Maastricht Electronic Daily Life Observation tool

Manual

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Abbreviation of Maastricht Electronic Daily Life Observation tool

MEDLO- Tool

References

de Boer B, Beerens H, Zwakhalen S, Tan F, Hamers J, Verbeek H. Daily lives of residents with dementia in nursing homes: development of the Maastricht electronic daily life observation tool. International psychogeriatrics, 2016, 28(8): 1333-43. doi:10.1017/S1041610216000478.

References for application in research:
de Boer B, Hamers J, Beerens H, Zwakhalen S, Tan F, Verbeek H. Living at the farm, innovative nursing home care for people with dementia–study protocol of an observational longitudinal study. *BMC geriatrics* 2015; **15**(1): 144. DOI: 10.1186/s12877-015-0141-x

Beerens H, de Boer B, Zwakhalen S, Tan F, Ruwaard D, Hamers J, Verbeek H. The association between aspects of daily life and quality of life of people with dementia living in long-term care facilities: a momentary assessment study. International Psychogeriatrics, 2016, 28(8): 1323-31. doi:10.1017/S1041610216000466.

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Accessibility
This manual is freely accessible via the website of the Living Lab in Aging &Long Term Care South Limburg (www.academischewerkplaatsouderenzorg.nl/academic-collaborative-center).

1. Introduction

This manual describes how the daily life of people with dementia living in long term care facilities can be assessed using the MEDLO-Tool, a tablet-based observational instrument. The goal of the MEDLO-Tool is to gain insight into four domains of daily life, i.e. activities, physical environment, social interaction and emotional well-being.

With the use of the MEDLO-Tool the following questions can be answered:

- Activities:
    o Which activities are carried out by residents?
    o How engaged are residents in the activities?
    o How physically active are residents during their daily life?
- Physical environment:
    o At what location are these activities undertaken?
    o Is there any interaction with the physical environment during the activities?
- Social interaction:
    o Is there any social interaction during the activities?
    o What type of social interaction is occurring?
    o With whom are residents interacting?
- Emotional well-being:
    o What is the mood of the residents?
    o Do the residents show signs of agitation during the day?

1.1. Development of the MEDLO-Tool

Up until the development of the MEDLO-Tool a freely accessible, easy to use, electronic observation tool to assess the daily lives of nursing home residents with dementia was lacking. In a study conducted by de Boer et al. (2016) the development of the tool is described. The aim of the study was to (1) allow researchers to assess multiple aspects of daily life simultaneously, (2) develop a tool that could be used in multiple nursing home areas easily, and (3) provide an efficient way of data processing by using electronic devices to carry out the observations.

In the development process three iterative steps were made:
1. Determining relevant aspects of daily life for nursing home residents with dementia based on a literature search and expert interviews
2. Pilot testing observation procedures and operationalizations of the aspects of daily life
3. Exploring inter-rater reliability and feasibility of the tool

The result of the study is the MEDLO-Tool described in this manual. The study showed that the MEDLO-tool is a promising tool to gain real time insight into the aspects of the daily lives of nursing home residents with dementia. The tool was find to have a high absolute agreement of 86% and users of the MEDLO-Tool indicated that it was feasible in practice and contained clear operationalization of the aspects of daily life.

1.2.   Translation of the original (Dutch) manual into English

The MEDLO-Tool was originally developed in The Netherlands. To make the instrument accessible in English, it was translated into English. This was <u>not</u> done according to a procedure of forward and backward translation (as was done with the German version of the tool). This English manual was made for illustrative purposes, and further validation of the English version is required. For further information, please contact the authors of the manual.

Contents

2. Domains of daily life

2.1. Activities

With aid of the MEDLO-tool the activities of residents are scored. The observer scores which activity is being carried out, how involved residents are with the activities, and how much physical effort the residents display.

2.1.1. Activity.

The observer scores the activity that the resident is performing or the activity that takes place in close approximation of the resident. If a resident cannot be found, the observer continues with the next resident. The goal is to always score all relevant dimensions, in the schedule below some exceptions to this rule are stated. Keep into account the operational rules described on page 25, activity 1-27 have priority above 28-30.

