Executive Summary





Understanding Provider Needs for Precision Oncology Across a Large, Diverse Community Health System

Introduction

Providence and Pfizer, through a strategic partnership, launched POWER, Precision Oncology with Equitable Reach, to jointly develop and advance a series of innovation projects with the goal of bringing personalized precision medicine to all cancer patients. Although oncology has been an early adopter of precision medicine and genomic testing, several challenges remain to implementing targeted cancer therapies at scale across a large, diverse health system such as Providence.

In July 2024, we launched our foundational work under the POWER strategic partnership. Leveraging the expertise of Providence Genomics, the Cancer & Digestive Health Institute, the Health Research Accelerator (HRA), and Pfizer, we conducted an evaluation of providers' needs for precision oncology.

Approach

Using prostate and colorectal cancer as test cases, we compiled genomic testing clinical guidelines, completed an environmental scan of precision oncology clinical metrics, and interviewed 14 providers from different specialties across our cancer care network. Our final step was to gather feedback from the Precision Oncology Advisory Group to refine actionable recommendations to advance the equitable implementation of precision oncology.

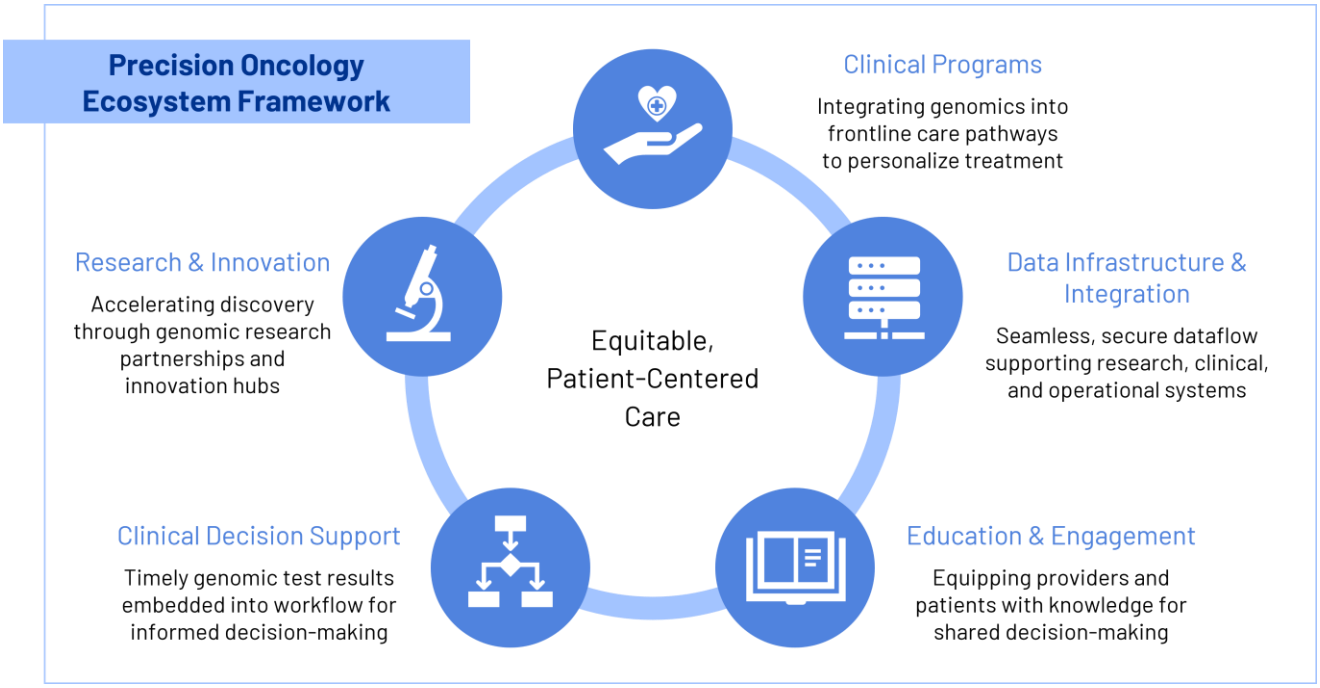
Project Objectives

1. To identify barriers and facilitators to the use of genomic testing and targeted therapies
2. To understand implications for health equity and disparities in access to precision oncology
3. To share lessons with the field and build a roadmap to implement precision oncology care at scale across a large, diverse community health system

