



Amgen Enters Groundbreaking Collaboration To Improve Symptom Management During Cancer Treatment

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Public-Private Partnership Aims to Connect Underserved Cancer Patients to Enhanced Symptom Management Support Through the Use of Connected Technologies

THOUSAND OAKS, Calif., May 23, 2018 /PRNewswire/ -- Amgen (NASDAQ:AMGN) today announced a groundbreaking collaboration with the National Cancer Institute (NCI), the Federal Communications Commission (FCC) Connect2Health Task Force, the University of Kentucky (UK) Markey Cancer Center and the University of California, San Diego (UCSD) Design Lab to support the improvement of cancer outcomes. The L.A.U.N.C.H. (Linking & Amplifying User-Centered Networks through Connected Health) program will use human-centered design methodologies to identify the needs of patients, caregivers and healthcare providers. The program will use these insights to develop and deliver a connected solution for patients to be able to better manage their cancer symptoms. While the project will initially be focused on underserved populations in rural, Appalachian Kentucky, the goal is for it to serve as a model for future symptom management projects across the nation.

"Amgen is excited to be a part of this multi-partner collaboration that taps into the expertise of many cross-functional partners who all have a shared goal of improved cancer outcomes," said Peter Juhn, M.D., vice president of Global Value-Based Partnerships at Amgen. "What sets this project apart is that we will bring together human-centered design and digital health technologies, enabled by better connectivity, to help improve cancer outcomes through better symptom management."

According to the Centers for Disease Control and Prevention, Americans living in rural areas are more likely to die of cancer than their counterparts in urban settings, which sets them apart from the many communities nationwide that have experienced a 20 percent decrease in cancer mortality over the past two decades.^{1,2} In Appalachia, the cancer picture is bleaker than in other rural parts of the country. Research from University of Virginia School of Medicine has shown that between 1969 and 2011, cancer incidence declined in every region of the country except rural Appalachia, and mortality rates soared.³

"Kentucky leads the nation in cancer incidence, and it's our responsibility here at UK and the Markey Cancer Center to help reduce the burden of cancer on our citizens," said Robin Vanderpool, associate professor in the UK College of Public Health and director of Community Outreach and Engagement at Markey. "This unique collaboration will allow us to connect an underserved population to resources that can help patients manage the symptoms that accompany cancer treatment and beyond, ultimately leading to an improved quality of life."

Initial analysis of broadband data shows that these rural "cancer hotspots" also face major gaps in broadband access and adoption, often putting promising connected care solutions far out of reach.

"The quality, length, and even value of life should not be determined by where you happen to be born or live," said Michele Ellison, chair of the Connect2HealthFCC Task Force. "And yet that's exactly what's happening. Nowhere is this more acutely felt than in the rural parts of our country. Too many rural Americans suffer with late cancer diagnoses, unrelenting symptoms, and inadequate access to care."

"When patients report symptoms electronically to their care providers they are almost twice as likely to report improvements in health-related quality of life as those without broadband access," said Bradford Hesse, Ph.D., chief, Health Communication and Informatics Research Branch, NCI. "Electronically connected patients are also less likely to be admitted to the emergency room and have greater survival rates."

The collaboration will also benefit from the human-centered design expertise of the UCSD Design Lab. Human-centered design is especially well suited for addressing the complex issue of cancer care. "By understanding what patients, providers, and caregivers need to better manage cancer symptoms, and by providing them with the mechanism to co-create and customize their own solutions, we anticipate they will experience meaningful care on their own terms and have improved outcomes," said Eliah Aronoff-Spencer, professor in the UCSD School of Medicine.

About L.A.U.N.C.H.

The President's Cancer Panel report, Improving Cancer-Related Outcomes with Connected Health (<https://prescancerpanel.cancer.gov/report/connectedhealth/Part2Obj4.html>), urged more cross-sector collaboration among those in the healthcare, biomedical research, and technology fields as essential to the future of cancer care. Consistent with this blueprint, the multi-year, cross sector L.A.U.N.C.H. project will focus on how broadband connectivity can be leveraged to improve symptom management for rural cancer patients, presenting a compelling case for greater deployment and adoption of broadband in rural areas. Symptom management is one of the key priorities of the 2016 Blue Ribbon Panel (<https://www.cancer.gov/research/key-initiatives/moonshot-cancer-initiative/blue-ribbon-panel>), a group of scientific experts created in connection with the Moonshot Cancer Initiative to advise the National Cancer Advisory Board.

Additional information about an FCC-NCI memorandum and the broadband health demonstration project is available online at <https://www.fcc.gov/health/cancer>. Information about "critical need" counties at the intersection of broadband and health is available at <https://www.fcc.gov/health/maps/priority-and-ruralpriority-2017>.

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 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 one of the world's leading independent biotechnology companies, has reached millions of patients around the world and is developing a pipeline of medicines with breakaway potential.

As a collaborative partner within the healthcare system, Amgen believes that engaging in value-based programs with stakeholders creates mutually

beneficial opportunities to improve costs, quality of care and the patient experience.

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 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. 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. We or others could identify safety, side effects or manufacturing problems with our products, including our devices, after they are on the market. 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. 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. Discovery or identification of new product candidates cannot be guaranteed and movement from concept to product is uncertain; consequently, there can be no guarantee that any particular product candidate will be successful and become a commercial product. 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 acquire other companies or products and to integrate the operations of companies 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.

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