Fred Hutch Cancer Center

Community Cancer Care Report Updates

Hutchinson Institute for Cancer Outcomes Research (HICOR)

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HICOR Mission

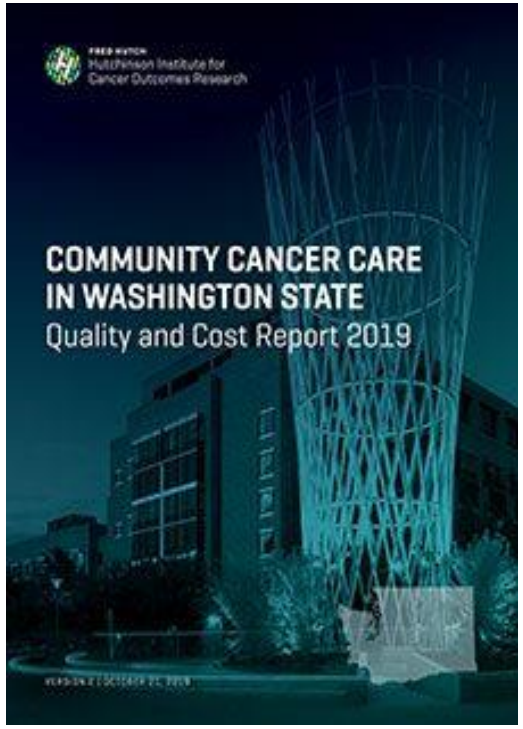
Improve the effectiveness of cancer prevention, early detection and treatment services in ways that reduce the economic and human burden of cancer.

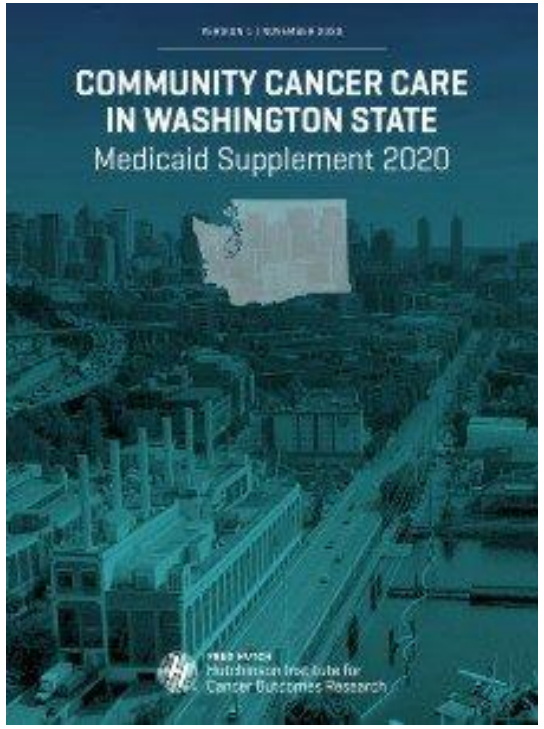
- Research
- Education / Training
- Community partnerships and quality reporting
  - Clinics (providers, clinical leaders, quality)
  - Payers
  - Patients/advocates
  - Policy makers

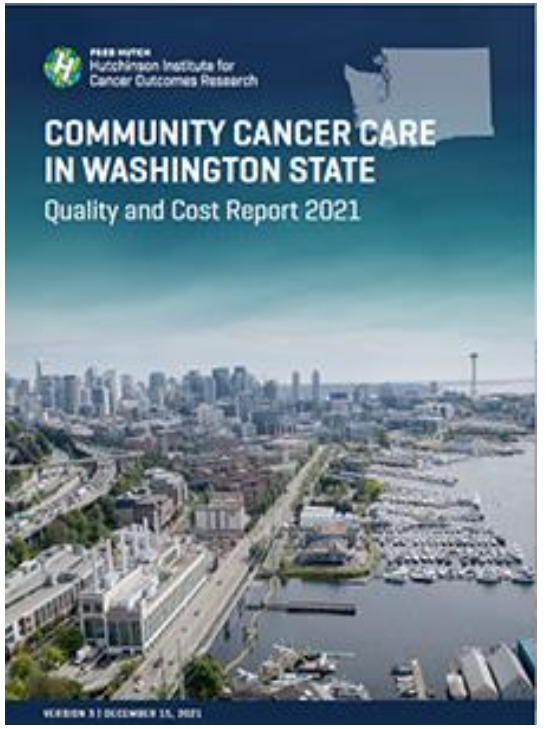
Washington State Oncology Clinics

1. Cancer Care Northwest
2. CHI Franciscan Health
3. Compass Oncology
4. Confluence Health
5. The Everett Clinic
6. EvergreenHealth
7. Jefferson Healthcare
8. Kadlec
9. MultiCare Health System
10. Northwest Medical Specialties
11. Olympic Medical Center
12. Overlake Medical Center
13. Pacific Gynecology
14. Pacific Medical Centers
15. Partner Oncology
16. PeaceHealth
17. The Polyclinic
18. Providence Health & Services
19. Rockwood Clinic
20. Seattle Cancer Care Alliance
21. Skagit Regional Health
22. Southlake Clinic
23. Summit Cancer Centers
24. Swedish
25. Trios Health
26. Vancouver Clinic
27. Virginia Mason
28. Vista Oncology

