

# Why to assess HRQoL in current clinical practice?

Seminar on Quality of Life in Cancerology  
Besançon, 17-11-2017

Dr MOUILLET Guillaume – Medical Oncology Unit, CHRU Besançon





# 3 feasibility trial

## GYNEQOL

Qualité de Vie des Femmes atteintes d'un Cancer Gynécologique

**Start Sept 2015**

- CHRU Besançon
- Femmes atteintes de **cancers gynécologiques** pelviens
- Recueil de la QdV pendant les visites de **suivi post-traitement**
- Arrêt des inclusions en sept 2017
- 116 inclusions



**Une Qualité de Vie et un Meilleur Suivi**

**Start mars 2016**

- CHRU Besançon
- Femmes atteintes de **cancer du sein**, H et F atteints de **cancers colorectal ou pulmonaire**
- Recueil de la QdV pendant **les visites pour le traitement**
- 167 inclusions
- Suivi jusqu'en sept 2018

## QUANA RIE

**Start avril 2017**

- Multicentrique dans l'inter-région Grand Est
- H et F atteints de **cancer du rein** avancé ou métastatique et traités par inhibiteur de tyrosine-kinase anti-VEGF
- Recueil de la QdV pendant **les visites pour le traitement**
- 12 inclusions
- Suivi jusqu'à fin 2019  
+ analyse qualitative

**Physicians use HRQoL data during encounters**

**Clinical Trials**



# Project with nurses

## ONCOTABLETTE

- Start en **sept 2017**
- F atteintes de **cancer du sein** dans un 1<sup>er</sup> temps puis H et F atteints de **cancer colorectal**
- Recueil de la QdV pendant le **séjour en HDJ**
- Exploitation des résultats par les **infirmier(e)s**

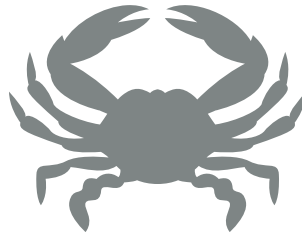
**Nurses use the HRQoL data**




<http://www.oncotablette.com/>



# An undesired threesome







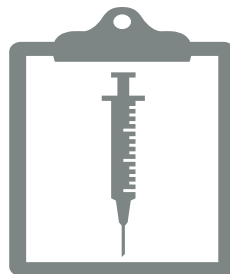
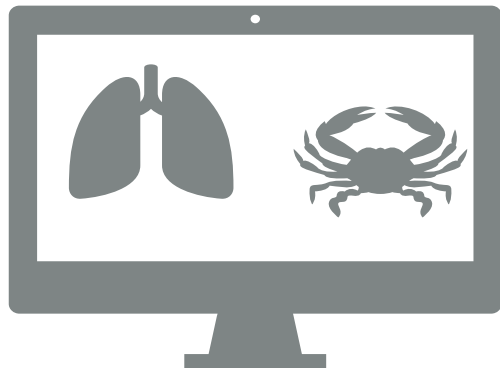
Does my  
patient feel  
better?

Does the  
treatment have  
side effects?

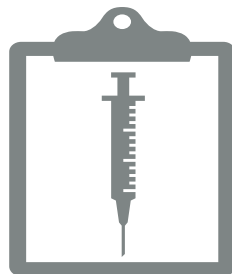
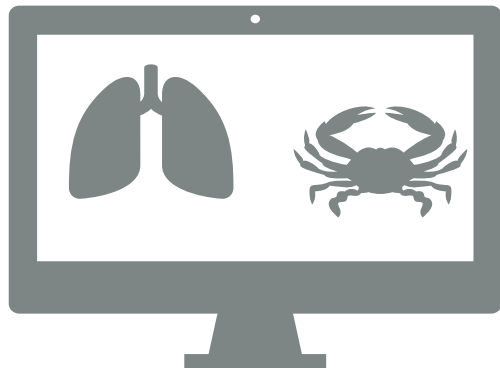
What is the  
evolution of the  
tumor ?







