THE
IMMUNIZATION
PARTNERSHIP

Report on the State of the State

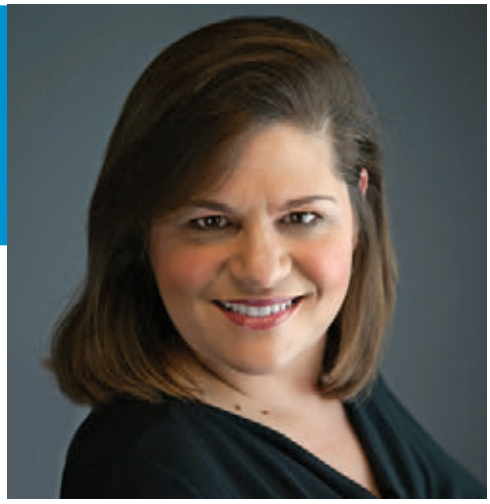
December 2016

A Time for Action:

Recommendations for Improving Texas Immunization Rates

Robyn Correll Carlyle, MPH

Letter from the Leadership



Greetings from
The Immunization Partnership

Welcome to our fifth biennial publication regarding the state of immunizations in Texas. On behalf of the Board of Directors and staff of The Immunization Partnership, I would like to express our sincere appreciation to our donors, supporters, and individuals who made this report possible.

This publication is the culmination of more than six months of research – gathering input and feedback from hundreds of immunization stakeholders at town hall meetings and via a survey on the challenges and opportunities they experience as they work to protect Texas communities from vaccine-preventable diseases. The feedback collected, as well as information gathered from state and national government agencies and peer-reviewed papers, is presented in this report as a means to shed light on the state of immunizations in Texas, as well as serve as a road map for all immunization stakeholders – healthcare providers, public health personnel, and legislators alike – on what can be done to protect and improve immunization rates in Texas communities.

As you'll see in this report, the vast majority of Texas families choose to vaccinate, resulting in huge drops in rates of vaccine-preventable diseases. But there is more work to be done. The number choosing to opt out of vaccines due to misinformation or other non-medical reasons is increasing, leaving some under-vaccinated communities vulnerable to outbreaks. Vaccination rates among adolescents and adults for diseases like influenza and cancer-causing human papillomavirus (HPV) are struggling and stagnant, and too many Texans lack access to potentially life-saving vaccines. The priorities outlined in this document present key strategies for overcoming these barriers.

The Immunization Partnership is honored and humbled by the immense support and enthusiasm shown by the community. From legislators to school nurses, from public health officials to foundations, from medical societies to immunization coalitions, Texas has demonstrated a truly inspirational dedication to our common cause: preventing what's preventable. Thank you for the work that you do each day to create a healthy community. Working together, we can realize our vision of a community free from vaccine-preventable diseases.

Warm regards,

Anna Dragsbaek

About Us

The mission of **The Immunization Partnership** (TIP) is to eradicate vaccine-preventable diseases by educating the community, advocating for evidence-based public policy, and promoting immunization best practices. Our vision is a community free from vaccine-preventable diseases.

All of our projects and programs are developed in concert with achieving the organization's mission.

To achieve and sustain high immunization rates, TIP has three focus areas: education, advocacy, and the support of immunization best practices.

Together, these three areas address both the root causes of low immunization rates and the far-reaching policy issues that impact immunization rates in Texas.

For more information, please visit **www.immunizeUSA.org.**

Acknowledgments



THE IMMUNIZATION PARTNERSHIP

Author
Robyn Correll Carlyle, MPH

The research for and writing of this publication was a collective effort that involved a wide network of individuals and institutions. The Immunization Partnership (TIP) would like to thank the local champions and partners who assisted with the planning and implementation of the 2016 stakeholder meetings. TIP truly appreciates the following:

- Austin/Travis County Health and Human Services Department
- Children's Health, *Dallas*
- City of Amarillo Health Department
- El Paso Immunization Coalition
- Fort Bend County Clinical Health Services Department
- Galveston County Health District
- Immunization Coalition of Greater Houston (ICOGH)
- Immunization Collaboration of Tarrant County (ICTC)
- Immunize El Paso
- Immunize San Antonio (IZSA)
- Methodist Healthcare Ministries of South Texas, Inc
- South Texas Immunization Coalition (STIC), *Edinburg*
- South Plains Immunization Network (SPIN) Coalition, *Lubbock*
- Texas A&M Coastal Bend Health Education Center, *Corpus Christi*
- Texas Nursing Association, District 15, *Abilene*
- University of Texas Health Science Center at Houston School of Nursing
- University of Texas Medical Branch, *Galveston*

TIP also wishes to thank Frontera Strategy and Dr. Catherine Troisi of the University of Texas Health Science Center at Houston for their insights, knowledge, and time throughout the projects described in this report.

Executive Summary



Vaccines are one of the greatest public health victories in history, greatly reducing life-threatening and debilitating diseases and saving tens of thousands of lives every year in the United States alone. While the vast majority of families vaccinate their young children in Texas, a growing number are choosing to delay or forgo some vaccines, leaving schools and communities vulnerable to disease outbreaks.

In order to determine challenges to maintaining high immunization rates in Texas, as well as the greatest opportunities for improvement, The Immunization Partnership connected with more than a thousand immunization stakeholders from across the state through town hall-style meetings and a survey in spring 2016. The feedback was analyzed, and six key priority areas were identified.

Several key priority areas arose from these interactions:

1. Combat misinformation regarding vaccines through improved education and training of the general public, media, and healthcare providers.
2. Reduce the number of non-medical exemptions to school vaccine requirements in Texas.
3. Improve the efficiency of the Texas immunization registry, ImmTrac.
4. Identify and implement strategies to prevent HPV-related cancers.
5. Identify and implement strategies to prevent influenza.
6. Address barriers limiting access to immunizations throughout the lifespan.

These priority areas and subsequent recommendations will serve as a road map for those working to protect Texas communities from preventable diseases by improving vaccination rates throughout the lifespan.

"Imagine the action of a vaccine not just in terms of how it affects a single body, but also in terms of how it affects the collective body of a community."

Eula Biss, author of *On Immunity*

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Background and Purpose

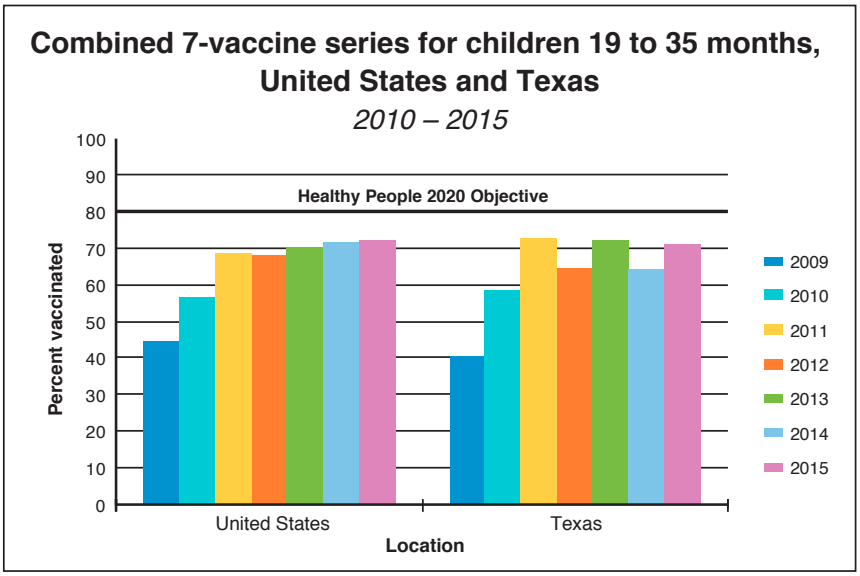


Immunization Coverage in Texas Across the Lifespan

Public health and medical experts widely acknowledge vaccines to be one of the greatest public health achievements in history. Because of immunization, diseases once responsible for staggering numbers of deaths and disabilities have been reduced by 99 percent, and as a result, an estimated 2-3 million lives are saved worldwide annually.[1] In the U.S. alone, vaccines are responsible for saving an estimated 42,000 lives each year – more than seat belts and child car seats combined.[2,3] The economic impact of immunization is similarly astounding. For every $1 invested in immunization, the U.S. saves $3 in direct medical costs and more than $10 in societal costs, such as lost wages or productivity due to illness. An analysis published in the journal *Pediatrics* estimates that vaccinating children in the U.S. results in a net savings of $68.8 billion in total societal costs every year.[4]

The nation as a whole has been steadily increasing its immunization rates for 19- to 35-month-olds, coming ever closer to achieving the 80 percent objective outlined in Healthy People 2020 – a national set of health goals to be achieved by the year 2020. Texas, however, has been less consistent. While the state made gains from 2009 to 2011 in rates for young children who received the doses of seven routinely recommended vaccines, rates have fluctuated rather than continuously increase in the years since and have not yet returned to quite the level they were in 2011 (Figure 1).[5,6]

Figure 1.



Source: Centers for Disease Control and Prevention, National Immunization Survey, 2009-2015

While vaccination rates have continued to improve nationwide, Texas rates have fluctuated in recent years.

Kindergarten vaccination rates for school-required vaccines have been more consistent. The Texas Department of State Health Services' Annual Report of Immunization Status has shown vaccination rates above 95 percent for at least a decade, despite steady increases in non-medical exemptions. Delinquency rates – that is, the percentage of children who had neither a record of the required vaccine nor an exemption on file – have varied from year to year and have remained at or below 2 percent for most vaccines required for kindergarten and 7th grade. While these and the percentages for those with exemptions on file might seem small, they translate to thousands of Texas children who were not up to date on the vaccines required for school entry (Figures 2 and 3).[7,8]

Figure 2. Immunization status of Texas kindergartners, 2015-16

Vaccine Category	Percent Completely Vaccinated	Reported Reasons for Lack of Completion by Vaccine Antigen			
		Non-medical Exemptions	Medical Exemptions	Provisional Enrollment*	Delinquent
Diphtheria, Tetanus and Pertussis (DTaP)	97.40%	1.14%	0.08%	0.51%	0.79%
Hepatitis A	97.20%	1.12%	0.07%	1.02%	0.57%
Hepatitis B	98.10%	1.09%	0.05%	0.23%	0.48%
Measles Mumps and Rubella (MMR - 2 doses)	97.60%	1.18%	0.10%	0.23%	0.82%
Polio	97.60%	1.15%	0.06%	0.30%	0.87%
Varicella (Chickenpox) 2 doses)	96.9%**	1.21%	0.11%	0.50%	0.89%

**Provisional enrollment refers to students who do not have all required vaccines or an exemption on file, but who are in the process of getting caught up on the necessary vaccine doses.*

***This percentage does not reflect 0.36% of Kindergarten students who met school entry requirements through proven history of varicella disease.*

Source: Texas Department of State Health Services Annual Report of Immunization Status, School Year 2015-2016

Figure 3. Immunization status of Texas 7th graders, 2015-16

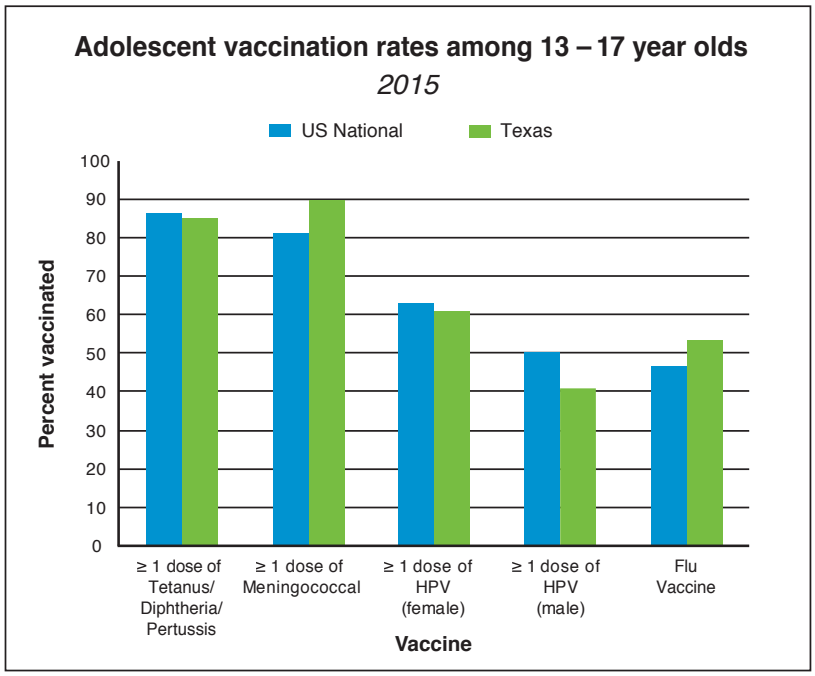
Vaccine Category	Percent Completely Vaccinated	Reported Reasons for Lack of Completion by Vaccine Antigen			
		Non-medical Exemptions	Medical Exemptions	Provisional Enrollment	Delinquent
Hepatitis B	98.60%	0.55%	0.04%	0.31%	0.44%
Meningococcal	96.60%	0.80%	0.08%	0.32%	2.22%
Measles Mumps and Rubella (MMR - 2 doses)	98.70%	0.57%	0.06%	0.26%	0.39%
Polio	98.60%	0.58%	0.04%	0.32%	0.45%
Tetanus Diphtheria and Pertussis (Tdap/Td)	96.90%	0.80%	0.10%	0.48%	1.75%
Varicella (Chickenpox) 2 doses)	96.10%*	0.67%	0.10%	0.38%	0.88%

**This percentage does not reflect 1.9% of 7th grade students who met school entry requirements through proven history of varicella disease.*

Source: Texas Department of State Health Services Annual Report of Immunization Status, School Year 2015-2016

When it comes to vaccinating adolescents, Texas has experienced both remarkable success and shortcomings. By 2012, for example, Texas had already achieved the Healthy People 2020 Objective of 80 percent vaccination coverage for vaccines against bacterial meningitis and whooping cough – likely due, in no small part, to those vaccines becoming required for 7th graders. Rates for other vaccines recommended by Centers for Disease Control and Prevention, however, have been slow to increase. Vaccination coverage against the human papillomavirus (HPV) and influenza are lower for Texas teens, with only about 50 percent or fewer receiving all of the recommended doses (Figure 4).[9,10]

Figure 4.



Sources: Centers for Disease Control and Prevention, National Immunization Survey, 2015
Centers for Disease Control and Prevention, FluVaxView, 2009-15 influenza seasons

Vaccination rates against cancer-causing HPV and flu have continued to lag behind other vaccines given during adolescence.

