

# What can we do together for headache?

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# Disclosure

- Grant recipient of an Independent Learning Grant from Pfizer

# Disclosure

- I have never personally treated a child in the school setting for headaches.

# Other disclosures

Who wants to hear “I’m 11/10” all day?



# And another disclosure

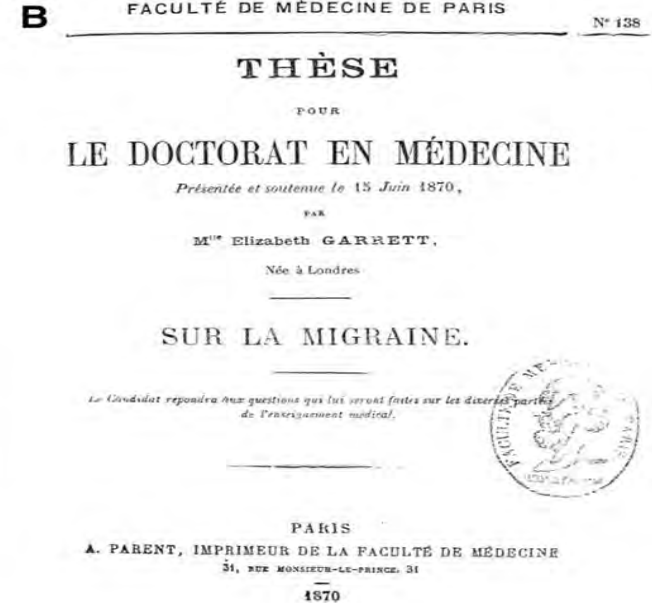
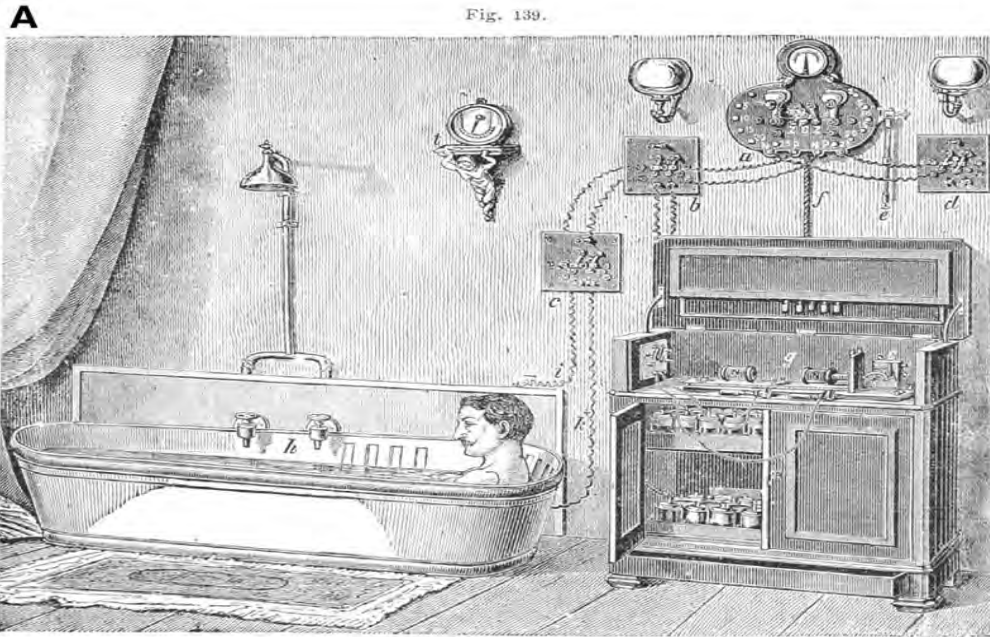
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# Mismatched supply and demand

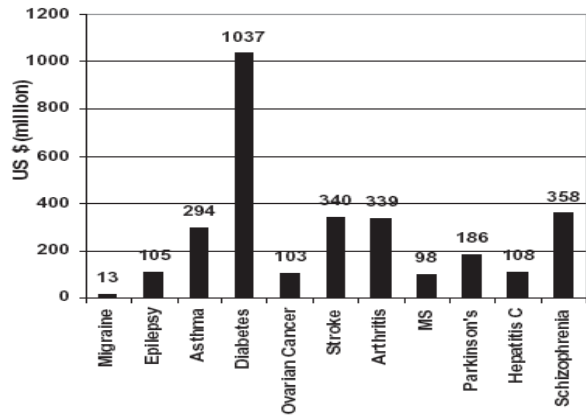
- 519 UCNS Board Certified Headache Medicine Specialists in the U.S.
- 36 million people with migraines in the U.S.
- 1 out of 100 teens have chronic daily headache
- Headache disorders are responsible for nine percent of all US lost labor productivity

