

Background

- The impact of the new ACC/AHA cholesterol guidelines on the volume of statin-eligible patients requires further analysis, particularly in rural communities that are rarely included in large observational cohorts.

Methods

- A cross-sectional analysis was done using data from the Heart of New Ulm Project, a population-based initiative aimed at reducing modifiable cardiovascular disease (CVD) risk factors in New Ulm, MN.
- According to 2010 census data, there were 7,855 adults age 40-79 in the target population. EHR-based demographics, diagnoses, and medications were analyzed in area residents aged 40-79 in 2012-2013, with complete data available for 4,279 residents.
- The prevalence of indications for statin therapy and of use of statins and other lipid-lowering medications were analyzed according to the ACC/AHA guidelines.

Results

- There were 6,323 residents with a visit during the study period, of which 4,279 had adequate data and were included in the analysis (Table 1).
- In our study sample, 2,535 (59%) met one of the 4 major indications for statin therapy, 65% of whom were on a statin, including 11% on a high intensity statin (Table 2).
- An age stratified analysis demonstrated that 85% of individuals 60-79 years old (n=2,025) are now statin-eligible compared to 36% of individuals 40-59 years old (n=2,254)(Figure).

Figure. Prevalences of indications for statin therapy in 4,279 residents from the Heart of New Ulm Project stratified by age

