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Training program for enhancing the
adoption of mobile health technologies
by persons with mild-dementia

DETA 1 Module 1: mHealth for monitoring health indicators



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DESIGNED EXPERIENTIAL TRAINING ACTIVITY 1_mHealth for monitoring health indicators

Objectives:

Designed experiential training activity (DETA) 1 “mHealth for monitoring health indicators” focuses on the introduction and explanation of mHealth technologies to give an idea of the use of mHealth technologies and fields of application. The usefulness of mHealth solutions will be highlighted as well as how these solutions can improve self-management of persons with dementia (PWD) and their relatives or caregivers. An additional objective of this DETA is to present technologies, which are measuring physiological and psychological parameters. Examples for physiological parameters are heart rate, blood oxygen, cholesterol, blood sugar, blood pressure and for psychological parameters are mood, sleep quality and daily routines. It should summarize the most important and applicable solutions to monitor and provide different health indicators.

Participants & roles:

- PWD: 10 persons
- Caregivers:
 - 5 formal caregivers
 - 5 informal caregivers

Competences:

- Knowledge about mHealth in general, and physiological and psychological parameters
- Understanding how to measure physiological and psychological parameters with mHealth technologies
- Ability to apply mHealth technologies for measuring purposes
- Introduction into Self-management



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Training contents:

- What is mobile health?
- To get a first understanding of Self-Monitoring: Which physiological and psychological parameters are important?
- Improvement of Self-Management and Empowerment
- To get to know different mobile health solutions for monitoring health indicators

Duration of the session: 5 hours

- Face to face session: 4 hours (should be divided into separate sessions from 45-90 minutes)
- Online session: 1 hour

Transversal training:

- Digital skills
- Social skills
- Self-Management
- Ability to teamwork
- Skills to adapt theoretical knowledge into practice

Methodology:

- Active and participative
- Face to face training:
 - Dialogue



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- Presentations
- Teamwork
- Practical activities (Use of different mHealth technologies)
- Online training:
 - Videos
 - Presentations
 - Use of different mHealth technologies

Training materials:

- Face to face sessions:
 - PowerPoint presentations
 - Survey
 - List of mHealth technologies
 - mHealth technologies for presentation
 - Videos
- Online sessions:
 - Videos
 - mHealth technology (e.g. smartwatch)

Organisational and technical requirement:

- Computer
- Beamer
- mHealth technologies
- Room
- Documents/ training materials



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- Sound system

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FACE2FACE 1.1 SESSION: GUIDELINES, DURATION, AND TOOLS

1. Introduction

1.1 Opening

The session starts with a welcome and an overview about the objectives of the session, including learning objectives, activities, and planning. In the beginning, all participants should get to know each other.

- **Duration:** 10 minutes
- **Tools:** PPT_1.1_Module 1_mHealth for monitoring health indicators (Slide 1 – 8)

1.2 Introductory session - What is mobile health and which physiological and psychological parameters are important for monitoring health indicators?

This action aims to provide a first idea to the participants of what mobile health means. Also, the trainer should get a first impression of what the participants know about mobile health so far, and if some of the participants ever have used such technologies.

To achieve this, the trainer starts by asking the participants what they understand by the term “mHealth technologies” and if they at least have any idea what that could mean. If it seems like the participants have some first ideas about what this could mean, the ideas can be collected at the front to develop a common understanding of mHealth technologies.

If no one of the participants has any idea what mHealth could be, the trainer can show a short video with an explanation of what mHealth technologies are/show some examples of mHealth technologies. Probably, some of the participants have a better understanding of what mHealth technologies are afterwards.

In the next step, after the participants have understood what mHealth technologies can be, the trainer can ask if some of the participants already have used any kind of mHealth technologies and if yes, what technologies they have used so far. The trainer can start by writing a list of all the known technologies. If some of the participants already have used mHealth technologies, the participants can tell from their experience with mHealth technologies.

