

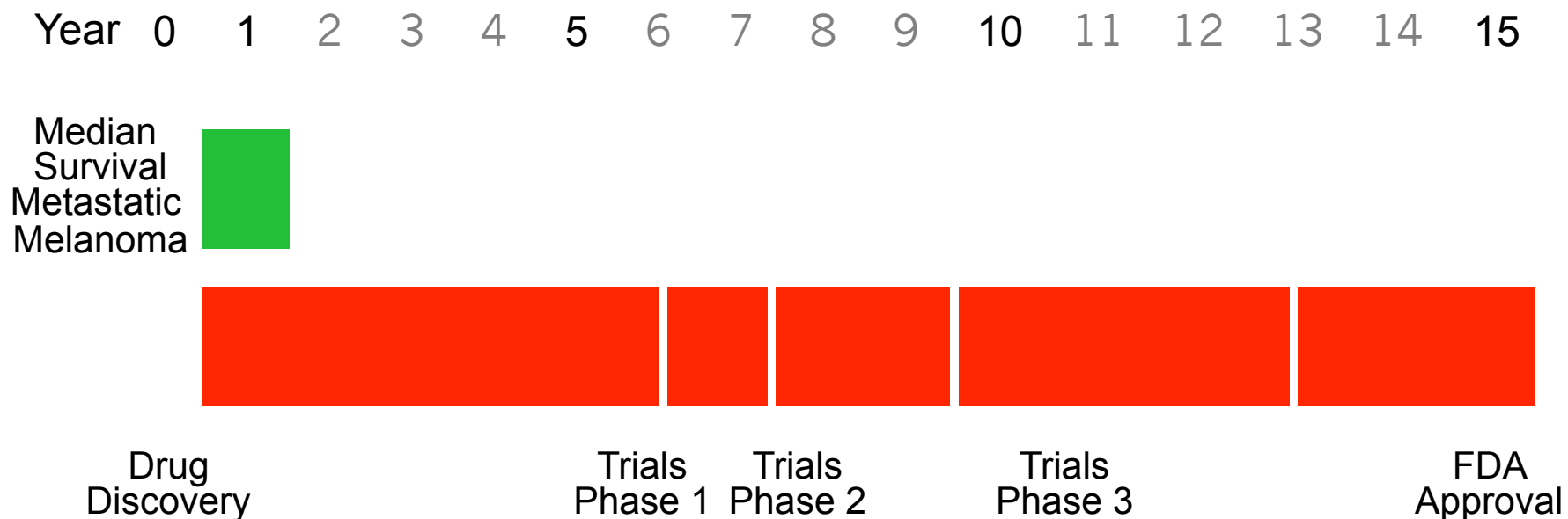


# CancerCommons

## How To Beat Cancer

Jay M. Tenenbaum  
July 2013

# Time's Up





# The New York Times

## Cancer 'Vaccine' Is Set Back as Treatment Fails in Trial

By [ANDREW POLLACK](#) and TOM WRIGHT

Published: April 7, 2005

**L**OS ANGELES, April 6 - A cancer treatment that has been under development for more than 40 years failed in the first clinical trial in which it was compared with a placebo. The failure, announced Wednesday, was a blow to the field of so-called cancer vaccines and to the two companies developing the treatment, Serono and [CancerVax](#).



