MERCYHEALTH

Mercy Health - Lourdes
High Risk Cancer Genetics Program

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So, always the most important question to ask when considering a new or expanding a program,

Why have a High Risk Cancer Genetics Program?

This is a rare program that covers both……

Mission And Margin

All healthcare organizations have a service Mission – usually to improve the health of the communities they serve…….

We created a High-Risk Cancer Genetics Service unique in that it's goal is to screen all patients entering our system for a cancer screening of any type; mammogram, colonoscopy, PAP, and now, Primary Care Services; for eligibility for high-risk cancer genetics testing.

For those tested and found with a known cancer gene mutation, it utilizes an onsite High Risk Genetics Counselor, a Genetics Nurse Navigator, and Genetics Telehealth Services to guide patients through the complex area that is cancer genetics.

What is High Risk Cancer Genetics?

It offers hereditary cancer risk assessment for individuals that are identified by completing a survey of family cancer history. If the survey results identify a patient as qualifying for testing, they may elect to receive the test. Test results can reveal if a patient has positive gene mutation results, noting an identified cancer genetic mutation that can create a major increase in risk of certain cancers. Patients that are identified with a known genetic mutation may opt for aggressive prophylactic care to prevent cancer and/or may be scheduled with more aggressive screening guidelines than the general population to identify cancer earlier than would be the case under normal population screening guidelines.

What is NOT High Risk Cancer Genetics?

High Risk Cancer Genetics is a form of cancer screening and is not to be confused with "treatment genetics" which is the use of genetics information in the process of planning treatment course for a patient with a known cancer. Many cancer programs work in the realm of making care decisions – this is an area an important area that is growing extremely rapidly and can have major impacts on types of cancer treatment and may even help determine that a cancer type of cancer treatment is not necessary for a genetic type of cancer.

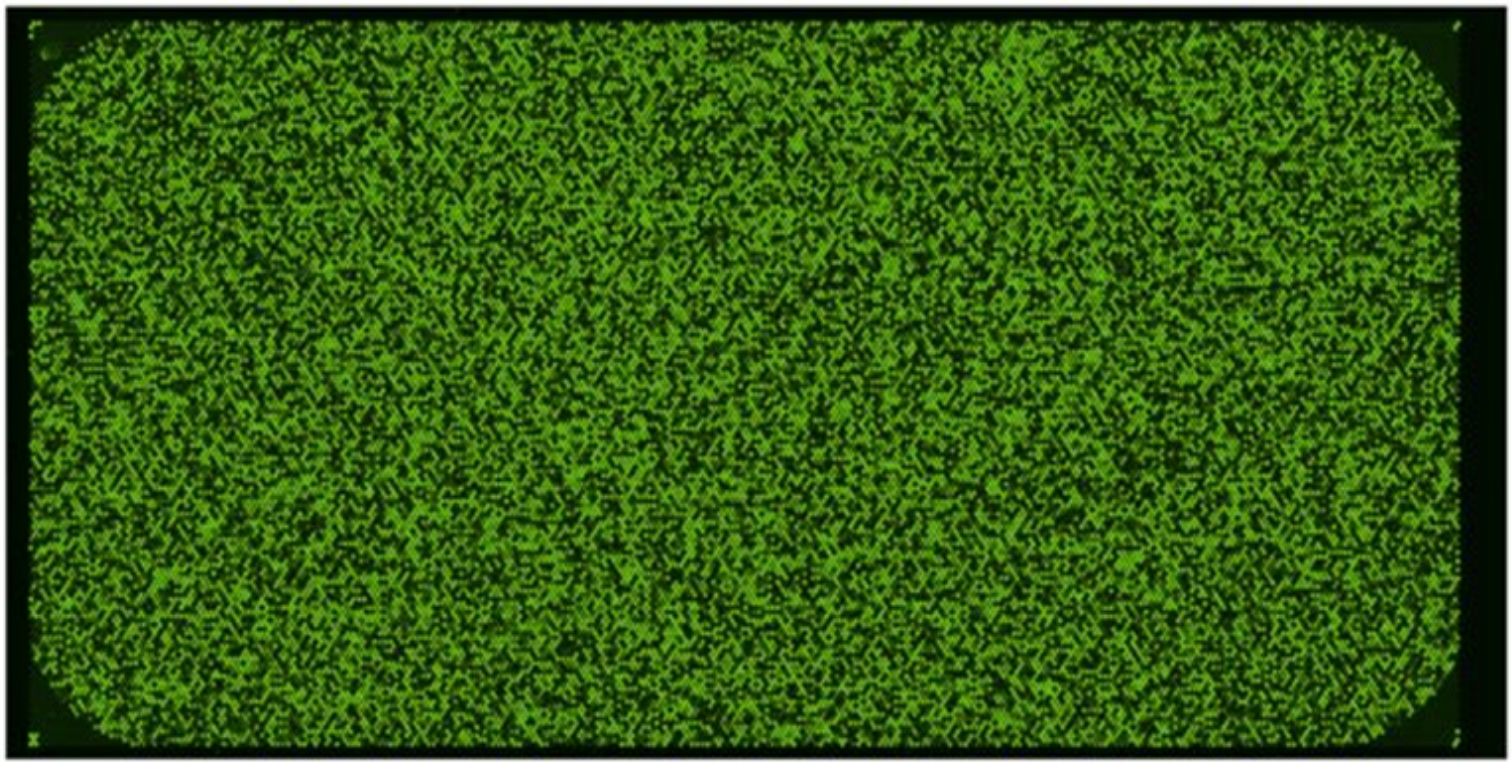
But these programs may not be utilizing the value of improving cancer prevention and knowledge in their communities with High Risk Cancer Genetics.

