

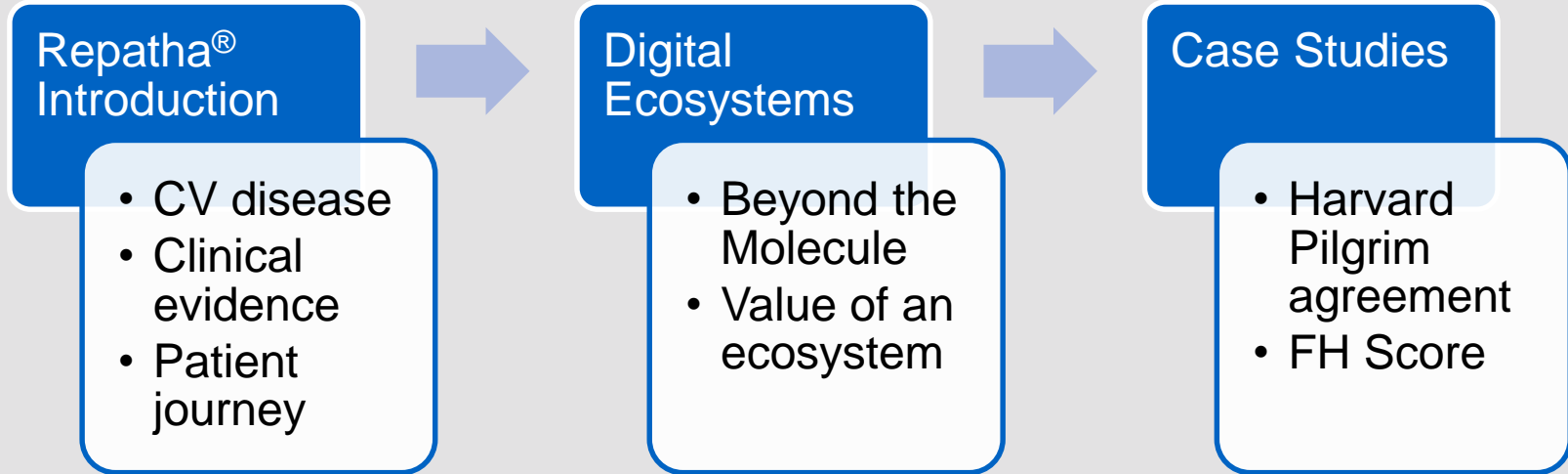


# CREATING A DIGITAL ECOSYSTEM TO SUPPORT REPATHA PATIENTS

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# CREATING AN ECOSYSTEM TO SUPPORT REPATHA® PATIENTS



# CARDIOVASCULAR DISEASE IS ONE OF THE LARGEST PUBLIC HEALTH CONCERNS IN THE WORLD

**#1**

CVDs are the number 1 cause of death globally

**17**

An estimated 17.7 million people died from CVDs in 2015

**31**

31% of all global deaths

**More people die annually from CVDs than from any other cause**

World Health Organization. Cardiovascular diseases (CVDs) fact sheet. <http://www.who.int/mediacentre/factsheets/fs317/en/> Accessed September 2017

