

A TELE-HEALTH SERVICE FOR THE FAMILIES OF ELDERLY IN SOUTHERN ITALY

M.C. De Cola, R. De Luca, A. Bramanti, F. Bertè, P. Bramanti and R.S. Calabrò

IRCCS Centro Neurolesi "Bonino Pulejo", Messina

Aim

In 2014, the Italy was the European country with the highest proportion of elderly (21.4%) [1], of whom one million lived in Sicily [2]. Elderly require continuous care and control, both through health care services and by familiars, who manage most of the care burden. In this study, we examined the effects of a telehealth system providing a health care service for the elderly and support to their caregivers, within a family-centered care program.

Materials and Methods

We evaluated the clinical and neurobehavioral symptoms of 18 elderly patients aged 65 years and over (Table 1) with a diagnosis of mild to moderate dementia (mean MMSE score of 20.25 ± 7.86) and the care burden of their 20 caregivers, besides the usability of the tool. All subjects spent most of their day in a nursing day-care center, located in Messina where, beyond common daily activities including occupational therapy, pet therapy and cognitive rehabilitation, they were subjected to regular tele-monitoring and tele-counseling. Participants underwent three clinical and psychological evaluations: at enrolment (T0), after six months (T1), and at the end of the program (T2). The telehealth service consisted of a three times per week vital parameter monitoring (30 min), and a weekly consultation either with a neurologist or a psychologist (30min).

Patient	Gender	Age	Education	MMSE	ADL	IADL	GDS	BANSS	BPRS
1	Male	80	13	24.7	6	5	11	9	44
2	Female	79	5	16.1	6	6	7	10	34
3	Female	78	13	16.7	6	5	9	7	35
4	Male	87	8	28.8	6	5	12	7	28
5	Female	80	13	16.0	1	1	8	18	60
6	Male	67	8	26.0	6	5	7	8	29
7	Male	75	8	28.0	6	5	6	7	27
8	Female	73	8	27.0	6	8	7	8	31
9	Female	62	17	6.3	4	0	NA	13	58
10	Female	72	8	24.4	6	8	6	8	33
11	Male	65	17	21.2	6	3	10	11	55
12	Female	73	5	26.3	6	8	12	9	45
13	Female	82	8	24.7	6	8	4	9	23
14	Female	70	13	8.9	6	1	NA	8	65
15	Male	79	8	25.0	6	5	7	9	47
16	Female	69	5	27.9	6	8	3	7	27
17	Female	66	4	8.4	4	3	NA	10	41
18	Female	71	5	8.0	6	3	NA	11	59

Table 1. Description of demographical and clinical patient's condition at the beginning of the study.

Results

The one-way repeated analysis revealed a significant improvement in the psychiatric condition of the elderly ($p < 0.001$), despite a significant worsening in daily living activities ($p < 0.01$), and a significant gradual reduction of the caregivers burden ($p < 0.001$). Health status perception increased through time (from an average score of 5.67 ± 1.08 at baseline to 7.72 ± 1.32 at the end of the study).

Discussion

Telehealth systems can play a future role in regional care and services for the elderly, especially with regard to those having chronic diseases. The main challenge nowadays is how to adapt technical systems to the needs of patients with cognitive and physical limitations, and make the telecare services suitable for a larger group of elderly. Our results highlight that a telehealth system integrated in a local health care service may significantly improve elderly persons' behavior, and reduce the caregivers' burden [3].

References

- [1] Eurostat. Population structure and ageing, http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing (2015, accessed 30 July 2015).
- [2] Istat. Health for all – Italia, <http://www.istat.it/it/archivio/14562> (accessed 30 January 2015).
- [3] De Cola Maria C. et al. "Tele-health services for the elderly: A novel southern Italy family needs-oriented model." *Journal of Telemedicine and Telecare* (2015): 1357633X15604290.

