



An e-App to Foster Symptom Documentation and Intervention

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BACKGROUND

Assessment of patient-reported outcomes (PROs) has become an important component of health care to gauge the impact of disease and medical treatment on patient well-being.

- There is need for increased symptom reporting that integrates into the EHR to optimize documentation and prompt intervention.
- However, collecting PROs during clinic encounters and populating them into the EHR remains challenging.

We evaluated the feasibility of implementing a point-of-care electronic PRO assessment via a tablet-based Edmonton Symptom Assessment System (ESAS-r) application (app) in the palliative care (PC) clinic of our cancer center.

Please select the number that best describes how you feel NOW:		
No Pain	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Pain
No Tiredness (Tiredness = lack of energy)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Tiredness (Tiredness = lack of energy)
No Drowsiness (Drowsiness = feeling sleepy)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Drowsiness (Drowsiness = feeling sleepy)
No Nausea	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Nausea
No Lack of Appetite	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Lack of Appetite
No Shortness of Breath	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Shortness of Breath
No Depression (Depression = feeling sad)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Depression (Depression = feeling sad)
No Anxiety (Anxiety = feeling nervous)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Anxiety (Anxiety = feeling nervous)
Best Overall Wellbeing (Wellbeing = how you feel overall)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Wellbeing (Wellbeing = how you feel overall)
Best Spiritual Wellbeing (Spiritual Wellbeing = how you feel spiritually)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Spiritual Wellbeing (Spiritual Wellbeing = how you feel spiritually)
No Constipation	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Constipation
No Difficulty Sleeping	0 1 2 3 4 5 6 7 8 9 10	Worst Possible Difficulty Sleeping
No _____ (for example: itchininess)	0 1 2 3 4 5 6 7 8 9 10	Worst Possible _____

METHODS

A multidisciplinary team comprised of members from IT and PC co-developed a tablet-based e-ESAS app.

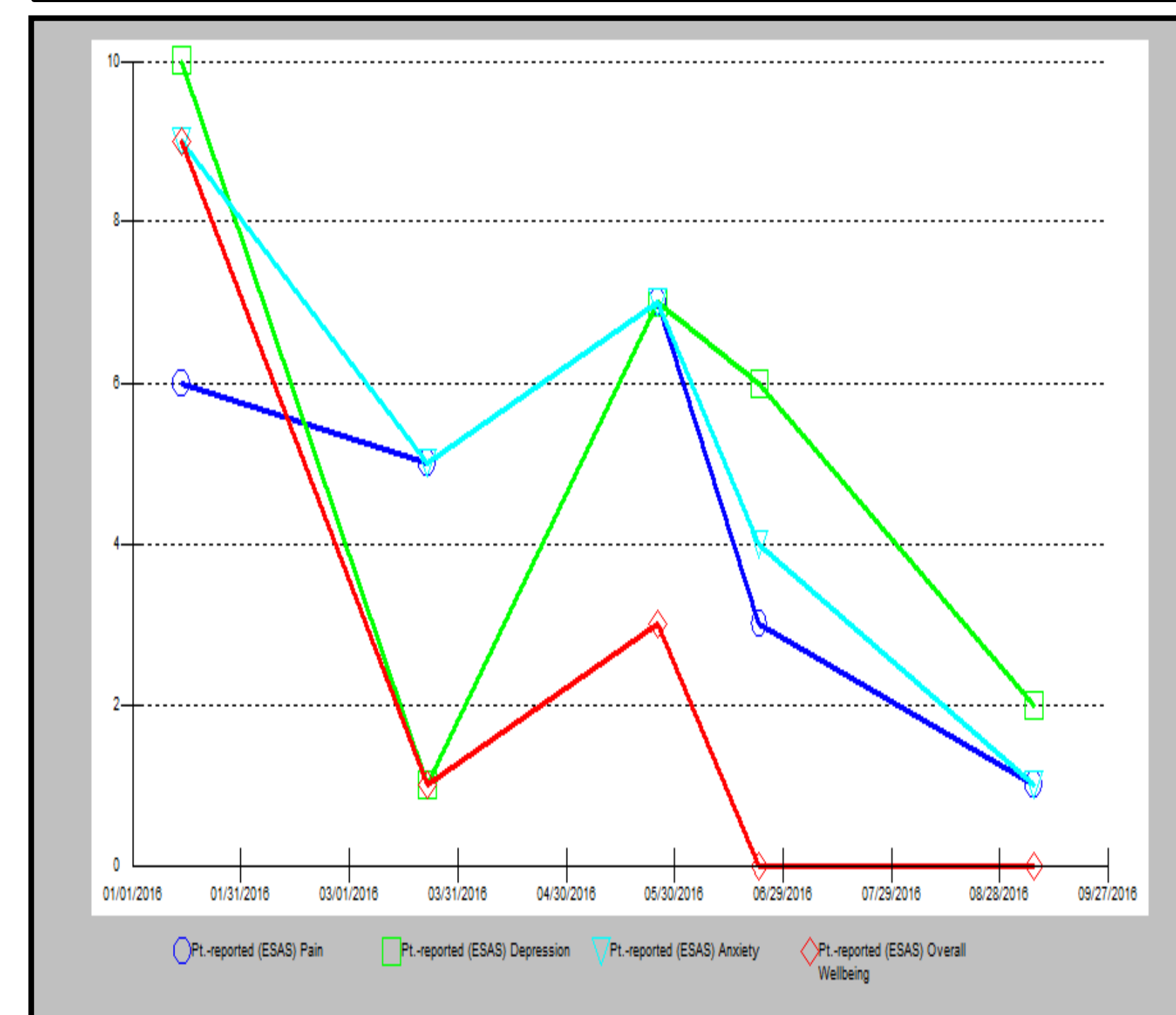
- Beginning in January 2016 patients completed ESAS scores in the waiting area prior to each PC clinic visit using the tablet based app.
- Each symptom element is scored by the patient on an easy-to-read tablet page that also includes a brief explanation of the item.
- Electronic-ESAS scores populate directly into the EHR Flowsheet as vital signs and into the provider's EHR visit note.
- Providers review scores with the patient and document this discussion.
- Thresholds were set for severe scores (>6) which are then denoted as high in the Flowsheet.
- Scores can be trended and graphed over time to assess effects of interventions.