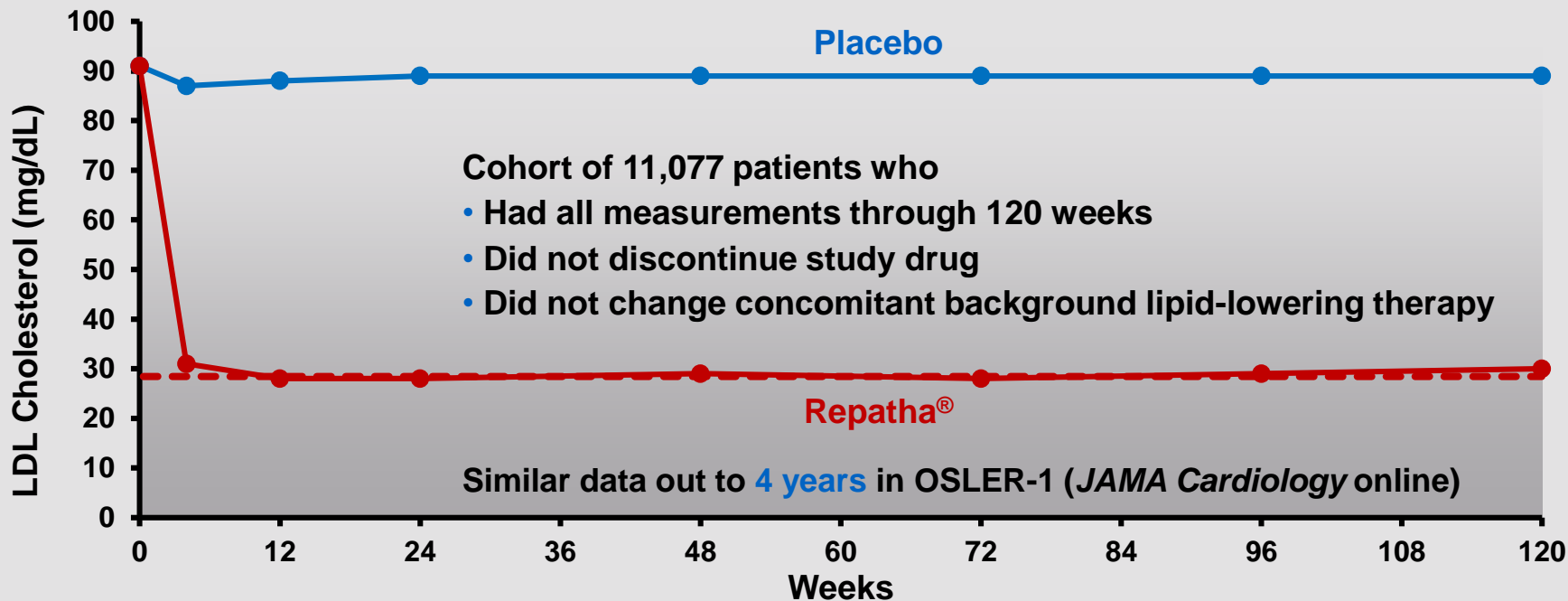
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# REPATHA® IS A PCSK-9 INHIBITOR THAT HELPS THE LIVER CLEAR LDL CHOLESTEROL



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# LANDMARK OUTCOMES STUDY SHOWED THAT REPATHA® DECREASED LDL-C TO UNPRECEDENTED LOW LEVELS...



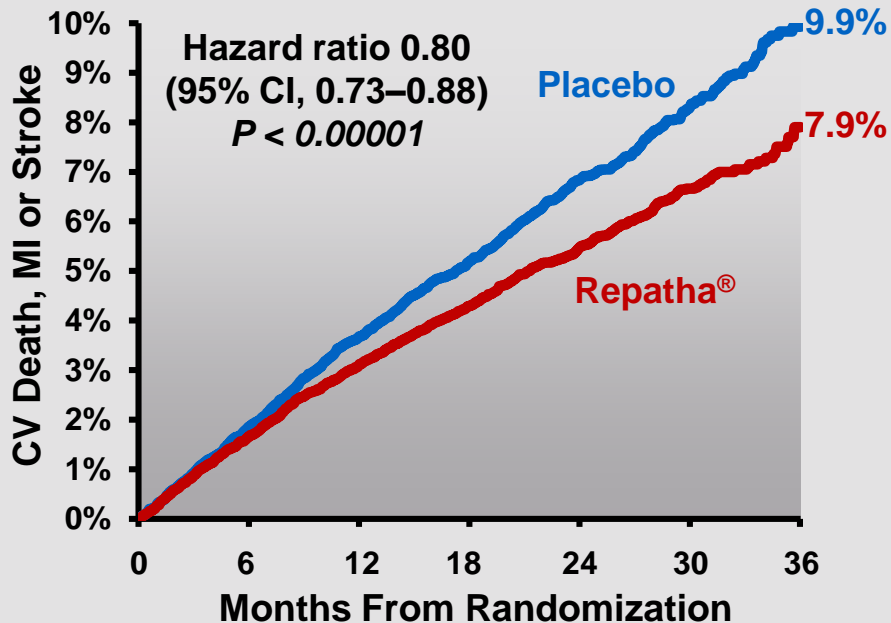
Sabatine MS et al. *New Engl J Med*. 2017. DOI: 10.1056/NEJMoa1615664

