

ACS Cancer Conference 2025

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Using Patient Reported Outcomes to Improve Cancer Care

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What are Patient Reported Outcomes?

- A **patient-reported outcome (PRO)** is a report of a patient's health condition that comes directly from the patient
- The most used PRO questionnaires assess:
 - Knowledge (or information needs)
 - Symptoms (impairments)
 - Functioning (disability)
 - Quality of life (QOL)
- **Generic** questionnaires are designed to be used in any population and are meant to cover a broad aspect of the concept being measured (e.g., SF-36)
- **Targeted**, or disease-specific questionnaires are designed to assess those concerns of most importance for a given population

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Uses of PROs for Oncology Patients

- Patient-centered care
 - Understand and manage disease and treatment-related symptoms
 - Understand well-being
 - Enhance satisfaction
 - Enhance self-efficacy with targeted education
- Clinician benefits
 - Tolerability and safety including side effect profiles
 - Manage symptoms as they arise in real-time
 - Understand patient goals and priorities
 - Change management decisions
 - Clinical trial outcomes
 - Decrease burden on clinical teams including documentation

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How to Measure PROs in Oncology Patients?

- Synchronous vs. asynchronous
- Paper vs. electronic (ePROs)
 - Embed PROs into EHR / patient portal
 - Integration or third-party
- Tailor and select PROs
 - Monitoring and response plans



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Benefits of PROs for Oncology Patients

PROs have repeatedly proven to improve quality of life, reduced acute care utilization, and improve symptom management & survival in oncology patients

→ Should be considered standard of care in oncology

June 5, 2022

Effect of Electronic Symptom Monitoring on Patient-Reported Outcomes Among Patients With Metastatic Cancer

A Randomized Clinical Trial

Ethan Basch, MD, MSc¹; Deborah Schrag, MD, MPH²; Sydney Henson, BS¹; [et al](#)

July 11, 2017

Overall Survival Results of a Trial Assessing Patient-Reported Outcomes for Symptom Monitoring During Routine Cancer Treatment

Ethan Basch, MD, MSc^{1,2}; Allison M. Deal, MS¹; Amylou C. Dueck, PhD²; [et al](#)

2024 ASCO Annual Meeting - Oral Abstract Session

Efficacy of eSyM: Acute care utilization among patients with cancer who do versus do not report ePROs.

Patients (pts) receiving cancer treatment frequently experience burdensome symptoms that compromise outcomes and necessitate acute care. Prior clinical trials have demonstrated...

January 22, 2019

Two-Year Survival Comparing Web-Based Symptom Monitoring vs Routine Surveillance Following Treatment for Lung Cancer

Fabrice Denis, MD, PhD¹; Ethan Basch, MD²; Anne-Lise Septans, PhD³; [et al](#)

ePRO-based digital symptom monitoring in a community oncology practice to reduce emergency room and inpatient utilization.



[Michael A. Kolodziej](#), [Lavi Kwiatkowsky](#), [Christina Parrinello](#), [Tracy Thurow](#), [Eric S. Schaefer](#), [J. Thaddeus B...](#)

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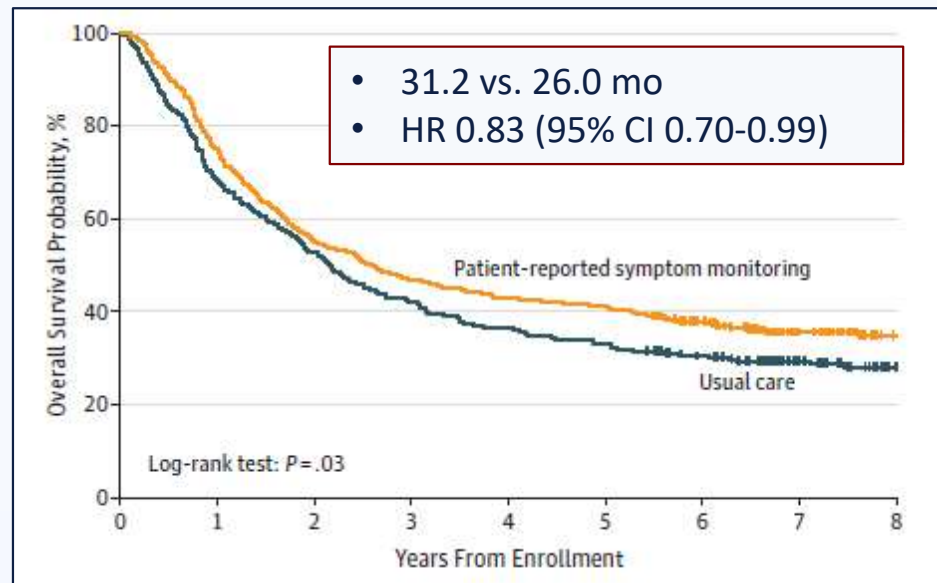
Benefits of PROs for Oncology Patients

PROs have repeatedly proven to improve quality of life, reduced acute care utilization, and improve overall survival in oncology patients.

