FOUNDATION MEDICINE®

flatiron

The Clinico-Genomic Database

Integrating clinical and genomic data to support the advancement of personalized oncology

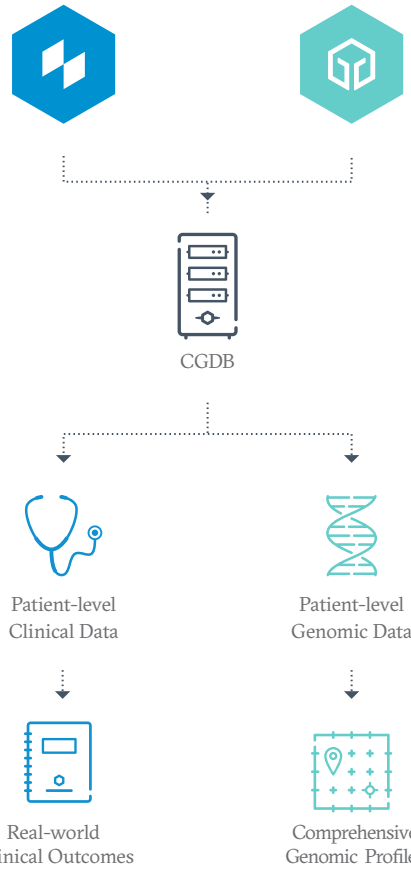
Flatiron Health and Foundation Medicine have partnered to create a Clinico-Genomic Database (CGDB). This first-in-class, real-world data source integrates complex biomarkers from patient tumors, with longitudinal treatment and outcomes data captured from electronic health records (EHR).

The CGDB is regularly updated to include new patients, additional complex signatures, longitudinal updates for existing patients as they progress through their treatment journey.

PATIENT POPULATION

EHR data on treatment and clinical outcomes, curated by FlatIron

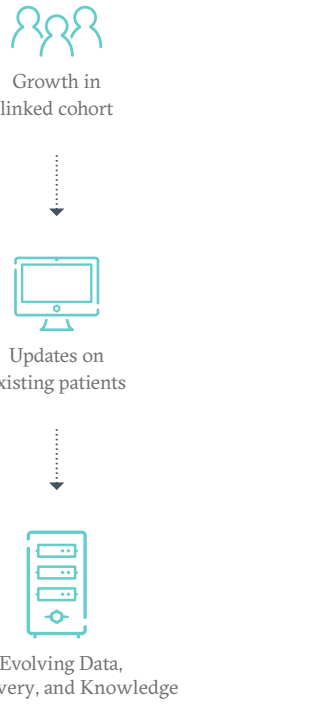
Genomic analyses of patient samples, along with complex signatures, by Foundation Medicine



CONTINUALLY-GROWING LONGITUDINAL DATA

50,000+ cancer patients and growing

Real-world anonymized, research-grade database



Flatiron and Foundation Medicine are committed to the stringent protection of patient privacy. All data in the CGDB is strictly de-identified, and all data linking processes are HIPAA-compliant in order to safeguard patient data.

What data is in the CGDB?

COMPREHENSIVE GENOMIC PROFILING:

Foundation One® and Foundation Heme® next-generation sequencing testing of tumor samples

- All molecular alterations detected across 300+ genes
- Clinical interpretation and reported therapies
- Complex Genomic Signatures
  - Tumor Mutational Burden (TMB)
  - Microsatellite instability (MSI)
  - Somatic-Germline-Zygosity (SGZ)
  - Loss of Heterozygosity (LOH)
- Immunohistochemistry (PD-L1)

CLINICAL DATA:
Longitudinal patient-level EHR data

- Demographics, risk factors
- Chart-confirmed diagnosis
- Stage and histology
- Treatments received, including lines of therapy
- Real-world clinical outcomes, including survival, progression, and tumor response

How are cohorts defined?

- Tumor type: understand the clinico-genomic landscape across a disease
- Biomarker-based: characterize patient populations with specific alterations
- Study-specific: define a specific cohort of interest

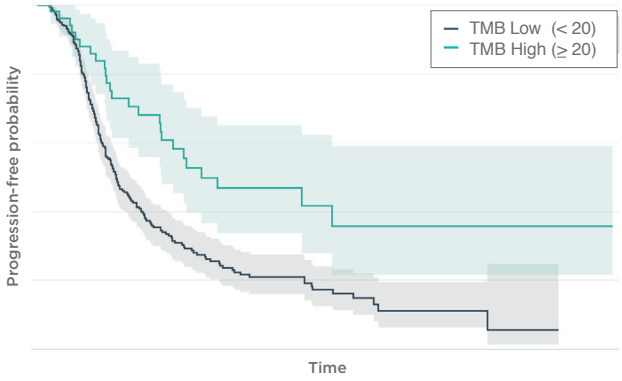
What research activities are supported?

- Novel target discovery
- Clinical trial planning and design
- Outcomes research in biomarker-defined populations
- Genotype-guided label expansion for existing therapies
- Portfolio planning and acquisition strategy
- Companion diagnostic development

How will the CDGB grow?

- Growth in the Flatiron provider network
- Growth in use of Foundation Medicine next-generation sequencing
- Updates to clinical data from the EHR (e.g., patient follow-upover time)
- Updates to variant annotations and genomic analyses

Example Analysis (NSCLC):
TUMOR MUTATION BURDEN PREDICTS
TIME TO PROGRESSION ON NIVOLUMAB



ESTIMATED PATIENT COUNTS BY SELECT CANCER TYPES

as of March 2017

CANCER TYPE based on Diagnosis	PATIENT COUNTS
Non-Small Cell Lung Cancer	4000+
Colorectal Cancer	2800+
Breast Cancer	2500+
Ovarian Cancer	1100+
Pancreatic Cancer	1000+
Melanoma	800+
Prostate Cancer	700+
Renal Cell Cancer	400+
Multiple Myeloma	300+

To learn more about the Clinico-Genomic Database, contact Foundation Medicine at *biopharma@foundationmedicine.com.*

Reference:
G. Singal, P. Miller, V. Agarwala, J. He, A. Gossai, S. Frank, D. Bourque, B. Bowser, T. Caron, E. Baydur, K. Seidl-Rathkopf, I. Ivanov, A. Parker, A. Guria, G. Frampton, A. Jaskiw, D. Feuchtbaum, N. Nussbaum, A. Abernethy, V. Miller. Development and Validation of a Real-World Clinico-Genomic Database. American Society of Clinical Oncology; June 2 - 6, 2017; Chicago, Illinois.

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To learn more about the Clinico-Genomic Database, contact Foundation Medicine at
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MKT-0083-02

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