

Reducing Readmission Rates to the Harrington Hospital Emergency Department after Acute Asthma Exacerbation

Ryan Burns¹, Mark Coelho¹, Martin Cotti¹, Thomas Ford¹, Jonathan Gammel¹, Timothy Hilton²
¹UMMS School of Medicine, ²UMMS Graduate School of Nursing

Harrington
HEALTHCARE SYSTEM
Total Local Care

UMASS
University of
Massachusetts
Medical School

Asthma

- Asthma is within the top 3 most common diagnostic categories of ED use²
- ED recurrence rates of asthma management can exceed 25%, with most recurrences occurring within 30 days of discharge¹
 - Recurrence rates are highest among low socioeconomic status groups along with Black and Latino populations (Hispanic population of Southbridge area is 26.6%)
- Medicare Readmission Reduction Program penalizes for excess readmission rates⁸
- Each ED visit for asthma costs on average \$1,500 resulting in increased healthcare-related financial burden for both the patient and provider⁹
- Studies have shown that educational interventions targeting common recurrence factors have reduced ED recurrence rates⁶

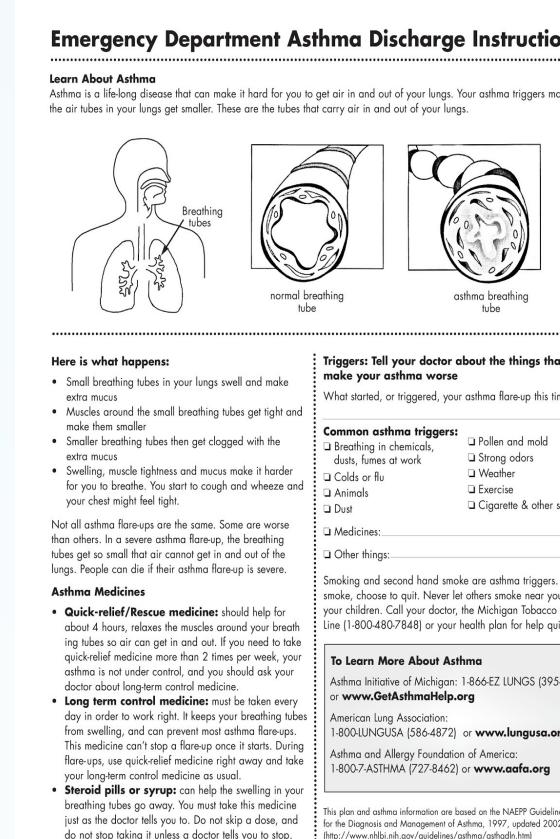
Asthma in Southern Worcester County Area

Major Findings from January 2014 Harrington Health Needs Assessment:

- Rate of pediatric asthma visits to Harrington Hospital Emergency Department: 991.5 asthma related visits per 100,000 (as compared to 901.4/100,000 statewide).
- Prevalence of asthma in Southbridge public schools: 27.8 %

Simplifying Patient Education

On the right is an example of a patient friendly “fridge sheet”. Patient education material that is simple and easy to read leads to better understanding of conditions and decreases patient visits to the emergency department.



We would like to thank Lauren McLaughlin, Scott MacLean, and Dr. Heather-Lyn Haley for facilitating and supporting this project as well as the staff, nurses and physicians of Harrington Hospital who met with us during our research. We would also like to thank the 2014 UMMS Population Health Clerkship Team for identifying the problem areas we address here and for doing valuable background research.

Recommended vs Current Asthma Action Plan

<p>The Massachusetts Asthma Action Plan is a simplified version of the Asthma Action Plan. It includes sections for 'Personal Best Peak Flow', 'GO - You're Doing Well!', 'DANGER - Get Help!', and 'GET HELP FROM A DOCTOR NOW!'. It uses a color-coded system (Green, Yellow, Red) to indicate symptom levels and medication use.</p>	<p>The Harrington Asthma Action Plan is a more complex version. It includes sections for 'Your Asthma Action Plan', 'Personal Best Peak Flow', 'GREEN ZONE', 'YELLOW ZONE', and 'RED ZONE'. It provides detailed instructions for daily controller medications, quick-relief medications, and other treatments.</p>
---	---