Activity	Description/comment	Which dimensions to score
1. **Eating and drinking**	Consumption of food or drinks/ if a nurse is giving food to a resident this also counts as social interaction	All
2. **Farm activity**	Activities like looking at cattle, getting eggs, etc.	All
3. **Visitation by (para) medical services**	Visit from e.g. physiotherapist, ergo therapist etc.	All
4. **Gardening, taking care of plants**	Watering plants, flower arranging, etc.	All
5. **Domestic activities**	Setting the table, cleaning dishes, etc.	All
6. **Cooking**	Preparing a meal (e.g. peel potatoes)	All
7. **Exercising/ sports**	Swimming, gymnastics, etc.	All
8. **Dancing**	Dancing alone or with others	All
9. **Spiritual or Religious activity**	Going to the church, praying, etc.	All
10. **Handcrafts/ arts**	Knitting, drawing, etc.	All
11. **Music/ singing**	Making music or singing	All
12. **Excursion or shopping**	Example: going to the store	All
13. **Taking a walk outside**	Taking a walk alone or participating in a organized walking group.	All
14. **(self) care activity**	Washing, doing your hair, going to the toilet, brushing teeth, or receiving care from a nurse or aid such as getting medication, etc.	All that are observable
15. **Playing cards, playing a game, doing a puzzle**	Playing board games, etc.	All
16. **Reading, writing, crossword puzzle**	Individual reading or as a group	All
17. **Using the computer**	Individual or as a group	All

18. **Sensory stimulation**	Snoezelen, having a stuffed animal, etc.	All
19. **Beauty activity**	Manicure, hairdresser, make-up	All
20. **Having a chat**	Having a talk	All
21. **Having a phone call**	Making a phone call	All
22. **Pets**	Dog, cat, fish	All
23. **Talking groups**	Organized activity, can also be done by volunteers	All
24. **Helping others**		All
25. **Watching television or listening to the radio**	Alone or organized	When a resident is watching television, passive involvement cannot be scored, because watching to the television is active involvement.
26. **Doing an activity with family or others outside the care facility**	Choose this activity if the resident is going out with family or someone else (e.g. going to the store or church).	Only score activity
27. **Walking**	The resident walks around the living room, building and is relaxed (if the resident is wandering, do not score this activity).	All that are observable involvement is divided into 2 scores for this activity: 1. active involvement: alert /high orientation on the environment. 4. not involved: staring
28. **Sitting/ lying down**	The residents is sitting or lying down, there is no activity taking place.	All that are observable involvement is divided into 3 scores for this activity: 1. active involvement: alert /high orientation on the environment. 4. not involved: staring 5. not involved: sleeping
29. **Resting**	The resident is put to rest by a caregiver (either in bed or in a wheelchair). Only score this activity if the resident is actually resting. Or if there is high degree of certainty that the resident is resting. If the resident is awake then score sitting/lying down.	Activity + location
30. **Meaningless (repetitive) behaviour**	Tapping on table, rubbing hands without reason, picking, wandering, mumbling, etc.	All, except involvement. Make a note in the general remarks which behaviour is

		happening.
31. Unobservable	Score this activity of the resident is unobservable, for whatever reason. Always make a note with the reason for missing an observation.	Only activity.
32. Other	If the activity does not match any of the above, score 'other'. Describe in the field notes what is happening.	All

2.1.2. Engagement in the activities

Besides the activity, also the involvement of the resident with the activity is scored.

1. **Active engagement (obvious participation with the activity):** participating in the activity. Also score this type of engagement if the resident is actively engagement with a more passive activity such as watching television.
2. **Passive engagement (clear focus on the activity):** looking at or having a clear focus on the activity.
3. **Engagement with something else (active):** a clear focus on something else as the activity e.g. a person or the environment. If a resident is only looking around, also score this type of engagement.
4. **No engagement (staring, no focus):** no focus, for example: apathetic staring
5. **No engagement (appears to be sleeping):** the resident did not go resting consciously but has his or her eyes closed. Appears to be sleeping or dozing. If someone is sleeping their mood is neutral.

