

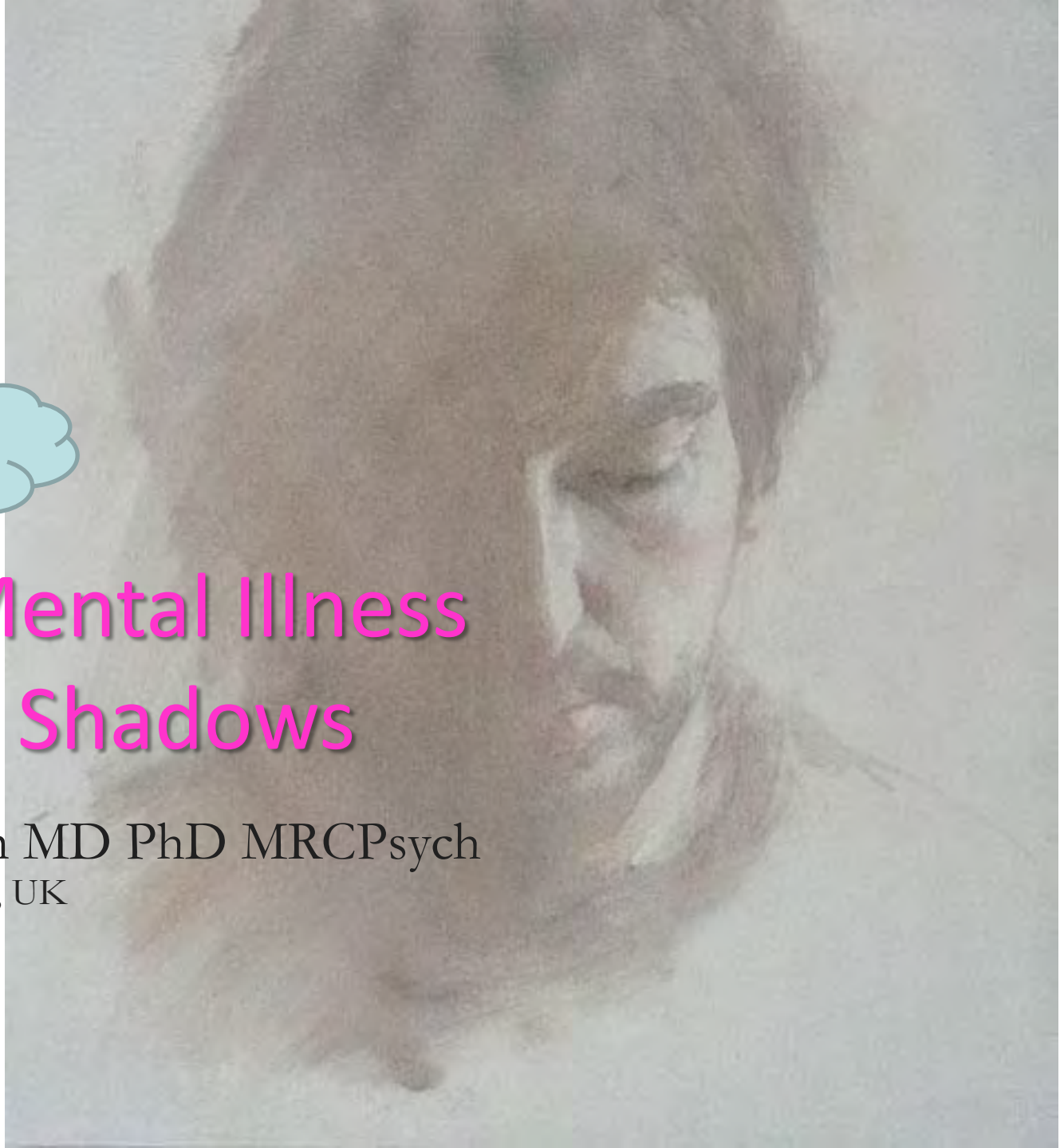
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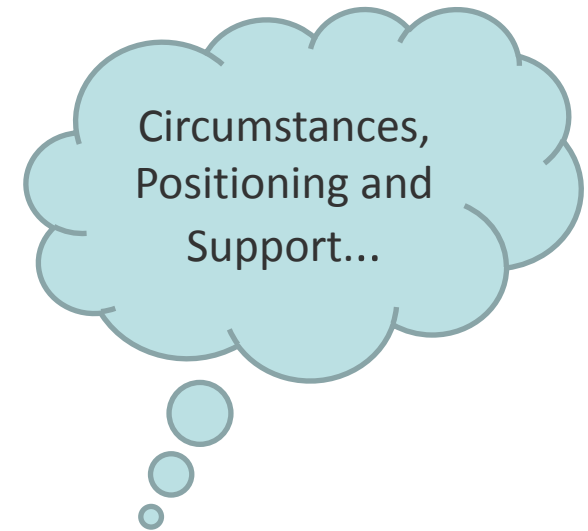


Personal  
Drive...

