



A Symbol of Excellence



# Excellence in Oncology Clinical Trials

We work to find a better way. We work to raise standards and deliver more. We break new ground to make progress possible.



A Symbol of Excellence

ICON is a global provider of outsourced development services to the pharmaceutical, biotechnology and medical device industries. We specialise in the strategic development, management and analysis of programs that support clinical development from compound selection to Phase I-IV clinical studies.

Our global services are offered through the expertise of our five international divisions.

- Central Laboratories
- Clinical Research
- Contracting Solutions
- Development Solutions
- Medical Imaging

# Excellence in Oncology Research

Despite significant advances in oncology research, one in every eight deaths worldwide is still caused by cancer. In some developed nations, cancer has overtaken heart disease as the top killer of people under the age of 85. And while heart disease continues to be the leading cause of death for those over 85 in the U.S., that trend is expected to reverse within ten years, according to leading American medical authorities, making cancer the number one cause of death in the United States by 2018. <sup>1</sup>

With over 12 million new cases diagnosed in 2007 alone – and 7.6 million deaths - there is no doubt that cancer is – and will continue to be - one of the biggest challenges facing the research community. <sup>2</sup>

- References:
1. Global Cancer Facts and Figures, American Cancer Society, 2007
  2. ibid
  3. Global Cancer Facts and Figures, American Cancer Society, 2007

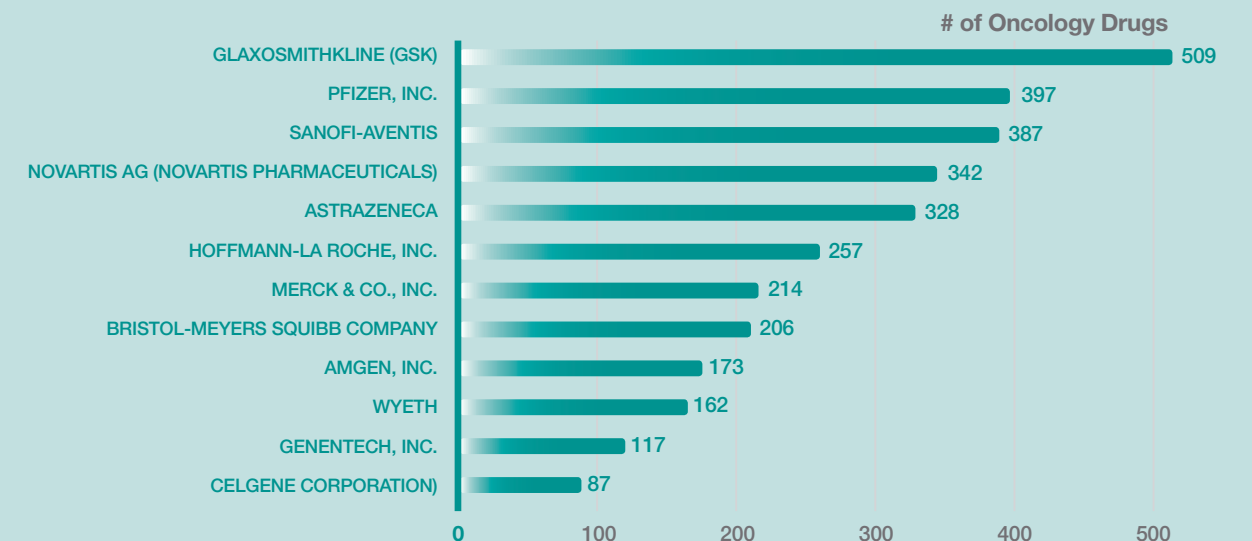
## Cancer deaths on the rise <sup>3</sup>

Cancer accounts for 7.6 million (or 13%) of all deaths worldwide. By 2015 the total number of cancer deaths per year is estimated to be 9 million.

- Lung (1.3 million)
- Stomach (1 million)
- Liver (662,000)
- Colon (655,000)
- Breast (502,000)

Source: American Cancer Society 2007

## Top 12 Pharmaceutical & Biotechnology Companies Oncology Pipeline \*



\* Key therapeutic class in their pipeline. Source: BioPharm Insight

# Excellence in Oncology Clinical Trials



## Oncology drugs are emerging as the new global market leaders

For decades, cardiovascular drugs have held the top position in the global pharmaceutical market. However, the number of new oncology drugs entering the drug development pathway has been growing by approximately 30% annually for the last 10 years. If this trend continues, oncology drugs will replace statins as the top selling pharmaceutical by 2012.

