ASCO Quality Training Program

Reducing the Inpatient Length of Stay of Oncology Patients in Low Socioeconomic Communities

Sailaja Kamaraju, MD, MS
Tamiah Wright, DNP, RN, APNP, AGCNS-BC
Kathleen Jensik, MSW, PhDc
John Charlson , MD

Coaches: Steve Power & Grace Campbell




9/8/2020

Froedtert & Medical College of Wisconsin

Institutional Overview

- Academic Medical Center in Milwaukee, WI
- System also includes 4 community hospitals & 2 outpatient onc clinics
- 607 total inpatient beds
- Over 3,300 oncology inpatient discharges this fiscal year
- Over 5,300 cancer registry patients
- 3 inpatient units dedicated to oncology
- 24 Hour Clinic

Demographics

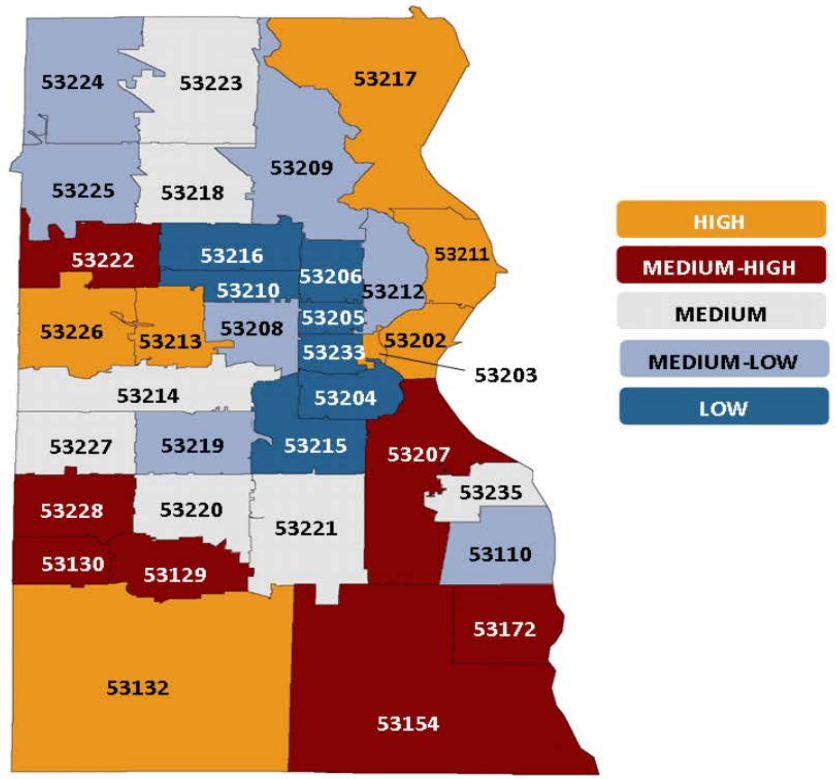
- Race/Ethnicity (FY18)
  - White: 81.7%
  - Black: 13.1%
  - Hispanic: 2.3%
  - Other: 2.8%
- Minorities
  - Racial: 18%
  - Rural: 22.8%
- Payer Types
  - Medicare: 49.2%
  - Medicaid: 6.9%
  - Uninsured: 2.9%

Problem Statement

In Q1 2018 – Q4 2019, Milwaukee County patients of low socioeconomic status (SES) with solid tumor malignancies (with medical admissions) had an average length of stay of 7.2 days. Patients in the high SES group had an average length of stay of 5.6 days.

Socioeconomic Status (SES)

- Map of Milwaukee County
  - Each zip code is identified by SES
- SES defined by
  - Income
  - % with Bachelor's degrees



ASCO Quality Training Program

http://www.healthcompassmilwaukee.org/content/sites/mhcp/ses_totals.pdf

Froedtert & Medical College of Wisconsin

Outcome Measure

Baseline data summary

Item	Description
Measure:	Inpatient hospital length of stay (LOS) in days, LOS index
Patient population:	Oncology, solid tumors, medical patients, inpatient adults, Q1 2018-Q4 2019, Milwaukee County residents
Calculation methodology:	LOS index: A risk adjusted calculation of duration of hospital stay • Observed / expected • 1 = LOS is optimal, <1= better than expected, >1= worse than expected
Data source:	Vizient, Epic
Data collection frequency:	Quarterly

Data Analysis

Data Notes

- The original dataset has 1848 records.
- Demographics are summarized

Analysis Methods

- Over dispersed Poisson regression was used to analyze the length of stay (LOS) index. Specifically, the observed LOS was used as the outcome in the Poisson regression model with SES (or race) as the main predictor, and the logarithm of the expected LOS as an offset.
- This approach provides a multiplicative model for the LOS index.
- Analyses were performed using SAS 9.4 (SAS Institute, Cary, NC)

