Truth, Trust, and Vaccines: Practical Strategies for Addressing Health Misinformation

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At the completion of this program, the pharmacist should be able to:

- Identify common sources of medical misinformation related to vaccine safety and effectiveness.
- Describe the information sources pharmacists can use to evaluate vaccine safety data and recommendations.
- Discuss evidence-based communication strategies to address vaccine hesitancy and misinformation in patient interactions.

At the completion of this program, the Pharmacy Technician should be able to:

- Identify common sources of medical misinformation related to vaccine safety and effectiveness.
- Describe the information sources pharmacy technicians can use to evaluate vaccine safety data and recommendations.
- Discuss evidence-based communication strategies to address vaccine hesitancy and misinformation in patient interactions.

Question #1

Which of the following is a common source of medical misinformation? *(select all that apply)*

a. Social media like Facebook, Instagram, and TikTok
b. A patient's own primary care physician
c. Medical organization websites like AAP, AMA, or APhA
d. Recommendations from family members

Question #2

Which of the following resources can pharmacists use to evaluate vaccine safety data and recommendations?

a. Social media influencers' personal experiences
b. Anonymous online forums
c. Peer-reviewed literature and professional organizations
d. Celebrity endorsements

Question #3

A patient states that they are concerned about a vaccine because of information they saw online. Which communication approach is most consistent with evidence-based strategies for addressing misinformation?

a. Immediately correct the patient and explain why they are wrong
b. Dismiss the concern because it originated on social media
c. Listen to the concern, acknowledge the patient's perspective, and provide evidence-based information
d. Avoid discussing the topic to prevent conflict

Question #4

Which statement best describes the role of pharmacists and pharmacy technicians in combating vaccine misinformation?

a. Their primary responsibility is to direct patients to internet search engines for answers.
b. They should avoid discussing controversial vaccine topics with patients.
c. They can serve as accessible healthcare professionals who provide accurate information and build trust through patient interactions.
d. They should only discuss vaccine safety if specifically asked by a physician.

The Era of Misinformation?

What misinformation have *you* heard as it relates to immunizations in the last 5 years?

What is the issue?

- Misinformation
  - Information that is false, inaccurate, or misleading according to the best available evidence at the time
- Disinformation
  - False information deliberately created and disseminated with malicious intentions
- Infodemic
  - An overabundance of information, both accurate and false, creating confusion, fear, and mistrust among the public

Sources of Misinformation

- Social media
- Websites and forums
- Rogue online pharmacies and commercial sites
- Political and partisan messaging
- Family, peer, community networks
- Patient/Provider encounters
- Educational and institutional messaging

What are the effects?

- Childhood vaccination rates
- Influenza and COVID-19 vaccine rates
- Vaccine-preventable illnesses

Childhood Vaccination Rates

	2017-2018	2019-2020	2021-2022
DTaP (4 or more doses)	81.6%	80.5%	80.7%
Polio	92.6	92.5	92.1
MMR (at least 1 dose)	91.3	90.9	90.8
Hib (full series)	79.6	78.8	77.6
HepB (full series)	91.8	92.1	91.6
Varicella (at least 1 dose)	90.5	91.1	90.0
PCV (4 or more doses)	82.2	82.0	80.5
HepA (full series)	78.1	79.3	78.7
Combined 7-vaccine series	**70.0**	**69.1**	**68.0**

https://www.cdc.gov/mmwr/volumes/75/wr/mm7511a2.htm

https://www.cdc.gov/mmwr/volumes/72/wr/mm7244a3.htm

Influenza and COVID-19 Vaccination Rates

- Influenza
  - 52.1% in 2020-2021 season
  - 43.8% in 2024-2025 season
- COVID-19
  - 21.7% in 2023-2024 season
  - 17.5% in 2025-2026 season

https://www.cdc.gov/covidvaxview/weekly-dashboard/index.html

https://www.cdc.gov/fluvaxview/interactive/general-population-coverage.html

Vaccine Preventable Illnesses

- Measles
  - Since the last outbreak in 2019 (1274 cases), measles cases remained under 300 from 202—2024
  - In 2025, there were 2288 cases
    - 70% under 19 years
    - 93% unvaccinated/unknown vaccine status
  - In 2026 there have been 2030 cases as of June 5, 2026
    - 72% under 19. years
    - 92% unvaccinated/unknown vaccine status
- Pertussis, Rotavirus, Mumps

https://www.cdc.gov/measles/data-research/index.html#cdc_data_surveillance_section_5-yearly-measles-cases

https://www.healthline.com/health-news/infectious-diseases-rising-low-vaccination-rates#Rising-rates-of-other-infectious-diseases

Where can we turn?

