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Development of a Theory of Change for an intervention aimed to improve sleep of people with dementia in nursing homes

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- Sleep disturbances of people with dementia (23% (0-85%) in Germany (Wilfling et al. 2019) associated with of problems for pwd and caregivers
- Non-pharmacological interventions have been proposed as first line treatment (McPherson et al. 2016, Aasmul et al. 2016)
- Drug therapies seem to have no clear positive effects, but are widely used (Song Y et al. 2010)
- Weak evidence for the effectiveness of non-pharmacological interventions for sleep disturbances
 - Multicomponent intervention have strongest potential (Wilfling et al 2015, Capezuti et al. 2018)
 - Unclear, **which** components **how** to deliver

Aim of the study: *Development and evaluation of multi-modal, non-pharmacological intervention for sleep disturbances in nursing home residents with dementia (MoNoPol-Sleep)*

1. Identifying the evidence base:

- Systematic review (Wilfing et al. 2020): identify, describe, and summarize multicomponent interventions
 - “daytime activities,” “nighttime activities,” “staff training,” and “light exposure”
 - No description of interactions or context, or implementation barriers

2. Identifying and developing the theory, modeling process

- ToC-method: development of causal chains for reducing/prevention of sleep problems
 - Workshops
 - Survey
- Synthesis of ToC, interviews, observation, and literature