Community Cancer Care Reports







New Report Expected in June 2023

VCC Steering Committee

Data Methods Committee

Working Groups

Provider Meetings

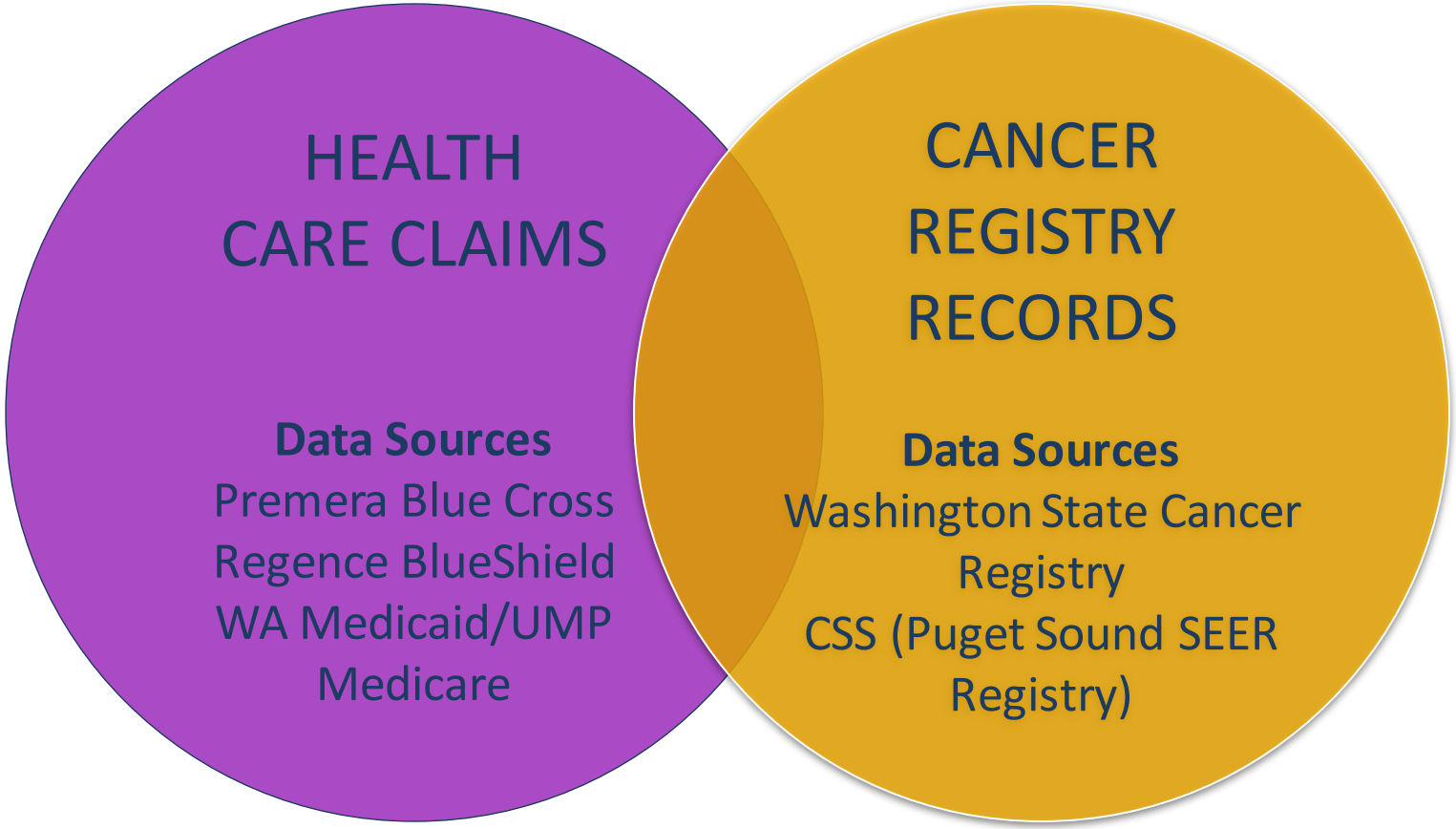
Annual Value in Cancer Care Summit

Save the Date!!

Nov 2, 2023

Bell Harbor Convention Center

The Database



Database includes approximately 70% of WA State cancer patients

Community Cancer Care Report (CCCR) Current Metrics

HICORs quality metrics are based on national guidelines for quality cancer care and reported at the clinic-level.

- **Measure 1: Recommended Cancer Treatment**
- **Measure 2: Hospitalization During Chemotherapy**
- **Measure 3: Breast Cancer Tumor Marker Testing Following Treatment**
- **Measure 4: End of Life**

Example Measure: End of Life Care

MEASURE 4: END OF LIFE CARE

Chemotherapy in the last 14 days of life

- Receipt of any chemotherapy in the last 14 days of life

Multiple Emergency Department (ED) visits in the last 30 days of life

- More than one ED visit in the last 30 days of life

Intensive Care Unit (ICU) stay in the last 30 days of life

- Hospital ICU admission for any reason in the last 30 days of life

Hospice care three or more days prior to death

- Two or more inpatient or outpatient hospice encounters, with the first encounter at least three days prior to death

VCC Steering Committee – New Metrics

- Precision oncology
    - Biomarker testing
    - Germline testing
- Timeliness of care
- Insurance transitions

Biomarker and Germline Testing

- The National Comprehensive Cancer Network (NCCN) has best practice guidelines for biomarker testing for non-small cell lung cancer and germline testing for breast, prostate, pancreatic, and ovarian cancer.

- **Biomarker testing** is a way to look for genes, proteins, and other substances (biomarkers) that can provide information about cancer and guide choice of treatment.

- **Germline testing** looks for inherited DNA mutations that were passed on to you from your parents. You are born with germline DNA changes, and they are in every cell in your body. Germline testing looks at the DNA of healthy cells from your body.

Biomarker Testing in Stage IV NSCLC

Testing for metastatic Non-Small Cell Lung Cancer (NSCLC)

Question: Are metastatic NSCLC patients getting recommended biomarker testing at diagnosis to determine if they are candidates for targeted therapies?

Who is included in the measure?

- Diagnosed with non-small cell lung cancer in 2017-2019
- Metastatic disease at diagnosis
- NSCLC was their first cancer diagnosis
- Had health insurance
- Was alive long enough (3 months following diagnosis) to receive testing

1,076 patients

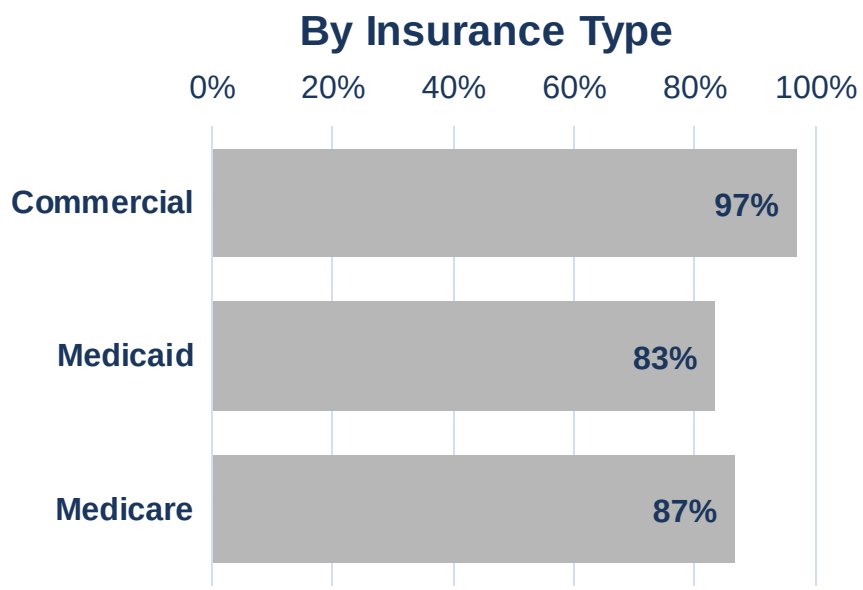
What is being measured?

