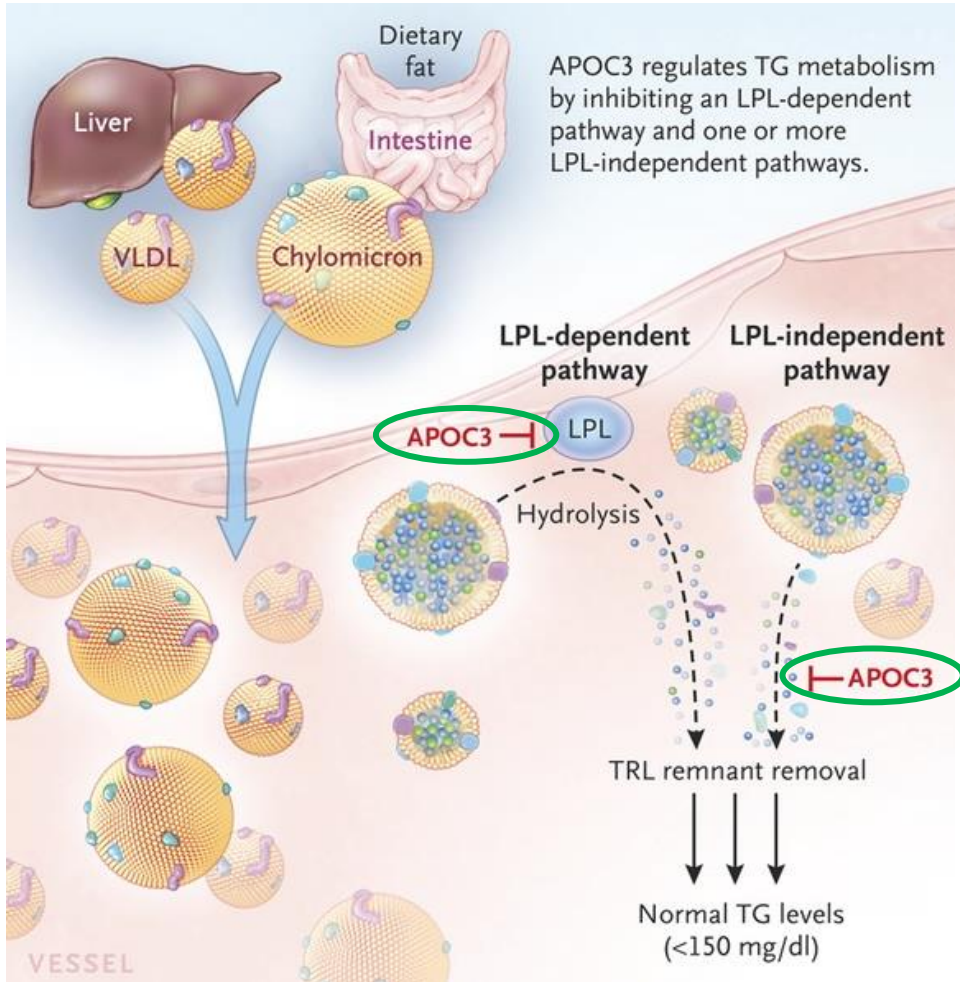


# **LONG-TERM EFFICACY AND SAFETY OF OLEZARSEN IN PATIENTS WITH SEVERE HYPERTRIGLYCERIDEMIA**

## **Interim One-Year Results of the CORE Open Label Extension (OLE) - TIMI 72c**

**Robert P. Giugliano**, Brian A. Bergmark, Veronica J. Alexander, Thomas A. Prohaska, Andrew Dibble, Elaine Waldman, Shirley Li, Angel Soto-Hermida, Monika Nowosiad Magda, Phillippe Moulin, Erik Stroes, Ulf Landmesser, Sotirios Tsimikas, Marc S. Sabatine on behalf of the CORE-OLE Trial

