

# PRO-MOTE研究について

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2023/11/3 PRO-MOTE 第15回CSP-HOR年会

## PROs/QoL 日常臨床活用により期待される効果

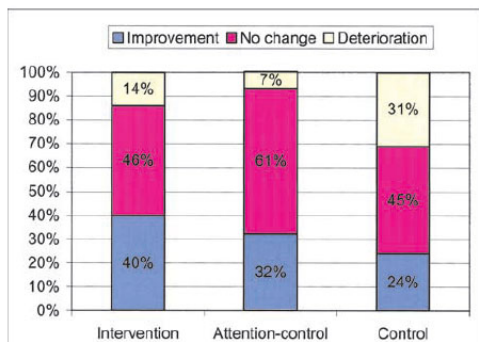
- 患者満足度の向上
- 患者と医療者コミュニケーションの向上
- 重篤な有害事象の早期発見
- 患者アウトカムの改善

### Measuring Quality of Life in Routine Oncology Practice Improves Communication and Patient Well-Being: A Randomized Controlled Trial

Galina Velikova, Laura Booth, Adam B. Smith, Paul M. Brown, Pamela Lynch, Julia M. Brown, and Peter J. Selby

がん患者の日常臨床でQOLを測定することの意義を検証したRCT

- **Intervention:** 6ヶ月間、受診の度にQOLを測定し、医療者にfeedback
- **Attention-control:** 同様にQOLを測定するが、結果のfeedbackなし
- **Control:** QOLの測定なし

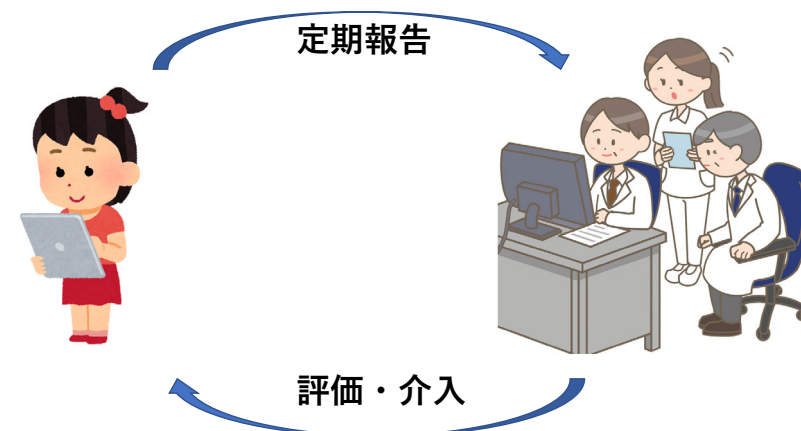


日常的にQOLを測定し、医療者に還元することで、患者のQOLが良好に保たれる可能性がある。

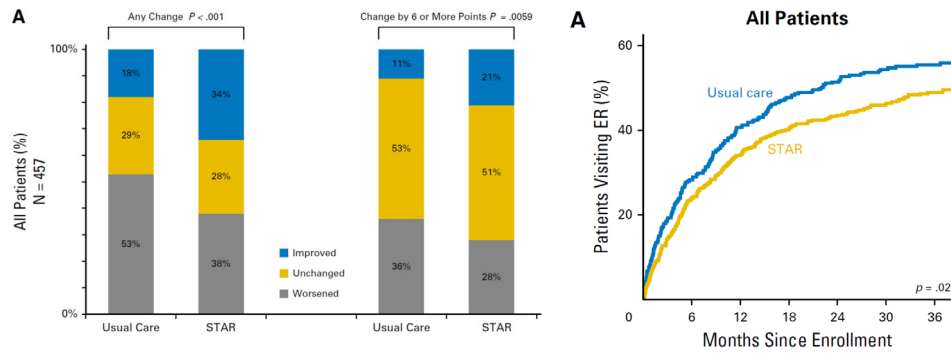
Fig 4. Proportions of patients showing clinically meaningful improvement, no change, or deterioration in Functional Assessment of Cancer-General (FACT-G) score after three encounters, by study arm. Intervention versus attention-control and control groups,  $P = .001$ ; intervention and attention-control versus control,  $P = .003$ , using ordinal regression, controlling for baseline FACT-G, performance status, and time on study.