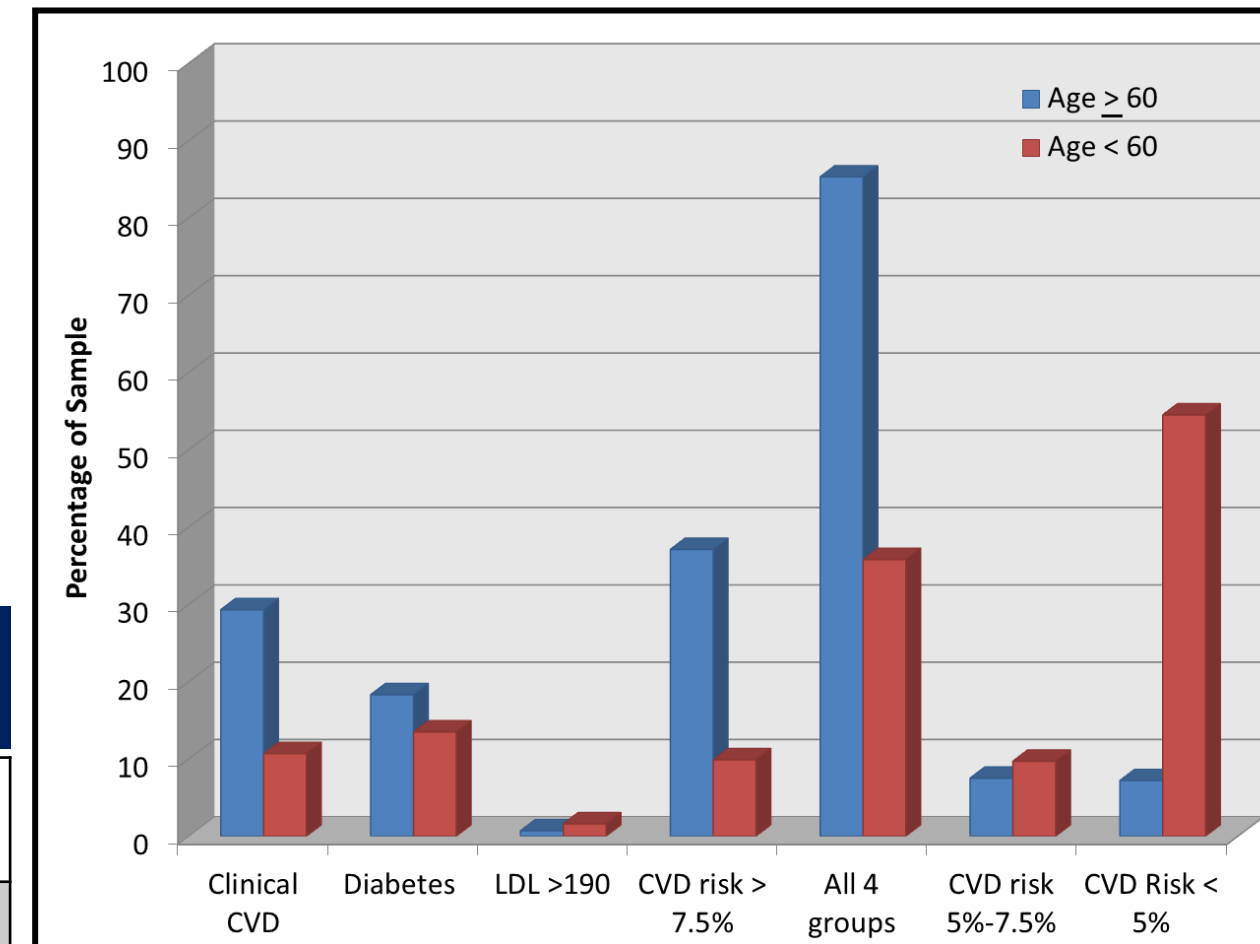


Table 2. Prevalences of indications for statin therapy and rates of statin use in 4,279 residents from the Heart of New Ulm Project

| Total (n = 4279) | Clinical CVD | Diabetes | LDL-C ≥190 | Risk ≥7.5% | All 4 Groups | Risk 5%-7.5% | Risk <5% |
|------------------|--------------|-------------|------------|------------|--------------|--------------|------------|
| % of N | 20 | 16 | 1 | 23 | 59 | 9 | 32 |
| Age (SD) yrs | 65.0 (9.6) | 60.8 (10.2) | 56.1 (8.3) | 65.7 (8.1) | 64.0 (9.5) | 57.7 (6.6) | 51.2 (6.3) |
| Female | 37.2 | 49.8 | 68.0 | 38.5 | 41.7 | 47.2 | 74.8 |
| Statin | 79.6 | 71.9 | 52.0 | 47.3 | 64.6 | 41.2 | 29.5 |
| HI Statin | 19.0 | 11.7 | 10.0 | 4.2 | 11.2 | 2.2 | 1.7 |
| OLLM | 4.3 | 7.0 | 4.0 | 3.2 | 4.6 | 3.0 | 1.7 |

The numbers in the categories of clinical CVD, diabetes, LDL_≥190mg/dL, and 10-year CVD risk ≥ 7.5% were considered successively from left to right. Abbreviations: CVD – Cardiovascular Disease, LDL-C – Low-density Lipoprotein Cholesterol, HI – High Intensity, OLLM – Other Lipid Lowering Medication

Conclusions

- Approximately 3 in 5 middle-age residents in a rural Midwestern community qualify for statin therapy according to ACC/AHA guidelines, but only two-thirds of those individuals were taking a statin, with infrequent use of high intensity statins.
- Full compliance with the new guidelines will require a significant increase in statin utilization, including more frequent use of high-intensity statins.

Table 1. Characteristics of 4,279 residents with electronic health record data from the Heart of New Ulm Project, 2012-2013.

| | Total (n=4279) | No CVD (n=3444) | CVD (n=835) |
|------------------------|----------------|-----------------|--------------|
| Age, years | 59.3 (10.2) | 58.0 (9.9) | 65.0 (9.5) |
| Female, % | 52.8 | 56.6 | 37.2 |
| Diabetes, % | 21.8 | 19.6 | 30.9 |
| Current smoker, % | 12.0 | 11.8 | 12.7 |
| BMI, kg/m ² | 30.9 (6.6) | 30.9 (6.7) | 30.8 (6.1) |
| Systolic BP | 124.4 (14.3) | 124.2 (14.2) | 125.4 (14.8) |
| Diastolic BP | 72.4 (9.1) | 72.9 (9.0) | 70.3 (9.1) |
| Cholesterol, mg/dL | 188.2 (38.1) | 193.3 (36.5) | 164.3 (36.0) |
| HDL, mg/dL | 48.1 (13.5) | 49.2 (13.7) | 43.3 (11.2) |
| LDL-C, mg/dL | 112.6 (31.9) | 117.1 (30.9) | 92.3 (28.4) |