

# Increasing the HPV Vaccination Rate in a Family Practice: A Quality Improvement Project

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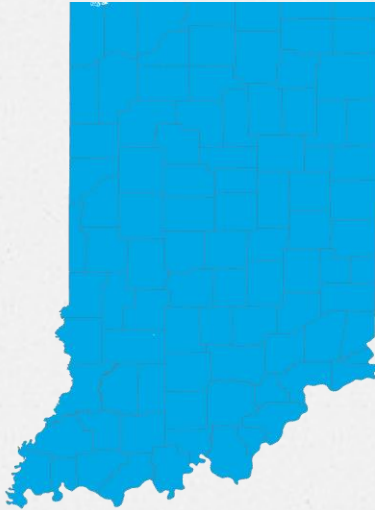
# Introduction

- o Background Knowledge
- o Local Problem
- o Intended Improvement
- o Project Questions

# Background

- Nearly all sexually active men and women will become infected with at least one type of the human papillomavirus (HPV) at some point in their lives.
- Low risk types of HPV cause genital warts; however, high risk types can lead to different types of cancer.
- There is a safe and effective vaccine for adolescents that targets the types of HPV most likely to cause cancer.
- Vaccine administration rates are low in the U.S.
- Studies have shown that health care providers have the greatest influence on whether or not a parent decides to vaccinate their children for HPV; however, many providers are not routinely recommending the vaccine.

# Local Problem



In IN, in 2014, 61% of girls and 23% of boys age 13 to 17 have received one dose of HPV vaccine. Only 74% of girls and 61% of boys that started the series have completed all 3 doses.



MFC see's around 1,400 patients/year in the HPV vaccine age range.

There is currently no office protocol to address the HPV vaccine with patients or assure the vaccine series is completed.

# Project Purpose/Intended Improvement

- o The purpose of this quality improvement project was to identify barriers in practice to recommending the HPV vaccine and to use this information to develop a practice protocol to enhance the delivery of the vaccine series.
- o The goal of this project was to improve HPV vaccination rates for patients at MFC.

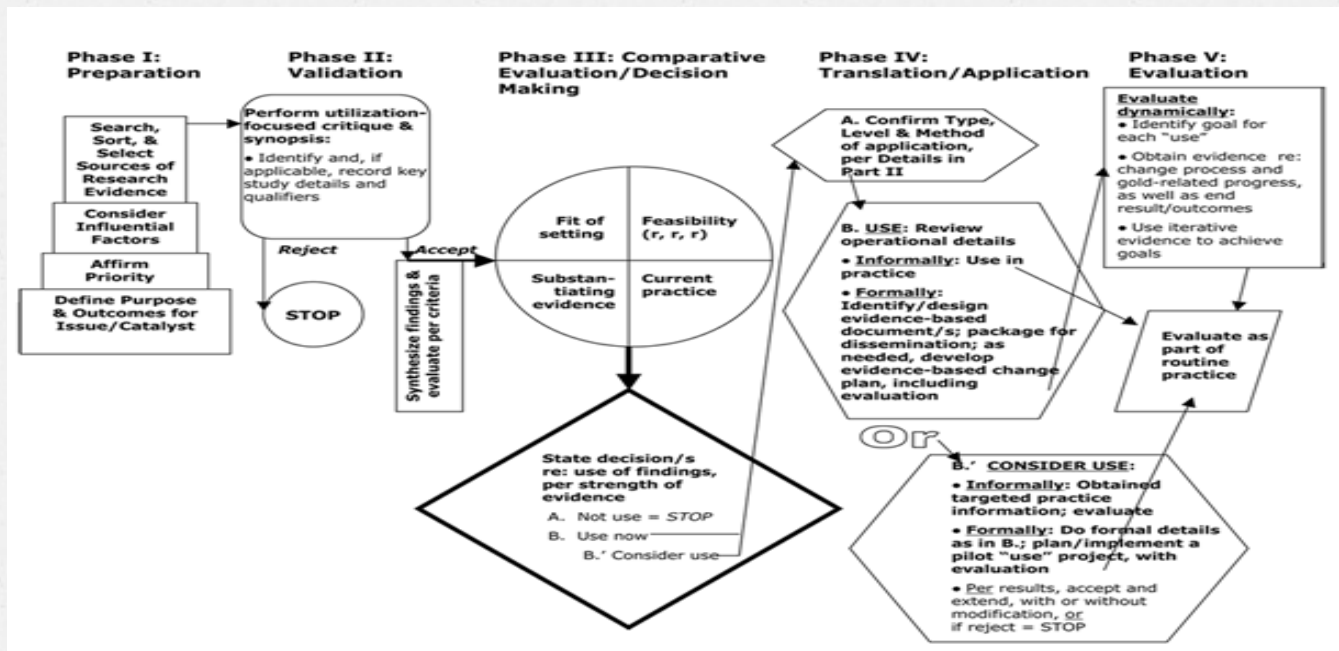


# Project Questions

- Does use of the Stetler model facilitate the development of a protocol/algorithm for consistent and efficient patient/parent education and recommendation of administration of the HPV vaccine?
- Does delivering provider education on HPV and the HPV vaccine increase provider confidence in addressing the HPV vaccine with parents and patients?
- Does delivering provider education on HPV and the HPV vaccine decrease provider's barriers in discussing the HPV vaccine with parents and patients?
- Does implementation of an evidence-based protocol/algorithm for consistent and efficient patient/parent education and recommendation of administration of the HPV vaccine increase the HPV rate in a Family Practice setting?

