

Background

The utilization and collection of electronic patient reported outcomes (ePROs) has revealed its importance with the requirements of MACRA and the movement towards value-based oncology care. PROs offer clinicians a subjective way to review and measure patient's symptoms and overall quality of life. We designed, implemented, and rolled out a cloud based solution to seamlessly integrate ePROs with our existing electronic health record. We aimed to implement efficient and accurate management of our ePROs and minimize potential barriers to ePROs compliance

Methodology

- Key stakeholders, including IT, operational leaders, and clinical leaders collaborated in weekly meetings for 6 months to effectively design the ePROs integration and workflow
- ADT and SIU interfaces were mapped and tested to integrate patient information between various electronic health records
- EPTC implemented 20 ePROs that are templated by disease site. They are released to patients at specific time points via reminder emails, aiming to increase form completion rates and overall compliance (Table 1)
- ePROs are collected using electronic devices with an internet connection, such as tablets and smartphones
- Upon form completion, ePROs interface to ARIA as a PDF through an MDM interface and individual form scores are published as test results through an ORU interface
- EPTC front desk, clinical and physician staff attended multiple on site trainings to understand the importance of collecting patient reported outcomes presented by our medical director and operational leaders
- Staff were tasked with learning the operational workflow (Table 2) and we're prepared for go-live through sample patient examples and a guided overview of the system

Disease Site	PRO/Tools	Timepoint												
		Baseline	Week 1	2	3	4	5	6	7	8	9	10	11	
Bladder	CRQ-10	X												
	EMORY-PROSTATE	X												
	EMORY-PROSTATE-TOX	X												
	EMORY-PROSTATE-QUALITY	X												
Breast	EMORY-ADJ	X												
	EMORY-ADJ-TOX	X												
	EMORY-ADJ-QUALITY	X												
	EMORY-ADJ-TOX-QUALITY	X												
Colon	EMORY-ADJ	X												
	EMORY-ADJ-TOX	X												
	EMORY-ADJ-QUALITY	X												
	EMORY-ADJ-TOX-QUALITY	X												

Table 1. Electronic Patient Reported Outcome Time Point Schedule

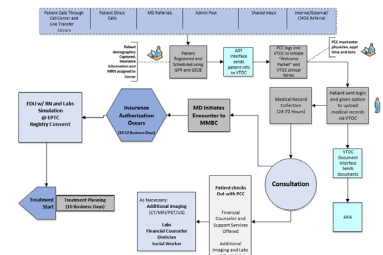
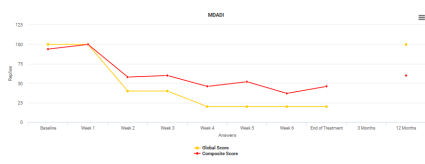


Table 2. Operational Workflow for Patients and ADT Interface

Results

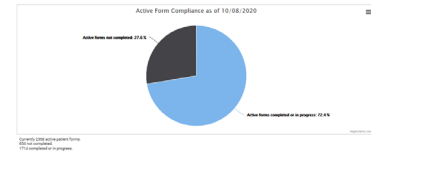
- Reduce lengthy intake process for patients, front desk staff, and clinical team members
- Document patient responses through cloud based technology which allow us to store and send automated patient reminder emails from treatment to 5 years beyond to enhance patient compliance
- Efficient and accurate management of patient reported outcomes data available for real-time measure of quality of life and future physician publications
- Reporting tools available to track trends on form compliance and completion for different disease sites by patient and at an aggregate level (Graph 1, 2 and 3)



Graph 1. Electronic Patient Reported Outcome Report – Head and Neck MDADI



Graph 2. Monthly Form Compliance – Head and Neck Pretreatment Completion Rates



Graph 3. Active Form Compliance Head and Neck Pre-Treatment Forms as of 10/8/2020

Conclusion

The use of ePROs can lead to more efficient clinical decision-making, enhanced symptom management, increased overall patient satisfaction and improve the survival outcomes of cancer patients everywhere by engaging in multi-institutional participation