

# Early Patient-Reported Outcomes Are a Promising Predictive Factor of Cancer Progress and Outcome in Older Patients: The EPROFECY Study.

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Abstract  
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## Background

The benefits of Electronic Patient Remote Outcomes (e-PRO) for telemonitoring are well established, allowing early detection of illnesses and continuous monitoring of patients. We have previously shown high levels of compliance of use of telemonitoring in daily care (1). Contrary to commonly-held beliefs, older patients (OPs, aged 70 or more) in oncology are compliant with the use of a telemonitoring digital platform. Such a tool allows the medical team to gain detailed knowledge of the tolerance profile of patients, and help monitor and maintain their quality of life, which is a particularly important goal for older patients. The EPROFECY study assesses the predictive power of the patient health status in the first month of treatment, evaluated with the digital telemonitoring platform Cureety, on survival..

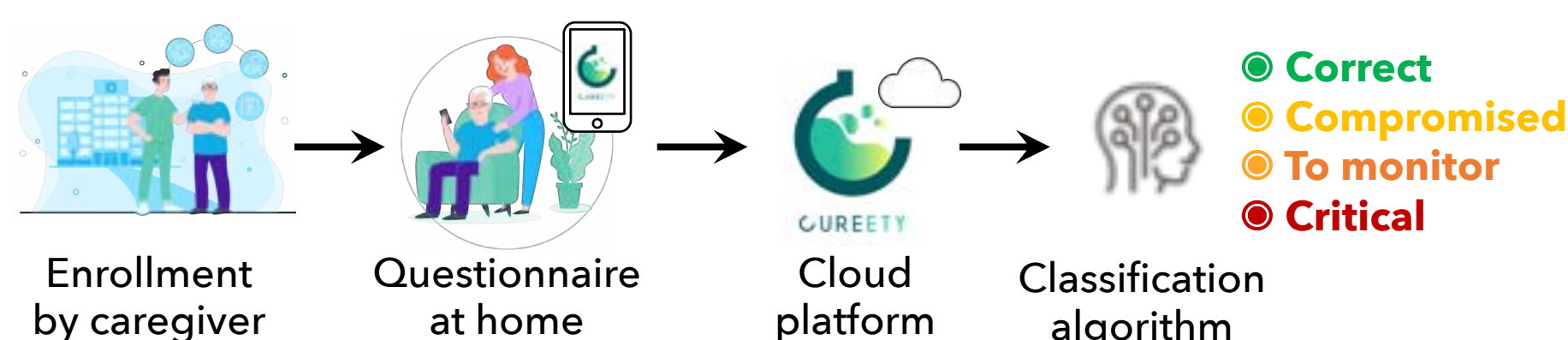


Figure 1. Cancer patient care that includes telemonitoring.

## Patients & Methods

This prospective study was conducted at the Military Hospital Bégin on OPs. Patients were allowed to respond to a symptomatology questionnaire based on CTCAE v.5.0, personalized to their pathology and treatment. An algorithm evaluated the patient status based on reported adverse events:

**A** ● Correct  
**B** ● Compromised  
**C** ● To be monitored  
**D** ● Critical State

Good health status  
Poor health status

For A/B (good health status), the patient received therapeutic advice to help manage each of the reported adverse events. For C/D (poor health status), the patient was invited to call the hospital.

To assess the early tolerance of patients to their treatments, we determined the health status in the 1st month after initiation of treatment, which was classified as "Good health" (GH, majority of A/B reports) or "Poor health" (PH, majority of C/D reports). The primary endpoint was to assess if the first-month tolerance is a predictive factor of progression free-survival (PFS). The secondary endpoint was to assess if the first-month tolerance is a predictive factor of overall survival (OS).

