

The use of telemonitoring in Health Accessibility and Equity in a Person with Diabetes

A Study in Alto-Minho

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Motivation

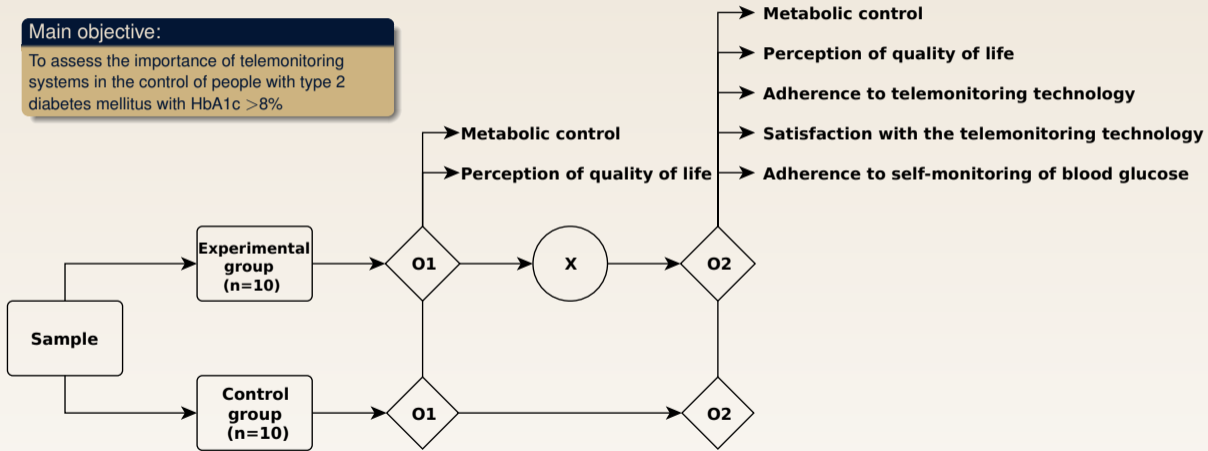
- The sociodemographic and territorial characteristics of the Alto-Minho region make it difficult for the population to access health care.
- The district of Viana do Castelo comprises both coastal and inland territory - the first offers centralized health services whereas the latter is sparsely populated - the distance between the hospital of reference and the remotest parish is over 100km (via secondary roads); population with low literacy skills and aging.
- In this context, this project aims to promote accessibility and equity in health among the population with type 2 diabetes, residing in the Alto-Minho region, in order to improve their health status.



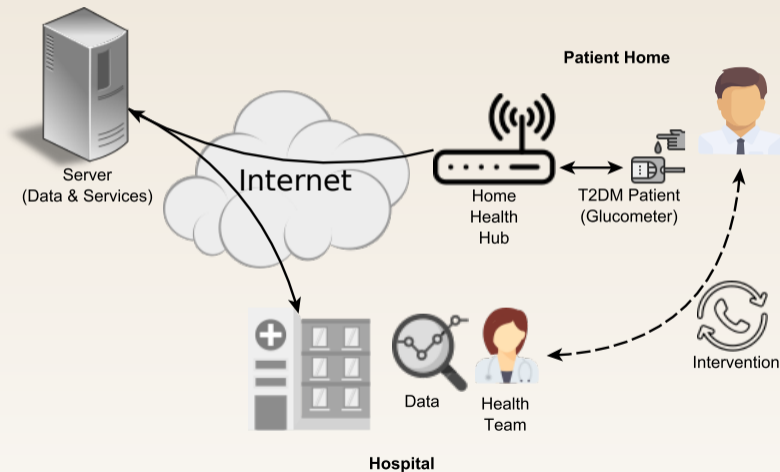
Objectives and study design

Main objective:

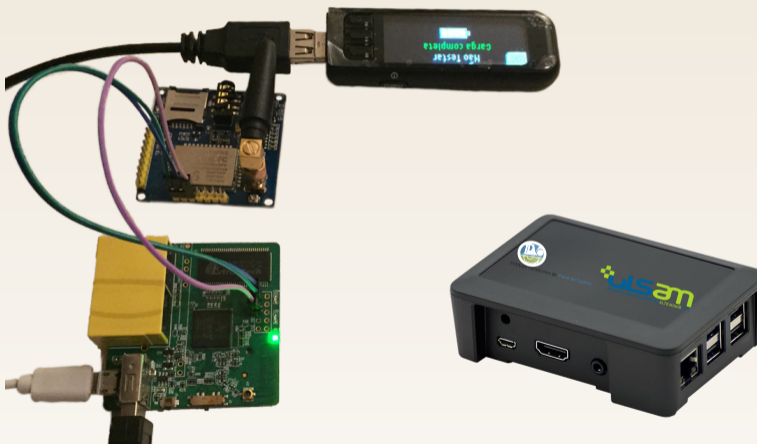
To assess the importance of telemonitoring systems in the control of people with type 2 diabetes mellitus with HbA1c >8%



