix identifies the vaccine barriers identified through the research and lists recommendations made by local community members throughout the service area.

CHALLENGE	RECOMMENDATION(S)
Historical & societal mistrust	- Boots on-the-ground efforts with a “go-to-them” mentality - Incorporate bilingual community partners already working in vulnerable communities (minority populations/new Americans) - Appoint trusted sources in the community to share educational information - Provide dual language material community-wide - Implement Community Health Workers
Time off from work to receive vaccinations	- Assess the cost-effectiveness of hosting a vaccine clinic at work sites. - Encourage employers to provide paid time off for vaccination appointments.
Misinformation	- Promote the ‘why’ when educating the community on vaccinations. - Readable material within senior centers versus virtual campaign information. - Implement evidence-based literature within community education campaigns. - Utilize local municipalities such as fire and police departments to spread educational information. - Implement Community Health Workers
Transportation	- Utilize Mobile clinics - In-home vaccinations
Appointments with Primary Care Providers	- Promotion of local pharmacies - Clear community outreach regarding scheduling appointments with local pharmacies
Accessibility	- Utilizing local community centers and faith-based communities to host vaccine clinics - Host vaccine fairs - Utilize social media strategies (monthly/weekly videos) educating community members on where to get vaccinations and when.

RECOMMENDATIONS FROM THE COMMUNITY

- *“People want to know about the science behind vaccinations because people don’t trust the news anymore, but they trust local community members such as local doctors.”*
- *“The fire department might be a good place for information dissemination because there are a lot of volunteer firefighters and a lot of people who are connected to volunteer firefighters.”*
- *“People tend to take their kids to doctors to help and we really love our doctors, and you really have to trust them. If those same doctors were in ad campaigns saying they had their own children or grandchildren that could potentially make someone vaccinate hesitant change their mind.”*
- *“Hosting vaccine fairs or just talking about it without it being a lecture. Organize events or have places where people can pick up literature.”*
- *“For vaccine confidence, I think that goes back to the same trusted messenger philosophy and making sure that we really name what people’s fears are. Explain that correlation is not causation, I think we have to name it and then have trusted messengers that counter it with trusted information. I think schools and places of worship are excellent places to have that conversation.”*
- *“We took selfie videos during the pandemic of latest updates, what is going on, and what the current policy changes are, as well as where to get vaccinations. A personal, casual video that was born out of the pandemic – a trusted leader sharing that info in a personal way.”*
- *“We had an outreach worker who called people 10 times and told them ‘this is going to be good for your health and for your children. It took a lot of phone calls, but she did it. It made people feel confident – it wasn’t just ‘get your shot’ it was a lot of education.”*
- *“Community health workers are a key strategy. They’re trusted partners who help to address social determinants of health. They are bilingual, trusted partners in the community and invaluable in reaching out.”*
- *“We have a large homeschool population. Assigning a spokesperson within those groups to spread information. I think it would have to be somewhat organic. I think homeschoolers trust other homeschoolers because homeschooling is a different mindset. They really create their own community so if you’re trying to come in as someone who doesn’t understand that message, they won’t be receptive. How to create that in-road, you know put information out there and see if anyone in the homeschool groups is receptive. Have them then be the spokesperson. You can find homeschoolers that could be that spokesperson.”*

APPENDICES

APPENDIX A: COMMUNITY SURVEY

APPENDIX B: STAKEHOLDER INTERVIEW GUIDE

APPENDIX C: INTERCEPT INTERVIEWS FIELD NOTES

APPENDIX D: REVIEW OF THE LITERATURE

APPENDIX A: COMMUNITY SURVEY



Torrington Area Health District Rapid Community Assessment

Community Survey

The Torrington Area Health District (TAHD), in collaboration with Crescendo Consulting Group, is launching a Rapid Community Assessment.

The purpose of this survey is to learn more about the perceptions and significant concerns around routine vaccinations, as well as the influenza and COVID-19 vaccinations, in addition to identifying vaccination barriers. Your responses will also help TAHD understand how misinformation or too much information is influencing vaccine perceptions and how to address them in the area.

This data will also be critical to developing strategies for reinforcing vaccine confidence among communities of focus and addressing barriers preventing individuals from getting vaccinated.

All survey responses will remain confidential.

1. What language would you like to take the survey in? / ¿En qué idioma te gustaría hacer la encuesta?

- ☐ English / Inglés
- ☐ Spanish / Español

2. What is your zip code?



Torrington Area Health District Rapid Community Assessment

3. Are you a parent or caregiver?

- ☐ Yes
- ☐ No



Torrington Area Health District Rapid Community Assessment

PARENTS/CAREGIVERS

The following questions ask about your perceptions and feelings towards routine childhood vaccinations as well as the influenza and COVID -19 vaccines for your child/children. Routine Vaccinations include, but are not limited to:

- Rotavirus Poliovirus
- Pneumococcal (pneumonia, meningitis)
- Diphtheria, tetanus, and pertussis (DTaP)
- Hepatitis A, B
- Varicella (Chicken pox)
- Human papillomavirus (HPV)
- Measles, mumps, and rubella

4. Do you currently have children under 18 years of age living in your household?

- ☐ Yes
- ☐ No

5. If yes, please select the age range(s) of your child/children.

- ☐ 0 to 2
- ☐ 3 to 5
- ☐ 6 to 10
- ☐ 11 to 14
- ☐ 15 to 18

6. Does your child (or at least one child) have a health condition that may put him/her at a higher risk for illnesses?

- ☐ Yes
- ☐ No
- ☐ I'm not sure

7. If yes, please list the condition(s) below.

8. What type of health care coverage does your child/children have?

- ☐ Medicare
- ☐ Medicaid (HUSKY CARE)
- ☐ Tricare
- ☐ Commercial Health Insurance
- ☐ I do not currently have health insurance
- ☐ Other (please specify)



