

Case Study - Texas Vaccines for Children



Texas Vaccines for Children (TVFC)

Project Summary

The Texas Immunization Program identified that a strong provider recommendation at Texas Vaccines for Children (TVFC) clinics could lead to increased HPV immunization rates in adolescents. Ideally, providers should be ordering and administering three doses of HPV vaccine for every one dose of Tdap. The goal of this project was to supply TVFC providers with proven strategies for making a strong recommendation, as well as provide them with a profile of their ordering habits for adolescent platform vaccines. On June 2, 2015, a customized adolescent vaccine ordering profile was generated for each provider using Microsoft mail merge and was distributed via email to approximately 2,400 TVFC providers who serve adolescent populations. Providers were given two data tables including HPV to Tdap ordering ratios as well as total doses ordered in 2013 and 2014 for each adolescent vaccine with a percent increase or decrease. In the months following this intervention, the TVFC program observed a statistically significant increase in our HPV to Tdap vaccine ordering ratio for the entire state. In addition, 142 providers went from ordering no HPV vaccine in June-September of 2014, to placing at least one HPV order in June-September of 2015. We also observed that 959 TVFC providers increased their HPV to Tdap ordering ratio after the intervention. Based on the improvement Texas has observed in HPV vaccine ordering, the customized adolescent vaccine order profiles will be sent to TVFC providers biannually. The second communication was sent out in January 2016 coinciding with Cervical Cancer Awareness Month and mainly focused on increasing the HPV to Tdap ordering ratios.

Background and Issues:

The Advisory Committee on Immunization Practices (ACIP) recommends three adolescent vaccines for boys and girls aged 11-12 years: one dose of tetanus, diphtheria, and acellular pertussis (Tdap) vaccine, two doses of meningococcal vaccine (MCV4), and three doses of HPV vaccine. In Texas, while immunization coverage levels for Tdap and MCV4 vaccine have increased significantly, HPV coverage has not. Despite the safety and effectiveness of the HPV vaccine, less than one third of teens in Texas are fully vaccinated against HPV. The CDC has found that healthcare provider recommendation is the single best predictor of vaccination. Stronger provider recommendation at Texas Vaccines for Children (TVFC) clinics could lead to increased HPV immunization rates in Texas adolescents. Ideally, providers should be ordering and administering three doses of HPV vaccine for every one dose of Tdap.

In 2014 Texas Vaccines for Children (TVFC) providers were ordering far less HPV vaccine than the ideal, 3:1, as indicated by a HPV:Tdap ratio of only 0.9:1. The Texas Immunization Program identified that a strong provider recommendation at Texas Vaccines for Children (TVFC) clinics could lead to increased HPV immunization rates in adolescents. Ideally, providers should be ordering and administering three doses of HPV vaccine for every one dose of Tdap.

Solution:

On June 2, 2015, a customized adolescent vaccine ordering profile was distributed via email to approximately 2,400 TVFC providers who serve adolescent populations. The purpose of the email was to encourage TVFC providers to make a strong recommendation for HPV vaccine and also make providers aware of their recent ordering history profile for vaccines in the adolescent platform. Provider letters reflected two data tables including HPV to Tdap

ordering ratios as well as total doses ordered in 2013 and 2014 for each adolescent vaccine with a percent increase or decrease illustrated

Outcome:

2,180 providers were included in the final analysis. An overall TVFC program HPV:Tdap ordering ratio was calculated. The Wilcoxon Signed Rank Test was used to compare the TVFC program ordering ratio from June-September of 2014 to June-September of 2015 to determine whether there was a significant increase in HPV orders in the context of a ratio with Tdap. Data analysis was conducted using SAS 9.3. In the months following distribution of the customized adolescent vaccine ordering profile, the TVFC program as a whole ordered 1.3 doses of HPV vaccine for every one dose of Tdap from June-September of 2015 (Figure 3). While still far below the ideal ratio of 3:1, this was a statistically significant increase from 0.9 doses of HPV for every one dose of Tdap ordered in the same time period of 2014 (Table 1). A total of 142 providers went from ordering no HPV in June-September of 2014, to placing at least one HPV order in June-September of 2015. A total of 959 TVFC providers increased their HPV: Tdap ordering ratio. Of those, 541 TVFC providers increased their ratio by at least 50%.

Reflections/Lessons Learned:

Prior to the provider profile mail out, TVFC providers were ordering far less HPV vaccine than is ideal as indicated by a HPV:Tdap ratio of only 0.9:1 in 2014. The ideal ratio of HPV:Tdap is 3:1. Provider mail outs with customized vaccine ordering information and strategies for giving stronger recommendation for HPV vaccine could potentially increase HPV vaccine ordering and uptake. Increased HPV immunization levels among adolescents in Texas will lead to lower burden of HPV-associated cancers in the future. Texas plans to conduct 3 HPV/1 Tdap VFC Provider vaccine order reports for each Texas provider on a bi-annual basis.

