Tablet Based Screening For Early Palliative Care Referral

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Background

- **Carolinas HealthCare System:** One of the nation's largest and most comprehensive healthcare systems with more than 60,000 employees and 7,460 licensed beds.
- **Levine Cancer Institute**: With more than 36 cancer care locations, LCI provides access to top-ranked physician expertise, groundbreaking clinical trials and the latest cancer treatments across the Carolinas. Over 16,500 patients will be treated in 2017 at one of the LCI locations
- **Commission on Cancer – Standard 3.2** - Distress Screening is required for every patient at least once. Opportunity to include more comprehensive screen to gather more relevant patient report outcomes (PROs) related to distress and identify patients that could benefit from symptom management within supportive care modalities.
- **Distress -** Multifactorial experience of a psychological, social, spiritual, and/or physical nature that may interfere with the ability to cope effectively with cancer, its physical symptoms, and its treatment.[1]
- **Early Symptom Identification** and management through palliative care has been shown to have a significant impact on quality of life, overall survival, operational efficiency, and quality care.[2]
- **Integrated technology solutions** are effective for large multisite cancer centers to streamline operational processes, meet accreditation guidelines, and enhance coordination of care around symptom management.[3-5]

Purpose

To develop a fully integrated technology solution for evidence based screening of instant patient reported outcomes across a large multisite healthcare system and using the data during the clinical visit to identify patients that could benefit from complex symptom management through Palliative Care.

Distress Screening Program

What: Distress Management Solution (Implemented LCI Network-Wide January 2017)

Thresholds: Evidence based thresholds and symptoms compilations were established to trigger referral recommendations to Supportive Oncology Sections.

Integrated Technology: 72% of all patients screened and Provider Report placed in EMR

Timing of Screening:
- Surgical/Medical Oncology and Hematology – Consultation
- Radiation Oncology –Simulation
- Supportive Oncology – Consultation

Referral by clinical team:
- Depression/Anxiety/Distress – moderate to high risk – automatically referred via email to clinical social worker
- Results discussed during medical visit
- Patient report provided to pt during visit
- For other indicated patient reported symptoms, referrals provided on clinical judgment

Methods
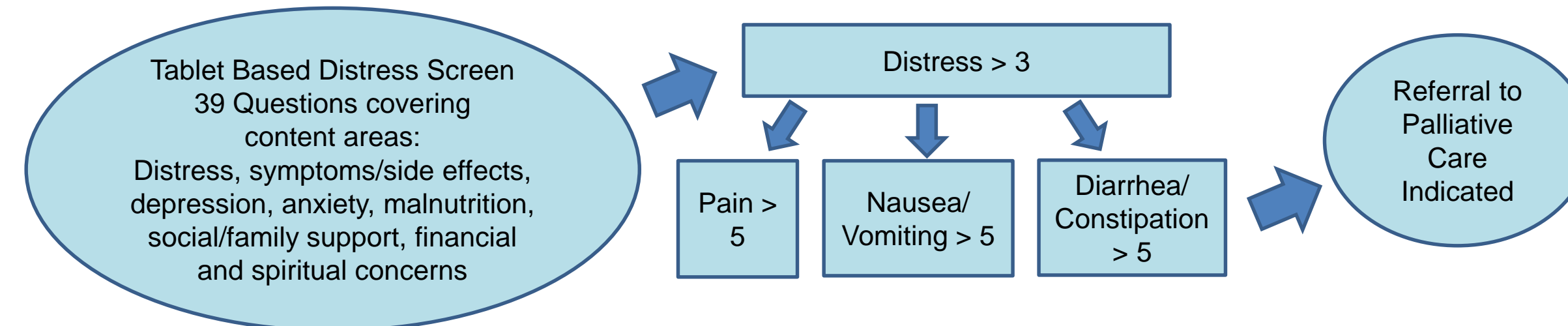
Symptoms Scales – Distress, Pain, Nausea/Vomiting, Diarrhea/Constipation all are 0-10 scaling questions. Patient asked "On scale of 0-10, please rate symptoms over the last 2 weeks"
Referral Thresholds – Referral threshold of >3 for distress based on NCCN guidelines. Pain, Nausea/Vomiting, Diarrhea/Constipation >5 based on product vendor's market research and discussion within Palliative Care Section
Group Determinations – Site groupings based on geographic location of clinics and volumes to analyze regional variations
Database Management – Aggregate database updated continuously, as screens are completed in real time
Data Analysis – Retrospectively reviewed January-June 2017, grouped sites according to predetermined criteria, and cross tabulations to understand symptom frequency