Torrington Area Health District Rapid Community Assessment

PARENTS/CAREGIVERS

9. Thinking about vaccinations for your child/children, please rate the statements below.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	I Do Not Know
The benefits of routine vaccinations outweigh the minor (if any) side effects						
Routine vaccinations are effective in protecting my child/children						
Local public health agencies are a trusted source of information						
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)						
The influenza vaccine is essential for my children's/children's health						
The COVID-19 vaccine is essential for my children's/children's health						
Routine vaccinations are essential for my children's/children's health						
Healthcare providers are a trusted source of information						
Vaccines are still necessary for diseases that have become less prevalent						

10. Is your child/children currently up to date with their vaccinations?

- ☐ Yes
- ☐ No
- ☐ I'm not sure

If no, What are the main reasons that you would not to vaccinate your child/children against routine vaccines, influenza or COVID-19? Check all that apply

- | | |
|---|--|
| ☐ Not accessible | ☐ Serious adverse events |
| ☐ Too high cost | ☐ Lack of knowledge about specific vaccine |
| ☐ Cannot take time off of work | ☐ Vaccines are unnecessary |
| ☐ I do not want to | ☐ Distrust of medical/healthcare system |
| ☐ Personal beliefs | ☐ Distrust of government health authorities |
| ☐ A need for more information from medical providers | ☐ Distrust of pharmaceutical companies |
| ☐ Safety concerns | ☐ Vaccine preventable diseases have disappeared |
| ☐ Ethical, moral, or religious reasons | ☐ Vaccines do not work |
| ☐ Vaccines are not effective | ☐ Vaccine additives are harmful |
| ☐ Parents know what's best for their child | ☐ Vaccine additives are harmful |
| ☐ Overload the immune system | ☐ Other (please specify) |
| ☐ Too many vaccines | |



Torrington Area Health District Rapid Community Assessment

PARENTS/CAREGIVERS

12. Thinking about vaccinations for your child/children, please rate the questions below.

	Not at all concerned	A little concerned	Somewhat concerned	Very concerned	I Do Not Know
How concerned are you about your child getting any vaccine preventable illnesses?					
How concerned are you about your child getting COVID-19?					
How concerned are you about your child getting Influenza?					



Torrington Area Health District Rapid Community Assessment

13. Are you a healthcare provider?

- ☐ Yes
- ☐ No



Torrington Area Health District Rapid Community Assessment

HEALTHCARE WORKERS

The following questions ask about your feelings towards routine vaccinations, COVID-19 vaccinations.

14. Please select which type of healthcare provider you most identify as,

- ☐ Physician (MD/DO)
- ☐ Nurse
- ☐ Paramedic/first responder
- ☐ Physician assistant
- ☐ Nurse practitioner
- ☐ Allied health (e.g., MAs, tech, CNAs) Community health worker
- ☐ Pharmacist
- ☐ Other (please specify)

15. Do you currently work in any of the following locations? (Select all that apply)

- ☐ Hospital
- ☐ Physician's office, or other non-hospital setting (e.g., medical clinic, urgent care outpatient surgery center, or any other outpatient or ambulatory care setting)
- ☐ Dentist office or dental clinic
- ☐ Pharmacy
- ☐ Nursing home, assisted living facility, or other long-term care facility Home health agency or home health care
- ☐ Emergency medical service (EMS) setting (e.g., pre-hospital EMS setting, ambulance, paramedic, or patient transport service, or fire department)
- ☐ School
- ☐ Other (please specify)



Torrington Area Health District Rapid Community Assessment

HEALTHCARE WORKERS

16. How comfortable do you feel....

	Very uncomfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
Addressing concerns about the COVID-19 vaccine					
Addressing concerns about the Influenza vaccine					
Addressing concerns about other routine vaccines					

17. In your experience, how frequently do you encounter parents/caregivers who express hesitancy or refusal towards routine vaccinations for their children?

- ☐ Daily
- ☐ Weekly
- ☐ Monthly
- ☐ I do not experience this

18. What are the most common reasons parents/caregivers give for refusing vaccinations? Check all that apply

- ☐ Safety Concerns
- ☐ Belief in Natural Immunity
- ☐ Perceived Lack of Necessity
- ☐ Religious or Philosophical Beliefs
- ☐ Mistrust of Healthcare System
- ☐ Fear of Overloading the Immune System
- ☐ Cultural or Social Influences

☐ Other (please specify)

19. Are there specific vaccines for which you observe higher rates of hesitancy or refusal?

20. Thinking about vaccinations listed above, please rate your confidence in the statements below.

	Not at all confident	A little confident	Somewhat confident	Very confident	I do not know
The benefits of routine vaccinations outweigh the minor (if any) side effects					
Routine vaccinations are effective in the community					
Local public health agencies are a trusted source of information					
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)					
The influenza vaccine is essential for people's health					
The COVID-19 vaccine is essential for people's health					
Routine vaccinations are essential for people's health					
Vaccines are still necessary for diseases that have become less prevalent					



Torrington Area Health District Rapid Community Assessment

COMMUNITY

The following questions are for all community members to understand the perceptions and feelings towards routine and other vaccinations.

