



2023 Update: State Plan for *Streptococcus pneumoniae*

**As Required by
Texas Health and Safety Code, Section
94A.001**



TEXAS
Health and Human
Services

Texas Department of
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Table of Contents

Executive Summary	1
Introduction.....	2
Invasive Pneumococcal Disease	2
Risk Factors.....	3
Prevention Methods	4
Stakeholder Input.....	6
Immunization Stakeholder Work Groups.....	6
State Agencies	6
Objectives and Implementation Activities.....	8
Objective 1	8
Objective 2.....	9
Objective 3.....	10
Conclusion	12
List of Acronyms	13
Appendix A. Figures	14
Appendix B. Educational Material Dissemination Summary.....	17

Executive Summary

[Texas Health and Safety Code \(HSC\), Section 94A.001](#) requires the Department of State Health Services (DSHS) to develop a state plan for the prevention and treatment of diseases caused by *Streptococcus pneumoniae*, including strategies for demographic groups disproportionately affected by *Streptococcus pneumoniae*. These groups include adults 65 years of age or older, children younger than two years of age, individuals who smoke, individuals with asthma, and immunocompromised individuals. In accordance with this section, DSHS reviews and modifies the [State Plan for *Streptococcus pneumoniae*](#) (State Plan) at least once every five years.

DSHS utilized existing resources and stakeholder partnerships to promote public awareness and study the impacts of *Streptococcus pneumoniae* to prevent and treat related diseases.

Since 2018, DSHS and its partners have taken action to address the goals and objectives outlined in the State Plan:

- Publish seasonal educational materials for the public, providers, and stakeholders
- Increase awareness among high-risk populations
- Continue to support vaccination activities

Introduction

[HSC Section 94A.001](#) requires DSHS to develop a state plan for the prevention and treatment of diseases caused by *Streptococcus pneumoniae*. In the development of the plan, DSHS must seek the advice of a diverse group of stakeholders, including the public, state agencies, advisory bodies, providers, and statewide professional associations for physicians and nurses. The [State Plan for *Streptococcus pneumoniae*](#), which was published in 2018, must be updated every five years. This report updates the plan and describes actions to implement the State Plan between January 1, 2019 and September 30, 2023.

[HSC, Section 94A.002](#) requires DSHS to develop a program to heighten awareness and enhance the knowledge and understanding of *Streptococcus pneumoniae*, including strategies for promoting public awareness through health education, community outreach, and studying data to estimate the current and future impact of diseases caused by *Streptococcus pneumoniae*.

People can become ill as a result of infection with the bacteria, *Streptococcus pneumoniae*, also known as pneumococcal disease. Many people carry the bacteria in their noses and throats. It is spread from person to person by coughing, sneezing, or coming into contact with respiratory secretions.

Streptococcus pneumoniae can cause both invasive pneumococcal disease (IPD) (such as meningitis or a blood stream infection) and non-invasive disease (such as pneumonia, ear infections, and sinus infections). IPD often becomes more severe than non-invasive pneumococcal disease, as approximately 10 percent of IPD cases result in fatality.¹

Invasive Pneumococcal Disease

Pursuant to [25 Texas Administrative Code §97.3](#), cases of IPD must be reported to DSHS. Appendix A, Figure 1 shows IPD case counts and incidence rates from 2017 to 2022. IPD incidence rates in Texas had been relatively stable and then dropped from 6.8 per 100,000 people in 2019 to 2.8 in 2020.² The decrease in cases may be related to stringent measures taken to counter the effects of the COVID-19

¹ CDC. *Manual for the Surveillance of Vaccine-Preventable Diseases*. loc. cit. Accessed 23 October 2023.

² CDC. "ABCs 2020 Data and Impacts of COVID-19". <https://www.cdc.gov/abcs/reports-findings/data-2020.html>. Accessed 15 November 2023.

pandemic as well as other unknown factors that may have contributed to fewer exposures, infections, and detections.

In 2022, there were 1,631 cases and 119 deaths due to IPD in Texas, with most deaths occurring in adults over 60 years of age. Since 2017, adults over 60 years have been disproportionately affected by IPD. Appendix A, figures 2a and 2b show IDP cases and deaths by age group.