Exception: when the activity sitting/lying down is scored, the following engagement scores can be given:
1. Active engagement: alert, oriented on the environment
4. No engagement (staring, no focus)
5. No engagement (appears to be sleeping)

When the activity is walking 1 and 4 can be scored in the same manner.

2.1.3. The degree of physical effort.

Next, the degree of physical effort displayed by the resident during the activity is scored.

1. **Lying, no movements:** sleeping or napping in bed or in special resting chair
2. **Sitting quietly or very light sitting activity:** sitting without movements or with only minor hand and arm movements such as eating and drinking, talking or reading a newspaper
3. **Light to moderate sitting activity:** sitting with arm movements such as gymnastics or playing shovelboard while sitting
4. **Standing or light standing activity:** standing with and without arm movements such as dish washing or playing billiard.
5. **Standing activity or walking around**: standing with body movements or whole body movements such as picking eggs, pottering or light gardening work
6. **Walking activity or cycling:** whole body movements such as sweeping, cleaning pens, heavy gardening work
7. **Whole body movements:** sports

2.2.   Physical environment

With the MEDLO-tool the physical environment is also scored. The observer scores in which area/location the activities are occurring and whether the residents has interaction with the physical environment.

2.2.1. Location

For this dimension the observer chooses the location where the activity of the resident takes place. If the location is different from the choosing categories, the observer makes a field note about this.
Scoring options:

- Communal area on the ward
- Own room
- Communal area off the ward
- Bathroom/toilet
- Outside

2.2.2. Interaction with the physical environment

Interaction with the physical environment is seen as intentional handling, holding, manipulation, attention towards or other use of free standing, physical objects or fixed environmental features. For example: the use of knife and fork, reading a newspaper, holding a stuffed animal.

If someone is watching television or is listening to the radio, the person has attention for something and so there is also interaction with the physical environment.
If the above description does not match the observation, no interaction is scored.
If there is active of passive engagement in an activity there is always interaction with the physical environment.

2.3.   Social interaction

The observer scores whether there is social interaction during the activities, with whom the social interaction takes place and what type of social interaction it is.

2.3.1. Degree of social interaction.

Social interaction is defined as: communication back and forth. The communication can be verbal and non- verbal. For example: if a nurse strokes a residents' arm, and the resident laughs as a response, this also counts as interaction.

	1	**No social interaction: no communication** Talking in yourself also counts as no social interaction.
	2	**One- way interaction from the residents' perspective** Resident attempts to interact, but gets no response
	3	**One- way interaction from someone else** Someone in the environment attempts to interact, but resident does not respond
	4	**Two-way interaction** There is interaction between the resident and another person
	5	**Interaction with more than one person** This interaction with multiple people does not need to be simultaneously.

2.3.2. Social interaction with whom.

When there is social interaction, also score with whom the residents is interacting.

With personnel: social interaction with one or more personnel members.
With other residents: social interaction with one or more other residents.
With family and/or friends: social interaction with one or more family members or friends.
With others: social interaction with someone else.
Combination of the above: social interaction with for example a nurse and a family member, make a note about with whom the social interaction was.

2.3.3. Type of social interaction

The observer scores the behavior of people in the environment TOWARDS the resident, not the other way around.

Negative restrictive: interactions that opposes or resists residents' freedom of action without good reason, or which ignore resident as a person.

- Being moved without warning or explanation
- Told to do something (e.g. button dress) without discussion, explanation or help offered
- Being told can't have something (e.g. cup of tea) without good reason/ explanation
- Being told not allowed to swear/ show anger
- Being sworn at or physically assaulted

Negative protective: providing care, keeping safe or removing from danger, but in a restrictive manner, without explanation or reassurance.

