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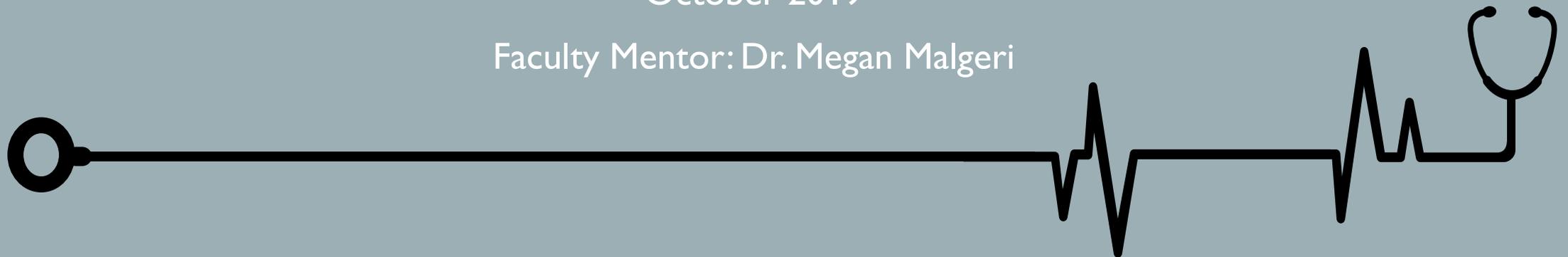
# COMMON CHILDHOOD ILLNESSES: IMPROVING PARENT/GUARDIAN EDUCATION

Mary Ann Kelly

Family Medicine Rotation; Milton, Vermont

October 2019

Faculty Mentor: Dr. Megan Malgeri



# PROBLEM IDENTIFICATION



- Children are more susceptible to sickness due to their underdeveloped immune systems and their high exposure to germs at schools and childcare facilities [1]
- Even if parents follow all preventative health care recommendations perfectly, there will still be occasions when children will get sick [2]
- Consultation rates for children continue to rise [3]



- Uncertainty and anxiety surround parents' decisions to seek medical help for an acutely ill child [3]
- Based on recent studies, parents' ability to assess the severity of their child's illness was influenced by knowledge [3]
- Assessing mothers' knowledge and practices in managing minor illness is very important in order to ensure safe and effective ways of managing minor illnesses and decrease complications and hospitalization [4]



- Collaborative approaches involving the public and professionals are needed to improve parents' access to information [3]
- In a recent study, educational resources providing parents with information about common childhood illnesses resulted in a reduction in visits to the child health clinic. Parents showed a general trend towards greater certainty about the home care options they would choose, and a reduction in intention to consult a doctor due to increased certainty about home care [5]

Providers at UVMMC-Milton Family Medicine have recognized that parent/guardian education around common childhood illnesses may be lacking. The goal of this project is to improve parent/guardian education surrounding common childhood illnesses by distributing educational information to parents/guardians during both acute and well-child visits at UVMMC-Milton Family Medicine.

# PUBLIC HEALTH COST

Total annual costs for bronchiolitis-related hospitalizations were **\$543 million**, with a mean cost of \$3799 per hospitalization in 2002. [10]

The number of conjunctivitis cases in the U.S. for 2005 was estimated at approximately 4 million yielding an estimated annual incidence rate of 135 per 10,000. Base-case analysis estimated the total direct and indirect cost of treating patients with conjunctivitis in the United States at **\$589 million**. [9]

By the age of 5 years, nearly every child will have experienced at least one episode of rotavirus gastroenteritis. This accounts for greater than 1.5 million outpatient visits, and 200,000 hospitalizations annually. These hospitalizations lead to **\$250 million** in direct medical costs and \$1 billion in indirect costs. [11]

Croup accounts for 15% of respiratory tract infections among children in practice, and during the second year of life, 1-5% of children will need outpatient evaluation for croup. The annual cost of hospitalizations for croup in the United States is an estimated **\$56 million**. [8]



Estimated annual costs for viral URI, not related to influenza, exceeds **\$22 billion**. Upper respiratory tract infections account for an estimated 10 million outpatient appointments a year. Adults obtain a common cold around two to three times yearly whereas pediatrics can have up to eight cases yearly. [12]



In Milton Vermont, 6.3% of the population is under 5-years-old and 21.1% is under 18-years-old [6]

Per capita personal health care spending in Milton, VT was \$10,190 in 2014 a 2.73% increase from the previous year (\$9,919) [7]



