

BACKGROUND

Global Initiative for Asthma guidelines recommend antibiotics (AB) for asthma exacerbations only when there is strong evidence of lung infection.

Prior studies show:

- 30-50% of patients with an asthma exacerbation receive AB.¹
- AB therapy for asthma exacerbations may be associated with a longer hospital stay and higher care costs.²

To date, no studies have examined the determinants of antibiotic prescribing for asthma exacerbation.

Objective: to assess barriers and facilitators to appropriate AB prescribing in asthma exacerbations through interviews and focus groups with healthcare providers.

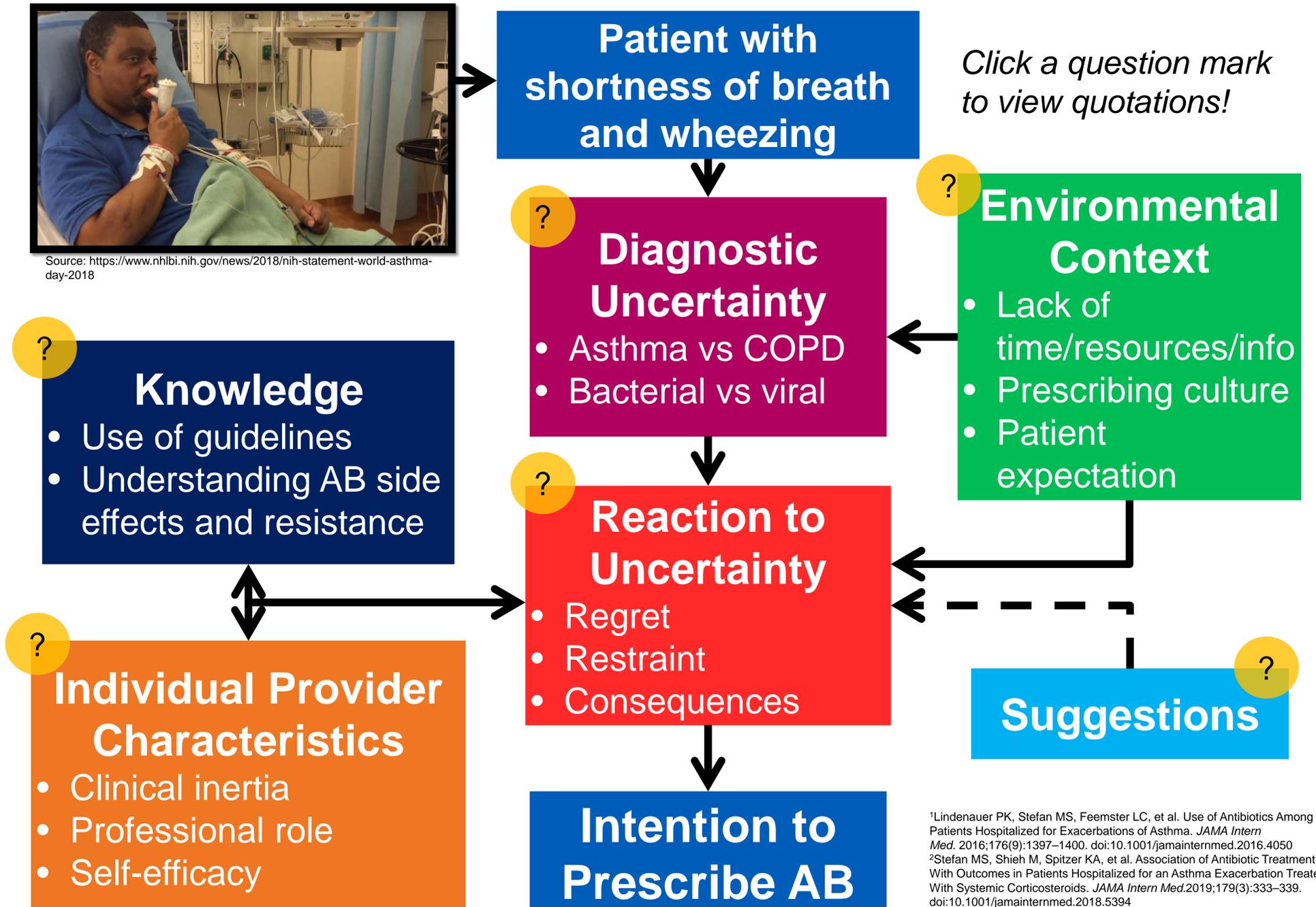
METHODS

- 16 semi-structured interviews and 2 focus groups with hospital-based providers, including ED physicians, pulmonologists, hospitalists and residents at one teaching hospital and one community hospital in New England.
- The interview instrument was informed by the Theoretical Domains Framework (TDF).
- Interviews and focus groups were audio-recorded and transcribed.
- Coded for themes using NVIVO 12

MAPPING INTENTION



Source: <https://www.nhlbi.nih.gov/news/2018/nih-statement-world-asthma-day-2018>



Click a question mark to view quotations!