- 'don't eat that, it's been on the floor'
- 'don't hit X'
- Being told to wait for medication/ treatment
- Being fed too quickly

Neutral: brief, indifferent interactions not meeting the definitions of the other categories.

- Putting plates down without verbal or non- verbal contact
- Undirected 'good morning/ hello/ goodbye'

Positive care: interactions during the appropriate delivery of physical care.

- Toileting, bathing, medication, feeding, etc. these may involve brief verbal explanations and encouragement, but only that necessary to carry out the task. No general conversation
- Keeping safe or removal from danger with explanation and reassurance

Positive social: interaction principally involving 'good, constructive, beneficial' conversation and companionship.

- Greetings director to individuals
- General chat and conversation , on its own or during other social and physical care activities
- Offering choices (e.g. food, drink, nail colour)
- Serving food while saying what it is, asking if subject likes it, who made it, etc.
- Offering more food/ asking if finished, only if carer waits for a response
- Verbal explanation, encouragement and comfort during other care tasks (lifting, moving, walking, bathing, etc.) that is more than necessary to carry out the task

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2.4.   Emotional well-being

When observing the emotional well-being of residents, the observer scores the mood of the resident, and whether he/she show signs of agitation.

2.4.1. Mood

Negative: **a negative mood can be characterized by groaning, moaning, crying, screaming, shouting, tensed facial expression or tensed body language. Furthermore, the content and tone of the verbal or nonverbal interactions gives information regarding the negativity of the mood.**

1	Great signs of negative mood (sadness, displeasure, anger, worries, fear, boredom or discomfort).
2	Considerable signs of negative mood (sadness, displeasure, anger, worries, fear, boredom or discomfort).
3	Small signs of negative mood (sadness, displeasure, anger, worries, fear, boredom or discomfort).
4	**Neutral**: a neutral mood is scored if there is no positive or negative mood observable, e.g. gazing or sleeping.

Positive: a positive mood can be characterized by smiling, laughing, chuckling, humming a tune, relaxed facial expression or relaxed body language. Furthermore, the content and tone of the verbal or nonverbal interaction gives information regarding the positivity of the mood.

5	Small signs of positive mood (contentment, happiness, pleasure, relaxation, comfort).
6	Considerable signs of positive mood (contentment, happiness, pleasure, relaxation, comfort).
7	Great signs of positive mood (contentment, happiness, pleasure, relaxation, comfort).

2.4.2. Agitation

Based on the Pittsburgh Agitation Scale it is determined whether or not a resident is showing signs of agitation, the types of agitation are not specified. Agitation can be in different behavior groups, below the descriptions of the Pittsburgh Agitation Scale are given.

Aberrant vocalization: repetitive requests or complaints, nonverbal vocalizations e.g., moaning, screaming.

Motor agitation: pacing, wandering, moving in chair, picking at objects, disrobing, banging on chair, taking others' possessions.

Aggressiveness

Resisting care

Scoring of agitation

	Aberrant vocalization	*Motor agitation*	*Aggressiveness*	*Resisting care*
0	Not present	Not present	Not present	Not present
1	Low volume, not disruptive in milieu, including crying	Pacing or moving about in chair at normal rate (appears to be seeking comfort, looking for spouse, purposeless movements)	Verbal threats	Procrastination or avoidance
2	Louder than conversational, mildly disruptive, redirectable	Increased rate of movements, mildly intrusive, easily redirectable	Threatening gestures; no attempt to strike	Verbal/ gesture of refusal
3	Loud, disruptive, difficult to redirect	Rapid movements, moderately intrusive or disruptive, difficult to redirect.	Physical toward property	Pushing away to avoid task
4	Extremely loud screaming or yelling, highly disruptive, unable to redirect	Intense movements, extremely intrusive or disruptive, not redirectable verbally	Physical toward self or others	Striking out at caregiver

2.4.3. Visitors

Choose yes or no, the visitor can be anyone (family, friends, neighbours, etc.)