Recommended

Recommendations for Reducing Asthma Readmission Rates

Recommendation #1: Better Evaluation of Symptom Control

- Use of Asthma Control Test (ACT) in the ED to assess control of symptoms
- ACT is an objective assessment of symptoms

Recommendation #2: Simplify Patient Education

- Simplify important (e.g. Long vs Short term Meds.) information for patients
- No more than a 6th grade reading level
- Easy to read one page “Fridge Sheet”

Recommendation #3: Standardize Education Materials

- Standardize asthma education materials between providers
- From presentation in the ED to primary-care follow-up in the Harrington system, providers will know what materials patients were given, and will be better able to assess a patient's understanding of their asthma

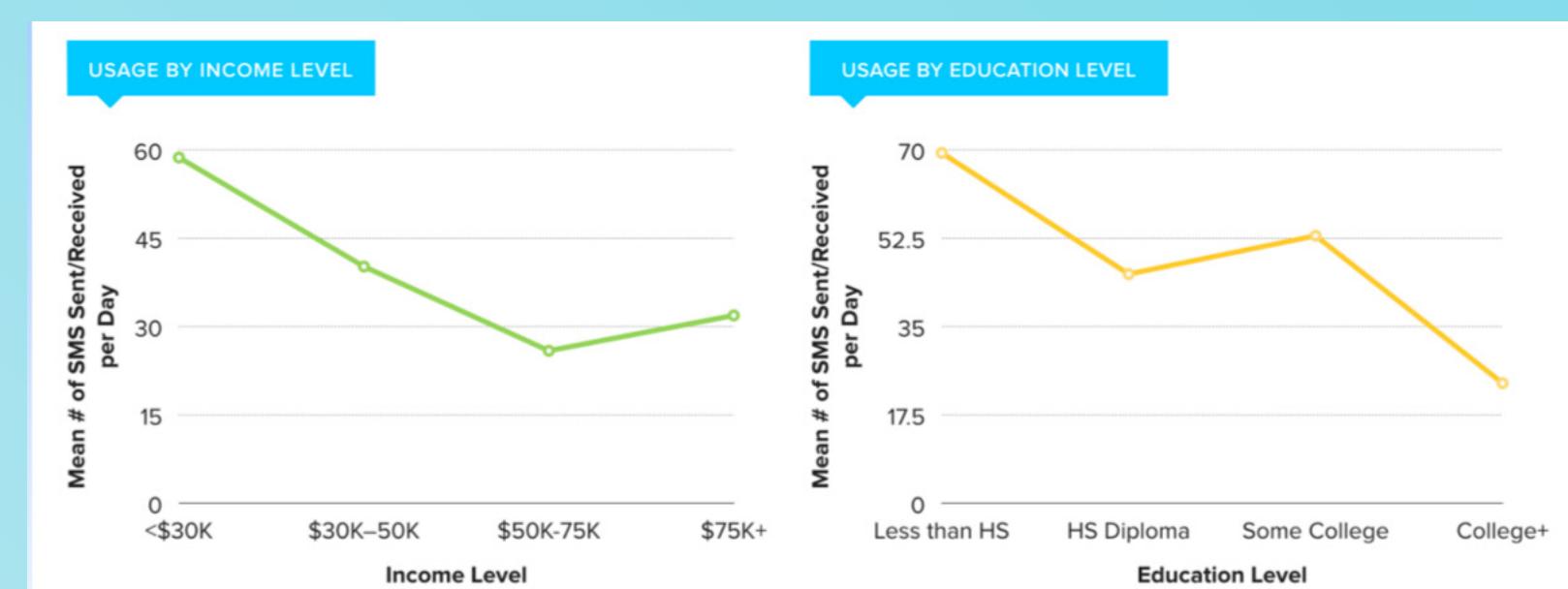
Recommendation #4: Multilingual and Multi-Platform Educational Outreach

- Short, age-appropriate educational videos in the ED to increase education
- Implementation of SMS message reminders/education
- Ability to distribute resources in multiple languages

