



American Heart Association

Scientific Sessions

Digital Care Transformation: Interim Report from the First 5,000 Patients Enrolled in a Remote Algorithm-based Cardiovascular Risk Management Program to Improve Lipid and Hypertension Control

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BRIGHAM HEALTH



BRIGHAM AND
WOMEN'S HOSPITAL



HARVARD MEDICAL SCHOOL
TEACHING HOSPITAL



Mass General Brigham

Background

- Undertreatment of hypercholesterolemia and hypertension (HTN) remains a persistent clinical challenge, even among patients at high cardiovascular risk
- Approximately 30-50% of patients do not receive optimal medical treatment, despite most of these treatments being generic and established in practice guidelines and having established cost-effectiveness
- The basis for these therapeutic gaps is multifactorial and include challenging patient, provider, and system-level issues

Patel N et al. J Am Coll Cardiol 2019;74(20):2525-2528

Wong ND, et al. J Clin Lipidol 2016;10:1109-18.

Bradley CK, et al. J Am Heart Assoc 2019;8:e011765.

Methods

We designed, and are actively implementing a remote, algorithmically-driven, disease quality-improvement management program across a broad population within the Mass General Brigham health system.

- Patients in the lipid program were identified and categorized according to current guideline-specified risk groups
- Patients enrolled because of poorly controlled HTN received a digitally-connected home blood pressure cuff
- Program supported by Mass General Brigham and AllWays Health Partners

Methods - Digital Care Transformation

4 Key Components



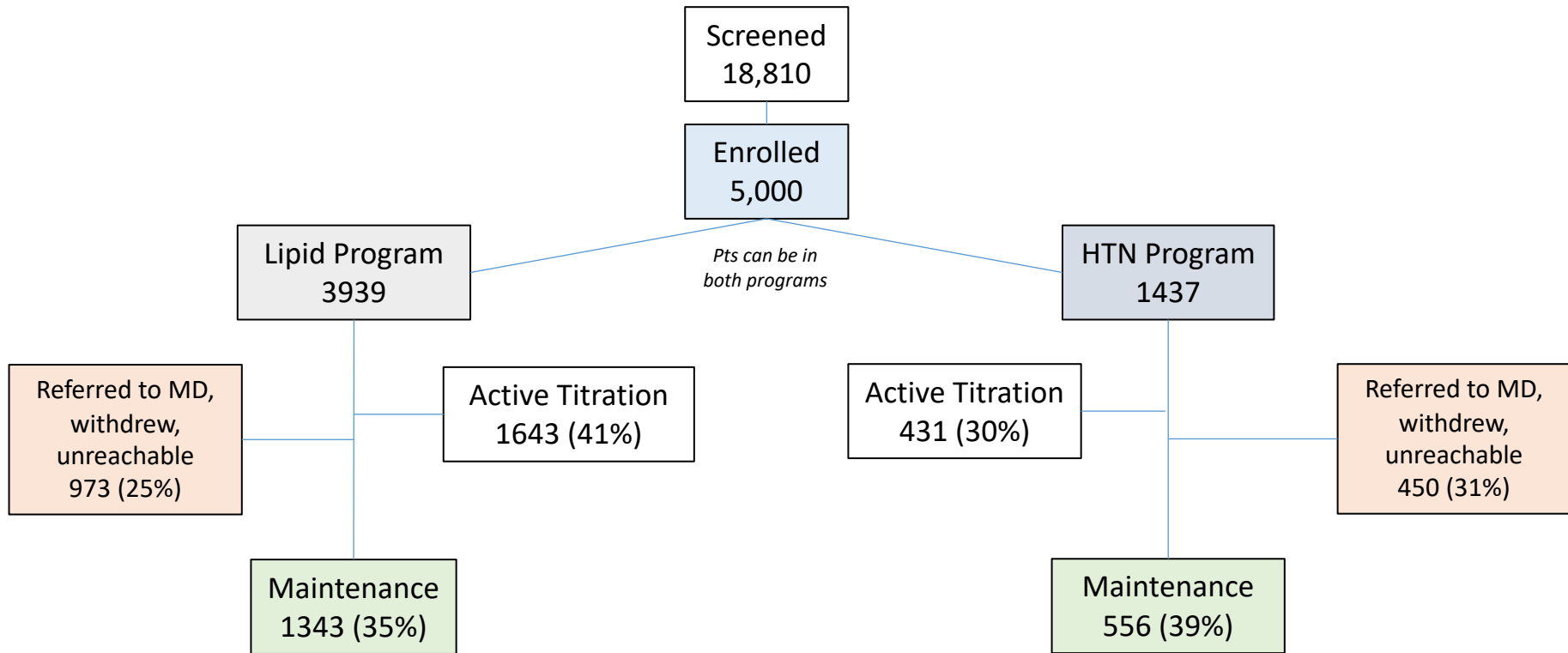
- Improved Workflow
- Algorithmically informed Care and Rx
- Enhanced Communication
- Data & Analytics

