

Quality Improvement Project Using Assessment Feedback Incentives eXchange to Increase Human Papillomavirus Immunization Rates

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Purpose

To determine the effectiveness of the 2015–2016 HPV AFIX project and assess whether:

- ▶ 1) participating clinics implemented their quality improvement (QI) strategies
- ▶ 2) providers strengthened their HPV vaccine recommendations
- ▶ 3) HPV AFIX was successful in engaging immunization staff in QI
- ▶ 4) participating clinics wanted additional support
- ▶ 5) HPV AFIX site visits helped increase HPV vaccination rates or decrease missed opportunities at clinics

Background

- ▶ The Centers for Disease Control and Prevention (CDC)'s Assessment, Feedback, Incentives, and eXchange (AFIX) Program applies quality improvement (QI) to increase vaccination rates in the United States Vaccines for Children (VFC) program.
- ▶ To improve adolescent human papillomavirus (HPV) vaccination rates, in 2015 AFIX site visits were conducted at VFC clinics in Wisconsin.

HPV

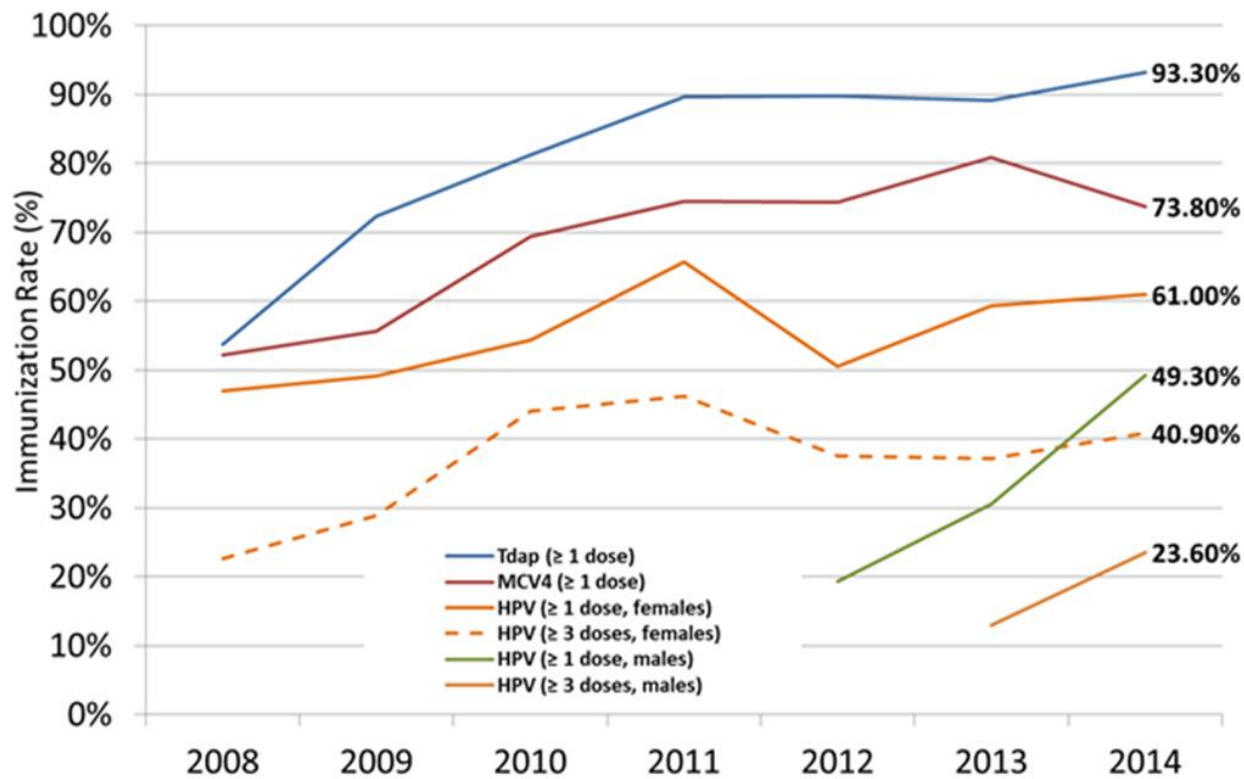
- ▶ Most common sexually transmitted virus among men and women in the United States.
- ▶ Currently 79 million people are infected, and every year another 14 million people are newly infected in the US.
- ▶ HPV is linked to 70% of oropharynx cancers.
- ▶ HPV infections cause:
 - 90% of anal and cervical cancers
 - 70% of vaginal and vulvar cancers
 - 60% of penile cancers

HPV Vaccine

- ▶ In 2014, the FDA licensed a 9-valent HPV vaccine for use in males and females.
- ▶ The Advisory Committee on Immunization Practices (ACIP) recommends the vaccine for females aged 11–12 years (with catch-up vaccination through age 26), and for males aged 11–12 years (with catch-up vaccination through age 21).
- ▶ HPV vaccine is cancer prevention but the uptake remains low compared to other adolescent vaccines.

