Strong Provider Recommendations
Vaccine Communication

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August 9, 2024

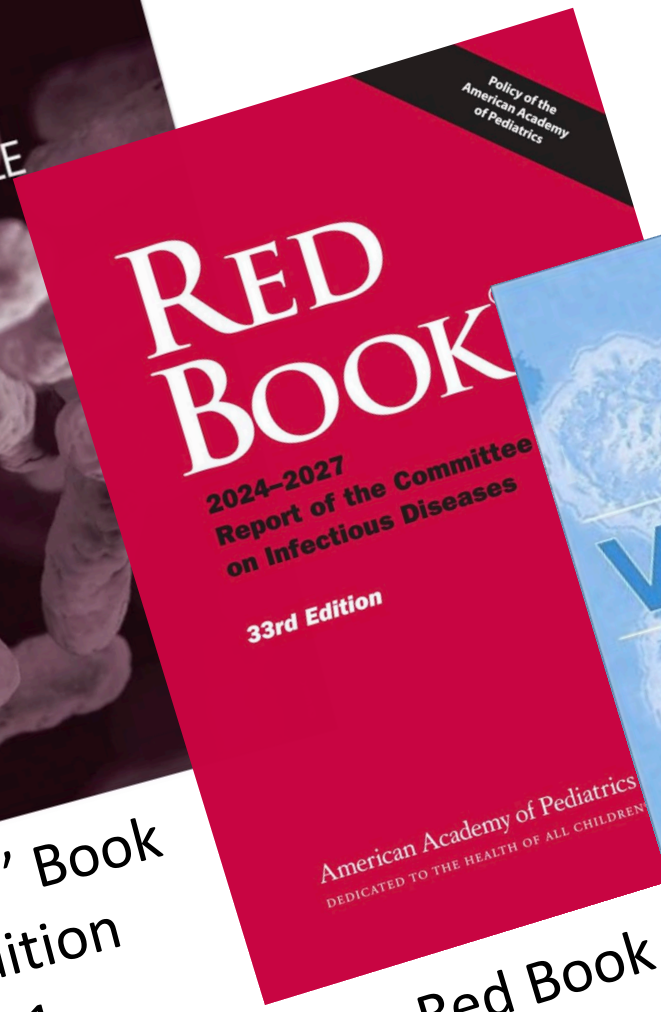
Special Thanks to Paul Darden, M.D.

Agenda—Strong Provider Recommendations

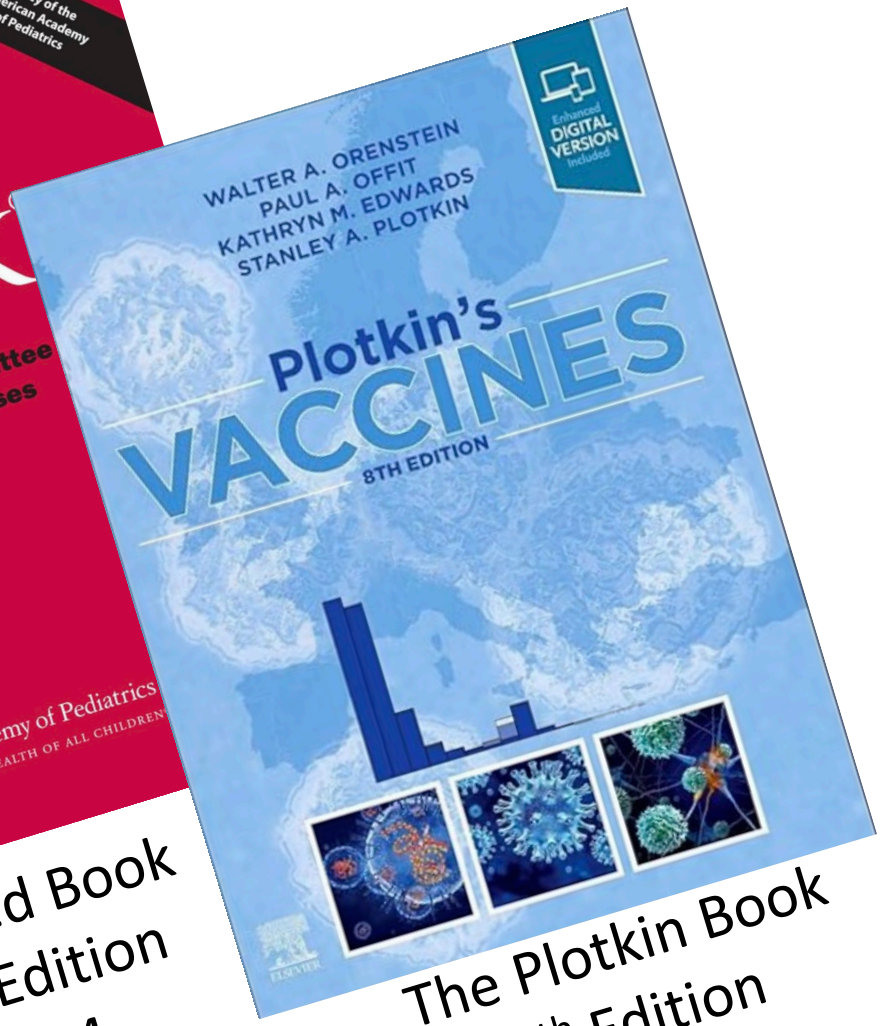
1. History
2. Vaccine Hesitancy
3. Recommending Vaccines
4. What to Say
5. How to Say It

