

Take 3 – Practical Practice Pointers[©] April 29, 2019 Edition

Vaccine Hesitancy, Diagnostic Accuracy, Bias Management

From the Literature

1) Addressing Vaccine Hesitancy by Parents

Vaccination is one of the most successful public health interventions. It has led to the elimination and control of diseases that were once common in the US. Indeed, many recent outbreaks of measles, mumps, rubella, and pertussis have been linked to undervaccinated communities.

Parental concerns about vaccines are on the rise. Recommendations from health care clinicians are important for vaccine acceptance; yet many clinicians feel uncomfortable counseling vaccine-hesitant patients. Vaccine-hesitant parents (those who are undecided or have questions) far outnumber vaccine refusers; therefore, counseling this group might be more effective. Reasons behind vaccine hesitancy are complex and encompass more than just a knowledge deficit. As a trusted source of information on vaccines, primary care clinicians play a key role in driving vaccine acceptance.

Despite much misinformation regarding vaccinations, research indicates more than 2/3 of parents believe health care professionals were the most reliable and trustworthy source of vaccination information. This article was intended to provide information on parental vaccine hesitancy and practical clinical guidance for addressing it in the primary care setting. The authors provide practical, evidence-based counseling tips, in addition to concrete statements that can be used in conversations and answers to commonly asked questions. Counseling tips include:

- **Start early.** Talk with parents about vaccines in the prenatal period if at all possible. Provide them with fact-based materials or links to reliable websites.
- **Present vaccination as the default option.** A presumptive approach that assumes parents will immunize their child has been shown to be more effective than a participatory approach. “Your child is due for 3 recommended vaccines today to keep him/her healthy.” (instead of “What do you want to do about the shots?”)
- **Be honest about side effects.** Provide them accurate information and reassure them that a robust vaccine safety system is in place.
- **Tell parents stories.** Supplement scientific facts with personal experiences -- for example, clinicians can tell parents what they do for their own children.
- **Build trust with parents.** Showing respect, displaying empathy and tailoring information to each parent helps ensure vaccine compliance.
- **Address the pain associated with vaccination.** Reassure them that any vaccination-related pain is typically mild and transient and can be treated.
- **Focus on protection.** Emphasize to parents that vaccinations first and foremost protect the child. They also help reduce the likelihood of outbreaks, which helps to protect the community.

The article also provides guidance on answers to some commonly asked questions.

My Comment:

The ongoing measles outbreak serves as a reminder that vaccinations continue to play a foundational role in the prevention of many communicable diseases, some which can be quite devastating across a population.

It is important to remember that “vaccine hesitant” parents are trying to do the right thing for their child in the midst of voluminous and often quite contradictory information. Lecturing them or expressing negative emotions is likely to not be particularly effective.

At the same time, this approach gave me a bit of trepidation. The “presenting the vaccination as the default option” approach is not entirely consistent with a “shared decision-making” process, and left me pondering. Perhaps in the case of vaccinations, given their patient as well as public health implications, we are being asked to embrace a different default-mode, what I might call “selective shared decision-making?” My sense is that such an approach is likely more in line with the “reality” as to how many of these conversations actually occur in the midst of a busy clinical practice.

References:

- Shen S and Dubley V. Addressing vaccine hesitancy: Clinical guidance for primary care physicians working with parents. *Canadian Family*. March 2019, 65 (3) 175-181. [Article](#)
- AAFP Immunization Page: [Link](#)
- Edwards K, et al. AAP Clinical Report: Countering Vaccine Hesitancy. AAP Addressing Vaccine Hesitancy. *Pediatrics* September 2016;138(3):e1-14. [Article](#)

From the “Art of Medicine” and the Literature

2) Disruptive Patient Behavior and Diagnostic Accuracy

How is diagnostic accuracy impacted by patients who are experienced as “difficult” by the clinician caring for them? “Difficult” in this case is not about the complexity of medical care, but rather the interpersonal dynamic between patient and the clinician. And this often involves strong emotion on the part of both the patient and the clinician.

Two scenario-based studies reveal that diagnostic accuracy has the potential to decline significantly when physicians are faced with what the researchers called “difficult patients.” Across the two studies, these patients exhibited behaviors which included a “frequent demander,” an aggressive patient, a patient who questioned the doctor's competence, a patient who ignored the doctor's advice, a patient with low expectations, a patient who presented themselves as completely helpless, a threatening patient and a patient who accused the physician of discrimination.

In the first study, the behaviors studied induced physicians to make diagnostic errors, apparently because the physicians spend part of their mental/emotional resources on dealing with the patients' behaviors, impeding adequate processing of clinical findings.

