LA PRESA IN CARICO DEI PAZIENTI ONCOLOGICI NELL'ERA POST PANDEMICA

Il ruolo della assistenza territoriale e proposte per il Cancer Center

Varese, 12 Maggio 2022

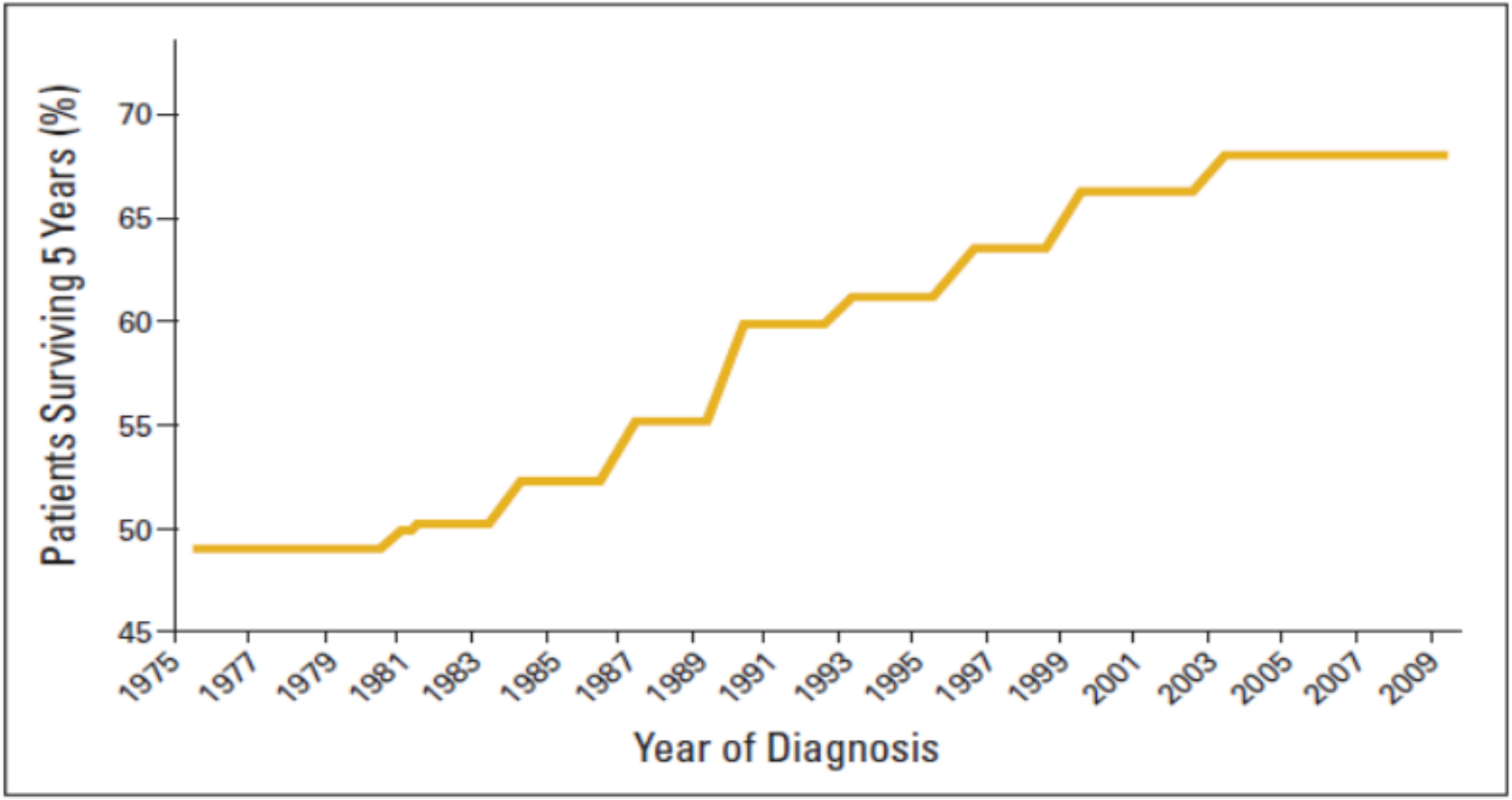
Oncologia e Integrazione Ospedale-Territorio: il ruolo dei team multidisciplinari all'interno dei distretti