Resources

The "Pink" Book
14th Edition
2021



The Red Book
33rd Edition
2024

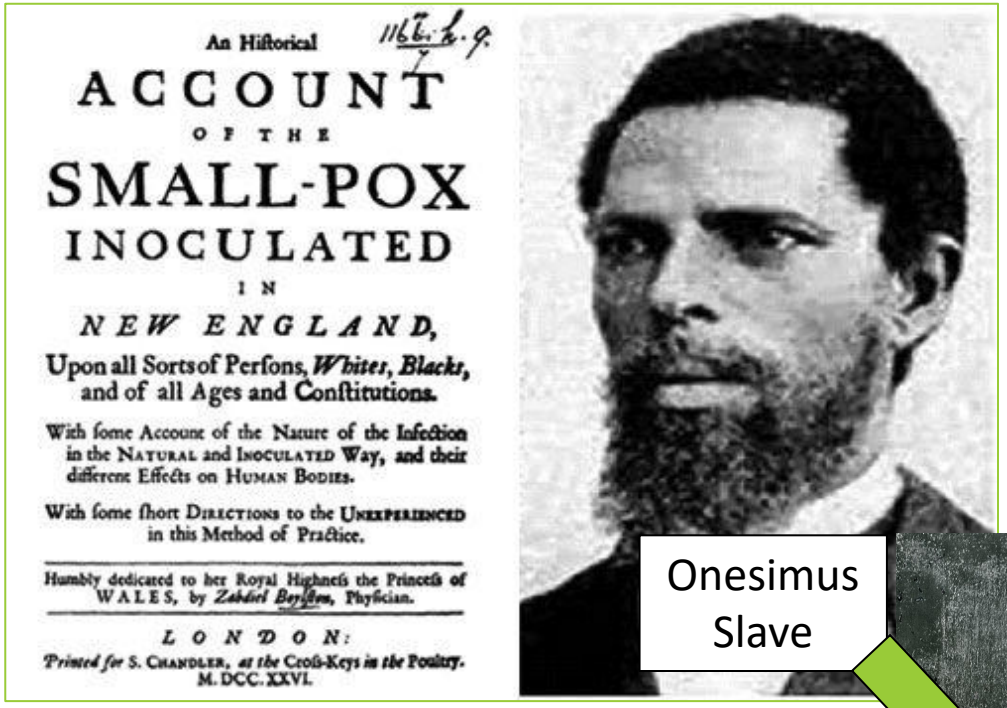


The Plotkin Book
8th Edition
2023

"The impact of vaccination on the health of the world's people would be hard to exaggerate. With the exception of safe water, no other modality, not even antibiotics, has had such a major effect on mortality reduction and population growth."

Vaccines, 2023, Orenstein, Offit, Edwards, Plotkin

Smallpox Epidemic of 1721



An Historical

ACCOUNT

OF THE

SMALL-POX

INOCULATED

IN

NEW ENGLAND,

Upon all Sorts of Persons, *Whites, Blacks,* and of all Ages and Constitutions.

With some Account of the Nature of the Infection in the Natural and Inoculated Way, and their different Effects on Human Bodies.

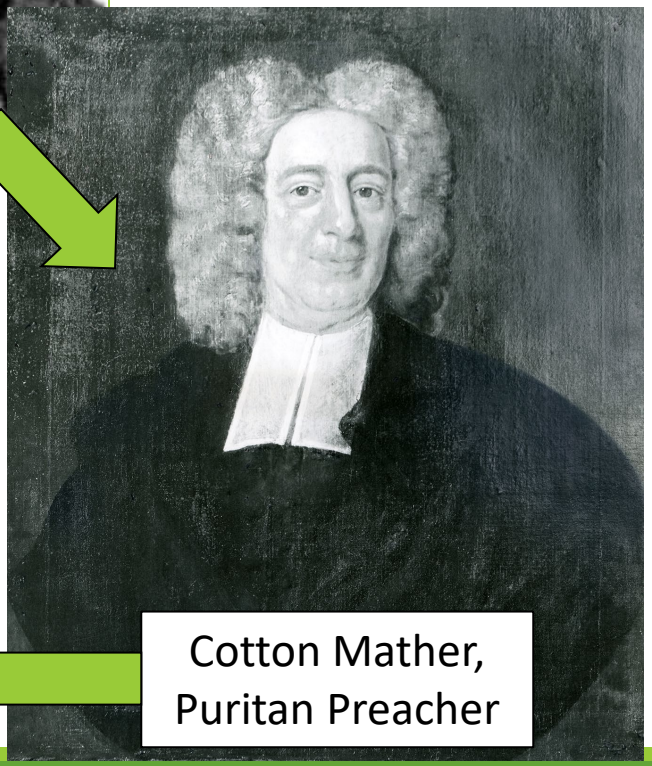
With some short Directions to the Unexperienced in this Method of Practice.

Humbly dedicated to her Royal Highness the Princess of WALES, by *Zabdiel Boylston*, Physician.

LONDON:

Printed for S. Chandler, *at the* Cross-Keys *in the* Poultry. M. DCC. XXVI.

Onesimus Slave



Cotton Mather, Puritan Preacher

Dr. Zabdiel Boylston Physician

Smith, P. J., et al. (2011). "Highlights of historical events leading to national surveillance of vaccination coverage in the United States." Public Health Rep **126 Suppl 2**: 3-12.

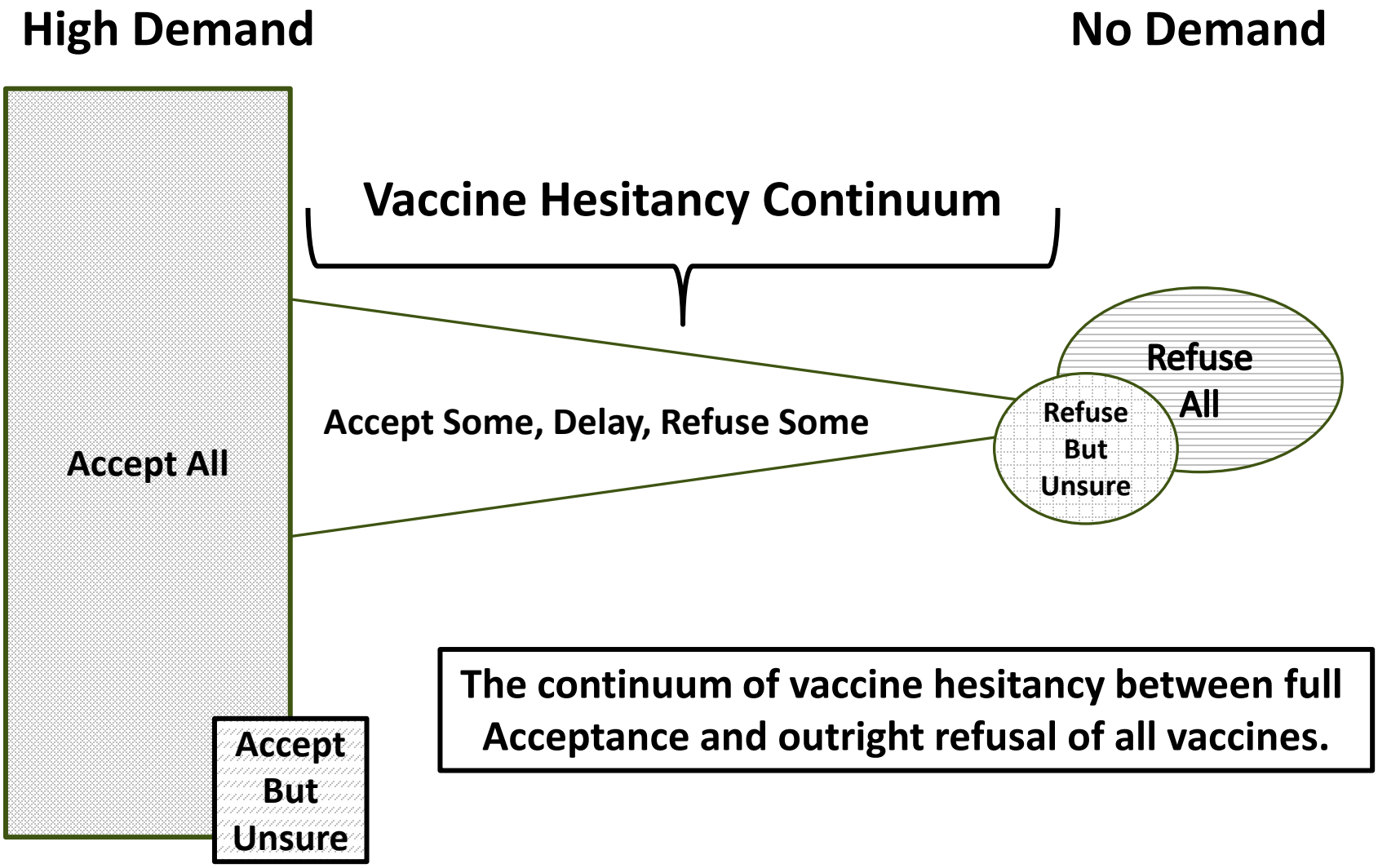
https://www.history.com/news/smallpox-vaccine-onesimus-slave-cotton-mather