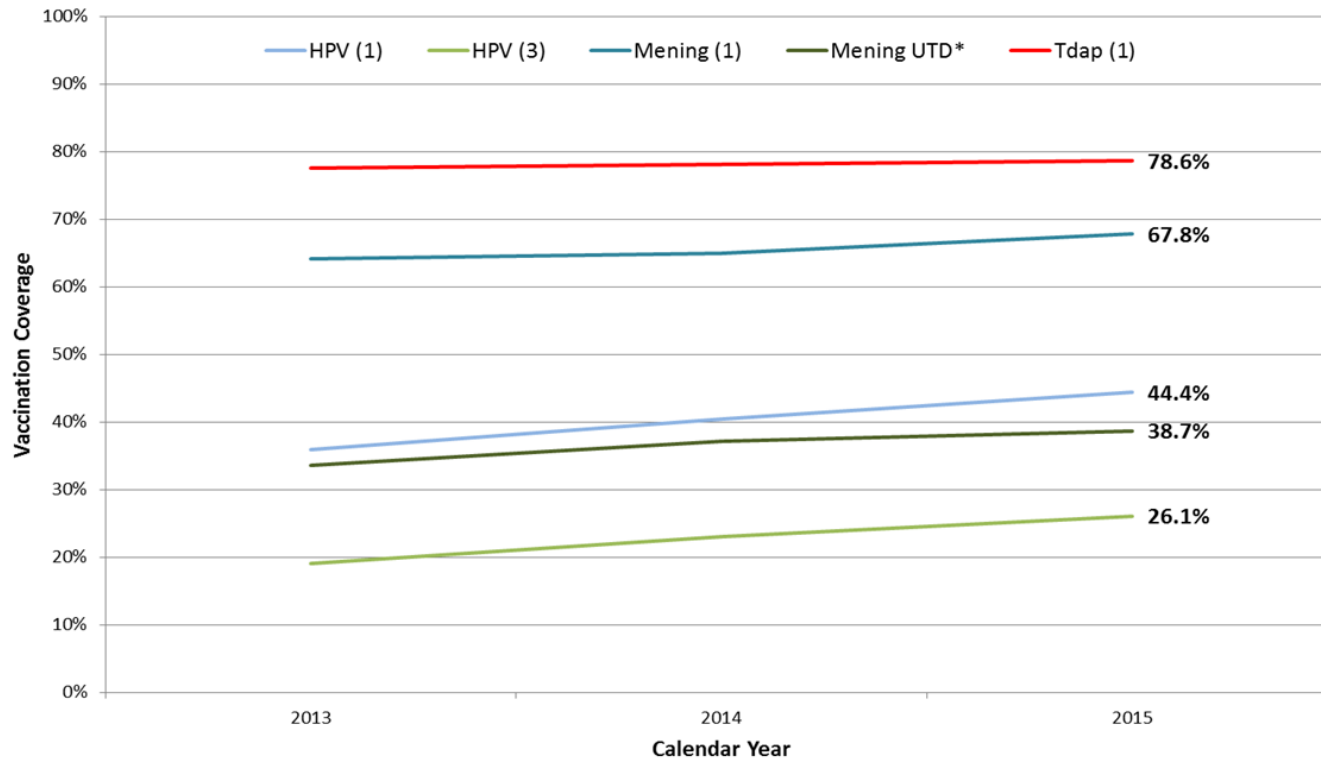
2014 National Immunization Survey (NIS) – Teen Survey Data

Estimated Tdap, MCV4, and HPV vaccine coverage among adolescents aged 13-17 years, NIS-Teen, 2008-2014, Wisconsin



2015 Wisconsin Immunization Registry (WIR) Adolescent Data

Estimated Tdap, MCV4, and HPV vaccine coverage among adolescents aged 13-18 years, Wisconsin Immunization Registry, 2013-15, Wisconsin



*Includes clients 17-18 years old; clients are considered up to date (UTD) if they have received a meningococcal dose prior to age 16 years and a booster dose at or after 16 years or if they received one meningococcal dose at or after age 16 years.



- ▶ **AFIX** is a quality improvement program used by awardees to raise immunization coverage levels, reduce missed opportunities to vaccinate, and improve standards of practice at the provider level. The acronym for this four-part dynamic strategy stands for **Assessment, Feedback, Incentives, and eXchange**.

Assessment

Assessment of the health care provider's vaccination coverage levels and immunization practices.

- ▶ Meet with VFC clinic staff
- ▶ Review clinic-specific WIR data

WIR Assessment Summary

Adolescent Immunization Coverage (11-12 years)

Number of eligible persons:		60
Antigens/series	N	%
1 Tdap	44	73.3%
1 MCV4	38	63.3%
1 HPV	25	41.7%
3 HPV	11	18.3%
Missed opportunity on last visit		51.7%

Adolescent Immunization Coverage (13-18 years)

Number of eligible persons:		205
Antigens/series	N	%
1 Tdap	201	98.0%
1 MCV4	183	89.3%
1 HPV	131	63.9%
3 HPV	82	40.0%
Missed opportunity on last visit		58%

Assessment Cont.

