DIGITAL OPEN WEEK

Università degli Studi di Padova

OPIC

Oncologia di precisione, innovazione e centralità del paziente

Master di II livello

Direttrice: Prof.ssa Valentina Guarneri

Anno accademico 2025/2026

Introduzione

Prof.ssa Valentina Guarneri

Professore Ordinario Oncologia Medica

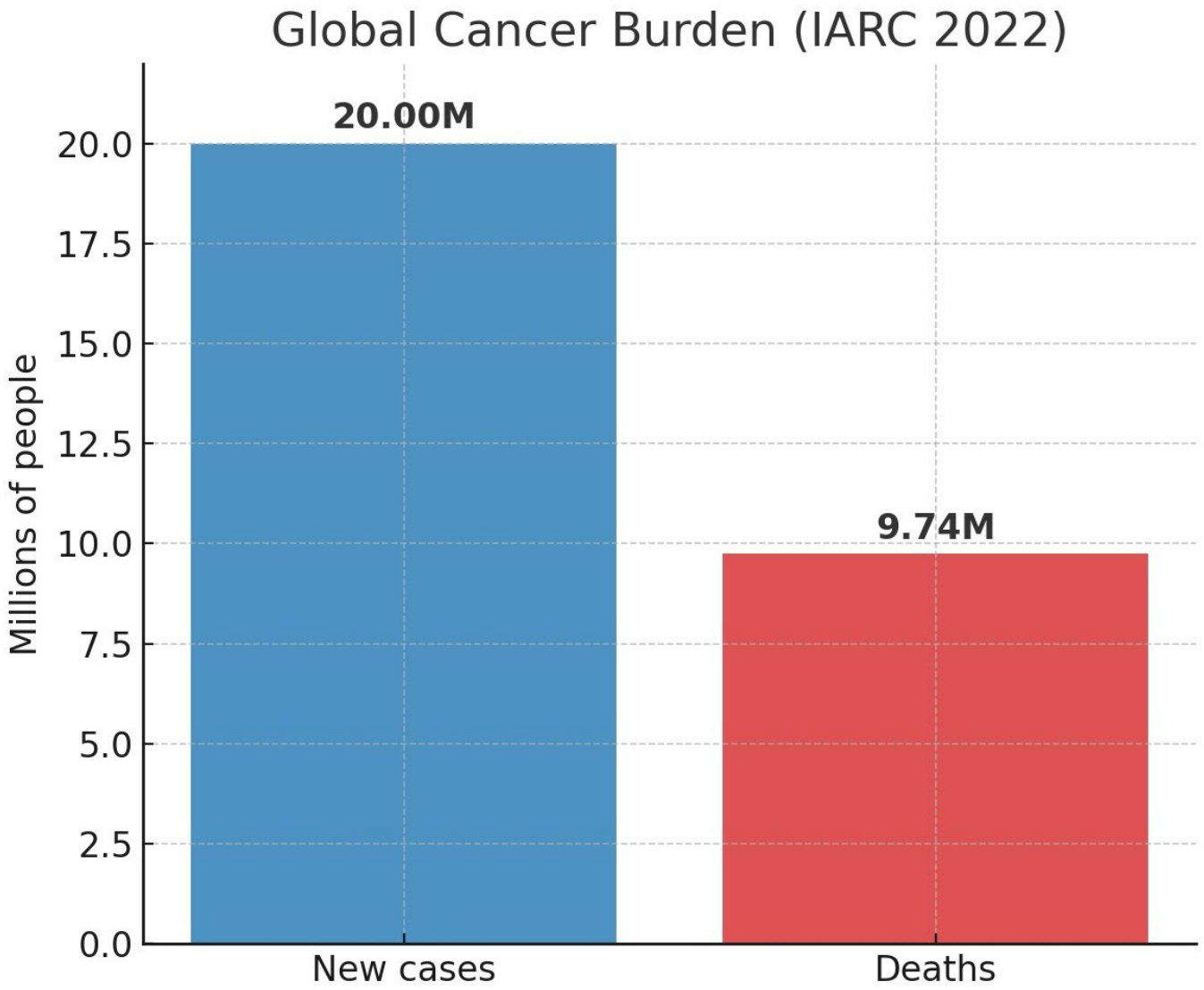
Dipartimento di Scienze Chirurgiche, Oncologiche e Gastroenterologiche

Università di Padova

Direttore UOC Oncologia 2

Istituto Oncologico Veneto IOV IRCCS

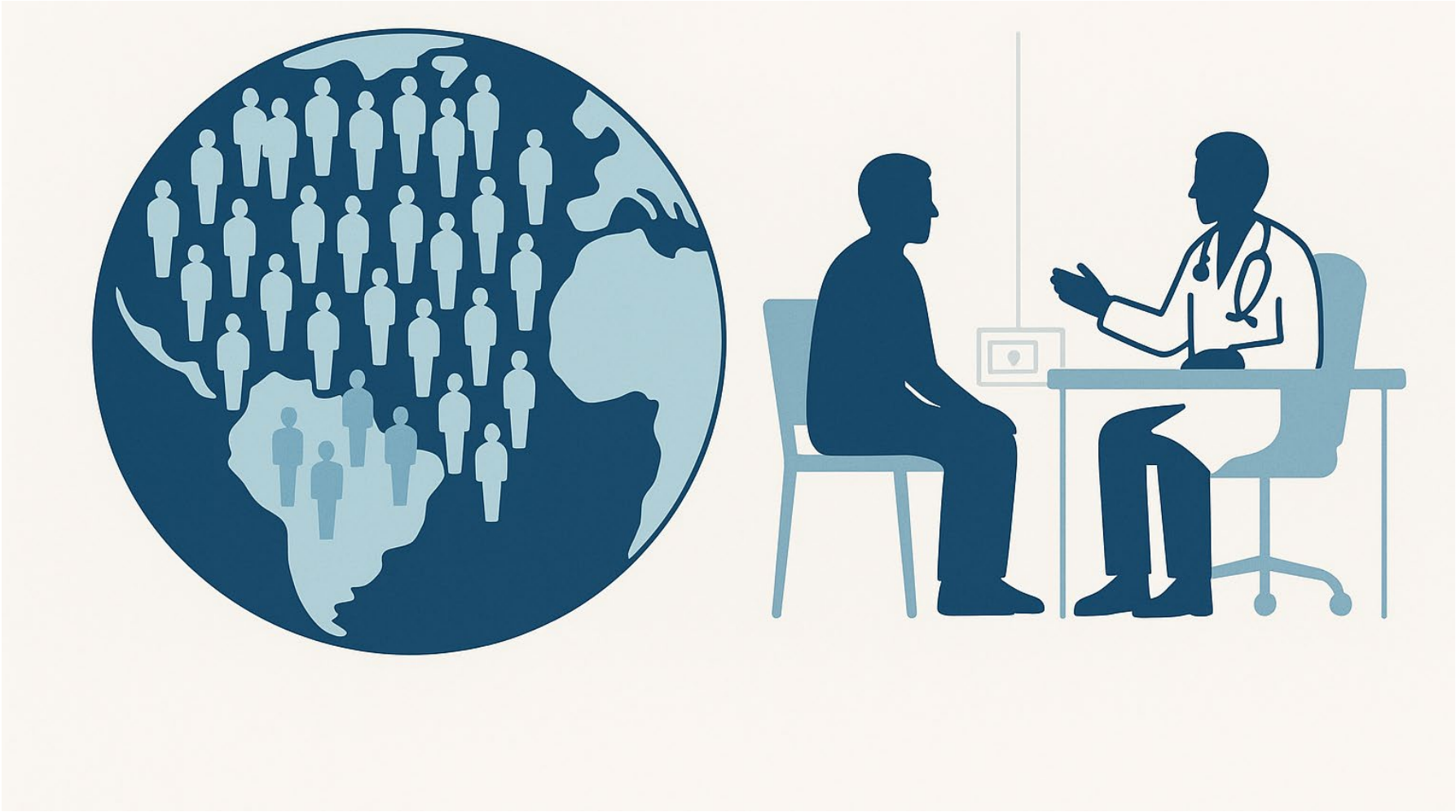
Cancer: the size of the problem



Cancer mortality is declining thanks to prevention and personalized care, but significant challenges remain, and innovation is still urgently needed.

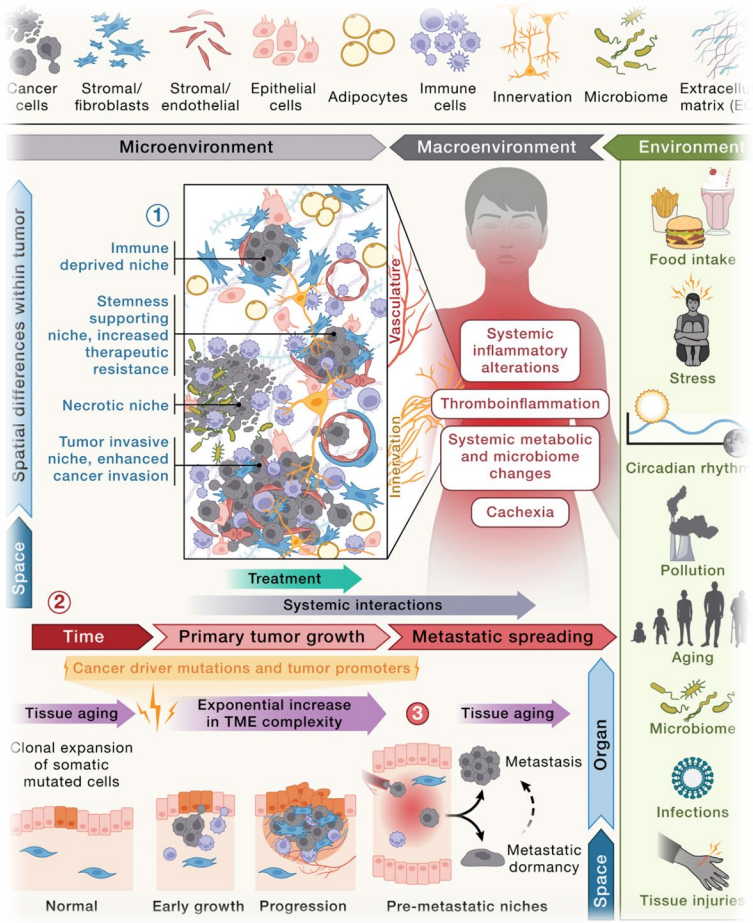
Oncology exists within a paradox

millions of cases worldwide… but every decision comes down to one patient



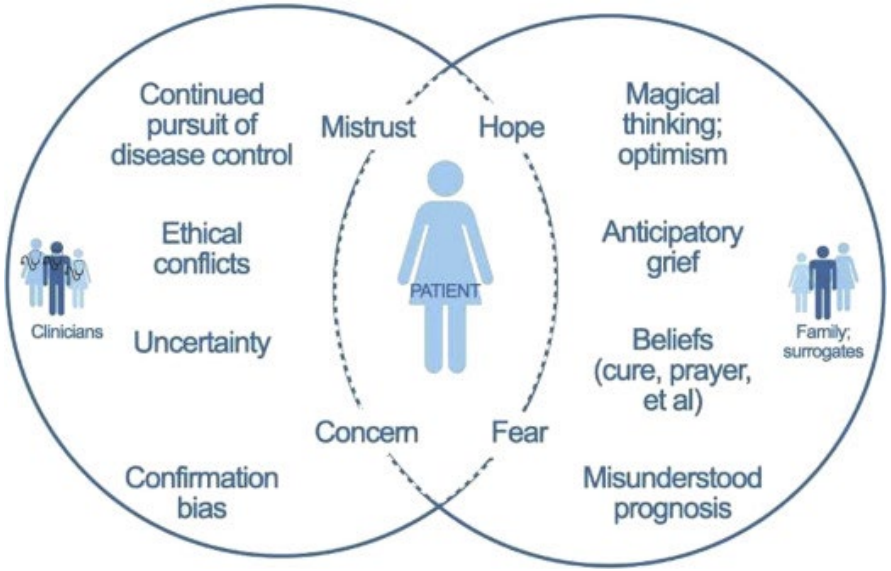
Embracing complexity in oncology – need for personalized , integrative care