Risk Factors

An individual’s age, medical history, chronic health conditions, and smoking status can lead to a greater risk of pneumococcal disease. Individuals with chronic bronchitis or the flu suffer an increased risk, as these conditions can damage the respiratory tract and make it easier for *Streptococcus pneumonia* bacteria to cause an infection.³

Table 1. Pneumococcal Disease Risk Factors for Children and Adults^{4,5}

Risk Category	Childhood Risk Factors	Adult Risk Factors
Age	Under 2 years of age	65 years of age or older
Demographics	Alaska Native, African American, Navajo, or White Mountain Apache American Indian groups	Not applicable
Chronic Diseases	Heart, liver, kidney, or lung disease, sickle cell disease	Heart, liver, kidney, or lung disease (including chronic obstructive lung disease, emphysema, and asthma)
Medical Conditions	Immunocompromised, HIV infection, diabetes, nephrotic syndrome, functional or anatomic asplenia ⁶	Immunocompromised, HIV infection, diabetes, cancer, functional or anatomic asplenia ⁶

³ Bush, L., Schmidt, C. "Pneumococcal Infections." Merck Manual – Consumer Version. <https://www.merckmanuals.com/home/infections/bacterial-infections-gram-positive-bacteria/pneumococcal-infections>. Accessed 23 October 2023.

⁴ CDC. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. CDC Pink Book - 14th Edition. <https://www.cdc.gov/vaccines/pubs/pinkbook/pneumo.html>. Accessed 12 December 2023.

⁵ CDC. "Pneumococcal Disease: Risk Factors and Transmission." www.cdc.gov/pneumococcal/about/risk-transmission.html. Accessed 12 January 2023.

⁶ Functional asplenia: abnormal spleen function; anatomic asplenia: missing spleen.

Medical History	Cochlear implants or cerebrospinal fluid (CSF) leaks ⁷	Cochlear implants or CSF leaks
Other	Attend childcare	Smoker, alcoholic

Prevention Methods

Two main ways to prevent pneumococcal disease include hygiene and vaccination.

Streptococcus pneumoniae spreads from person to person via respiratory droplets left on surfaces or circulating in the air. Practicing good hygiene, not sharing cups or utensils, and avoiding contact with others when sick can help to stop the spread of the disease. Simple hygiene measures can also help, including:

- Washing one’s hands often or using hand sanitizer with at least 60 percent alcohol, if soap and water are not available,
- Coughing or sneezing into a tissue or one’s elbow instead of the hands, and
- Ensuring cleaning one's hands before touching the eyes, nose, or mouth.

Vaccination remains the best defense against pneumococcal disease. Data from the *2022 National Immunization Survey - Child* (NIS) shows a 77.3 percent coverage rate by age 24 months for the four-dose Pneumococcal Conjugate Vaccine (PCV) series in Texas. This is 4.8 percent lower than the national coverage estimate of 82.1 percent.⁸ Trends indicate a slight overall vaccination rate decrease by age 24 months for the four-dose PCV series in Texas and across the U.S. from 2021 to 2022.

The annual phone-based survey, Texas Behavioral Risk Factor Surveillance System (BRFSS), collects data about Texas residents’ health-related risk behaviors, chronic health conditions, and use of preventive services. The survey includes questions related to pneumococcal vaccination coverage. DSHS analyzes responses by age, high-risk groups individuals who smoke, or those with diabetes, heart disease, lung disease, or cancer.

From 2014 to 2021, the percentage of respondents who received a vaccination for *Streptococcus pneumoniae* decreased from 30.3 percent to 28.6 percent for adults

⁷ Cerebrospinal fluid leaks: escape of the fluid surrounding the brain and spinal cord.

⁸ CDC. Hill HA, Yankey D, Elam-Evans LD, Chen M, Singleton JA. Vaccination Coverage by Age 24 Months Among Children Born in 2019 and 2020 — National Immunization Survey-Child, United States, 2020–2022. *MMWR Morb Mortal Wkly Rep* 2023; 72:1190–1196.

DOI: <http://dx.doi.org/10.15585/mmwr.mm7244a3>.

18 years of age and over. In the same time period, the vaccination rate for adults 65 years and older increased from 67.9 percent to 69.0 percent. (Appendix A, Figure 4). However, the percentage of respondents in both age groups has been decreasing since 2017. Coverage rates remained particularly low for individuals who smoke and those with cancer, at 24.1 percent and 55.4 percent, respectively (Appendix A, Figure 5).

Stakeholder Input

To develop the State Plan, DSHS collaborated with stakeholders, public health partners, and affected groups to learn from their experiences, identify opportunities for collaboration, and incorporate their advice and feedback into the final plan.