Review AFIX questionnaire:

- ▶ Strategies to improve the quality of immunization services
- ▶ Strategies to decrease missed opportunities
- ▶ Strategies to improve completeness and accuracy of WIR

Feedback

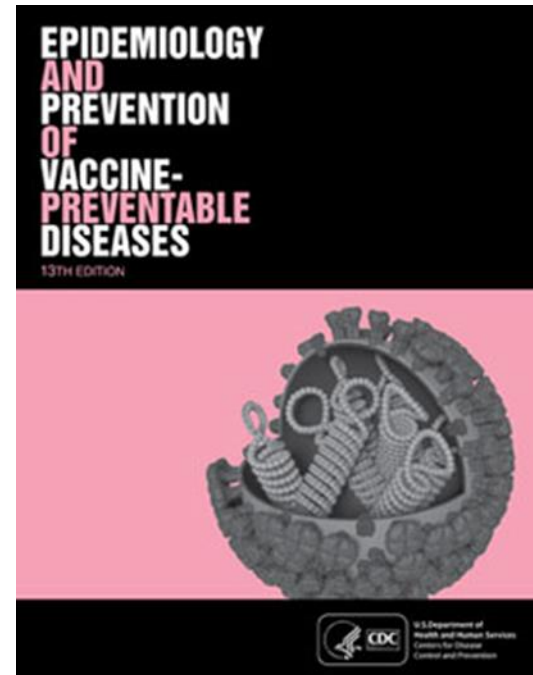
Feedback of results to the provider along with recommended strategies to improve processes, immunization practices, and coverage levels.

- ▶ Go over strengths and weaknesses
- ▶ Discuss resource packet (AFIX, WIR, CDC)
- ▶ Decide on 2–3 quality improvement strategies

Incentives

Incentives to recognize and reward improved performance.

- ▶ HPV Toolkit
- ▶ CDC 2015 Pink Book
- ▶ Silver Award: HPV3 coverage level >70%
- ▶ Gold Award: HPV3 coverage level >80%



eXchange

eXchange of information, which is also known as follow-up, with providers to monitor and support progress towards implementing quality improvement strategies and improving vaccination coverage rates.

- ▶ Send recap email following initial site visit.
- ▶ Provide informal check-in at 3 months.
- ▶ Provide formal check-in at 6 months.

Methods

- ▶ 187 in-person HPV AFIX site visits implemented between August 2015 and May 2016.
- ▶ Evaluated immunization rates, practices and QI strategies to improve HPV immunization rates.
- ▶ The Wisconsin Immunization Registry (WIR) was used to provide data for 11–12 and 13–18 years olds, for one dose of tetanus, diphtheria, acellular pertussis vaccine (Tdap), one dose of meningococcal vaccine (MCV4), and one (HPV1) and three doses (HPV3) vaccines.
- ▶ Missed opportunities (any contact a patient has with a health service that did not result in an eligible child receiving recommended vaccines) assessed as well.
- ▶ 187 control clinics were chosen based on population size and geographical proximity to participating clinics.

HPV AFIX Results

There was a statistically significant reduction in missed opportunities, 7.3% for 11–12 year olds, and 3.3% among 13–18 year olds after only 6 months.

Mean difference in pre-intervention vs. post-intervention HPV 1 dose vaccination rates among AFIX clinics and control clinics, by age group.

	Control	AFIX	
11-12 y	+2.5%	+3.8%	p = 0.1573
13-18 y	+2.3%	+3.4%	P = 0.0402

(+) Signifies improvement

Mean difference in pre-intervention vs. post-intervention HPV 3 dose vaccination rates among AFIX clinics and control clinics, by age group.

	Control	AFIX	
11-12 y	+1.0%	+1.4%	p = 0.3382
13-18 y	+1.6%	+2.6%	p = 0.0499

(+) Signifies improvement

Mean difference in pre-intervention vs. post-intervention Tdap dose vaccination rates among AFIX clinics and control clinics, by age group.

	Control	AFIX	
11-12 y	-0.5%	-1.4%	p = 0.3645
13-18 y	+0.1%	+0.8%	p = 0.0763

(+) Signifies improvement

Mean difference in pre-intervention vs. post-intervention MCV4 dose vaccination rates among AFIX clinics and control clinics, by age group.

	Control	AFIX	
11-12 y	+2.0%	+1.0%	p = 0.3631
13-18 y	+0.6%	+2.1%	p = 0.0040

(+) Signifies improvement

Mean difference in pre-intervention vs. post-intervention missed opportunities vaccination rates among AFIX clinics and control clinics, by age group.

