Translating Vaccine Confidence Research to Practice

September 6, 2022



Association of Immunization Managers

Agenda

- Welcome & Introductions (~5 min)
- Speaker presentations (~35 min)
 - Dr. Angela Shen
 - Dr. Daniel Salmon
 - Dr. Amy Nicholas
- Q&A (~15 min)
- Closing (~5 min)

Research to Practice Webinar Speakers



Angela Shen, ScD, MPH

Visiting Research Scientist, Children's Hospital of Philadelphia; Adjunct Associate Professor, Perelman School of Medicine & Senior Fellow, Leonard Davis Institute, University of Pennsylvania



Daniel Salmon, PhD

Director and Professor Institute for Vaccine Safety at Johns Hopkins School of Public Health



Amy Nicholas, PharmD Medical Managed Care Director Vaccines at Sanofi

Translating Vaccine Confidence Research into Practice

6 Sept 2022 AIM Webinar



Angela K Shen, ScD, MPH Captain (ret) US Public Health Service

Visiting Scientist, VEC, CHOP shenak@chop.edu Adjunct Associate Professor, Perelman School of Medicine & Senior Fellow, Leonard Davis Institute, University of Pennsylvania



Vaccine Education Center

Today

- What you need to know
- Trust-Influence on the age of COVID-19
- Repeat opportunities keep asking
- Some great resources



11-year-old tennis star

What you need to know

Lack of confidence in vaccines poses threats to public health

Vaccination has been successful but

Variation by region/communityDisparities persist

This means that pockets of un- and unvaccinated means outbreaks of disease

Common Concerns:

•unknown future effects (esp. COVID)
•side effects, and lack of trust
•perceived risk perception of disease (routine)

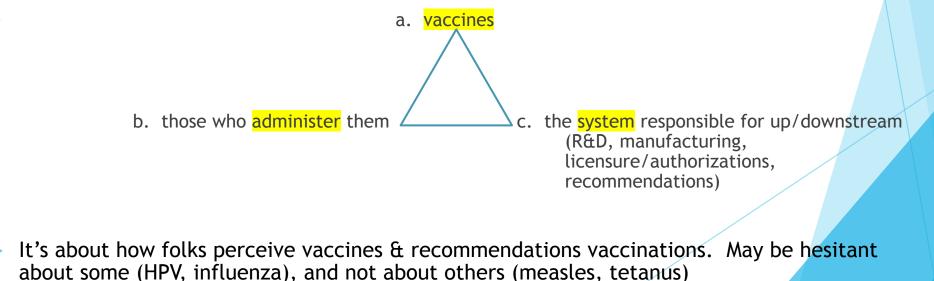
No single intervention is likely able to address vaccine hesitancy

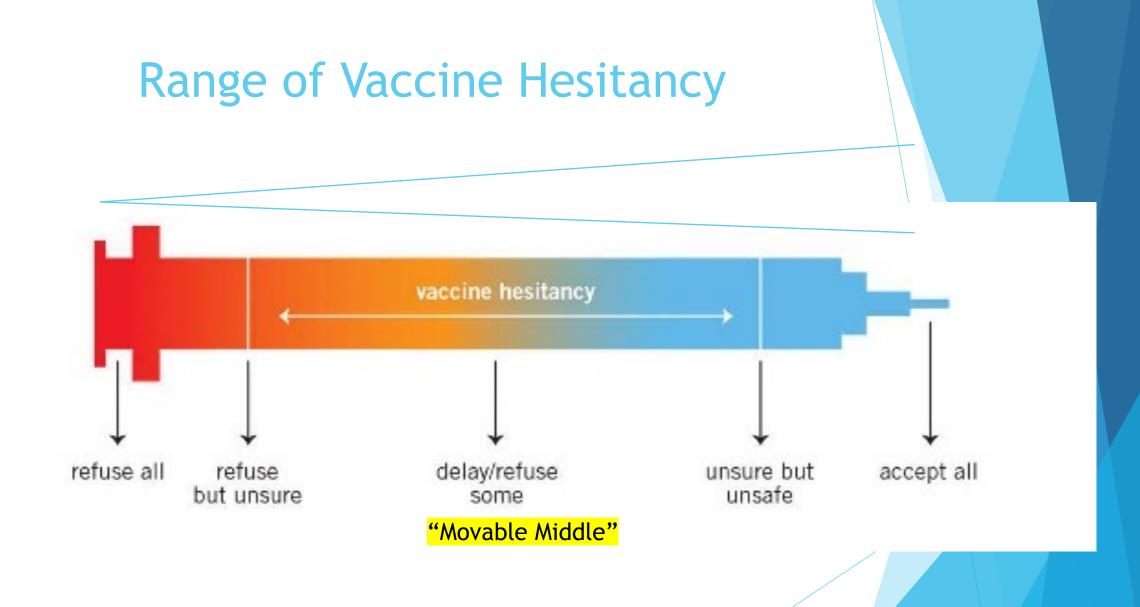
Local approaches are critical to meeting the needs of the population/community in a tailored way



Confidence v. Hesitancy

- Vaccine hesitancy delay in acceptance, or refusal of vaccine despite availability (supply) of vaccination services. It's:
 - Complex, context specific, & vary across time and place and different vaccines
 - Influenced by complacency, convenience, confidence, socio-demographics
 - COVID campaigns have highlighted structural factors as health inequalities, SES disadvantages, systemic racism
- Building Vaccine confidence trust that parents, patients, providers have in

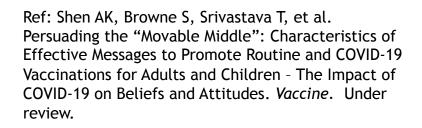


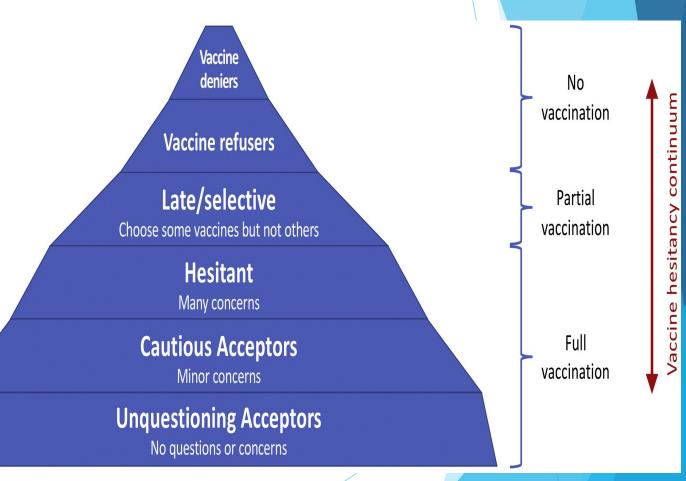


Focus on the Moveable Middle

Hesitancy is a Continuum

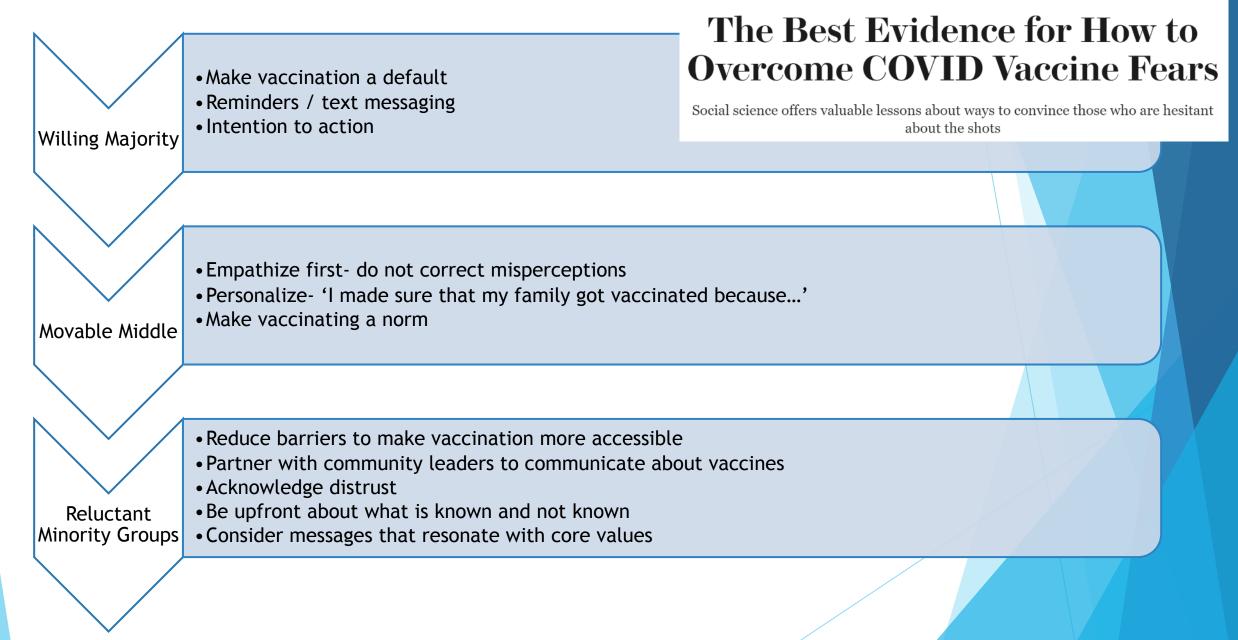
Understanding how vulnerable communities wish to receive messages, from whom these messages should come from, and what messages are convincing is critical to tailoring strategies to address individuals in the "movable middle" on the vaccine hesitancy continuum.





