

Improving cancer patient care with a digital telemonitoring platform: The *ConnectPatientToDoctor* study

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BACKGROUND

During the COVID-19 pandemic, clinicians have had to face two challenges in an unprecedented context:

- Ensure continuity of patient care for a disease that involves a life-threatening prognosis.
- Reduce patients' exposure to the virus.

The *ConnectPatientToDoctor* study aimed to evaluate the use of a digital telemonitoring platform, *Cureety*, in cancer patient care (Figure 1).

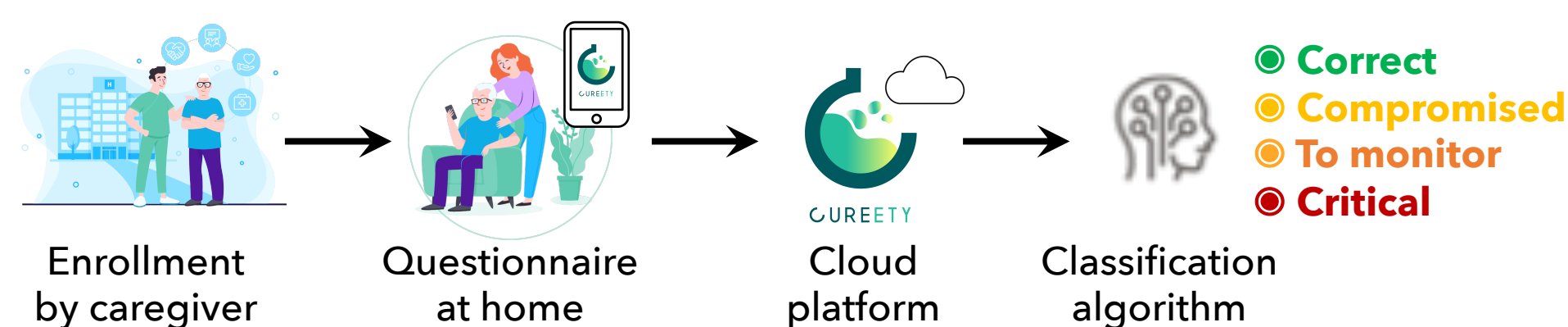


Figure 1. Cancer patient care that includes telemonitoring.

PATIENTS & METHODS

The prospective study was conducted at the Military Hospital Bégin from 7/1/2020 to 3/31/2021. Each cancer patient was registered in the *Cureety* platform. The platform allowed them to respond to an adverse event (AE) questionnaire based on CTCAE v.5.0, and personalized for their pathology and treatment. The platform implements an algorithm that calculates a global health score based on the grades of the reported AEs, allowing classification of the patient into four different levels:

- A ● Correct State (green)
- B ● Compromised State (yellow)
- C ● State to be monitored (orange)
- D ● Critical State (red)

In the case of C/D classification, the patient is invited to call the hospital. In case of A/B classification, the patient receives therapeutic advice set by the doctor to help manage each of the reported AEs.

RESULTS

- 102 patients were included in the program.
- The median age was 70 and 77% presented a metastatic stage (Table 1).
- Patient monitoring status is represented in Figure 2. Compliance was high (68%).
- Overall, 2778 questionnaires were completed by the patients, resulting in 775 yellow alerts and 257 orange or red alerts (Figure 3).
- More than 60% of the alerts was managed through outpatient care or with a rapid intervention to resolve the adverse events.
- Satisfaction was high (94%) (Figure 4).

| Variables | N (%) |
|------------------------------------|--------------------|
| Number of patients | 102 |
| Median age (range) | 70.5 years (29-99) |
| Gender | |
| Female | 32 (36.4%) |
| Male | 56 (63.6%) |
| Not collected | 14 (13.7%) |
| Location | |
| Prostate | 54 (52.9%) |
| Lung | 23 (22.5%) |
| Breast | 14 (13.7%) |
| Other | 11 (10.9%) |
| Stage | |
| Localized | 19 (18.6%) |
| Metastatic | 73 (71.6%) |
| Other | 10 (9.8%) |
| Systemic Treatment | |
| Chemotherapy | 25 (24.5%) |
| Hormonotherapy | 50 (49.0%) |
| Immunotherapy | 19 (18.6%) |
| Targeted therapy | 8 (7.8%) |
| Patients included in a trial study | 39 (38.2%) |

Table 1. Baseline characteristics of the patients.

