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The implementation of a digital diary

in person-centered ICU care

The Netherlands

Margo van Mol PhD

Carola Schol MSc

Team ICU adults Erasmus MC

m.vanmol@erasmusmc.nl and c.schol@erasmusmc.nl

Erasmus MC
Universitair Medisch Centrum Rotterdam

Who’s presenting

- Margo van Mol
- ICU nurse (np), over 20 years of clinical experience, and psychologist
- Nurse researcher
- Erasmus MC, a large acedemic hospital in the Netherlands

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ICU diary

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Possible benefits

- Helps ICU survivors and families process their emotional experience, expecting to improve long-term recovery
- The patient can read at own pace to assist recovery
- Integrated into the hospital's ICU liberation protocol
- Might improve nursing leadership in person-centered care

Relatives in the ICU,
during the COVID-19 pandemic

Photo with permission, before Covid-19

- **Insecurity, anxiety, severity of disease, social media**
- **Own situation, symptoms**
- **Quarantine measures**
  - **No visiting**
  - **Distancing, communication**
  - **Inhumanity**

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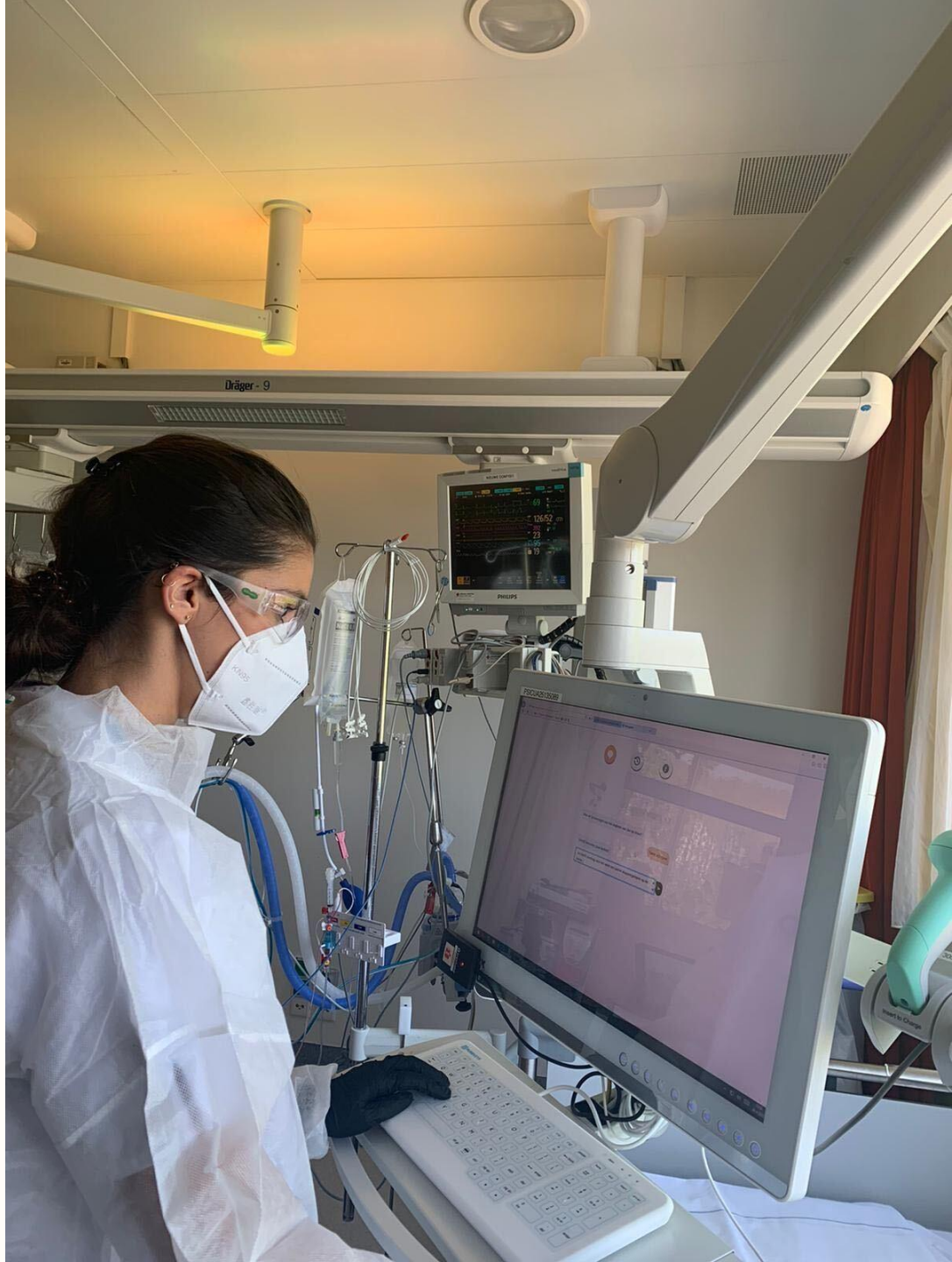
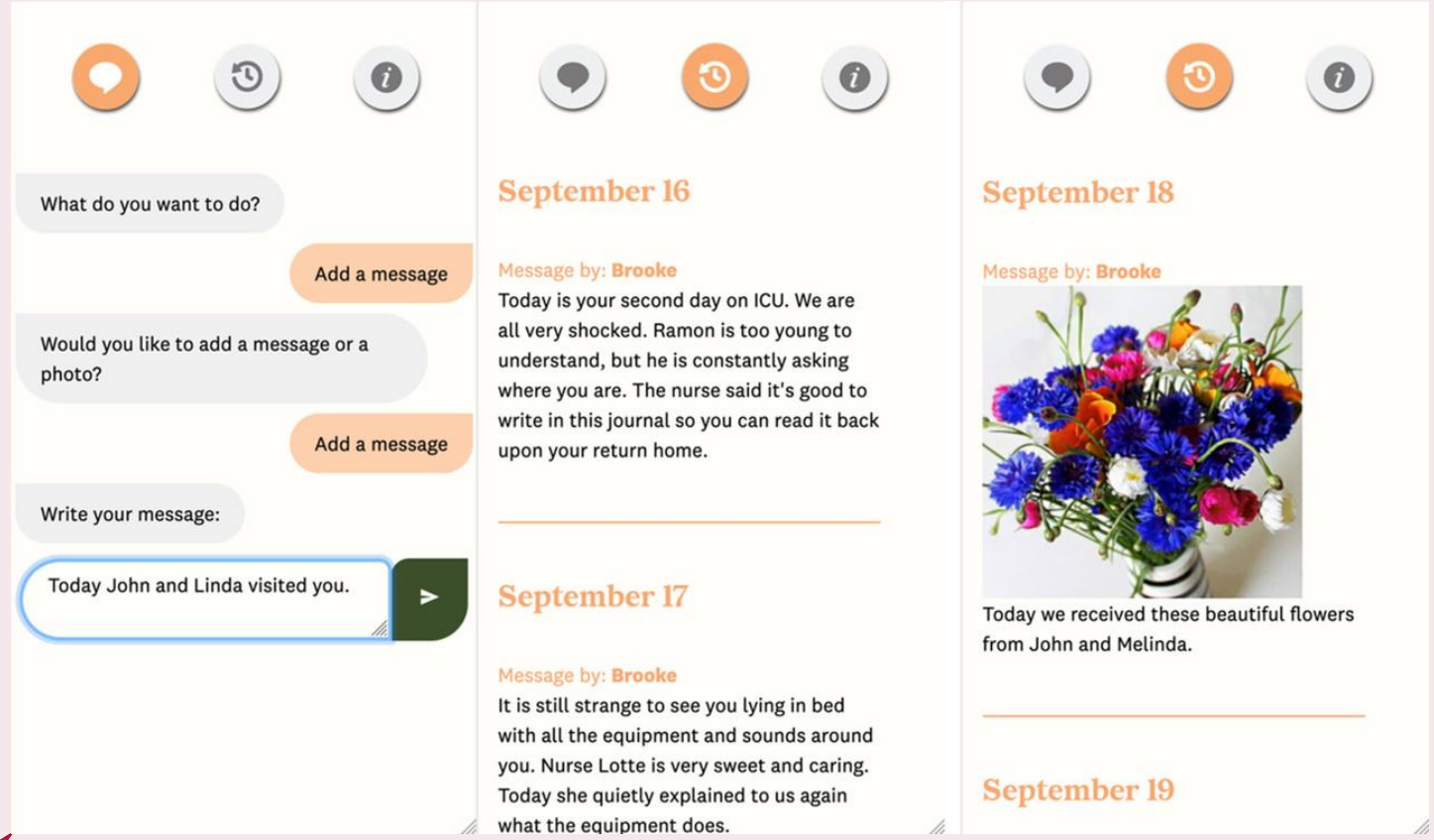
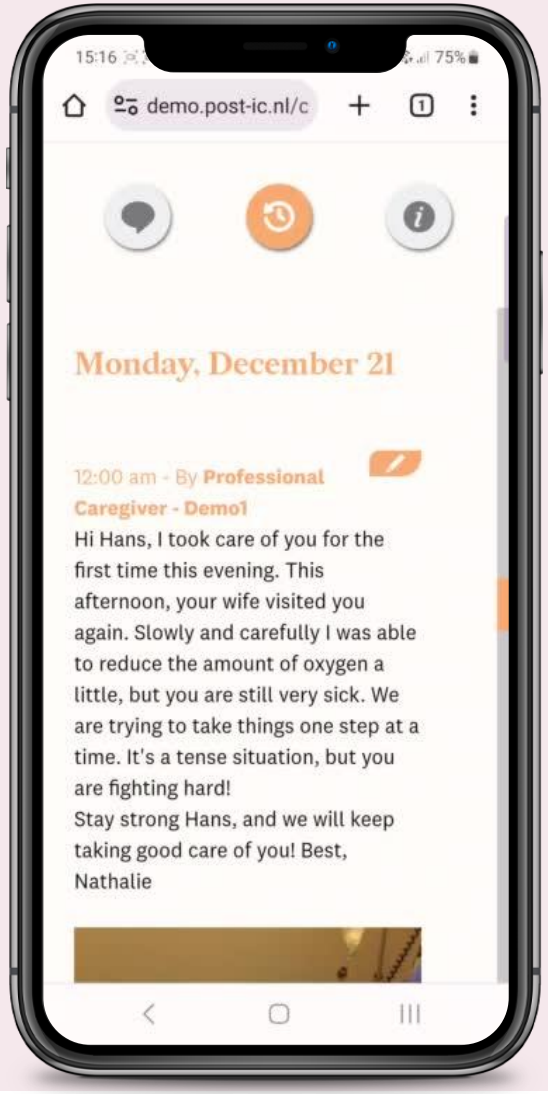
The Digital ICU Diary for Patients & Family



Digital diary ‘Post-IC’