Recommendations

Through a synthesis of findings from our project activities, we generated the Providence Precision Oncology Ecosystem Framework. This framework highlights five interconnected domains that together can drive the scaling of equitable, patient-centered precision oncology: 1) Clinical Programs; 2) Data Infrastructure & Integration; 3) Education & Engagement; 4) Clinical Decision Support; and 5) Research & Innovation. For a more detailed discussion of domain-specific actionable recommendations, please see the Appendix.

> Putting the testing upfront, even if, unfortunately, it's going to cost the institution money initially, is the way it's going to make it more available and used. Because if it's not used, what's the point?
>
> Medical Geneticist



Conclusion

In our foundational work under POWER, we comprehensively assessed the precision oncology landscape at Providence with an aim of understanding provider needs and identifying opportunities to equitably scale precision oncology across our health system. We thoroughly reviewed clinical guidelines, completed current state genomic testing flowchart mapping, conducted an environmental scan of precision oncology clinical metrics, and applied a bottom-up, qualitative stakeholder engagement process, Qualitative Inquiry for Quality Improvement (QI^2), to seek input and insights for advancing precision oncology.

For health systems seeking to map their precision oncology landscape and identify quality improvement (QI) opportunities, we recommend using the Precision Oncology Ecosystem Framework as a foundational tool to generate questions relevant to your specific system context. Depending on your system's size, complexity, and resources, the actionable recommendations we put forth can serve as a menu of options for deeper exploration and consideration as you identify priority strategic areas to improve the use of precision oncology within your system.

Appendix

Precision Oncology Ecosystem Framework



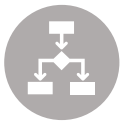
Clinical Programs



Data Infrastructure & Integration



Education & Engagement



Clinical Decision Support



Research & Innovation

Definition
Integrating genomics into frontline care pathways to personalize treatment

Overview
Clinical programs can operationalize precision oncology at scale by integrating genomics across the care continuum. The 'bench to bedside' approach emphasizes the need to translate genomic data into practical clinical applications, enhancing patient care through actionable insights.

Actionable Recommendations
• Leverage and expand clinical genomics programs, including clinical genomic testing programs, genetic counseling programs, clinical trials matching support, and a financial infrastructure to operationalize equitable precision oncology • Engage clinical program leaders and providers across the health system to understand their experiences with and needs for precision oncology • Establish a precision oncology advisory group comprised of genomics leaders and cancer care providers from varying specialties and backgrounds to provide input and guidance on implementation and quality improvement (QI)

Implementation Roadmap		
Short Term < 6 Months	**Medium Term 6-12 Months**	**Long Term > 12 Months**
Discuss planning and identify champions	Reduce barriers to care (e.g., access, cost); Expand screening and referral programs	Develop financial support teams and a genetics resource pool to be deployed as program needs arise

Precision Oncology Ecosystem Framework

Clinical Programs | **Data Infrastructure & Integration** | Education & Engagement | Clinical Decision Support | Research & Innovation

Definition
Seamless, secure dataflow supporting research, clinical, and operational systems

Overview
Advancing precision oncology across a large, complex health system requires a robust data infrastructure that integrates a variety of data sources and supports data analytics and reporting to generate actionable insights for QI and point-of-care clinical decision-making.