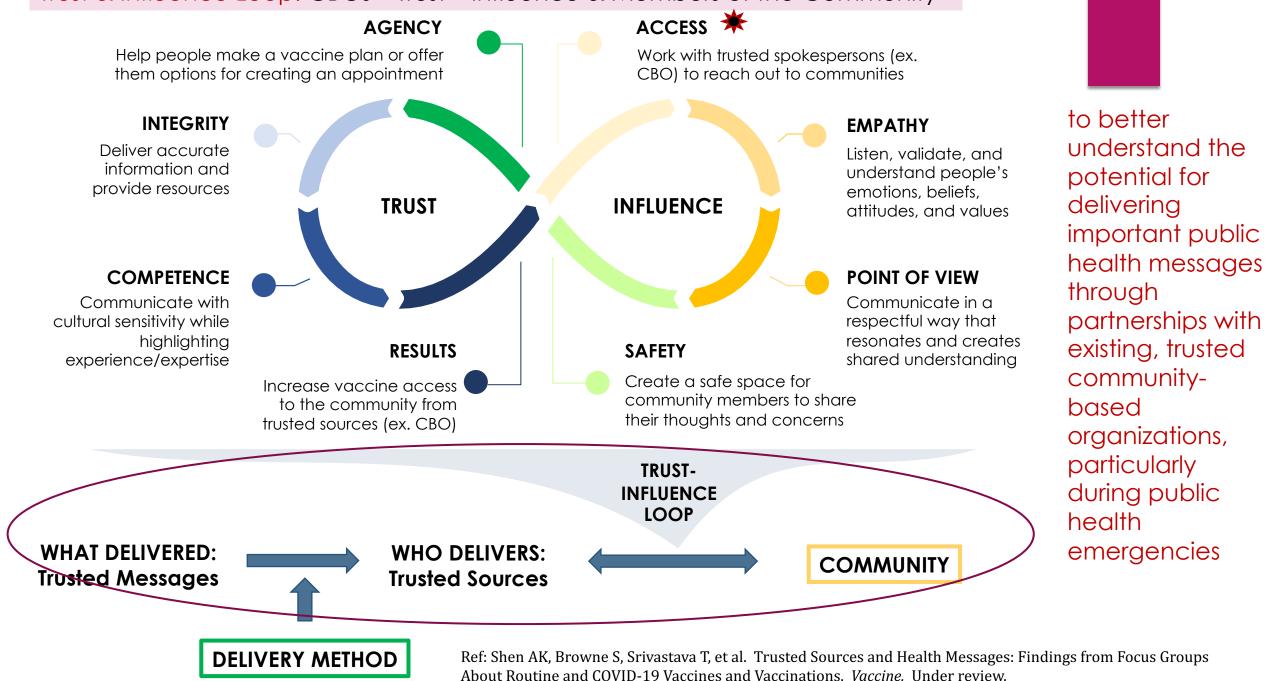
The Journal of Allergy and Clinical Immunology: In Practice 2021 93568-3574DOI: (10.1016/j.jaip.2021.06.035)

MEDICINE



https://www.scientificamerican.com/article/the-best-evidence-for-how-to-overcome-covid-vaccine-fears1/

Trust & Influence Loop: CBOs – Trust – Influence & Members of the Community



Results

- Primary care providers, family, and credible sources, characterized as known and well-established entities, were top sources of vaccine information. (transference)
- Neutrality, honesty, and having a trusted source to rely on in sorting through volumes of sometimes conflicting information were highly valued.
- Trustworthy qualities about sources included: 1) expertise, 2) fact-based, 3) unbiased, and 4) having an established process for sharing information.
- Because of the evolving nature of the pandemic, attitudes and beliefs about COVID-19 vaccine and sources of COVID-19 information differed from typical views about routine vaccines.

Ref: Shen AK, Browne S, Srivastava T, et al. Trusted Sources and Health Messages: Findings from Focus Groups About Routine and COVID-19 Vaccines and Vaccinations. *Vaccine.* Under review.



Communication Framework

A	 Assume people want to get vaccinated and be prepared for questions 	
S	 Share key facts and sources of information to counter misinformation 	
Ρ	 Present strong recommendations and stories about vaccination experiences 	Read more about the ASPIRE framework here:
	 Initiate discussion or address questions about side effects proactively and share credible sources of information 	
R	 Respond to questions and actively listen 	
E	 Empathize and understand concerns 	

Ref: Shen AK, Tan SL/ Trust, Influence and Community: Why pharmacists and pharmacies are central for addressing vaccine hesitancy. *J Am Pharm Assoc.* 62(2022):305-308.

Conclusions

- Vaccine messengers can learn how to build trust within their communities from existing community-based organizations (embedded).
- Vaccine attitudes and beliefs which inform intent to vaccinate can change and differ among different vaccines. Messaging should be tailored to resonate with parents and adults to improve vaccine uptake (specific questions).
- Creating a safe space for conversation is important, especially currently wherein the U.S. COVID-19 vaccination program includes some unlicensed vaccines authorized under emergency use conditions during a public health crisis (judged).



Ref: Shen AK, Browne S, Srivastava T, et al. Trusted Sources and Health Messages: Findings from Focus Groups About Routine and COVID-19 Vaccines and Vaccinations. *Vaccine.* Under review.

Key Takeaway

When providing vaccine messages, clear, detailed and relatable information provided in a safe environment in partnership with a trusted source is central to informing decision making.

Repetition can be an effective tool for vaccine acceptance

Vaccine Acceptance Upon Provider Recommendation by Antigen in a Large Pediatric Outpatient Network, 2013-2020 100% 90% 80% 70% 60% 50% 40% 30% 2013 2014 2015 2016 2017 2018 2019 2020 All Years ----Human Papilloma Virus -----Measles-Mumps-Rubella Varicella

Shen AK and Srivastava T. Vaccinating the vaccine hesitant: repeat offerings offer repeat opportunities to boost rates. JAMA. Under review.

Hesitancy is not monolithic

Concerns

- 1. Risk-benefit perception of vaccination versus disease
- 2. Deep-rooted mistrust
- 3. Structural barriers to initiating or competing a vaccination series
- 4. Parental attitudes and beliefs
- Given what we know...and that people are somewhere between "accept all" and "refuse all" - the moveable middle
 - A. Create a safe space
 - B. Provide respectful tailored & accurate information
 - c. Acknowledge & identify structural barriers to vaccine access
 - D. Foster partnerships with traditional and nontraditional public health partners
 - E. Explore & evaluate interventions to address hesitancy

Full blog @ Vaccine Hesitancy is Not Set in Stone - Penn LDI (upenn.edu)

A few great resources

- 1. CHOP. Communicating about vaccines: COVID-19 & More. <u>Online Learning for</u> <u>Healthcare Providers | Children's Hospital of Philadelphia (chop.edu)</u>
- WHO. Conversations to build trust in vaccination A training module for health workers <u>Conversations to build trust in vaccination A training module for</u> <u>health workers This training module was developed with thanks to Shweta</u> <u>Dhawan, Dalhousie. - ppt download (slideplayer.com)</u>
- 3. WHO. Best practice guidance. How to respond to vocal vaccine deniers in public. <u>Vocal-vaccine-deniers-guidance-document.pdf (who.int)</u>

1. Communicating About Vaccines chop.edu/vaccine-online-learning



Web-based interactive CEU Credit or non-Credit

Material that is cross-cutting between disciplines and age groups. To provide an understanding of COVID-19 disease, how the vaccine licensure process works, and how to communicate effectively about these topics.

- Adult & pediatric providers, immunization champions, community members
- ► All healthcare personnel both clinical and non-clinical, "front and back office"
- ▶ Every engagement is important COVID-19 and routine immunizations

▶ **Part 1:** Details the dangers of COVID-19 disease, explains the U.S. system to authorize and license vaccines, and highlights the safety & effectiveness of COVID-19

Part 2: Explores best practices in vaccine communication

▶ **Part 3:** Reviews key points, offers additional resources, and explains how to receive continuing education credit or a certificate of attendance