Vaccine hesitancy … A new problem?

James Gillray, The Cow Pock-or-The Wonderful Effects of the New Inoculation!—Vide—the Publications of ye Anti-Vaccine Society, 1802


World Health Organization
Health Topics
Countries
Newsroom
Emergencies
Vaccine Hesitancy
Ten threats to global health in 2019

SAGE Working Group on Vaccine Hesitancy

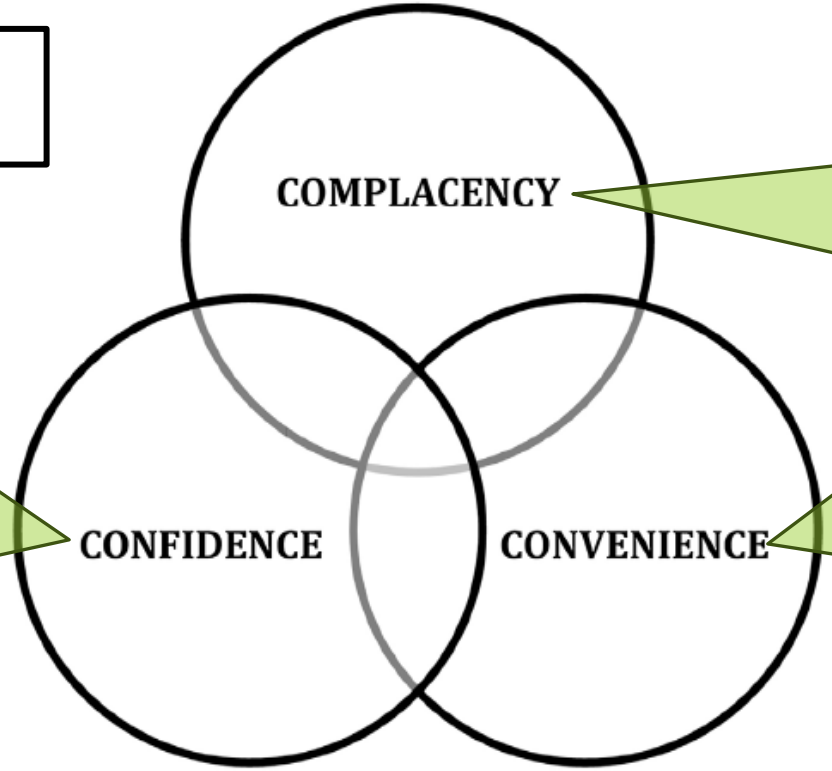


MacDonald, N. E. (2015). "Vaccine hesitancy: Definition, scope and determinants." Vaccine **33**(34): 4161-4164.

WHO Strategic Advisory Group of Experts on Immunization (SAGE)

DEFINITION: Vaccine hesitancy refers to delay in acceptance or refusal of vaccination despite availability of vaccination services. Vaccine hesitancy is complex and context specific, varying across time, place and vaccines. It is influenced by factors such as complacency, convenience and confidence.

"Three Cs" model of vaccine hesitancy



- Perceived Risks are low
- Vaccines not deemed necessary

IMPORTANCE

- Effectiveness and Safety
- System of delivery
- Motivation of Policy Makers

TRUST

- Availability
- Affordability
- Geographic Access
- Health Literacy

ACCESS TO CARE

MacDonald, N. E. (2015). "Vaccine hesitancy: Definition, scope and determinants." Vaccine **33**(34): 4161-4164.

Under-vaccinated versus Unvaccinated – National Immunization Survey

Under-vaccinated	Unvaccinated
❑ Black or Hispanic	❑ Non-Hispanic White
❑ Mother younger unmarried	❑ Mother older and married
❑ No college	❑ College degree
❑ More likely poor	❑ Income >$75K

Attitudes

❑ 5% vaccine safety concerns	❑ 48% Vaccine safety concerns
❑ 23% Doctor NOT influential	❑ 71% Doctor NOT influential

●●●

Smith PJ, Chu SY, Barker LE. Children who have received no vaccines: who are they and where do they live? *Pediatrics.* 2004;114(1):187-195.

Community Preventive Services Task Force
The Community Guide

Intervention	CPSTF Finding
Enhancing Access to Vaccination Services	
Increasing Community Demand for Vaccinations	
Provider- or System-Based Interventions	
Health Care System-Based Interventions Implemented in Combination	Rec…idence)
Immunization Information Systems	…mended (strong evidence) …y 2010
Provider Assessment and Feedback	Recommended (strong evidence) March 2015
Provider Education when Used Alo…	Insufficient Evidence May 2015
Provider Remi…	Recommended (strong evidence) March 2015
Standing Orders	Recommended (strong evidence) March 2015

Education alone is not sufficient

https://www.thecommunityguide.org/content/task-force-findings-increasing-vaccination

Strong Provider Recommendation

1. **Does it matter?**
2. **What do I say?**
   -
   -
   -
3. **How do I say it?**
   -
   -
   -
   -

MCV4 & Tdap : Most Frequent "Main Reasons" National Immunization Survey 2010-2012