## The changing face of oncology drug development

As populations age and the incidence of cancer rises, the development of more effective cancer drugs is becoming more urgent.

In response, researchers are moving in new directions. Specifically, the emergence of targeted anticancer therapies has ushered in a new era in cancer drug development. These drugs use molecular and genetic approaches to attack specific cancers on the cellular level which are creating a greater impact on endpoints such as overall response rate, time to progression and overall survival.

In addition to targeted therapies, new sciences like genomics and proteomics may allow scientists to attack the underlying causes of cancer... perhaps even to prevent cancer from occurring or retard its progression.

These are the challenges and opportunities facing medical researchers today – and why oncology is one of the fastest-growing areas of research in science today.

## ICON: Your partner for oncology clinical trial success

Sound drug development expertise, therapeutic/portfolio management expertise, global field experience, a link to the medical community and a fully integrated plan are critical to the success of your oncology clinical trial. At ICON, we have made oncology drug development a core competency along with stellar project management.

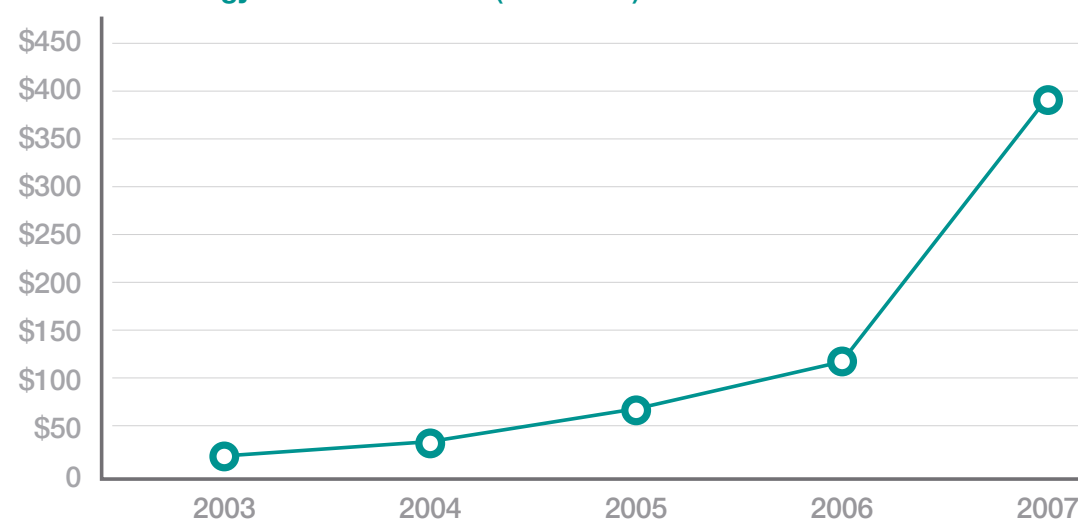
Oncology is currently ICON's fastest growing therapeutic area and a testament to our success in conducting oncology trials. To date, our experts have conducted over 450 Phase I-IV studies representing over 90,000 patients and 13,000 sites across 23 countries. Even though ICON is a large global company, we can customise our services to support smaller, locally managed projects.

We currently have established relationships with over 500 oncology centres, including a strong network of Key Opinion Leaders in the U.S. and around the world, to provide you with a competitive advantage in supporting your global drug development efforts.

ICON also has extensive experience with therapeutic agents such as conventional cytotoxics, hormonal and supportive care agents as well as a variety of innovative agents aimed at new targets, including vaccines, monoclonal antibodies, gene therapies and devices.

Let ICON's global experience and expertise in oncology help you to achieve successful marketing authorisation and make crucial pipeline development decisions.

## ICON's Oncology Revenue Growth (in millions)



## ICON's Oncology Molecule Experience

Molecule	Indication
Erbix	Colorectal Cancer
Ixemptra *	Breast Cancer
Pazopanib	Renal Cell Carcinoma
Sprycel	Chronic Leukemia
Sutent	GI Stomal Tumour

\* FDA approved - October 2007



# Excellence in Oncology Solutions

## The ICON Oncology Solution

ICON's Oncology Solution was expressly designed to expedite every aspect of a cancer drug trial through integration of critical services. It combines ICON's global experience in oncology trials with our expertise in tumour imaging, central laboratory, IVRS and CRF data, and provides sponsors with seasoned oncology project managers who act as a single point of contact across all clinical services for maximum efficiency.