Cancercomplexity



Research
Innovation/technology
Multidisciplinarity

Individual complexity
Ethical anddecision-makingchallenges



Aims of the OPIC master

- Addresses ongoing transformations in oncology and personalized medicine
- Trains highly specialized professionals to leverage cutting-edge technologies & vast molecular data
- Promotes integrated cancer patient management, valuing each patient's unique clinical and psychosocial need

- Interdisciplinary modules
- Integration of clinical, biological, and human sciences
- Development of both technical and relational skills

- Cutting-edge content and expert faculty
- Flexible and practical learning model
- Strong clinical and ethical foundations

Modules of the OPIC master at a glance

Recipients and career opportunities

OPIC master trains medical professionals dedicated to the diagnosis, research and treatment of cancer patients, with particular reference to oncologists able to collaborate or work with and/or within oncology reference centers.

Recipients:

- Oncology specialists and residents
- Specialist doctors involved in multidisciplinary cancer care teams, operating in hospital, university and local contexts

Career opportunities:

- Cancer centers (hubs and spokes)
- Biomedical and translational research institutes
- Pharmaceutical and biotechnology companies

Deadline e informazioni sulla didattica

- **Inizio lezioni**: 24/11/2025
- **Termine lezioni**: 30/09/2026
- **Scadenza preiscrizioni**: 7/10/2025 ore 12.30
- **Link preiscrizione:** *https://uel-unipd.click/master-opic*
- **Data pubblicazione graduatoria:** entro il 17 ottobre 2025
- **Scadenza perfezionamento iscrizione:** entro il 28 ottobre 2025
- **CFU:** 60(1500-hour)
- **Modalità didattica:** da remoto (312-hour); stesura di una tesina finale
- **Frequenza obbligatori:** 70%
- **Posti disponibili:** 10-25

CONTATTI

Direttrice: Prof.ssa Valentina Guarneri

Segreteria organizzativa: Dott.ssa Giovanna Di Turi, 049 8218270, *didattica.discog@unipd.it*

Web: *https://uel-unipd.click/master-opic*

Per altre informazioni relative alle procedure di preiscrizione:

Ufficio Post Lauream – Settore Master e Formazione Continua

Tel. 049 8276373 / 6374 (lun-ven ore 10:00-12:30)

E-mail: formazionecontinua.lauream@unipd.it

Oncologia di precisione e ricerca traslazionale

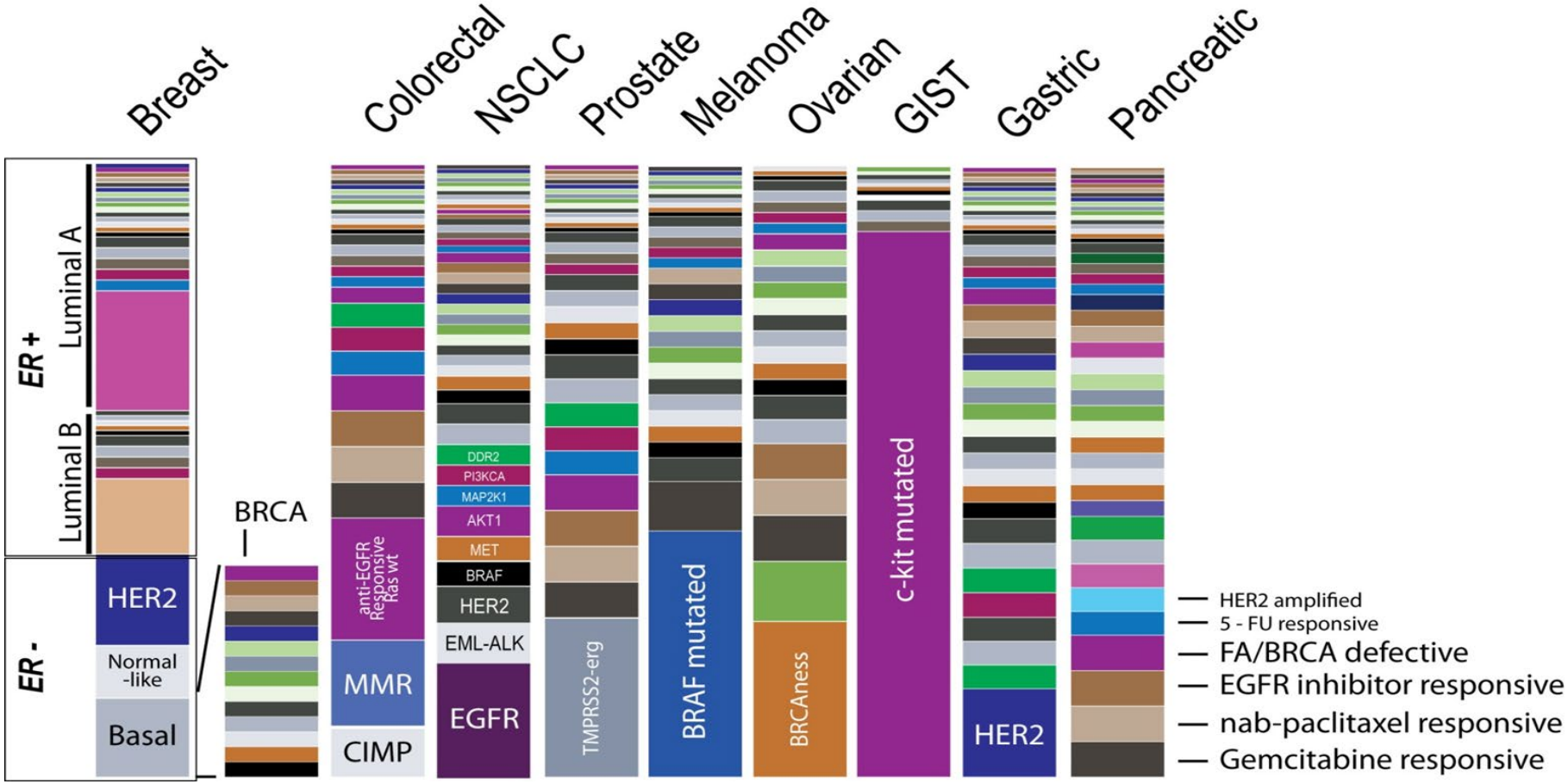
Prof.ssa Maria Vittoria Dieci

Professore Associato Oncologia Medica
Dipartimento di Scienze Chirurgiche, Oncologiche e Gastroenterologiche
Università di Padova

INNOVAZIONE DEGLI STRUMENTI DIAGNOSTICI, TECNOLOGIE DI LABORATORIO AVANZATE, NUOVI FARMACI ONCOLOGICI

Ore	Argomento lezione
6	Tecniche di analisi genetiche avanzate e applicazioni in oncologia: PCR, FISH, NGS, Gene Expression
4	Digital Pathology
6	Microambiente immunologico, microbioma e implicazioni cliniche in oncologia
4	Proteomica e trascrittomica spaziale
4	Biopsia liquida e biomarcatori circolanti
4	Metiloma e altre omics: applicazioni in oncologia, limiti e punti di forza
6	Metabolismo e cancro
4	Basi molecolari della patologia oncologica e regolazione delle cellule staminali
4	Innovazioni nella ricerca oncologica: dalle scoperte cliniche alla pratica
4	Introduzione al concetto di terapia personalizzata
6	Farmaci a bersaglio molecolare: TKIs e anticorpi monoclonali nei tumori solidi
4	Antibody Drug Conjugates
6	Immunoterapia oncologica: inibitori del checkpoint immunitatario
6	Altri farmaci immunoterapici: anticorpi anti HLA, vaccini
4	Gestione dei casi clinici complessi con approccio personalizzato e discussione di casi clinici reali
4	Imaging avanzato
4	Radiomics
4	Intelligenza artificiale e big data nell'oncologia

From organ-of-origin to molecular taxonomy



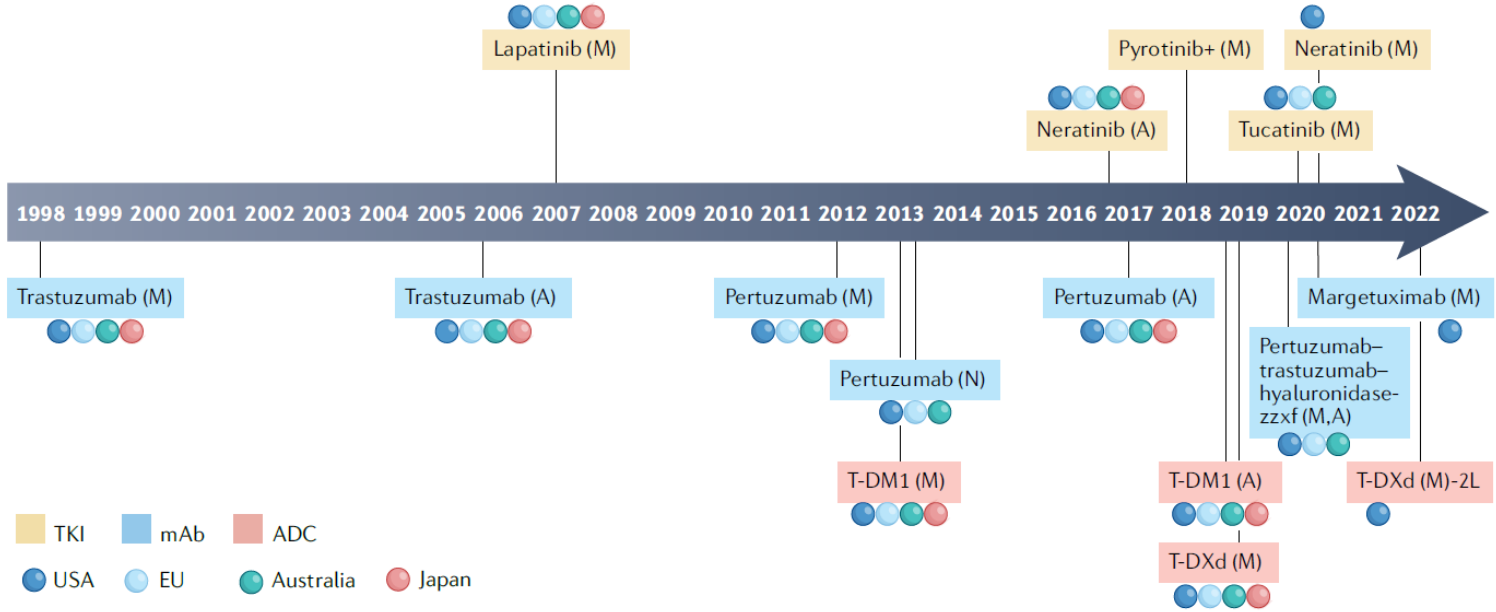
HER2-positive breast cancer and Trastuzumab