Actionable Recommendations
• Build a precision oncology data ecosystem that integrates internal (e.g., electronic health record [EHR], Cancer Registry, Biomarker DataMart, in-house lab) and external data sources (e.g., commercial vendors) in discrete format for research, clinical, and operational use • Develop reporting tools for clinic and system-level deployment with advanced data analytics and reporting capabilities to drive continuous QI • Create filtering options to drill down to service areas, facilities, and clinics to identify variations in the use of precision oncology across patient sociodemographic, geographic, and clinical characteristics

Implementation Roadmap		
Short Term < 6 Months	**Medium Term 6-12 Months**	**Long Term > 12 Months**
Incorporate external genomic data/records into EHR	Improve lab ordering workflow, integration of test results into patient notes, and data tagging	Improve tracking and reporting tools for test orders and results and unify data sources

Precision Oncology Ecosystem Framework



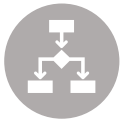
Clinical Programs



Data Infrastructure & Integration



Education & Engagement



Clinical Decision Support



Research & Innovation

Definition
Equipping providers and patients with knowledge for shared decision-making

Overview
Developing comprehensive educational materials and programs is vital to ensure providers are updated on the latest advancements in precision oncology. Building a culture of continuous learning and open communication can engender a unified front for scaling precision oncology. For patients, accessible, health-system vetted resources that enhance understanding of precision oncology can foster patient-provider collaboration and shared decision-making. Distributing these resources to all patients who meet guidelines for genomic testing and targeted therapies can help advance equity in precision oncology.

Actionable Recommendations
• Create a centralized site where providers can access education about genomic testing options • Collaborate with internal clinical decision support platforms to expand genomic testing guidance for providers • Provide biopsy guidelines and training and share best practices for ordering genomic testing with providers to guide their ordering decisions • Create forums for providers to discuss new trends and recent outcomes in precision oncology • Distribute newsletters that consolidate precision oncology updates for providers • Create patient-facing materials (e.g., video, infographics, portal resources) to increase knowledge of precision oncology

Implementation Roadmap		
Short Term < 6 Months	**Medium Term 6-12 Months**	**Long Term > 12 Months**
Communicate about genomic test changes, newly approved drugs, and clinical trials	Develop guidelines, protocols, and trainings for tissue acquisition; Create patient-facing materials	Launch events to share best practices, breakthroughs, and the future of precision oncology

Precision Oncology Ecosystem Framework

Clinical Programs | Data Infrastructure & Integration | Education & Engagement | **Clinical Decision Support** | Research & Innovation

Definition
Timely genomic test results embedded into workflow for informed clinical decision-making

Overview
Improving access to genomic data and enhancing EHR workflows to support clinical application of those data requires coordination with information systems (IS) and alignment of EHR optimization priorities across the health system. The effective rollout of enhanced clinical decision support (CDS) will require clinical champions, a multipronged communication plan, and user testing for continuous QI.

Actionable Recommendations
• Engage clinical providers/advisory group in CDS tool development and enhancement to improve workflows, test tracking, and integration of results • Strengthen relationships with leadership and IS teams • Leverage advisory group for departmental support of CDS implementation • Identify superusers for user testing and ongoing feedback to optimize CDS tools

Implementation Roadmap		
Short Term < 6 Months	**Medium Term 6-12 Months**	**Long Term > 12 Months**
Standardize testing protocols	Implement reflexive or automated testing workflows; Integrate decision tools into EHR	Enhance functionality of lab processing communication

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Precision Oncology Ecosystem Framework



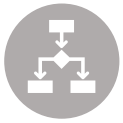
Clinical Programs



Data Infrastructure & Integration



Education & Engagement



Clinical Decision Support



Research & Innovation

Definition
Accelerating discovery through genomic research partnerships and innovation hubs

Overview
Developing a genomics research infrastructure can facilitate access to cutting-edge technologies, comprehensive datasets, and interdisciplinary expertise to nurture the best ideas and accelerate their impact in clinical practice.

Actionable Recommendations
• Build portfolio of diverse research partnerships to advance clinical trials, real-world implementation studies, and QI projects • Create infrastructure for system-wide clinical trials recruitment • Cultivate research and innovation spaces for health system clinical investigators, providers, and researchers to foster collaboration and accelerate integration of precision oncology advancements into clinical practice

Implementation Roadmap		
Short Term < 6 Months	**Medium Term 6-12 Months**	**Long Term > 12 Months**
Develop precision oncology research roadmap to guide partnership development and research priorities	Leverage Artificial Intelligence (AI) to support workflows and populate patient staging data; Plan precision oncology research symposium	Deploy and test AI solutions to support tailored clinical trial recruitment