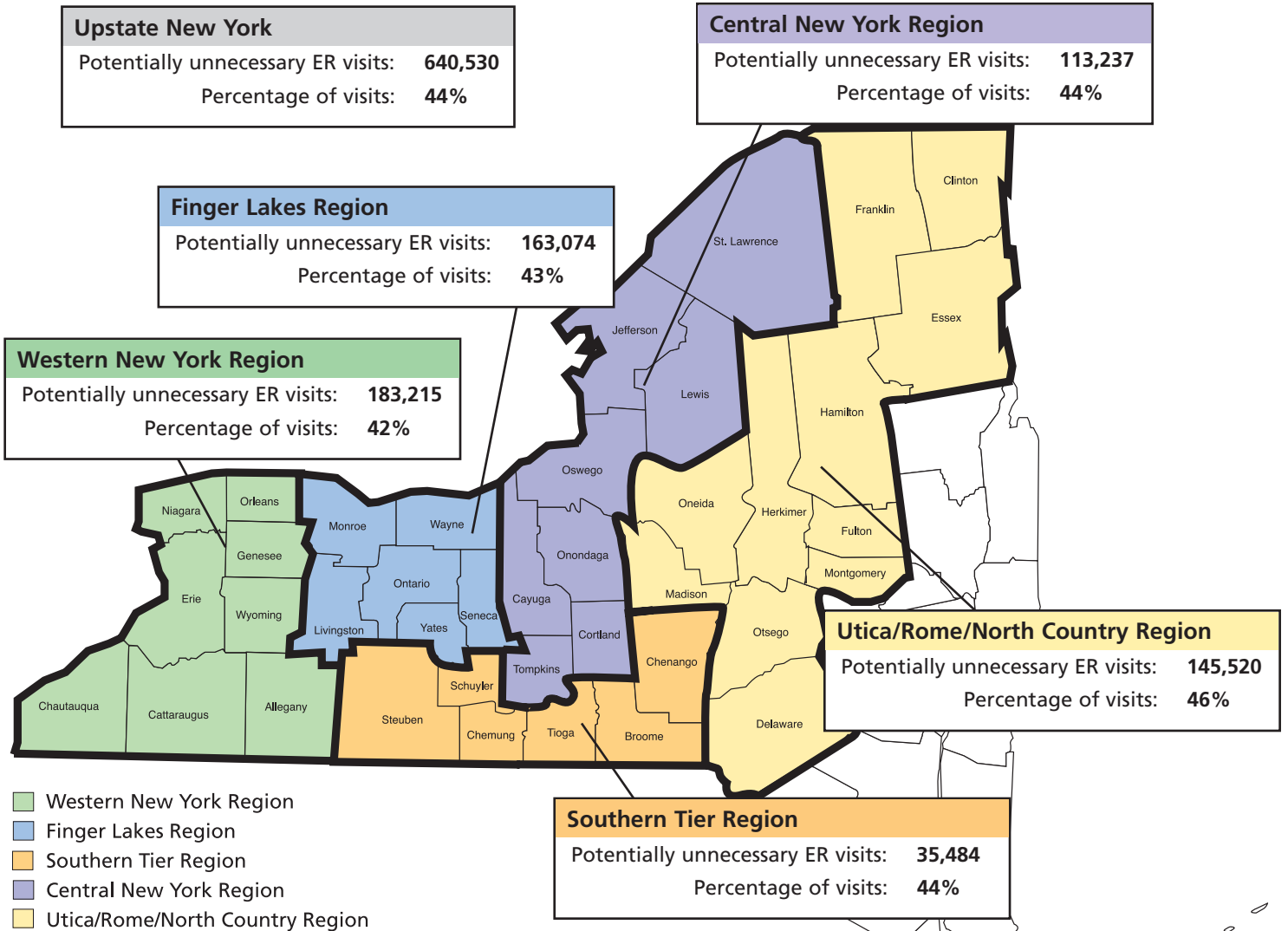


# Potentially unnecessary emergency room visits in upstate New York<sup>1</sup>



The figures on this page include all visits, regardless of whether the patient had health insurance. In this report, upstate New York refers to the 39 counties highlighted in the map above.

This report summarizes an analysis of the number of potentially unnecessary hospital emergency room visits in upstate New York, given concerns about ER overcrowding<sup>2</sup> and wasteful health care spending.<sup>3</sup> The analysis looked at the types of visits to upstate New York ERs in 2008 where the patient was treated and released on the same day and not admitted into the hospital.