20% of all Breast cancers are HER2+

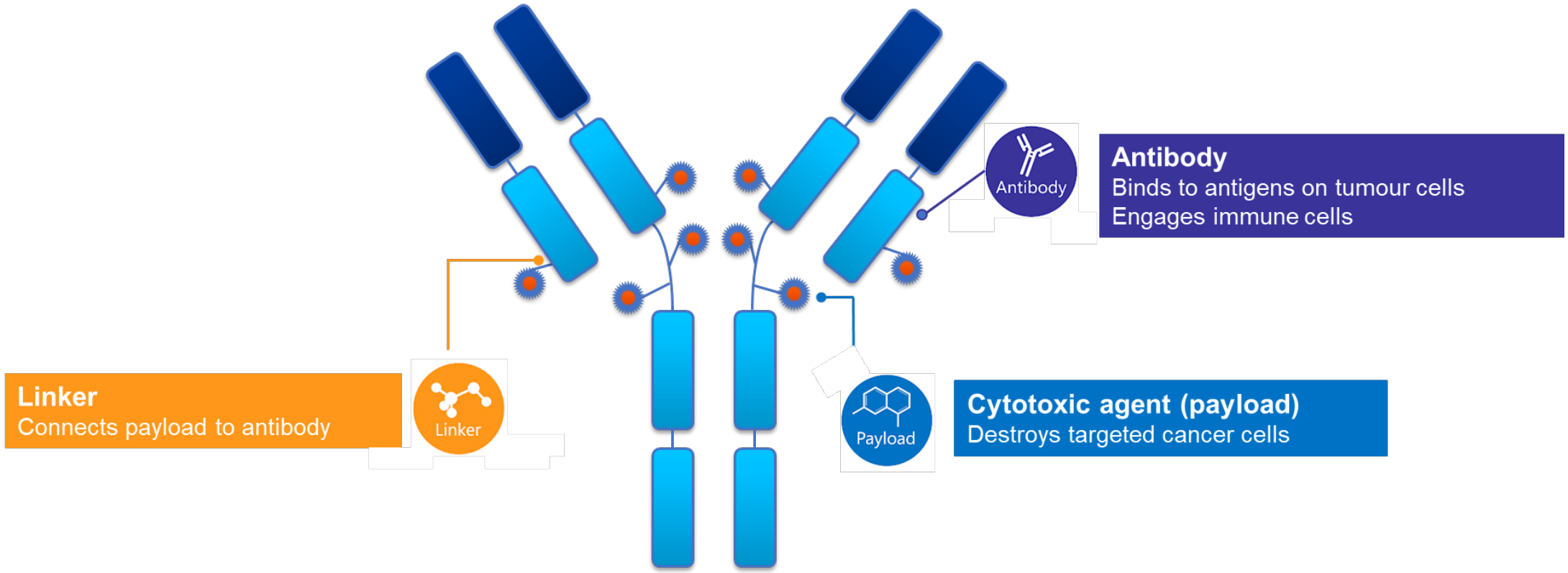
Trastuzumab is the first anti-HER2 drug

- 40% reduction in the risk of relapse
- 34% reduction in the risk of death

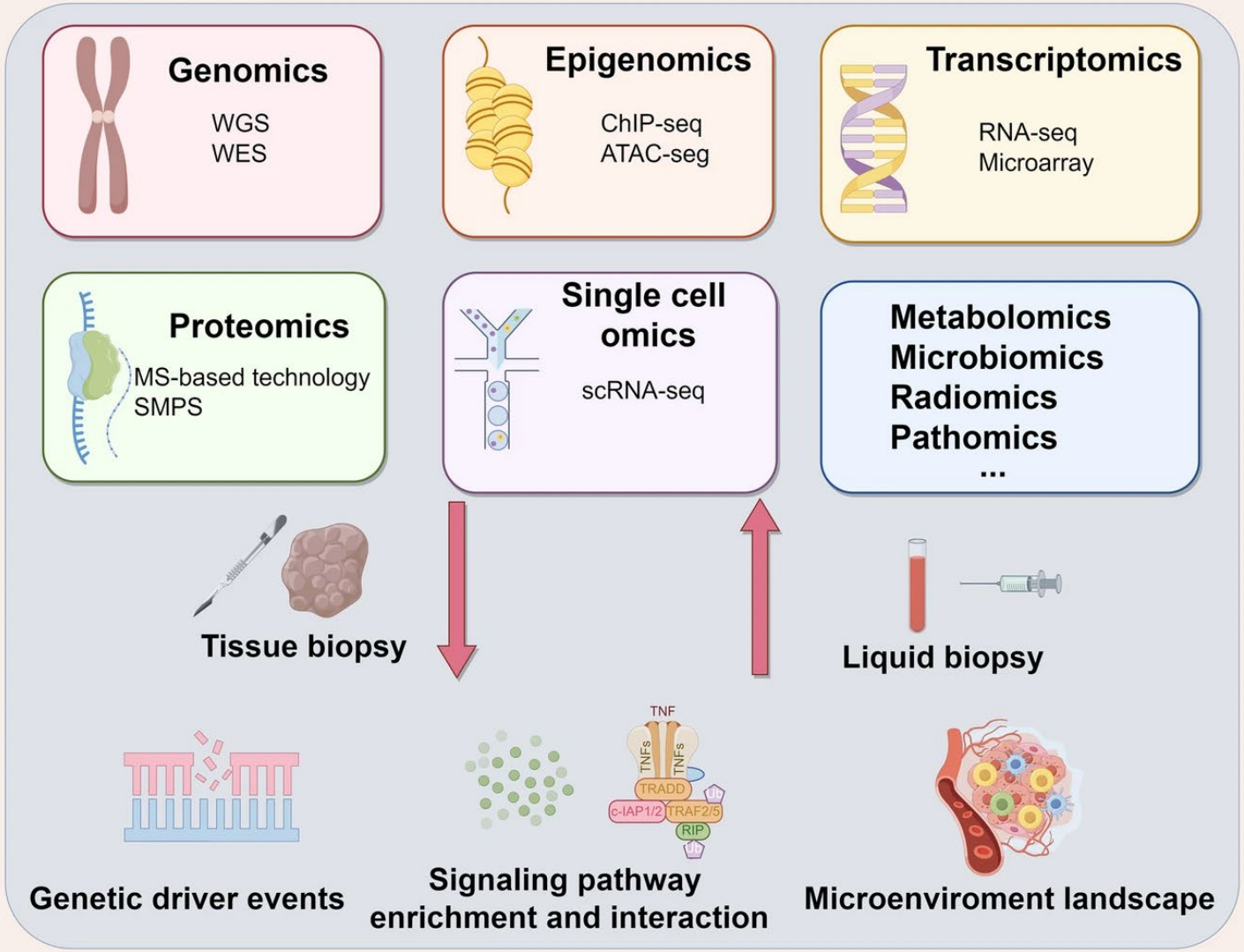
The outcome of patients with HER2+ BC is continuing to improve over time thanks to new drugs



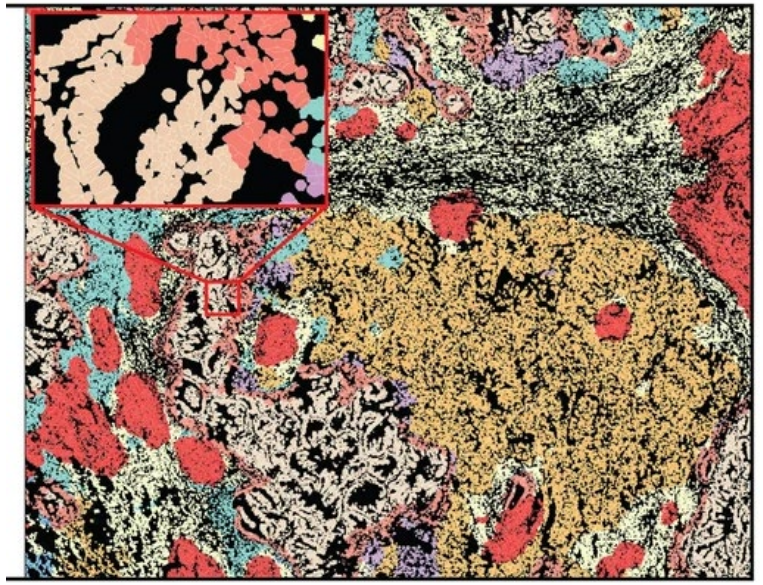
Merging the precision of targeted therapy with the power of chemotherapy



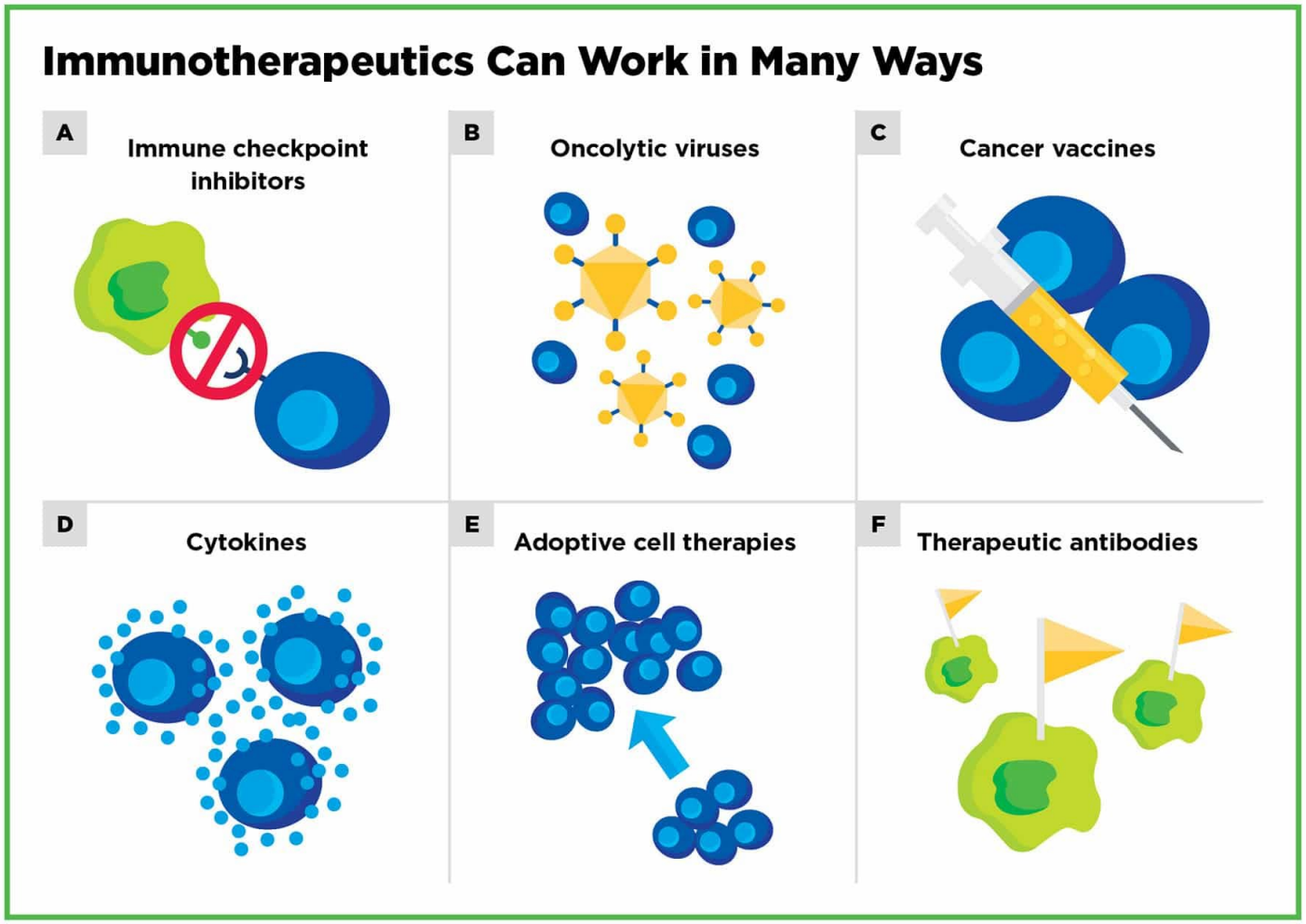
Technological innovation: widening the lens, opening new opportunities



