

PRoF Award abstract – Call 2018

Deadline for submission: Thursday March 1st 2018 (12 o'clock noon)

Please send to: PRoF-Award@uzgent.be.

<PCPM – Primary care PsyMate™>

1. Research Outline

Acronym	PCPM
Project name in English	Primary care PsyMate™
Pitch (1 sentence)	mHealth tool to assess moment-to-moment mood and behavior changes in daily life and understand the contextual relations (functional analysis). This facilitates collaborative care and empowers patients to explore daily routine changes to increase resilience, independently from health care professionals.
Executive summary (max. 10 lines)	<p>PsyMate™ has revolutionized the psychiatry by providing a mHealth tool for moment-to-moment assessment of patients' mood and behavior in the context of daily life. It allows a detailed functional analysis of vulnerabilities as well as strengths. Providing patients with this information empowers them to become autonomous and live independently from support of health care professionals. This improves resilience.</p> <p>Daily life functioning is the primary outcome of care. Interventions such as medication and psychotherapy intend to have 7x24 hour effects. However, acquired skills often do not generalize in daily life. Better daily life assessment and embedded interventions can bridge the gap between (psycho)therapy and daily life. The PsyMate™ is optimized in the primary care setting and for peer support interventions.</p>



2. Cause and context of the research

As clinicians, we sometimes experience patients who, during psychotherapy, are well skilled in exploring automatic depressive thoughts, relaxing on command, or reflecting on their destructive drinking. Nevertheless, they repeatedly fail to bring this expertise to practice. There is a huge gap between the therapeutic setting, often in the clinician's office, and daily life. In psychiatric care, we often rely on clinical interviews or observations to gain insight into the patients' daily life functioning, herewith obtaining a detailed functional analysis of the patients' vulnerabilities and strengths. Standard diagnostic instruments offer insufficient insight into the variability of patients' subjective experiences and their contextual relations. The health care professional is unaware of relevant information and plans interventions based on incomplete information about the patients' daily life functioning.

Daily life functioning is the primary outcome of care. Well-dosed medication has a 7x24 hour effect. Psychological interventions also intend to have a generalization effect over 7x24 hours. Clinicians who offer psychological interventions hope that patients are able to implement the skills learned in therapy in their daily life. Despite this effort, the learned skills are often not generalizable to the patients' daily life.

This generalization problem was a burden in clinical psychology for decennia. The current innovation facilitates the generation of a detailed functional analysis and provides better insight into the patients' daily life functioning. It also offers mobile health interventions, where patients are in charge, independently from support of health care professionals. Consequently, better daily life assessment and embedded interventions should focus on empowering the patient and improving the patients' resilience. It matches the current reference in psychiatric care, where the perspective of the patients, their peers and care takers becomes increasingly relevant in support of the development of autonomous resilience.

Various societal developments in the treatment of mental illness require better daily life assessments and more embedded interventions. The system-level change in mental health care in Belgium and the Netherlands refocuses services towards ambulatory care. The general practitioner plays a crucial role as gate-keeper and service provider. Disease



management and lifestyle related mental health interventions should be part of the primary care setting. Due to the reforms, the percentage of patients who consult the general practitioner for psychological or social problems increased by 15-20%. General practitioners should be supported by primary care assistants for mental health. Due to limited resources, much is expected from the use of eHealth in the general practice. Classic evidence-based interventions are insufficient and can even decrease the quality of standardized care. The Council for Public Health and Society proposed in an influential report that context-based practice, in which care becomes more patient-centered and recovery oriented, should become the reference. Standard solutions are replaced by personalized psychiatry. Autonomous patients are agents in their recovery process and care plans are developed collaboratively. Consequently, these developments require better daily life assessment strategies and embedded interventions focusing on empowering the patient and improving the resilience of the patient, autonomously from health care professionals.

3. Innovation results achieved

PsyMate™ is a smartphone application based on the experience sampling method (ESM) for moment-to-moment assessment of mood and behavior in the context of daily life (www.psymate.eu). ESM is a diary technique that collects self-reports of feelings, behavior and context. The data are collected in response to random beep signals indicating individuals during waking hours of a normal day to fill out questionnaires. The PsyMate™ app provides a beep signal eight to ten times a day at semi-random moments. Patients are prompted to fill out a short self-report questionnaire (beep questionnaire). The beep signals are provided between 7.30 AM and 22.30 PM and beep questionnaires only remain available for a short time period. The beep questionnaire consists of items assessing mood (e.g., cheerful, insecure and relaxed), physical status (e.g., hunger, pain and tiredness) and context (e.g., current activity, location and company). The mood and physical status items are assessed with 7 point Likert scales ranging from not at all (1) to absolutely (7). The context items are assessed categorically. In addition to the beep questionnaire, users are also asked to fill out a morning and evening questionnaire, respectively measuring sleep quality and sleep duration, and appraisal of the day. Patients get access to an online feedback page that visually presents individual data in graphs and diagrams. In this way, it



allows to see patterns in mood, behavior or the relation between mood and behavior in their daily life. A free demo version of PsyMate™ is available in the Google Play Store (Android users) or the App Store (iOS users).

PsyMate™ is extensively studied in psychiatry and mental health within a broad range of psychological disorders (e.g., depressive disorder, schizophrenia spectrum disorders, anxiety disorders and eating disorders). The use of ESM with feedback leads to symptom reduction compared to pharmacological treatment or treatment as usual. So, we can conclude the effect of the use of ESM on outcome measurements. ESM is suitable for all health conditions and stages of illness. They all benefit from this functional mhealth tool. Valuable time is returned to health care professionals thanks to more efficient monitoring of the patients' mood and behavior in their daily life.