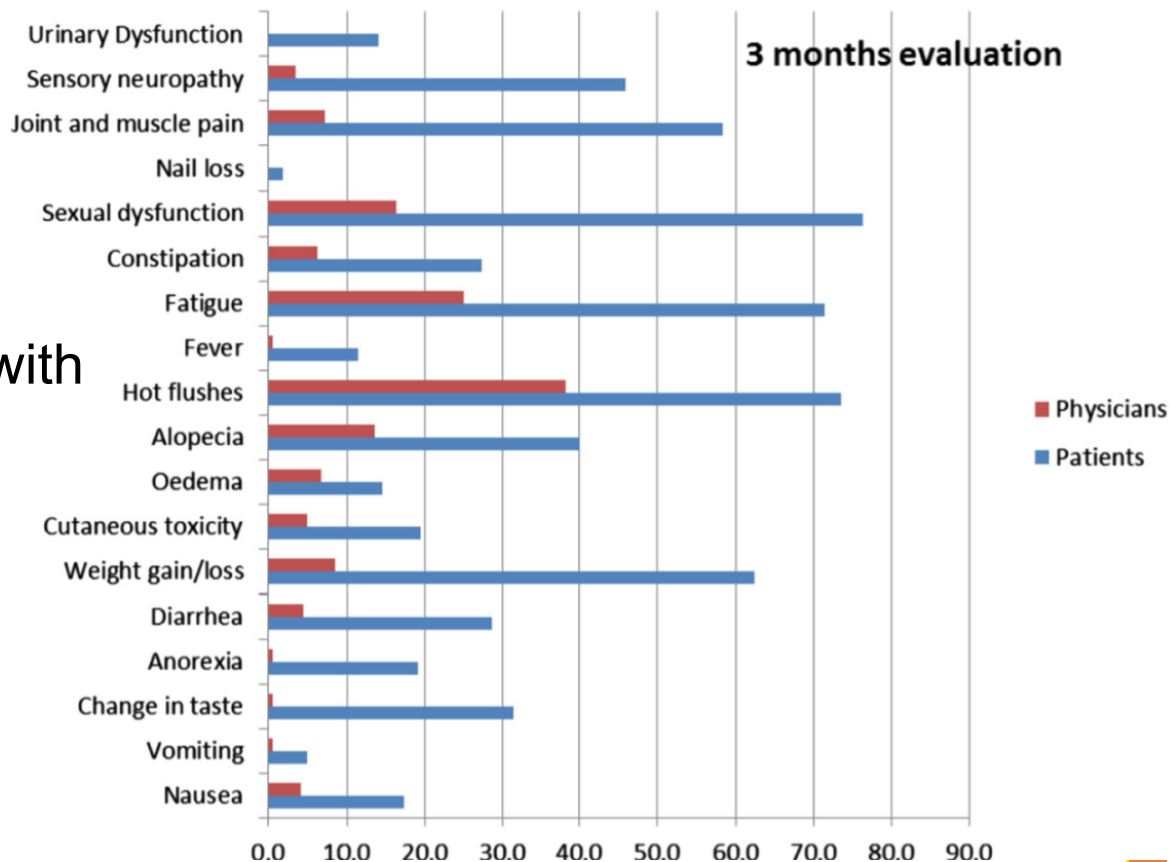






# Some misunderstandings in the relationship

Patients with metastatic prostate cancer treated with chemotherapy docetaxel







OXFORD

*JNCI J Natl Cancer Inst* (2017) 109(9): djx044

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doi: 10.1093/jnci/djx044

First published online April 10, 2017

Editorial

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EDITORIAL

# The Patient Knows Best: Incorporating Patient-Reported Outcomes Into Routine Clinical Care

Ryan Nipp, Jennifer Temel





# Patient-reported outcome measures (PROMs)

- « measurements of any aspect of a patient's health status that come directly from the patient »
- any outcome evaluated directly by the patient himself or herself
- based on patient's perception of a disease and its treatment(s).
- cover both single dimension and multi-dimension measures of
  - symptoms,
  - HRQoL,
  - health status,
  - adherence to treatment
  - satisfaction with treatment.



# HRQOL & French Cancer Plan 2014-2019

« Le Plan vise à accompagner et soutenir les efforts des personnes pour **préserver leur continuité et qualité de vie** à travers trois objectifs :

- Assurer des prises en charge globales et personnalisées
- Réduire les séquelles des traitements et les risques de second cancer
- Diminuer les conséquences du cancer sur la vie personnelle »







EUROPEAN MEDICINES AGENCY  
SCIENCE MEDICINES HEALTH

health related quality of life (HRQL) measures in clinical studies. It acknowledges the importance of bringing the perspective of patients on their disease and the treatment they receive to the assessment of benefits and risks of cancer medicines.



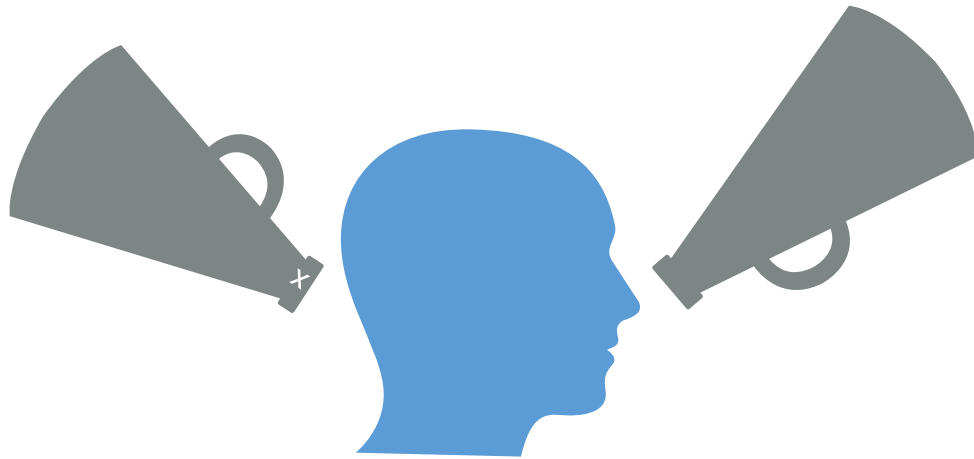
## Outcome in clinical trials

- Clinical assessment
- Biological assessment
- Tumor response assessment
- Side effect / toxicity  
(evaluated by physician,  
sometimes by patient)
- HRQOL

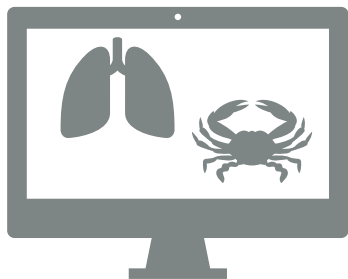
## In routine practice

- Clinical assessment
- Biological assessment
- Tumor response assessment
- Side effect / toxicity (reported  
by physician)
- ...