Francesco Grossi

UOC Oncologia Medica

Università degli Studi dell'Insubria – ASST Sette Laghi, Varese

Progress in 5-year survival: ASCO report



War on cancer not “a single war against a single enemy”

“We are not waging a single war against a single enemy. It is literally hundreds of different diseases”

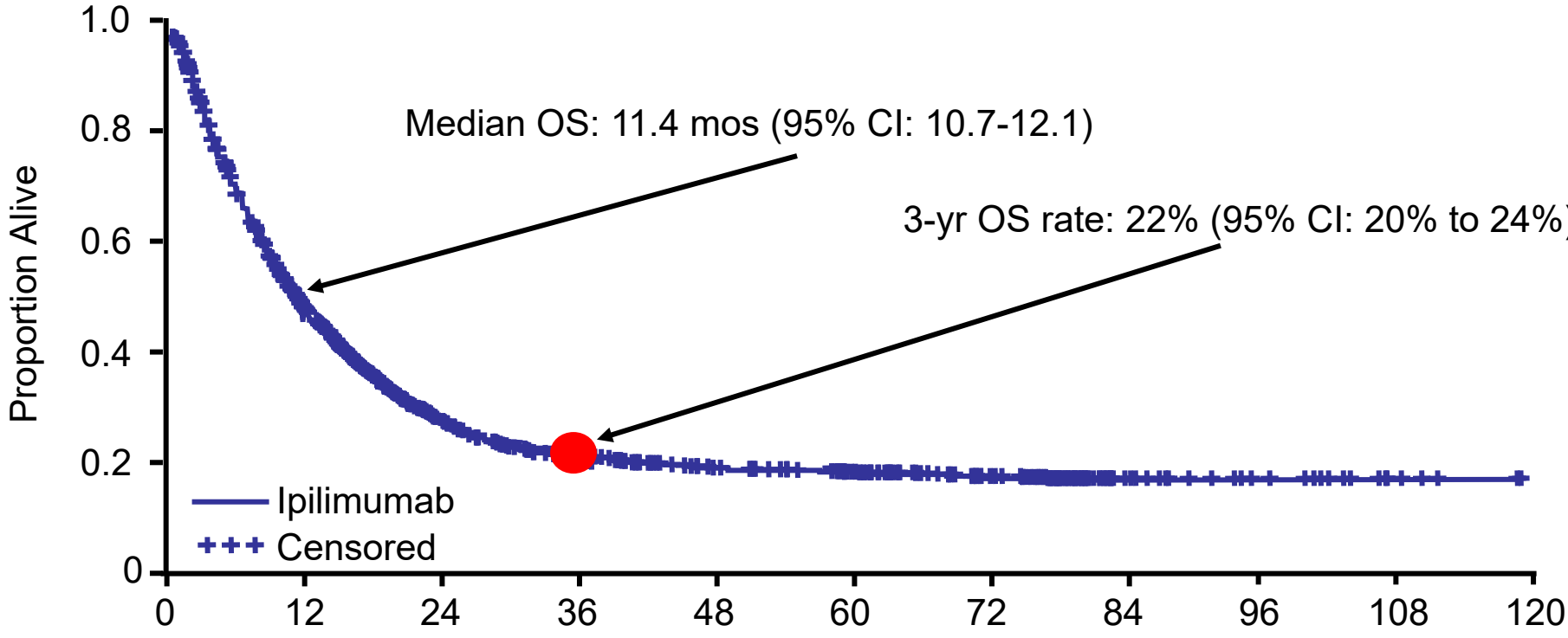
Harold Varmus, Nobel Prize winner
NCI Director