Immunization Stakeholder Work Groups

DSHS collaborates with the Texas Immunization Stakeholder Working Group (TISWG) to support its goal to increase partnerships among public, private, and community groups across the state to improve immunization practices for Texans. TISWG currently has more than 230 members representing local and regional public health entities, hospitals, doctors, nurses, schools, universities, non-profit organizations, advocacy groups, professional organizations, medical associations, vaccine manufacturers, and the public.

DSHS oversees the Immunization Coalition Communication Coordinators (ICCC) group. ICCC has over 150 members consisting of DSHS public health region (PHR) staff and representatives from local health departments (LHDs) that come together monthly to collaborate.

State Agencies

During the development of the State Plan, DSHS surveyed state agencies serving individuals impacted by *Streptococcus pneumoniae*, including the Health and Human Services Commission (HHSC), the Employees Retirement System (ERS) and the Teacher Retirement System. DSHS sought information about potential outreach, education, and awareness activities.

HHSC oversees programs that serve older adults who are at higher risk of pneumococcal disease, including:

- Office of Aging and Disability Resource Centers (OADRC)
- Foster Grandparent Program
- Quality Monitoring Program (QMP)
- Office of Area Agencies on Aging

HHSC Medicaid provides health coverage for low-income children, families, seniors, and people with disabilities, with over five million Texans enrolled in Medicaid as of January 2023.

Objectives and Implementation Activities

The State Plan developed in 2018 focused on bolstering pneumococcal disease prevention and enhancing detection and treatment. These goals were further defined into three objectives, each with specific implementation activities. The following section provides an update on realizing each objective outlined the plan.

Objective 1

Publish Seasonal Educational Materials for the Public, Providers, and Stakeholders

DSHS produces targeted infection prevention awareness materials and educates the public, providers, and its immunization partners on the importance of vaccines. Pneumococcal disease is more prevalent in the winter and early spring, much like influenza. Coordinated, seasonal education and awareness can have an exponential impact to reduce outbreaks. Since the development of the State Plan, DSHS has created a variety of educational materials and promoted *Streptococcus pneumoniae* awareness.

Implementation Activities

Send Seasonal Electronic Newsletters - Articles on *Streptococcus pneumoniae* were included in quarterly and monthly newsletters to Texas Vaccines for Children (TVFC) and Adult Safety Net (ASN) program providers, stakeholders, and the public. Brochures, flyers, children's vaccine activity books, and communicable disease charts were made available in both English and Spanish. Additionally, DSHS worked with ERS to draft an article to communicate the risks of pneumococcal disease to its members.

Develop Seasonal Social Media Posts - Seasonal information about pneumococcal disease was posted on multiple social media platforms to raise awareness of pneumococcal disease and the vaccines available to prevent it. This action occurred during National Immunization Month in August 2023 and World Pneumonia Day on November 12, 2023.

Forge Partnerships with Stakeholders to Share Seasonal Information - DSHS partnered with a variety of stakeholders such as the Texas School Nurses

Organization, Texas Pediatric Society, and the Texas Medical Association to provide back-to-school resources and present educational information on the *Streptococcus pneumoniae* vaccine through meetings and webinars.

In 2023, DSHS provided an overview of pneumococcal disease to both TISWG and ICCC, providing members an opportunity to discuss potential outreach, education, and awareness activities. A survey of ICCC members indicates some LHDs disseminate various pneumococcal educational materials weekly or monthly, while some LHDs only disseminate pneumococcal educational materials seasonally.

Hold Biennial Texas Immunization Conference Break-Out Sessions - DSHS held educational break-out sessions on the State Plan, pneumococcal disease, high-risk populations, immunization recommendations, and other clinical information at the biennial Texas Immunization Conference.

Objective 2

Increase Awareness Among High-Risk Populations

Children under two years of age, adults over 65 years, and individuals who are immunocompromised or have certain health conditions are at highest risk for pneumococcal disease. Furthermore, the diseases can rapidly spread from person-to-person in group settings like childcare facilities, long-term care facilities, and hospitals. Prioritizing high-risk populations can help increase vaccination rates and assist providers to detect diseases early and start treatment sooner, leading to better health outcomes for these vulnerable populations.

Implementation Activities

Educate Older Adults - DSHS has an ongoing partnership with HHSC programs that serve older adults, including activities focused on pneumococcal disease prevention. OADRC oversees 28 contracted Aging and Disability Resource Centers (ADRCs). ADRCs currently receive federal No Wrong Door Vaccine Access grant funds to promote vaccine awareness among its target populations. On July 26, 2023, OADRC distributed the DSHS 2023-2024 *Back to School Kit* and *Pneumococcal Educational Packet* (English and Spanish) to promote awareness of the pneumococcal vaccine to the ADRC network. Approximately 70 local ADRC staff received this resource information.