# Conceptual Model Framework

## The Stetler Model of Research Utilization (The Stetler Model)



# The Stetler Model

- o The model is a practitioner-oriented guide for the application of research findings and other relevant evidence in practice.
- o The model examines how to use evidence to create formal change within organizations, as well as how individual practitioners can use research on an informal basis as part of critical thinking and reflective practice.



# Stetler Model

## 5 Phases:

- Preparation
- Validation
- Comparative evaluation/decision making
- Translation/application
- Evaluation



# Phase I - Preparation

- o Identified the purpose of the project based on literature review.
  - o HPV vaccine rate is far below goals.
- o Determined the project team
  - o Health care providers, MA's and front office staff.

## Phase II- Validation

- o Searched for and critiqued studies conducted on low HPV vaccination rates.
  - o Determined that health care providers have the greatest influence on vaccine rates.
  - o Interventions that improve vaccine rates focus on provider self-efficacy regarding HPV and time constraints.

## Phase III- Comparative Evaluation/Decision Making

- o Presented research findings to the project team.
- o Determined the level of suitability and usefulness of the project.
- o Team decided to continue with the project.

## Phase IV- Translation/Application

- Translated evidence into a plan for implementation into the clinical setting.
- Evaluated provider readiness to implement evidence based guidelines and create practice change.

# Phase V-Evaluation

- o Evaluated the process and outcomes of the project.
- o Presented data from evaluation to the project team
- o Decided that the new practice protocol should be continued in the practice.

# Methods

- o Setting and Population
- o Outcome Objectives
- o Project Design/Intervention
- o Methods of Evaluation – Study of the Intervention
- o Analysis of Evaluation Data

# Setting and Population

- o Mooresville Family Care in Mooresville, IN.
- o Participants included 3 MD's, 1 APRN, and 1 PA.
  - o Additional staffing included 7 MA's and 4 front office staff.



# Outcome Objectives

- o Health care providers and staff will develop a protocol/algorithm for consistent and efficient patient/parent education and recommendations regarding HPV/HPV vaccination and administration of HPV vaccine.

# Outcome Objectives

- o Health care providers will report a 50% increase in confidence, from baseline, in addressing the HPV vaccine with parents and patients.
- o Health care providers will report a 50% decrease in barriers, from baseline, in discussing the HPV vaccine with parents and patients.
- o In the 3 months following implementation of the protocol there will be a 30% increase from baseline in HPV vaccination rates.

# Intervention

- o Educational PowerPoint presentation for providers on HPV and the HPV vaccine, which includes strategies for improving HPV vaccination rates and reducing barriers.
- o Protocol/Algorithm for consistent patient education and administration of HPV vaccine.

# Methods of Evaluation of Outcomes

- Anonymous pre-intervention and post-intervention online survey.
- Assess changes in provider confidence levels and perceived barriers to addressing HPV vaccine with parents and patients.
- Questions on survey were a combination of 10-point confidence ruler and 5-point Likert scale, which have been found to be valid and reliable.

# Confidence Ruler



# Pre/Post Intervention Survey Questions - Examples

- o How confident are you in recommending the HPV vaccine series as part of routine care for all 11-12 yr. olds?
- o How confident are you in discussing with your patients the different HPV types and how they differ in their disease associations?
- o How confident are you in discussing with your patients how HPV is transmitted
- o How confident are you in recommending the HPV vaccine series as part of routine care in males?
- o How confident are you that you can react effectively to a patient/parent if he/she is hesitant to accept the HPV vaccine?

# Likert Scale

(Strongly Disagree) (Disagree) (Uncertain) (Agree) (Strongly Agree)

# Pre/Post Intervention Survey Questions - Examples

- o I anticipate an uncomfortable conversation when discussing HPV and the HPV vaccine.
- o Getting my patients to receive the HPV vaccine series is very important.
- o My advice does not influence my patients/parents decision on getting the HPV vaccine.
- o I feel it is important to recommend the HPV vaccine the same day as other vaccines.



# Practice Protocol

## Identify Patient

- Medical Assistant (MA) will review the medical chart at every child, teen and adult visit to determine HPV vaccine eligibility based on CDC defined criteria.
- While rooming the patient, if patient is identified as in need of HPV vaccine, the MA will load and pend an order for the vaccine in the EMR to notify the provider that there is a vaccine need.
- While rooming the patient, before the provider enters the room, the staff member will give the associated patient/parent a copy of the most current federal Vaccine Information Statement (VIS) for Gardasil-9 and the associated general HPV vaccine information sheet (either “Pre-teen/Teen” or “Guide for Young Adults”).