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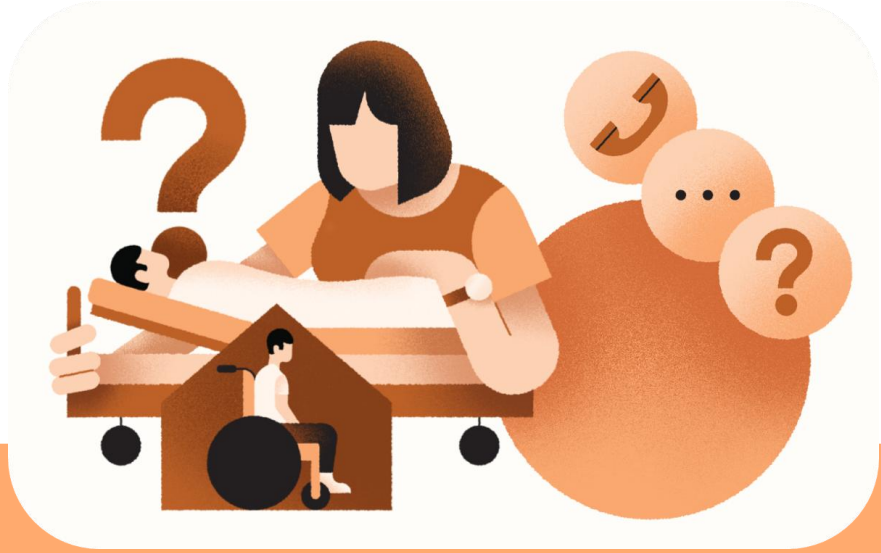
https://post-icu.com/ available in Dutch, English and German

Key features of this digital diary

- Can be accessed from any device with an internet connection
- Healthcare staff, families, and patients can contribute to the narrative
- Caregivers and nurses can use the journal to provide general updates
- With digital writing assistant to support contributors
- Pictures and sound can be added to the digital diary



Privacy issues

- The diary **owner is the patient**, or his/her representative, by signed form
- The owner has responsibility for diary entries and will invite other relatives writing in the diary. They can close access for ICU professionals to write.
- A strict separation between all data in the electronic health record and the digital diary
- For writing; no medical information such as heart rate, blood pressure, test results

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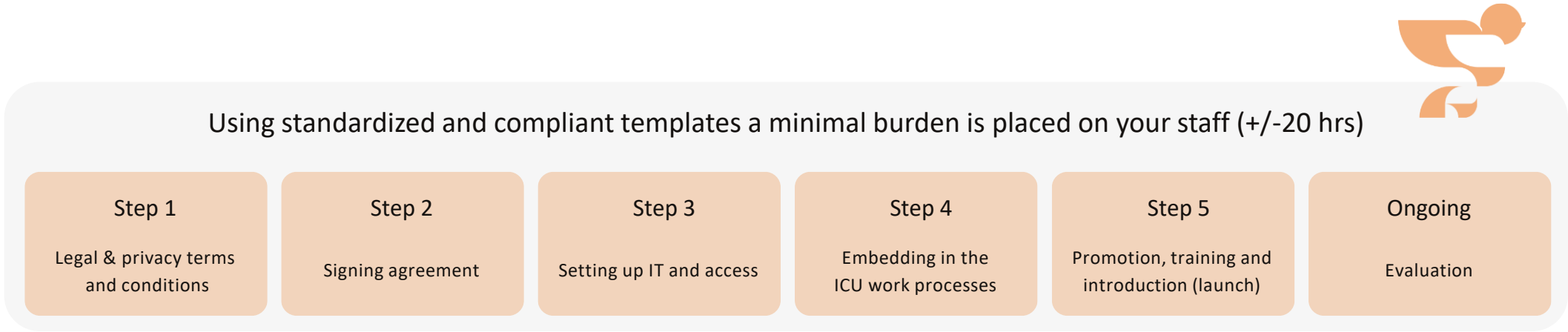
Preparation of start with a digital diary

- Post-ICU is a software-as-a-service solution that requires only a light integration with the hospital network (SSO)
- No heavy lifting from IT department
- Preparation can be done in 4 weeks or less **=> “Implementation”**



DIPIC study - Introduction

- Multicentre study
- Four hospitals in the Netherlands

- Objectives
  - To successfully implement the digital diary, in ICUs through a tailored implementation strategy
  - To provide generic knowledge for successful implementation strategies for interventions within person-centred care in daily ICU practice.

- Implementation mapping framework

Implementation mapping

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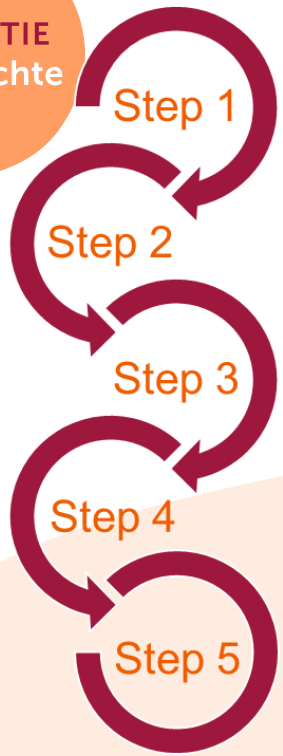

- **Conduct a needs assessment**
- **Identify outcomes, performance objectives & determinants**
- **Choose theoretical methods; Select implementation strategies**
- **Produce implementation protocols & materials**
- **Evaluate implementation outcomes**

