



inDemand: Demand driven co-creation for public entities

CHALLENGE 2: Remote monitoring of real-life patient data to anticipate the occurrence of complications/degradations in health status (SafeFoch)

Institution responsible for the Challenge

Name of the institution: FOCH Hospital

Service/Department: Project Management

Pitch

Remote monitoring of real-life patient data to anticipate the occurrence of complications/degradations in health status

Motivation and description

After patients leave the hospital, hospital practitioners are victims of the "tunnel effect": they do not know what is happening until the next consultation (from 10 days post-surgery until several months in oncological monitoring).

Several situations are possible:

- Post-surgery exit: the monitoring takes up to 10 days (post-operative consultation)
 - Outpatient surgery could be isolated in this case. To be determined.
- Monitoring of patients with chronic diseases: the monitoring takes place over several months.
 - Cancer, certainly with types of cancer identified
 - Diabetes
 - Heart failure
 - Kidney failure
 - Pulmonary insufficiency, in which cystic fibrosis patients could be isolated
 - Post-stroke
 - Parkinson’s disease
 - Epilepsy
 - Post-transplant (renal and pulmonary)
 - Psychiatry

Priorities for the development of modules according to the pathology will be determined between the company selected and the institution.

******* NEW SPECIFICATIONS UPDATED ON 7 MAY 2018 *******

FOCH Hospital decided to focus on the follow-up of transplant patients (renal and pulmonary)

- Monitoring patients after emergencies: monitoring may last for only 48 hours
- Progress of patients in medically assisted procreation (MAP) ?
- Progress of patients in obstetrics with complications (gestational diabetes, at-risk pregnancies)

Having data on these patients in real time between two visits to the hospital would allow practitioners to anticipate complications, adjust prescriptions, avoid unnecessary hospital visits (emergencies, hospitalisation) and obviously improve the state of the patient's health.

Similarly, coordination with city health professionals needs to be optimised.

Monitoring treatment compliance is also a major, basic challenge, but which has been accentuated with the development of oral chemo.

Finally, maintaining long-term patient motivation is a key issue in the success of treatment protocols.

Scope

All institutions are subject to these same issues.

Operational Requirements

Monitoring must enable data collection via:

- Questionnaires to be completed by the patient
- Measurements of biological constants (temperature etc.)
 - Completed by the patient
 - Via connected objects, once they are mature (battery life, ease of measurement for an ordinary individual, congestion, logistics management etc.)
- Examination results (in structured digital data)
 - carried out at Foch
 - carried out in the city and loaded by the patient in this case and converted into digital data structured by the platform
- hospitalisation records/consultations where appropriate
- prescriptions prescribed by physicians and monitoring adherence as accurately as possible
- comments added by city health professionals who are also monitoring the patient

In the case of chronic diseases, monitoring must be longitudinal and the history of the patient must be preserved.

Various alert algorithms must be able to be integrated. These alerts can be generated according to a combination of parameters, depending on the evolution of these parameters, etc.

Alerts should be traceable either to the coordinating nurse or to the physician according to the severity. The tool must integrate secure messaging, allowing different health professionals to exchange with each other, and a separate messaging system, allowing the patient to interact with health professionals.

Ultimately, this database could be used for clinical research purposes.

Expected impact

The main goal of the solution is to monitor patients remotely.

The secondary objectives are to decrease the rate of rehospitalisation, to enable the same health professional to monitor more patients, to anticipate complications and to maintain or even improve the patients' state of health.

The performance indicators of the solution could be the number of patients monitored, readmission rates, etc..

Feasibility

The main obstacle to the achievement of this solution is the ability to retrieve all of the patient's data numerically (e.g. in the case of an examination performed outside the Foch Hospital) to Automatic Document Recognition (ADR) solutions.