## Vaccine Administration

- After the provider enters the room, if the patient/parent accepts the vaccine, the provider will sign the order notifying the MA that the vaccine has been accepted by the patient/parent.
- The MA will then administer the vaccine and document it in the patients medical record.

## Follow up

- After administering the vaccine, if the patient is identified as needing to return for a 2nd or 3rd dose of the vaccine, the MA will notify the front office staff that a reminder postcard needs to be created by indicating it on the check out note in the EMR.
- Once the visit is concluded, the patient will go through the check-out procedure at the check-out window. The front office staff member who sees that the patient needs to return for vaccine administration will create a reminder postcard for the patient.
- The postcard will get placed in a corresponding folder system and will be mailed to the patient in the month that the vaccine is needed.

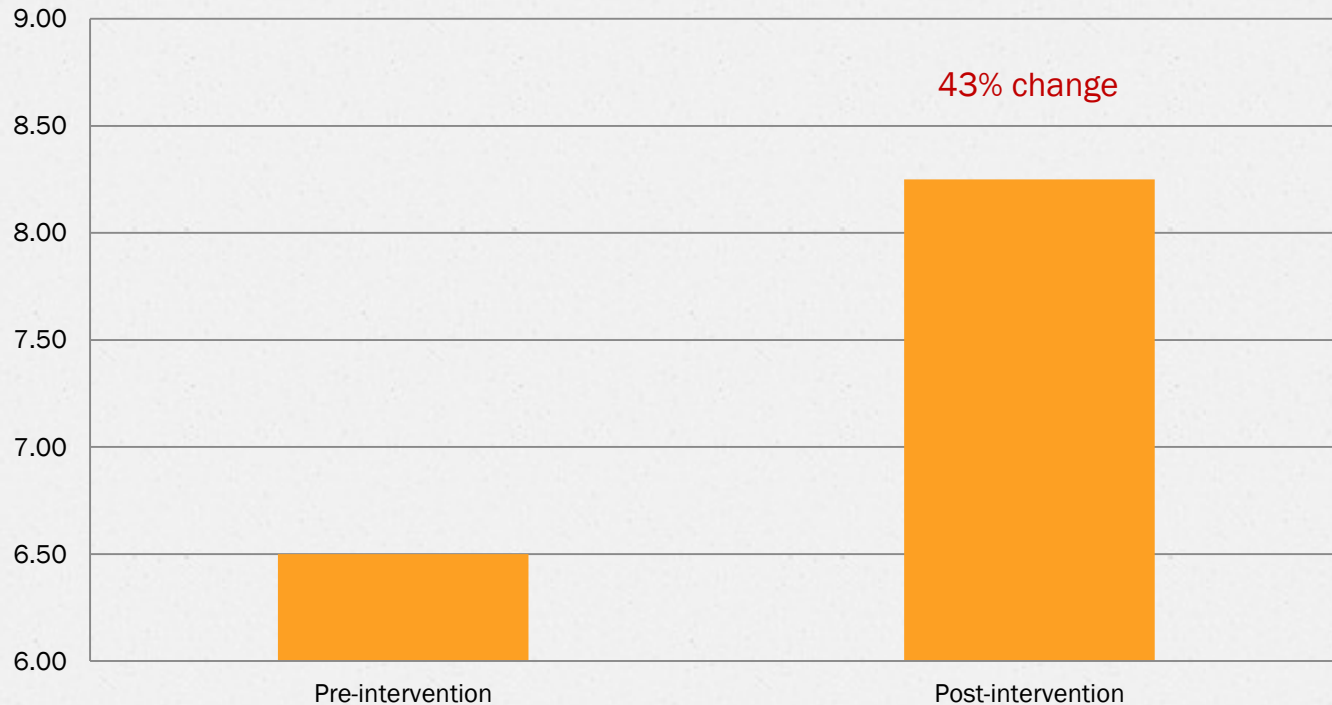
## Analysis of data – Pre/Post intervention surveys

- Pre-survey data showed that providers had higher than expected confidence and lower perceived barriers with recommending the HPV vaccine and discussing HPV and HPV vaccine with patients prior to the intervention.
- Confidence was lower in regards to knowledge of vaccine safety and responding to patient/parent questions regarding HPV and the HPV vaccine.