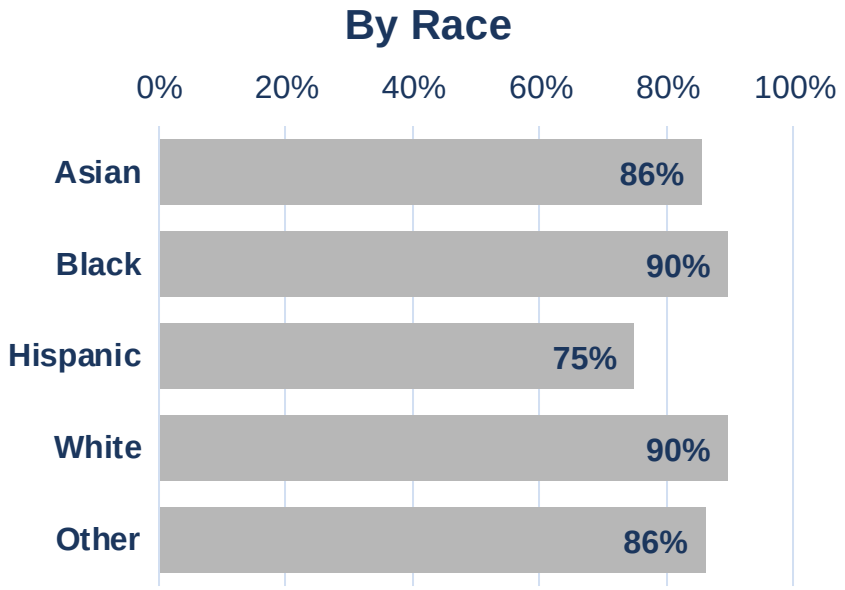
- The receipt of any of the following biomarker tests: **EGFR, ALK, ROS1, NGS**
- Test needed to happen in the 2 months prior to diagnosis or up to 4 months after diagnosis

Biomarker Testing in Stage IV NSCLC

1,076 patients

89% of patients are receiving recommended testing





Germline Testing

Germline testing for Breast, Prostate, Pancreatic, and Ovarian Cancer

Question: Are patients with guideline recommendations for germline testing (Breast, Prostate, Pancreas, Ovarian) getting tested?

Who is included in the measure?

- Diagnosed with a tumor recommended for germline tested by NCCN guidelines, in 2017-2019
  - Breast cancer – TNBC, male breast cancer, < age 50
  - High-risk prostate cancer
  - Adenocarcinoma of the pancreas
  - Ovarian, peritoneum, or fallopian tube cancer
- Tumor was their first cancer diagnosis
- Had health insurance
- Was alive long enough (3 months following diagnosis) to receive testing

2,077 patients

What is being measured?

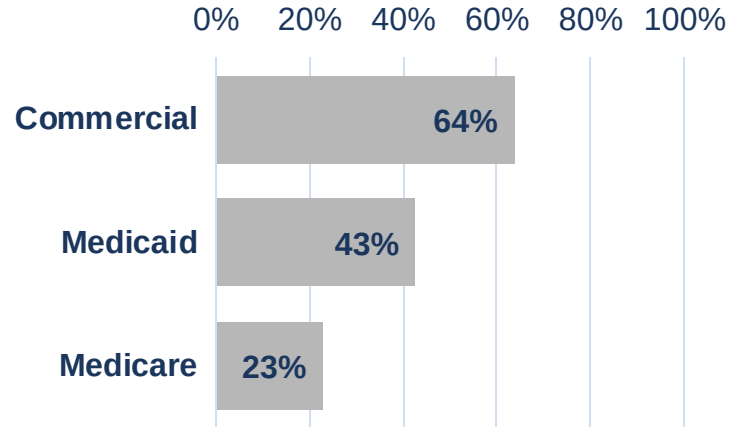
- The receipt of germline testing in the 2 months prior to diagnosis or up to 2 years after diagnosis