## electronic PRO (ePRO)の活用

- Paper and pencilの限界：多くの場合受診時のみ
- ePRO：自宅モニタリングが可能、スコア化、アラート



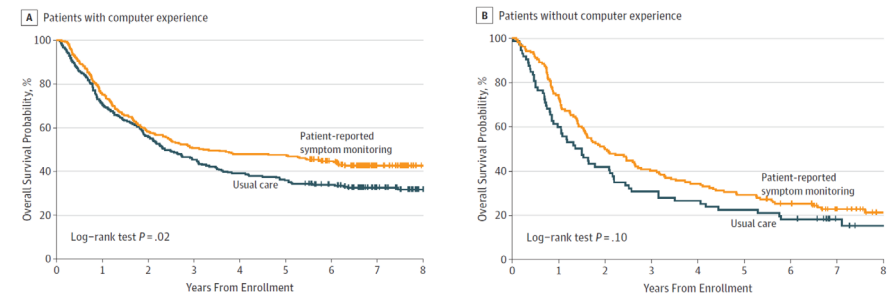
# Symptom Monitoring With Patient-Reported Outcomes During Routine Cancer Treatment: A Randomized Controlled Trial



1年生存率、STAR=75%, Usual care 69%,  $p=0.05$

Basch E, et al. J Clin Oncol. 2016; 34: 557-565.

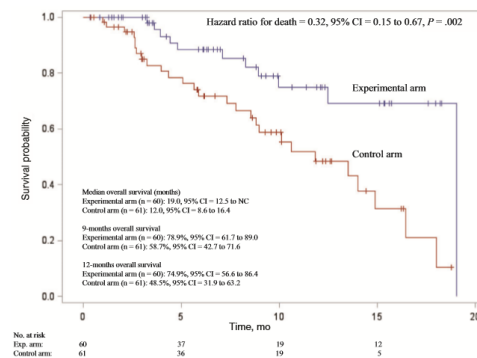
Figure. Overall Survival Among Patients With Metastatic Cancer Assigned to Electronic Patient-Reported Symptom Monitoring During Routine Chemotherapy vs Usual Care According to Computer Experience



Basch E, et al. Jama 2017; 318: 1935-1936.

## ARTICLE

### Randomized Trial Comparing a Web-Mediated Follow-up With Routine Surveillance in Lung Cancer Patients



- 進行肺がん患者が対象
- webを利用した症状モニタリング群有意に生命予後が改善
- HR = 0.32 (95%CI: 0.15-0.67)

#### 全生存期間中央値

モニタリング群：19カ月

コントロール群：12カ月

JNCI Natl Cancer Inst (2017) 109(9): djx029



## SPECIAL ARTICLE

The role of patient-reported outcome measures in the continuum of cancer clinical care: ESMO Clinical Practice Guideline<sup>☆</sup>



### Recommendations

- Digital symptom monitoring with PROMs in routine clinical care during systemic cancer treatment is recommended, based on evidence of benefits on communication, satisfaction, treatment adherence, symptom control, QoL, emergency room and hospital admissions and survival [I, A].

<https://doi.org/10.1016/j.jannonc.2022.04.007>

# 研究の概要

## 切除不能進行がんおよび転移・再発固形がん患者に対する Electronic Patient Reported Outcome (ePRO) モニタリングの有用性を検証する 多施設共同非盲検ランダム化比較試験 【試験名略称：PRO-MOTE】

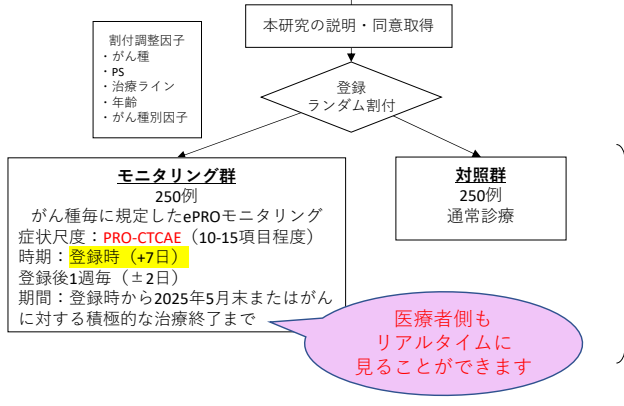
# PRO-MOTE:主たる目的

全身薬物療法実施中の切除不能進行がんおよび転移・再発固形がん患者において、ePROモニタリングを通常診療に追加することにより、OSの延長またはQoLの維持・改善に有用であるという仮説を検証する。