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Evaluating a Customized Vaccination Provider Mail Out to Encourage Strong Recommendation of HPV Vaccine

Erin Gardner, MPH; Lucille Palenapa, MS; Kenzi Guerrero, MPH
Immunization Branch, Texas Department of State Health Services

Background

The Advisory Committee on Immunization Practices (ACIP) recommends three adolescent vaccines for boys and girls aged 11-12 years: one dose of tetanus, diphtheria, and acellular pertussis (Tdap) vaccine, two doses of meningococcal vaccine (MCV4), and three doses of HPV vaccine. Preventing HPV infection through immunization protects against HPV-associated cancers in males and females, including cancers of the cervix, vulva, vagina, penis, anus, and oropharynx. In Texas, while immunization coverage levels for Tdap and MCV4 vaccine have increased significantly, HPV coverage has not (Figure 1). Despite the safety and effectiveness of the HPV vaccine, less than one third of teens in Texas are fully vaccinated against HPV. The CDC has found that healthcare provider recommendation is the single best predictor of vaccination. Stronger provider recommendation at Texas Vaccines for Children (TVFC) clinics could lead to increased HPV immunization rates in Texas adolescents. Ideally, providers should be ordering and administering three doses of HPV vaccine for every one dose of Tdap. The goal of this project was to supply TVFC providers with proven strategies for making a strong recommendation, as well as providing them with a profile of their ordering habits for adolescent platform vaccines. Ordering habits were evaluated pre- and post- profile mail out to determine whether an increase in HPV orders was observed.

Methods

Mail Out: On June 2, 2015, a customized adolescent vaccine ordering profile was distributed via email to approximately 2,400 TVFC providers who serve adolescent populations, as seen in Figure 2. The purpose of the email was to encourage TVFC providers to make a strong recommendation for HPV vaccine and also make providers aware of their recent ordering history profile for vaccines in the adolescent platform. Provider letters reflected two data tables including HPV to Tdap ordering ratios as well as total doses ordered in 2013 and 2014 for each adolescent vaccine with a percent increase or decrease illustrated.

Analysis: 2,180 providers were included in the final analysis. An overall TVFC program HPV:Tdap ordering ratio was calculated. The Wilcoxon Signed Rank Test was used to compare the TVFC program ordering ratio from June-September of 2014 to June-September of 2015 to determine whether there was a significant increase in HPV orders in the context of a ratio with Tdap. Data analysis was conducted using SAS 9.3.

Results

In the months following distribution of the customized adolescent vaccine ordering profile, the TVFC program as a whole ordered 1.3 doses of HPV vaccine for every one dose of Tdap from June-September of 2015 (Figure 3). While still far below the ideal ratio of 3:1, this was a statistically significant increase from 0.9 doses of HPV for every one dose of Tdap ordered in the same time period of 2014 (Table 1). A total of 142 providers went from ordering no HPV in June-September of 2014, to placing at least one HPV order in June-September of 2015. A total of 959 TVFC providers increased their HPV:Tdap ordering ratio. Of those, 541 TVFC providers increased their ratio by at least 50%.

Conclusions

Prior to the provider profile mail out, TVFC providers were ordering far less HPV vaccine than is ideal as indicated by a HPV:Tdap ratio of only 0.9:1 in 2014. The ideal ratio of HPV:Tdap is 3:1. Provider mail outs with customized vaccine ordering information and strategies for giving stronger recommendation for HPV vaccine could potentially increase HPV vaccine ordering and uptake. Increased HPV immunization levels among adolescents in Texas will lead to lower burden of HPV-associated cancers in the future.

Sources/Acknowledgements

SAS version 9.3 (SAS Institute, Inc., Cary, NC, US); CDC's National Immunization Survey – Teen, 2014; DSHS VFC ITEAMS database

Figure 1. NIS-Teen HPV Vaccination Coverage Compared to Other Adolescent Vaccines, 2008-2014

