

Cultural Beliefs and Influenza Vaccination In Today's Social Media World

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Thank you for the opportunity to speak with the committee. I have spoken before and shared some key results on racial factors, trust, risk perception, and more. Today, I will very briefly summarize a few key points from that work, and integrate some new work on home remedy use, conspiracy theory and social media.

I believe this is all relevant to the NVAC goal of increasing demand for adult vaccination, and specifically our national goal to achieve health equity.



Today's topics

1. What factors interact to affect vaccine decision-making?
2. What is happening with regard to vaccines in the social media world?
3. How can we increase vaccine uptake?

Research Methods

- Qualitative interviews with AA and whites in MD and GA with 28 African American and White adults in MD and Georgia and 9 focus groups (n=90)
- Online survey with nationally representative sample (n=1,643) with completion rates:
Whites: 63.1%; African Americans: 51.2%

Survey pretested prior to administration

What factors interact to affect vaccine decision-making?



Photo credit: Quinn, 2017

Although there is other research on the disparity in flu vaccine uptake between AA and whites, it doesn't fully explain those disparities. Our study sought to use qualitative data to shape our national survey instrument, allowing us to create an instrument that mirrored many of the issues and concerns we heard in interviews and focus groups. The data to follow draws upon our extensive qualitative work with AA and whites in MD and GA with 28 individual interviews, 9 focus groups (n=90) and upon our national survey in 2015.

We are going to talk about factors and approaches that include a focus on individuals (KAB), interpersonal level (relationships with family, friends,), community, institutional and policy levels, all of which interact to shape behavior. This is an overview of the key factors that emerged as significant in all analyses (whole sample, African Americans only, African American and White high risk adults).

Key Factors

- Perceived disease risk was significant predictor of vaccine uptake but African Americans had higher perceived risk of vaccine side effects
- Higher disease risk, higher uptake; when perceived risk of vaccine side effects increased, uptake decreased
- Higher trust in the vaccine & vaccine process associated with higher vaccine uptake
- Knowledge positively associated with vaccine uptake

Whites-age, gender and income significantly associated with perceived disease risk; for AAs, only age and gender; in both older adults and women reported higher disease risk

Older adults of both races lower perceived risk of side effects from vaccine; for AAs, women perceived higher risk of vaccine side effects; as education increased, perceived side effect risk decreased

Knowledge of the flu vaccine and vaccine recommendation positively associated with vaccine uptake

Deciding to trust the vaccine is an active decision for African Americans.

Impact Of Racial Factors

- Higher perceived racial fairness associated with more trust and higher vaccine uptake
- Higher racial consciousness associated with lower trust in vaccine and process, higher perceived risk of side effects, less knowledge, greater use of naturalism, belief in conspiracies, greater vaccine hesitancy
- For AA, higher perception of discrimination, higher perceived side effect risk and lower uptake

Higher perceived fairness associated with more trust and higher vaccine uptake for both AA and W

Higher racial consciousness more powerful for AA

Why is this important: This speaks to the relationship and trust between patient and their health care provider.

Flu Vaccine Hesitancy and Confidence

- Trust in flu vaccine was positively associated with confidence & convenience and negatively associated with complacency & hesitancy.
- Adults with higher confidence in flu vaccine are more likely to get the flu vaccine this season & in the past five years.

Vaccine hesitancy and confidence has only been explored from perspective of parental decision making about children. Because the flu vaccine must be taken every year and delay can be costly in terms of disease incidence, we wanted to create and test these constructs with adults.

Complacency-necessity, importance; Confidence-safety, effectiveness; Convenience-convenience & affordability

General hesitancy items included:

If doctor recommends vaccine, likelihood of acceptance

Take recommended vaccines

How hesitant to get vaccines in general

Trust in vaccines in general

Necessity, importance, safety, effectiveness, convenience, and affordability of vaccines in general

Home Remedy Use and Vaccination

- Higher proportion of African Americans reported family history of home remedy use.
- Whites were more likely to adopt use as adults.
- As frequency of use of home remedies increased, odds of getting the flu vaccine decreased and perception of vaccine risk increased

Conspiracy Theories

- **Guinea Pigs:** “... I think they’re experimenting on people. They’re sending batch A to this community, batch C to that community, and I think it’s different strains.”
- **Testing & Tuskegee & Trust:** “Just that Guatemala, the Syphilis, all that is in the back of my mind, most definitely, to not trust. And the lady in Baltimore, her family still lives in Baltimore, the one they’re still using her cells. What was her name?”

