CLOSER PROXIMITY TO RETAIL CLINICS REDUCES AVOIDABLE USE OF THE EMERGENCY DEPARTMENT

DAVID AUERBACH, PhD,[1] HUONG TRIEU, PhD,[1] NATASHA REESE-MCLAUGHLIN, MPP[1]

[1]Massachusetts Health Policy Commission, Boston, MA

MASSACHUSETTS HEALTH POLICY COMMISSION

INTRODUCTION

- A drive toward patient-centered care has led to delivery system innovations that expand access to care outside of business hours and closer to patients' homes. These include telemedicine e-visits, urgent care centers, retail clinics, and expanded hours in traditional provider offices.
- These alternatives, which have become increasingly prevalent in Massachusetts in recent years, have the potential to reduce unnecessary use of the Emergency Department (ED), which is often the only source of care after traditional offices have closed.
- This problem is particularly acute in Massachusetts:
  - Massachusetts has the 13th highest rate of ED utilization in the US.
  - As recently reported in the Massachusetts Health Insurance Survey, 76% of Massachusetts patients reported going to an ED because they needed care after their primary care physician/clinic's normal operating hours.
- Several studies have shown that 13.7% of ED visits could be diverted to retail clinics and that an additional 13.4% of ED visits could be diverted to urgent care facilities.

RESEARCH QUESTIONS

- To what extent has the number of retail clinics and urgent care centers in Massachusetts increased over the last 7 years?
- Do retail clinics and urgent care centers, which offer access to basic and urgent health care needs after most traditional offices are closed, lead to a reduction in avoidable use of the ED in Massachusetts?

STUDY DESIGN

DATA

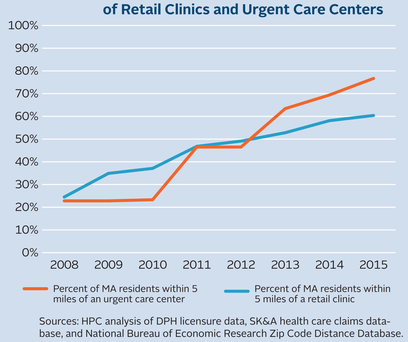
- We combined data from the Center for Healthcare Information and Analysis' Acute Hospital Case Mix Emergency Department Databases from 2010 to 2014 with geocoded locations of EDs, retail clinics, and urgent care centers such that for each primary care service area (PCSA), we were able to map the distance of the PCSA's residents to each facility.[1]
- ED visits were categorized as avoidable using the Billings algorithm.[2] The three Billings algorithm categories we focused on were:
  - *Non-emergent:* patient's initial complaint, presenting symptoms, vital signs, medical history, and age indicated that immediate medical care was not required within 12 hours.
  - *Emergent-PCP treatable:* based on information in the patient's record, treatment was required within 12 hours, but care could have been provided effectively and safely in a primary care setting.
  - *Emergent-not preventable:* ED care required and ambulatory care treatment could not have prevented the condition.

ANALYSIS

- Regression analysis: Analyzed Massachusetts residents' ED use in 2014 at the PCSA level, controlling for income, physician supply, and demographics.
- Longitudinal analyses with PCSAs were divided into three categories:
  - Areas that had no access to retail clinics in 2010 or 2014 (**control group**).
  - Areas that had gained some access to retail clinics in 2014 (**intermediate group**).
  - Areas in that had no retail clinic access in 2010 but good access (<5 miles) in 2014 (**intervention group**).

RESULTS

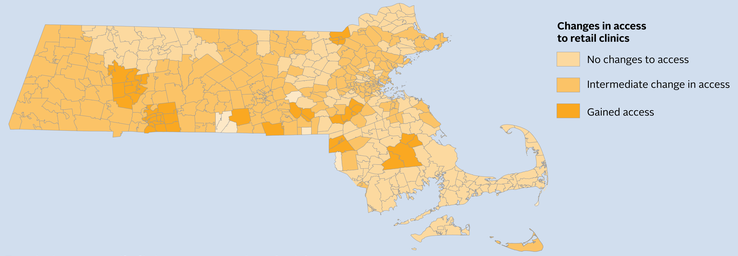
FIGURE 1: Percent of MA Residents Living Within 5 Miles of Retail Clinics and Urgent Care Centers



Sources: HPC analysis of DPH licensure data, SK&A health care claims database, and National Bureau of Economic Research Zip Code Distance Database.

