Novartis presents first-of-its-kind algorithm-based tool to help MS patients and physicians evaluate and discuss early signs of progression to secondary progressive MS

- Up to 80% of relapsing remitting MS (RRMS) patients transition to secondary progressive MS (SPMS)\(^1\), a stage of the disease leading to continuous functional decline, which is often undiagnosed or diagnosed only retrospectively\(^2\)

- Data presented at AAN show that MSProDiscuss™, a scientifically-validated digital tool, was able to provide information to support differentiation between RRMS and SPMS with high sensitivity and specificity

- These findings support potential use of the tool in clinical practice to help evaluate and discuss early signs suggestive of MS progression, an important step to ensure optimal management of the disease

Basel, May 7, 2019 – Novartis today announced results from a validation study of the innovative, algorithm-based digital solution MS Progression Discussion Tool, or MSProDiscuss™. The tool aims to support and facilitate a discussion between physicians and patients living with multiple sclerosis (MS) who have transitioned, or are at risk of transitioning from relapsing remitting MS (RRMS) to secondary progressive MS (SPMS). Diagnosing SPMS can be challenging but if carried out in a timely manner, could help to prevent further irreversible damage\(^3\). The study findings, presented today at the 2019 American Academy of Neurology Annual Meeting (AAN) in Philadelphia, Pennsylvania, USA, support the validity and potential use of MSProDiscuss™ to help evaluate and discuss early signs suggestive of progression in clinical practice.

“One of the greatest challenges in MS is diagnosing the transition from RRMS to SPMS as the course of the disease is unique for every MS patient,” said Tjalf Ziemssen, MD, Professor at the Center of Clinical Neuroscience, University Hospital Carl Gustav Carus, Dresden University of Technology, Dresden, Germany, and study investigator. “The study results are a promising step toward having a scientifically-validated tool for clinical use that can facilitate physician-patient conversations and ultimately help to get ahead of MS progression.”

MS neurologists in the United States, Canada, and Germany tested the tool with 198 patients with a diagnosis of RRMS, SPMS or a suspected transition to SPMS\(^4\). In the validation study, physicians went through a series of weighted questions with the patients based on their experience in the last six months. The questions aim to gather information on symptoms and how they impact daily life and activities. Once completed, the algorithm generated a visual output that the physicians could use to facilitate a discussion around the level of disease progression. The results from the validation study demonstrated that MSProDiscuss™ was able to differentiate between RRMS and SPMS patients with high sensitivity and specificity and thus also inform about patients in transition\(^5\).
“With this innovative digital tool, we aim to reimagine clinical practice for neurologists and MS patients. Through harnessing high quality data and analytics, MSProDiscuss™ was developed in collaboration with renowned MS researchers, physicians and patients and is a testament to the Novartis commitment to improve the lives of MS patients beyond the development of drugs,” said Danny Bar-Zohar, Global Head of Neuroscience Development, Novartis Pharmaceuticals.

The tool is in final development stage and undergoing pilot-testing in several US centers. The worldwide rollout is planned for early 2020. The tool is housed on neuro-compass, the independent educational MS site, and can be accessed via the link www.msprodiscuss.com.

About MSProDiscuss™
The MS Progression Discussion Tool (MSProDiscuss™) is a physician-completed tool for use in clinical practice to help evaluate and discuss the risk of transitioning RRMS to SPMS with the patient. This tool is for educational and discussion purposes only.

The tool uses information from patient symptoms and impact on daily life experienced in the past six months to generate a traffic light visual output that complements physician discussion regarding patient transition to SPMS. It was developed based on qualitative research with clinicians and patients and empirical assessments of real-world evidence. It has been pilot-tested and validated with clinicians in the real-world.

**This tool does not provide medical advice, diagnosis, prediction, prognosis, or treatment. The tool and its content are being provided for general information purposes only. Any medical advice, diagnosis or treatment should be made by the appropriate healthcare professional.**

The tool was developed with Adelphi Values, using a mixed-methods approach, and funded by Novartis Pharma.

**About Multiple Sclerosis**
MS is a chronic disorder of the central nervous system that affects around 2.3 million people worldwide¹. There are three main forms of MS: RRMS (the most common form of the condition at diagnosis), SPMS and primary progressive MS (PPMS)⁵. MS disrupts the normal functioning of the brain, optic nerves and spinal cord through inflammation and tissue loss⁶.

SPMS follows an initial form of RRMS, which accounts for approximately 85% of all MS diagnoses, and is characterized by gradual worsening of neurological function over time⁷. This leads to a progressive accumulation of neurological disability. There remains a high unmet need for safe and effective treatments to help delay disability progression in SPMS with active disease (with relapses and/or evidence of new MRI activity)².

**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 MS, migraine, Alzheimer's disease and Parkinson's disease and have a promising pipeline in MS, Alzheimer's disease and spinal muscular atrophy.

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About Novartis
Novartis is reimagining medicine to improve and extend people’s lives. As a leading global medicines company, we use innovative science and digital technologies to create transformative treatments in areas of great medical need. In our quest to find new medicines, we consistently rank among the world’s top companies investing in research and development. Novartis products reach more than 750 million people globally and we are finding innovative ways to expand access to our latest treatments. About 105 000 people of more than 140 nationalities work at Novartis around the world. Find out more at www.novartis.com.

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