21. Do you have a health condition that may put you at a higher risk for illnesses?

- ☐ Yes
- ☐ No

22. If yes, please list the condition(s) below.

23. How comfortable do you feel....

	Very uncomfortable	Somewhat uncomfortable	Neutral	Somewhat comfortable	Very comfortable
Asking questions about the COVID-19 vaccine to my healthcare provider					
Asking questions about the Influenza vaccine to my healthcare provider					
Asking questions about any vaccines to my healthcare provider					

24. . Thinking about vaccinations listed above, please rate your confidence in the statements below.

	Not at all confident	A little confident	Somewhat confident	Very confident	I do not know
The benefits of routine vaccinations outweigh the minor (if any) side effects					
Routine vaccinations are effective in the community					
Local public health agencies are a trusted source of information					
New vaccines (like RSV, COVID-19) carry more risks than older vaccines (flu, polio, etc.)					
The influenza vaccine is essential for people's health					
The COVID-19 vaccine is essential for people's health					
Routine vaccinations are essential for people's health					
Vaccines are still necessary for diseases that have become less prevalent					
Vaccines can make illnesses shorter and less severe					
Vaccines can help prevent hospitalizations					



25. Please rate the level of difficulty you believe you would experience obtaining the following vaccinations.

Routine childhood vaccinations include:

Rotavirus

Poliovirus

Pneumococcal (pneumonia, meningitis)

Diphtheria, tetanus, and pertussis (DTaP) Hepatitis B

Varicella (Chicken pox)

Human papillomavirus (HPV) Measles, mumps, and rubella

Routine adult vaccinations (not an exhaustive list):

Tdap or Td (Tetanus, diphtheria, pertussis)

Measles, mumps, and rubella

Zoster (ex. Shingrix)

Hepatitis B

Hib (Haemophilus influenzae type B)

Pneumococcal

	Not at all confident	A little confident	Somewhat confident	Very confident	I do not know
How difficult would it be for you to get any of the routine vaccinations listed above?					
How difficult would it be for you to get a COVID-19 vaccination/booster?					
How difficult would it be for you to get an influenza vaccination?					

26. What makes it harder for people to get vaccinated (in general)? Check all that apply.

- ☐ Lack of paid time off work
- ☐ Lack of transportation
- ☐ Lack of locations to get vaccinated
- ☐ Lack of health insurance
- ☐ Cost
- ☐ Other (please specify)



Torrington Area Health District Rapid Community Assessment

SOURCES OF INFORMATION

There's a lot of misinformation about vaccines circulating in all communities. The following questions ask about your primary source of information.

27. What are the sources you trust? Check all that apply

- ☐ Local or national news outlet(s)
- ☐ My healthcare provider
- ☐ Social media (e.g., twitter/X, Facebook, Instagram, etc.)
- ☐ Friends and family
- ☐ Newspaper
- ☐ Health Department
- ☐ Other (please specify)

28. In the past month have you heard any negative information about the safety or effectiveness of routine vaccinations, the influenza or COVID-19 vaccine?

- ☐ Yes
- ☐ No
- ☐ I'm not sure

29. If you have come across any negative information about the safety or effectiveness of vaccines, where did you primarily encounter this information?

- ☐ Family/friends
- ☐ Newspaper
- ☐ Social media
- ☐ Primary care provider
- ☐ Internet search

- ☐ News
- ☐ Other (please specify)

30. If you wanted to find information regarding a specific vaccine where would you look or who would you ask for the Information?

- ☐ Family/friends
- ☐ CDC website
- ☐ Local health department
- ☐ Internet search
- ☐ Primary care provider
- ☐ Social media
- ☐ Other (please specify)



Torrington Area Health District Rapid Community Assessment

ABOUT YOU

The following questions are used to sort and compare groups of responses.

31. I identify as...

- ☐ Male
- ☐ Female
- ☐ I prefer not to share
- ☐ Other (please specify)

32. How old are you?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65 or older
- ☐ I prefer not to share

33. What is your highest level of education?

- ☐ Less than high school or GED or equivalent High school diploma or equivalent
- ☐ Some college
- ☐ Technical or trades school Associate's degree
- ☐ Bachelor's degree
- ☐ Graduate or professional degree (Masters, PhD, MD, etc.) I prefer not to share

34. What is your race? Check all that apply

- ☐ White or Caucasian
- ☐ Black or African American
- ☐ Asian or Asian American
- ☐ Native American or Alaska Native
- ☐ Native Hawaiian or other Pacific Islander
- ☐ Another race
- ☐ I prefer not to share

35. Are you of Hispanic, Latino, or another Spanish origin?

- ☐ Yes
- ☐ No
- ☐ I'm not sure

36. Which of the following best describes your total annual household income in the past year?

- ☐ Under \$15,000
- ☐ Between \$15,000 and \$29,999
- ☐ Between \$30,000 and \$49,999
- ☐ Between \$50,000 and \$74,999
- ☐ Between \$75,000 and \$99,999
- ☐ Between \$100,000 and \$150,000
- ☐ Over \$150,000
- ☐ I prefer not to share

Thank you for taking this survey!

37. If you would like to be entered to win one of two \$50 gift cards, please enter your contact information below. You must be 18 or older.

Please note that your survey answers will not be tied to your contact information. Note: Please hit next to end the survey.