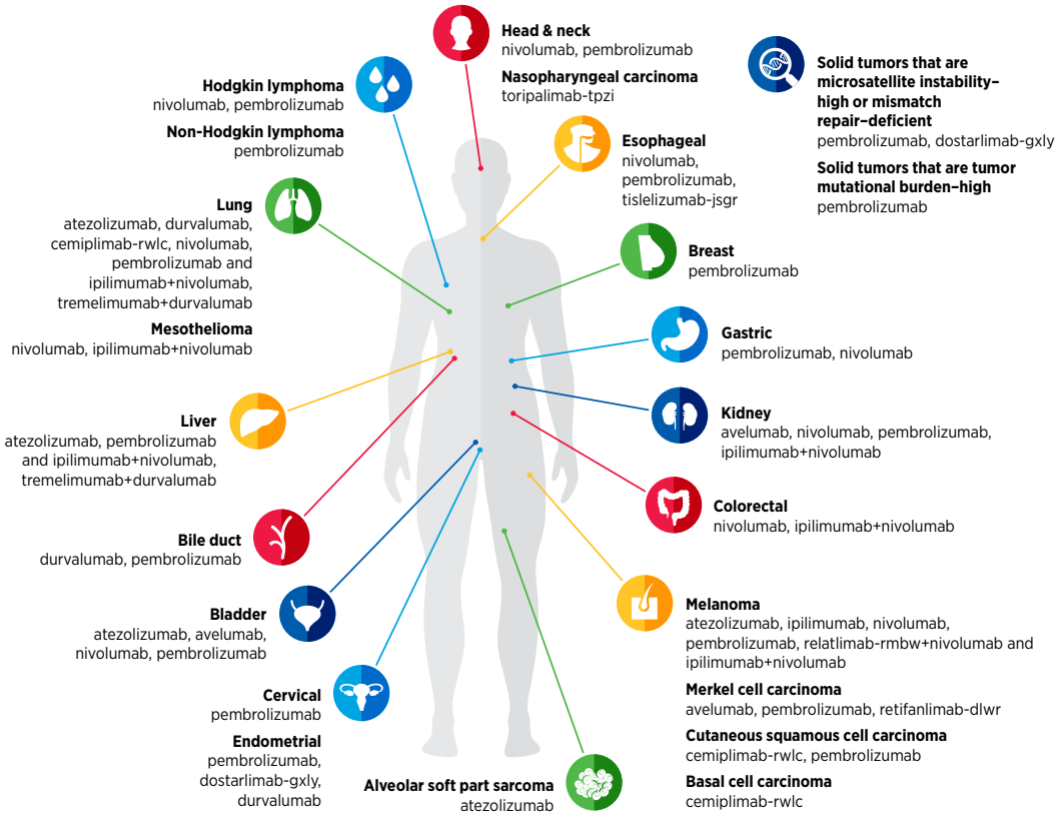
Spatial omics



Looking past the tumor: exploiting the immune system

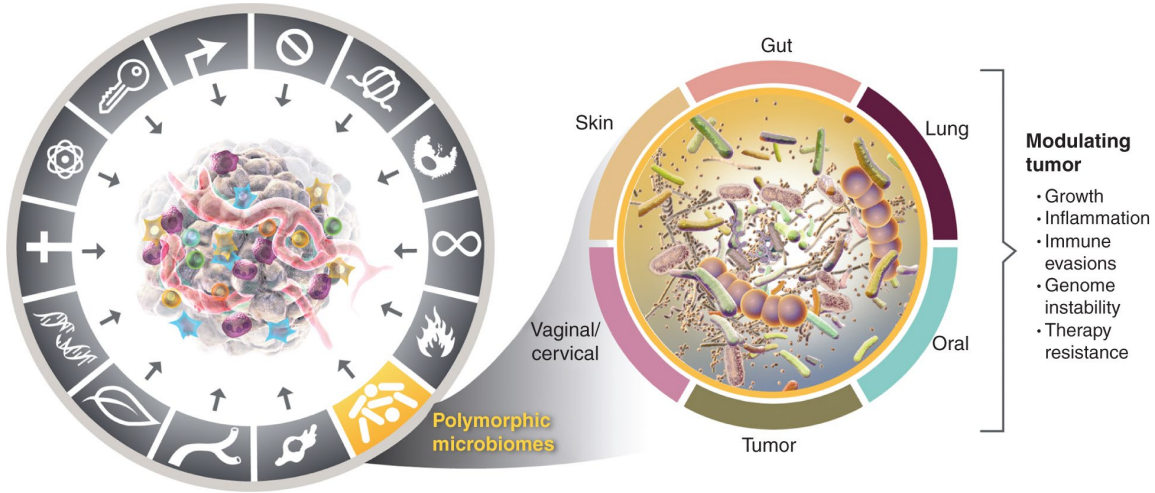


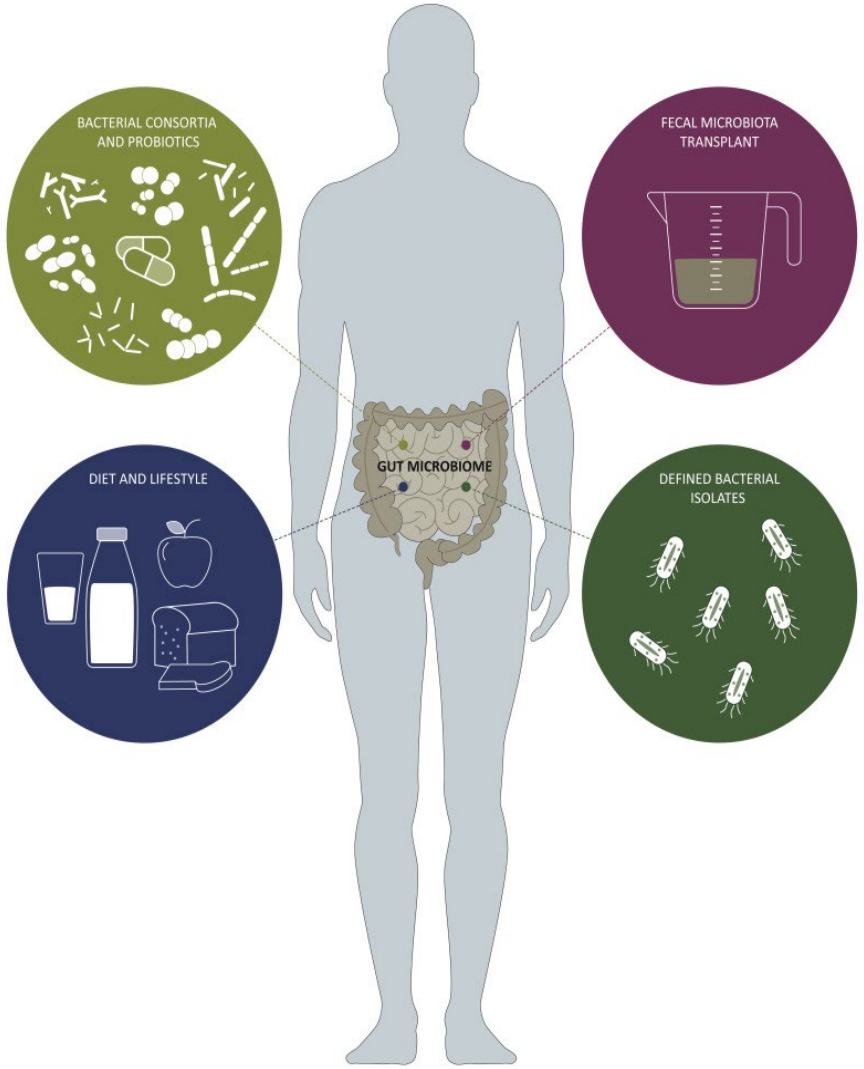
Adapted from ©*American Association for Cancer Research® (AACR) Cancer Progress Report 2023*