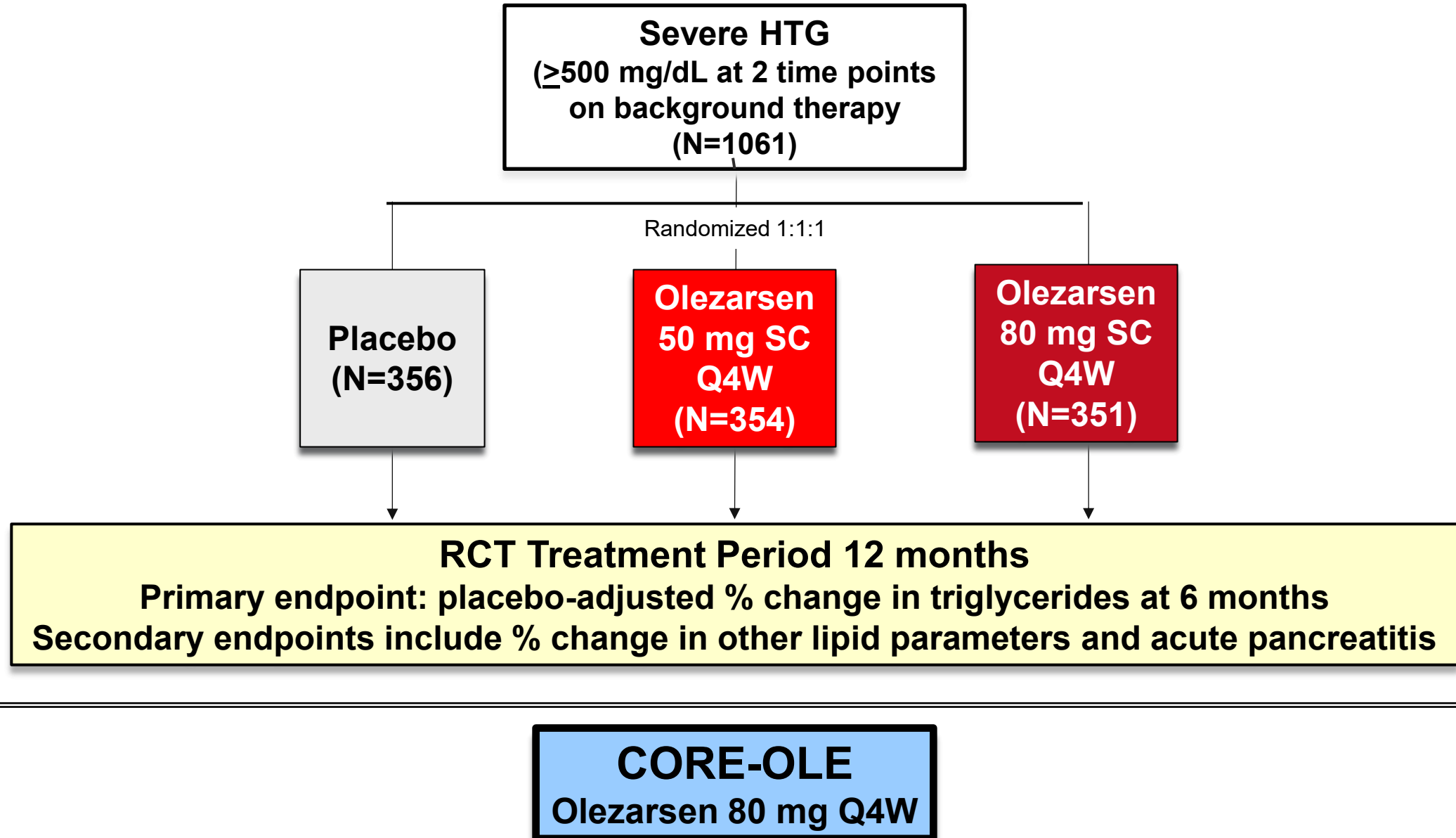
# BACKGROUND



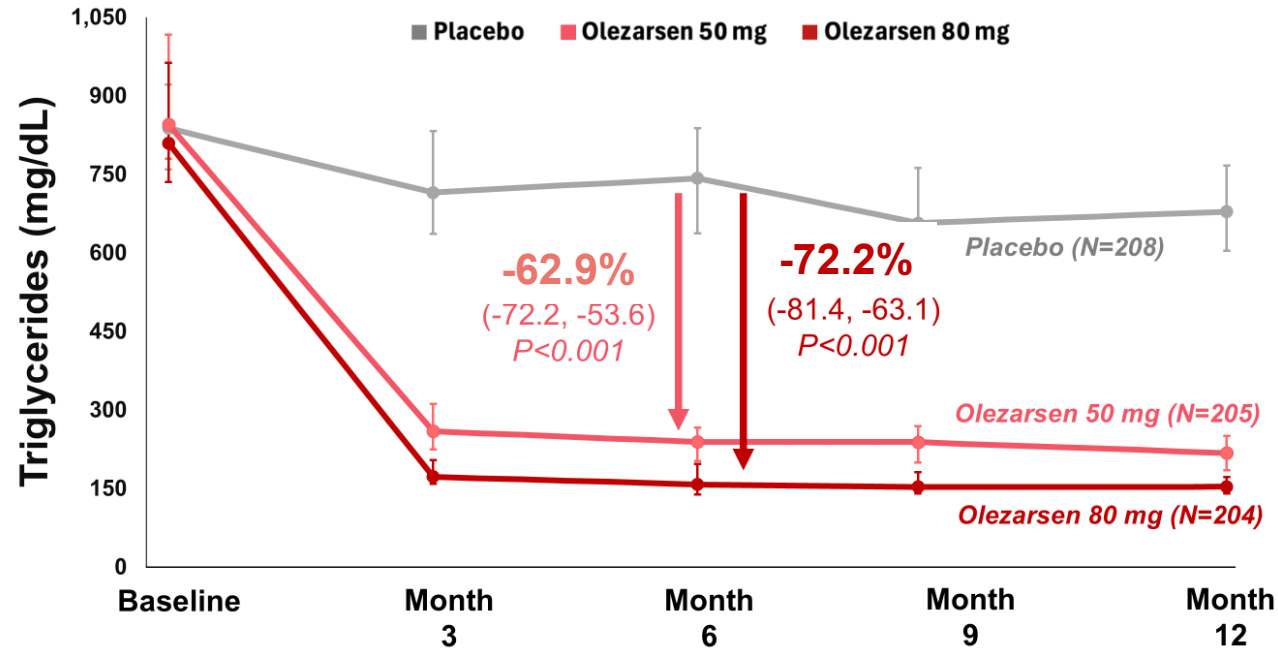
- Severe hypertriglyceridemia (sHTG), defined as triglycerides (TGs) of 500 mg/dL (5.65 mmol/L) or greater, carries an increased risk of acute pancreatitis
- Apolipoprotein C-III (APOC3) inhibits:
  - lipoprotein lipase, a key enzyme in TG metabolism
  - hepatic uptake of TG-rich lipoproteins (TRLs)
- Olezarsen is an antisense oligonucleotide targeting APOC3 that promotes the breakdown and clearance of TRLs, has demonstrated significant reduction in TGs and the risk of acute pancreatitis.
- Olezarsen is approved in the EU and US for treatment of Familial Chylomicronemia Syndrome (FCS) and in the US in patients with severe hypertriglyceridemia to reduce triglyceride levels and the risk of acute pancreatitis

