cal & public health concern: The European Union's CAMHEE report recommends better information on CAPRI risks and resilience and to enable interventions to target the highest risk. This is important because although large numbers of children are in the riskset, most remain resilient. Research needs to support delivery of the CAMHEE initiative by understanding who is at risk and how we can target them early before their life trajectories are fatally disrupted.

To do this, we aim to create groundbreaking cross- national datasets providing robust data on CAPRI prevalence & life trajectories needed to plan future services.

But epidemiology alone cannot expose how risk creates effects at the individual level. We need to know which CAPRI to target with potentially expensive, time-consuming specialist services

Powerful neuroscience techniques such as functional near infrared spectroscopy are now available with which we can link epidemiological risk to elucidate effects of exposure within individual infant brain. This unique interdisciplinary approach yokes robust epidemiological evidence to cutting-edge optical imaging that can be undertaken in very young infants.

This allows us to target developments in clinical interventions for CAPRI to those in greatest need and potentially to those most vulnerable with the future aim to identify early biomarkers of abnormality for targeting intervention in CAPRI.

Disclosure of interest   The author declares that he has no competing interest.

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Symposium: diagnostic tools and medical device technologies in psychiatry

S104

Big data market analysis of e-health in medical neuroscience

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Depression is associated with more than 100,000 patent applications for its diagnosis and prognosis, the highest number among mental disorders. This is followed by schizophrenia with 47,000, bipolar disorder with 32,110 and hypomania with 11,377. Among diagnostic tools, magnetic resonance imaging is associated with more than 31,000 patent applications. Among recent technologies, biomarkers are associated with more than 12,000 epigenetics with about 970 metabolomics with 515 genome-wide association study (GWAS) with 486 and bionics with 497 patent applications. The patent applications related to diagnosis and prognosis of psychiatric diseases peaked in 2008 and was overall decreasing until 2016, with a local peak in 2013. This trend has been observed despite the value addition of recent technologies like machine learning, big data and internet of things. However, more conservative diagnostic tools from the last decade like magnetic resonance imaging, epigenetics, bionics and neuro-psychological testing are improved by the recent technologies. For example, bionics is improved by sensors of internet of things to collect the data from patients around the world and use the big data analytics to efficiently diagnose the psychiatric diseases. The Regents of the University of California and Human Genome Sciences Incorporation are the respective academic and non-academic institutions leading the innovations related to diagnosis and prognosis of psychiatric diseases.

Disclosure of interest   The authors declare that they have no competing interest.

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S105

The ethics of mobile health technology

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Introduction   Mobile health (m-health) technology has been growing rapidly in the last decades. The use of this technology represents an advantage, especially for reaching patients who otherwise would have no access to healthcare. However, many ethical issues arise from the use of m-health. Health equity, privacy policies, adequate informed consent and a competent, safe and high quality healthcare need to be guaranteed; professional standards and quality of doctor-patient relationship in the digital setting should not be lower than those set for in-person practice.

Aims   To assess advantages and threats that may arise from the wide use of m-health technologies, in order to guarantee the application of the best medical practices, resulting in the highest quality healthcare.

Methods   A literature search has been conducted to highlight the most pressing ethical issues emerging from the spreading of m-health technologies.

Results   Few ethical guidelines on the appropriate use of m-health have been developed to help clinicians adopt a professional conduct within digital settings. They focus on the need for professional associations to define ethical guidelines and for physicians to take care of their education and online behavior when using m-health technologies.

Conclusions   The rapid spreading of m-health technologies urges us to evaluate all ethical issues related to its use. It would be advisable to produce an ethical code for the use of these new technologies, to guarantee health equity, privacy protection, high quality doctor-patient relationships and to ensure that m-health is not chosen over traditional care for merely economic purposes.

Disclosure of interest   SG received honoraria or Advisory board/consulting fees from the following companies: Lundbeck, Janssen Pharmaceuticals, Hoffman-La Roche, Angelini-Acraf, Otsuka, Pierre Fabre and Gedeon-Richter. All other authors have declared.

