REDUCE-IT ELIGIBILITY AND PREVENTABLE FIRST AND TOTAL CARDIOVASCULAR EVENTS IN THE US POPULATION: AN ANALYSIS OF THE NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY (NHANES)

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Abstract:

Background: The REDUCE-IT trial showed in persons with prior cardiovascular disease (CVD) or diabetes mellitus (DM) that icosapent ethyl in reduced CVD events by 25%. We projected the preventable initial and total CVD events if REDUCE-IT trial eligibility criteria were applied to US adults.

Methods: We identified US adults with available REDUCE-IT inclusion criteria from NHANES Surveys 1999-2016 and estimated primary (CVD death, nonfatal myocardial infarction, stroke, revascularization, or unstable angina) and secondary composite (CVD death, nonfatal MI or stroke) events using REDUCE-IT published event rates in the icosapent ethyl and placebo groups, the difference being the number of preventable events.

Results: From 11,445 adults aged ≥45 years (representing 111.1 million [M]), a total of 319 persons (3.0 M) fit key REDUCE-IT eligibility criteria: triglycerides of 135-499 mg/dL, HbA1c <10%, blood pressure <200/100 mmHg, and on a statin with LDL-C of 40-99 mg/dL. 63% had prior CVD and 37% had DM + ≥1 risk factor (primary prevention cohort). If these persons are given icosapent ethyl for the REDUCE-IT median trial period of 4.9 years, we estimate preventing a total 349,817 (71,391/yr) primary and 155,136 (31,660/yr) secondary CVD outcomes; 146,011 (27,798/yr) and 109,508 (22,349/yr), respectively, were initial events (figure).

Conclusion: Many CVD events in US adults with known CVD or DM may be preventable from icosapent ethyl therapy, impacting residual CVD risk despite statin-controlled LDL-C.