Target Information to Individuals with Chronic Health Conditions - DSHS created *Streptococcus pneumoniae* educational materials with content specific to chronic conditions like diabetes or heart disease that put individuals at higher risk for pneumococcal disease. DSHS then partnered with health-related coalitions to disseminate the content.

Spread Awareness Among Individuals Who Smoke - DSHS created an educational brochure with information about the increased risk of pneumococcal disease among people who smoke and the vaccine available to prevent pneumococcal disease. The information and resources developed were shared with tobacco prevention and control partners across the state. Many of these partners serve as local representatives for community tobacco control initiatives and support education, awareness, and outreach efforts.

Target Information for Children in Childcare - DSHS focused on raising awareness of pneumococcal disease among childcare facility employees and parents of enrolled children through enhanced outreach and education. The department shared educational information with licensed childcare facilities and other stakeholders. DSHS mails educational packets to childcare facilities each September with fact sheets and brochures for parents, letters to childcare providers and employees, and vaccine requirements for childcare facilities. The packets include specific information about pneumococcal disease.

Educate Hospitals and Long-Term Care Facility Staff and Residents - *Streptococcus pneumoniae* materials were developed and disseminated to long-term care facilities through enhanced outreach and education. DSHS partnered with HHSC QMP and ADRCs to educate long-term-care facility staff and residents about prevention of pneumococcal disease in group settings where it can spread rapidly.

Objective 3

Continue to Support Vaccination Activities

Support for vaccine activities is a vital part of the State Plan because vaccination is one of the main ways to prevent pneumococcal disease. DSHS vaccine programs are vital safety nets that protect the health and well-being of the vulnerable populations they serve. Vaccinating these individuals also helps to protect the health of those who are immunocompromised or have medical contraindications and cannot be vaccinated.

While most private insurance plans cover the pneumococcal vaccine, some do not, and not every child has private insurance. TVFC provides vaccines to children younger than 19 years who meet at least one of the eligibility criteria listed below:

- Medicaid enrolled/Medicaid-eligible
- Uninsured
- American Indian or Alaskan Native
- Underinsured, including:
 - A child who has commercial health insurance, but whose coverage does not include vaccines
 - A child whose insurance covers only selected vaccines (TVFC-eligible for non-covered vaccines only)
 - Children with health insurance with a fixed dollar cap who become TVFC eligible when they meet the fixed dollar cap amount
- Enrolled in the Children’s Health Insurance Program

The TVFC Program provides enrolled clinic sites with all vaccines and toxoids recommended by the Advisory Committee on Immunization Practices, including those for *Streptococcus pneumoniae*.⁹

Implementation Activities

Offer Pneumococcal Vaccine to TVFC-Eligible Children- In December 2022 and August 2023, DSHS held webinars for all TVFC program enrolled providers, PHRs, LHDs, and other stakeholders, to provide guidance from the Advisory Committee on Immunization Practices for vaccines to prevent pneumococcal disease.

Additionally, DSHS held a webinar for all TVFC program enrolled providers, PHRs, LHDs and other stakeholders in September 2023, to provide updates on pneumococcal disease regarding vaccine safety, efficacy, and clinical recommendations.

⁹ More information on TVFC is available at: <https://www.dshs.texas.gov/immunization-unit/texas-vaccines-children-program-immunizations-unit>

Conclusion

Through various partnerships with stakeholders, DSHS has developed surveys for data collection to establish baseline measurements and identify targets to determine progress in achieving State Plan goals. DSHS continues to monitor vaccination rates against *Streptococcus pneumoniae* by analyzing statewide, regional, geographic, and demographic distributions. The results of these analyses assist DSHS in targeting unvaccinated individuals, addressing vaccination barriers, and protecting those who have an elevated risk of disease.

DSHS continues to create additional educational materials to target new healthcare providers, to help raise patient awareness, and to increase the opportunity for early detection. DSHS also recruits members from TISWG to provide input on the next update to the State Plan.

DSHS will continue to bolster efforts to enhance disease prevention, early detection, and treatment of *Streptococcus pneumoniae* over the next five years. New and expanded partnerships and cross-agency collaborations remain instrumental in meeting these goals and carrying out the activities of the State Plan.

