Oncology Clinical Program Update

William Sause
Medical Director
Oncology Clinical Program
Outline Cancer Program

Background
Screening
Quality Care
New Technology
Contact Information
Cancer Cases Utah 2011

Total cases  8,357

Intermountain cases  5,363
Total per Capita Annual Health Spending in Constant (2008) Dollars

Source: CMS
Quality Improvement and Research

Novel Cancer Therapies

The Cost of Progress?

Trastuzumab in Breast Cancer
E.H. Romond et al. NEJM 353:1673, 2005

% DFS

Treat: No: Events:
AC—T 1679 261
AC—TH 1672 134
HR=0.48, P=3x10^{-12}

Years from Randomization
Ultimately the goal is to improve the quality of care by developing quality improvement strategies that proactively and consistently support clinical best practice.
SCREENING
<table>
<thead>
<tr>
<th>Common Types of Cancer</th>
<th>Estimated New Cases 2013</th>
<th>Estimated Deaths 2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Prostate Cancer</td>
<td>238,590</td>
<td>29,720</td>
</tr>
<tr>
<td>2 Breast Cancer</td>
<td>232,340</td>
<td>39,620</td>
</tr>
<tr>
<td>3 Lung and Bronchus Cancer</td>
<td>228,190</td>
<td>159,480</td>
</tr>
<tr>
<td>4 Colon and Rectum Cancer</td>
<td>142,820</td>
<td>50,830</td>
</tr>
<tr>
<td>5 Melanoma of the Skin</td>
<td>76,690</td>
<td>9,480</td>
</tr>
<tr>
<td>6 Bladder Cancer</td>
<td>72,570</td>
<td>15,210</td>
</tr>
<tr>
<td>7 Non-Hodgkin Lymphoma</td>
<td>69,740</td>
<td>19,020</td>
</tr>
<tr>
<td>8 Kidney and Renal Pelvis Cancer</td>
<td>65,150</td>
<td>13,680</td>
</tr>
<tr>
<td>9 Thyroid Cancer</td>
<td>60,220</td>
<td>1,850</td>
</tr>
<tr>
<td>10 Endometrial Cancer</td>
<td>49,560</td>
<td>8,190</td>
</tr>
</tbody>
</table>

Percent of Cases by Stage

- Localized (15%)
- Confined to Primary Site (22%)
- Spread to Regional Lymph Nodes
- Distant (57%)
- Cancer Has Metastasized
- Unknown (6%)
- Unstaged

5-Year Relative Survival

Figure 1. Trial results for lung cancer mortality.

<table>
<thead>
<tr>
<th>Study, Year (Reference)</th>
<th>Male, %</th>
<th>Follow-up, y</th>
<th>Deaths per 100 000 Person-Years, n</th>
<th>Mean Age, y</th>
<th>Pack-Years, n</th>
<th>Screening Intervals, y</th>
<th>Relative Risk (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Intervention</td>
<td>Control</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NLST, 2011 (53)</td>
<td>59</td>
<td>6.5</td>
<td>247</td>
<td>309</td>
<td>61</td>
<td>56</td>
<td>0, 1, 2</td>
</tr>
<tr>
<td>DANTE, 2009, 2008 (39, 40)</td>
<td>100</td>
<td>2.8</td>
<td>527</td>
<td>637</td>
<td>65</td>
<td>47</td>
<td>0, 1, 2, 3, 4</td>
</tr>
<tr>
<td>DLCST, 2012 (60)</td>
<td>56</td>
<td>4.8</td>
<td>154</td>
<td>112</td>
<td>58</td>
<td>36</td>
<td>0, 1, 2, 3, 4</td>
</tr>
<tr>
<td>MILD, 2012 (57)*</td>
<td>66</td>
<td>4.4</td>
<td>216</td>
<td>109</td>
<td>57†</td>
<td>39†</td>
<td>0, 1, 2, 3, 4</td>
</tr>
</tbody>
</table>

DANTE = Detection and Screening of Early Lung Cancer by Novel Imaging Technology and Molecular Essays; DLCST = Danish Lung Cancer Screening Trial; MILD = Multicentric Italian Lung Detection; NLST = National Lung Screening Trial.