# The underfunding of headache disorders



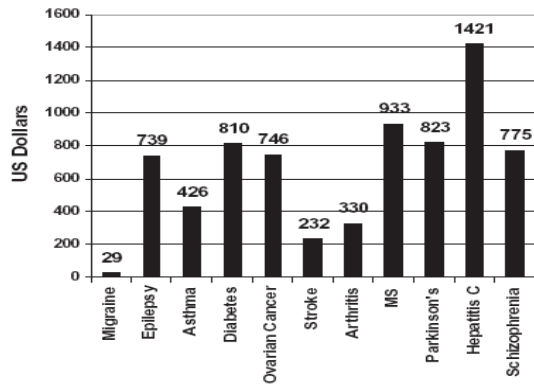
# Funding of research on headache disorders by the NIH

2007 NIH Funding by Disorder

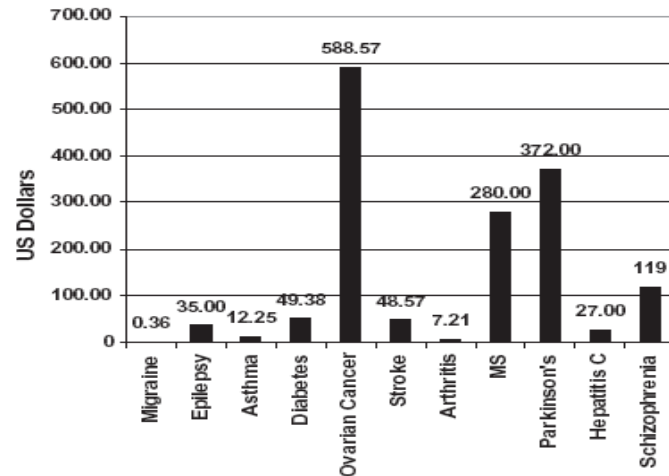


(Schwedt and Shapiro 2009)

2007 NIH Funding per DALY



2007 NIH Funding per Person with Disorder





# The underfunding of headache disorders

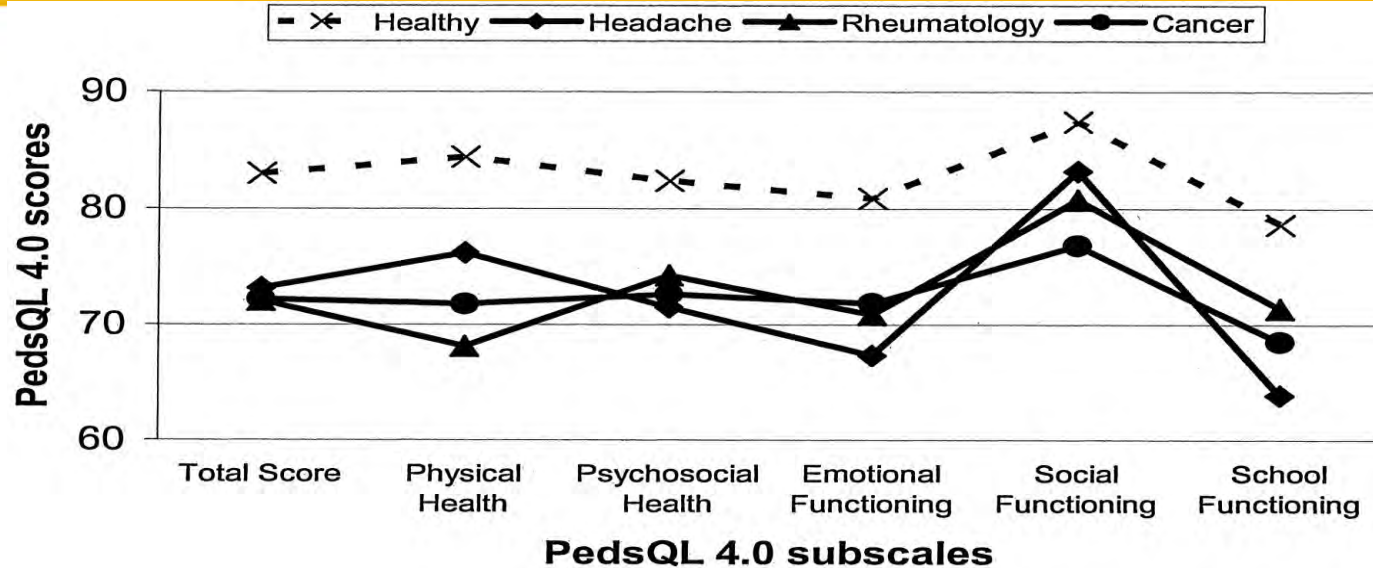
- Under-representation of headache disorders in academic centers
- Few FDA approved medications, very few as original indication
- No well established, helpful guidelines for medication management in pediatric headache