Froedtert & Medical College of Wisconsin

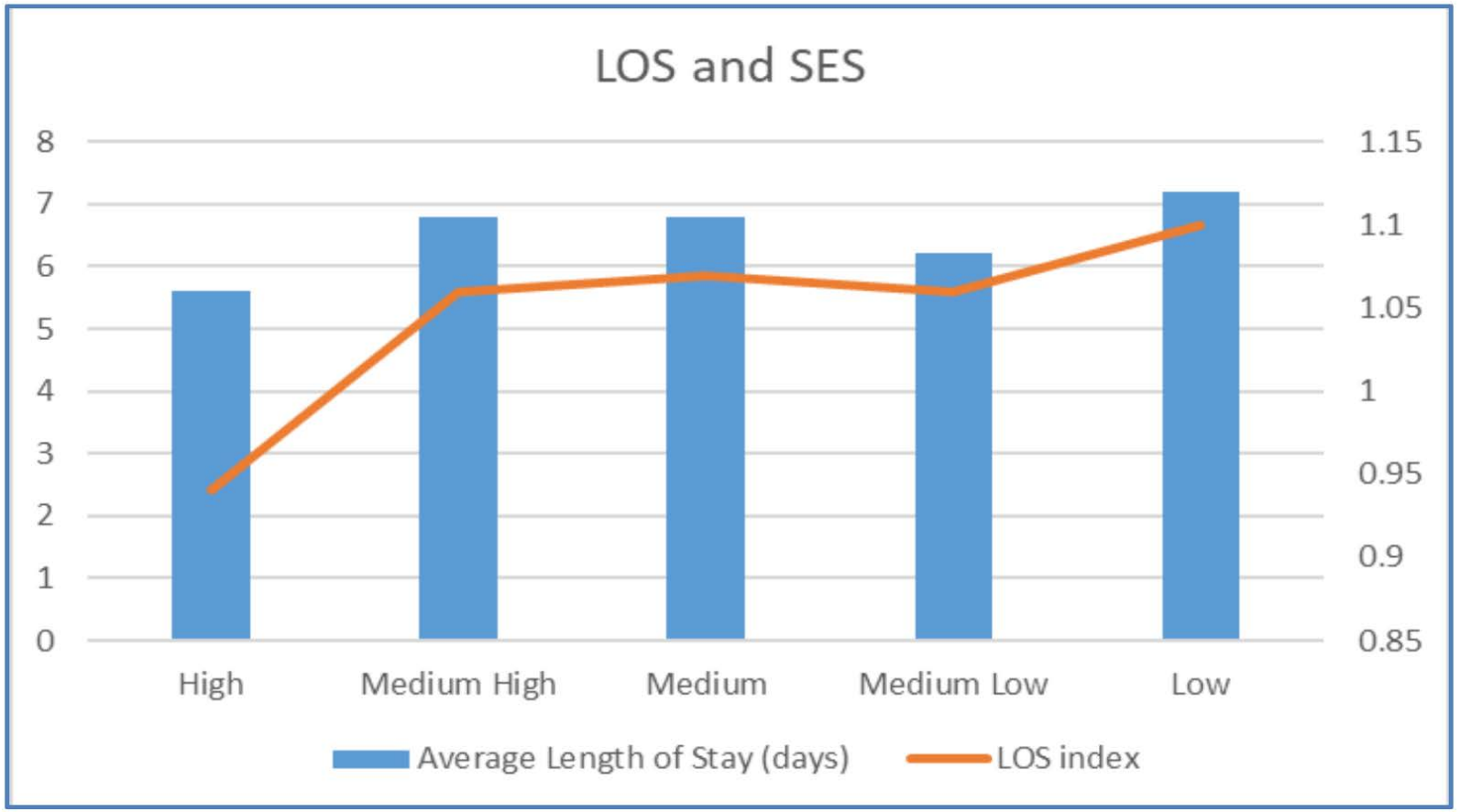
Process Measure

Diagnostic Data summary

- Consulted with inpatient oncology unit for factors contributing to length of stay
- Multidisciplinary team consisted of:
  - RNs
  - PT/OT
  - SW/CM
  - MDs
- Key Factors identified by team
  - Transportation
  - Insurance
  - Lack of PCP
  - Needing home support services
- It was agreed that all of these factors could be addressed by outpatient SW