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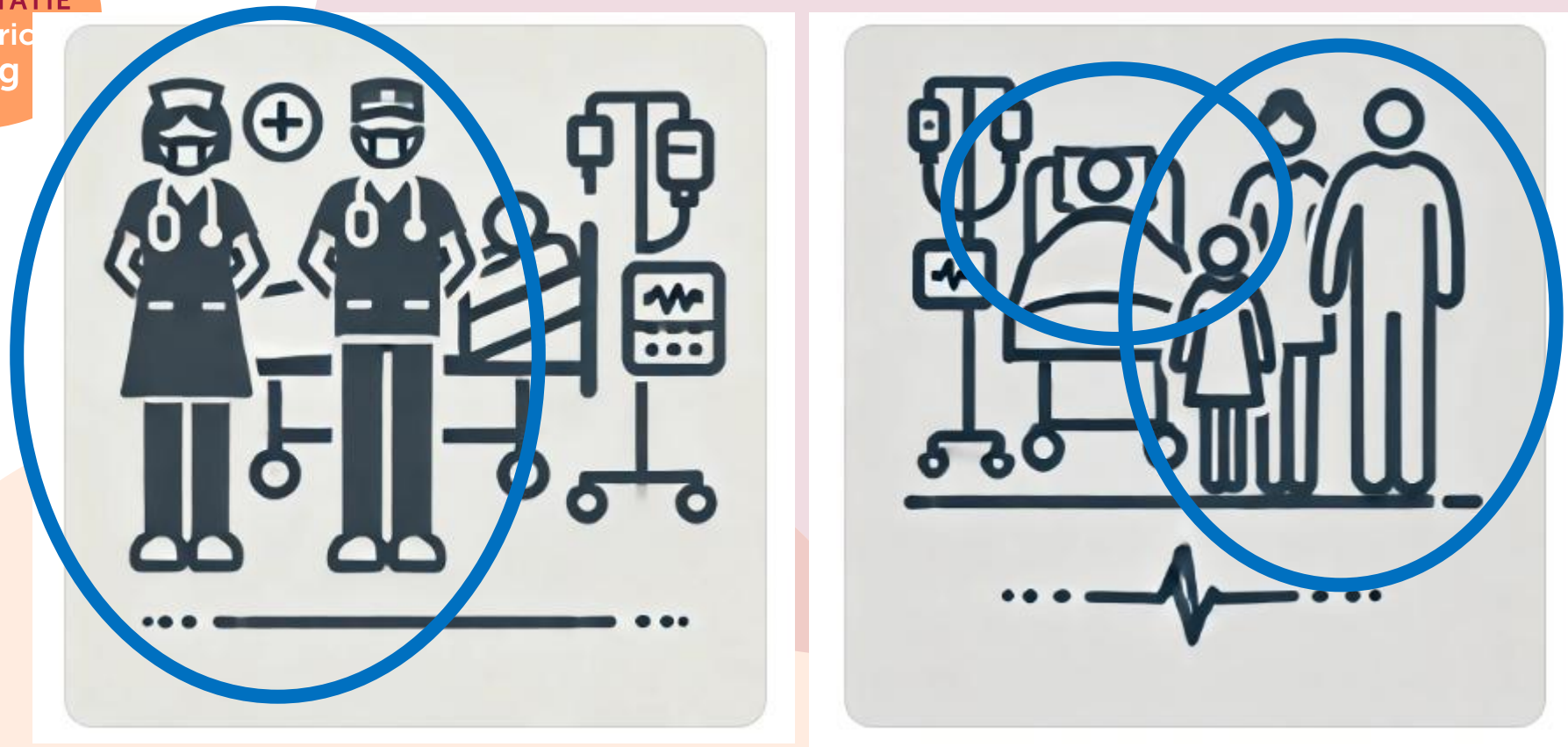
Fernandez ME, Ten Hoor GA, van Lieshout S, Rodriguez SA, Beidas RS, Parcel G, et al. Implementation Mapping: Using Intervention Mapping to Develop Implementation Strategies. Front Public Health. 2019;7:158.

The needs assessment

Most important stakeholders



The needs assessment

- What are the facilitators and barriers for the implementation of a digital diary in the ICU from the perspectives of ICU professionals, ICU survivors, and their relatives?
- Qualitative design

Schol, Carola & Mol, Margo & Berger, Elke & Leerentveld, Crista & Gommers, Diederik & Ista, Erwin. (2024). Implementation of a digital diary in the intensive care unit; understanding the facilitators and barriers: A qualitative exploration. Australian Critical Care. 37. 10.1016/j.aucc.2024.04.002.

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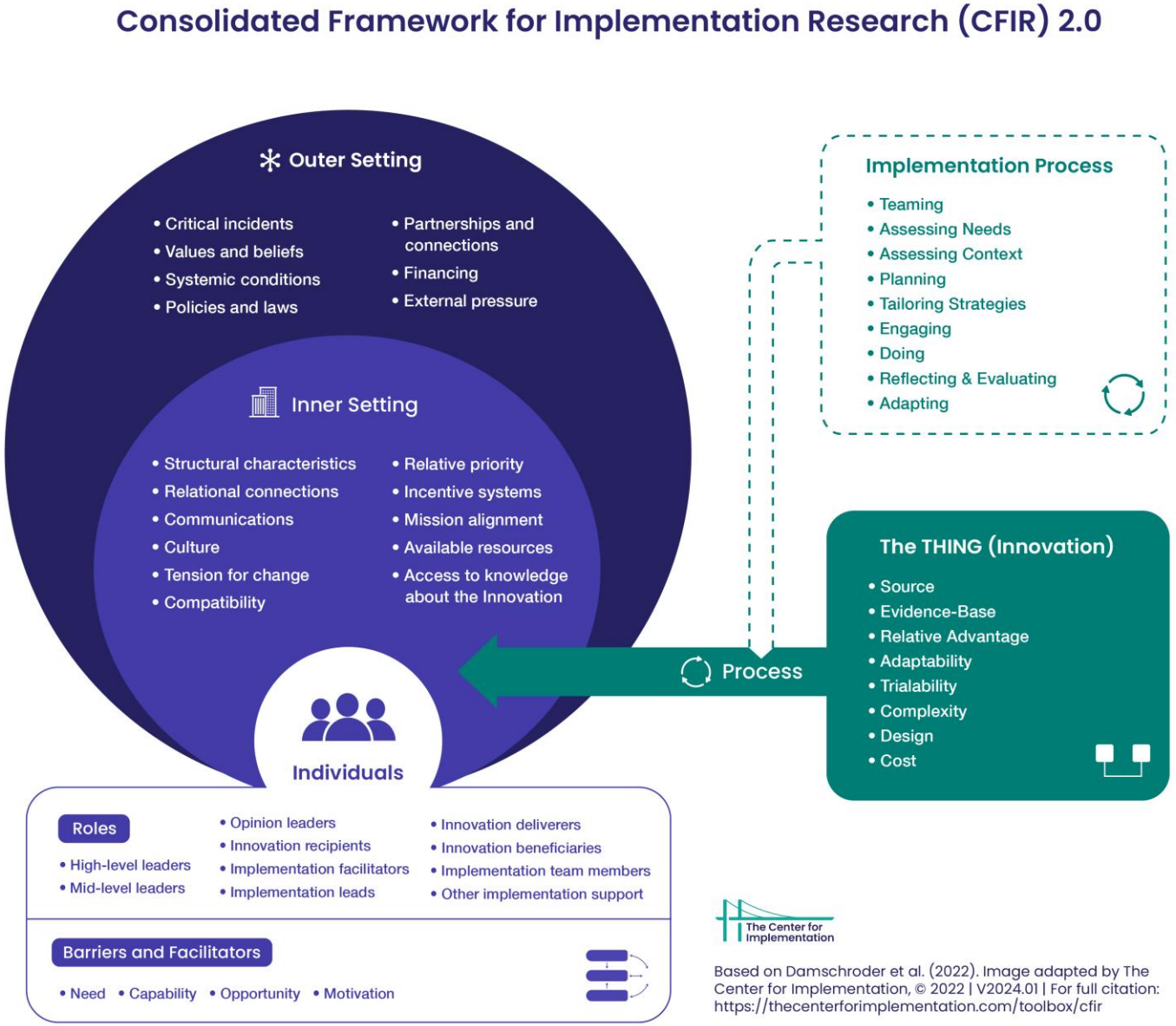
Model of CFIR