# Migraines are safe...



# Pediatric headache disability similar to disability scores in cancer and rheumatological diseases



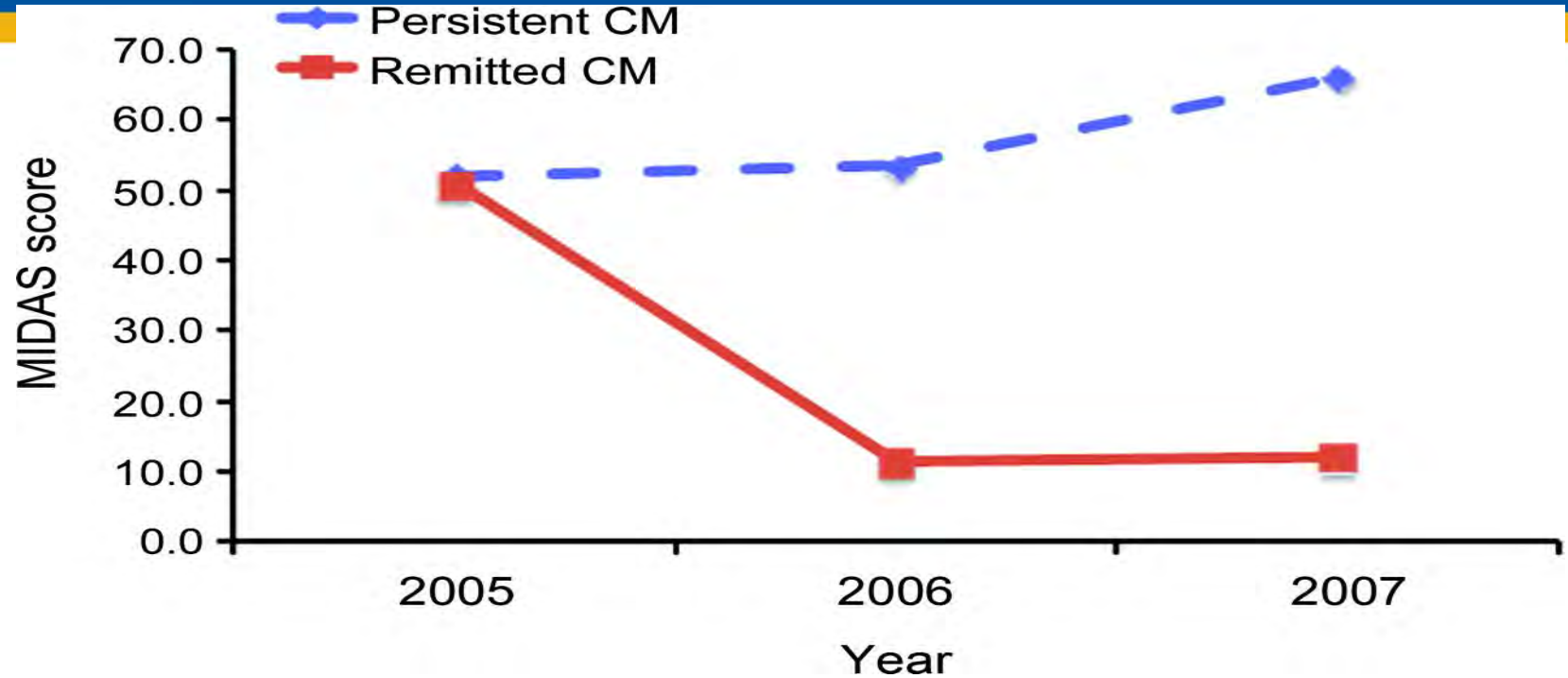
Powers, S. W. et al. Pediatrics 2003;112:e1-e5