Schedules and Clinical Recommendations

- American Academy of Pediatrics
  - https://downloads.aap.org/AAP/PDF/AAP-Immunization-Schedule.pdf
- American College of Obstetricians and Gynecologists
  - https://www.acog.org/topics/immunization
- American Pharmacists Association
  - https://www.pharmacist.com/immunization-center
- Illinois Department of Public Health
  - https://dph.illinois.gov/topics-services/prevention-wellness/immunization.html

Consult Reliable Resources

- Immunization Action Coalition
  - https://www.immunize.org/
- Vaccine Integrity Project – UMN CIDRAP
  - https://vaxintegrity.cidrap.umn.edu/
- Pan American Health Organization (WHO)
  - https://www.paho.org/en/topics/immunization
  - https://www.paho.org/en/topics/immunization/debunking-immunization-myths
- The Evidence Collective
  - https://www.evicollective.org/
- Your Local Epidemiologist
  - https://yourlocalepidemiologist.substack.com/

Prebunking - Learn to detect logical fallacies

- Appeal to nature fallacy
- The false dichotomy
- Ad hominem fallacy
- Common sense fallacy
- Post hoc fallacy
- Anecdotal fallacy
- Appeal to emotion fallacy
- Appeal to authority fallacy
- Moving the goal posts fallacy
- Straw man fallacy

Communication Strategies

Approaching the Conversation

- Be kind, nonjudgemental, and be open to the questions or doubts the patient has
- Use active listening, and repeat back what you hear to ensure understanding
- Be transparent about risks and uncertainties
- Don’t label someone as anti-vax just because they are skeptical
- Find common ground and values
- Leave the door open for future conversations

Use Existing Communication Frameworks

- Kleinman's Explanatory Model
- ASPIRE Framework
- CASE Approach
- Motivational Interviewing and OARS Technique
- Truth Sandwich

A case study…

- **Mr. James Wilson, 52yo male**
- **Medical History:**
  - Type 2 diabetes
  - Hypertension
  - Obesity (BMI 33 kg/m^2)
  - No documented pneumococcal, influenza, COVID-19, or shingles vaccinations
- **Current Medications:**
  - Metformin 1000 mg twice daily
  - Lisinopril 20 mg daily
  - Atorvastatin 40 mg daily

- While reviewing Mr. Wilson's profile, the pharmacist notes he is due for several recommended vaccines, including influenza, COVID-19, pneumococcal, and Shingrix.
- When the pharmacist mentions vaccination, Mr. Wilson responds:
  - "I appreciate you asking, but I don't really trust these vaccines. My cousin got really sick after his COVID shot, and I think pharmaceutical companies are just pushing these vaccines to make money. I try to stay healthy naturally."

Kleinman's Explanatory Model

- What do you call your problem? What name does it have?
- What do you think caused your problem?
- Why do you think it started when it did?
- What does your sickness do to you? How does it work?
- How severe is it? Will it have a short or long course?
- What do you fear most about your disorder?
- What are the chief problems that your sickness has caused for you?
- What kind of treatment do you think you should receive? What are the most important results you hope to receive from treatment?

Kleinman, A., Eisenberg, L., & Good, B. (1978). Culture, illness, and care: clinical lessons from anthropologic and cross-cultural research. Annals of internal medicine, 88(2), 251-258.

ASPIRE Framework

- Assume people want to get vaccinated and be prepared for questions
- Share key facts and sources of information to counter misinformation
- Present strong recommendations and stories about vaccination experiences
- Initiate discussion or address questions about side effects proactively and share credible sources of information
- Respond to questions and actively listen
- Empathize and understand concerns

https://pubmed.ncbi.nlm.nih.gov/34688565/#&gid=article-figures&pid=figure-1-uid-0

C.A.S.E. Approach

- Corroborate
- About me
- Science
- Explain/Advise

. Minn ned 2013 Apr;96(4):49-50.

Motivational Interviewing and OARS Model

- Open-ended questions
- Affirming
- Reflective listening
- Summarizing

https://rhntc.org/sites/default/files/resources/rhntc_oars_model_job_aid_12-20-2021.pdf

Truth Sandwich

- Start with the truth
- Acknowledge that some people are spreading misinformation but don’t amplify the the misinformation
- Repeat and reinforce the truth

https://www.bmsg.org/five-ways-public-health-advocates-can-combat-misinformation-when-communicating-about-covid/

Back to Mr. Wilson

- Which framework would you feel most comfortable using to discuss his vaccinations?
- How might that look in practice?
- Does this differ from how you typically address these concerns with patients?

Self-Assessment Questions

Question #1

Which of the following is a common source of medical misinformation? *(select all that apply)*

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What questions do you have?

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