# Melanoma Targeted Therapies



**Vemurafenib**  
(approved August 2011)

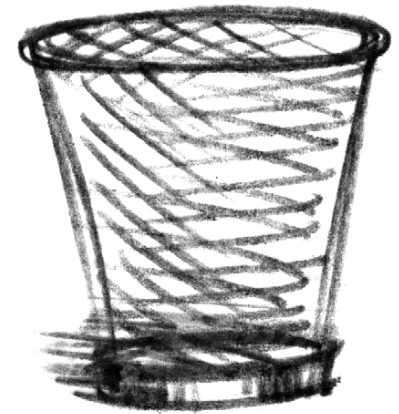


**Ipilimumab**  
(approved March 2011)

# Cancer in the Genomics Age

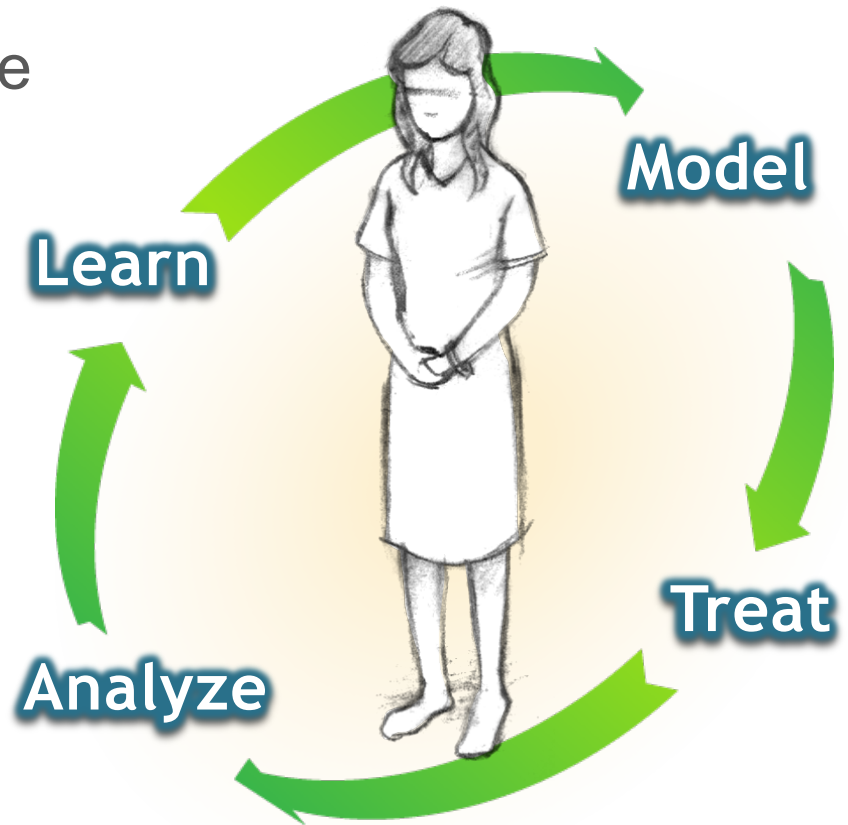
- 1000's of rare diseases
- Treated with 100's of targeted therapies
- Drug cocktails
- Randomized trials are slow, expensive, & fail

# 30,000 Oncologists, 1000s of “N of 1” Trials



## A rapid learning community for cancer

- Obtain the best possible outcomes
- Learn as much as possible
- Disseminate rapidly