# CORE-TIMI 72A & CORE2-TIMI 72B

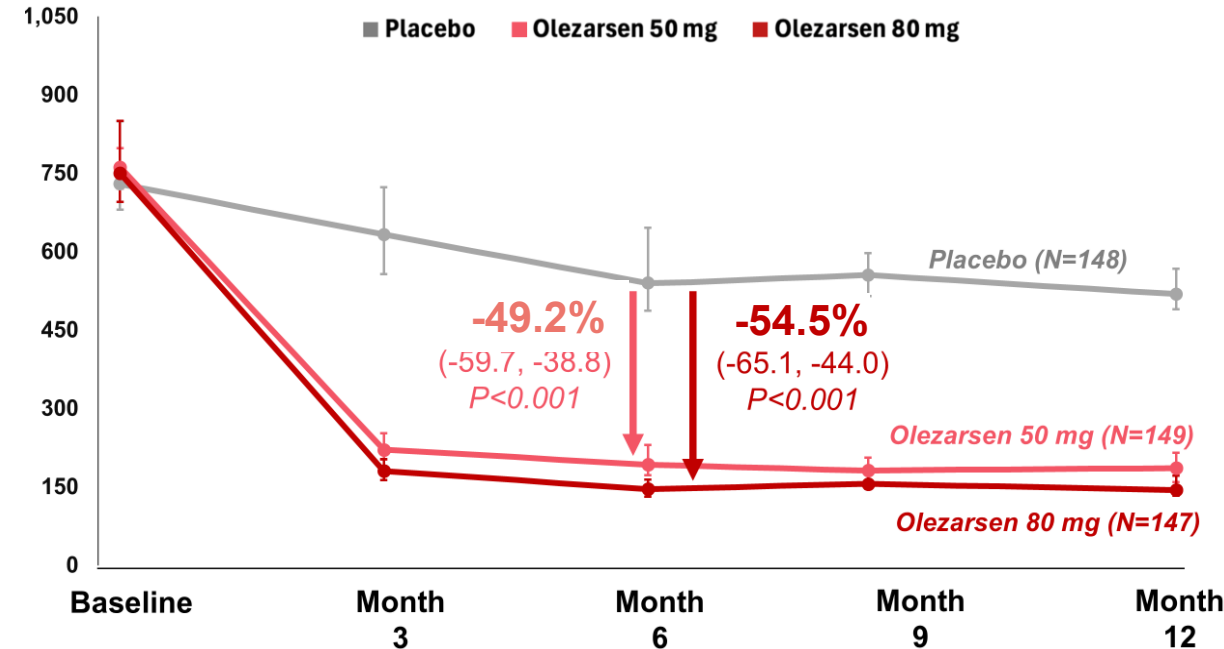
*Identically designed*



## CORE-TIMI 72A



## CORE2-TIMI 72B

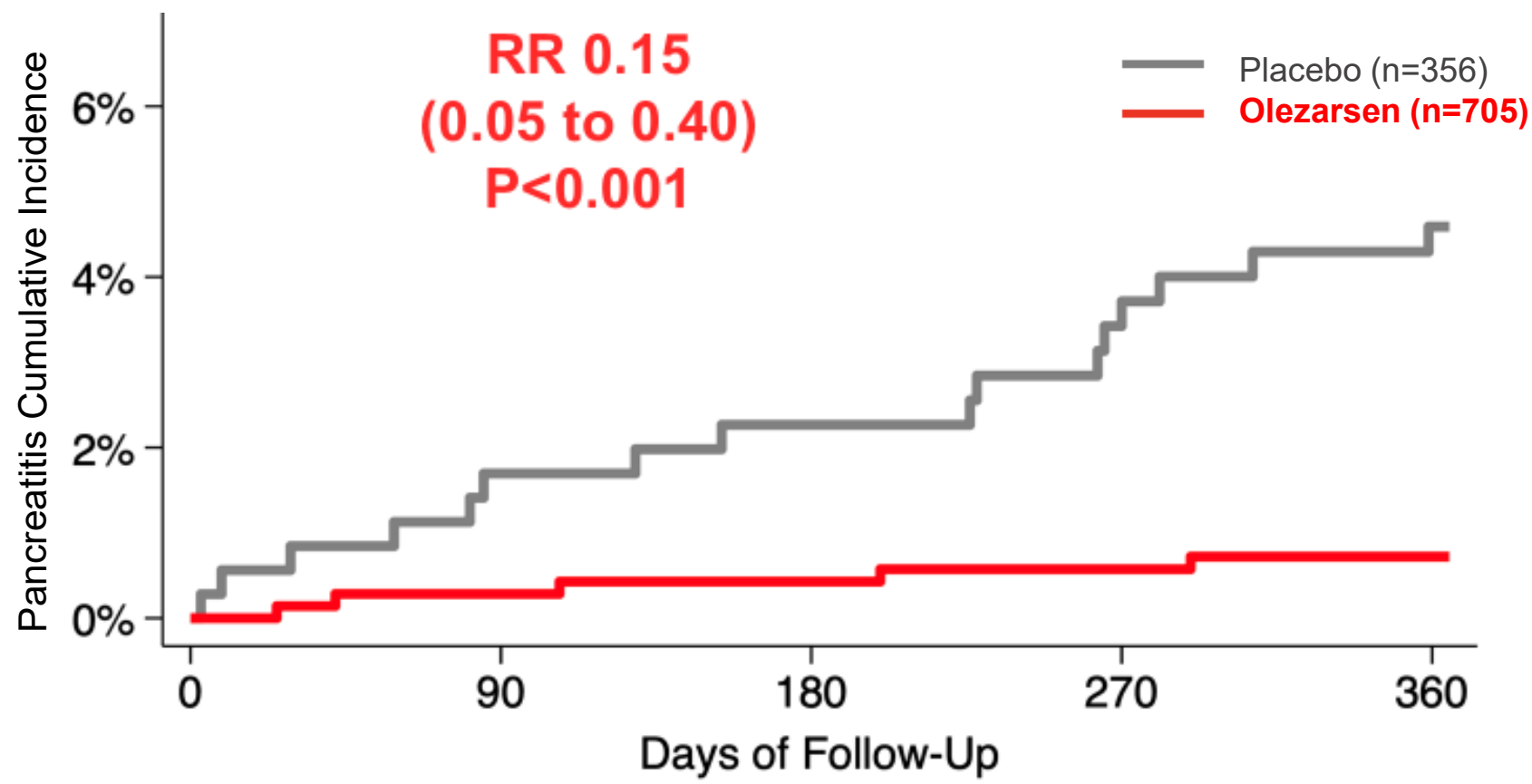


**Among patients with severe hypertriglyceridemia, olezarsen:**

- Lowered triglycerides by up to 72% c/w placebo on top of conventional therapies
- Resulted in >85% of patients achieving TG levels below 500 mg/dL

# ACUTE PANCREATITIS

*Pooled analysis across both trials and doses*



**ARR in incidence  
of total events  
= 5.2%**

**NNT over 1 year  
= 20**

*ARR, Absolute Risk Reduction*

# PATIENT DISPOSITION

## CORE-TIMI 72a & CORE2-TIMI 72b -> CORE OLE

### Primary EP (Safety):

plt count, bleeding,  $\Delta$  eGFR, urine microalb, LFTs

### Secondary EP (Efficacy):

$\Delta$  lipids, acute pancreatitis

### Exploratory EP:

measures of glycemia, hepatic fat

Subjects randomized in CORE and CORE2  
N=1,063

Year 0-1

Placebo Q4W  
n=358\*

Olezarsen 50mg Q4W  
n=354

Olezarsen 80mg Q4W  
n=351

n=296\*

n=298

n=291

Years 1-3+

**CORE-OLE**  
Olezarsen 80 mg Q4W  
n=885

- Planned duration  $\geq$  2 yrs of OLE
- Rx compliance 98% at 10 months (IQR 6-13 mths)