* Annual screening group compared only with control group; biennial screening group not shown.
† Median.
Criteria for early lung cancer screening

**Medicare**

- Age 55-74 years
- 30 pack/year smoking history
- Current smoker or quit within 15 years
- Counseling/shared decision making prior to first LDCT for screening
Criteria for early lung cancer screening

**USPSTF**

- Age 55-80
- \( \geq \) 30 pack-year smoking history
- Smoking cessation less than 15 years
Criteria for early lung cancer screening

National Comprehensive Cancer Network, NCCN

- Age 55-74
- \( > 30 \) pack-year smoking history
- Smoking cessation less than 15 years
  or
- \( > 50 \) years old
- \( > 20 \) pack-year history of smoking
- One additional risk factor other than second-hand smoke
Lung Cancer Screening Flow

Patient undergoes LDCT scan

- No nodule or nodule less than 4 mm.
  - Patient active status lung screen program with yearly scan up to 15 years post smoking cessation or age 80

- Nodule/s 4 to 7 mm multiple nodules repeat diagnostic scan in 3-6 months
  - Scan unchange
  - Enlarging nodule

- Suspicious for malignancy nodule ≥ 8-9 mm
  - Navigator schedules appointment within 1 week with PCP preferred Pulmonologist or surgeon

- Other significant findings
  - Navigator notifies PCP of findings makes appointment with PCP's preferred consulting MD

Patient is inactive screening status for diagnostics PET-CT, biopsy, or surgical consultation

- Malignant Diagnosis refer to Multidisciplinary Clinic
- Definitive benign diagnosis refer to treatment
- Non-diagnostic, refer for additional diagnostic procedures or placed on watchful waiting

Nurse Navigator coordinates based on MDCC recommendations

- Surgery
- Radiation Therapy
- Chemotherapy
- Palliative Care
- Other
Counseling and Shared Decision Making Lung Cancer Screening

Patient Details
- Date of Birth: 
- Age: 
- Phone: 
- EMPI#: 
- Date of Contact: 

Assessment of Use and Exposure
- Cigarettes per day: _______ Packs per day: _______
- Years smoked: _______ Pack/Year: _______
- Exposure: □ Radon □ Asbestos □ Other __________________________

Lung Cancer Screening USPTF, CMS, and NCCN Guide

CMS
- □ 30 pack year smoking history □ age 55-80 years
- □ Current smoker or quit within 15 years □ Counseling/shared decision making

NCCN
- □ Age 55-74 □ ≥ 30 pack year smoking history
- □ Age ≥ 50 and ≥ 20 pack year smoking history + risk
- □ Smoking cessation < 15 years

USPSTF
- □ Age 55-80 □ ≥ 30 pack year smoking history □ Smoking cessation < 15 years

Smoking Cessation Counseling and Shared Decision-Making
Consideration of the decision to quit smoking
Discussion:
- Tobacco smoke is harmful to smokers and nonsmokers (Contains harmful chemicals) it causes chronic lung disease such as emphysema, bronchitis, and asthma
- Cigarette smoking causes many types of cancer (lung, throat, mouth, nasal cavity, esophagus, stomach, pancreas, kidney, bladder, cervix, and acute myeloid leukemia)
- Quitting smoking reduces health risks caused by exposure to tobacco smoke
- Health problems caused by smoking are heart disease, stroke, aneurysm, chronic obstructive pulmonary disease, hip fractures, and cataracts.
- Strong commitment is needed to gain benefits from lung cancer screening
- Values placed on benefits, harms and scientific uncertainties.

Benefits of quitting:
- Reduces the risk of dying from cancer caused by smoking
- Heart rate and blood pressure (abnormally high during smoking) begin to return to normal
- Within hours level of carbon monoxide (competes for oxygen) in blood declines
- Within weeks circulation improves, less phlegm production and decrease in cough or wheezing
- Within months substantial improvement in lung function
- Sense of taste and smell improve

Risks (LDCT scan):
- False positive results
- Radiation exposure
- Emotional stress
- Other

A clear explanation of the high risk factors associated with smoking tobacco was provided. Time was included for answering questions to the satisfaction of the patient.