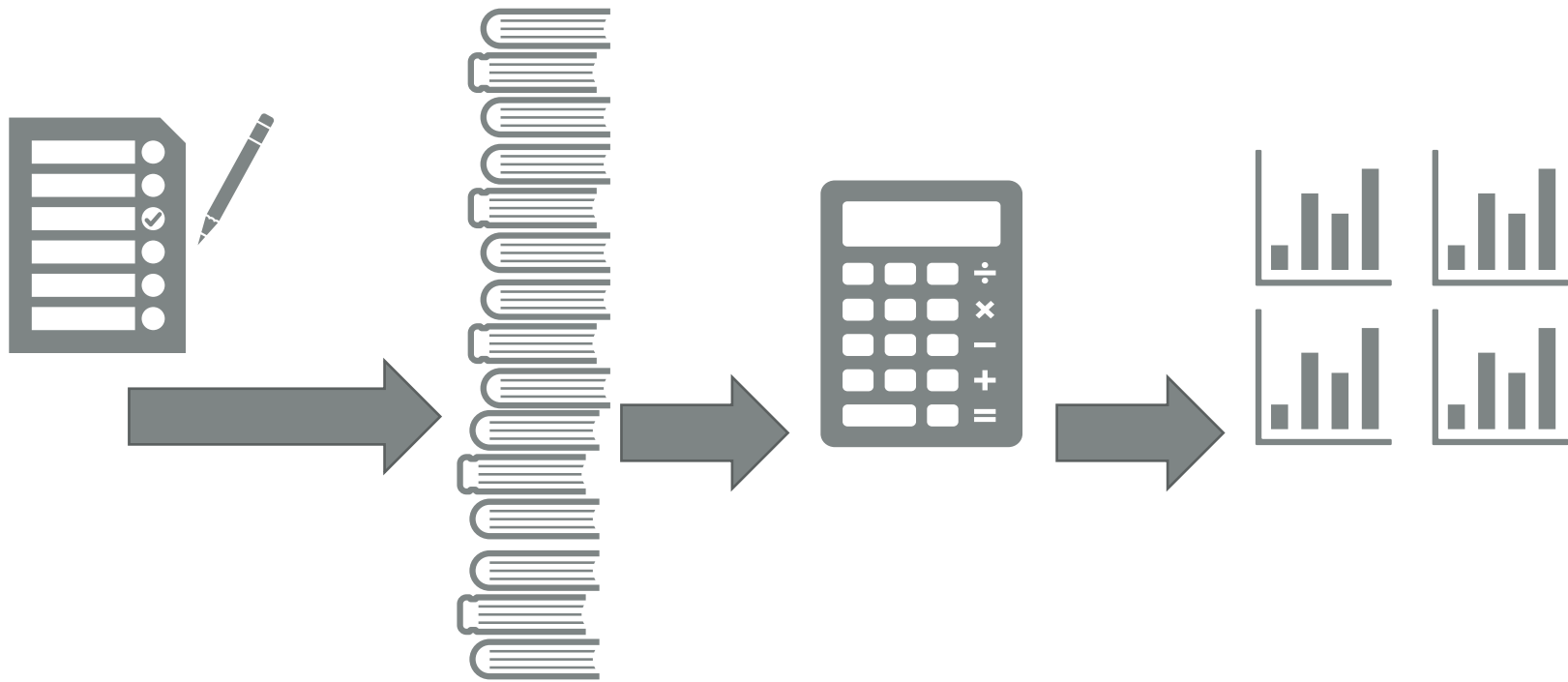
**PRO & HRQOL**



**The challenge = translated  
in the routine care the  
patient point of view**







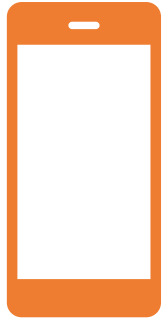
A long time ago...



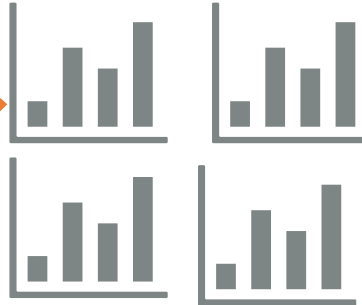




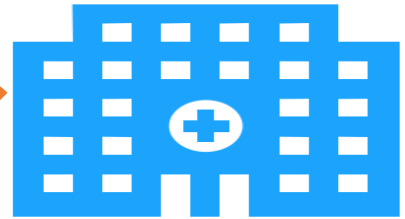
## Smart device + web-based tool



**Secure  
server**



**Graphical  
real-time  
feedback**

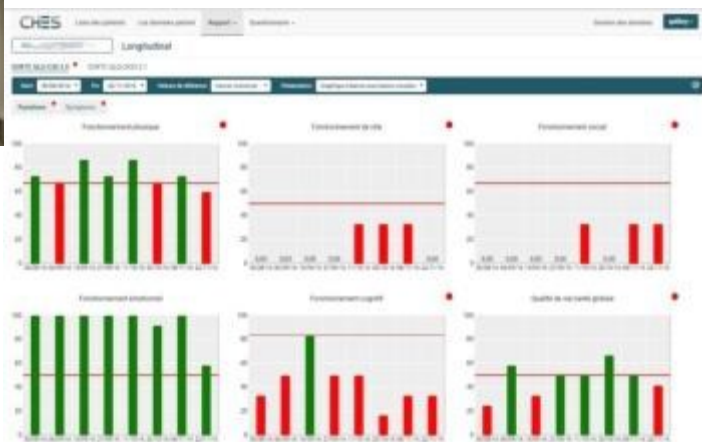


**Electric  
Health  
Record**

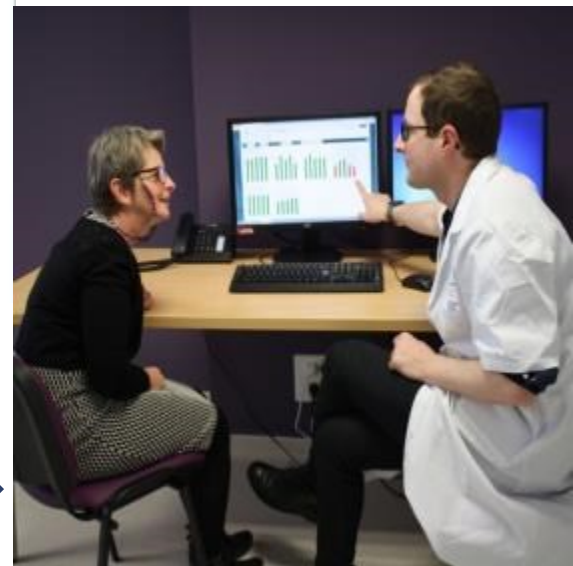




Remplissage du questionnaire par la patiente, aidée par une attachée de recherche clinique



