

## **Define problem/problem understanding**

### **Business Requirements**

To improve chronic disease outcomes, self-management is an effective strategy. An electronic personal health record is a promising tool with the potential to support chronic patient's education, counseling, and self-management. Fitting within the daily practices of chronic care providers and chronic patients requires user-centered design approaches. We aimed to understand users' needs and requirements in chronic kidney disease (CKD) care to consider in the design of an to facilitate its implementation, adoption, and use.

A qualitative study was conducted in a major Iranian nephrology center including inpatient and outpatient settings in 2019. We conducted 28 semi-structured interviews with CKD patients, nurses, and adult nephrologists. To confirm or modify the requirements extracted from the interviews, a focus group was also held. Data were analyzed to extract especially those requirements that can facilitate implementation, adoption, and sustained use based on the PHR adoption model and the unified theory of acceptance and use of technology.

Self-management is an effective strategy to improve chronic disease patient's clinical outcomes and quality of life . As information technologies facilitate access to health information, their use can increase patient's health knowledge and enable patient-centered approaches to the delivery of care . Electronic personal health seen as one of the most promising tools to support patient's . Patient provider communication and empower patients to self-manage their diseases, effectively . However, implementing an is not an easy task even in the developed countries due to various barriers According to the 2017 global burden of disease, the prevalence of chronic kidney disease (CKD) is continually rising . CKD is a worldwide health concern that is defined as the gradual loss of kidney function and divided into five stages based on the estimated filtration rate, with each stage requiring especial set of CKD care . As the disease progresses, the stage of the disease increases, so that the stages 4 and 5 are called end-stage renal disease (ESRD) requiring expensive renal replacement therapies of dialysis or kidney transplantations

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