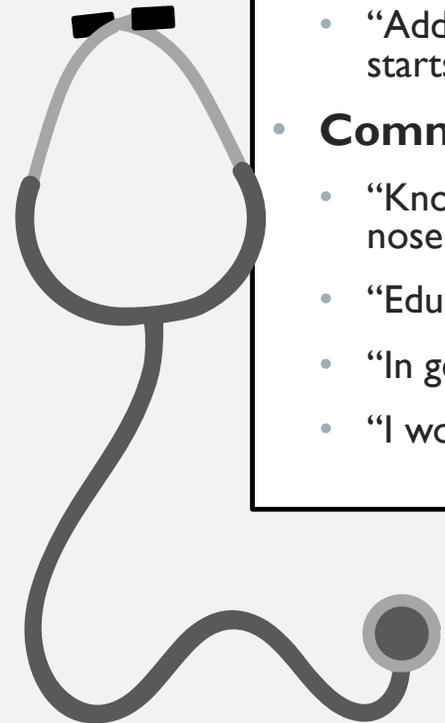
# COMMUNITY PERSPECTIVE

- **Comments from Grace Zimmer, APRN at UVMMC- Milton**

- “The parents whose children I see for acute visits are not well educated about the different childhood illnesses. A young mom will bring their kid in for a cough after one night of coughing and assume that it is croup. They don’t know what to do and how to manage a cough.”
- “Parents don’t know what to believe on the internet [about common childhood illnesses].”
- “Additional information on common childhood illnesses would be helpful for both anticipatory guidance before the child starts daycare or school as well as for acute visits.”

- **Comments from Melisa Gibson, MD, Family Medicine Physician at UVMMC-Milton**

- “Knowledge around childhood illness all has to do with education. The same kids whose parents come in for a runny nose come in for a runny nose.”
- “Education varies among patients. Grandparents and other well-meaning family members seem to educate parents.”
- “In general, health literacy contributes to visits that may be more ‘unnecessary’.”
- “I would totally hook that [childhood illness smart phrase] into my Well-Child visits.”



# INTERVENTION AND METHODS



Interviewed staff members to gain perspective on parental/guardian knowledge about common childhood illnesses at UVMHC-Milton. Worked with faculty mentor to develop a plan that would best distribute educational information to parents/guardians.



Developed an easy to use smart phrase addressing bronchiolitis, viral gastroenteritis, viral upper respiratory infection, conjunctivitis, and croup with the support of faculty mentors (family medicine doctor and pediatrician).



Added Milton Providers and Family Medicine Residents to the list of smart phrase users and informed providers at UVMHC-Milton about the new smart phrase via staff email.



# MY SMART PHRASE TEXT

## Common Childhood Illnesses

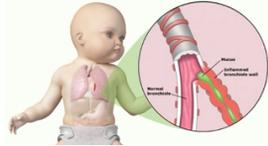
### Bronchiolitis (RSV)

#### What is Bronchiolitis?

- A common illness affecting the tiny airways (bronchioles) that lead to the lungs
- The virus causes the airways to swell and fill up with mucus. This can make breathing more difficult
- Most often affects infants (during the first 2 years of life) and young children because their noses and small airways can become blocked more easily than those of older kids and adults

#### What causes Bronchiolitis?

- A viral infection, most commonly RSV (respiratory syncytial virus)
- Exposure to cigarette or marijuana smoke can increase a child's risk for bronchiolitis



#### Symptoms of Bronchiolitis

- First symptoms are similar to the common cold: stuffy nose and congestion, runny nose, cough, fever
- After a day or two, cough becomes worse and wheezing develops
- Symptoms can last from 12 days to multiple weeks
- **Watch out for:** fast/shallow breathing, retractions (area between the ribs and neck sinks in when a child inhales) and nostril flaring (nostrils widen when breathing)

#### Treatment for Bronchiolitis

- Keep your child hydrated
- Humidifier: to help loosen mucus in the airway and relieve cough and congestion
- Bulb syringe: to clear nasal congestion
- Acetaminophen: if needed for fever symptoms
- Antibiotics will not be useful
- **Get immediate help if** your child is having difficulty breathing or if their lips or fingernails appear blue

### Viral Gastroenteritis

#### What is Viral Gastroenteritis?

- A viral infection of your intestines (gut)
- Very common
- Spreads very easily

#### What causes Viral Gastroenteritis?

- Norovirus, Rotavirus (vaccines can prevent), Adenovirus, Astrovirus
- Not the flu, unless a child also has body aches, fevers and respiratory symptoms

### Symptoms of Viral Gastroenteritis

- Watery diarrhea
- Abdominal pain/cramping
- Nausea or vomiting
- Sometimes fever

### Treatment for Viral Gastroenteritis

- Keep your child hydrated to prevent dehydration
- Antibiotics won't be useful
- **Get immediate help if** your child has severe dehydration (not urinating enough, lack of energy, dry mouth, sunken eyes or cheeks, no tears when crying)



### Viral Upper Respiratory Illness (Viral URI)

#### What is a Viral Upper Respiratory Illness?

- A viral infection in the sinuses, nasal passages and/or the throat
- Most common in the fall and winter months
- Also called the "common cold"

#### What causes Viral Upper Respiratory Illness?

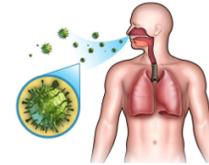
- More than 200 different viruses

#### Symptoms of Viral Upper Respiratory Illness

- Clear, runny nose
- Sore throat
- Cough

#### Treatment of Viral Upper Respiratory Illness

- Keep your child hydrated
- Rest
- Antibiotics will not be useful
- **Seek medical treatment if** symptoms are getting worse after 7 days or your child has breathing difficulty, eye pain or severe head pain.