# Bringing Mental Illness Out of the Shadows

Prof Sabine Bahn MD PhD MRCPsych  
University of Cambridge, UK  
Erasmus MC, NL





## About Me

- MD and PhD in Molecular Neuroscience
- Honorary Consultant Psychiatrist and Member of Royal College of Psychiatrists
- Professor of Neurotechnology Univ. Cambridge
- Professor of Translational Neuropsychiatry Erasmus Medical Centre, Rotterdam, NL

## Key decisions/circumstances

- Funding by **Stanley Medical Research Institute**, USA for 15 years
- Meeting **Chris Lowe** in 2004 and moving into the Institute of Biotechnology
- Ongoing support from **Cambridge Enterprise** and RSD
- Strong **collaborative network**



# The Burden of Mental Illness is Enormous



# UNMET NEED







- **10% of world population affected** by schizophrenia, bipolar disorder or major depressive disorder
- **24% of total YLD (Years Lived with Disability)** in Western World
- **>15% of burden of disease** in established economies
- Schizophrenia alone costs US\$ >> 100B pa (USA and Europe)
- **Early intervention** greatly improves clinical outcomes
- **Early diagnosis** is a clear unmet clinical need



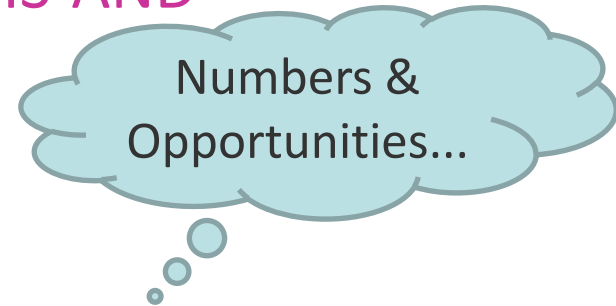
Risk

# Current Diagnosis



-  Subjective clinical interview
-  Overlap of diagnostic criteria with other related psychiatric disorders
-  No means to stratify disease sub-populations
-  Only ~30-40% of patients respond to psychiatric medication
-  Difficult to diagnose prodromal or first onset patients
-  No objective disease biomarkers available  
To aid diagnosis

# ESTIMATED BENEFITS OF EARLY DIAGNOSIS AND TREATMENT IN SCHIZOPHRENIA



## Intervention in early symptom phase

Premature deaths	↓ 4.2%
Hospitalisations	↓ 12-25%
Inpatient days	↓ 64%
Relapses	↓ 30-70%
Time to remission	↓ 74%
Poorer outcomes	↓ 27%
DUP	↓ 88 weeks

