





# Genetic Cancer Screening and Testing in a Medically Underserved Community

**G**enetic screening and testing are paving the way for improved patient care and outcomes on a broad scale that encompasses both cancer treatment and prevention. Access to this testing is key to identifying and thereby reducing disease burden, suffering, and cost. Being able to offer patients genetic screening and testing services also helps cancer programs provide the highest level of care. For medically underserved and rural regions, multiple barriers can limit access to these services, including cost and cultural and geographic challenges. This article describes how a community cancer center in rural Arizona overcame these obstacles so that patients receive genetic testing and counseling at no cost.

## The Partnership

Prior to September 2018, Yuma Regional Medical Center Cancer Center in Yuma, Ariz., had limited access to genetic testing services. There are no genetic counselors in Yuma, a geographically expansive, medically underserved city of 200,000. Before 2018, if patients wanted to receive genetic counseling services, they often had to travel more than 180 miles to do so. This was not a feasible option for most cancer patients.

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Yuma Cancer Center's patient population is largely Hispanic and elderly. Many patients are uninsured, underinsured, or low-income. To break down these barriers to care, the cancer center sought a way to provide free genetic screening and access to genetic counseling and testing to all its patients. Accordingly, in September 2018, Yuma Cancer Center entered into a collaborative partnership with Myriad Genetics—a molecular diagnostic company based in Salt Lake City, Utah. It was an easy decision to make, because Myriad permitted the cancer center to use its tele-education and genetic counseling services at zero cost to the facility and its patients. (Yuma Regional Medical Center is not

obligated to use Myriad Genetics testing services; patients can request that tests be sent to a preferred laboratory.)

In the eight months preceding the launch of the partnership with Myriad Genetics, only 24 patients at Yuma Cancer Center were referred for genetic testing. In the first four months of the new program, 54 out of the 222 patients the cancer center screened underwent genetic testing.

### The Process

The collaboration required participation from the cancer center's registration team, medical assistants, oncology nurse navigators, and medical oncologists, who together designed and implemented the new program. The interdisciplinary team incorporated genetic screening into the cancer center's workflow for registering new patients. When new patients check in, registration staff help them complete a hereditary cancer quiz. This simple screening tool is used to flag patients who may need to be evaluated by a genetic counselor. The quizzes are forwarded to Myriad Genetics, where a determination is made on whether the patient needs further assessment. If a patient is determined not to require assessment, a white laminated card is placed in the patient's chart indicating that no further action is necessary. The process ends for these patients.

If the hereditary cancer quiz shows that a patient needs further assessment by a genetic counselor, a blue laminated card is placed in the patient's chart. This alerts providers that a genetic consult and testing appointment should be ordered. Providers indicate at check-out that a tele-education visit with one of Myriad's genetic counselors is necessary and the visit is scheduled. (Figure 1, right, illustrates this workflow.)

### Tele-Education Visits

When patients arrive for their tele-education visits with a genetic counselor, the medical assistant escorts them to a designated room that is set up with a telephone and tablet provided by Myriad Genetics. At the start of the appointment, patients watch a short video on genetics and hereditary cancer screening.

After watching the video, patients place a call to the Myriad Genetics tele-education line, and they undergo a comprehensive hereditary risk assessment on the phone with a genetic counselor. On average, the tele-education appointment lasts between 30 to 40 minutes. Spanish-speaking genetic counselors are available for Spanish-speaking patients. After the assessment, the genetic counselor immediately emails a copy of the patient's assessment to the medical assistant and oncology nurse navigator at Yuma.

Patients who meet National Comprehensive Cancer Network guidelines for genetic testing complete the necessary paperwork (a test requisition and an application for financial assistance if needed) with help from their provider and the medical assistant. Patients are then escorted to the laboratory draw station where the patient's blood specimen is collected and sent to Myriad Genetics. Patients receive the results at their next follow-up appointment at the cancer center, typically within two weeks.

For patients who test positive, Myriad Genetics provides additional information for them to share with their family members and other medical providers. Yuma Regional Medical Center's

oncology nurse navigators are available to meet with family members to educate and support them.