Damschroder LJ, et al. The updated Consolidated Framework for Implementation Research based on user feedback. Implement Sci 2022;17:75.

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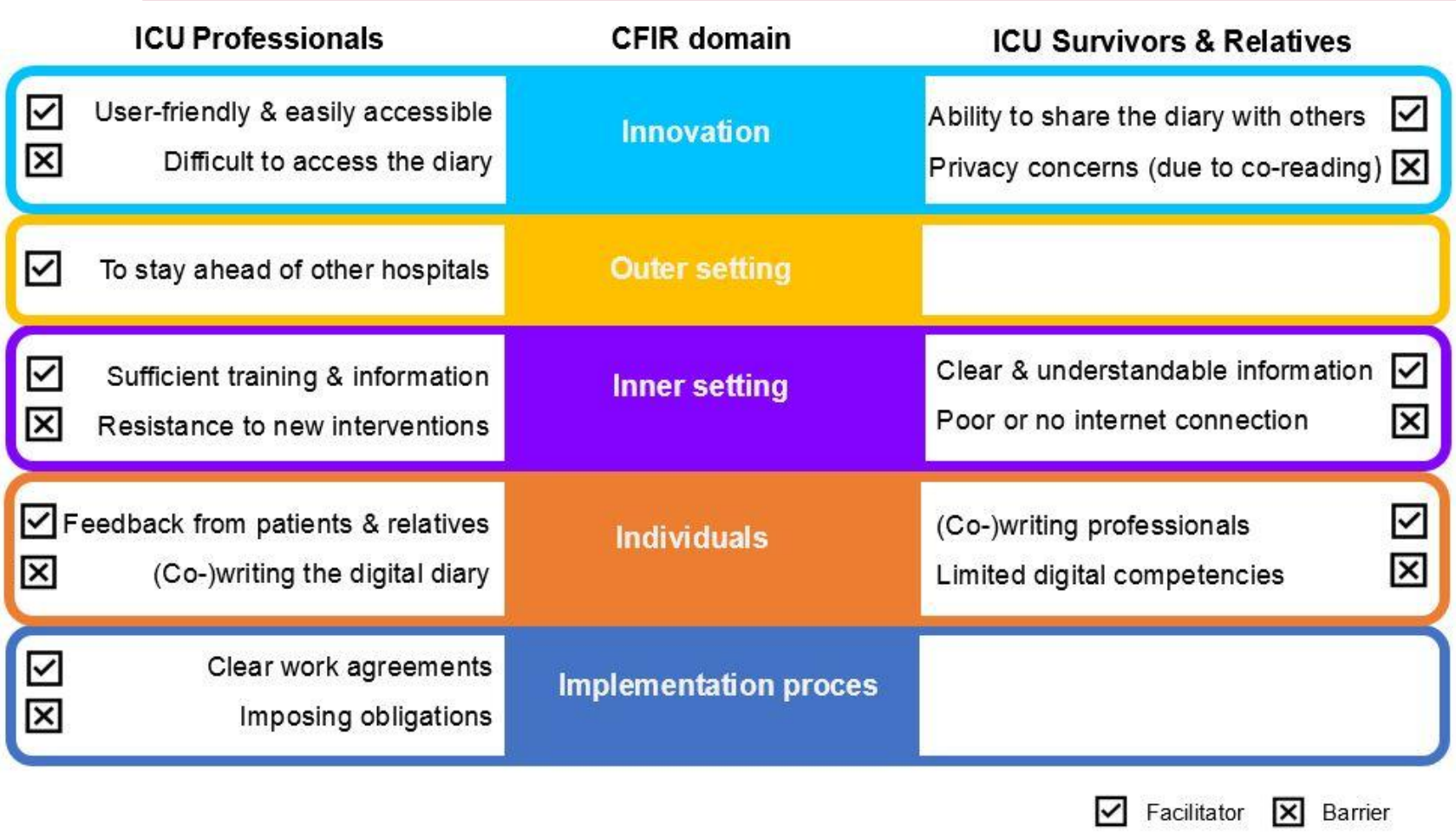
Facilitators and barriers among stakeholders