Throughout this report, “potentially unnecessary ER visits” includes:

- “Non-emergent” visits where immediate medical care was not needed within 12 hours, including visits for back problems.
- “Emergent/primary care treatable” visits where treatment was needed within 12 hours, but could have been rendered in a primary care setting. Such visits include those for ear infections and acute upper respiratory infections.

## Consequences of ER overcrowding

### Impact on Quality

Potentially unnecessary hospital emergency room visits are not unusual. Patients nationwide are going to the emergency room for minor medical conditions when they could have received treatment in a primary care setting.<sup>4</sup> Researchers have found that ER overcrowding by those with minor medical conditions such as sore throats and ear aches may also hinder an ER's ability to provide quality care.<sup>5</sup> Many ERs, after all, are already overcrowded and struggling to handle an increase in patient visits.<sup>6</sup>

*The National Hospital Ambulatory Medical Care Survey: 2006 Emergency Department Summary* by the U.S. Department of Health and Human Services lists many of the consequences of ER overcrowding:<sup>7</sup>

- Delays in the treatment of serious problems, including heart attacks;
- Increased waiting times for people with minor illnesses;
- Reduced promptness and quality of pain management;
- Hallway boarding of admitted patients;
- Ambulance diversions;
- Decreased physician productivity.

### Impact on Costs

This report also estimates that millions of dollars in health care costs in upstate New York could be saved annually if a small percentage of patients with minor medical conditions who now go to the ER instead went to a physician's office.

A patient going to the emergency room for non-emergency care was one of the major sources of waste in the health care system identified in a PricewaterhouseCoopers' Health Research Institute report.<sup>8</sup> Patients who unnecessarily visited the ER wasted about \$14 billion annually, according to the report. An "unnecessary ER visit" was one in which the patient needed to be seen within two to 24 hours.<sup>9</sup> Health care costs in the report were considered "wasteful" when they could have been avoided or reduced without hurting patients' quality of care.<sup>10</sup>

## Categories of ER visits

New York University's Center for Health and Public Service Research developed a formula that classified each ER case into one of four categories:<sup>11</sup>

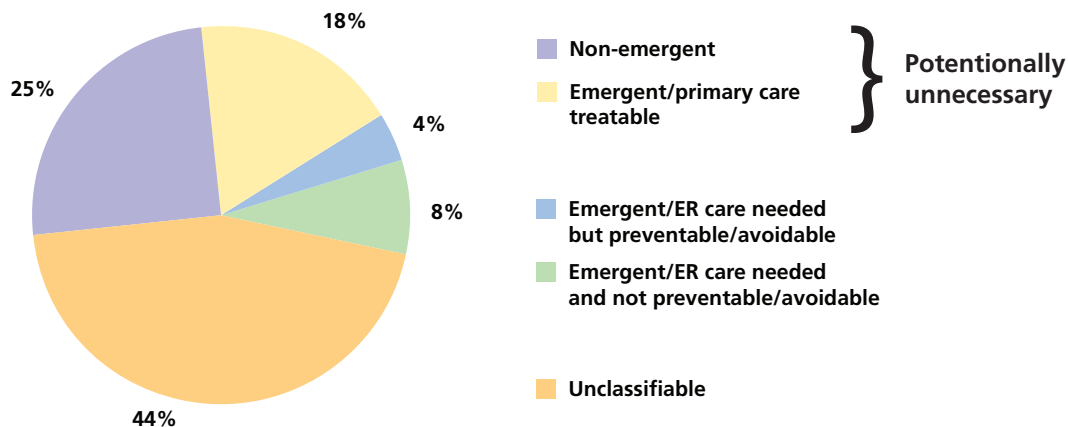
Classification	Description
(1) Non-emergent	Immediate medical care was not needed within 12 hours. (e.g., sore throats)
(2) Emergent/Primary Care Treatable	Treatment was needed within 12 hours, but care could have been provided effectively and safely in a primary care setting. (e.g., ear infections)
(3) Emergent/ER Care Needed/Preventable/Avoidable	ER care was needed. But patients may have been able to avoid the emergency medical issue if they had received timely and effective outpatient care while they were sick. (e.g., the flare-ups of asthma, diabetes, congestive heart failure, etc.)
4) Emergent/ER Care Needed/Not Preventable/Avoidable	ER care was needed and outpatient care treatment could not have prevented the condition. (e.g., trauma)

NYU's ER formula separates out cases that are hard to classify,<sup>12</sup> including injuries and mental health, drug and alcohol-related cases. These "unclassifiable" cases were placed into a fifth category:

Classification	Description
(5) Unclassifiable	Emergency room visits related to injuries or mental health, alcohol and drug-related issues, among others.