### Study schema

対象疾患：切除不能進行がんおよび転移・再発固形がん患者  
年齢：20歳以上80歳未満  
治療：がんに対する全身薬物療法を実施中または登録日から1か月以内に実施予定  
1〜3次治療を対象  
電子デバイス：自身で対応可能もしくは一部補助が必要

医療者側は見ることができません



HRQoL評価  
・ HRQoL  
尺度：EORTC QLQ-C30  
時期：登録時 (+7日)  
以後4週毎、24週目まで  
尺度：EQ-5D-5L  
時期：登録時 (+7日)  
以後4週毎、登録時から2025年5月末まで  
・ 治療関連アウトカム  
・ 患者医療者コミュニケーション  
尺度：EORTC QLQ-COMU26  
時期：登録時 (+7日)  
登録後24週目 (±2週)  
・ 医療経済評価

医療者側もリアルタイムに見ることができます

アウトカム評価  
主要評価項目：OS、HRQoL (EORTC QLQ-C30 Global health)  
副次的評価項目：QALY、在宅での死亡割合、最終薬物療法から死亡までの期間、予定外来院回数、薬物療法のRDI・レジメン数、ICER、患者医療者コミュニケーション  
2024年9月30日：中間転帰調査  
2026年 3月31日：最終転帰調査

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## Selection of monitoring symptoms and alert threshold in each cancer type

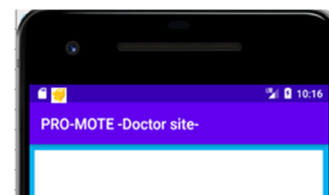
- **Determined by expert opinion from PRO-CTCAE items**

Breast, 13 items; Lung, 6 items; Stomach 11 items; Colon 11 items;  
 Head and neck, 11 items; Liver 10 items; Endometrial 12 items;  
 Ovary 11 items

Ex. Breast cancer

No.	Items	Alert threshold		
		SEVERITY	how OFTEN	INTERFERE daily life
1	Decreased appetite	Severe	-	Quite a bit
2	Nausea	Severe	Frequently	-
3	Vomiting	Severe	Frequently	-
4	Constipation	-	-	-
5	Diarrhea	-	Almost constantly	-
6	Shortness of breath	Moderate	-	Somewhat
7	Cough	Moderate	-	Somewhat
8	General pain	Severe	Frequently	Quite a bit
9	Insomnia	-	-	-
10	Fatigue	Severe	-	Quite a bit
11	Anxiety	-	-	-
12	Hand-foot syndrome	-	-	-
13	Numbness & tingling	-	-	-

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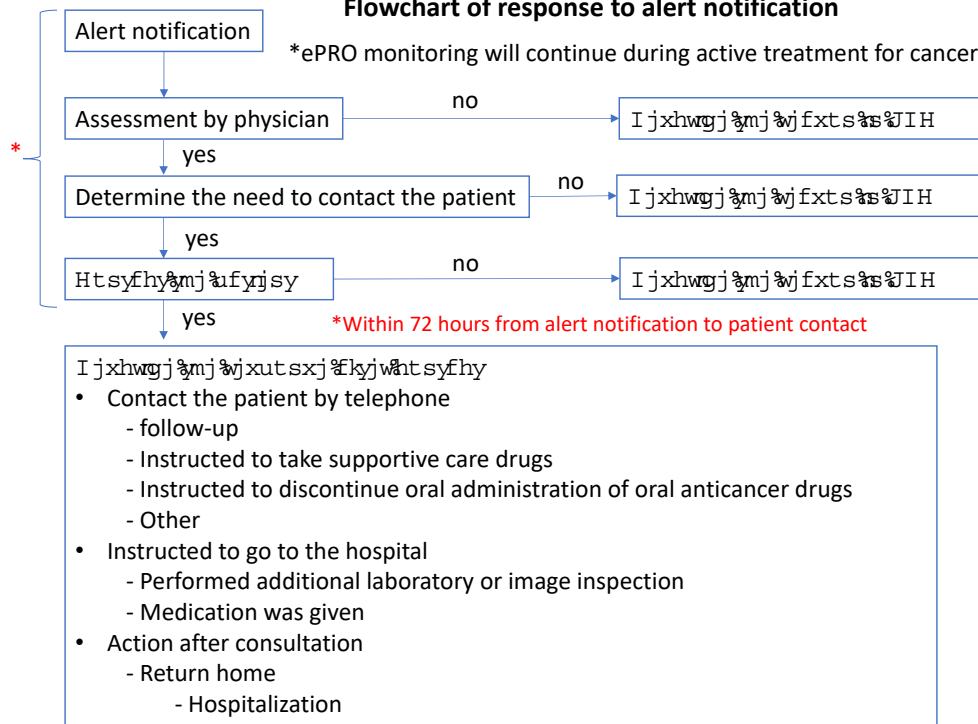