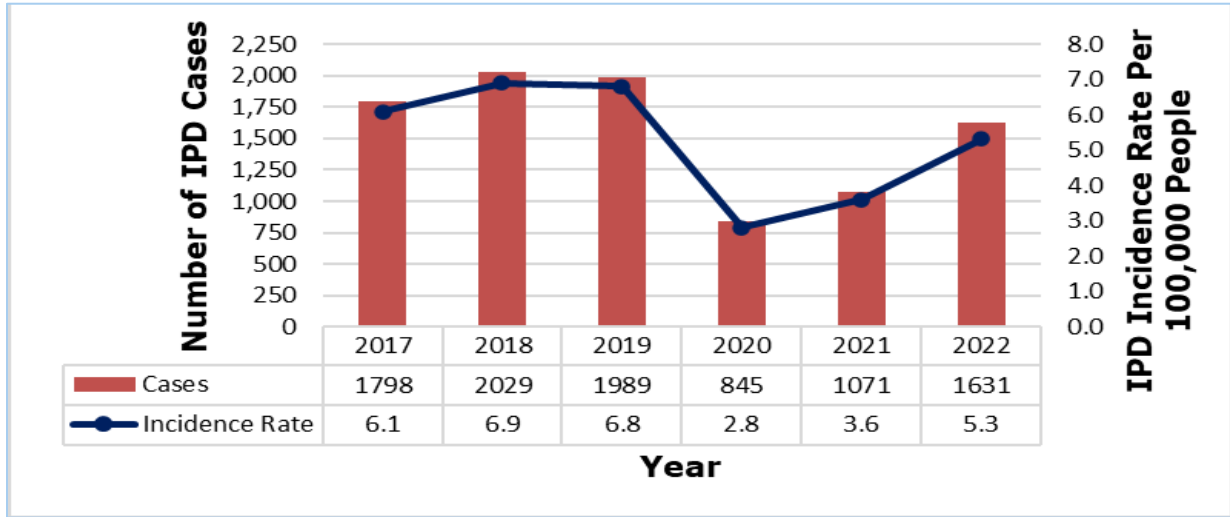
Through these outreach and educational activities, along with continued support for *Streptococcus pneumoniae* vaccination through the TVFC program, DSHS raises awareness, vaccinates vulnerable populations, and provides information to those who need it most.

List of Acronyms

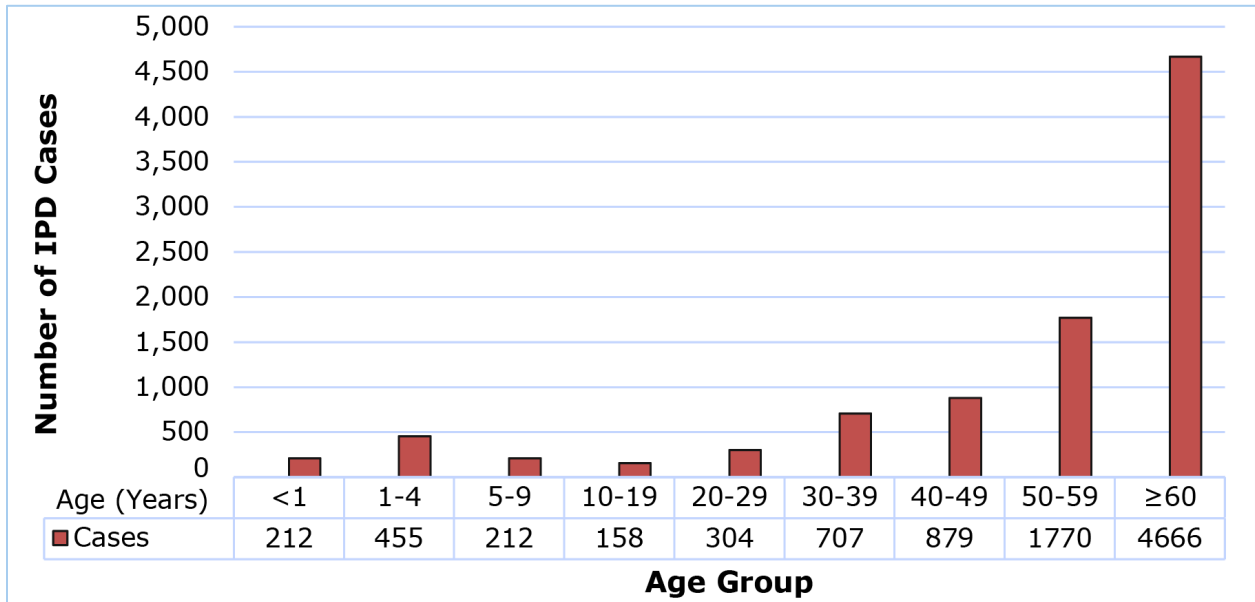
Acronym	Full Name
ADRC	Aging and Disability Resource Centers
BRFSS	Behavioral Risk Factor Surveillance System
COVID-19	Coronavirus Disease 2019
CSF	Cerebrospinal Fluid
DSHS	Texas Department of State Health Services
ERS	Employees Retirement System
HHSC	Health and Human Services Commission
HSC	Texas Health and Safety Code
ICCC	Immunization Coalition Communication Coordinators
IPD	Invasive Pneumococcal Disease
LHD	Local Health Department
NIS	National Immunization Survey
PCV	Pneumococcal Conjugate Vaccine
OADRC	Office of Aging and Disability Resource Centers
QMP	Quality Monitoring Program
PHR	Public Health Region
TISWG	Texas Immunization Stakeholder Working Group
TVFC	Texas Vaccines for Children