To determine the number of potentially unnecessary ER visits in upstate New York, the NYU formula was applied to data from the New York State Health Department's Statewide Planning and Research Cooperative System (SPARCS) data reporting system.<sup>13</sup> In this analysis, "potentially unnecessary ER visits" are those visits that fall into the "non-emergent" and "emergent/primary care treatable" classifications in the NYU formula.

## Types of upstate New York ER visits



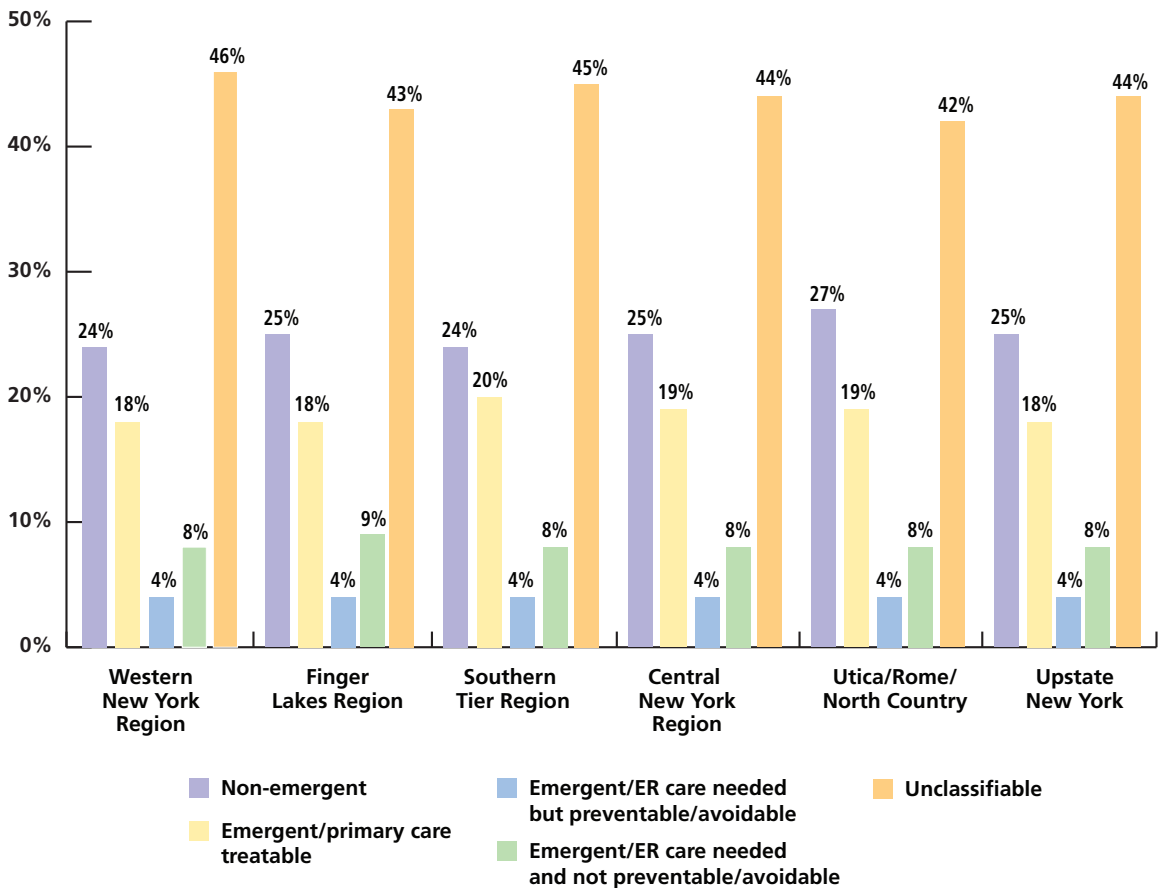
The NYU ER formula was applied to 2008 upstate New York data from SPARCS to determine the different types of ER visits. The analysis looked at ER visits in which the patient was treated and released in the same day and not admitted into the hospital. According to the analysis:

- Forty-four\* percent of ER visits in upstate New York were potentially unnecessary.
  - One out of four visits to upstate New York ERs were for “non-emergent” cases in which the person didn’t need care within 12 hours.
  - Another 18 percent of visits were for medical conditions that did need care within 12 hours, but could have been treated in a primary care setting.

The upstate New York results are about on par with results seen in other states. The Massachusetts Division of Health Care Finance and Policy and the Rutgers Center for State Health Policy, for example, found that about 40 percent of outpatient ER visits were for issues that could have been treated in a primary care office.<sup>14</sup>

\*The “non-emergent” and “emergent/primary care treatable” percentage figures add up to 44 percent after rounding. The figures on this page include all visits, regardless of whether the patient had health insurance.