Vaccination rates for Texas adults continue to fall short. Only about 43 percent of Texans 18 years or older received the flu vaccine during the 2015-2016 flu season – far below the Healthy People 2020 Objective of 70 percent – and in 2013 only 17.7 percent reported receiving a pertussis vaccination. Among adults aged 65 and older, only 33 percent

Background and Purpose

reported getting the zoster (shingles) vaccine, compared with about 68 percent who had reported being vaccinated against pneumococcal disease and 65 percent against influenza.[11] The relatively low vaccination rates among adults have a large economic impact on the U.S. as a whole. While Texas-specific data are not available, one nationwide analysis estimated that vaccine-preventable diseases in adults cost the country $9 billion annually – 80 percent of which (or $7.1 billion) is due to unvaccinated individuals.[12]

Vaccination has helped to drastically reduce diseases like measles and whooping cough, but they haven't completely gone away. In fact, more than 1,100 Texans died from vaccine-preventable diseases from 2005 – 2015.

While vaccination has resulted in a drastic reduction of disease, Texas nonetheless experienced roughly 100,000 cases of such diseases resulting in at least 1,100 related deaths from 2005-2015.[14,15] Those numbers do not include individuals who have been diagnosed with or died from vaccine-preventable cancers. Every year, more than 1,000 Texas women are diagnosed with cervical cancer – a preventable cancer almost exclusively caused by HPV.

While gains have been made in vaccination rates throughout the lifespan, more must be done to raise coverage where it is low and maintain it where it is high. Vaccine-preventable disease outbreaks and related cancers remain significant threats for the health and safety of Texans. By putting forth a unified set of priorities, this document serves as a guide for immunization stakeholders throughout the state working to protect our communities from diseases.

Legislative Reforms in 2015

In the spring of 2015, TIP and its partners in the community contributed to the successful passage of critical immunization-related legislation. The new laws and policies in place as a result of these efforts will help young adults access their immunization histories and avoid unnecessary re-vaccinations, promote awareness regarding neglected tropical diseases in Texas, and lay the groundwork for future vaccine development for these diseases.

- *HB 2171 by Rep. J. D. Sheffield (R-Gatesville): Easy Access to Shot Records* revised the state statute to extend the age at which young adults have to consent to keep their records maintained in the statewide immunization registry, ImmTrac, from 18 years to 26 years of age. With this new law, adults have more time to re-consent to keep their immunization records in the registry.
- *HB 2055 by Rep. S. Davis (R-Houston): Protecting Texans from Emerging Tropical Diseases* allocated funding for sentinel surveillance to collect and analyze data related to neglected tropical diseases (NTDs). It also required the state health department to provide information to healthcare providers about NTDs and the importance of monitoring and reporting. This will help build a foundation for future preventative measures, such as vaccines.

Purpose of the Publication

In order to provide a road map for immunization stakeholders to improve and maintain high vaccination rates, The Immunization Partnership conducted a needs assessment to better understand the challenges and opportunities experienced by immunization stakeholders throughout the state.

The primary purpose of this research was to:

- Identify gaps to combating vaccine-preventable diseases in Texas with regards to policy and legislation, education and outreach, and areas in need of further data or research.

The secondary objectives were to:

- Assess the knowledge, attitudes, and beliefs of practicing clinicians and their medical teams, public health personnel, and other immunization stakeholders.
- Examine current utilization of evidence-based interventions to improve immunization rates in the community and healthcare settings.

Target Population

This project targeted immunization stakeholders throughout Texas. "Immunization stakeholder" was defined as any individual directly or indirectly involved in vaccine service delivery and immunization promotion or education. This included:

- Clinicians
- Nurses
- Medical assistants
- Pharmacists
- Public health department staff
- Hospital system administrators
- Community health workers
- School nurses and administrators
- Health educators
- Immunization or health coalition members
- Pharmaceutical company representatives
- Students
- Legislators and policymakers

Immunization Priorities



Combat misinformation regarding vaccines through improved education and training of the general public, media, and healthcare providers.

Highlights

- Texas immunization stakeholders identified misinformation regarding vaccines as the biggest barrier to maintaining high vaccination rates.
- Healthcare providers play a crucial role in correcting misinformation.
- While the majority of families vaccinate according to the CDC's recommended schedule, a growing number are choosing to delay or refuse vaccines for their children.

Background

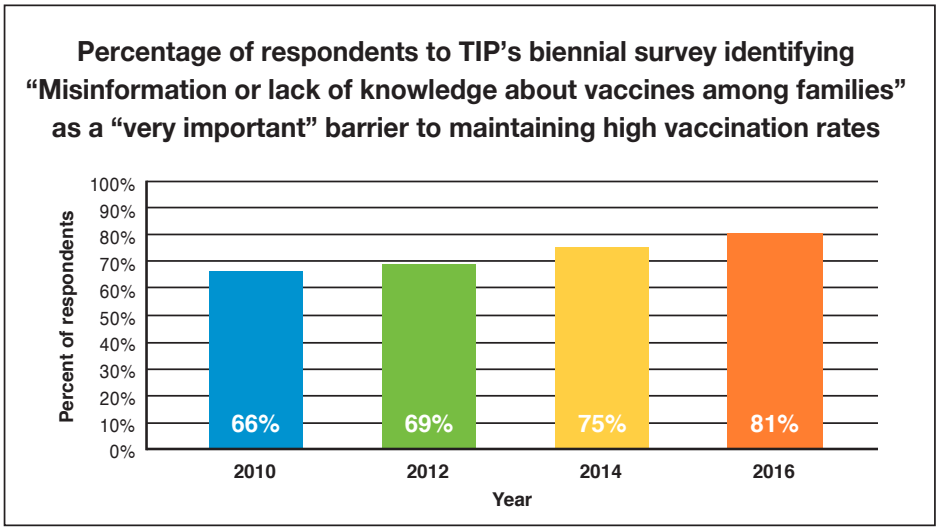
99.5 percent of healthcare providers responding to TIP's biennial statewide survey said they encounter patients who refuse recommended vaccines.

Despite the well-documented benefits and safety of immunization, the number of families reluctant to vaccinate according to the recommended schedule is on the rise. In a survey conducted with physicians in 2013, 87 percent of pediatricians reported that they encounter parents who refused at least one recommended vaccine – up from 75 percent in 2006. Likewise, the number of vaccine-hesitant patients is also increasing. Physicians surveyed said the proportion of parents who refused one or more vaccines increased from 9.1 percent in 2006 to 16.7 percent in 2013.[16] A telephone survey conducted with parents found that nearly one in five had refused or delayed at least one recommended vaccine for their children.[17]

According to the pediatricians surveyed, one of the most common reasons for refusing vaccines was the belief that vaccines are unnecessary. This misperception likely stems from the overwhelming success of vaccines themselves. Measles and mumps, for example,

used to affect virtually everyone early in life but, thanks to vaccination, have been reduced by 99 percent.[18,19] When these and other vaccine-preventable diseases ceased to be a clear and present danger, it became easier to believe that vaccines were no longer necessary or that such illnesses were not that harmful after all. Some in generations unaffected by vaccine-preventable diseases now view infections like measles to be simply a part of normal childhood development, erroneously believing that such illnesses are beneficial for the immune system – forgetting the death and disability that the diseases once caused. Unfortunately, while many vaccine-preventable diseases have been severely reduced, they have not been officially eradicated. Vaccination rates must remain high to continue protecting communities from disease outbreaks.

Figure 5.



Stakeholders identified misinformation or lack of knowledge among families as the primary barrier to maintaining high immunization rates in Texas. Eighty-one percent of respondents classified it as a "very important" issue, up from 75 percent in the 2014 survey and from 69 percent in the 2012 survey.

"I believe there is a growing trend among young parents (millennials) of a lack of trust for the medical community. I am a young mother in this age group, and I see this all too often on social media. Moms are asking friends for medical advice via Facebook, or asking their opinions of certain vaccines. Some even state that they don't trust their pediatricians. Some are looking for recommendations for pediatricians who are "more natural" and who practice delayed vax schedules. It's a growing concern to me."

– Survey Respondent, Denton County

Immunization Priorities

Among parents who choose to delay rather than refuse vaccines, pediatricians say most do so because of concerns about overwhelming the immune system.[20] This, too, is not supported by scientific research. Vaccines given according to the CDC recommended schedule do not overwhelm the immune system. In fact, the amount of germs children are already exposed to in their own natural environment is far greater than what they receive in several vaccines in one day.[21]

Providers and their medical teams play a crucial role in combating some of the misinformation influencing parental decisions on vaccines. In a survey of parents, a large proportion of those who initially planned to refuse or delay vaccines but changed their minds, did so because of information and assurances given to them by their healthcare provider.[22] One study showed that when physicians persisted in engaging parents who initially refused vaccines, nearly half of the parents eventually accepted them.[23]

While there is no magic formula for combating misinformation, there is advice available for healthcare providers. In August of 2016, the American Academy of Pediatrics (AAP) issued guidance for pediatricians to assist them in addressing concerns about vaccines among patients and parents.[24] In it, the AAP stressed the importance of being attentive to parents' concerns while correcting misconceptions, especially with regards to vaccine safety and ingredients. Messages should also be personalized and presented using communication strategies that are non-confrontational.

Recommendations

Educate healthcare providers and medical teams on correcting misinformation among patients. Given the important role healthcare providers play in addressing vaccine hesitancy, it is critical for them to receive adequate training on risk communication techniques and other strategies to correct misconceptions and address concerns when they arise. Examples could include providing training as a continuing education offering for licensed healthcare professionals or through quality improvement initiatives within clinical settings.

Encourage immunization stakeholders to work with area news outlets to ensure accurate reporting on vaccines and vaccine-preventable diseases. When covering immunization-related news stories, media outlets will sometimes seek to "balance" evidence supporting vaccination by including the voices of those who oppose vaccines.[25] News reports are framed as a debate of sorts, where each viewpoint is valid and on equal footing. To do so, however, is to misrepresent the scientific evidence. Immunization stakeholders should proactively reach out to local media outlets to encourage them to avoid this kind of false balance while reporting on vaccines.[26]

Work with the Texas legislature to neutralize the language of vaccine exemptions in the statute. Section 38.001 of the Texas Education Code states that an individual may decline to be vaccinated with school-required vaccines for "reasons of conscience."[27] This wording is inaccurate since the term "reasons of conscience" implies a morally superior choice. It is well established that vaccines are safe and effective; therefore, a more neutral term should be used to articulate the choice to decline vaccines, which is considered dangerous by the overwhelming majority of healthcare providers, scientists and academics. The language should be changed from "reasons of conscience" to "non-medical reasons."

"In my opinion I feel that providers play an important role in providing information about immunizations. They need to educate the patients in person, not hand them a flier and ask them to read it themselves. Many residents in the Texas Mexico Border Area have less than a third grade education, they may be able to read in Spanish, however the words are too hard for them to understand or are too technical."

– Survey Respondent, Hidalgo County

Reduce the number of non-medical exemptions to school vaccine requirements in Texas.

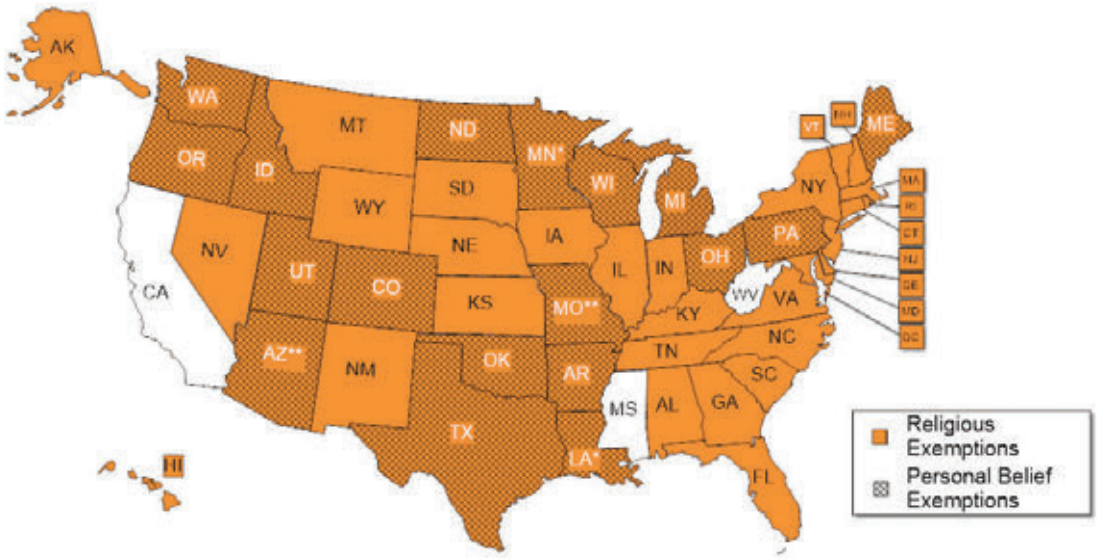
Highlights

- Nearly 45,000 K-12 students in Texas have a non-medical exemption to school vaccine requirements on file – a 19-fold increase from 2003.
- Research shows that unvaccinated and under-vaccinated individuals tend to cluster in the same communities, leaving them vulnerable to outbreaks of diseases like measles or whooping cough.
- Texas stakeholders, as well as medical and public health organizations, such as the American Academy of Pediatrics, support measures to tighten non-medical exemptions.

Background

Allowing non-medical exemptions to school vaccine requirements has been consistently shown to reduce vaccination rates and contribute to the resurgence of diseases, such as measles and pertussis.[28,29] Yet all but three states in the U.S. allow parents to opt their children out of vaccines for non-medical reasons, such as religious reasons or for personal beliefs. Texas is no exception (Figure 6).

Figure 6. States with non-medical exemptions from school vaccine requirements, 2016



Source: National Conference of State Legislatures[30]

As of 2016, 47 states allow non-medical exemptions for school vaccine requirements.

