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Implementation and use of an electronic Malnutrition Screening Tool (MST) in the cancer care pathway at Miami Cancer Institute (MCI)

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Implementation and Use of an Electronic Malnutrition Screening Tool (E-MST) in the Cancer Care Pathway at Miami Cancer Institute

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Introduction

- An estimated 90% of oncology pts. in the U.S. are treated in the outpatient cancer setting
- Studies show that pts. receiving outpatient multimodal treatment are at increased risk for malnutrition
- Unfortunately, the majority of patients receiving outpatient cancer care do not receive routine screening for malnutrition or nutrition referrals
- Early nutrition screening and interventions can help minimize malnutrition and may improve outcomes
- Clinical decision support (CDS) tools delivered via electronic medical records have been proposed as a way to improve patient outcomes

Purpose

- To describe implementation of Electronic Malnutrition Screening Tool (E-MST) at Miami Cancer Institute as part of the pathway used to identify patients at risk for or with malnutrition
- To report initial outcomes of the program
- To describe results of a survey evaluating staff awareness and perceptions of the E-MST

Program Implementation

Implementation of Electronic MST Tool

- Between 2017-2018, our team collaborated with members of the Health Informatics Team and the Dept. of Nursing to implement a clinical decision support (CDS) pathway to capture cancer patients at risk for malnutrition
- The Information Technology (IT) team embedded the MST into the existing electronic medical record system using MCI's current clinical information platform

Educating Staff about Malnutrition Screening

- To educate nursing about the new E-MST, staff shared info with RNs and Medical Assistants (MAs) during rounds, nursing huddles, individual teaching sessions, and continuing education conferences

Overview of Malnutrition Screening Workflow

- At initial, follow up and weekly visits,
- MAs/RNs screened patients for BMI, weight loss history and intake pattern
- Values were used to capture vital weight statistics and then scored

Program Implementation, cont.

Electronic Malnutrition Screening Tool

- Referrals to Registered Dietitian/Nutritionist were generated using E-MST scores for further assessment and intervention in Radiation and Infusion clinics

Supplemental Screening Process

- Bi-weekly workflow: patients were screened using E-MST by tumor site during weekly radiation encounters, and prioritized for referral by site and score

Fig 1: Selected Content from the Electronic Malnutrition Screening Tool (E-MST)

Fig 2: Screenshot showing Electronic-Malnutrition Screening Tool (E-MST) in Cerner in Miami Cancer Institute's Infusion Department)

