Improving adherence to cholesterol lowering guidelines through an interactive digital tool

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Background

- Statins are the cornerstone of primary and secondary prevention of atherosclerotic cardiovascular disease (ASCVD)
- Our previous retrospective analysis of 1042 consecutive patient encounters in our academic clinic found that one in five patients were not prescribed an appropriate statin therapy
- These patients tended to be younger, of Black race, and met statin-eligibility solely via a 10-year ASCVD risk score ≥ 7.5%
- Only one-third of patients had follow-up cholesterol levels ordered to monitor treatment efficacy

Methods

- We implemented multiple interventions over a four-month period to support clinical decision making of guideline directed statin therapy
  a) development of an online interactive tool (StatinCalc.com) (Figure 1)
  b) physician education on updated cholesterol guidelines and utilization of the tool
  c) display of guideline summary in the workspace
  d) a documentation reminder in the electronic health record

Figure 1: StatinCalc.com website screenshot

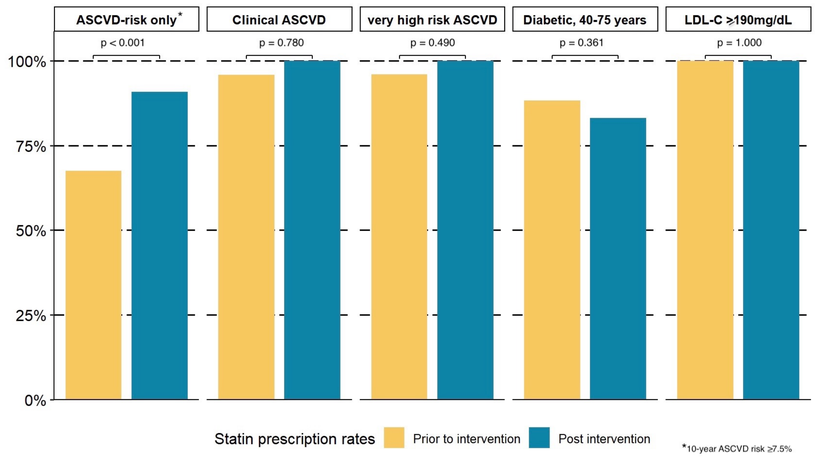

Figure 2: Observed statin prescription rates pre- (yellow) and post-interventions (blue) demonstrating an increased rate of adherence to cholesterol lowering guidelines

Methods cont.

- We randomly selected encounter dates, from which 622 consecutive patient visits were analyzed
- The primary outcome measures were: prescription rates of statins, documentation of a 10-year ASCVD risk score, and follow-up cholesterol levels ordered to monitor treatment efficacy

Results

- Out of 622 patients, 232 met statin indication
- In this post-intervention group, statin prescription rates improved when compared to the pre-intervention group (90.5% vs 82.3%, p = 0.006) (Figure 2)
- Among the patients who met statin indication solely via a 10-year ASCVD risk score ≥ 7.5%, there was an increase in documentation of the calculated 10-year ASCVD risk score (72.3% vs 57.8%; p = 0.039) and in statin prescription rate (90.8% vs 67.6%; p < 0.001)
- In addition, there was an increase in follow-up cholesterol levels ordered in all patients included in our study who met statin indication (64.1% vs 33.3%; p < 0.001)

Conclusion

- After implementation of multiple interventions (including StatinCalc.com) at our academic clinic, our study showed higher rates of statin prescription, 10-year ASCVD risk score documentation, and treatment monitoring

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