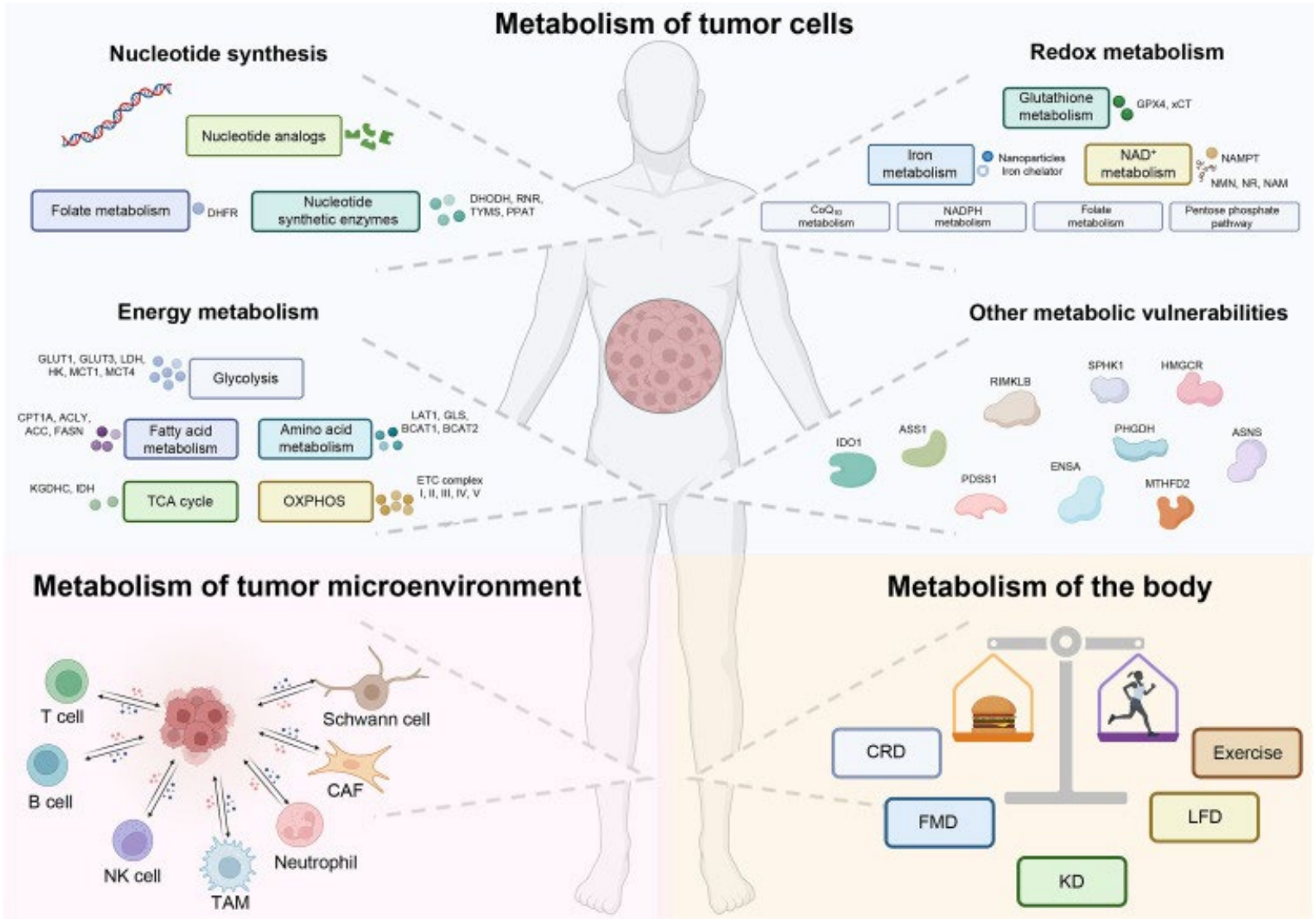
Looking past the tumor: New host -related concepts

Microbiome



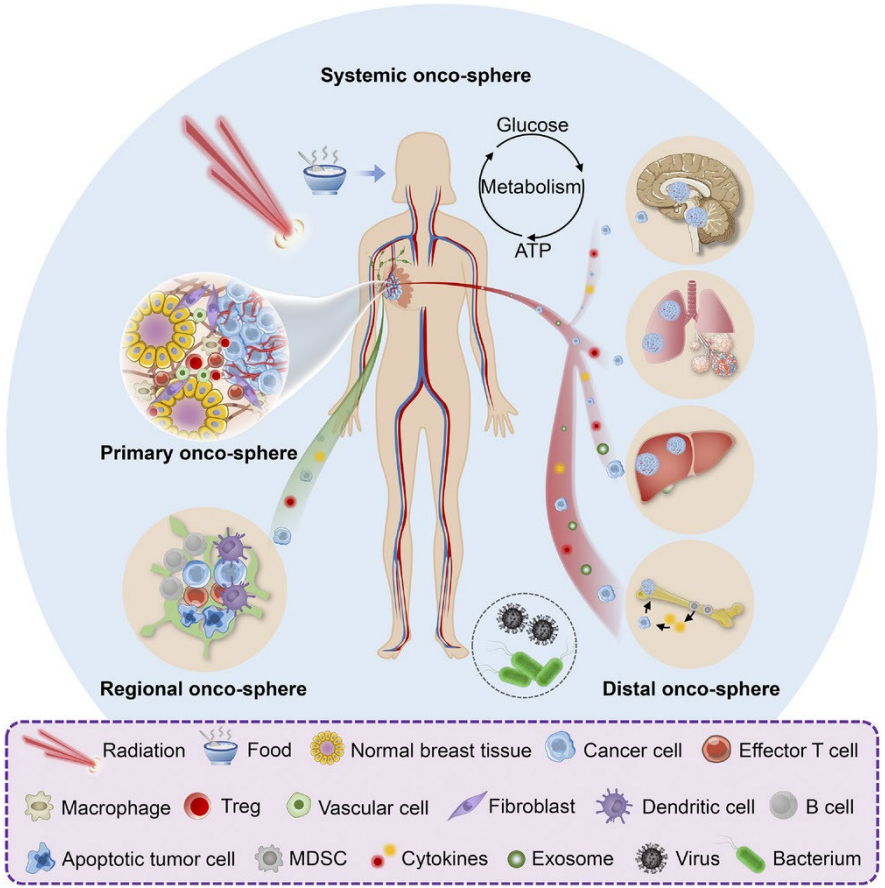


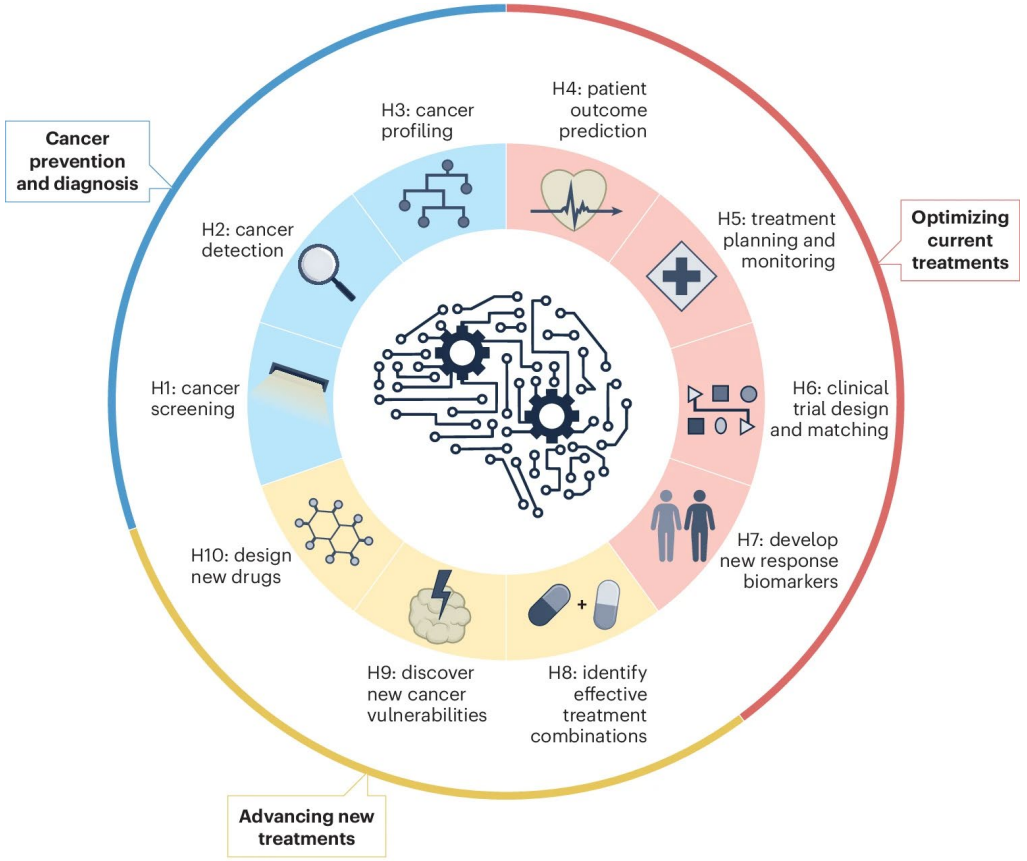
Looking past the tumor: integrated tumor -host vulnerabilities



Cancer as an ecosystem - AI

The more we understand cancer as an ecosystem, the more we realize we need new tools and AI is one of them.





GENETICA E BIOLOGIA MOLECOLARE DEL CANCRO

Ore	Argomento lezione
4	Meccanismi genetici e molecolari alla base della carcinogenesi
6	Identificazione di biomarcatori predittivi e prognostici. Azionabilità clinica e scala ESCAT
6	Carcinoma della mammella
6	Carcinoma del polmone
3	I tumori della prostata e del testicolo
3	I tumori della vescica e del rene
4	Tumore gastrico e tumori del colonretto
4	Melanoma e altre neoplasie della cute
4	I tumori ginecologici ed eredofamiliari
4	Tumori della testa e del collo
3	Criticità e approccio olistico ai tumori rari
4	I tumori cerebrali
3	I sarcomi, GIST e tumori dell'osso
3	Tumori EpatoBilioPancreatici
3	Altri tumori rari: mesotelioma pleurico, timoma…..
60	

Precision oncology in contemporary clinical practice

ESMO Living Guideline

Oncogene-Addicted Metastatic NSCLC

Glossary | ESMO-MCBS and ESCAT | TKI monotherapy grouping

Management of Advanced and Metastatic Disease

EGFR mutation
More info →

ALK translocation
More info →

ROS1 translocation
More info →

BRAF V600 mutation
More info →

RET translocation, NTRK/HER2/EGFR ex20ins, MET ex14 skipping mutation or KRAS G12C mutation
More info →

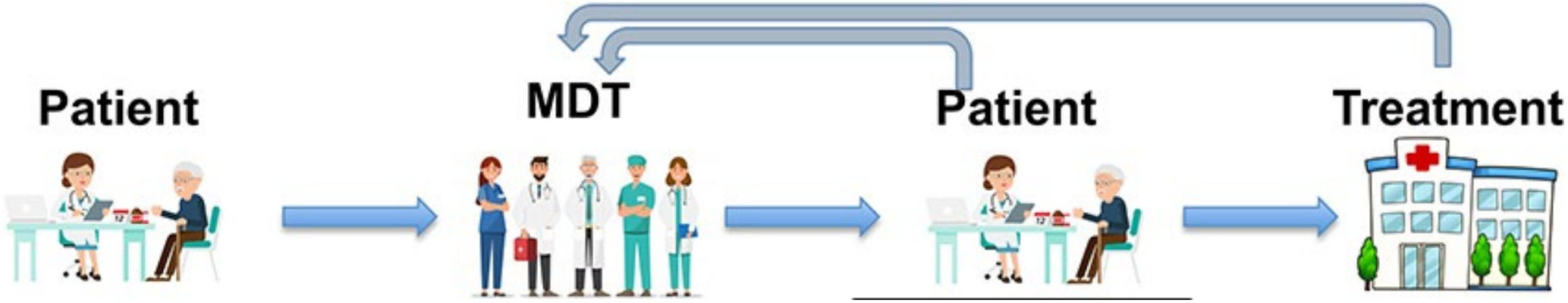
v1.2 - January 2025

Approccio multidisciplinare e approccio centrato sul paziente in oncologia

Prof.ssa Giulia Pasello

Professore Associato Oncologia Medica
Dipartimento di Scienze Chirurgiche, Oncologiche e Gastroenterologiche
Università di Padova

Human and organizational side of modern oncology: the shift to a multidisciplinary, patient-centered approach

