



Evidence-based Communication Strategies for Promoting Vaccination and Addressing Vaccine Hesitancy

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Disclosures

I serve on Advisory Boards for Merck, Pfizer and Sanofi Pasteur, and have been a Consultant for Pfizer in the past. I do not receive any research funding from these companies, nor did they play any role in this presentation.



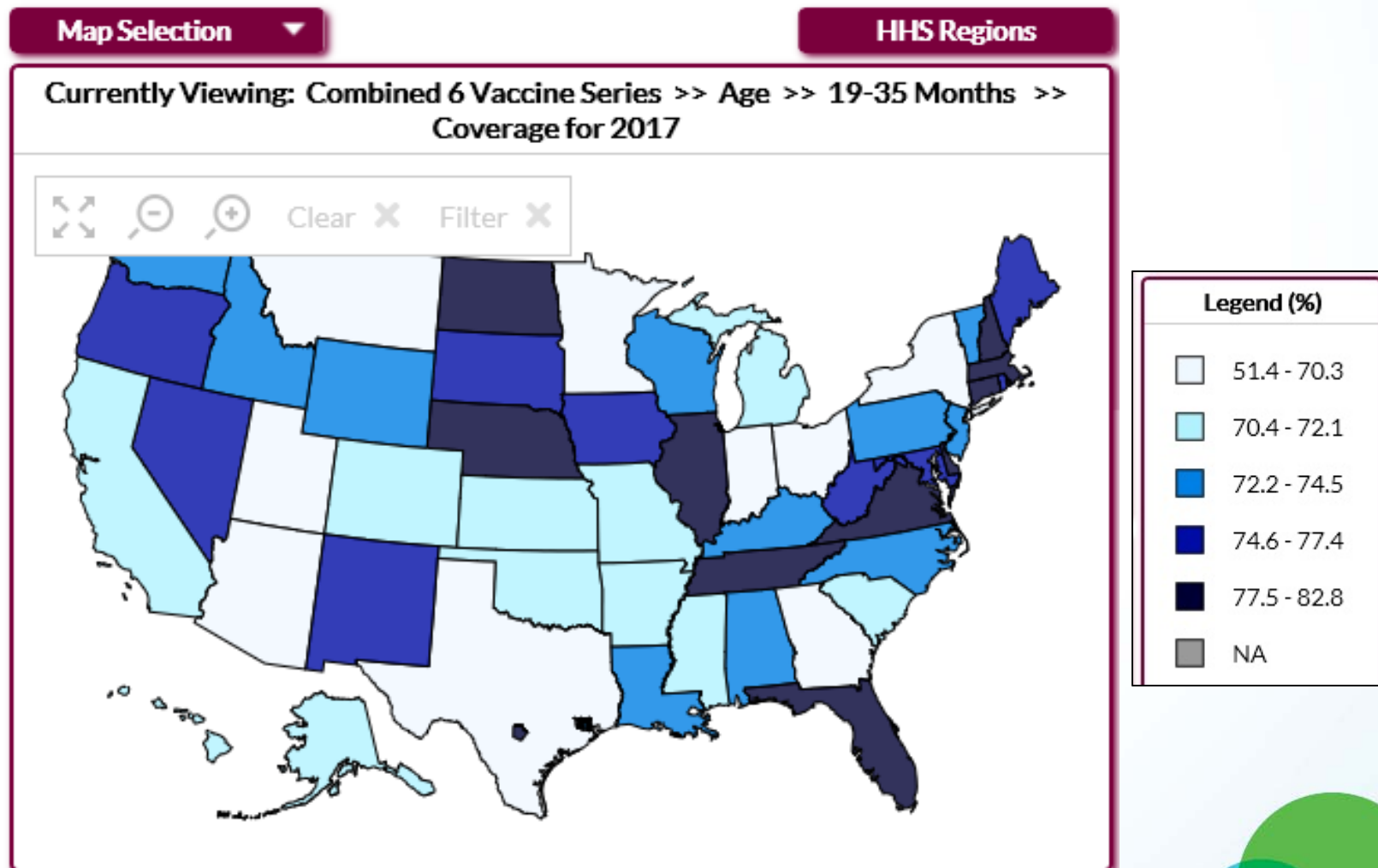


Learning Objectives

1. Understand how and when to use a “presumptive” approach to recommended vaccines
2. Understand how and when to use more nuanced vaccine communication techniques when faced with vaccine hesitancy.



