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Title

Personalized medicine in a community health system: the Endeavor Health experience

Priority 1 (Research Category)

Dissemination and implementation research

Presenters

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Abstract

Context: Genomic and personalized medicine implementation efforts have largely centered on specialty care in tertiary health systems. There are few examples of fully integrated care systems that span the healthcare continuum. In 2014, Endeavor Health (formerly NorthShore University HealthSystem) launched the Center for Personalized Medicine to catalyze the delivery of personalized medicine. Successful implementation required the development of a scalable family history collection tool, the Genetic and Wellness Assessment (GWA) and Breast Health Assessment (BHA) tools; integrated pharmacogenomics programming; educational programming; electronic medical record integration; and robust clinical decision support tools.

Objective: To describe a decade-long implementation process for genomic and precision medicine embedded in a primary care community hospital network.

Study design: Descriptive epidemiological and implementation methodology description.

Setting: Community-based integrated health system in northern Illinois and across metropolitan Chicagoland.

Population Studied: Ambulatory patients who participated in Endeavor Health Center for Personalized Medicine genomic services.

Results: To date, more than 225,000 patients have been screened for increased hereditary conditions, such as cancer risk, through these tools in primary care. More than 35,000 patients completed clinical genetic testing following GWA or BHA completion. An innovative program trained more than 100

primary care providers in genomic medicine, activated with clinical decision support and access to patient genetic counseling services and digital healthcare tools. The development of a novel bioinformatics platform (FLYPE) enabled the incorporation of genomics data into electronic medical records. To date, over 4,000 patients have been identified to have a pathogenic or likely pathogenic variant in a gene with medical management implications. Over 33,000 patients have clinical pharmacogenomics data incorporated into the electronic health record supported by clinical decision support tools.

Conclusions: The Endeavor Center for Personalized Medicine adopted a successful strategy of multispecialty partnerships aligned with health system leadership that enabled the implementation of a comprehensive personalized medicine program with measurable patient outcomes through a genomics-enabled learning health system model that utilizes implementation science frameworks.

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