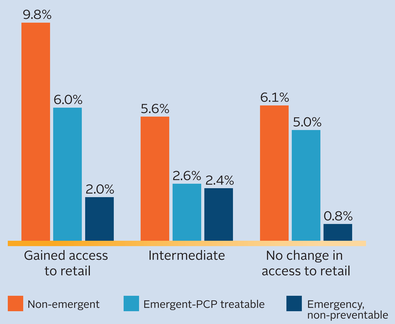
- The number of retail clinics and urgent care centers in Massachusetts rose rapidly between 2008 and 2015, increasing from 17 to 58 retail clinics and 10 to 85 urgent care centers over this period. In 2015, 77% of Massachusetts residents lived within 5 miles of an urgent care center, while 60% lived within 5 miles of a retail clinic.
- Controlling for PCSA-level income, age, gender, race, and number of PCPs in 2014, we found that **proximity to a retail clinic reduced avoidable ED use by nearly 3% in 2014.** Proximity to urgent care centers was also associated with a reduction in avoidable ED use but it was smaller and not statistically significant. Lower-income and minority status were also associated with a higher avoidable ED visit rate.

FIGURE 2: Change in access to retail clinics, 2010 to 2014



- **Proximity to retail clinics was associated with reductions in avoidable ED visits.** Areas that had low retail clinic access in 2010, but good access in 2014 (PCSA was <5 miles away from the nearest retail clinic) saw the largest reductions in both non-emergent and emergent-PCP treatable ED utilization.
  - While the state average decline in non-emergent ED visits over this period was 7.8%, PCSAs that gained access to retail clinics had a 9.8% decline in non-emergent ED utilization, compared to a 5.6% in PCSAs with intermediate access change, and a 6.1% in areas with no access change.
  - Non-preventable emergent ED visits decreased similarly across all three PCSA categories, which we expected as retail clinics should have no effect on this rate.
- **Retail clinics are not evenly distributed across all types of neighborhoods.** We found that only 6 retail clinics (10.5% of all retail clinics in the state) were located in the lowest income quartile PCSAs, despite the fact that 24% of MA residents lived there.

FIGURE 3: Reduction in ED use rates by PCSA, 2010–2014



CONCLUSIONS

Massachusetts residents have seen a dramatic increase in proximity to urgent care centers and retail clinics in the last few years.

Proximity to retail clinics reduces avoidable ED admissions. Proximity to urgent care centers appears to have a more limited effect.

POLICY IMPLICATIONS

- Retail clinics and urgent care centers can play an important role in moving the Commonwealth toward the goal of filling in the continuum of care options and levels of service such that more patients access the right care, at the right time, at the right place.
- Other studies have generally found that these sites provide high quality care on the outcomes measured. As we continue to embrace alternative payment methods, traditional providers should seek to partner and coordinate with providers of alternative means of accessing care, using technology to help overcome concerns about fragmentation, to enhance fully patient-centered care. Increasing use of retail clinics also emphasizes the importance of seamless transmission of visit data and records between clinic providers and traditional offices.
- These alternative modes of care should be available to lower-income residents as well, whose rates of avoidable ED are higher.
- Because they are staffed by Nurse Practitioners, states with restrictive scope of practice laws can raise operation costs of retail clinics with no evidence of increased safety of value. Policy makers could consider removing such restrictions.

CONTACT

David Auerbach, *Deputy Director*
Research and Cost Trends
Health Policy Commission
David.Auerbach@State.MA.US

Natasha Reese-McLaughlin, *Senior Research Associate*
Research and Cost Trends
Health Policy Commission
Natasha.ReeseMcLaughlin@State.MA.US

Huong Trieu, *Research Manager*
Center for Health Information and Analysis
Huong.T.Trieu@State.MA.US

www.mass.gov/HPC

1. Massachusetts is divided into 158 regions called Primary Care Service Areas (PCSAs). These areas were developed by researchers associated with the Dartmouth Atlas of Health Care and represent a geographic approximation of patients' travel patterns to obtain to primary care services.
2. The Emergency Department Algorithm was developed by John Billings and colleagues at New York University. The main purpose of the NYU ED Algorithm is to identify ED visits for primary care treatable conditions - i.e., visits that could have been provided in primary care setting or emergencies that could have been avoided if primary care had been delivered at earlier stage of illness. The NYU algorithm assigns a probability for each ICD-9 diagnosis code associated with an ED visit in order to provide an estimate of the number of avoidable ED visits within a dataset of ED visits.

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