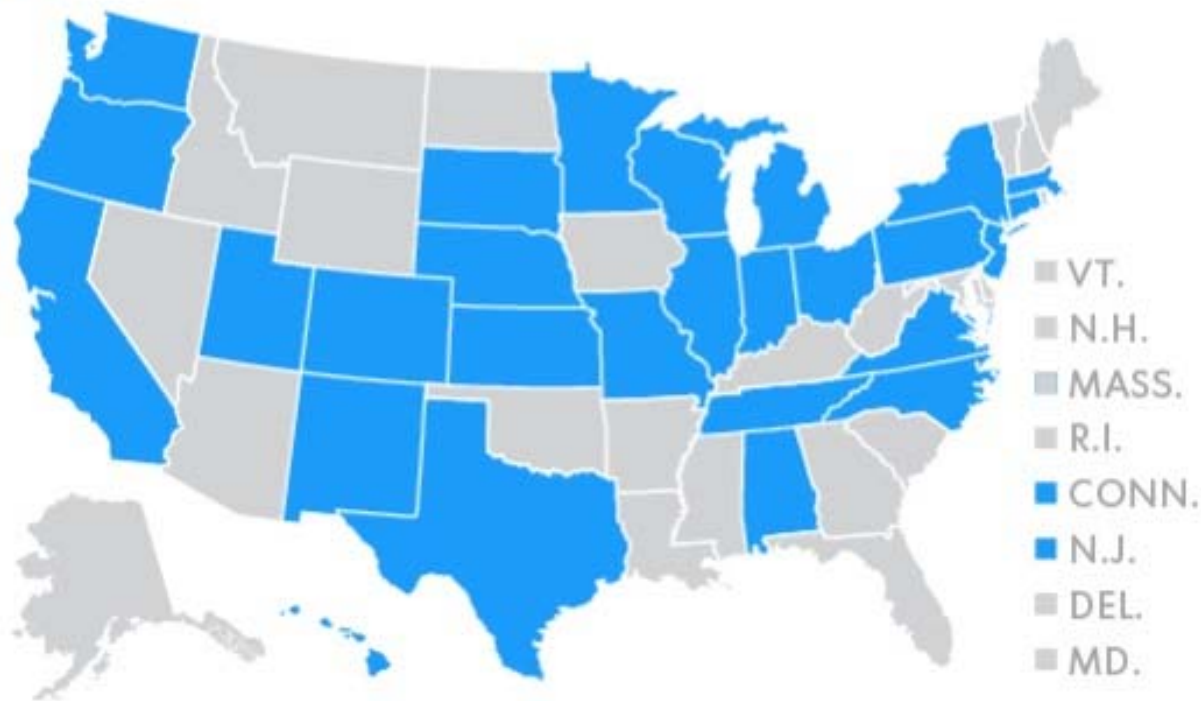
Why Do We Even Need this Talk?



MEASLES CASES IN THE U.S.

Measles was declared eradicated in 2000 in the U.S., but the disease has made a comeback. Last year, doctors diagnosed 644 cases of measles, according to the Centers for Disease Control and Prevention.

● Reported in 27 states (2014):



SOURCE: Centers for Disease Control and Prevention

Janet Loehrke, USA TODAY

● USA TODAY

Disease Outbreaks





Audience Question 1

What proportion of parents in the US are vaccine hesitant – that is, with significant concerns or questions about vaccination (even if they get vaccinated).

- a. 2%
- b. 30%
- c. 50%
- d. 80%





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An Increasing Problem

- Few parents refuse all vaccines (1-3%)
- Under-vaccination increasing
 - ≤ 2 years of life in 8 managed care organizations increased from 42% in 2004 to 54% in 2008¹
- Many vaccinating parents have significant concerns
 - Increase from 19% in 2000² to 50% in 2010³
- Vaccine refusal rates for some vaccines (HPV, Flu) are much higher

¹Glanz et al, JAMA Pediatr 2013, ² Gellin, Pediatrics, 2000. ³Dempsey et al, Pediatrics, 2011





Significant “Costs”

- Recent survey among pediatricians nationally
 - 46% agreed that their job was less satisfying because of the need to discuss vaccines with vaccine hesitant parents
 - 60% reported spending more than 10 minutes discussing vaccines in visits with vaccine hesitant parents
- Average visit time = 18 minutes
 - What is being sacrificed?



Significant Costs - \$\$\$\$

Table 1: Cases, rates and charges for Colorado children 0-17 years of age with vaccine-preventable diseases, 2015.

