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Statin Discontinuation among Nursing Home Residents with Advanced Dementia

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Background
Statin use in elderly individuals with life-limiting illness such as advanced dementia is controversial.

Objective
To describe factors associated with statin discontinuation and estimate impact of discontinuation on 28-day hospitalizations in nursing home (NH) residents with advanced dementia.

Methods
Retrospective cohort study of NH residents ≥ 65 years with recent progression to advanced dementia from 5 large U.S. states drawn from the 2007-2008 Minimum Data Set 2.0. We identified residents using statins. Clinical characteristics and 28-day hospitalization risk were compared for residents discontinuing and continuing statins. Multivariable Cox proportional hazard models identified factors associated with time to statin discontinuation and time to hospitalization. Sensitivity analysis using self-controlled case series examined the role of confounding-by-indication on risk estimation from the cohort approach.

Results
Of 10,212 residents with decline to advanced dementia, 16.6% were prescribed statins (n=1,699). Statin users had mean age of 83.1 yrs, 68.9% were female, and mean medication burden was 10.3 (SD 4.8, range 1-31). Over one-third (n=632) discontinued in follow-up. Median time to discontinuation was 36 days after decline to advanced dementia (IQR [25%, 75%]: 12 days, 110 days). After adjustment, factors independently associated with increased hazard of discontinuation included residence in a NH in Florida relative to California, hospitalization in the 30 days prior to decline to advanced dementia, greater medication burden, and having cancer. The 28-day hospitalization risk was higher for residents discontinuing statins compared to continuing (adjusted hazard ratio = 1.78, CI 1.61,2.58). The SCCS estimate for 28-day hospitalization risk
following statin discontinuation compared to a 28-day pre-discontinuation control period was lower than the cohort estimate (IRR= 0.79, CI 0.76, 0.83).

**Conclusion**
A significant proportion of nursing home residents with dementia who use statins when they progress to advanced stage disease discontinue use. Hospitalization outcomes following discontinuation differ depending on method of estimation.