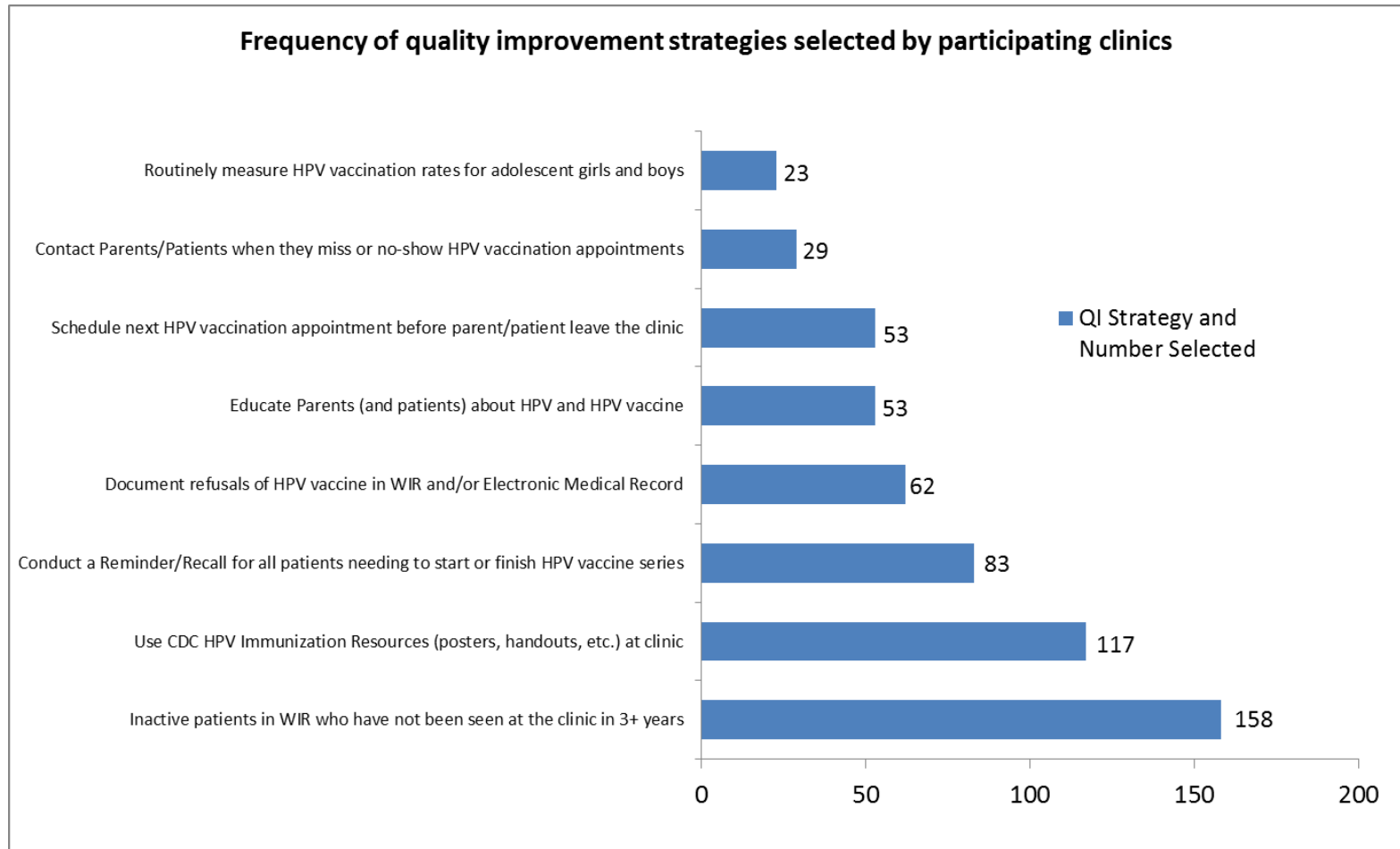
	Control	AFIX
11-12 y	0.0%	-7.3%
13-18 y	+0.2%	-3.3%