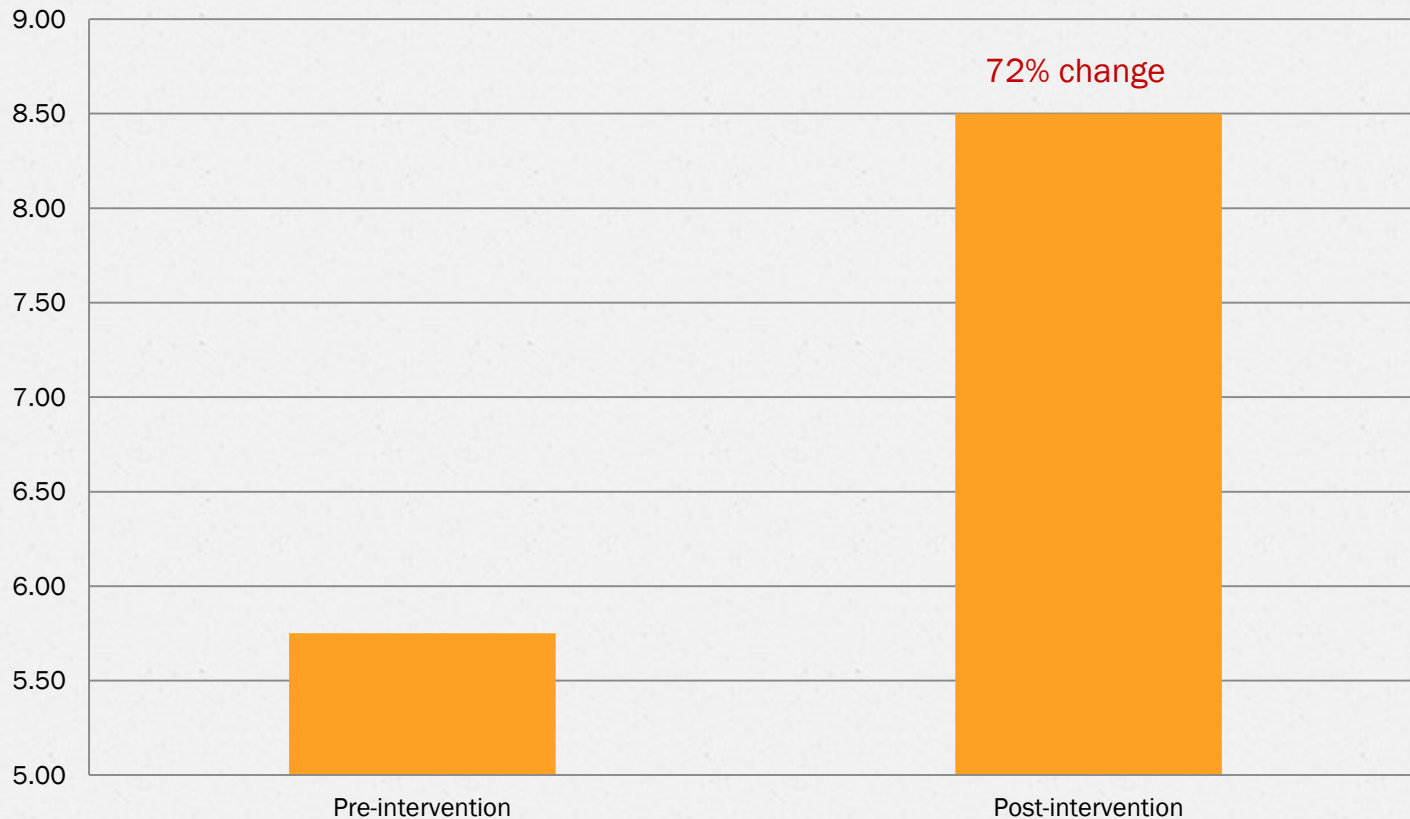
## Analysis of data – Pre/Post intervention surveys

- Post-survey data showed a positive confidence change with many of the survey questions.
- There was only a slight change in decreasing barriers with post survey data; however, during on going assessment providers were asked about barriers 5 months later and there was significant improvement in some areas.

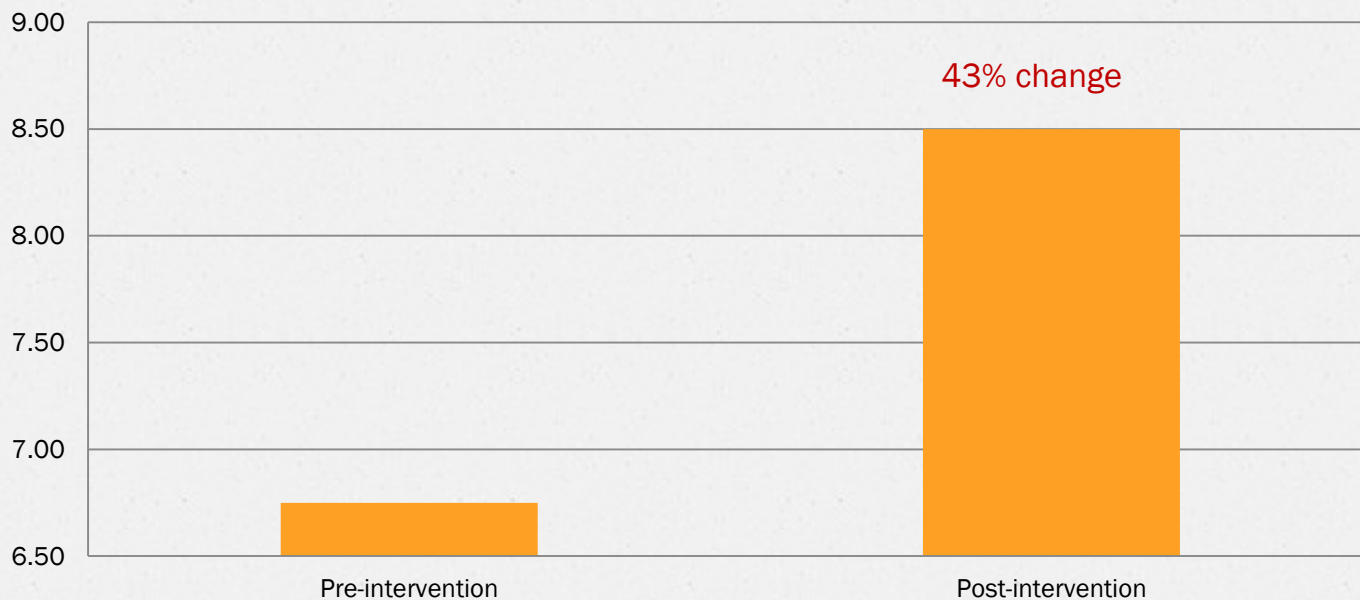
# How confident are you in the safety of the HPV vaccine?