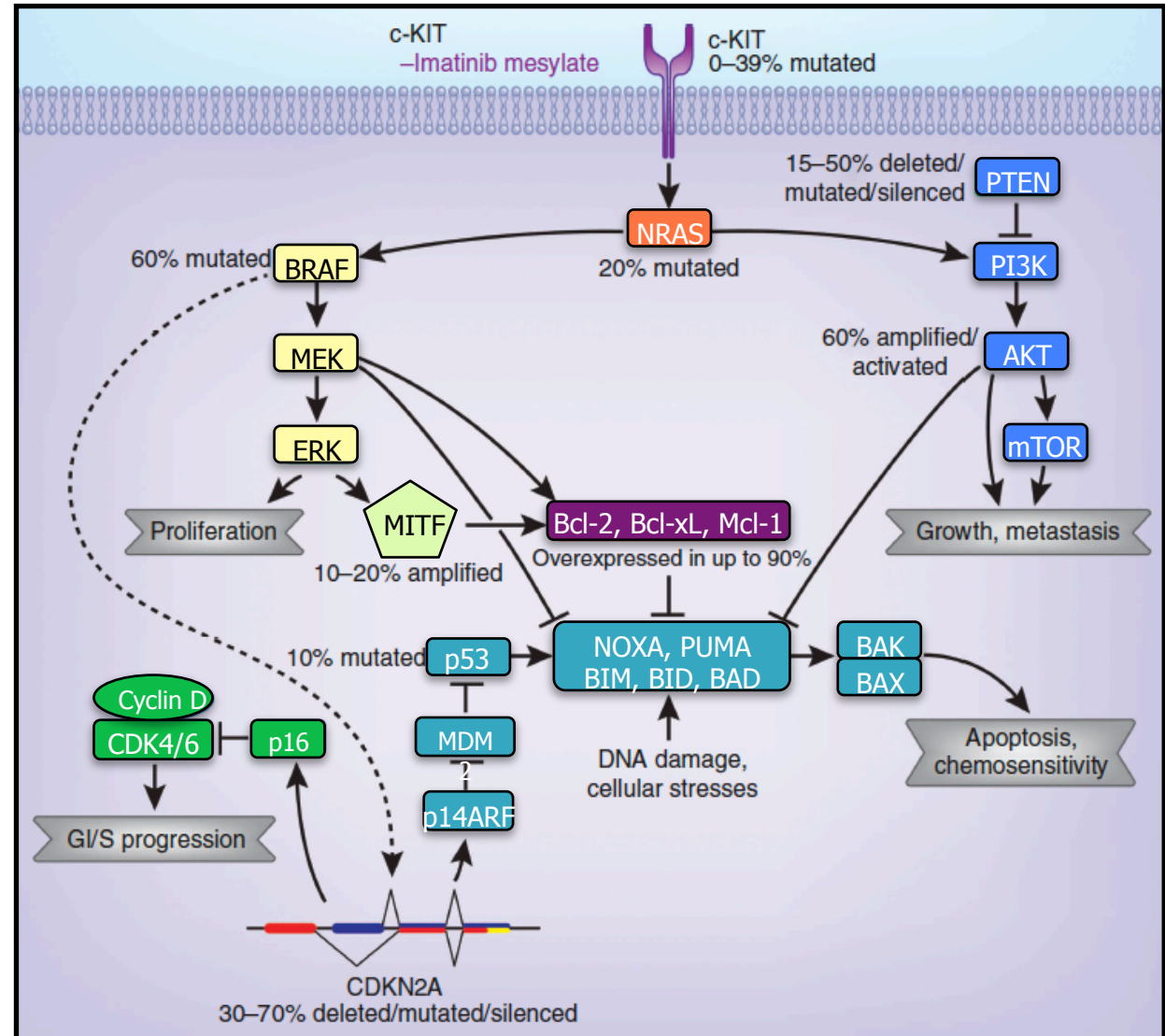


# Melanoma Reference Model

## Subtypes

|          |                        |
|----------|------------------------|
| 1        | MAPK                   |
| 2        | NRAS                   |
| 3        | MITF                   |
| 4        | PI3K                   |
| 5        | CDK                    |
| 6        | c-KIT                  |
| 7        | Bcl-2                  |
| 8 8      | MAPK/<br>PI3K          |
| 9 9      | MAPK/<br>CDK           |
| 10 10 10 | NRAS/<br>MAPK/<br>PI3K |

## Cell Signaling Pathways



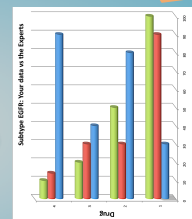
# Rapid Learning Platform

## Users



Cancer  
Commons

|    |           |
|----|-----------|
| 1  | MAPK      |
| 2  | NRAS      |
| 3  | MITF      |
| 4  | PI3K      |
| 5  | CDK       |
| 6  | c-KIT     |
| 7  | Bcl-2     |
| 8  | MAPK/PI3K |
| 9  | MAPK/CDK  |
| 10 | NRAS/PI3K |
| 11 | NRAS/CDK  |