\*1 patient in placebo arm did not receive olezarsen in OLE

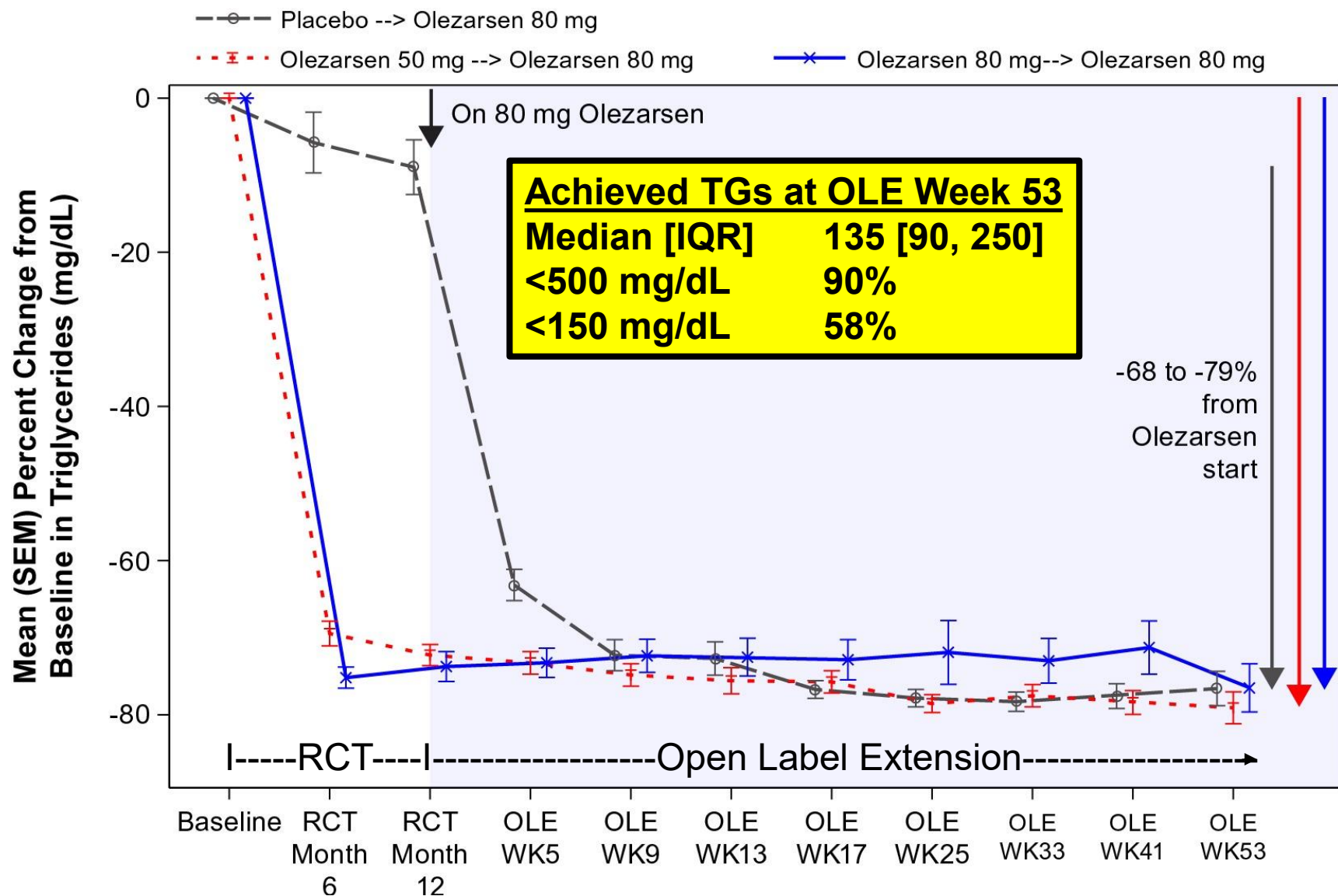
# BASELINE CHARACTERISTICS OF OLE POPULATION AT RANDOMIZATION INTO PARENT RCTs

|                                      |                |
|--------------------------------------|----------------|
| Age (yrs)                            | 54 [46, 61]    |
| Female sex                           | 23%            |
| Race/Ethnicity                       |                |
| White                                | 89%            |
| Hispanic/Latino                      | 12%            |
| Body Mass Index (kg/m <sup>2</sup> ) | 31 [28,35]     |
| Diabetes mellitus                    | 64%            |
| Triglycerides (mg/dL)                | 798 [593,1277] |
| History of Pancreatitis              | 16%            |
| Any Lipid Lowering Therapy           | 99%            |
| Statin                               | 75%            |
| Fibrate                              | 63%            |
| Omega-3 fatty acid                   | 32%            |

At time of entry into OLE

|           |                 |
|-----------|-----------------|
| Placebo   | 611 [418, 1163] |
| Ole 50 mg | 199 [127,336]   |
| Ole 80 mg | 149 [103, 311]  |