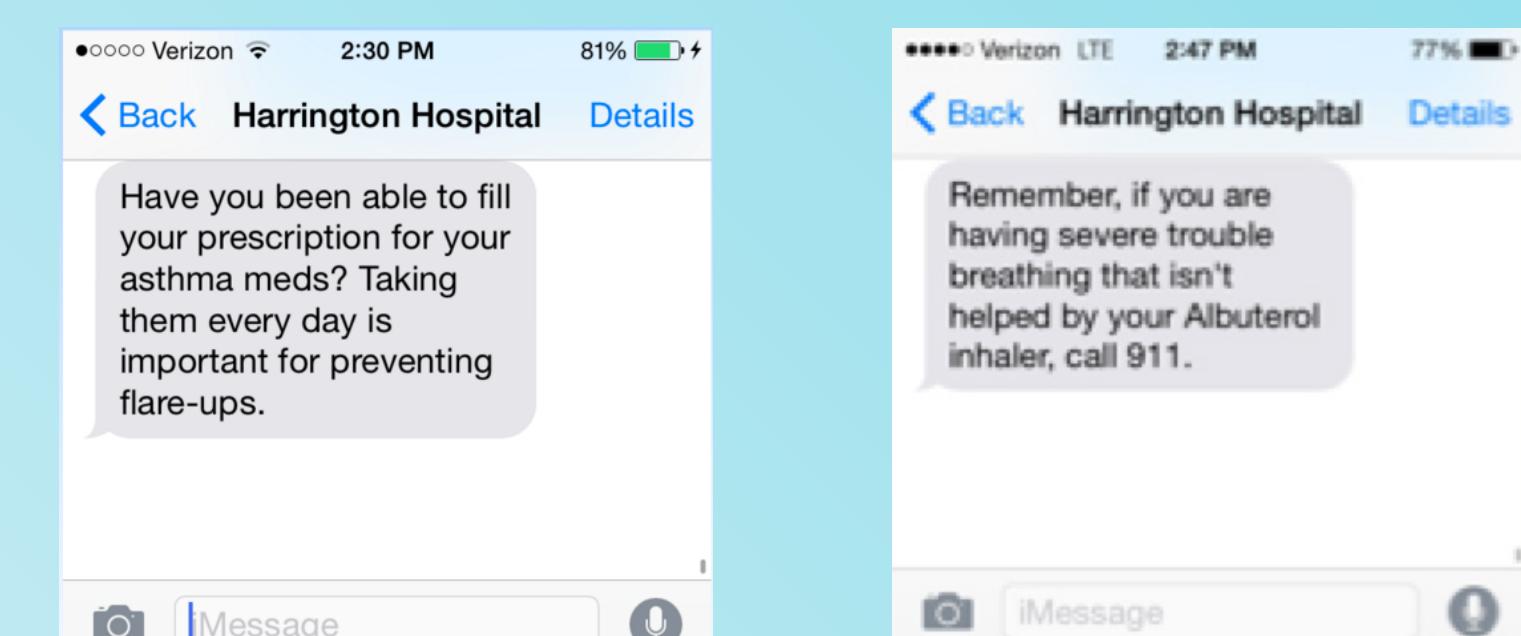
Use of SMS Text in Improving Health Outcomes

Implementation of SMS text alerts and reminders has been proven to:

- Increase medication adherence
- Improve appointment attendance
- Reach out to patients most in need of help



SMS Text is extremely cost effective; fractions of a penny per text. The least socio-economically empowered patients have the highest usage of SMS text.¹⁰



Examples of SMS message reminders/education

References

- 1 <http://www.ncbi.nlm.nih.gov/pubmed/24588683>
- 2 <http://www.ncbi.nlm.nih.gov/pubmed/24730398>
- 3 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1745791/>
- 4 <http://www.ncbi.nlm.nih.gov/pubmed/9048532>
- 5 <http://www.ncbi.nlm.nih.gov/pubmed/11835950>
- 6 <http://www.ncbi.nlm.nih.gov/pubmed/10208187>
- 7 <http://www.ncbi.nlm.nih.gov/pubmed/12123402>
- 8 <https://www.medicare.gov/hospitalcompare/readmission-reduction-program.html>
- 9 <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4063557/>
- 10 <http://www.pewinternet.org/2011/09/19/how-americans-use-text-messaging/>