The goal of The Oncology Solution is to expedite the development of cancer therapies by making the development process more efficient at every level, and to enable sponsors to focus on critical endpoints.

## The Oncology Solution: A Dedicated Cross Functional Model

Projects conducted under The Oncology Solution will have a range of ICON services bundled under one common denominator: the Project Director. This key individual will be the single point of contact across all services and will oversee all cross functional activities and components of your clinical development program globally, regardless of where project contributors are located. The Project Director will also have the authority and responsibility to implement contingency plans across functional areas.

Stringent Quality

Operational Performance and Manageability

Successful Approvals and Reduced Time to Market

Region	CPMs	CRAs
US	43	87
EU	53	166
ROW	79	186
<b>Total</b>	<b>175</b>	<b>439</b>

## Staff Oncology Experience

ICON has invested in highly qualified personnel with experience in oncology drug development. Globally, this includes 439 Clinical Research Associates and 175 Project Directors/Managers with oncology experience.

# The ICON Oncology Solution



## Project Director

Project Start-up	Project Implementation	Data Analysis	Data Delivery
Integrated project and communication plan.	Centralised, integrated, real-time project tracking.	Expert blinded review of imaging and clinical data.	Clean database for final transfer.
Site selection based on imaging capabilities and past performance.	Single project manager co-ordinates activities across multiple services.	DSMB support	Integrated clinical CRF and imaging databases for trial sponsor or NDA/BLA submission.
Development of patient recruitment plans.	IVR feeds of enrollment and of study events.	Integrated eCRF endpoint data.	Medical writing and report generation.
Investigator meetings and site training incorporating image acquisition, tumour measurements and response criteria.	Real-time image collection and quality assurance.	Standard imaging reports for DSMB.	Non-proprietary data formats enable archiving/mining of all imaging intellectual property facilitating knowledge transfer into future studies.
Regulatory consulting and SPA development including protocol development, statistical plan, imaging charger and imaging manuals.	Expert image review and tracking via MIRA™ and Oncology Image Review System.	Tables, listings & transfer formats pre-determined from tumour response data.	
	Innovative data management from OptICON, integrating Oracle-based CRF imaging and work flow management tool.		

## Oncology TAG (Therapeutic Area Group)

The in-depth therapeutic knowledge of ICON's TAG spans the entire development process, from preclinical strategy and the design and execution of proof of concept trials to regulatory approvals and post-submission marketplace acceptance. Core members of this group have extensive haematology and oncology drug development experience across several departments ensuring high quality oncology endpoints.

TAG members have worked on a wide variety of oncology programs and drug classes including anti-angiogenics, anti-metastatics, cytostatics, cytotoxics, hormonal treatments, gene therapies, hemopoietic growth factors, interferon, interleukin, monoclonal antibodies, new delivery systems, retinoids, vaccines and tumour biomarkers. They also have experience in various types of solid tumours including lung, breast, colorectal, pancreatic, ovarian, bladder, head and neck, cervix, renal cell, prostate and melanoma.

The scope of responsibilities for Oncology TAG members includes:

- Project feasibility (working in collaboration with established departments)
- Protocol development
- Protocol review and evaluation
- Product development planning
- Therapeutic experience and training
- Investigator/sponsor relationships
- Development of Academic Advisory Boards
- Liaison with opinion leader and collaborative groups
- Regulatory consulting and support
- Project management and oversight of project teams
- Clinical investigator interaction as needed to support patient recruitment and other operational issues
- Participation in country and site selection
- Medical monitoring
- Biostatistics - statistical design
- Endpoints adjudication
- Regulatory Consulting

## ICON Oncology Experience - Past 5 Years

Phase	No. of Studies	No. of Patients	No. of Sites
I	45	1,139	122
II	57	6,403	988
III	30	16,770	2,144
IV	1	748	30
<b>CLINICAL TOTAL</b>	<b>133</b>	<b>25,060</b>	<b>3,284</b>
Consulting	42	NA	NA
Biometrics	63	6,098	467
Imaging	136	24,345	4,846
IVRS	79	33,613	4,049
Other*	25	1,512	205
<b>TOTAL</b>	<b>478</b>	<b>90,628</b>	<b>12,852</b>

\*Includes stand-alone Quality Assurance, Regulatory Affairs, Laboratory Analysis, Medical Affairs and Medical Writing

