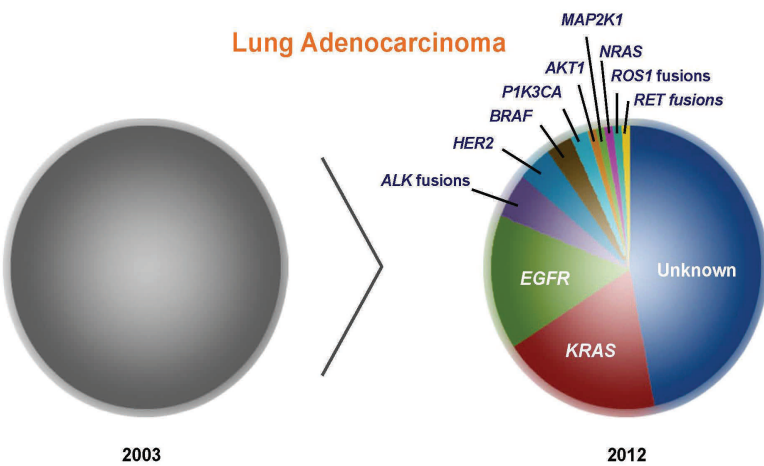
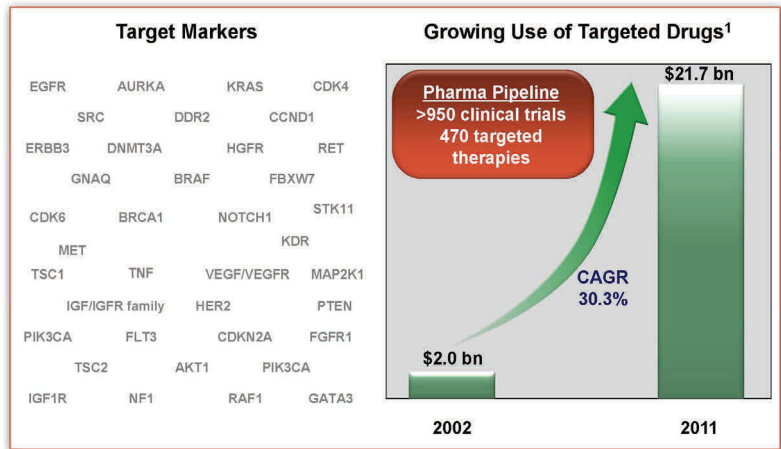


## Our Understanding Of Cancer Complexity Is Increasing



## Cancer Treatment Approaches Are Evolving Rapidly



Progress in molecular biology continues to underpin explosive growth in the number of targets, targeted therapeutics, and their utilization

Source: Tufts Center for the Study of Drug Development

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Spotlight—Lung  
Cancer Trials

Events:

Save The Date:

AEP Barge Industry

Annual Golf and

Softball Tournament

August 14-16, 2014

UNDY 5000 Walk/Run,

November 8, 2014

## TARGETING LUNG CANCER

Lung cancer is the most common cancer worldwide, with approximately 1.3 million deaths annually. In Texas, an estimated 11,130 deaths were anticipated in 2013, creating a critical need for treatments close to home. As a result, Mary Crowley Cancer Research Centers are picking up the pace to offer more research options for patients with advanced lung cancer. The Center is conducting a full spectrum of clinical trials with novel agents ranging from targeted therapies to immune therapies.

Utilizing the *personalized* medicine approach, or use of genomics to optimize patient outcomes, Mary Crowley obtains genetic profiles of patients to identify their unique signals/mutation. Only a small amount of the patient's tumor tissue is required to conduct the analysis. The resulting information allows the investigators to match their mutation to a relevant targeted therapy, which is designed to attack the mechanisms that are causing their cancer to grow. Mary Crowley, noted for their vast experience in immunotherapy, also has multiple trials for lung cancer that are designed to train one's immune system to recognize the cancer as foreign and start to fight the cancer. See page 4 for more details on the specific trials available for lung cancer and what Dr. Nemunaitis, Executive Medical Director says about each.

## THE HUMAN GENOME PROJECT

The Human Genome project theoretically started in the mid to late 1800's when Grego Mendel, a German scientist and Johannes Miescher, a Swiss student of cell metabolism, were credited as the founders of genetics and discoverers of nucleic acid, later named DNA. In 1962 James Watson, Francis Crick, and Maurice Wilkins jointly received the Nobel Prize in physiology and medicine for their 1953 determination of the structure of deoxyribonucleic acid (DNA). In 2001, the Human Genome project was declared complete. In 2008, James Watson had his entire DNA sequenced, taking 4 months at an approximate cost of \$1M. Francis Collins, who served in a leadership role for the Human Genome Project and current Director of the NIH said in 2010, that "It is fair to say that it has not directly affected the healthcare of most individuals."