Outcome Measure

Baseline data



ASCO Quality Training Program

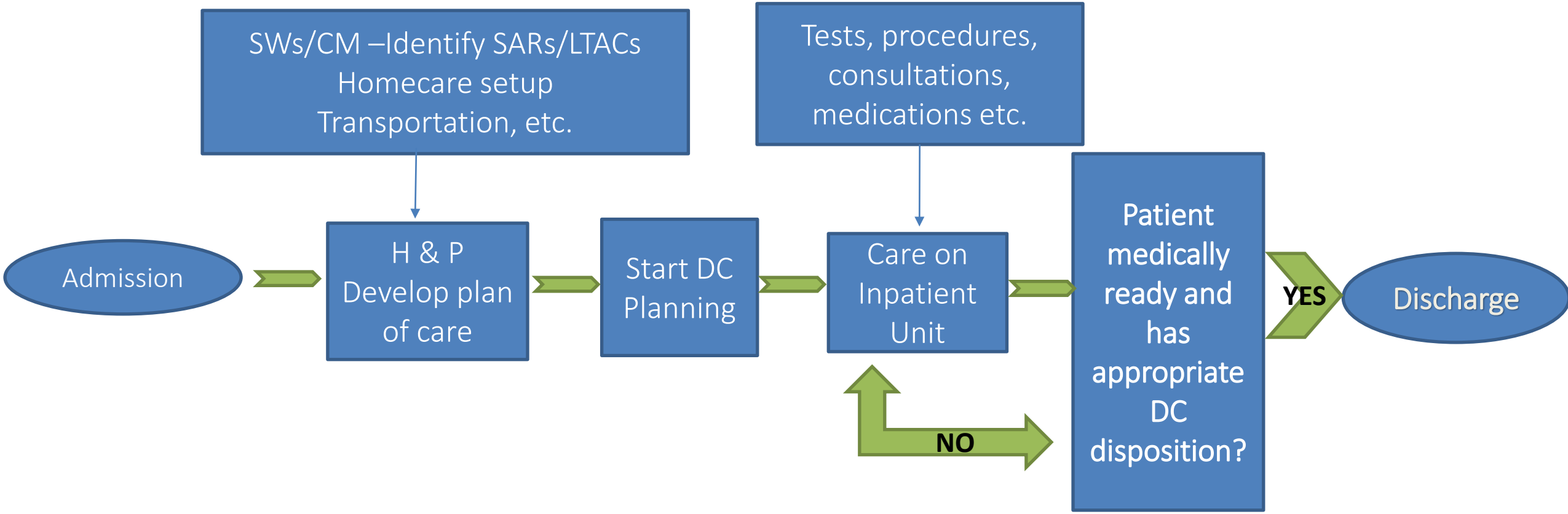
Froedtert & Medical College of Wisconsin