Statistically Significant $p < .0001$

Statistically Significant $p < .0001$

(-) Signifies improvement

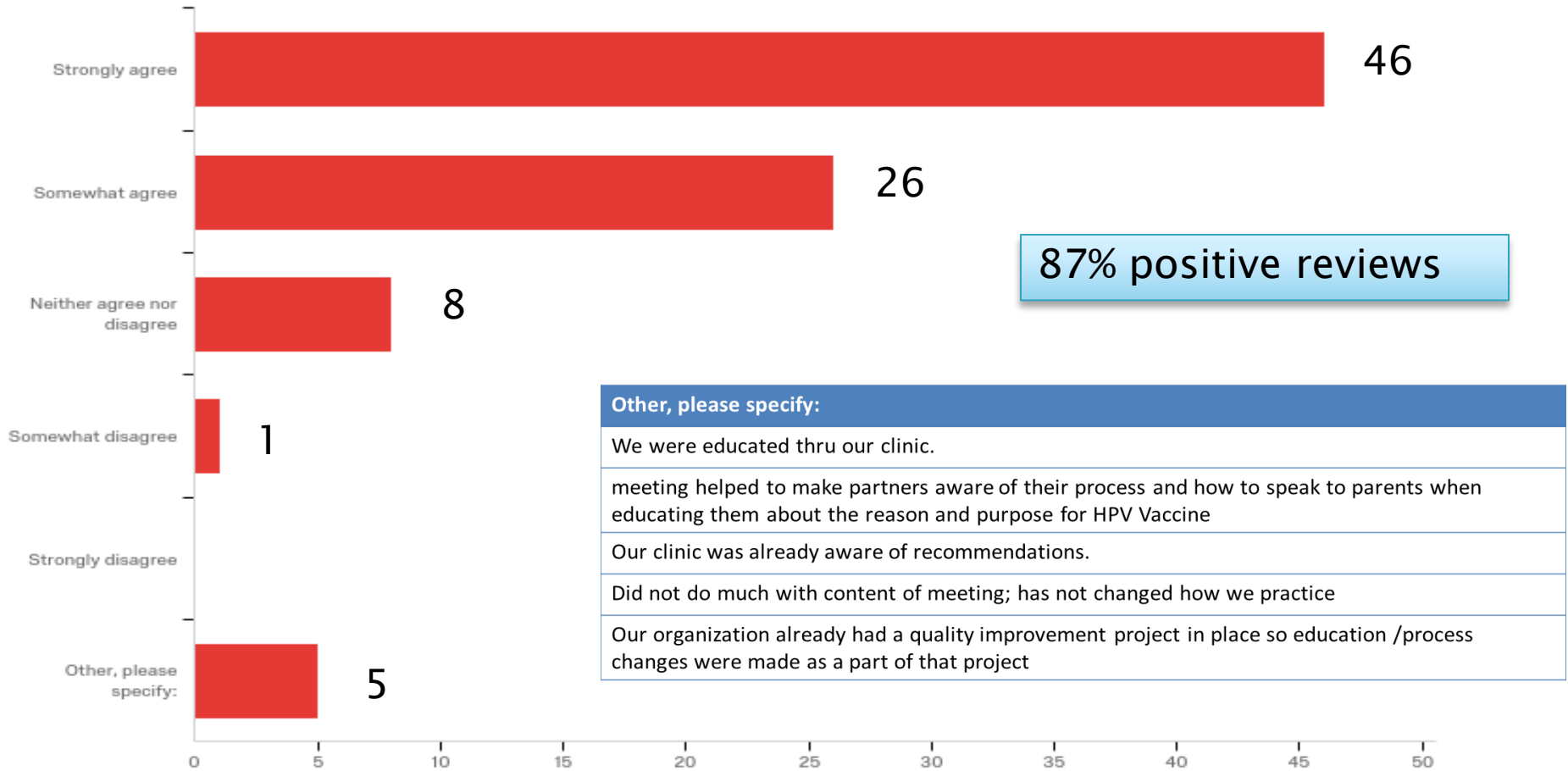
Quality Improvement Strategies chosen by the clinics during HPV AFIX site visits



