Amgen Highlights Data To Be Presented At AHA 2019 Across Cardiovascular Portfolio

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New Analyses From the Landmark Repatha® (Evolocumab) FOURIER Cardiovascular Outcomes Study Evaluate Clinical Efficacy and Outcomes in Diverse High-Risk Patient Populations

New Phase 2 Data From Omecamtiv Mecarbil COSMIC-HF Study to be Presented in Oral Session

THOUSAND OAKS, Calif., Nov. 11, 2019 /PRNewswire/ -- Amgen (NASDAQ:AMGN) today announced that new data from its cardiovascular portfolio will be presented at the American Heart Association (AHA) Scientific Sessions 2019 in Philadelphia, Nov. 16-18. This includes new clinical and real-world studies that provide further evidence of the benefits of intensive lipid-lowering therapy with Repatha® (evolocumab) as well as new data for omecamtiv mecarbil, a novel selective cardiac myosin activator being developed for the treatment of heart failure with reduced ejection fraction (HFrEF).

"The Amgen clinical and real-world data being presented at AHA highlights our ongoing commitment to further the cardiovascular community's understanding of Repatha's role in lowering high LDL-C, one of the most important modifiable risk factors associated with an increased risk of heart attack,"[1] said David M. Reese, M.D., executive vice president of Research and Development at Amgen. "In addition, we look forward to presenting data that showcases the potential of omecamtiv mecarbil for the treatment of heart failure. Despite advances in care over the years, 50% of people diagnosed with heart failure will die within five years of initial hospitalization so continued advancements are needed in this area."[2,3]

Notable data from the Company's cardiovascular (CV) portfolio include two new analyses from the Repatha cardiovascular outcomes (FOURIER) study evaluating the efficacy and safety of Repatha in patients with a recent heart attack, and the impact of low-density lipoprotein cholesterol (LDL-C) lowering with Repatha on cognitive function. In addition, a new post-hoc analysis from the Phase 2 clinical trial, COSMIC-HF, evaluated the effects of omecamtiv mecarbil on diastolic function.

Real-world Evidence Shows Need for More Intensive Treatment in High-Risk Patients

Amgen is presenting the results of nine real-world data analyses, including results from the GOULD (Getting to an imprOved Understanding of Low-Density lipoprotein cholesterol and dyslipidemia management) registry, a prospective cohort of approximately 5,000 atherosclerotic cardiovascular disease (ASCVD) patients with LDL-C above 70 mg/dL across 119 sites in the U.S. These results demonstrate that a large proportion of patients with a prior myocardial infarction (MI) do not receive optimal secondary prevention therapy. Results from GOULD also highlight gender differences in the use of high-intensity statins as well as limited intensification of lipid lowering therapy over one year of follow up in this ASCVD population with elevated LDL-C.

A list of Amgen-sponsored abstracts at AHA 2019 can be found online and below:

Omecamtiv Mecarbil clinical data

- **The Effect of the Cardiac Myosin Activator, Omecamtiv Mecarbil, on Diastolic Filling and Function in Chronic Systolic Heart Failure (COSMIC-HF)**
  Monday, Nov. 18, 2:45-2.50 p.m. ET

Repatha clinical data

- **Impact of Lowering LDL-C With Evolocumab on Everyday Cognition in Participants From the FOURIER Trial**
  Saturday, Nov. 16, 4:30-5 p.m. ET
- **Effect of Evolocumab on Non-high-density Lipoprotein Cholesterol and Apolipoprotein B Levels: An Analysis of Double-blind and Open-label Extension Studies**
  Saturday, Nov. 16, 4:30-5 p.m. ET
- **Use of a Genetic Risk Score to Predict Coronary and Vascular Events and Benefit From Evolocumab Therapy in Patients With Atherosclerotic Disease From the FOURIER Trial**
  Sunday, Nov. 17, 9:19-9:25 a.m. ET
- **Evolocumab and Cardiovascular Outcomes in Patients With Recent Myocardial Infarction: Analysis From FOURIER**
  Monday, Nov. 18, 11:30 a.m.-12 p.m. ET