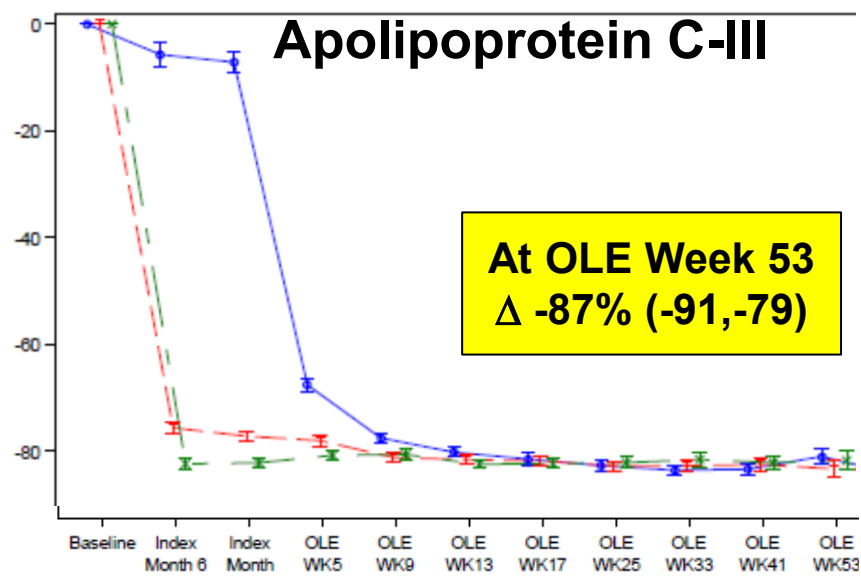
# MEAN % CHANGE IN BASELINE\* TRIGLYCERIDES THROUGH OLE WEEK 53



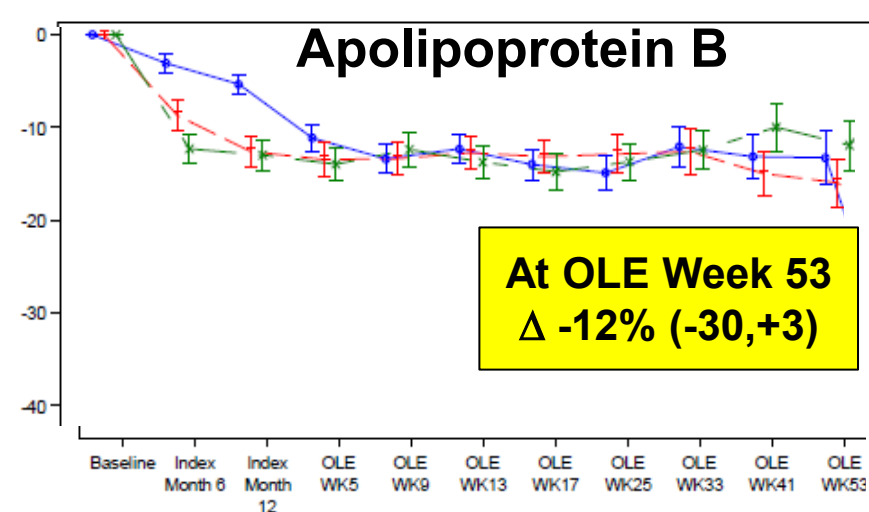
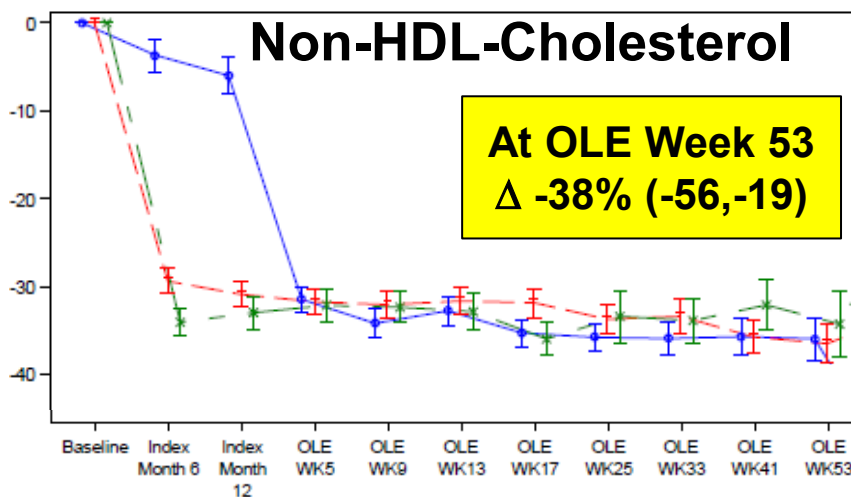
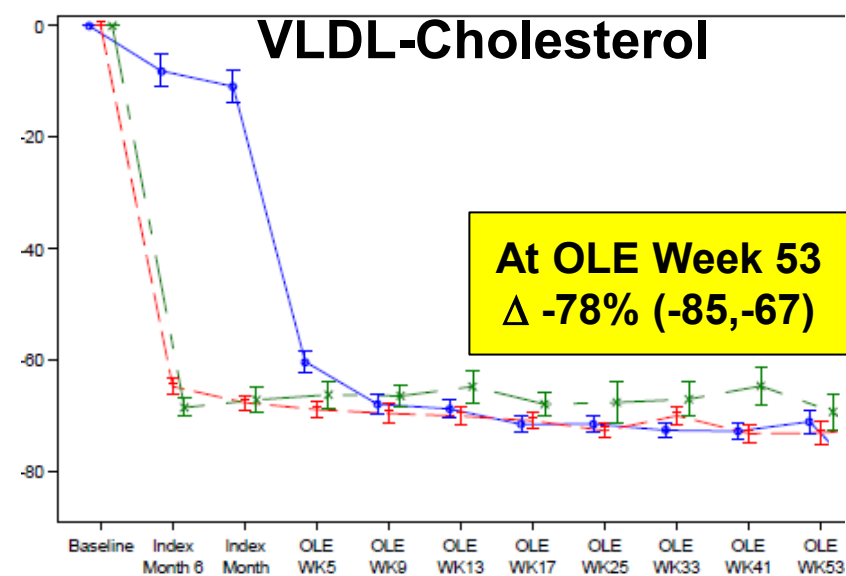
\*Baseline prior to start of CORE-TIMI 72a and CORE-TIMI 72b