## Types of ER visits by upstate New York region



- There is little regional variation in the types of visits seen by ERs throughout upstate New York. The analysis looked at 2008 ER visits in which the patient was treated and released in the same day and not admitted into the hospital.

The figures on this page include all visits, regardless of whether the patient had health insurance.

Examples of potentially unnecessary ER visits in upstate New York,  
2008



**29,768**  
visits for a **Back Disorder**



**24,663**  
visits for an **Acute Upper  
Respiratory Infection**



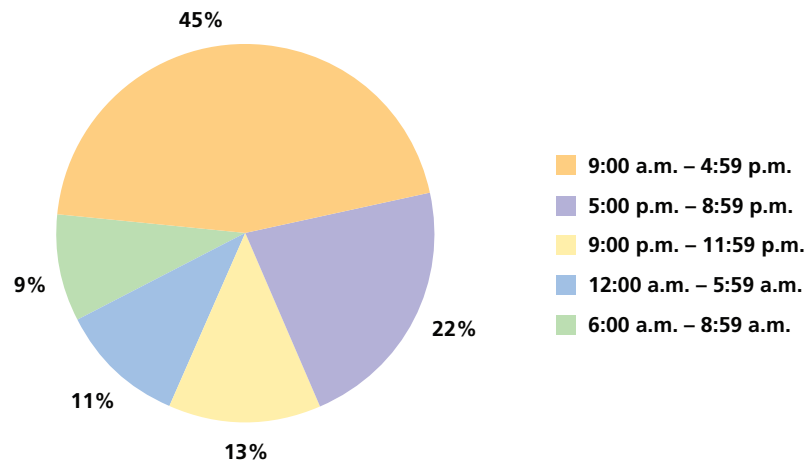
**22,441**  
visits for an **Ear Infection**



**20,539**  
visits for a **Sore Throat**

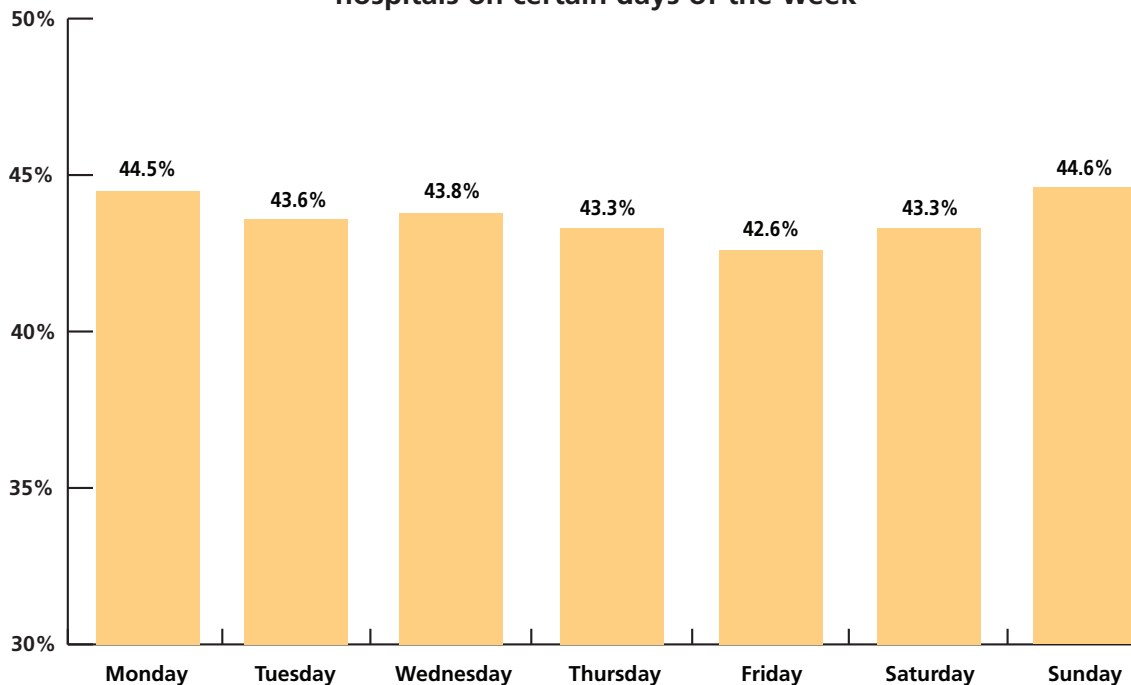
## Potentially unnecessary ER visits: Time of day and day of week

Percentage of potentially unnecessary ER visits that are seen in upstate hospitals at certain times of the day



- Forty-five percent of potentially unnecessary ER cases are seen during the typical working hours of 9 a.m. to 5 p.m.
- About 54 percent of potentially unnecessary ER cases are seen between 6 a.m. and 5 p.m.; 46 percent of such cases are seen between 5 p.m. and 6 a.m.