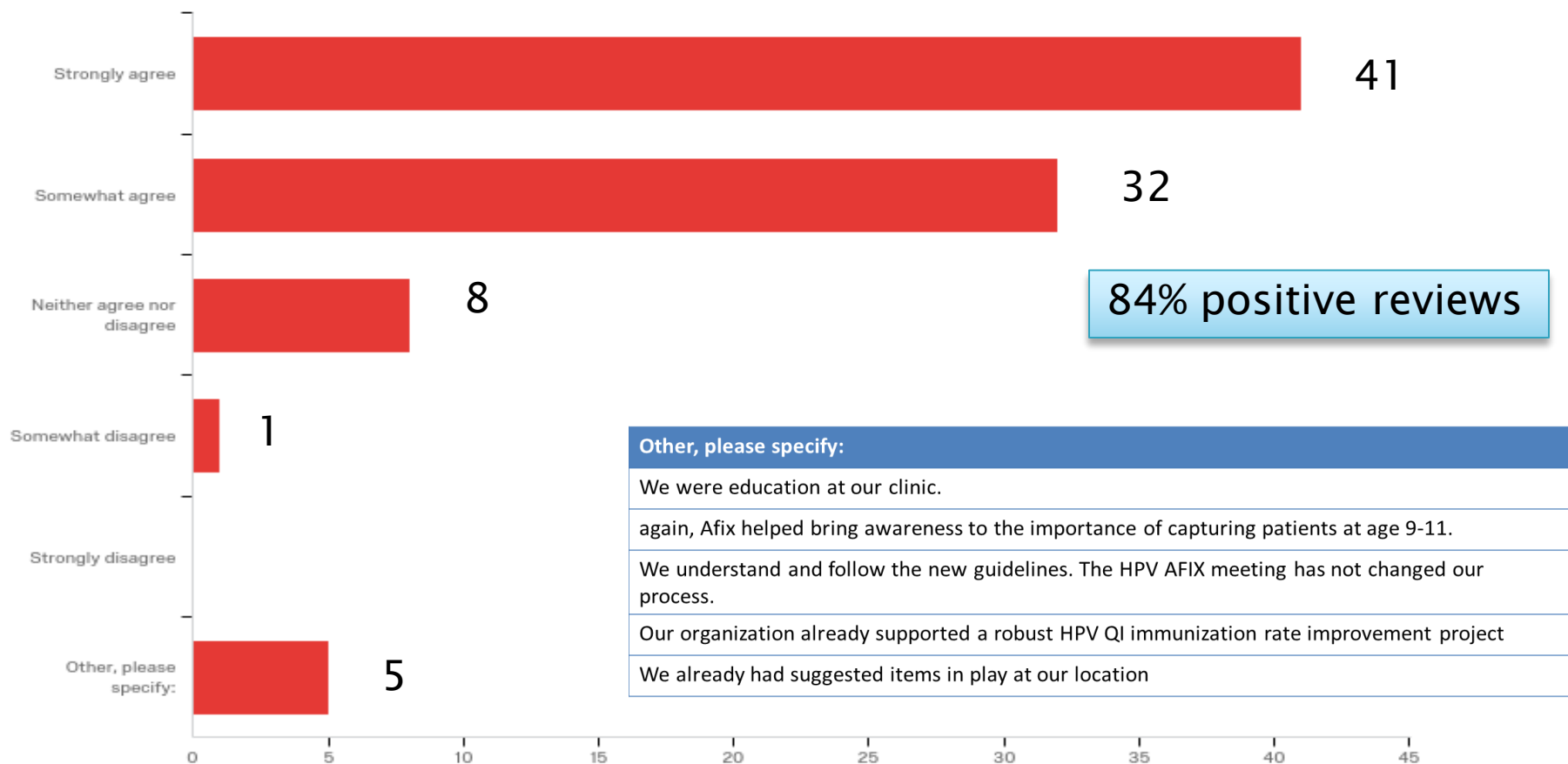
Post HPV AFIX Evaluation Overview

- ▶ Sent to all clinic contacts whose organization participated in HPV AFIX
- ▶ 90 responses out of 187 clinics
- ▶ Anonymous
- ▶ 10 total questions
- ▶ Positive feedback
- ▶ Sampling of the survey questions are on the next slides

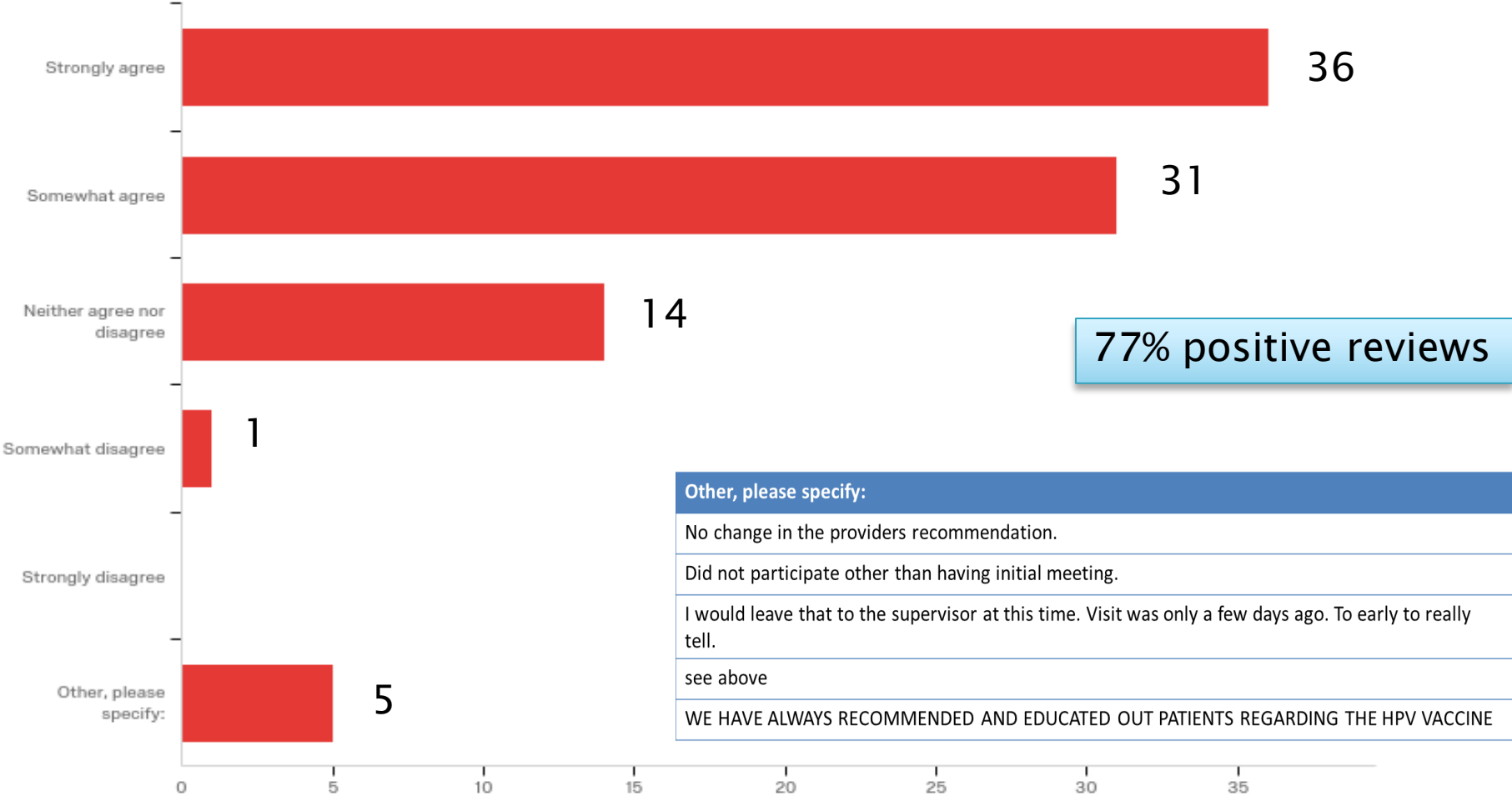
Q2: Participation in HPV AFIX was helpful in improving staff knowledge on current recommendations for HPV vaccination (i.e. age at which to administer, intervals between doses etc)