- Non-licensed
- High-contact model
- Provide Education
- Gather Data

- Prescribe and up-titrate Rx as part of CDTM* (w/out MD)

- Internally-built software to provide:
 - Pt-relationship tasks
 - Decision support
 - Communication

* CDTM – Collaborative Drug Treatment Management Program



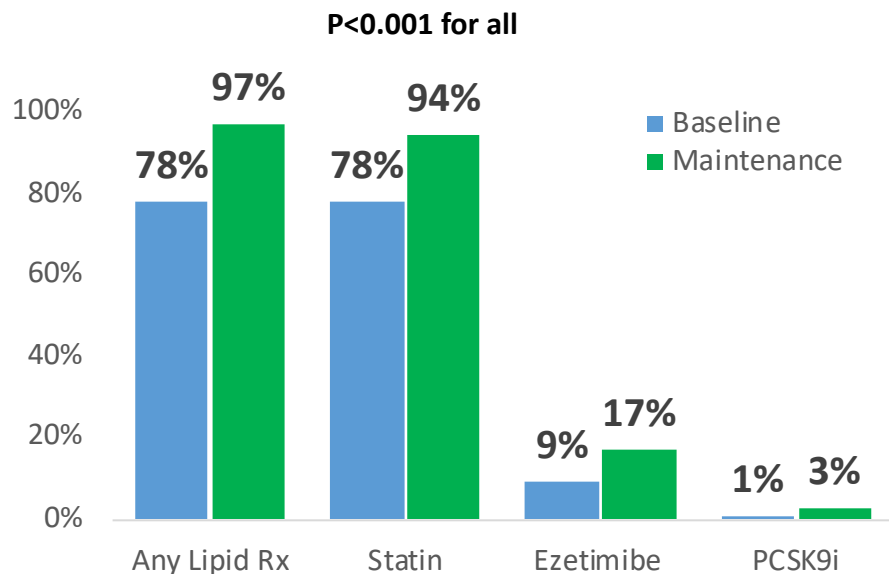
Baseline Characteristics

Baseline Characteristics	
Age >75yo	12%
Female	55%
Non-Hispanic Caucasian	71%
Non-English Speaking	8%

Lipid Categories	
Established ASCVD	1385 (35%)
Diabetes (no ASCVD)	995 (25%)
LDL >190 mg/dl (no ASCVD or DM)	1247 (32%)
High-risk primary prevention	312 (8%)

