HELP4MOOD – A FLEXIBLE SOLUTION FOR SUPPORTING PEOPLE WITH DEPRESSION IN THE COMMUNITY ACROSS EUROPE

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***Abstract: TODO-MARIA* 100 words here.**

Introduction

Depression is one of the most common disabling conditions world wide [1]. According to the DSM-IV [2], it is characterized by two core symptoms, persistent low mood and loss of interest. Depression results in changes in physiology, behaviour, and cognition. It thus profoundly affects the lives of people with this disease.

Across Europe, many people with depression are supported in the community. Help4Mood is a system for supporting the treatment of people with major depression in the community under the supervision of a clinician. It consists of three main components:

1. a Personal Monitoring System that tracks activity and sleep;
2. a Virtual Agent, embodied by a 3D talking head (avatar), that interacts with the patient, administers questionnaires, collects mood and psychomotor data, offers exercises and psychoeducation, and provides access to an on-demand crisis plan if the user is feeling particularly low;
3. a Decision Support System that interprets incoming data, plans the Virtual Agent's sessions with the patient, and summarises findings for patients and clinicians.

The system will be trialled in three countries, Spain, Romania, and the UK. If Help4Mood is to be used successfully in all three countries, which have different health care systems, different Electronic Health Record systems, different mental health care pathways, and different cultures [3], Help4Mood needs to be extensively configurable. In this paper, we summarise the user requirements regarding system configuration.

Method

User requirements were established through literature reviews and ten focus groups, three in the UK, three in Spain, and four in Romania. One focus group per country was conducted with patients, while the others involved a variety of health professionals that were involved in providing care to people with depression in the community. We also compared the different mental health care pathways and eHealth infrastructure in the three countries and in particular at the three sites where Help4Mood will be tested, the Fundacion San Joan de Deu Hospital en El Prat de Llobregat, Spain; NHS primary care, Scotland; and the Clinica Universitara de Psihologie (PsyTech), Cluj-Napoca.

The Three Levels of Configurability

We determined three main levels of configurability, corresponding to the organization that deploys Help4Mood, the clinician, and the patient who uses Help4Mood.

Organisation Level

Organisations that deploy Help4Mood can vary in size, ranging from health service trusts to hospitals and individual practices. Each of these will typically have standardized processes for monitoring progress and a set of exercises and psychoeducation material used for delivering treatment. To ensure smooth adoption of Help4Mood, organisations need to be able to add this information to the system in a straightforward process that will be performed once per organization. Organisations should also adapt the crisis plans to include site-specific resources.

Integrating Help4Mood into different Electronic Health Record (HER) frameworks is more difficult due to the sheer variety of systems and interfaces on the market. Therefore, as lowest common denominator, Help4Mood will produce a PDF report that can be easily added to many systems or emailed to the clinicians. In addition, we will support HL7 CDA-based information exchange [4] for EHR systems that support this standard.

Clinician Level

As clinician time is limited, we will ensure that setting Help4Mood up for a particular patient is very straightforward. Demographic data about the patient (age, gender, family, employment status) can be entered using a few simple screens.

Patient Level

Patients can extensively configure the look and feel of the Virtual Agent. This includes the interaction style, the visual appearance of the application, and the appearance of the avatar. Help4Mood will offer two interaction styles, formal and informal. In order to strike a balance between animation quality and computing requirements, Help4Mood offers four talking head avatars, two male and two female, which are partly pre-generated. Each avatar will be available in two clothing styles, formal or informal, to match the desired interaction style.

Patients can also influence individual sessions with the Virtual Agent. At the beginning of each session, they can adapt the session length to their stamina. They can choose to opt out of activities, and indicate whether they wish to receive further information about a particular topic such as sleep or nutrition.

Finally, they can customize their crisis plans, in collaboration with the clinician, by assembling a list of activities that are effective at lifting their mood.

Conclusion

We expect that this extensive configurability will be essential to uptake of and adherence to Help4Mood. [REF re configurability]

Acknowledgment

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References

[1] WHO REPORT
[2] DSM-IV
[3] D2.1
[4] HL7 citation.