

# Pioneer Spotlight

## Henry Ford Health serves its community with precision medicine powered by genomics

A fixture in the Detroit area, Henry Ford Health is an integrated, not-for-profit health system with a long-standing legacy of over 100 years of promoting health equity, improving access, and serving its community's unique needs.

The health system has an established precision medicine service since 2016, informed through comprehensive genomic profiling. "The precision medicine service today is a cross-discipline integration, that enables the delivery of advanced care to patients with critical needs in oncology, cardiology, and other specialties" says Kristen Collins, MPH, Administrative Director of Henry Ford Health's Precision Medicine Program. Henry Ford Health is the first system in Michigan to offer genomic testing and molecular tumor board expertise to all patients.

Precision medicine is revolutionizing healthcare delivery by offering deeper insights that enable providers to make evidence-based treatment decisions—an indispensable asset for both whole-person and population health. But perceived barriers have slowed precision medicine's implementation across the country. Henry Ford Health serves as a pioneering model for expanding access to precision medicine, while ensuring that even the system's most vulnerable patients can benefit from evidence-based therapy.

**The precision medicine program has implications for much, if not all, of the health system.**

**Tom Mikkelsen, MD**, Medical Director of Henry Ford Health's Precision Medicine Program and Clinical Trials

**Equitable access to precision medicine supports health systems' goals to:**



# Precision Medicine: The right treatment for the right patient at the right time

Just as no two patients are the same, no two cancers are the same. The precision medicine approach takes individual genomic variability into account when making Molecular diagnosis and personalized treatment decisions.

“Two patients may have the same type of cancer, but their cancers may differ at the molecular level,” says Dr. Mikkelsen.

As a result of these differences, the same treatment may affect them in different ways.

Next-generation sequencing (NGS) powers precision medicine by delivering comprehensive genomic profiles of hundreds of genes, which care teams use to identify disease-associated biomarkers.

“Precision medicine allows us to examine biology, one of the determinants of health, and understand it in light of social determinants like lifestyle and access,” says Dr. Mikkelsen. “This helps us match patients to treatments that will best increase their chance of a successful response.”

Actionable insights from NGS can help providers pair patients with treatments—both approved and investigational—that are more likely to treat their cancer successfully. In addition to improving treatment outcomes, this also reduces overall care costs.

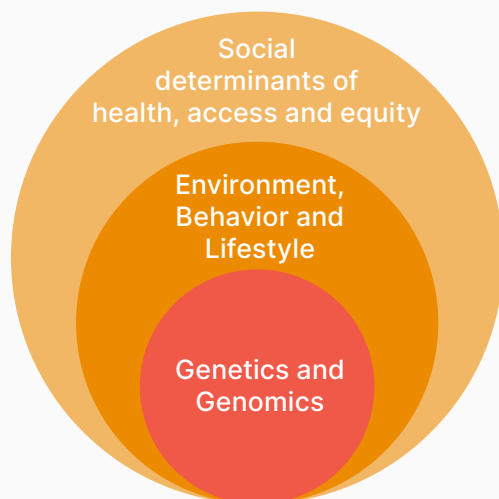
Henry Ford Health views precision medicine as a service, where care teams are able to leverage the value of deep, rich data in different clinical contexts. “That’s what precision medicine is,” says Dr. Mikkelsen. “The right patient, the right treatment, the right time.”

## Cross-discipline integration enables genomics integration

While Precision Medicine was originally formed under oncology in 2016, providing precision care to Henry Ford Health’s patients equitably, was better enabled by a change in organizational structure of the precision medicine service back in 2019.

“In order to reflect the program’s expanding scope, Precision Medicine was pulled out of the oncology service line and operates decentrally, with an emphasis on cross-departmental collaboration and multi-disciplinary teams” says Kristen Collins

### PRECISION MEDICINE IS:



“There are administrative, clinical, and research pathways, and all of these are analogous in the context of the patient journey,” says Dr. Mikkelsen. “The integral package is partnership between diagnosticians, therapeutic doctors, and clinical trials to provide evidence-based therapy.”