Error bars show the standard error of the mean

## Mean % Changes from RCT Baseline



Placebo--> Ole 80  
 Ole 50 --> Ole 80  
 X -- Ole 80 --> Ole 80



|                                  | CORE-TIMI 72a & CORE2-TIMI 72b (pooled, N=1,061) |                            |                            | CORE-OLE                    |
|----------------------------------|--------------------------------------------------|----------------------------|----------------------------|-----------------------------|
|                                  | Placebo<br>(N=356)                               | Olezarsen 50 mg<br>(N=354) | Olezarsen 80 mg<br>(N=351) | Olezarsen 80 mg<br>(n=884*) |
| Platelet count <75K/uL           | 1.7                                              | 0.6                        | 2.0                        | 0.9                         |
| Clinical bleeding events         | 4.8                                              | 5.9                        | 5.4                        | 3.5                         |
| Decrease in eGFR $\geq$ 30%      | 13.4                                             | 8.9                        | 10.1                       | 6.2                         |
| Decrease in eGFR $\geq$ 50%      | 2.0                                              | 0.9                        | 2.9                        | 0.8                         |
| UPCR $\geq$ 500 mg/g             | 14.2                                             | 12.1                       | 13.6                       | 8.6                         |
| UPCR $\geq$ 1000 mg/g            | 4.5                                              | 5.2                        | 4.0                        | 2.8                         |
| ALT or AST $\geq$ 5x ULN         | 0.9                                              | 0.9                        | 1.4                        | 0.5                         |
| Total bilirubin $\geq$ 2.0 mg/dL | 0.3                                              | 0.3                        | 0.6                        | 0.3                         |

\*Excludes 1 patient enrolled in the OLE did not take any doses of olezarsen

Data shown are n/N rates

No cases of Hy's Law (AST or ALT  $\geq$  3x ULN and total bilirubin  $\geq$  2x ULN) were observed

**NOTE: Rates shown for CORE-TIMI 72a and CORE2-TIMI 72b data are at 1 year, for CORE-OLE through median 10 months follow-up.**

*Preliminary data*

|                                             | CORE-TIMI 72a & CORE2-TIMI 72b (pooled N=1,061) |                            |                            | CORE-OLE                    |
|---------------------------------------------|-------------------------------------------------|----------------------------|----------------------------|-----------------------------|
|                                             | Placebo<br>(N=356)                              | Olezarsen 50 mg<br>(N=354) | Olezarsen 80 mg<br>(N=351) | Olezarsen 80 mg<br>(N=884*) |
| <b>Any treatment emergent adverse event</b> | 75.0                                            | 74.6                       | 76.1                       | 60.7                        |
| Leading to drug discontinuation             | 2.0                                             | 3.4                        | 4.3                        | 3.3                         |
| Serious                                     | 13.8                                            | 8.8                        | 10.8                       | 8.5                         |
| Leading to drug discontinuation             | 0.3                                             | 1.1                        | 0.6                        | 1.5                         |
| <b>Injection site reactions</b>             |                                                 |                            |                            |                             |
| Any                                         | 0.8                                             | 10.2                       | 16.5                       | 11.4                        |
| Mild                                        | 0.8                                             | 9.6                        | 14.8                       | 10.3                        |
| Moderate                                    | 0                                               | 1.1                        | 2.8                        | 1.1                         |
| Severe                                      | 0                                               | 0                          | 0                          | 0                           |

\*Excludes 1 patient enrolled in the OLE did not take any doses of olezarsen

Data shown are n/N rates

**NOTE:** Rates shown for CORE-TIMI 72a and CORE2-TIMI 72b data are at 1 year, for CORE-OLE through median 10 months follow-up.