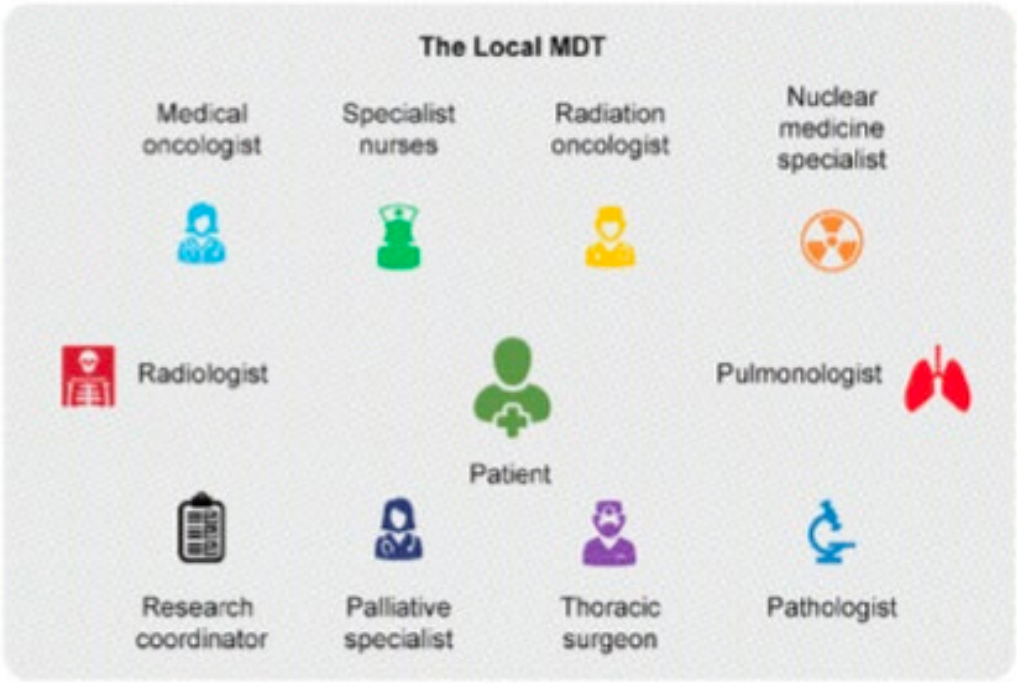


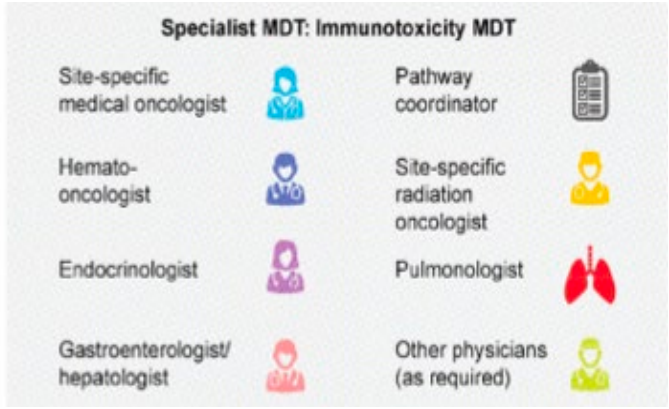
- From individual doctors working in isolation to team-based care
- Addressing the person as whole
- Collaborative decision-making
- Effective doctor-patient communication
- Patients' empowerment

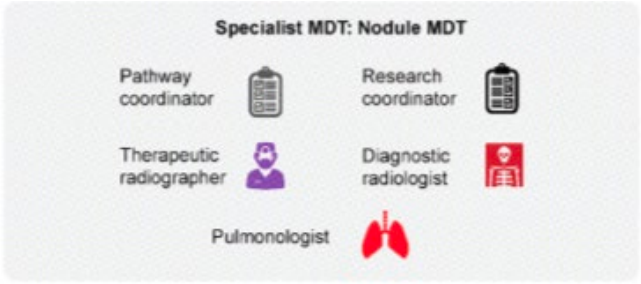
→ COMPREHENSIVE AND COMPASSIONATE CANCER TREATMENT

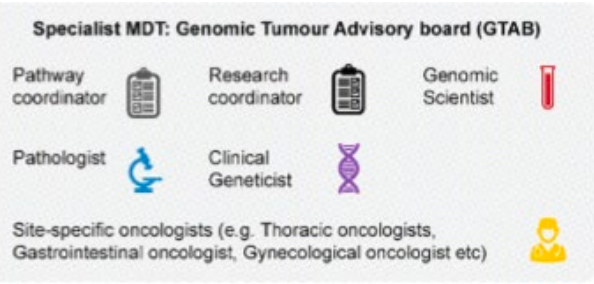
Paradigm shift: team-based cancer care

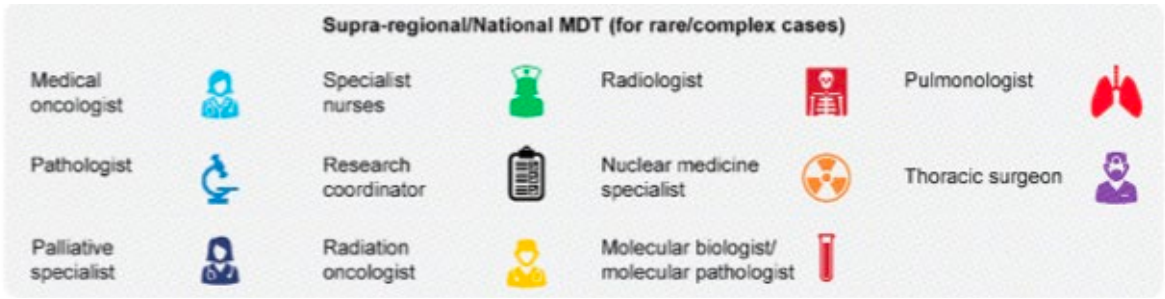
Complexity of cancer and multi-areas expertise needed