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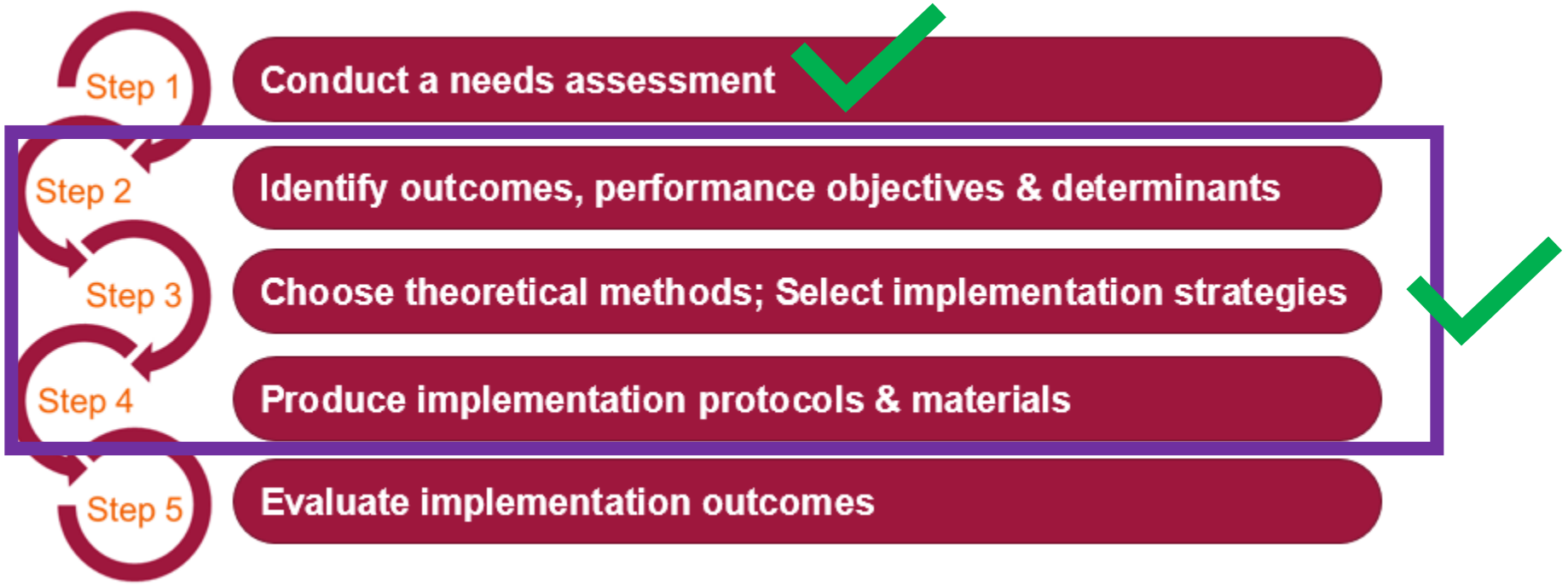
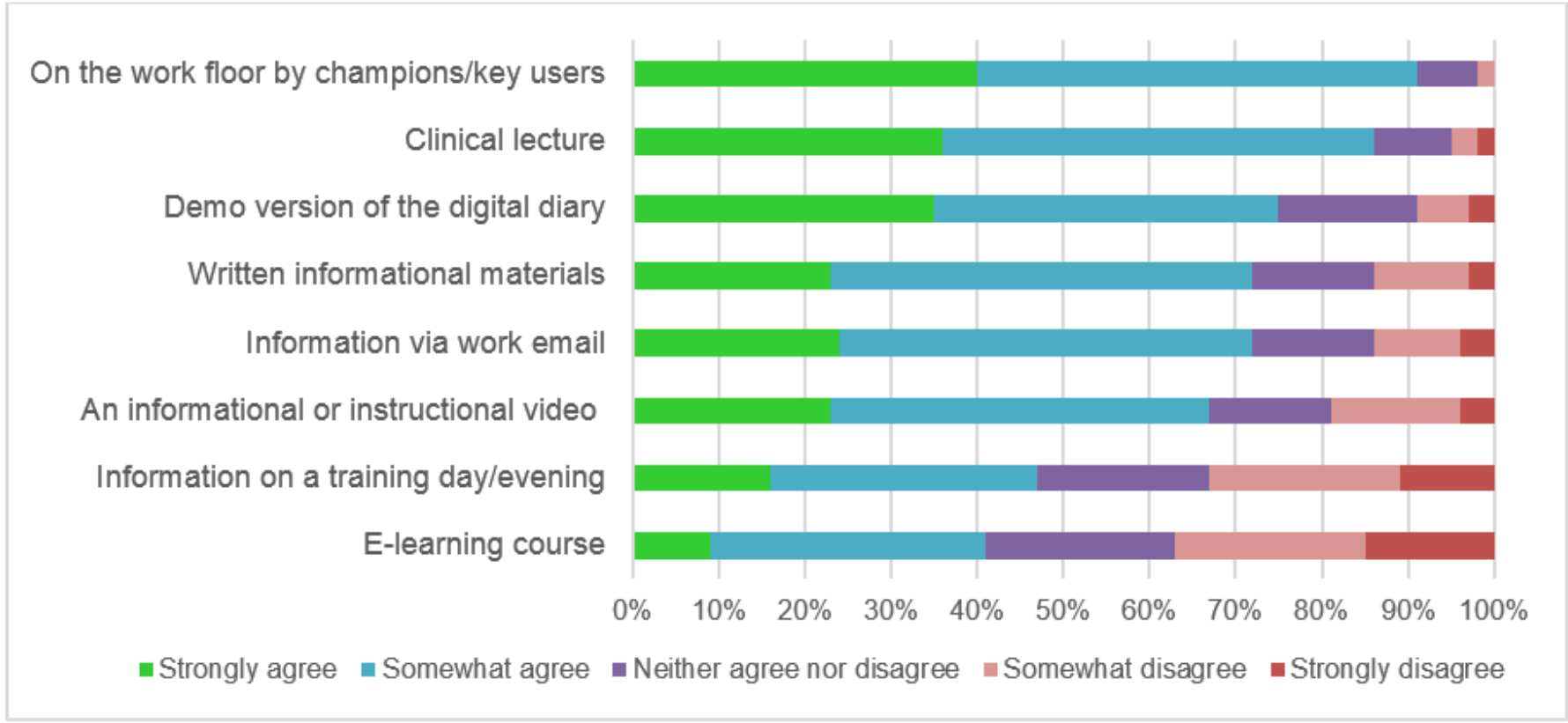
Implementation mapping