Germline Testing for NCCN Guideline Cancers

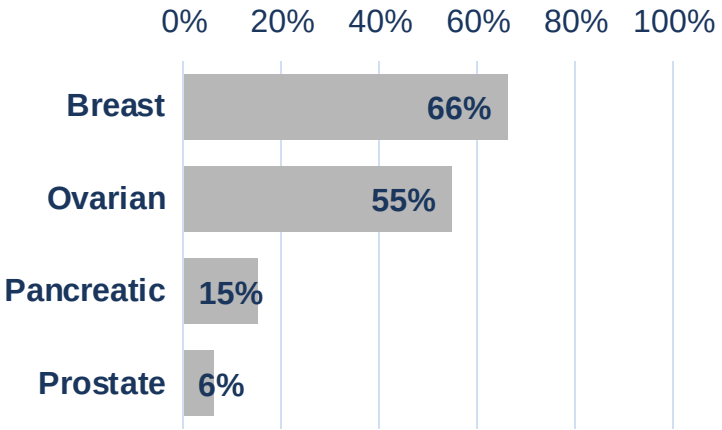
3,478 patients

39% of patients are receiving recommended testing

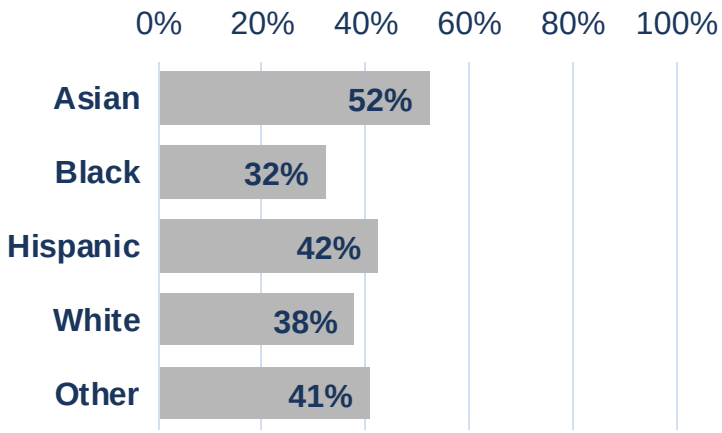
By Insurance Type



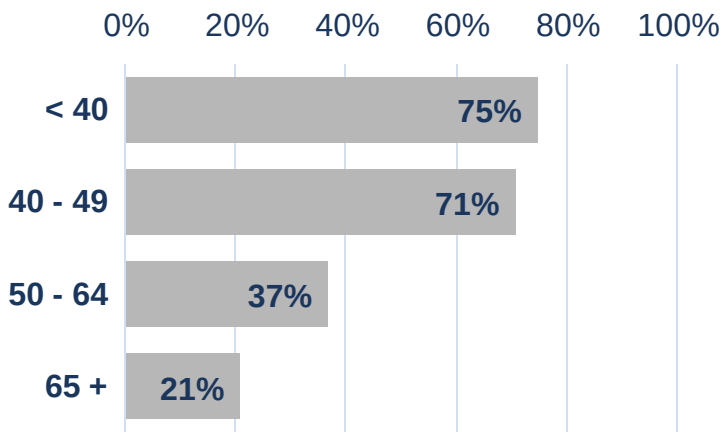
By Cancer Type



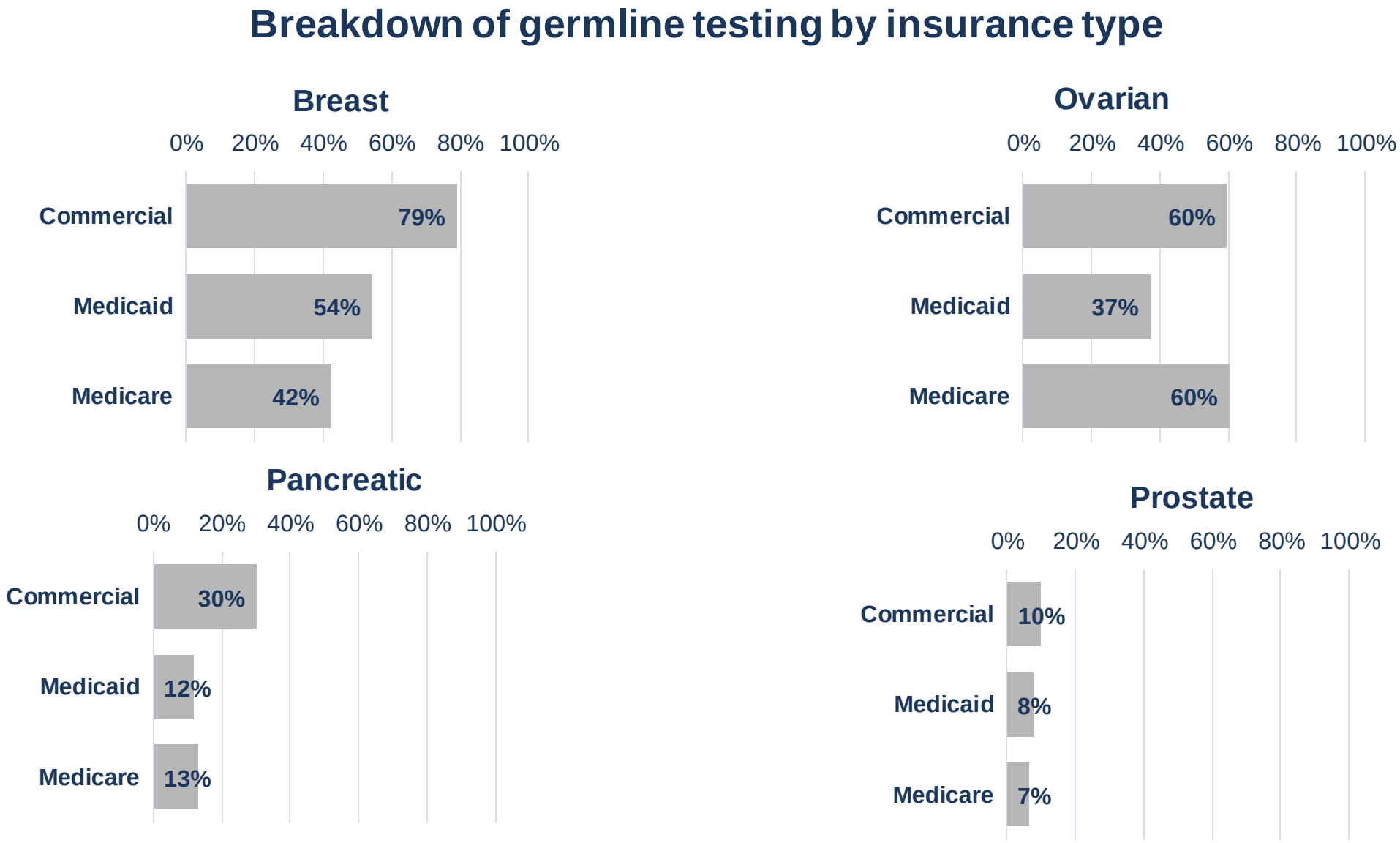
By Race



By Age

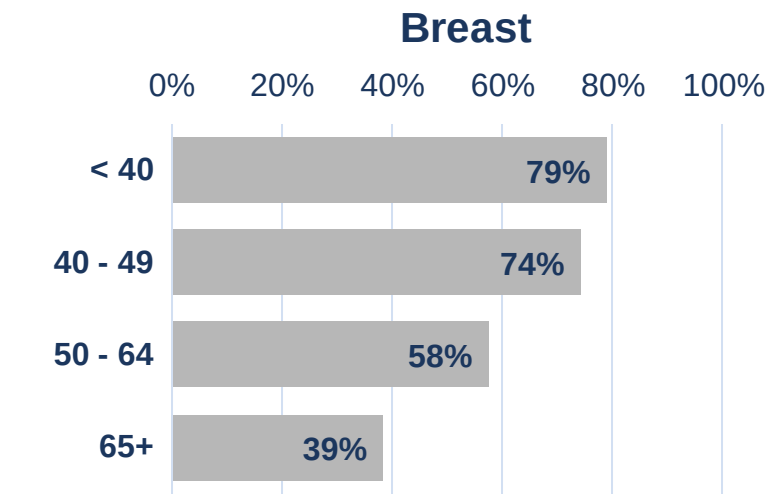


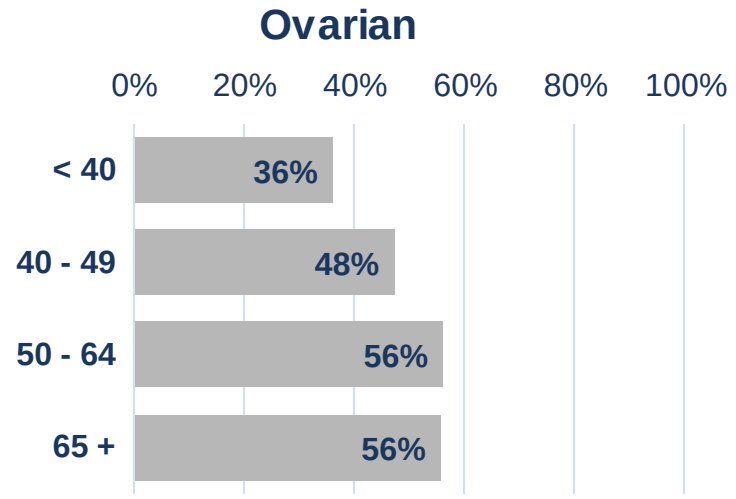
Germline Testing

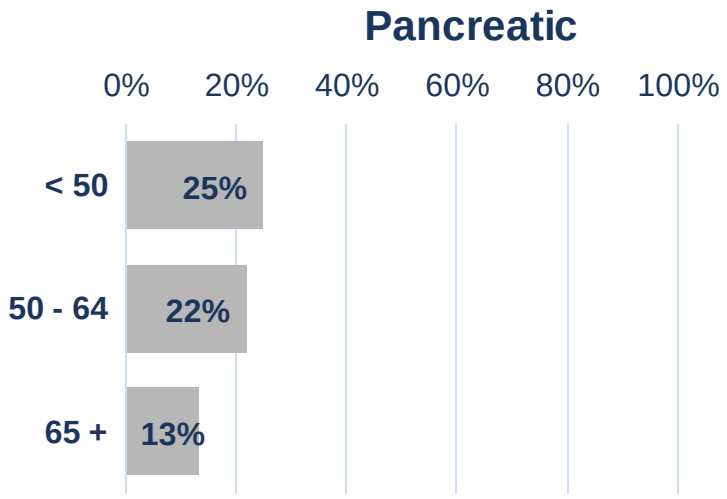


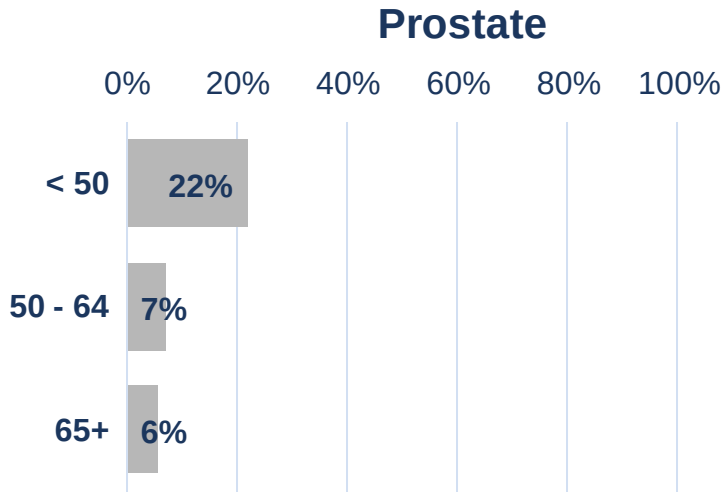
Germline Testing

Breakdown of age rates by cancer type









Germline Testing for Cancers not Included in Guidelines

Germline testing for Colorectal and Endometrial Cancer

Question: Although not included in NCCN guidelines, colorectal and endometrial cancers are commonly given germline testing. How often does this happen?