3. Fieldnotes

The observer also has the option to make field notes during the observations. This is done when there are any prominent differences with the normal situation. These field notes can be about differences in:

1	The physical environment
2	The social environment
3	The well-being of the residents
4	The weather

4. Remarks

Write down any other remarks in this section. For instance:

1	The resident cannot be found;
2	The observer is having doubt about an observation and wants to discuss it with the other observers
3	There is something else the observer thinks is relevant to write down.

5. Summary table.

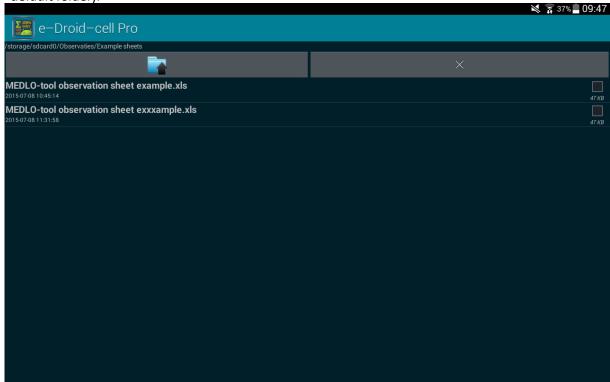| Aspects of daily life	Operationalization	Scoring options		
Activity				
Activity that is being performed by resident or is occurring in immediate environment	32 category options	- Eating/drinking - Household chores - Cooking - Sports - Dancing - Spiritual activity - Crafts/arts - Music/singing - Excursion or shopping - Walking outside - Playing cards/a game/puzzles - Reading/writing/ crossword - Talking groups - Using the computer - Sensory stimulation	- Beauty activity - Speaking with others/having a chat - Making a telephone call - Pets - Helping others - Watching television/list ening to radio - Outing with family or others outside facility	- Farming activities - Gardening and caring for plants - Walking - Sitting/lying - Resting or sleeping - Visit (para)medical personnel - (Self-)care activities - Purposeless (repetitive) behavior - Not observable - Other
Engagement in activity	5 category options	- Active engagement (participating in activity) - Passive engagement (focus on activity) - Engagement with something else - Not engaged (gazing without focus) - Not engaged (sleeping)		
Physical effort	7 point Likert scale	- Lying or sitting without movements (resident is gazing or sleeping) - Sitting quietly (resident is awake) - Light-to-moderate sitting activity - Standing or light-standing activity - Standing activity or walking around - Walking activity or cycling Whole-body movements		
Physical environment				
Location	5 category options	- Communal area on the ward - Own room - Communal area off the ward - Bathroom/toilet - Outside		
Interaction with the physical environment	Dichotomous category options	- No interaction with the physical environment - Yes, intentional handling, holding, manipulation, attention towards or other use of freestanding physical objects or fixed environmental features		
Social interaction				
Level of social interaction	5 category options	- No social interaction - Resident attempts to interact, gets no response - Environment attempts to interact, but resident does not respond		

