R2D2
Mental Health

D6.3 – R2D2-MH Website

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Project Website

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Abstract

The overall aim of WP6 is to maximize impact and to prepare future exploitation by ensuring that the knowledge and results obtained from the research and innovation work done in R2D2-MH are widely communicated to the various target groups. As part of WP6, the R2D2-MH project website (Deliverable 6.3) is embed in the dissemination and communication strategy and will be the main means of interaction with the general public and the stakeholders. The R2D2-MH website harbor a clear layout and provides key information about the project, the consortium, the research and impacts as well as the latest publications and news. Accessibility for end-users has been considered from the beginning, in the design, content and layout, and feedback from the visitors will be continuously collected and the website improved accordingly.

Keywords

Website, end-users, stakeholders, accessibility, co-creation

Document revision history

Version	Date	Description of change	Contributor(s)
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Disclaimer

Nature of the deliverable *

	DEC

Dissemination level

PU	Public, fully open. e.g., website	✔
CL	Classified information as referred to in Commission Decision 2001/844/EC	
CO	Confidential to R2D2 project and Commission Services	

* Deliverable types:

R: document, report (excluding periodic and final reports).
DEM: demonstrator, pilot, prototype, plan designs.
DEC: websites, patent filings, press and media actions, videos, etc.
OTHER: software, technical diagrams, etc.

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Abbreviations

ADHD	Attention Deficit / Hyperactivity Disorder
FAQs	Frequently Asked Questions
ID	Intellectual Disability
NDD	Neuro-Developmental diversity
WP	Work Package

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Executive summary

In order to increase public awareness about the R2D2-MH project and to make the project's results widely available and its impact, a number of dissemination and communication activities are foreseen as part of the project work plan. Work Package 6 (WP6) of R2D2-MH covers the dissemination, communication, and exploitation activities of the project. The overall aim of WP6 is to maximise impact and to prepare future exploitation by ensuring that the knowledge and results obtained from the research and innovation work done in R2D2-MH are widely communicated to the various target groups. As part of WP6, the R2D2-MH project website (Deliverable 6.3) is embedded in the dissemination and communication strategy and will be the main means of interaction with the general public and the stakeholders. The R2D2-MH website harbours a clear layout and provides key information about the project, the consortium, the research and impacts as well as the latest publications and news. Accessibility for end-users has been considered from the start in the design, content and layout, and feedback from the users will be continuously collected to improve the website accordingly.

1 Project Objectives

Mental Health problems affect 38,2% of the EU population and cost EU economies €600 billion per year. Neurodevelopmental conditions are often affecting growth and development in the brain and typically start early in life. These include conditions such as autism, Attention-Deficit Hyperactivity Disorder (ADHD) or Intellectual Disabilities (ID). Neurodivergent people and their families experience greater discrimination and stigma that has a further negative impact on mental well-being. Currently, there are no highly effective, evidenced based approaches to improve medium to long-term MH outcomes in the context of neurodiversity and developmental diversity more general. This is due partly to a limited understanding of the neurobiological mechanisms involved in the transition from MH to illness throughout the life course and the interaction with environmental factors. The distinction between diversity and disorder is exactly where R2D2-MH comes in.

R2D-MH will adopt a new approach to improve the well-being of neurodivergent individuals. They will move away from studying only risk and move towards an enhanced understanding and promotion of resilience. In doing so, they will consider developmental diversity as well as diagnosis as factors that influence wellbeing and functioning across the entire lifespan.

R2D2-MH will study the biological, cognitive, and psychological underpinnings of resilience as positive adaptation in the context of two major early risk factors for MH conditions: genetic likelihood for neurodiversity and/or preterm birth. The novelty here is to quantify resilience in addition to risk. To achieve this, our highly interdisciplinary consortium will focus on the following objectives:

- Provide the largest European multi-scale dataset on early human brain development and MH outcomes
- Identify biological mechanisms of resilience to reduce the adverse effects of developmental conditions
- Co-develop, with the stakeholders, new digital tools to increase participatory research/medicine and reduce stigma
- Establish predictive models to guide personalised interventions.