	2010		2011		2012	
	MCV4	Tdap	MCV4	Tdap	MCV4	Tdap
Not Recommended	**36.0**	23.2	**37.5**	**25.6**	**40.0**	**30.2**
Not Needed or Not Necessary	13.1	16.4	12.6	16.1	12.7	13.5
Lack of Knowledge	10.6	11.6	10.8	11.9	13.3	12.3
Not Appropriate Age	4.3	1.7	3.2	2.2	3.1	1.5
Safety Concern/Side Effects	0.9	0.6	0.5	0.3	0.9	1.2
Don't Know	19.7	**26.2**	20.0	21.4	15.9	20.0
Not Sexually Active						
Multiple Reasons	3.3	3.8	2.8	3.5	0.9	0.6
All Other Reasons	12.0	16.5	12.4	19.0	13.2	20.7

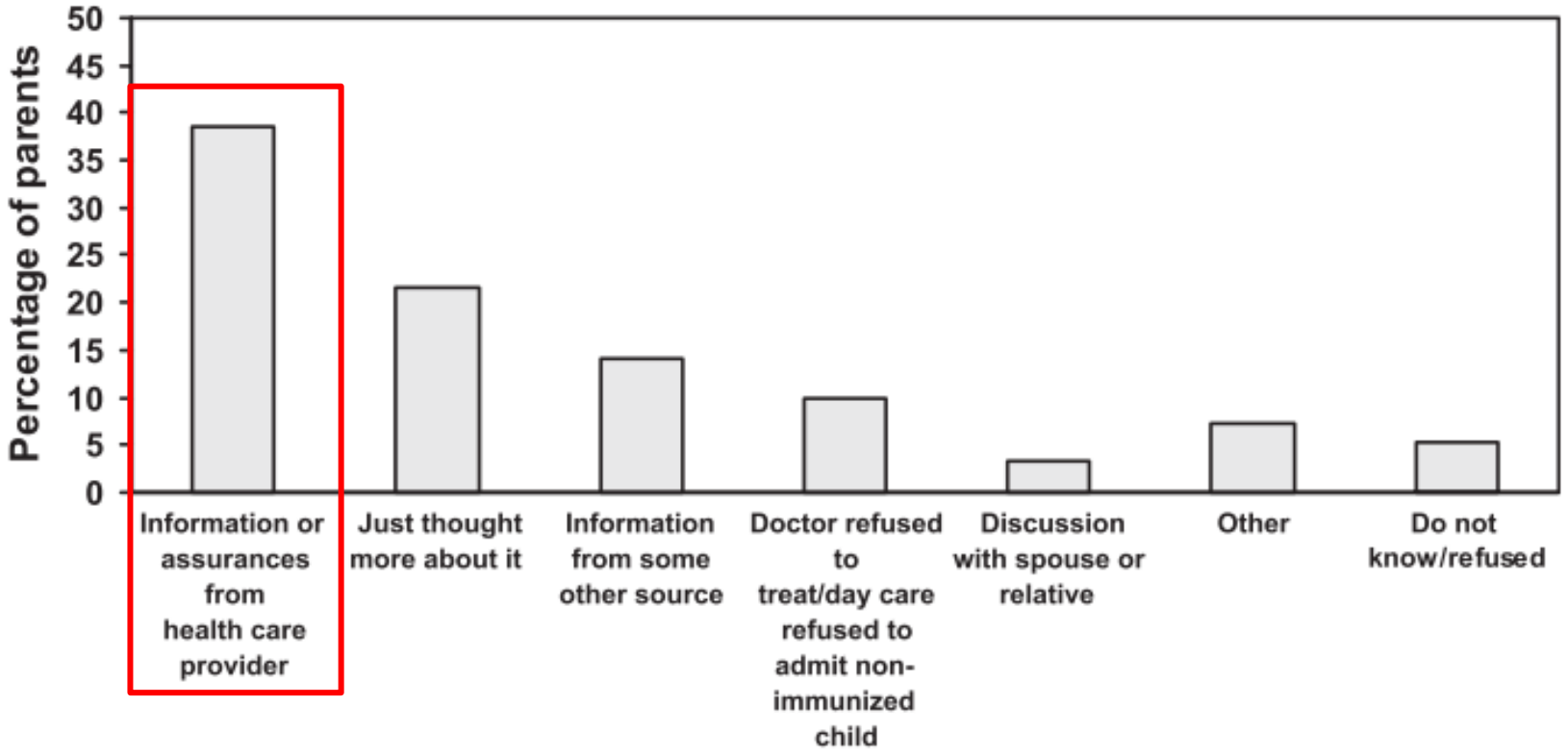
Underlined and bold: Most frequent reason in that year
Underlined: Second most frequent reason in that year

HPV: Most Frequent "Main Reasons" National Immunization Survey 2010-2012

	2010		2011		2012	
	Male	Female	Male	Female	Male	Female
Not Recommended	17.7	8.4	18.7	9.3	**22.6**	15.4
Not Needed or Not Necessary	**19.7**	**18.1**	**21.3**	**21.2**	21.7	**18.1**
Lack of Knowledge	12.8	10.4	10.7	10.1	16.8	12.1
Not Appropriate Age	2.6	4.8	3.2	3.7	2.4	4.0
Safety Concern/Side Effects	3.0	15.7	4.2	12.5	5.2	13.8
Don't Know	4.7	5.0	4.0	2.9	2.4	3.5
Not Sexually Active	12.1	11.6	10.3	12.3	8.1	9.9
Multiple Reasons	7.5	8.0	7.7	8.5	1.9	1.6
All Other Reasons	19.9	18.0	19.8	19.5	18.9	21.7

Underlined and bold: Most frequent reason in that year
Underlined: Second most frequent reason in that year

The main reasons parents changed their minds about vaccines for their children.



National Immunization Survey (2003–2004)

Gust DA, Darling N, Kennedy A, Schwartz B. Parents with doubts about vaccines: which vaccines and reasons why. *Pediatrics.* 2008;122(4):718-725.

Clinicians' Recommendations Matter

- Many studies across many vaccines and ages
  - Nowalk et al, 2005
  - Lin et al, 2006
  - Nowalk et al, 2007
  - Brewer et al, 2011
  - Guerry et al, 2011
  - Rosenthal et al, 2011
  - Darden et al, 2013
  - Gargano et al, 2013
  - Ylitalo et al, 2013
  - Darden and Jacobson, 2014
  - Finney Rutten et al, 2018
  - Lu et al, 2019
  - Caldwell et al, 2021
- Clinicians' **recommendations** increase vaccination update!