Percentage of potentially unnecessary ER visits that are seen in upstate hospitals on certain days of the week



- ER visits that are considered potentially unnecessary are evenly spread throughout the week.

The figures on this page include all patients, regardless of insurance status, who were treated in the ER and released the same day and not admitted into the hospital.

## Savings Opportunities

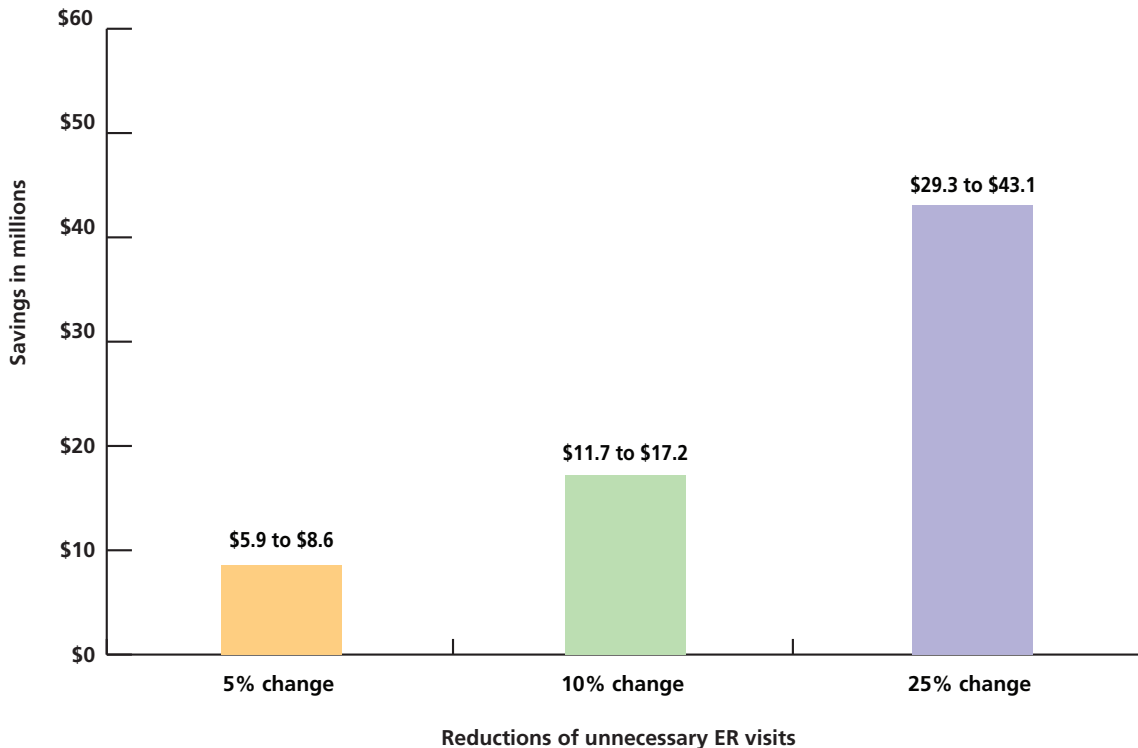
The analysis also looked at how many health care dollars could be saved annually in upstate New York if a certain percentage of patients who have commercial health insurance and also have minor medical conditions had gone to a physician's office instead of the ER. For the full methodology behind the report's calculation of cost savings, please see page 10.

The analysis estimated that it is about \$450 to \$650 less expensive to go to a physician's office instead of the ER for a non-emergent issue. The analysis also estimated that it is about \$600 to \$900 less expensive to go to the physician's office instead of the ER for an emergent/primary care treatable visit.

There are opportunities for significant savings if a percentage of patients who make potentially unnecessary ER visits instead go to a physician's office. The potential annual savings range is from \$5.9 million to \$8.6 million with a 5 percent change and from \$29.3 million to \$43.1 million with a 25 percent change.

Given capacity limitations in the health care delivery system, it is unlikely that shifting all potentially unnecessary ER visits to a physician's office is possible. If that were to happen, the savings would range from \$117 million to \$172.3 million annually.

### The range of annual savings to upstate New York's commercially insured if a certain percentage of potentially unnecessary ER cases are instead seen in physicians' offices. (in millions \$)



Unlike the rest of the report, the figures on this page reflect cost savings related only to patients who have commercial health insurance.