Real world treatment patterns

- **Patient Perspectives on Cholesterol Lowering Therapies Among Those Who Report Statin-associated Adverse Events. Results From a National Survey in the Getting to an Improved Understanding of Low-density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD) Registry**
  Sunday, Nov. 17, 3-3:30 p.m. ET
- **Utilization of Cholesterol-lowering Therapies in Patients With Chronic Kidney Disease and Atherosclerotic Cardiovascular Disease (ASCVD). Results From a National Survey in the Getting to an Improved Understanding of Low-density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD) Registry**
  Sunday, Nov. 17, 3-3:30 p.m. ET
- **Does the Intensity of Lipid-Lowering Therapy Vary by Sex in the United States? Insights From Getting to an**

Improved Understanding of Low-Density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD): A Registry of High Cardiovascular Risk Patients in the United States
Sunday, Nov. 17, 3-3:30 p.m. ET

- **Use of Guideline-Recommended Risk-Reduction Strategies Among Patients With Prior MI: Insights From Getting to an Improved Understanding of Low-Density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD)**
  Sunday, Nov. 17, 3-3:30 p.m. ET
- **Is Lipid-Lowering Therapy Being Intensified in the United States?: Primary, One-year Results of the Getting to an Improved Understanding of Low-density Lipoprotein Cholesterol and Dyslipidemia Management (GOULD) Registry of Patients With Atherosclerotic Cardiovascular Disease (ASCVD)**
  Sunday, Nov. 17, 3-3:30 p.m. ET
- **LDL-C Values and Lipid-Lowering Therapy Utilization Among Medicare Beneficiaries With a Recent Myocardial Infarction**
  Monday, Nov. 18, 1:30-2 p.m. ET

Identification of high-risk subpopulations

- **Agreement Among Four Methods For Identifying Patients With FH In A Large Healthcare System**
  Saturday, Nov. 16, 4:30-5 p.m. ET

Real-world LDL measurement and goal achievement

- **Low-Density Lipoprotein-Cholesterol Lowering in Real-World Patients Treated With Evolocumab**
  Sunday, Nov. 17, 3-3:30 p.m. ET
- **Lipid testing trends in the U.S. before and after the release of the 2013 ACC/AHA Cholesterol Guidelines**
  Monday, Nov. 18, 1:30-2 p.m. ET

Burden of Cardiovascular Disease
Cardiovascular disease (CVD) remains one of the most pressing public health issues in the U.S., with someone in the country experiencing a heart attack every 40 seconds.[4] LDL-C, also known as bad cholesterol, is one of the most important modifiable risk factors for having a heart attack.[5,6] About seven out of 10 adults in the U.S. with CVD have elevated LDL-C, despite optimal lipid-lowering treatment.[7] Additionally, 43% of patients who have had a CV event, such as heart attack, will have at least one new event within two years.[8,9] Professional guidelines around the world, including the American Heart Association, the American College of Cardiology and the European Society of Cardiology call for more intensive reduction of LDL-C.[10,11] The guidelines confirm the lower the LDL-C value, the lower the risk of future CV events for patients with CVD, and recommend intensive lipid-lowering treatment for very high-risk patients.

About the Repatha Cardiovascular Outcomes (FOURIER) Study
FOURIER (Further cardiovascular OUtcomes Research with PCSK9 Inhibition in Subjects with Elevated Risk), a multinational Phase 3 randomized, double-blind, placebo-controlled trial, is designed to evaluate whether treatment with Repatha in combination with statin therapy compared to placebo plus statin therapy reduces cardiovascular events. The primary endpoint is the time to cardiovascular death, myocardial infarction, stroke, hospitalization for unstable angina, or coronary revascularization. The key secondary endpoint is the time to cardiovascular death, myocardial infarction or stroke.

Eligible patients with high cholesterol (LDL-C ≥70 mg/dL or non-high-density lipoprotein cholesterol [non-HDL-C] ≥100 mg/dL) and clinically evident ASCVD at more than 1,300 study locations around the world were randomized to receive Repatha subcutaneous 140 mg every two weeks or 420 mg monthly plus effective statin dose; or placebo subcutaneous every two weeks or monthly plus effective statin dose. Optimized statin therapy was defined as at least atorvastatin 20 mg or equivalent daily with a recommendation for at least atorvastatin 40 mg or equivalent daily where approved. The study was event-driven and continued until at least 1,630 patients experienced a key secondary endpoint.