Consultation des résultats par le médecin pendant le rdv





# Expected benefits

## **Patients :**

Symptom  
control

Quality of life

Disease  
outcome

## **Pratice :**

Quality of  
Care

Provider  
outcome

## **System :**

Health care  
utilization

Quality of  
Care

## **Research :**

Comparative  
effectiveness

Health  
services  
research



# Two approaches: PRO & HRQOL

## PRO

- Evaluated directly by the patient
- Longitudinal monitoring of toxicities
- Earlier detection
- Automated notifications

## HRQOL

- Idem PRO
- + Multidimensional
- + Providing the patient with comprehensive care.
- + Tailoring supportive cares





PROMS : symptom monitoring





# Standard Approach to Symptom Monitoring



PRESENTED AT: **ASCO ANNUAL MEETING '17** | **#ASCO17** Presented by: Ethan Basch, MD

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# Alternative: Systematic Symptom Monitoring



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JOURNAL OF CLINICAL ONCOLOGY

ORIGINAL REPORT

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

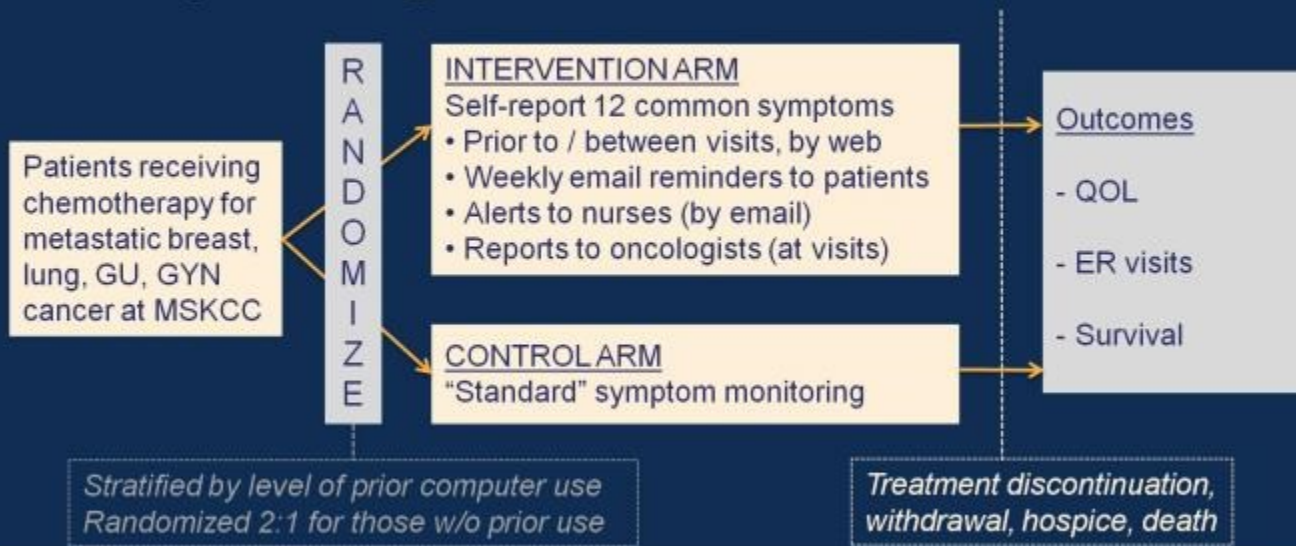
*Ethan Basch, Allison M. Deal, Mark G. Kris, Howard I. Scher, Clifford A. Hudis, Paul Sabbatini, Lauren Rogak, Antonia V. Bennett, Amylou C. Dueck, Thomas M. Atkinson, Joanne F. Chou, Dorothy Dulko, Laura Sit, Allison Barz, Paul Novotny, Michael Fruscione, Jeff A. Sloan, and Deborah Schrag*