Contact Information

Name

Email Address

Phone Number

APPENDIX B: STAKEHOLDER INTERVIEW GUIDE

TAHD RAPID COMMUNITY ASSESSMENT STAKEHOLDER INTERVIEW GUIDE



INTRODUCTION

The Torrington Area Health District (TAHD), in collaboration with Crescendo Consulting Group, is launching a Rapid Community Assessment.

The goal of this interview is to learn more about the perceptions and significant concerns around routine vaccinations, as well as the influenza and COVID-19 vaccinations, in addition to identifying vaccination barriers.

This data will also be critical to developing strategies for reinforcing vaccine confidence among communities of focus and addressing barriers preventing individuals from getting vaccinated.

These interviews are confidential

VACCINE ATTITUDES IN THE COMMUNITY

- What do **people** in your community generally think about vaccines (routine, influenza, and/or COVID-19)?
- What do **you** think about vaccines yourself?
 - Routine / Influenza
 - COVID-19
- What do **parents** in your community generally think about vaccines?
 - Routine / Influenza
 - COVID-19
- Which groups of adults or children tend to **not** seek vaccinations (routine, influenza, and/or COVID-19)?

BARRIERS AND FACILITATORS OF VACCINATIONS IN THE COMMUNITY

- What are the main reasons **people** in your community would **want** to get vaccinated?
- What are the main reasons **people** in your community would **not want** to get vaccinated?
 - Routine / Influenza
 - COVID-19
- What are the main reasons **parents** in your community **want not** to vaccinate their children?

Probe on vaccine availability, free transportation, educational campaigns, etc.

- Routine / Influenza
 - COVID-19
- What are some of the things that make it easier for **people** in your community to get vaccines (adults and older adults)?
- What are some things that make it harder for **people** in your community to get vaccines (adults and older adults)?

- What makes it easier for **parents** to get their children vaccinated (in general)?
- What makes it harder for **parents** to get their children vaccinated (in general)?

Probe on vaccine access, lack of paid time off work, misinformation, attitudes toward vaccines, fear of side effects, trust in medical system/healthcare workers, fear of needing to show identification, etc.

There's a lot of misinformation about vaccines circulating on social media and in the news.

- What have you heard about vaccines from sources you trust?
- What have you heard about vaccines for children?
 - Routine / Influenza
 - COVID-19
- What are the sources you trust?

IMPACT OF COVID-19

To start, it would be helpful to understand how COVID-19 has affected your community through the course of this pandemic.

- How do you think COVID-19 has affected your community?

STRATEGIES TO IMPROVE VACCINE CONFIDENCE IN THE COMMUNITY

- How do you think that **community organizations, schools, and faith-based organizations** can build vaccine confidence and make vaccines more accessible?
- How do you think the **state or local health department** is doing at building vaccine confidence and making vaccines accessible?

Probe messaging content (making sure it is culturally and linguistically appropriate), information sources, managing misinformation, other communication materials, access to vaccination provider sites (including having medical interpretation services available), any virtual events, or campaigns.

For Reference:

Child and Adolescent Recommended Immunization Schedule for ages 18 years or younger, United States, 2023:

<https://www.cdc.gov/vaccines/schedules/hcp/imz/child-adolescent.html#addendum-child>

Respiratory syncytial virus (RSV)	Diphtheria, tetanus, and pertussis (DTaP)
Rotavirus	Hepatitis A, B
COVID-19	Varicella (Chicken pox)
Poliovirus	Human papillomavirus (HPV)
Influenza	Measles, mumps, and rubella
Pneumococcal	

Adult Recommended Immunization Schedule for ages 19 years or older, United States, 2023:

<https://www.cdc.gov/vaccines/schedules/hcp/imz/adult.html>

- | | |
|---------------------------------------|-------------------------------------|
| • COVID-19 (Moderna, Pfizer-BioNTech) | • Hepatitis A, B |
| • Influenza | • Meningococcal |
| • Measles, mumps, and rubella | • Pneumococcal |
| • Varicella (Chicken pox) | • Respiratory syncytial virus (RSV) |
| • Human papillomavirus (HPV) | |

APPENDIX C: INTERCEPT INTERVIEWS FIELD NOTES

Conducted: January 11, 2024

Locations Visited:

1. Cornwall Public Library
2. Goshen Public Library
3. Harwinton Public Library
4. Litchfield Community Center
5. Sullivan Senior Center (Torrington)
6. Torrington Parks & Recreation
7. Torrington Public Library

Participant	Interview Questions		
	What are your thoughts about vaccines?	What do you think about the accessibility of vaccines?	What can be done to improve information about vaccines?
1	Positive opinion of vaccines.	Vaccines acquired at pediatrician.	More traditional information, like mailers.
2	Positive opinion of vaccines.	Vaccines acquired at pediatrician well visits or at flu clinics.	More studies to show vaccines don't cause autism. More pediatricians that won't accept unvaccinated patients.
3	Positive opinion of vaccines.	Vaccines acquired at pediatrician office or at vaccine clinics. Easier access for kids vs. adults due to insurance issues.	Combat misinformation on social media. More proven longitudinal studies for newer vaccines, like COVID-19.
4	Neutral opinion on benefits, depends on the type of vaccine.		Trusted social media entities, information posted on local business bulletin boards and town hall.
5	Positive opinion of vaccines.	Many options to vaccinate at doctors and pharmacies.	Information from trusted social media entities.
6	Positive opinion of vaccines.	Many options to vaccinate at clinics, doctors, and pharmacies. Websites for vaccine clinics/pharmacies can be difficult for some to navigate.	Senior citizens want to know the "why" behind getting a vaccine
7	Positive opinion of vaccines.	Easy to schedule vaccine at pharmacy.	In-person vaccine education at places like senior centers.