Environmental Context

- Lack of time/resources/info
- Prescribing culture
- Patient expectation

Knowledge

- Use of guidelines
- Understanding AB side effects and resistance

Individual Provider Characteristics

- Clinical inertia
- Professional role
- Self-efficacy

Diagnostic Uncertainty

- Asthma vs COPD
- Bacterial vs viral

Reaction to Uncertainty

- Regret
- Restraint
- Consequences

Suggestions

¹Lindenauer PK, Stefan MS, Feemster LC, et al. Use of Antibiotics Among Patients Hospitalized for Exacerbations of Asthma. *JAMA Intern Med.* 2016;176(9):1397-1400. doi:10.1001/jamainternmed.2016.4050
²Stefan MS, Shieh M, Spitzer KA, et al. Association of Antibiotic Treatment With Outcomes in Patients Hospitalized for an Asthma Exacerbation Treated With Systemic Corticosteroids. *JAMA Intern Med.* 2019;179(3):333-339. doi:10.1001/jamainternmed.2018.5394

Knowledge

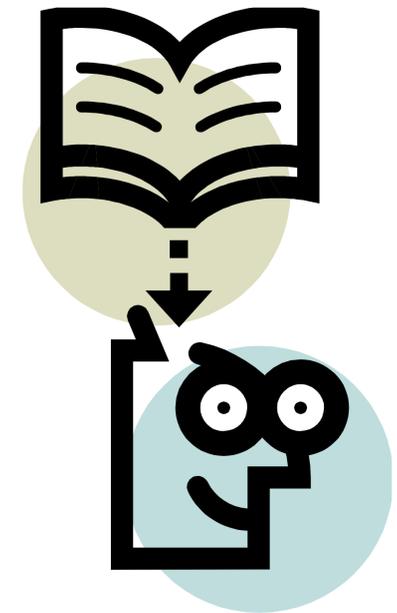
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“So [a] potential harm is more resistant bacteria. It is both the case for the person and also the general public.” – EM attending, teaching hospital, 0-5 years in practice

“Yeah, I think there is a bit of everything...I feel like we should be practicing under certain evidence-based guidelines. But I feel like if you’ve had more experience and you’ve seen more things that you’re kind of doing it based on that sometimes.” – EM NP, teaching hospital, 0-5 years in practice

“I think guidelines are only for residency.” – IM attending, teaching hospital, 6-10 years in practice

“I will basically do whatever we have learned over CMEs...and then we keep having updates coming on. Sometimes we end up having a consult coming on from pulmonary. You always get a teaching from your specialist also, based on the mix of things that you see.” – IM attending, teaching hospital, 6-10 years in practice



Individual Provider Characteristics

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*If you are trained in a certain way of doing something, and you've been doing it for 20, 30 years, it's very hard to go back, unless you're someone who is more open to the idea of staying well-educated and up-to-date with the resources.” – **EM resident, teaching hospital***

*“Education works up to a point. But I've seen providers who are like, ‘This is the way I've always done it. I don't care what the literature says, this is the way I'm gonna do it.’” – **EM attending, teaching hospital, 6-10 years in practice***

*“I'm a believer as a former resident that residents can really push the program and push the practice of attendings.” – **EM attending, teaching hospital, 0-5 years in practice***

*“And they might tell you whenever I have this, my pulmonologist gives medicine. And I just see them for one time there, so I'd rather treat them as they're usually being treated.” – **IM attending, teaching hospital, 0-5 years in practice***



