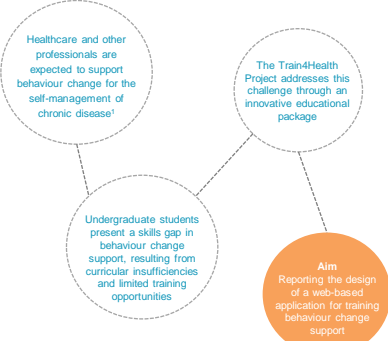# T4H+ Train4Health

Designing a theory-driven, evidence-based and user-centred web application to simulate behaviour change support in persons with chronic disease

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1. Background and aim

Healthcare and other professionals are expected to support behaviour change for the self-management of chronic disease[1]

The Train4Health Project addresses this challenge through an innovative educational package

Undergraduate students present a skills gap in behaviour change support, resulting from curricular insufficiencies and limited training opportunities

Aim
Reporting the design of a web-based application for training behaviour change support

2. Design

Literature search, co-creation with users and requirements prioritisation

- Evidence on design elements and components were retrieved from the literature
- Twelve international focus groups were conducted with students and educators from pharmacy, nursing and sport sciences
- Requirements were prioritised through the Moscow approach

Prior project work informing software design

- Interprofessional European competency framework to support behaviour change in chronic disease (1)
- List of core behaviour change techniques from an established taxonomy (BCTTv.1) (1)
- Learning outcomes-based curriculum derived from the competency framework (1)
- Persons' profiles developed as part of case studies on behaviour change in chronic disease

3. Results

The use of virtual patient simulation and gamification appear promising in health professionals' education (2,3). Selected gamification features include points, levels, stats, acknowledgement and progression.

The self-determination theory enables an understanding of how gamification may enhance engagement and motivation, whilst helping avoid pitfalls in implementation (4).

Requirements elicited from focus groups (e.g. gamification, feedback) and team discussion were prioritised into "must have", "should have" and "won't have"(5).

1
Web-based application depicting four persons with chronic disease as 2D virtual humans (VHs), presented in **levels** with increasing complexity. Users interact with the VHs playing the role of a professional supporting behaviour change.

2
Each person profile offers training in long and brief behaviour change interventions. Learning outcomes are presented for each session.

3
In each session, VHs communicate with users through a synthetic voice and facial expressions; input from users consists of buttons depicting two options.

4
The choice of the less correct option prompts immediate feedback within each session.

5
Once the session is finished, users firstly receive feedback for each learning outcome, plus **points** providing information about the user's performance.

6
Then users are prompted to self-debrief, via Gibbs' reflective cycle.

7
The "performance" menu deploys gamification features, such as **stats**, **acknowledgement** (badges) and **progression**.

4. Conclusion

The design of the web-based application includes simulation with 2D virtual humans and gamification, underpinned by the self-determination theory, plus components such as feedback and self-debriefing. Development is ongoing and the application is being tested iteratively with students and educators.

5. References

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