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

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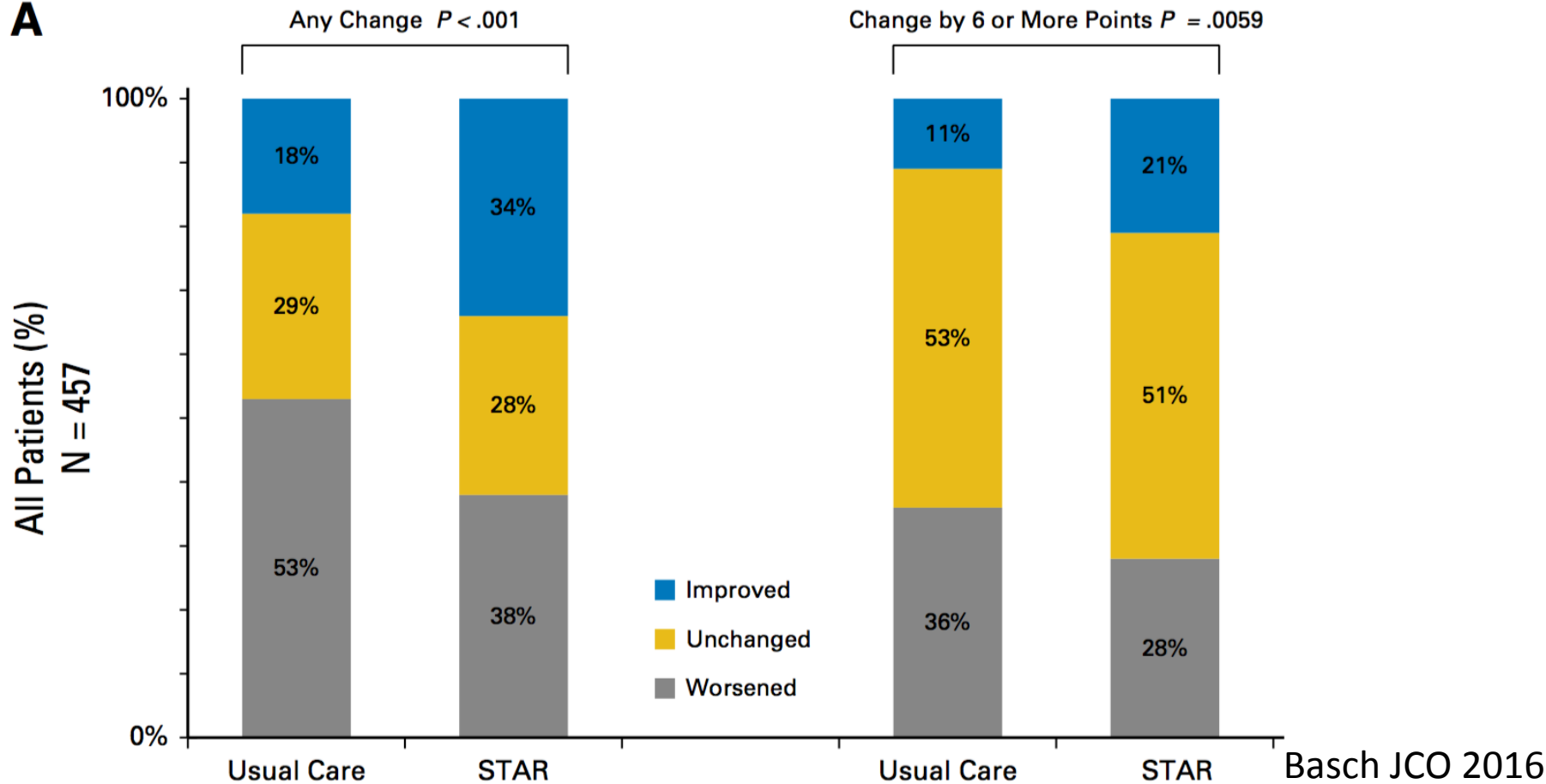
## Study Design





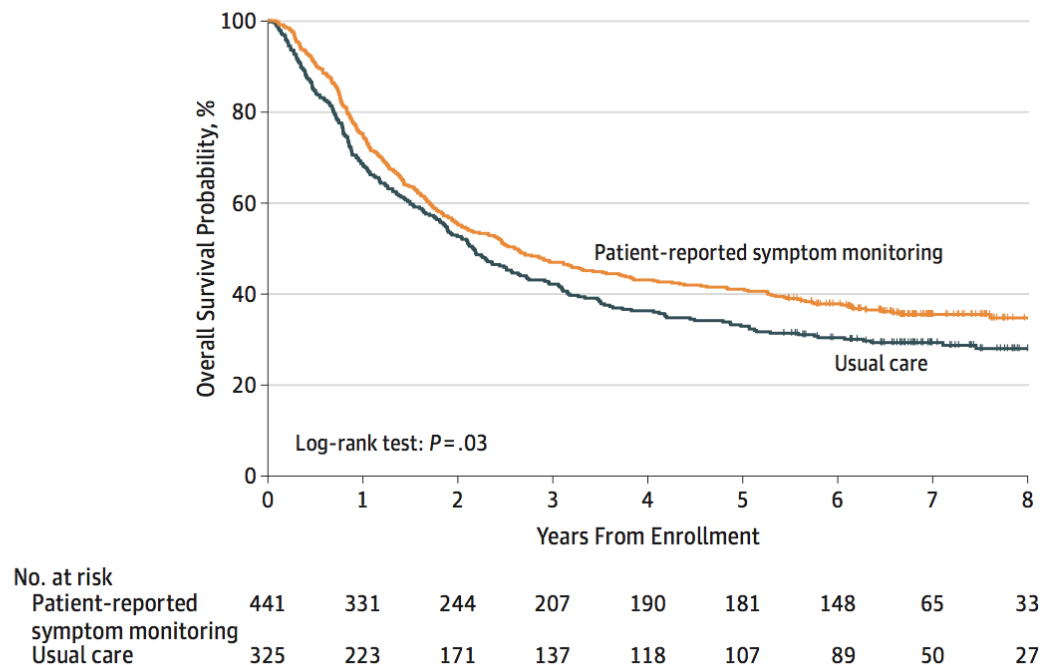
# Proportion of patients with health-related quality-of-life changes at 6 months compared with baseline

**A**





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



Crosses indicate censored observations. Enrollment in the patient-reported symptom monitoring group was enriched for a preplanned subgroup with low baseline computer experience as part of a feasibility substudy with a 2:1 randomization ratio in that subgroup ( $N = 227$ ) and a 1:1 ratio in the computer-experienced subgroup ( $N = 539$ ), yielding 441 participants in the patient-reported symptom monitoring group, and 325 in the usual care group. With a minimum follow-up of 5.4 years, median follow-up was 6.9 years (interquartile range, 6.5-7.7) for the electronic patient-reported symptom monitoring group and 7 years (interquartile range, 6.6-8.1) for the usual care group.