RESEARCH LETTER

Overall Survival Results of a Trial Assessing Patient-Reported Outcomes for Symptom Monitoring During Routine Cancer Treatment

JAMA



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-Basch E., JAMA 2017

Accreditation, Standards and Quality Assessment

- Enhancing Oncology Model (EOM)
 - Proactive symptom reporting, monitoring and communication
- Quality Oncology Practice Initiative (QOPI)
 - Chemo admin safety, symptom management and treatment side effects
 - Pain assessment and management
 - Nausea and vomiting
 - Psychosocial care, QoL and satisfaction
 - Patient education
- CoC Standards
 - Palliative care services (4.5), Survivorship care plan (4.8), psychosocial stress screening (5.2), monitoring (7.2), QI initiative (7.3)

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Health System Goal: Integration of ePROs



- Improve active symptom monitoring to alleviate the burden and distress of patients' severe symptoms, prevent ED visits and hospitalizations, and improve patient quality of life
- Meet accreditation requirements and standards

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Our Approach: Epic's eSyM Platform

- Strategy
 - Use of ePROs across oncology for real-time use
 - Fully integrate into EHR and patient portal
 - Adapted and tailored to oncology service lines and surgery
 - Begin with three pilots with rapid improvement cycles
- Patients starting chemotherapy treatment plan
 - Two questionnaires per week (31 symptom groups, not all required)
 - Symptom “tip sheets”
 - Alert triggers
 - Dashboard and visualization tools

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Symptoms Evaluated: Tailored to Service Line

Required	Optional
Anxiety	Bleeding
Constipation	Coughing
Diarrhea	Difficulty Concentrating
Fatigue	Difficulty Sleeping
Nausea	Difficulty Swallowing
Numbness and Tingling	Dizziness
Overall Well-being	Feeling Discouraged
Pain	Feeling Sad
Physical Function	Fever
Poor Appetite	Hand-Foot Syndrome
Rash	Headache
Shortness of Breath	Heart Palpitations
Trouble Drinking Fluids	Heartburn
Vomiting	Itching
	Mouth/Throat Sores
	Swelling
	Wheezing

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Questionnaire Responses

Menu Visits Messages Test Results Medications Arnold

Welcome!

1 task left for today
Completed 0%

1 past task to review

Explore More

Learning
Learn how to use MyChart

eSyM Medical Oncology
For the To Do task eSyM symptom monitoring

* Indicates a required field.

In the last 24 hours,

* How OFTEN did you have PAIN?
Never Rarely Occasionally

* What was the SEVERITY of your PAIN?
None Mild Moderate Severe

* How much did PAIN INTERFERE with your daily activities?
Not at all A little bit Somewhat

Continue Cancel

Please remember that eSyM is not monitored 24/7

To Do

Tasks 3
Progress
Changes 3
Manage Reminders

Today's Tasks
25% complete
View future tasks >

Apr 18, 2023

eSyM symptom monitoring
By end of day
Tell us how you are feeling. Please enter information about the symptoms you are
Task has no further actions

Menu Home MyChart

eSyM Medical Oncology Symptom Monitoring
For the To Do task eSyM symptom monitoring

Your responses indicate that it may be best to contact your medical provider as soon as possible. Call your provider to discuss your answers in this questionnaire. This questionnaire has not yet been submitted.