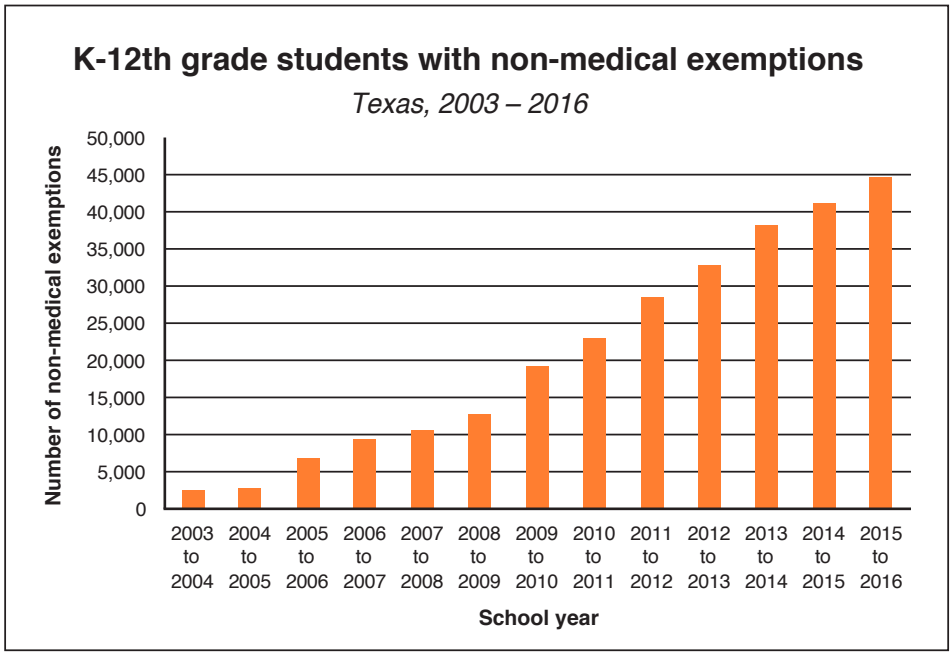
Since non-medical exemptions to school vaccine requirements were first allowed in Texas in 2003, the number of students with a non-medical exemption on file has increased substantially. During the 2015-2016 school year, 44,716 students in grades kindergarten through 12th grade – about 0.84 percent – had opted out of at least one vaccine requirement for non-medical reasons. That is a more than 19-fold increase from 2003-2004.[31] Texas is not alone in this trend. States throughout the country are experiencing an increase in non-medical exemptions.[32,33]

74 percent of respondents to TIP's biennial survey identified "laws that allow for non-medical exemptions for school attendees" as a "very important" barrier to maintaining high vaccination rates in the state.

Due to restrictions on the state's ability to collect data about the exemptions, we do not know the specifics on whether children in Texas are being opted out of just one or all of the vaccine requirements, but research done in other states suggests that most students with a non-medical exemption on file have received at least some vaccines.[34]

That being said, while the vast majority of students in Texas schools – more than 95 percent – are vaccinated according to the state's minimum vaccination requirements, individual communities are experiencing significantly higher or lower rates of exempted children. In fact, during the 2015-2016 school year, 12 of the 25 most populous counties in Texas had non-medical exemption rates higher than the state average, and nearly all saw rates increase over the previous five years (Figure 8). Likewise, district-level numbers could mask huge variations within a particular school district. For example, a report published by the *Houston Chronicle* in August of 2016 found that non-medical exemption rates varied greatly across the city, and tended to be higher in more affluent schools and neighborhoods.[35] At the Austin Waldorf School in Travis County – a private school and therefore its own independent school district – more than 40 percent of students had a non-medical exemption on file in 2015-2016, and vaccination coverage for the measles, mumps and rubella vaccine (MMR) was only 33.3 percent.[36,37] While the overall immunization rates are high for the state as a whole, the consistent and dramatic increase in non-medical exemptions is cause for concern.

Figure 7.



Source: Texas Department of State Health Services, Annual Report of Immunization Status, 2009-2016

The number of non-medical exemptions to school vaccine requirements has increased 19-fold in Texas since they were first allowed in 2003.

Figure 8. Percent of K-12 students with non-medical exemptions filed in Texas' 25 most populous counties, 2015-2016

County	2011-2012	2015-2016
Travis County	1.53%	2.30%
Denton County	3.17%	2.05%
Hays County	0.83%	1.96%
Collin County	1.17%	1.92%
Williamson County	1.55%	1.83%
Montgomery County	1.06%	1.73%
Johnson County	0.70%	1.26%
Lubbock County	0.59%	1.11%
Tarrant County	0.79%	1.10%
El Paso County	0.57%	0.99%
Galveston County	0.69%	0.99%
Smith County	0.61%	0.92%
Brazoria County	0.43%	0.80%
Brazos County	0.38%	0.76%
Bell County	0.37%	0.71%
Bexar County	0.32%	0.67%
Harris County	0.39%	0.62%
Dallas County	0.35%	0.60%
Jefferson County	0.19%	0.53%
Nueces County	0.25%	0.52%
Fort Bend County	0.39%	0.45%
McLennan County	0.27%	0.42%
Cameron County	0.08%	0.12%
Hidalgo County	0.05%	0.10%
Webb County	0.04%	0.08%

Source: Texas Department of State Health Services, Conscientious Exemptions by County, 2015-2016

Nearly all of Texas' most populous counties have seen an increase in non-medical exemption rates in the past five years.

Currently, the Texas Department of State Health Services is only allowed to publish aggregated, non-identifiable exemption rates at the district and county levels. It should be reiterated that these rates do not tell the whole story. The singular number provided at each of these two levels only reflects what percent of students filed an exemption, but do not include more information, such as whether the students exempted out of just one or all of the vaccine requirements. Similarly, percentages of students who have neither an exemption nor an immunization record on file, known as delinquency, as well as those who are only provisionally enrolled – that is, not yet up-to-date on vaccine doses but have informed the school that they are in the process of becoming so – are also not publicly available at the campus level. Lack of access to this kind of local-level information makes it challenging for those working to improve vaccination rates to determine where and how to best deploy their resources.

Under current law, parents interested in finding out the non-medical exemption rates can submit a formal request to the school district, but there is no guarantee that they will be able to access the information. This is problematic, in particular, for parents with medically fragile children, such as those receiving chemotherapy treatment or who are transplant recipients. These parents must rely on high vaccination rates to protect their children at school. During the 2015-2016 school year 821 Texas kindergartners alone had a medical exemption on file, signifying that they cannot receive at least one school-required vaccine for valid medical reasons.[38]

Current Trends in Exemption Legislation

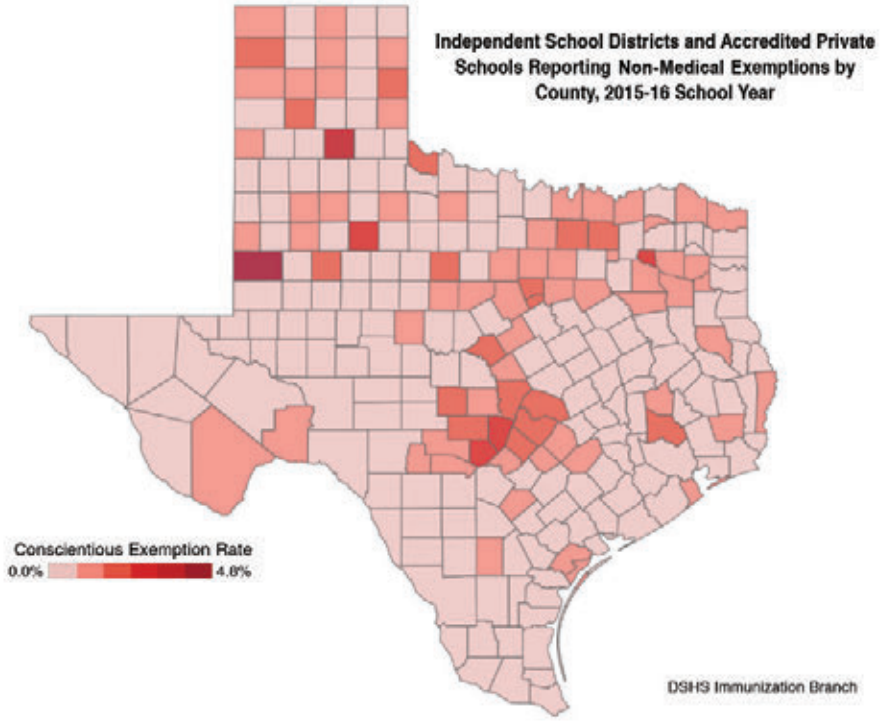
States where it's easier to obtain exemptions often have higher non-medical exemption rates, when compared with those where the process is slightly more difficult, such as requiring notarization of the exemption request form.[39] It should come as no surprise then that several professional associations in the medical field support policies that tighten immunization exemption laws in order to reduce the number of exemptions sought casually or out of convenience, including the American Academy of Pediatrics and the Association of Immunization Managers (AIM).[40,41]

Recent outbreaks of vaccine-preventable diseases have increased public awareness about vaccines and vaccination-related policies. The widely publicized Disneyland measles outbreak in 2014-2015 prompted a wave of legislative proposals throughout the country both in support of and against stricter exemption policies for school vaccine requirements. For example, in the wake of the outbreak, state legislatures in California, Vermont and Illinois proposed legislation to limit or eliminate non-medical exemptions entirely, while state legislatures in Mississippi and Michigan heard bills relaxing exemption laws.

In 2015, Texas legislators introduced a bill that would have required the Texas Department of State Health Services to publicly report non-medical exemptions at the school campus

level. The proposed legislation was fiercely debated by advocates and opponents alike. While the bill passed the House, it never received a hearing in the Senate.

Figure 9. Percent of students in kindergarten through 12th grade with a non-medical exemption by county, 2015-2016 school year



Source: Texas Department of State Health Services, Annual Report of Immunization Status, School Year 2015-2016

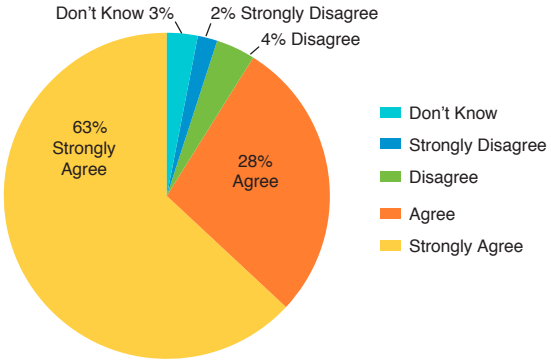
Recommendations

Tighten exemptions by requiring parents seeking a non-medical exemption for their child to first participate in an educational course discussing the risks and benefits of vaccination. In order for families to claim an exemption from school vaccine requirements for non-medical reasons under current processes, they must request an affidavit from the state health department and submit a notarized version to their child's school. States that require additional steps, such as educational courses or counseling by a physician, have lower non-medical exemptions rates than states where obtaining an exemption involves fewer hurdles.[42] By introducing a requirement for families seeking a non-medical exemption to first undergo science-based educational training on the true risks and benefits of vaccination, Texas could likely reduce the number of non-medical exemptions requested and thus better protect schools from preventable disease outbreaks.

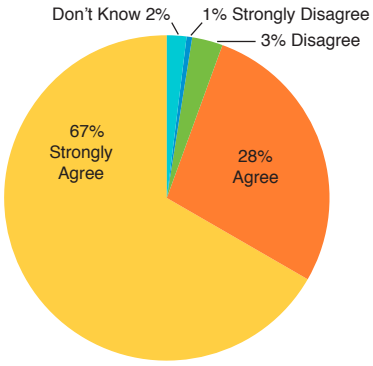
Figure 10. Responses to TIP's biennial survey regarding current vaccine processes, 2016

The current exemption process in Texas requires people to submit an affidavit when requesting an exemption from required vaccines.

"The process should also include a written verification that the person has been counseled by a healthcare provider on the risks and benefits of vaccination."



"The process should also include verification that the person seeking the exemption has received education and/or training on the risks and benefits of vaccination."

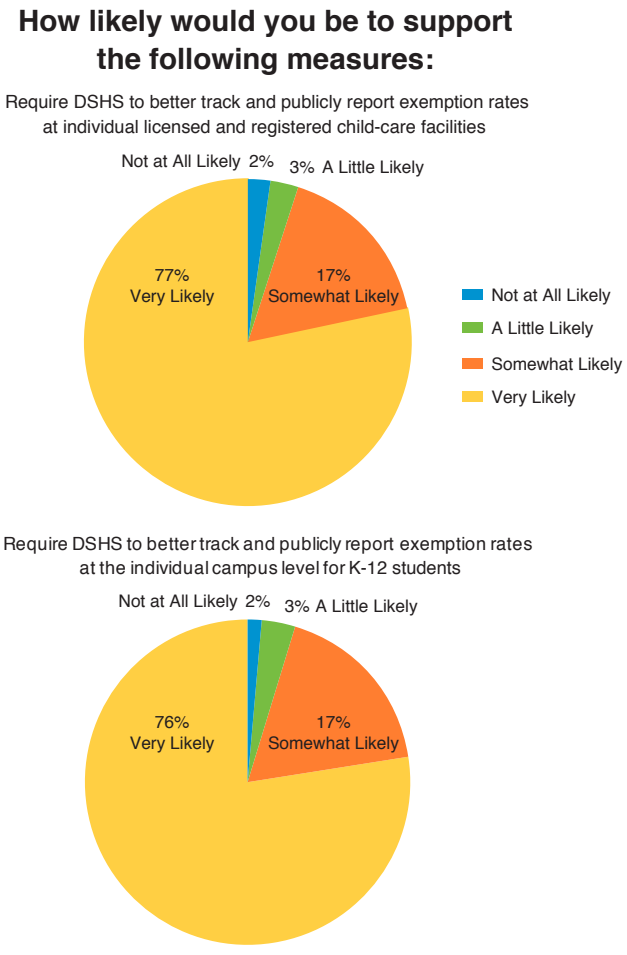


Survey respondents overwhelmingly agreed or strongly agreed that parents interested in seeking a non-medical exemption should first have to undergo education and/or training on the risks and benefits of vaccination (95 percent) or be counseled by a healthcare provider (91 percent).

Improve data collection and reporting of both non-medical exemptions and vaccination rates at the campus level. Many Texas children cannot receive vaccines because of medical conditions, such as allergies or cancer. Children with severely weakened immune systems – such as those undergoing chemotherapy or who have received transplants – are especially vulnerable because of their increased risk of severe disease or even death as a result of vaccine-preventable illnesses. Making this kind of de-identified, aggregated information available to the public not just at the district level, but at the campus level as well would provide families with the information they need to make an informed choice about where to send their children to school.

It will also help to inform those agencies or organizations working to improve immunization rates on where resources should be deployed in their communities. In fact, 96 percent of survey respondents agreed or strongly agreed that having access to statistics on the percentage of children in a community who are not up to date on vaccinations, including those who have claimed exemptions, would be useful in preventative health efforts, such as launching educational campaigns in targeted communities.

Figure 11. Likelihood that respondents to TIP's biennial survey would support measures to make campus-level rates more transparent, 2016



More than 75 percent of respondents to TIP's biennial survey said that they would be "very likely" to support legislation that would require the state health department to publicly report de-identified exemption rates for vaccine requirements for both child-care facilities and schools with grades kindergarten through 12th grade.

Improve the efficiency of the Texas immunization registry, ImmTrac.