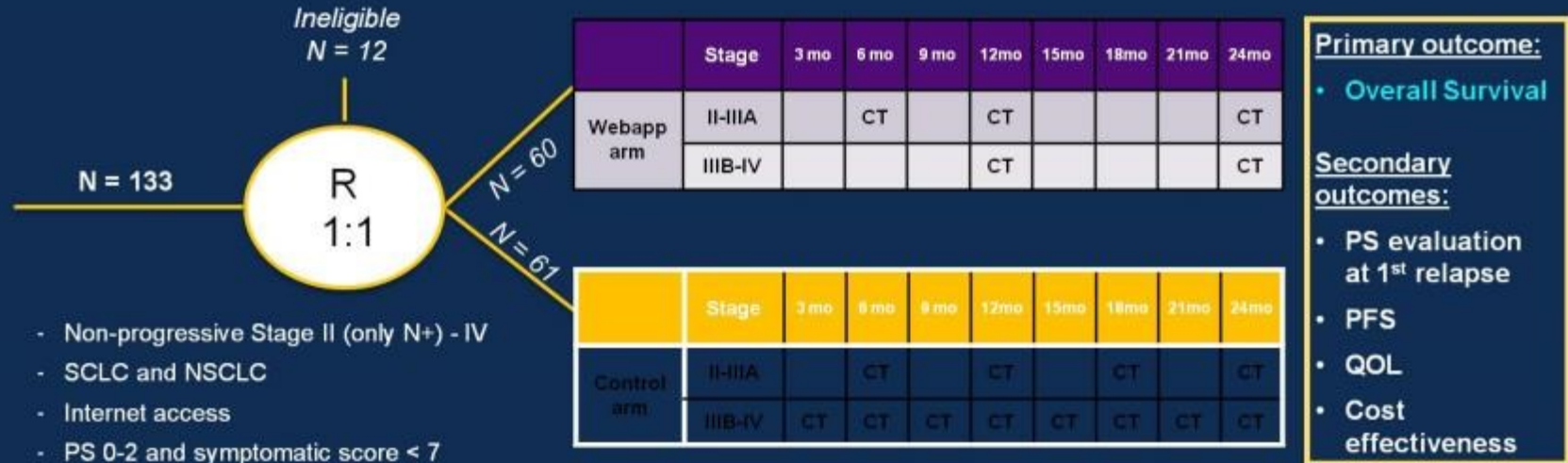
ARTICLE

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

Fabrice Denis, Claire Lethrosne, Nicolas Pourel, Olivier Molinier, Yoann Pointreau, Julien Domont, Hugues Bourgeois, Hélène Senellart, Pierre Trémolières, Thibaut Lizée, Jaafar Bennouna, Thierry Urban, Claude El Khouri, Alexandre Charron, Anne-Lise Septans, Magali Balavoine, Sébastien Landry, Philippe Solal-Céligny, Christophe Letellier



# Phase 3 multi-centric randomized study



- Non-progressive Stage II (only N+) - IV
- SCLC and NSCLC
- Internet access
- PS 0-2 and symptomatic score < 7
- TKI or maintenance therapy allowed
- Planned visit similar in both arms
- Reduction of scheduled imaging

Multicentric trial in 5 french oncology centers

PRESENTED AT: **ASCO ANNUAL MEETING '16**

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Presented by: Fabrice DENIS MD, PhD, Le Mans - FRANCE



# Web-mediated follow-up

- Patient (or relative) reports 12 symptoms and can use a free text window
- Weekly using smartphone, tablet, PC...
- **Algorithm analysis**
- Relapse / dangerous medical condition suggested
- **Alert sent to oncologist → phone call**
- Early visit +/- imaging

Weight  kg

Appetite

☒ No problem ☐ Slight problem ☐ Average problem ☐ Heavy problem

Weakness/tiredness

☒ No problem ☐ Slight problem ☐ Average problem ☐ Heavy problem

Pain

☒ No problem ☐ Slight problem ☐ Average problem ☐ Heavy problem

Cough

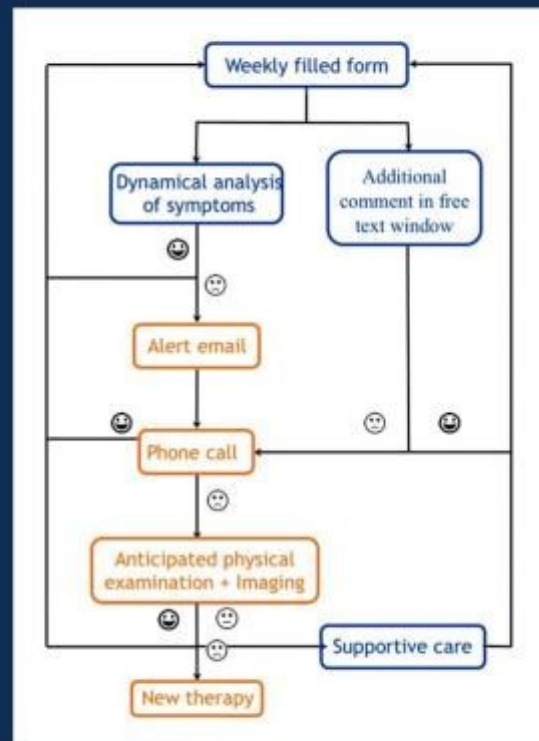
☐ No problem ☐ Slight problem ☐ Average problem ☒ Heavy problem

Breathlessness

☐ No problem ☐ Slight problem ☐ Average problem ☒ Heavy problem

Depression

☐ No problem ☒ Slight problem ☐ Average problem ☐ Heavy problem





# We

- Patient and
- Weekly
- Algorithm
- Relapse suggestion
- Alert
- Early

**Table 1.** The five different symptoms scored to obtain the initial score\*

Symptom	Initial score for symptoms			
	None	Low	Medium	High
Fatigue	0	1	2	3
Appetite loss	0	1	2	3
Cough	0	1	2	3
Breathlessness	0	1	2	3
Pain	0	1	2	3

\*Eligibility required a score of less than 7 because our algorithm for relapse detection is not sufficiently discriminant in highly symptomatic patients. The score is the sum of the five scores.