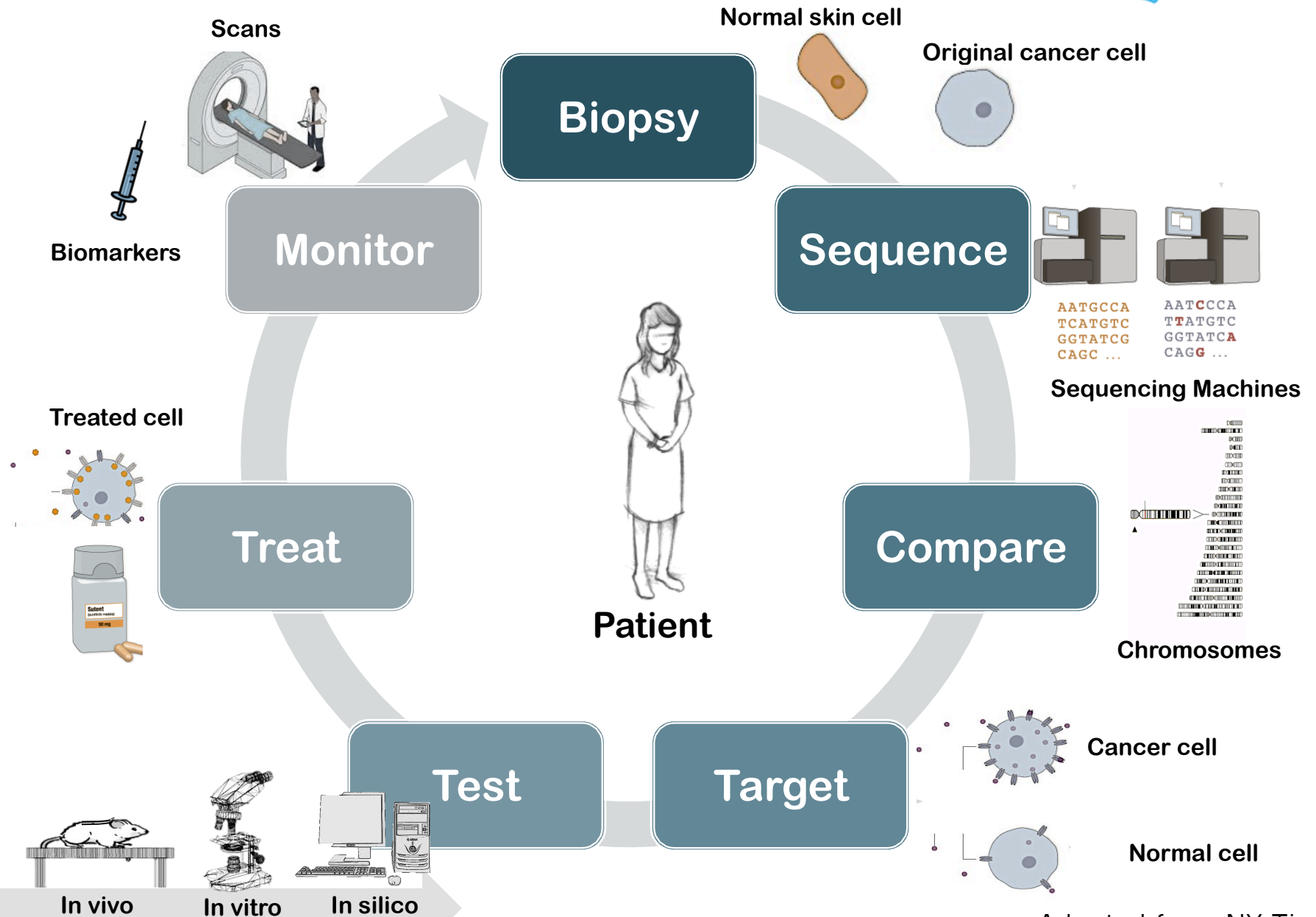


## Services





# Precision Oncology 2013





## Case Studies in Precision Oncology

# Lukas Wartman, Washington U.