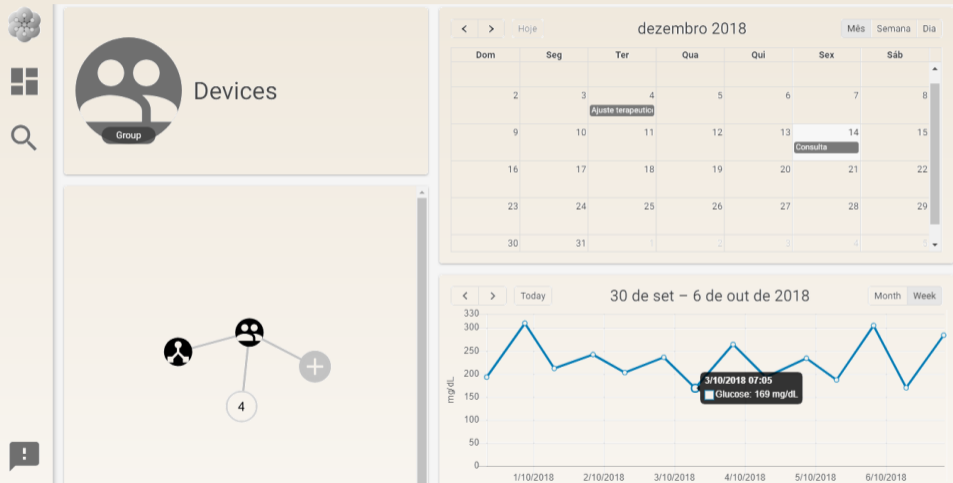
Telemonitoring system: Architecture



Telemonitoring system: Prototype

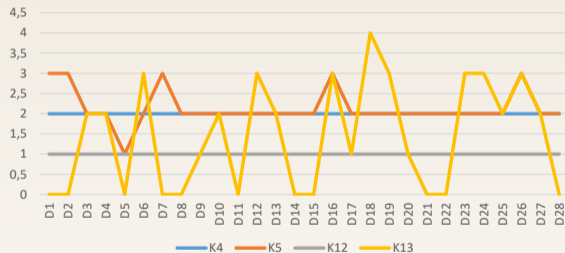


Telemonitoring system: Web platform

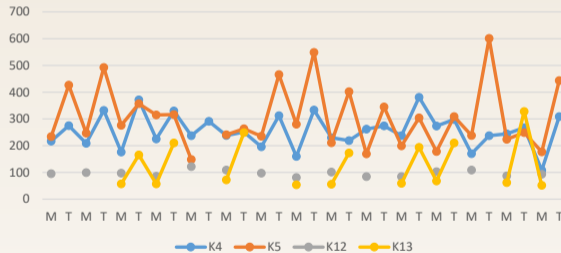


Telemonitoring system: Web platform (cont.)

Daily blood glucose measurements



Blood glucose



First results: Sociodemographic characterization

	Experimental G.	Control G.	P
Sex:			
Female (%)	90,00	77,80	>0.05
Age:			
Mean \pm SD	72,60 \pm 9,32	70,67 \pm 8,12	>0.05
Household:			
Lives with others (%)	90,00	55,60	>0.05
Education:			
primary school (%)	80,00	88,90	>0.05

First results: Clinical condition

		Experimental G.	Control G.	P
BMI:				
	Mean \pm SD	34,29 \pm 7,17	30,60 \pm 4,46	>0.05
Waist Circ.:				
	Mean \pm SD	111,20 \pm 19,91	99,78 \pm 15,07	>0.05
HbA1C:				
	Mean \pm SD	9,24 \pm 0,60	10,22 \pm 1,71	>0.05
Comorbidities:				
	Cardiac (%)	70,00	55,60	>0.05
	Renal (%)	80,00	55,60	>0.05
	Ocular (%)	50,00	55,60	>0.05
	Neurological (%)	40,00	44,60	>0.05

First results: Perceived quality-of-life

	Median
ADDQoL:	
Global Perception of quality of life	0
Impacts of diabetes on quality of life	-2
Family life	-2
Social life	-4
Physical functioning	-3
Motivation	-4
Society reaction	-2
Life conditions	-2
Freedom to eat	-4
Pleasure with food	-2
Freedom to drink	-2

First results: Perceived quality-of-life (cont.)

	Experimental G.	Control G.	P
ADDQoL:			
Implications in the family	9,80	10,22	>0.05
Social implications	9,20	10,89	>0.05
Self image	9,25	10,83	>0.05
Leisure activities	8,80	11,33	>0.05
Travel	9,30	10,78	>0.05
Do things	11,15	8,72	>0.05
Concerns about the future	11,70	8,11	>0.05
Financial situation	11,20	8,67	>0.05
Life conditions	10,75	9,17	>0.05
Freedom to eat	10,95	8,94	>0.05

First results: Perceived quality-of-life (cont.)

	Experimental G.	Control G.	P
DHP (Mean \pm SD):			
Psychological tension	28,33 \pm 17,44	32,22 \pm 10,41	>0.05
Barriers to activity	37,25 \pm 23,90	43,36 \pm 16,12	>0.05
Uninhibited food	38,00 \pm 29,49	51,85 \pm 22,55	>0.05

Conclusions

- ✎ Type 2 DM has major implications on the quality of life of patients.
- ✎ Metabolic control is an important determinant of quality of life.
- ✎ Telemonitoring is an important resource to facilitate the access of the patients to the health team, reducing the displacements to the health services and it contributes to adherence to self-monitoring and self-control of the disease.
- ✎ Because of the low literacy of these patients, the technology used should be simple and user-friendly.

Thanks



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