Progress indeed moves rapidly. In 2014, Mary Crowley is obtaining genetic profiles for cancer patients within a 2 week time period and at a cost of just a few thousand dollars! This complex identification of the patient's signaling pathways and subsequent alignment to an appropriate therapy is followed by an analysis of how the therapy affects the growth of the cancer cells. See illustrations above.

# Updates:



## Educational Lecture Series by Collaborating Oncologists

Community oncologists are sharing their expertise with Mary Crowley staff on some of the more difficult cancers they have had to treat. Six lectures on different cancer types were presented; Doctors: Joseph Kuhn - Thyroid, Jaya Juturi -Breast, Robert Mennel - Sarcomas, Douglas Orr- Hepatocellular, Dhires Jeyarajah - Pancreatic, and Thomas Hefferman - Metastatic Ovarian. All physicians shared case studies and discussed their standard of care approach in conjunction with available research options.



## Palm Beach Florida Civic Association Introduced to Mary Crowley

Mary Crowley spoke to the Health Care Committee of the Palm Beach Civic Association on April 30th, 2014, about one of their novel investigational cancer vaccines being offered to women with advanced ovarian cancer. In partnership with Florida Cancer Specialists to make this available to Palm Beach women through Mary Crowley, Drs. Howard Goodman and Daniel Spitz provided background statistics to validate the community need for additional options like the vaccine. Dr. Neil Senzer, Scientific Director of Mary Crowley, outlined the scientific basis for the One-Two Punch immunotherapy and said "Molecular Immunotherapy has revitalized cancer treatment." Dr. Senzer went on to say that the therapy will soon be advanced to Phase 3 testing and offered as one of the available trials with the international Gynecologic Oncology Group (GOG).



## ACRP Requests Encore from Mary Crowley

Nadine Nemunaitis, V.P. of Research Operations and Staci Horvath, Research Operations Manager, presented at the annual conference of the 2014 Association of Clinical Research Professionals (ACRP) on April 26-29th in San Antonio, Texas. With over 300 abstracts submitted to ACRP, the Mary Crowley abstract was one of only 140 accepted. It was so well received that the association requested the Mary Crowley team to *repeat* their presentation via webcast to their international membership in October of this year. The title of the session was *Standardizing PI Delegation Records*. ACRP is a global association of the largest community dedicated to clinical research and development, including chapters in 15 different countries and 50 in the U.S.



## Five Mary Crowley Nurses Speak at 39th Annual ONS Congress

The professional nursing staff at Mary Crowley was well represented at the 39th Annual Congress of the Oncology Nursing Society in Anaheim, California on May 1st -4th. Nurse Practitioner, Cynthia Bedell, RN, MSN, APRN-C, Clinical Vice President, Jeanne Jones, RN, MSN, and Ann Collins-Hattery, RN, MS, AOCN, ARNP gave 90 minute podium presentation titled "Oncolytic Immunotherapy: Using Viruses in the War Against Cancer" to over 500 attendees. The presentation covered topics such as the history of viruses, the mechanism of action of viruses, as well as biosafety standards. Cynthia said " There was a lot of enthusiasm displayed in the audience for this new science." Another presentation, co-authored by Mary Crowley Research Nurses, Jenny Sliheet RN, BSN, OCN and Ned Adams, RN was given as part of a "Nursing Support Systems" lecture series. Their presentation titled 'Remembering the "Mayonnaise Jar and Two Cups of Coffee" Concept: A New Approach to Combating Burnout and Compassion Fatigue" discussed compassion fatigue and their experience with it as well as the programs implemented at our center to combat it. Mary Crowley thanks the Crowley-Shanahan Foundation for its support of our nursing program.

The Institute of Medicine and the National Comprehensive Cancer Network reported in March 2013, that leading cancer care providers agree, "the best care for a patient diagnosed with cancer is on a clinical trial", and that integrating research into routine cancer care at the community level is vital to expanding access to quality care for patients.

# Donors:



## DANI'S FOUNDATION PASSING THE TORCH TO MARY CROWLEY

After 15 years in operation and raising close to \$1million in research funding, Dani's Foundation closed their doors on April 30th, 2014. Their longstanding focus was to provide seed research grants to those scientific investigators who are committed to bringing better treatment options to pediatric sarcoma patients. Over the past 2 years, Mary Crowley worked closely with the Foundation and mutual respect continued to develop. With such alignment of goals, Dani's Foundation has entrusted Mary Crowley to carry on the fight and has asked their donor base to throw their support to the Crowley research efforts. "Mary Crowley's work with Ewing's has given me hope that we are moving forward in the right direction of delivering new innovative treatment options for this disease and hopefully other pediatric sarcomas in the future," says Michele. The research team at Mary Crowley is privileged to continue the daunting legacy created by Dani's Mom, Michele Ashby and it's Executive Director, Martha Simmons (pictured above left to right).