LDL-C = low-density lipoprotein cholesterol

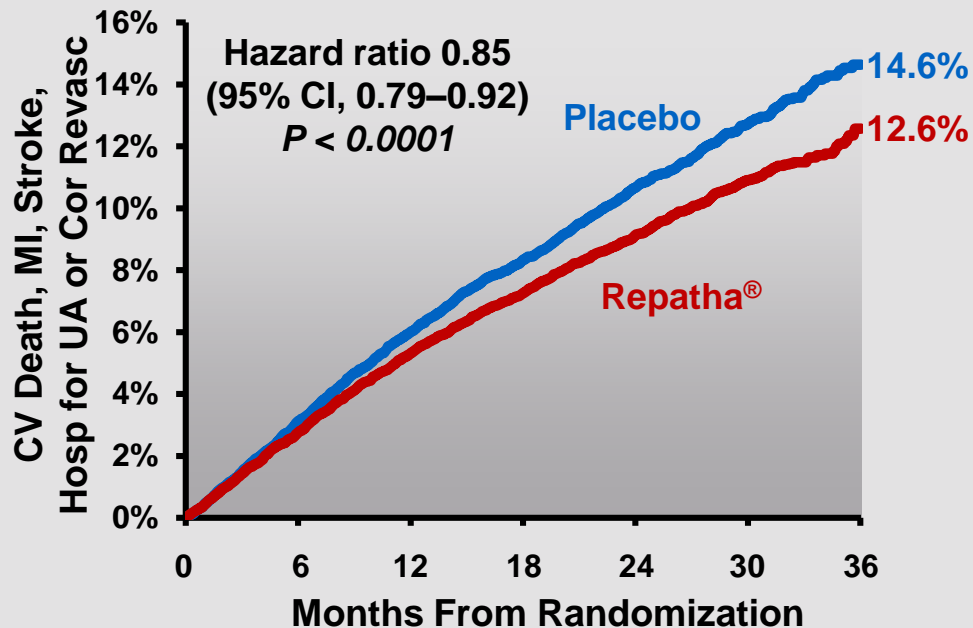
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# ...AND LOWERED THE RISK OF HARD MACE EVENTS BY 20%...