-BREAK 10 MINUTES-

The next part of the action is to collect some first ideas of which physiological and psychological parameters are important for monitoring health indicators. To achieve this, it is important to



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clarify what health indicators are and which health indicators can be tracked with the help of mHealth technologies. For this, the trainer can ask, what the participants do understand by the term health indicators. Maybe they are already tracking health indicators (without/with mHealth technologies) and can share some experience of how useful the tracking of the health indicator is.

If they do not have any experience with tracking health indicators on their own, the trainer shows some case studies where persons are tracking their health indicators. This should be done, to give the participants some first insights into how useful the tracking of health indicators can be.

- **Duration:** 50 minutes
- **Tools:** PPT_1.1_Module 1_mHealth for monitoring health indicators (Slide 9 – 17)

----- possible break -----

2. Concept

2.1 Monitoring health indicators

To set the focus on mHealth technologies and their implementation, the aim of this action is to provide some examples and use cases for the participants. It is important that PWD lose their concerns against mHealth technologies. Therefore they have to understand the usefulness of mHealth technologies on the one hand, and on the other hand they need some practical activities to collect positive experiences with the handling of mHealth technologies.

Some or maybe all of the participants have never used any mHealth technologies. The action should start by discussing why participants have had no previous contact with mHealth technologies. All participants should be encouraged to talk about their fears, inhibitions and anxieties in an open atmosphere. The trainer should collect the most frequently named issues and pick one to address it in the following input. This can be due to the following reasons:

- They have never heard of such technologies
- They do not have any idea how useful mHealth technologies can be
- Lack of digital skills
- Fear of data misuse
- Etc...

All reasons should be taken seriously by the trainer. To address these reasons during the training program, the trainer can start a list to collect all the mentioned reasons for not using any mHealth technologies.



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The input should contain for example information about safety, data protection, easy handling, assistance, the possibility to make mistakes without having to fear consequences in order to reduce the fears of PWD.

-BREAK 10 MINUTES-

In the following, the trainer should represent a use case of an available mHealth technology. As an example, the training structure is described by referring to a smart watch to measure the heart rate. First of all, the trainer should introduce the smart watch and its aims. A short repetition of the contents of Action 1.2 should follow: Why is it important to measure the heart rate?.

An introduction to the physiological and technological background is given. Some information about the use of the smartwatch should follow. In particular, some advantages and how to put on the watch, that its position must be correct and how to read the numbers. The trainer can consider to represent use cases which should contain different scenarios: 1) a normal heart rate, 2) a reduced heart rate and 3) an increased heart rate. All three scenarios should be introduced and the need for action should be discussed together. Depending on the participants and their knowledge the trainer should continue by explaining further technological options, for example how to transfer the data to the smartphone or other technical possibilities that can be useful.

Furthermore a second example is introduced to the participants. In this case it could be a digital blood glucose management system. The structure of the use case before is used, so that initially the physiological and technical background are explained. Then some advantages and recommendations are given.

-BREAK 10 MINUTES-

Practical activity: All participants should have the option to try on the smart watch and measure their own heart rate or use whatever mHealth technology is available. The practical session should end by summarising the experiences with the watch: “Is it easy to put it on?”, “Is it easy to read the heart rate?” “Is it comfortable to wear?”. All participants should be asked if their attitude towards mHealth technologies has changed. Participants should be encouraged to talk with their relatives about the options to implement mHealth technologies in their daily living.

Further examples that could be used by the trainer to describe a use case are digital blood sugar measuring systems, activity trackers, apps that provide information about health issues or have functions to document their own behaviour and exchange information with experts.