2. Talking about vaccination with families

Individual level intervention

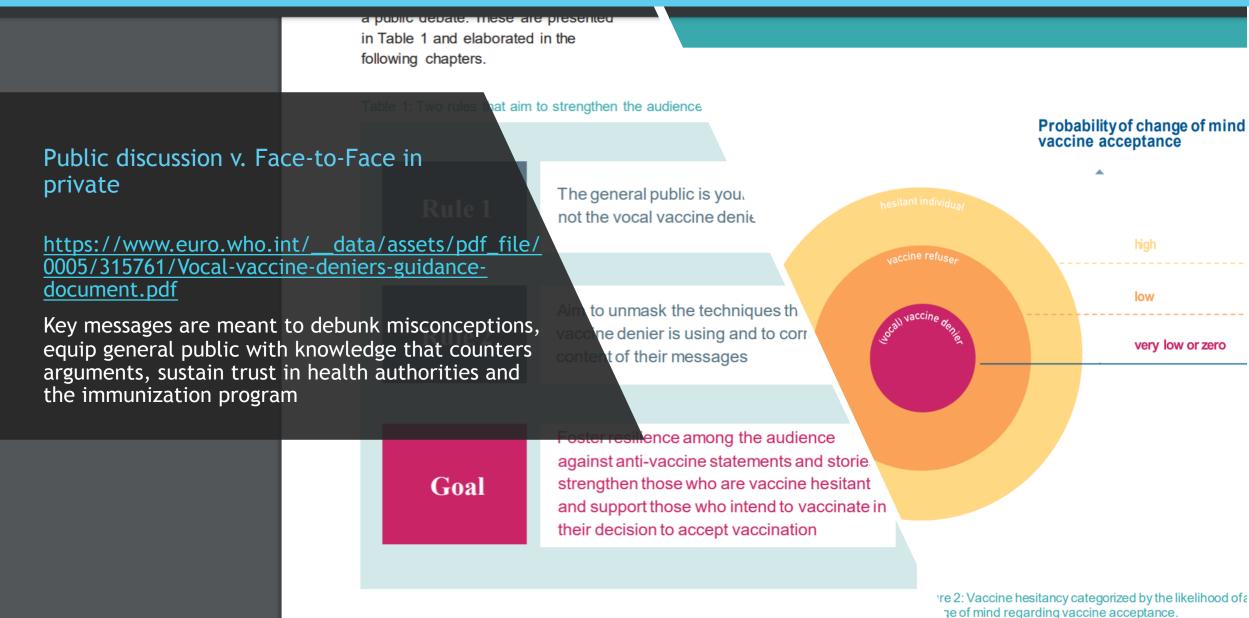
- Educational online, written material
- Specialized immunization clinics
- Tailored education
- "Elicit-share-elicit" approach
- Active listening
- Motivational interviewing
- World Health Organisation Training Module: <u>Conversations to build trust in vaccination A</u> <u>training module for health workers This</u> <u>training module was developed with thanks</u> <u>to Shweta Dhawan, Dalhousie. - ppt</u> <u>download (slideplayer.com)</u>

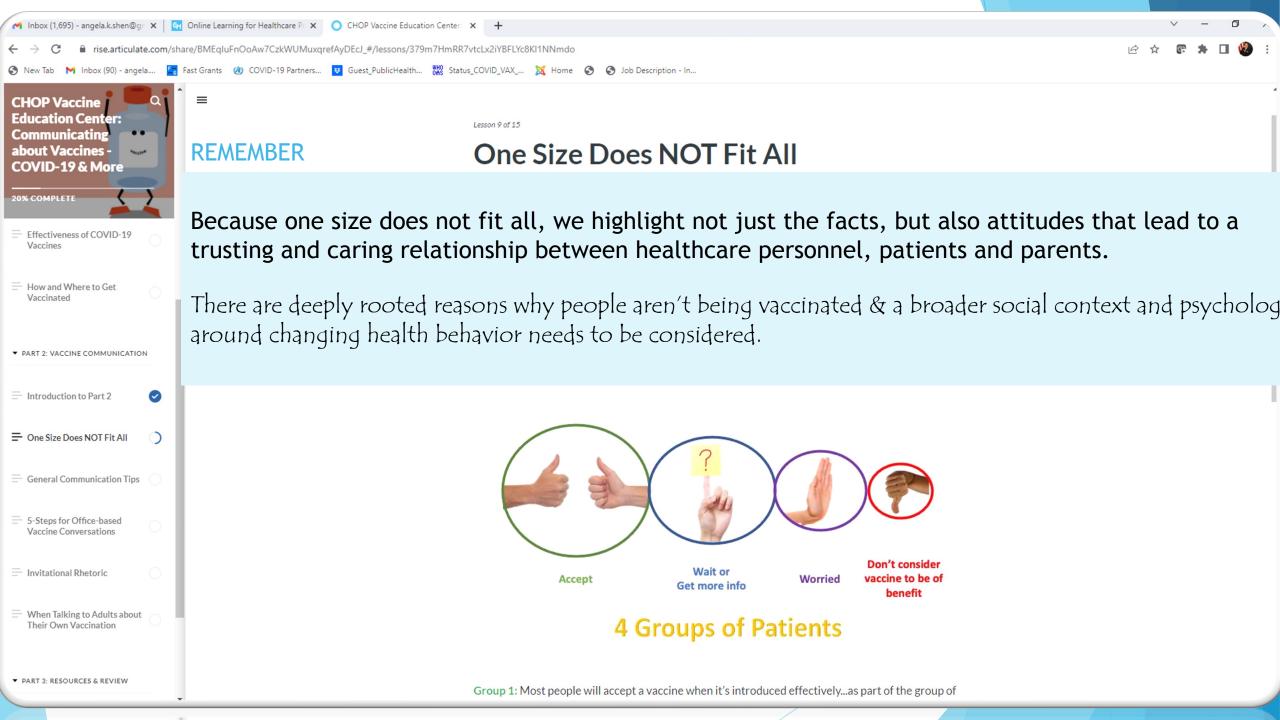
Communication with hesitant families

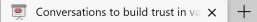
- Be aware of cultural and emotional differences
- Recognize unique contexts (e.g., difficulties in accessing healthcare and adhering to public health guidance)
- Provide clear and up-to-date guidance
- Repeatedly check understanding
- Adjust styles for differing literacy, education, and language levels
- Have reliable, up-to-date, and accessible sources of information on hand
- Avoid using jargon and stigmatizing language
- Support equity by identifying and targeting vulnerable groups

https://www.bmj.com/content/373/bmj.n1138

3. How to respond to vocal vaccine deniers in public - best practice guidelines







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Reminders

DO	DON'T
Do take a guiding style.	Do not take a traditional directive and argumentative style.
Do work with the parent/patient to establish trust.	Do not identify and solve the problem for the parent/patient.
Do explore doubts and interest in vaccination. Think from their perspective.	Do not argue or debate with the client. Make it known that you are there to listen to their concerns.
Do take time to reflect on what the caregiver/patient is saying.	Rush through without listening
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https://www.chop.edu/centers-programs/vaccine-education-center/vaccine-details/covid-19-vaccine

Vaccine info: vaccine.chop.edu vaccine.chop.edu/vaccineupdate **Providers:** vaccine.chop.edu/parents **Parents: Classrooms:** vaccinemakers.org hillemanfilm.com Hilleman Film: **Email us:** vacinfo@email.chop.edu



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Conclusions

- Despite gains in addressing immunization gaps, <u>disparities persist</u> across several sociodemographic characteristics and have been exacerbated by COVID
- Complex array of factors likely underlie observed disparities related to both access to immunization services as well as attitudes and beliefs
- Efforts to further reduce gaps should <u>strengthen existing initiatives</u> like the Vaccines for Children program and increase opportunities for vaccination
- Tailored communication efforts are also needed to address longstanding distrust in many communities and build confidence in both vaccines and health systems

Next up..

Dr. Daniel Salmon

LetsTalkShots

Widely disseminating the right vaccine message from the right messenger to the right person

Daniel Salmon, PhD, MPH

Director, Institute for Vaccine Safety

Professor, International Health and Health, Behavior and Society

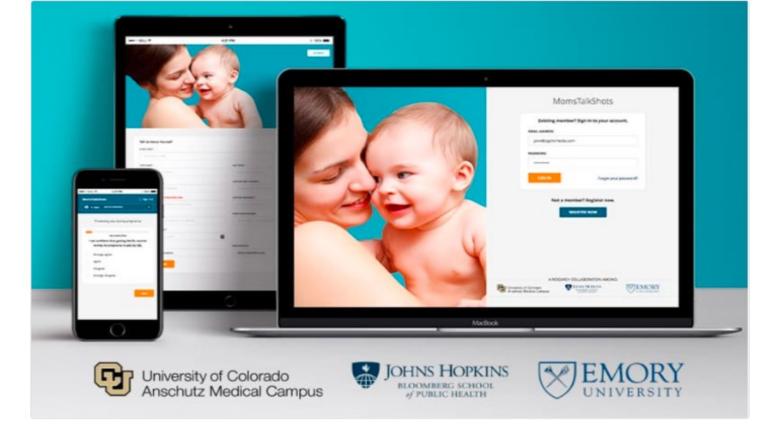
Johns Hopkins Bloomberg School of Public Health



Problem:

How do you widely disseminate the right message from the right messenger to the right person?