Immunotherapy: a revolution in cancer treatment

"Ten years from today, >50% of patients with inoperable cancer will be receiving some form of immunotherapy

Wall Street Journal, January 2014

Pooled analysis of long-term survival from phase II and III trials of ipilimumab in unresectable or metastatic melanoma



Pts at Risk, n											
Ipilimumab	1861	839	370	254	192	170	120	26	15	5	0

Schadendorf D, J Clin Oncol 2015

Il caso del Presidente Carter

Nell'agosto 2015, all'età di 90 anni, l'ex presidente Carter annuncia di essere malato di melanoma con metastasi al cervello e al fegato, di aver iniziato un trattamento di radioterapia e di immunoterapia sperimentale.
Successivamente, nonostante l'iniziale gravità della prognosi (sopravvivenza media di 4-5 mesi), il 6 dicembre annuncia la sua guarigione in seguito all'immunoterapia.

LA STAMPA SALUTE

SEGUICI SU ACCEDI

Jimmy Carter guarito dal cancro grazie a immunoterapia

L'ex presidente degli Stati Uniti, oggi 91enne, curato con la tecnica che «educa» il sistema immunitario a rispondere in modo adeguato alla presenza di un corpo estraneo

REUTERS

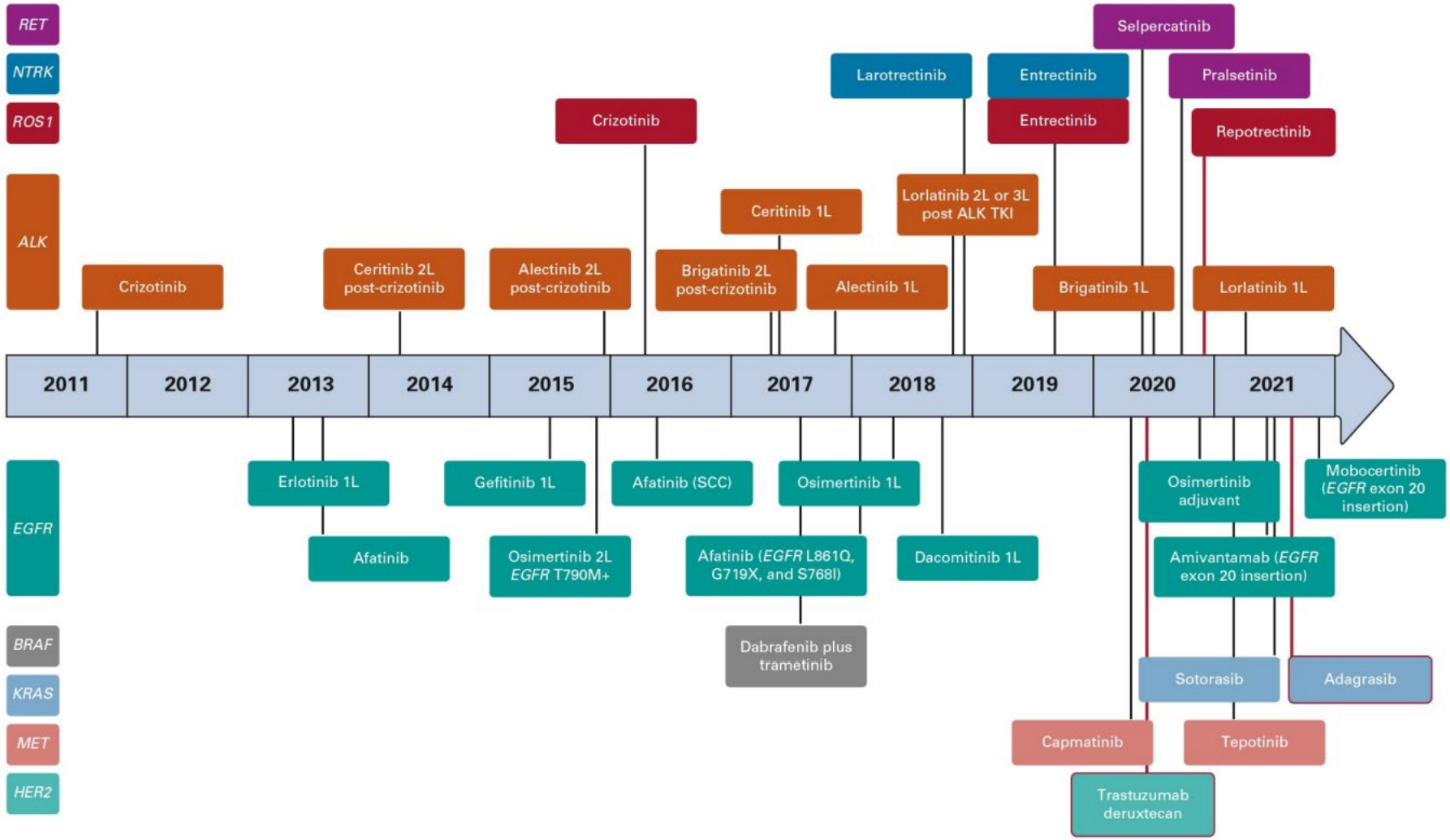
L'ex Presidente degli Stati Uniti Jimmy Carter, 91 anni