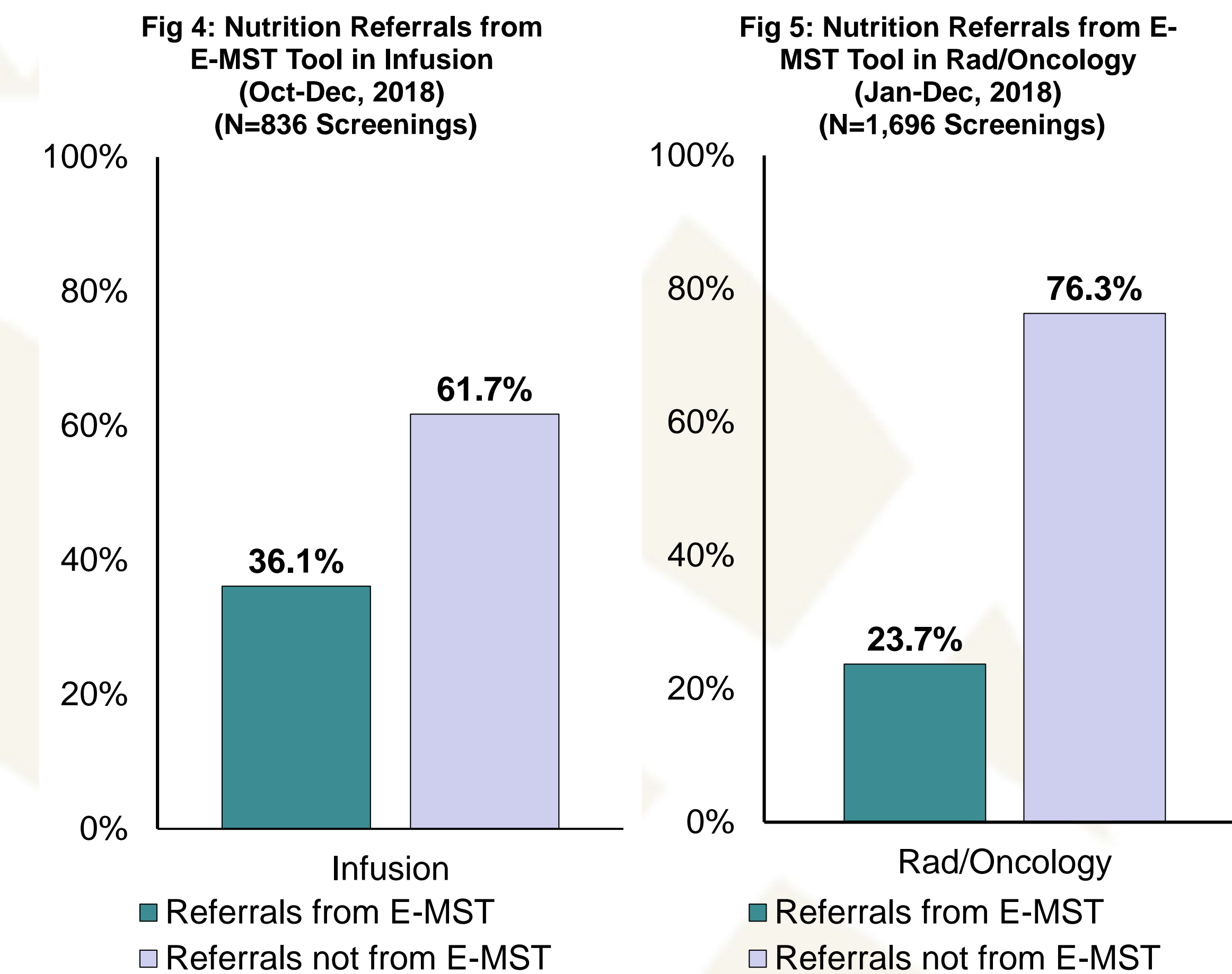
Fig 3: Screenshot showing Electronic-Malnutrition Screening Tool (E-MST) in ARIA® (software used in MCI's Radiation-Oncology Department), with final malnutrition score.

Results

- Total malnutrition screening encounters increased by 30% following adoption of E-MST (Pre:<30, Post: 60%)
- From Jan to Dec '18 in Infusion, 36.1% (n= 302) of the 836 total nutrition consults were generated by E-MST (Fig 4).
- From Oct-Dec '18, 23.7% of nutrition consults in Radiation/Oncology (n=402) were generated by E-MST (Fig 5).
- While data on MST referrals at all sites from inception is not available, >77% of patients treated had either an initial nutrition assessment, follow-up assessment or brief encounter to determine their nutrition needs and interventions

Results, cont.

