Implementation of Molecular Pathology Consultations as Part of a Molecular Pathology Service in a Rural Health System

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BACKGROUND

- Molecularly-informed cancer treatment is the standard when caring for patients with advanced solid cancers.
- Lack of local genomic expertise is a major contributor to this disparity, particularly in historically disadvantaged and rural areas, including ECU Health.
- Consultative support could ensure access to molecularly informed oncology care in a timely manner.

PROJECT AIM

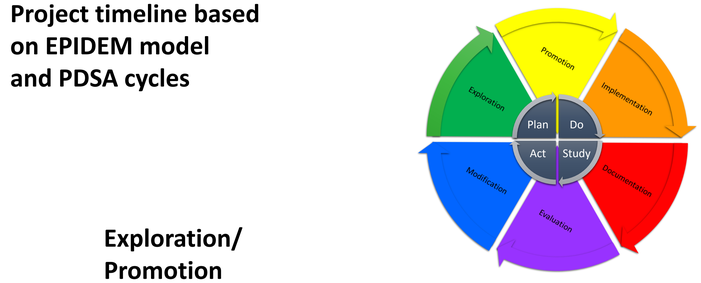
- In March 2023, to improve test ordering and result interpretation for ECUHMC, ECUH regional, and community oncologists, we formally integrated molecular pathology consultations into our comprehensive service.
- We aimed to assess the use of this service across oncology practices in eastern North Carolina.

PROJECT DESIGN/STRATEGY

- We followed the 6 steps EPIDEM model and explored, promoted, and implemented an Electronic Health Record (EHR)-orderable molecular pathology consultation.
- This model consistent with the iterative Plan-Do-Study-Act (PDSA) cycles.
- The molecular consultation service was formally offered in March 2023, and available through the Epic EHR since May 22, 2023.
- All in-depth reviews, whether offered as a courtesy or part of formal consultations, were evaluated as a “molecular consultation” for this QI
- Consultation use was reviewed by location of the oncologists, type and purpose of consultation provided.

CHANGES MADE (PDSA CYCLES)

Project timeline based on EPIDEM model and PDSA cycles



Exploration/ Promotion

Implementation/Documentation

Evaluation/ Modification

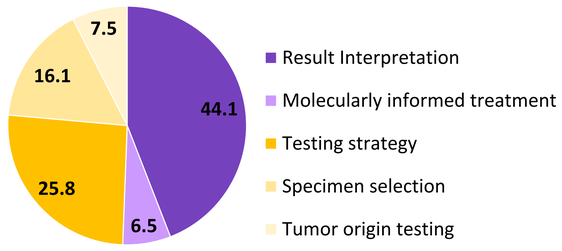
Dec 2020	May 2023	Jun-Aug 2023	Sep 2023	Dec 2023	Mar 2024
Initiated Molecular Pathology Service	Molecular Consultation orderable in EPIC	Established Baseline Database			

1. **Sep-Dec:** establishing databases, evaluating impact
2. **Oct-Mar**: presenting at multiple scientific meetings, expanding the scope of the consult service by soliciting feedback documenting workflow, modifying consultation orderable
3. **Since Dec:** New collaboration with clinical informatics

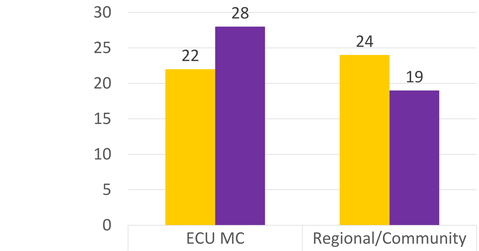
RESULTS/OUTCOMES

Molecular Consultations from March to October 2023

Purpose of Consultation



Type of Consultation by Location of Oncologists



	ECU MC	Regional/Community
Pre Consult	22	24
Post Consult	28	19

- Out of 93 in-depth reviews from March to October 2023, 83 were unique patients.
- 46 reviews provided pre-analytic support; 47 reviews were post-analytic.
- 10 formal consultations performed at the explicit request of clinician (4 ECUHMC, 6 regional and community practitioners) were billed in May-October.
- Consultation duration ranged from 5 minutes to 4.5 hours.
- ECUHMC consultations were predominantly post-test. In contrast, ECUH regional and community providers leaned towards requesting pre-test support.

RESULTS/OUTCOMES

- While molecular pathologist initiated more post-test support, clinicians initiated more pre-test consultations ($p < 0.5$).
- Significantly higher rates of clinician-initiated consultations were observed in regional and community practices compared to clinician-initiated requests at ECUHMC ($p < .05$).

LESSONS LEARNED

- A higher number of molecular pathologist-initiated post-test consultations likely reflects subspecialty expertise in identifying and interpreting notable results.
- Oncologist-initiated pre-test consultations likely underscore more support needed in selecting the most suitable tests, especially in challenging scenarios like unknown tumor origin.
- This project is setting a foundation for increasing the access to molecularly informed care for cancer patients living in rural eastern North Carolina, facilitated by a consultative support of a local genomic expert.

NEXT STEPS

- We aim to further streamline the molecular service by utilizing Electronic Health Records and/or reflex ordering, particularly for non-ECUH MC providers.
- Collaboration is underway with ECU Health clinical informatics to develop clinical decision support tools.
- Future proposals for extramural funding could include implementing molecular consultations outside of eastern NC.

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