Who is included in the measure?

- Diagnosed with a tumor commonly tested for germline testing, in 2017-2019
  - Colorectal cancer
  - Endometrial cancer
- Tumor was their first cancer diagnosis
- Had health insurance
- Was alive long enough (3 months following diagnosis) to receive testing

3,398 patients

What is being measured?

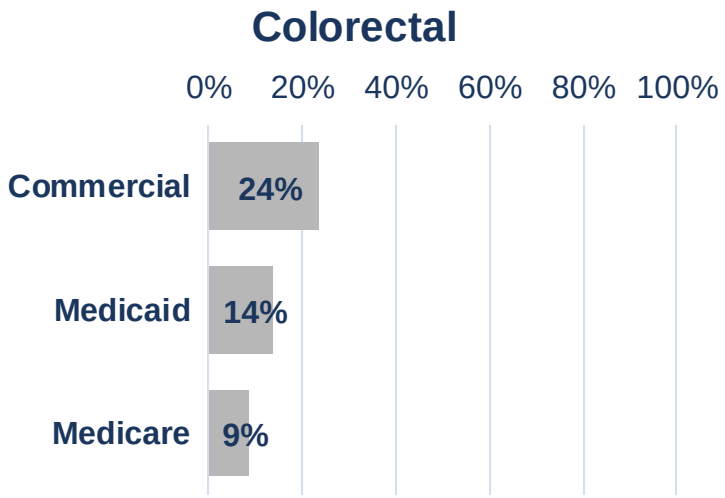
- The receipt of germline testing in the 2 months prior to diagnosis or up to 2 years after diagnosis

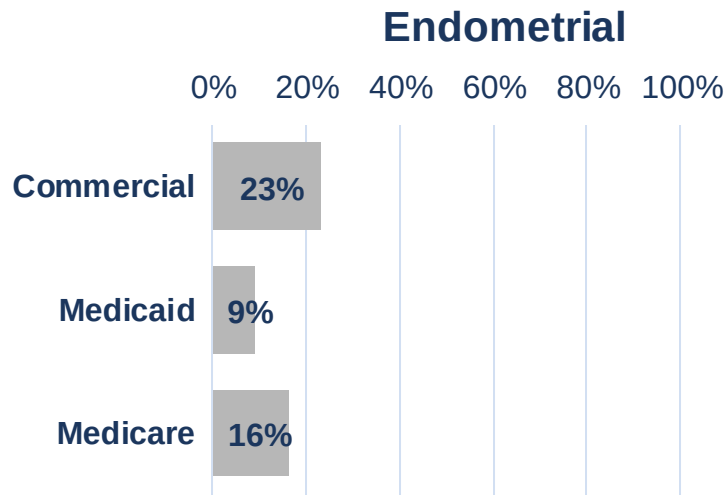
Germline Testing for Cancers not Included in Guidelines

Germline testing for Colorectal and Endometrial Cancer

Question: Although not included in NCCN guidelines, colorectal and endometrial cancers are commonly given germline testing. How often does this happen?

13% of Colorectal patients and **17% of Endometrial patients** are receiving germline testing