# Impact of Adult Chronic Migraine

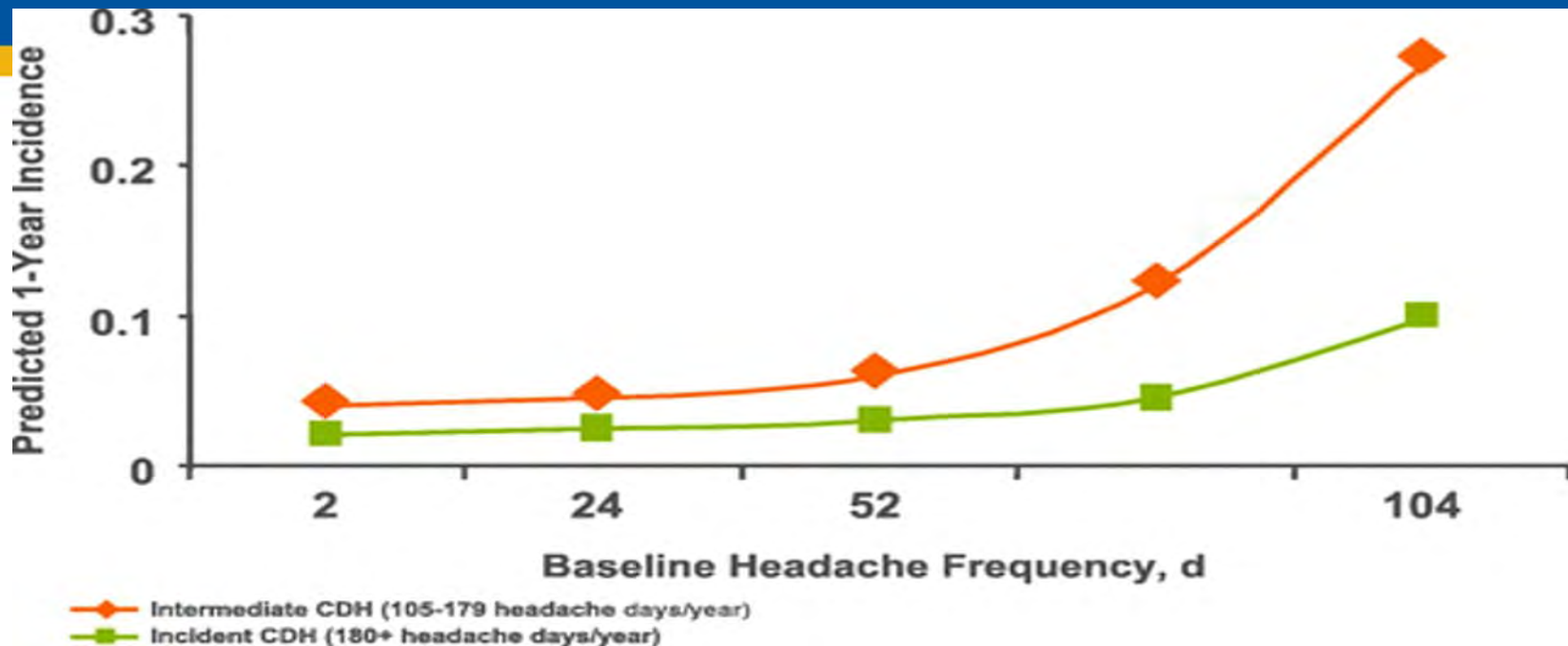
(p <.001)

5 days over past 3 months...	Episodic Migraine	Chronic Migraine
Missed work/school	2.2%	8.2%
Missed household chores	24.3%	57.4%
Missed family activities	9.5%	36.9%

# Remission of chronic migraine significantly decreases disability scores



# 4 or more headaches a month predicts increasing risk of Chronic Daily Headache

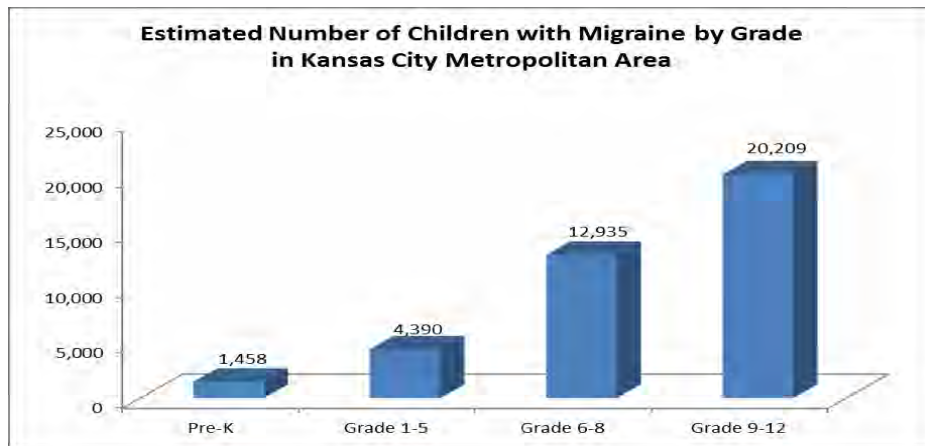


Aurora S K Neurology 2009;72:S8-S13

# The ultimate goal is to decrease disability



# KC Headache Data



Estimate 165,000 children with migraine in our institution's catchment area.



# Stratification of Pediatric Headache Care

- First Tier – primary care diagnosis and treatment of basic headache disorders
- Second Tier – neurology referral
- Third Tier – specialized headache clinic with multi-disciplinary support

# Community Outreach

- Coffee with a specialist
- Local and regional PCP conferences
- Organized CME for headache education
- Resident education (peds, family med, psych, neuro, ob/gyn etc)
- Medical student education
- KC support group for headaches
- Annual school nurse conferences
- Spoke at local businesses
- Headache on the Hill for congressional support
- Hospital and community clinical practice guidelines

# Neurology Clinic Referrals

(unpublished 2014 electronic record review)

- 70% of new patients had never been prescribed a medication for their headache disorder
- Of the 30% prescribed a medication, 1/5 were given opiates or butalbital
- Those who were previously prescribed prevention missed on average 50% less days of school
- 40% of my new patients were patient requested second opinions from colleagues
- 3 months fully booked, over 400 pts on wait list