Change in Lipid Lowering Rx Utilization

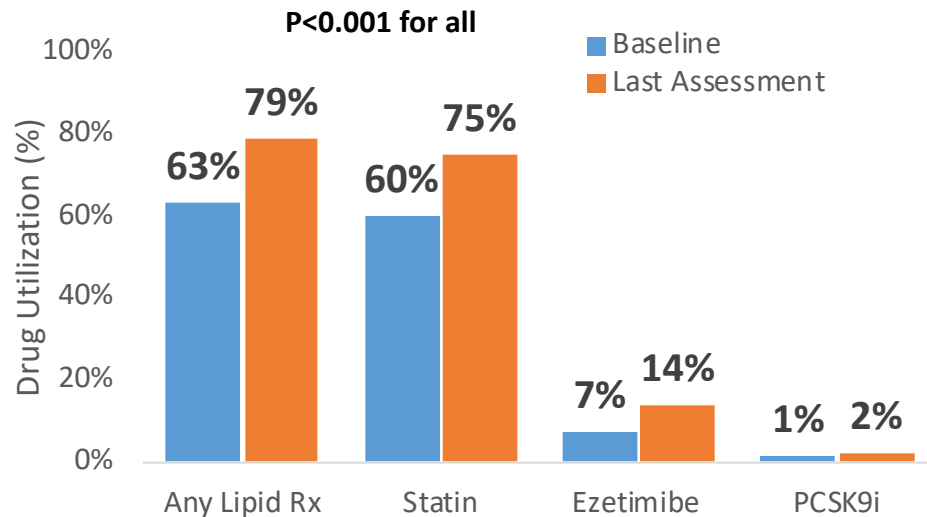
Patients who reached Maintenance



n=1343

All Patients Enrolled

(including Pts in active titration and dropped out)



n=3,939

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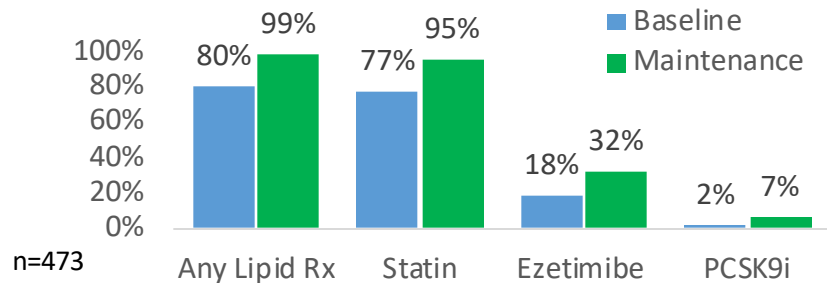
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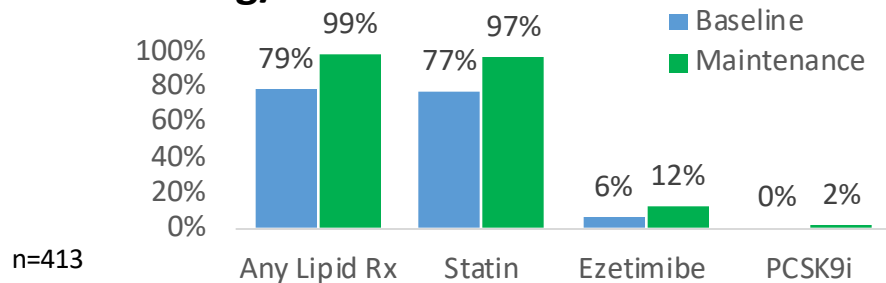
Mass General Brigham