## UNIQUE GEM IN DALLAS FOR CANCER RESEARCH

Mary Crowley Cancer

Research Centers hosted a community educational program to announce that new cancer drugs should make patients "Stronger, not Sicker." Over a hundred guests attended the luncheon on April 22, 2014 at the Dallas Country Club where Jane McGarry (pictured above), special contributor for WFAA said, "Mary Crowley is a unique gem in the Dallas community". John Nemunaitis, Executive Medical Director of the Center explained the 20 year evolution of immune therapies for cancer and revealed the dramatic survival benefits for those patients who were given the investigational *personalized* vaccine at Mary Crowley. The Mary Crowley approach is to couple targeted molecular therapies, which block cancer signals specific to each patient, with immune therapies that boost the patient's immune system fight their disease. Guests contributed over \$20,000 in support of the immunotherapy program.

## EWING'S FAMILIES BAND TOGETHER TO DONATE \$250,000 TO MARY CROWLEY

There is no greater patient advocate than the parents of a child who has cancer or the patient themselves. These individuals are well informed and realize that pediatric cancer research is neither profitable nor a priority for most pharmaceutical companies, even though it is a high morbidity disease. But to a parent, their child IS a *priority* and they make it a mission to find the right people that can make a difference in their child's life. Families of children having Ewing's Sarcoma seek out each other for support, discuss the promising options and together form a strong alliance. Some of those families learned of the research being conducted at Mary Crowley for Ewing's Sarcoma and collectively donated \$250,000 to develop a new targeted therapy for the disease. The families are represented within; The Rutledge Foundation, Dani's Foundation, Alan B. Slifka Foundation, and by Randy Carson and patient, Chris Carson. They continue to work with Crowley to raise an additional \$600,000 in 2014 to move the project forward to a clinical trial.



## HAUL HOPE FOR MARY CROWLEY

Glen Carbon, IL is home to the GIANT PINK transport truck that travels the nation to *drive* home the message that more cancer research is needed. This novel idea was the brainchild of Linda Cassens and together with her husband Allen, established a foundation in 2007 in memory of their daughter who died from cancer at the age of 33. The foundation is now named Allison's Hope Foundation. If the pink truck painted pink isn't enough to catch people's attention, the drivers' personal stories should inspire support for cancer research, "For this truck, we are selecting drivers not by seniority as is often done, but because they are cancer survivors or have family members battling cancer", said Brian Suhre, VP of Cassens' Transport. The Cassens family and the Foundation have been strong proponents for the type of cancer research conducted at Mary Crowley and have been generous contributors since 2007. This year, their goal is to reach the cumulative amount of **\$1Million** donated to Mary Crowley!

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**Donate Now!**  
[www.marycrowley.org](http://www.marycrowley.org)

## Mary Crowley Spotlight—Lung Cancer Trials

MC 12-07- CC-223 + Erlotinib or Azacitidine: CC-223: is a potent inhibitor of mTORC1 and mTORC2 complexes.

*Dr. Nemunaitis: "mTOR is a common tumor signal which is now targeted with CC-223."*

MC 12-13- TG4010: is a suspension of recombinant Modified Vaccinia virus strain Ankara (MVA) carrying coding sequences for the human MUC1 antigen and human Interleukin-2 (IL2), thereby targeting cancer cells expressing the MUC1 antigen.

*Dr. Nemunaitis: "This is a dual vaccine combining tumor antigen education to MUC1 antigen and functional enhancement via IL2 induction."*

MC 13-18- MEDI4736: is a humanized monoclonal antibody targeting PD-L1, which is a transmembrane protein on dendritic cells that when engaged with the PD-1 receptor on T-cells delivers an inhibitory signal that promotes T-cell anergy/apoptosis.

*Dr. Nemunaitis: "This technology has demonstrated remarkable safety and response in initial patients treated."*

MC 14-01- MSB0010718C: is a similar humanized monoclonal antibody targeting PD-L1.

*Dr. Nemunaitis: "It has been well tolerated as the MED14736 being tested in NSCLC and is being explored in multiple solid tumor histologies."*

MC 14-02- Docetaxel +/- Bavatumimab: is a chimeric version of Mab 3G4 that binds to complex of  $\beta$ 2-glycoprotein 1-phosphatidylserine.

*Dr. Nemunaitis: "This approach is pushing the edge with a focus towards triple target attack using angiogenesis inhibitor, microtubule inhibitor and  $\beta$ 2 $\pm$  glycoprotein 1-phosphatidylserine targeting."*

### REMEMBER YOUR MARY CROWLEY APP!



- Clinical Trials By Disease Type
- Clinical Trials By Molecular Target
- Includes Mechanism of Action
- Ability to Text/Email within APP
- Push Notification When NEW Trial Added
- Ability to CALL A LIVE Professional to Refer!