Evaluation of a Technology Assisted Web Application to Qualify for Nonprescription Statin Administration

Steven E. Nissen MD MACC

Disclosure

Clinical Trials: AbbVie, Arrowhead, AstraZeneca, Bristol Myers Squibb, Eli Lilly, Esperion, Medtronic, New Amsterdam, Novartis, and Silence Therapeutics.

Companies are directed to pay any honoraria, speaking or consulting fees directly to charity so that neither income nor a tax deduction is received.

Co-Authors

Steven E. Nissen MD, Howard G. Hutchinson MD, Kathy Wolski MS, Karol Watson MD, Seth S. Martin MD MHS, Erin D. Michos MD, William S. Weintraub MD, Melanie Morris BS, Leslie Cho MD, Luke Laffin MD, Douglas Jacoby MD, Christie M. Ballantyne MD, Jan Ekelund MSc, Philip Birve BS, Venu Menon MD, Michelle Strzelecki RN, and Paul M. Ridker MD

Trial sponsor: AstraZeneca

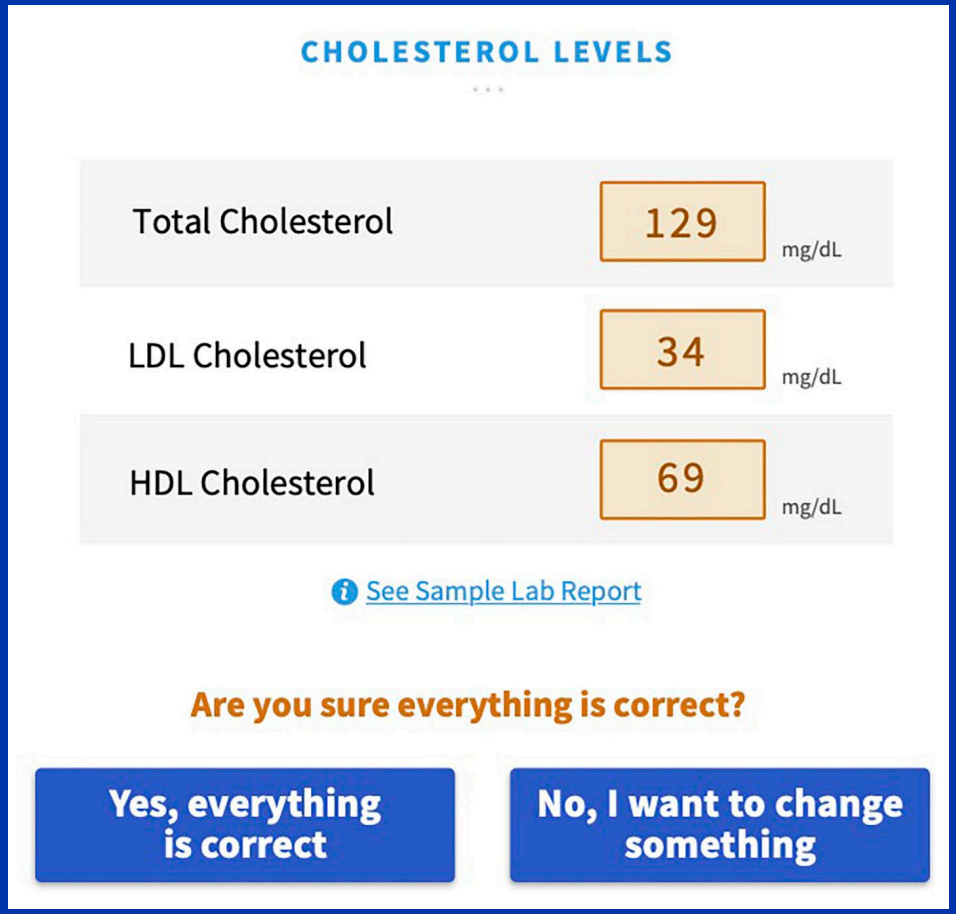
Background

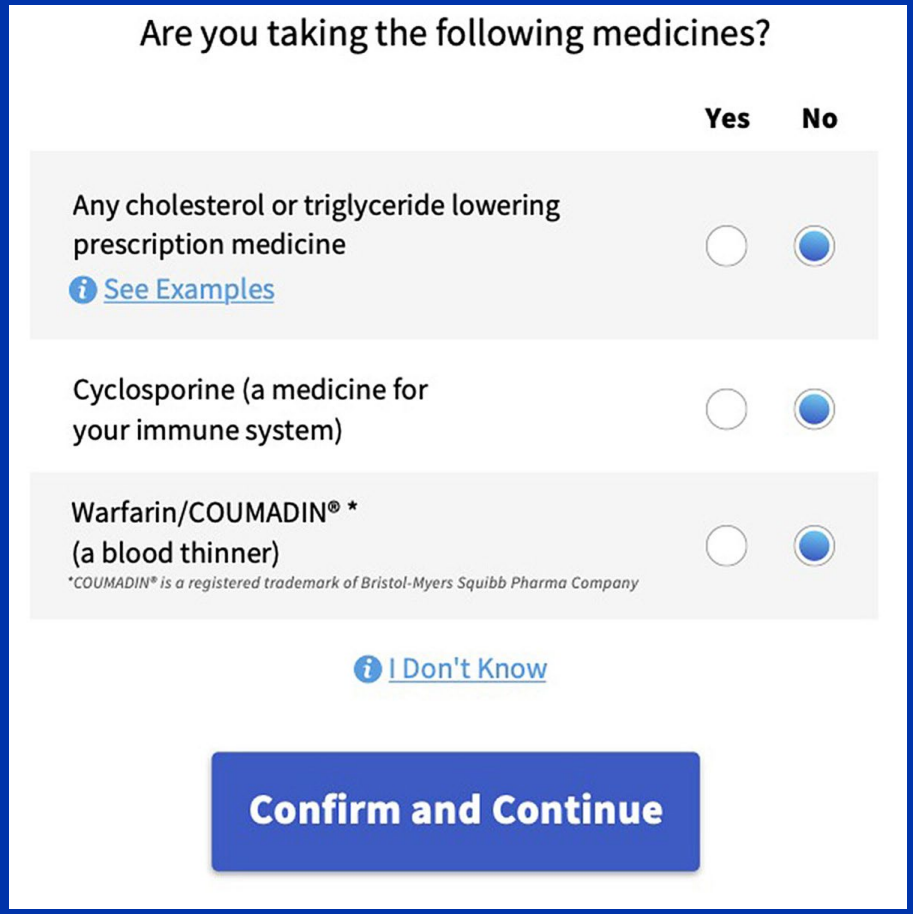
- Although statins reduce major adverse cardiovascular outcomes, less than half of eligible patients receive treatment.
- Multiple past attempts to address this problem through OTC statins were unsuccessful in achieving regulatory approval.
- There were major concerns about inappropriate use by consumers for whom statins could be unnecessary or unsafe.
- The current study sought to address this problem through a novel technology-assisted self-selection Web Application to qualify consumers for nonprescription access to rosuvastatin (5 mg).

Web App Features

- Developed as Software as a Medical Device based on FDA guidance.
- To determine eligibility, uses 10-yr ASCVD risk score (pooled cohort equations) in 2018 Cholesterol Treatment Guidelines and incorporates a proposed Drug Facts Label for rosuvastatin.
- Possible Outcomes: ‘OK to Use’, ‘Ask a Doctor’, or ‘Do Not Use.’
- Only those with ‘OK to Use’ or ‘Ask a Doctor’ outcome could qualify and enroll.

Examples of Web App Data Entry Screens





Exclusion of Participants Needing High-Intensity Statins

Have you ever had any of the following?