Highlights

- Immunization information systems (IIS) like the Texas immunization registry, ImmTrac, help to improve vaccination rates by helping providers access more complete vaccination records for their patients, as well as serve as a backup for those who may have lost their immunization histories but need them for significant events, such as college enrollment and/or enlistment in the military.
- Texas is one of only four states that requires explicit consent to participate in the immunization registry, known as "opt-in." Most states automatically enroll participants unless they request to be excluded, known as "opt-out."
- By switching from an "opt-in" system to an "opt-out" system, Texas could save roughly $1 million a year.
- While enrollment is high among young children – 84 percent of Texans under age 6 have at least two doses recorded in the registry – participation drops off during adolescence and for adults.

Background

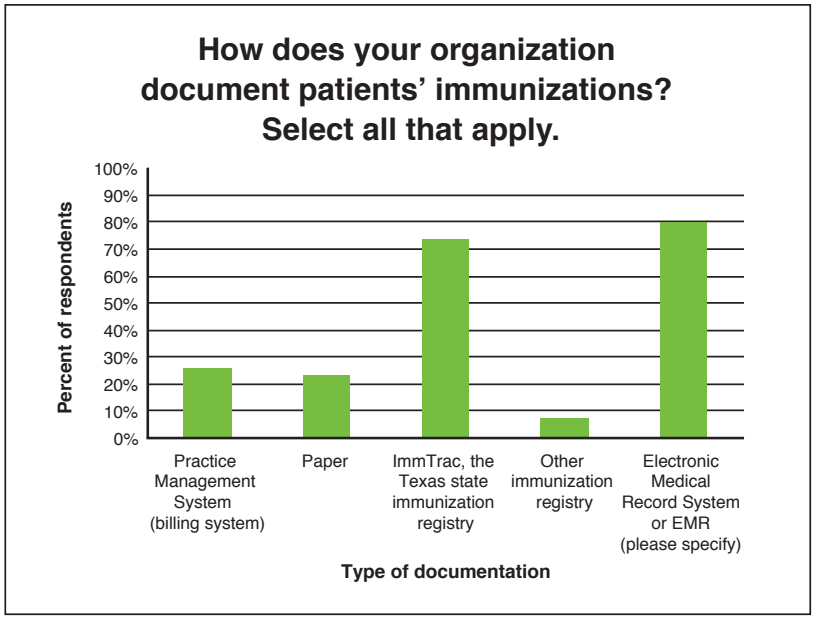
Immunization information systems (IIS), commonly referred to as immunization registries, are confidential online databases that store vaccine doses administered by providers in a given state or community. At the individual level, they allow immunization records to be kept secure and consolidated in order to allow providers to access more complete immunization histories of their patients and to reduce unnecessary revaccination in the event of lost or incomplete records. At the community level, they assist in guiding public health agencies during times of emergencies or outbreaks, or in efforts to protect their communities from vaccine-preventable diseases. These systems are a recommended best practice by The Guide to Community Preventative Services (commonly known as The Community Guide) and have been been shown to be effective at improving immunization rates due to their various capabilities and applications.[43]

All 50 states have immunization registries, though functionality of the systems vary. Texas' statewide immunization registry, ImmTrac, has more than 6,700 providers actively submitting data into the system[44] and has undergone several enhancements since its initial launch, including improvements in interoperability with electronic health records systems (EHR) and expansion of the registry to include adult immunization histories. The state health department continues to improve the registry based on feedback from stakeholders, but challenges remain.

As more providers' offices and healthcare systems adopt EHR, more are able to upload immunization histories electronically – in fact, according to the state health department, roughly 80 percent of enrolled providers do. For those without compatible EHR, however, vaccine doses must be entered manually through a web application, which can be time intensive, but even stakeholders whose EHR does upload to ImmTrac often experience some issues, including the following comments received by respondents in TIP's biennial survey:

- *"[It] would be very helpful to have ImmTrac push information to the providers too." - Survey Respondent, Tarrant County*
- *"It is a one-way exchange - the EMR populates ImmTrac, but ImmTrac does not communicate back with the EMR." - Survey Respondent, Harris County*
- *"Parents frequently want to register their children without an immunization record and we rely on ImmTrac; however, a lot of providers don't input their data into ImmTrac." - Survey Respondent, Atascosa County*
- *"ImmTrac often is inaccurate - the same dose of vaccine will be entered into the system multiple times, making it look as if the child has had more vaccine doses than he's really had." - Survey Respondent, Harris County*

Figure 12. Ways in which respondents to TIP's biennial survey document immunization histories at their clinic sites, 2016



57 percent of respondents to TIP's biennial survey in 2016 said lack of provider participation in ImmTrac is a "very important" barrier to maintaining high vaccination rates, up from just 44 percent in 2014.

Immunization Priorities

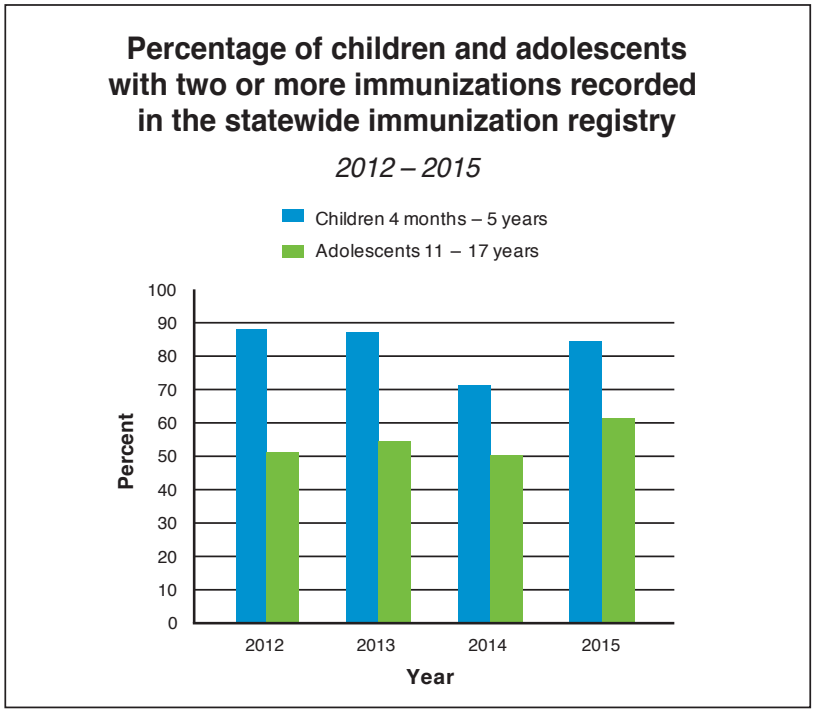
Stakeholders in both the survey and town hall meetings expressed concern that not enough providers are actively participating in ImmTrac, making it difficult to find out what vaccines a patient might need. Among survey respondents who said they administer vaccines, a quarter of respondents said they do not document patients' immunizations in ImmTrac – in large part because of the time needed to interact with the platform. Among those who reported not using ImmTrac, the reasons given varied, but included:

- *"We have our own electronic system." Survey Respondent, Collin County*
- *"WAY too time consuming. Would need to hire an extra staff member just for this data entry." Survey Respondent, Dallas County*
- *"We use ImmTrac frequently but manpower is often short, and we just don't have the time or the personnel to do this." Survey Respondent, Harris County*

Furthermore, Texas is one of only four states with systems that require explicit (rather than implicit) consent in order for children's records to be included. While most states have an opt-out system, where individuals are automatically enrolled unless they opt-out, Texans must fill out written consent to participate in the program (known as "opt-in"), and children must re-consent once they become adults in order to keep their records stored in the registry. The cost of having an opt-in system is more than just a barrier to participation; it also increases the cost of medical care in the state. According to one estimate, explicit written consent costs roughly $2.24 per child enrolled in the system, whereas an opt-out system would result in an estimated cost of just $0.29 per child.[45]

While initial enrollment for ImmTrac is relatively high for both children and adolescents, not all of the recorded immunization histories in the registry are complete. In 2015, parents of 92 percent of Texas children under six consented for their children's immunization histories to be in the statewide registry, but only 84 percent of these children had at least two vaccine doses recorded. (Figure 13). While this represents the majority of children, it is still below the Healthy People 2020 Objective of 95 percent. Adolescents, on the other hand, see higher overall enrollment but lower active participation. In 2015, roughly 100 percent of adolescents were enrolled in the system, yet only 61 percent had at least two doses recorded. Adult enrollment is significantly lower. In 2015, only 3 percent of adults in Texas enrolled in ImmTrac at all, and only 2 percent had at least 1 vaccine dose in the registry.[46] Stakeholders cited the lack of patient immunization history data as a primary reason for not wanting to participate in the registry.

Figure 13.



Source: Centers for Disease Control and Prevention, IIS Annual Report, 2012-2015

According to the 2015 IIS Annual Report (IISAR), 84 percent of Texas children aged 4 months through 5 years had two or more immunizations in ImmTrac, short of the Healthy People 2020 Objective of 95 percent.

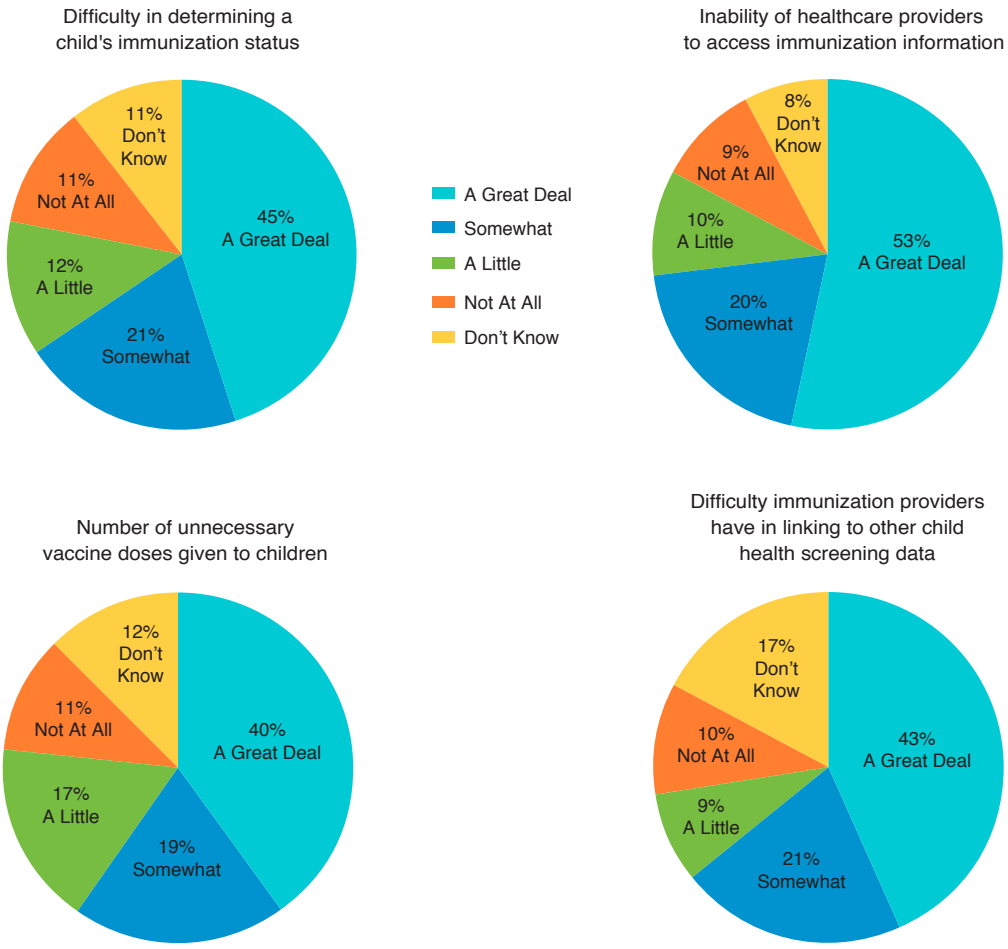
A replacement system currently under development by the state health department will modernize ImmTrac and increase its functionality. Among the planned upgrades, the new system will not only be able to take in data from electronic health systems, it will also be able to communicate information back to these systems. Under the current system, if providers want to update their files with patient immunization histories in ImmTrac, they must do so manually. The bi-directional data transfers of the new system will allow for more complete medical records for patients, as well as reduce the burden on offices in updating their files. Additionally, the replacement system will have more reminder/recall capabilities and reporting functions, and will be more user-friendly for both clinics and schools. For providers enrolled in the Vaccines for Children program, the improved IIS will also be combined with the program's Electronic Vaccine Inventory System (EVI) and will include inventory functionality as well as more streamlined reporting processes for providers. The new system will be released in stages in the near future and is expected to address many of the challenges identified by stakeholders.

Recommendations

Change ImmTrac from an "opt-in" to an "opt-out" system. The current enrollment process for the "opt-in" system is laborious and expensive. Converting the registry to an "opt-out" system would save Texas more than $1 million a year by significantly reducing the amount of time and resources involved in enrolling individuals in the registry – while still maintaining the privacy of those enrolled and respecting the wishes of those who do not wish to be included.[47] It's important to note that in this new process, while enrollment would be presumed, it would not be mandatory; individuals would still be given the option not to participate. These individuals would be filtered out at the first stage of the enrollment process, guaranteeing that their data would not be entered into the registry and excluding them from any immunization reminders or recall messages.

Stakeholders in TIP's biennial survey and in the town hall meetings overwhelmingly support making ImmTrac "opt-out," citing the current process' effect on quality of patient care. An "opt-out" process would alleviate some of the burden shouldered by medical teams, allowing more providers to participate and increasing the number of doses recorded in the system and the accuracy of the immunization histories included. This would, in turn, allow providers to access more complete immunization records, improving the quality of care for patients.

Figure 14. How the opt-in process affects immunization-related issues, according to respondents to TIP's biennial survey, 2016



83 percent of survey respondents said that the "opt in" process contributes to the inability of healthcare providers to access immunization information, and 78 percent said that it contributes to difficulties in determining a child's immunization status.

Invest in technology to support greater interoperability between ImmTrac and electronic health records systems (EHR). Major advances have been made in the way ImmTrac interacts with various EHRs, but the labor involved in interacting with the registry is still a significant barrier for many healthcare settings. ImmTrac should be improved to allow for bidirectional communication – making it able to both send and receive information from EHRs – as well as communicate with more EHR systems. Enhancing the system's interoperability would make it easier for providers and their medical teams to report immunization histories, thus increasing the registry's data quality and utilization, as well as reduce medical costs by saving valuable clinical personnel time and costs associated with unnecessary re-vaccination.