An Individually-Tailored Vaccine Educational Application

Daniel A. Salmon, Rupali J. Limaye, Matthew Z. Dudley, Oladeji K. Oloko, Cathy Church-Balin, Mallory Ellingson, Christine Spina, Sara E. Brewer, Walter Orenstein, Neal A. Halsey, Allison Chamberlain, Robert A. Bednarczyk, Fauzia Malik, Paula Frew, Sean T. O'Leary, Saad B. Omer Supported in part by the National Institutes of Health, Grant number R01AI110482; mPI Salmon and Omer



 Individually-tailored educational Website for smartphones, tablets and computers





- Individually-tailored educational Website for smartphones, tablets and computers
- Collects survey data on demographics, vaccine intentions, knowledge, attitudes, beliefs, norms, and trust in information sources





- Individually-tailored Website for smartphones, tablets and computers
- Collects survey data on demographics, vaccine intentions, knowledge, attitudes, beliefs, norms, and trust in information sources
- Delivers tailored informational videos to improve vaccine informed decision-making, uptake and sustained changes in vaccine attitudes and beliefs

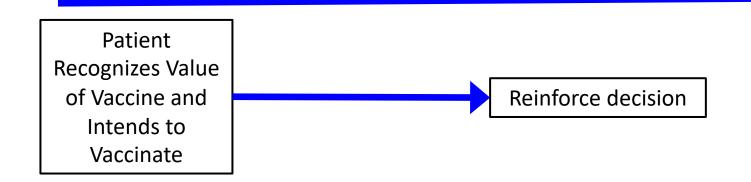


Audience Segmentation and Tailoring for MomsTalkShots

Patient Recognizes Value of Vaccine and Intends to Vaccinate

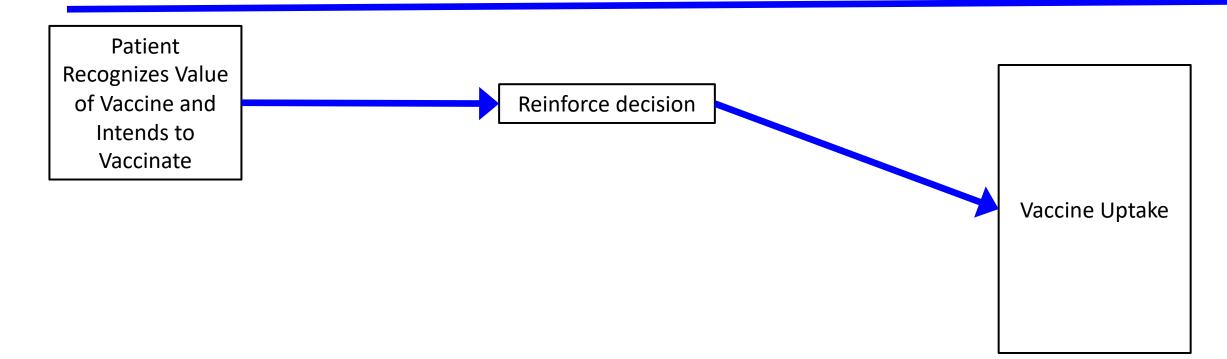


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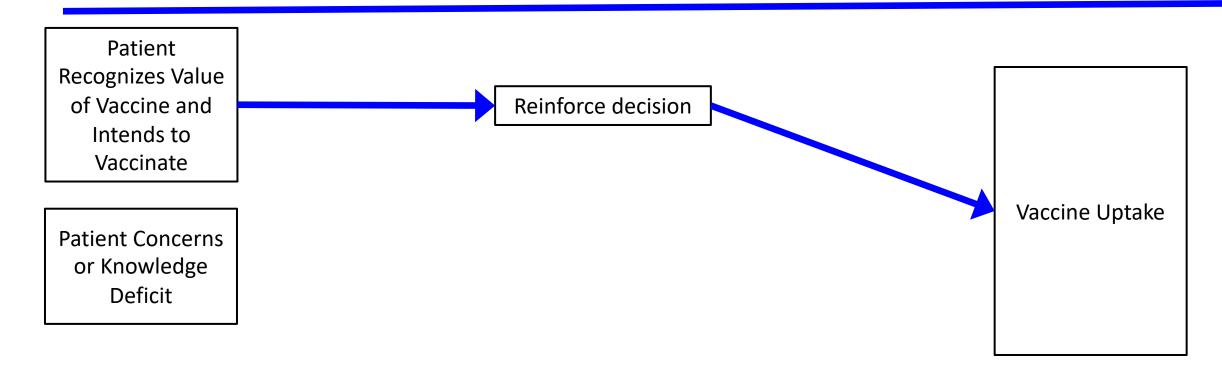


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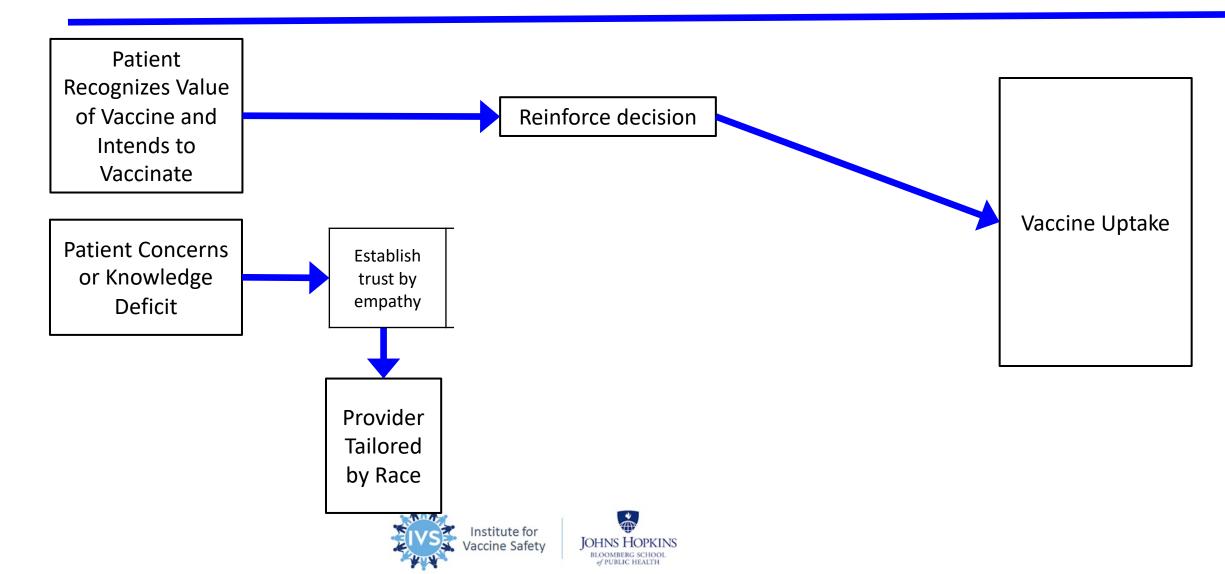


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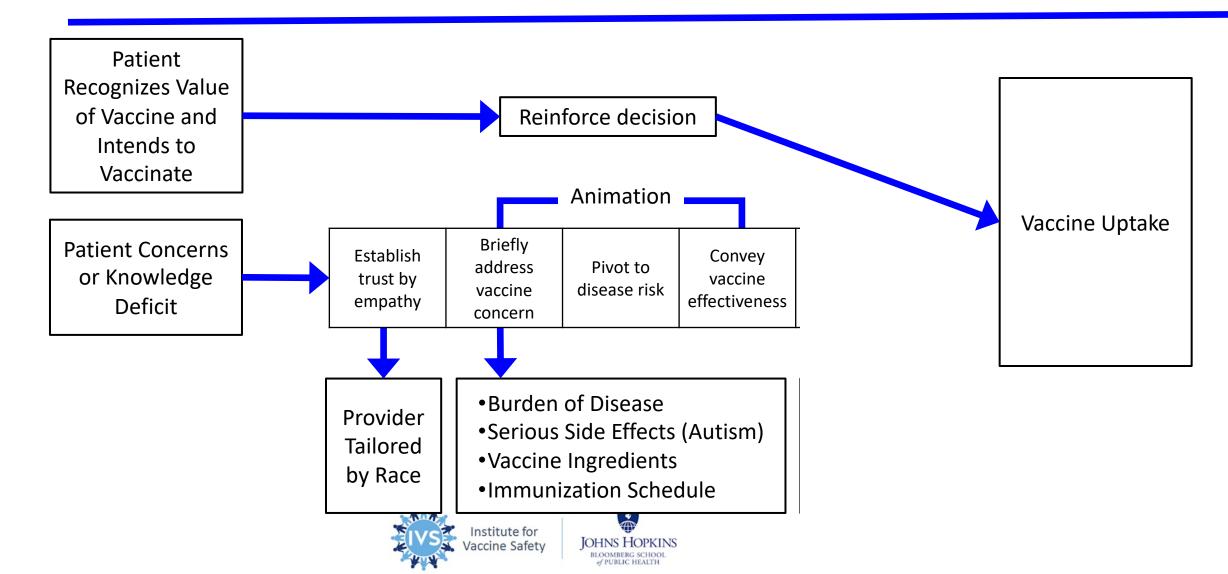




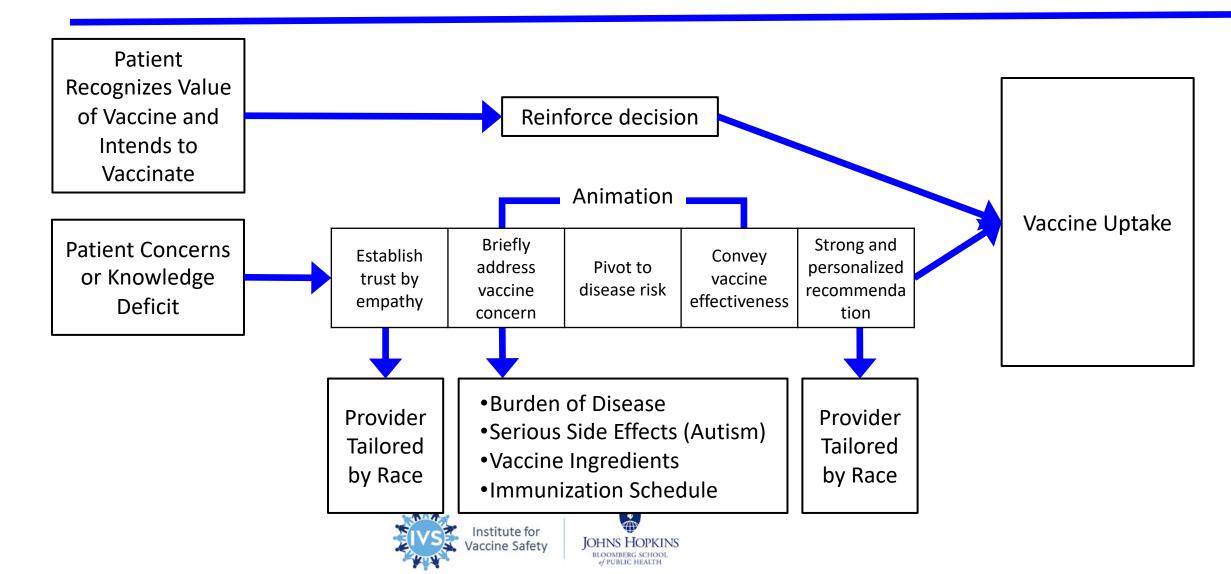
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Audience Segmentation and Tailoring for MomsTalkShots