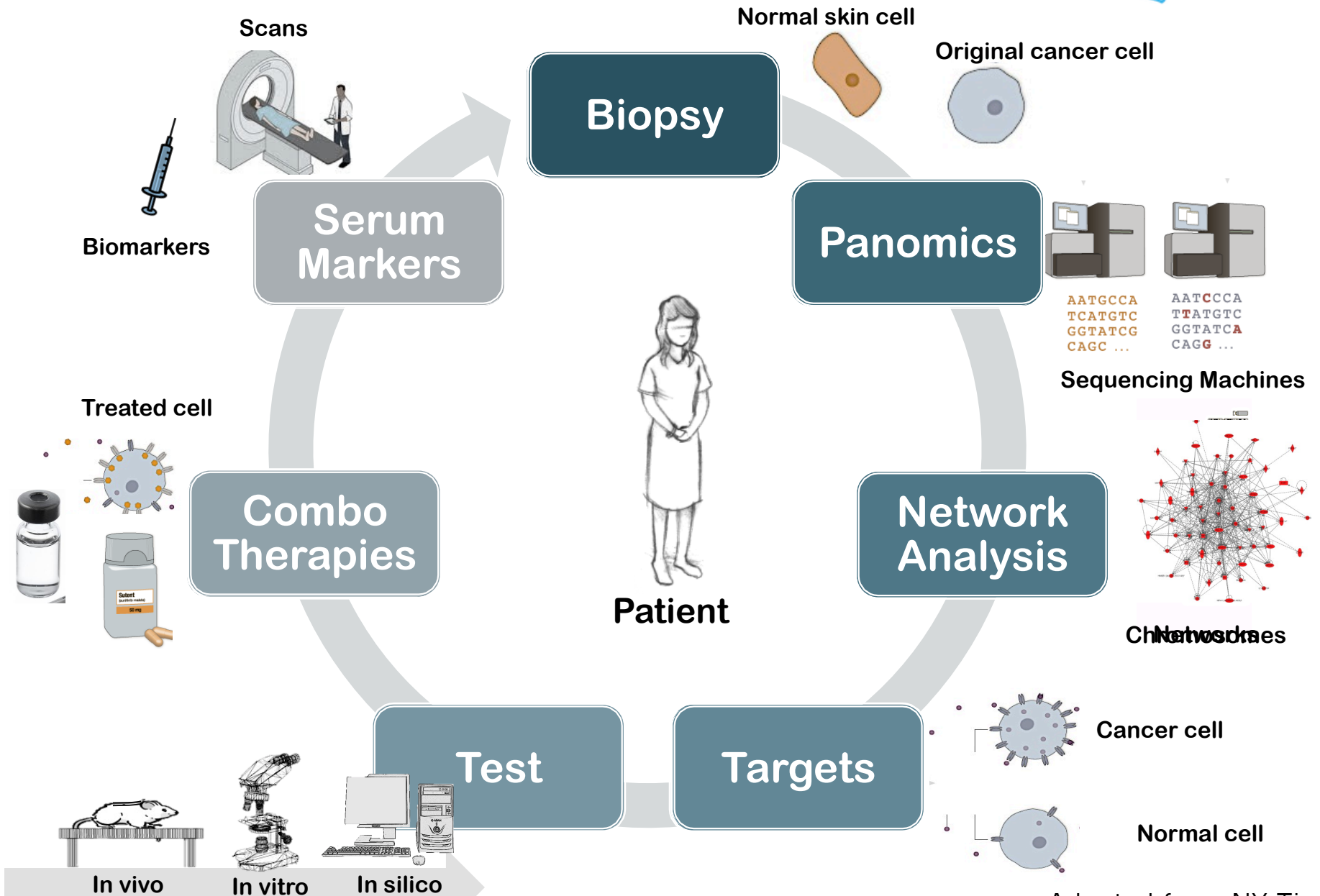
- **Diagnosis: ALL (Acute Lymphoblastic Leukemia)**
- **Driver: over-expressed FLT3**
- **Drug: Sutent (kidney cancer)**