## Intervention in prodromal phase

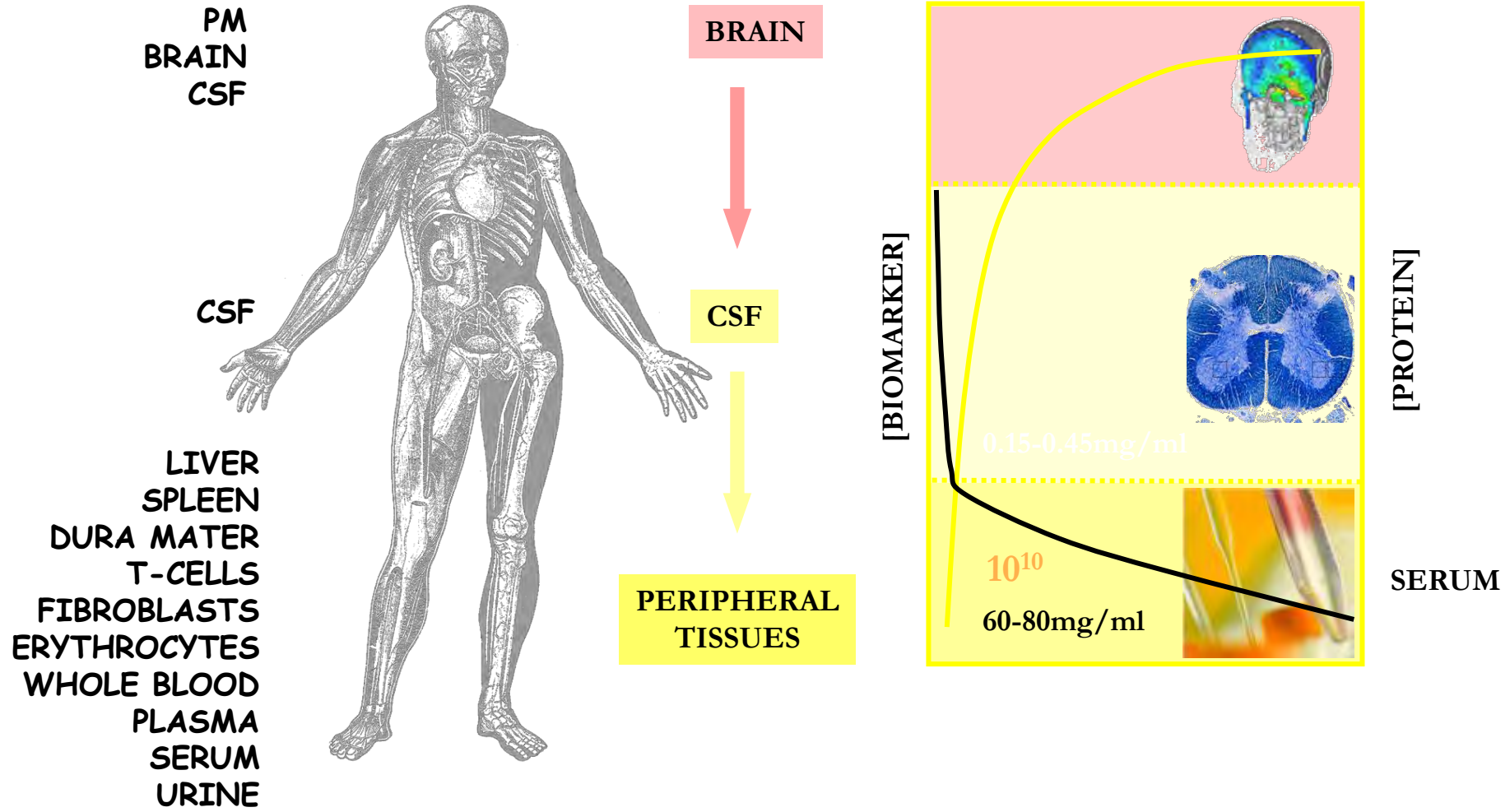
Incidence	↓ 90%
Conversion to psychosis	↓ 75%

- **Data based on current diagnostic tests**
- **Comparisons with intervention in established disease phase**
- **Current diagnostic methods poor**
- **Broad definition, Overlap with other diseases**
- **Subjective, relies on accurate patient history**
- **At least 6 months for definitive diagnosis (DSM IV)**

*Sources: Schizophrenia Research 2005  
Disease Management and Health Outcomes 2001  
Annals Academy of Medicine 2004*