Continue Back Cancel

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Escalations

In Basket | Home | Refresh | New Message | New Patient Message | My Pools | Search | Attach | Out of Contact | Preferences | Manage QuickActions

Done | Reply | Reply All | Forward | Follow-up | Chart | Encounter | Message Patient | Telephone Call | Asking Provider | New QuickAction

Patient Escalation 0 new, 9 total

Status	Subject	Msg Date	Msg Time	Patient
Read	Med Onc Patient Reported...	04/18/2023	9:38 AM	Beacon, Arnold
Read	Med Onc Patient Reported...	04/17/2023	2:56 PM	Beacon, Helen
Read	Med Onc Patient Reported...	04/17/2023	10:38 AM	Beacon, Arnold
Pend	Med Onc Patient Reported...	04/14/2023	3:01 PM	Beacon, Arnold
Read	Med Onc Patient Reported...	03/27/2023	12:16 PM	Beacon, Arnold
Read	Med Onc Patient Reported...	03/24/2023	8:46 AM	Beacon, Helen
Read	Med Onc Patient Reported...	03/23/2023	8:24 PM	Beacon, Arnold
Read	Med Onc Patient Reported...	03/23/2023	11:17 AM	Beacon, Helen
Read	Med Onc Patient Reported...	03/22/2023	11:12 AM	Beacon, Arnold

Message | Help

Done | Encounter | Mark As New

Med Onc Patient Reported Severe Symptom - eSym Received: 4 days ago

Mychart, Generic → Physician Beacon, MD

This patient reported severe symptoms. This may warrant outreach. Active

Date: 04/17/23 1456 | User: Mychart, Generic [MYCHARTG] | Comment: None

Patient Responses

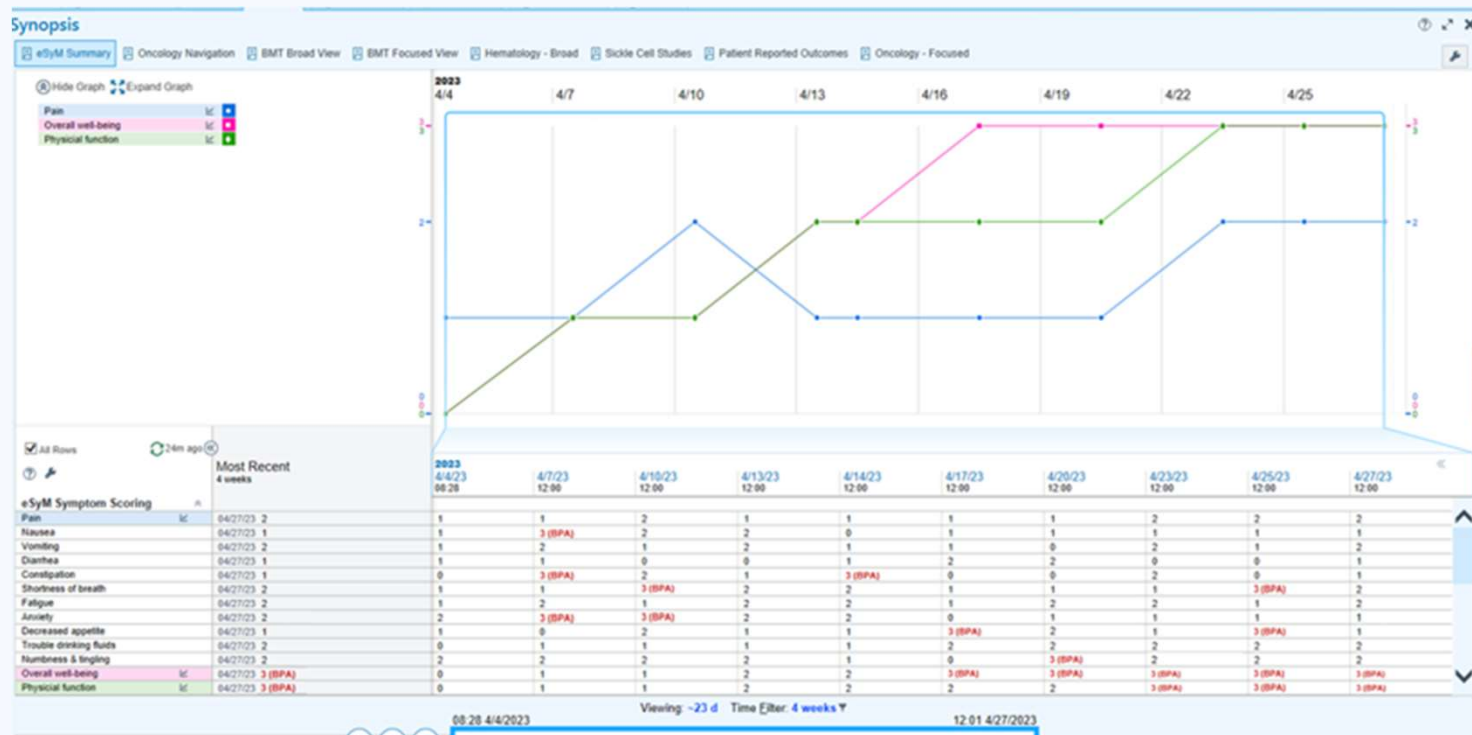
Onc Esym Medical Oncology Symptom Monitoring