Results

- 7383 patients completed TBDS during the 6-month study period
- 36 clinics → 5 regions: Metro (n=1710), Morehead (n=3007), North (n=961), South (n=900), and West (n=805)
- Median age of 59 years; 62% female
- 32% (n=2330) met at least one criterion necessary for a referral to palliative medicine
- 19% (n=1228) and 21% (n=1511) of patients reported moderate/severe depression and anxiety, respectively
- Regional variation in reported symptoms was identified across cancer care locations (Figures 1 & 2)

Figure 1: Prevalence of patients reporting pain, nausea/vomiting, and diarrhea or constipation > 5 on a 0-10 scale by geographic region. Constant line represents prevalence for each symptom for entire system.
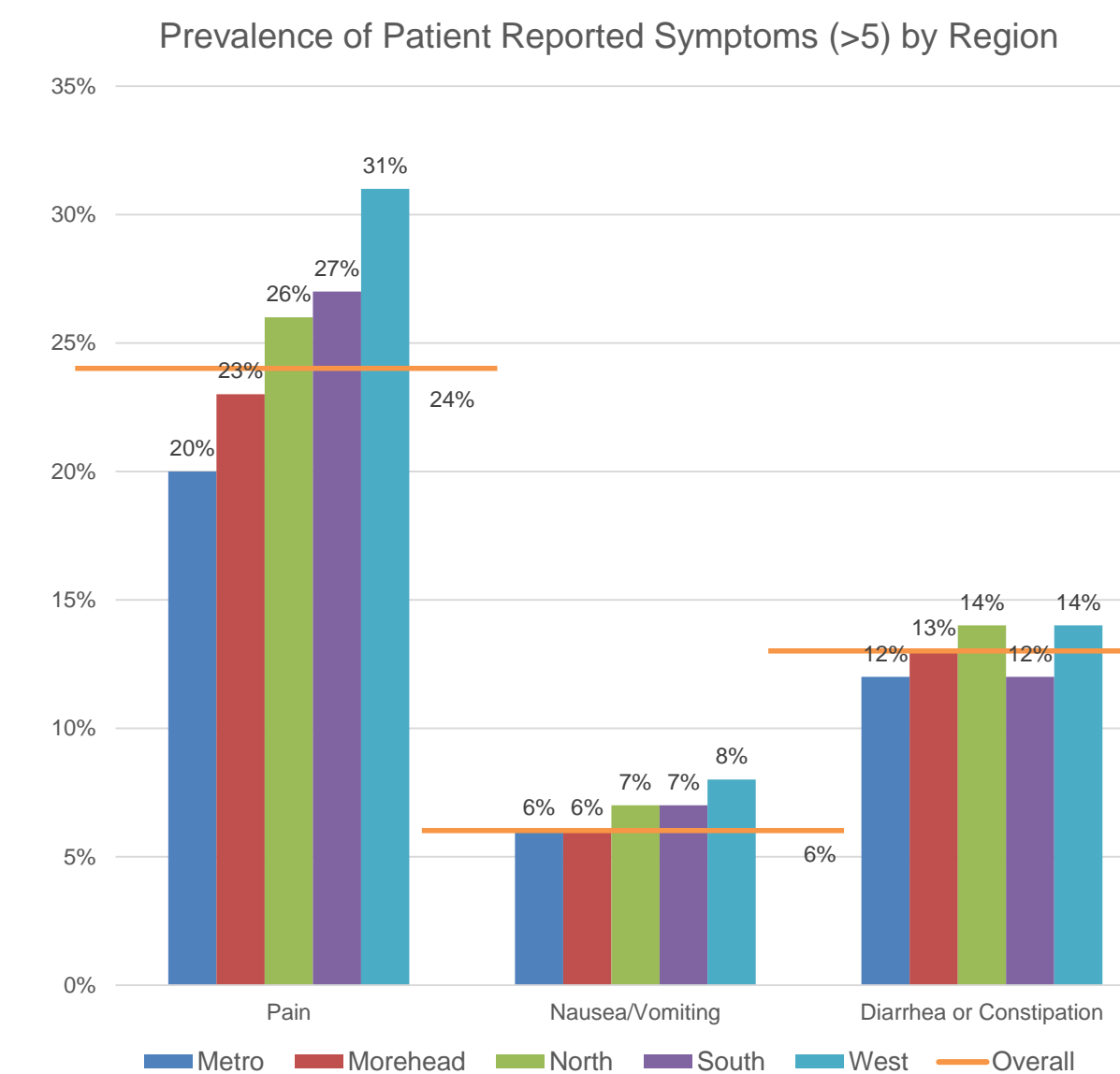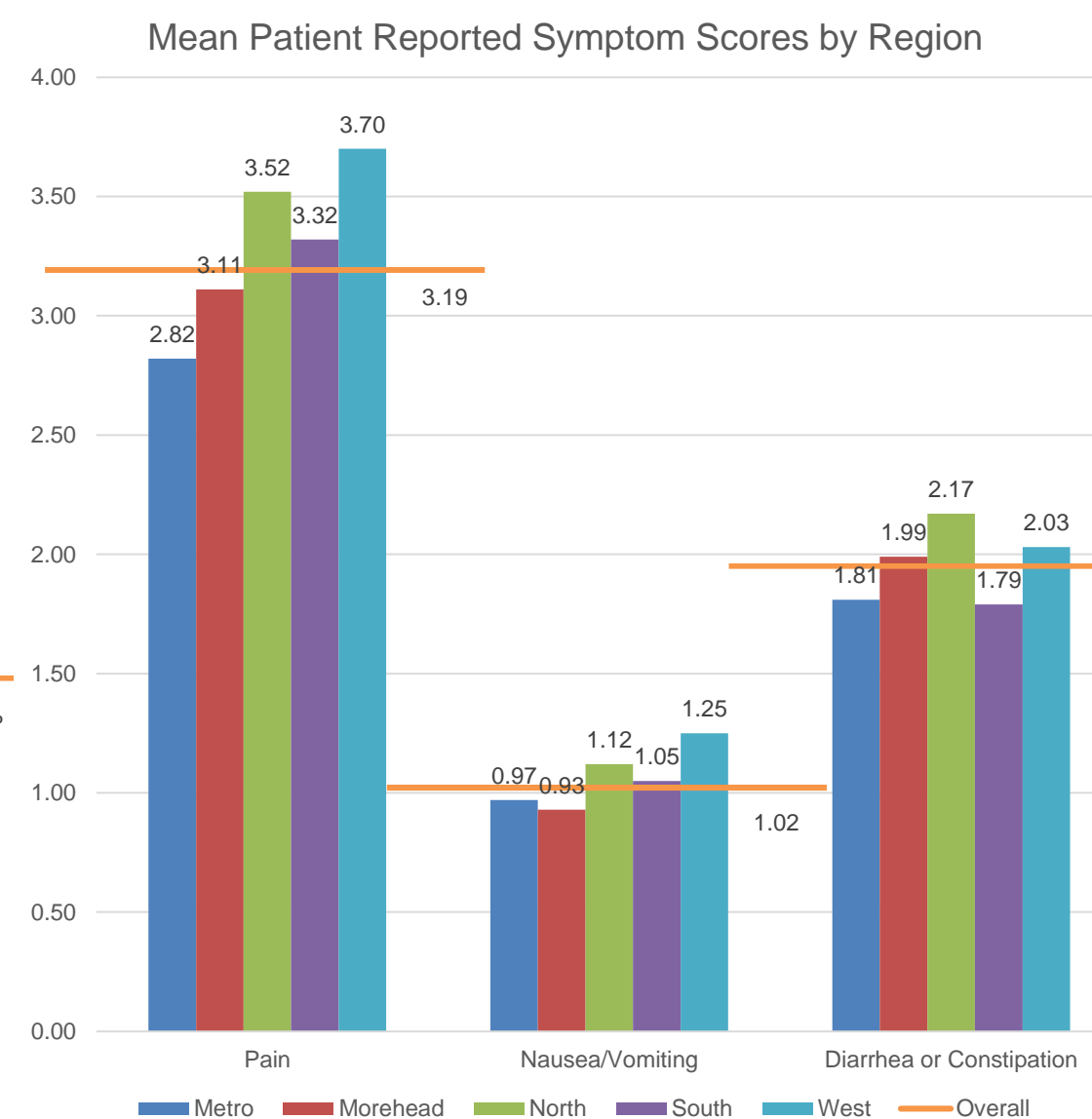
Figure 2: Mean pain, nausea/vomiting, and diarrhea or constipation ratings on a scale of 0-10 by geographic region. Constant line represents average for each symptom for the entire system.