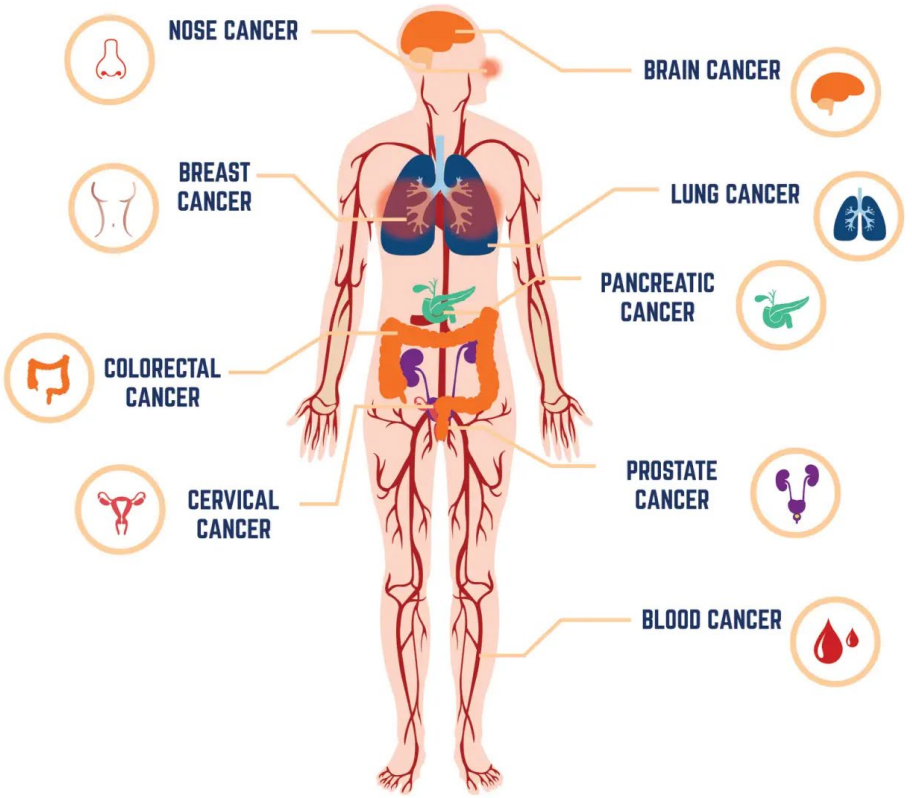


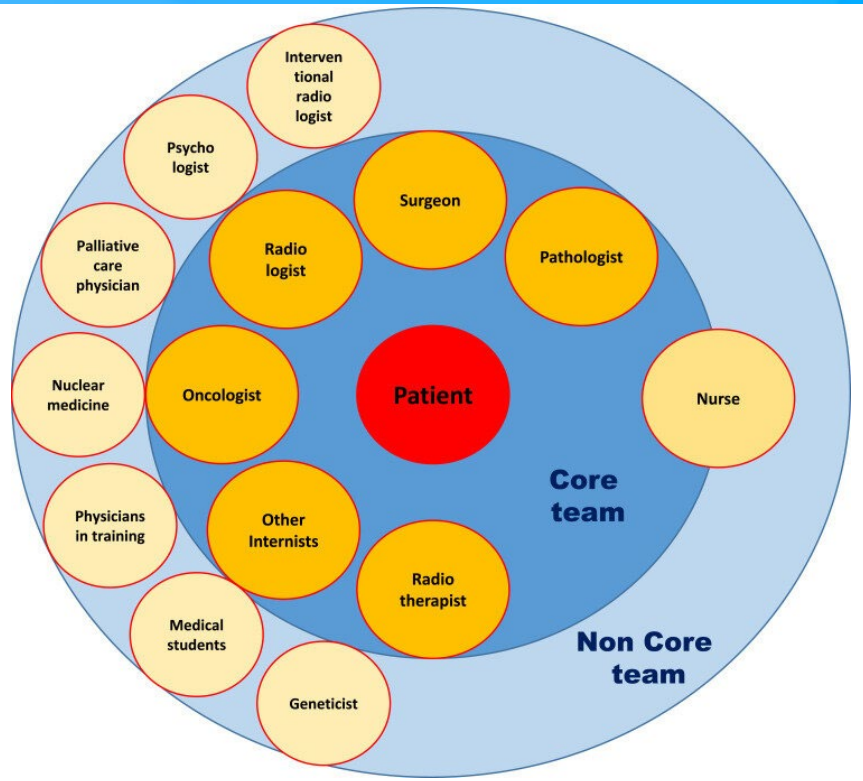






Paradigm shift: team-based cancer care





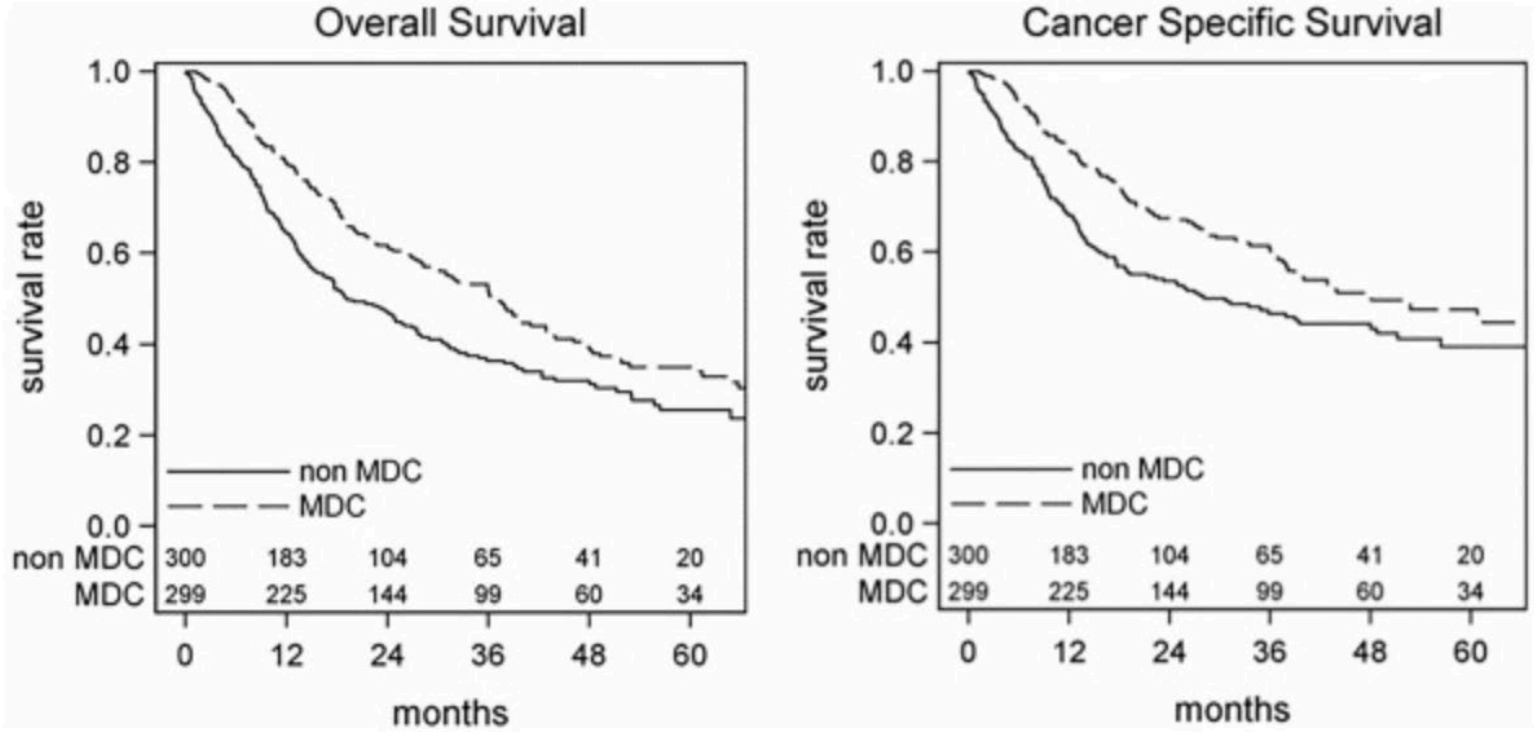
- Regular meetings where a panel of specialists (oncologists, surgeons, radiologists, pathologists, etc.) review and discuss patient cases together
- Typically organized by disease type (e.g. breast cancer board, GI cancer board) to focus expertise

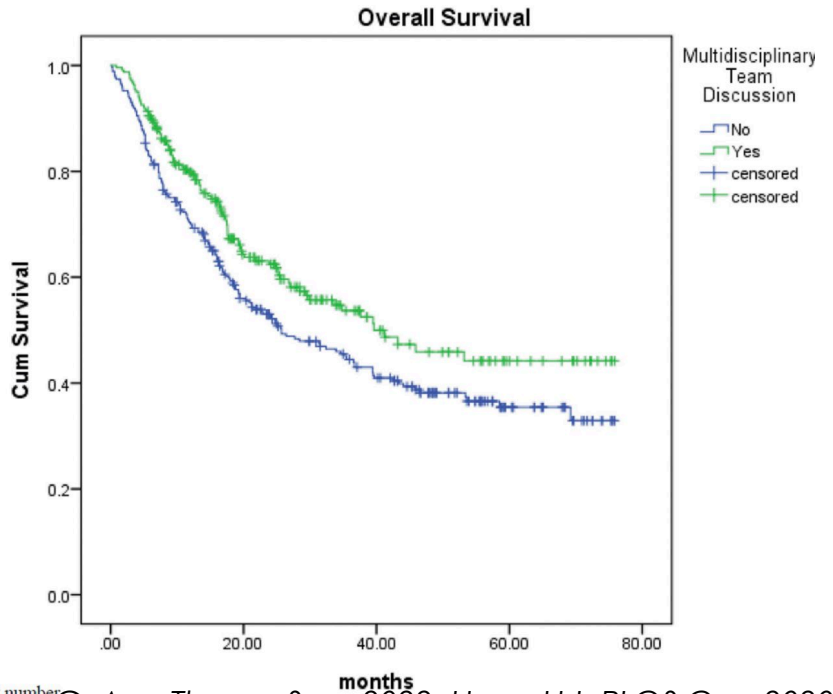
Paradigm shift: team-based cancer care

MDT as gold standard:

- improves adherence to guidelines
- lead to more timely and appropriate treatments,
- addresses all aspects of patient care
- overcome the complexity barrier
- mitigate physician burnout

- Patient's survival improvement





Gaudioso C, *Ann Thorac Surg 2022; Hung H-I, PLOS One 2020*

Paradigm shift: team-based cancer care addressing more and more complexity

Genetic Counseling in Oncology

- Helps patients and their families understand hereditary cancer risk and the implications of genetic testing
- A trained genetic counselor or trained clinician collects detailed family history, assess risk of inherited cancer syndromes (e.g. BRCA1/2 in breast/ovarian cancer), and guide decisions on genetic testing
- Post-test counseling ensures patients understand their results (e.g. a mutation found or not found) and what it means for their treatment, screening, and relatives
- Made by oncologist, radiologist, geneticist and the psychologist, who constitute a **flow of skills** that interacts with the subject at risk in a unified way.

Paradigm shift: team-based cancer care addressing more and more complexity

MOLECULAR TUMOR BOARD (MTB): TEAM MEMBERS

Bioethicist: clearance of ethical issues
Bioinformatician: data elaboration and interpretation
Clinician: clinical management
Pathologist: diagnosis of initial/recurrent diseases
Patient representative: patient's participation in the process

Radiologist: diagnosis of initial/recurrent diseases
Molecular geneticist: molecular validation of mutations
Pharmacist: regulatory assessments of treatments
Pharmacologist: functional validation of druggable mutations

- The multidisciplinary molecular tumor boards (MTB) aim to discuss options for targeted therapies based on NGS analysis from biopsies of patients with tumors in an advanced/metastatic stage, resistant to previous therapies or patients with rare tumors.
- Main figures of the team: oncologist, pathologist, pharmacist, geneticist, molecular biologist, radiologist, bio-informatician
- **Strategy to ensure appropriateness in diagnostic and therapeutic prescription**

Paradigm shift: team-based cancer care

Oncology as a **team sport**

OPIC trains its students to thrive in this collaborative environment.

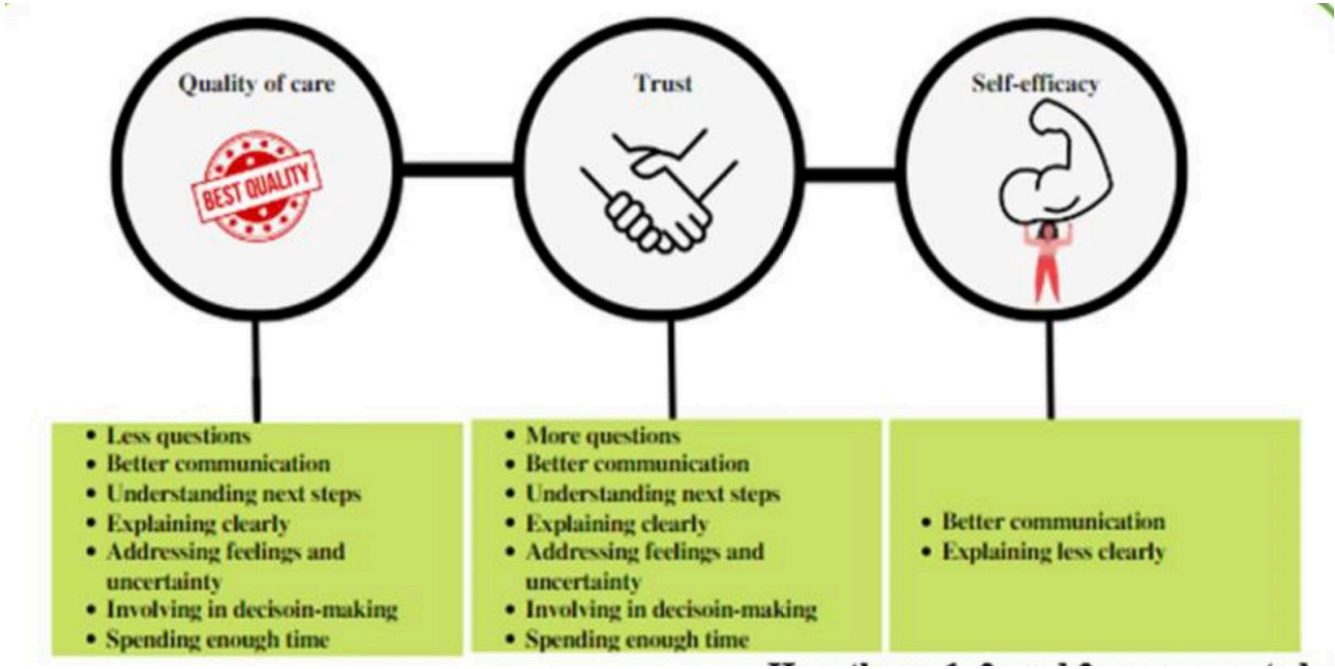
Paradigm shift: patient-centered approach

«care that is respectful of and responsive to individual patient preferences, needs, and values, and ensuring that patient values guide all clinical decisions»

- **Listening to patients:** providing care that is respectful of and responsive to each patient's individual preferences, needs, and values

- **Shared decision-making**: the patient (and family) viewed as an integral part of the care team, their goals and choices help drive decisions

- **Treating the whole person**: Beyond the disease, focus on QoL, psychosocial well-being, and supporting patient autonomy



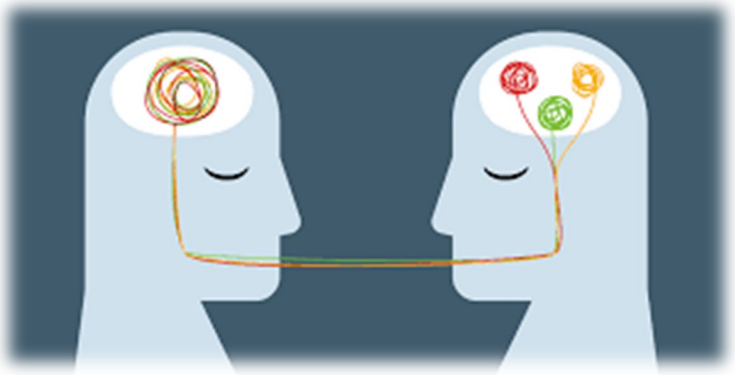
Paradigm shift: patient-centered approach

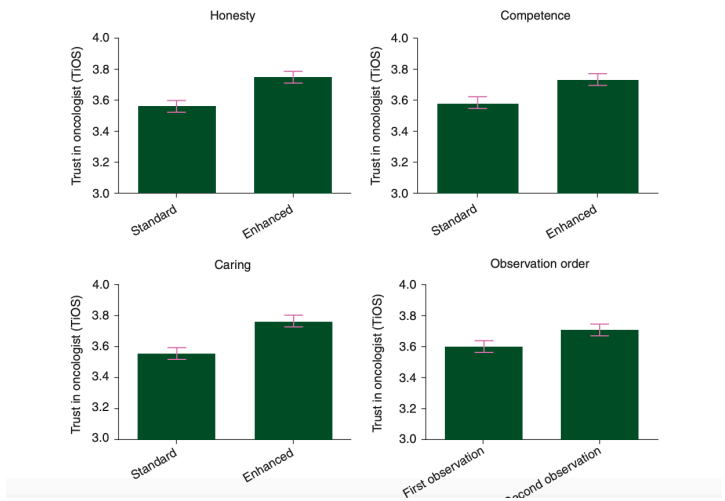
The *OPIC* principle:

- dedicated sessions on topics like communication, empathy, and "*the patient's voice*" in care, making the patient truly central and leading to care that not only aims at the best clinical outcome but also aligns with what the patient values in their life.

