Symptom monitoring with patient-reported outcomes during routine cancer treatment: A randomized controlled trial

Basch et al

ONLINE ONLY SUPPLEMENT

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APPENDIX CONTENTS:

eTable 1. Sensitivity analyses for health-related quality of life measurement – Method 1

Method 1: Last observation carried forward excluding participants with only baseline observations (primary analysis reported in body of manuscript)

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison* (univariable)	P-value for between-arm comparison* (multivariable)
All patients	457	Baseline	86.2	86.6	<0.001	<0.001
		6 months	84.8	79.5		
Subgroup analysis						
Computer-experienced	341	Baseline	87.3	86.5	<0.001	<0.001
		6 months	86.1	79.7		
Computer-inexperienced	116	Baseline	83.6	86.9	0.06	0.11
		6 months	81.8	78.6		

* Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).

eTable 2. Sensitivity analyses for health-related quality of life measurement – Method 2

Method 2: Last observation carried forward including baseline observations carried forward when only baseline observations available (e.g., for participants who discontinued cancer treatment or died prior to reporting any HRQL score)

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison (univariable)*	P-value for between-arm comparison (multivariable)*
All patients	757	Baseline	84.7	84.4	<0.001	<0.001
		6 months	83.8	80.5		
Subgroup analysis						
Computer-experienced	537[§]	Baseline	86.2	84.5	0.002	0.002
		6 months	85.3	80.5		
Computer-inexperienced	220[§]	Baseline	82.0	84.2	0.10	0.12
		6 months	81.0	80.3		

* Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).
[§] 2 participants in computer-experienced cohort and 7 patients in computer-inexperienced cohort excluded due to missing baseline HRQL questionnaire.

eTable 3. Sensitivity analyses for health-related quality of life measurement – Method 3

Method 3: No observations carried forward (i.e., only includes HRQL reported at 6 months)

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison (univariable)*	P-value for between-arm comparison (multivariable)*
All patients	203	Baseline	86.2	86.6	0.02	0.05
		6 months	83.9	79.1		
Subgroup analysis						
Computer-experienced	143	Baseline	87.3	86.6	0.05	0.13
		6 months	84.9	79.3		
Computer-inexperienced	60	Baseline	84.3	86.5	0.25	0.21
		6 months	82.1	78.3		

*Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).

eTable 4. Sensitivity analyses for health-related quality of life measurement – Method 4

Method 4: Minimum observation value carried forward

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison (univariable)*	P-value for between-arm comparison (multivariable)*
All patients	457	Baseline	86.2	86.6	<0.001	<0.001
		6 months	83.8	78.6		
Subgroup analysis						
Computer-experienced	341	Baseline	87.3	86.5	<0.001	<0.001
		6 months	85.2	78.7		
Computer-inexperienced	116	Baseline	83.6	86.9	0.10	0.17
		6 months	80.5	78.2		

*Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).

eTable 5. Sensitivity analyses for health-related quality of life measurement – Method 5

Method 5: Average observation value carried forward

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison (univariable)*	P-value for between-arm comparison (multivariable)*
All patients	457	Baseline	86.2	86.6	<0.001	<0.001
		6 months	84.7	79.8		
Subgroup analysis						
Computer-experienced	341	Baseline	87.3	86.5	0.001	<0.001
		6 months	85.9	80.0		
Computer-inexperienced	116	Baseline	83.6	86.9	0.05	0.09
		6 months	81.9	78.5		

*Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).