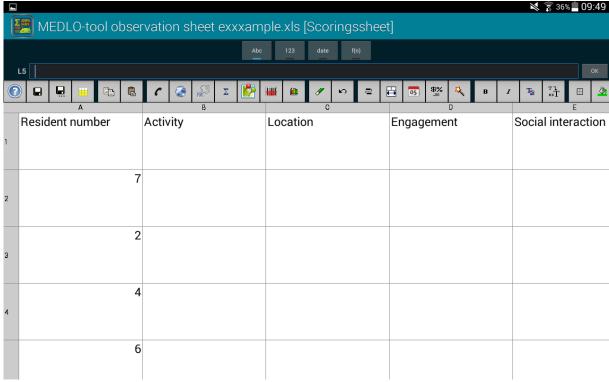|			
		- Interaction with someone else - Interaction with two or more people	19
Type of social interaction of the environment towards resident	5 category options	- Negative restrictive (interaction that oppose or resist resident's freedom of action without good reason, or ignore resident as a person) - Negative protective (providing care, keeping safe or removing from danger in a restrictive manner without explanation or reassurance) - Neutral (brief, indifferent interactions) - Positive care (interactions during the appropriate delivery of care) - Positive social (interactions principally involving 'good, constructive, beneficial' conversation and companionship)	
Social interaction with whom	5 category options	- Personnel - Other residents - Family and/or friends - Others - Combination of the above	
Emotional well-being			
Mood	7 point Likert scale	- Great signs of negative mood - Considerable signs of negative mood - Small signs of negative mood, discomfort or boredom - Neutral: no positive or negative mood observable, e.g. gazing or sleeping - Contentment and small signs of well being - Considerable positive mood - Very high positive mood	
Agitation	5 point Likert scale	Presence of aberrant vocalization, motor agitation, aggressiveness or resisting care Five levels: - Not present - Low volume, not disruptive in milieu / pacing or moving about in chair at normal rate / verbal threats / procrastination or avoidance - Louder than conversational, mildly disruptive / increased rate of movements / threatening gestures / verbal or gesture of refusal - Loud and disruptive / rapid movements / physical towards property / pushing away to avoid task - Extremely loud, highly disruptive / intense movements / physical towards self or others / striking out at caregiver	

6. Tablet application.

The app e-Droid-cell Pro Spreadsheet can be bought from the play store (android devices) for €1.97. After installing the app and opening it, you will see a 'folder' screen (see below); you will have to navigate to the folder in which you saved the observation schemes (this folder can be saved as the default folder).
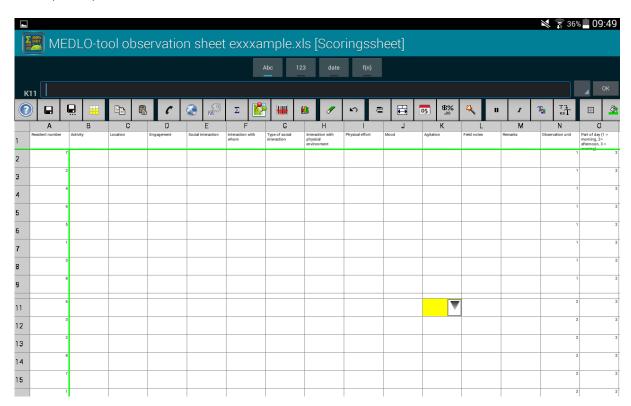

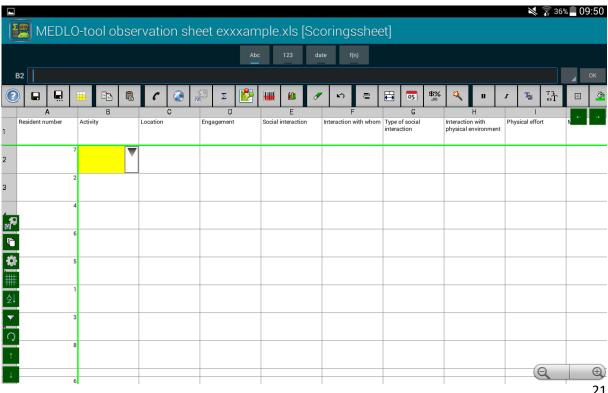Click on an observation scheme to open it, you will be redirected to the screen below.

Use the 'zoom' and 'freeze' options to rearrange the screen. The freeze option locks the first row and column (so they don't disappear when scrolling). You can zoom so that you can see the whole scoring sheet (below).
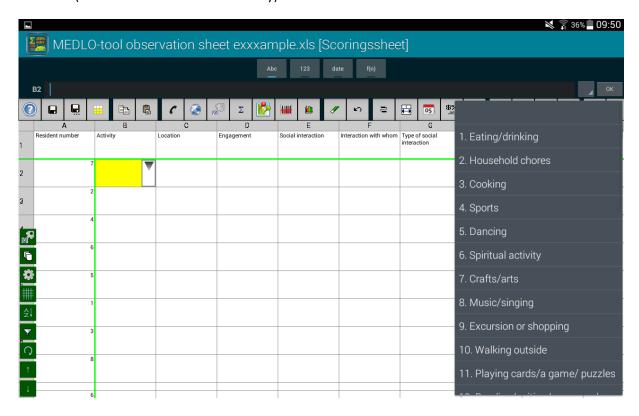