The authors declare that they have no conflict of interest

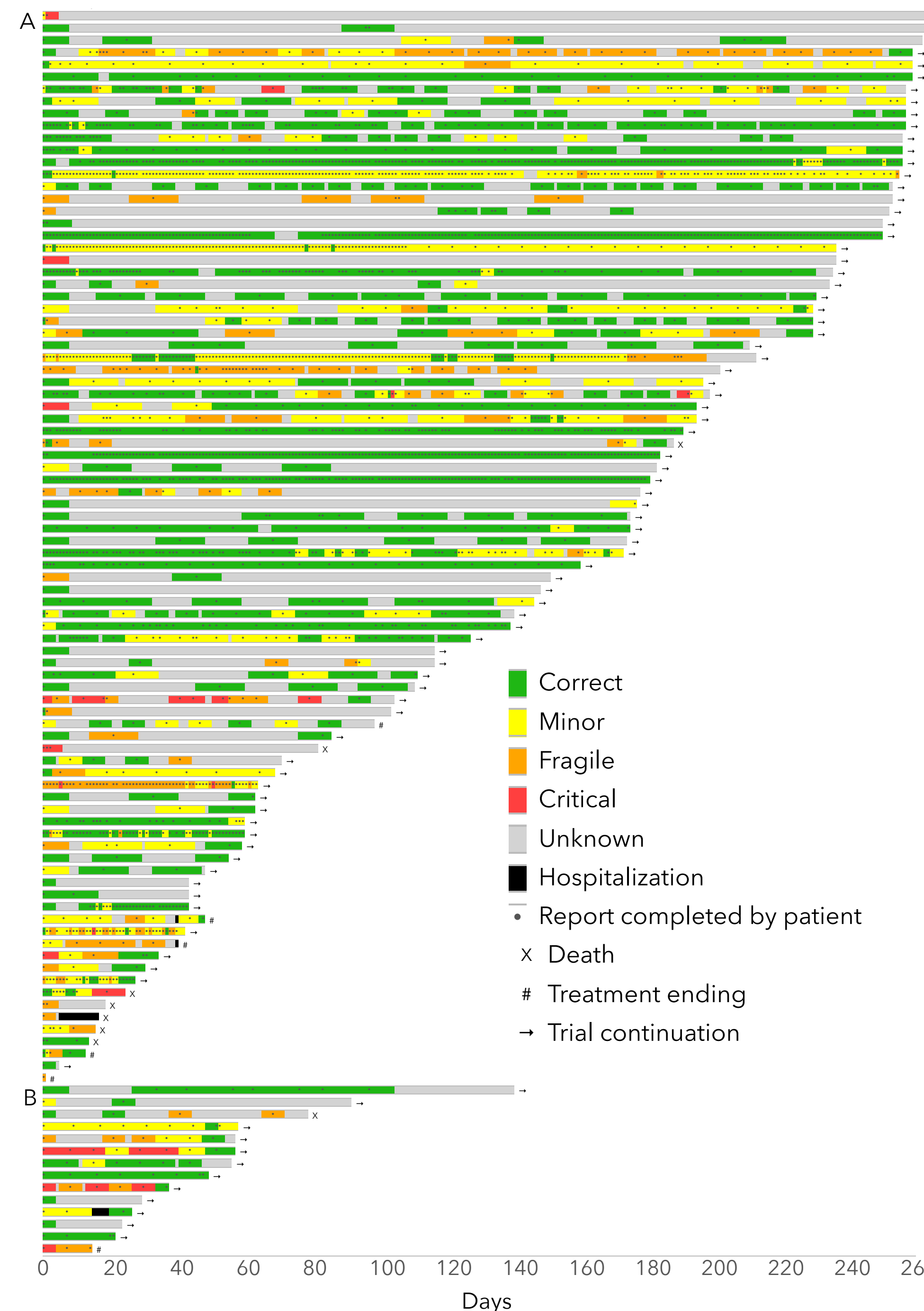


Figure 2. Patient monitoring timelines

Each line represent the monitoring for one patient. Days when patients completed their health questionnaire are marked with a bullet point and the health status by colored areas. The gray areas indicate timespans without a known health status. Patients used the app themselves (A) or were monitored via phone calls (B).