In this model, partnership is critical. Providers and pathologists interface with pharmacists, geneticists, IT departments, financial counselors, and other personnel to provide multi-faceted care to patients that’s informed through deep genomics learnings. “One of the key assets in this model is a dedicated, diverse team with different points of view,” says Dr. Mikkelsen.

# Pharmacogenomics: A tool to improve quality and reduce cost of care

After starting with oncology, Henry Ford Health expanded precision medicine to serve patients in other clinical areas, establishing pharmacogenomics care by incorporating pharmacists into integrated care teams sooner in the treatment journey. For instance, a collaborative practice agreement between Henry Ford Medical Group cardiology and clinical pharmacy has enabled pharmacogenomic testing for patients undergoing a percutaneous coronary intervention (PCI). Under this pharmacist-led workflow, the pharmacists are responsible for identifying patients recommended for testing, acquiring consent, and then making indicated prescription change with the physician's approval.

Through this effort, they have been able to point to direct medical cost savings by switching patients from ticagrelor to clopidogrel. "Roughly half of all patients tested had a result indicating a therapy change" says Kristen Collins. In addition to expecting a positive impact on care in the form of reduced adverse clinical events post-PCI, "patients that were able to be de-escalated from ticagrelor to clopidogrel have a medication cost reduction of around \$4,700."

The cardiology pharmacogenomics program is currently scaling up system wide to include elective procedures while a next area of focus includes behavioral health.

## Amplifying the role of data democratizes research and clinical care

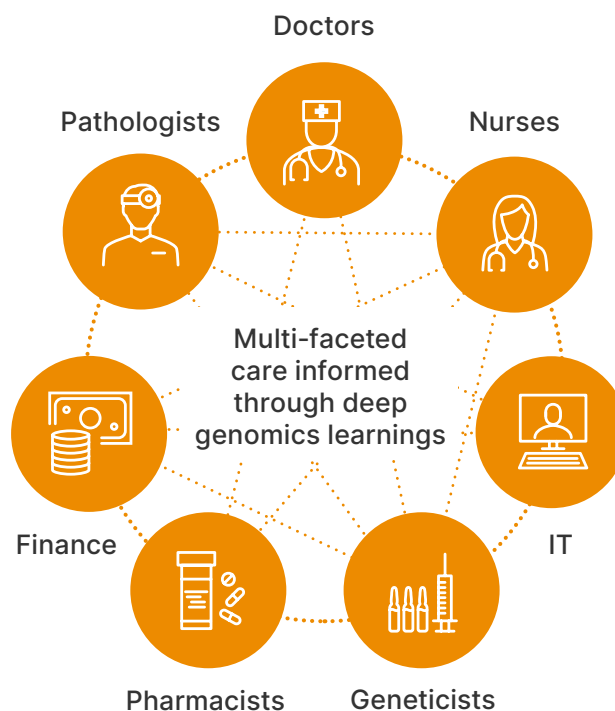
Clinical care and translational research have traditionally been siloed, but Henry Ford Health found a way to effectively integrate these two discrete sites through data.

"Data is a core asset of the health system," says Dr. Mikkelsen. "Research is not a boutique; it's not an add-on. It's integral to the process of improving care."

Henry Ford Health has used data from clinical research to create biorepositories rich with patient data. These biorepositories must represent a diverse range of patients to best equip providers with appropriate insights for treatment decisions.

With Henry Ford Health's legacy of community care, the health system prioritized expanding access to research, and ensuring data collected was used to empower advanced care and wellness.

### HENRY FORD HEALTH'S PRECISION MEDICINE TEAM:



Clinical research is an opportunity and everyone deserves an opportunity.

To learn more about how precision medicine can support your system goals, visit <https://www.illumina.com/areas-of-interest/precision-health.html>