What is High Risk Cancer Genetics?

Throughout my long career in oncology, I have worked with teams with the focus of catching cancer early, when it is most treatable, and in treating cancer.

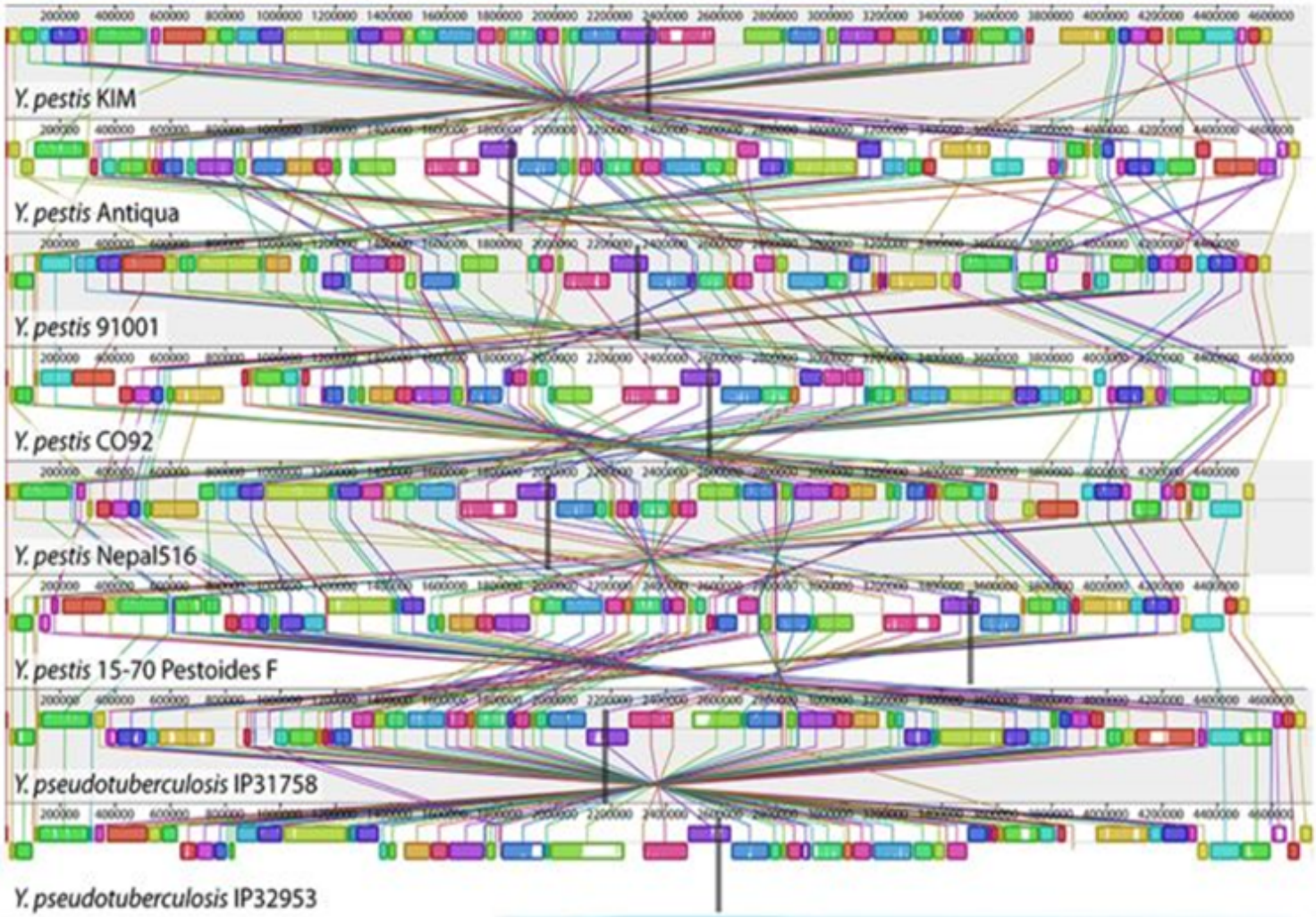
This is the first time in my career that I feel we are helping to PREVENT cancer via clinical testing. And the sheer numbers of people that this can help with knowledge are stunning. This testing changes lives for the better.