# Patient 102 - Seattle Oncologist

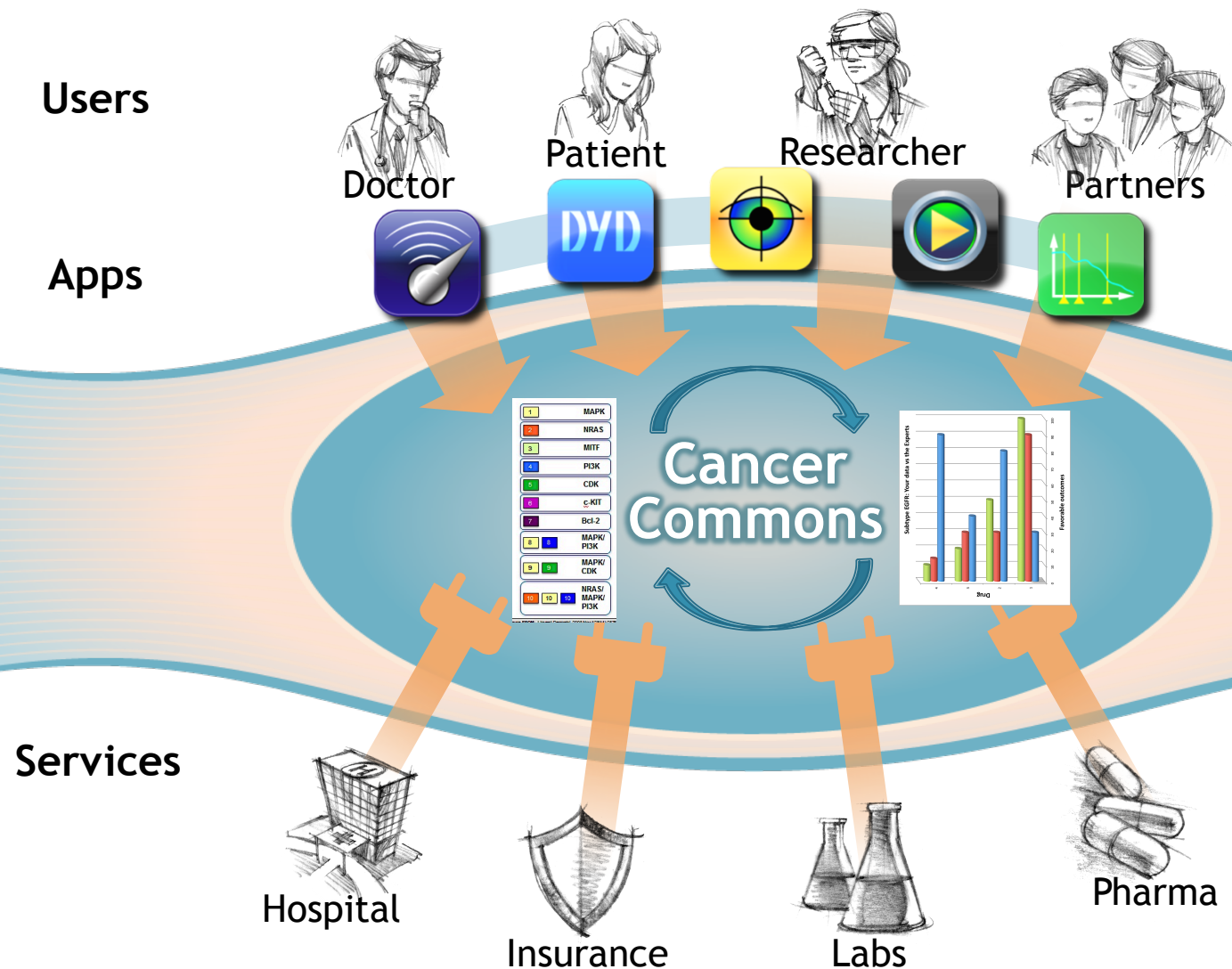


- **Diagnosis:** pancreatic cancer
- **Driver:** PIK3CA amplification
- **Test:** in-vitro HTS, mouse avatar
- **Drug:** PF-05212384 (PIK3/mTOR inhibitor for solid tumors)

# Precision Oncology 2020



# Rapid Learning Platform



**"WE NEED TO COMPILE  
THIS MOUNTAIN OF  
INFORMATION ... TO  
IMPROVE OUTCOMES."**



**Frank McCormick, PhD, FRS**  
Director, UCSF Helen Diller Family  
Comprehensive Cancer Center



We invite patients, researchers, and clinicians to join our open science collaboration to speed discovery. By including patients in the learning loop, we bring new findings about the latest treatments to those who urgently need answers beyond the standard of care.

**Register Now**

**Learn more**

## LUNG CANCER

**Evidence Review**

**Precision Oncology Journal**

### Latest News

**Tight Coordination of Protein Translation and HSF1 Activation Supports the Anabolic Malignant State**

SANTAGATA S, MENDILLO ML, TANG Y, SUBRAMANIAN A, ET AL. SCIENCE. JUL 19, 2013.

+ 6 - 3 Comments

**Molecular Pathways: Inflammation-Associated Nitric-Oxide Production as a Cancer-Supporting Redox Mechanism and a Potential Therapeutic Target**

GRIMM EA, SIKORA AG, EKMEKIOGLU S. CLINICAL CANCER RESEARCH. JUL 18, 2013.

+ 5 - 3 Comments

## MELANOMA

**Evidence Review**

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+ 5 - 3 Comments

## PROSTATE CANCER

**Evidence Review**

**Precision Oncology Journal**

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+ 5 - 3 Comments

## FUTURE GROUPS

The following Rapid Learning Communities are in start-up mode. Select those you're interested in and provide an email address below to be notified when they launch. You can also [contact us](#) to help get these communities off the ground.