The cancer treatment ~~in the future~~ today

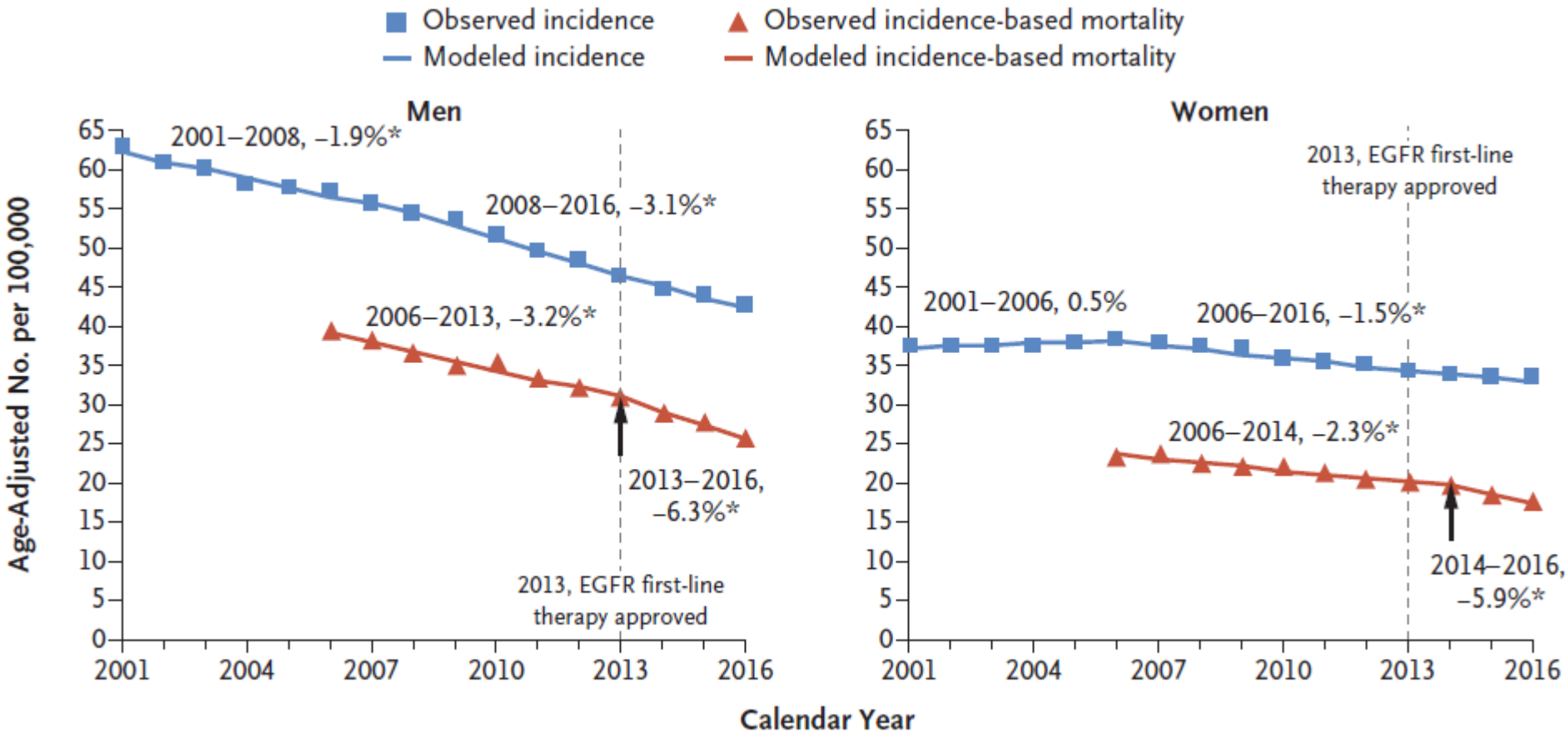
"Here's my sequence …"