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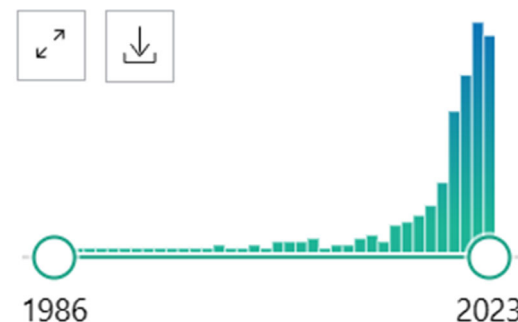
### Flowchart of response to alert notification

\*ePRO monitoring will continue during active treatment for cancer



Search term:  
 Digital symptom monitoring with patient-reported outcomes

### RESULTS BY YEAR



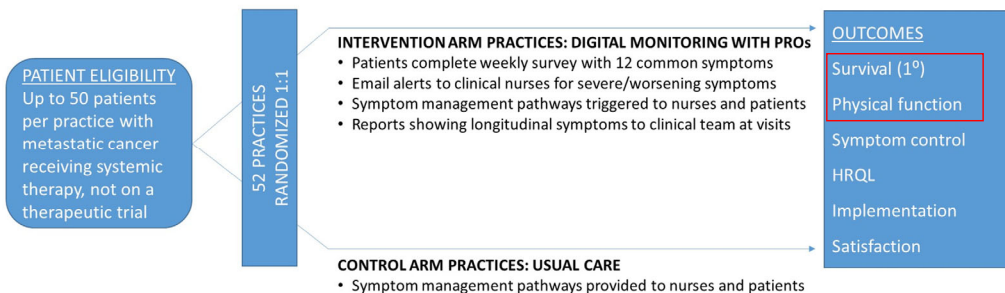
- ランダム化比較試験：30件
- Study status：開始前 9件、登録中 12件、登録終了 7件、不明 2件
- Condition：
  - 固形がん8件、血液がん4件、黒色腫 1件、小児がん1件、前立腺がん1件
  - 大腸がん 2件、胃がん1件、頭頸部がん1件、乳がん7件、肺がん2件
  - 泌尿器がん2件
- Special Condition：
  - 免疫チェックポイント阻害剤 4件
- Location：
  - 米国、イタリア、オーストリア、カナダ、韓国、スイス、スウェーデン
  - 中国、デンマーク、ドイツ、フランス、メキシコ、日本 (PRO-MOTE)
- Sample size：62~25000
- Outcome：QoL、Symptoms、SAE (irAE)、OS (4件)、etc.

## OSを主要評価項目に設定したRCT

- PRO-MOTE (日本)
- PRO-TECT (米国)

## PRO-TECT Cancer Symptom Study

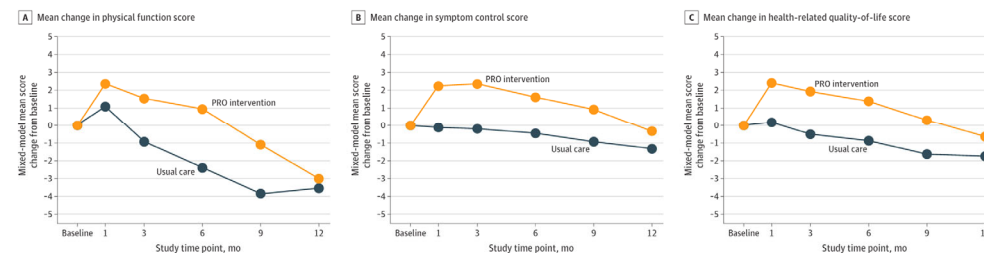
- Cluster randomized trial at 52 US community oncology practices, across 25 states
- Funded by PCORI, sponsored by Alliance Foundation Trials