Appendix A. Figures

Figure 1. IPD Cases and Incidence Rates in Texas, 2017 - 2022



**Figure 2a. IPD Cases by Age Group in Texas, 2017 – 2022
(Total IPD Cases: 9,363)**



**Figure 2b. IPD Deaths by Age Group in Texas, 2017 – 2022
(Total IPD Deaths: 695)**

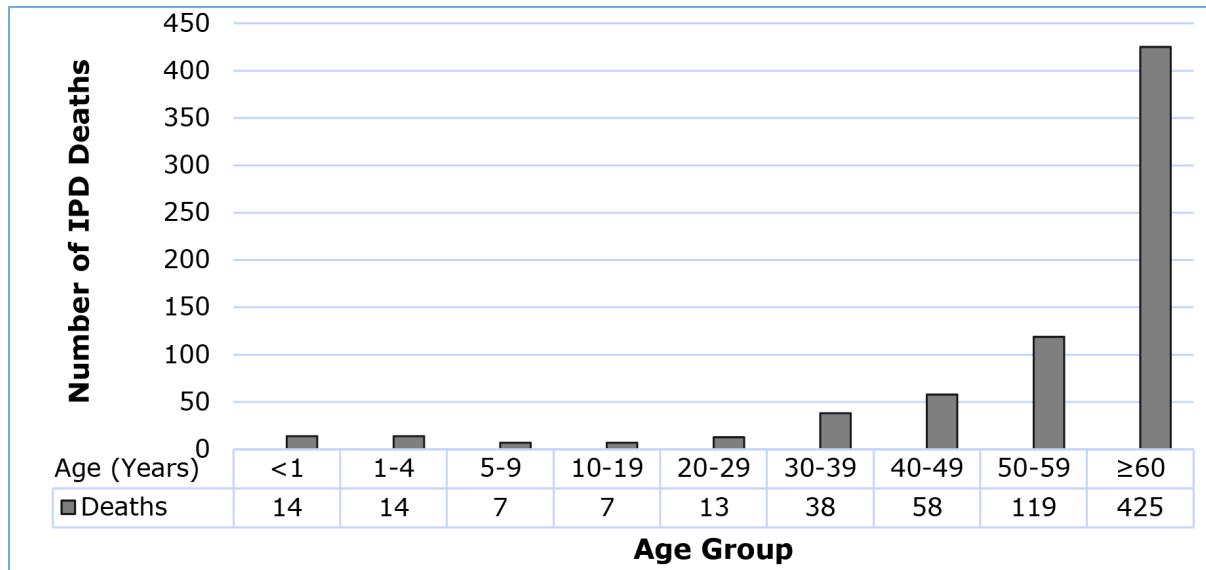


Figure 3. Estimated Vaccination Coverage with 4+ Doses of PCV by 24 Months of Age, NIS-Child, 2022