## Hard MACE Composite Endpoint



## Extended MACE Composite Endpoint

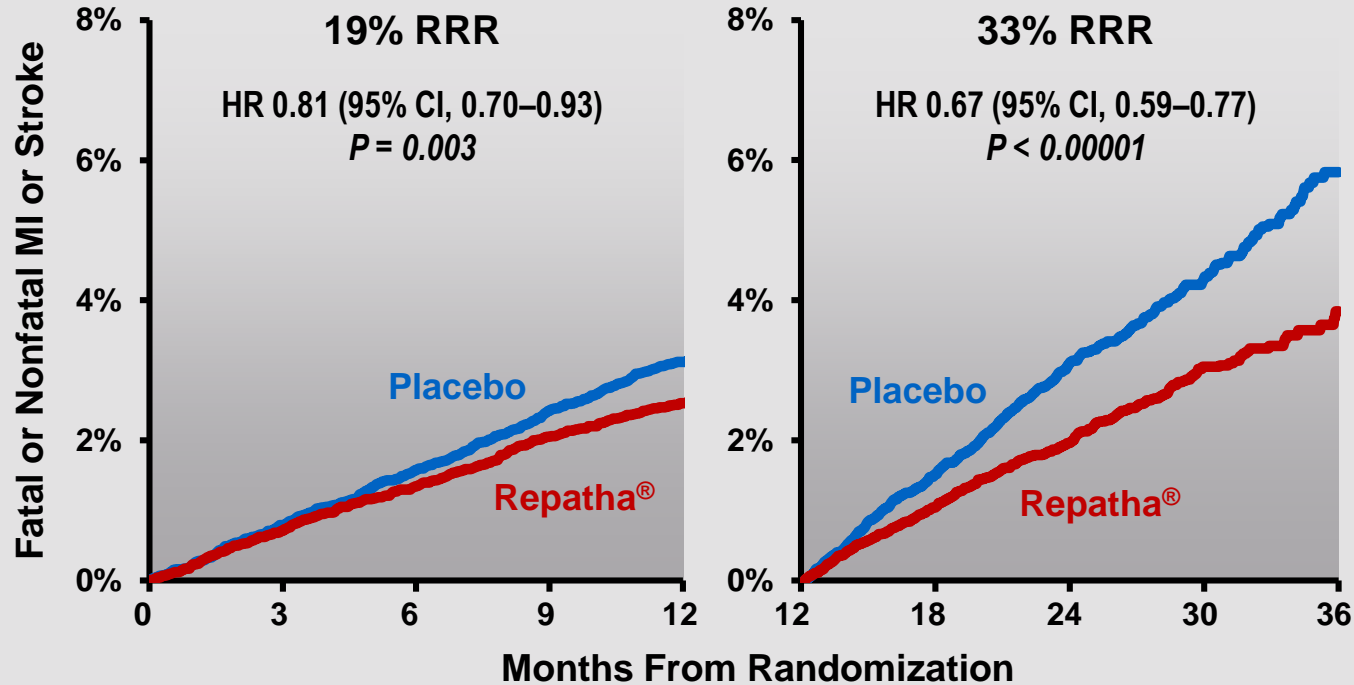


Sabatine MS et al. New Engl J Med. 2017. DOI: 10.1056/NEJMoa1615664

MACE = major adverse cardiac event; CI = confidence interval; CV = cardiovascular; MI = myocardial infarction; UA = unstable angina

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# 33% RRR IN FATAL OR NONFATAL MI OR STROKE BEYOND YEAR 1



Sabatine MS et al. New Engl J Med. 2017. DOI: 10.1056/NEJMoa1615664  
Exploratory analysis, nominal P values

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# AMGEN AND HARVARD PILGRIM HAVE AGREED TO SUPPORT PATIENTS WITH REPATHA®

**First-of-its-kind contract provides a rebate to Harvard Pilgrim for the cost of Repatha® for eligible patients that have a heart attack or stroke while on Repatha-May 2, 2017**



Harvard Pilgrim  
HealthCare

**AMGEN®**

**“...we are looking to pay for interventions that demonstrate value and are effective...That Amgen is willing to go at financial risk for patients with elevated LDL-C who are adherent to Repatha and suffer cardiovascular events shows that they are willing to stand by their data, and that sends a strong positive message to health plans, prescribing physicians and patients.”-Michael Sherman, CMO, Harvard Pilgrim**

Amgen (2017). Amgen And Harvard Pilgrim Agree To First Cardiovascular Outcomes-Based Refund Contract For Repatha® (Evolocumab). [online] Available at: <https://www.prnewswire.com/news-releases/amgen-and-harvard-pilgrim-agree-to-first-cardiovascular-outcomes-based-refund-contract-for-repatha-evolocumab-300449826.html> [Accessed 27 Oct. 2017].



# CASE STUDY: ONLINE SYMPTOM-MONITORING TOOL IMPROVES SURVIVAL FOR METASTATIC CANCER PATIENTS

“Although symptom management is a cornerstone of high-quality cancer care, prior research has shown that doctors miss up to half of patients’ symptoms during cancer treatment” -  
Ethan Basch, MD