## Results

- 61 patients were enrolled between 7/12/2020 and 6/30/2021.
- The median age was 78.0 years (range 70.0 - 99.0).
- 81% presented a metastatic stage.
- The most represented cancer was prostate cancer (67.2%).
- The median follow-up was 8.2 months.
- 2299 questionnaires were completed by the patients.
- 79% of the patients (48/61) were classified "GH" the first month.
- 21% of the patients (13/61) were classified "PH" the first month.
- PFS at 6 months was 64.6% in GH vs 23.4% in PH (p=0.0339)
- OS at 6 months was 100% in GH versus 95.5% in PH (p=0.77)

Variables	Patient count and %
Number of patients n, (%)	61 (100%)
<b>Gender N, (%)</b>	
Female	14 (14%)
Male	47 (47%)
Age (median, range)	78.0 (70.0 - 99.0)
<b>Comorbidities n, (%)</b>	
Cardio-vascular	41 (60.3%)
Pulmonary	7 (10.3%)
Renal	3 (4.4%)
Other	17 (25.0%)
<b>Primitive type of cancer</b>	
Prostate	41 (67.2%)
Lung	9 (14.8%)
Breast	6 (9.8%)
Others gynaeco-urinary cancers	5 (8.2%)
<b>Stage</b>	
Localized disease	11 (18.3%)
Advanced disease	49 (81.7%)
<b>Type of treatment n, (%)</b>	
Chemotherapy	18 (29.5%)
Hormonotherapy	34 (55.7%)
Immunotherapy	5 (8.2%)
Combined treatment	4 (6.6%)
<b>Clinical trial</b>	
No	39 (66.1%)
Yes	20 (33.9%)

Table 1. Baseline characteristics of the patients.

Figure 2. Distribution of health classifications.

The 61 patients completed 2299 AE questionnaires over the course of the study, resulting in 2036 "Good Health" classifications (green or yellow), and 263 "Poor Health" classifications (orange or red).

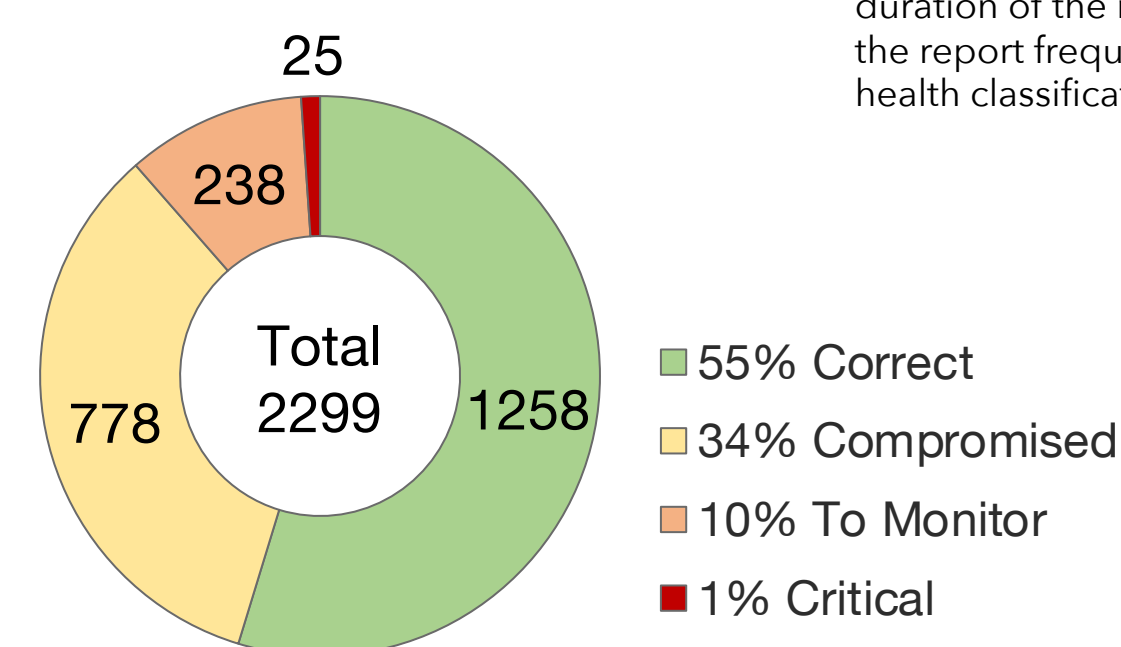


Figure 3. Patient monitoring timelines for the GH and PH groups.

Each line represent the monitoring for one patient, and allows to visualize the duration of the monitoring, the report frequency and health classifications.