3. Testing the complex intervention (plan for next year)

Method: ToC-map

Resources	Treatment/Intervention	Outcome	Impact
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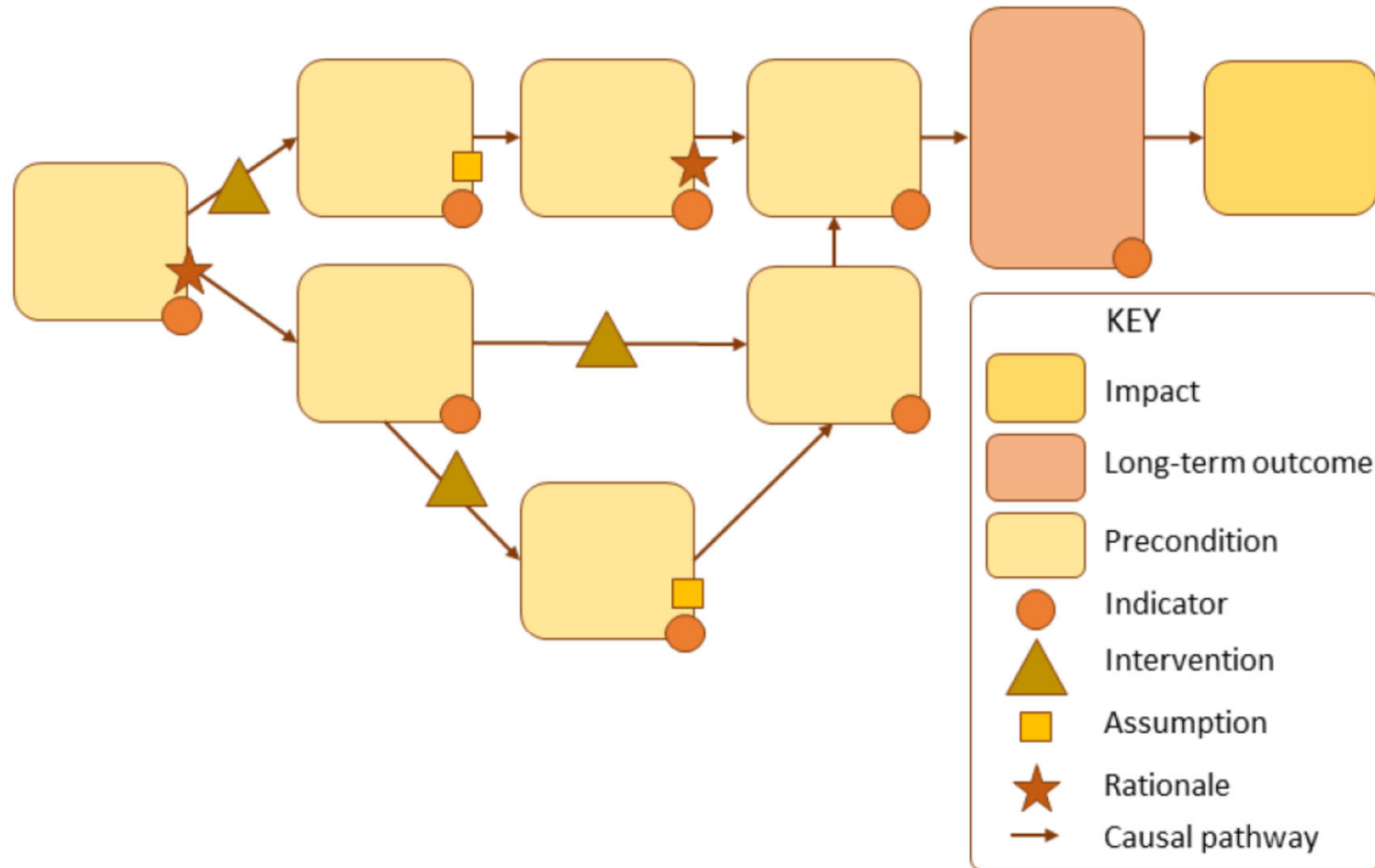
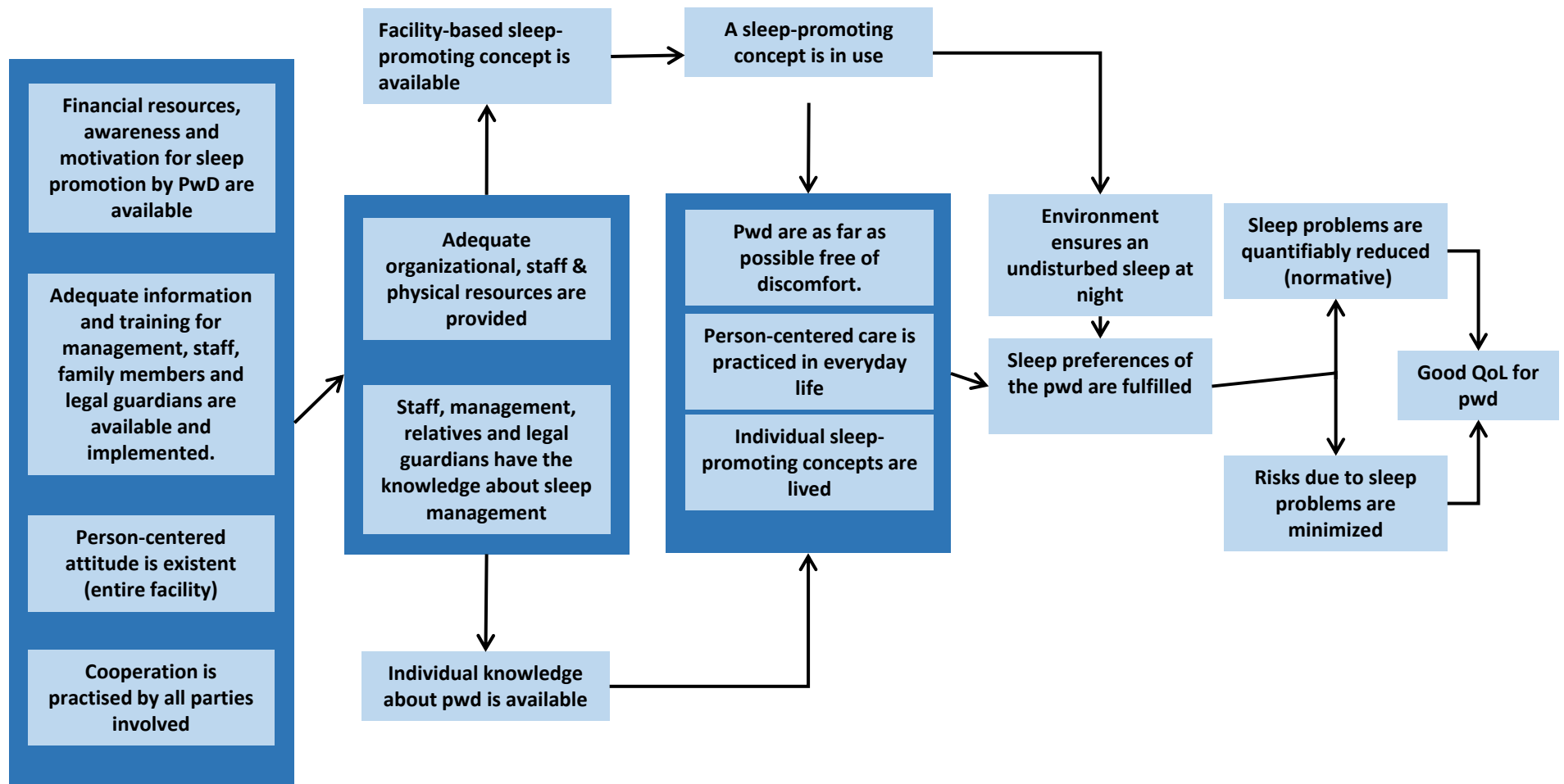