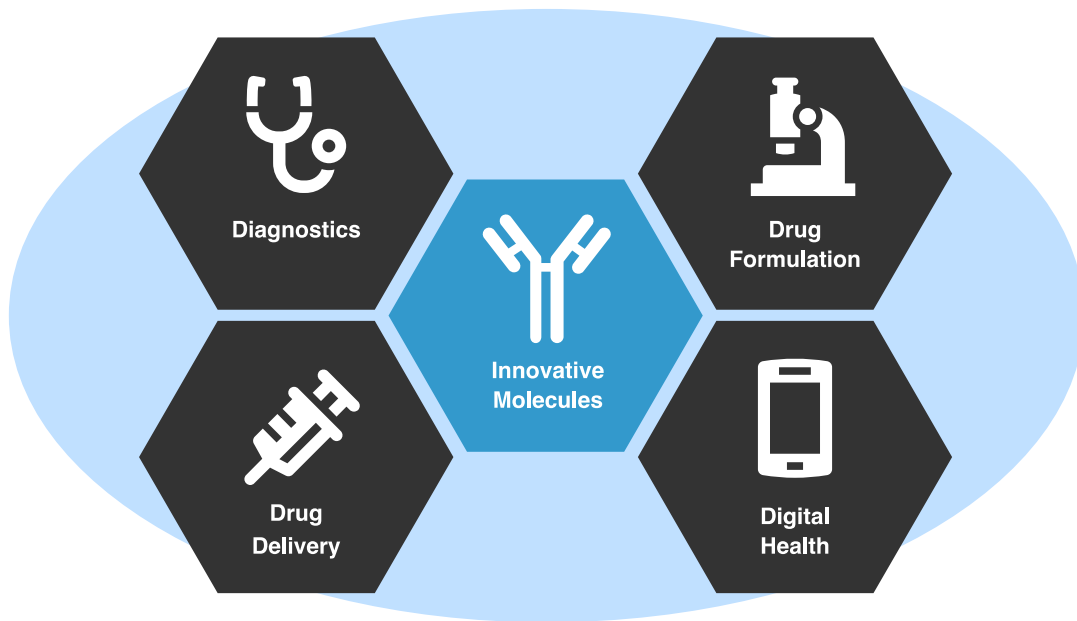
- **Randomized, controlled trial: 10 year study following 776 patients treated with chemotherapy for metastatic cancers**
- **Patient Reported Outcomes and symptoms via a web portal versus standard of care**
- **Five month survivability benefit of the PRO system relative to standard of care**

Basch EM, Deal AM, Dueck AC, et al. Overall survival results of a randomized trial assessing patient-reported outcomes for symptom monitoring during routine cancer treatment. *J Clin Oncol.* 2017;35(suppl; abst LBA2).

# BEYOND THE MOLECULE INNOVATION

“For so long as a company we thought about innovation as our molecules. But what we’ve come to recognize is, that is not enough. We have to be innovative in everything we do... [producing] innovation **beyond the molecule.**”

–Amgen CEO Bob Bradway



# TO SET THE STRATEGY WE MUST HAVE A VISION

## In a perfect world...

- **Every patient that can benefit from Amgen's therapies is identified, prescribed, and remains adherent to achieve the full therapeutic benefit of the product.**
- **The healthcare system fully covers the cost of this care since the benefit and outcome is known *a priori* and confirmed with real world data.**

**What kind of ecosystem is required to support this vision?**

# DIGITAL TOOLS CAN SUPPORT REPATHA® PATIENTS THROUGHOUT THEIR JOURNEY



**Patient Engagement - Communities, Mobile Apps, Voice based Assistants**

**Wearables, Sensors to measure clinical outcomes**

**Decision Support Tools**

**Physician education**

**Adherence tracking and support**

**At-home Diagnostics**

**Support Authorization**

# IDENTIFICATION OF FAMILIAL HYPERCHOLESTEROLEMIA (FH) PATIENTS REMAINS A SIGNIFICANT CHALLENGE

**1/250**

As many as 1/250 people are estimated to have FH<sup>1</sup>

**20x**

Individuals with FH have 20X higher risk of having an early heart attack without treatment<sup>1</sup>

**90%**

90% of people with FH have not been properly diagnosed<sup>1</sup>

**When FH is identified and treated early in life the risk of heart disease is lowered by 80%<sup>2</sup>**

**A digital tool could simplify patient identification**

<sup>1</sup>FH Foundation 2015 Fact Sheet [www.theFHFoundation.org](http://www.theFHFoundation.org)

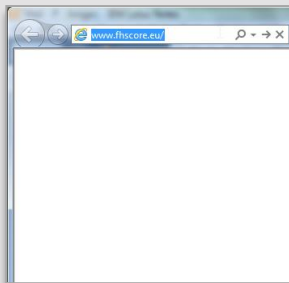
<sup>2</sup>Efficiency of statins in hypercholesterolemia: a long term cohort study. Bmj 2008; 337. Vermissen et al.