Participant	Interview Questions		
	What are your thoughts about vaccines?	What do you think about the accessibility of vaccines?	What can be done to improve information about vaccines?
8	Neutral opinion on benefits, depends on type of vaccine.	Easy to get vaccinated at a clinic.	Pamphlets at places like senior centers that provide education.
9	Positive opinion of vaccines.	Some doctors lack certain vaccines (RSV) but it's easy to get vaccinated at pharmacies.	Word of mouth information for those without computers/phones.
10	Positive opinion of vaccines.	Difficulty with scheduling appointment at pharmacy and coordinating multiple vaccines.	Use trusted Facebook/social media for vaccine information.
11	Positive opinion of vaccines.	Easy to vaccinate at pharmacies.	Television commercials provide information on available or recommended vaccines.
12	Positive opinion of certain vaccines, but not mandates.	Easy to vaccinate for flu at pharmacy with walk-in appointment.	More information on community location bulletin boards.
13	Positive opinion of vaccines.	Difficult to access vaccines in smaller towns.	Use trusted social media sources to reach more people.

INTERCEPT INTERVIEWS – DETAILED NOTES

Interview Questions

1. What are your thoughts about vaccines?
 2. What do you think about the accessibility of vaccines?
 3. What can be done to improve information about vaccines?
 4. Other thoughts.
-

Participant 1

- Family participates in vaccines.
- Vaccines accessed at pediatrician's office.
- Thinks more traditional information forms, like mailers, would help spread information about vaccines.

Participant 2

- Children are vaccinated.
- Has had no trouble vaccinating at pediatrician well visits or at flu clinics.
- Thinks more scientific studies showing that vaccines don't cause autism would help improve vaccine information.
- To help with vaccination rates in the area, more pediatricians should refuse patients who aren't vaccinated.
- Some parents in the area participate in homeschooling because they don't want to vaccinate.

Participant 3

- Family is pro-vaccine. Hesitancy with COVID-19 vaccine due to newness of the vaccine.
- Vaccines accessed at pediatrician's office or at vaccine clinics. Easier for kids to access vaccines than adults due to insurance issues that some people encounter.
- Thinks it's important to combat misinformation seen on social media and reduce the political philosophy of certain vaccines, like COVID-19.

Participant 4

- Opinion on vaccines depends on what it is. Does not receive vaccines because there are not enough benefits but is not "anti-vaxxer."
- Thinks information about vaccines should be provided on social media and bulletin boards at local businesses and town halls.

Participant 5

- Is for vaccines.
- There are plenty of places to vaccinate at doctors and pharmacies.
- Thinks social media can help with vaccine education but also hurts because trusted resources are different for everyone.

Participant 6

- Likes vaccines, is fully vaccinated.
- There are plenty of places to get vaccinated at clinics, doctors, and pharmacies.
- Websites for vaccine clinics can be difficult to navigate.
- Vaccine clinics at senior center are popular.
- Thinks seniors want to know why they need to get another vaccine.
- Suggest enhancing “shock value” to convince seniors why a vaccine is necessary.

Participant 7

- Feel very positive about vaccines because they save lives.
- Has had no problem scheduling vaccines at Walgreens.
- Thinks an educational presentation at community locations, like the senior center, would be beneficial

for spreading information about vaccines.

Participant 8

- Thinks vaccinations are good, depends on what it is. Not enough information on certain vaccines, like RSV, or why to get them.
- Received flu vaccine at the senior center.
- Thinks pamphlets at places like the senior center would be helpful for spreading information about vaccines.

Participant 9

- Is for vaccines.
- Has had difficulty accessing RSV vaccine because some doctors don’t have it. Has used pharmacies at grocery store for other vaccines.

Participant 10

- Pro-vaccine.
- No difficulty accessing vaccines for self, but difficult to schedule some vaccines, like RSV, because of inability to get it at the same time as other vaccines.
- Has had difficulty scheduling at places like Walgreens.
- Thinks using Facebook for vaccine information would be helpful, especially if from a trusted source like the TAHD Facebook page.

- Use word-of-mouth for those without phones or computers.

Participant 11

- Pro-vaccine.
- Has found accessing vaccines at Walgreens easy, including RSV.
- Learned about RSV from television commercial.

Participant 12

- Is not against vaccines but doesn't think they should be mandated.
- Has used pharmacies for flu vaccines and found it easy to access through a walk-in visit.
- .

- Thinks information on vaccines could be posted on community-location bulletin boards.

Participant 13

- Thinks vaccines are great.
- Reports difficulty accessing vaccines for some due to small town but has heard of good access at local health center/hospital.
- Thinks social media would be a good way to reach people with vaccine information

APPENDIX D: REVIEW OF THE LITERATURE

To bolster the success of this Rapid Community Assessment, a literature review was conducted exploring several major topics essential for Torrington Area Health District to address vaccinate barriers and increase vaccine confidence.

VACCINE HESITANCY

Title:	Parental COVID-19 Vaccine Hesitancy in the United States	COVID-19 vaccine Hesitancy Among Low-Income, Racially and Ethnically Diverse US Parents
Link:	https://journals.sagepub.com/doi/10.1177/00333549221114346	https://www.sciencedirect.com/science/article/pii/S0738399122001379?via%3Dihub
Summary:	This study assessed the prevalence of vaccine hesitancy among parents with a child or adolescent aged 12-15 years, examined predictors of parents' COVID-19 vaccine hesitancy, their reasons for resisting a pediatric COVID-19 vaccine, and the correlation between parents' intentions to vaccinate their child and the acceptance of a vaccine for themselves.	This study examined factors impacting U.S. parents' intention to vaccinate their children against COVID-19. Data were collected February-May 2021 from parents living in six geographically diverse locations. The COVID-19 Exposure and Family Impact Survey assessed perceived susceptibility and severity to adverse outcomes from the pandemic.