Audience Segmentation and Tailoring for MomsTalkShots



- Evaluated through RCT among 2,092 pregnant women
 - Recruited from 23 geographically and socio-demographically diverse OB-GYN offices in Georgia and Colorado



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- Self-reported information needs assessed
 - pre-videos
 - post-videos



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- Self-reported usability of *MomsTalkShots*



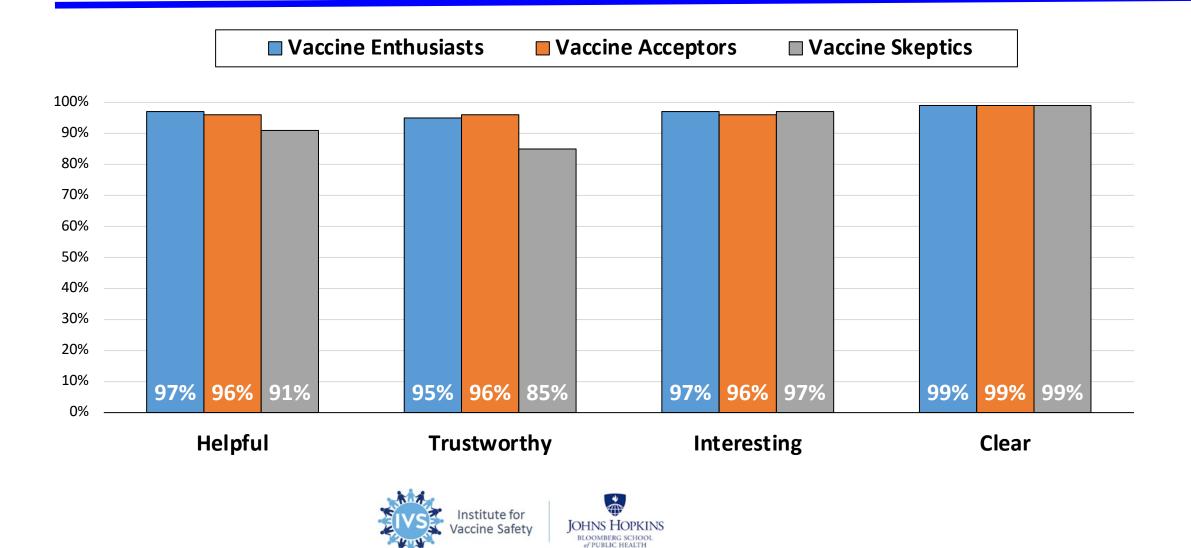
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 - post-videos
- Self-reported usability of *MomsTalkShots*
- Vaccine knowledge, attitudes and beliefs
- Maternal vaccine uptake



Usability by audience segmented groups



Moms uncertain about or not planning to vaccinate for influenza who received *MomsTalkShots* (vs did not)

•61% more likely to vaccinate for influenza (chart confirmed)

Relative Risk: 1.61; 95%CI: 1.18-2.21



Omer, SB, et al. Submitted.

Moms who received *MomsTalkShots* (vs did not) on year after birth

- 5 times more likely to be confident about infant vaccine safety
- 75% less likely to have concerns about infant vaccine safety



Dudley, MZ, et al. Submitted.

• RCT imbedded in RCT



- RCT imbedded in RCT
- Found it usable
 - 97% helpful
 - 99% trusted it
 - 96% interesting
 - 100% clear to understand



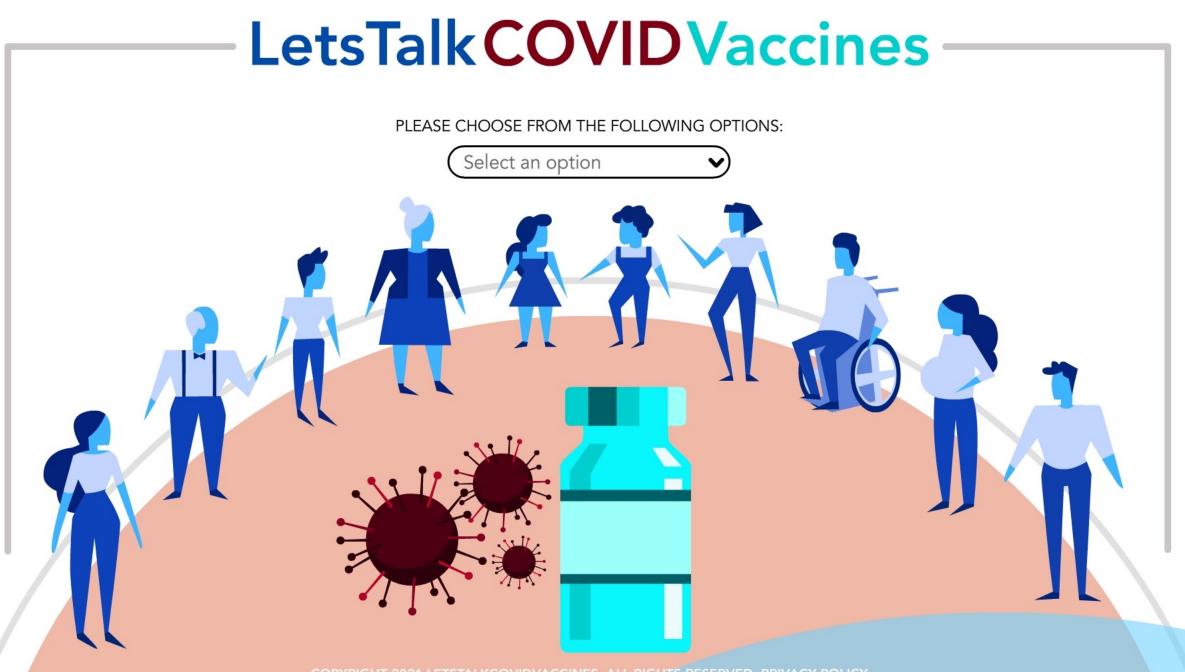
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Increased knowledge of influenza and Tdap vaccines



- RCT imbedded in RCT
- Found it usable
 - 97% helpful
 - 99% trusted it
 - 96% interesting
 - 100% clear to understand
- Increased knowledge of influenza and Tdap vaccines
- Had 7 times higher odds of receiving influenza vaccine
 - Odds Ratio: 6.97; 95% Confidence Interval: 2.25–21.64





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Daniel Salmon, PhD – Vaccinology & Vaccine Safety Janesse Brewer, MPA – Community Engagement Matthew Dudley, PhD – Vaccine Communication & Epidemiology

Tina Proveaux – Vaccine Safety & Communication Angie Gust, PhD, MPH – Vaccine Acceptance (consultant)



Amelia Jamison, MAA, MPH – Project Coordination

Rajiv Rimal, PhD - Behavioral Science Holly Schuh, PhD – Vaccine Epidemiology Steve Harvey, PhD, Behavioral Sciences





Robert Breiman, MD – Infectious Diseases Walter Orenstein, MD – Vaccine Policy James Lavery, PhD – Qualitative Research & Stakeholder Engagement



Shaelyn Laurie – Survey Development Rikki Sargent, PhD – Social Psychology



Lucie Marisa Bucci, MA – Vaccine Advocacy



Katelyn Wells – Dissemination

Newhouse Syracuse University

Jeongwon (Jeong) Yang, MA, Msc – Social Media Strategy



Jana Shaw, MD, MPH, MS – Pediatric Infectious Disease & Immunology



Peter Orton, PhD – Informational/Instructional Media Design Veronica Womack, PhD – Qualitative Research

GEORGIA'S PUBLIC LIBERAL ARTS UNIVERS

Kathleen McNamara – Resource Coordination Wanda Montecalvo – Qualitative Insights Sarah Price – Qualitative Insights