Encourage the state health department to develop a plan to provide training for providers and medical teams on the benefits and use of ImmTrac and its replacement system. According to stakeholders, many providers do not fully participate ImmTrac because they do not know how or do not see how it benefits them or their patients. Training them and their medical teams on why and how to use the system could increase the number of providers actively reporting to and referencing the registry, leading to improved patient care. Potential strategies in the plan could include tool kits to help providers get started using the system, webinars on the various features and how they support immunization practices, and tip sheets addressing frequently asked questions. Special emphasis should be placed on reaching out to providers who administer vaccines to adolescents and adults to encourage their participation in obtaining consent from patients and actively inputting records into the system.

Identify and implement strategies to prevent HPV-related cancers.

Highlights

- Thousands of HPV-related diseases and cancers occur every year in Texas, costing the state $170 million annually.
- A safe and effective vaccine is available that can protect young people from six different kinds of cancer.
- Every year that vaccination rates continue to be low, thousands of U.S. adolescents will go on to develop preventable cancers.

Background

The human papillomavirus (HPV) is a common sexually transmitted infection. So common, in fact, that nearly all sexually active adults will be exposed to HPV at some point in their lifetime, and roughly half of all new cases occur in young people under the age of 25 – many after only having a single sexual partner.[48]

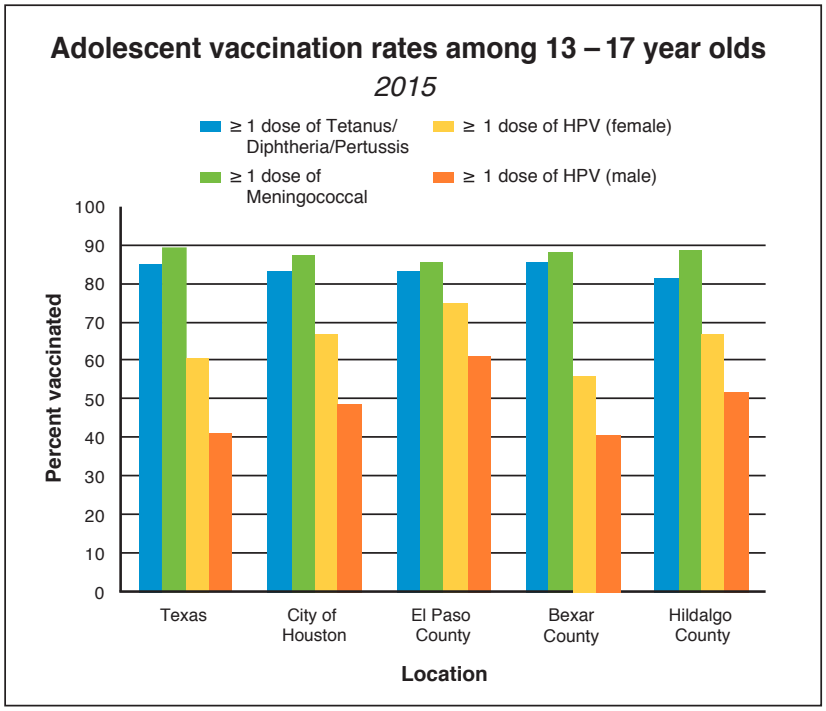
While some strains can cause genital warts, the major concern regarding HPV infection is its link to cancer. HPV is associated with roughly five percent of all cancers worldwide[49] – specifically, six different types of cancer in men and women: cervical, oropharyngeal (a type of "head and neck" cancer), anal, penile, vulvar and vaginal cancer. While the vast majority of HPV infections clear up without any symptoms, dozens of strains exist, and individuals can become infected with different strains over time. Currently there is no way of knowing who will be able to clear an HPV infection without incident and who will go on to develop a chronic infection that leads to cancer.[50]

The burden of HPV-related disease in Texas is substantial. From 2009-2013 there were nearly 10,500 cases of cancers associated with HPV in Texas, and roughly 2,900 deaths.[51] Every year, HPV-related diseases cost roughly $170 million in Texas and $8 billion nationwide, despite the availability of a safe and effective vaccine to prevent the most serious cancer-causing types.[52,53]

The Advisory Committee on Immunization Practices (ACIP) first began recommending the HPV vaccine for girls in 2006[54] and expanded its recommendation to include boys a few years later.[55] Now, all adolescents aged 11-12 are advised to get vaccinated against HPV. In October 2016, the panel voted to change the number and timing of doses for the HPV vaccine from three doses to two for those who start the series before turning 15 years old.[56] Because of the recency of this change at the time of this report's publication, it is not yet possible to estimate how many adolescent Texans are considered completely vaccinated against HPV under the new guidelines with the data available.

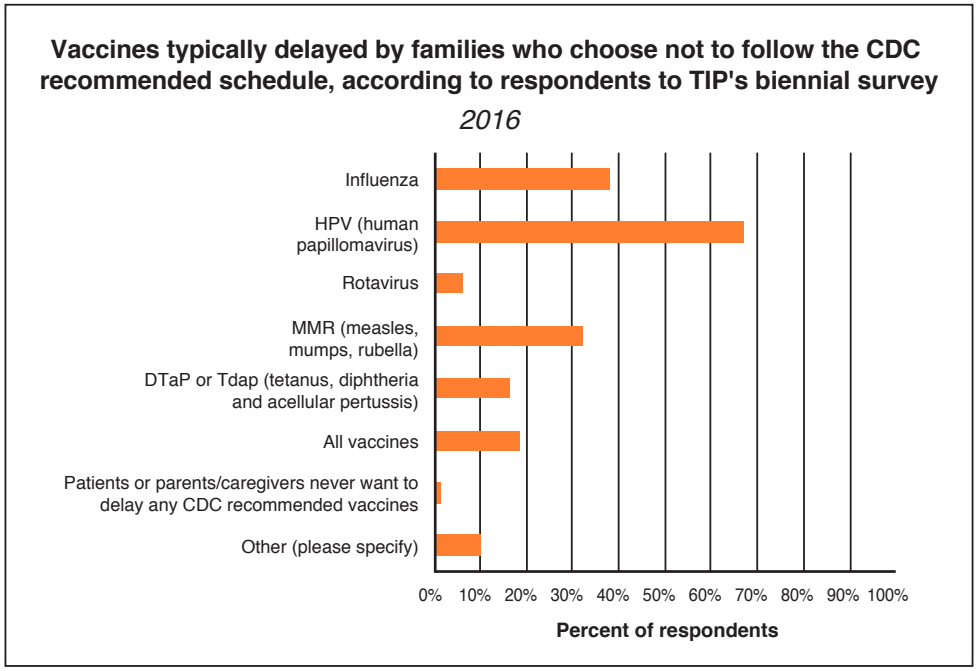
That said, only 60 percent of young women in Texas and 41 percent of young men have received at least one dose of HPV. These numbers pale in comparison to coverage rates for other adolescent vaccines like meningococcal disease and pertussis – 85 percent and 90 percent respectively[57] – yet HPV-related cancers kill far more people in Texas than meningitis and pertussis combined (Figure 17).[58] For every year that HPV vaccination rates continue to be low, an estimated 4,400 women in the U.S. will go on to develop cervical cancer who otherwise might not have.[59] That doesn't even include the scores who will develop other preventable cancers caused by HPV, such as head and neck cancer.

Figure 15.



Source: Centers for Disease Control and Prevention, National Immunization Survey, 2015

Figure 16.

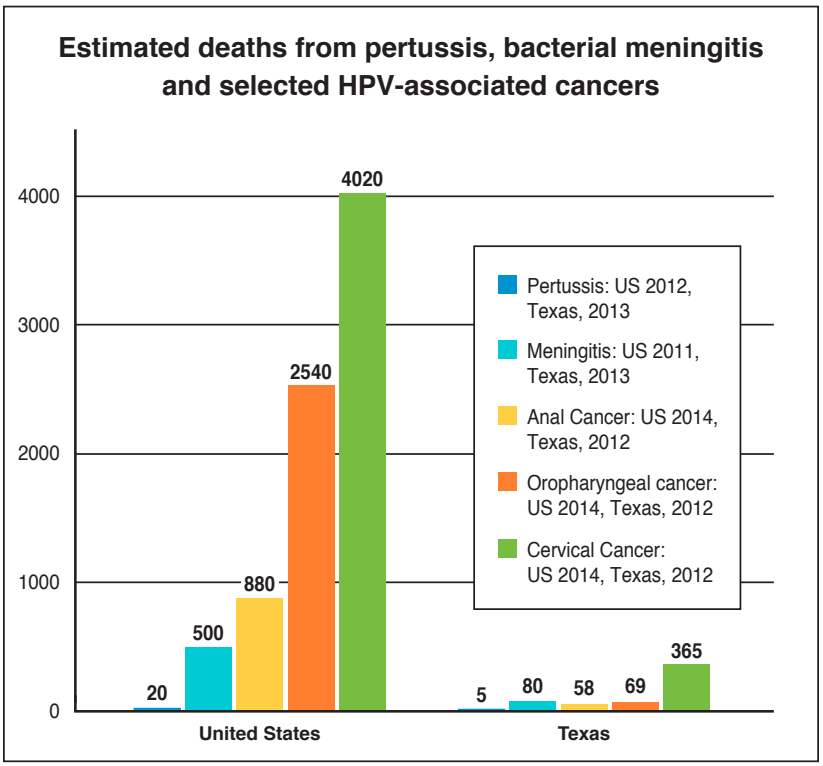


Respondents identifying as healthcare providers in TIP's biennial survey overwhelmingly cited the HPV vaccine as the vaccine most typically delayed by families.

"When parents decline the HPV vaccine, it seems to be mostly due to the stigma and the notion "my child doesn't need that yet..." - or others who just seem to have misinformation and fear that the vaccine is harmful and probably won't ever get it - they often say "we don't believe in that" or "I've just read too many bad things about it..." I'm also shocked when I hear of other doctors that don't recommend it"

– Survey Respondent, Dallas County

Figure 17.

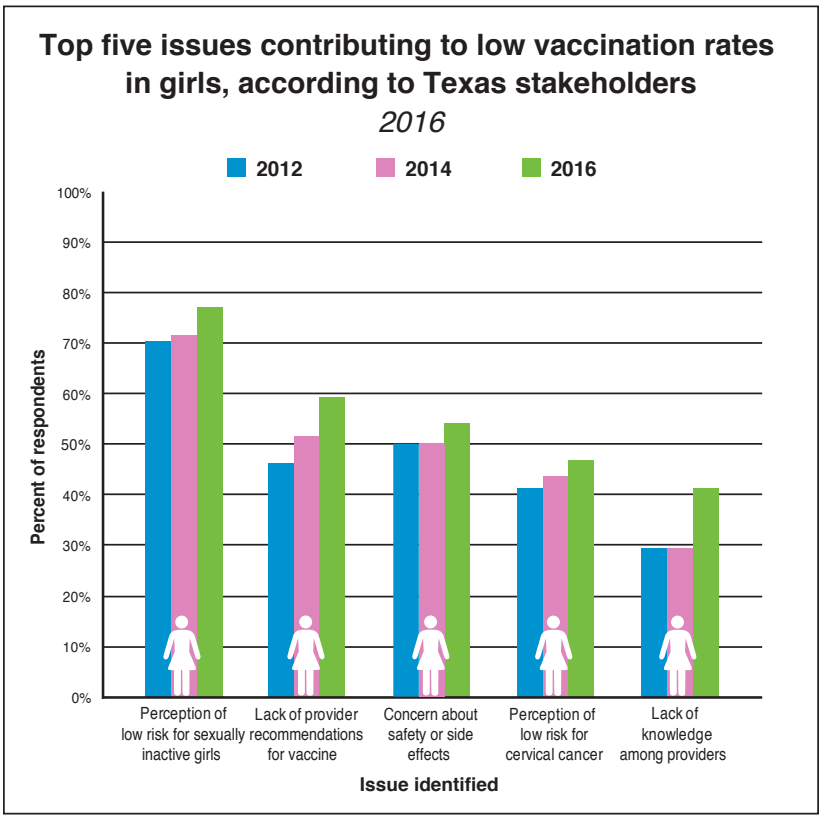


Source: University of Texas MD Anderson Cancer Center, HPV Vaccine Uptake in Texas Pediatric Care Settings: 2014-2015 Environmental Scan Report

HPV vaccination coverage rates vary based on race/ethnicity and income level. In Texas, low-income adolescents and minorities and those living in rural areas are actually more likely to be vaccinated against HPV than their more affluent and non-Hispanic white counterparts. In 2015, 72 percent of adolescent girls and 53 percent of boys living below the poverty line in Texas had received at least one dose of HPV vaccine, compared with just 55 percent of girls and 35 percent of boys living at the poverty line or above. Hispanics and non-Hispanic blacks in Texas also had higher coverage rates than non-Hispanic whites. Those living in the suburbs were less likely than their inner-city or rural counterparts to have received the vaccine.[60]

Stakeholders participating in both TIP's biennial survey and town hall meetings expressed concern over the low HPV vaccination rates in both girls and boys. The greatest barrier identified by stakeholders was a misperception among families and some healthcare providers that the HPV vaccine is unnecessary for adolescents who are not yet sexually active (Figures 18 and 19). Many stakeholders cited better education among healthcare professionals as the key to combating this and other misconceptions, with special emphasis on the need for better training for healthcare professionals on HPV-related diseases and on strategies to give a stronger recommendation for the vaccine. Similarly, many stakeholders suggested changing the way medical and public health professionals talked about HPV, framing it not in the context of sex but as a cancer-prevention vaccine.

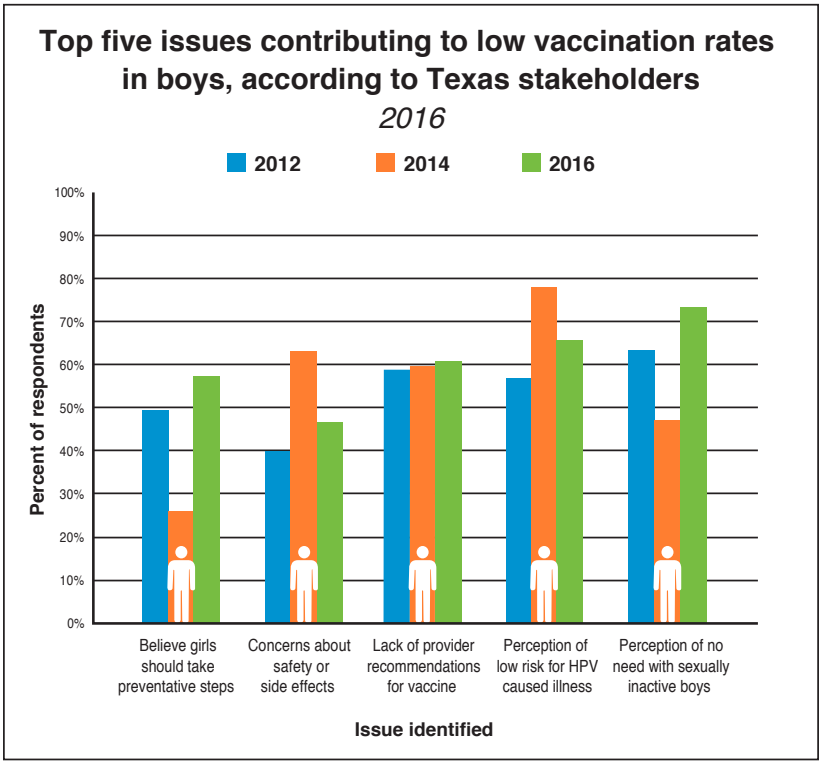
Figure 18.