- future oncology leaders are taught how to promote patient empowerment – such as using decision aids, respecting patient autonomy, and sometimes even involving patients in designing their care plans.

Paradigm shift: patient-centered approach
focus on doctor-patient communication





- Active listening
- Adapted language (clear, compassionate)
- Honest yet hopeful communication
- Empathy
- Two-way communication

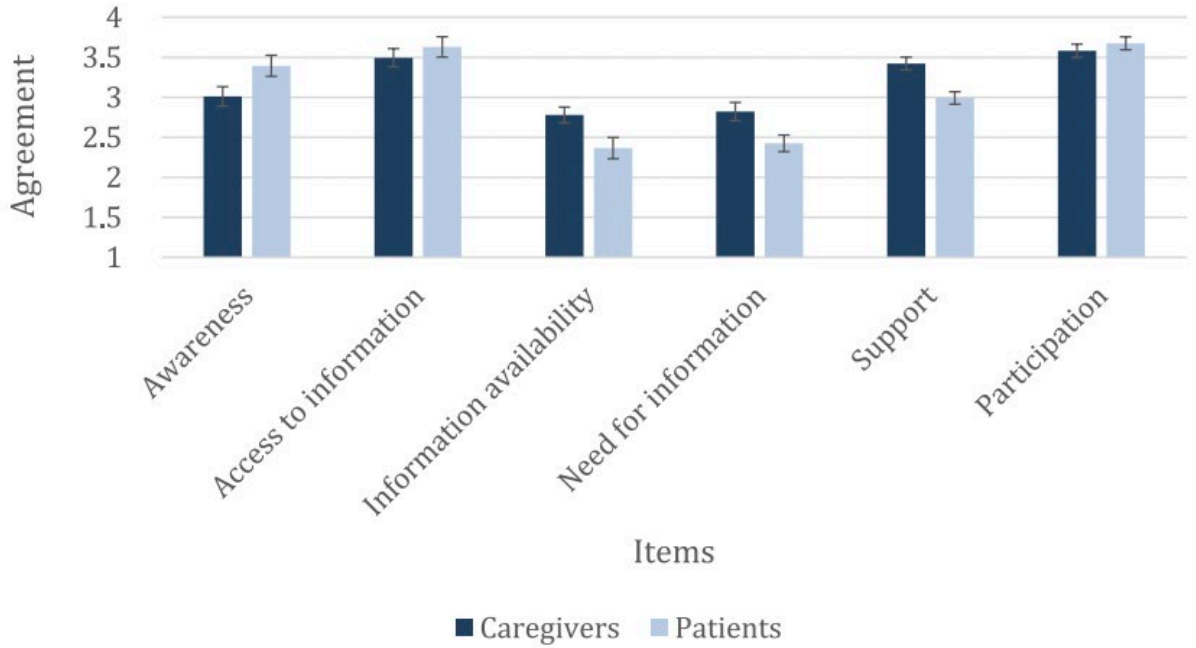
- Strengthen therapeutic alliance and improve overall care experience
- Improve satisfaction and even quality of life
- Reduce patient anxiety by addressing concerns and expectations early

Hillen MA, Ann Oncol 2014; Ong LML, Patient Education and Counseling 2000

Paradigm shift: patient-centered approach
focus on patients empowerment and involvement

«a process through which people gain greater control over decisions and actions affecting their health»

- Education
- Open communication
- Shared-decision making, proactivity and engagement



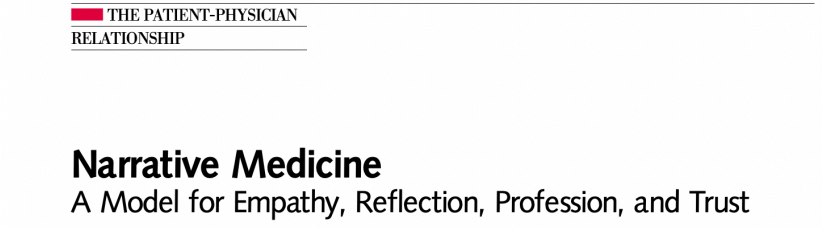
Better adherence to treatment
Improved satisfaction
Greater sense of control despite the illness

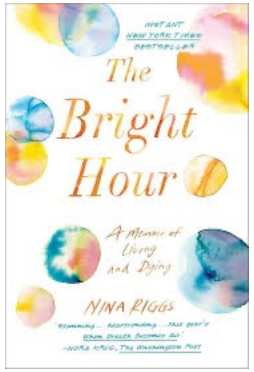
Marzorati C, Health Psychology Open 2018

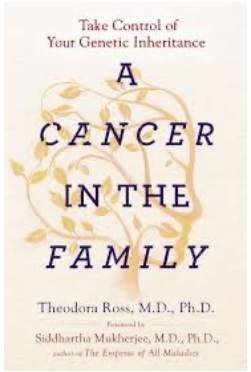
Paradigm shift: patient-centered approach focus on narrative medicine and psychological support

- **Narrative medicine:** encourages healthcare providers to actively listen to patients' stories and illness experiences – improving empathy and understanding of the patient's perspective
- Incorporating patient narratives can reveal important psychosocial factors and strengthen the patient-provider relationship

- **Psychological support (psycho-oncology):** addressing the emotional and mental health needs of patients (and caregivers) through counseling, support groups, or therapy is integral to comprehensive care – it can improve quality of life and even health outcomes







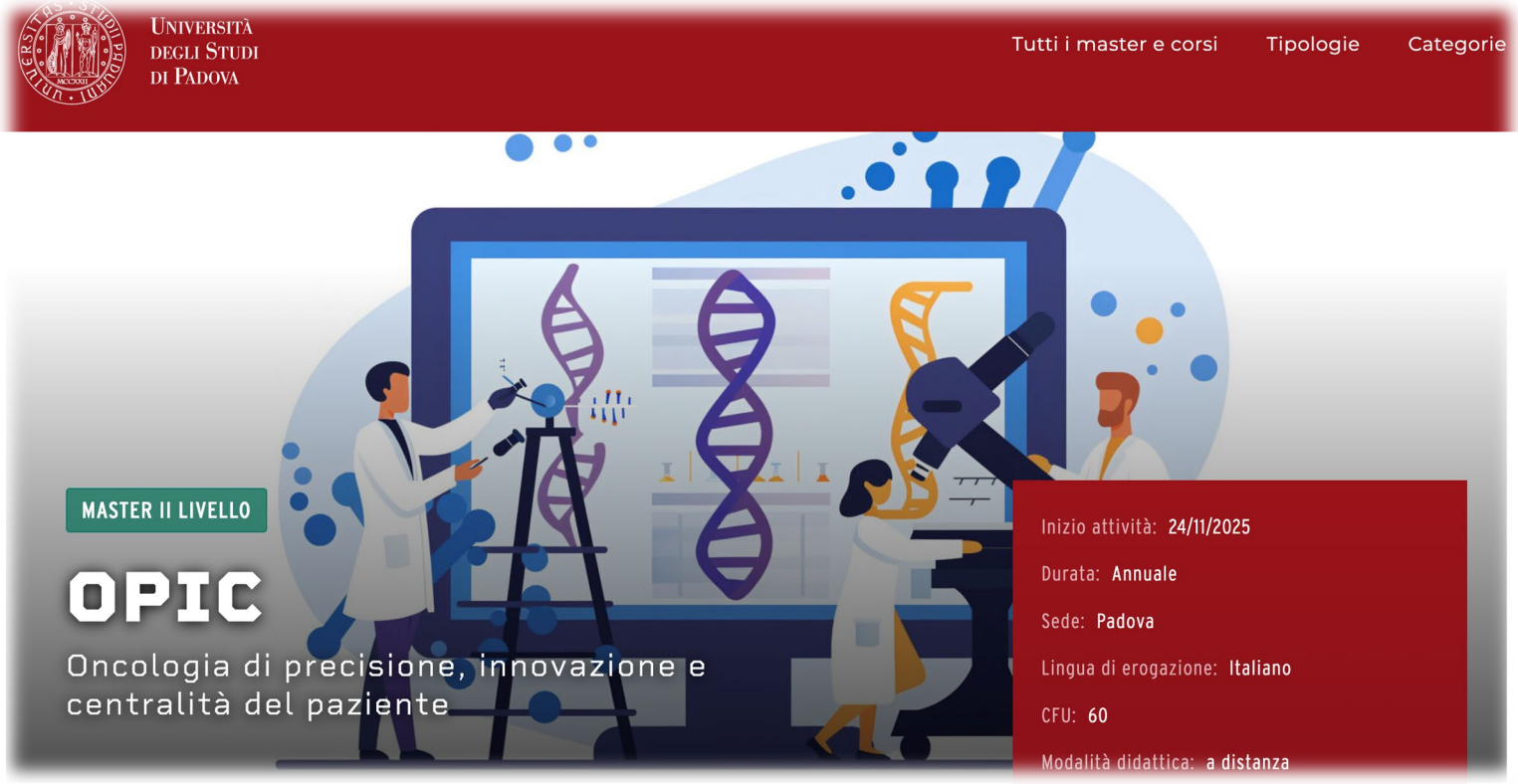
Paradigm shift: patient-centered approach
Practical tools and case simulations

• OPIC and similar training programs use **practical tools** like role-play, case studies, and simulated clinical scenarios to teach multidisciplinary and patient-centered skills

•**Workshop simulations:** e.g. practicing an interdisciplinary tumor board meeting or a difficult consultation with a patient, allowing students to apply theory to realistic scenarios

•These hands-on exercises build confidence and competence in collaborative decision-making, communication, and problem-solving before students face real-world situations

A collaborative, patient-centered future



OPIC's mission is to train professionals who will lead this approach – oncologists who are not only adept in the latest science but also excel in communication, empathy, and teamwork, truly transforming cancer care for the better

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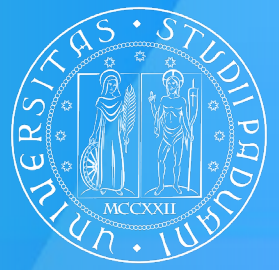

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