Leo Weakland – Project Management



Robina Josiah Willock, PhD – Health Equity & Research Methodology

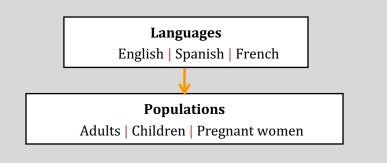


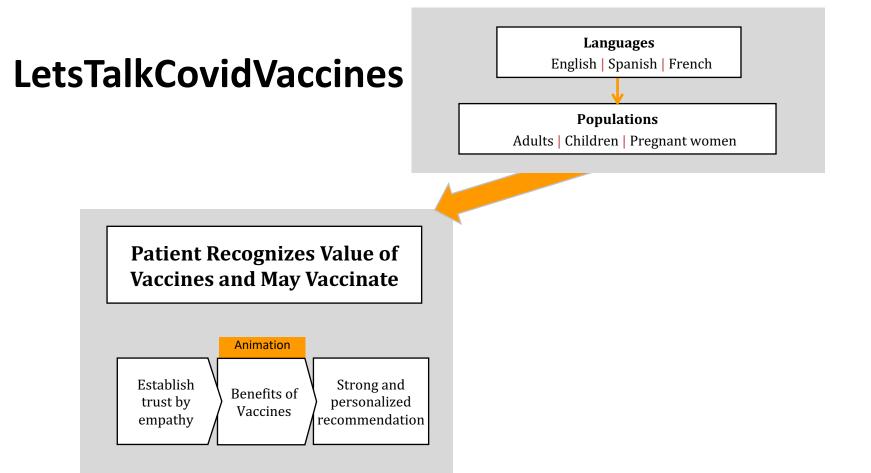
Lee-Sien Kao - Behavioral Science Ric LaGrange, PhD – Behavioral Science

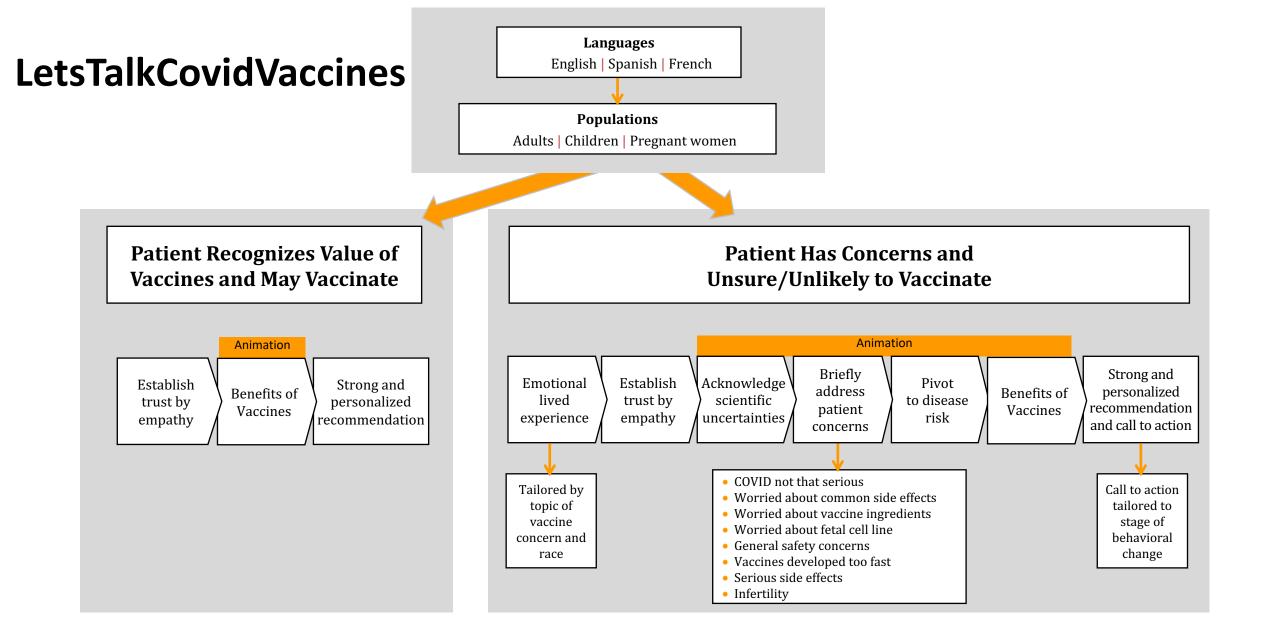


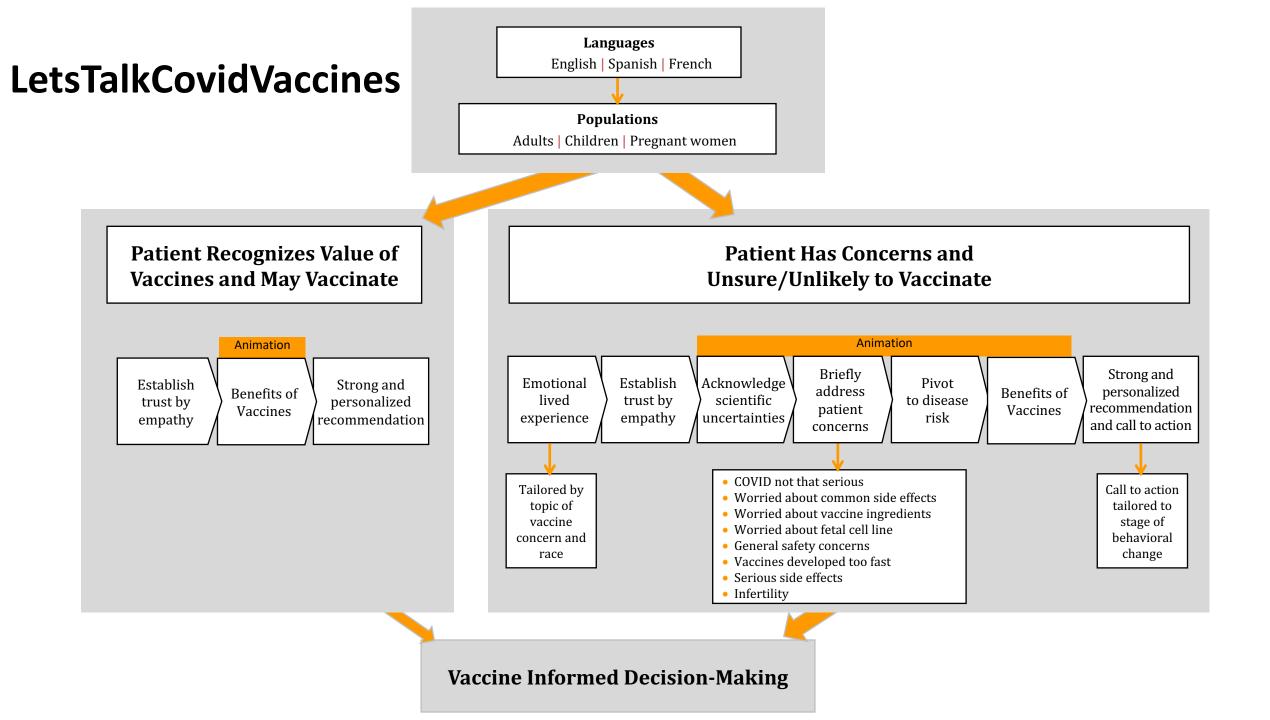
Michelle Cantu - Dissemination Lilly Kan - Dissemination Tori Decea - Dissemination

LetsTalkCovidVaccines









Testing Animation Through Focus Groups

- 27 African American, Hispanic, and white focus groups
 - 6 groups of pregnant women
 - I2 groups of Parents and adults

Testing Animation Through Focus Groups

- 27 African American, Hispanic, and white focus groups
 - 6 groups of pregnant women
 - 12 groups of Parents and adults
- Intent to learn what they liked and what they didn't like, and why

Testing Animation Through Focus Groups

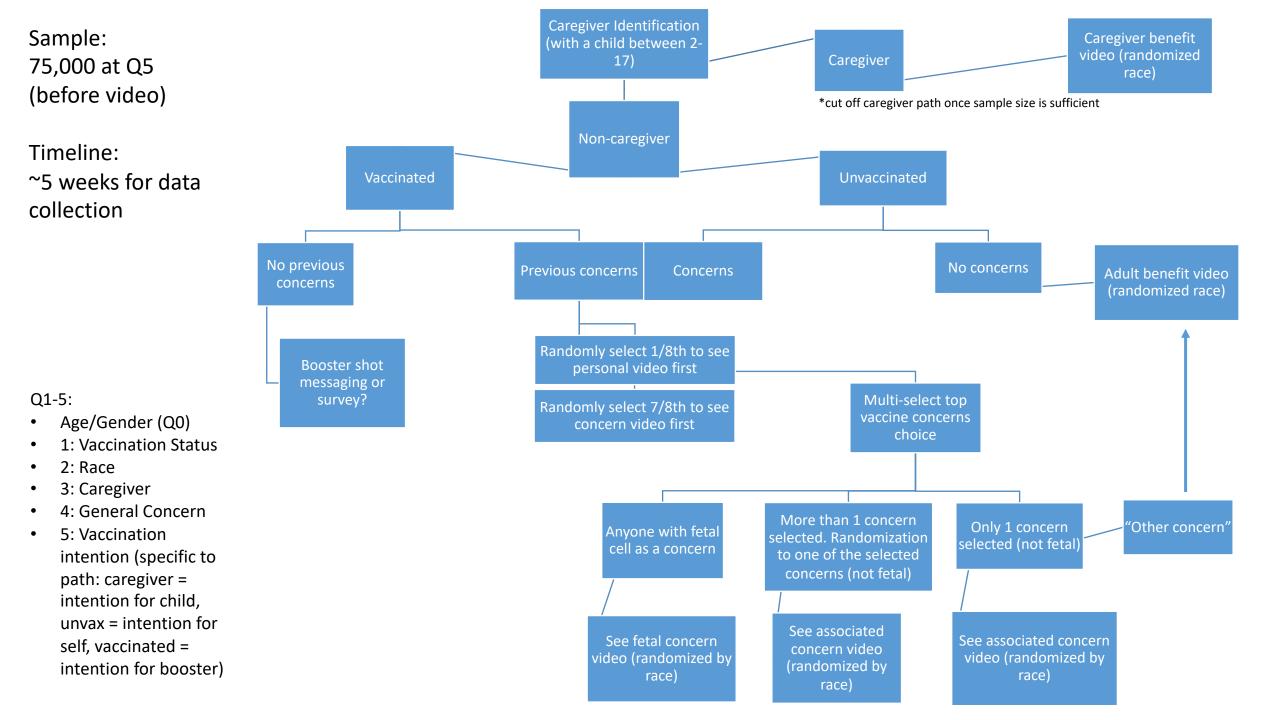
- 27 African American, Hispanic, and white focus groups
 - 6 groups of pregnant women
 - 12 groups of Parents and adults
- Intent to learn what they liked and what they didn't like, and why
- Changes to animation based on this feedback (examples)
 - Soften some language around vaccine benefits for those who were very hesitant
 - Create animation on changing COVID recommendations and uncertainty
 - Rework infertility animation
 - Did not find differences by race/ethnicity though looked for it