"In my experience culture plays a large part in the low vaccination rate. Many see the HPV vaccine as an STD vaccine not a cancer-prevention vaccine. Sex in some cultures is a taboo subject. I feel individuals such as Community Health Workers are important in the education of parents about the HPV vaccine. This can help to dispel any myths or correct misinformation."

– Survey Respondent, Hidalgo County

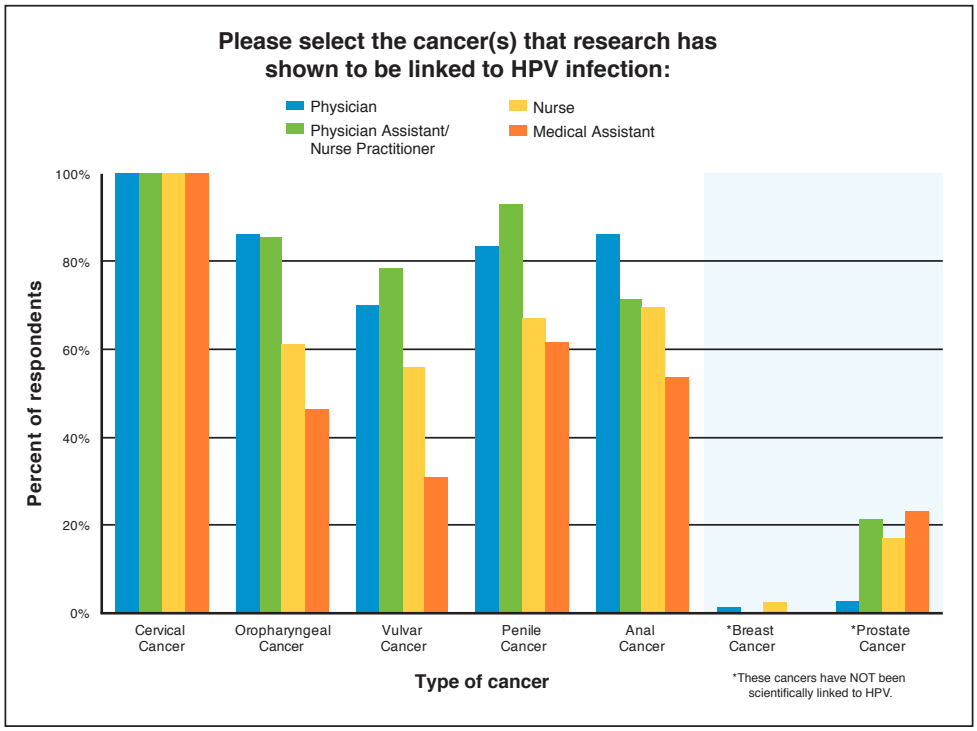
Figure 19.



Recommendations

Further educate healthcare providers on HPV-related cancers, CDC recommendations and vaccine safety. Many healthcare providers are not yet fully informed about HPV-related cancers, especially those that affect men. Given the vital role providers play in combating misinformation and recommending vaccines, it's important that more targeted educational initiatives be conducted to ensure that all levels of clinical staff are up-to-date on the latest information regarding HPV, vaccine recommendations and research conducted on the vaccine's safety.

Figure 20. Knowledge of healthcare personnel responding to TIP's biennial survey regarding HPV-related cancers, 2016



While all healthcare providers responding to TIP's biennial survey correctly identified cervical cancer as linked to HPV infection, those who were able to identify the remaining five cancers varied greatly. Similarly, many non-physician providers incorrectly identified prostate cancer as a type scientifically linked HPV.

Immunization Priorities

"My daughter was offered the HPV vaccine at her 13 year annual exam, but I didn't get enough info. I was told it was optional, so we decided not to take it. I didn't get enough information."

– Survey Respondent, Potter County

Encourage healthcare providers to give a strong, bundled recommendation. When parents who had chosen not to vaccinate their sons or daughters against HPV were asked their reasons why, one of the most commonly cited reasons was that the provider had not recommended the vaccine.[61] Many stakeholders in the survey and during town hall meetings also noted that when providers do recommend the vaccine, they often do so in a way that implies the vaccine is more optional or less important than other adolescent vaccines because it is not required for school entry.

To increase HPV vaccination uptake, the CDC has issued guidance for healthcare providers on how to provide a strong and bundled recommendation for HPV vaccination. Under this guidance, providers should recommend the HPV vaccine on the same day and in the same way that they recommend other adolescent vaccines.[62] For example, providers can say "There are three vaccines recommended for your child today to protect against bacterial meningitis, HPV-related cancers and whooping cough. Do you have any questions?" Providers should also emphasize the importance of cancer prevention when recommending the vaccine, rather than focusing on how the virus is transmitted.

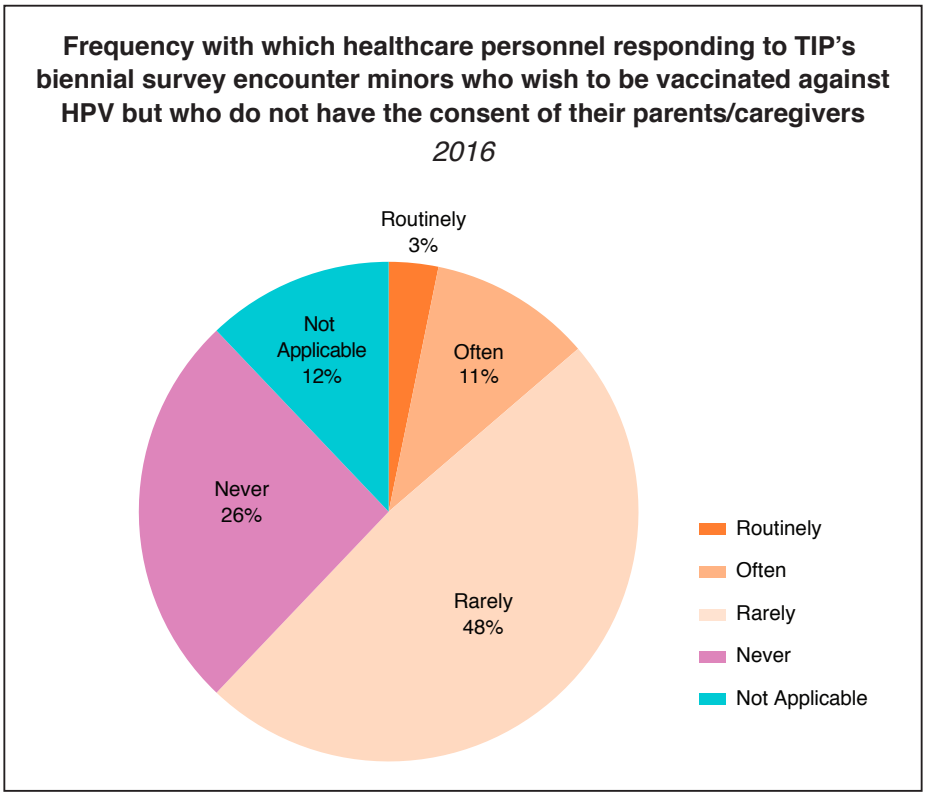
Reduce missed opportunities in clinical settings. The CDC estimates that in 2012, if adolescent girls had received an HPV vaccine when they received at least one other vaccine, vaccination coverage for at least one dose of HPV among girls would have reached nearly 93 percent nationwide.[63] A number of evidence-based strategies are available to clinics and providers to help them reduce missed opportunities when a patient is seen in the office. In addition to tools like provider reminders and standing orders, providers should make every visit an immunization visit by assessing a patient's vaccination history at every visit, including sick visits.

Collect and report HPV vaccination coverage information at the county level to better understand coverage gaps. Currently, vaccination coverage rates are only available publicly for the state as a whole and select counties or metro areas. Having more information at the local level could help organizations deploy resources in a smarter and more cost-effective way.

Allow minors ages 14 years and older to consent to cancer-prevention vaccines. Like all other 50 states and the District of Columbia, Texas already allows minors to consent for their own STI testing and treatment. Allowing them to consent to cancer-prevention vaccines, such as the HPV and hepatitis b vaccines, would extend this right to allow them to prevent certain STIs as well.

Not only would this provide minors with the opportunity to protect themselves from certain cancers, but also other opportunities to administer such vaccines to this age group, such as school-based immunization programs, could be done more easily.

Figure 21.



The majority of providers responding to TIP's biennial survey said they encounter minors who want to be vaccinated against HPV but whose parents refuse, with 14 percent of those providers encountering these minors routinely or often.

Identify and implement strategies to prevent influenza.

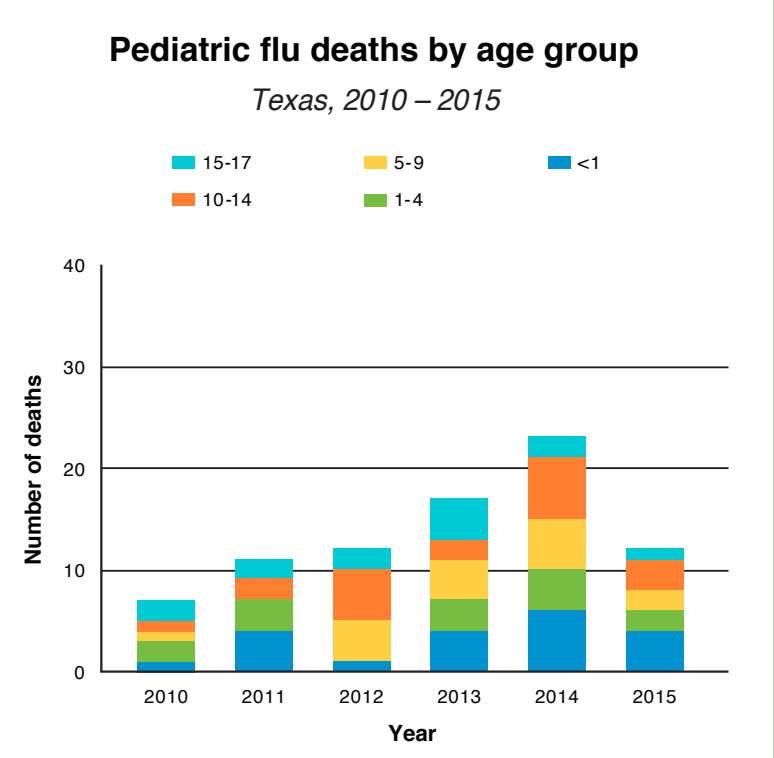
Highlights

- Flu kills an average of 23,000 people in the U.S. every year – more than all other vaccine-preventable diseases combined.
- The flu vaccine is the best way to prevent the flu, yet vaccination coverage rates in Texas remain low, especially among young adults.
- The vast majority of stakeholders surveyed support requiring an annual flu vaccine for students K-12 and in childcare settings.

Background

Influenza kills more than 23,000 people in the United States on average each year – more than all other vaccine-preventable diseases combined.[64] Between 2007 and 2015, 136 Texas children died from flu-related causes, compared with 18 pertussis deaths (all ages) and 36 meningococcal deaths (all ages) in the same time frame.[65,66] The economic burden of annual flu epidemics is similarly staggering. Each year, flu is estimated to cost the U.S. $10.4 billion in direct medical costs and $16.3 billion in lost earnings.[67]

Figure 22.



Source: Texas Department of State Health Services, Influenza-Associated Pediatric Mortality, 2010-2015

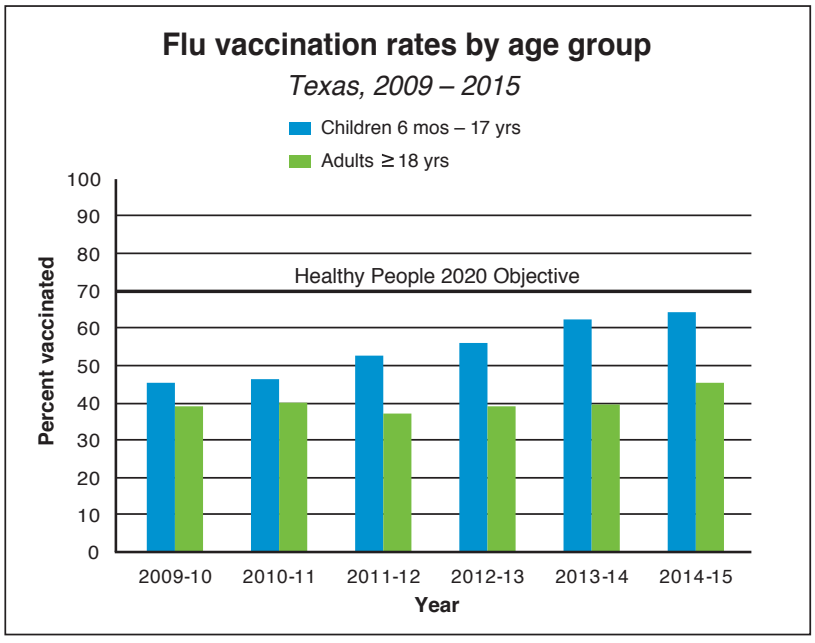
Vaccination continues to be the most effective way to prevent influenza. While the effectiveness of flu vaccination varies from year-to-year, depending on how well circulating strains match the strains included in the vaccine, even mismatched years can see huge benefits from vaccination. During the 2014-2015 flu season, the vaccine was determined to be about 23 percent effective, yet still prevented an estimated 1.9 million illnesses and averted approximately 966,000 flu-related medical visits, not to mention 67,000 flu-related hospitalizations.[68,69]

Immunization Priorities

Since February 2010, the Advisory Committee on Immunization Practices (ACIP) has recommended that everyone over the age of six months be vaccinated against flu annually, yet rates in Texas and nationwide continue to stay well below the Healthy People 2020 Objectives.[70] Healthcare providers responding to TIP's biennial survey overwhelmingly cited the flu vaccine as the most likely CDC-recommended vaccine to be refused by a patient, and coverage rates reflect this.

