M.Sc. in Clinical Oncology 2 Years (4 Semesters)

Overview: The **M.Sc. in Clinical Oncology** is a specialized postgraduate program designed to provide students with comprehensive knowledge and practical skills required to understand the biology, diagnosis, treatment, and management of cancer. The program is aimed at students who want to pursue a career in oncology, whether in clinical practice, research, or the healthcare industry.

Clinical oncology encompasses the study and treatment of cancer through various modalities, including surgery, chemotherapy, radiotherapy, and emerging treatment strategies such as immunotherapy and targeted therapy. The program emphasizes a multidisciplinary approach, incorporating the latest advancements in cancer treatment and research, and equips students with the necessary expertise to work in a wide range of oncology settings, from hospitals to research institutions.

Affiliated Institution: School of Medical Sciences and Technology, Malla Reddy Vishwavidyapeeth (Deemed to be University)****** The minimum eligibility for M.Sc. in Clinical Oncology is a pass in B.Sc with at least 50% marks in qualifying exam.

Key Highlights:

- **In-Depth Knowledge of Cancer Biology**: Students will learn about the molecular and cellular mechanisms of cancer, including oncogenes, tumor suppressor genes, and the pathophysiology of different cancer types.
- **Multimodal Treatment Approaches**: Focus on the various treatment modalities used in cancer care, including chemotherapy, radiotherapy, surgery, and newer treatments like immunotherapy, targeted therapy, and hormone therapy.
- **Clinical Training and Patient Interaction**: Hands-on experience through clinical placements or internships, enabling students to work alongside oncologists and other healthcare professionals.
- **Cancer Prevention and Early Detection**: Study the importance of cancer screening, risk factors, prevention strategies, and early detection techniques.
- **Emerging Therapies in Oncology**: Explore cutting-edge therapies like gene therapy, immunotherapy, and personalized medicine, which are revolutionizing cancer treatment.
- **Research and Clinical Trials**: Training in conducting cancer research, understanding clinical trials, and the application of evidence-based oncology practices.
- **Ethical and Psychological Aspects**: The program includes the ethical issues in cancer treatment and care, as well as addressing the psychological aspects of living with cancer for patients and their families.

Course Curriculum:

The M.Sc. in Clinical Oncology is typically a two-year program, with a mix of core modules, clinical exposure, practical lab work, and research projects.

Year 1:

Core Modules:

- **Cancer Biology**: Study of the molecular mechanisms involved in cancer initiation, progression, and metastasis. Topics include gene mutations, tumor microenvironment, and molecular pathways in cancer development.
- **Principles of Oncology**: Overview of oncology, including the history of cancer treatment, different types of cancer (solid tumors, hematological malignancies), and staging/classification systems.
- **Cancer Diagnosis**: Techniques used for diagnosing cancer, including imaging methods (CT, MRI, PET scans), biopsy procedures, histopathology, and molecular diagnostics.
- **Chemotherapy and Pharmacology**: Study of chemotherapy agents, their mechanism of action, side effects, and drug resistance. Focus on chemotherapy protocols for various cancers.
- **Radiation Oncology**: Understanding the principles and practices of radiotherapy, including radiation physics, treatment planning, delivery, and the role of radiotherapy in cancer management.
- **Cancer Prevention and Early Detection**: Learn about the screening programs for various cancers (e.g., breast, cervical, prostate), risk factors for cancer, and primary and secondary prevention strategies.

Practical Training:

- Laboratory work related to cancer diagnostics, including histopathology, cytology, and molecular biology techniques.
- Clinical observation in oncology settings to gain insight into patient management and treatment plans.

Year 2:

Advanced Modules:

- **Surgical Oncology**: Study of the role of surgery in cancer treatment, including principles of oncologic surgery, tumor resection, and surgical management of cancer-related complications.
- **Immunotherapy and Targeted Therapy**: Explore the role of immune checkpoint inhibitors, CAR-T therapy, and other immunotherapies in treating cancer. Learn about targeted therapies aimed at specific genetic mutations.
- **Oncology Nursing and Supportive Care**: Focus on the role of oncology nurses in patient care, including managing side effects of cancer treatments, pain management, and providing emotional and psychological support for patients and families.
- **Palliative Care and End-of-Life Management**: Study the principles of palliative care, including pain management, managing symptoms, and providing emotional and psychological support for patients with terminal cancer.
- **Oncology Research and Clinical Trials**: Learn the basics of cancer research methodologies, including study design, data analysis, and how clinical trials are conducted. Students may also engage in ongoing clinical trials and research projects.