Key Findings:	• A messaging strategy for effective public health interventions that includes educating the public about vaccination, countering misinformation about vaccine development and safety, and stressing the safety of approved COVID-19 vaccines may boost vaccine acceptance among vaccine-hesitant parents.	• Main drivers of parent hesitancy regarding child COVID-19 vaccination include perceived safety and efficacy of the vaccines and lower severity of illness in children. • Efficacy and safety were the main themes that emerged: some parents perceived them as benefits while others perceived them as risks to vaccination. • Parent hesitancy often relied on social media and was influenced by narrative accounts of vaccination experiences.
Citation:	Ruiz JB, Bell RA. Parental COVID-19 Vaccine Hesitancy in the United States. Public Health Reports. 2022;137(6):1162-1169. doi:10.1177/00333549221114346	Schilling, Samantha, Colin J. Orr, Alan M. Delamater, Kori B. Flower, William J. Heerman, Eliana M. Perrin, Russell L. Rothman, Hsiang Shonna Yin and Lee Sanders. "COVID-19 vaccine hesitancy among low-income, racially and ethnically diverse US parents." Patient Education and Counseling 105 (2022): 2771 - 2777.
Title:	Parents' Intentions and Perceptions about COVID-19 Vaccination for their Children: Results from a National Survey	Gender, Socioeconomic Status, and COVID-19 Vaccine Hesitancy in the US: An Intersectionality Approach
Link:	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10116994/	https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9348198/
Summary:	This study assessed the degree to which US parents are likely to have their children get COVID-19 vaccines and identify parental concerns about the vaccines.	This study draws on intersectionality theory and uses data from the 2021 US Household Pulse Survey to provide a gender perspective on vaccine uptake.
Key Findings:	• The most important trusted source of information about COVID-19 vaccines for children is their children's doctor. However,	• American women had a higher vaccine hesitancy rate than men. Gender interacts with socio-economic

less than half of parents stated that they trust their local health department, the CDC and the AAP, or the vaccine approval and development process.

status to shape people's vaccine hesitancy in a complex way.

- Women living in poverty or currently working were more vaccine-hesitant, while poverty and employment status did not affect men's vaccine hesitancy. However, not having a college education contributed to both women's and men's COVID-19 vaccine hesitancy.
- Moreover, women were more worried about the safety of the vaccine, but men's hesitancy tended to be driven by lower perceptions of COVID-19 dangers and belief in conspiratorial claims.

Citation:

Szilagyi PG, Shah MD, Delgado JR, Thomas K, Vizueta N, Cui Y, Vangala S, Shetgiri R, Kapteyn A. Parents' Intentions and Perceptions About COVID-19 Vaccination for Their Children: Results From a National Survey. *Pediatrics*. 2021 Oct;148(4):e2021052335. doi: 10.1542/peds.2021-052335. Epub 2021 Aug 3. PMID: 34344800; PMCID: PMC10116994.

Morales, Danielle Xiaodan, Tyler Fox Beltran and Stephanie Alexandra Morales. "Gender, socioeconomic status, and COVID-19 vaccine hesitancy in the US: An intersectionality approach." *Sociology of Health & Illness* 44 (2022): 953 - 971.

Title: Mitigating COVID-19 Risk and Vaccine Hesitancy Among Underserved African American and Latinx Individuals with Mental Illness Through Mental Health Therapist–Facilitated Discussions

Link: <https://link.springer.com/article/10.1007/s40615-022-01321-7>

Summary: This study aims to examine the effectiveness of one-to-one counseling on COVID-19 vaccination and vaccination readiness among underserved African American and Latinx individuals with mental illnesses and adult caregivers of children with mental illness.

Key Findings:

- Multidisciplinary academic-community and theoretical-based educational intervention delivered by mental health therapists is an effective strategy in increasing COVID-19 vaccine acceptance and reducing the negative impact and disruption that COVID-19 caused in the daily life of mental health patients and caregivers.

Citation: Venegas-Murillo, Angela, Mohsen Bazargan, Stephen Grace, Sharon Cobb, Roberto B. Vargas, Shrona Givens, Sheila Li-Sarain, Carissa Delgado, Jeffery Villatoro, Asia Goodall, Rylan Tesimale, Sylvia Ramirez, Monica Brown, John

The Past Is so Present: Understanding COVID-19 Vaccine Hesitancy Among African American Adults Using Qualitative Data

<https://link.springer.com/article/10.1007/s40615-022-01236-3>

This study aims to explore vaccine attitudes and intentions among program participants, understand the role of an African American (AA) faith-based wellness program in COVID-19 awareness and vaccine uptake, and solicit potential solutions for this deep-rooted public health problem.

- Resource targeting programs such as Live Well by Faith that engage faith and community leaders in co-designed shared and culturally grounded interventions can help restore and strengthen trust in vaccines and governments and reduce vaccine hesitancy. Live Well by Faith acted as a trusted information source for COVID-19 resources for the AA community.
- Services provided by Live Well by Faith included enrolling community members for vaccines, negotiating vaccine provision to and facilitating the establishment of vaccine clinics at AA churches, and connecting community members to healthcare providers.