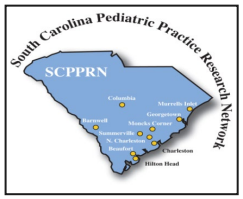
•••

Impact of a physician recommendation

Paul M Darden[1,*] and Robert M Jacobson[2]

[1]Department of Pediatrics; College of Medicine; University of Oklahoma Health Sciences Center; Oklahoma City, OK USA; [2]Department of Pediatric and Adolescent Medicine; Mayo Clinic; Rochester, MN USA

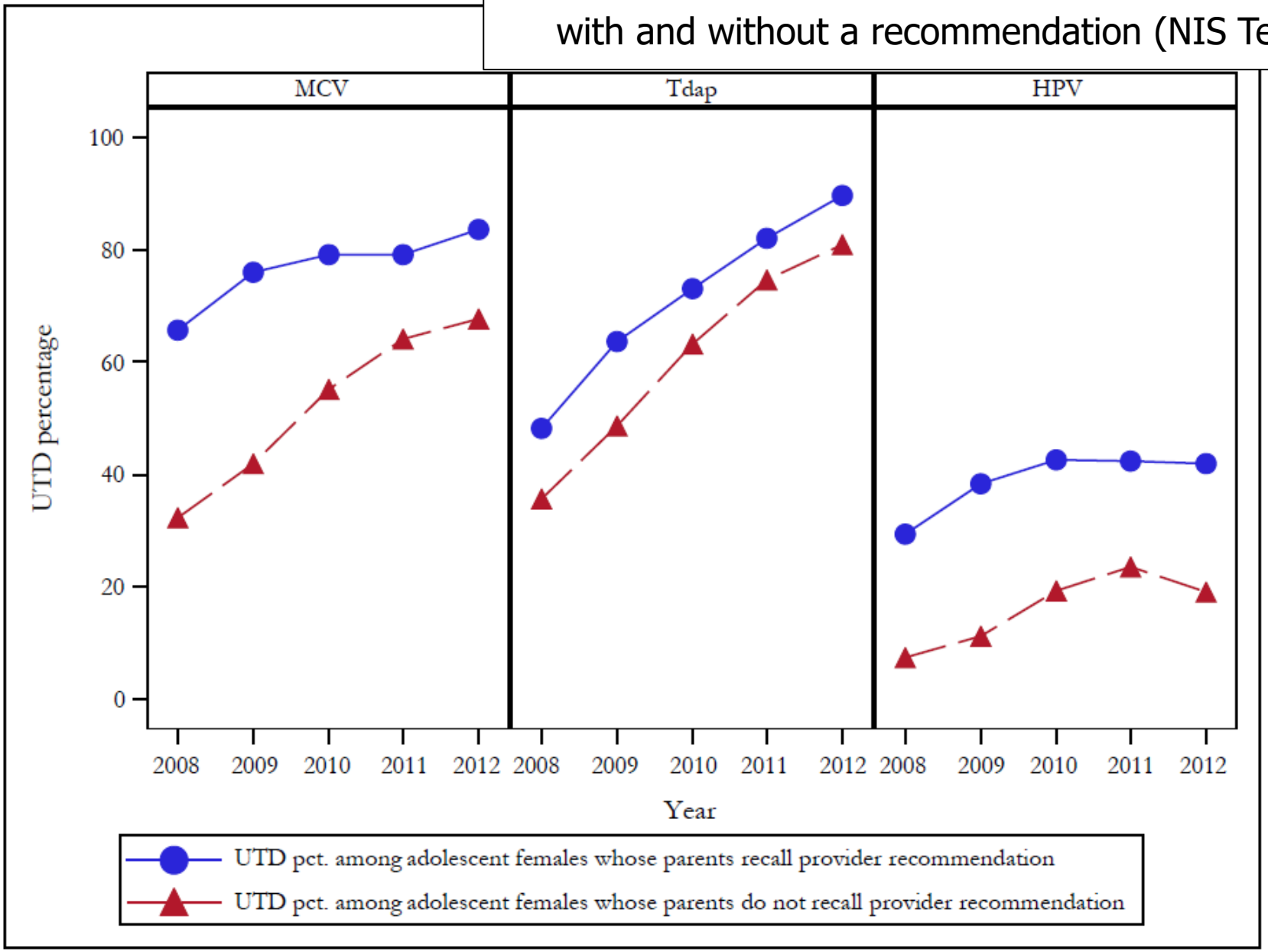
- Many studies with consistent results across age groups and vaccines
  - Provider recommendation, strongest or one of the strongest, associations with vaccination
- Almost all studies are cross-sectional, parent or patient report of recommendation
- Brewer, et al, 2011 based on surveys 2007 and 2008
  - Parents who reported a provider recommendation at baseline were more likely to have received HPV vaccine at follow-up – 51% (46/94) versus 21% (103/473)



Darden PM, Jacobson RM. Impact of a physician recommendation. *Human vaccines & immunotherapeutics.* 2014;10(9).

Improving the Health of Oklahoma's Children
OCHRN
OKLAHOMA
Child Health Research Network

