Evaluation of the implementation of Value-Based Healthcare with a weekly digital follow-up of lung cancer patients in clinical practice

UHASSELT
KNOWLEDGE IN ACTION

Context

Department of pulmonary diseases of **AZ Delta**, a large regional hospital in Belgium with 5 sites.
Patient population: **Lung Cancer patients**

Situation / Background

In April 2017 the Lung Cancer department started with the **systematic collection of Patient-Reported Outcomes by digital device (smartphone/ tablet/ PC).**
Every week patients are asked to fill in a mini-questionnaire about adverse events (coughing, pain, skin rash, …) and concerns (fear, practical concerns, …), using the standard PRO-CTCAE items. Also, every six weeks patients respond to the EORTC Quality of life questionnaires (QLQ C30 and LC13), included in the ICHOM set for lung cancer patients[1]. Besides that, the ICHOM clinical indicators are collected.
Based on the responses, **alerts** are generated to the oncology nurse and one or more other disciplines of the **multidisciplinary and transmural care team,** consisting of pulmonary physicians, general practitioners, oncology nurses, psychologists, dieticians, palliative support team, social service and study nurses.
Patients are contacted by the oncology nurse in case of an electronic alert, to see whether an appointment with the physician is necessary or the care team can help in the treatment of side effects. When the care team receives an alert on questions about end of life care of psychosocial components, an appointment is scheduled with the appropriate team member.

PRO-CTCAE
Patient Symptom Reporter
to your medical team from a computer.

Weekly questionnaire based on PRO-CTCAE

ICHOM

Implementation of ICHOM Lung Cancer indicators

Goal

➢ Assess the **applicability** of PROs in routine clinical practice
➢ To **improve the knowledge** on optimizing the care delivery by **using PROs in routine clinical practice**

Methods

Methods used for the evaluation of the digital follow-up of lung cancer patients
Data analysis of all included patients
To evaluate the implementation, data on **response rates,** alerts and patient characteristics were collected of all included patients during the period January 2018 to September 2020
A pilot study for 30 patients
This was set up during the period from February to December 2019 to evaluate the **feasibility** of the digital weekly follow up of PROs.
Semi-structured interviews care team
one researcher conducted **semi-structured interviews** with an MD thoracic oncologist, oncology nurse, psychologist, palliative support and dietician.