For observing you probably want to zoom less (as you still want to be able to read you entries (below).
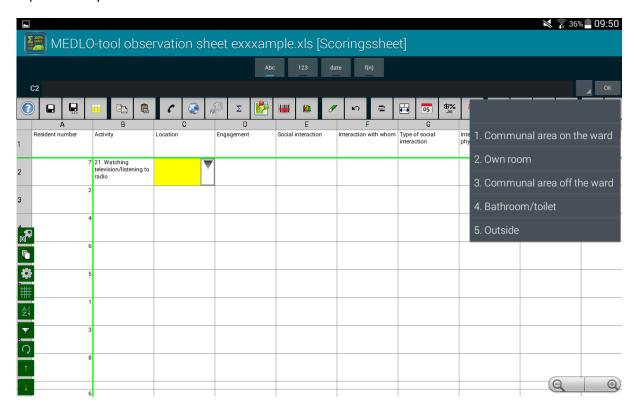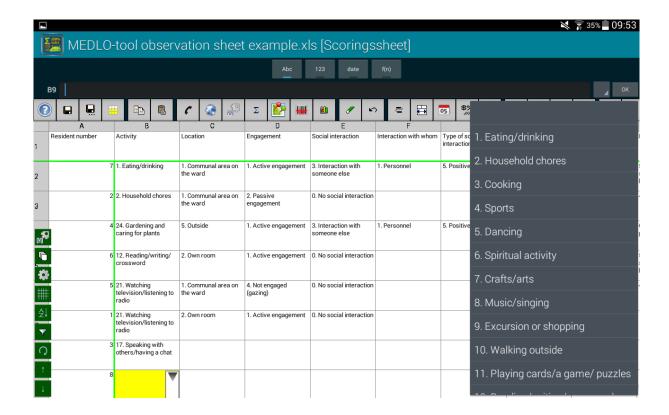
When clicking on the first empty cell, a drop down box will appear with the scoring options for activities (these can be altered if necessary).

This can be done for all empty cells, each time a drop down box will appear belonging to the relevant aspect of daily life.

Important:

- Make sure the battery of your tablet is full
- Remember to save your file during the observations
- After finishing an observation, the sheets can be copied/e-mailed to your PC
- Sheets can be opened with SPSS
- In SPSS
    - Delete empty and irrelevant cells
    - All variables will be seen as 'string' variables
    - Use syntax to convert the string variables to numerical variables
    - You can start your analyses

7. Application MEDLO- Tool – an example.

The MEDLO-Tool can be used as a Tool in scientific research.

Below is an example of a research design that uses the MEDLO-Tool to evaluate the nursing home environment and compare the daily lives of residents with dementia cross different settings:

de Boer B, Hamers J, Beerens H, Zwakhalen S, Tan F, Verbeek H. Living at the farm, innovative nursing home care for people with dementia–study protocol of an observational longitudinal study. *BMC geriatrics* 2015; **15**(1): 144. DOI: 10.1186/s12877-015-0141-x

The MEDLO-Tool can also be used to investigate which aspects of daily live are associated with quality of life:

Beerens H, de Boer B, Zwakhalen S, Tan F, Ruwaard D, Hamers J, Verbeek H. The association between aspects of daily life and quality of life of people with dementia living in long-term care facilities: a momentary assessment study. International Psychogeriatrics, 2016:1. doi:10.1017/S1041610216000466.

Below a description is given on the number of observations, the duration of an observation, and the procedure used in the above mentioned studies. It is important to note that the way the MEDLO-Tool can be used is dependant of your research aims. In the example, the goal was to give a detailed, in-depth insight into the daily lives of residents living in different types of nursing home facilities. However, the MEDLO-Tool can be used for other purposes as well (for instance observing only during certain activities, or observing only a few domains), which might change the way you have to use the MEDLO-Tool. Therefore, the description given below is purely illustrative.