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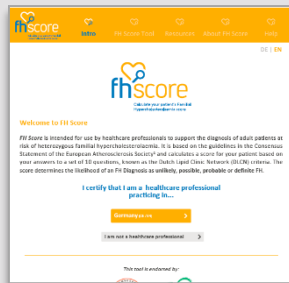
# FHSCORE IS A CLINICAL DIAGNOSTIC SUPPORT TOOL OF FH IN ADULTS

- Based on the Dutch Lipid Clinic Network (DLCN) criteria, recommended by the EAS
- A CE marked Medical Device (Class 1)
- [www.fhscore.eu](http://www.fhscore.eu)

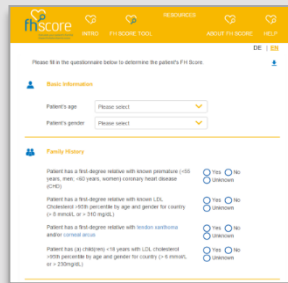
Accessible through a web browser



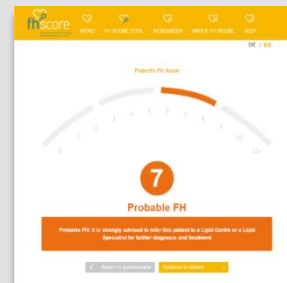
Landing Page HCP Attestation



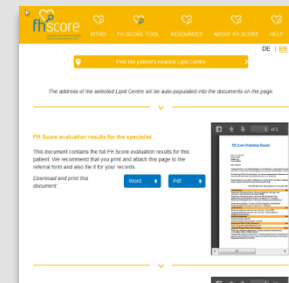
FH Questionnaire



FH Score Results



Referral



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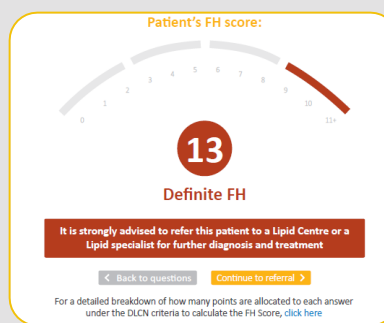
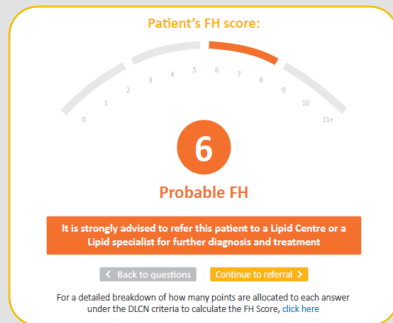
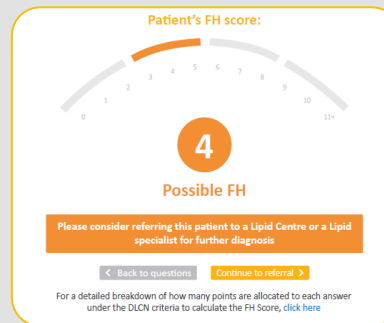
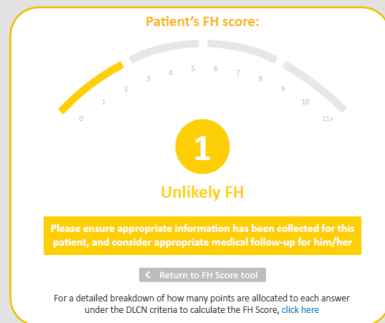
# THE PHYSICIAN ENTERS THE PATIENT'S DATA INTO THE DLCN BASED QUESTIONNAIRE...

The screenshot shows the FH Score questionnaire interface. At the top, there is a navigation bar with the 'fh score' logo and links for 'INTRO', 'FH SCORE TOOL', 'ABOUT FH SCORE', and 'HELP'. Below the navigation bar, the user is prompted to 'Please fill in the questionnaire below to determine the patient's FH Score'. The questionnaire is divided into several sections: 'Basic Information' with dropdown menus for 'Patient's age' and 'Patient's gender'; 'Family History' with questions about first-degree relatives with premature coronary heart disease (CHD), LDL cholesterol levels, and lens/arcus; 'Clinical History' with questions about premature CHD and cerebral/peripheral vascular disease; 'Physical Examination' with questions about lens/arcus and corneal arcus; and 'Molecular Genetic Testing (DNA Analysis)' with a dropdown menu for 'Please select a value'. A 'Calculate FH Score' button is located at the bottom right of the questionnaire.

- Family history
- Clinical history
- **Physical examination** of the patient
- **Biochemical and Molecular genetic testing** results where available.

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# ...AND RECEIVES A SCORE REPRESENTING THE LIKELIHOOD OF FH FOR THE PATIENT...



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# AMGEN'S MISSION IS TO SERVE PATIENTS



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