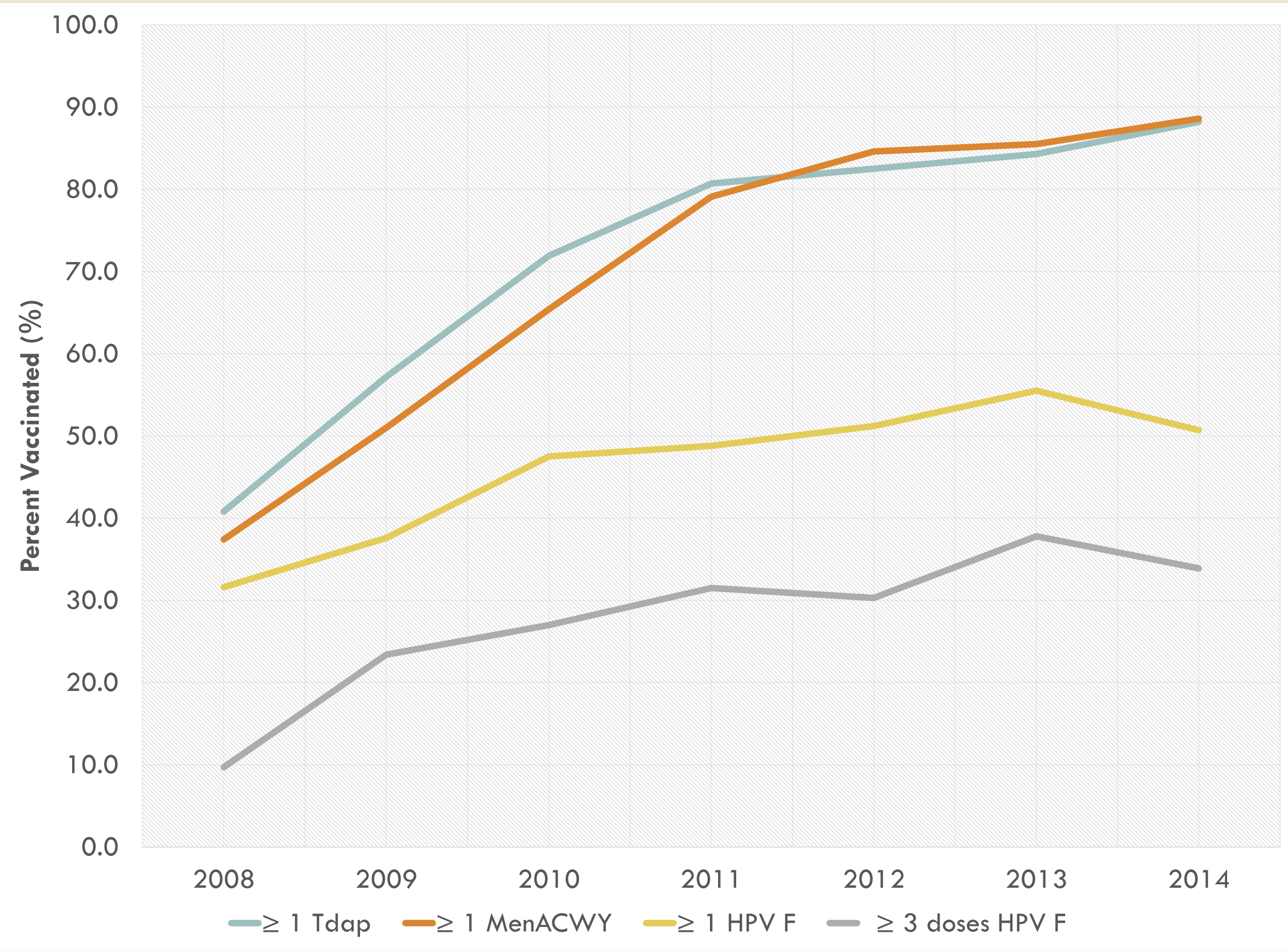


Figure 2. Example of Customized Provider Ordering Profile Mail Out

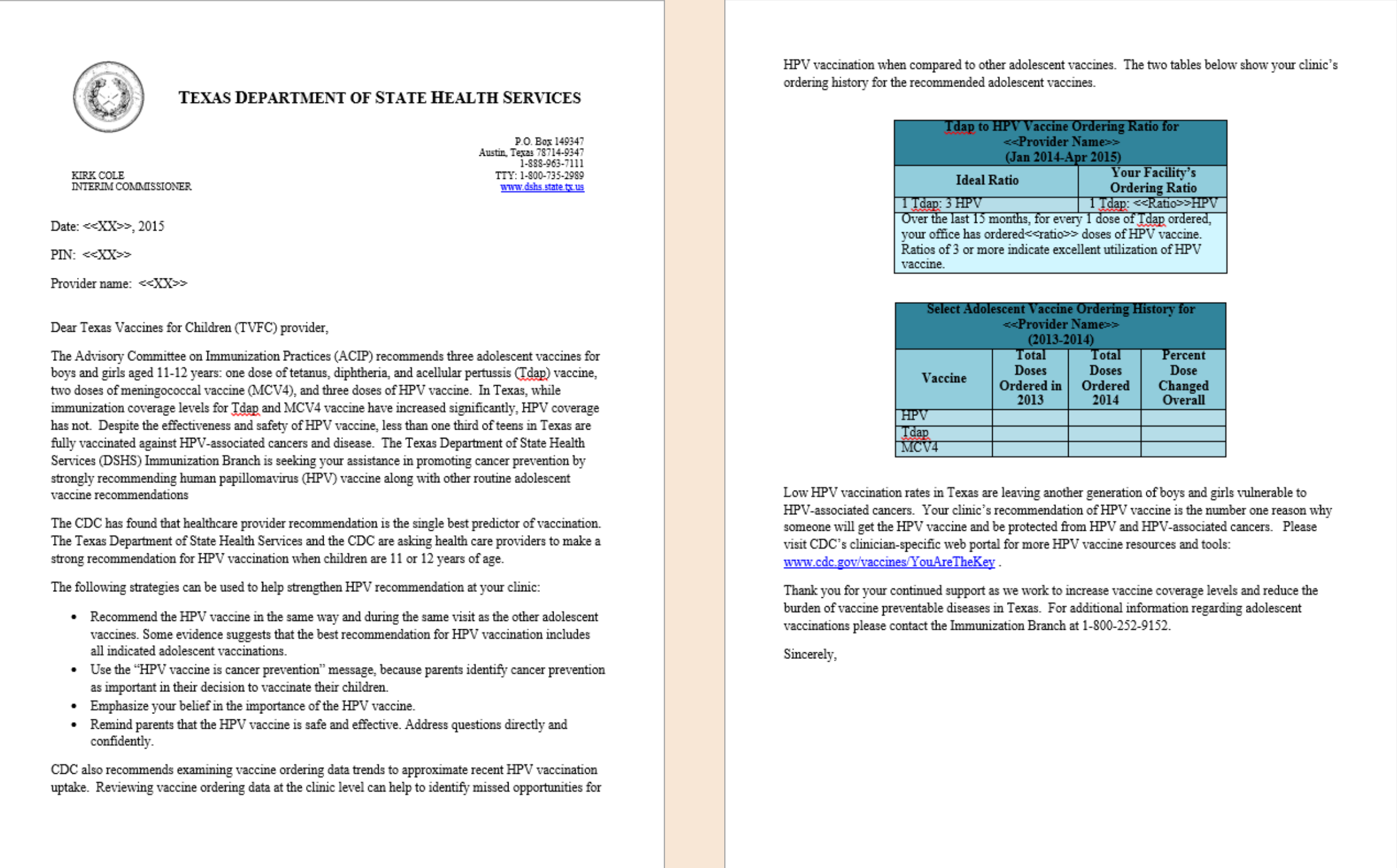


Figure 3. Post Profile Mail Out HPV:Tdap Ratio Analysis

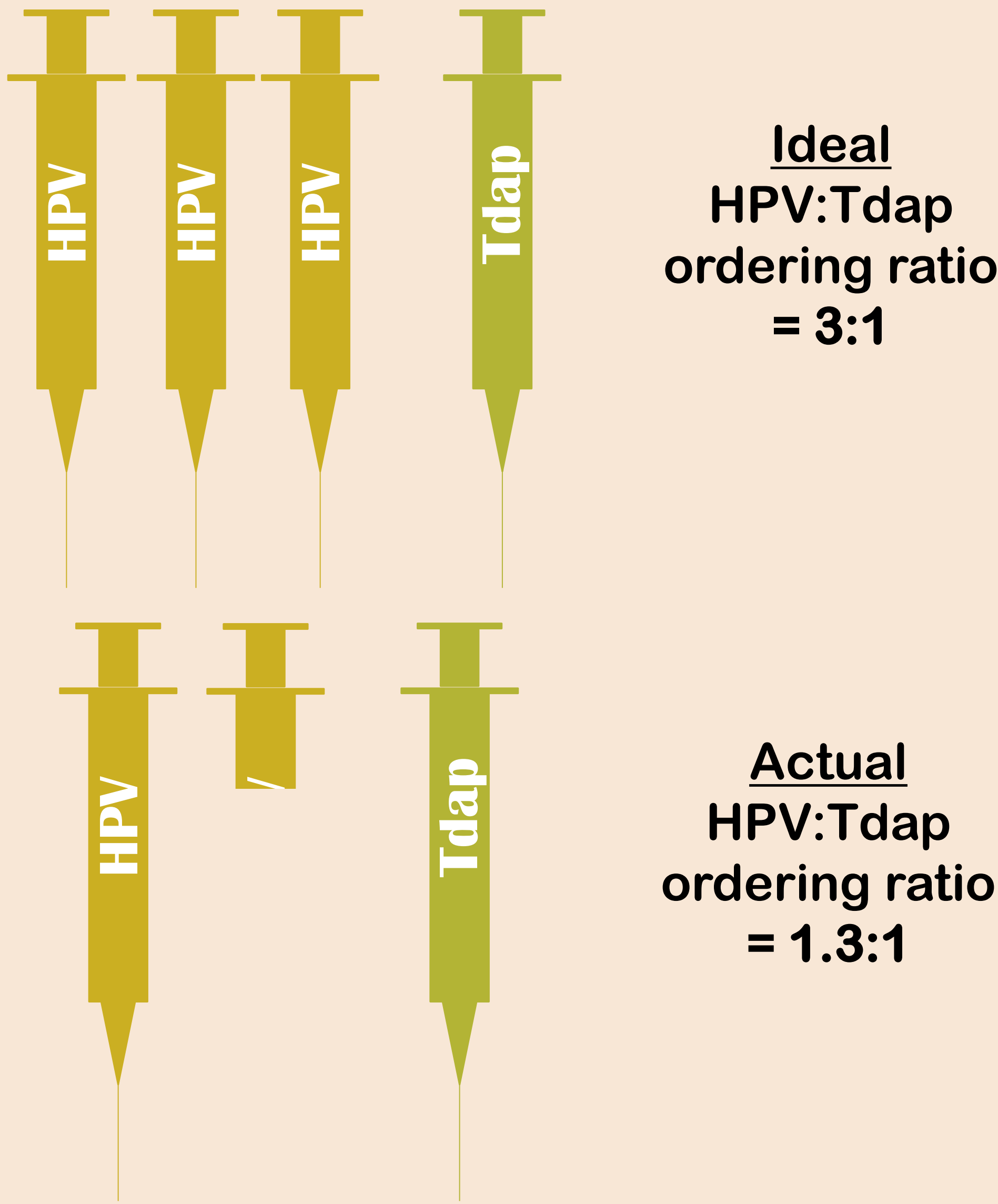


Table 1. Post Profile Mail Out HPV:Tdap Ratio Analysis

2014 Ordering Ratio	2015 Ordering Ratio	Magnitude of Increase	P value
0.9:1	1.3:1	0.4	<0.0001

- 959 TVFC providers increased their HPV:Tdap ordering ratio in 2015
- 541 TVFC providers increased their HPV:Tdap ordering ratio by at least 50% in 2015
- 124 TVFC providers ordered HPV in 2015 after not ordering any HPV in 2014



Human Papillomavirus (HPV) Vaccination Report: Texas

