

---

## CONFERENCE ABSTRACT

### **Integrated care and active aging**

ICIC20 Virtual Conference – September 2020

Roberta Massi<sup>1</sup>,

1: Cooperativa Sole, Gatteo, Italy

---

Cooperativa Sole is a care provider located in north of Italy who operates both through assisted living facilities and independent living facilities. Cooperativa Sole counts on a staff of more than 90 professionals in health and care, operating in three different facilities and in the home of aging individuals.

Despite being a start-up born in 2013 Cooperativa Sole reached now more than 2 Million Euros and it is a fast-growing reality in care innovation leveraging an innovative business model supported by new technologies to better compete on public tenders.

The average age of their guests is 85+, which means dealing with typical frailties such as slight dementia, risk of falling, dehydration.

During 2017 and 2018 Sole staff of doctors and caregivers worked with IBM Italy and IBM Research in Cambridge USA, to experiment new ways to understand people's behavior using the Internet of Things (IoT) paradigm using sensors to collect and analyze environmental and individual data.

The aim is to evaluate the impact of the IoT inserted in a structure for the elderly, how much and how it affects the impact on removal, prevention of risk of falling, and maintenance of ADL.

The project involves low cost and open source technologies to suggest a sustainable and scalable business model and leverage IBM Cloud, IoT platform and the IBM Research assets to allow data fusion augmented by analytics.

We decided which fragility to monitor, how to understand people living habits, how to provide real time data to care givers: The objective was, and still is to improve their Quality of Live keeping their privacy and autonomy.

We use different sensors to collect data; air quality, motion sensor, bed occupancy, toilet use, fall... etc and the data correlation produced relevant improvements:

1. Thanks to sensors for movements and in the bed we reduces fall down by 71%
2. No one leaves the nursing home on its own
3. We reduce by 25% some drugs dosage.

Obviously we also achieved some economic impacts:

1. Bed occupancy increased by 5% - which means 30,000 \$ income
2. Care givers cost reduction by 13% due to targeted actions

3. Absence due to illness reduced for 3,000 \$

4. Hiring of 5 new people

Currently Cooperativa Sole is working with the IBM Active Intelligent Center in Bologna, Italy to continue this path of technology adoption extending actual "caring model" in the defined context of private apartments within "solidary condominiums".

Some new activities of IoT technology adoption were launched in the social-assistance field to collect data in order to use data analysis models based on Artificial Intelligence systems aimed to predict the occurrence of "wrong" habits, or behaviors contrary to the pathologies diagnosed for each elderly person.

Another topic is the economic sustainability of a new welfare model in which public costs for services for older people are reduced. This can be done either by delaying nursing homes or by making people contribute directly to social activities by continuing to live at home in a "solidary" condominium.