*Preliminary data*

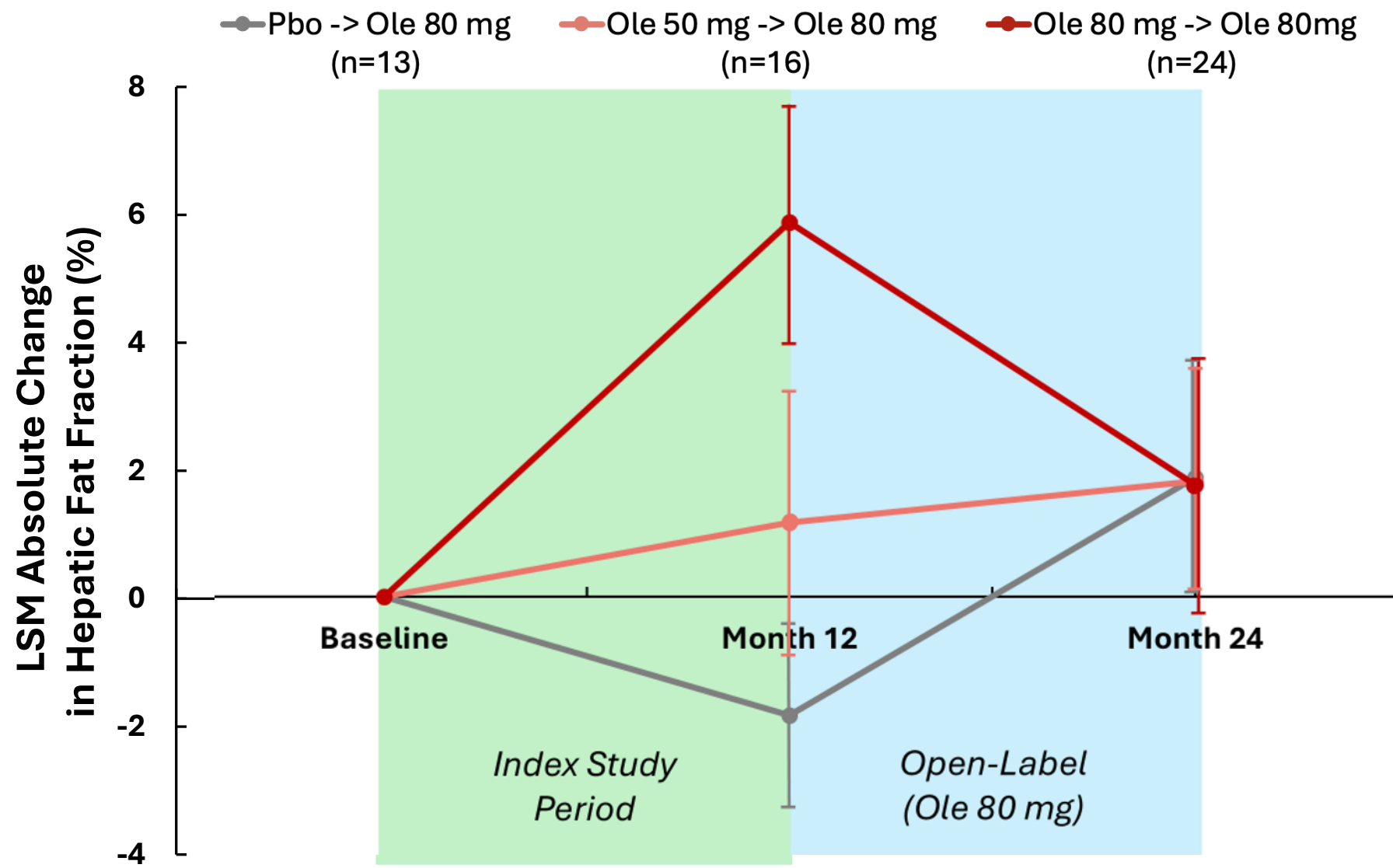
# ADJUDICATED CASES OF ACUTE PANCREATITIS

|                              | CORE-TIMI 72a & CORE2 TIMI-72b<br>(pooled RCTs) |                    | CORE-OLE                   |
|------------------------------|-------------------------------------------------|--------------------|----------------------------|
|                              | All Olezarsen<br>(N=705)                        | Placebo<br>(N=356) | Olezarsen 80 mg<br>(N=884) |
| Patients with an event, n(%) | 5 (0.7)                                         | 17 (4.8)           | 10 (1.1)                   |
| Total number of events       | 7                                               | 22                 | 19*                        |
| Total patient-years          | 696.1                                           | 352.9              | 711.4                      |
| Event rate per 100 pt/yr     | 1.01                                            | 6.23               | 2.67                       |

\*1 non-compliant patient had 8 events

# MRI Hepatic Fat Substudy

## Preliminary 24-month data (n=53)



HFF = hepatic fat fraction  
Baseline HFF = 13.9% in placebo, 17.6% in 50 mg, 16.0% in 80 mg

- **In patients with severe hypertriglyceridemia (TG >500 mg/dL), longer term use of olezarsen for up to 2 years:**
  - Was generally well tolerated, with no new safety findings
  - Sustained TG lowering of 68-79%
  - Resulted in 90% of patients achieving TG levels <500 mg/dL
  - Achieved persistent reductions in the risk of acute pancreatitis
  - Preliminary data suggest only modest (<2%) ↑ in hepatic fat fraction through 2 years
- **These findings provide additional support for the continued use of olezarsen in patients with severe hypertriglyceridemia to reduce triglyceride levels and risk of acute pancreatitis over the longer term**