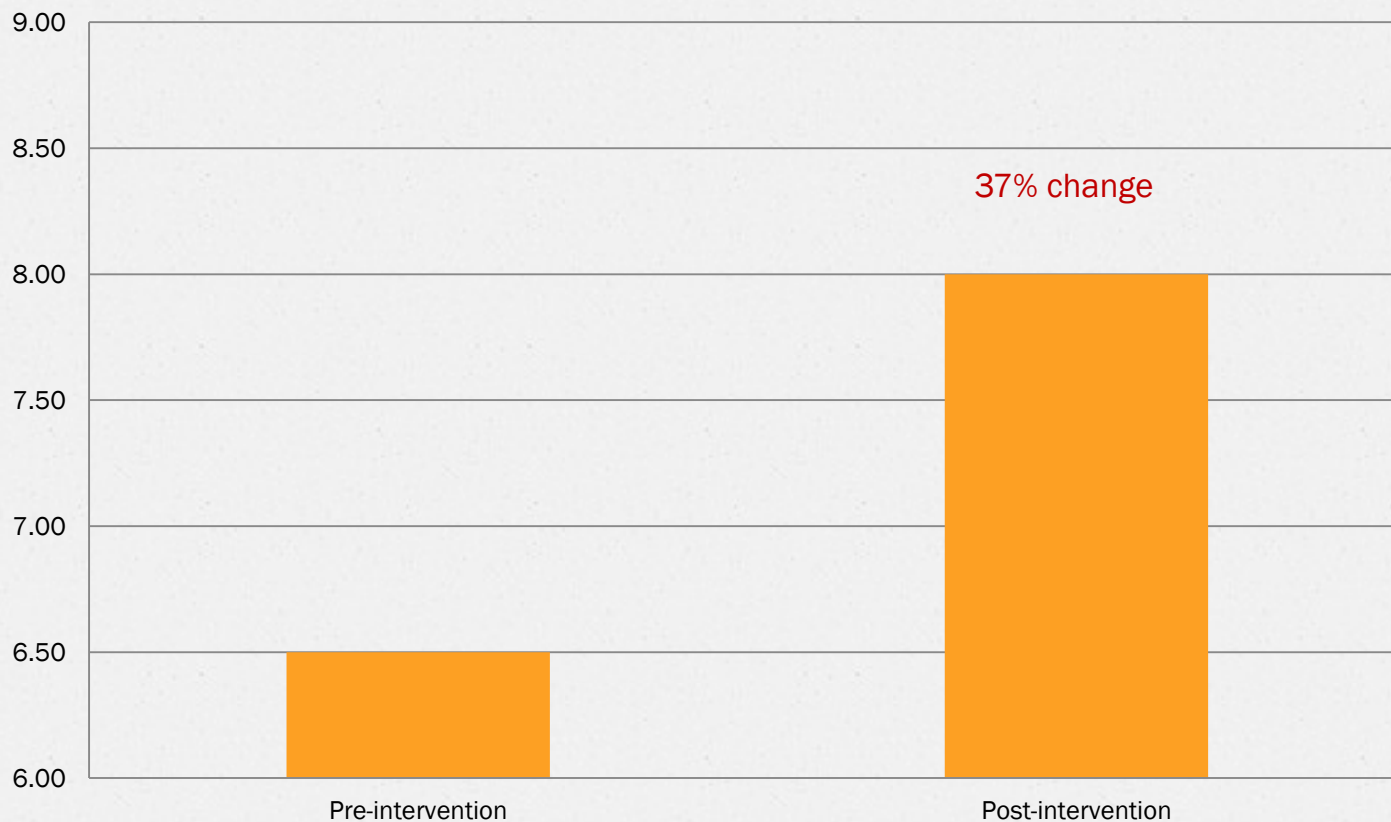
## How confident are you that you can respond to a patient/parent's questions regarding HPV and the HPV vaccine?