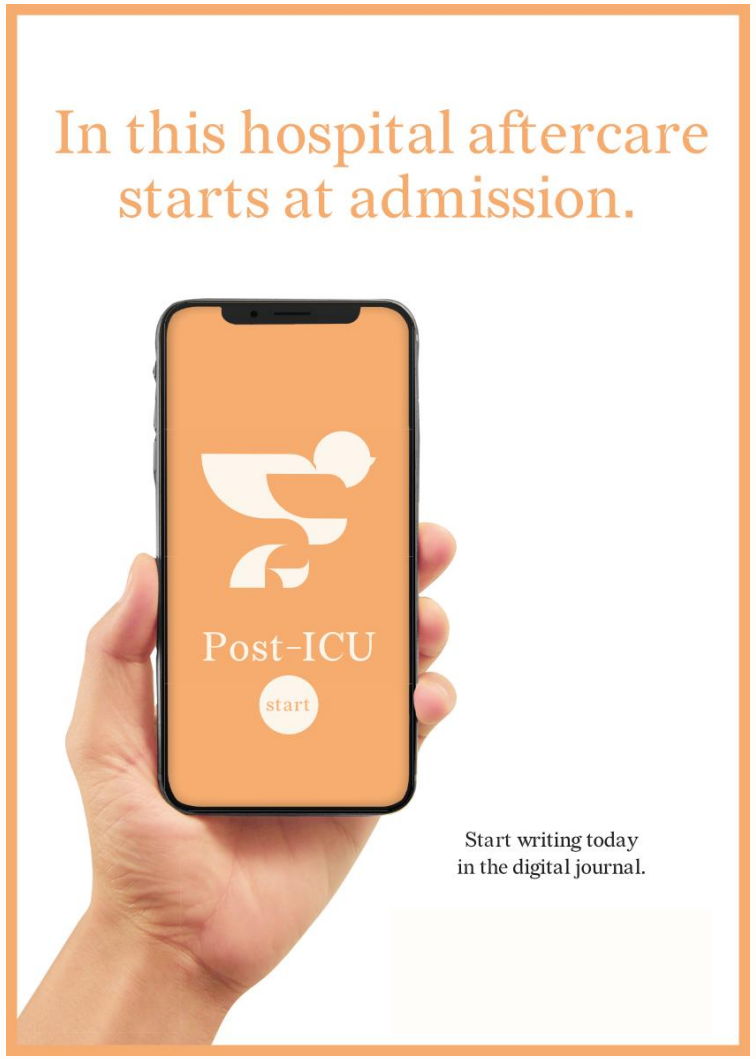
Implementation strategies that could work



Schol CMA, Ista E, Rinket M, Berger E, Gommers DAMPJ, van Mol MMC. Determinants of digital ICU diary implementation and use by ICU professionals: A cross-sectional survey analysis. Intensive and Critical Care Nursing. 2025;87:103921.

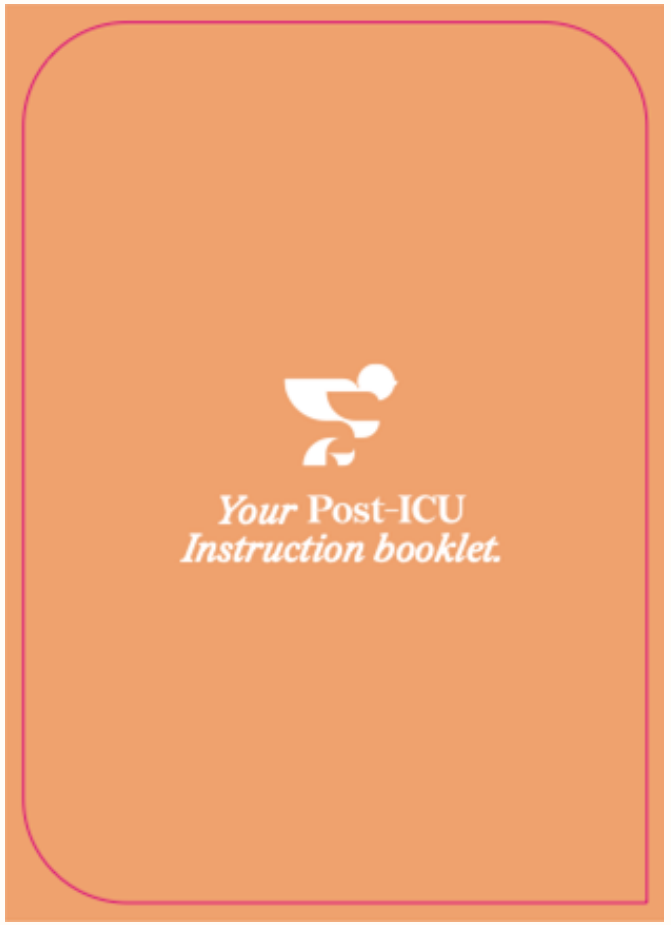
Promotional materials

Posters



Magnetic stickers

Instructions



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Tailored implementation guide