- **Psychosocial Oncology**: Study the psychological impact of cancer on patients and families, including coping mechanisms, mental health issues, and counseling strategies for cancer patients.

Research Project/Dissertation:

- A key component of the second year involves a research project where students undertake original research in a specific area of oncology, such as cancer treatment efficacy, drug resistance, or molecular profiling of tumors. This culminates in a dissertation.

Career and Academic Opportunities:

Career Opportunities:

Graduates of the M.Sc. in Clinical Oncology are well-equipped to pursue various career opportunities in the healthcare, research, and pharmaceutical sectors. Potential career roles include:

- **Clinical Oncologist**: Work alongside oncologists to diagnose and treat cancer patients, including administering chemotherapy and radiotherapy, and monitoring treatment outcomes.
- **Medical Oncologist**: Specialize in using medications such as chemotherapy, targeted therapy, and immunotherapy to treat cancer.
- **Radiation Oncologist**: Focus on the use of radiotherapy in treating cancer patients and providing treatment plans for radiation therapy.
- **Oncology Researcher**: Engage in clinical or laboratory research to develop new cancer treatments, improve existing therapies, or understand the molecular mechanisms of cancer.
- **Oncology Nurse**: Work in oncology settings to provide care for cancer patients, manage side effects, and offer emotional and psychological support.
- **Clinical Trials Coordinator**: Manage and coordinate oncology clinical trials, ensuring protocols are followed, data is collected accurately, and regulatory guidelines are met.
- **Pharmaceutical/Medical Device Industry**: Work in the pharmaceutical or medical device industries, developing or marketing oncology drugs, diagnostic tools, or therapeutic equipment.
- **Genetic Counselor**: Specialize in advising patients on the genetic risks associated with cancer and assisting in the interpretation of genetic test results.

Academic Opportunities:

Graduates may also choose to pursue higher academic qualifications, such as:

- **Ph.D. in Oncology**: A research-focused doctorate to specialize in cancer research, exploring new treatment methodologies, cancer genetics, or cancer prevention.

- **Postdoctoral Research**: Engage in further research on innovative cancer therapies, molecular mechanisms of cancer, or the development of cancer vaccines and immunotherapies.

Research Prospects:

- **Cancer Genomics and Personalized Medicine**: Research into the genetic basis of cancer, tumor profiling, and the development of personalized cancer therapies based on genetic mutations and biomarkers.
- **Immunotherapy and Cancer Vaccines**: Explore the use of immune-based treatments, including immune checkpoint inhibitors and cancer vaccines, as well as combination therapies with traditional treatments.
- **Chemotherapy Resistance**: Investigate why some cancers become resistant to chemotherapy and develop strategies to overcome this resistance.
- **Palliative and Supportive Care Research**: Focus on improving the quality of life for cancer patients through better pain management, symptom control, and psychosocial support.

Professional Opportunities:

- **Certified Oncology Nurse**: Oncology nursing certification, which requires specialized training in cancer care and the management of treatment side effects.
- **Certified Clinical Research Associate (CRA)**: Working in clinical trials, coordinating studies, and ensuring that they comply with medical, ethical, and regulatory standards.
- **Oncology Pharmacist**: Specialize in the preparation, dispensation, and management of oncology medications, advising oncologists on drug choices, interactions, and side effects.
- **Medical Science Liaison in Oncology**: Serve as a liaison between medical professionals and the pharmaceutical industry, helping to communicate the latest cancer research, drug information, and clinical trial results.

Higher Education and Research Prospects:

- **Ph.D. in Cancer Research**: Specializing in areas such as immunotherapy, radiation oncology, molecular oncology, or experimental cancer treatments.
- **Postdoctoral Fellowships**: Work alongside leading researchers in oncology, furthering the development of new cancer treatments and therapies.
- **Medical Degree (MD)**: Graduates may pursue an MD, focusing on clinical oncology or radiation oncology.

Conclusion:

The **M.Sc. in Clinical Oncology** provides a comprehensive education in the biology, diagnosis, treatment, and management of cancer. With a strong emphasis on both theoretical knowledge and practical clinical experience, this program prepares students for a wide range of careers in oncology, research, and healthcare.