Vaccine	Hospitalized Cases	Rate per 100,000	Hospital Charges	ED Cases	Rate per 100,000	ED Charges	Total Charges
Diphtheria	0	0.00	\$0	0	0.00	\$0	\$0
H. influenzae	4	0.32	\$315,958	0	0.00	\$0	\$315,958
Hepatitis A	0	0.00	\$0	0	0.00	\$0	\$0
Hepatitis B	2	0.16	\$189,162	3	0.24	\$7,565	\$196,727
Influenza	369	29.87	\$18,570,610	4,045	327.41	\$7,036,436	\$25,607,046
Measles	0	0.00	\$0	3	0.24	\$10,193	\$10,193
Mumps	2	0.16	\$30,908	8	0.65	\$20,381	\$51,289
Pertussis	24	1.94	\$587,018	58	4.69	\$109,088	\$696,106
Pneumococcal disease	69	5.58	\$7,938,270	13	1.05	\$29,345	\$7,967,615
Polio	0	0.00	\$0	0	0.00	\$0	\$0
Rubella	1	0.08	\$22,850	0	0.00	\$0	\$22,850
Tetanus	1	0.08	\$641,969	1	0.08	\$345	\$642,314
Varicella	4	0.32	\$130,104	116	9.39	\$102,096	\$232,200
Total*	472	38.20	\$28,080,090	4,247	343.76	\$7,315,449	\$35,395,539

* Four hospitalized children had both influenza and pertussis.



