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Myth Busters: The Flu Shot During a Pandemic

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MYTH BUSTERS: THE FLU SHOT DURING A PANDEMIC

PORTER MEDICAL CENTER – PRIMARY CARE VERGENNES
VERGENNES, VT

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UVM LCOM Family Medicine, Rotation 4: Oct.-Nov. 2020

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2. PROBLEM IDENTIFICATION & NEED

I was shocked on my first day at Porter Medical Center – Primary Care Vergennes: our first two patients declined the flu vaccination, and a third later that day. They first declined this when being roomed by the RN or medical assistant, who mentioned this when checking in with Dr. Bicknell to share that the patient was roomed and ready to be seen. They then declined again when I asked during my interview, and then again for the third time when Dr. Bicknell, MD mentioned this when we returned to assess them together. I was impressed Dr. Bicknell knew exactly how hard to press this issue without making the patient flip to the defensive. When asked why they declined, I saw a common theme arise just in those few visits.

Some thoughts came up:

- Did this many people really not want their flu shot here?
- Why don't they want it?
- Are they taking COVID into consideration?

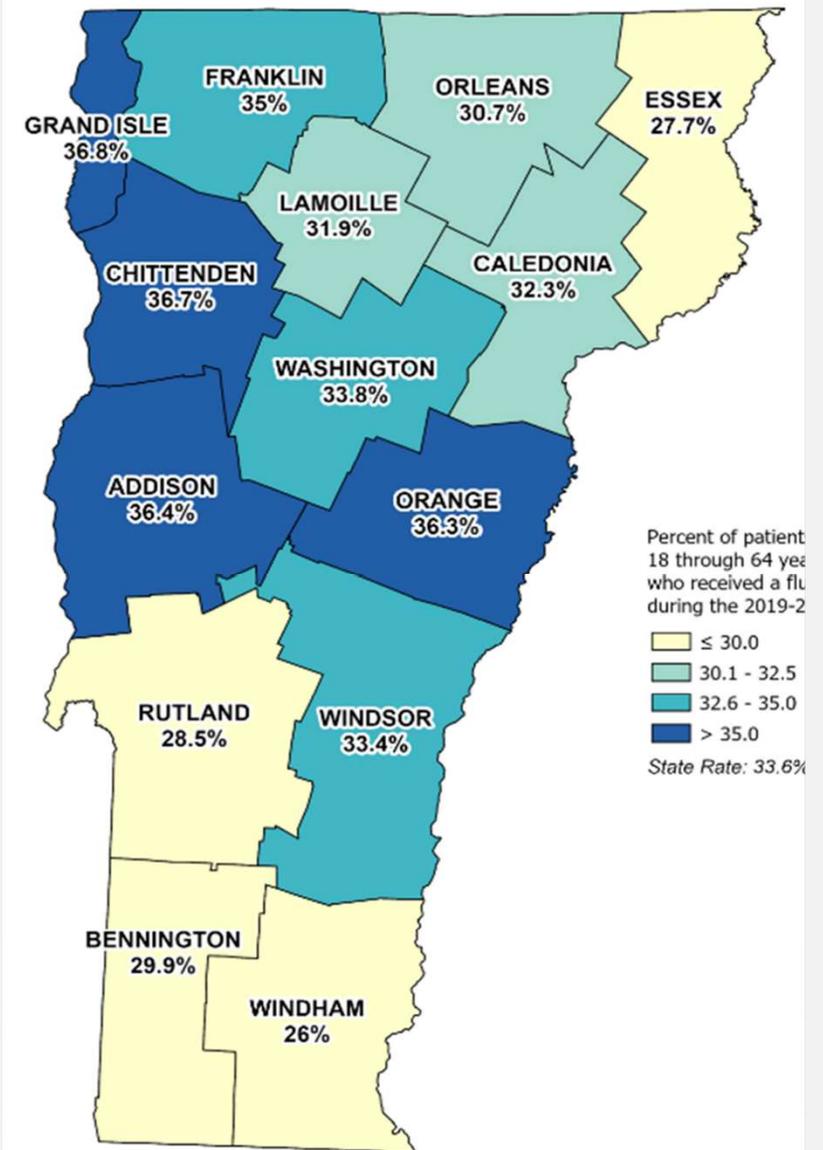
So I set out to explore these.