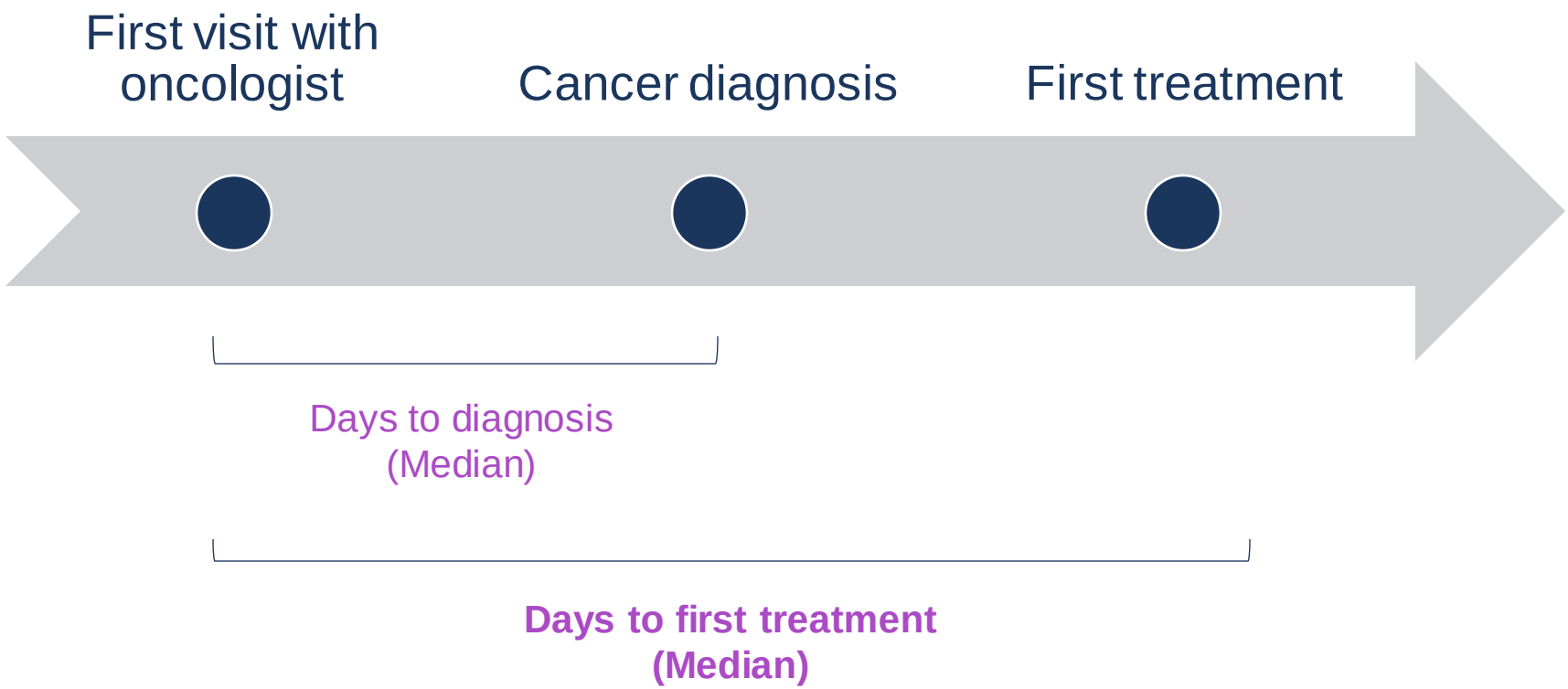


Timeliness of Care

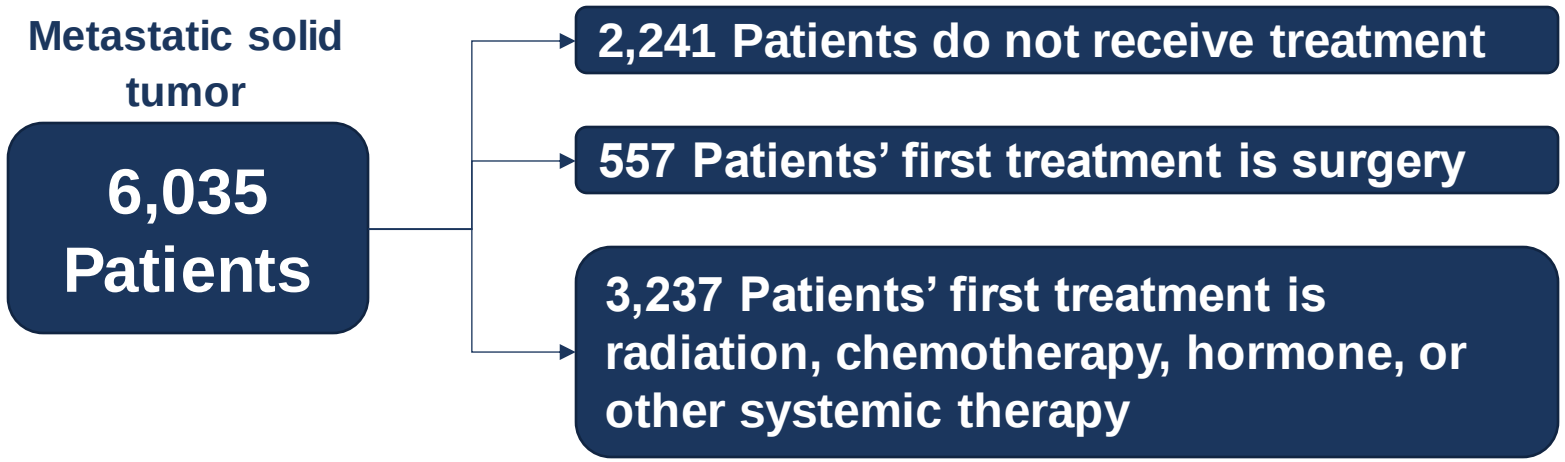
- It is important for people diagnosed with cancer to get timely care. Newly diagnosed individuals should be referred to an oncologist and then begin recommended treatment.

- Timeliness of care is important for all cancers. As our first step to understand timeliness of care in Washington State, we started by measuring this in a large population, those with solid tumors who have been diagnosed with metastatic cancers.