Working Together to Reach National Goals for HPV Vaccination

January 2016

January is Cervical Cancer Awareness Month, and this quarter's report shares information on making changes to prevent HPV-associated cancers. Every year in the United States, more than 12,000 women are diagnosed with cervical cancer and more than 4,000 women die of cervical cancer. Up to 93% of cervical cancers could be prevented by HPV vaccination and cervical cancer screening. HPV vaccination helps prevent infection with the HPV types that cause most cervical cancers. More information about cervical cancer, prevention, and statistics can be found on CDC's Vital Signs report:

<http://www.cdc.gov/vitalsigns/cervical-cancer/index.html>.

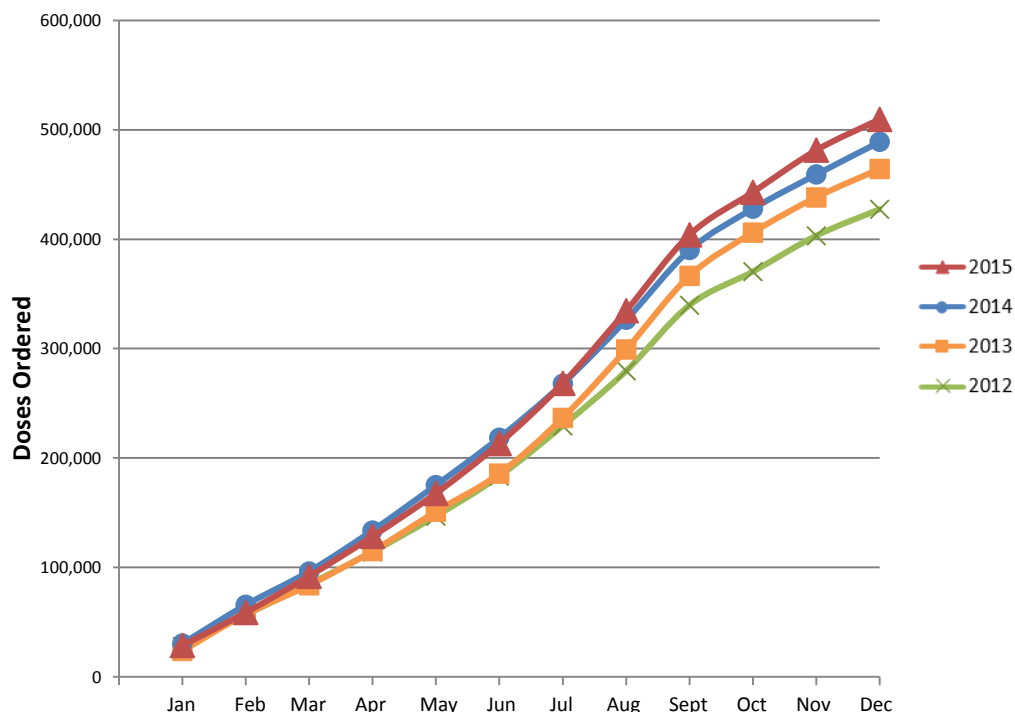
Three vaccinations are recommended for adolescents aged 11-12 years: human papillomavirus (HPV), tetanus, diphtheria, and acellular pertussis (Tdap), and meningococcal (MenACWY). Nationally, HPV vaccination coverage lags behind other adolescent vaccination coverage estimates and remains far below *Healthy People 2020* targets of 80% coverage. **This month, sixty-nine cancer centers from the National Cancer Institute (NCI) have issued a joint statement of endorsement of HPV vaccination as a cancer prevention measure. Find this statement and other information at:**