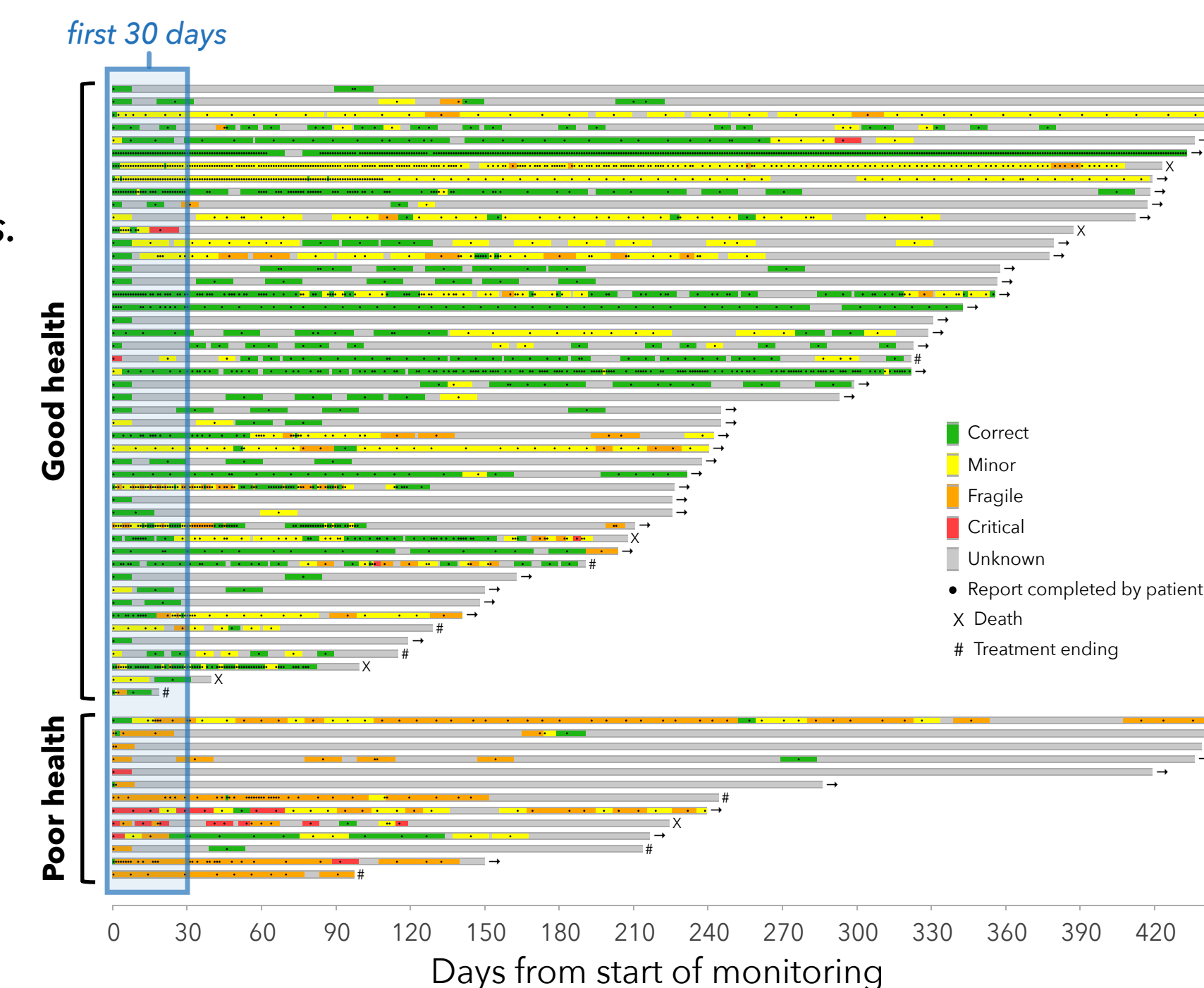
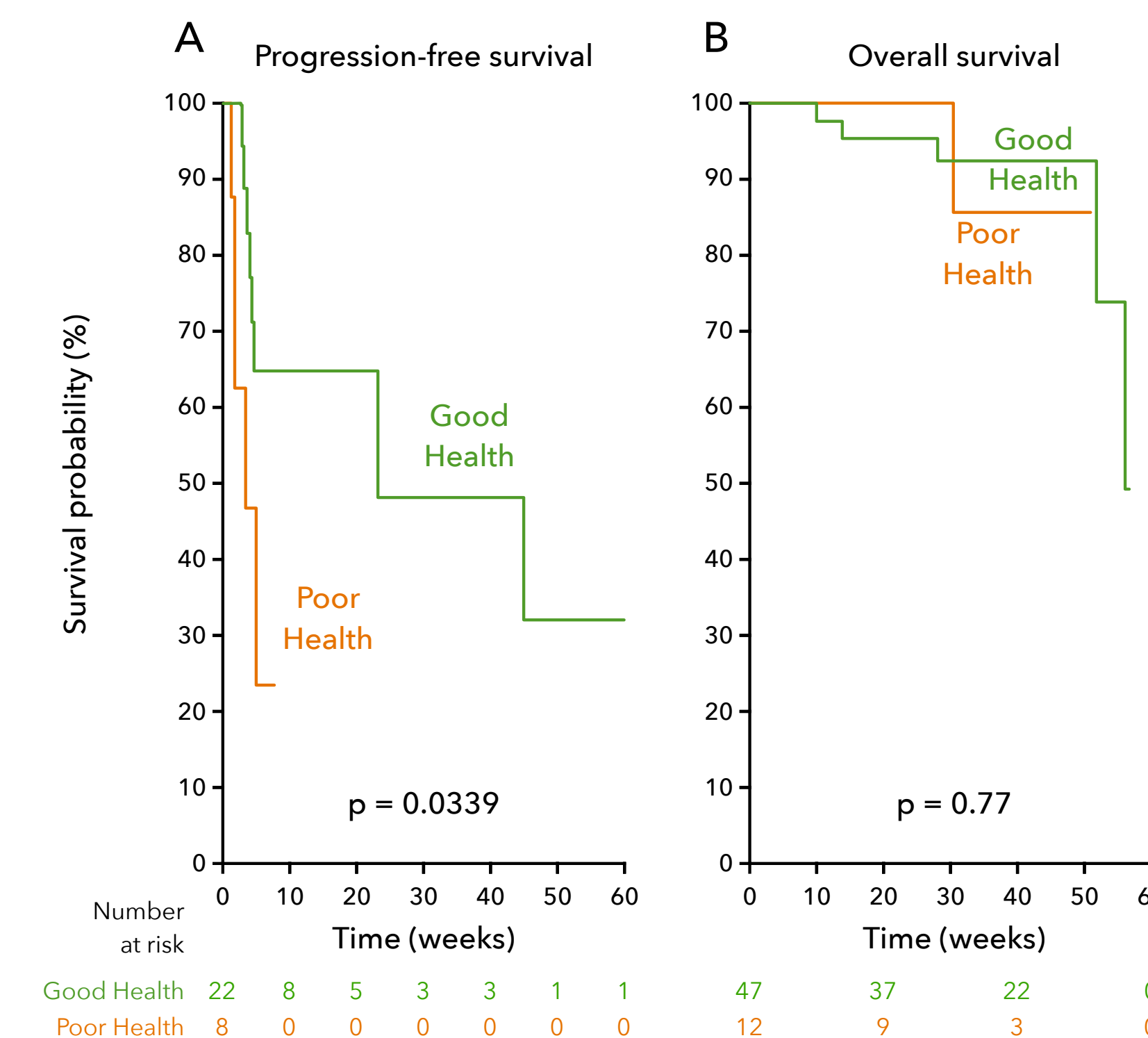


Figure 4. PFS (A) and OS (B) for the GH and PH groups.



## Conclusions and Perspectives

- First study assessing the use of PRO-based tolerance as a predictive factor of treatment response in OPs.
- Significant 80% reduction in the risk of progression in OPs that exhibited a good first-month tolerance.
- e-PRO follow-up might be an effective early predictor of response and help with the treatment plan.

The authors declare that they have no conflict of interest