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- **ANGRY PATIENTS**

# Burnout

Medscape Family Medicine

## Physician Burnout: It Just Keeps Getting Worse

### Doctor Burnout, Stress and Depression: Not an Easy Fix

#### Physician burnout

##### A neurologic crisis

Bruce Sigsbee, MD and James L. Bernat, MD

The prevalence of burnout is higher in physicians than in other professions and is especially high in neurologists. Physician burnout encompasses 3 domains: (1) emotional exhaustion: the loss of interest and enthusiasm for practice; (2) depersonalization: a poor attitude with cynicism and treating patients as objects; and (3) career dissatisfaction: a diminished sense of personal accomplishment and low self-value. Burnout results in reduced work

### Fighting the silent crisis of physician burnout



The Widespread Problem of Doctor Burnout

# Maybe docs don't want to deal with headaches...

Who wants to hear "I'm 11/10" all day?



# Maybe docs don't want to deal with headaches... so they postpone treating them

Who wants to hear "I'm 11/10" all day?







## Where do kids first present outside of the home for headache related complaints?

The school nurse

# Asthma Action Plan

 Asthma and Allergy Foundation of America [www.aaafa.org](http://www.aaafa.org)

Name	Date
Doctor	Medical Record #
Doctor's Office Phone #: Day	Night/Weekend
Emergency Contact	
Doctor's Signature	



The Colors of a traffic light will help you use your asthma medicines.

**Green means Go Zone!**  
Use preventive medicine.

**Yellow Means Caution Zone!**  
Add quick-relief medicine.

**Red means Danger Zone!**  
Get help from a doctor.

Personal Best Peak Flow \_\_\_\_\_

## GO

You have **all** of these:

- Breathing is good
- No cough or wheeze
- Sleep through the night
- Can work and play

Peak flow from \_\_\_\_\_  
to \_\_\_\_\_

## CAUTION

You have **any** of these:

- First signs of a cold
- Exposure to known trigger
- Cough
  - Mild wheeze
- Tight chest
  - Coughing at night

Peak flow from \_\_\_\_\_  
to \_\_\_\_\_

## DANGER

Your asthma is getting worse fast:

- Medicine is not helping
- Breathing is hard and fast
- Nose opens wide
- Ribs show
- Can't talk well

Peak flow reading below \_\_\_\_\_

## Use these daily preventive anti-inflammatory medicines:

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

For asthma with exercise, take:

--	--

## Continue with green zone medicine and add:

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

CALL YOUR PRIMARY CARE PROVIDER.

## Take these medicines and call your doctor now.

MEDICINE	HOW MUCH	HOW OFTEN/WHEN

**GET HELP FROM A DOCTOR NOW!** Do not be afraid of causing a fuss. Your doctor will want to see you right away. It's important! If you cannot contact your doctor, go directly to the emergency room. **DO NOT WAIT.**

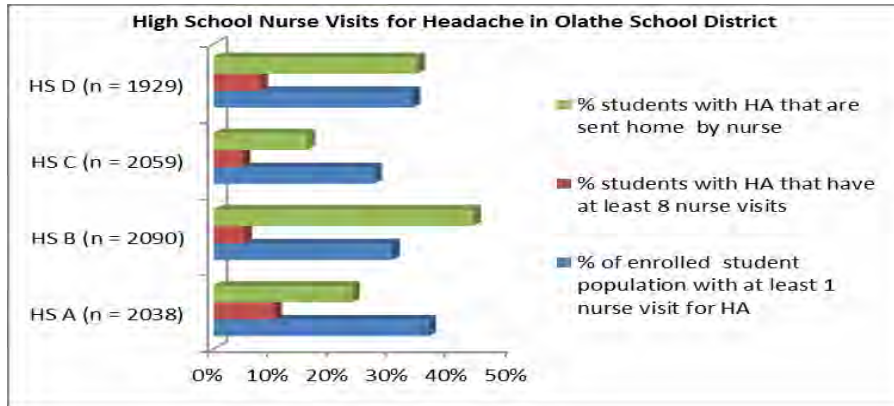
Make an appointment with your primary care provider within two days of an ER visit or hospitalization.

# The Asthma Action Plan

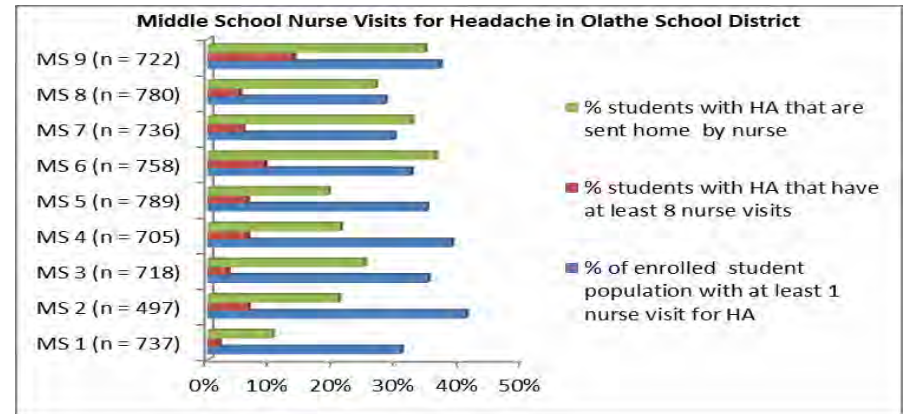
What if the schools encouraged a headache action plan?