4/17/2023 2:56 PM CDT - Filed by Patient

Question	Answer
In the last 24 hours, How OFTEN did you have PAIN?	Frequently
What was the SEVERITY of your PAIN at its WORST?	Severe
How much did PAIN INTERFERE with your usual or daily activities?	Quite a bit
In the last 24 hours, How OFTEN did you have NAUSEA?	Occasionally
What was the SEVERITY of your NAUSEA at its WORST?	Moderate
How OFTEN did you have VOMITING?	Occasionally
What was the SEVERITY of your VOMITING at its WORST?	Moderate
In the last 24 hours, How OFTEN did you have LOOSE OR WATERY STOOLS (DIARRHEA)?	Occasionally
In the last 24 hours, What was the SEVERITY of your CONSTIPATION at its WORST?	Moderate
In the last 24 hours, What was the SEVERITY of your SHORTNESS OF BREATH at its WORST?	Mild
How much did SHORTNESS OF BREATH INTERFERE with your usual or daily activities?	A little bit
In the last 24 hours,	

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Visualization



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Questionnaire Responses

	Patient-Facing (in MyChart)	Clinician-Facing
Patient does not respond	Automated MyChart reminder on day questionnaire is due	Dashboard identifies non-responders and prompts direct outreach
Patient reports mild/moderate symptoms only	No direct follow up action required. Patients will have access to the tipsheets to review if they desire.	Responses saved and viewable in the EMR; no alerts or In Basket messages
Patient reports severe symptom(s)	Alerted to contact care team for guidance Prompted to view symptom-specific self-management tip sheets	In Basket message that includes reported severe symptoms and list of all responses Dashboard report identifies patients reporting severe symptoms in the past week

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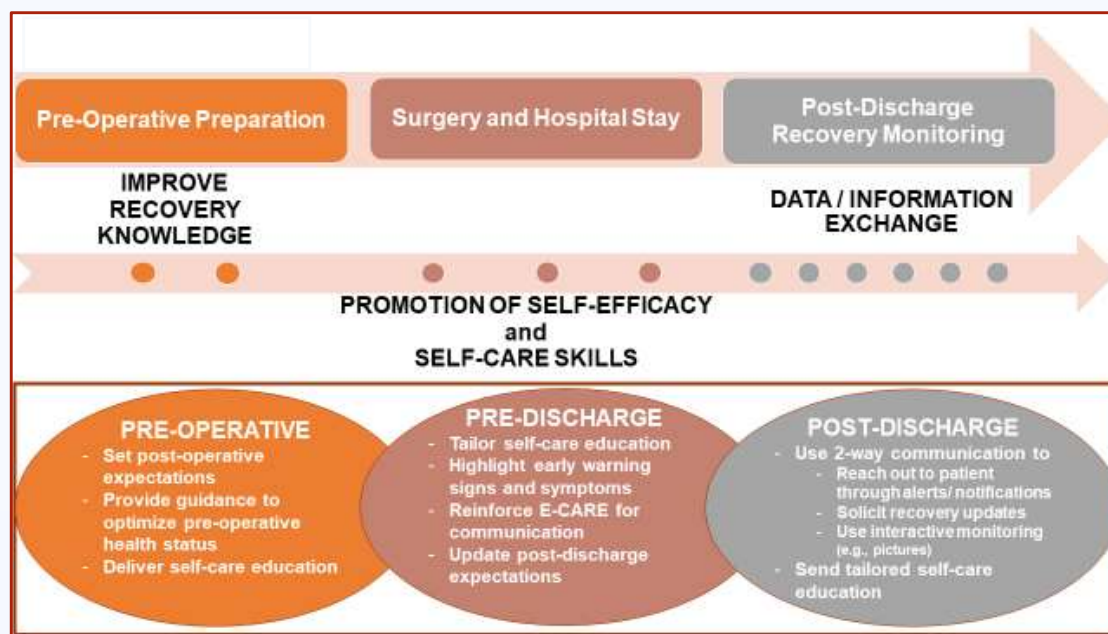
What about Surgery?