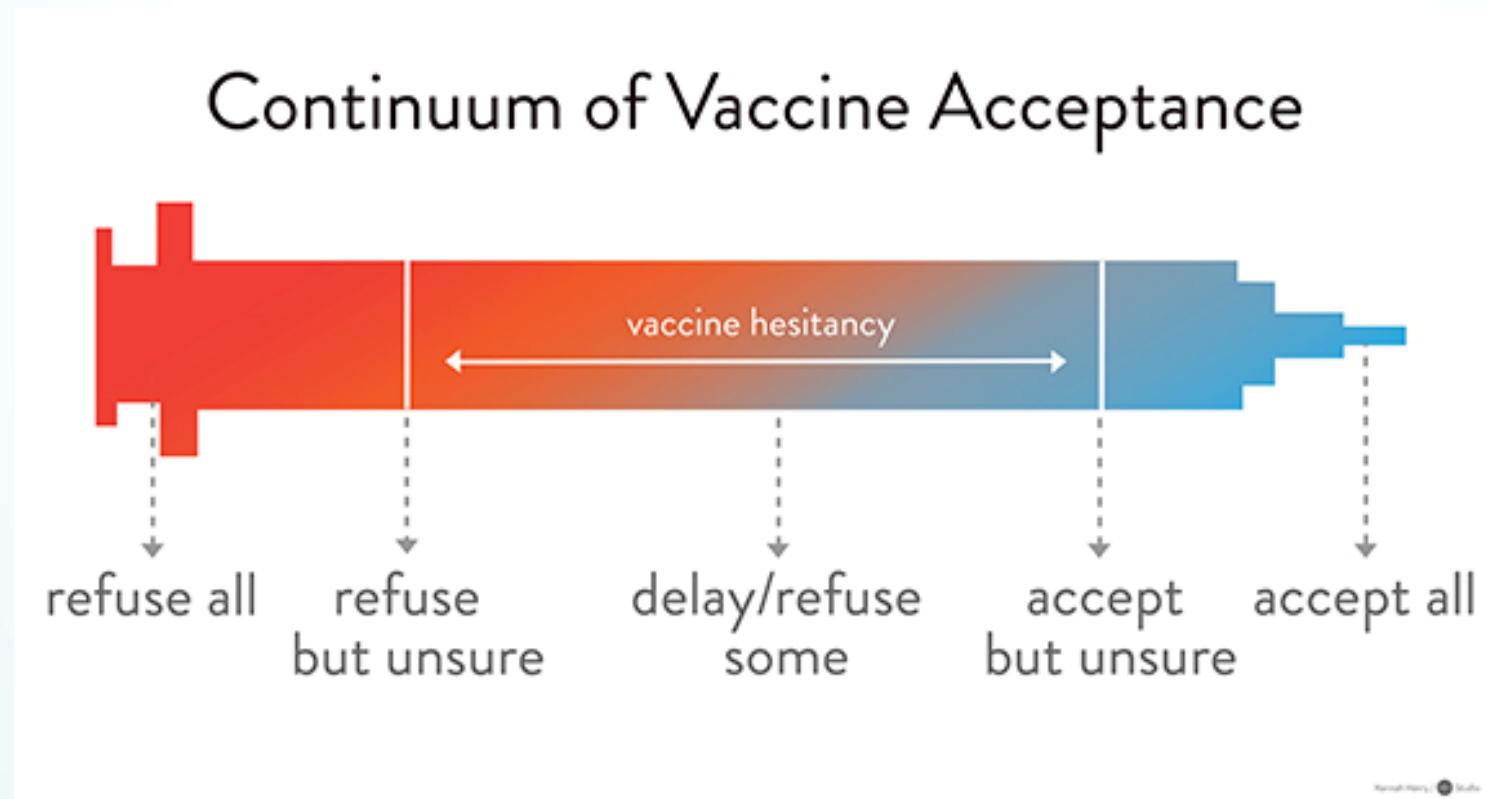
Public Health Impact

➤ Increased

- Under-vaccinated tend to remain under-vaccinated
- Outbreaks of Vaccine Preventable Diseases
 - Influenza
 - Pertussis
 - Varicella
 - Pneumococcal disease
 - MEASLES!!!!**



What is Vaccine Hesitancy?





So What Can We Do?

**Let's just “educate”
parents....**





Face to face interventions for informing or educating parents about early childhood vaccination (Review)



**THE COCHRANE
COLLABORATION®**





Cochrane, 2013

“The limited evidence available is low quality and suggests that face to face interventions to inform or educate parents about childhood vaccination have little to no impact on immunization status, or knowledge or understanding of vaccination.”





OK that didn't work...

**Let's just craft good
messages...**



PEDIATRICS®

OFFICIAL JOURNAL OF THE AMERICAN ACADEMY OF PEDIATRICS

Effective Messages in Vaccine Promotion: A Randomized Trial

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KEY WORDS

vaccines, myths, MMR, autism, false, misperceptions, misinformation

ABBREVIATIONS

aOR—adjusted odds ratio



WHAT'S KNOWN ON THIS SUBJECT: Maintaining high levels of measles-mumps-rubella immunization is an important public health priority that has been threatened by discredited claims about the safety of the vaccine. Relatively little is known about what messages are effective in overcoming parental reluctance to vaccinate.



WHAT THIS STUDY ADDS: Pro-vaccine messages do not always work as intended. The effectiveness of those messages may vary depending on existing parental attitudes toward vaccines. For some parents, they may actually increase misperceptions or reduce vaccination intention.





Effective Messages in Vaccine Promotion?

- Parents randomly assigned to receive 1 of 4 interventions:
 1. Info explaining lack of evidence that MMR causes autism from CDC;
 2. Info about measles, mumps, rubella from VIS;
 3. Images of children with measles, mumps, rubella;
 4. A dramatic narrative about severe case of measles; or to a control group.





Effective Messages in Vaccine Promotion?

- None of the interventions increased parental intent to vaccinate a future child.
- Refuting claims of an MMR/autism link successfully reduced misperceptions that vaccines cause autism but decreased intent to vaccinate among parents who had the least favorable vaccine attitudes.
- Images of sick children increased expressed belief in a vaccine/autism link
- Dramatic narrative about an infant in danger increased self-reported belief in serious vaccine side effects.



- **There are No Easy Solutions!**





Why is This Problem so Hard to Address?

- Tons of research on parents' knowledge, attitudes, beliefs
- Little research on what communication techniques actually *change parents' behavior*
- We've been focused on 'what' people should think more than 'how' people think





Also...Our Core Communication Assumptions Are Often Wrong

1. Improved knowledge \neq Better decisions
 - Known as the 'Information Deficit Model'
 - *"If only she just understood the facts she'd realize she's making the wrong choice."*

2. Humans are rationale



Why Do We Need it?



**Vaccination decisions are based on emotion,
not logic, reason, or “facts”**





The Need for Vaccine Communication 2.0

- Correcting knowledge gaps is often not enough to address parents who have concerns about vaccines
- We need interventions on how people *actually* think rather than how they *ought* to think





Audience Question 2

Which 2 are incorrect core assumptions about human behavior with regard to vaccine hesitancy?