Majee, Wilson, Adaobi Anakwe, Kelechi Onyeaka and Idethia Shevon Harvey. “The Past Is so Present: Understanding COVID-19 Vaccine Hesitancy Among

Uyanne and Shervin Assari. "Mitigating COVID-19 Risk and Vaccine Hesitancy Among Underserved African American and Latinx Individuals with Mental Illness Through Mental Health Therapist–Facilitated Discussions." *Journal of Racial and Ethnic Health Disparities* 10 (2022): 1358 - 1370.

African American Adults Using Qualitative Data." *Journal of Racial and Ethnic Health Disparities* 10 (2022): 462 - 474.

Title: Strategies to Improve Vaccination Rates In People Who Are Homeless: A Systematic Review

Link: <https://www.sciencedirect.com/science/article/pii/S0264410X22004364#s0085>

Summary: This study identifies and analyzes the characteristics of, and evaluates the outcomes of, strategies to improve vaccination rates in people who are homeless.

Key Findings:

- This systematic review identified 19 strategies, reported in 23 journal articles, which improved vaccination rates in people who are homeless.
- Most strategies were vaccination clinics, either fixed or mobile. Most were delivered, at least in part, by nurses.
- However, the strategies were diverse in their other characteristics. This emphasizes the need for strategies to be responsive to the context in which they operate, and to the particular homeless population(s) they serve.

A Longitudinal Study of Vaccine Hesitancy Attitudes and Social Influence As Predictors of COVID-19 Vaccine Uptake in the US

<https://www.tandfonline.com/doi/full/10.1080/21645515.2022.2043102>

This study examines prospective predictors of COVID-19 vaccine uptake in an online longitudinal study on COVID-19 and well-being which assessed vaccine hesitancy attitudes, social norms, and uptake in March and June 2021.

- The findings highlight the importance of social norm interventions and suggest general and specific vaccine hesitancy attitudes, especially trust, should be considered in developing vaccine uptake programs.

Citation:

Laura K. McCosker, Asmaa El-Heneidy, Holly Seale, Robert S. Ware, Martin J. Downes, Strategies to improve vaccination rates in people who are homeless: A systematic review, Vaccine, Volume 40, Issue 23, 2022, Pages 3109-3126, ISSN 0264-410X, <https://doi.org/10.1016/j.vaccine.2022.04.022>.

Latkin, Carl A., Lauren Dayton, Jacob Miller, Grace Yi, Ariel Balaban, Basmattee Boodram, Mudia Uzzi and Oluwaseun Falade-Nwulia. "A longitudinal study of vaccine hesitancy attitudes and social influence as predictors of COVID-19 vaccine uptake in the US." Human Vaccines & Immunotherapeutic 18 (2022): n. pag.

PUBLIC HEALTH STRATEGIES FOR PUBLIC EDUCATION

Title:

Supporting U.S. Healthcare Providers For Successful Vaccine Communication

Link:

<https://bmchealthservres.biomedcentral.com/articles/10.1186/s12913-023-09348-0>

Summary:

This study's objective was to understand the provider experience of counseling patients about COVID-19 vaccinations, aspects of the pandemic environment that impacted vaccine trust, and communication strategies providers found supportive of patient vaccine education.

Key Findings:

- While vaccine decision-making is complex and hinges on diverse factors such as health care access (i.e., convenience, expense) and individual knowledge, providers can play a major role in navigating these factors with their patients.
- To strengthen provider vaccine communication and promote vaccine uptake, a comprehensive communication infrastructure must be sustained to support the patient-provider dyad.

Multilevel Perspectives on School-Based Opportunities to Improve HPV Vaccination Among Medically Underserved Adolescents: Beyond School Entry Mandates

<https://www.tandfonline.com/doi/full/10.1080/21645515.2023.2251815>

This qualitative study of clinic and community members assessed potential opportunities within and outside schools to increase HPV vaccination.

- Schools and school-based health centers are important safety-net institutions and engaging with medically underserved communities in these settings is vital to improving HPV vaccination among populations that are vulnerable to HPV-associated cancers.
- Participants highlighted policies for expanding HPV vaccine education and administration in schools, including minor consent and increasing

- The findings provide recommendations to maintain an environment that facilitates effective provider-patient communication at the community, organizational, and policy levels. There is a need for a unified multisectoral response to reinforce the recommendations in patient settings.

school-based health centers funding for HPV vaccines.

Citation:

Pierz, Amanda J., Lauren Rauh, Dima Masoud, Alanna Kate Cruz, P. Christopher Palmedo, Scott C. Ratzan and Ruth Parker. "Supporting US healthcare providers for successful vaccine communication." BMC Health Services Research 23 (2023): n. pag.

Title:

Vaccine Hesitancy and Behavior Change Theory-Based Social Media Interventions: A Systematic Review

Link:

<https://academic.oup.com/tbm/article/12/2/243/6445967#333731135>

Summary:

This systematic review aims to identify the breadth and effectiveness of behavior change theories and social media tools may together help to guide the design of interventions aimed at improving vaccination uptake.

Key Findings:

- This study highlights the effectiveness, strengths, and limitation of using each social media component and behavior change theories in the interventions to address vaccine hesitancy, then

Shin, Michelle B, Kylie Sloan, Lourdes Baezconde-Garbanati, Emily Dang. "Multilevel perspectives on school-based opportunities to improve HPV vaccination among medically underserved adolescents: Beyond school entry mandates." Human Vaccines & Immunotherapeutic 19 (2023): n. pag.