# Local School District Headache

## High School Nurse Visits



## Middle School Nurse Visits



# School disability

- Headaches accounted for 18% of all children on medical homebound

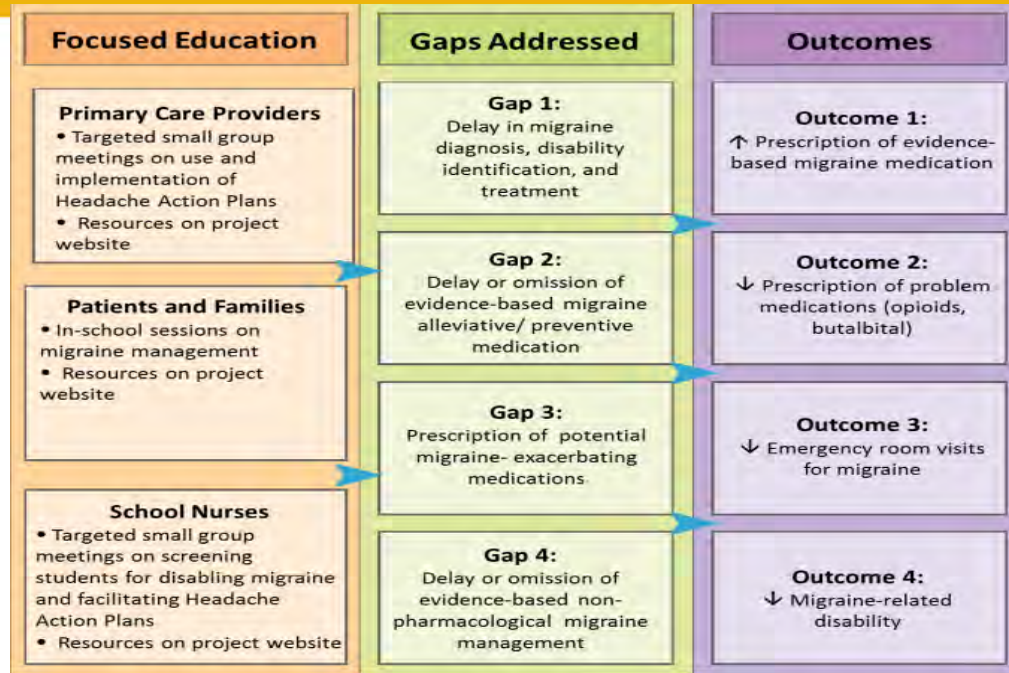


# AVOID HOMEBOUND

# Headache Action Plan Project for Youth (HAPPY): System Change through School-Facilitated Intervention

- Enlisted middle/high school nurses from a large local school district to refer youth they see with headaches to a dedicated project website ([www.headachereliefguide.com](http://www.headachereliefguide.com))
- Educated PCPs serving the targeted school district on availability and use of the PCP website portal
- Evaluated impact on migraine care in the targeted community (relative to control communities) by tracking medication prescriptions, healthcare utilization, and headache-related disability

# The HAPPY Project



# Procedure

## School Nurse

- Provides info sheet on project website to take to parents
- Implements school accommodations from letter printed from website by PCP
- Uses tools on project website to facilitate office-based relaxation strategies with students

## Parent

- Reviews info sheet on website provided by school
- Reviews migraine education materials on website
- Sets up child's appointment for headache evaluation with PCP per website recommendations

## Student

- Goes to PCP appointment for headache evaluation
- Reviews migraine education materials on website
- Uses relaxation tools if visiting school nurse's office for headache

## PCP

- Receives education on pediatric migraine and use of the website
- Evaluates student's headaches and diagnoses migraine (if applicable)
- Goes through the Headache Action Plan steps in the PCP portal of the website



# Project Website

Provider portal for step-by-step migraine management recommendations and printouts



Educational videos



Guidance to prepare for PCP eval



Show/share what your migraine is like



Interactive self-management tools



Sessions

9,680

Users

6,990

Pageviews

31,215

[www.headachereliefguide.com](http://www.headachereliefguide.com)

### LEARN

Why do you get headaches?

[learn more >](#)

### EXPERIENCE

Now you can show others how your migraines affect you.

[learn more >](#)

### CONTROL

Take control of the pain.

[learn more >](#)

### PREPARE

Are you ready for headache relief?

[learn more >](#)

**MIGRAINE IN THE STORM**  
Headaches can be frustrating, scary and painful. This site can be your guide to headache relief.