Please perform the following: Low Dose CT scan of the chest for early lung cancer screening

Physician Signature: ___________________________ Date: ______________

Attention: Patricia Kruger, Early Lung Cancer Screening
Phone: 801-507-3969 Fax: 801-507-3998
**New PSA Reporting**

**Sample Report**

<table>
<thead>
<tr>
<th>Test, Patient One</th>
<th>Age</th>
<th>PSA</th>
<th>Risk of High-Grade Prostate Cancer</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>58</td>
<td>3.8 ng/mL</td>
<td>DRE neg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>6.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DRE neg, African-American</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14.4%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DRE pos</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>14.9%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>DRE pos, African-American</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>31.3%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finasteride, DRE neg</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>13.6%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finasteride, DRE neg, African-American</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>29.1%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finasteride, DRE pos</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>30.0%</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Finasteride, DRE pos, African-American</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>52.8%</td>
</tr>
</tbody>
</table>
What was the result on Biopsy Rates

PSA Biopsy Rate All Ages

- LCL
- Positive Biopsy Rate
- Average Pos Biopsy Rate
- UCL
Positive Biopsy Rates

PSA Positive Biopsy Rate All Ages

- LCL
- Positive Biopsy Rate
- Average Pos Biopsy Rate
- UCL
Results

What is the Result of Our PSA Reporting

1) Significant decrease in prostate biopsy rate in the Intermountain Health Care System

2) Significant Increase in prostate cancer detection rate

3) A significant decrease in Gleason's sum from an average of 7 to an average of 6 among 55-64 year olds, but remained constant for other patient groups
Prolaris and AUA Risk

**NEEDLE STUDY - PREDICTED RISK OF PROSTATE CANCER DEATH WITHIN 10 YEARS**

Univariate p-values: AUA<10^{-3}, AUA+Prolaris<10^{-5}

[Graph showing predicted risk of prostate cancer death within 10 years based on AUA and Prolaris risk.]

Data on file Myriad Genetic Laboratories, Inc
QUALITY CARE
Quality Improvement and Research
Tumor-Specific Projects

**Breast Cancer**
- ER/PR Specimen Handling
- Breast Reconstruction
- Oncotype DX Testing
- MRI Utilization in Breast Cancer Patients
- Short-Term Imaging Follow-Up
- Sentinel Lymph Node
- Tissue Procurement
- Time to Biopsy
- Mammography Callback Rate
- Early Stage Adjuvant Radiation Therapy
- Node Dissection Rate for DCIS
- DCIS at Diagnosis
- Axillary Dissection Following Positive Sentinel Node Biopsy
- Early Stage at Diagnosis
- Neoadjuvant Chemotherapy
- ER/PR Hormone Therapy
- Micrometastasis
- Hypo-fractionation
- Breast Screening Cost
- BIRADS 3

**Colorectal Cancer**
- Stage III Chemotherapy
- Rectal Cancer – Endoscopic Ultrasound
- Colon Familial Polyp (HICCP-UPDB)
- Metastatic Colon Cancer Tissue
- Colon 12 Node Retrieval
- HPNCC Genetics Study
- Pancreaticoduodenectomy Study
Quality Improvement and Research
Tumor-Specific Projects

Melanoma
- Melanoma Database
- Ear Melanoma Study

Lung Cancer
- Pre-Operative Imaging

GYN Cancers
- Endometrial Cancer Study
- Ovarian Cancer Study
- Endometrial Familiality Study
- PAP & HPV Testing
- Endometrial Lynch Syndrome
- Stage III Radiation
- Myometrial Invasion

Urologic Cancers
- Prostate Quality of Life Study
- Radiation Treatment Templates
- Renal Cancer Database
- Finasteride
- Familial Polyp
- Prostatectomy Length of Stay (LOS)
- Prostatectomy Variable Cost Evaluation
- Physician Report Card
- PSA Recurrence
- Prostatectomy Margin Status

Other
- Multi-clinic Downstream Revenue
- Neuro-Oncology Database
DASHBOARD
Mammography Callback Rate

Quarter

Percent

 CALLBACK RATE

NATIONAL BENCHMARK (<10%)
Breast Preservation

![Graph showing breast preservation rates over time with an intervention point marked.](image-url)
Trend in Practice Patterns 2007-2012 Percentage of PBI and HF prescriptions rendered for eligible (n=1407) patients.
Subspecialized Care

**Breast Cancer**

*Breast Development Team*

*Dedicated:*

- Surgeons
- Radiation Oncologists
- Medical Oncologists

**Neurology**

*Dedicated:*

- *Neuro oncologist* Howard Coleman
- Surgeons
- Radiation oncologists with advanced technology
Subspecialized Care

**Prostate and GU Malignancies**
Prostate Development team
Dedicated:
- Urologists
- Radiation Oncologists
- Medical Oncologists

**Sarcoma- Soft Tissue**
Development team
- Dedicated Orthopaedic Oncologist
- Supportive radiation and medical oncology
Subspecialized Care