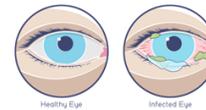
### Pink Eye (Conjunctivitis)

#### What is Pink Eye?

- Inflammation of the thin, clear tissue that lines the inside of the eyelid and the white part of the eyeball (conjunctiva)
- The inflammation makes blood vessels more visible and gives the eye a pink or reddish color
- Very common and spreads easily

#### What causes Pink Eye?

- Viruses (most often), bacteria, allergens (pet dander, dust mites), irritants (swimming pool chlorine)
- Some signs and symptoms are the same no matter the cause



#### Symptoms of Pink Eye

- Redness or swelling of the white of the eye or inside the eyelids
- Tearing
- Eye discharge
- Itchy, irritated eyes
- Crusting of the eyelids or lashes
- **See a doctor if your child has:** eye pain, difficulty seeing, very red eyes, symptoms that don't improve or get worse
- Infants or newborns should see a healthcare provider immediately

#### Treatment of Pink Eye

- Cold compresses
- Antibiotics
- Allergy medication if caused by an allergen (something a child is allergic to)

### Croup

#### What is Croup?

- Inflammation of the airways in children
- Causes breathing difficulties
- Affect children up to age 5
- Most often seen in the fall

#### What causes Croup?

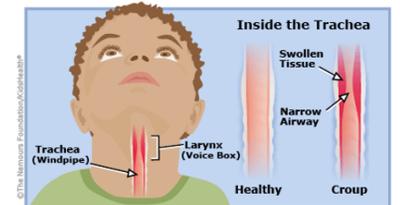
- Infections cause the windpipe and voice box to become irritated and swollen
- The same viruses that cause the common cold

#### Symptoms of Croup

- "Barking" cough
- High-pitched, squeaky noise when breathing (stridor)
- Worse at night or when child is upset/crying
- Cold symptoms
- **Watch out for:** fast/shallow breathing, retractions (area between the ribs and neck sinks in when a child inhales) and nostril flaring (nostrils widen when breathing)

#### Treatment of Croup

- Try to keep your child calm, as crying makes symptoms worse
- Cool-mist humidifier
- Cool air
- Keep your child hydrated
- Rest
- **Get immediate help if** your child has pulling in of the neck and chest muscles when breathing, trouble breathing, or is pale/blueish around the mouth



## RESULTS/RESPONSE DATA

### Provider Responses:



“I love it!”  
“I’m going to use it for two of my afternoon patients.”  
“It’s perfect!”  
“I’ve already used it once today.”



Many of the providers expressed interest prior to my release of the smart phrase and continue to express interest in using this smart phrase at both well-child checks and for acute visits if it is believed that the parents/guardians will benefit.

# EVALUATION OF EFFECTIVENESS AND LIMITATIONS

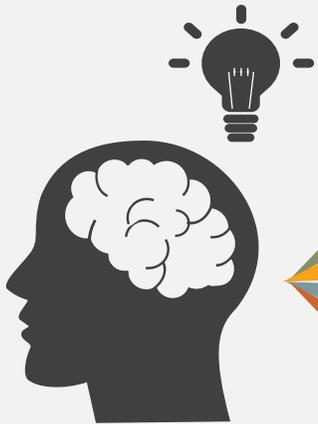
## Effectiveness

- To evaluate the effectiveness of this smart phrase quantitatively, it would be useful to use epic to track patients receiving the smart phrase handout. It would be beneficial to see if there are fewer acute visits for uncomplicated common childhood illnesses for those who received the handout than those who did not.
- In addition, it may be useful to collect qualitative data from parents/guardians regarding their comfort level and education about the common childhood illnesses discussed in the smart phrase handout after reading it over.

## Limitations

- This smart phrase didn't address all important childhood illnesses, as others, such as the flu were left out due to worry that the smart phrase would be too long.
- In order to increase education around the illnesses, parents/guardians must be willing to read the handout, which could be considered lengthy to some.
- In addition, for this smart phrase to be effective, providers must be willing to distribute it on a semi-regular basis, which can be difficult provided the long list of tasks providers already have during each visit.

# RECOMMENDATIONS FOR THE FUTURE



Create other smart phrases that address parent/guardian education, such as one that addresses the flu.



Inquire if other family medicine clinics in Vermont that use Epic would like access to the smart phrase.



Interview with parents/guardians to address additional educational needs regarding common childhood illness education.



Update current smart phrase as needed if recommendations change.

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