Aim Statement

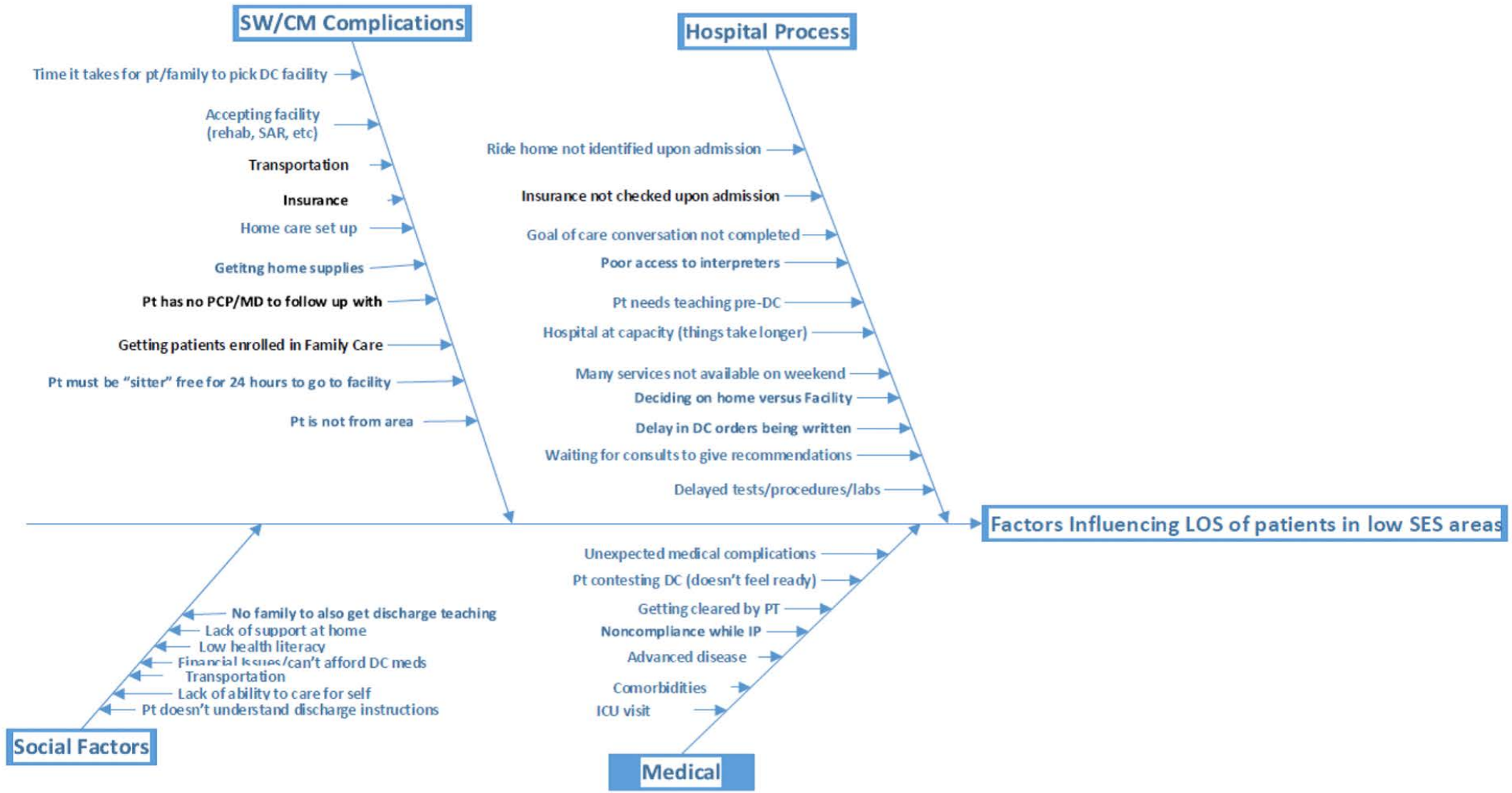
- By May 2021, to reduce the LOS of patients at Froedtert Hospital with solid tumors and low SES by 10% from baseline.