**GI Malignancies**
Gastrointestinal Development team
Dedicated:
- Colo-Rectal and Upper GI surgeons
- Supportive radiation and medical oncology

**GYN**
Development team
- Dedicated surgeons
- Supportive radiation and medical oncology
Subspecialized Care

**Thoracic Malignancies**

Development team

Dedicated:

- Thoracic surgeons, specialized interventional pulmonologist
- Supportive radiation and medical oncology

**Melanoma**

Development team

- Dedicated surgeons
- Supportive radiation and medical oncology
Subspecialized Care

**Head and Neck**

*Dedicated:*

- Surgeons
- Supportive radiation and medical oncology

**Blood and Marrow/Acute Leukemia Program**

*Development team*

- Hematologist
- Supportive radiation and medical oncology
Subspecialized Care

Liver Transplant Team

*Dedicated transplant team, surgeons and gastroenterologist*
Tumor Conference, Grand Rounds

- Breast conference (weekly)
- GYN conference (bi weekly)
- General tumor conference (biweekly)
- Gastrointestinal, GI conference (biweekly)
- Genitourinary, GU conference (biweekly)
Tumor Conference, Grand Rounds

- Hepatocellular conference, HCC (biweekly)
- Hematology/Bone Marrow Transplant (weekly)
- Head and Neck conference (every other week)
- Neurology conference (biweekly)
- Melanoma conference (biweekly)
Multidisciplinary Cancer Clinics

**Prostate, GU Cancer Clinic**- Held on the 2\textsuperscript{nd} and 4\textsuperscript{th} Tuesday of every month, 9:00 am-12:00 pm. The patients will meet with an Urologist, radiation oncologist and a medical oncologist. Also available: genetics counselor, financial counselor, dietician, social worker, and registered nurse.

This clinic is for patients who are:

- **Prostate**
- **Bladder**
- **Renal**
- **Testicular**
**Multidisciplinary Cancer Clinics**

**Liver/Pancreas Clinic** - Held weekly on Tuesdays from 0900-1200pm. Patients will meet with a surgeon, medical oncologist, and radiation oncologist. Also available: a dietician, social worker, and registered nurse.

This clinic is for patients who have a suspected or confirmed cancer diagnosis of the:

- Liver
- Bile Duct
- Gastric
- Pancreas
- Esophageal
- Gall Bladder
- Neuro-endocrine tumors
- Colon
Multidisciplinary Cancer Clinics

**Musculoskeletal Clinic** - Held on the 1st and 3rd Tuesday from 0900-1200. Patients will meet with surgeon, radiation oncologist and medical oncologist. Also available: genetics counselor, social worker, dietician, lymphedema specialist, physical therapy, and registered nurse.

This clinic is for patients who:

- New or recurrent diagnosis
- Suspected cancer diagnosis
NEW TECHNOLOGY
Study Summary List
Summary of changes found on page 4

Open Protocols – XXXX 2014

Study Item

NSABP B-47 A Randomized Phase III Trial of Adjuvant Therapy Comparing Chemotherapy Alone (Six Cycles of Docetaxel Plus Cyclophosphamide or Four Cycles of Docetaxel Plus Cyclophosphamide Followed by Weekly Paclitaxel) to Chemotherapy Plus Trastuzumab in Women with Node-Positive or High-Risk Node-Negative HER2-Low Invade Breast Cancer. Trastuzumab is provided. NCT01279576

NSABP B-48 A Randomized Double-Blind, Parallel Group, Placebo-Controlled Multi-Center Phase III Study to Assess the Efficiency of Safety of Olaparib Versus Placebo as Adjuvant Treatment in Patients With Germline BRCA2/2 Mammatus and High Risk HER2 Negative Primary Breast Cancer Who Have Completed Definitive Local Treatment and Neoadjuvant or Adjuvant Chemotherapy. Olaparib is provided. NCT01205253

Multiple Intraductal Breast Cancers (MIBCs)

E2119G Import of Breast Conservation Surgery on Outcomes and Outcomes in Patients with Multiple Intraductal Breast Cancers (MIBCs). NCT01624243

ENCES

E2119G A Randomized Phase III Trial of the Value of Early Local Therapy for the In situ Primary Tumor in Patients with Metastatic Breast Cancer NCT01421800