- a. Correcting a knowledge deficit is enough.
- b. Humans make vaccination decisions based on rational thought and logic alone.
- c. Emotions play a role in the decision.
- d. a and b
- e. a and c





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Four Evidence Based Strategies to Improve Vaccine Communication

1. Presumptive recommendations
2. Blanket recommendations
3. Motivational Interviewing
4. Debunking Myths





Four Evidence Based Strategies to Improve Vaccine Communication

1. Presumptive recommendations
2. Blanket recommendations



Accepting
Parents

-
3. Motivational Interviewing
 4. Debunking Myths



Hesitant
Parents





PRESUMPTIVE RECOMMENDATIONS





An Interesting Study...

The Architecture of Provider-Parent Vaccine Discussions at Health Supervision Visits

Douglas J. Opel, John Heritage, James A. Taylor, Rita Mangione-Smith, Halle Showalter Salas, Victoria DeVere, Chuan Zhou and Jeffrey D. Robinson
Pediatrics 2013;132;1037; originally published online November 4, 2013;

Investigators in Seattle videotaped well visit encounters for children 1-19 months old

Oversampled “vaccine hesitant parents”

111 vaccine discussions, 50% with VHPs

Tried to figure out what predicted uptake of vaccines





How you start the conversation matters

The best predictor of vaccination uptake in the videotaped encounters, for both hesitant and non-hesitant parents, was how the provider started the conversation





“Participatory versus Presumptive”

Participatory: Linguistically provide parents with more decision making latitude

“Have you thought about what shots you’d like to get today?”

Presumptive: Linguistically presuppose that parents would get shots

“Well, we have some shots to do today”





Presumptive Works!

RCT of 29 clinics with training on using
“Announcements,” or “Conversations” vs. Usual Care to
bring up topic of HPV vaccine

Announcements had 5.4% increases over Usual Care.
No differences between Conversations and Usual Care




- Brewer NT, Hall ME, Malo TL, Gilkey MB, Quinn B, Lathren C. Announcements Versus Conversations to Improve HPV Vaccination Coverage: A Randomized Trial. *Pediatrics*. Dec 05 2016. PubMed PMID: 27940512.





BLANKET RECOMMENDATIONS





Blanket Recommendation - Provide Same “Weight” as Other Vaccines

I like chocolate, vanilla and strawberry ice creams the best.

I like chocolate, vanilla and strawberry ice creams the best. Strawberry is one of my favorites because I love the color pink and I think fruit is really healthy. Also I like to grow strawberries in my garden. Plus Strawberry Shortcake was my favorite cartoon when I was growing up






Blanket Recommendation - Provide Same “Weight” as Other Vaccines

What flavor ice cream would you give this person?





**Using “BLANKET” Recommendation:
Recommend HPV the same way as you
would recommend other adolescent
vaccines**

Meningococcal HPV Tdap Flu

*“Your child needs shots today: HPV vaccine,
meningococcal vaccine and Tdap vaccine.”*





What if a Strong Presumptive Blanket Recommendation Doesn't Work?

Strong

Presumptive

Blanket



PIVOT TO MI





What is Motivational Interviewing?

- A way of reorienting your relationship with patients
- Focus becomes being a “helper” in the change process rather than reaching a goal
- Works by leveraging a person’s intrinsic motivation for a behavior



*Miller and Rollnick, 1991





4 Tenets of MI

Empathy

Collaboration

Evocation

Support for Autonomy





4 Tenets of MI

Empathy

Collaboration

Evocation

Support for Autonomy





Why MI? – The PCOM Trial

- Cluster RCT Among 16 public and private practices in Colorado, $n \geq 30,000$ adolescents
- Multi-component intervention
 - HPV Fact Sheet developed by patients and providers
 - HPV Decision Aid
 - Tailored web-based intervention
 - Communication Training





Impact of the Intervention on HPV Vaccination

All practices had increasing vaccination rates over time but...

- 10 percentage point increase in HPV vaccine series initiation over control practices
- 5 percentage point increase in HPV vaccine series completion over control practices
- Similar effect across all ages, and for both boys and girls





MI Works for Addressing Vaccine Hesitancy

- Those receiving communication training had much higher HPV vaccination rates than control clinics
- Providers said that MI was the best thing they have found to communicate effectively with VH parents
- The MI they were taught was easily incorporated into a busy clinical setting.





MI Also for Infant Vaccines

- Large RCT in Quebec Province
- Mothers randomized to usual care or MI session with immunization nurse
- Improved vaccination rates at age 2, 4, and 6 months assessed using registry - effect about 4%-7%
- Worked specifically by decreasing vaccine hesitancy



Gagneur A, Lemaitre T, Gosselin V, et al. *BMC public health*. 2018;18(1):811.