Figure 1: Example Theory of Change framework and key

Results: ToC-map

Resources	Treatment/Intervention	Outcome	Impact
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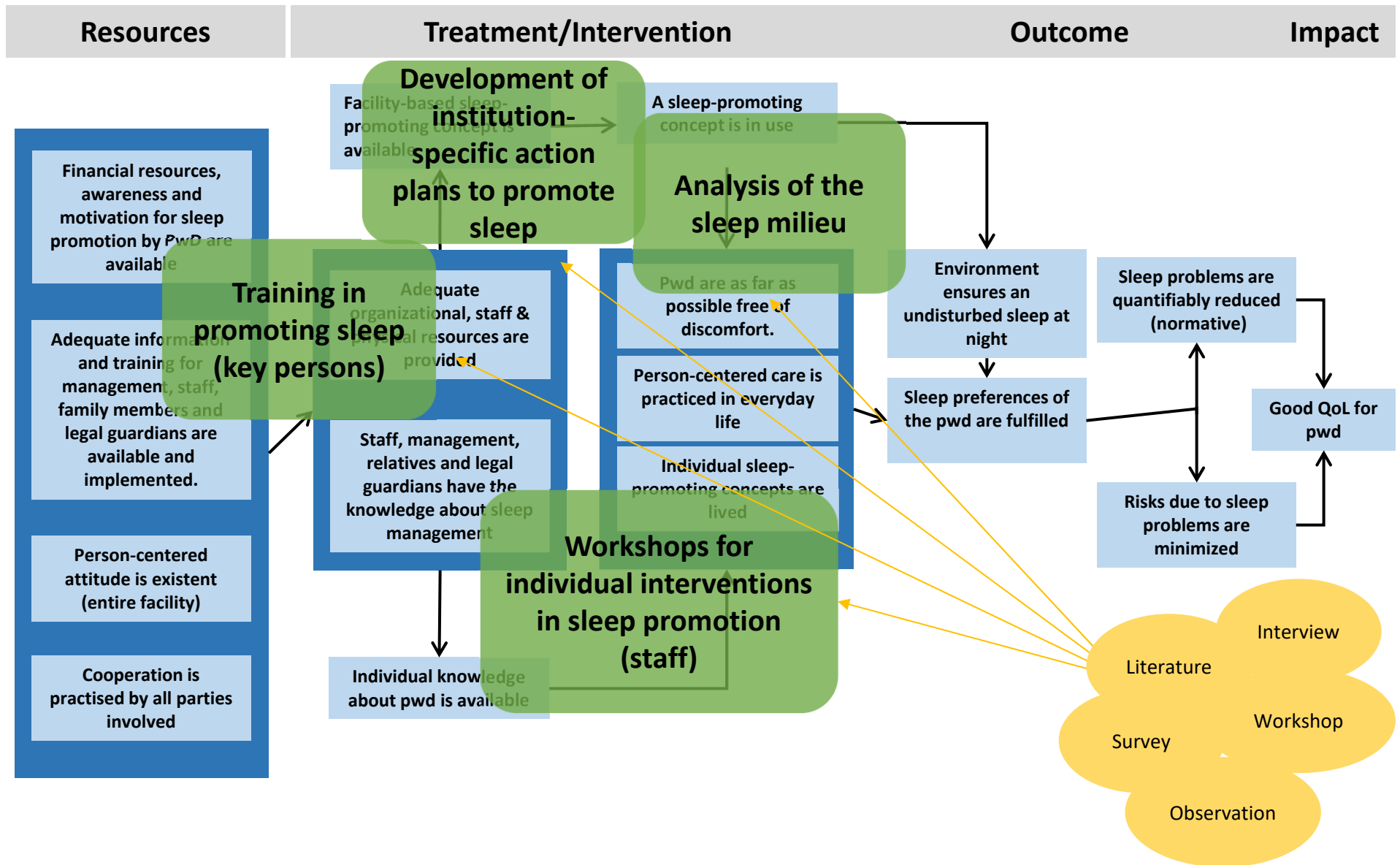
Results: Survey

No.	To avoid or reduce sleep problems, how relevant is the interim goal...	n=12
1	...“financial resources, sensibility and motivation regarding to the topic sleep promotion in persons with dementia exists“?	2.6 (±0.5)
2	...“an adequate information and education program for management, staff, relatives and legal representatives is available and in use“?	2.7 (±0.5)
3	...“a person-centered attitude is exists (whole institution)“?	2.8 (±0.4)
4	...“Teamwork is lived in the institution“?	3.0 (±0.0)
5	...“adequate organizational, personal & spacial resources made available“?	2.8 (±0.4)
6	...“knowledge of staff, management, relatives and legal representatives is present“?	2.8 (±0.4)
7	...“Sleep promotional concept is available“?	2.6 (±0.7)
8	...“individual knowledge to pwd is available“?	2.8 (±0.4)
9	...“institutional concept for sleep promotion is lived“?	2.9 (±0.3)
10	...“pwd have no complaints (as much as possible)“?	2.6 (±0.7)
11	...“person-centered daily care is lived“?	2.7 (±0.7)
12	...“individual sleep promoting concepts are lived“?	2.4 (±0.5)
13	...“Environment takes care about an undisturbed night rest“?	2.4 (±0.7)
14	...“Sleep preferences of pwd are fulfilled	2.6 (±0.7)
15	...“Risks by sleep problems are minimalized“?	2.2 (±0.7)
16	...“sleep problems are measurable reduced (normative)?	2.4 (±0.7)

0=“not relevant“, 3=“very relevant“

Table 2: Results of the expert survey after ToC-workshop

Results: Components



- ToC is a valuable method for intervention development but it is time-consuming for the stakeholders
- ToC allows to systematically include the views and experiences of the stakeholders
- It makes it clear and visible how individual the interventions have to be in order to meet the needs of the person with dementia, the staff and the institution
- Anticipated barriers and facilitators can be included in the intervention development – but not all barriers can be addressed in a project
- The perspective of the practitioners on positive effects differs from the “scientific outcomes”



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