GASTRONOMICAL

A012105V Prospective Randomized Phase II Trial Of帕洛泊汀(沃夫)(沃夫)(沃夫) Vencarmet-pilocarpine in Patients With Proven Carcinoma (lymph nodes, lymph nodes, lymph nodes) with Planned Curb: Phases. Complete Local Treatment and Neoadjuvant or Adjuvant Chemotherapy. Olaparib is provided. NCT01209823

NOSE positive

CT141247V Phase III Randomized Clinical Trial of Standard Adjuvant Endocrine Therapy vs Chemotherapy in Patients With Stage I-III Positive Node, Hormone Receptor positive, and HER2-Negative Breast Cancer with Recurrence Score (G2) < 25 or none. NCT01279576

Emphasis

E2016 Phase III Randomized Study of Radiotherapy, Paclitaxel, and Carboplatin With Vorinostat Without Trastuzumab in Patients With HER2-Overexpressing Invasive Adenocarcinoma Trastuzumab is provided. NCT01965590

E2016 Phase III Randomized Study of Radiotherapy, Paclitaxel, and Carboplatin With Vorinostat Without Trastuzumab in Patients With HER2-Overexpressing Invasive Adenocarcinoma Trastuzumab is provided. NCT01965590

Cervical:


GOG 603 Phase III Randomized Study of Advanced Radiation/Cancer Chemotherapy Therapy in Patients With Intermediate-Risk Stage IIA Cervical Cancer Treated With Initial Hybrid Hyperthermia and Winter Radiation Therapy NCT01131457

RCO 6113 A Randomized III Study of Standard vs IMRT Pelvic Radiation For Post-Operative Treatment Of Endometrial And Cervical Cancer (TIMEC). NCT01473932

E2016 A Randomized Phase III Study of Paclitaxel-Carboplatin-Metronomic (GOG014B5) Versus Paclitaxel-Carboplatin-Platinum as Initial Therapy for Measurable Stage III or IV A, Stage IIB, IV or Recurrent Endometrial Cancer. Metrosoln plaques is provided. NCT01626657

Oral:

GOG 624A A Randomized Phase II/III Study to Assess the Efficiency of Taxotere (GOX) 2013 in Patients with Recurrent or Progressive Low Grade Serous Ovarian Cancer or Postmenopausal Cancer. Trastuzumab is provided. NCT01210788

Vials:

Follichorm-Tube:

HEAD & NECK

E2016 A Randomized Phase II Study of Concurrent Intensity Modulated Radiation Therapy (IMRT), Paclitaxel and Paclitaxel (GOG014B5) Pilocarpine. The Treatment of Asymptomatic Thyroid Cancer Pilocarpine is provided. NCT01134457

E2022 Phase III Study of postoperative radiation therapy (sto) – included for locally-advanced resected head and neck cancer. Cetuximab is provided. NCT01956707

E2023 Phase II Study of Adjacent Cervical Radiation and Chemoradiation vs Radiation Alone in Recurrent/High Risk Development (HOD). NCT01226203

NWC 8063 Randomized Phase II and Phase III Studies of Individualized Treatment for Neoplastic Carcinoma Based on Biomarker Data (VEGFR) NCT01219042

Bromocriptine Acetate (DNA) NCT01219042

E2016 Randomized Phase III Trial of Surgery and Postoperative Radiation Delivered with Concurrent Cytostatic vs No Concurrent Cytostatic for High-Risk Squamous Cell Cancer of the Head and Neck NCT01819194
**LEUKEMIA**

LDH Sh Only

Contact Lisa Gamble at 463-3465 or Collin Arsenault at 485-5010 regarding pt enrollment.

- CTU E1916 A Randomized Phase III Study of Standard Cytarabine plus Daunomycin (7+3) Therapy or Idarubicin with High Dose Cytarabine (IA) versus IA with Vinorelbine (IA-V) in Younger Patients with Previously Untreated Acute Myeloid Leukemia (AML). Vinorelbine is provided NCT01802333.

- Phase III A Randomized Trial of Blinatumomab for Newly Diagnosed B-Cell ALL: a Late-Lineage AML Prognostically Similar to AML in Younger Patients. Blinatumomab is provided NCT02003222.

- A Randomized Phase 3 Study of Azacitidine plus Standard Dose Cytarabine in Patients with Relapsed Refractory CD122-Positive Acute Myeloid Leukemia (AML) with Interleukin-7 Receptor (CD122) Expression. Blinatumomab is provided NCT01802333.