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Symposium: Social cognition in schizophrenia: pathophysiology, functional implications and treatment options

S106

Disorganization and social cognition: Data from the italian network of research on psychoses

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Social cognition (SC) refers broadly to the domains of cognitive functions that are employed in socially relevant situations. These disturbances have been found to be strongly related to disorganized and negative symptoms in schizophrenia. Each of the disorganization symptoms suggests a diminishment or absence of organization. There seems to be a loss of the ability to be directed toward or committed to a particular focal topic or goal. Such conditions are likely to impact patients' drives or motivations to initiate goal-directed activities that could yield pleasurable opportunities. Moreover, it has been suggested that disorganized

symptoms are an integral link in cognitive pathways, with connections between cognitive processes weakening as disorganized symptoms increase. Thus, it seems that when disorganized symptoms are present, people with schizophrenia are no longer able to effectively utilize the neurocognitive abilities necessary for performing social cognitive or metacognitive tasks. It is also in line with models of disorganization in schizophrenia (Bleuler, 1911) that a "loosening of associations"—similar to current conceptualizations of disorganized symptoms—is at the core of these cognitive disruptions. Previous research has linked disorganization to cognition (neurocognition and SC) and cognition to social functioning, although in separate studies. The present study was conducted to explore a model, where disorganization predicted social functioning both directly both through indirect effects on other determinants (neurocognition, SC and negative symptoms) in a large, and well-characterized sample of patients with schizophrenia recruited in the context of a multi-center study of the Italian Network for Research on Psychoses (NIRP).

Disclosure of interest   The author declares that he has no competing interest.

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S107

Neurobiological correlates of the treatment of emotion processing in schizophrenia

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Introduction   Mentalizing ability is impaired in patients with schizophrenia. Most studies in schizophrenia report hypoactivation of the core-mentalizing network including the medial prefrontal cortex (mPFC) and bilateral temporoparietal junction (TPJ). In our study, in patients with first episode schizophrenia treatment as usual with atypical antipsychotics (TAU) was compared to the add-on effect of a mentalization-based treatment program (MBT) on the mentalizing network in the brain.
Method   12 patients diagnosed with schizophrenia according to DSM-IV-TR criteria participated in the study (6 males, mean age: 30.43, SD = 9.35 years, years of education 13.23, SD =2.45). A modified treatment program for psychoses was used based on the mentalization-based therapy developed by Bateman and Fonagy (2009). Before and after the treatment fMRI analyses (fixed effects analyses) were carried out (3 Tesla, 5 blocks on/off, 36s, TR = 3.62, SPM) using the n-back task.
Results   Preliminary results show single analyses due to the small sample size. Comparing the fMRI scans before and after treatment, increases in the activation patterns were found in first episode patients treated with MBT. In patients with TAU a reduction in the activation patterns was demonstrated (mean changes in the activation clusters in the MBT group was 5.53, SD 12.79, in the TAU group -5.80, SD 6.91).
Discussion   Mentalization-based treatment is a promising approach in the treatment of schizophrenia and can have an impact on social networks in the brain. Further studies are needed for a better understanding of social cognition and the related neural mechanisms in schizophrenia.
Disclosure of interest   The authors declare that they have no competing interest.

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S108

Neurocognitive predictors of social cognition in subjects with schizophrenia and their first-degree relatives

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Introduction   Social cognition is a complex construct that refers to the functions required to understand other people's mental states and behavior. In people with schizophrenia, social cognition deficits account for a proportion of variance in functional outcome, independent of symptomatology. However, the relationships among social cognition, neurocognitive functioning and functional outcome are still unclear. Previous investigations had several limitations including small sample size, heterogeneous and limited measures of social cognition and neurocognitive functions.
Aims   Within the study of the Italian Network for Research on Psychoses, we investigated factors influencing outcome in patients with schizophrenia and their unaffected relatives. Psychopathology, including depression, neurocognition, social cognition and outcome were assessed using instruments designed to overcome some of the previous limitations.
Methods   Structural equation modeling was used to test direct and indirect effects of neurocognition, social cognition and functional capacity on vocational and interpersonal functioning. Tests of facial emotion recognition, emotional intelligence and theory of mind were included to assess social cognition. The MATRICS Consensus Cognitive Battery (MCCB) was used to investigate neurocognition.
Results   In both subjects with schizophrenia and their first-degree relatives, social cognition was found to be independent of negative symptoms and to have a direct impact on outcome. Neurocognition was a predictor of functional capacity and social cognition, which both mediated its impact on outcome. Social cognition was independent of functional capacity and negative symptoms.
Conclusions   Better understanding of how neurocognitive dysfunction and social cognition deficits relate to one another may guide efforts toward targeted treatment approaches.
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S109

Differential neural correlates of dimensions of negative symptoms in Schizophrenia during social-emotional appraisal and effects of treatment

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