Process Map: Admission to Discharge

Flow of Patients from Admission to Discharge



Cause and Effect diagram

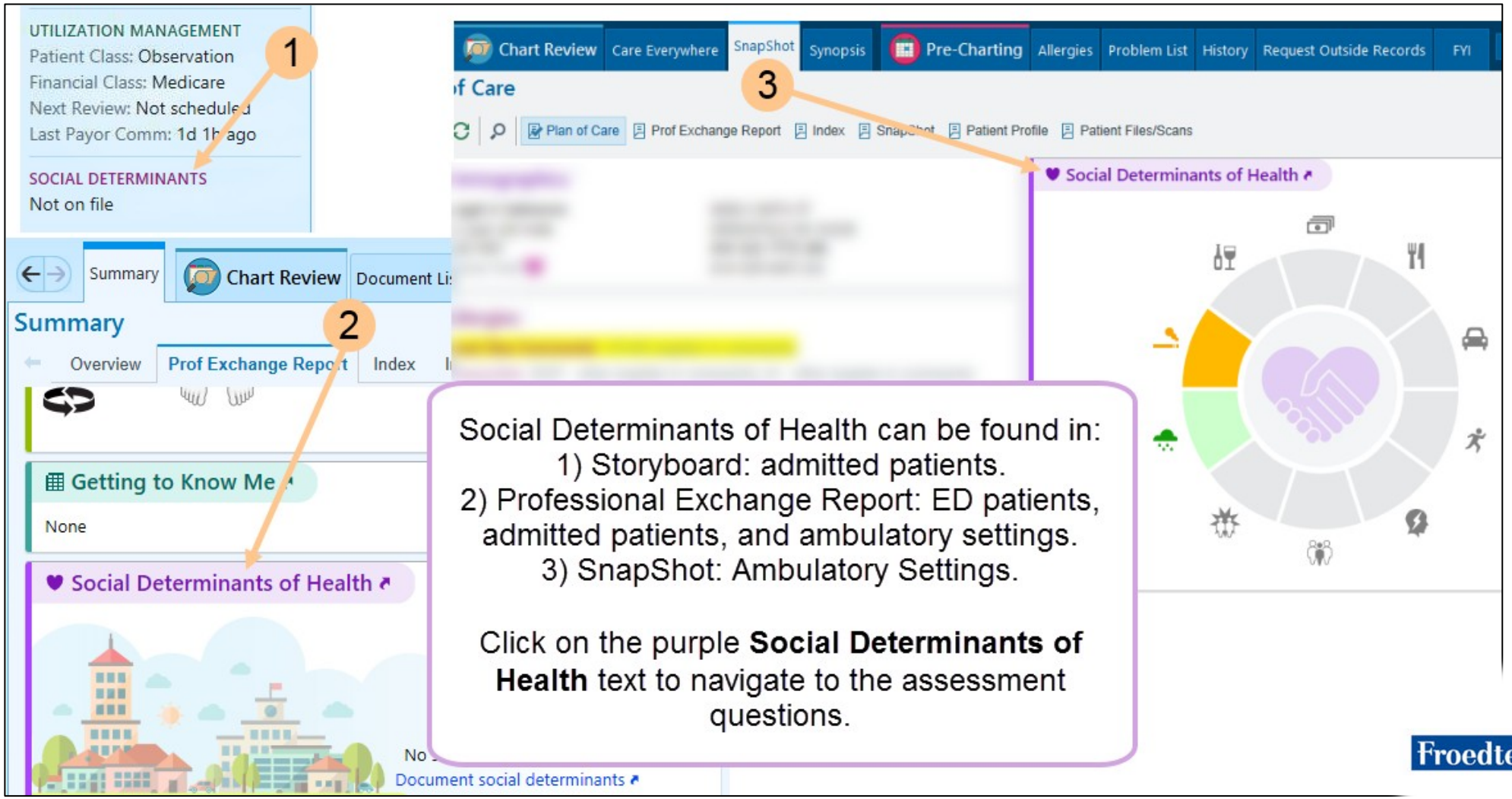


ASCO Quality Training Program

Froedtert & Medical College of Wisconsin

Social Determinants of Health

SW and CM staff in all hospital settings will assess for Social Determinants of Health (SDoH) for their patients to determine resource and support needs. This work supports efforts to reduce unnecessary hospital admissions and improve the overall health of the community.



Froedtert & Medical College of Wisconsin

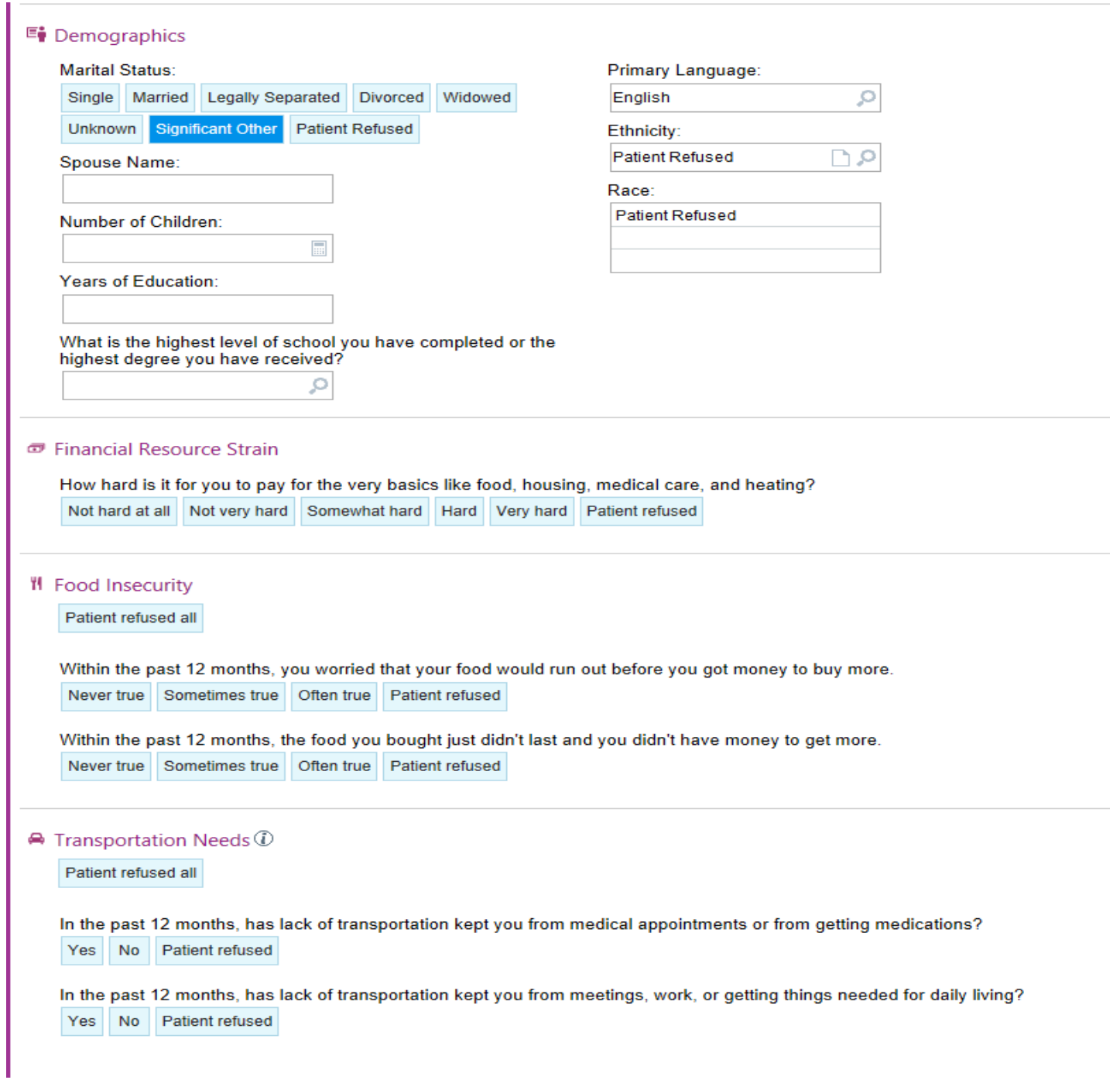
Test of Change PDSA Plan–Preliminary Results