Communication Training

Strong, Blanket,
Presumptive



PIVOT TO MI





Focus on Brief Strategies and Micro Skills of MI

Brief Strategies

Ruler

Elicit, Provide, Elicit (EPE)

Micro Skills

Reflection

Open Ended Questions

Affirmation



Summaries





Focus on Brief Strategies and Micro Skills of MI

Brief Strategies

Ruler

Elicit, Provide, Elicit (EPE)

Micro Skills

Reflection

Open Ended Questions

Affirmation



Summaries





Case Example: MI Techniques and Tenets





4 Tenets of MI

- Empathy
- Collaboration
- Evocation
- Support for Autonomy



Micro Skills

- Ruler
- Elicit, Provide, Elicit
- Reflection
- Open Ended Questions
- Affirmation
- Summaries





Case Example: MI Techniques and Tenets

- You are seeing a 12 year old boy who you haven't seen in a few years, in for a well visit and to get some forms signed
- You finish the visit, and offer a presumptive, strong, blanket recommendation for the HPV, Tdap and MenACWY vaccines



Wait a Minute...

Mom agrees to Tdap and MenACWY, but NOT HPV!!!!



classywiththickick.com





MI Techniques - Ruler

•You are a little surprised, since you've known this family for many years, and this child has received all of his recommended vaccines to now. To find out more you say,

Example

"I see. So on a scale of 1 to 10, with 1 never getting the vaccine and 10 definitely getting it today, where are you at?" (Ruler)

"About a 3"

 *"OK - can you tell me more about why you are a 3 instead of a 1?" (Elicitation, Evocation)*



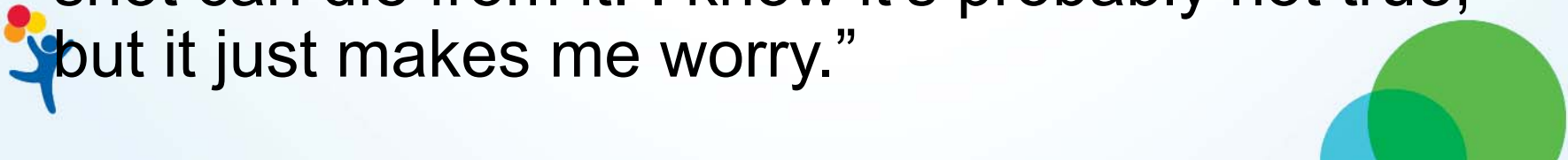


Technique – Open Ended Questions

- “Well, I definitely don’t want my son to ever have cancer, so I’m open to the idea of the vaccine, but I’m just scared its not safe”

Example:

- *“Would you mind telling me what safety issues you are worried about?” (Open-ended question)*

- “Well, I’ve heard that some children that get the shot can die from it. I know it’s probably not true, but it just makes me worry.”
- 



Techniques – Affirmation and Collaboration (Permission)

You reflect back the concern to be sure you understand and summarize what has been heard before proceeding, and with permission, to make a recommendation.

Example:

*So it sounds like one of your biggest concerns is safety but since you are OK with the other vaccines this is an HPV specific worry you have (**Reflection, Summary**). Well, I can see why your concerns would scare you – that would scare me too! (**Empathy, Affirmation**) This question of dying from the vaccine has come up for me before from other patients, and I've looked into where it came from. Would you mind if I went over what I found out, and why I think this is such an important vaccine?" (**Collaboration, EPE**)*

"OK"






Techniques - EPE

After getting permission, you proceed with your response.

Example:

“To address your specific concern, it turns out people started rumors about this vaccine on the Internet, and those rumors spread. There is no truth to them. In fact, this is one of the safest vaccines we have, and it’s been very well studied. This vaccine prevents several types of cancer, and it works really well. I’ve given it to my own children, and I think it’s a really important vaccine. That said, this is a decision only you can make. What do you think?” (Autonomy, EPE)



What Happens?





