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Women's Brain Project

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PIONEERING ANALYSIS HIGHLIGHTS THE ECONOMIC BENEFITS OF INVESTING IN SEX-AND-GENDER SPECIFIC BRAIN RESEARCH

Investing \$300m in women's health research for Alzheimer's disease and other noncommunicable diseases could generate a ROI of \$13bn

1 in 3 people worldwide lives with a brain disease, this is compounded by the prevalence of mental health disorders

The cost of brain disorders is estimated to equal 10% of the world's gross domestic product (GDP)

The most prevalent brain diseases have a higher prevalence among females

Guntershausen, Switzerland, 8th March 2023 – To celebrate **International Women's Day**, with the 2023 campaign theme #EmbraceEquity, the [Women's Brain Project \(WBP\)](#) is proud to launch a new White Paper it has commissioned to ***Economist Impact***, which examines the economic benefits of investing in sex-and-gender specific brain research. The WBP provided expert counsel and guidance in the delivery of this project.

The White Paper, [Sex, gender and the brain: Towards an inclusive research agenda](#) is informed by expert interviews and presents an economic impact framework to examine how sex and gender differences manifest across five brain diseases: Alzheimer's Disease, Migraine, Multiple Sclerosis, Parkinson's Disease and Stroke. The paper argues the need for greater efforts on sex- and gender-specific brain research based on the beneficial economic consequences of early and more reliable diagnosis, prevention, more effective treatments and disease management, all of which could mitigate the impact of these conditions on individuals, families and society at large. The developed novel conceptual frameworks convey how sex-and-gender specific research can impact a country's overall gross domestic product (GDP), for each of the brain diseases.

“Brain diseases are rapidly growing in prevalence, and will be a defining global health challenge in the next two decades. Women still remain underrepresented in clinical research and most brain diseases have a higher prevalence rate among females. This White Paper is the first phase of a research programme to create a modelling framework that

quantifies the economic implications of sex and gender differences in brain diseases, and to build an evidence-based case for investment, said **Dr Antonella Santuccione Chadha**, Co-founder and pro-bono CEO of WBP.

With this work, we show that considering sex- and gender-specific outcomes from biomedical research may have great potential to positively influence treatment, workforce productivity, as well as national economic outcomes, both directly and indirectly. She added that “it has to become a priority on the global agenda to examine the economic impact of investing in sex and gender-differentiated brain research.”

It is not common knowledge that neurological disorders affect men and women differently, with women overwhelmingly affected by the most prevalent disorders including dementia and migraine. Until today, the impact of sex and gender on the economic costs of neurological disorders has not been properly studied as most research is carried out on a ‘one-size fits all approach’.

In general, women live longer than men do, but women also live more years with disability than men do. Women are also more likely to provide unpaid caregiving to family members. Both disability and caregiving responsibilities can limit full participation in the workforce.

To optimise care for patients with brain diseases, it is important to increase the enrolment of both sexes into clinical research and drug trials that are reflective of the sex distribution of the epidemiological burden. “Neglecting sex and gender differences in neurological clinical practice can lead to delayed and misdiagnosis, undertreatment and poor prevention primarily in women,” said **Dr Maria Teresa Ferretti**, Co-founder and Chief Scientific Officer of WBP. She added “we need to implement a precision medicine approach, leveraging sex and gender disaggregated data to fill in the current knowledge gaps and promote tailored, more efficacious and more sustainable solutions to neurological disorders.”

As a follow-up to the White Paper, WBP plans to develop a robust economic model to quantify the economic implications of sex-and-gender differences in brain diseases and build an evidence-based case for investment. The initial pilot will focus on one geography for one disease area.

This groundbreaking research has significant implications for scientists, healthcare professionals, government and policymakers, payers, regulators, the pharmaceutical industry and, most importantly patients and caregivers. WBP is committed to working with all stakeholders to transform the clinical trial landscape and offer the right treatment to the right patient at the right time for all brain conditions.

The following experts were involved in this research:

- **Dr Cheryl Carcel**, Neurologist and early career researcher leading the sex differences in stroke group at the George Institute for Global Health, University of New South Wales, Australia
- **Dr Janine Clayton**, Director, National Institutes of Health (NIH) Office of Research on Women's Health; Associate Director for Research on Women's Health, NIH, United States
- **Anna Dé**, Policy Advisor, Women's Brain Project, Switzerland
- **Dr Tarun Dua**, Head of the Brain Health Unit in the Department of Mental Health and Substance Use, World Health Organization, Switzerland
- **Dr Maria Teresa Ferretti**, Co-founder and Chief Scientific Officer, Women's Brain Project, Switzerland
- **Professor Martin Knapp**, Professor of Health and Social Care Policy, London School of Economics and Political Science, United Kingdom
- **Dr Antonella Santuccione Chadha**, Co-founder and CEO of the Women's Brain Project and Chief, Medical Officer, Altoida, Switzerland
- **Professor Wiesje van de Flier**, Scientific Director, Alzheimer Center Amsterdam, Amsterdam, UMC, Netherlands

To download the White Paper, please visit:

www.womensbrainproject.com/ei-white-paper/

White Paper Launch Webinar:

13th March 2023, 15.30 – 16:30 CET – Launch Webinar, at the start of Brain Awareness Week, with the support of the European Federation of Pharmaceutical Industries and Associations (EFPIA) ([register here](#))

About the Women's Brain Project:

WBP is an international organisation studying sex and gender determinants of brain and mental health to achieve precision medicine and care. WBP is a global leading player in the field of brain research, supporting innovative science, precision medicine and care, unbiased AI and promoting gender health equity to make healthcare systems more sustainable. WBP is in the process of establishing the Research Institute for Sex and Gender Precision Medicine. WBP commissioned Economist Impact to examine the economic rationale for investing in sex-and-gender specific brain research, resulting in the White Paper.

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