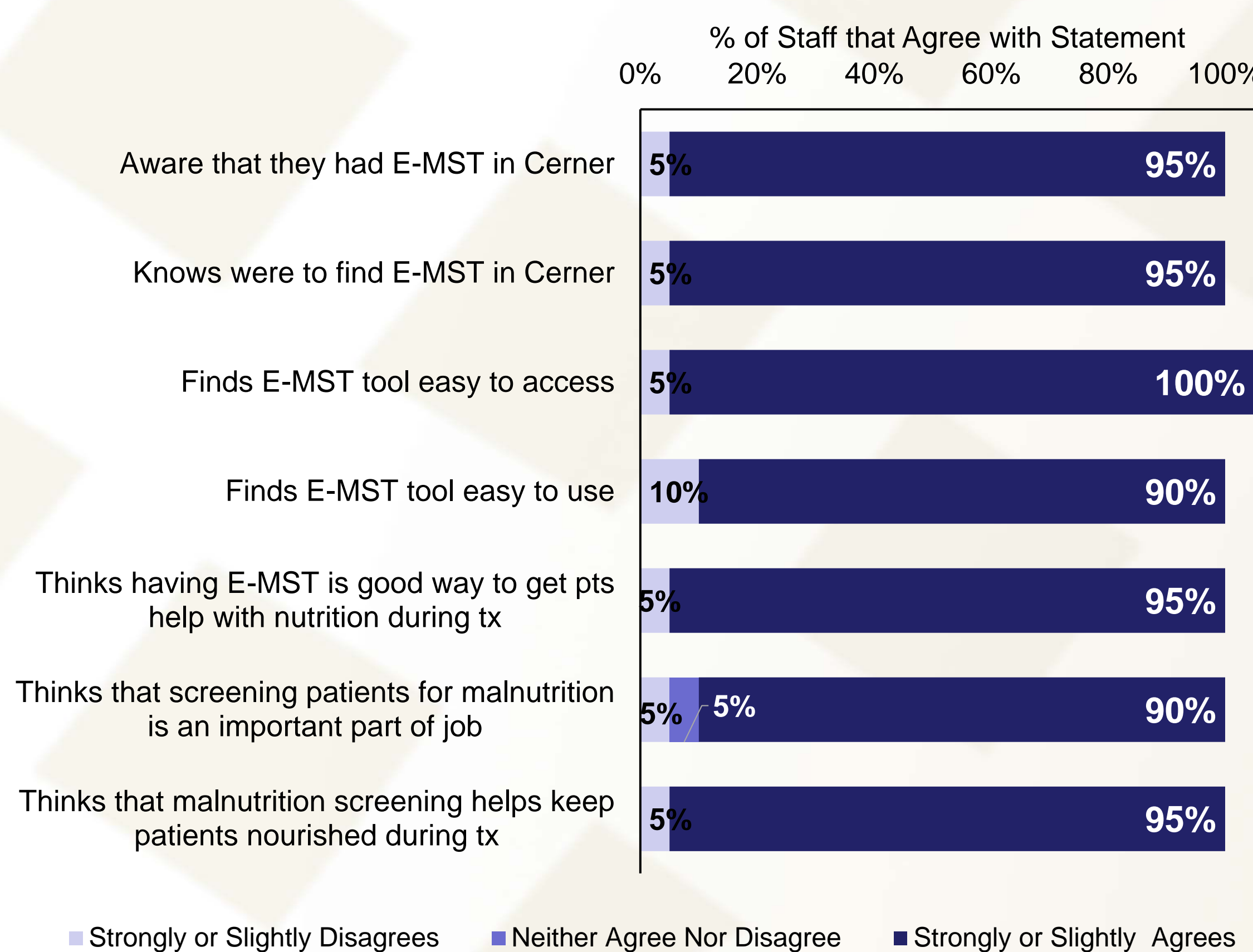
Impact of Electronic Malnutrition Screening Tool (E-MST) on Nutrition Referral Volume



Knowledge and Perceptions of Screening Tool

- Overall, results of the survey showed that following education, >90% of staff were aware of E-MST's existence, location in the Cerner and ARIA pathway, found the tool easy to access and use, and felt that the tool was a "good way to help patients with nutrition during treatment."
- However, 5-10% of survey participants either strongly or slightly agree with these statements, indicating additional education/training may be needed

Fig 6. Results of Survey on Staff Knowledge and Perceptions about Malnutrition and Electronic Malnutrition Screening Tool (E-MST) Following Program Implementation (N=20)



Conclusions

- Results of the project illustrate the feasibility of implementing and using an E-MST as a standard of care in the outpatient cancer care pathway
- Data on referral volume suggest that when implemented, E-MST tools will be used, leading to referrals for patients at risk for malnutrition that could have been missed otherwise
- The volume of malnutrition referrals coming from the tool in both Radiation Oncology and Infusion areas (20-30%) suggest that a substantial portion of patients in these populations may require interventions to prevent/address malnutrition
- Results of the survey indicate that education used to train staff was largely effective, but that additional work may be needed to ensure 100% awareness and support for the tool

Future Implications

Partnering to Address Malnutrition in Patients Undergoing Cancer Treatment and Generate Outcomes Research

- Data on malnutrition rates in different disease groups, treatment roadmaps, and risk factors based on the E-MST tool are needed
- This data will help us to better determine how certain diagnosis among our population could benefit from directed nutrition intervention and how targeted nutrition interventions impact care and best outcomes
- Collaborative services offered at MCI include psychiatry, exercise physiology, brain rehabilitation, and integrative therapies; future collaboration within the Patient Support Center using outcomes from the MST process will further benefit how we direct Long Term Care incorporating nutrition intervention information from our care pathway

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