MI for the Vaccine Conversation

JAMA Pediatrics | [Original Investigation](#)

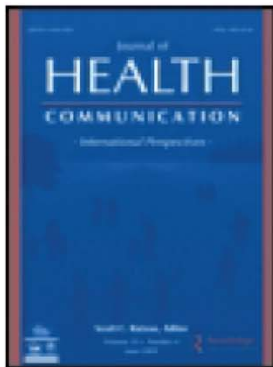
Effect of a Health Care Professional Communication Training Intervention on Adolescent Human Papillomavirus Vaccination A Cluster Randomized Clinical Trial

Amanda F. Dempsey, MD, PhD, MPH; Jennifer Pyrznowski, MSPH; Steven Lockhart, MPH; Juliana Barnard, MA;
Elizabeth J. Campagna, MS; Kathleen Garrett, MA; Allison Fisher, MPH; L. Miriam Dickinson, PhD; Sean T. O'Leary, MD, MPH





Description of the MI Training in Detail



Journal of Health Communication
International Perspectives



ISSN: 1081-0730 (Print) 1087-0415 (Online) Journal homepage: <http://www.tandfonline.com/loi/uhcm20>

Improving Provider Communication about HPV Vaccines for Vaccine-Hesitant Parents Through the Use of Motivational Interviewing

Jenna E. Reno, Sean O'Leary, Kathleen Garrett, Jennifer Pyrzanowski, Steven Lockhart, Elizabeth Campagna, Juliana Barnard & Amanda F. Dempsey





DEBUNKING MYTHS WHEN USING MI





Why? The Familiarity Backfire Effect

- Once people hear a myth, or misinformation, it's very difficult to remove that from their minds
- Debunking a myth can actually strengthen it
 - making myths more familiar
 - providing too many arguments
 - providing arguments that threaten one's worldview





Disconfirmation Bias

- “When people are faced with evidence for and against their beliefs, they will be more likely to accept the evidence that supports their beliefs with little scrutiny yet criticize and reject that which disconfirms their beliefs.
- “Generally, we will avoid or discount evidence that might show us to be wrong.”
- Arguing can lead to “attitude polarization”



From changingminds.org





The Familiarity Backfire Effect: Study

- People were shown a flyer that debunked common myths about flu vaccines
- Then asked to separate the myths from the facts
- When asked immediately after reading the flyer, people successfully identified the myths
- However, when asked 30 minutes after reading the flyer, some people actually scored worse after reading the flyer



The debunking reinforced the myths

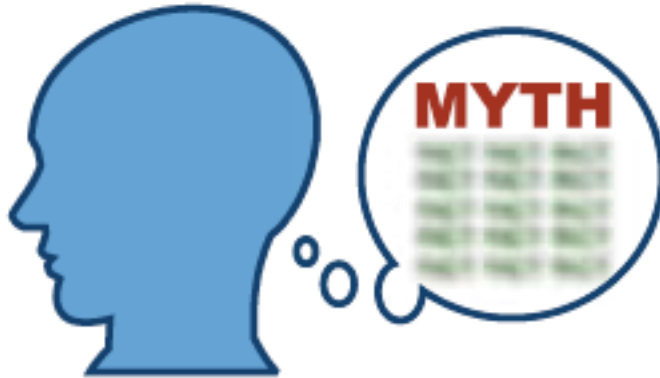
Skumik et al 2005 J Consumer Research



HOW TO DEAL WITH MYTHS



Focus on the Facts You Want to Communicate



Any mention of a myth must be preceded by an explicit statement that the myth is false