[https://www.mdanderson.org/content/dam/mdanderson/documents/prevention-and-screening/NCI HPV Consensus Statement 012716.pdf](https://www.mdanderson.org/content/dam/mdanderson/documents/prevention-and-screening/NCI_HP_Vaccine_Consensus_Statement_012716.pdf).

2015 HPV Vaccine Ordering Trends in Texas

CDC recommends examining vaccine ordering data for trends to approximate recent HPV vaccination uptake, as ordering data can inform action in real time. Reviewing ordering data at the health system or clinic level can help target outreach activities to clinicians or facilities with inconsistent or lower ordering patterns.

Cumulative Year-to-date Total of Publicly* Ordered HPV Vaccination Doses in TX (2012-2015)



Cumulative Year-to-Date Total of Publicly* Ordered HPV Vaccination Doses, TX (2014-2015)

	2014	2015	% change
Jan	30,370	28,570	-5.9%
Feb	65,720	58,700	-10.7%
Mar	96,340	91,990	-4.5%
Apr	133,820	128,340	-4.1%
May	175,210	167,720	-4.3%
Jun	218,530	213,380	-2.4%
Jul	268,000	268,250	0.1%
Aug	326,350	334,520	2.5%
Sept	390,140	403,950	3.5%
Oct	428,020	442,950	3.5%
Nov	459,240	481,340	4.8%
Dec	489,020	509,620	4.2%

CDC. Vaccine Tracking System (VTrckS). January 2016.

*Defined as orders for publicly funded vaccine (i.e. Vaccines for Children, 317, state/local, or CHIP doses).

Have questions? Contact us at preteenvaccines@cdc.gov.





Human Papillomavirus (HPV) Vaccination Report: Texas

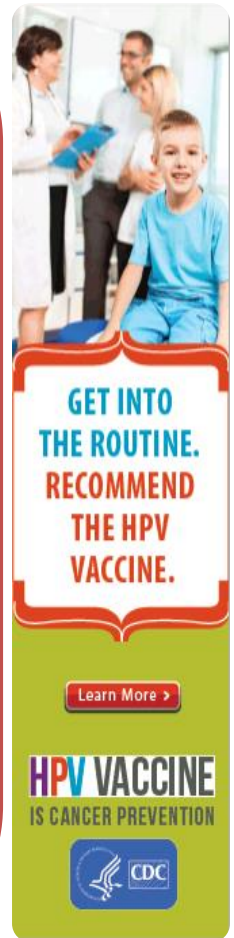
Working Together to Reach National Goals for HPV Vaccination

January 2016

2016: The Year of Preventing Cancer Together!

The new year brings a new start and fresh opportunities to prioritize HPV vaccination. **Now** is the time to make changes and minimize missed opportunities! There are many effective ways to increase HPV vaccine coverage rates:

- Talk about **HPV vaccination in terms of cancer prevention**
- **Avoid missed opportunities** through strategies including recommending HPV vaccination the same way and on the same day as other vaccines
- Learn how to **communicate successfully** about HPV vaccination. Tips for answering questions parents may have can be found at: <http://www.cdc.gov/hpv/hcp/answering-questions.html>
- Use adolescent **vaccination messaging for practice hold lines**. Consider trying these five sample messages, available at: <http://www.cdc.gov/vaccines/who/teens/for-hcp/adolescent-messaging.html>
- Identify **HPV vaccination champions** to help motivate and educate others
- **Conduct or participate in AFIX** (Assessment, Feedback, Incentives, and eXchange) visits. For more information on AFIX, visit CDC's website: http://www.cdc.gov/vaccines/programs/afix/index.html?s_cid=cs_748
- **Collaborate with partners** to identify opportunities to work together to increase HPV vaccination
- **Learn more about national initiatives**, such as the National HPV Vaccination Roundtable. More information about Roundtable meetings is available at: <http://www.cancer.org/healthy/informationforhealthcareprofessionals/nationalhpvvaccinationroundtable/index>