- **Duration:** 60 minutes
- **Tools:** PPT_1.1_Module 1_mHealth for monitoring health indicators (Slide 18 – 28)



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END OF FIRST DAY

SECOND DAY

[Proceed like day 1] [e.g. short Welcoming, summary of the first day, overview about objectives]

2.2 Self-Management and Empowerment

Dementia can already cause changes in daily life at an early stage and while it progresses, PWD are confronted with further challenges regarding health and personal independence. In this context, the topic of self-management and creating useful routines might be relevant for PWD, relatives and caregivers. Here, mHealth solutions can also be a supporting element to strengthen physical and mental health.

The aim of this activity is to explore the concept of self-management in the context of mHealth solutions in theoretical and practical ways. As patients and their relatives face different challenges in daily life, both should engage in this topic. The action will consist of three different parts:

2.2.1 Concept of Self-Management

First, the course leader will give a brief theoretical introduction to the topic of self-management, while the main focus should be on self-management regarding healthcare. The participants are asked by the trainer if they already know anything about self-management and if they could explain in short words (brainstorming). Examples from the areas of physical and mental health care will be presented and discussed in the group, so a practical insight is given.

As the topic of daily routines is closely related to self-management and could be quite important in the environment of PWD and their relatives, this will also be explained. The trainer should make sure to keep theoretical explanations on a practical and simple level as well as possible.

BREAK 10-15 Minutes

2.2.2 Current Status Self-Management PWD/relatives

In the first part, examples for “Best Practice” of self-management were given by the trainer and discussed with the participants. In the second part of this action, self-management will be related to daily life of PWD and their relatives. The trainer will lead the participants to reflect upon their current routines, needs and resources regarding self-management in health care. As PWD and relatives are both challenged by the physical and mental changes of Dementia, it is important that they discuss this topic together.



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BREAK 10-15 Minutes

2.2.3 Creating an Individual Self-Management routine for monitoring health indicators (Practical Part)

In the last part, the participants will prepare one specific content that they could actually implement into their everyday life (e.g. blood pressure, sleep quality, mood, activity, blood glucose level, heart beat, oxygen level, ...). It should be something their relatives could help them with, or even the relatives would like to use as a new routine. The trainer will help to set up one concrete goal (example: "Every evening I will summarise the day in a short diary note in the app"). Additionally, the trainer will show the participants an example on his or her own device. Afterwards, the participants get enough time to work on their individual goal. The trainer will be present for questions the whole period. Finally, the participants can present their individual goal to the whole group. If possible, the participants could also try to actually perform their set action on the devices during the session. The trainer will be available for questions and concerns all the time.

At the end of the session there will be another short summary by the course instructor.

- **Duration:** 50 minutes
- **Tools:** PPT_1.1_Module 1_mHealth for monitoring health indicators (Slide 29 – 34), Whiteboard, Paper & Pencil

4. mHealth solutions for PWD

To finalize this activity the trainer should present different solutions, apps or devices, that can be used to monitor health care parameters. An overview about available solutions is presented in the table "available devices". The solution itself and its implementation and advantages should be introduced.

If some devices are available on site, they should be tried out together. Furthermore, some videos about mHealth solutions can be shown to introduce some devices.

- **Duration:** 50 minutes
- **Tools:** Table_Collection of available devices and apps

5. Closure

The trainer summarises the content of the session and tries to clarify possible doubts and



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questions.

- **Duration:** 10-15 minutes

6. Home Activities:

Activity to be done on your own at home to practice the training contents.

Choose between:

- Action 1.1: Please write down all physiological and psychological parameters, that are important for you/ in your daily routine.
- Action 1.1: Collect with your relative mHealth solutions that could be useful for you and that are affordable/ available.
- Action 1.3: Implement the self-management routine you have developed in Action 1.4 and set a reminder.

Recommendations for Trainers:

- appropriate number of participants
- comfortable learning environment
- simple language
- try to make the activity joyful.
- explain clearly the objectives and potential benefits to the participant
- motivate participants to engage in brainstorming,
- offer different perspectives or scenarios
- provide time for communication that allows for reflection, debate, and empowerment of the participants