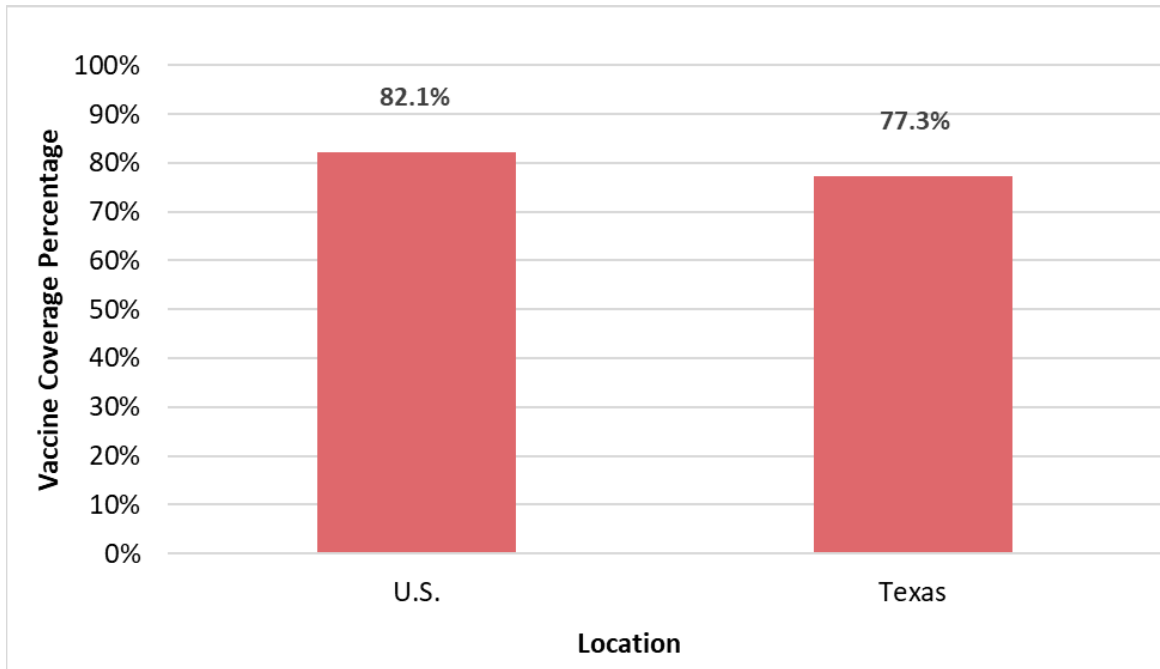


Figure 4. Pneumonia Shot Coverage Rates for Adults 18 – 64 years and Adults over 65 years, BRFSS, 2014 – 2021