	Yes	No
Heart attack	●	○
Stroke	○	●
An operation or procedure on your Heart	○	●
Peripheral Artery Disease (PAD)	○	●

I Don't Know

Confirm and Continue

RESULTS

Crestor OTC is not right for you

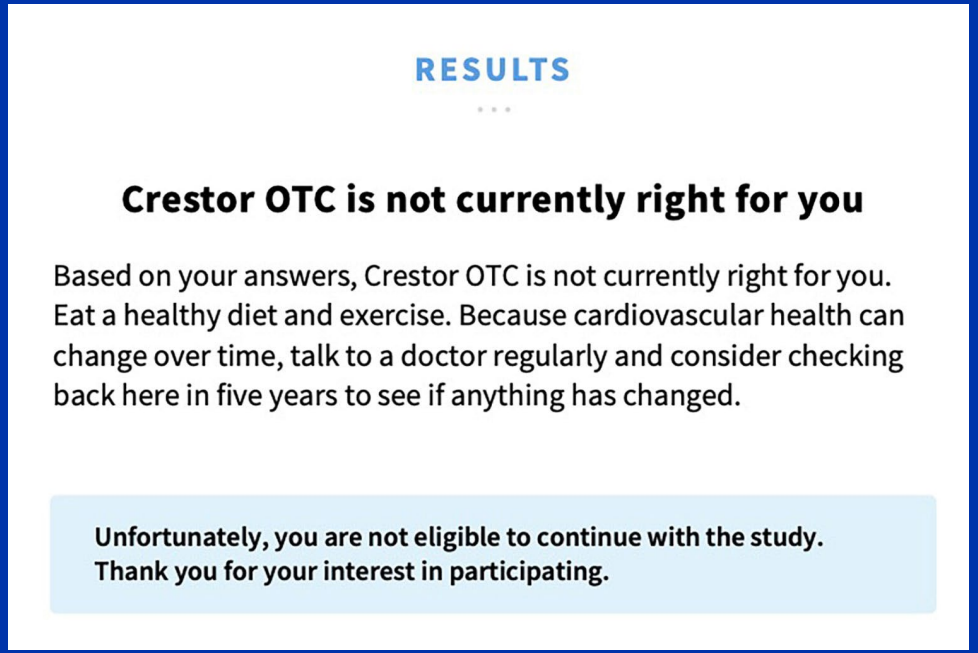
You should talk to a doctor because the following are signs that you may need a **stronger medicine** available only by prescription:

- Heart attacks
- Strokes
- Procedures of the heart
- Peripheral Artery Disease (PAD)

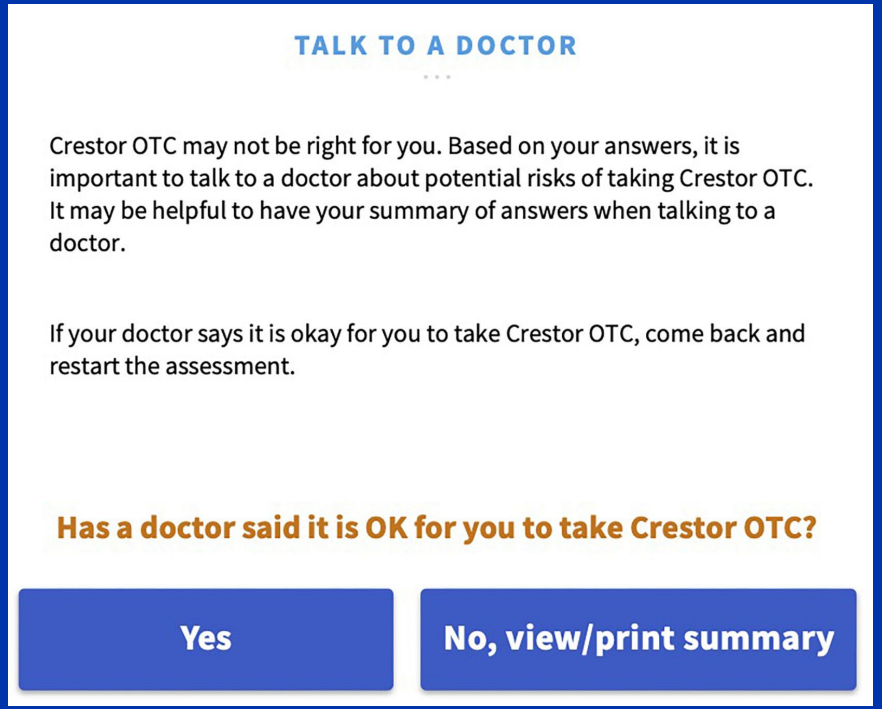
Unfortunately, you are not eligible to continue with the study. Thank you for your interest in participating.