What do we currently know about genetics?



Very little, we are in the “stone age……..

But what we know so far has a lot of value to cancer?



The Current Value of High Risk Cancer Genetics?

"These people are standing on the train tracks and a train may be coming and they don't even know it. This testing will let them know the train is coming….and may help make their loved ones aware of the train also."

Larry J. Geier, MD
"The Gene Whisperer"
Palm Harbor, FL
Hematology/Oncology

- It is important for our patients and their loved ones to understand their potential cancer risk and be able to use this information in planning their healthcare decisions with their healthcare providers – more aggressive screening options, prophylactic surgery options, knowledge for their entire family, etc.
- It will improve patient experience and actual and perceived outcomes.
- It adds further services that makes a cancer program the market leader in cutting edge oncology.

Some Key Steps:

1. Get a strong genetics vendor partner……
2. Develop standardized intake processes for patients at selected "entry points" – we used cancer screening points like mammography, colonoscopy, lung, PAP, etc. – and develop easy to complete and use family history formats.
3. Very important to have patient access to on site Front End Counseling tele-genetics resources – one cannot replace the other in this challenging area with lots of patient education needs.
4. Answer questions regarding patient testing costs and financial burdens – create plans with vendor in the front end.

Some Key Steps:

5. Must have Cancer Genetics Nurse Navigator – this fills the definition of "oncology navigator" for its complexity with both processes and patients – they need a guide.
6. Train staff that are in the "entry points" to understand the processes and the importance of this program.
7. Get the word out to the community.
8. Good reporting with the vendor that will show volumes that will build into Margins next.

Family History Questionnaire for Common Hereditary Cancer Syndromes

Patient Name: _____ Medical Record #: _____

Date of Birth: _____ Date Completed: _____

Tech or Nurse Reviewing this Form? Initial here X _____

1st Degree Relatives = Mother/Father/Sister/Brother/Children

2nd Degree Relatives = Aunt/Uncle/Grandparent/Niece/Nephew

3rd Degree Relatives = Cousin/Great Grandparent

Have you ever been diagnosed with Cancer? _____

	Breast & Ovarian Cancer Questions	Relationship	Mother's	Father's	Age at Diagnosis
Y / N	Example: Two or More Relatives With Breast Cancer	Aunt #1 Aunt #2	(Y)	Y	47 60
Y / N	Have YOU or a close relative had breast cancer diagnosed before the age of 50? (consider 1st and 2nd degree)		Y	Y	
Y / N	Have YOU or anyone in your family had Ovarian Cancer?		Y	Y	
Y / N	Has ANY one relative ever had Breast Cancer twice? (Two separate times)		Y	Y	
Y / N	Has ANY male relative ever had breast cancer?		Y	Y	
Y / N	Have 3 relatives on the same side of the family had breast cancer at any age?		Y	Y	
Y / N	Have YOU or a relative had Triple Negative Breast Cancer?		Y	Y	
Y / N	Do YOU or any relative have a BRCA gene mutation?		Y	Y	
	Colon & Uterine Cancer Questions				
Y / N	Have YOU or Any Relative had Uterine (Endometrial) Cancer diagnosed before age 50?		Y	Y	
Y / N	Have YOU or Any Relative had Colorectal Cancer diagnosed before age 50?		Y	Y	
Y / N	Have any 2 or more relatives on the SAME side of the family had uterine and colorectal cancer?		Y	Y	

Is there any other cancer in you or any family members not listed above?