FOURIER is part of Amgen's PROFICIO (Program to Reduce LDL-C and cardiovascular Outcomes Following Inhibition of PCSK9 In different pOpulations) program of clinical studies investigating the impact of Repatha on LDL-C and CVD across multiple populations at high cardiovascular risk, including those managed by statins, statin-intolerant patients, those with genetic disorders and patients with atherosclerosis. To date, the PROFICIO program consists of 36 trials including more than 38,000 patients worldwide.

GOULD Study Design
Getting to an ImprOved Understanding of Low-Density Lipoprotein and Dyslipidemia Management (GOULD) Registry is a multicenter, observational registry of ASCVD patients, to describe LDL-C treatment patterns in the U.S. and track them over time. This registry and subsequent analysis sought to better understand the adaptability of lipid management guidelines for patients with ASCVD.

From December 2016 to April 2018, interactive phone surveys with the lead physicians from each of the 120 U.S. centers participating in the registry (1 physician from each center) and patients (N=5,006) were conducted. Patients with ASCVD receiving any pharmacological lipid-lowering therapy were eligible for enrollment in 1 of 3 cohorts: 1) currently receiving a PCSK9i antibody, 2) no PCSK9i and LDL-C 70-99 mg/dL, and 3) no PCSK9i and LDL-C ≥ 100 mg/dL. Patients underwent a 1-year retrospective chart review, followed by chart reviews and interviews every 6 months for 2 years.

About Omecamtiv Mecarbil and the Phase 3 Clinical Trials Program
Omecamtiv mecarbil is a novel, selective cardiac myosin activator, also known as a cardiac myotrope[12], that binds to the catalytic domain of myosin. Preclinical research has shown that cardiac myotropes increase cardiac contractility without affecting intracellular myocyte calcium concentrations or myocardial oxygen consumption.[13-15] Cardiac myosin is the cytoskeletal motor protein in the cardiac muscle cell that is directly responsible for converting chemical energy into the mechanical force resulting in cardiac contraction.

Omecamtiv mecarbil is being developed for the potential treatment of heart failure with reduced ejection fraction (HFrEF) under a collaboration between Amgen and Cytokinetics, with funding and strategic support from Servier. Omecamtiv mecarbil is the subject of a comprehensive Phase 3 clinical trials program comprised of GALACTIC-HF (Global Approach to Lowering Adverse Cardiac Outcomes Through Improving Contractility in Heart Failure), a large, Phase 3 global cardiovascular outcomes study and METEORIC-HF (Multicenter Exercise Tolerance Evaluation of Omecamtiv Mecarbil Related to Increased Contractility in Heart Failure), a Phase 3 clinical trial designed to evaluate the effect of treatment with omecamtiv mecarbil compared to placebo on exercise capacity.

About Repatha® (evolocumab)
Repatha is a human monoclonal antibody that inhibits proprotein convertase subtilisin/kexin type 9 (PCSK9). Repatha binds to PCSK9 and inhibits circulating PCSK9 from binding to the low-density lipoprotein (LDL) receptor (LDLR), preventing PCSK9-mediated LDLR degradation and permitting LDLR to recycle back to the liver cell surface. By inhibiting the binding of PCSK9 to LDLR, Repatha increases the number of LDLRs available to clear LDL from the blood, thereby lowering LDL-C levels.[16]

Repatha is approved in more than 70 countries, including the U.S., Japan, Canada and in all 28 countries that are members of the European Union. Applications in other countries are pending.

Important U.S. Product Information
Repatha is a PCSK9 (proprotein convertase subtilisin/kexin type 9) inhibitor antibody indicated:

- to reduce the risk of myocardial infarction, stroke, and coronary revascularization in adults with established cardiovascular disease.
- as an adjunct to diet, alone or in combination with other lipid-lowering therapies (e.g., statins, ezetimibe), for treatment of adults with primary hyperlipidemia (including heterozygous familial hypercholesterolemia [HeFH]) to reduce low-density lipoprotein cholesterol (LDL-C).
- as an adjunct to diet and other LDL-lowering therapies (e.g., statins, ezetimibe, LDL apheresis) in patients with homozygous familial hypercholesterolemia (HoFH) who require additional lowering of LDL-C.

The safety and effectiveness of Repatha have not been established in pediatric patients with HoFH who are younger than 13 years old or in pediatric patients with primary hyperlipidemia or HeFH.