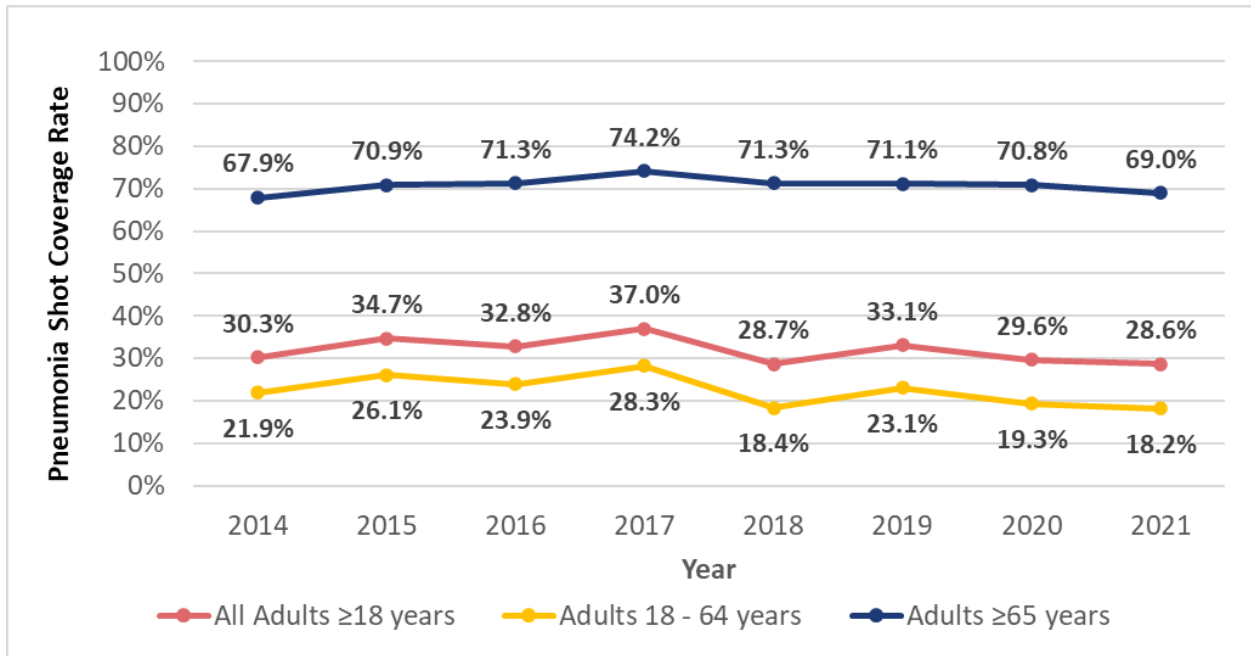
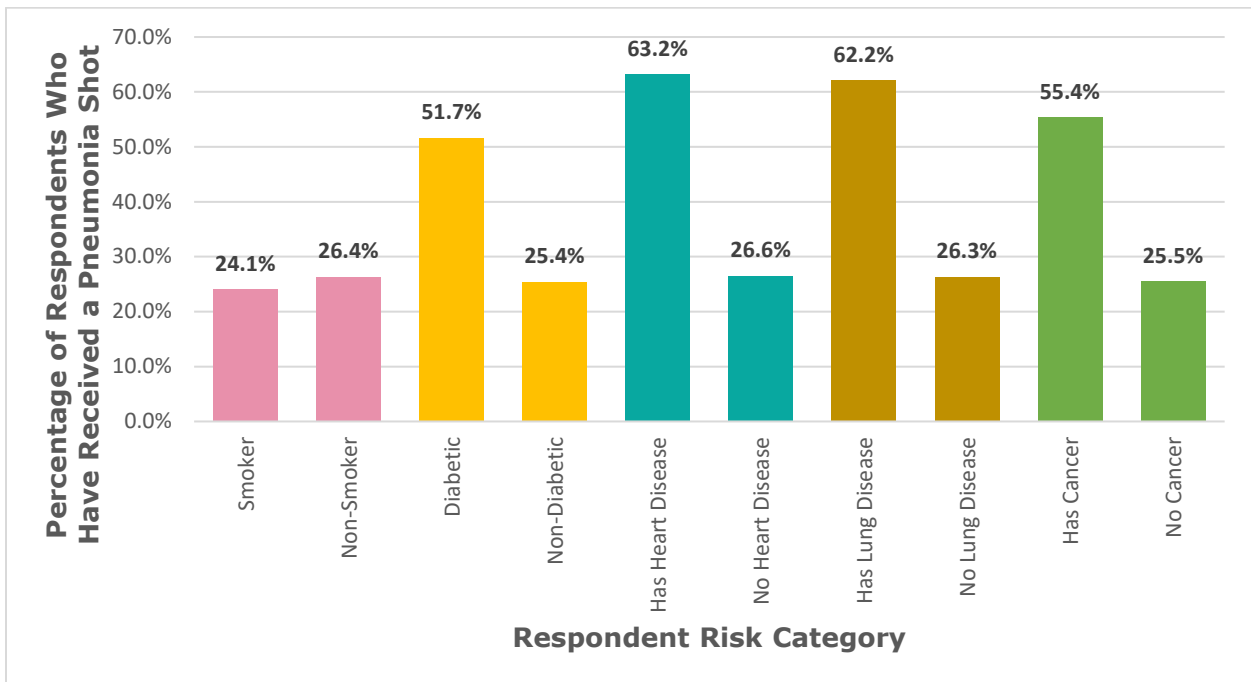


Figure 5. Percentage of Adults Ages 18 – 64 Years Who Have Received a Pneumonia Shot by Select High-Risk Category, BRFSS, 2021



Appendix B. Educational Material Dissemination Summary

Table 1: Number of Copies of Educational Materials Disseminated

	2019	2020	2021	2022	2023
Vaccinate through Life (stock #11-15317)	N/A	7,493	81,980	31,545	93,808
Communicable Disease Chart (stock #6-30)	45,894	1,833	4,069	2,968	3,755
Recommended Immunization Schedule for Children and Adolescents Aged 18 Years or Younger, United States (stock #6-105)	15,910	660	4,069	2,968	5,883
Recommended Immunization Schedule for Children and Adolescents Aged 18 Years and Younger, United States Laminated (stock #6-105L)	14,534	3,561	2,899	3,393	6,744
Recommended Immunization Schedule for Adults 19 and Older, United States (stock #6-104)	8,209	479	794	1,928	3,984
Recommended Immunization Schedule for Adults 19 and Older Laminated, United States (stock #6-104L)	8,854	2,399	3,619	3,692	5,864
Who's at risk for Pneumococcal Disease (stock #11-15086)	18,015	9,624	1,702	9,286	7,845
What is the Pneumococcal Vaccine (stock #11-16781)	N/A	N/A	N/A	N/A	200
Child-Care Facilities Required Vaccines (stock #11-16778)	N/A	N/A	N/A	Digital	Digital
Pneumococcal Educational digital PDF packet	N/A	N/A	N/A	N/A	Digital
Protecting from Pneumococcal Disease (updated stock #11-15086)	N/A	N/A	N/A	N/A	Digital