Relationship _____ Type of Cancer _____ Age _____

Office USE ONLY: Initial here X _____

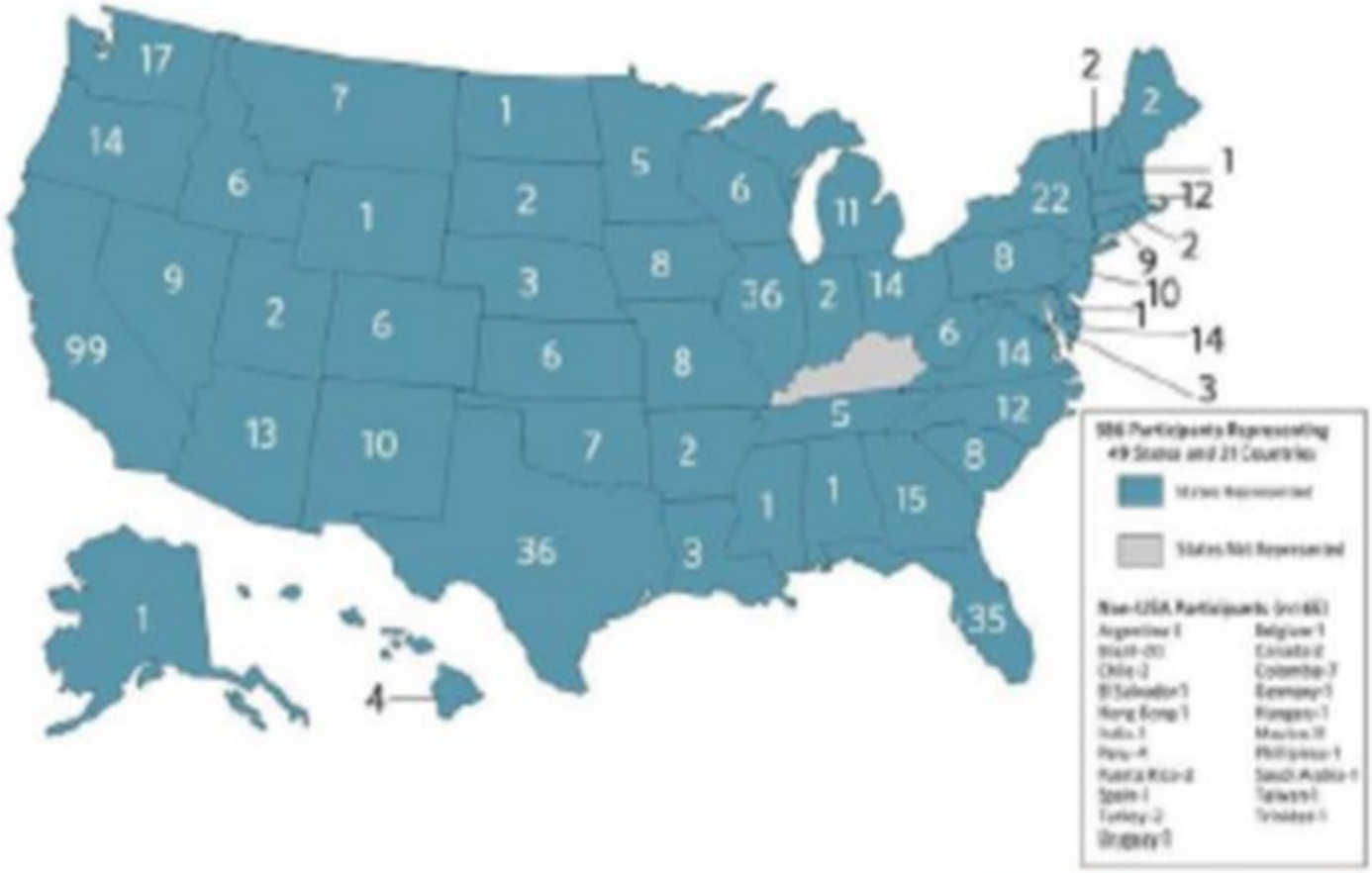
Patient offered Genetic Education _____Accepted _____Declined _____ Patient not a candidate for Genetics

Patient declined filling out form _____ Signature X _____

City of Hope.