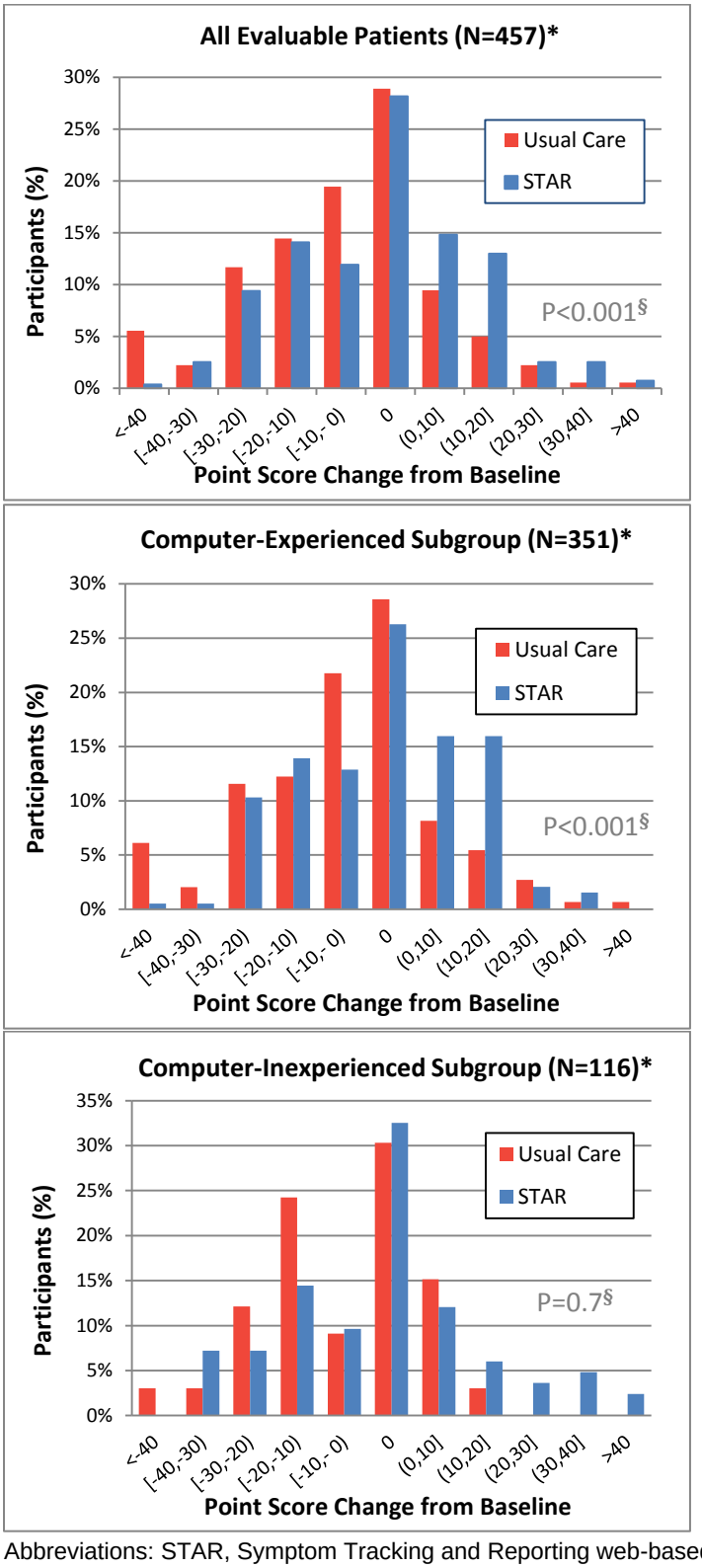
eTable 6. Sensitivity analyses for health-related quality of life measurement – Method 6

Method 6: Last observation carried forward excluding participants with only baseline observations including the assignment of EQ-5D value of 0 if death occurred prior to 6 months

Cohort	N	Timepoint	Mean HRQL Intervention Arm	Mean HRQL Usual Care Arm	P-value for between-arm comparison (univariable)*	P-value for between-arm comparison (multivariable)*
All patients	457	Baseline	86.2	86.6	0.002	0.002
		6 months	82.1	75.9		
Subgroup analysis						
Computer-experienced	341	Baseline	87.3	86.5	0.006	0.009
		6 months	83.3	75.7		
Computer-inexperienced	116	Baseline	83.6	86.9	0.17	0.21
		6 months	79.3	76.4		

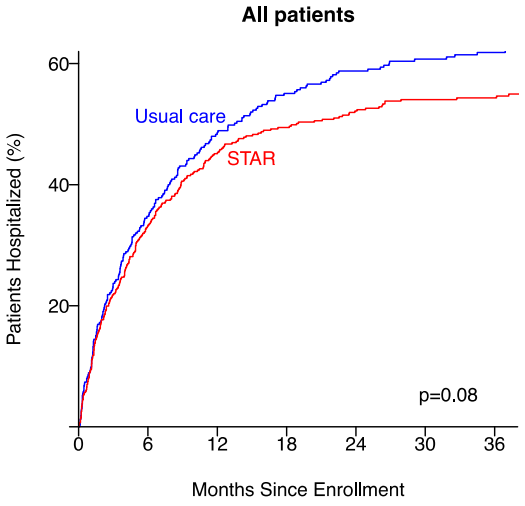
*Comparison of changes from baseline between arms. Multivariable analysis includes age, sex, cancer type, race, and education level. Multivariable analysis for "all patients" includes subgroup assignment (computer experience).