**LYMPHOMA**

Non-Hodgkin’s:

- **LYMPHOMA**

**MELANOMA**

- POLYOMA A Multicenter, Double-blind, Placebo-controlled, Adaptive Phase 3 Trial of PDL101 for Melanoma. PDL101 is provided.

**MYELOMA**

- **MYELOMA**

**SARCOMA**

- **SARCOMA**

**PROTOCOL SUSPENSIONS**

- **PROTOCOL SUSPENSIONS**

**LUNG**

- RT01 A Randomized Phase II Trial of Individualized Adjuvant Radiotherapy for Early-Stage Non-Small-Cell Lung Cancer (NSCLC) Stage I and IIa/IIb. Full trial is available at NCT01957424.

**STUDIES PENDING OPENING**

- **STUDIES PENDING OPENING**

**SUMMARY OF CHANGES**

- **SUMMARY OF CHANGES**

**STUDIES CLOSING**

- **STUDIES CLOSING**

**STUDIES SUSPENDED**

- **STUDIES SUSPENDED**

**STUDIES PAUSED**

- **STUDIES PAUSED**

**STUDIES CLOSED**

- **STUDIES CLOSED**

**STUDIES WITHDRAWN**

- **STUDIES WITHDRAWN**

**BONE MARROW TRANSPLANT**

LDH Sh Only

Contact Lisa Gamble at 463-3465 or Collin Arsenault at 485-5010 regarding pt enrollment.

- CMX001-301 A Randomized, Double-blind, Placebo-controlled, Parallel-group Multicenter, Phase 3 Study of the Safety, Tolerability, and Efficacy of CMX001 for the Prevention of Cytomegalovirus (CMV) Infection in CMV-seronegative (K) Hematopoietic Stem Cell Transplant Recipients. CMX001 is provided. NCT01676796.

- CMX001-304 A Phase 3, Open-label, Multicenter Study of the Safety, Tolerance, and Efficacy of CMX001 for the Prevention of Cytomegalovirus (CMV) Infection in CMV-seronegative (K) Hematopoietic Stem Cell Transplant Recipients. CMX001 is provided. NCT01676796.

**MISCELLANEOUS**

- **MISCELLANEOUS**

**Advanced Pancreatic Cancer sub-Pancreatic Islet Cell Transplantation is Provided NCT01921715**

- **Miscellaneous**

Please see the Oncology Clinical Trials website for more detailed information on these studies. This website can be accessed through: [Oncology Clinical Trials](https://clinicaltrials.gov/).
Bone Marrow Transplant

271 CASES 2013
Number of Mutations in Human Cancers

A

Glioblastoma (14)
Medulloblastoma (8)

Rhabdoid cancer (4)
Neuroblastoma (12)

Acute lymphocytic leukemia (11)

Glioblastoma (35)

Non-Hodgkin lymphoma (74)

Breast cancer (33)

Hepatocellular cancer (39)

Pancreatic cancer (45)

B

Lung cancer (non-small cell) (147)
Lung cancer (small cell) (163)

Esophageal adenocarcinoma (57)

Esophageal squamous cell carcinoma (79)

Gastric cancer (53)

Colorectal cancer (66)

Ovarian cancer (42)

Chronic lymphocytic leukemia (12)

Acute myeloid leukemia (8)

Endometrial cancer (49)

Prostate cancer (41)

Melanoma (135)
Genome Aberrations

Faulty Genes
1. FGFR1
2. P53
3. MEK1
4. EGFR
5. HER2

Cancerous cell
EGFR TKI vs Carboplatin-Paclitaxel

EGFR-Mutation–Positive

Hazard ratio, 0.48 (95% CI, 0.36–0.64)
P<0.001
Events: gefitinib, 97 (73.5%); carboplatin plus paclitaxel, 111 (86.0%)

EGFR-Mutation–Negative

Hazard ratio, 2.85 (95% CI, 2.05–3.98)
P<0.001
Events: gefitinib, 88 (96.7%); carboplatin plus paclitaxel, 70 (82.4%)

Cancer Genomics Workflow

- **Day 1**: Molecular analysis (NGS)
- **Day 2-3**: Analytics
- **Day 4-5**: Molecular Tumor Board
- **Day 6-7**: Results and Treatment
- **Day 8-9**: Personalized Medicine Clinic
- **Day 10-12**: Tumor Biopsy or FFPE Pathology Review
- **Day 13**: Sample Prep
- **Day 14**:
Summary

Commitment to high quality subspecialty care

Commitment to quality improvement, clinical research and novel technology