Given the continuous advancements in cancer treatment, research, and technology, graduates of this program will be well-positioned to contribute to the fight against cancer and improve patient outcomes. Whether pursuing a career in clinical practice, academia, or the pharmaceutical industry, the M.Sc. in Clinical Oncology offers excellent opportunities for professional growth and advancement.

Labs

1. Cancer Cell Biology & Tumor Microenvironment Lab

- **In Vitro Cancer Cell Culture Models**
  - ✓ 2D & 3D spheroid culture systems for tumor growth studies
  - ✓ Patient-derived organoids (PDOs) for personalized therapy testing
- **Tumor Microenvironment Analysis**
  - ✓ Co-culture of cancer cells with fibroblasts, immune cells, and endothelial cells
  - ✓ Hypoxia chambers for simulating tumor hypoxia
- **Cell Proliferation & Apoptosis Assays**
  - ✓ MTT, BrdU, and Ki-67 assays for cell proliferation
  - ✓ Annexin V/PI staining for apoptosis detection

2. Molecular Oncology & Genomics Lab

- **Cancer Genomics & Next-Generation Sequencing (NGS)**
  - ✓ Whole-genome sequencing (WGS) & whole-exome sequencing (WES)
  - ✓ Liquid biopsy (circulating tumor DNA - ctDNA) for early detection
- **Oncogene & Tumor Suppressor Gene Analysis**
  - ✓ qPCR & digital PCR for mutation detection (e.g., TP53, KRAS, BRCA1/2)
  - ✓ Fluorescence In Situ Hybridization (FISH) for chromosomal aberrations
- **Epigenetics & Cancer Progression**
  - ✓ DNA methylation assays for tumor suppressor gene silencing
  - ✓ Histone modification studies in tumor progression

3. Tumor Immunology & Immunotherapy Lab

- **Immune Checkpoint Inhibitor Studies**
  - ✓ PD-1/PD-L1 & CTLA-4 expression analysis

- **CAR-T Cell & Monoclonal Antibody Development**
  - ✓ Generation of engineered T cells for targeted cancer therapy
  - ✓ Hybridoma technology for monoclonal antibody production
- **Flow Cytometry & Immune Profiling of Tumor-Infiltrating Lymphocytes (TILs)**
  - ✓ CD4+/CD8+ T-cell analysis in tumors
  - ✓ Cytokine profiling (IL-2, IFN-γ) using ELISA & multiplex assays

4. Radiotherapy & Radiation Biology Lab

- **Cellular Responses to Radiation Exposure**
  - ✓ Clonogenic survival assays for radiation sensitivity testing
  - ✓ γ-H2AX foci assays for DNA double-strand break detection
- **Radiosensitization Studies**
  - ✓ Combining radiation with chemotherapy, immunotherapy, or nanoparticles
- **Radioprotectors & Normal Tissue Toxicity Studies**
  - ✓ Testing novel agents for reducing radiation side effects

5. Chemotherapy & Targeted Therapy Lab

- **Drug Screening & Chemoresistance Studies**
  - ✓ High-throughput screening (HTS) of anti-cancer drugs
  - ✓ Multi-drug resistance (MDR) gene expression analysis
- **Combination Therapy Research**
  - ✓ Synergistic effects of chemotherapy with immunotherapy/radiotherapy
- **Nanoparticle-Based Drug Delivery Systems**
  - ✓ Development of targeted nanoparticle carriers for chemotherapy

6. Cancer Stem Cells & Metastasis Lab

- **Identification & Characterization of Cancer Stem Cells (CSCs)**
  - ✓ Aldehyde dehydrogenase (ALDH) assays for CSC detection
  - ✓ CD44/CD133 markers for CSC isolation via flow cytometry
- **Epithelial-Mesenchymal Transition (EMT) Studies**

- ✓ qPCR & Western blot for EMT markers (E-cadherin, N-cadherin, Vimentin)

➢ **Metastasis & Invasion Assays**

- ✓ Wound healing & transwell invasion assays for studying cancer spread

7. Personalized Oncology & Biomarker Discovery Lab

➢ **Precision Medicine Approaches in Cancer Treatment**

- ✓ Pharmacogenomics studies to tailor chemotherapy regimens
- ✓ Tumor mutational burden (TMB) analysis for immunotherapy response prediction