2 Scope of the document

Deliverable 6.3 (D6.3) presents the project website which is one of the objectives of WP6, as part of Task 6.3. The R2D2-MH website is available at https://www.r2d2-mh.eu/ and will be the main channel to reach out with the general public and key stakeholders throughout the duration of the project. The aims of the website are to:

- Inform about the project scope, participants, objectives and approach
- Inform about the expected impacts for each identified stakeholders' groups
- Inform about the life of the project, new publications or significant achievement
- Deliver end-user-friendly design and content, in line with the most recent accessibility criteria, thus maximizing the access and uptake of the material by end-users
- Provide training material for members of the consortium as well as for the general public and other key stakeholders. The Training platform will be detailed further in Deliverable 6.4 and is not yet displayed on the website, nor in this document.

Making websites digitally accessibility is about giving everyone the right to access useful information and is key to inclusion, diversity and to creating equality, which is at the centre of the R2D2-MH approach. The development of the R2D2-MH website focused on making it accessible

for all and in particular for the key end-users, i.e. individuals with neurodevelopmental diversities or intellectual disabilities. The web accessibility method and criteria used to develop the R2D2-MH project are detailed in section 4.

3 The R2D2-MH website

3.1 Layout

The R2D2-MH follows a clear architecture which allows a smooth navigation through the website while providing all relevant and necessary information to the visitors. From the beginning, the designed has been made for the end-users, to maximize their experience and understanding of the key messages displayed on the project's website. The layout is as follows:

- Home
- About
    o Team
    o FAQs
- Mental health & Neurodiversity
- Research & outcomes
    o Collaborations
    o Publications
- Cohorts & clinical studies
- News & Media center

3.2 Page "Home"

The "Home" page, also referred to as landing page, aims to provide an overview of the project and of the other pages, to encourage the visitors to browse through the whole website and access the content. The first section provides an overview of the project and invites the user to browse the "About" page (Figure 1).
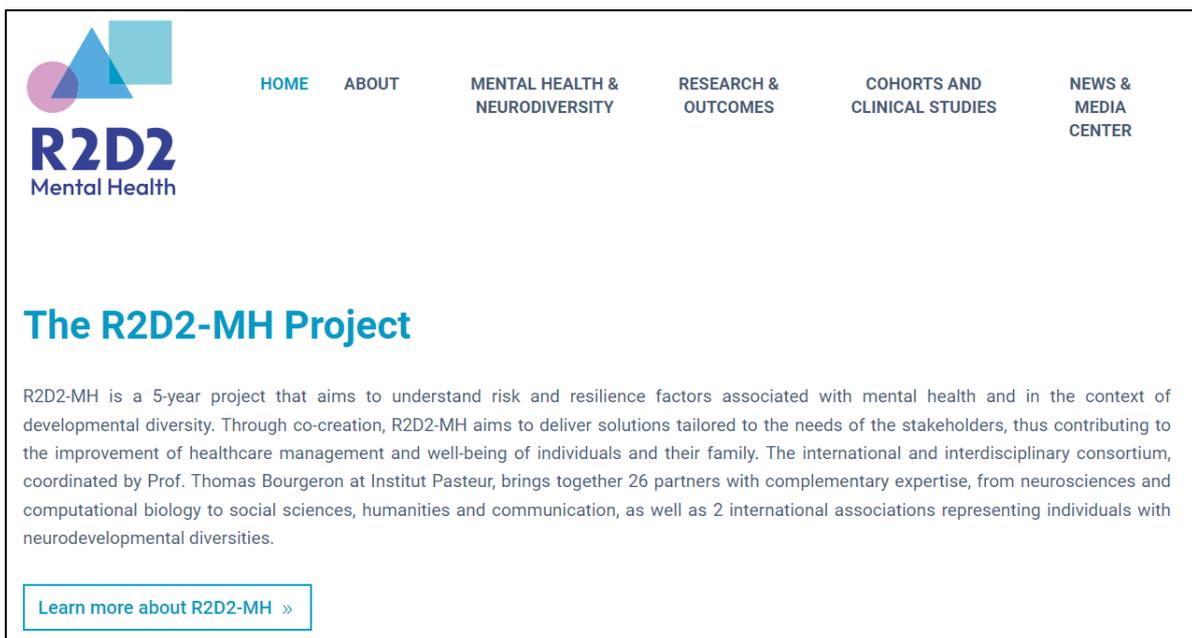