Resources and Materials

- CDC's learning module for **gynecological cancer** is available for CME: <http://www.cdc.gov/cancer/knowledge/provider-education/index.htm>
- The FDA licensure of **9-valent HPV vaccine** now includes **males up to age 26**. Learn more about this here: <http://www.cdc.gov/hpv/downloads/9vhpv-fda.pdf>
- Visit **CDC's updated HPV Web Portal**, www.cdc.gov/hpv, to find more resources such as:
 - Immunization Safety Office Safety factsheets
 - Clinician factsheets
 - Materials for partners and programs
- For more information on **cancer resources**, visit: www.cdc.gov/cancer

Have questions? Contact us at preteenvaccines@cdc.gov.





TEXAS DEPARTMENT OF STATE HEALTH SERVICES

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Austin, Texas 78714-9347
1-888-963-7111
TTY: 1-800-735-2989
www.dshs.state.tx.us

January 27, 2016



PIN: «PIN»

Provider Name: «ProviderName»

Dear Texas Vaccines for Children (TVFC) provider,

January is Cervical Health Awareness Month and the Texas Department of State Health Services (DSHS) invites you to join us in a statewide effort to increase human papillomavirus (HPV) vaccine coverage in Texan pre-teens and adolescents. Did you know that every year approximately 1,000 Texans die from cervical cancer? Up to 80 percent of those cervical cancers can be prevented through the use of highly effective HPV vaccines. HPV vaccines produce the highest immune response and provide the best protection against HPV-associated cancers when administered at ages 11 or 12. The Advisory Committee on Immunization Practices (ACIP) recommends three HPV shots be administered to pre-teens at ages 11 or 12 at a schedule of 0, 1, and 6 months.

Immunization coverage rates for teens throughout the nation are monitored through the National Immunization Survey-Teen (NIS-Teen), a survey verified through clinic records and administered through the Centers for Disease Control and Prevention (CDC). Although Texas is currently meeting targeted immunization coverage rates for other teen vaccines (tetanus, diphtheria, and pertussis (Tdap) and meningococcal (MCV4)), we still have much work to do to increase HPV coverage. In 2014, NIS-Teen rates in Texas for Tdap and MCV4 vaccines were 88.2 percent and 88.6 percent respectively, above the national target of 80 percent. Unfortunately, HPV vaccine rates in Texas were reported to be well under the national target of 80 percent at 34.4 percent for 3 doses in girls and 17.5 percent for 3 doses in boys.

CDC recommends routine assessment of providers' HPV vaccine ordering data to approximate HPV uptake. In the table below, you will find adolescent vaccine ordering ratio information for your individual clinic. For every 1 Tdap routinely ordered, providers should be mindful that 3 doses of HPV should also be ordered and administered as recommended for all adolescent patients. As a reminder, all TVFC providers are required to offer all recommended vaccines to their eligible patient populations served.

Tdap to HPV Vaccine Ordering Ratio for <<Clinic Name>> (2014-2015)			
Ideal Tdap:HPV Ratio	Year^		2015 Current Ratio Rating*
	2014	2015	
1 Tdap : 3.0 HPV	1 Tdap: X.XX HPV	1 Tdap: X.XX HPV	Rating
*2015 Tdap: HPV Ratio Rating Scale			
Tdap:HPV Ordering Ratio		HPV Vaccine Ordering Adherence Rating	
≥ 1Tdap: 3.00HPV		Excellent	
≥ 1Tdap: 2.50HPV – 1Tdap: 2.99HPV		Good	
≥ 1Tdap: 2.00HPV – 1Tdap: 2.49HPV		Fair	
< 1Tdap: 2.00HPV		Needs Improvement	
^ TVFC vaccine ordering data for pediatric doses of Tdap and pediatric doses of HPV were assessed to calculate ratio data. Ratios of 1 Tdap: 0.00 HPV indicate HPV vaccine was not ordered for PIN in respective year.			

As a TVFC provider, you deliver an invaluable service to adolescents and their parents. In honor of Cervical Health Awareness Month this month and throughout the rest of this year, please ensure you have encompassed the following pointers into your daily clinic operations to ensure that all our Texan teens are safeguarded against deadly HPV-related cancers.