Think that rest and sleep are all I need for relaxation

Am never stressed

Worry all the time

Am too busy to relax

Would be relaxed if it weren't for everyone around me


## RELAXATION SCORE



# 0

/100

MIGRAINE RISK FROM RELAXATION SCORE

*SEE HOW YOURS STACKS UP TO THE AVERAGE!*



HIGH RISK:  LOW RISK: 

MIGRAINES

Calm the Storm

Your guide to finding headache relief

[En Español >](#)

**CHAPTER 1**

Who made this video and why?

**CHAPTER 2**

How can doctors tell if my headache is safe?

**CHAPTER 3**

Why do I have migraines?

**CHAPTER 4**

What is happening in my brain to make it hurt?

SHARE YOUR MIGRAINE →



Recreate your migraine experience with the options below.

VISUAL
SOUND
MIND/THOUGHT

Relaxed Breathing - Avatar



OUT

QUESTION 1 OF 7

I have made an appointment with a primary care provider specifically to talk about headaches.

true

false

# Headache Action Plan

for Medical Providers

## Want to Learn More?



Information for health care providers to learn more about the diagnosis and treatment of headaches.

## Fill out a New Action Plan



The Headache Action Plan can guide providers in the treatment of migraines for children 12-18 years old including medication recommendations, school accommodations, lifestyle management and a customizable headache calendar.

overview

preventive medication

abortive medication

school plan

health habits

headache diary

summary

## School Plan

Are headaches affecting school performance and/or attendance?

Yes  No

Select one or more school recommendations from the list below.

Recommendation	
Preferential seating	<input type="checkbox"/>
Snacks and water throughout the day	<input type="checkbox"/>
Rest head on desk if needed	<input type="checkbox"/>
Extra rest breaks in quiet, dimly lit location	<input type="checkbox"/>
Flexibility in the standard attendance policy	<input type="checkbox"/>
Extra time to catch up on work missed due to headaches or healthcare visits	<input type="checkbox"/>

overview

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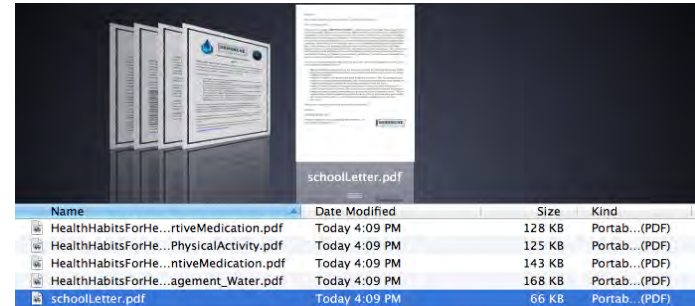
## Preventive Medication

Is the patient experiencing more than four days of headaches per month?

Yes  No

Select a medication from the choices below.

medication	Your Recommendation
<input type="radio"/> Amitriptyline	<input type="checkbox"/>
<input type="radio"/> Topiramate	<input type="checkbox"/>
<input type="radio"/> Magnesium Gluconate	<input type="checkbox"/>



# More site usage in target district

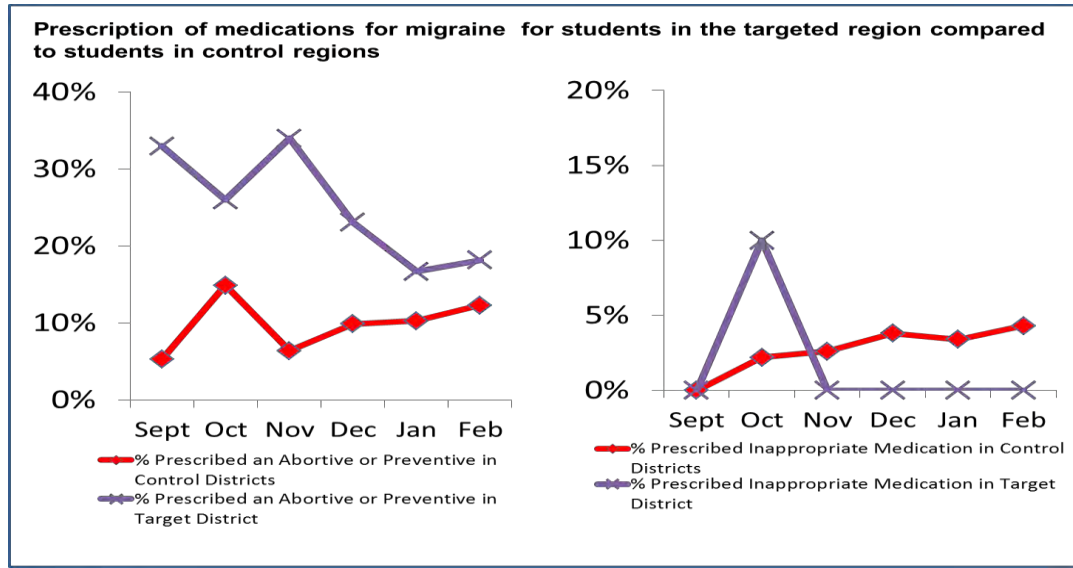
City	Acquisition		
	Sessions	% New Sessions	New Users
	<b>9,768</b> % of Total: 100.00% (9,768)	<b>72.46%</b> Avg for View: 72.42% (0.06%)	<b>7,078</b> % of Total: 100.06% (7,074)
1. Kansas City	<b>1,286</b> (13.17%)	66.17%	851 (12.02%)
2. Olathe	<b>580</b> (5.94%)	66.55%	386 (5.45%)
3. (not set)	<b>458</b> (4.69%)	97.16%	445 (6.29%)
4. Overland Park	<b>356</b> (3.64%)	68.26%	243 (3.43%)
5. Chicago	<b>280</b> (2.87%)	52.14%	146 (2.06%)
6. St. Louis	<b>184</b> (1.88%)	56.52%	104 (1.47%)
7. San Francisco	<b>169</b> (1.73%)	73.96%	125 (1.77%)
8. New York	<b>149</b> (1.53%)	53.69%	80 (1.13%)
9. Seattle	<b>127</b> (1.30%)	74.02%	94 (1.33%)
10. Lee's Summit	<b>100</b> (1.02%)	81.00%	81 (1.14%)