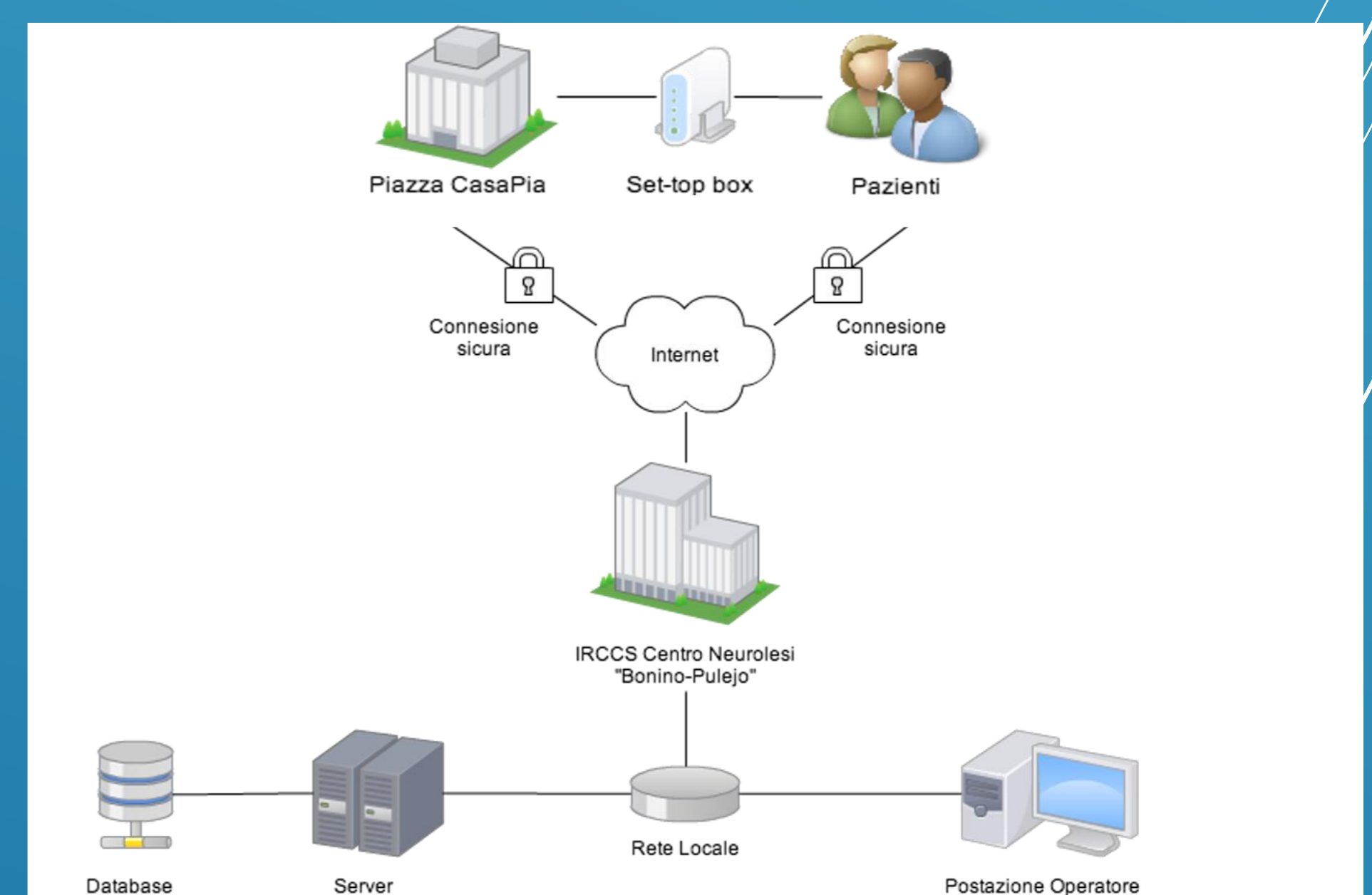


Figure 1. The e-health system used to monitor the elderly patients living in the nursing homes.