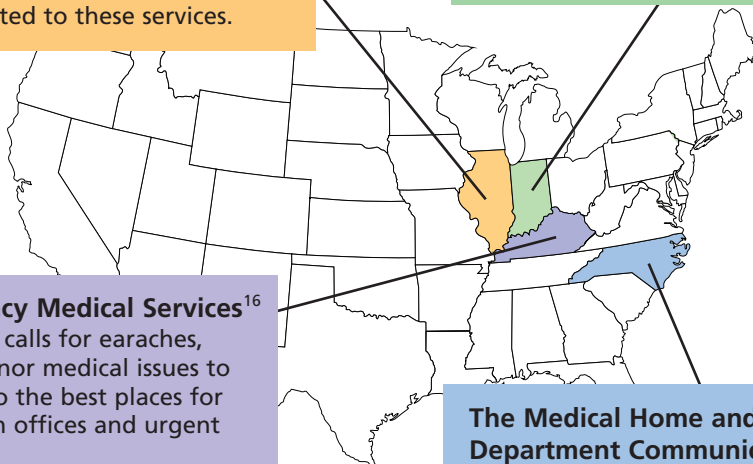
The analysis of SPARCS data identified 227,506 potentially unnecessary ER visits among upstate New York patients with commercial health insurance. This is a portion of the 640,530 unnecessary ER visits made by all patients in upstate New York that are identified on page 1.

## Community initiatives to reduce potentially unnecessary ER visits

Communities nationwide have started initiatives to help people determine the best places to receive medical care, whether it's in an urgent care center, ER or physician's office. While there is not one widely recognized success story regarding reductions in unnecessary ER visits, the following are examples of what is being tried in different parts of the country:

**The University of Chicago Medical Center's South Side Healthcare Collaborative<sup>15</sup>** helps patients who rely on the University of Chicago Medical Center's ER for health care because they don't have a regular health care provider. Advocates talk to ER patients about the benefits of having a regular health care professional to manage or coordinate their care. Since 2005, more than 13,000 patients have been connected to these services.

**The Indianapolis Medical Society Foundation's Project Health<sup>18</sup>** provides care and service free of charge to low income, uninsured adults. Members must "make all reasonable attempts to avoid using the ER for non-urgent care."<sup>19</sup> Unnecessary ER visits among members dropped from 77 percent to less than 1 percent.



**Louisville Metro Emergency Medical Services<sup>16</sup>** workers refer ambulance ER calls for earaches, stomach aches and other minor medical issues to nurses who direct patients to the best places for care, including ERs, physician offices and urgent care centers.

**The Medical Home and Emergency Department Communication Initiative of North Carolina<sup>17</sup>** educates families about the importance of first calling their primary care physician when their child is sick as a way to decrease inappropriate ER use, among other goals.

The following are recommendations from the medical literature on community initiatives that can help reduce unnecessary ER visits:

- Establish medical homes where primary care physicians coordinate patients' care.<sup>20</sup>
- Start a telephone line where nurses direct callers to the best places for care.<sup>21</sup>
- Enroll children in telemedicine programs.<sup>22</sup>
- Improve the availability of after hours care.<sup>23</sup>
- Increase enrollment in safety net programs.<sup>24</sup>
- Simplify health information so patients can learn how to care for themselves and avoid the ER.<sup>25</sup>
- Educate the community on appropriate ER visits.<sup>26</sup>
- Create case management programs to help people manage chronic diseases.<sup>27</sup>
- Start workplace wellness programs to bolster workers' health.<sup>28</sup>

## Methodology

**NYU ED Algorithm:** New York University's Center for Health and Public Service Research, with support from the Commonwealth Fund, the Robert Wood Johnson Foundation, and the United Hospital Fund of New York, have developed an algorithm to help classify emergency room utilization. The algorithm was developed with the advice of a panel of ER and primary care physicians. It is based on an examination of a sample of nearly 6,000 full ER records. Data abstracted from these records included the initial complaint, presenting symptoms, vital signs, medical history, age, gender, diagnoses, procedures performed and resources used in the ER. For more information, go to <http://wagner.nyu.edu/chpsr/index.html?p=25>

**The Statewide Planning and Research Cooperative System (SPARCS) data reporting system:** SPARCS is a comprehensive data reporting system established in 1979 as a result of cooperation between the health care industry and government. Initially created to collect information on discharges from hospitals, SPARCS currently collects patient level detail on patient characteristics, diagnoses and treatments, services, and charges for every hospital discharge, ambulatory surgery patient, and ER admission in New York state. For more information go to <http://www.health.state.ny.us/statistics/sparcs/>

**How cost savings were derived:** The analysis looked at what upstate New York health insurers typically pay ERs and physician's offices for certain kinds of services provided to commercial members. ERs and physicians in each upstate New York region receive different payment amounts for services that the NYU formula classified as "non-emergent" or "emergent/primary care treatable." Since there are five upstate regions, this analysis combined the average payments for each region into one "average range of payments" for all of upstate New York.