People landing on URLs that don't work receive anonymous opt-in surveys

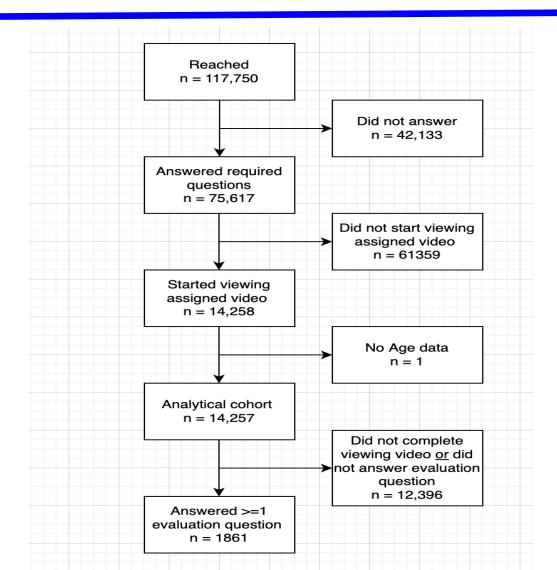
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- People landing on URLs that don't work receive anonymous opt-in surveys
- Strengths include size, speed and non-incentivized
- Limitations include drop off over time
- RIWI vaccination rates similar to CDC estimates



Riwi Testing Flow Diagram



Likelihood of fully viewing videos

 @10 times more likely if personal story before animation vs. animation before personal story

adjusting for sociodemographic characteristics

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- Almost twice more likely if racial congruency between credible source and user

Likelihood of fully viewing videos

- @10 times more likely if personal story before animation vs. animation before personal story
- Almost twice more likely if racial congruency between credible source and user
- @30% more likely if unvaccinated vs. unvaccinated

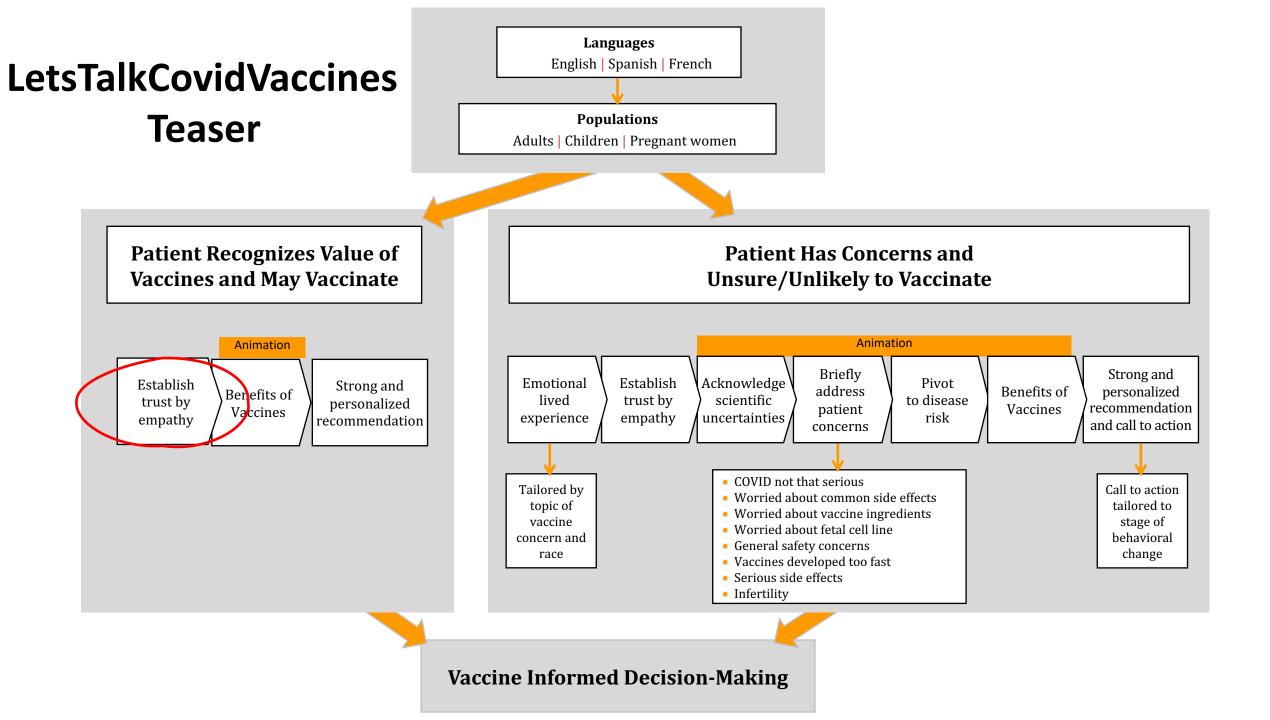
adjusting for sociodemographic characteristics

Usability among @2,400 who watched all videos and completed post-video questions

- 53% report will influence others to get vaccinated
- 52% helpful for making vaccination decisions
- 55% trusted the information
- 77% easy to understand

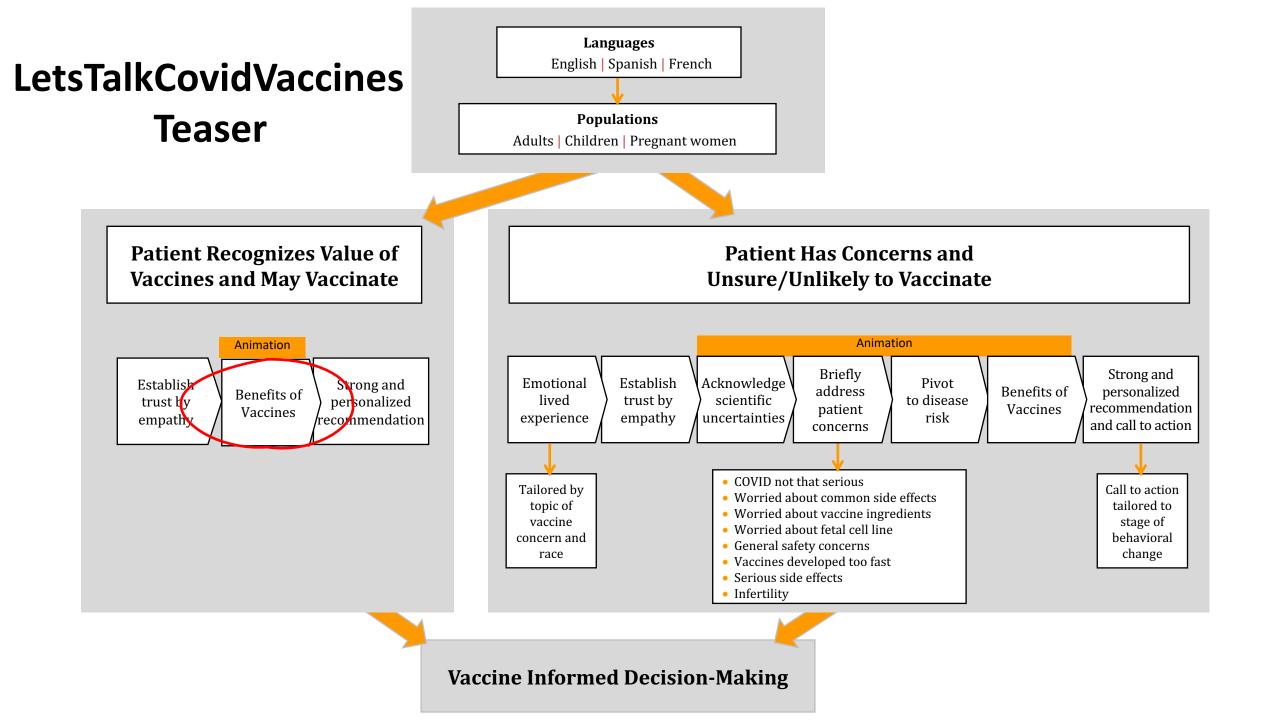
Usability among @2,400 who watched all videos and completed post-video questions