7.1. Number of observations

One observation unit lasts 20 minutes; in an observation unit a maximum of 8 residents are observed. Every resident is observed three times each hour. An observer does 4 hours of observing on an observation day (after 2 hours there is a half hour break). It is recommended to observe residents for multiple days in order to get a complete insight into their daily lives.
For example: 6 weekdays per location + one observation day during the weekend. In total you then get (with 8 residents) 8*3*4*7 = 672 observations per location.
Timeslots:
- 2 morning periods: 7.00 – 11.30
- 2 afternoon periods: 11.30 – 16.00
- 2 evening periods: 16.00 – 20.30
- 1 Saturday afternoon: 11.30 – 16.00

7.2. What to do if the 20 minute timeframe appears to be too short

If the observer notices that it is impossible to observe all residents within the 20 minutes because he or she for instance gets disturbed by something in the environment, the observer has to stick to the time schedule. This means that the observer will continue with the next 20 minute observation unit and makes field notes in the 'missing' rows about the specific reason for missing them.

7.3. Procedure

Observations are carried out with tablets, observation schemes have to be uploaded onto the tablets in order to do the observations. The app e-Droid-cell Pro Spreadsheet can be used for the observations (explained below). Before the observations can be started, the observation scheme has

to be made and the order of observations has to be randomized. This is done on the following website: http://www.random.org/lists/. For every observation day 12 random sequences must be made and entered in the observation scheme. Below an example is given.

Observation 1	1	2	3	4	5	6	7
Observation 2	2	4	6	1	3	5	7
……………………							

When an observation starts the observer looks at a specific resident for 1 minute, after this the observation scheme is filled in.

The observer always chooses one activity based on operational rules described below.
-   Some activities have priority over others based on how meaningful they can be (e.g. 'having a chat' has priority over 'sitting/lying'). If a resident for example spends 40 seconds doing nothing and then 20 seconds dancing with another resident while laughing the observer scores dancing as the activity, and a high score for mood, etc.
-   If two meaningful activities take place, the one with the longest duration is chosen.
-   If both have the same duration, the one which had the most influence on the residents' well-being is chosen).
-   If it is still unclear which activity to choose, field notes are made describing the situation and a decision is made based on discussing it within the research team.

7.4.   Before the first observation day at a new location begins

Because the observer does not know the resident well enough, he or she will discuss the residents with a formal caregiver. They discuss the typical behaviour of the residents and things that must be kept in mind when observing the residents in this specific location.

8. Terms of use

The MEDLO-Tool is freely accessible and free of charge. It is not allowed to change the MEDLO-Tool or the use of it with regard to this manual without informing the authors. For the Dutch and English version a written consent is required from Bram de Boer, for the German version from Martin Dichter. Users of the tool are requested to refer to the relevant MEDLO-Tool publications:

In case of using the Dutch or English version of the MEDLO-Tool:
- de Boer B, Beerens H, Zwakhalen S, Tan F, Hamers J, Verbeek H. Daily lives of residents with dementia in nursing homes: development of the Maastricht electronic daily life observation tool. International psychogeriatrics, 2016, 28(8): 1333-43. doi:10.1017/S1041610216000478.
- De Boer B, Hamers J, Zwakhalen S, Beerens H, Verbeek H. (2016): Maastricht Electronic Daily Life Observation Tool Handleiding. Maastricht.
- De Boer B, Hamers J, Zwakhalen S, Beerens H, Verbeek H. (2016): Maastricht Electronic Daily Life Observation Tool Manual. Maastricht.

In case of using the German version of the MEDLO-Tool:
- Dichter, M. N., de Boer, B., Verbeek, H., Halek, M. (2017): (2017): Benutzerhandbuch für die deutschsprachige Maastricht Electronic Daily Life Observation Tool (MEDLO-Tool) Version 1.0. Witten.