A Multicomponent Health Education Campaign Led by Community Health Workers to Increase Influenza Vaccination among Migrants and Refugees

<https://journals.sagepub.com/doi/full/10.1177/21501327211055627>

This study evaluated the impact of a Community Health Worker-led influenza campaign on knowledge and attitudes about vaccination in Latinx migrant and refugee populations. Participants were Latinx families living in underserved communities throughout Washington state. The initiative also included radio, animated videos, advertisements, social media, and educational materials.

- Community Health Worker-led in workshops can be an effective way to increase knowledge about influenza and influenza vaccine.

summarize the opportunities and challenges that face future attempts to integrate behavior change theory and social media interventions as a means of addressing the problem of vaccine hesitancy, and eventually identify the benefits and limitations of this research.

- Future curriculum should emphasize the difference between viruses and bacteria, and the use of vaccination for prevention as opposed to treatment for illness.

Citation:

Lan Li, Caroline E Wood, Patty Kostkova, Vaccine hesitancy and behavior change theory-based social media interventions: a systematic review, Translational Behavioral Medicine, Volume 12, Issue 2, February 2022, Pages 243–272, <https://doi.org/10.1093/tbm/ibab148>

Ponce-Gonzalez IM, Perez K, Cheadle AD, Jade M, Iverson B, Parchman ML. A Multicomponent Health Education Campaign Led by Community Health Workers to Increase Influenza Vaccination among Migrants and Refugees. Journal of Primary Care & Community Health. 2021;12. doi:10.1177/21501327211055627

Title:

Young Adults' Preferences for Influenza Vaccination Campaign Messages: Implications for COVID-19 Vaccine Intervention Design and Development

Link:

<https://www.sciencedirect.com/science/article/pii/S2666354621000648>

Summary:

This study investigates young adults' preferences for seasonal influenza vaccination campaigns to inform effective intervention design and development (e.g., COVID-19 vaccination).

Key

Findings:

- This study identified young adults' five overarching preferences of seasonal influenza vaccination campaigns: quality and balanced information, relevant health contexts, credible information source, actionable messages, and persuasive campaign design.

- Insights of the study can inform seasonal influenza vaccination design and development and have the potential to shed light on vaccination messaging in other vaccine contexts.
- Results underscore the urgent need for health experts and government officials to utilize a more nuanced and evidence-based approach when designing and developing persuasive campaign appeals (e.g., fear appeals), as while some young adults may resonate positively with these appeals, others may not.

Citation:

Zhaohui Su, Dean McDonnell, Jun Wen, Ali Cheshmehzangi, Junaid Ahmad, Edmund Goh, Xiaoshan Li, Sabina Šegalo, Michael Mackert, Yu-Tao Xiang, Peiyu Wang, Young adults' preferences for influenza vaccination campaign messages: Implications for COVID-19 vaccine intervention design and development, *Brain, Behavior, & Immunity - Health*, Volume 4, 2021, 100261, ISSN 2666-3546, <https://doi.org/10.1016/j.bbih.2021.100261>.

COMBATING MISINFORMATION

Title: Seeking Formula for Misinformation Treatment in Public Health Crises: The Effects of Corrective Information Type and Source

Link: <https://www.tandfonline.com/doi/full/10.1080/10410236.2019.1573295>

Summary : This study identified corrective information strategies that increase awareness and trigger actions during infectious disease outbreaks.

The Differential Effects of a Governmental Debunking Campaign Concerning COVID-19 Vaccination Misinformation

<https://pubmed.ncbi.nlm.nih.gov/36919806/#:~:text=Conclusions%3A%20Our%20findings%20suggest%20that,hesitancy%20among%20the%20general%20public.>

This study investigated whether – and for whom – debunking is effective or even counterproductive in

Key Findings:

- The findings provide implications for advancing communication research and recommendations for misinformation correction and misperception management practices during an outbreak situation, echoing firmly with the need for “developing theory in the area of (mis)information effects” and “designing interventions that mitigate the adverse consequences of misinformation” as advocated by Tan et al.
- Insights reinforce the value of corrective information communication in times of crisis.
- If corrective information is present rather than absent, incorrect beliefs based on misinformation are debunked and the exposure to factual elaboration, compared to simple rebuttal, stimulates intentions to take protective actions. Government agency and news media sources are found to be more successful in improving belief accuracy compared to social peers.

Citation: Arigbede, Olumide, Olabimpe Bodunde Aladeniyi, Sarah G Buxbaum and Oluwatomilola Joy Arigbede. “The Use of Five Public Health Themes in Understanding the Roles of Misinformation and Education Toward Disparities in Racial and Ethnic Distribution of COVID-19.” *Cureus* 14 (2022): n. pag.

decreasing misinformation belief and vaccination hesitancy.

- Debunking is an effective communication strategy to address moderate levels of misinformation beliefs, but it does not constitute a one-fits-all strategy to reduce vaccination hesitancy among the general public.
- Although countering misinformation should certainly be an integral part of public health communication, additional initiatives, which address individual concerns with targeted and authentic communication, should be taken to enhance the impact on hesitant populations and avoid backfiring effects.

Helfers A, Ebersbach M. The differential effects of a governmental debunking campaign concerning COVID-19 vaccination misinformation. *J Commun Healthc*. 2023 Mar;16(1):113-121. doi: 10.1080/17538068.2022.2047497. Epub 2022 Mar 17. PMID: 36919806.