Reaction to Uncertainty

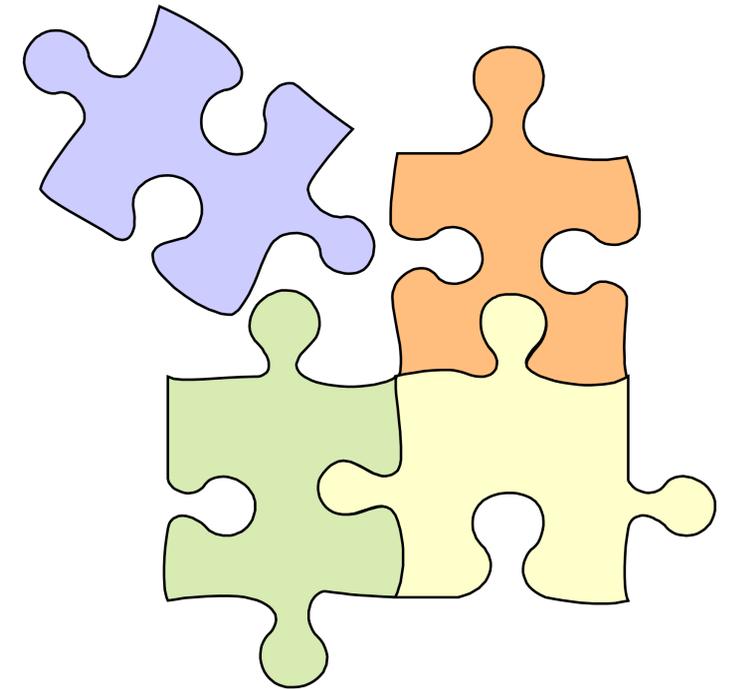
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*“I have had patients that come in frequently. If they’ve had more than two or four admissions in the past year and they keep coming back, I go back and look at if I gave antibiotics, would they be not readmitted this time?” – **IM attending, community hospital, 0-5 years in practice***

*“I don’t wanna miss him getting more sick, and it's coming back to me. So I'm just gonna give this. And if someone wouldn’t do any harm, but—and if it needs to do benefit, it'll do the benefit as well.” – **IM resident, teaching hospital***

*“The reason I did not give her – so, again, the other things influenced which I know that she had eczema too, I know it was more allergen induced. She had atrophy, she had eczema. In that cases, I will not give antibiotics. If she was somebody else, I would probably...” – **IM attending, community hospital, 6-10 years in practice***

*“No, I still don’t give 'em antibiotics. I think the -- the best things is gonna be albuterol. Mostly albuterol treatments. Sometimes I'll give them magnesium at times. But I -- I never give antibiotics to patients.” – **IM attending, community hospital, 0-5 years in practice***



Diagnostic Uncertainty

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*“I don’t blame clinicians if they can’t differentiate between COPD or early pneumonia and asthma.” – **Pulmonologist, teaching hospital, 6-10 years in practice***

*“Maybe they really have bronchitis or sinusitis, or maybe some touch of pneumonia because you know, in chest x-ray, you cannot see all the infiltrate. You seem them only on CAT scan and you do not wanna do all those CAT scans.” – **IM attending, community hospital, 6-10 years in practice***

*“Well, we’re supposed to give decisions based on what our best medical judgment is.” – **EM attending, teaching hospital, 16-20 years in practice***



Environmental Context



Time: “So the question is, is really less of antibiotics or not, it's can you afford to wait?” – **IM resident, teaching hospital**

Patient Expectation: “Yes, I mean it's just a factor, but usually it's a discussion, and I like to think it's shared decision-making.” – **EM attending, teaching hospital, 6-10 years in practice**

Prescribing Culture: “And in our group, we're very open to getting things right. So if there's something we can do better, our docs are not kind of those docs that are just gonna say, ‘No, I'm doing it my way.’” – **EM attending, teaching hospital, 11-15 years in practice**

Prescribing Etiquette: “I certainly don't want to undermine that patient relationship.” – **IM attending, teaching hospital, 20+ years in practice**



Suggestions



Physician Education: *“I think there are certainly opportunities. I think, [it] might be as simple as education. I think that we get much more education on COPD patients than asthma...” – IM attending, teaching hospital, 0-5 years in practice*

Procalcitonin: *“So, there’s two things we don’t use in the ED Procalcitonin and TAG, for two reasons. One, it doesn’t change our managements fast enough. Procalcitonin takes too long, and then TAG takes too – it’s quick, but we don’t have access to it, so we don’t order those tests.” – EM resident, teaching hospital*

Audit and Feedback: *“I think it’s really important how you word it exactly, because it could be taken as punitive.” – IM resident, teaching hospital*

Pharmacist Review and Call: *“I think actually some of the pharmacy directives have been helpful in other things. For example, an intravenous antibiotic in hospital. You will often get a pharmacist reach out to you and say, look you know, is this indicated?” – IM attending, teaching hospital, 0-5 years in practice*

Order Sets: *“We’ve relied on order sets a ton. Sometimes they’re a pain to click through and stuff like that, I think that’s the number one way we get through things. It makes it accessible and easy.” – EM attending, teaching hospital, 0-5 years in practice*