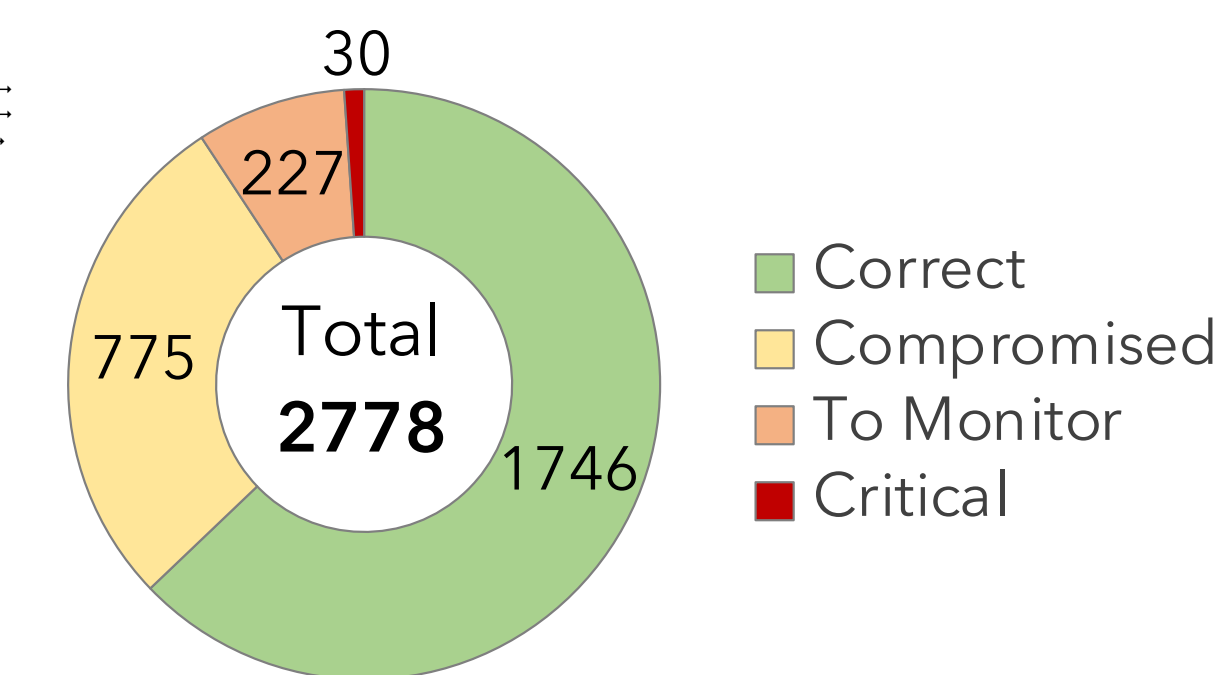


Figure 3. Distribution of health classifications.

The 102 patients completed 2778 AE questionnaires over the course of the study, resulting in 775 yellow alerts and 257 orange or red alerts. More than 60% of the alerts was managed through outpatient care or with a rapid intervention to resolve the adverse events.

Are you satisfied with the Cureety platform for the monitoring of your health?

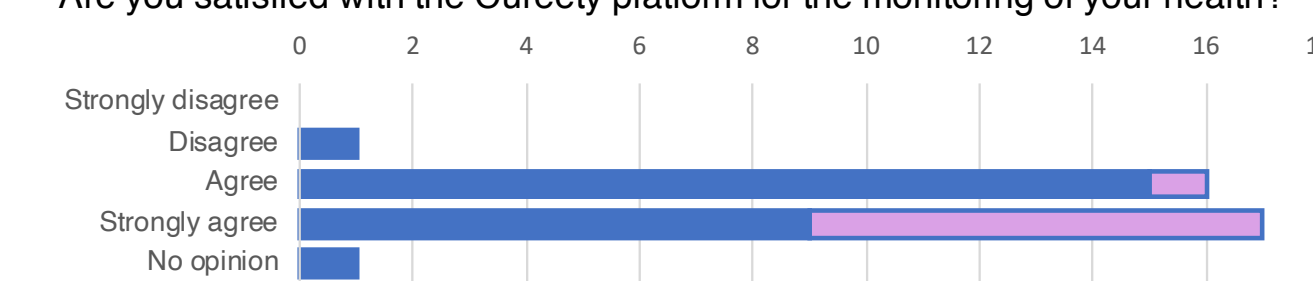


Figure 4. Patient satisfaction.

A satisfaction questionnaire was completed by a subset of 35 patients (as part of clinical trials), monitored via phone calls (purple) or that used the app (blue).

CONCLUSION & PERSPECTIVES

- Participants reported a clear benefit using the *Cureety* digital platform.
- Patients feel less isolated.
- Patients feel they benefited from personalized care.
- This solution streamlines the patient care.

Future Directions for Research

- Evaluate the medico-economic benefits of telemonitoring.
- Evaluate the impact on emergency hospitalizations and survival of cancer patients.