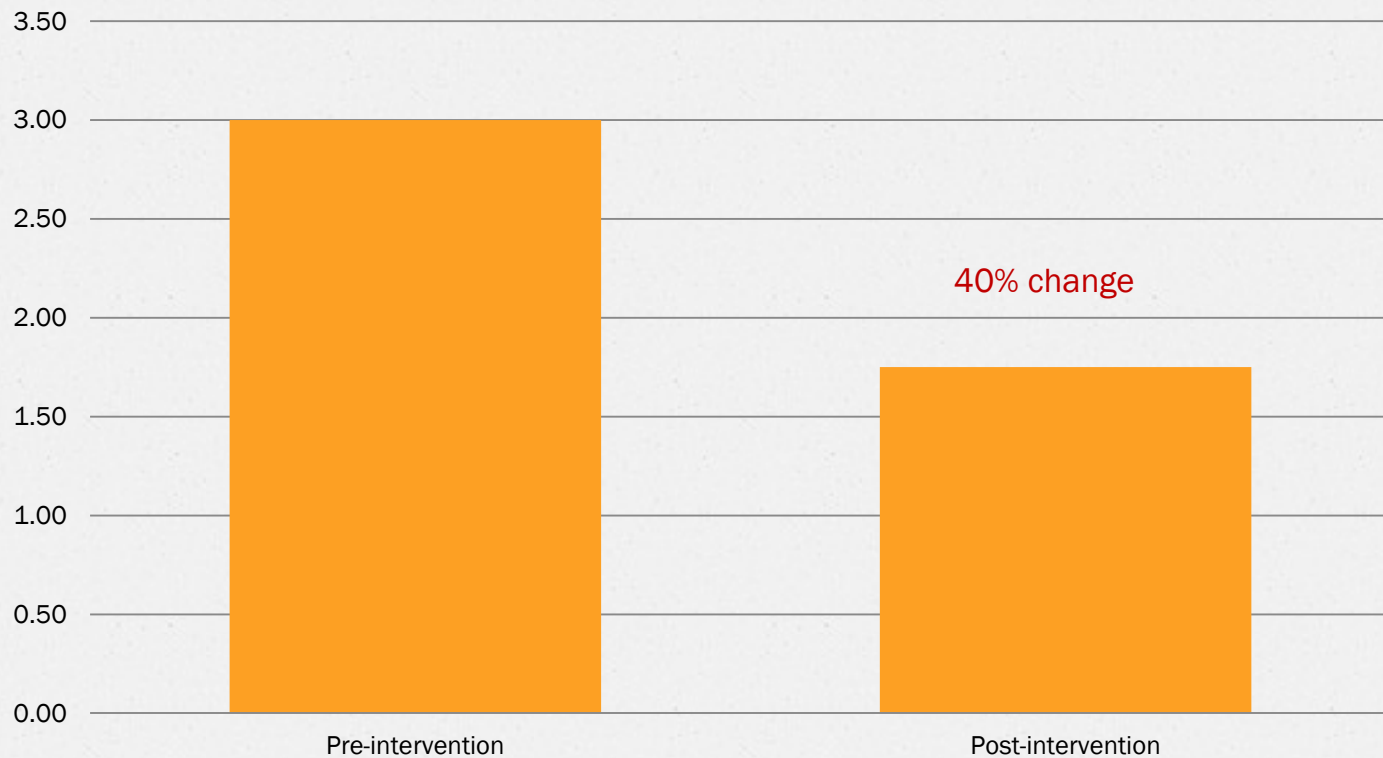
# How confident are you that you can make an effective recommendation of the HPV vaccine to your patients/parents?



## How confident are you that you can react effectively to a patient/parent if he/she is hesitant to accept the HPV vaccine?