# Previous results: validation of algorithm

- 2 prospective pilot studies
  - 43 and 42 stage III/IV patients
  - 6 and 11 symptoms reported
- 86-100% Sensitivity
- Relapse detected 5 weeks earlier
- 100% Patients satisfied/reassured

## Study 1: 6 symptoms

	Sentinel (% CI 95)	Routine imaging (% CI 95)
Sensitivity	86% (67-100)	79% (57-100)
Specificity	93% (83-100)	96% (89-100)
Positive predictive value	86% (67-100)	92% (77-100)
Negative predictive value	93% (83-100)	90% (77-100)

## Study 2: 11 symptoms

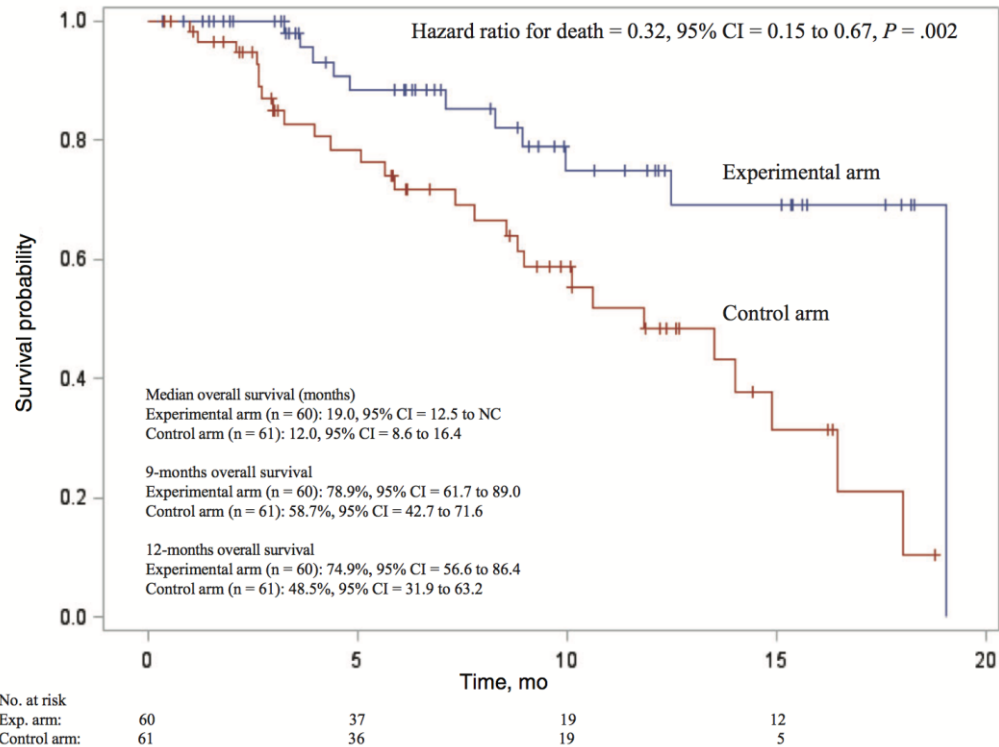
	Sentinel % (CI 95)	Routine imaging % (CI 95)
Sensitivity	100%	85% (66-100)
Specificity	89% (77-100)	96% (89-100)
Positive predictive value	81% (62-100)	92% (77-100)
Negative predictive value	100%	93% (84-100)

*F Denis et al Support Care Cancer 2014*

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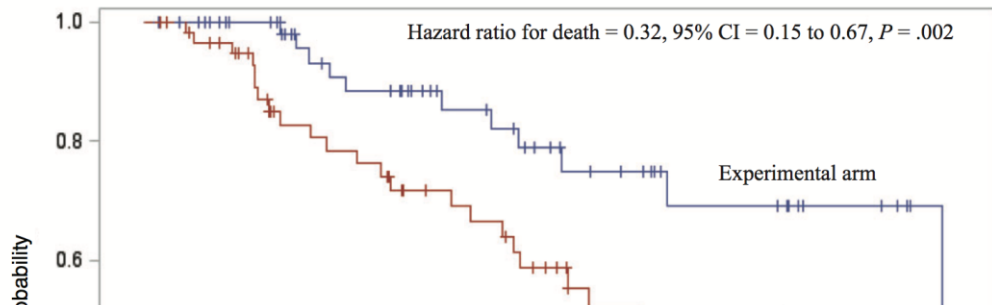
**Table 4.** Six-month mean changes of quality of life FACT scores from baseline\*

	Control arm No. (%)	Experimental arm No. (%)	Total No. (%)	P†
Mean (SD) baseline FACT score	99.6 (16.3)	91.4 (16.2)	95,6 (16,7)	.01
6-mo evaluation/baseline*				
Improvement or stable	17 (58.6)	25 (80.6)	42 (70.0)	.04
Deterioration	12 (41.4)	6 (19.4)	18 (30.0)	

\*Improvement was defined by a six-point increase between the two evaluations. Deterioration was defined by a six-point decrease between the two evaluations; stability is the intermediary situation.

†Two-sided chi-square test.





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# Two recent phase III trials :

- **Better Overall Survival**
- Higher proportion of patient with **better HRQoL**
- **Basch et al :**
  - Less ER visit,
  - Lower proportion of patients hospitalized
- **Denis et al :**
  - Rate of imaging was reduced by 49% per patient per year
  - Reduction of inopportune patients phone calls
  - More visits to the oncologist in the experimental arm
  - More patients attended unscheduled visits in the experimental arm (58.3%) than in the control arm (24.6%).