2A. NEED IN VERMONT

Flu vaccination in the Green Mountain state:

- The highest proportion of people who got vaccinated in 2019-2020 was among the 6 mo – 4 yrs group, and the 65+ group, of which 59.1% of each group received the flu shot.¹
- Of Vermont adults aged 18-64, flu vaccination rates were “low” at 33.6% across the state based on Registry for this past flu season (2019-2020). That’s 1/3rd of adults in the age group.¹
- State vaccination rates were even lower at 27.2% among the 18-49 age group – the lowest vaccination rate among any age group. The rate for this age group in Addison county, where Vergennes is located, was slightly higher than the state average at 36.4%.¹

*Map from Vermont Department of Health. “Influenza Vaccine Coverage 2019-2020 Flu Season.”



3. PUBLIC HEALTH COST

- Including both direct healthcare costs and indirect costs to American society, such as absence from paid employment and loss of productivity, a 2018 study estimated the average total economic burden of influenza to be between \$6.3 and \$25.3 billion, likely \$11.2 billion, annually.²
- Based on CDC data from 2018, Vermont's age-adjusted death rates for Influenza/Pneumonia was 9.8%.³
- Based on "Influenza-like illness" reports to the Vermont Department of Health (VDH), lab test results, and outbreak information reported to the CDC during flu season 2018-2019⁴:
 - The highest percentage of visits due to influenza-like illness (defined as >100 F temperature, and cough and/or sore throat) was 4.7%, and 6.3% during the 2017-2018 season.
 - During the 2018-2019 flu season, there were 39 outbreaks of flu reported to the VDH, with majority of them between Dec-March that season. More than half of these were reported from long-term care facilities.³
 - With 2018-2019 flu season influenza tests performed on specimens at the VDH Laboratory, AH1N1 was the most frequently identified.
 - Based on data from 3 hospitals (Central Vermont Medical Center, Southwestern Vermont Medical Center, and UVMHC) reporting to the National Respiratory and Enteric Virus Surveillance System, 19% of tests performed at their facilities were positive.

4. COMMUNITY PERSPECTIVE

Per physicians, reasons patients decline the flu shot:

- Dr. Timothy Bicknell, MD:
 - “I had a flu shot once and I got sick after it, so I never got it again.”
 - “I’ve never had the flu before, so I never get the shot.”
- Dr. Mick Graham, MD:
 - “I have never gotten the shot, and I’ve never gotten sick.”
 - “I got the shot once, and then I got sick.”
- Dr. Catherine Ayers, MD:
 - “I just don’t get sick.”
 - “Every time I get the flu shot, I get sick.”

Reasons expressed by the providers were exactly consistent with reasons I encountered in my own interviewing.

Additional reasons I encountered included these:

- People are working from home and are not socializing recently due to the pandemic, so they do not feel they need it due to limited social interactions
- Everyone is wearing masks now because of the pandemic – how could we get it?
- There are bad side effects - aren’t there?

5. INTERVENTION & METHODOLOGY

Goals of intervention:

- Understand the reasons patients at this practice commonly decline the annual influenza vaccination, and “MythBust” these common misconceptions.
- Present this information in a digestible manner to patients based on perceived health literacy of community members.
- Call attention to and stimulate discussion of new considerations about flu vaccination during the COVID pandemic.
- Bigger picture
 - Increase flu vaccination within the community to ultimately decrease incidence of flu this season and protect the public health during the pandemic.
 - Keep patients out of the hospital to reduce burden on our medical system during the pandemic.

Methodology:

- Interview Vergennes primary care physicians to understand, based on their experience, the most common reasons patients seem to state as their reason for declining the flu shot.
- Based on my encounters with patients, compile a list of anecdotal reasons patients state for declining the flu shot.
- Based on these common misconceptions among Vergennes community members, create a flyer for exam rooms that responds to their concerns and directly debunks these myths.
 - In the flyer, include a section about new considerations for declining the flu shot in the midst of a pandemic.