Q3: Participation in HPV AFIX was helpful in improving logistics surrounding HPV vaccine administration at your clinic (scheduling appts for 2nd/3rd doses, giving out HPV info at younger ages, implementing standing orders etc)



Q4: Clinic staff (MDs, NPs, RNs, MAs, LPNs) have strengthened their recommendation for the HPV vaccination as a result of HPV AFIX participation



Q5: What QI strategies did you find most effective in improving coverage rates? Continued...

- ▶ “Having patients schedule an appt for the next dose at the time of their first dose.”
- ▶ “Reviewing WIR every visit.”
- ▶ “Reminder calls, scheduling next shot appt prior to leaving, handouts to uninformed parents.”
- ▶ “Awareness and prevention for all staff with cancer.”
- ▶ “Removing erroneous patients from my vaccination roster.”
- ▶ “Outreach for 2nd and 3rd injection and reminder cards”
- ▶ “To tell patients in another way as they are due for this vaccination would you like it today vs. saying it is optional.”
- ▶ “Strengthening Provider recommendation.”

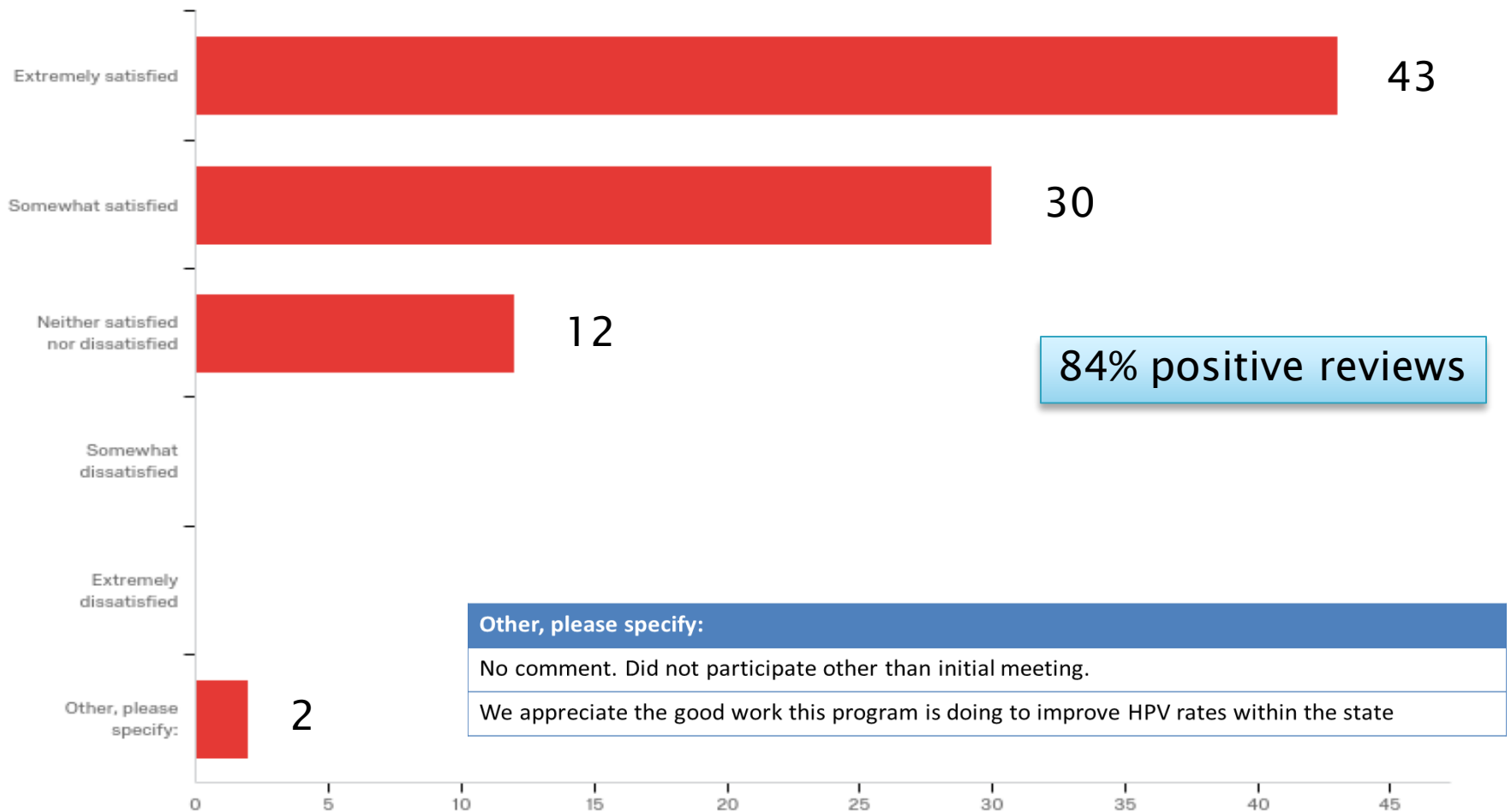
Q6: What QI strategies did you find least effective in improving coverage rates? Continued...