Figure 1: Landing page of the R2D2-MH website.

Visitors are then informed about the context of mental health and neurodevelopmental diversity (NDD) surrounding the project and why Resilience is important. A "Read more about mental health and neurodevelopmental diversities" button redirects the visitor to the "Mental Health and Neurodiversity" page (Figure 2).

The importance of resilience in mental health and neurodevelopmental diversities

Neurodevelopmental diversities (NDDs) include autism, attention deficit / hyperactivity disorder (ADHD), intellectual disabilities (ID) and have a high prevalence of up to 15% of the population. It is well known that neurodivergent people have an increased risk of mental health conditions, although the exact mechanisms are not well understood. So far, researchers have focused on risk factors, omitting the role of resilience in the way individuals positively adapt to adversity even in the presence of risk factors, like genetic mutations or preterm birth. R2D2-MH proposes a double paradigm shift, not only by integrating resilience factors to its research approach and tools, but also by redefining wellbeing and functioning in a neurodevelopmental diversity approach.

Learn more about mental health and neurodevelopmental diversities »

15%
of the population live with neurodevelopmental diversities

Figure 2: Landing page - visitors learn more about the context of the project and are invited to browse the "Mental health and Neurodiversity" page.

Scrolling down, the visitor will then read a citation from the coordinator. To ensure that all stakeholders are given a voice, there will be the possibility to alternate these citations throughout the duration of the project, keeping the total number of citations to two at the maximum (Figure 3).

**Prof. Thomas Bourgeron,
coordinator of the R2D2-MH project**
Institut Pasteur

"[…] Resilience plays a major role in mental health as it provides a strengths-based focus on how people can adapt in response to adversity and have better outcomes. […]. The novelty of our approach is to identify both risk and resilience factors and to investigate the influences on mental health outcomes collectively with all stakeholders to redefine wellbeing and functioning at an individual level. I am convinced that R2D2-MH will prepare the ground for personalised approaches of neurodevelopmental disorders and reduce the stigma."

Figure 3: Landing page – screenshot of a citation from the project coordinator.

The following section provides information about the research approach and expected outcomes of the project and invites the visitor to browse the "Research and Outcomes" page (Figure 4).

Figure 4: Landing page - visitors are provided with information about the research approach and expected outcomes and are invited to browse the "Research and Outcome" page.

The concept of co-creation, which is at the centre of the R2D2-MH project, is also introduced on the "Home" page. With the aim to involve end-users, we have included a button to give them the possibility to contact the R2D2-MH consortium and give feedback on their experience with the website in terms of design, content and accessibility. The visitors are invited to contribute actively improving and optimizing the R2D2-MH website. The requests will be collected and the website adapted based on the users' feedback (Figure 5; also see section 4).
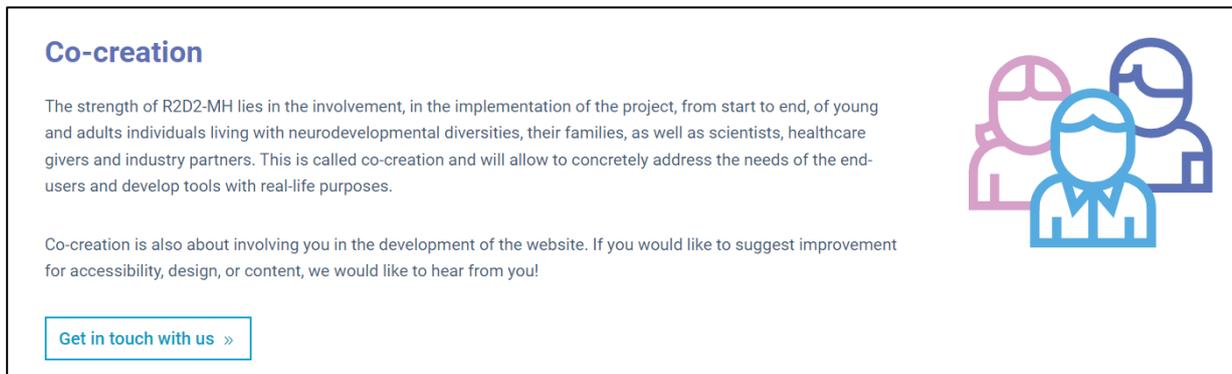