# Excellence in Medical Imaging

## ICON Medical Imaging

ICON Medical Imaging (IMI), a division of ICON plc, is an integral part of ICON's Oncology Solution. IMI provides medical imaging solutions for clinical trials to the pharmaceutical, biotech and medical device industries around the globe. Medical imaging can enhance and support clinical trials, and expand the methods used to acquire biological information thereby maximising your results. Medical imaging is playing an increasingly important role in clinical research and IMI is your guide to navigating the correct use and methodologies required. Our vast therapeutic and diagnostic experience includes, but is not limited to oncology, cardiology, neurology, rheumatology, diagnostic contrast imaging agents and medical devices with data from CT, MRI, SPECT, PET, Ultrasound, X-Ray and other imaging modalities.

## Complete Solutions

Forged by more than 15 years of experience using imaging for drug development, IMI's full service solutions extend from protocol development, site selection/training, centralised data collection and analysis through submission to regulatory authorities. To date, IMI has submitted over 19 NDAs/BLAs to the FDA and EMEA. Of the 19 submissions, 11 of them were oncology focused. IMI manages and designs Independent Blinded Image Reviews providing qualitative and quantitative analyses. We have the flexibility to select from our own pool of sub-specialty reviewers or to choose from pre-eminent experts globally to ensure the correct match of independent readers to your specific protocol.

## Client Enabling Technologies

MIRA™ is IMI's complete image management and review system providing 24-7 access to patient tracking, study reports, and medical images allowing study teams unparalleled access to critical information. MIRA™ also enables our radiologists and clinicians to perform remote read sessions and provides a complete, secure, audit trail of every step in the process.

IMI has created an Oncology Review System that uses standard response assessment criteria to reduce the startup of your trial to two weeks. This validated, 21 CFR Part 11 – Compliant System permits efficient image data processing with a minimum investment in setup time. IMI's Oncology Image Review System consists of a completely validated package including:

- An Independent Image Review Charter
- A RECIST based eCRF linked directly to our image management and analysis system
- 24/7 live reporting from the system to keep the team informed of each subject's status
- A comprehensive, image enabled, outcomes based database for internal use or delivery to regulatory authorities
- All components have been completely validated and comply with GCP and 21 CFR Part 11, including complete audit trail tracking. The system has been sent to FDA and currently is in use for recent oncology submissions.
- The system allows protocol specific configuration and allowing IMI to begin reading within two (2) weeks. No other competitor offers these components, in this time frame, with this level of quality.

## Stringent Quality

Quality drives the ICON Medical Imaging process, from data collection to the delivery of blinded image review analyses. Each set of data that comes through IMI encounters the most rigorous quality practices in the industry. Dedicated quality assurance personnel oversee compliance to project specific protocols, ICON Medical Imaging SOPs and strict regulatory standards. Secure servers create backup images on- and off-site. We design, create and validate electronic imaging CRFs to collect the image analyses with logic checks built in to maximise efficiency. By employing rigorous quality checks throughout the process, IMI ensures the highest level of data integrity.



## Excellence ... just ask our Clients

### Large, Global Phase III Oncology Trial

Starting with the bid defence, ICON brought the right team. Although the other two bidding CRO's were impressive in their own right, the ICON personnel acted and responded like a team. This more than anything else separated them from the other two.

Since that time, the ICON clinical team has performed admirably on a large, global Phase III Programme consisting of three distinct protocols. The programme covers 33 countries, and will enrol over 3000 patients. They achieve targets, they are pro-active, they demonstrate a can-do attitude, and they are responsive to changing client needs. ICON has become fully integrated into the project team. Client/ICON affiliations seem secondary to being a member of the programme team. I'm confident we made the right decision in selecting ICON for this programme.

### James G. Hunt

Study Delivery Leader  
AstraZeneca Pharmaceuticals



### **ICON plc Corporate Headquarters**

South County Business Park  
Leopardstown  
Dublin 18  
Ireland  
T: +353 1 291 2000  
F: +353 1 291 2700  
E: [info@iconclinical.com](mailto:info@iconclinical.com)

### **ICON Clinical Research US**

212 Church Road  
North Wales  
PA 19454  
T: +1 215 616 3000  
F: +1 215 699 6288  
E: [info@iconclinical.com](mailto:info@iconclinical.com)

[www.iconplc.com](http://www.iconplc.com)