- 53% report will influence others to get vaccinated
- 52% helpful for making vaccination decisions
- 55% trusted the information
- 77% easy to understand
- Usability generally Higher
 - Personal story before animation vs. animation before personal story
 - Black, Hispanic, and Asian vs White
 - Vaccinated vs. unvaccinated
 - No vaccine concerns vs. vaccine concerned

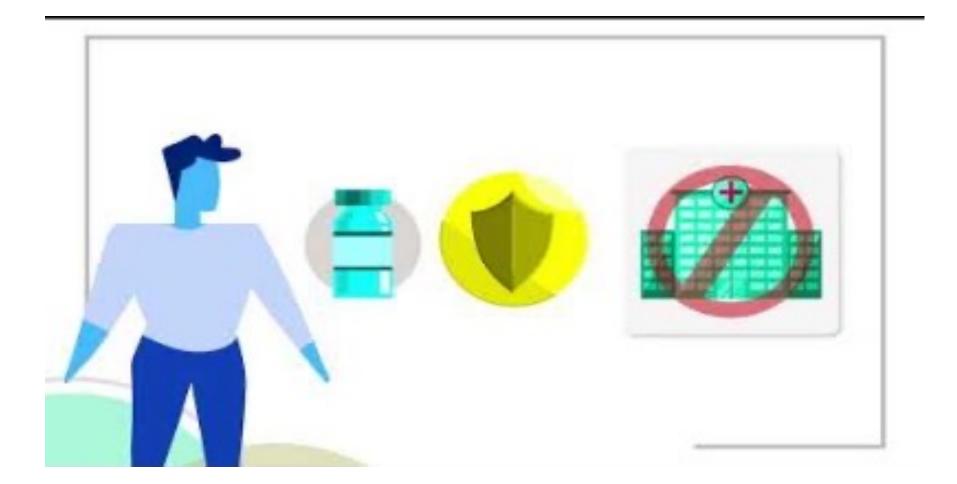


Establishing Trust from a Credible Source





Vaccine Benefits



Tailoring to Local Communities with NACCHO

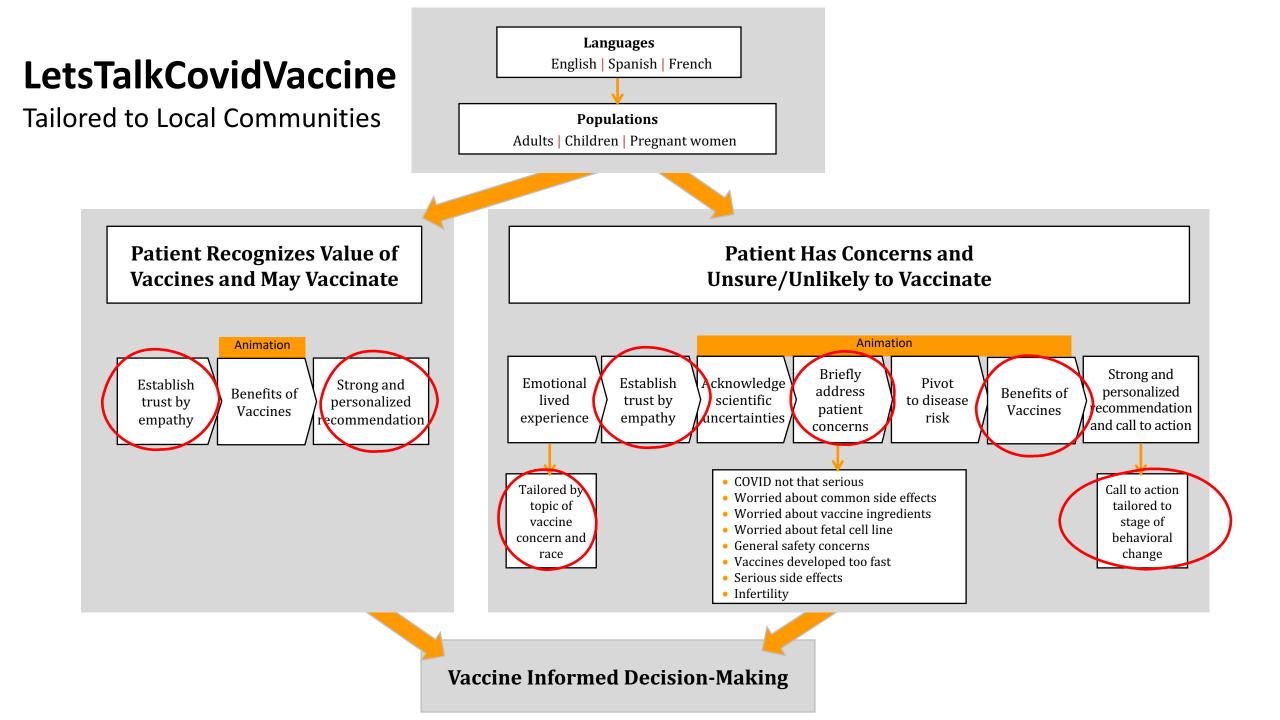
- 1. Williams County Ohio (rural, conservative)
- 2. Joplin City, MO (rural, conservative)
- 3. Orange County, NY (suburban/rural, demographically and politically diverse)
- 4. Monongalia, West Virginia (rural, largely white and Hispanic)
- 5. Utah County, Utah (rural/suburban, Hispanic)



Tailor to local communities and subpopulations

- •Credible sources
- •lssues
- Personal stories
- •Call to action





1. Tailor to 13 more underserved communities



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- 2. Expand to include all vaccine across the lifespan
 - a. @70 more pieces of animation (total time >3 hours)
 - b. 40 focus groups & Ipsos survey for testing



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- 1. Tailor to 13 more underserved communities
- 2. Expand to include all vaccine across the lifespan
 - a. @70 more pieces of animation (total time >3 hours)b. 40 focus groups & Ipsos survey for testing
- 3. Hiring and training local community health workers
- 4. Community health workers go into their communities to inform and remove access barriers



 A full length movie (> 3 hours) of animation with vaccines in pregnancy, infants, children, adolescents, adults and elderly including common concerns by vaccine and population



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- A large and diverse range of credible sources



- A full length movie (> 3 hours) of animation with vaccines in pregnancy, infants, children, adolescents, adults and elderly including common concerns by vaccine and population
- Personal story library (50+ persons) carefully edited to 30 second and 3-5 minute versions
- A large and diverse range of credible sources
- Tailoring all of this to users based on language, age of vaccination, vaccine intentions, concerns and demographics based upon a small number of questions



• Tailor and disseminate to more communities



- Tailor and disseminate to more communities
- Social media



- Tailor and disseminate to more communities
- Social media
- Work with partners (NACCHO, AAP, AIM, ASTHO, etc)



- Tailor and disseminate to more communities
- Social media
- Work with partners (NACCHO, AAP, AIM, ASTHO, etc)
- Integrate into clinical practice
 - Healthcare Provider Most Credible Source for Vaccines but Often Lack Tools to Talk with Patients



- Support the providers
 - CME module on how to talk with patients about vaccines
 - Up-to-date electronic version of book





Matthew Z. Dudley - Daniel A. Salmon Neal A. Halsey - Walter A. Orenstein Rupali J. Limaye - Sean T. O'Leary - Saad B. Omer



The Clinician's Vaccine Safety Resource Guide Optimizing Prevention of Vaccine-Preventable Diseases Across the Lifespan

2 Springer

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Optimizing Prevention of Vaccine-Preventable Diseases Across the Lifespan

Authors (view affiliations)

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Sean T. O'Leary, Saad B. Omer

Provides essential information on vaccines for clinicians

Details which vaccines should be offered, when, and any potential contraindications Outlines strategies for how to talk to patients about vaccines and allay concerns





• How to talk with patients about vaccines complemented by 1-hour JHU CME training



- How to talk with patients about vaccines complemented by 1-hour JHU CME training
- Diseases and vaccines with recommendations and contraindications



- How to talk with patients about vaccines complemented by 1-hour JHU CME training
- Diseases and vaccines with recommendations and contraindications
- Safety system



- How to talk with patients about vaccines complemented by 1-hour JHU CME training
- Diseases and vaccines with recommendations and contraindications
- Safety system
- 50 vaccine safety issues evidence summaries with clear conclusions



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- Diseases and vaccines with recommendations and contraindications
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- 50 vaccine safety issues evidence summaries with clear conclusions
- Talking points for vaccine and vaccine safety issues



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 - CME module on how to talk with patients about vaccines
 - Up-to-date electronic version of book
- Clinical practice sends patients to LetsTalkShots



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- Patients receives LetsTalkShots tailored information
- Practice receives profile of patient (vaccine intent, specific concerns) with talking points to use with patient



LetsTalkShots

Widely disseminating the right vaccine message from the right messenger to the right person

Daniel Salmon, PhD, MPH

Director, Institute for Vaccine Safety

Professor, International Health and Health, Behavior and Society

Johns Hopkins Bloomberg School of Public Health



Dr. Amy Nicholas' presentation was not recorded, and the slides are not publicly available.

Please check out <u>vaccines.com</u> and the <u>immYounity module</u> for more information.

Amy can be reached for questions at <u>Amy.Nicholas@Sanofi.com</u>.



Promoting trust in vaccines. Protecting Communities.

Vaccine Confidence Toolkit

Webinar Series

Immunizationmanagers.org/resources-toolkits/vaccine-confidence-toolkit/

Thank you!

Questions? Reach us at info@immunizationmanagers.org