Figure 5: Landing page - Introduction of the concept of co-creation and possibility for the users to get in touch with the consortium to give feedback on the website.

The "Latest news" and "Latest Tweets", which invites the visitor to browse the "News and Media center" section, are provided at the bottom of the page (Figure 6).

Figure 6: Landing page - Latest news and latest Tweets section

The last section of the landing page is the Footer and provides legal information and disclaimers about data protection and handling and copyright. Via Twitter and LinkedIn buttons, the visitors can directly access the projects' social media channels, as well as contact the consortium per email. For this purpose, an email address was created using the r2d2-mh.eu domain:

communication@r2d2-mh.eu. The footer contains the acknowledgement of the EU funding and will be visible on each page of the website (Figure 7).

Figure 7: Footer - visitors have access to legal information and disclaimers, information about data protection and copyrights. Via buttons, visitors can directly access the project's social media channels or contact the R2D2-MH communication team. The EU funding is acknowledged.

3.3 Other pages

The section below provides examples of some of the pages of the R2D2-MH website.

The "About" page is composed of a main page and 2 subpages, about the Team and Frequently Asked Questions (FAQs). The main page provides general information about the project (Figure 8)
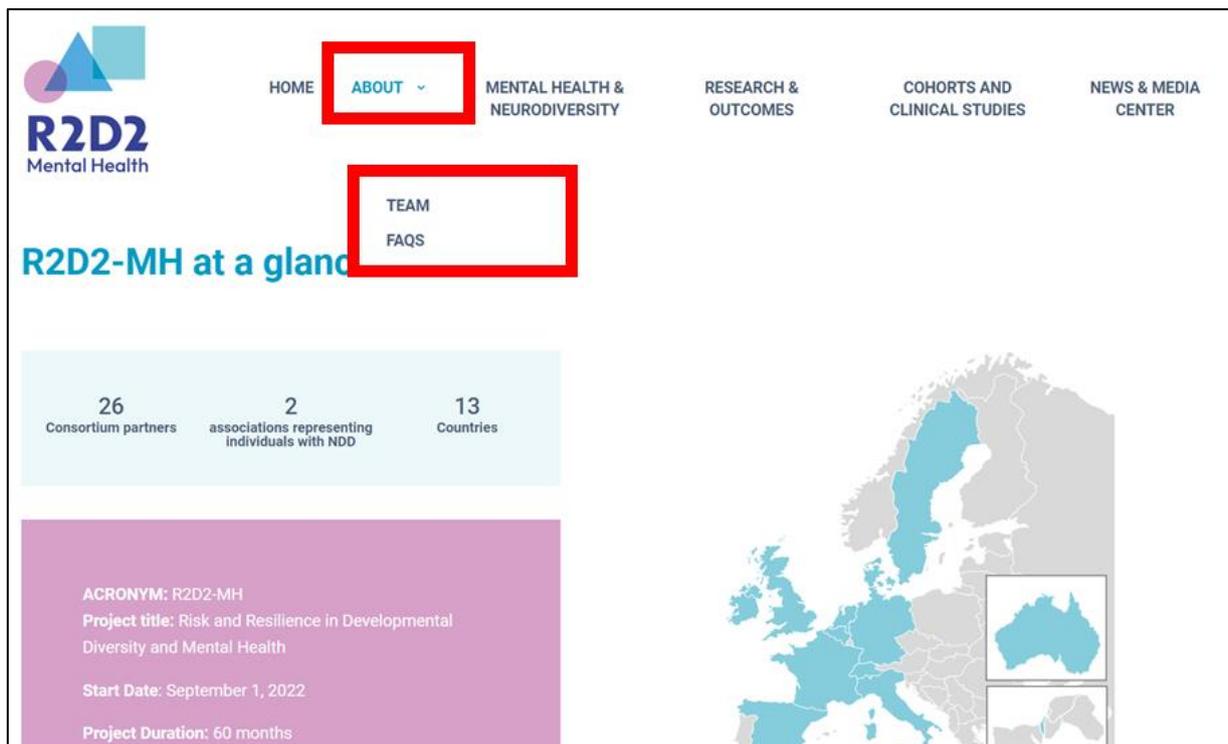

