2nd MCGI Forum: 
Building Bridges Through Genomic Medicine

Progress Update

Jens Rueter, MD, MCGI Medical Director
Andrey Antov, PhD, MBA, MCGI Program Director
April 7th, 2018
Weather Update

MCGI Update
8:30–9am
What is the Maine Cancer Genomics Initiative?

A partnership between JAX and the Oncology Community in Maine = Community Genomic Medicine

Enabled by an $8.41 Million donation from the Harold Alfond Foundation

An opportunity to effectively implement an Oncology Precision Medicine program in Maine
MCGI Deliverables

Provide 1800 cancer patients with access to genomic tests

Establish a collaborative Maine-wide cancer genomics research network

Provide educational programs on cancer genomics and precision medicine

Design a study protocol that measures the impact of the initiative and provides basis for future research
MCGI Building Blocks: Continuum of Education

- CME courses
- Genomic tumor board
- Case studies
- Resources
- Point of care tools
Genomic Tumor Boards: Setup

In-person discussion at Maine Oncology practice

DFCI Clinical Trials

JAX Clinical Genomics

External Experts

Dr. Lincoln Nadauld
Intermountain Health

Dr. Ben Park
Johns Hopkins

Dr. Chris Gocke
Johns Hopkins

Dr. Josh Lauring
Johns Hopkins

Dr. Khanh Do
Dana-Farber

Dr. Michael Hall
Fox Chase

Dr. Funda Meric-Bernstam
MD Anderson
Genomic Tumor Board Utilization

Sessions

- **Session participants**
- **MCGI Clinicians**
- **MCGI practices represented**
GTB Experience Testimonials
(from community oncologists)

“The first conference was fabulous“

“This information presented at these tumor boards is timely, relevant, and difficult to acquire for the practicing community oncologist in other ways. It will be very useful”

“The MCGI Genomic Tumor Boards help clinicians make better treatment decisions for patients”

“Attending the MCGI GTB supports me in better incorporation of molecular testing into standard clinical practice”

“The MCGI GTB develops clinician confidence and competence using molecular profiles. Outstanding expert panel. Keep up the same!” “After attending the MCGI GTB, I understand the report better and am more comfortable explaining to a patient.”

* Based on official (CME) evaluation documentation
MCGI Network

13 Hospital-based practices affiliated with 2 healthcare systems

1 Private practice

78 Oncologists

~9,000 new cancer patients/year
Enrollment Update:
Patients/Clinicians by Site

- **Patients:**
  - **MCGL Office:** 1
  - **Cary Hospital:** 1
  - **Mary Dow/MCMH:** 1
  - **Stephens Memorial:** 2
  - **St. Mary:** 1
  - **CMCC/MRA:** 1
  - **EMMC:** 28
  - **HACCC:** 33
  - **Mercy Hospital:** 18
  - **MMC Cancer Institute:** 18
  - **NECS:** 11
  - **Pen Bay Hospital:** 4
  - **York Hospital:** 3
  - **TOTAL:** 167

- **Clinicians:**
  - **MCGL Office:** 1
  - **Cary Hospital:** 1
  - **Mary Dow/MCMH:** 1
  - **Stephens Memorial:** 2
  - **St. Mary:** 1
  - **CMCC/MRA:** 1
  - **EMMC:** 10
  - **HACCC:** 10
  - **Mercy Hospital:** 11
  - **MMC Cancer Institute:** 11
  - **NECS:** 4
  - **Pen Bay Hospital:** 3
  - **York Hospital:** 3
  - **TOTAL:** 61/78

- **Involved Sites:**
  - **MCGL Office:** 1
  - **Cary Hospital:** 1
  - **Mary Dow/MCMH:** 1
  - **Stephens Memorial:** 2
  - **St. Mary:** 1
  - **CMCC/MRA:** 1
  - **EMMC:** 10
  - **HACCC:** 10
  - **Mercy Hospital:** 11
  - **MMC Cancer Institute:** 11
  - **NECS:** 4
  - **Pen Bay Hospital:** 3
  - **York Hospital:** 3
  - **TOTAL:** 61/78

- **Not Involved Sites:**
  - **MCGL Office:** 1
  - **Cary Hospital:** 1
  - **Mary Dow/MCMH:** 1
  - **Stephens Memorial:** 2
  - **St. Mary:** 1
  - **CMCC/MRA:** 1
  - **EMMC:** 10
  - **HACCC:** 10
  - **Mercy Hospital:** 11
  - **MMC Cancer Institute:** 11
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  - **TOTAL:** 61/78
Implementation Opportunities

- First-of-its kind in the state-wide community genomics initiative
- Implementation across different healthcare systems, geographies and practices
- New structures & processes: protocol and patient consent, data collection, and partnership agreements
- Community-centric – integrating the needs of the community into the design of the initiative and the study protocol
MCGI Timeline

167 enrolled & >120 tested patients, 16 GTBs & 41 cases run, 61/78 oncologists participating, 13/16 sites open

- Oct ‘16: Community-based Clinical Steering Committee formed
- Jan ‘17: MCGI Office Staffed
- Feb ‘17: MCGI Forum - all oncology practices participated and MCGI office open
- Jun ‘17: Study Protocol approved by IRB
- May ‘17: 1st Oncologist enrolled
- Jul ‘17: 1st Practice opened for the study
- Aug ‘17: 1st Genomic Tumor Board (GTB) run
- today: 1st Patient registered

14
**Precision Medicine Patient Journey**

**selection**
- tumor boards
- oncologists and other healthcare professionals

**diagnosis**
- genomic test(s)
- analysis of all relevant patient data

**decision**
- education
- Genomic Tumor Boards
- expert review

**treatment**
- access to resources
- access to drugs

**research**
- outcomes
- Utility
- novel tests
Partnership with Precision Medicine Networks

- Data sharing network of cancer centers and oncology practices
- Facilitation of clinical decision making based on genomic data
Participation in Precision Medicine Networks
Enabling the community

MCGI: Precision Medicine for Maine

- Recruitment and Retention of Professionals
- Improvement in Patient Outcomes
- Increased clinical trials opportunities
- IT Innovations
- Drug Development
- Novel model of healthcare delivery
- Collaboration
The Power of Data: First Colon Cases Summary (n=10)

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The Power of Data: Similar pattern in MSKCC-IMPACT

Altered in 958 (98%) of 982 sequenced cases/patients (982 total)

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Genetic Alteration:
- No alterations
- Amplification
- Deep Deletion
- Fusion
- Truncating Mutation (putative driver)
- Truncating Mutation (putative passenger)
- Inframe Mutation (putative driver)
- Inframe Mutation (putative passenger)
- Missense Mutation (putative driver)
- Missense Mutation (putative passenger)
Our Hopes for the Future

- Better outcomes for cancer patients
- Implementation of precision medicine journey (Patient → Treatment)
- Community wide expertise in utilization of genomic testing
- Data that can provide the basis for better individualized patient solutions
- Deep partnership between JAX and the clinical community
Acknowledgements
Acknowledgements

The Harold Alfond Foundation and The Jackson Laboratory for the joint funding of MCGI

The MCGI Clinical Steering Committee and External Advisors for the guidance

The Maine oncology practices for support and belief in MCGI

Our collaborators from MMCRI’s CORE group for their help with project design, implementation and data analytics

Our JAX leadership & colleagues for all operational aspects

Our hosts at The Harold Alfond Center for Cancer Care for hosting the MCGI team on their campus
Questions?