Change in Lipid Lowering Rx Utilization

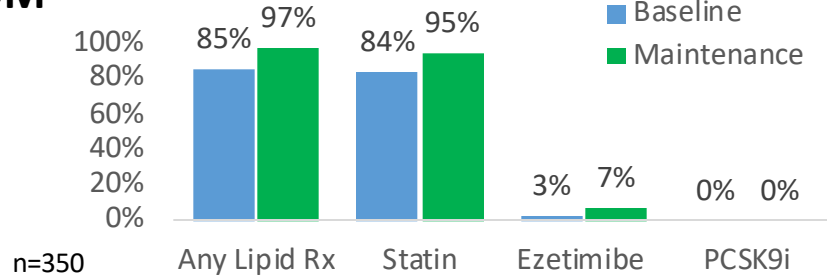
ASCVD



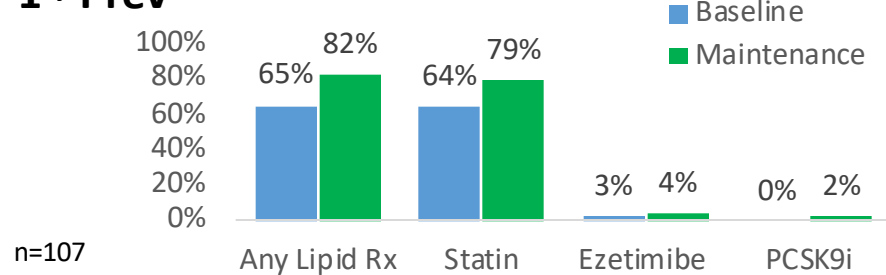
LDL >190mg/dl



DM



1st Prev

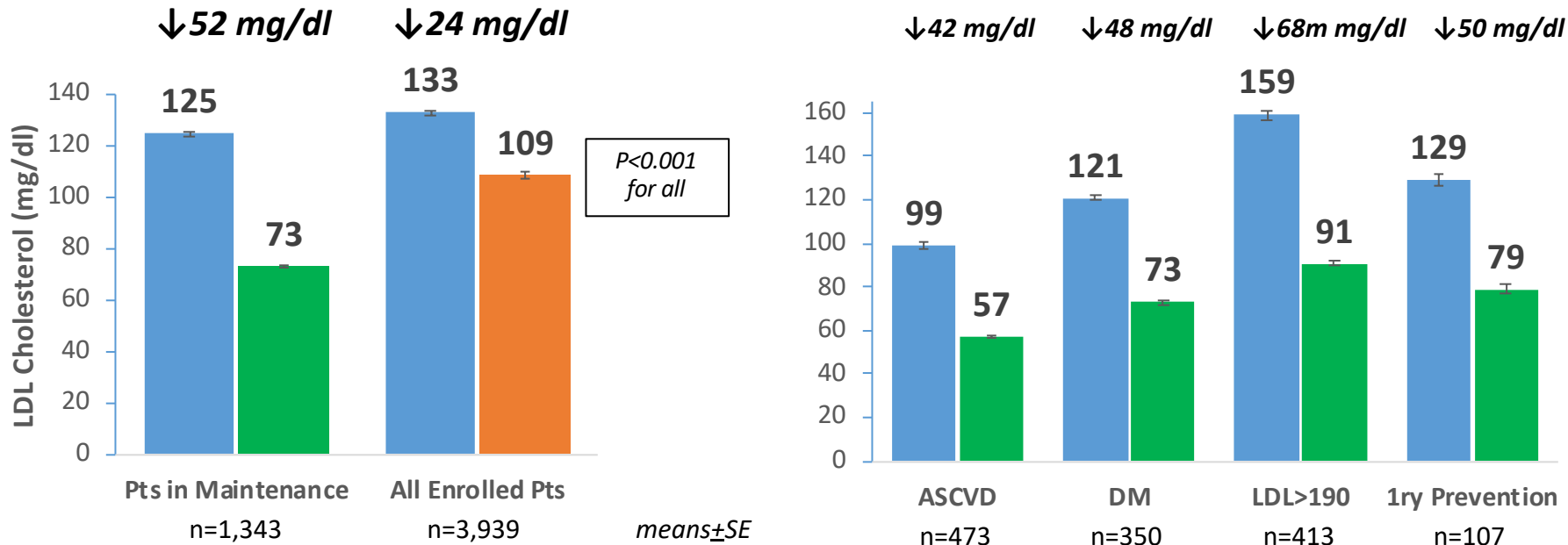


Change in LDL Cholesterol

■ Baseline

■ Maintenance

■ Last Assessment



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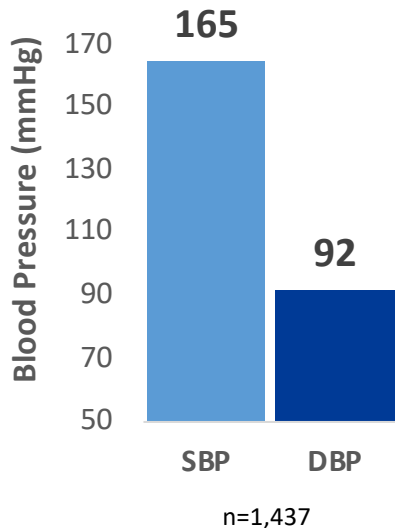
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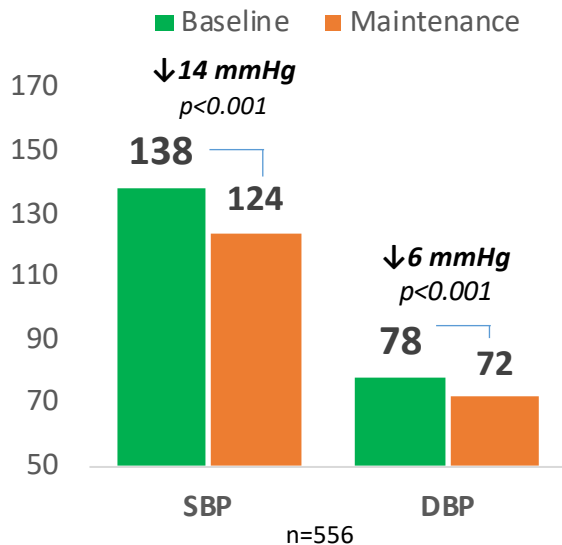
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Change in BP and HTN Medication Utilization

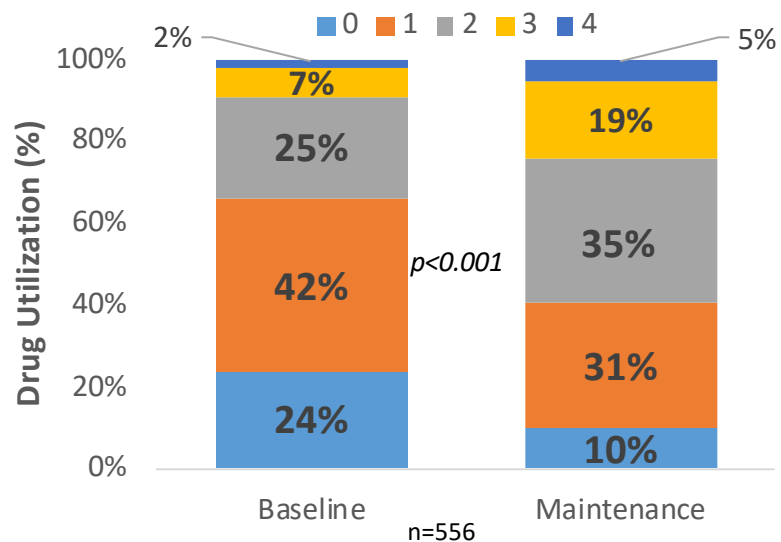
Qualifying BP
(Based on EHR)



Change in BP During Program
(Home BP monitors)



Number of A, B, C, D HTN Meds*



*A, B, C, D = ACEi/ARB, BBBlocker, Ca+Blocker, Diuretics

Summary

This remotely delivered, navigator and pharmacist-led lipid and hypertension management program demonstrates that standardized algorithmic care of high-risk, but undertreated, patients can:

- Effectively and efficiently optimize guideline-directed therapy for lipids and HTN
- Eliminate the need for in-person visits without the need for physician treatment decisions at every step
- Achieve these goals through utilization of predominately generic medications

Conclusion

- In addition to improved clinical outcomes, programs like this can improve quality metrics for value-based contracts, unburden the provider to focus on more complex care, and provide more patient education and longitudinal support
- This provides a model to expand remote healthcare delivery, increase access to care, reduce health inequities, and improve healthcare quality
- When implemented at scale, and with optimized data collection, this model provides a robust framework that can be deployed within learning health systems

Circulation

Now Available Online

RESEARCH LETTER

Digital Care Transformation

Interim Report From the First 5000 Patients Enrolled in a Remote Algorithm-Based Cardiovascular Risk Management Program to Improve Lipid and Hypertension Control

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