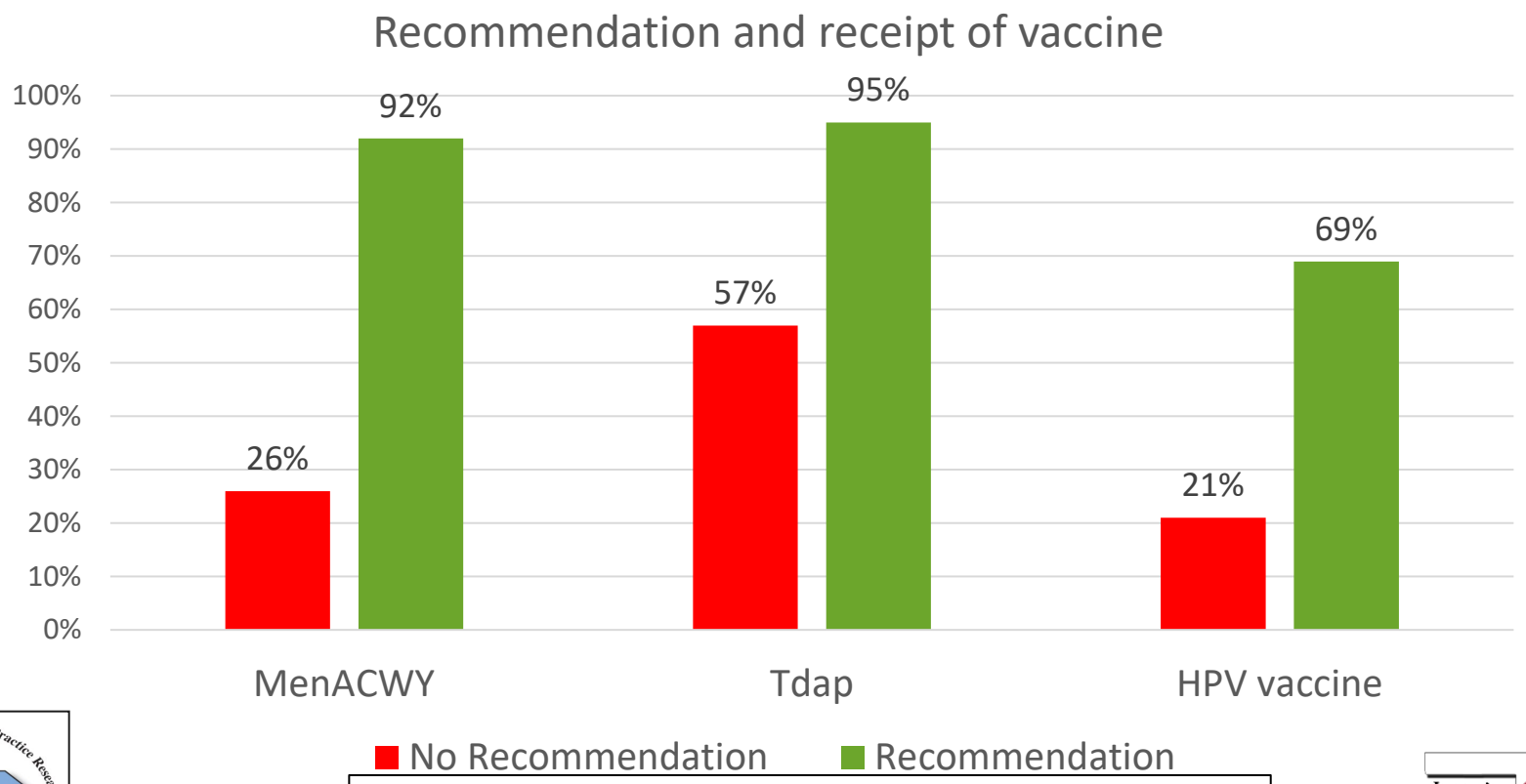
Up-to-dates Rates among females by vaccine with and without a recommendation (NIS Teen)



Caldwell AC, Madden CA, Thompson DM, et al. The impact of provider recommendation on human papillomavirus vaccine and other adolescent vaccines. *Human vaccines & immunotherapeutics.* 2021;17(4):1059-1067.

Parents

State – OK and SC
Practices – 9
Parents – 281



Recommendation versus No recommendation
P<.05 all vaccines

Summary of Research Supports Provider Recommendations

- Consistent evidence across multiple settings, age-groups and vaccines that patient/parent-reported provider/clinician/doctor **recommendation for vaccines is effective in promoting receipt of that vaccine.**
- Several studies indicate that the patient/parent-reported **strength of the doctor's recommendation is important** in promoting receipt of HPV vaccine

Strong Provider Recommendation

1. **Does it matter?**
2. **What do I say?**
   -
   -
   -
3. **How do I say it?**
   -
   -
   -
   -

Strong Provider Recommendation

1. **Recommend**
2. **What do I say?**
   -
   -
   -
3. **How do I say it?**
   -
   -
   -
   -

Strong recommendation – Opel

Opel et al *Pediatrics* in 2013

111 parents of children aged 1 to 19 months old

Oversampled vaccine hesitant parents

Videotaped health-maintenance visits

74%: providers **presumptive** (eg, “Well, we have to do some shots”) rather than participatory (eg, “What do you want to do about shots?”)

Odds of parents accepting if presumptive **17.5 times** more

Presumptive “In contrast, presumptive formats involved asserting a position regarding vaccination” Opel 2012

AAP and CDC Strong Recommendation – 2014

Components

- Information "HPV vaccine is important because it prevents cancer"
- Recommendation "**I recommend that your daughter/son receive HPV vaccine**"
- Timing "today"

Tips and Time-savers for Talking with Parents about HPV Vaccine

Recommend the HPV vaccine series the same way you recommend the other adolescent vaccines. For example, you can say "Your child needs these shots today," and name all of the vaccines recommended for the child's age.

Parents may be interested in vaccinating, yet still have questions. Taking the time to listen to parents' questions helps you save time and give an effective response. CDC research shows these straightforward messages work with parents when discussing HPV vaccine—and are easy for you or your staff to deliver.

CDC RESEARCH SHOWS: The "HPV vaccine is cancer prevention" message resonates strongly with parents. In addition, studies show that a strong recommendation from you is the single best predictor of vaccination.

TRY SAYING: HPV vaccine is very important because it prevents cancer. I want your child to be protected from cancer. That's why I'm recommending that your daughter/son receive the first dose of HPV vaccine today.

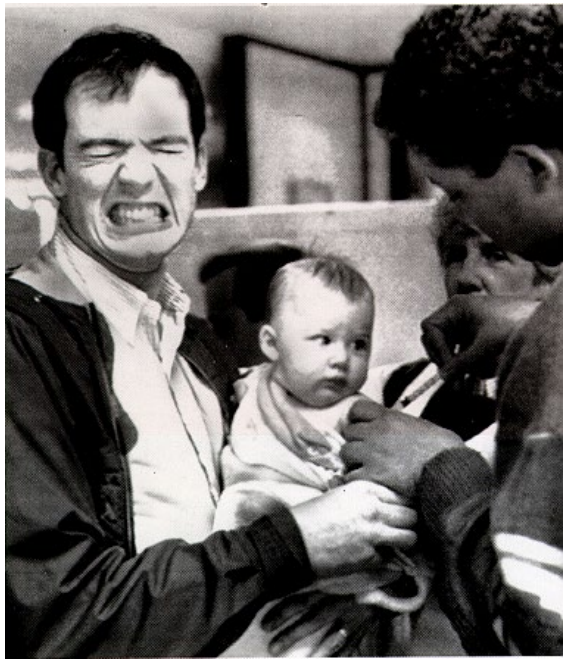
http://www.cdc.gov/vaccines/who/teens/for-hcp/hpv-resources.html

Improving the Health of Oklahoma's Children

OCHRN
OKLAHOMA
Child Health Research Network
Located at The University of Oklahoma Health Sciences Center

MCHB Adolescent Decision-Making Project

Study Overview



Four types of vaccine recommendations

Expectant
- *"Today **you will receive** …"*

Directive
- *"**I recommend** that you receive …"*

Passive
- *"**You are due** for …"*

Invitational
- *"Today, **would you like to** receive …"*

Presumptive

Participatory

109 audio-taped 11-17-year-olds who were due for vaccines and at a well check

What Happened?