6. RESULTS/RESPONSE

- A flyer was created flyer (see following slide) based on anecdotal data for commonly encountered “myths” about flu vaccination, and will be displayed in Porter Medical Center – Primary Care Vergennes exam rooms
- Engaged in discussion with multiple patients regarding their decision to decline the flu shot and, although it was not initially my intention for this project, experienced a few positive outcomes in which patients revised their initial decision to decline, and instead, received the flu shot at the end of the visit.
 - Scenario 1: 60-something y/o woman with immunocompromised husband undergoing chemo who initially declined the flu shot, stating that her and her husband do not go anywhere recently. With further discussion, she realized she could bring home influenza to her husband, even from going only to the grocery store, and thus, wanted to protect her husband by getting vaccinated.
 - Scenario 2: 60-something y/o man who works at an autobody shop, which had stayed open as normal throughout the pandemic, initially stated that he has never gotten the flu shot before and has never had the flu. We discussed that if he did end up with influenza, even if it was relatively mild, he would have to quarantine at home for at least a week because of uncertainty about flu vs. COVID. He decided he could not afford to miss that much work, and thus, was vaccinated.
 - Scenario 3: 40-something y/o man, who works from home, initially declined flu vaccination because he is sure he got the flu soon after receiving the annual flu shot several years ago. After discussing alternative explanations for flu-like symptoms following vaccination, and speaking about his wife who is a teacher, he decided he could not risk influenza because any flu-like symptoms in the home would likely cause his wife to have to quarantine also, and he did not want to be responsible for her missing work.

The Flu Shot: Myths Busted

Why don't you want your flu shot?

"I've never gotten the shot, and I've never gotten sick!"

Have you ever been in a plane crash? Me neither, but it doesn't mean it can't happen. The reality is...You're lucky! This certainly doesn't mean you won't get it. And this is not the year to take the chance, especially if you have chronic health issues.

"I got it once and I got sick right after."

There are a number of reasons you can experience symptoms after receiving your flu shot, but the flu vaccine itself *cannot* cause the flu. The flu shot is made with either killed virus or only a *single* protein – neither of these are capable of reproducing in your system to actually give you the flu.¹

Explanations for your illness include:

You had another infection or virus that caused similar flu-like symptoms. You may have actually contracted it while at the doctor's office or pharmacy getting your flu shot, so the timeline made perfect sense.

Because the virus is constantly mutating, the flu shot developed for that season is not always a perfect match – the flu is a moving target. It's possible the year you received your last flu shot and remember being sick afterwards, the flu shot was not perfectly on target with the circulating virus. Unfortunately, this happens because science isn't perfect and we don't always know how the virus will mutate, but the flu shot certainly gives you a better chance at being protected.

Did you know that a 2017 CDC study showed that even if you get the flu after having had your flu shot, you are 52-79% less likely to die than an unvaccinated patient? And the flu shot has been shown in several studies to reduce severity of illness even if you do get sick.²

Yes, there are some mild side effects. Check them out below.

"I'm worried about the side effects."

Serious reactions are *extremely* rare. Some people do experience *mild* side effects after their vaccination, but these only last 1-2 days – soreness, redness, swelling around injection site; low-grade fever, headache or muscle aches. Ask anyone who's had the flu – you would rather have a sore left arm for an afternoon.¹

References:

1. Centers for Disease Control and Prevention. "Influenza (Flu): Misconceptions about Flu Vaccines. Page last updated 1 September 2020. <https://www.cdc.gov/flu/prevent/misconceptions.htm>
2. Centers for Disease Control and Prevention. Influenza (Flu): New CDC Study Shows Flu Vaccine Reduces Severe Outcomes in Hospitalized Patients. 25 May 2017. <https://www.cdc.gov/flu/spotlights/2016-2017/vaccine-reduces-severe-outcomes.htm>

The Flu Shot: COVID-19 Considerations

Have you thought about this?

Can you afford to miss 1-2 weeks of work?

If you get the flu this year, you won't know if it's the flu or COVID. That means you will have to quarantine for 1-2 weeks at home, and miss work. There's no way around it. Protect yourself and your paycheck.

Can your spouse or family members afford to miss 1-2 weeks of work?

If you get the flu this year, and you live with someone, they'll likely have to quarantine too.

There's no rule that says you can't get the flu and COVID at the same time.