JAMA | Original Investigation

## Effect of Electronic Symptom Monitoring on Patient-Reported Outcomes Among Patients With Metastatic Cancer A Randomized Clinical Trial

Figure 2. Score Distribution and Model-Based Mean Change From Baseline at Each Assessment Time Point for Physical Function, Symptom Control, and Health-Related Quality of Life



**CONCLUSIONS AND RELEVANCE** In this report of secondary outcomes from a randomized clinical trial of adults receiving cancer treatment, use of weekly electronic PRO surveys to monitor symptoms, compared with usual care, resulted in statistically significant improvements in physical function, symptom control, and HRQL at 3 months, with mean improvements of approximately 2.5 points on a 0- to 100-point scale. These findings should be interpreted provisionally pending results of the primary outcome of overall survival.

Significantly longer time to deterioration of quality of life due to CANKADO PRO-React eHealth support in HR+ HER2- metastatic breast cancer patients receiving palbociclib and endocrine therapy: primary outcome analysis of the multicenter randomized AGO-B WSG PreCycle trial

<https://doi.org/10.1016/j.annonc.2023.05.003>

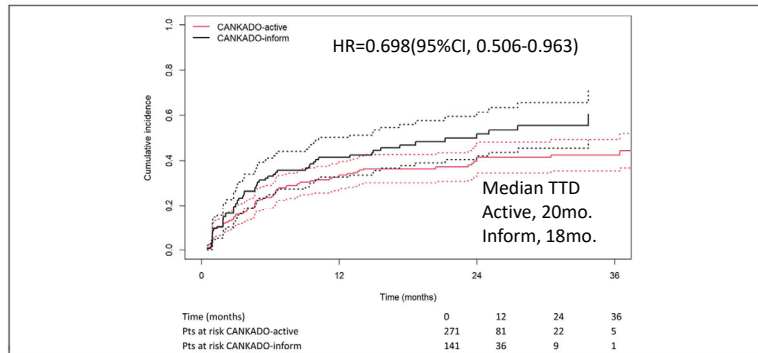


Figure 1. Cumulative incidence of DQoL in the ITT-PRO population. The cumulative incidence of DQoL in the ITT-PRO population is presented with 95% confidence intervals (dotted lines). Horizontal axis is time in months to deterioration; vertical axis is estimated cumulative probability of a DQoL event, taking censoring and competing events into account. Table under the panel indicates the number of patients at risk. DQoL, deterioration of quality of life; ITT, intention-to-treat; PRO, patient-reported outcome.

CANKADO is a next-generation, interactive, autonomous patient empowerment application that works without any intervention by a health care professional (HCP) and can self-detect points in time to initiate symptom questionnaires.

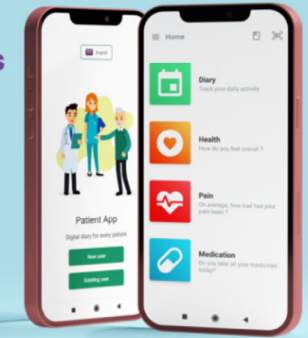
## Germany's first DiGA for Breast Cancer Patients

'PRO-React Onco' from CANKADO Now Approved as a Digital Health Application (DiGA)

**CANKADO PRO-React Onco** #1

**First Digital Health Application (DiGA) for breast cancer patients**

- Digital therapy companion
- Symptom-specific behavioral recommendations
- Improved health literacy
- Upto 59% reduction in serious adverse events
- Stabilized course of therapy
- Now as App on Prescription



## Oncology領域でのePROM研究の現状

- 各国で、独自のシステム開発、有用性の検証試験が活発に行われている。
- 多くの試験は、QoLの維持改善、重篤な有害事象の早期発見と予防を目的としている。
- OSを主要評価として研究は希少であり、PRO-MOTEの完遂が切望される。