INTENSIVE COURSE IN CANCER RISK ASSESSMENT

The Intensive Course in Cancer Risk Assessment Geographic Distribution of Alumni



FOR MORE INFORMATION, CONTACT OUR CANCER GENETICS NURSE NAVIGATOR DIRECTLY AT 270-538-5862.

MERCYHEALTH

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A Catholic health care ministry serving Kentucky and Ohio

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Cancer Genetics Services

HIGH RISK CANCER GENETICS COUNSELING AND TESTING NOW OFFERED AT LOURDES

Although most cancers occur by chance, some cancers develop as a result of a genetic or hereditary predisposition which means it runs in the family. Mercy Health and Lourdes' cancer genetics services provides hereditary cancer risk assessments and cancer genetic counseling services to help you understand your risk for hereditary cancer.

What is Cancer Genetics?

Cancer is triggered by mutations in the genes of a cell. A small portion of cancers have been identified as resulting from genetic changes that are inherited. Individuals with an inherited gene mutation tend to have an increased risk of developing cancer in their lifetime. However, not everyone who is born with a tendency for a gene mutation will develop cancer.

Who should consider cancer genetic counseling?

Cancer genetic counseling can help you clarify your cancer risk and may help guide health care decisions. You may benefit from cancer genetic counseling if you or your family has a history of:

- Cancer diagnosed at age 50 or younger
- Multiple cancers in one person
- Two or more relatives with the same cancer on one side of the family
- Rare cancers, including ovarian, pancreatic and male breast cancer
- A previously identified gene mutation (example: BRCA1 or BRCA2)

SCREEN

Hematology Oncology

Gastroenterology

Evaluate

MYRIAD ON SITE TELE-GENETICS

DIAGNOSE/ TEST ORDER

EACH ORDER Placed by individual provider with all results going to Courtney and the ordering providers

MANAGE

Future State w/ Tele-Genetics

COURTNEY FACILITATE and make referrals back to docs and Celia for results consult

OVERFLOW

Celia Parrott NP

OBGYN's and NP's

LOURDES

Caring together. MERCYHEALTH

ROLE KEY

- Celia-City of Hope Trained-ON SITE Management and Counseling
- Courtney-Navigate and Outreach
- Providers-Screening and respective referrals
- Myriad-Front End Counseling and Order Creation

Real Patient Stories….

Mary W. was a healthy 44 year old that had her regular screening mammogram done in June 2018. She knew she had a strong family history of breast cancer but she stated she would have never received genetic testing if she had not been screened during her regular mammogram.

With full testing, she came back positive for an ovarian cancer mutation. Our Cancer Genetics Nurse Navigator stepped in – the patient did not have a Primary Care Physician so she was set up with one and that PCP was made aware of her genetic status. She also had an appointment made with her GYN to discuss managing the potential risks identified and possible risk reduction strategies; including aggressive screening and surveillance and the potential for prophylactic care.

Real Patient Stories….

Carrie L. came in for her annual screening mammogram. She had a significant family history, with a strong family history of breast cancer on the paternal and maternal side of family. She qualified for genetic testing.

She was found positive for the PALB2 gene mutation. This particular mutation puts her at high risk for pancreatic and breast cancer.