A study with primary care professionals mapped the expectations and needs related to the acceptability and usability of PsyMate™ in this setting. Primary care assistants reported the relevance of PsyMate™ for patients with different problems (e.g., burnout, trauma, mood and pain problems). They indicated as strengths of the PsyMate™: creating insight and awareness, being useful as a multi-purpose tool, promoting patient empowerment and actively involving patients in their treatment. Suggestions for optimization were: adding personal questions, randomization of the questions and adjusting the time sampling period.

Currently, a PsyMate™ pilot study is running in the primary care setting. This pilot study evaluates the clinical validation of PsyMate™, the necessary steps towards further development and the optimization and implementation in the primary care setting.

4. Link to the PRoF values

Minimal comfort: PsyMate™ can be used on the patients' own smartphone. They do not have to carry another device during the day. Responding to the beep and filling out the beep questionnaire takes about one minute. In this time, the patients' mood and behavior in the context of daily life at that particular moment in time is recorded. Patients do not have to remember and recollect their previous mood and behavior. The patients' vulnerabilities, as



well as strengths and resilience are taken into account. Patients found the PsyMate™ to be less burdensome than classic homework assignments.

Privacy: Ensuring the patient's privacy was a primary focus of the PsyMate™ development team and great care has been taken to ascertain that individuals stay in control of their own data. Patients are provided with personal credentials to get access to the app and online feedback page. Patients have to give their primary care professional access to the online feedback page. This empowers them and puts them in control.

Security: The PsyMate™ development team ensures that the security is in line with the security standards and guidelines so that patients can use PsyMate™ with confidence. Patients can log in with an e-mail and personal credentials are provided by mail. After this mail is sent, the e-mail information will be deleted from the database. All data is stored using state of the art encryption, protected by firewalls. Access to sensitive information is tightly controlled and logged. The system is repeatedly audited in relation to the Helsinki Guidelines for research and European standards and security requirements.

Anti-loneliness: The issue of isolation in mental health is well recognized. Empowering patients in their daily life adaptation, becoming more actively involved in their recovery process and increasing their resilience can eliminate these feelings of isolation or loneliness. The feedback on vulnerabilities as well as strengths helps patients to become more actively involved in their supporting networks and society.

Non-stigmatizing solutions: The stigma of ill-health is reduced by focusing on vulnerabilities as well as strengths in the patients' adaptational strategies using PsyMate™ in the patients' daily life. Because patients use the app on their own smartphone, monitoring mood and behavior can be done discreetly, as writing an SMS or responding to a WhatsApp message, without drawing attention to their vulnerabilities. Patients' strengths and resilience are taken into account as well. The perspective of the patients, their peers and care takers becomes increasingly relevant in support of the development of autonomous resilience. They see the person rather than the condition.



Intergenerational: PsyMate™ can be used by all ages ranging from young adults to elderly. PsyMate™ has an intuitive interface. In the future, we intend to adapt our technical knowledge to create an even more intuitive interface for both the app as well as the online feedback page.

Respect: PsyMate™ focuses on both the vulnerabilities and strengths of the patient in the context of daily life. Providing patients with this information empowers them to become autonomous and live independently from support of health care professionals. The tool focuses on the individual rather than their condition. Patients are involved in the development of PsyMate™, by co-creation and feedback sessions. This respects their needs and desires.

Flexibility: PsyMate™ is extensively studied in psychiatry and mental health within a broad range of psychological disorders. PsyMate™ can be used in different settings and for various medical and psychological problems. PsyMate™ is a platform for ecological data collection and questionnaires, sampling schemes and embedded exercises can be customized flexibly to use for all patients no matter their medical or psychological problems.

5. Applicable IPR rules

The PsyMate™ name is held by Johannes J. van Os and Patrick Theunis. An European Union trademark “PsyMate insight into daily life” (number: 012668745) is obtained. Intellectual Property Rights remain with Prof. Dr. Philippe Delespaul and the department of Psychiatry and Neuropsychology at the University of Maastricht. European Licency was granted to SmarteHealth, Diekirch, Luxemburg.

6. Information on the partners

A consortium between Maastricht University, Faculty of Health, Medicine and Life Sciences, department of Psychiatry and Neuropsychology and department of Family Medicine, and Zuyd University of Applied Sciences, Faculty of Health has been made. Partners in this project are SmarteHealth (development of PsyMate™) and Zorg in Ontwikkeling (ZIO; regional care group). So, the project is a collaboration between Maastricht University, Zuyd



University of Applied Sciences and ZIO, which is executed as part of the Brightlands innovation program Limburg Meet (LIME).

Maastricht University, department of Psychiatry and Neuropsychology:

- Naomi Daniëls: PhD candidate
- Prof. Dr. Philippe Delespaul: professor innovations in mental health and clinical psychologist

Maastricht University, department of Family Medicine:

- Prof. Dr. Loes van Bokhoven: professor family medicine and general practitioner

Zuyd University of Applied Sciences:

- Prof. Dr. Sandra Beurskens: professor autonomy and participation of chronically ill people and goal-oriented measurement in patient care
- Dr. Laura Hochstenbach: researcher

Zorg in Ontwikkeling:

- Bart Bongers: manager mental health

Note:

If your project is selected as laureate for the Award Symposium, a powerpoint presentation that reflects the project as suggested will be required (in advance), including a future plan how the funding will be used.

If your project is selected as the winner of the Award, you will be invited to present the results achieved thanks to the award during the Award Symposium of the next year.



Addendum: Contact information

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