Timeliness of Care



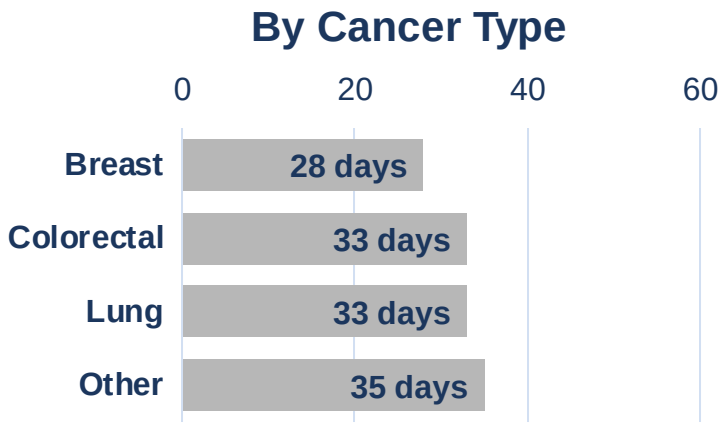
Timeliness of Care

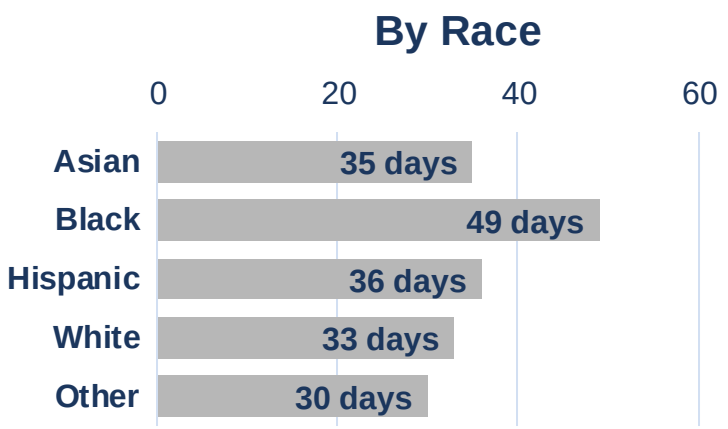


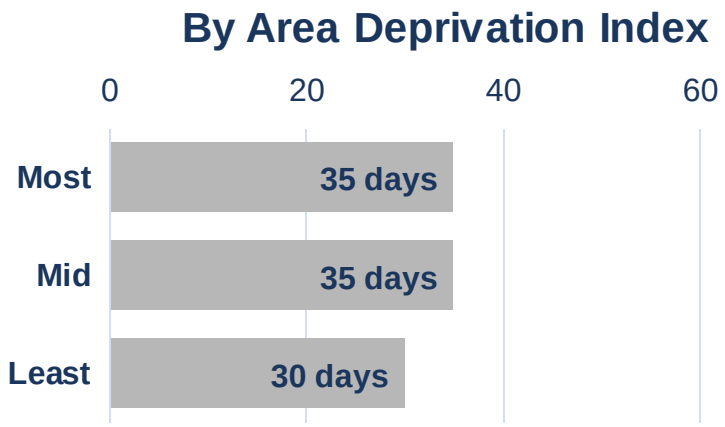
This group of patients is the focus of our analyses

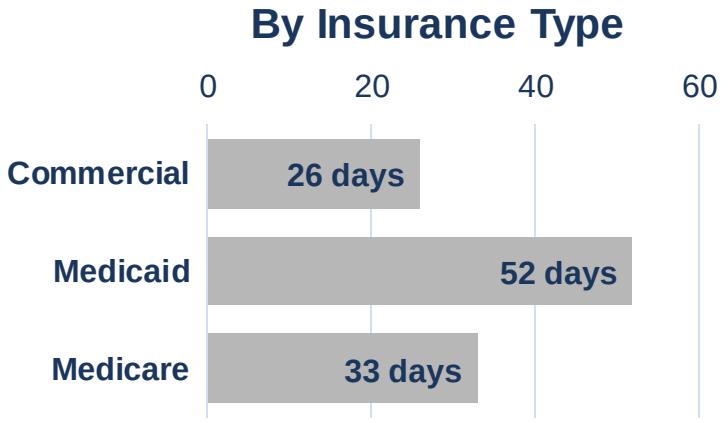
Timeliness of Care

34 days (median) to the patient's **first treatment**









Insurance Transitions

Question: How common are major insurance transitions during the first year of a cancer diagnosis for patients starting on a commercial plan?

Who is included in the measure?

- All cancer types diagnosed 2017-2020 (Puget Sound counties only)
- Ages 18-63
- Had commercial insurance (Premera/Regence) in the year prior to diagnosis
- Was alive a year after diagnosis
- Excluded patients who transitioned to Medicare disability coverage

6,682 patients

What is being measured?

- The number of patients who are no longer had transitioned off Premera/Regence insurance in the year following their diagnosis.
- If there are multiple cancer diagnoses, we only measured the transition for the patient's first diagnosis.

Insurance Transitions

Question: How common are major insurance transitions during the first year of a cancer diagnosis for patients starting on a commercial plan?

2% of patients transitioned to Medicaid

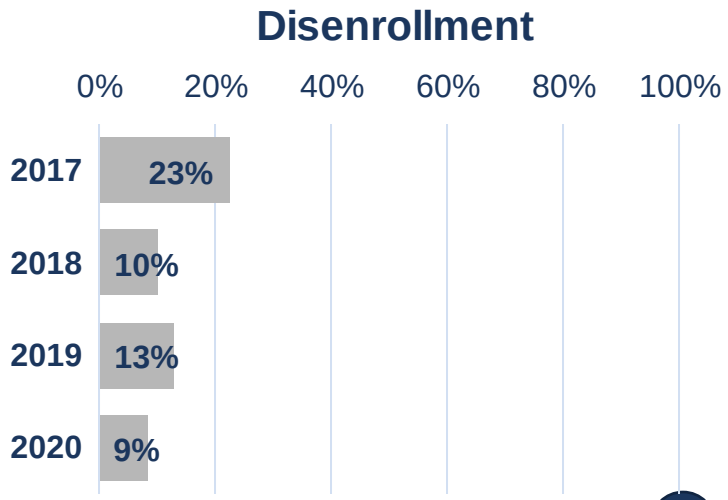
Factors associated with moving to Medicaid:

- Higher staged disease
- More comorbidities
- Socio-economic status (lives in a neighborhood with a higher area deprivation index)

14% moved to a non-Regence/non-Premera plan or became uninsured

Factors associated with disenrollment:

- Diagnosis year



Upcoming !

- Community Cancer Care Report expected June 2023

- Annual Value in Cancer Care Summit November 2, 2023 at Bell Harbor

Project Zebra

ML41539 was a Vanguard phase study evaluating the use of an electronic patient reported outcomes (ePRO) APP and wearable biosensor to remotely monitor symptoms in patients receiving systemic cancer therapy. Study objectives were to evaluate feasibility and adherence to daily remote symptom monitoring and measure usability and satisfaction of the APP and biosensor.

Background

Nearly half of the patients receiving chemotherapy in the U.S. annually will experience emergency dept. visits and unplanned hospital stays during treatment largely due to uncontrolled symptoms. Better methods for communication and symptom management are needed between care teams and patients to prevent unnecessary emergency department visits.

Vanguard Phase Objectives

1. Evaluate feasibility of study recruitment and data capture
2. Measure adherence to daily remote symptom monitoring
3. Assess usability and satisfaction with APP and biosensor

