PARTNERS

- The FAMILY consortium is a five-year interdisciplinary, multi-site project, involving 16 partners from Europe and the US.

FAMILY IN A NUTSHELL

FULL PROJECT TITLE	**Running in the FAMILY** – Understanding and predicting the intergenerational transmission of mental illness
START DATE	1st October 2022
DURATION	5 years
MEMBERS	16 institutions from 10 countries
EC FUNDING	€ 10 973 909.75
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PROJECT MANAGEMENT	Juliane Dittrich (concentris)
PROJECT WEBSITE	family-project.eu

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FAMILY

Running in the FAMILY –
Understanding and predicting the intergenerational transmission of mental illness

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Systematic integration of the family context in the study of mental disorders will fundamentally change the clinical approach to mental illness

OVERALL AIM

We know from experience that in many cases mental illness arises in more than one individual in a family. Often there is a family history of a condition that does not follow a specific pattern. Family members and those who have self-experience are concerned with the issue of inheritance. *What is the risk of one of my children having a mental illness which has been seen in my family?*

Questions like this are difficult to answer since there is little research on the predictability of mental illness conditions and the risk of transmission. This might make decisions about having children very difficult.

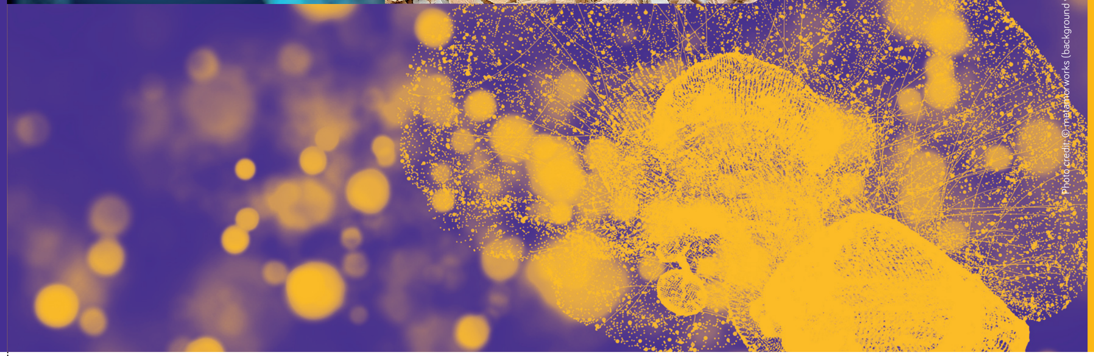
The FAMILY consortium focuses on mentally-ill persons and their families, and aims to improve their lives. By systematically integrating the family context in the study of mental disorders, families will be considered as an extra source of information beyond only individual information and allow the identification of the risk of transmission of mental illness from affected parents to offspring. FAMILY aims to better understand the mechanisms of this *intergenerational* transmission of mental illness and to improve prediction power from the family context. The FAMILY consortium additionally will address key bioethical and social issues raised by the concept of intergenerational risk transmission and risk prediction.

Advanced insights can fundamentally change the clinical approach to mental illness, by providing new (family-based) risk prediction models for the early identification of adults and children at risk and to deliver ethical guidelines to guide its implementation. This will accelerate preventive and treatment intervention in vulnerable families and help target resilience strategies to prevent the transition from health to disease despite high familial risk.

WHY IT MATTERS

Despite ample evidence that mental illness runs in families, why, how, and when risk for mental illness is passed from parents to children is still poorly understood. To answer these questions, research must not only need to identify the underlying risk factors and mediating (biological) mechanisms, but also *when* these factors operate, e.g. during fetal development, early childhood, adolescence, and into adulthood.

At the same time, resilience factors that counteract existing risks and elucidate their mechanisms of actions need to be identified. Only then can our understanding of the onset of mental illness advance and can new targets for the development of preventive strategies be uncovered which will break the intergenerational cycle of mental illness and support families' strengths.



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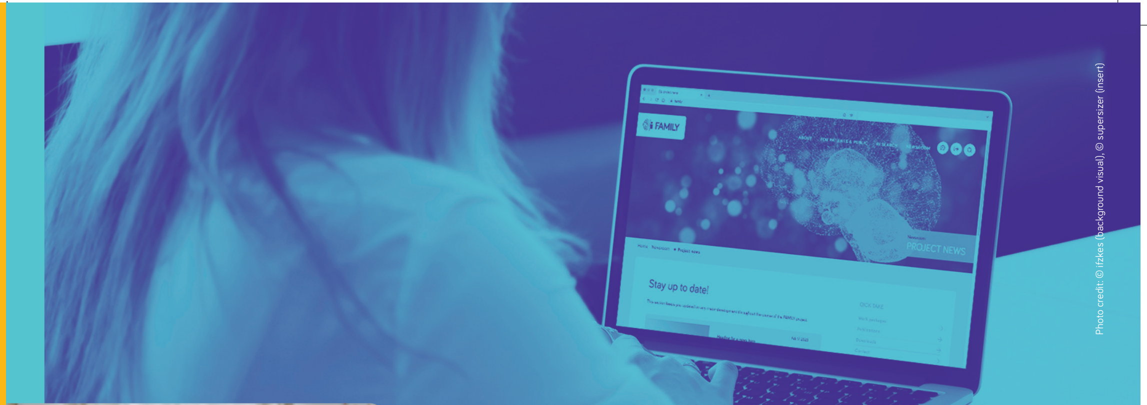

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Novel prediction models and better understanding the mechanisms of intergenerational transmission of mental illness

OUR APPROACH

FAMILY first tries to better understand the *mechanisms* of intergenerational transmission of mental illness and determine why, how, and when mental illness is likely to pass from parent to child using human and animal data. Second, we will try to improve prediction power from the family context by the innovative combination of statistical modelling of genetic patterns and of causal effects by using environmental, behavior, clinical, neuroimaging, genetic, and epigenetic information in parents and their offspring. FAMILY utilises methods from social sciences to map social and ethical consequences of risk prediction models to prepare clinical practice on its future implementation. Specifically, this experimental bioethics approach will enable the development of ethical guidelines for professionals to assist in the clinical use of prediction models, as well as empowerment of patients and their families.

FAMILY will bring together the largest existing human (epi) genetic and neuroimaging datasets from both within-family population cohorts and familial high-risk offspring studies, as well as utilise innovative animal models to shed light on pathways underlying intergenerational risk transmission. FAMILY will focus specifically on risk for mood and psychosis symptoms and diagnoses but this predictive modelling approach, however, can be applied to other psychiatric symptoms and diagnoses as well.