# Value of routine Use of PROM

- Increases the frequency of discussion of patients outcomes during consultations.
  - Improved symptom control
  - Increased supportive care measures
  - Increased patient satisfaction
- 
- Additional support is needed for clinicians to respond to patient concerns
  - Guidelines are needed





HRQoL : Help understanding the  
patient experience





# Health-Related Quality-of-Life Assessments and Patient-Physician Communication

## A Randomized Controlled Trial

Symone B. Detmar, PhD

Martin J. Muller, MSc

Jan H. Schornagel, MD, PhD

Lidwina D. V. Wever

Neil K. Aaronson, PhD

**I**N RECENT YEARS, INTEREST HAS BEEN expressed in the use of health-related quality-of-life (HRQL) assessments in daily clinical practice as an aid to detect physical or psychosocial problems that otherwise might be overlooked, monitor disease and treatment, and improve the delivery of care.<sup>1-4</sup> Although the literature enumerates the putative benefits of routine assessment of patients' HRQL in clinical practice,<sup>3,6</sup> relatively few empirical studies have investigated the effect of such a procedure.

The results of feasibility studies are consistent and encouraging. Administration of self-reported HRQL questionnaires in outpatient clinic settings requires only a modest investment in material and personnel and is acceptable to both patients and staff.<sup>7-11</sup> The randomized studies<sup>7,9,12-19</sup> that have investigated the value of routine HRQL assessments for patient management and outcomes have yielded less consistent and generally less favorable results. Although several studies have reported improved detection of patients' problems

**Context** There has been increasing interest in the use of health-related quality-of-life (HRQL) assessments in daily clinical practice, yet few empirical studies have been conducted to evaluate the usefulness of such assessments.

**Objective** To evaluate the efficacy of standardized HRQL assessments in facilitating patient-physician communication and increasing physicians' awareness of their patients' HRQL-related problems.

**Design** Prospective, randomized crossover trial.

**Setting** Outpatient clinic of a cancer hospital in the Netherlands.

**Participants** Ten physicians and 214 patients (76% women; mean age, 57 years) undergoing palliative chemotherapy who were invited to participate between June 1996 and June 1998.

**Intervention** At 3 successive outpatient visits, patients completed an HRQL questionnaire (European Organization for Research and Treatment of Cancer Quality of Life Questionnaire-Core 30). The responses were computer scored and transformed into a graphic summary. Physicians and patients received a copy of the summary before the consultation.

**Main Outcome Measures** Audiotapes of the consultations were content analyzed to evaluate patient-physician communication. Physicians' awareness of their patients' health problems was assessed by comparing physicians' and patients' ratings on the Dartmouth Primary Care Cooperative Information Functional Health Assessment (COOP) and the World Organisation Project of National Colleges and Academics (WONCA) charts.

**Results** The HRQL-related issues were discussed significantly more frequently in the intervention than in the control group (mean [SD] communication composite scores: 4.5 [2.3] vs 3.7 [1.9], respectively ( $P = .01$ ). Physicians in the intervention group identified a greater percentage of patients with moderate-to-severe health problems in several HRQL domains than did those in the control group. All physicians and 87% of the patients believed that the intervention facilitated communication and expressed interest in its continued use.

**Conclusion** Incorporating standardized HRQL assessments in daily clinical oncology practice facilitates the discussion of HRQL issues and can heighten physicians' awareness of their patients' HRQL.

JAMA. 2002;288:3027-3034

www.jama.com

- HRQOL related issues discussed more frequently
- Better identification of HRQoL problems
- Better communication between Physician and Patient



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

JOURNAL OF CLINICAL ONCOLOGY

STATISTICS IN BRIEF

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

## Purpose

To examine the effects on process of care and patient well-being, of the regular collection and use of health-related quality-of-life (HRQL) data in oncology practice.

## Patients and Methods

In a prospective study with repeated measures involving 28 oncologists, 286 cancer patients were randomly assigned to either the intervention group (regular completion of European Organization for Research and Treatment of Cancer–Core Quality of Life Questionnaire version 3.0, and Hospital Anxiety and Depression Scale on touch-screen computers in clinic and feedback of results to physicians); attention-control group (completion of questionnaires, but no feedback); or control group (no HRQL measurement in clinic before encounters). Primary outcomes were patient HRQL over time, measured by the Functional Assessment of Cancer Therapy–General questionnaire, physician-patient communication, and clinical management, measured by content analysis of tape-recorded encounters. Analysis employed mixed-effects modeling and multiple regression.

## Results

Patients in the intervention and attention-control groups had better HRQL than the control group ( $P = .006$  and  $P = .01$ , respectively), but the intervention and attention-control groups were not significantly different ( $P = .80$ ). A positive effect on emotional well-being was associated with feedback of data ( $P = .008$ ), but not with instrument completion ( $P = .12$ ). A larger proportion of intervention patients showed clinically meaningful improvement in HRQL. More frequent discussion of chronic nonspecific symptoms ( $P = .03$ ) was found in the intervention group, without prolonging encounters. There was no detectable effect on patient management ( $P = .60$ ). In the intervention patients, HRQL improvement was associated with explicit use of HRQL data ( $P = .016$ ), discussion of pain, and role function ( $P = .046$ ).

## Conclusion

Routine assessment of cancer patients' HRQL had an impact on physician-patient communication and resulted in benefits for some patients, who had better HRQL and emotional functioning.

- Routine evaluation + feedback :
  - Better HRQOL
  - Positive effect on well being
  - Better communication
  - More frequent discussion
  - Without prolonging encounters



Precision medicine  
>> PRO-Cision  
Medecine

Improve patients'  
quality of life

Enhance patient–  
clinician  
communication

Improvement patients'  
satisfaction

shared decision  
making

increased supportive  
care measures

Reduce emergency  
department use

Improve survival



# Challenges

- Lack of cost effectiveness study
- Highly dependent on the local resources
  - Financial
  - Human
  - IT 2.0
- Difficulties to overcome to demonstrate a clear and strong benefit at a multicentric level
  - Population / type of cancer
  - Type of treatment : iv vs oral
  - Setting : adjuvant ? Metastatic ? End of life care ?
- **To find the magic trick to enhance physician engagement**