Figure 8: Page "About" - screenshot of the top of the page which provides general information about the project

The "Team" subpage introduces the 26 members of the consortium, as well as the 2 associations representing individuals with NDDs, ADHD Europe and Autism Europe and the different boards involved in the project (Figure 9).

Universities and research institutions

Institut Pasteur

Institut Pasteur (IP) is a private, non-profit foundation with the mission to help prevent and treat diseases and is involved in several major international projects and partner with the main international scientific authorities, research institutions, foundations, universities, and other private actors worldwide. The "Human Genetics and Cognitive Functions" laboratory is led by Prof. Thomas Bourgeron and gathers geneticists, neurobiologists and psychiatrists studying the genetic susceptibility to neurodevelopmental conditions. As coordinator of R2D2-MH, IP oversees the scientific and administrative

Radboud UMC

Radboud University Medical Center (RADBOUDUMC) and the Donders Institute for Brain, Cognition and Behaviour are leading Dutch institutes for medical research, with several groups specialized in top-level clinical care and research in ASD, ADHD, and related neuropsychiatric conditions over the lifespan. Researchers have full access to all necessary facilities to conduct research in neurosciences, available at the Donders Centre for Cognitive Neuroimaging and which include 1.5, 3 and 7T scanners, and a mock scanner. In R2D2-MH, the group of Prof. Christian Beckmann will lead the development

Figure 9: Subpage "Team" - introduces the project partners, the international associations representing individuals living with NDDs and the boards involved in the project.

The "FAQs" subpage is aimed to be interactive and to adapt to the users' feedback. The questions and answers displayed are addressing key aspects of the project and defining important wording and concepts. Thanks the contact form, users are invited to send additional questions or suggestions that will be implemented on the website based on their occurrence and relevance (Figure 10).

Figure 10: Subpage "FAQs": questions and answers addressing kex concepts or defining important wording have been included. User will have the possibility to reach out and send their additional questions and suggestions for the website or the project.

On the page "Mental Health & Neurodiversity" (Figure 11), users gain understanding of the scientific and societal context the project is built on, and a button redirects the user to the "Research & Approach" page where the project's objectives, outcomes and expected impacts are presented. The impacts are presented for each key end-users and stakeholders (Figure 12).

active or having difficulties to paying attention or controlling impulsive behavior. Although the exact factors underlying ADHD remain unknown, genetics is thought to play an important role, associated with environmental factors as preterm birth or low birth weight.

Intellectual disability (ID)

Intellectual disability (ID) is characterized by limitations to a person's ability to learn and function in everyday social and practical life. Reasoning, learning, problem solving in children with ID could be slower than children of the same age. ID can be related to genetic factors or events happening before birth (preterm) or anytime before the age of 18. However, the causes are often unknown, and the resilience factors underlying different outcomes haven't been characterized.