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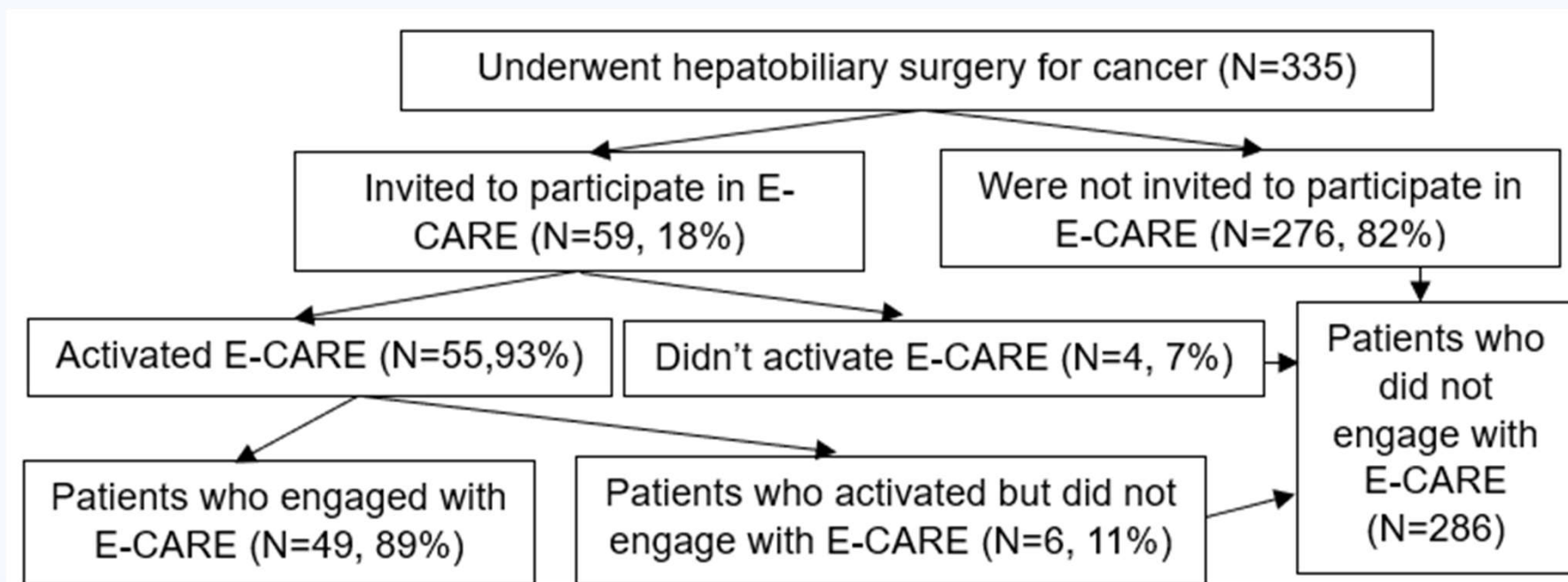
PROs in Remote Surgical Recovery Monitoring

- Pilot Implementation Evaluation of a Remote Education, Communication and Monitoring Ecosystem (E-CARE) After Hepatobiliary Surgery
- User-centered design
- Included:
 - PROs
 - Education materials
 - Two-way communication
 - Elicit early warning signs
- Delivery
 - Third-party app
 - Epic Care Companion



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E-CARE Pilot: Hepatobiliary Surgery



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E-CARE Pilot



Any return to the acute care setting (ER visits and readmissions)

6.1% vs. 16.8%

aOR 0.31 (95% CI 0.10-0.98)



ED "Treat and Release"

0.0% vs. 8.0%



Inpatient admissions

6.1% vs. 10.8%

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Implementation Challenges

- Organizational Barriers
 - Integration into clinical workflows and EHR
 - Acceptability
 - Up front investment
 - Technical / IS development and maintenance
- Clinician Barriers
 - Information overload, workload concerns
 - Added time-sensitive responsibility
- Patient Barriers
 - Burdensome ePRO collection (e.g., # questions, complexity)
 - Technology (e.g., literacy/language, computers/smartphones, dexterity)
 - Meaningfulness in different populations

Implementation Solutions

- Early stakeholder engagement
 - Adaptability to needs of patients, clinicians, staff
 - Appropriately “dose” the intervention
 - Extensive role-specific training
-
- Don't skip steps
 - Don't ignore feedback

Summary

- PROs are an important tool to improve quality of oncology care
- PROs can be used to satisfy accreditation standards
- Integrate into the EHR (e.g., Epic eSyM, third-party tools)
- Thoughtful, tailored implementation that includes all stakeholders is critical
- Expect challenges
- Create a maintenance and sustainability plan

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