Financial Resource Strain
Food Insecurity
Transportation Needs
Physical Activity
Stress
Social Connections
Intimate Partner Violence
Depression
Housing Stability
Tobacco Use
Alcohol Use

Froedtert & Medical College of Wisconsin

SDoH Screening
Demographics
Financial Resource Strain
Food Insecurity
Transportation Needs
Substance abuse
Lifestyle
Relationships
Housing Stability

ASCO Quality
Training Program



Demographics

Marital Status:
Single | Married | Legally Separated | Divorced | Widowed | Unknown | Significant Other | Patient Refused

Spouse Name:

Number of Children:

Years of Education:

What is the highest level of school you have completed or the highest degree you have received?

Primary Language:
English

Ethnicity:
Patient Refused

Race:
Patient Refused

Financial Resource Strain

How hard is it for you to pay for the very basics like food, housing, medical care, and heating?
Not hard at all | Not very hard | Somewhat hard | Hard | Very hard | Patient refused

Food Insecurity

Patient refused all

Within the past 12 months, you worried that your food would run out before you got money to buy more.
Never true | Sometimes true | Often true | Patient refused

Within the past 12 months, the food you bought just didn't last and you didn't have money to get more.
Never true | Sometimes true | Often true | Patient refused

Transportation Needs

Patient refused all

In the past 12 months, has lack of transportation kept you from medical appointments or from getting medications?
Yes | No | Patient refused

In the past 12 months, has lack of transportation kept you from meetings, work, or getting things needed for daily living?
Yes | No | Patient refused

Test of Change

PDSA Plan and Outcome Measures

Date5/1/2020	PDSA Description
4/28/2020	Screening for Social Determinants of Health (SDoH) for all inpatients at the time of admission
May-Nov/2020	Evaluate the efficacy of SDoH screening project in patients with low SES
May-Nov/2020	• Identify the barriers for discharge (transportation, accepting facility) • Home health services (wound check, IV antibiotics) • Medication management • Palliative/Hospice management