During the 2015-2016 flu season, about 48 percent of Texans six months and older were vaccinated against flu. Children are more likely to be vaccinated than adults, with 62 percent of those 6 months to 17 years receiving the vaccine, compared with just 43 percent of adults (Figure 23). When broken down even further, young adults aged 18 to 49 are the least likely to get vaccinated against flu with coverage rates at about 36 percent overall (Figure 24). Hispanic and non-Hispanic black populations have lower coverage rates than non-Hispanic whites, though it would appear rates are increasing over time (Figure 25).[71]

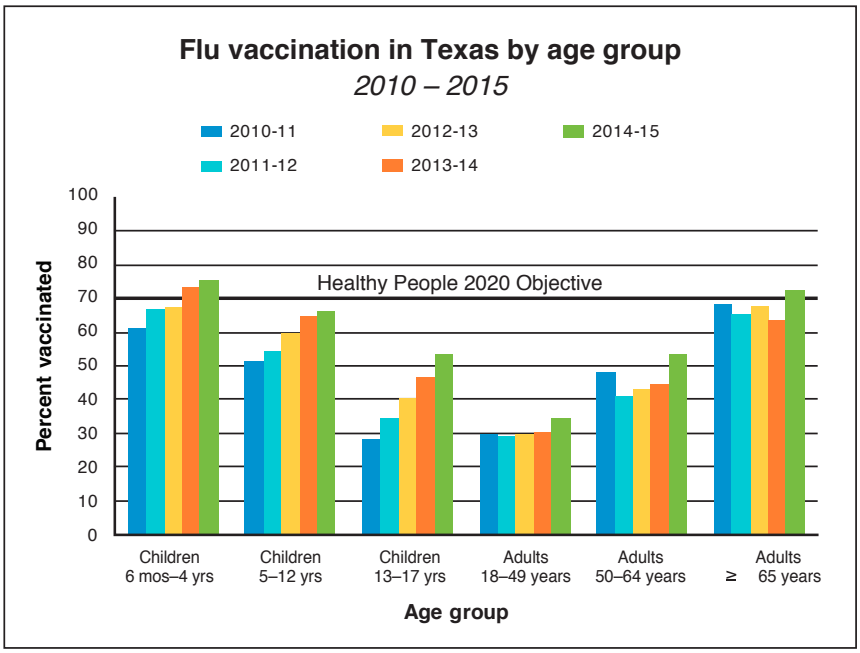
Figure 23.



Source: Centers for Disease Control and Prevention, FluVaxView, 2009-15 influenza seasons

Flu vaccination rates are higher among children than in adults, and rates have increased over the past several years.

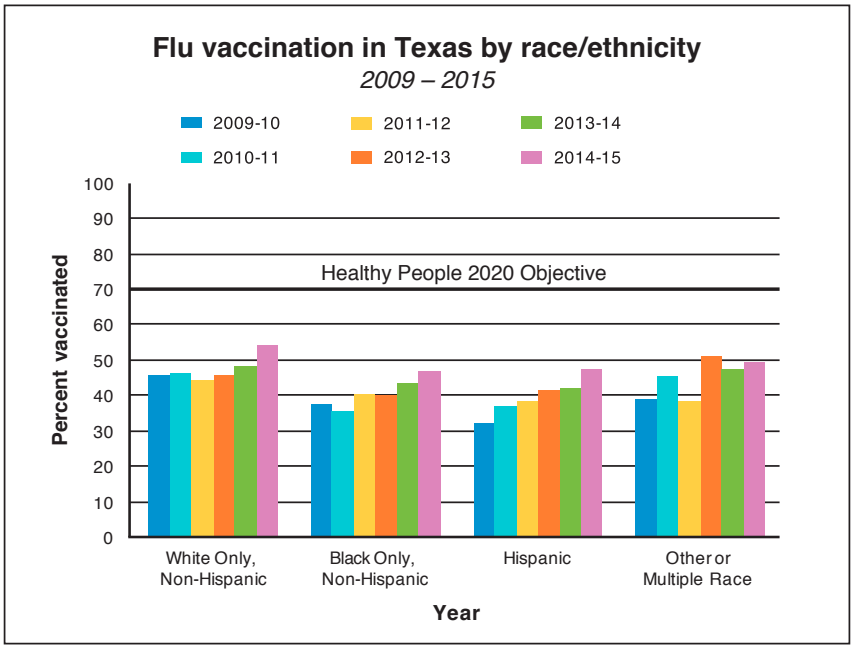
Figure 24.



Source: Centers for Disease Control and Prevention, FluVaxView, 2010-15 influenza seasons

Young adults in Texas, aged 18-49, are the least likely age group to be vaccinated against the flu.

Figure 25.



Source: Centers for Disease Control and Prevention, FluVaxView, 2009-15 influenza seasons

Hispanics and non-Hispanic blacks have the lowest flu vaccination rates in Texas, compared to other races and ethnicities.

Immunization Priorities

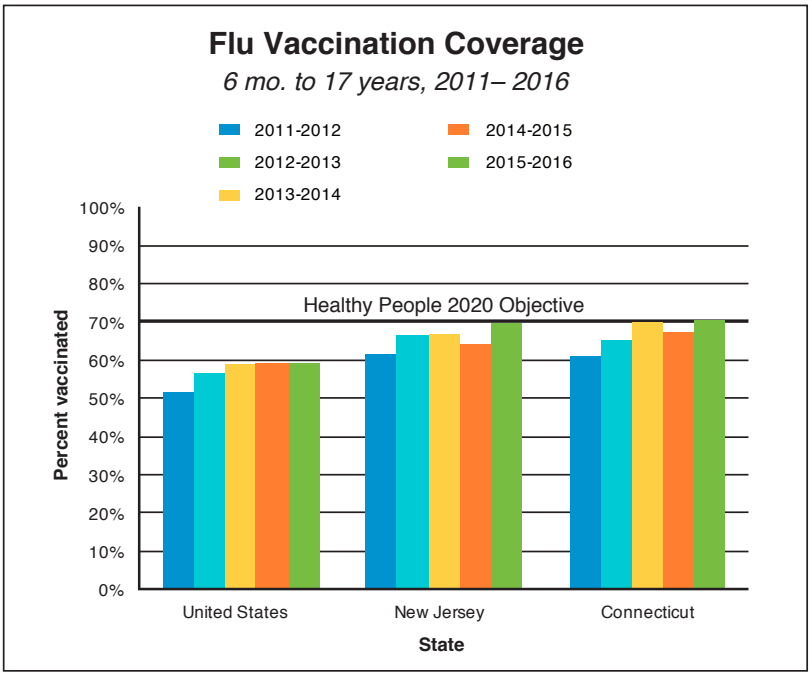
While significant progress has been made among Texas children, there is more work to be done. Flu continues to kill more Texas children than any other vaccine-preventable illness, yet it is too often believed to be a harmless disease. By working to improve vaccination rates in under-protected populations – such as young adults and minority populations – Texas stakeholders could save lives and significantly reduce medical costs associated with the annual flu season.

Recommendations

Require annual flu vaccine for child-care and K-12. An estimated 38 million school days are lost every year because of seasonal flu.[72] Yet despite the success of school vaccine requirements in reducing other vaccine-preventable diseases, no state requires annual influenza vaccination for students kindergarten through 12th grade, and only three states require flu vaccination for child-care facilities: Connecticut, New Jersey and Rhode Island.[73,74]

Rhode Island first began implementing this requirement in August 2015, and so it is too early to determine its effectiveness; however, Connecticut and New Jersey have maintained flu vaccination rates higher than the national average in the years since the implementation of their requirements, 2011 and 2008 respectively (Figure 26).[75] Given the strong evidence supporting vaccine requirements for educational settings, requiring influenza vaccination for all students in child-care and K-12 settings could improve coverage rates for Texas children. Requiring the flu vaccine also has strong support among immunization stakeholders. Among those responding to TIP's biennial survey, 72 percent said they would be "Very Likely" to support a flu vaccine requirement in child-care settings, and 67 percent responded the same for kindergarten through 12th grade.

Figure 26.



New Jersey and Connecticut both require flu vaccination for child-care settings and have had childhood vaccination rates consistently higher than the national average.

Implement multi-pronged initiatives targeting age groups with coverage gaps and those who influence them. There are several interventions recommended by The Community Guide to improve influenza immunization rates that can be implemented in both clinical and non-clinical settings:

- Worksite flu vaccination programs, for example, where flu vaccines are promoted to employee and/or offered on-site at a reduced cost, have been shown to increase uptake by a median of 21 percentage points.[76,77]
- In clinical settings and healthcare systems, a number of evidence-based strategies could increase influenza vaccination rates among patients, including standing orders, provider reminders, and reminder and recall systems.[78,79,80]
- Implementing community-based interventions that increase demand for vaccines (such as providing incentives, manual outreach and tracking, or reminder and recall systems) in conjunction with programs that improve access (such as home visits and reducing out-of-pocket costs) has also been shown to increase flu vaccination coverage.
- School-based programs can improve influenza vaccination rates among school-aged children and adolescents by combining two or more of the following activities: offering education on the vaccine, referring un-immunized children to vaccination providers, assessing and tracking vaccination statuses, and providing vaccines on-site to the children.[82]

Reduce barriers to accessing immunizations throughout the lifespan.

Highlights

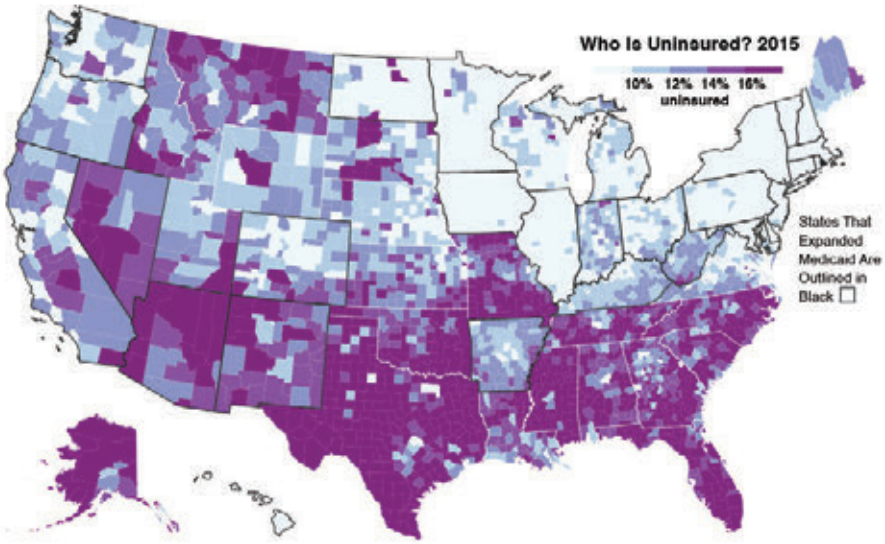
- Roughly 1 in 10 Texas children and 1 in 5 Texas adults under 65 do not have health insurance.
- While safety net programs, such as Vaccines for Children and the Adult Safety Net, help provide vaccines to those who can't afford them, many Texans, especially in rural areas, still can't access them.

Background

Texas is the second largest state in the U.S. in terms of both land area and population. More than 25 million people live across 268,500 square miles.[83,84] With so many residents and so much ground to cover, access to vaccines can be a challenge.

Under the Affordable Care Act (ACA), the federal government requires health insurance companies to cover the cost of recommended immunizations at no cost to the patient.[85] But without adequate health insurance, it can be difficult for individuals to access this basic preventive service – a reality all too familiar for many Texans. Over 4 million people in Texas lack health insurance, more than any other state. This translates to roughly 1 in 10 Texas children and 1 in 5 adults under 65 being uninsured.[86] The ACA also included provisions to help states expand Medicaid to allow more individuals to access health insurance through public programs, but Texas chose not to participate.

Figure 27. Map of the uninsured rate for counties throughout the United States, 2015



Source: The New York Times, 2015

Safety net programs exist in Texas to help those without insurance to access vaccines. The Vaccines for Children (VFC) program distributes vaccines to healthcare facilities at no cost to them, so that they can administer the vaccines to uninsured and underinsured children, as well as those participating in public programs like Medicaid.[87] Thousands of healthcare providers throughout the state are enrolled in the program.[88] Similarly, the Adult Safety Net (ASN) program provides vaccines to health care providers so they may vaccinate uninsured adults aged 19 and older. While these programs do much to combat access issues, stakeholders in TIP's biennial survey and town hall meetings noted that there are certain pockets of the state with few or no providers enrolled in the programs, leaving some families to travel long distances to access a participating provider.

Even with these safety net programs, however, many struggle to access immunizations, in part because of a lack of consistent primary care. Nearly half of Texas children and a quarter of adults in Texas don't have a usual place of medical care, often because of costs.[89,90,91] Without consistent preventive care, it can be difficult for individuals, especially adults, to know what vaccines are needed, let alone access them. This issue is compounded by a lack of adult participation in the statewide immunization registry, ImmTrac. Only a tiny fraction of Texas adults have records in the registry, due to a lack of adult vaccinators obtaining enrollment consent and inputting their patients' immunization histories into the registry. The result is that when adults do access primary care, providers do not have access to complete immunization histories. These challenges are even greater in rural parts of the state, where residents are more likely to live below the poverty

"The community I live in is rural and there is only one physician's office and a health department. To see the doctor you have to be their patient, and at the health department we only see uninsured, under-insured clients. Most clients have to travel 25-30 miles to get vaccines. It will take half of your day to do this. Also, the client will miss school and the parent client will miss school and parent or guardian will have to miss work to go out of town for vaccines."

– Survey Respondent, Goliad County

line. Of the more than 3 million Texans living in rural areas, nearly 1 in 5 live in poverty. Many stakeholders expressed concern in TIP's biennial survey that for these low-income individuals, administrative fees or lost wages due to time off to drive long distances to receive vaccines can be prohibitive.

The issue is then exacerbated by significant costs as a result of vaccine-preventable disease outbreaks in undervaccinated communities. One study estimated that vaccine-preventable diseases cost the U.S. $9 billion a year. Of that, 80 percent, or $7.1 billion, is due to unvaccinated individuals, specifically adults.[93]

By reducing some of the barriers to vaccination across the lifespan, Texas could not only better protect the health and safety of communities throughout the state, but also significantly cut costs associated with preventable disease.

Recommendations

"People may not have transportation access to attend immunization sites for their families. Also, common clinic hours may not be suitable for some working class people."

– Survey Respondent, Harris County

Expand provider and participant eligibility criteria for assistance programs like the Adult Safety Net program and Medicaid to allow more low-income adults to access vaccines, particularly in rural areas. Many stakeholders discussed, both in the survey and in town hall meetings, that in many Texas communities, low-income adults face significant cost and transportation challenges when seeking a vaccine provider. By expanding public assistance programs to allow for a greater diversity of providers and more inclusive participation criteria, the state could significantly reduce this barrier for uninsured and underinsured adults, improving vaccination coverage for this often underserved population.