- Promote HPV vaccine as a cancer prevention vaccine for boys and girls and emphasize your personal belief in the importance of the HPV vaccine.
- Provide a strong recommendation for HPV vaccine when discussing adolescent vaccines needed.
- Alleviate concerns about vaccine safety, provide confident and direct answers to patients and parents.
- Review and monitor your facility's progress in meeting the 1 Tdap to 3 HPV vaccine administration ratio.
- When ordering adolescent vaccines, adhere to 1:1:3 ratio; one Tdap, one MCV4, and 3 doses of HPV vaccine for all 11 or 12 year olds seen in your facility.
- During the first adolescent vaccine appointment, schedule out appointment dates for subsequent HPV vaccine doses.

The most important thing a young adolescent can do to prevent cervical cancer is to get fully vaccinated and begin routine screenings at age 21. By increasing HPV vaccination coverage, together we can ensure that preventable, HPV-related deaths and illnesses are reduced in our communities across the state. For more information on ways to observe Cervical Health Awareness Month, please visit <http://www.nccc-online.org/hpvcervical-cancer/cervical-health-awareness-month/>. For more valuable information on HPV vaccine promotion, resources, and tools; please visit <http://www.cdc.gov/hpv/hcp/index.html>.

Thank you for your continued support as we work to increase vaccine coverage levels and reduce the burden of vaccine preventable disease. If you have questions regarding HPV vaccine, please feel free to contact the DSHS Immunization Branch at 1-800-252-9152.

Sincerely,



TEXAS DEPARTMENT OF STATE HEALTH SERVICES

P.O. Box 149347
Austin, Texas 78714-9347
1-888-963-7111
TTY: 1-800-735-2989
www.dshs.state.tx.us

Date: <<XX>>, 2015

PIN: <<XX>>

Provider name: <<XX>>

Dear Texas Vaccines for Children (TVFC) provider,

The Advisory Committee on Immunization Practices (ACIP) recommends three adolescent vaccines for boys and girls aged 11-12 years: one dose of tetanus, diphtheria, and acellular pertussis (Tdap) vaccine, two doses of meningococcal vaccine (MCV4), and three doses of HPV vaccine. In Texas, while immunization coverage levels for Tdap and MCV4 vaccine have increased significantly, HPV coverage has not. Despite the effectiveness and safety of HPV vaccine, less than one third of teens in Texas are fully vaccinated against HPV-associated cancers and disease. The Texas Department of State Health Services (DSHS) Immunization Branch is seeking your assistance in promoting cancer prevention by strongly recommending human papillomavirus (HPV) vaccine along with other routine adolescent vaccine recommendations

The CDC has found that healthcare provider recommendation is the single best predictor of vaccination. The Texas Department of State Health Services and the CDC are asking health care providers to make a strong recommendation for HPV vaccination when children are 11 or 12 years of age.

The following strategies can be used to help strengthen HPV recommendation at your clinic:

- Recommend the HPV vaccine in the same way and during the same visit as the other adolescent vaccines. Some evidence suggests that the best recommendation for HPV vaccination includes all indicated adolescent vaccinations.
- Use the "HPV vaccine is cancer prevention" message, because parents identify cancer prevention as important in their decision to vaccinate their children.
- Emphasize your belief in the importance of the HPV vaccine.
- Remind parents that the HPV vaccine is safe and effective. Address questions directly and confidently.

CDC also recommends examining vaccine ordering data trends to approximate recent HPV vaccination uptake. Reviewing vaccine ordering data at the clinic level can help to identify missed opportunities for

HPV vaccination when compared to other adolescent vaccines. The two tables below show your clinic's ordering history for the recommended adolescent vaccines.

Tdap to HPV Vaccine Ordering Ratio for <<Provider Name>> (Jan 2014-Apr 2015)	
Ideal Ratio	Your Facility's Ordering Ratio
1 Tdap: 3 HPV	1 Tdap: <<Ratio>>HPV
Over the last 15 months, for every 1 dose of Tdap ordered, your office has ordered<<ratio>> doses of HPV vaccine. Ratios of 3 or more indicate excellent utilization of HPV vaccine.	

Select Adolescent Vaccine Ordering History for <<Provider Name>> (2013-2014)			
Vaccine	Total Doses Ordered in 2013	Total Doses Ordered 2014	Percent Dose Changed Overall
HPV			
Tdap			
MCV4			

Low HPV vaccination rates in Texas are leaving another generation of boys and girls vulnerable to HPV-associated cancers. Your clinic's recommendation of HPV vaccine is the number one reason why someone will get the HPV vaccine and be protected from HPV and HPV-associated cancers. Please visit CDC's clinician-specific web portal for more HPV vaccine resources and tools:
www.cdc.gov/vaccines/YouAreTheKey .

Thank you for your continued support as we work to increase vaccine coverage levels and reduce the burden of vaccine preventable diseases in Texas. For additional information regarding adolescent vaccinations please contact the Immunization Branch at 1-800-252-9152.

Sincerely,