Clinician recommended HPV vaccine more commonly than MenACWY and Tdap

- 94% (94/100) HPV vs. 86% (49/57) MCV4, 84% (41/49) Tdap, P=.03

Type of recommendation for HPV vaccine

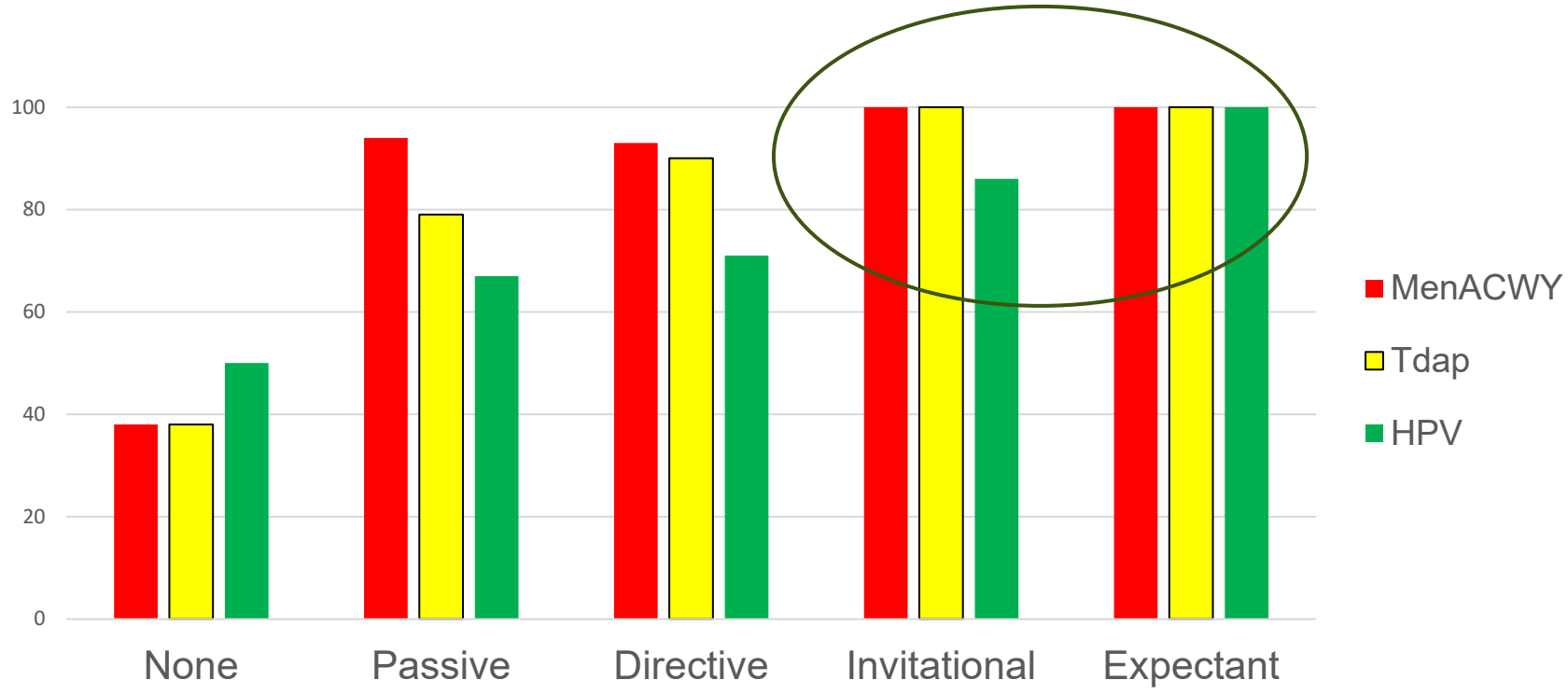
- Expectant 26%, Directive 24%, Passive 9%, Invitational 35%, None 6%

Clinician used Invitational recommendation for HPV vaccine more commonly than for MCV4 and Tdap

- 35% HPV vs. 7% MCV4, 6% Tdap

109 audio-taped 11-17-year-olds who were due for vaccines and at a well check

Vaccine Acceptance by Recommendation Type



What worked?

Intake: Nurse addressing HPV due with parent,

- 100% (11/11) vs. 72% (34/47), P=.05 for receipt of HPV vaccine

HPV discussed with other vaccines vs. HPV vaccine separately

- 94% HPV with other vaccines vs. 71% HPV discussed separately, P<.01 for receipt of HPV vaccine

Expectant recommendation for HPV vaccine vs. all other types and no recommendation for HPV vaccine

- 100% receipt HPV vs. 76% receipt HPV, P<.01

109 audio-taped 11-17-year-olds who were due for vaccines and at a well check

What worked?

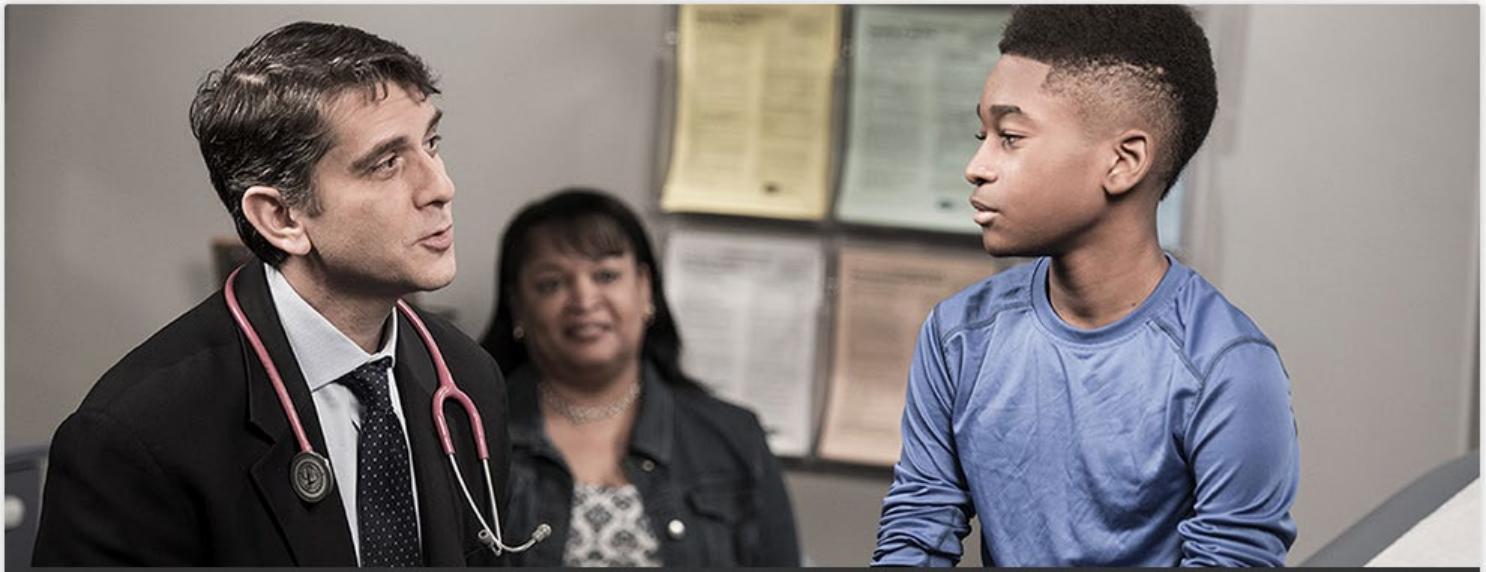
When the clinician initiated with a recommendation vs all other forms, the adolescent was more likely to be vaccinated:

- MenACWY 100% vs 92% (NS)
- Tdap 100% vs 75% (p=0.04)
- HPV vaccine 95% vs 74% (p=0.02)

109 audio-taped 11-17-year-olds who were due for vaccines and at a well check

March 21, 2019

Answering Parents' Questions about HPV Vaccine



Most parents will accept HPV vaccination when you effectively recommend the vaccine and address their questions.

Recommend nts.

You can say, ancers, *and whoopin*

Now that your son is 11, he is due for vaccinations today to help protect him from meningitis, HPV cancers, and whooping cough. Do you have any questions?

Remind parents of the follow-up shots their child will need and ask them to make appointments before they leave.

https://www.cdc.gov/hpv/hcp/answering-questions.html

Strong Provider Recommendation

1. **Recommend**
2. **What do I say?**
   -
   -
   -
3. **How do I say it?**
   -
   -
   -
   -

Strong Provider Recommendation

1. **Recommend**
2. **Presumptive**
   - **Due for vaccines**
   - **To prevent**
   - **Any questions**
3. **How do I say it?**
   -
   -
   -
   -

Motivational Interviewing

- When the target behavior involves daily habits
- When changing behavior calls for cultivating daily motivation
- Isn't effective with vaccine hesitancy

Alison Singer-C.A.S.E. Approach

Corroborate
- Your **compassion, understanding, & empathy**

About me
- Your standing and role

Science
- Your knowledge

Explain/advise
- Your purpose

Jacobson RM. Vaccinations: A public health triumph and a public relations tragedy. *Minnesota medicine.* 2012;95(8):36-40.

Facts are not enough

"… we have been impressed by how frequently parents in focus group discussions are adamant that they want to be given the "facts" but demonstrate minimal retention of these when exposed to television items containing pro-immunisation and anti-immunisation claims."

Leask JA, Chapman S, Hawe P. Concerns about immunisation. Facts are not enough. *BMJ (Clinical research ed.* 2000;321(7253):109.

Effective Messages in Vaccine Promotion: A Randomized Trial
Brendan Nyhan, Jason Reifler, Sean Richey and Gary L. Freed
Pediatrics; originally published online March 3, 2014;
DOI: 10.1542/peds.2013-2365

MMR vaccine and diseases: Randomized trial of communication

Respondents: National random sample (Knowledge Networks) of parents with a child < 18 surveyed in 2 waves, N=1,759.

1. Health and vaccine attitudes
2. Randomly assigned to intervention

Interventions: The first three used text from CDC material

1. **Autism correction**, lack of a link between MMR and Autism
2. **Disease risks**, text about symptoms and adverse events of MMR
3. **Disease narrative**, a narrative about an infant hospitalized with measles
4. **Disease images**, images of diseases prevented by MMR
5. **Control group**, text about costs and benefits of bird feeding

Outcome: Vaccination knowledge ("vaccines cause autism") and intent to vaccinate questions ("MMR for next child").

MMR vaccine and diseases: Randomized trial of communication

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Results:

#1 ↑ correct knowledge but ↓ intent to vaccinate

#3 and 4 ↓ correct knowledge

Influenza vaccine and disease Randomized trial of communication[1]

Data collected as part of a survey about politics and government

Pre-intervention concerns: "serious side effects from vaccines", 25% very or extremely concerned

Interventions used text from CDC website

1. **Correction**, debunk myth contract flu from vaccine
2. **Danger**, text about risk of flu
3. **Control,** no additional information

Effect on flu vaccine myth, safety and intent to vaccinate

1. Correction, ⇧ myth and safety (unconcerned), ⇩ vaccinate (concerned)
2. Danger, no effect on any outcome

1. Nyhan B, Reifler J. Does correcting myths about the flu vaccine work? An experimental evaluation of the effects of corrective information. *Vaccine.* 2015;33(3):459-464.

Summary of Nyhan communication trials

Currently recommended education/communication

- Can improve knowledge particularly among those with no concerns about vaccination
- May decrease the intent to vaccinate among those with concerns about vaccination even while improving knowledge

Repeating False Information: A Bad Idea

Repetition increases acceptance (Skurnik 2005)

- Participants told 3X that a statement was false more likely to accept as true than told once

Repetition spreads misinformation to new audiences

Myth-busting can convey controversy

Anecdotes and photographs reinforce the false message (Fagerlin 2005)

Schwartz N, Newman E, Leach W. Making the truth stick & the myths fade: Lessons from cognitive psychology. *Behavioral Science & Policy.* 2016;2(1):85-95.

Strong Provider Recommendation

1. Recommend
2. Presumptive
   - Due for vaccines
   - To prevent
   - Any questions
3. How do I say it?
   -
   -
   -
   -

Strong Provider Recommendation

1. Recommend
2. Presumptive
   - Due for vaccines
   - To prevent
   - Any questions
3. Empathy/Collaborative
   - Short
   - No debate
   - Don’t repeat myths
   - Keep the conversation open

Vaccine hesitancy … An old problem?

James Gillray, The Cow Pock-or-The Wonderful Effects of the New Inoculation!—Vide—the Publications of ye Anti-Vaccine Society, 1802

… with a new twist

Shared decision-making for vaccine delivery

Definition: “Both parties share information…take steps to build consensus about the preferred treatment, and [reach an agreement] on the treatment to implement”

Issues
- Parent making decisions for a child
- Medically acceptable alternatives
- For vaccines, public health issues

Examples
- Breast-feeding
- Supine sleep position
- Car seat use

Opel DJ. A Push for Progress With Shared Decision-making in Pediatrics. *Pediatrics.* 2017;139(2).

Who do people trust?

https://www.neh.gov/article/elvis-presley-set-example-getting-his-polio-vaccination

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Special Thanks to Paul Darden, M.D.