Results

Feasibility
A total of 92% of these weekly questionnaires were responded by patients. These response rates are high for patients included during a long period in the digital platform (>90%). The response rates are lower for patients when only a few questionnaires were sent.
The response rates on the EORTC questionnaires are also high: 88% of the EORTC questionnaires are responded by patients.
Appropriateness
The defined standard care pathways are clear for the care team and it makes planning of care activities easier.
Acceptability
All of the interviewed caregivers stated that the PROs facilitated the communication between the patient and the caregiver. In particular, the interviewed psychologist and palliative nurse declared that alerts are an important trigger to start a conversation on psychological and palliative support.
Adoption
95% of targeted patients are included in the digital platform, and only three patients unsubscribed to the questionnaires
**Fidelity**
During the implementation, some small adaptations were made to the questionnaire
Penetration
Since 2021, the digital platform has also been implemented in the other campuses of the hospital for lung cancer patients.
Sustainability
The thoracic oncologists were the driving forces behind the the implementation of the digital platform. In the interviews, this was appointed as a key success factor in the implementation process. The engagement of all members of the care team, especially the oncology nurse, from the start of the development process was also essential for successful implementation.
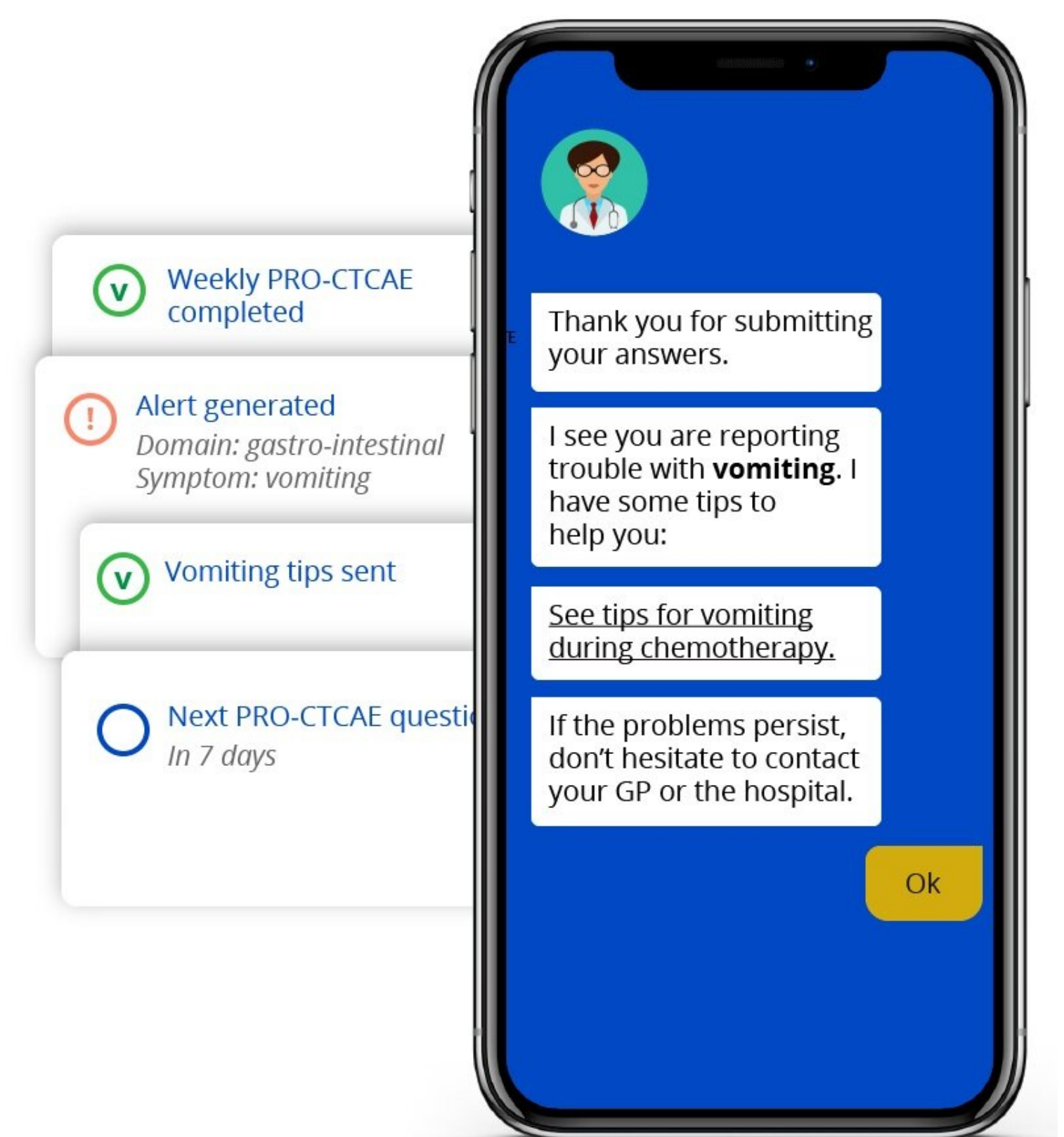
Slource: awell health

Lessons learned

1. The **digital health solution needs to be integrated into healthcare team practices**, and responses should be appropriately managed;
2. It is important that a **multidisciplinary care team** is put in place to respond to patients' clinical, psychological, palliative, financial and family-related concerns;
3. **Leadership** is an important enabler in the implementation process;
4. We recommend **using a digital tool**, rather than reporting PROs on paper. Such a tool should enable (1) the collection of PROs and clinical outcomes, (2) the visualization of these data using dashboards, and (3) the provision of feedback to clinical teams and patients,

"Thanks to the possibility to ask for the support I need with the weekly questionnaire, I feel more a director of my own life" - Patient quote

Next steps

➢ **Systematic analysis of the PROMs and survival** will be performed on a population level, through several amelioration cycles, in an attempt to increase the quality of the delivered care pathway
➢ **Cost analysis** of the whole care process

Conclusion

This study has shown that it is **feasible** to implement a weekly digital follow-up of PROs in routine clinical practice for lung cancer patients. The digital platform is **user-friendly, questions are clear and the follow-up of PROs is integrated in the multidisciplinary care delivery**. As a result, the **response rates are high**, and the weekly follow-up had a **positive impact on the patient–provider communication and makes it easier to discuss psychological and palliative care needs.**

Contact

Sarah Misplon
Uhasselt
Email: sarah.misplon@uhasselt.be
Website: https://www.mobius.eu/nl/
Phone: +32 489 71 88 54

References

1.   ICHOM (2017). "ICHOM Lung cancer data collection reference guide 2.3.1." International Consortium for Health Outcomes Measurement.