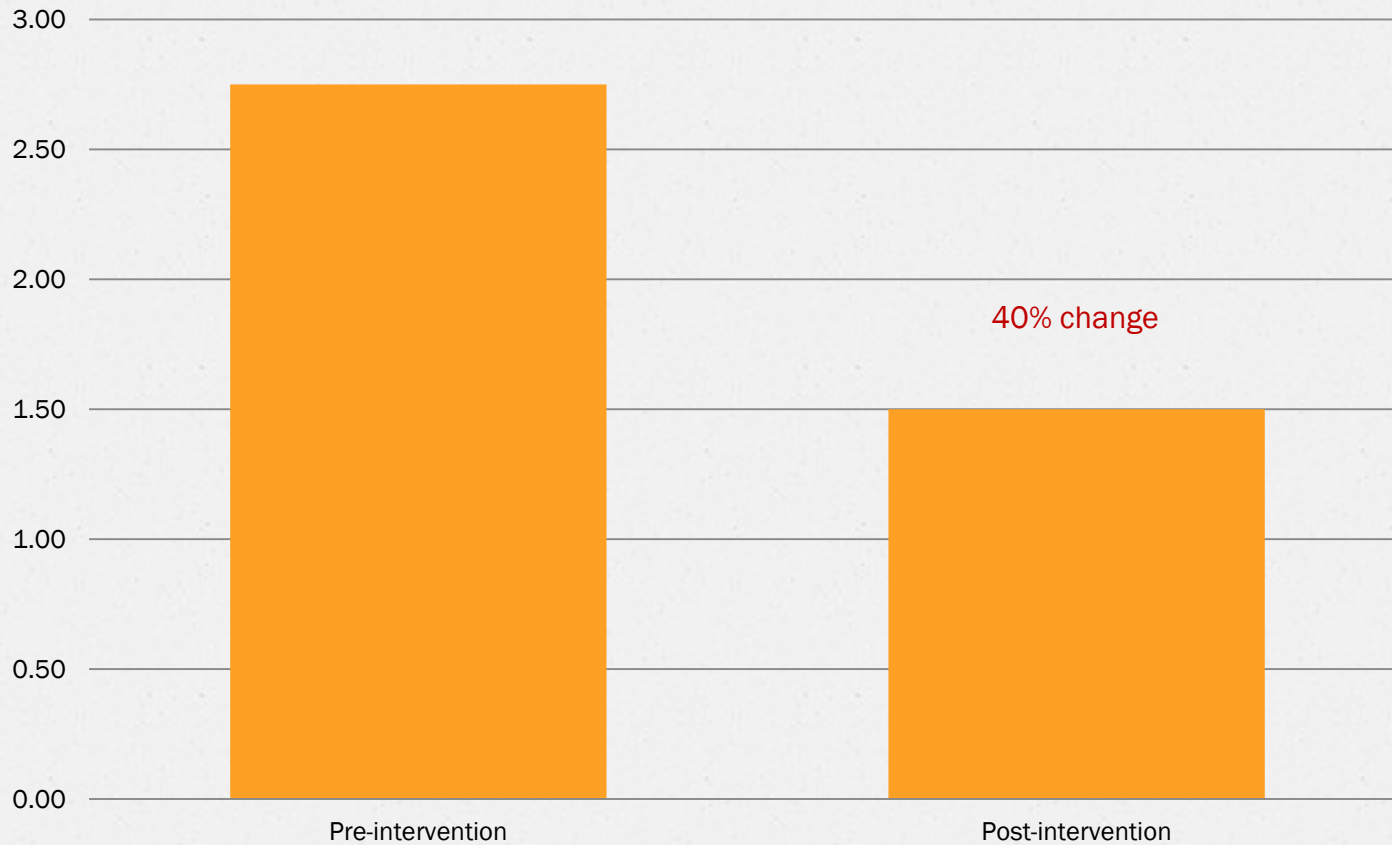


## I am concerned that parents will be offended if I recommend that their child receive the HPV vaccine

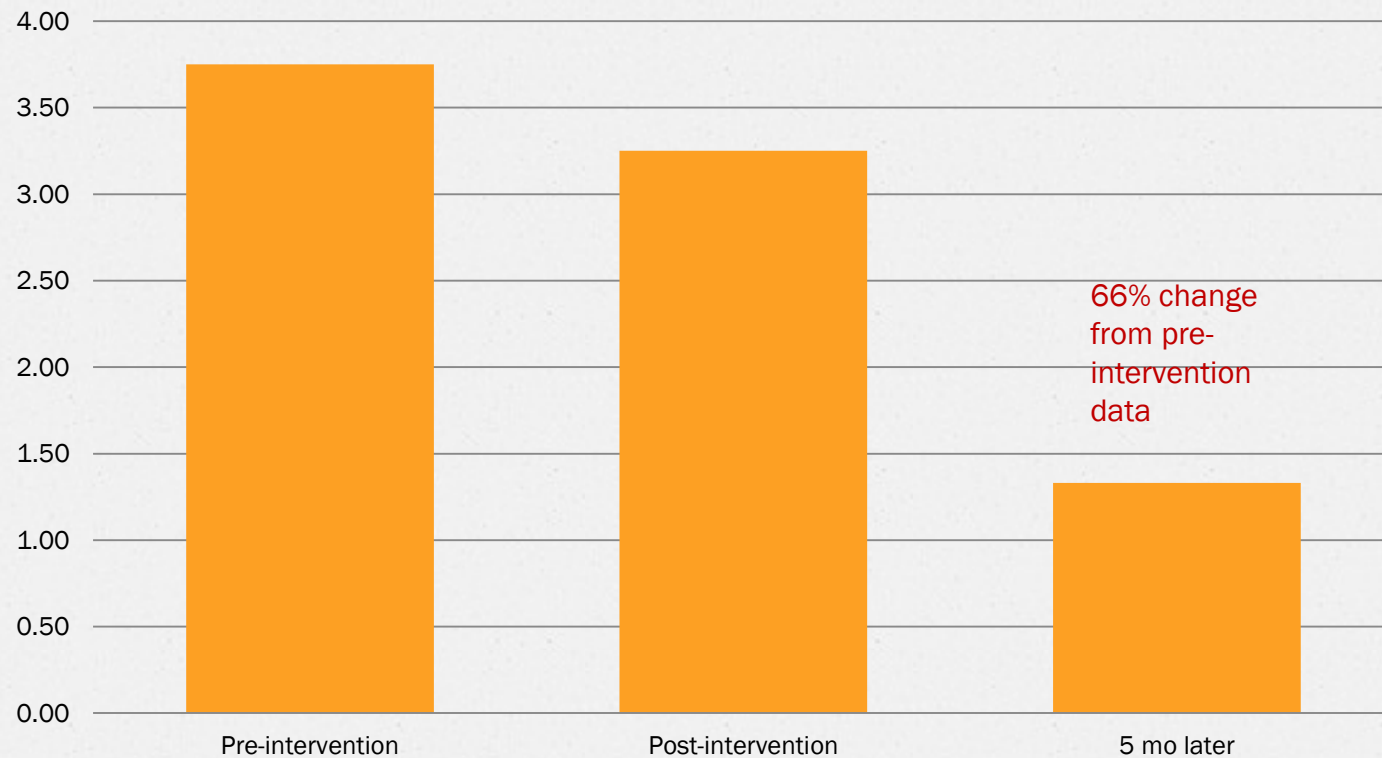




## I represent the HPV vaccine as optional to my patients/parents



## I anticipate an uncomfortable conversation when discussing HPV and the HPV vaccine



# Methods of Evaluation – Study of the Intervention

- o Pre and post intervention chart reviews
  - o 1,052 charts total
    - o 565 charts pre intervention
    - o 487 charts post intervention
  - o Information collected
    - o Provider
    - o Age/sex of patient
    - o # of vaccines received
    - o Type of office visit (annual exam, acute, post partum, nurse)
    - o Offered/declined

## Pre/Post Intervention Chart Review

- Based on chart audits, there was 10% overall increase in HPV vaccination rates.
- HPV vaccine is still not being offered at postpartum visits.
- Vaccines are accepted more often at well child/annual exams vs. acute visits.
- Providers are not indicating why the vaccine was not given (likely d/t time constraints).

# Discussion

- o Summary
- o Limitations
- o Interpretation
- o Conclusions/Implications for Practice
- o Questions?



# Summary

- o Successes:
  - o All participants voiced positive comments that the project was beneficial to them and it created awareness of the importance to give the vaccine to the rest of the staff.
  - o The project created awareness to the project director that there was a need for a HPV/HPV vaccine education session for the MA's (completed).

# Summary

- o Difficulties:
  - o All participants reported completing the post-intervention survey; even though data was missing for one response.
  - o EMR did not easily provide the chart data needed for analysis (it was manually collected).
  - o Providers frequently did not indicate on charts whether or not the vaccine was offered/the reason for not giving the vaccine.

# Summary – Strengths of Conceptual Model

- o The Stetler model is practitioner oriented and critically thinking focused.
- o Use of the Stetler model made the process of decision making for the project clear (the PD had little experience with the model prior to the project.)



