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Novartis and Amgen highlight findings from a large global patient survey revealing that worldwide approximately 60% of employed people with migraine missed, on average, a week of work in a month

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- - The My Migraine Voice survey involved more than 11,000 people globally, 10% of which were from the US, and highlights urgent need for better care for benefit of patients and society
- - In the US, patients reported 80% of employers knew about their migraine, but only 21% offered support
- Migraine is estimated to cost up to \$22 billion in the US annually, including indirect costs such as lost productivity; Survey finds 18% of worktime is missed due to migraine in the US

EAST HANOVER, N.J., June 27, 2018 /PRNewswire/ -- Novartis and the European Migraine and Headache Alliance today announced initial findings from a large global migraine patient survey, involving more than 11,000 people from 31 countries, including the US. The findings, to be presented at the 60th Annual Scientific Meeting of the American Headache Society (AHS) in San Francisco, reveal that migraine is associated with overall work and activity impairment.¹ On average, 60% of employed respondents worldwide missed almost a full working week (4.6 days) due to migraine in a month.¹ Migraine is a distinct neurological disease and is estimated to cost up to \$22 billion in the US each year.^{2,3}

The My Migraine Voice survey was led by Novartis and our partners at the European Migraine and Headache Alliance, guided by a steering committee including Amgen, migraine patients, neurologists and patient advocacy organizations. The survey included people who had at least four migraine days per month and 90% of respondents in the US reported having previously tried at least one preventive treatment. The impact of migraine at work, including reduced work productivity (presenteeism) and work time missed due to migraine (absenteeism), was assessed using the Work Productivity and Activity Impairment (WPAI) questionnaire. Among survey participants in the US, approximately 63% reported overall work impairment due to migraine.

"From being afraid to speak up about their disease at work in fear of losing their jobs, to feeling judged by colleagues, the stigma around migraine in the workplace is an ongoing issue that the migraine community faces daily," said Mary Franklin, Executive Director of the National Headache Foundation. "The findings from the My Migraine Voice survey shed light on the true impact of migraine at work, and showcase the urgent need for employers and employees to change the dialogue around migraine."

Further, employed respondents in the US reported they felt lack of support and judged. For example:

- Although the majority of their employers (80%) knew about the employee's migraine, only 21% offered support.⁴
- Of those who reported that migraine affected their professional life, 30% said they felt judged, illustrating the need for awareness and support in the workplace.

Previous studies have shown that 90% of people say they cannot work or function with a migraine.⁵ In the My Migraine Voice survey, 72% of the respondents in the US who were employed, including self-employed, needed at least one day off of work in the last month due to their migraine, with more than half of the respondents mentioning they could not work up to five days in a month.⁴

"Novartis, and our partner Amgen, have committed to advancing our knowledge of migraine to end the stigma around the disease, and this survey makes it clear that we need to start in the workplace," said Fabrice Chouraqui, US President of Novartis Pharmaceuticals Corporation. "The results of the My Migraine Voice survey reinforce the immediate need for better solutions for migraine patients and employers, and we'd like to thank the patients who participated in the survey to bring these insights to light."

Novartis and Amgen are working on future initiatives to focus on addressing how stigma against migraine manifests in the workplace: migraine gets in between people and their careers, and in between employee and employer. Through outreach and education, Novartis and Amgen aim to assist people in getting the support they need, and facilitate informed communication among people with migraine and those who live and work with them, including co-workers, employers and insurers.

Further results on the physical and economic burden of migraine will be released at upcoming medical meetings, and the findings from the survey are being prepared for submission to peer-reviewed journals.

About My Migraine Voice Survey

The My Migraine Voice survey was a global survey assessing the worldwide migraine burden from the patient's perspective.^{1,4} Data was collected via a 30-minute online questionnaire fielded in 31 countries between September 2017 and February 2018. The survey questions covered the social, economic and emotional impact of the disease, the real-life experience of an individual living with migraine and their journey through the healthcare system and employment environment. Study participants were 11,266 adults (aged 18 years or older) who had experienced at least four migraine days each month in the last three months and self-reported having been diagnosed with migraine by a medical professional.^{1,4} Of those recruited, 90% had experience of at least one preventive treatment and of these, 80% had to change their treatment one or more times.¹

Participants were recruited via online panels in all countries. In 12 countries, some participants were recruited through patient advocacy organizations (Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Netherlands, Russia, Sweden, Taiwan, and the United Kingdom). In France, patients were also recruited through the Migraine Buddy mobile app.

The average age of respondents was 39.⁴ Sixty-three percent were married and 73% reported that they were employed in some capacity (full-time, part-time, self-employed or studying).⁴ The survey highlighted the chronic nature of migraine, with more than one in three respondents (37%) reporting they have been affected for 16 or more years.⁴

The study was initiated and funded by Novartis and the European Migraine and Headache Alliance (EMHA), and was conducted by the market research company Gesellschaft für Konsumforschung (GfK) in Switzerland. Full results of the survey will be released at future scientific congresses and in peer-reviewed publications.