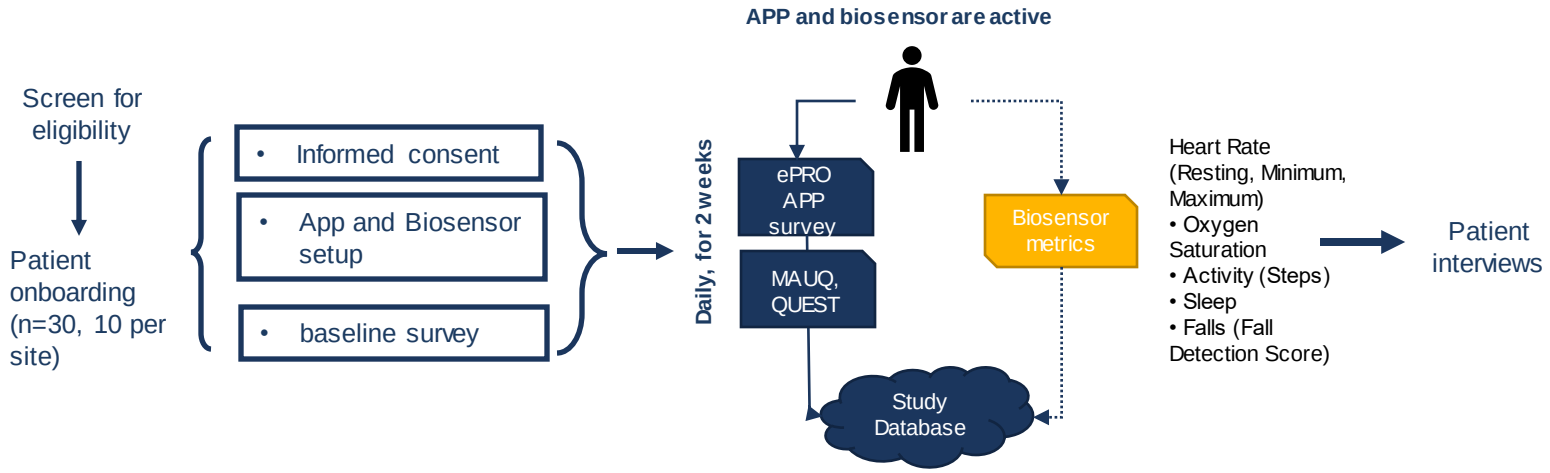
Methods

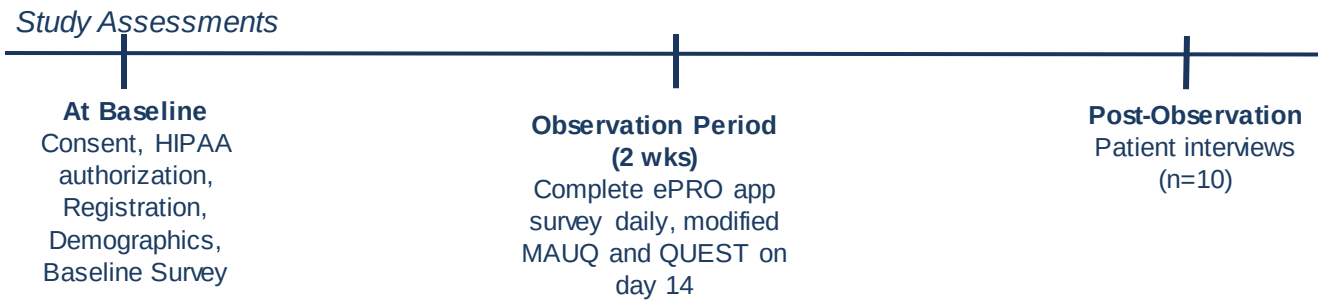
ML41539 Trial Eligibility

- **INCLUSION**
- Cancer patients ages 18-80 treated at community practices in Washington State
- Biopsy-proven solid tumor dx
- ECOG performance status 0-2
- Scheduled for first dose of initial/new line intravenous or oral cancer therapy.
- **EXCLUSION**
- Non-melanoma skin cancer
- Radiation or hormone therapy only
- Residing in skilled nursing facility
- Participating in another clinical trial

Methods

- For two weeks during systemic treatment, patients:
- Wore a biosensor
- Reported daily ePROs on a study provided smartphone
- ePRO questions based on PRO-CTCAE.
- Usability and satisfaction assessed day 14 with:
- Modified Health App Usability Questionnaire mMAUQ)
- Modified Quebec User Evaluation of Satisfaction with Assistive Technology (mQUEST 2.0)





Results: Baseline Characteristics

Characteristics	Patients No. (%)	Characteristics	Patients No. (%)
Enrolled, Total N	31	Cancer Diagnosis	
Age, mean (range)	60 (28-78)	Breast	12 (39%)
Female	21 (68%)	Colorectal	4 (13%)
Male	10 (32%)	Endometrial	3 (9%)
Race, White	31 (100%)	Melanoma	3 (9%)
Hispanic	1 (3%)	Other*	9 (10)%
Non-Hispanic	30 (97%)	Metastatic Tumor	16 (52%)

* ≤ 2 of each of the following cancers reported: lung, pancreas, prostate, scalp and neck, stomach, uterus part unspecified, other unspecified.

Vanguard Phase Assessment Variable	Results
Study Recruitment	
No. patients screened	71
Eligible patients identified from screening	54, 76%
Time from first patient in, to last enrollment	14 weeks
Eligible patients consented	31, 57%
Data Capture	
Patients with an activated APP and sensor	28, 90%
Patients with completed APP survey and sensor readings within 24 hours of enrollment	29, 94%
Percent days sensor data was collected during the 2-week observation period	86%
Most common symptoms reported during the observation period (n=370 submitted ePRO surveys)	
Rash	311, 84%
Fatigue	232, 63%
Pain	104, 28%
Headache	96, 26%
Constipation	91, 25%
Patient usability and satisfaction with APP and Sensor (N=26, 5 patients did not complete the surveys)	
mMAUQ average score (range 1-7)[c]	6.25
mMAUQ item #12 average score (*overall, I am satisfied with this app)*	6.54
mQUEST 2.0 average score (range 1-5)[d]	4.02
Adherence to the APP and sensor (N=29, 2 pts. dropped out during the observation period)	
Ratio of completed to expected (1/survey/day, 14 days) ePRO surveys.	91% (370 of 406 assessments)
Ratio of days with any sensor data to number of days expected (14).	86% (349 of 406 days)
Percent total time expected (12 hours/day, 7 days/week, 14 days) sensor worn.	75%

Summary of results so far:

Participants:

1. Were adherent to daily digital symptom monitoring with a smartphone APP and a wearable biosensor
2. Expressed high usability and satisfaction with the technologies

- Overall, patients reported positive experiences wearing the sensor and using the ePRO app to report their symptoms during the 2-week observation period.

- Ease of use was rated highly for both the app and biosensor.

- A majority reported dissatisfaction with the battery life of the biosensor.

Next Steps

- Andy Hill Care Fund awarded for WA state pilot project using biosensor and app technology to explore how low-income status and HRSNs impact symptoms and physiologic response to chemotherapy (2023-2025)
- Preliminary planning for a Fall grant submission for Phase 2:
    - Enroll patients nationally at community cancer clinics
    - Recruit 100-200 patients to wear a Fitbit biosensor and use an ePRO app for 6 weeks during chemotherapy
    - Using machine learning, develop an algorithm to predict when patients are at risk for ED or IP visits during treatment
    - Partner with clinic stakeholders to develop and pilot test a Provider Alert System

Thank You !

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