



## inDemand: Demand driven co-creation for public entities

### CHALLENGE 3: MATCO (GCSMS 91)

#### Pitch

Elderly people – Monitoring of multiple data during night

#### Global definition of the challenge

Retirement care homes for the dependent elderly are in most cases the last places where people live.

It is therefore legitimate to consider palliative care in these facilities.

Palliative care in retirement care homes is not only a legal obligation but is also a quality approach. It is in the spirit of wanting to improve the care of the elderly at the end of life and to provide them with quality care that this Challenge should be perceived.

This is a connected solution for sleep-wake cycles, movement, as well as the heart rate and temperature. An alarm is triggered if there is no prolonged movement.

These data would make it possible to know and anticipate possible complications of the decubitus (supine position), such as a possible infection or the appearance of bedsores.

It would also make it possible to better define the use of sleeping pills with an understanding of the sleep-wake cycles.

#### Definition standard profiles

*The objective of defining standard profiles is to better understand the current situation within the facility and more particularly the people related to the problem defined in the Challenge, and who will therefore eventually use the innovative developed. These standard profiles will enable interested companies to apply to fully understand all the contours of the current situation in the facility.*

*2 "patient" standard profiles related to the Challenge have been described (the standard profile of the "problem" patient and the standard profile of the "easy" patient). Also, 2 "health professionals" standard profiles related to the Challenge are described (the standard profile of the specialised physician and the standard profile of a nurse, for example).*

#### STANDARD PROFILE OF THE « Problem patient »

<b>Name</b>	Mrs B
<b>Age</b>	89
<b>Status</b>	Resident
<b>Location in relation to the institution</b>	Lives in the facility
<b>Occupation</b>	Retired
<b>Short biography in three points</b>	<ul style="list-style-type: none"> <li>• Widow with three children</li> <li>• Secretary</li> </ul>
<b>Pathologies</b>	<ul style="list-style-type: none"> <li>• Diabetes</li> <li>• Hypertension</li> <li>• Rhythm disorders</li> <li>• Initial stage of Alzheimer's</li> </ul>

<b>Potential disabilities</b>	n/a
<b>Motivations (recognition, power, reward...)</b>	Satisfaction
<b>Objectives in relation to illness and treatment</b>	n/a
<b>Constraints and frustrations</b>	n/a
<b>Personality traits (introverted, logical, reflective...)</b>	Introverted
<b>Understanding of the illness</b>	1/5
<b>Observance</b>	1/5
<b>Internet skills</b>	1/5
<b>Mobile telephone skills</b>	1/5
<b>Social networks skills</b>	1/5

### STANDARD PROFILE OF THE « Easy patient »

<b>Name</b>	Mr. N
<b>Age</b>	89
<b>Status</b>	Retired
<b>Location in relation to the institution</b>	Lives in the facility
<b>Occupation</b>	Health manager
<b>Short biography in three points</b>	Widower with one son, he always had a lot of responsibilities
<b>Pathologies</b>	<ul style="list-style-type: none"> <li>• Initial stage of Alzheimer's</li> <li>• Depression</li> <li>• Cardiopathy</li> </ul>
<b>Potential disabilities</b>	n/a
<b>Motivations (recognition, power, reward...)</b>	Recognition
<b>Objectives in relation to illness and treatment</b>	n/a
<b>Constraints and frustrations</b>	Introverted, reflective
<b>Personality traits (introverted, logical, reflective...)</b>	n/a
<b>Understanding of the illness</b>	3/5
<b>Observance</b>	4/5
<b>Internet skills</b>	4/5
<b>Mobile telephone skills</b>	4/5
<b>Social networks skills</b>	4/5

### STANDARD PROFILE OF THE « Health professional 1 »

<b>Position</b>	Night nursing assistant
<b>Name</b>	Mr. D
<b>Age</b>	28
<b>Status</b>	n/a
<b>Location in relation to the institution</b>	15 minutes away
<b>Short biography in three points</b>	Studied nursing up to the second year
<b>Motivations (recognition, power, reward...)</b>	Satisfaction
<b>Objectives in relation to illness and treatment</b>	Appropriate care