➢ **Biomarker Discovery for Early Detection & Prognosis**

- ✓ Proteomics & metabolomics for identifying novel cancer biomarkers

8. Ethics, Clinical Trials & Translational Oncology Lab

➢ **Clinical Trial Design for Oncology Research**

- ✓ Phase I-IV trials & regulatory frameworks (FDA, EMA guidelines)

➢ **Ethical Considerations in Cancer Research**

- ✓ Genetic privacy, patient consent, and personalized medicine ethics

➢ **Translational Oncology & Bench-to-Bedside Research**

- ✓ Bridging laboratory research with clinical applications in oncology

PROGRAM OUTCOMES (POs)

PO	Program Outcomes
PO-1	**Fundamentals of Oncology-** Understand the basic principles of oncology, including cancer biology, carcinogenesis, and tumor progression.
PO-2	**Cancer Pathophysiology & Diagnosis-** Explain the molecular and cellular mechanisms of cancer and their role in diagnosis.
PO-3	**Cancer Epidemiology & Prevention-** Analyze cancer epidemiology, risk factors, and preventive strategies, including screening and lifestyle modifications.
PO-4	**Clinical Cancer Diagnosis & Staging-** Develop expertise in cancer diagnosis, tumor markers, imaging techniques, and staging classification systems (TNM).
PO-5	**Treatment Planning-** Understand the role of surgery, radiation therapy, chemotherapy, targeted therapy, immunotherapy, etc in multidisciplinary treatment approaches.
PO-6	**Palliative Care & Pain Management-** Learn about palliative care principles, symptom management, and quality-of-life improvement for cancer patients.
PO-7	**Oncogenomics & Precision Medicine-** Understand genomic alterations in cancer and the role of precision oncology in personalized cancer treatment and patient care.
PO-8	**Supportive & Survivorship Care-** Learn about long-term cancer survivorship care, rehabilitation, and psychological support.
PO-9	**Ethical & Legal Aspects in Oncology-** Understand ethical issues, legal guidelines, and patient rights in cancer care and research.
PO-10	**Oncology Research & Clinical Trials-** Develop research skills, including clinical trial design, ethical considerations, and evidence-based practice.

COURSE STRUCTURE – M.Sc. Clinical Oncology

SEMESTER – I

Sl. No.	Broad Category	Course Code	Name of the Subject/Practical	Contact hours/week			Credits
				L	T	P	
1.	Major (Core)	MSCO101	Principles of Oncology	2	1	0	3
2.		MSCO102	Cancer Biology & Pathophysiology	2	1	0	3
3.		MSCO103	Molecular Basis of Cancer	2	1	0	3
4.		MSCO104	Oncological Pharmacology & Chemotherapy	2	0	2	3
5.	**Minor** Select any two minor courses, each worth 3 credits, for a maximum of 6 credits per semester	MSCO105	1. Epidemiology & Risk Factors of Cancer 2. Cancer Prevention & Early Detection Strategies 3. Immunotherapy & Targeted Therapy in Cancer 4. Basics of Palliative Care & Pain Management 5. Genetic & Epigenetic Alterations in Cancer 6. Research Methodology & Biostatistics	2 2	0 0	2 2	6
6.	**Skill Enhancement Courses**	MSCO106	1.Laboratory Techniques in Cancer Diagnosis (Histopathology, Biomarkers) 2. Imaging in Cancer Diagnosis	0 0	0 0	2 2	2
			Total	12	3	10	**20**
Total Contact Hours				**25**			