The analysis compared the average range of payments across upstate New York for non-emergent and emergent/primary care treatable ER visits to non-emergent and primary care treatable physician office visits to find the differences for each type of visit.

The analysis estimates that it is about \$450 to \$650 less expensive to go to a physician's office instead of the ER for a non-emergent issue and about \$600 to \$900 less expensive to go to the physician's office instead of the ER for an emergent/primary care treatable visit.

To determine total cost savings, these "differences" between the average ranges (\$450 to \$650 and \$600 to \$900) were applied to the number of commercial non-emergent and emergent/primary care treatable ER visits (130,017 and 97,489) in the community (based on SPARCS data). The estimated costs savings are listed on page 8. Please note that these estimated cost savings only reflect savings from the commercially insured population. They do not include the potential savings from changing the ER habits of the uninsured or people covered under Medicaid and Medicare.

## Endnotes

- <sup>1</sup> The percentage and number of non-admission upstate New York ER visits that were potentially unnecessary were derived by applying New York University's Center For Health and Public Service Research's emergency department algorithm ( <http://wagner.nyu.edu/chpsr/index.html?p=25> ) to upstate New York data from the Statewide Planning and Research Cooperative System (SPARCS) data reporting system ( <http://www.health.state.ny.us/statistics/sparcs> ).
- <sup>2</sup> Pitts SR, Niska RW, Xu J, Burt CW. "National Hospital Ambulatory Medical Care Survey: 2006 Emergency Department Summary." *National Health Statistics Reports*; No. 7, August 6, 2008, page 2. <http://www.cdc.gov/nchs/data/nhsr/nhsr007.pdf>
- <sup>3</sup> "The Price of Excess: Identifying Waste in Healthcare Spending", page 9. <http://www.pwc.com/us/en/healthcare/publications/the-price-of-excess.jhtml>
- <sup>4</sup> Redstone P., Vancura JL, Barry D, Kutner JS. "Nonurgent Use of the Emergency Department." *Journal of Ambulatory Care Management*. Vol. 31, Issue 4. Oct-Dec 2008, page 370. [http://journals.lww.com/ambulatorycaremanagement/Abstract/2008/10000/Nonurgent\\_Use\\_of\\_the\\_Emergency\\_Department.8.aspx](http://journals.lww.com/ambulatorycaremanagement/Abstract/2008/10000/Nonurgent_Use_of_the_Emergency_Department.8.aspx)
- <sup>5</sup> Redstone, et al., page 370.
- <sup>6</sup> Pitts, et al., page 2.
- <sup>7</sup> Pitts, et al., page 2.
- <sup>8</sup> PricewaterhouseCoopers' Health Research Institute, page 9.
- <sup>9</sup> The PricewaterhouseCoopers' report's (see note #17) reference to "unnecessary ER visits" was referring to the "non-urgent care" visits mentioned in the following CDC report. In the CDC report, "non-urgent" visits described patients who needed to be seen within two to 24 hours. Nawar EW, Niska RW, Xu J. "National Hospital Ambulatory Medical Care Survey: 2005 Emergency Department Summary." *Advance Data From Vital and Health Statistics*; No. 386, June 29, 2007, page 4. <http://www.cdc.gov/nchs/data/ad/ad386.pdf>
- <sup>10</sup> PricewaterhouseCoopers' Health Research Institute, page 1.
- <sup>11</sup> Emergency department algorithm by New York University's Center for Health and Public Service Research. <http://wagner.nyu.edu/chpsr/index.html?p=25>
- <sup>12</sup> "Algorithm for Classifying Emergency Department Utilization." Agency for Healthcare Research and Quality. <http://www.ahrq.gov/data/safetynet/billfig9.htm>
- <sup>13</sup> Statewide Planning and Research Cooperative System (SPARCS)
- <sup>14</sup> Massachusetts Division of Health Care Finance and Policy. "Non-Emergent and Preventable ED Visits, FY05." *Analysis in Brief*, No. 11, February 2007, page 3. [http://www.mass.gov/EeoHhs2/docs/dhcfpl/r/pubs/analysisbrief/aib\\_11.doc](http://www.mass.gov/EeoHhs2/docs/dhcfpl/r/pubs/analysisbrief/aib_11.doc) Delia, D. "Potentially Avoidable Use of Hospital Emergency Departments in New Jersey." *Rutgers Center for State Health Policy*, July 2006. <http://www.cshp.rutgers.edu/Downloads/6330.pdf>