In fact, if you get sick from one of the two, your body is already stressed fighting something off – you'll be more susceptible to other infections. And if you get both, the results could be catastrophic. Do your body a favor and protect yourself from the one we're lucky enough to have a vaccine for. You're already taking your chance with COVID.

Get vaccinated for your loved ones and for your community.

For every person that gets vaccinated against the flu, you're less likely to pass that on to someone else or end up in the hospital. You can protect yourself and those around you by getting vaccinated.

We need this now more than ever amidst a pandemic – we need to keep hospital space available and healthcare workers healthy to protect the community this winter. If you get your flu shot this year, you're less likely to pass the flu to someone else – this decreases the chance that you, or someone you give it to, will end up in the hospital.

Do your part for your community.

"Getting a flu shot matters more this year than ever. When fewer people get sick with the flu, we can preserve medical resources in case there is a rise in COVID-19." – Vermont Department of Health website¹

"Getting a flu vaccine is more important than ever during 2020-2021 to protect yourself and the people around you from flu, and to help reduce the strain on healthcare systems responding to the COVID-19 pandemic." – Centers for Disease Control and Prevention website²

References:

1. The Vermont Department of Health. "Preventing the Flu." Updated 2020. <https://www.healthvermont.gov/immunizations-infectious-disease/influenza/prevention>
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7. EVALUATION OF EFFECTIVENESS & LIMITATIONS

Effectiveness

- Though an unforeseen impact of interviewing patients, a few outcomes were changed in which patient revised their initial decision against influenza vaccination, and instead, ended up receiving vaccination as part of their appointment that day.
- Ideally, with a longer timeframe for project, it would have been valuable to assess efficacy of flyer by
 - Keeping track of patients who initially declined vaccination when asked by RN/medical assistant during rooming, and ended up receiving vaccination by end of appointment, and having the opportunity to ask them why they changed their mind and if the flyer played any part in that decision
 - Following up with patients who, when asked again at end of appointment, stated they would “think about it” and potentially receive vaccination at the pharmacy, work, etc., and asking whether the flyer played any part in their decision

Limitations

- Due to time constraints and patient openness to discussion of their decision to decline flu vaccination, likely was not able to capture the full spectrum of patients’ reasons opposing the annual flu shot
- This flyer is coming at the tail end of vaccination window, with recommended administration by end October according to the CDC⁵, so not as impactful as if this was done earlier in the fall
- This is relevant to many communities across Vermont and the US, but flyer is not planned to be distributed beyond PMC - Primary Care Vergennes

8. RECOMMENDATIONS FOR FUTURE PROJECTS & INTERVENTIONS

Relevant to all communities, not just Vergennes or Vermont:

- Quantitative analysis of flu vaccination administration in this clinic
 - How many patients changed their mind and decided to be vaccinated after reading this flyer? This would be relevant to assessing efficacy of flyer
- Training session: coach providers on responses so that they have a reservoir of pre-formed responses to common misconceptions about influenza vaccination
- Vaccination in a pandemic: are more people seeking influenza vaccination this year with COVID-19?
 - Explore anticipated increase in influenza vaccination rate this year compared to prior years

9. REFERENCES

Powerpoint References:

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https://www.healthvermont.gov/sites/default/files/documents/pdf/IMR_FLU%20Data%20Brief%202019-2020.pdf
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https://www.healthvermont.gov/sites/default/files/documents/pdf/HS_ID_2018-2019EndofInfluenzaSurveillanceSeasonReport.pdf
5. Vermont Department of Health. Expanding flu vaccination access: Coordinating efforts across Vermont – Flu Webinar 1: Vermont Immunization Program. 2020 September 1.
https://www.healthvermont.gov/sites/default/files/documents/pdf/ID_IZ_INFOHCPMAIN_Flu%20Webinar%201%20Slides.09.01.2020.pdf

Flyers References:

- Centers for Disease Control and Prevention. “Influenza (Flu): Misconceptions about Flu Vaccines. Page last updated 1 September 2020.
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- Centers for Disease Control and Prevention. Influenza (Flu): New CDC Study Shows Flu Vaccine Reduces Severe Outcomes in Hospitalized Patients. 25 May 2017. <https://www.cdc.gov/flu/spotlights/2016-2017/vaccine-reduces-severe-outcomes.htm>
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