- ▶ “Doing reminder calls/letters for those that have not been fully immunized.”
- ▶ “Wading through the clinic’s patient list.”
- ▶ “I do not think that there was anything least effective.”
- ▶ “Requesting parents to make the follow up appt at the reception desk on their way out.”
- ▶ “Asking parents to make the second and third appts at the time of the initial HPV. Most refused based on the dates being too far into the future.”
- ▶ “Changing the minds of the providers that don’t believe in it. ☹️”
- ▶ “Posters in rooms.”

Q7: Are there any barriers that your clinic continues to face with regards to HPV vaccination? Continued...

- ▶ “Parent reluctance of a vaccine that is NOT required by schools.”
- ▶ Changing parent’s misconception that their child doesn’t need to have vaccination until they are sexually active.”
- ▶ “A local girl supposedly had a very significant diagnosis that the family link to the HPV vaccine. We hear about it often.”
- ▶ “Many parents still decline.”
- ▶ “Now with the new 2 dose recommendation we are having trouble relaying that to parents as they always want to know ‘why’ they are decreasing it.”
- ▶ “Time to implement improvements.”
- ▶ “Staff that do not believe in vaccine are not likely to promote.”
- ▶ “Providers!!!!!!”

Q8: Please rate your overall satisfaction with your participation in the HPV AFIX program



Discussion

- ▶ Clinics that chose to participate in HPV AFIX QI site visits show a statistically significant decrease in instances of missed opportunities, as compared to clinics that elected not to participate.
 - A decrease in the percentage for missed opportunities is a desired response, it means that missed opportunities to vaccinate adolescents were decreasing therefore in time would lead to increases in overall vaccination rates.
- ▶ Many quality improvement teams at clinic systems were only analyzing and reporting on one dose of HPV for girls giving providers and staff an incomplete view of their vaccination rates.
 - Clinic systems changed the way they reported on the HPV vaccine to include the completion rates (at the time of this study three doses of HPV vaccine) and the male population after the HPV AFIX project was completed.

Discussion, continued

- ▶ Many clinics were able to adopt the AFIX strategies into their quality improvement plans and wanted to focus on continuous improvement because of the HPV AFIX site visits.
- ▶ More frequent feedback sessions either via email, phone conference or in person are needed to:
 - Promote continuous quality improvement
 - Increase adolescent vaccination rates
 - Open communication between private, public and local public health providers with the State immunization program
- ▶ Providers should be more aware of the AFIX process and have a willingness to participate in future quality improvement sessions.

Conclusion

- ▶ Clinics that chose to participate in HPV AFIX quality improvement site visits showed a decrease in instances of missed opportunities, as compared to clinics that elected not to participate.
 - This could indicate that improvement is needed in integrating HPV vaccinations into all patient visits whether they be preventative or acute.

Conclusion, continued

Priorities to improve HPV coverage rates include:

- ▶ Keep clinic staff up-to-date on current ACIP recommendations for adolescent vaccines to reduce missed opportunities.
- ▶ Strengthen provider recommendation for the HPV vaccine – “Same Way Same Day”.
- ▶ Teach clinic staff how to inactivate patients in WIR who moved or changed clinics so that the WIR has accurate client information.
- ▶ Improve scheduling processes within clinics (i.e., in-room scheduling, reminder/recall, contacting no-show appointments).

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