Outcome Measures

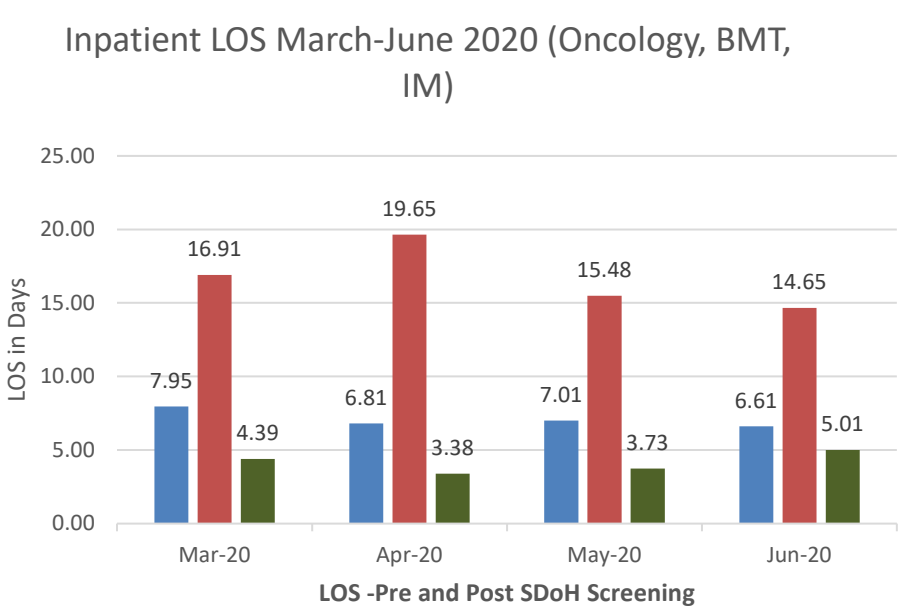
Primary Outcome

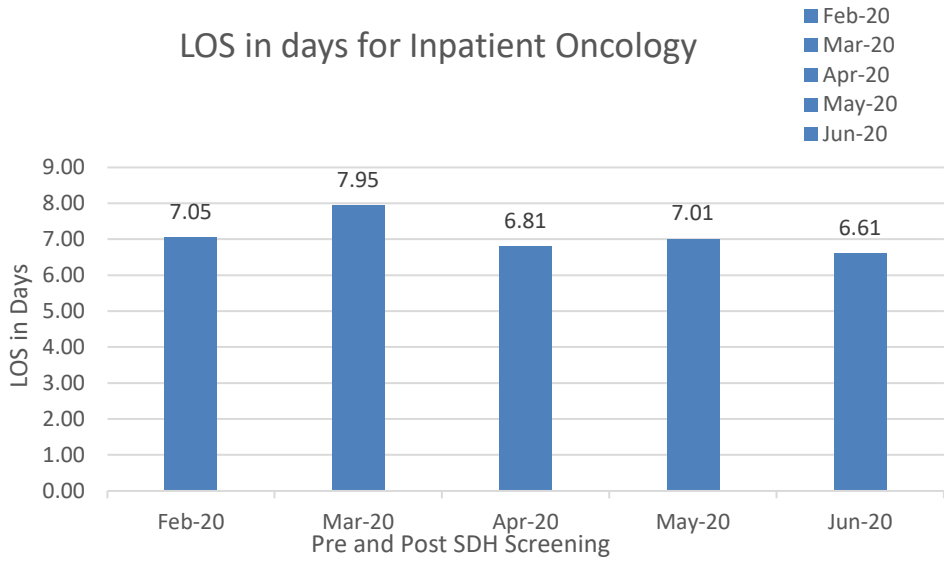
- Inpatient LOS for solid tumor oncology patients from low SES communities in the city of Milwaukee effectiveness in LOS

Secondary Outcomes

- Readmission rates
- Transportation
- Home health services
- Medication management

Inpatient LOS (2018, 2019, [March-June 2020])