# Limitations

- o Small sample size
- o Short duration of project (3 months)
  - o Most well child/annual exams are performed in the summer months.
  - o Fall/Winter is cold and flu season and patients refuse vaccines when they are ill.

# Interpretation

- o Provider confidence increased.
- o Trying to decrease barriers is difficult and ongoing.



## Interpretation (cont.)

- o The 1<sup>st</sup> objective of the project was met.
  - o A practice protocol/algorithm was developed for consistent and efficient administration of the HPV vaccine.
- o The 2<sup>nd</sup> objective to increase providers confidence in addressing the vaccine by 50% was met or was close to being met in some areas.
  - o Providers had higher than expected confidence levels at the start of the project.

## Interpretation (cont.)

- o The 3<sup>rd</sup> objective to decrease barriers in discussing the vaccine was not met.
  - o Participants noted that they anticipate an uncomfortable conversation when discussing HPV and the HPV vaccine with patients.
  - o This opinion significantly improved when readdressed 5 months later indicating barriers in discussing the vaccine may decrease over time.

## Interpretation (cont.)

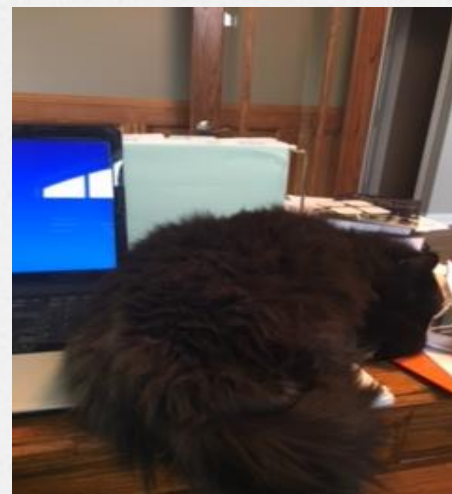
- o The increase in vaccination rate did improve but why wasn't the rate higher?
  - o Time of year data was collected. Most well child exams are performed in the summer months. Parents are more likely to accept the vaccine during these types of visits.

# Conclusions/Implications for Practice

- o All NPs who provide direct care to patients in the age range for HPV vaccine have an important role in increasing HPV vaccination rates. Identifying barriers in practice to recommending the HPV vaccine and developing a protocol to enhance the delivery of the vaccine series will lead to an increase in the overall vaccination rate.



# Questions?



## References

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National Crycroft-Malone, J., & Bucknall, T. (2013). *Evidence based nursing : Models and frameworks for implementing evidence-based practice linking models to action* (5th ed.): John Wiley & Sons.

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