The EMHA is a non-profit, patient umbrella group which was launched in 2006 and represents 25 patient groups from across the continent. EMHA is an active member of the European Federation of Neurological Alliances, the International Association of Patient Organizations and the European Patients Forum. The EMHA works closely with organizations such as the European Headache Federation, the European Brain Council and

others.

About Migraine

People with frequent migraine may lose more than half their life to migraine. They endure debilitating pain, physical impairment, and live in constant dread of the next attack – all of which is compounded by a widespread misperception of the disease.⁵ The 2016 Global Burden of Disease Study ranks migraine among the top 10 causes of years lived with disability worldwide.⁶ Migraine is associated with personal and societal burdens of pain, disability, and financial cost, and it remains under-recognized and under-treated.⁵

About Amgen and Novartis Neuroscience Collaboration

In August 2015, Amgen entered into a global collaboration with Novartis to develop and commercialize pioneering treatments in the field of migraine and Alzheimer's disease. At the center of the Amgen and Novartis neuroscience collaboration is the shared mission to fight migraine and the stereotypes and misperceptions surrounding this debilitating disease.

About the Amgen and Novartis Migraine Mission

Migraine has gone under-appreciated and under-treated for too long. Amgen and Novartis have committed to leading the charge together against migraine misperceptions. Through outreach and education our goal is to challenge public perception of migraine disease, assist people in getting the treatment they need and facilitate informed communication among people with migraine and those who live and work with them, including co-workers, employers and insurers. Future initiatives will include a focus on addressing how stigma against migraine manifests in the workplace: migraine gets in between people and their careers, and in between employee and employer. We hope our workplace program will serve as an example to coworkers, employers and human resources to help each party understand why and how they should treat migraine as a serious disease.

Novartis in Neuroscience

Novartis has a strong ongoing commitment to neuroscience and to bringing innovative treatments to patients suffering from neurological conditions where there is a high unmet need. We are committed to supporting patients and physicians in multiple disease areas, including Multiple Sclerosis (MS), Alzheimer's disease, Parkinson's disease, Epilepsy and Attention Deficit Hyperactivity Disorder, and have a promising pipeline in MS, Alzheimer's disease, migraine and specialty neurology (e.g., neuropathic pain).

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future. In particular, our expectations regarding such products, and the collaboration with Amgen, could be affected by, among other things, the uncertainties inherent in research and development, including clinical trial results and additional analysis of existing clinical data; regulatory actions or delays or government regulation generally; global trends toward health care cost containment, including government, payor and general public pricing and reimbursement pressures; our ability to obtain or maintain proprietary intellectual property protection; the particular prescribing preferences of physicians and patients; general political and economic conditions; safety, quality or manufacturing issues; potential or actual data security and data privacy breaches, or disruptions of our information technology systems, and other risks and factors referred to in Novartis AG's current Form 20-F on file with the US Securities and Exchange Commission. Novartis is providing the information in this press release as of this date and does not undertake any obligation to update any forward-looking statements contained in this press release as a result of new information, future events or otherwise.

About Novartis

Located in East Hanover, NJ Novartis Pharmaceuticals Corporation is an affiliate of Novartis which provides innovative healthcare solutions that address the evolving needs of patients and societies. Headquartered in Basel, Switzerland, Novartis offers a diversified portfolio to best meet these needs: innovative medicines, cost-saving generic and biosimilar pharmaceuticals and eye care. Novartis has leading positions globally in each of these areas. In 2017, the Group achieved net sales of USD 49.1 billion, while R&D throughout the Group amounted to approximately USD 9.0 billion. Novartis Group companies employ approximately 124,000 full-time-equivalent associates. Novartis products are sold in approximately 155 countries around the world. For more information, please visit http://www.novartis.com.

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Novartis Media Relations

Central media line: +41 61 324 2200

E-mail: media.relations@novartis.com

| Eric Althoff | Christina Zoppi |
|--|---|
| Novartis Global Media Relations Novartis Pharmaceuticals Corporation | |
| +1 212 830 2408 (offic | e) +1 862 778 1980 (office) |
| +1 646 438 4335 (mob | ile) +1 862 345 4140 (mobile) |
| eric.althoff@novartis.c | om christina.zoppi@novartis.com |
| | |
| Novartis Investor Relations | |
| Central investor relations line: +41 61 324 7944 | |
| E-mail: investor.relations@novartis.com | |
| | |
| Central | North America |
| Samir Shah | +41 61 324 7944 Richard Pulik +1 212 830 2448 |
| Pierre-Michel Bringer | +41 61 324 1065 Cory Twining +1 212 830 2417 |
| Thomas Hungerbuehler +41 61 324 8425 | |
| Isabella Zinck | +41 61 324 7188 |
| | |
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