Outcomes Reported to Non-Qualified Participants

Do Not Use



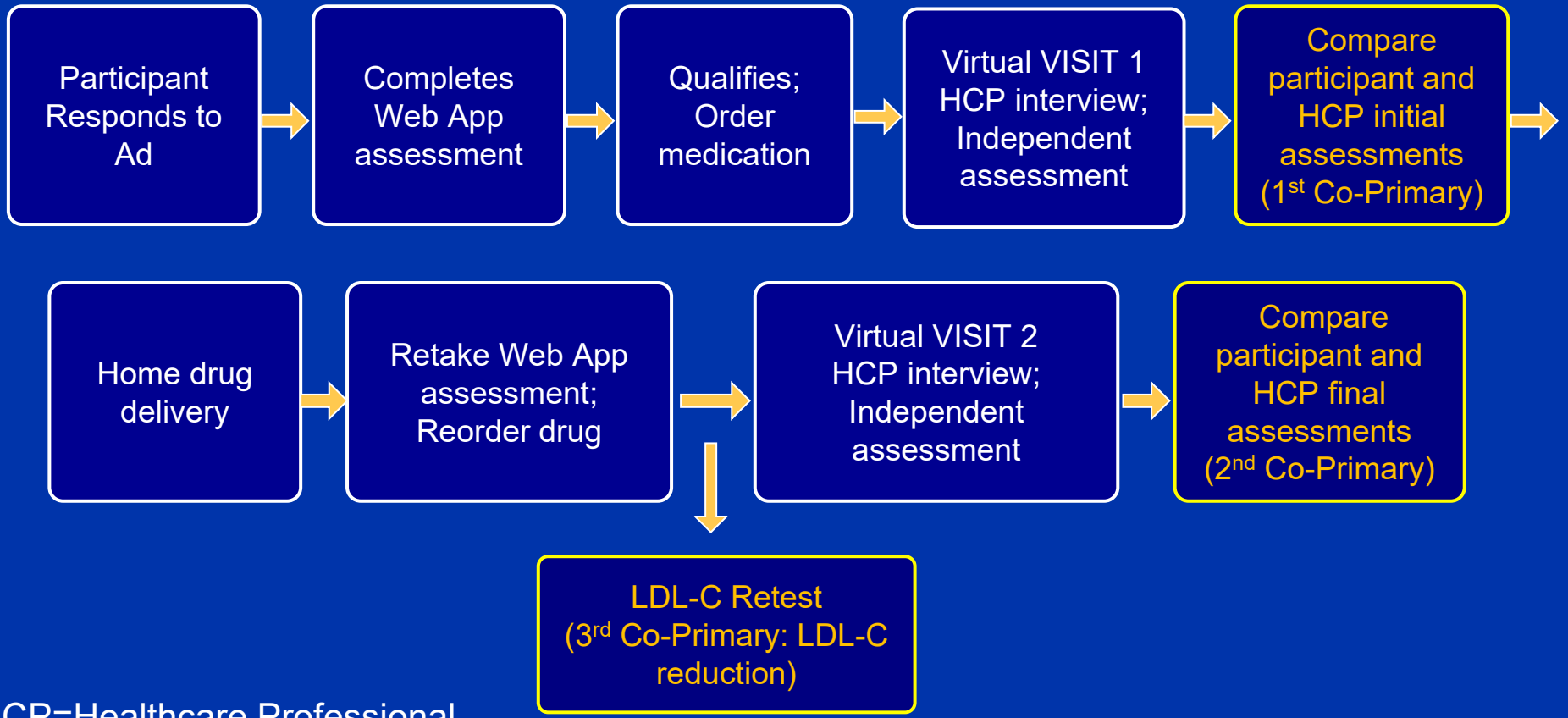
Talk to a Doctor



Selected Inclusion and Exclusion Criteria

- Inclusion:
  - Men or women 20-75 year of age
  - Ability to read and understand English
  - Access to the Internet
- Exclusion:
  - Women of childbearing potential (unless using acceptable method of birth control)
  - Any healthcare professional (physician, nurse, pharmacist, etc.) or ever employed by healthcare company