### Billing and Reimbursement

Myriad Genetics provides the tele-education components of the program—including the hereditary cancer quiz, educational video, and comprehensive education and assessment—free of charge to patients at the Yuma Cancer Center. The genetic test itself is a separate component that Myriad bills through the patients' insurance. These tests are treated like any other bill-for-service a patient receives. If a payer requires prior authorization before the test can be ordered, nurse navigators obtain the necessary documentation. For patients who do not have insurance or cannot afford genetic testing, Myriad Genetics has financial assistance options available. Oncology nurse navigators at the cancer center also work with patients to identify financial resources to pay for testing.

### Program Results


In the first four months of the program's implementation, Yuma Cancer Center achieved a four-fold increase in genetic testing. During that time, 222 patients at Yuma Cancer Center completed the hereditary cancer quiz. Of those 222 patients, 108 were flagged to proceed with tele-education and assessment. Of those 108 patients, 54 followed through with genetic testing.

Seven months post-implementation, 76 genetic tests were ordered. Sixty-seven of those tests were completed. Of the 67 completed tests, 6 resulted in gene-positive results, and another 10 returned with high-risk negative results. In total, about 24 percent of patients who received genetic testing saw a change in their clinical management.

### Key Takeaways

Yuma Cancer Center's genetic screening and education is the fruit of a successful collaboration between a community cancer center and a genetic testing company. It is important to note that no additional full-time equivalents were needed to develop and implement this program.

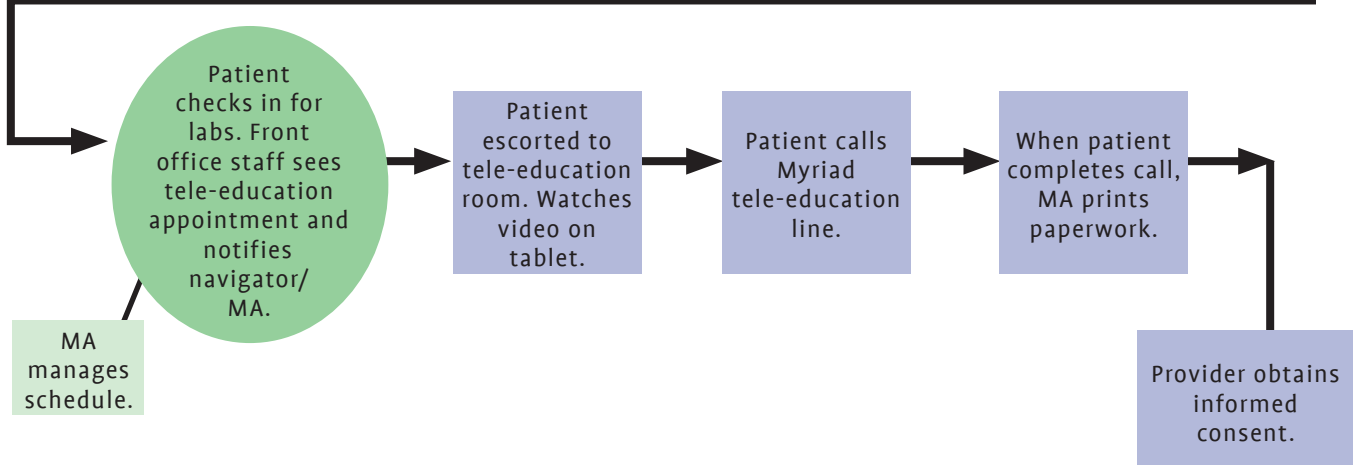
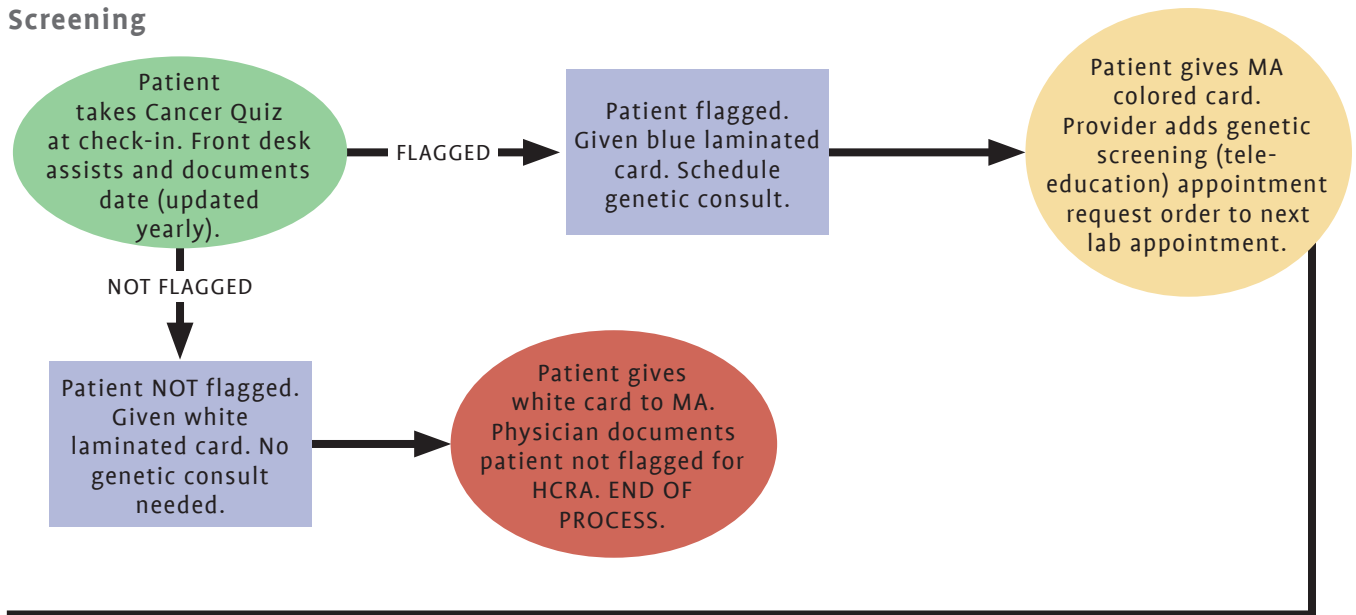
If done correctly, this model can be replicated by other cancer programs—whether they are hospital-based or freestanding practices—and in disciplines other than oncology. A similar program at Yuma Regional Medical Center's woman's health clinic was launched after the successful implementation of the genetic screening program at Yuma's Cancer Center. Yuma is also looking to implement genetic screening and tele-education at its breast imaging center and family medicine clinics.