- **Diluting & Counterfeit Vaccines:** “I think just the average person, they don’t know what's in that little vial or whatever. They just know flu vaccine, they don’t know, like this is the Greenbelt version or this is the Langley Park one. And the thing is, they just get one so people really don’t think, in my opinion anyway, people don’t think, “Oh, that one in the affluent Bethesda area, that's different than mine in Langley Park.”

- **Institutional Trust:** “Since the FDA changed its guidelines, from pressure from pharmaceutical companies to get drugs to market faster, that we are all the guinea pigs for that.”
- **Pharmaceutical companies just want money:** “These people, it’s a business. They don’t make money curing you. They make money selling you drugs. They’re drug dealers.”

- **Vaccine Harms:** “...because they were marketing some like HPV virus or something to young black girls, and I’m like, “You are not going to make my child sterile trying to say you’re giving her something to prevent her from cancer.”

African Americans' Decision Making

- Deciding to trust the vaccine is an active decision for African Americans.

Perceived risk (disease & vaccine side effects), perceived effectiveness, importance of the vaccine & subjective norms were predictors of trust in the vaccine and vaccine process for African Americans.

Weaponized Health Communication: Twitter Bots and Russian Trolls Amplify the Vaccine Debate

David A. Broniatowski, PhD, Amelia M. Jamison, MAA, MPH, SiHua Qi, SM, Lulwah AlKulaib, SM, Tao Chen, PhD, Adrian Benton, MS, Sandra C. Quinn, PhD, and Mark Dredze, PhD

Malicious Actors on Social Media

- Bot: An automated account, controlled by a program, automatically produces content, & interacts with other accounts
- Troll: human user that seeks to provoke discord, inflame, and distort discussion
- Cyborg: account nominally controlled by a human that is occasionally taken over by a bot & can assist trolls to post content

Effect of malicious actors on social media

- Academic: They can distort attempts to measure public opinion
- Practical: They can distort perceptions of public opinion
- National security: They can be used to shape public opinion

Common Themes for Anti-Vaccine Tweets

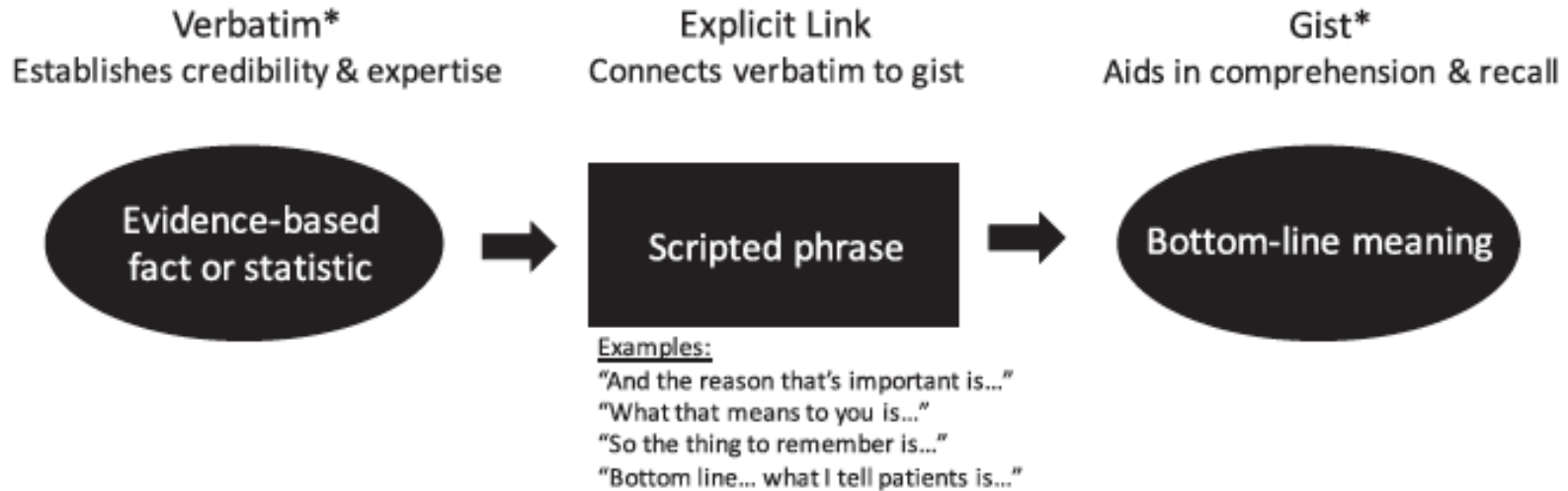
- Apparently this year's flu vaccine puts you at 4x the risk of the flu and 72x the risk of autism, #JustSayNo
- How to Prevent and Cure the Flu Naturally without a Vaccine
<http://t.co/IRsxhx3o5g>
- RT : The point of the flu vaccine is, among other nefarious goals, to give people the flu. Big Pharma makes Billio... <https://t.co/j5HKiymV2C>
- Vaccines are controversial. The media hides vaccine dangers while pushing flu shots every year. But <https://t.co/h8OCcKxISX>