<b>Constraints and frustrations</b>	n/a
<b>Personality traits</b> (introverted, logical, reflective...)	Calm and reflective
<b>Understanding of the illness</b>	5/5
<b>Internet skills</b>	5/5
<b>Mobile telephone skills</b>	5/5
<b>Social networks skills</b>	5/5

### STANDARD PROFILE OF THE « Health professional 2 »

<b>Position</b>	Physician coordinator
<b>Name</b>	Mr. P
<b>Age</b>	50
<b>Status</b>	n/a
<b>Location in relation to the institution</b>	5 minutes away
<b>Short biography in three points</b>	<ul style="list-style-type: none"> <li>• SOS physician</li> <li>• Coordinating physician</li> </ul>
<b>Motivations</b> (recognition, power, reward...)	Satisfaction
<b>Objectives in relation to illness and treatment</b>	Appropriate care
<b>Constraints and frustrations</b>	n/a
<b>Personality traits</b> (introverted, logical, reflective...)	Calm and reflective
<b>Understanding of the illness</b>	5/5
<b>Internet skills</b>	5/5
<b>Mobile telephone skills</b>	5/5
<b>Social networks skills</b>	5/5

## Definition uses

*Uses are defined as the description of the current situation in the healthcare organisation facility from a particular point of view (patient or health professional, for example).*

*In order to have a perfect understanding of the current situation, it is important that each use be defined step-by-step, starting with step 1, which is the starting point (which can be, for example, the first consultation at the hospital for the patient, admission to the emergency room, return to the room after surgery) and finishing with stage X, which is the end point (the patient is completely treated, an end of remote monitoring ...). The time between the starting point and the end point represents the moment when the new digital solution must be used in the patient's treatment. At each defined step, it is important to highlight the current problems encountered and which must be solved by the use of the new co-developed digital solution. For each step, please list the current issues and what should be done to solve them.*

*Find below the description of the case*

### Currently:

Ms. X. in palliative care, remains in bed 20 hours a day. She is in a fetal position, a position that seems to satisfy her and to be comfortable for her, and especially does not cause her any pain.

When the nurse must take her temperature and pulse she must mobilise Ms. X, causing discomfort and especially pain.

A monitoring sheet has been set up to change her position every two hours, but unfortunately some staff omit this aspect of her care, causing the appearance of very painful bedsore.

She sleeps most of the day and it is unclear if her nights are restful or not. She has prescription sleeping pills but one wonders about her usefulness

**Tomorrow:**

Ms. X. in palliative care, remains in bed 20 hours a day. She is in a fetal position, a position that seems to satisfy her and to be comfortable for her, and especially does not cause her any pain.

Taking her vital signs will be done by a statement on a screen that does not involve any painful handling.

Her position will be changed because an alarm will alert the caregiver when two hours have elapsed.

We will understand her sleep/wake cycles and we can adapt her care in the day and especially we will know whether it is useful or not to prescribe sleeping pills.

## Technical and operational requirements

- We must be able to wash and disinfect the solution
- It must be able to interface with the healthcare software
- The solution must be compatible with an air mattress

## Feasibility

No WIFI.

Limited storage areas for equipment.

## Financial Aspects

N/A

## Expected Impact

- Fewer bedsores: number of bedsores before/after
- Fewer prescriptions for sleeping pills: number of prescriptions before/after
- Fewer decubitus complications
- Satisfaction of residents and families
- Satisfaction of the staff

## Scope of the challenge

*Information on the specificity of the challenge, if it is defined specific to the hospital*

To our knowledge, this kind of solution does not exist.

We are convinced that a solution for this Challenge would be welcome in all medico-social facilities. In addition, it could be duplicated at home for hospital care at home and private nursing care but also in the hospital sector by palliative care services.