Important U.S. Safety Information
Contraindication: Repatha is contraindicated in patients with a history of a serious hypersensitivity reaction to Repatha. Serious hypersensitivity reactions including angioedema have occurred in patients treated with Repatha.

Allergic reactions: Hypersensitivity reactions (e.g. angioedema, rash, urticaria) have been reported in patients treated with Repatha, including some that led to discontinuation of therapy. If signs or symptoms of serious allergic reactions occur, discontinue treatment with Repatha, treat according to the standard of care, and monitor until signs and symptoms resolve.

Adverse reactions: The most common adverse reactions (>5% of patients treated with Repatha and occurring more frequently than placebo) were: nasopharyngitis, upper respiratory tract infection, influenza, back pain, and injection site reactions.

From a pool of the 52-week trial and seven 12-week trials: Local injection site reactions occurred in 3.2% and 3.0% of Repatha-treated and placebo-treated patients, respectively. The most common injection site reactions were erythema, pain, and bruising.

Allergic reactions occurred in 5.1% and 4.7% of Repatha-treated and placebo-treated patients, respectively. The most common allergic reactions were rash (1.0% versus 0.5% for Repatha and placebo, respectively), eczema (0.4% versus 0.2%), erythema (0.4% versus 0.2%), and urticaria (0.4% versus 0.1%).

The most common adverse reactions in the Cardiovascular Outcomes Trial (>5% of patients treated with Repatha and occurring more frequently than placebo) were: diabetes mellitus (8.8% Repatha, 8.2% placebo), nasopharyngitis (7.8% Repatha, 7.4% placebo), and upper respiratory tract infection (5.1% Repatha, 4.8% placebo).

Among the 16,676 patients without diabetes mellitus at baseline, the incidence of new-onset diabetes mellitus during the trial was 8.1% in patients assigned to Repatha compared with 7.7% in those assigned to placebo.

Homozygous Familial Hypercholesterolemia (HoFH): The adverse reactions that occurred in at least two patients treated with Repatha and more frequently than placebo were: upper respiratory tract infection, influenza, gastroenteritis, and nasopharyngitis.

Immunogenicity: Repatha is a human monoclonal antibody. As with all therapeutic proteins, there is a potential for immunogenicity with Repatha.

Please contact Amgen Medinfo at 800-77-AMGEN (800-772-6436) or 844-REPATHA (844-737-2842) regarding Repatha® availability or find more information, including full Prescribing Information, at www.amgen.com and www.Repatha.com.

About Amgen in the Cardiovascular Therapeutic Area
Building on more than three decades of experience in developing biotechnology medicines for patients with serious illnesses, Amgen is dedicated to addressing important scientific questions to advance care and improve the lives of patients with cardiovascular disease, the leading cause of morbidity and mortality worldwide.[17] Amgen's research into cardiovascular disease, and potential treatment options, is part of a growing competency at Amgen that utilizes human genetics to identify and validate certain drug targets. Through its own research and development efforts, as well as partnerships, Amgen is building a robust cardiovascular portfolio consisting of several approved and investigational molecules in an effort to address a number of today's important unmet patient needs, such as high cholesterol and heart failure.

About Amgen
Amgen is committed to unlocking the potential of biology for patients suffering from serious illnesses by discovering, developing, manufacturing and

delivering innovative human therapeutics. This approach begins by using tools like advanced human genetics to unravel the complexities of disease and understand the fundamentals of human biology.

Amgen focuses on areas of high unmet medical need and leverages its biologics manufacturing expertise to strive for solutions that improve health outcomes and dramatically improve people's lives. A biotechnology pioneer since 1980, Amgen has grown to be the world's largest independent biotechnology company, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

For more information, visit www.amgen.com and follow us on www.twitter.com/amgen.

Forward-Looking Statements
This news release contains forward-looking statements that are based on the current expectations and beliefs of Amgen. All statements, other than statements of historical fact, are statements that could be deemed forward-looking statements, including any statements on the outcome, benefits and synergies of the acquisition of Otezla® (apremilast) , including anticipated Otezla sales growth and the timing of non-GAAP EPS accretion, as well as estimates of revenues, operating margins, capital expenditures, cash, other financial metrics, expected legal, arbitration, political, regulatory or clinical results or practices, customer and prescriber patterns or practices, reimbursement activities and outcomes and other such estimates and results. Forward-looking statements involve significant risks and uncertainties, including those discussed below and more fully described in the Securities and Exchange Commission reports filed by Amgen, including our most recent annual report on Form 10-K and any subsequent periodic reports on Form 10-Q and current reports on Form 8-K. Unless otherwise noted, Amgen is providing this information as of the date of this news release and does not undertake any obligation to update any forward-looking statements contained in this document as a result of new information, future events or otherwise.