Results

- Many patients who reported pain also reported other elevated symptoms (Table 1)
- 9% (n=635) of patients reported severe distress levels of 9 or 10
- 6% (n=425) reported severe pain levels of 9 or 10
- 89% (n=1580 of 1780) of patients reporting pain >5 also reported elevated distress (>3)

Table 1: Patient reported symptom combinations. Includes patients that reported pain, NV, and DC >5 and >3 Distress.

Symptom Combination	Number of Patients	Percentage of total population
Pain/Distress/NV*/DC**	164	2%
Pain/Distress/NV	310	4%
Pain/Distress/DC	456	6%
Pain/Distress	1580	21%

*NV = Nausea & Vomiting
**DC = Diarrhea or Constipation

Implications

Clinical
- Cancer-related symptoms and signs of distress are detected early and can be tracked longitudinally, resulting in earlier symptom management and possibly better outcomes.
- Immediate PROs allows for unrecognized symptoms to be targeted in brief clinical encounters
- Early resolution of symptoms allows patients to maximize anti-cancer treatment, improve post-surgical outcomes, and minimize dose reductions and early discontinuation of treatment

Research
- Assessment of symptoms and distress at the time of diagnosis provides a suitable baseline for comparison of change across the care continuum
- Technology solution generates immediate aggregate data by region/symptom
- PROs can be correlated with objective clinical outcome measures within EMR to better understand the impact of symptom profiles on treatment outcomes and long term survivorship

Operational
- Aggregate PRO databases allow practice administration to educate and create operational processes to efficiently connect patients to ancillary services earlier in treatment process
- Better understanding geographical differences among PROs, leads to market driven interventions and service allocation with limited resources
- Automatic/Integrated Referral process efficiently connects patients to ancillary resources
- Immediate PROs allow clinicians to efficiently assess most distressing symptoms and minimizes impact on clinic flow

Conclusions

- Tablet Based Distress Screening reports can generate immediate, clinically significant patient reported outcomes that can be used during the medical visit.
- Integrated technology solutions assist clinical teams in complex symptom identification and facilitate early intervention and symptom management through referrals to Palliative Care
- Disparities in symptom prevalence and acuity by region need to be more closely examined
- PROs can assist organizations in developing the right care, at the right time, in the right place, at the right value.

References
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