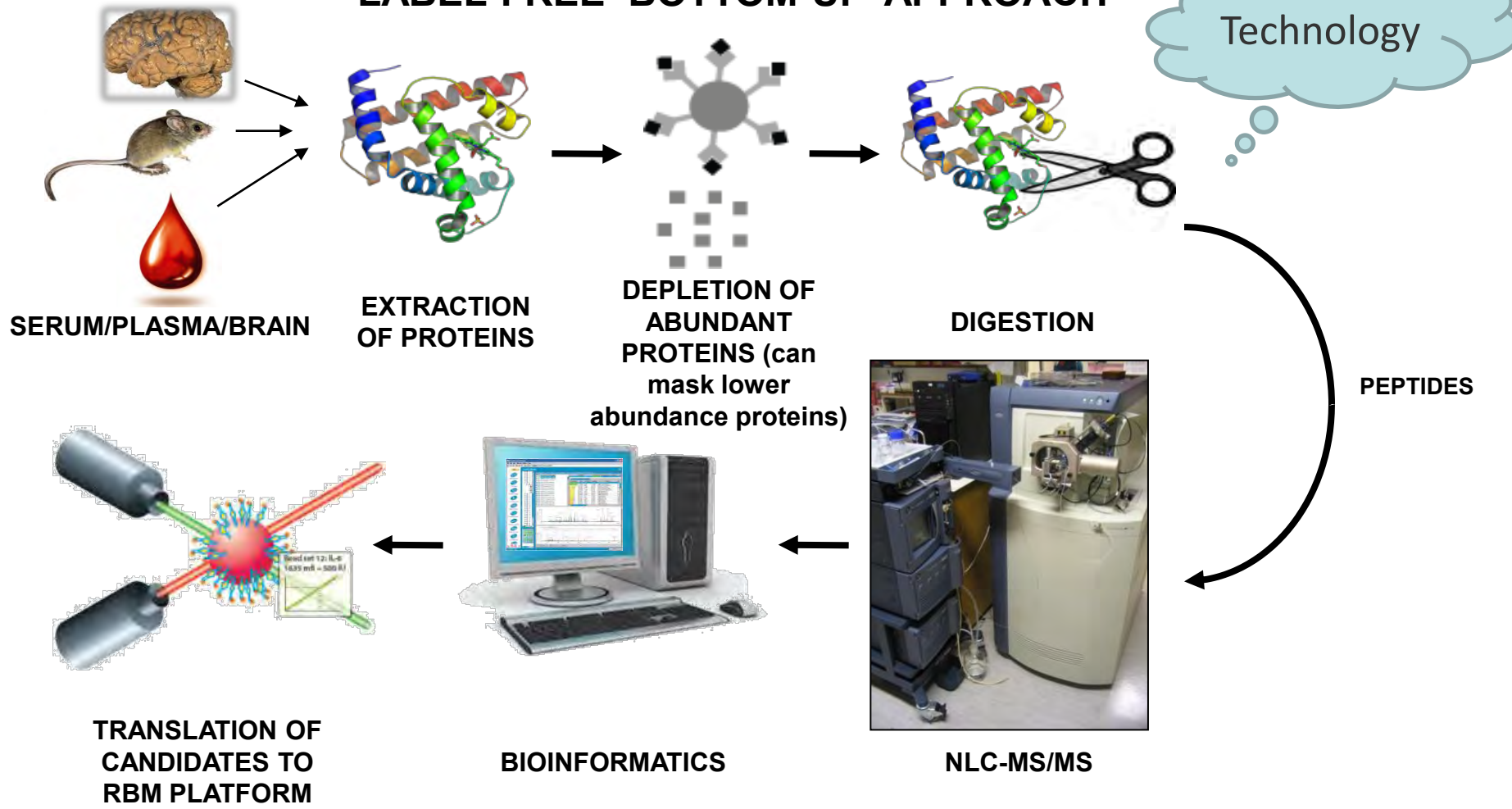
Discovery...

# Schizophrenia is a Systemic Disorder



# NON-HYPOTHESIS DRIVEN APPROACH TO BIOMARKER DISCOVERY

## LABEL-FREE 'BOTTOM-UP' APPROACH





## DATABASE

**250  
PRECLINICAL  
SERUM  
SAMPLES**

**250  
PRECLINICAL  
BRAIN  
SAMPLES**

**>5000  
CLINICAL  
SERUM  
SAMPLES**

**100 PM  
BRAIN  
SAMPLES**

**60 PM  
PITUITARY  
SAMPLES**



# PSYNOVA NEUROTECH LTD

Personalised medicine for neuropsychiatric disorders



- 2004** PoC Fund (£25,000)
- 2005** UCCF investment (£250,000)  
Company founded
- 2006** VC investment (Porton Capital; £1.25m)
- 2007** Medical futures innovation award  
Partnership with Rules Based Medicine (RBM, Austin,Tx; £1.5m)
- 2008** Psynova/RBM identify biomarker panel for schizophrenia
- 2009** Product launch: schizophrenia diagnostic Veripsych™
- 2010** Business weekly: killer 50 company
- 2011** ACES; Best European Life Science Company