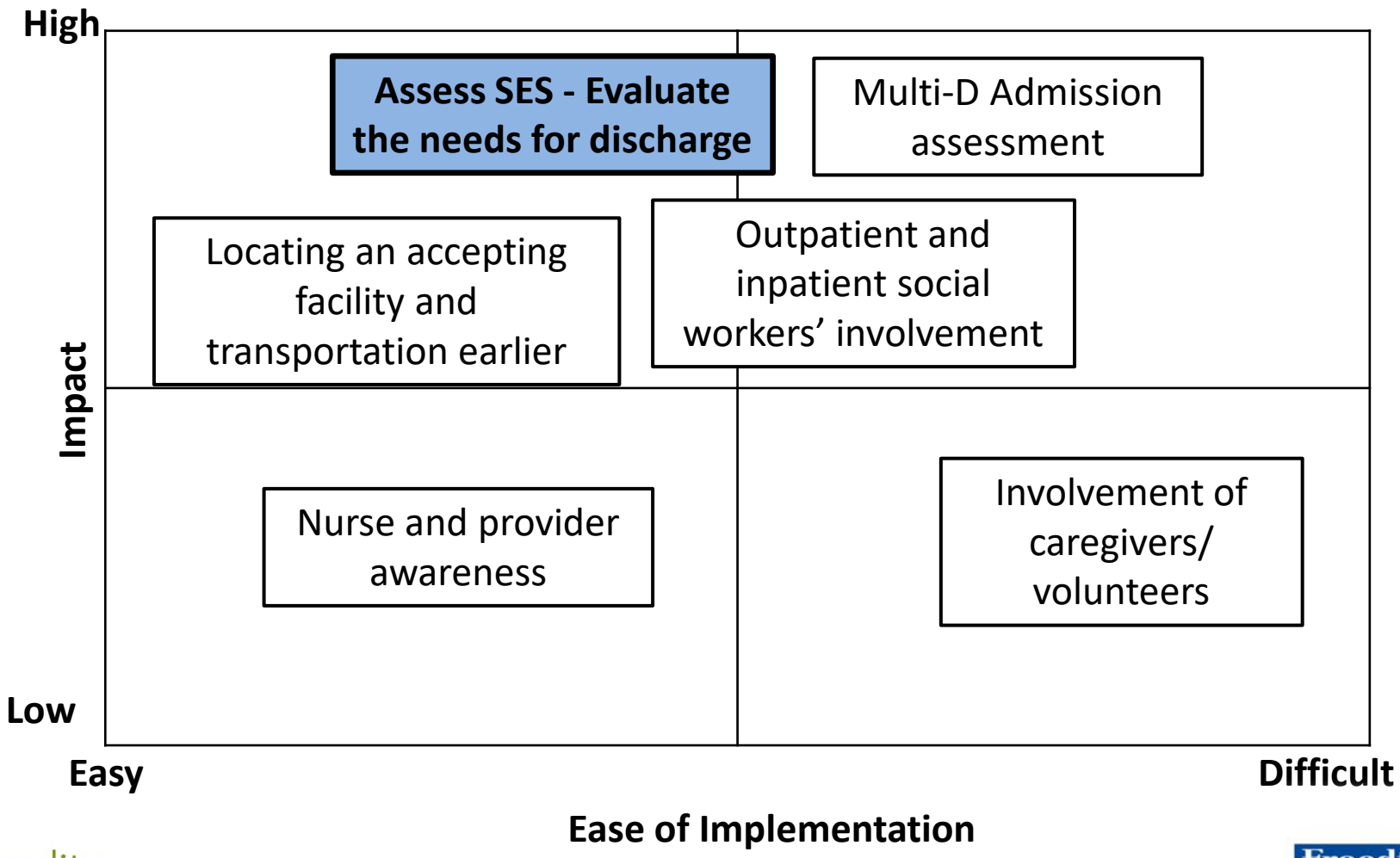


ASCO Quality Training Program

Froedtert & Medical College of Wisconsin

Priority / Pay-off Matrix

Countermeasures



Next steps-Sustainability Plan

Next Steps	Owner
Ongoing quarterly evaluation of LOS for patients with low SES	• ASCO-QTP – MCW team • Inpatient manager
Continued discussion with inpatient teams and the hospital administration	ASCO-QTP-MCW team
Ongoing education	Inpatient teams
Inpatient and Outpatient SDoH questionnaires- build a software to connect to EPIC to generate referrals (home health, transportation etc.)	FMLH administration

Next Steps

Presentations

Oral abstract –research retreat, MCW/FMLH

ASCO-Quality Care Symposium

Publication

Journal of Oncology Practice

Conclusions

- Implementation of SDH screening to assess SES
- Better collaboration with inpatient management, pharmacy, nutrition, social worker, case management and nursing.
- Possibility of reducing the LOS by ≤ 10% by May 2021
- Potential novel technologies

  - inbuilt EPIC software

  - generate automated referrals in preparation for discharge

  - if effective, plan on implementing the same on outpatient side

Thank you

Team members

Team Member		Role
Sailaja Kamaraju	Oncologist	Leader
Tamiah Wright	Clinical Nurse Specialist	Co-leader
Kathleen Jensik	Program Manager	Team Member
John Charlson	Oncologist	Team Member
Kevin Richardson	Data Coordinator	
Colleen McCracken	Nurse Educator	
Julia Olsen	Clinical Nurse Leader	
Lisa Lamontagne	Social Worker	
Jackie Grams	Social Worker	
Aniko Szabo	Statistician	
Donggwan Lee	Statistician	
Parameswaran Hari	Division Chief	Sponsor
Steve Power	ASCO Coach	
Grace Campbell	ASCO Coach	

Thank you

- Valarie Ehrlich, PA-C, MPAS (Inpatient APP Manager, Hematology-Oncology, BMT)
- Jenni Cadman, MSN, RN (Director of Nursing, Case Management and Social Work)
- Janelle Skarda, BS (Manager, Analytics Service)

Reference List

- Conduent Healthy Communities Institute. (n.d.). Socioeconomic Status and Health. Health Compass Milwaukee. Retrieved date. Retrieved from http://www.healthcompassmilwaukee.org/tiles/index/display?id=1460573114589362 37
- Vizient Clinical Data Base/Resource Manager ™. Milwaukee, WI: Froedtert & Medical College of Wisconsin; 2020. https://www.vizientinc.com. Accessed February 20, 2020.

Froedtert & Medical College of Wisconsin