To determine the impact of the ESAS app, a chart review was conducted of EHR documentation of symptoms and interventions between Jan-June 2016 (n=200).

e-ESAS App Screenshot for Nausea

Pt.-reported (ESAS) Person completing	Patient
<input type="checkbox"/> Pt.-reported (ESAS) Pain	H 10
<input type="checkbox"/> Pt.-reported (ESAS) Tiredness	H 7
<input type="checkbox"/> Pt.-reported (ESAS) Drowsiness	6
<input type="checkbox"/> Pt.-reported (ESAS) Nausea	5
<input type="checkbox"/> Pt.-reported (ESAS) Lack of Appetite	6
<input type="checkbox"/> Pt.-reported (ESAS) Shortness of Breath	H 8
<input type="checkbox"/> Pt.-reported (ESAS) Depression	H 8
<input type="checkbox"/> Pt.-reported (ESAS) Anxiety	H 8
<input type="checkbox"/> Pt.-reported (ESAS) Overall Wellbeing	H 8
<input type="checkbox"/> Pt.-reported (ESAS) Spiritual Wellbeing	H 8
<input type="checkbox"/> Pt.-reported (ESAS) Constipation	3
<input type="checkbox"/> Pt.-reported (ESAS) Difficulty Sleeping	H 7
ESAS Clinician Review * Reported	

Pt-reported Symptom Score (ESAS) Trend from EHR



e-ESAS APP RESULTS

e-ESAS App patient completion rate	86%
Provider symptom documentation rate in EHR	100%
Percent of visits with severe symptoms (e-ESAS scores >6)	68%
Average number of severe symptoms per visit	3
Provider documentation of symptom interventions	100%
• Counseling or education	100%
• Medication prescription or adjustment	99%
• Referral to other supportive care specialists	7%
Average number of symptoms addressed per visit	5

CONCLUSION

- The high completion rate of the e-ESAS app indicates that point-of-care electronic ESAS assessment is acceptable to patients and is feasible to use.
- The capture of ESAS data via a tablet linked to the EHR resulted in symptom documentation and interventions.

FUTURE DIRECTIONS

- e-ESAS app implementation in other oncology clinics.
- Development of prompts to foster intervention for high scores, including PC referrals.