Risk and resilience factors

NDDs are associated with genetic factors, as mutations in particular genes, or events occurring during the nervous system development (as preterm birth), leading to modifications of the nervous system. However, it appears that wellbeing and functioning varies greatly among individuals living with NDDs, even in the presence of the same genetic or birth-related risk factors. This has lead researchers to investigate the role of so called resilience factors.

The R2D2-MH approach

R2D2-MH aims to integrate in its research strategy not only risk factors, as genetic mutations or preterm birth, but also resilience factors to better understand trajectories in individuals with NDDs and deliver new tools tailored to the end-users. Through co-creation, R2D2-MH will promote uptake of the results and outcomes by end-users and also, by giving individuals living with NDDs a voice, contribute to reducing stigma around NDDs and mental health.

Lear more about the R2D2-MH approach »

Figure 11: Page "Mental Health & Neurodiversity" (screenshot)

Objectives of the R2D2-MH project

The overall goal of R2D2-MH is to improve mental health outcomes across the lifespan for young individuals with mental health or neurodevelopmental diversities.

The R2D2-MH project will focus on the following 7 objectives:

1
Provide the largest European multi-scale dataset on early brain and mental health diversity in humans

2
Identify biological mechanisms of resilience associated with diverse mental health outcomes in neurodevelopmental diversities

3
Provide new *in vitro* models as human brain organoids to study neurobiological models of risk and resilience

4
Provide the largest European multi-scale dataset on early brain and mental health diversity in humans

5
Develop a positive psychology e-Health App to improve the well-being of children with NDDs and their parents

6
Develop an open platform for healthcare providers to record real-life data and to improve healthcare management

7
Co-develop a first generation of predictive models of risk and resilience for poor mental health outcomes

Figure 12: Page "Research & Outcome" (screenshot)

This page is linked to two subpages: one is about "Collaborations" and highlights ongoing interactions with other EU projects or initiatives, the other one displays the R2D2-MH publications.

Finally, on the "News and Media Center" page, the users can access the news in the form of blog posts, as well as the Tweets associated with the R2D2-MH account.

4 End-users' experience and co-creation

From the beginning of the development of the website, the end-user's experience has been considered. As mentioned in section 3.1, it has been decided to offer a clear layout, with few subpages, to improve the navigation through the pages. The language has been adapted to a lay audience and the use of acronym minimized or explained. Additionally, the following criteria have been included:

- The use of dynamic elements, as sliding images, overlapping text over images, has been avoided;
- All buttons ("Read more about…" or "Learn more" about…) have been explicitly named;
- Alt-Attribute for all images has been integrated, to display alternative text for elements that cannot be rendered. As alternative, a caption has been added below such elements (world map);
- Tooltips appear when hovering over graphical elements;
- Zoom function possible, to enlarge or reduce the size of the content;
- Navigation using the "Tab" key is possible.

Two different accessibility final checks were carried out prior to the Go Online.

Co-creation and involvement of end-users in all aspects of the projects is key to the R2D2-MH approach. Throughout the project, and notably during the first months following the Go Online, the feedback from the co-creation group members involved in the project as well as of the users will be collected and the website adapted to their feedback. Throughout the website, the users are invited to get in touch with the consortium and send their questions or suggestions (Figure 5).

5 Future plans

The website will be regularly updated the reflect the life of the project, in the form of News, Publications or information material for stakeholders. Google Analytics will be used to obtain and analyze various visitor behavior analytics, which can be used to improve the website, drive website traffic and better retain visitors. A "Training" platform shall be implemented on the R2D2-MH website, with information and educational material adapted to relevant key stakeholders' group. The details on the "Training" platform will be provided in Deliverable 6.4.

6 Conclusions

The R2D2-MH website is online since March 27th and fully operational. The website is connected to the two social media channels (Twitter and LinkedIn) and the users have the possibility to reach out with the R2D2-MH consortium via the website. The questions and feedback received will be taken into consideration for continuous improvement of the website and users' experience.