Course Outcome for the M.Sc. Clinical Oncology MAJOR

Course Name	Course Outcomes
Principles of Oncology	- Understand fundamental oncology concepts, including tumor biology, classification, and staging. - Explain cancer initiation, progression, and metastasis mechanisms. - Describe diagnostic techniques and treatment options (surgery, radiation, systemic therapy). - Analyze epidemiological trends and risk factors in cancer development. - Discuss ethical considerations and patient-centered oncology care.
Cancer Biology & Pathophysiology	- Comprehend molecular and cellular mechanisms behind cancer initiation and progression. - Explain genetic and epigenetic alterations leading to cancer. - Understand the hallmarks of cancer (angiogenesis, metastasis, immune evasion). - Describe the impact of inflammation, tumor microenvironment, and metabolism in cancer. - Apply pathophysiological knowledge to identify therapeutic targets.
Molecular Basis of Cancer	- Understand genetic and molecular mechanisms of cancer development. - Analyze oncogenes, tumor suppressor genes, and key signaling pathways in tumorigenesis. - Explain DNA damage, repair mechanisms, and genomic instability in cancer. - Discuss personalized medicine and molecular diagnostics in cancer treatment. - Evaluate emerging molecular therapies and their clinical applications.
Oncological Pharmacology & Chemotherapy	- Understand pharmacokinetics and pharmacodynamics of chemotherapeutic agents. - Explain the mechanisms of action, resistance, and adverse effects of cancer drugs. - Describe targeted therapies, immunotherapies, and combination treatment approaches. - Evaluate drug development processes, clinical trials, and regulatory considerations in oncology. - Assess the role of precision medicine in optimizing chemotherapy strategies.

Course Outcome for the M.Sc. Clinical Oncology MINOR

Course Name	Course Outcomes
Epidemiology & Risk Factors of Cancer	- Understand the principles of cancer epidemiology and its impact on public health. - Identify environmental, genetic, and lifestyle-related risk factors for various cancers. - Analyze trends in cancer incidence, prevalence, and mortality. - Evaluate screening programs and preventive strategies in different populations.

Course Name	Course Outcomes
	- Interpret epidemiological research and its role in cancer control policies.
Cancer Prevention & Early Detection Strategies	- Understand primary, secondary, and tertiary prevention approaches in oncology. - Evaluate the role of lifestyle modifications and public health interventions in cancer prevention. - Explain the principles and effectiveness of various cancer screening techniques. - Analyze the role of biomarkers and imaging in early cancer detection. - Develop strategies for patient education and awareness regarding cancer prevention.
Immunotherapy & Targeted Therapy in Cancer	- Understand the fundamental principles of cancer immunotherapy and targeted therapy. - Explain the mechanisms of action of immune checkpoint inhibitors, monoclonal antibodies, and CAR-T cell therapy. - Analyze the role of personalized medicine in selecting targeted cancer treatments. - Evaluate the benefits, limitations, and adverse effects of immunotherapy and targeted agents. - Discuss emerging trends and future directions in immuno-oncology research.
Basics of Palliative Care & Pain Management	- Understand the principles and goals of palliative care in oncology. - Assess different pain management strategies, including pharmacological and non-pharmacological approaches. - Explain the psychological, social, and ethical aspects of end-of-life care. - Develop communication skills for discussing prognosis and treatment options with patients and families. - Integrate multidisciplinary approaches to improve quality of life in cancer patients.
Genetic & Epigenetic Alterations in Cancer	- Understand the role of genetic and epigenetic modifications in cancer development. - Explain the functions of oncogenes, tumor suppressor genes, and DNA repair mechanisms. - Analyze the impact of epigenetic changes (DNA methylation, histone modification) on cancer progression. - Evaluate the role of genetic counseling and testing in hereditary cancers. - Explore potential therapeutic interventions targeting genetic and epigenetic alterations.
Research Methodology & Biostatistics	- Understand fundamental concepts of research design, hypothesis formulation, and study methodologies. - Apply statistical tools and techniques for analyzing cancer research data. - Interpret and critically evaluate scientific literature in oncology. - Develop skills for writing research proposals and conducting evidence-based studies. - Understand ethical considerations and regulatory guidelines in cancer research.

M.Sc. in Oncology – Course Structure & Syllabus

Course Duration: 2 Years (4 Semesters)

Total Credits: 80–100**

Total Teaching & Training Hours: ~3,600

Total Teaching Hours Distribution

- **Theory Classes:** ~1,200–1,500 hours
- **Laboratory Training & Practical Sessions:** ~800–1,000 hours
- **Clinical & Research-Based Training:** ~800–1,000 hours
- **Research Project & Dissertation:** ~300–500 hours