Start-Up  
and Money

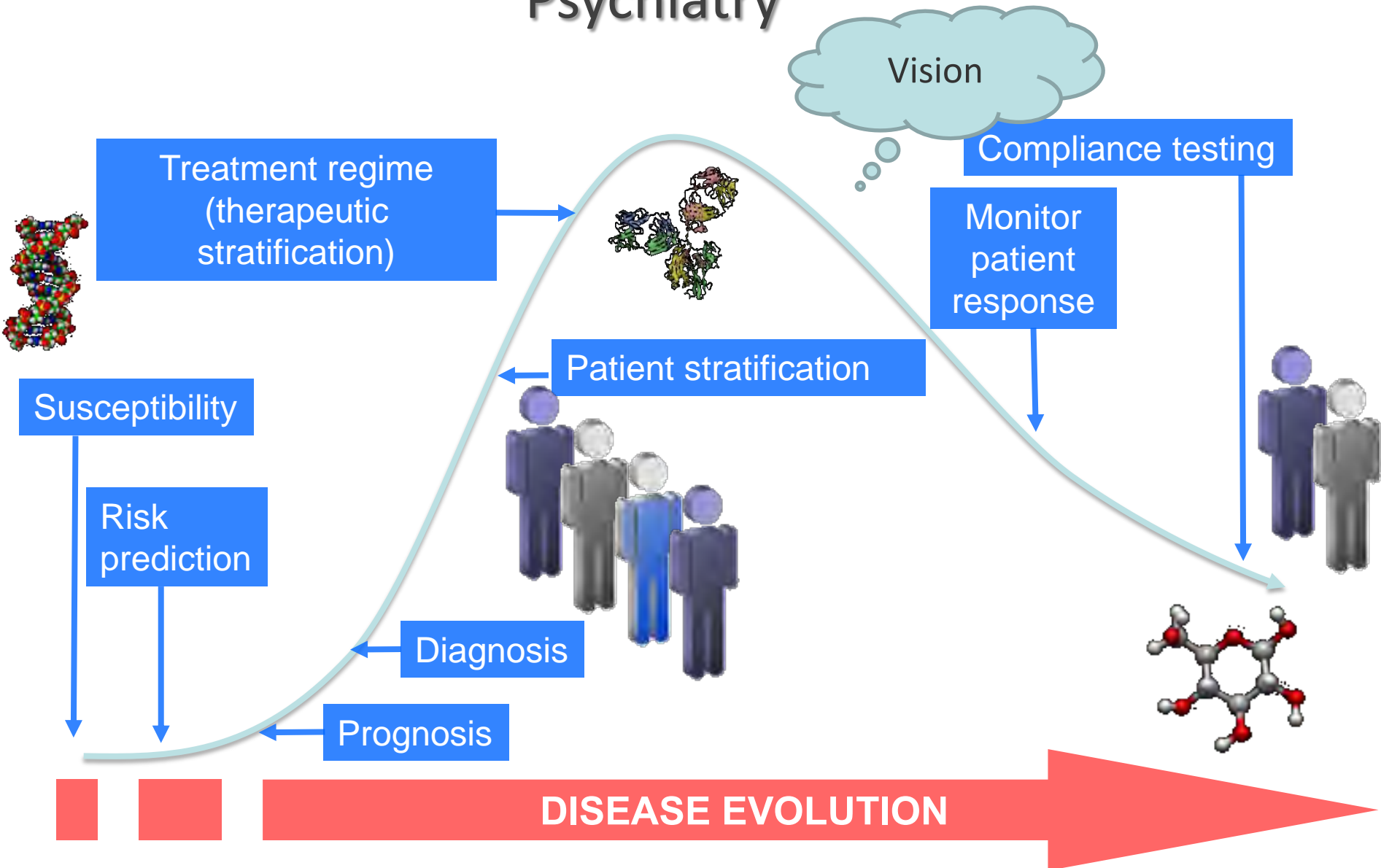


**2008:** Co-development of a new blood-based biomarker test to aid in the diagnosis and treatment of schizophrenia



**RBM**  
RULES • BASED MEDICINE

# Anticipated Application Of Biomarker Tests In Psychiatry





[PATIENTS and FAMILIES](#)

[MEDICAL PROFESSIONALS](#)

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The **first blood-based diagnostic aid** for schizophrenia

[LEARN MORE >](#)

### About

VeriPsych™ is the first and only blood test to aid a psychiatrist in the diagnosis of recent-onset schizophrenia. VeriPsych compares the patient's biomarker profile to that of confirmed schizophrenic patients. It gives physicians, researchers and consumers a new objective evaluation tool. While it is not intended to provide a definitive diagnosis of schizophrenia, or to be used as the sole means of patient treatment, VeriPsych opens a valuable new window into this complicated psychiatric condition.

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# PSYNOVA NEUROTECH LTD



Take-Over

**June 2011: Myriad Genetics acquires Psynova Neurotech Ltd and RBM Inc for \$80M**

Dedicated to Improving  
Patient Care at Every Turn.



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# The Bahn Lab

The Team



The Yacht...

