

M-ACZiE: Mobile Action plan to enhance self-management and early detection of exacerbations in patients with COPD.

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Background

- **COPD** is one of the most common chronic diseases and the fourth leading cause of mortality worldwide¹. The natural course of COPD is interrupted by exacerbations, which have a negative impact on quality of life², are associated with accelerated lung function decline and increased mortality³.
- **Self-management skills** are important to detect exacerbations in an early stage and take prompt actions to reduce the impact of exacerbations^{4,5}. However, detection of fluctuations in symptoms appears to be difficult for patients and results in inadequate reactions.
- Supporting patients in early detection of an exacerbation and teaching self-management skills by an **action plan** is effective to decrease of the acute impact of exacerbations on health status and accelerate recovery time⁶. However, no effects on health related quality of life and health care utilization were observed⁵.
- A more comprehensive strategy is needed that is able to manage different manifestations of exacerbations and **fits patient's needs**, perceptions and capabilities towards exacerbation management.
- In order to optimize effectiveness of self-management interventions **mHealth** may be a solution, since mHealth creates possibilities to add several accessible and essential elements on regular care by providing more dynamic and intensive therapeutic stimuli that fit current health status and individual exacerbation patterns.

Objectives

The primary objective is to develop and test a tailored mHealth intervention to improve self-management and early detection of exacerbations in patients with COPD.

More specific a mHealth intervention that is;

- Safe, literacy sensitive and patient friendly.
- Meets patient's needs, perceptions and preferences.
- Able to manage heterogeneity in exacerbations in/between patients.



Engineering through science

Methods

The MRC framework for development and evaluation of complex care interventions will be used for this project⁶.

Development

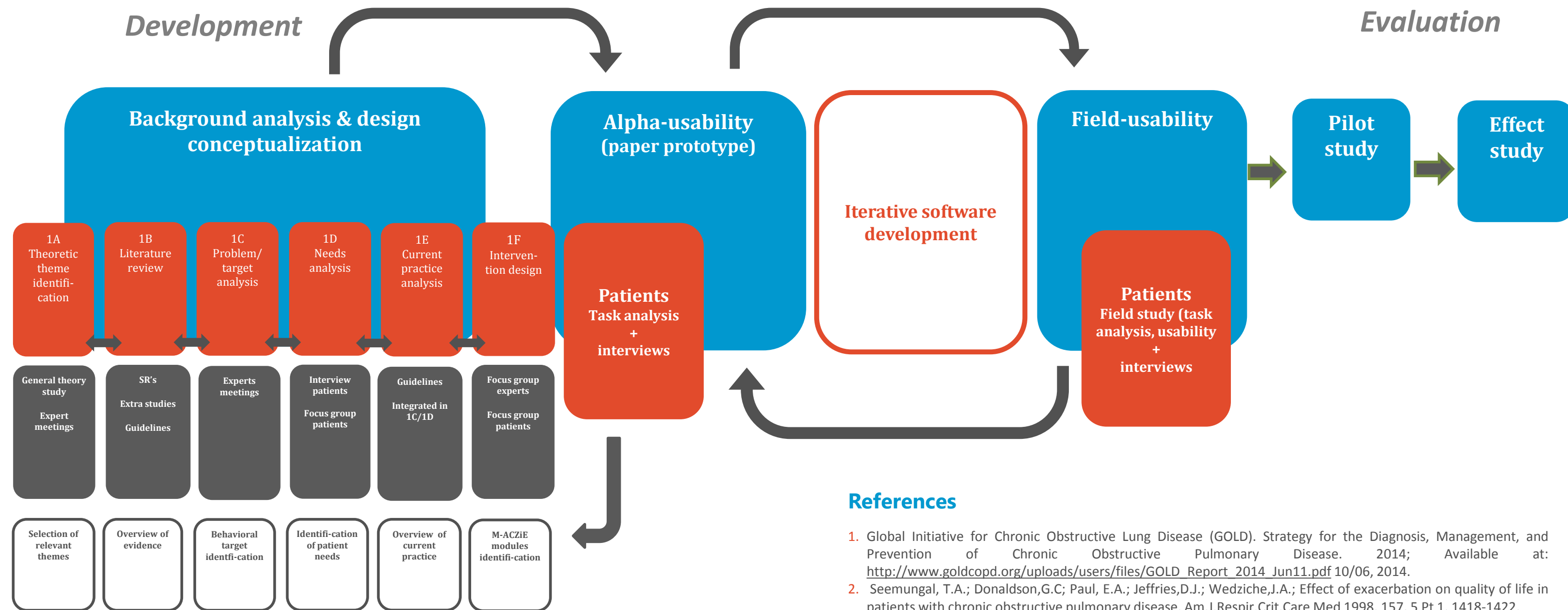
- A user centered development design will be used for M-ACZiE (Figure 1).
- The user centered development design consists of several iterative phases whereby evidence from the literature, patient experiences and expert opinion will be investigated and integrated in the design M-ACZiE.
- The first phase has been elaborated based on building blocks as described in the model of evidence based Nursing Interventions⁷.

Evaluation

- The feasibility of M-ACZiE will be evaluated on a small scale in a pilot study.
- The effectiveness of M-ACZiE will be tested in a randomized controlled trial.

Development

Evaluation



References

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Key message

COPD patients will be actively involved in the development of M-ACZiE to be able to meet patients perceptions, needs and capabilities with regard to self-management and early detection of exacerbations and perceptions towards mHealth technology.