How can we increase uptake of the flu vaccine?



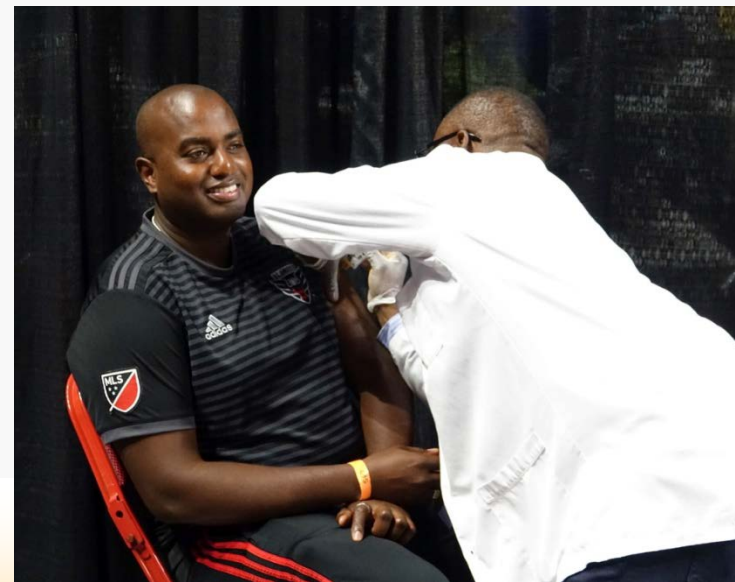
Proposed Gist Communication Framework

Patient-provider communication technique based on Fuzzy-Trace Theory* [10, 11]



Role Of Health Care Professionals

- Address key concerns such as vaccine side effect risk and effectiveness
- Recommend *and* offer vaccine in same visit
- Be a role model and take the vaccine themselves



Key Lessons for Public Health Agencies

- Stress the necessity and importance of flu vaccination every year and the rationale behind it.
- Communicate to enhance knowledge about influenza, the vaccine, vaccine production process and recommendations; perceived disease risk and perceived vaccine side effects;
- Maintain a visible social media presence that addresses key factors such as vaccine safety, effectiveness, and strengthening norms about vaccination.

Will address vaccine confidence, complacency, perceived risk

The Opportunity with Social Media

- When using social media, stay positive about the flu vaccine
- Avoid responding to anti-vaccine proponents
- Reinforce subjective and moral norms, particularly within families and communities

We also measured how frequently in a five year period respondents got a flu vaccine: never, once or twice, most years but not all, always.

When it is possible to address the subtle differences between groups, and move them along the continuum toward always, that type of communication could be effective.

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Thank you

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