No forward-looking statement can be guaranteed and actual results may differ materially from those we project. Discovery or identification of new product candidates or development of new indications for existing products cannot be guaranteed and movement from concept to product is uncertain; consequently, there can be no guarantee that any particular product candidate or development of a new indication for an existing product will be successful and become a commercial product. Further, preclinical results do not guarantee safe and effective performance of product candidates in humans. The complexity of the human body cannot be perfectly, or sometimes, even adequately modeled by computer or cell culture systems or animal models. The length of time that it takes for us to complete clinical trials and obtain regulatory approval for product marketing has in the past varied and we expect similar variability in the future. Even when clinical trials are successful, regulatory authorities may question the sufficiency for approval of the trial endpoints we have selected. We develop product candidates internally and through licensing collaborations, partnerships and joint ventures. Product candidates that are derived from relationships may be subject to disputes between the parties or may prove to be not as effective or as safe as we may have believed at the time of entering into such relationship. Also, we or others could identify safety, side effects or manufacturing problems with our products, including our devices, after they are on the market.

Our results may be affected by our ability to successfully market both new and existing products domestically and internationally, clinical and regulatory developments involving current and future products, sales growth of recently launched products, competition from other products including biosimilars, difficulties or delays in manufacturing our products and global economic conditions. In addition, sales of our products are affected by pricing pressure, political and public scrutiny and reimbursement policies imposed by third-party payers, including governments, private insurance plans and managed care providers and may be affected by regulatory, clinical and guideline developments and domestic and international trends toward managed care and healthcare cost containment. Furthermore, our research, testing, pricing, marketing and other operations are subject to extensive regulation by domestic and foreign government regulatory authorities. Our business may be impacted by government investigations, litigation and product liability claims. In addition, our business may be impacted by the adoption of new tax legislation or exposure to additional tax liabilities. If we fail to meet the compliance obligations in the corporate integrity agreement between us and the U.S. government, we could become subject to significant sanctions. Further, while we routinely obtain patents for our products and technology, the protection offered by our patents and patent applications may be challenged, invalidated or circumvented by our competitors, or we may fail to prevail in present and future intellectual property litigation. We perform a substantial amount of our commercial manufacturing activities at a few key facilities, including in Puerto Rico, and also depend on third parties for a portion of our manufacturing activities, and limits on supply may constrain sales of certain of our current products and product candidate development. We rely on collaborations with third parties for the development of some of our product candidates and for the commercialization and sales of some of our commercial products. In addition, we compete with other companies with respect to many of our marketed products as well as for the discovery and development of new products. Further, some raw materials, medical devices and component parts for our products are supplied by sole third-party suppliers. Certain of our distributors, customers and payers have substantial purchasing leverage in their dealings with us. The discovery of significant problems with a product similar to one of our products that implicate an entire class of products could have a material adverse effect on sales of the affected products and on our business and results of operations. Our efforts to collaborate with or acquire other companies or products and to integrate the operations of companies or in support of products we have acquired may not be successful. A breakdown, cyberattack or information security breach could compromise the confidentiality, integrity and availability of our systems and our data. Our stock price is volatile and may be affected by a number of events. Our business performance could affect or limit the ability of our Board of Directors to declare a dividend or our ability to pay a dividend or repurchase our common stock. We may not be able to access the capital and credit markets on terms that are favorable to us, or at all.

The scientific information discussed in this news release related to our product candidates is preliminary and investigative. Such product candidates are not approved by the U.S. Food and Drug Administration, and no conclusions can or should be drawn regarding the safety or effectiveness of the product candidates. Further, any scientific information discussed in this news release relating to new indications for our products is preliminary and investigative and is not part of the labeling approved by the U.S. Food and Drug Administration for the products. The products are not approved for the investigational use(s) discussed in this news release, and no conclusions can or should be drawn regarding the safety or effectiveness of the products for these uses.

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