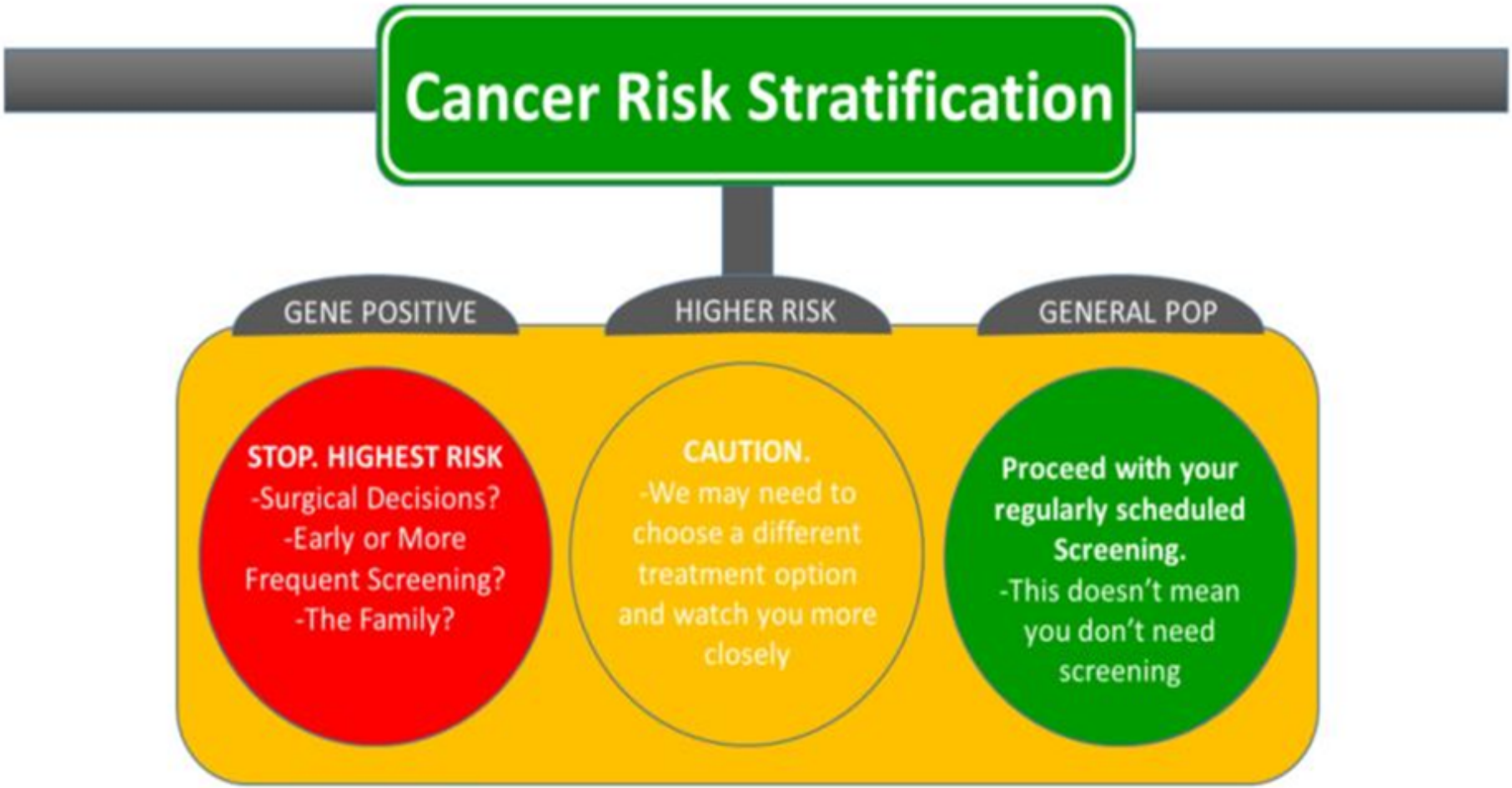
This information changes her breast cancer risk to:

- To age 50 – gone from 1.9% to 14%
- To age 70 – gone from 7.1% to 17-58%

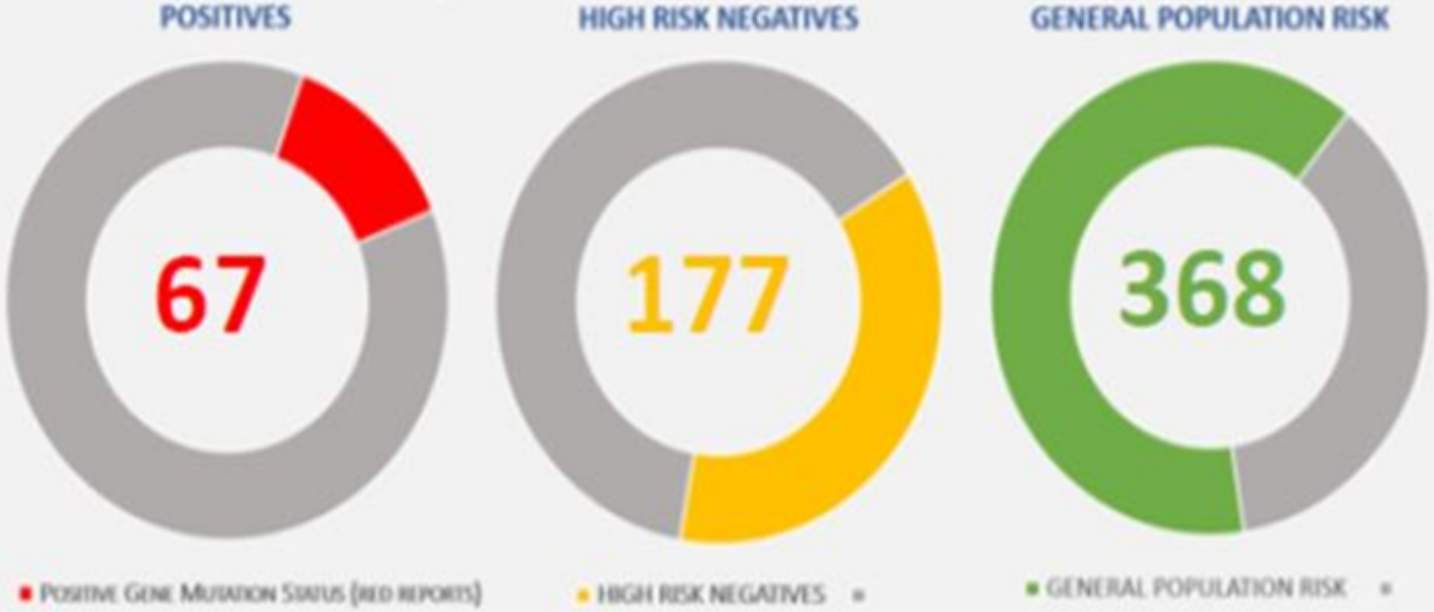
And it elevates her pancreatic cancer risk.

She is receiving high risk breast cancer management and is under care with our High Risk Genetics Counselor and is getting additional follow ups to GI, etc.

This information has led her siblings toward testing.


Cancer Risk Stratification
GENE POSITIVE
HIGHER RISK
GENERAL POP
STOP. HIGHEST RISK
-Surgical Decisions?
-Early or More Frequent Screening?
-The Family?
CAUTION.
-We may need to choose a different treatment option and watch you more closely
Proceed with your regularly scheduled Screening.
-This doesn't mean you don't need screening

Patient Management: Your Practice's Numbers



Positives/High Risk Negatives:

BREAKDOWN BY SPECIALTY	Positives	High Risk
IMAGING	16	81
OBGYN	15	62
SURGERY	24	25
ONC	12	9

Population Management:

Estimated Patient Charts * est 3,500 per doc	122,500
Population over 18+*1	93590
Population at risk *2 based on USPSTF	9359
Patients Tested to Date	827
Estimated still at risk	8532
Estimated positive*5 (est. 7%)	597
Estimated Higher Risk	2133