# Medical Provider Portal Usage

Page	City	Pageviews	Unique Pageviews
		<b>572</b> % of Total 1.82% (31,371)	<b>413</b> % of Total 1.68% (24,643)
1	/portal/ Kansas City	260 (45.45%)	192 (46.49%)
2	/portal/ Overland Park	27 (4.72%)	21 (5.08%)
3	/portal/ Columbia	14 (2.45%)	10 (2.43%)
4	/portal/ Lee's Summit	13 (2.27%)	8 (1.94%)
5	/portal/ Kansas City	11 (1.92%)	6 (1.45%)
6	/portal/ Sedalia	10 (1.75%)	7 (1.69%)
7	/portal/ Lincoln	8 (1.40%)	6 (1.45%)
8	/portal/ San Francisco	6 (1.05%)	2 (0.48%)
9	/portal/ Atlanta	6 (1.05%)	5 (1.21%)
10	/portal/ Hailey	6 (1.05%)	4 (0.97%)
11	/portal/ Fort Worth	6 (1.05%)	2 (0.48%)
12	/portal/ Marietta	5 (0.87%)	3 (0.73%)
13	/portal/ Shawnee	5 (0.87%)	3 (0.73%)
14	/portal/ Denver	4 (0.70%)	3 (0.73%)
15	/portal/ Fishers	4 (0.70%)	1 (0.24%)
16	/portal/ Olathe	4 (0.70%)	4 (0.97%)
17	/portal/ Eureka	4 (0.70%)	2 (0.48%)
18	/portal/ Independence	4 (0.70%)	2 (0.48%)
19	/portal/ Philadelphia	4 (0.70%)	2 (0.48%)

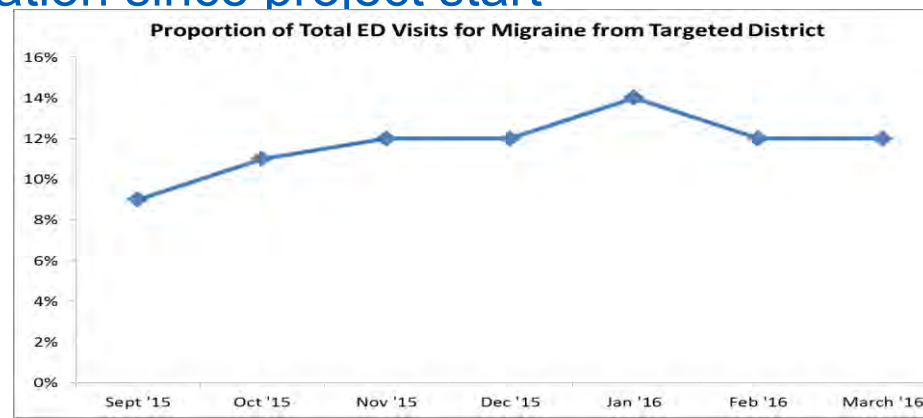
# Results

- Relative to control regions, prescriptions of appropriate preventive/abortive medications increased and inappropriate prescriptions decreased since starting the project in Sept 2015



# Results

- Significant reduction in disability (PedMIDAS Total Score) and headache frequency over time for students participating in the project who consented to provide monthly self-report data online
  - About 1 less headache day and disability day per month, on average
- No significant changes in ED utilization since project start





# We need more champions

- [headachechampion@cmh.edu](mailto:headachechampion@cmh.edu) (sign up for personalized headache mentoring)
- Introduce students and families to the website, [headachereliefguide.com](http://headachereliefguide.com)

# Thank you!