Assessment Methods

Assessment Component	Weightage (%)	Details
Continuous Internal Assessment (CIA)	**40%**	Includes internal exams, assignments, presentations, case studies, and practical performance
End-Semester Examination (ESE)	**60%**	Divided into theory (40%) and practical (20%)
Mid-Semester Exams	**20%** (Part of CIA)	Two internal tests per semester
Assignments & Case Studies	**5%** (Part of CIA)	Research-based assignments, literature reviews, clinical case reports
Seminars & Presentations	**5%** (Part of CIA)	Oral/poster presentations on diabetes management
Practical Performance & Clinical Evaluation	**5%** (Part of CIA)	Skill-based assessments in labs/hospitals
Attendance & Participation	**5%** (Part of CIA)	Regularity in theory & practical sessions
Theory Examination (Final)	**40%** (Part of ESE)	Structured written paper covering subject knowledge
Practical Examination (Final)	**20%** (Part of ESE)	Includes viva, skill demonstration, case handling

Assessment Component	Weightage (%)	Details
Dissertation/Research Project	**Mandatory**	Evaluated in the final year by internal & external examiners
Clinical Internship/Training	**Pass/Fail**	Logbook-based evaluation with hospital mentor review

Marking System & Grading

Marks (%)	Grade	Grade Point (GPA/CGPA Equivalent)	Classification
90 - 100	O (Outstanding)	10	First Class with Distinction
80 - 89	A+ (Excellent)	9	First Class with Distinction
70 - 79	A (Very Good)	8	First Class
60 - 69	B+ (Good)	7	First Class
50 - 59	B (Satisfactory)	6	Second Class
<50 (Fail)	F (Fail)	0	Fail (Re-exam Required)

Pass Criteria:

- **Minimum 50% marks in each subject** (Theory & Practical separately).
- **Aggregate of 55% required for progression** to the next semester.
- **No more than two backlogs** allowed for promotion to the final year.

Exam Pattern for Theory & Practical

A. Theory Examination Pattern

Total Marks: 100 (Converted to 40% for End-Semester Assessment)
Duration: 3 Hours

Section	Question Type	No. of Questions	Marks per Question	Total Marks
Section A	Short Answer Type (SAQ)	10 (Attempt all)	2	20
Section B	Long Answer Type (LAQ)	5 (Attempt any 4)	10	40

Section	Question Type	No. of Questions	Marks per Question	Total Marks
Section C	Case-Based/Clinical Scenario	3 (Attempt any 2)	15	30
Section D	MCQs/Objective Type	10 (Compulsory)	1	10
Total				**100**

Weightage:

- Cancer Biology & Molecular Oncology – 40%
- Clinical Diagnosis & Treatment Modalities – 30%
- Research & Case Studies in Oncology – 20%
- Palliative Care & Public Health Strategies – 10%

Passing Criteria: Minimum **50% (50/100 marks)**

B. Practical Examination Pattern

Total Marks: 100 (Converted to 20% for End-Semester Assessment)
Duration: 4–6 Hours

Component	Marks Distribution
Clinical Case Presentation & Oncology Assessment	30
OSCE (Objective Structured Clinical Examination) – Skill Demonstration	25
Cancer Diagnostics & Therapeutic Approaches	20
Lab-Based Examination (Tumor Marker Analysis, Biopsy Techniques, Radiotherapy Planning)	15
Record Work (Logbook & Assignments)	10
Total	**100**

OSCE (Skill-based Assessment) includes stations on:

- Tumor Staging & Grading in Clinical Oncology
- Interpretation of Biopsy & Histopathology Reports
- Chemotherapy & Radiation Therapy Planning
- Cancer Screening & Early Detection Techniques

Passing Criteria: Minimum 50% (50/100 marks) in practicals.

Recommended Books & E-Resources

Textbooks

- **"Cancer: Principles & Practice of Oncology"** – Vincent T. DeVita
- **"The Biology of Cancer"** – Robert Weinberg
- **"Molecular Biology of Cancer"** – Lauren Pecorino
- **"Clinical Oncology: A Manual for Students & Doctors"** – Martin D. Abeloff

E-Resources & Journals

- **Journal of Clinical Oncology (JCO)**
- **Nature Reviews Cancer**
- **Cancer Research (AACR Journal)**
- **National Cancer Institute (NCI) Guidelines**

Career Opportunities after M.Sc. in Oncology

- **Oncology Research Scientist** in Pharmaceutical & Biotech Companies
- **Cancer Genomics Specialist** in Molecular Oncology Labs
- **Clinical Oncology Consultant** in Hospitals & Cancer Centers
- **Medical Educator** in Universities & Research Institutions
- **Clinical Trials Coordinator** in Cancer Research & Drug Development