- |  |  |
|--|--|
| <input type="checkbox"/> Bladder Cancer    | <input type="checkbox"/> Leukemia          |
| <input type="checkbox"/> Breast Cancer     | <input type="checkbox"/> Liver Cancer      |
| <input type="checkbox"/> Colorectal Cancer | <input type="checkbox"/> Lymphoma          |
| <input type="checkbox"/> Kidney Cancer     | <input type="checkbox"/> Pancreatic Cancer |
|  | <input type="checkbox"/> Thyroid Cancer    |

Email Address

**Send ▶**

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|  | <input type="checkbox"/> Thyroid Cancer    |

Email Address

**Send ▶**

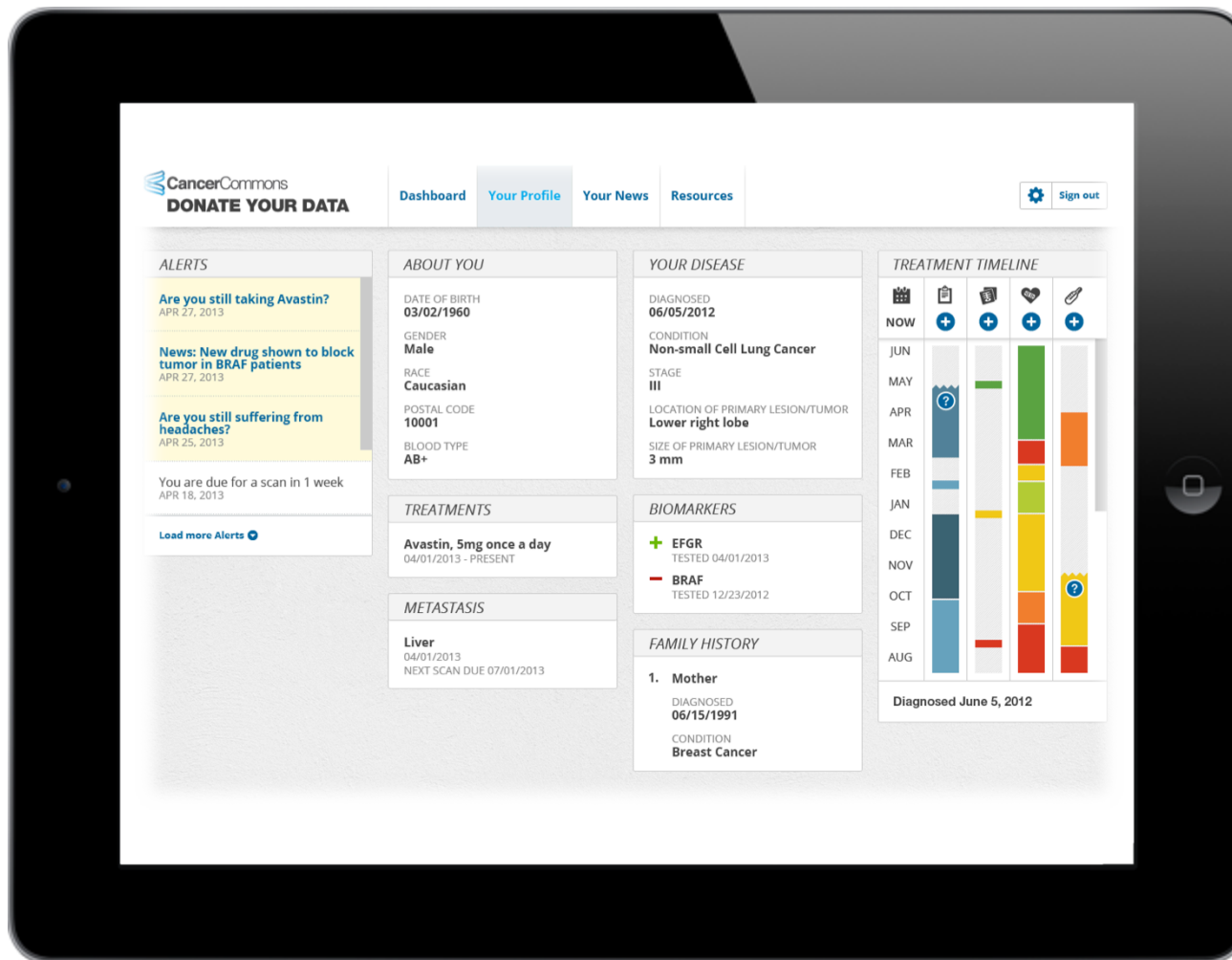
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**Register Now**

## LUNG CANCER



# Donate Your Data





# Donate + Your Data



As a unique cancer patient, you hold **one-of-a-kind** information about your tumor. If you've already been tested, you may even know the biomarkers that point to your tumor's specific mutations. Your tumor profile and treatment progress serve as valuable data for cancer research.