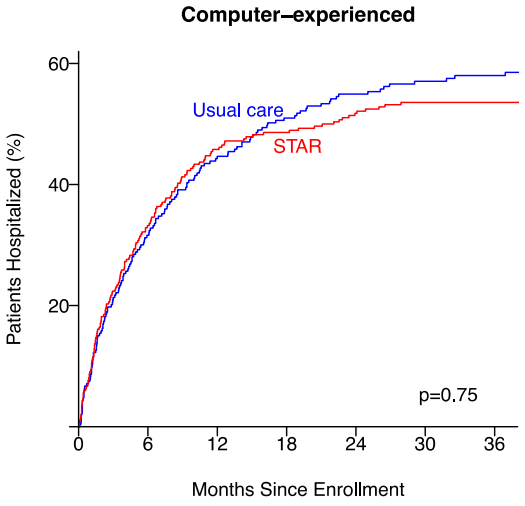
eFigure 1. Proportion of patients with various quality of life score changes at six months compared to baseline. Patients are grouped by 10-point increments on the 100-point scale of the EuroQol EQ-5D questionnaire.

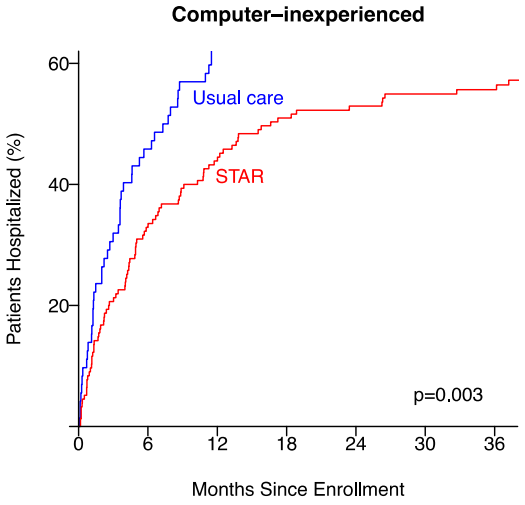


Abbreviations: STAR, Symptom Tracking and Reporting web-based self-reporting system (study intervention).
* Patents without post-baseline EQ-5D scores were not included in the primary HRQL analysis, but were included in a sensitivity analysis with similar results (Online-only Appendix).
§ P-values calculated using Fisher's Exact test comparing the two study arms based on the 11 categories.

eFigure 2. Cumulative incidence of hospitalization



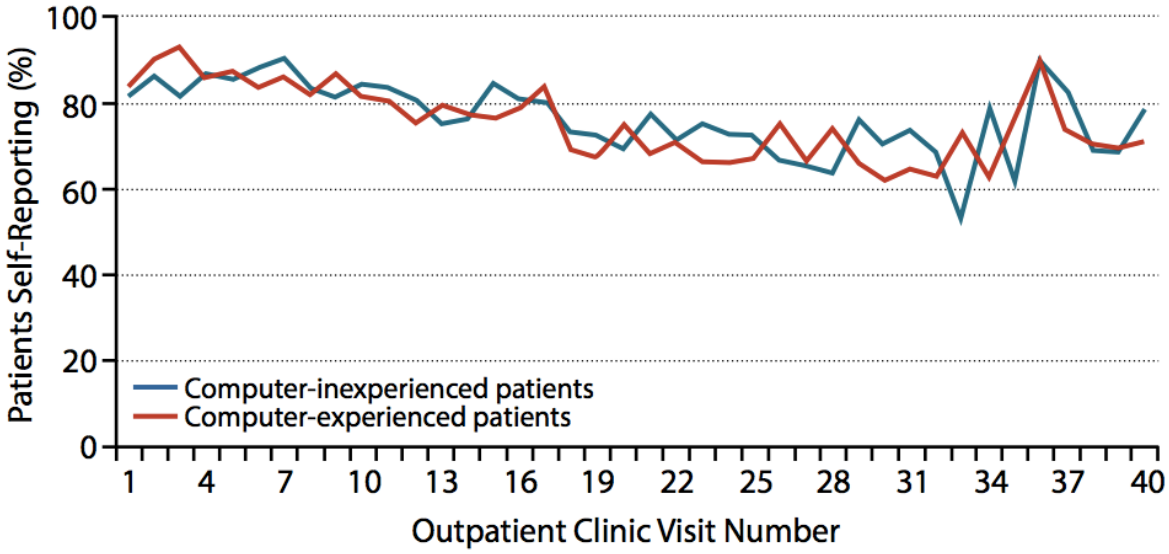




No. At Risk							
Total	766	492	370	309	266	215	171
STAR	441	291	222	187	161	131	102
Usual Care	325	201	148	122	105	84	69

Abbreviation: STAR, Symptom Tracking and Reporting web-based self-reporting system (study intervention).

eFigure 3. Patient adherence with symptom self-reporting at consecutive clinic visits



Data are shown through the 40th visit, after which point fewer than 5% of participants remained enrolled in the trial.