"We need to think outside the box! Texas has a lot of nurses that would volunteer to administer vaccines if they were invited to do so. Dept. of Health has very limited availability regarding clinics. This is a nursing issue that Texas RN's could improve upon immensely."

– Survey Respondent, Johnson County

Expand ability of schools, daycares and WIC settings to provide immunizations to students. For many low-income families, the simple act of vaccinating their children can be a large financial burden – even with safety net programs like Vaccines for Children. Especially during the first two years of life, many parents are asked to sacrifice wages in order to spend large amounts of time at the provider's office during the working day. Enacting policies that would allow more schools, daycares and sites for the Special Supplemental Nutrition Program for Women, Infants and Children (WIC) to vaccinate children on site could help eliminate this burden for many families and, in turn, decrease the number of young children falling behind on vaccines during the critical first few years of life.[94,95]

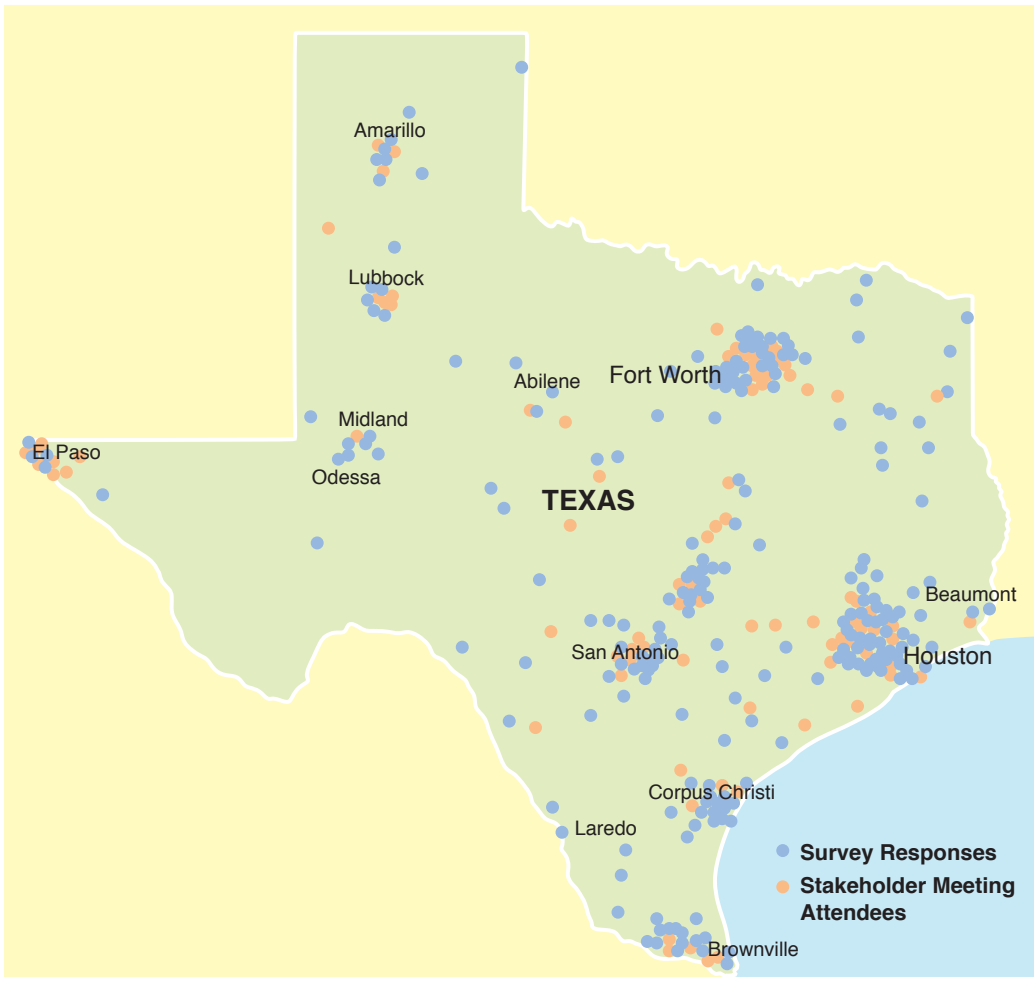
Conclusions

The vast majority of Texas families choose to vaccinate their young children according to the CDC-recommended schedule. However, opportunities still exist to increase rates among adolescents and adults. Misinformation regarding vaccines is a growing concern among Texas stakeholders, as the number of children being opted out of school-required vaccines for non-medical reasons continues to rise. Educating providers and working with state legislators to tighten and clarify non-medical exemptions, as well as provide parents and the public with more local-level information will be vital to maintaining the health and safety of Texas schools and communities. Furthermore, Texas' statewide immunization registry, ImmTrac, is instrumental in preserving immunization histories and improving the quality of care given by providers. While enrollment rates are high among young children, participation declines later in life and is nearly non-existent for adults. By adopting an "opt-out" enrollment process, Texas could save more than $1 million a year, as well as allow for a more useful and efficient registry for healthcare providers to access. Additionally, cancer-causing HPV and influenza sicken and kill more Texans than all other vaccine-preventable diseases combined, yet vaccination rates for these diseases remain low, especially among adolescents and young adults. A combination of strategies involving stakeholders in the community, clinics and state government are needed to combat the spread of these dangerous diseases. Finally, too many individuals in Texas still lack access to vaccines, due to income, geography, or work schedules. It's critical that services be expanded and clinic processes be adapted to allow for more Texans of all ages to access life-saving vaccines. By uniting behind these identified priorities, immunization stakeholders throughout the state can further protect Texas communities from preventable diseases.

Methodology

A convenience sample of 1,392 responses from Texas immunization stakeholders was collected through town hall-style meetings and a survey (Figure 28).

Figure 28. Zip codes of stakeholders attending TIP's town hall meetings and responding to its biennial survey, 2016



Stakeholder Meetings

From January to June of 2016, 14 meetings were held throughout Texas and online. The purpose of these meetings was three-fold:

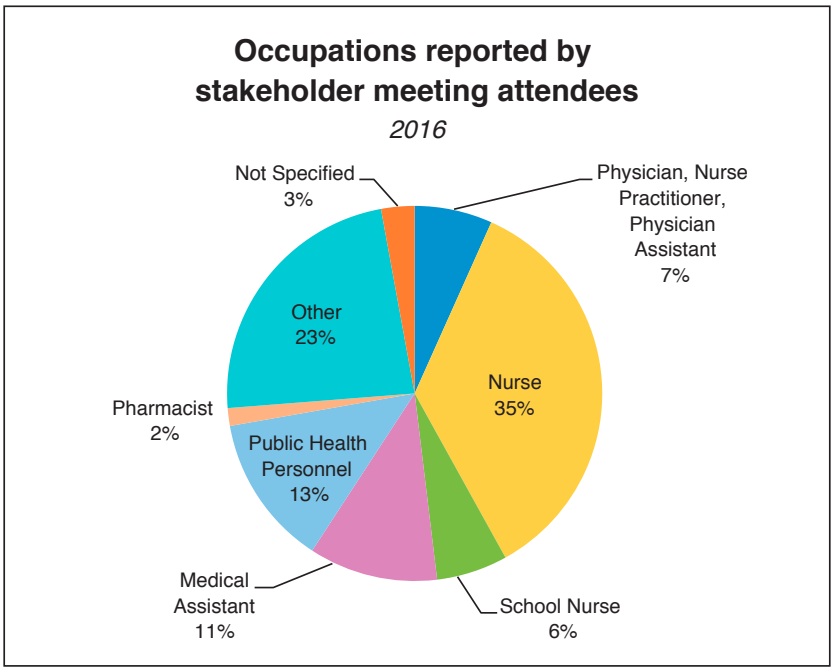
1. Educate immunization stakeholders on updates to the routine vaccination schedule and the laws and policies related to immunizations in Texas.
2. Gather feedback from stakeholders on issues related to immunization coverage.
3. Share information on how stakeholders can become more involved in the policy-making process.

Results:

- A combined total of 729 attendees participated, representing 16 metropolitan markets in Texas as well as some rural areas throughout the state.
- Meeting attendees included healthcare personnel, public health personnel, and pharmacists, as well as representatives from educational institutions (including early childhood programs), insurance companies, the pharmaceutical industry, and professional and non-profit associations (Figure 29).

Since 2008, The Immunization Partnership has held 40 stakeholder meetings in 16 cities, engaging a combined total of more than 1,700 participants.

Figure 29.



Statewide Survey

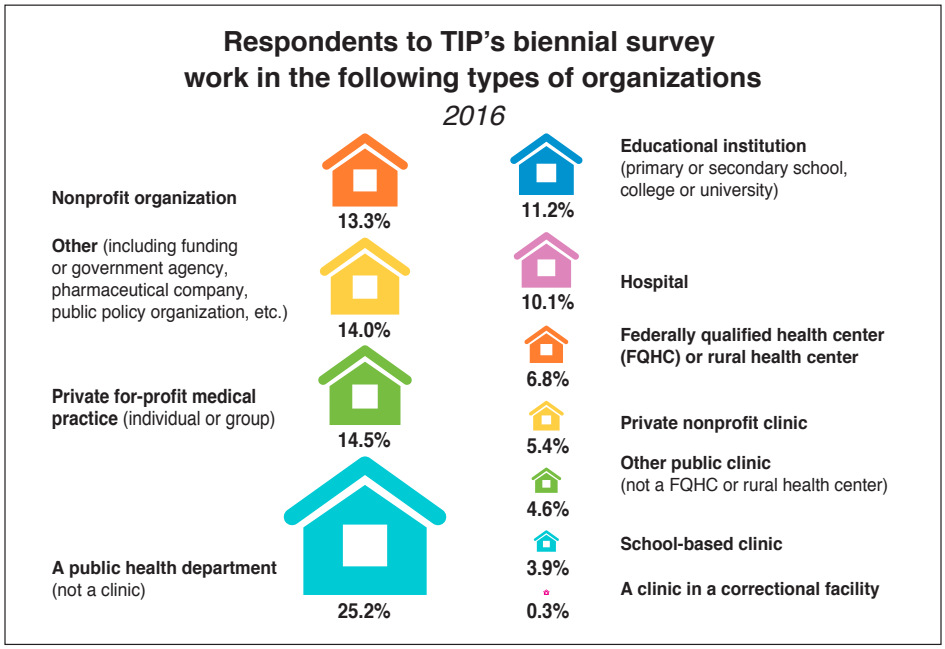
The Immunization Partnership administered a survey to Texas stakeholders from March to July of 2016. The purpose of the survey was to assess the knowledge, attitudes, beliefs and practices of stakeholders with regards to immunization-related issues, priorities, and recommended practices.

Results:

- A total of 663 responses for the survey were collected, and 602 were completed in its entirety (completion rate of 91 percent).
- Respondents represented 80 Texas counties.
- Forty-seven percent of respondents reported working in healthcare settings, and of those, 90.7 percent reported that their organizations administer vaccines.
- Among the survey respondents who identified themselves as a healthcare provider, 40 percent identified themselves as physicians, 50 percent as a nurse or nurse practitioner, 8 percent as medical assistants, 1 percent as physician assistants and 1 percent as other.

This is the fifth such survey distributed by The Immunization Partnership since 2008.

Figure 30.



Recruitment

Participants for both the survey and stakeholder meetings were recruited through a variety of methods:

- E-mail blasts through TIP's supporter database
- Social media platforms: Facebook, Twitter, and LinkedIn
- Direct mailing to immunization providers in key rural counties
- Word of mouth and partner networks
- Follow-up e-mails to TIP event attendees

Incentives

Refreshments and one contact hour of continuing nursing education credit for an hour-long educational presentation were offered at no cost to attendees for all town hall-style stakeholder meetings, with the exception of meetings held in Fort Bend County and online. Survey respondents were given the opportunity to enter a drawing for a $100 gift card.

Appendices

Limitations

The needs assessment conducted to shape the priorities outlined in this document is subject to some limitations. To begin, the data collected in the survey and stakeholder meetings are not representative in the statistical sense. Because of the nature of the research conducted and the scope necessary to provide adequate feedback, a convenience sample was determined to be the most appropriate method of data collection. Individual responses were intended to serve as a guide to help shed light on the complexities of certain immunization-related issues, and as such, the data presented here are not intended to be a full and exhaustive representation of views of Texas immunization stakeholders beyond what is presented in this document. Opinions contained in this document may not necessarily reflect the opinions of The Immunization Partnership. Additionally, because participants were recruited through a variety of direct and indirect methods, some responses may have come from duplicate individuals who both filled out the survey and provided feedback during a stakeholder meeting, and/or whose views may have been influenced by their previous interactions with our organization.

Furthermore, while every effort was made to protect and preserve the confidentiality and dignity of respondents, approval of the research protocol was not sought from an academic internal review board (IRB) before collecting the data.

Resources

For more information on immunizations, please visit the following websites:

American Academy of Pediatrics
http://www2.aap.org/immunization/

Center for Vaccine Awareness and Research at Texas Children's Hospital
http://www.texaschildrens.org/vaccine/

Centers for Disease Control and Prevention: Vaccines and Immunizations
http://www.cdc.gov/vaccines/

College Vaccine Requirements
http://www.CollegeVaccineRequirements.com/

Every Child By Two
http://www.ecbt.org/

ImmTrac: Immunization Information System for Texas
http://www.dshs.state.tx.us/immunize/immtrac/default.shtm

Immunization Action Coalition: Vaccination Information for Healthcare Professionals and the Public
http://www.immunize.org/

Immunization Branch, Texas Department of State Health Services
http://www.dshs.state.tx.us/immunize/

The Immunization Partnership (TIP)
http://www.immunizeUSA.org/

Immunize Texas
http://www.immunizetx.com/

PKIDs (Parents of Kids with Infectious Diseases)
http://www.pkids.org/

Texas Immunization Stakeholder Working Group (TISWG)
http://www.dshs.state.tx.us/immunize/partners/tiswg.shtm

Texas Vaccines for Children Program
http://www.dshs.state.tx.us/immunize/tvfc/default.shtm

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THE
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OUR VISION

A community free from vaccine-preventable diseases

OUR MISSION

To eradicate vaccine-preventable diseases by educating the community, advocating evidence-based public policy, and promoting immunization best practices.

CONTACT US

The Immunization Partnership
Phone: (281) 400-3689
E-mail: info@immunizeUSA.org
www.immunizeUSA.org

For online copies of this report, visit The Immunization Partnership's website at www.immunizeUSA.org.