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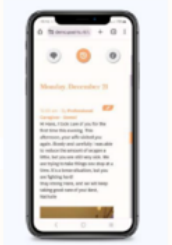
Implementation script



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Champions' action plan

- Work sessions champions:
  - First acquaintance and introduction diary
  - Knowledge of promoting and hindering factors
  - Reflecting on work agreements
  - Practical preparations for implementation
  - Drafting training and instruction plan
- Champions' day:
  - Super-user
  - Further elaboration/filling in of the implementation script
  - Dealing with change
  - Understanding and managing resistance

A champion:
Can handle resistance
Is a super-user
Can motivate and Instruct colleagues
Is a role model

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Implementation checklist (1)

Status (Check off if ready)	Preparations	Comments/actions
	Integration in the work environment = single-sign-on (ICT)	
	The demo version works	
	Implementation script: ○ Work agreements have been made and are being secured ○ Knowledge about promoting and hindering factors within your ICU. ○ Training and instruction plan established	
	Practical preparations: ○ Posters for relatives with the hospital logo present + hung in visible places for relatives ○ Envelopes with diary codes	
	Champions: ○ Trained and equipped for their role. ○ Champions' day	

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Work agreements

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Motivation

Hindering factor: Missing motivation for using/writing a digital diary

❑ Show added value	• Show added value for patients and their relatives (videos). • Share experiences of nurses from other hospitals. • Feedback on experiences of patients and their relatives.
❑ Increasing knowledge	Training and instruction prior to implementation. Focusing on the benefits of the digital diary, the added value for patients, relatives, and professionals. Ensure that everyone, the entire team, is informed.
❑ Champions	Champions inspire colleagues, demonstrate the added value and benefits of the digital diary, and set a good example.
❑ Leaders	Leaders encourage the use of the digital diary. They convey that they find the diary important. For example, mentioning it during the daily start or daily evaluation.

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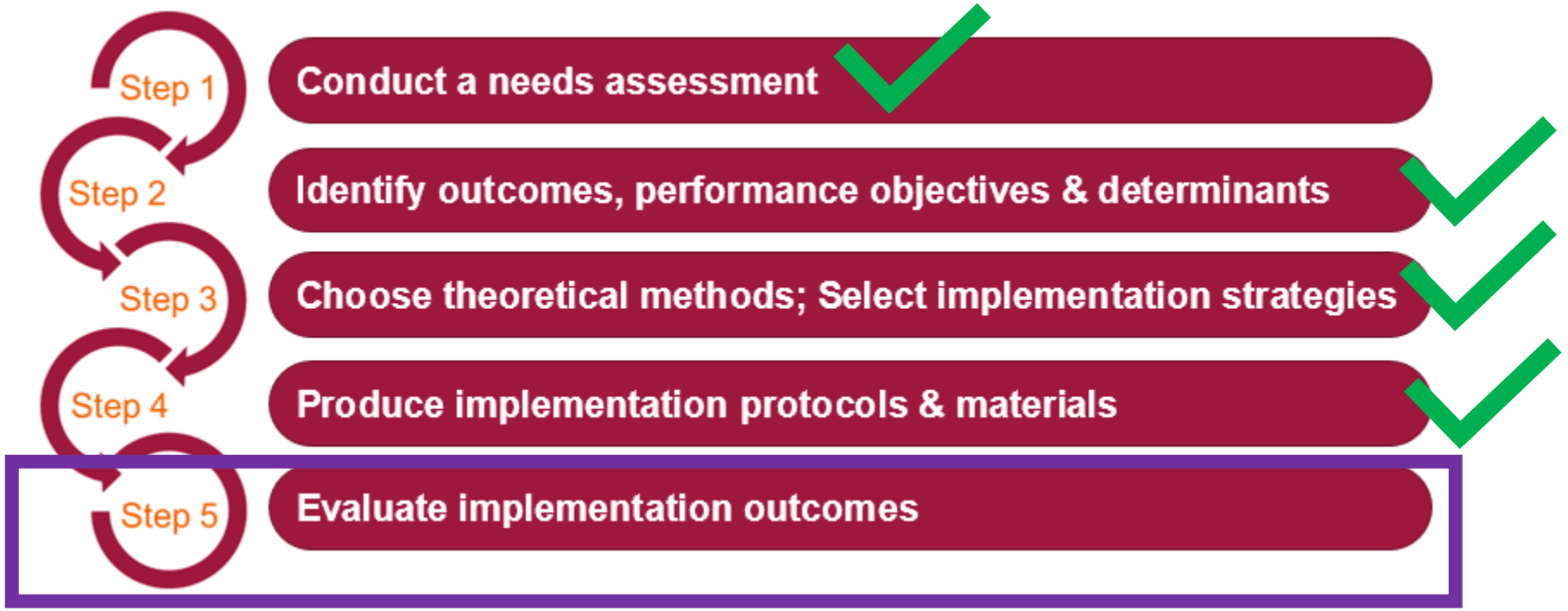
Training & Instruction Plan

Implementation mapping



Satisfaction

Among other outcomes

	No ICU diary n=67	Digital ICU diary n=34	P-value
Nursing communication, median [IQR]	8 [7-9]	9 [9-10]	<0.001
Support and guidance for relatives, median [IQR]	8 [6-9]	9 [8-10]	<0.001

Conclusion

While the digital ICU diary did not reduce PTSD, anxiety, or depression symptoms, it improved satisfaction with nursing communication and support for relatives, suggesting benefits in person-centered care.

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Thanks for listening

m.vanmol@erasmusmc.nl
c.schol@erasmusmc.nl

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