## Four Simple Steps

- 1 Register Confidentially
- 2 Share Your Information
- 3 Receive Personalized Updates
- 4 Keep Us Posted

Click to see [animation](#) explaining the Donate Your Data initiative

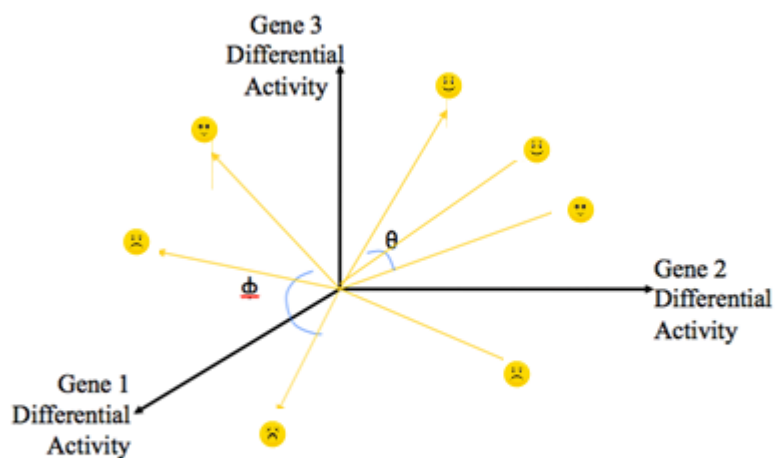
# Treatment Planning

## Expert knowledge

Provide Melanoma Information

|   |   |   |  |                                |
|---|---|---|--|--------------------------------|
| Melanoma Stage ?                                      | <input type="radio"/> Early<br>Stage 0, I, II | <input type="radio"/> Stage III<br>Advanced Stage | <input type="radio"/> Stage IV<br>Advanced Stage |                                |
| Primary Origin ?                                      | <input type="radio"/> Skin/Other              | <input type="radio"/> Eye                         | <input type="radio"/> Acral/Mucosal              |                                |
| Metastatic Sites ?<br>(For statistical purposes only) | <input type="checkbox"/> Lymph Nodes          | <input type="checkbox"/> Liver                    | <input type="checkbox"/> Brain/CNS               | <input type="checkbox"/> Other |
| Mutation Information ?                                | BRAF  | Unknown   |  |                                |
|   | C-KIT   | Unknown   |  |                                |
|   | GNAQ  | Unknown   |  |                                |
|   | GNA11   | Unknown   |  |                                |

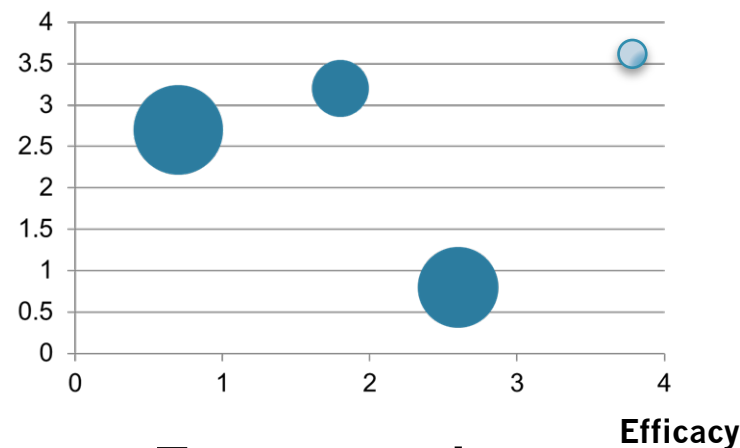
clear form [Find drugs and trials →](#)



Similar patients

Safety

Outcomes



Treatment data

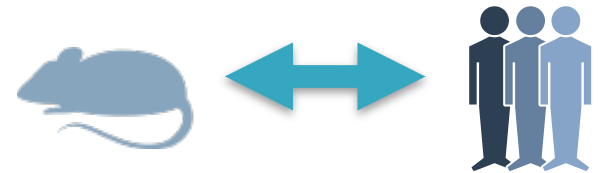
# Beyond Trials

- Exceptional responders



Everolimus → mTOR → TSC-1

- “N of 1” studies



- eTrials



Enzalutamide

*ClinicalTrials.gov*

Metformin in Castration-Resistant Prostate Cancer



**We Need You!**

- **Email: [jmt@cancercommons.org](mailto:jmt@cancercommons.org)**
- **Cell: 650-799-1767**