- <sup>15</sup> The University of Chicago Medical Center's South Side Healthcare Collaborative: Connecting to a Primary Care Medical Home. <http://www.uchospitals.edu/projects/community/programs/sshc.html>
- <sup>16</sup> Halladay, J. "EMS system to shift low-priority calls." *The Courier-Journal*, April 18, 2010. *EMS System to shift low-priority calls*. The Louisville Courier-Journal. April 18, 2010. <http://www.louisvilleky.gov/NR/rdonlyres/AC70B581-9146-4B97-8D4D-DB2C4A756322/0/EMSSystemToShiftLowPriorityCalls.pdf>
- <sup>17</sup> Community Care of North Carolina, the Division of Public Health and the North Carolina Healthy Start Foundation. "Medical Home and Emergency Department Communication Initiative." <http://www.communitycarenc.com/MedicalHomeEDCommunications.htm>
- <sup>18</sup> Rudavsky, S. "Lifesaver on life support." *The Indianapolis Star*, February 22, 2010. <http://iphone.indystar.com/posts/14030> "Project Health." <http://www.imsonline.org/projectHealth/mission.php?ph=y> and <http://imsonline.org/projectHealth/overview.php?ph=y>
- <sup>19</sup> The Indianapolis Medical Society.
- <sup>20</sup> Reid RJ, Fishman PA, Yu O, Ross TR, Tufano JT, Soman MP and Larson EB. "Patient-Centered Medical Home Demonstration: A Prospective, Quasi-Experimental, Before and After Evaluation." *The American Journal of Managed Care*. Vol. 15, No. 9, September 2009, page 71. [http://www.ajmc.com/media/pdf/AJMC\\_09sep\\_ReidWEbX\\_e71toe87.pdf](http://www.ajmc.com/media/pdf/AJMC_09sep_ReidWEbX_e71toe87.pdf)
- <sup>21</sup> Bogdon GM, Green JL, Swanson D, Gabow P and Dart RC. "Evaluating Patient Compliance With Nurse Advice Line Recommendations and the Impact on Healthcare Costs." *The American Journal of Managed Care*. Vol. 10, No. 8, August 2004, page 534. [http://www.ajmc.com/media/pdf/AJMC\\_04Aug\\_Bogdan534\\_542.pdf](http://www.ajmc.com/media/pdf/AJMC_04Aug_Bogdan534_542.pdf)
- <sup>22</sup> McConnochie KM, Wood NE, Herendeen NE, Ng PK, Noyes K, Wang H and Roghmann KJ. "Acute Illness Care Patterns Change With Use of Telemedicine." *PEDIATRICS*, Vol. 123, No. 6, June 2009. <http://pediatrics.aappublications.org/cgi/content/abstract/123/6/e989> (Access to full article requires subscription.)
- <sup>23</sup> Lowe RA, Localio, RA, Schwarz, DF, Williams S, Tuton LW, Maroney S, Nicklin D, Goldfarb N, Vojta DD and Feldman HI. "Association Between Primary Care Practice Characteristics and Emergency Department Use in a Medicaid Managed Care Organization." *Medical Care*, Vol. 43, Issue 8, #23, August 2005, page 729. [http://journals.lww.com/lww-medicalcare/Abstract/2005/08000/Association\\_Between\\_Primary\\_Care\\_Practice.7.aspx](http://journals.lww.com/lww-medicalcare/Abstract/2005/08000/Association_Between_Primary_Care_Practice.7.aspx) (Access to full article requires subscription.)
- <sup>24</sup> Mayer GG, Villaire M and Connell J. "Ten Recommendations for Reducing Unnecessary Emergency Department Visits." *Journal of Nursing Administration*, Vol. 35, Issue 10, October 2005, page 428. [http://journals.lww.com/jonajournal/Citation/2005/10000/Ten\\_Recommendations\\_for\\_Reducing\\_Unnecessary.3.aspx](http://journals.lww.com/jonajournal/Citation/2005/10000/Ten_Recommendations_for_Reducing_Unnecessary.3.aspx) (Access to full article requires subscription.)
- <sup>25</sup> Mayer GG, et al., page 429.
- <sup>26</sup> Anantharaman V. "Impact of health care system interventions on emergency department utilization and overcrowding in Singapore." *International Journal of Emergency Medicine*, Vol. 1, No. 1, April 2008, page 11. <http://www.springerlink.com/content/r1714t8361672xt6/fulltext.pdf>
- <sup>27</sup> Mayer GG, et al., page 429.
- <sup>28</sup> Mayer GG, et al., page 429.