New Yorker 2004

Timeline of Select FDA-Approved Targeted Therapies for Oncogene-Driven NSCLC

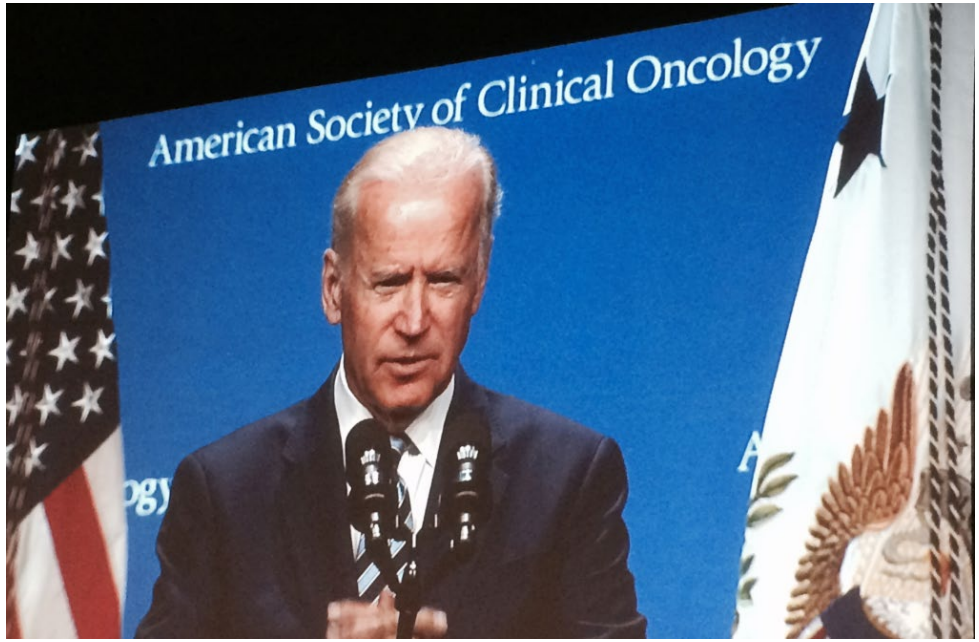


The effect of advances in lung-cancer treatment on population mortality



Howlader N, NEJM 2020

National Cancer Moonshot



"I am not a researcher. I am not an oncologist. I am not a geneticist. I am a Vice President of the United States. But I've been on the other end of the need." (Joe Biden) ***ASCO 2016***

- Prevention and Cancer Vaccine Development
- Early Cancer Detection
- Cancer Immunotherapy and Combination Therapy
- Genomic Analysis of Tumor and Surrounding Cells
- Enhanced Data Sharing
- Oncology Center of Excellence
- Pediatric Cancer

Biden restarts 'Cancer Moonshot' program, aims to cut death rate by 50 percent

The president set a goal of halving the cancer death rate over the next 25 years.