Currently, genetic screening and testing at Yuma's Cancer Center is limited to patients with known cancer diagnoses. Yuma Regional Medical Center would like to expand this service to all patients consulted at the cancer center. We are also exploring ways to provide testing to family members of those patients who test positive. 

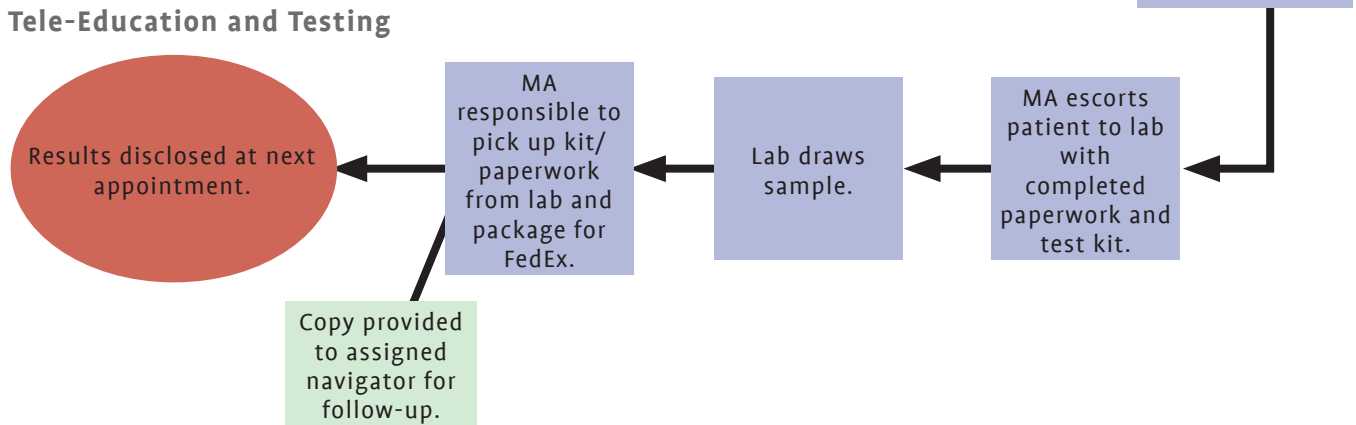
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Figure 1. Yuma Cancer Center Tele-Education Workflow

**Screening**



**Tele-Education and Testing**



Note: MA = medical assistant; HCRA = hereditary cancer risk assessment.