1196 Participants Enrolled: Co-Primary Endpoints



HCP=Healthcare Professional

1st and 2nd Co-Primary Endpoint Evaluation Process

- Clinicians conducted virtual visit interviews blinded to participant self-selection outcome assessments.
- Separate clinical coding team compared participant and clinician outcomes to determine if they were concordant.
- If the outcomes differed or there was disagreement within the coding team, an adjudication team at the academic coordinating center (C5Research) further assessed concordance.

Statistical Analysis of Co-primary Endpoints

1) Concordance for initial self-selection compared:
   - Success defined as a lower bound of the 95% CI >85%

2) Concordance for final use assessment compared:
   - Success defined as a lower bound of the 95% CI >85%

3) Percent change from baseline in LDL-C determined:
   - Success defined as lower bound of 95% CI < -15%

Baseline Characteristics of Participants (n=1196)

Age (years)	63 years
Male (%)	60.4%
Race	
White	79.3%
Black	11.7%
Hispanic	3.2%
Limited literacy	4.1%

Retired	42.0%
Full-Time	40.6%
Mean LDL-C	139.6 mg/dL
Median systolic BP	130.0 mmHg
Median 10-year risk	10.1%
College or technical school education grad	74%
High school or some college	25.5%

Results: Co-Primary Endpoints

1) Overall concordance between participant and clinician for initial self-selection was 90.7% (95% CI, 88.9 to 92.3).
   - Concordant for “Ok to Use” 80.3%, “Ask a Doctor” in 3.9%, and independently adjudicated as concordant in another 6.5%.

2) Final use assessment was concordant in 98.1% (95% CI, 97.1 to 98.8).
   - Concordant for “OK to Use” 72.4%, “Ask a Doctor” in 1.2%, and independently adjudicated as concordant in another 17.2%.

3) Mean change in LDL-C was -35.5% (95% CI, -36.6 to -34.3).

Secondary Outcomes

- Compliance with retesting of LDL-C was 83.8% for the full population and 92.9% for those qualified at all reassessments.
- Adherence based on pill counts was 95.1% (IQR, 84.6 to 98.9).
- Compliance with ‘Ask a Doctor’ and ‘Do Not Use’ warnings were 83% and 80%, respectively. Instances of noncompliance were not associated with a significant safety risk.
- No participants experienced a “Stop Use” warning.

Most Common Adverse Events

Any Adverse Event	**52.9%**
SARS-CoV-2 positive test	9.6%
Arthralgia	7.0%
Headache	5.4%
Pain in extremity	4.3%
Myalgia	4.1%
Adverse Event Leading to Drug Discontinuation	**7.1%**
Musculoskeletal disorders	3.1%
General disorder	1.1%
Gastrointestinal Disorders	0.8%
Serious Adverse Events (none related to study drug)	**2.3%**

Limitations

- The study was 6 months in duration. It remains uncertain whether self-selection can lead to long term adherence.
- Only participants who could read and understand English and who had internet access were enrolled.
- Other approaches to provide safe access to a nonprescription statin would be required for those who are unable to use technology.

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Conclusions

- In an actual use study of technology assisted self-selection for access to nonprescription rosuvastatin, 90.7% of consumers correctly self-selected for statin use.
- 98.5% demonstrated correct use during the trial.
- Participants had a high level of adherence, 92.9% retesting, and achieved clinically meaningful (35.5%) reduction in LDL-C.
- There were no major safety issues.

C5Research

A Final Thought

With less than half of eligible primary prevention patients receiving statins, innovative approaches to close this treatment gap are needed.

The use of a Web App to qualify for a nonprescription statin has the potential to expand access and reduce subsequent major cardiovascular events.