

# Artificial Intelligence Based Health Coaching Model for Patients with Chronic Diseases

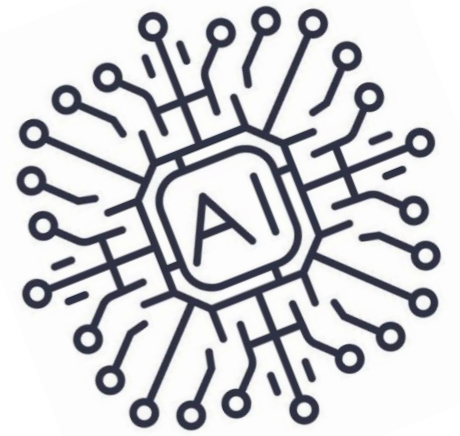


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## Research Question:

# How Does the Nature of the Chronic Diseases and the Patient Profiles Affect the Human-AI Interaction?



## Introduction

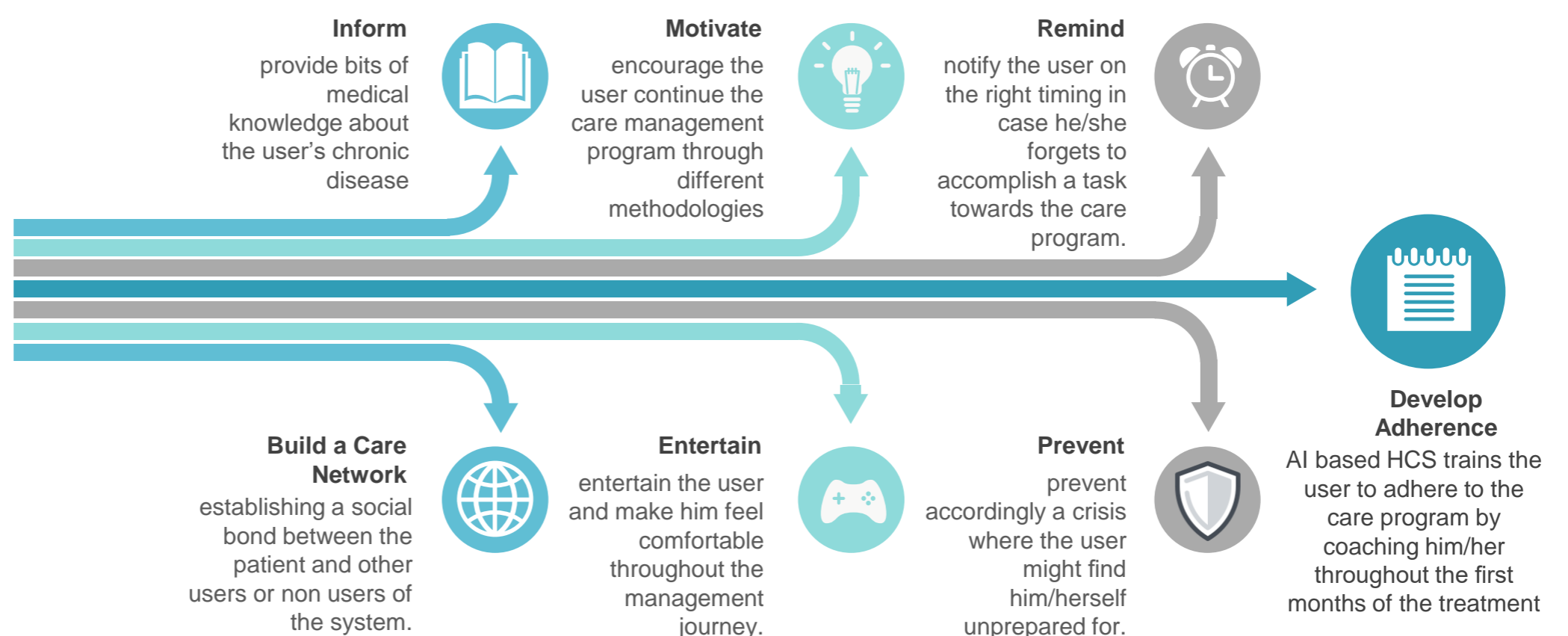
- Global healthcare systems are facing a major challenge which is chronic diseases.
- WHO estimated that chronic diseases are the immediate cause of more than **90% of morbidity and mortality rates in Europe and North America.**
- The United States has reported that it has spent around **\$1.65 trillion on managing patients with chronic diseases.**
- 75% of the annual budget on healthcare for the nation.**

## Objectives

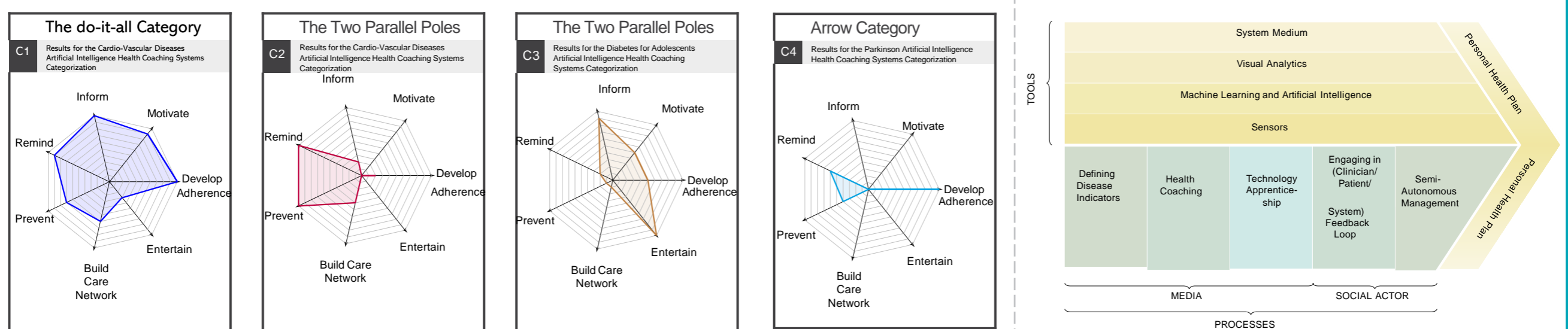
- To survey the existing literature that employed Artificial Intelligence for health coaching.
- To review how different artificial intelligence health coaching systems are designed
- To propose a model to better design Artificial Intelligence (AI) based Health Coaching Systems (HCSs).

## Methodology

- In this Literature Review, we analyzed **18 systems** in **18 studies** for **11 chronic diseases.**
- We identified **seven Artificial Intelligence Based Coaching Functionalities.**
- Based on these functionalities, we identified **six different categories of AI-based HCSs.**



## Results



## Conclusion

- We proposed a health coaching model for patients with chronic diseases
- We followed a methodology that uses both the cognitive apprenticeship theory along with persuasive technology theory.
- Our model is the first of its kind that combines harmoniously all the three functional triad components of Fogg's persuasive technology theory, along with AI as a tool to provide health coaching and cognitive apprenticeship.

## Future Works

We specify Two ways of extending the work presented.

- By supporting the proposed HCI model with a machine learning sub-model through the use of medical data for a specified chronic disease.
- By designing a clinical trial along with a system to test the effectiveness of the proposed model

In Collaboration with