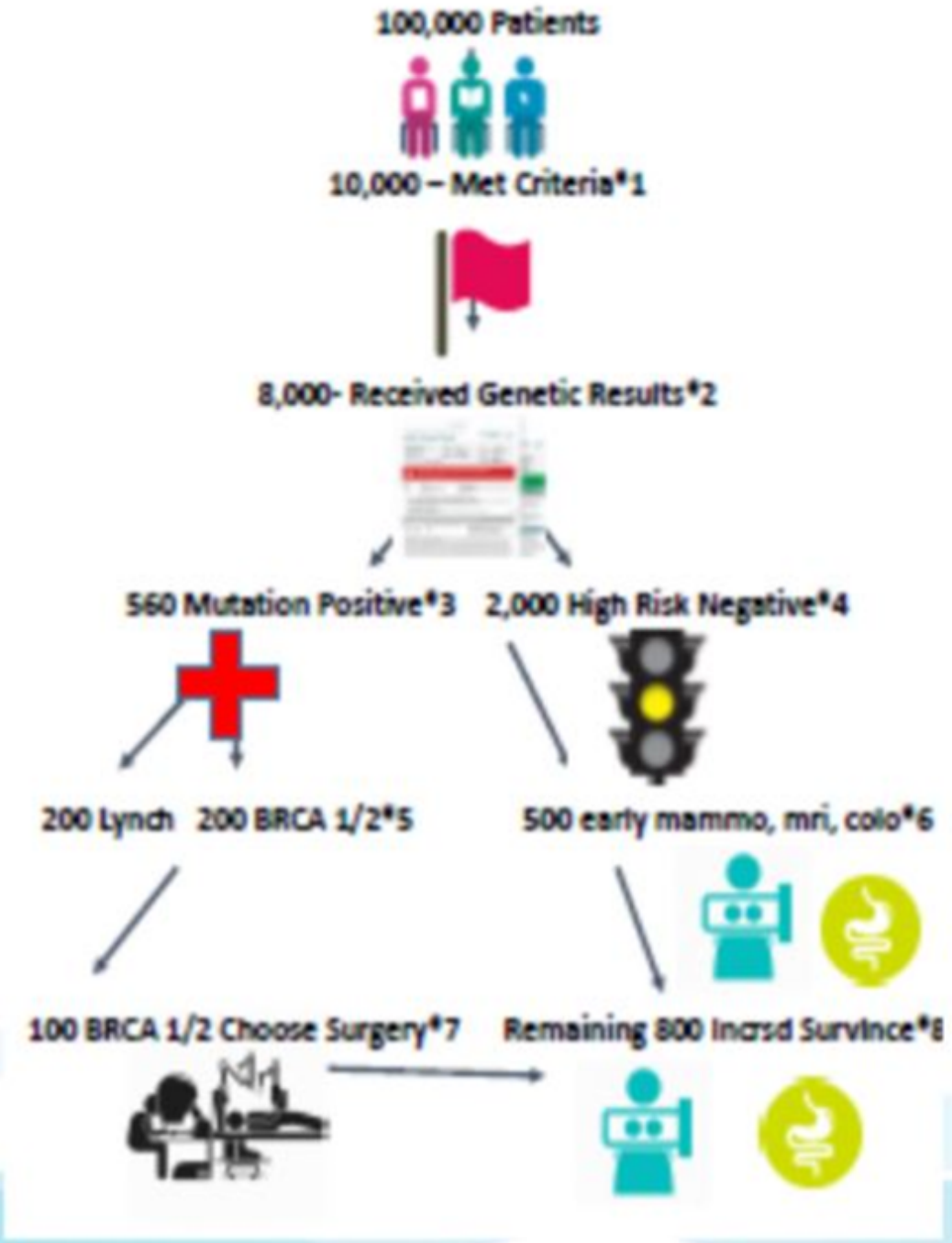
And if you can see the care growth in the patients stories and what else we have covered:

- Finding patients additional care – PCPs, GYNs, GIs, etc.
- More aggressive screening efforts……downstream revenues – more mammograms, breast MRIs, annual colonoscopies, etc. – approved by insurance with known genetics abnormalities.
- Potential prophylactic surgeries and other care.

It drives inhouse referrals and downstream revenues.

we begin to transition to …….

Margin


100,000 Patients
10,000 – Met Criteria*1
8,000- Received Genetic Results*2
560 Mutation Positive*3
2,000 High Risk Negative*4
200 Lynch
200 BRCA 1/2*5
500 early mammo, mri, colo*6
100 BRCA 1/2 Choose Surgery*7
Remaining 800 Incrsd Survince*8

Downstream Revenue Mapping

*Based on 140 Patients

140 Patients Screened

14 Meet Criteria

128 No Concern

MYRIAD ON SITE TELE-GENETICS

2 would meet criteria for MRI

1 would meet criteria for endo

1 would undergo Prophylactic surgery

4 would meet with Celia for results consult

Potential Downstream Market Capture Explained – McCracken County Market

Estimated Census Pop from McCracken County	65316
Population over 18*1	49901
Population at risk *2(10% base on USPSTF)	4,901
current # patients tested (based on pulled data)	399
Estimated still to screen and evaluate	4591
Estimated positive*5	321
Potential downstream revenue from follow-up consult*1(.35 of screened + all positives) *70	$130,949
Potential downstream revenue from in house surgery referral and increased breast screening *2	$535,468

Potential Downstream Market Capture Explained – Full Market

Estimated Census Pop from 7 surrounding counties	204,673
Population over 18*1	156370
Population at risk *2(10% base on USPSTF)	15,637
current # patients tested*3	1251
Estimated still at risk*4	14,386
Estimated positive*5	1007
Potential downstream revenue from follow-up consult*1(.35 of screened + all positives) *70	$316,022
Potential downstream revenue from in house surgery referral and increased breast screening *2	$2,291,300

Questions?