Keep it simple

MYTH
FACT FACT FACT
FACT FACT FACT
FACT FACT FACT
FACT FACT FACT



MYTH
FACT
FACT
FACT

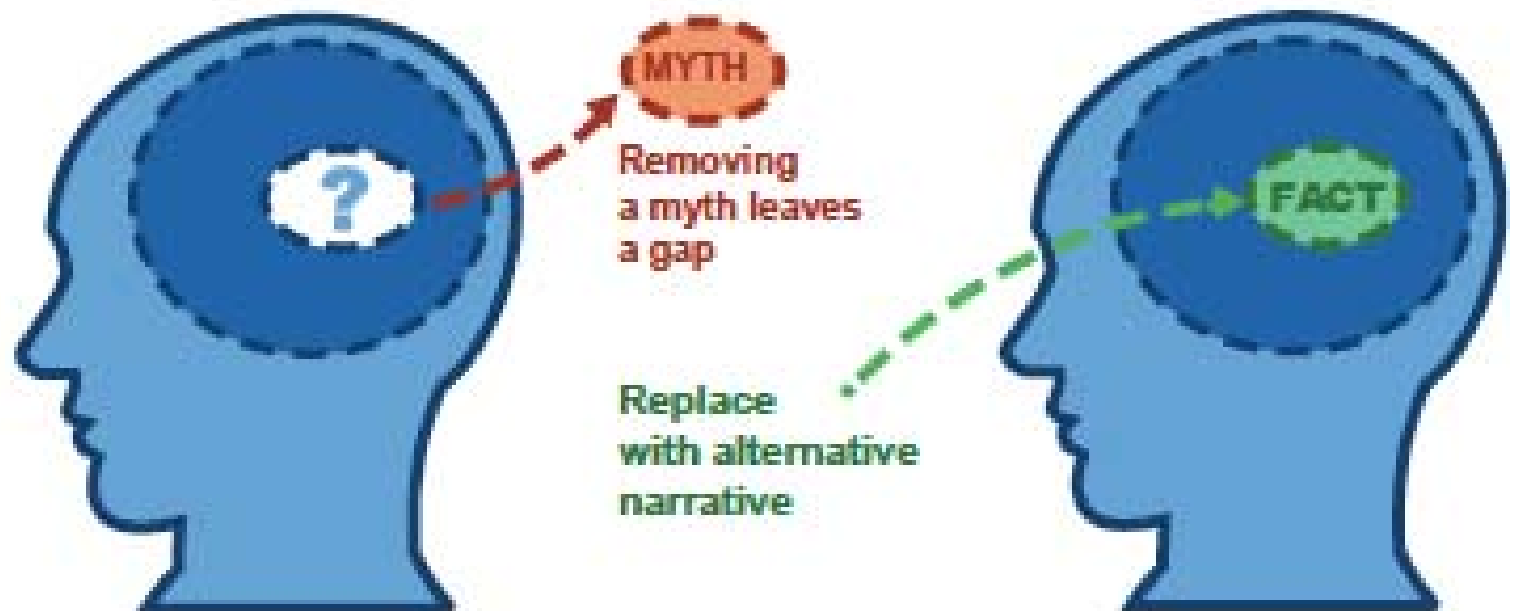


A simple myth is more
cognitively attractive
than an
overcomplicated
correction



Replace All Myths with a Compelling Alternative

When you debunk a myth, you create a gap in the person's mind. To be effective, your debunking must fill that gap.



MI and Debunking Myths





Case

- Your next patient is an 1 year old girl coming in for her well visit. She is due for 6 (!) vaccines
- However, after giving your presumptive, blanket recommendation, her mother says she prefers not to give them today.
- “My cousin told me I should stop getting vaccines because of all the toxins in them.”





Oh Geez – Here we go Again





Case – MI stuff

You reflect back what the patient is saying to be sure you understand and summarize what has been heard before proceeding, with permission, to make a recommendation.

Example:

“So you seem to be concerned about potential effects of the ingredients in the vaccines (MI - reflection). I get that – you care a lot about making sure your daughter only takes in things are good for her and safe. I’ve looked into this a great deal. Would it be okay to share what I’ve found out about this?” (MI – ask permission)





Case – Debunking Myths

You now can proceed to briefly share information about the ingredients but pivot to the importance of the vaccines.

Example:

“It’s actually all a myth about vaccines containing toxins.” (preceding explicit warning)

“The ingredients in vaccines are there in tiny quantities, and they actually are all there to make the vaccines as safe as possible.” (alternative explanation).

“I feel better knowing my children and my patients get all of these vaccines in as soon as they are eligible, because the diseases we’re talking about are so serious.” (focus on core facts and positives of action)

That said, this is your decision, and I want you to be comfortable with that. What do you think? ” (MI - autonomy)





Summary

- Vaccine hesitancy is an important and growing problem— we must remain vigilant!
- Be mindful of the structure of the conversation
- Longer \neq Better
- Start with strong, presumptive, blanket recommendations
- When there is resistance switch to more nuanced, less confrontational techniques like MI and effectively debunking myths.



HPV Vaccine: Same Way, Same Day App

Brief, interactive role-play simulation

Designed to enhance healthcare professionals' ability to introduce HPV vaccine and address hesitant parents' concerns

Developed by Academic Pediatric Association, American Academy of Pediatrics, and Kognito

Free

Available for mobile devices:

From the Google Play Store

https://play.google.com/store/apps/details?id=com.kognito.hpv_immunization

From the Apple iTunes Store

<https://itunes.apple.com/us/app/hpv-vaccine-same-way-same-day/id1356847181?mt=8>





Thank You!

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