In the second study, disruptive patient behaviors also seemed to induce doctors to make diagnostic errors. The physicians, who were later asked to recall clinical findings and patient behaviors, recalled fewer clinical findings and more about the patient's behavior for those considered difficult (for both, $P < .001$). Interestingly, the patient behaviors did not appear to impact the time spent with the patient. Thus, it was concluded that time variation was likely not the reason for the diagnostic errors.

Additionally, encouraging the clinicians to be reflective in the context of the challenge improved but did not completely overcome the diagnostic errors.

My Comment:

We ignore the impact of our emotional response to patients at our own (and apparently their) peril. The results support the idea that "resource depletion" accounts for increased diagnostic errors seen with more difficult patients — the mental/emotional energy spent dealing with these behaviors distracts/disrupts the correct processing of important clinical information.

One weakness of these studies is that they were done with Family Medicine residents, so it is unclear how these results would be replicated with more experienced clinicians, who theoretically are able to perform better emotional self-management. However, studies in other populations would indicate that often the “stored memories” of previous negative experiences would actually make the emotional response more likely to occur. Given these results and accepting that each of us encounters patient interactions that we would deem “difficult,” it would seem that learning/developing the skills of emotional self-management would be important in order to be able to provide the most optimal patient care. See the next “Pointer” for more on diagnostic reasoning.

Reference:

- Mamede S, et al. Why patients’ disruptive behaviours impair diagnostic reasoning: a randomised experiment. [Abstract](#)
- Schmidt HG, et al. Do patients’ disruptive behaviours influence the accuracy of a doctor's diagnosis? A randomised experiment. [Abstract](#)
- BMJ Qual Saf. Both studies published online March 7, 2016.

Honing the Skill of Critical Thinking and Diagnostic Reasoning

3) Preventing Diagnostic Errors Through “Bias Management”

Though estimates vary, diagnostic errors in primary care are thought to be more common than we should be comfortable with. One challenge is that unlike therapeutic errors, diagnostic errors are more difficult to determine/measure.

It is also estimated that approximately 75% of diagnostic errors have a cognitive bias component. Overarching cognitive errors include:

- 1) The tendency to seek only as much information as necessary to form an initial clinical impression,
- 2) Failure to consider alternative diagnoses after the initial impression is formed, often based on pattern recognition alone (“Premature Closure”), and
- 3) The tendency to stick with the initial impression even as new information becomes available (“Anchoring”).

Multiple cognitive biases contribute to anchoring.

- Confirmation Bias – The tendency to selectively seek information that supports initial impressions. Confirmation bias can be reduced by actively seeking information that could lead away from the initial or current impression (ie: question your initial impression).

- Overvalue Bias – The tendency to overvalue irrelevant information if it has been deliberately sought by the clinician. This bias compounds confirmation bias, because the clinician first seeks irrelevant information, then systematically overvalues this irrelevant information when it is obtained.
- Anchoring Bias – The inadequate adjustment of probabilities as new disconfirming information becomes available. This bias can be minimized both by explicit consideration of the base probability of a diagnosis and then actively considering if/how new clinical information alters this probability.
- Status Quo Bias – The tendency to stick with initial impressions as the number of new possible alternative diagnoses increases.
- Framing Effect – The tendency to be affected by how information is framed or presented. For example, by being informed of someone else’s conclusions about the information.

Given the prevalence of diagnostic errors, studies have explored interventions to prevent such errors. Some cognitive- and system-based interventions include:

- Cognitive awareness – This includes efforts to teach trainees and practicing clinicians about the diagnostic thinking process and methods to improve it. This may also be improved through teamwork and case discussions. While clinicians are limited in their ability to self-monitor their thought processes, their colleagues might be willing and able to do so.
- System-based improvements – Structured diagnostic assessments for common clinical scenarios (e.g., chest pain, fever in an infant) can ensure that relevant findings are elicited and common conditions considered. These can be augmented by computer-assisted decision support systems that advise or provide guidance about a particular clinical decision at the point of care.

My Comment:

The potential for bias is quite real in the practice of medicine, and the denial of it does not make it go away. We often don’t appreciate the demanding mental discipline required for effective clinical practice, even for what might appear to be common and perhaps even “mundane” issues. Adding negative emotion, either what we bring into the exam room and/or what is precipitated by our patients only adds to the need for this discipline. Consider what strategies you are using/might use to overcome such biases. In a future Take 3, I’ll explore “fallacies of logic” that also regularly interfere with our clinical reasoning and critical thinking skills.

Reference:

Etchells E. Anchoring Bias With Critical Implications. AHRQ Web M+M. Published Online June 2015. [Article](#)

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Mark

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