Feb. 2, 2022, 11:00 AM CET / Updated Feb. 2, 2022, 9:55 PM CET

By Lauren Egan

WASHINGTON – President Joe Biden on Wednesday announced a relaunch of the "Cancer Moonshot" program started during the Obama administration with the goal of ending a disease that kills more than 600,000 people a year in the U.S.

In a speech at the White House, Biden said the revamped initiative aims to reduce the death rate from cancer by at least 50 percent over the next 25 years and improve the experiences of patients and their families.

"We can end cancer as we know it," Biden said. "This is a presidential White House priority."

The President and First Lady Jill Biden are also announcing a **call to action on cancer screening** to jumpstart progress on screenings that were missed as a result of the pandemic, and help ensure that everyone in the United States equitably benefits from the tools we have to prevent, detect, and diagnose cancer.

Building on a Quarter Century of Bipartisan Support, Public Health Progress, and Scientific Advances

Over the first 20 years of this century, the age-adjusted death rate from cancer has fallen by about 25 percent, which means more people are surviving cancer and living longer after being diagnosed with cancer. That was enabled by progress on multiple fronts.

- Science brought us **treatments that target specific mutations** in many types of cancer –for example, in certain types of lung cancer, leukemia, and skin cancers.
- It has also provided therapies that use our immune system to detect and kill cancer cells and these **immunotherapies** are making a big difference in certain skin cancers, blood cancers, and others.
- We also have **cancer vaccines** – like the HPV vaccine –which prevents the cause of up to seven kinds of cancer.
- We developed **tools, like low-dose CT scans and refined use of colonoscopies**, which help us detect lung cancer and colorectal cancers early when there are better treatment options.

Il contesto nazionale

UO piccole potrebbero caratterizzarsi per lo svolgimento di funzioni di base senza necessariamente prevedere attività di degenza e collegandosi funzionalmente a centri di maggiori dimensioni; una alternativa per unità di dimensioni limitate è quella di perseguire, se possibile e utile, forme di specializzazione accentuata che richiamano le focused factories per le attività chirurgiche.

UO medie e grandi alle quali affidare, oltre a una parte di funzioni di base, funzioni intermedie e specializzate. Tali unità dovrebbero rappresentare l'asse portante dell'Oncologia Medica, garantendo anche nella rete sufficienti gradi di specializzazione.

Dipartimenti oncologici strutturali in grado di riunire, in particolari condizioni, le unità medie e grandi, in un'unica articolazione molti dei saperi coinvolti nella risposta alle patologie oncologiche.

Comprehensive Cancer Center in cui il dipartimento strutturale si trasforma in una unica entità e insieme alla disponibilità di competenze si articolano e si concentrano un insieme di servizi in grado di rispondere, in una determinata fase, a tutte le esigenze del paziente.

Istituti oncologici rappresentano una evoluzione/alternativa alle due forme precedenti aggiungendo a una ampiezza e specializzazione dei saperi presenti e dei servizi offerti, una autonomia istituzionale che consente una piena focalizzazione sulla patologia.

Processi Organizzativi, Percorsi e reti, Gruppo di lavoro AIOM-CIPOMO 2017

L’esempio del Memorial Sloan Kettering

SKI’s facilities, which began with the building constructed largely with funds from Mr. Sloan’s donation, have grown steadily over the years. The Walker Laboratory, located in Rye, New York, opened in 1959 and housed SKI researchers until the late 1980s. The Kettering Laboratory, named for the Kettering family and located on East 68th Street, was dedicated in 1964.

SKI’s educational mission began in 1950, when the institute signed an agreement with the Cornell University Graduate School of Medical Sciences that enabled students training for their PhD degrees to conduct their research in SKI labs under the guidance of SKI faculty.

SKI lobby, 1949. The inscription reads: Within These Walls A Few Labor Unceasingly That Many May Live.

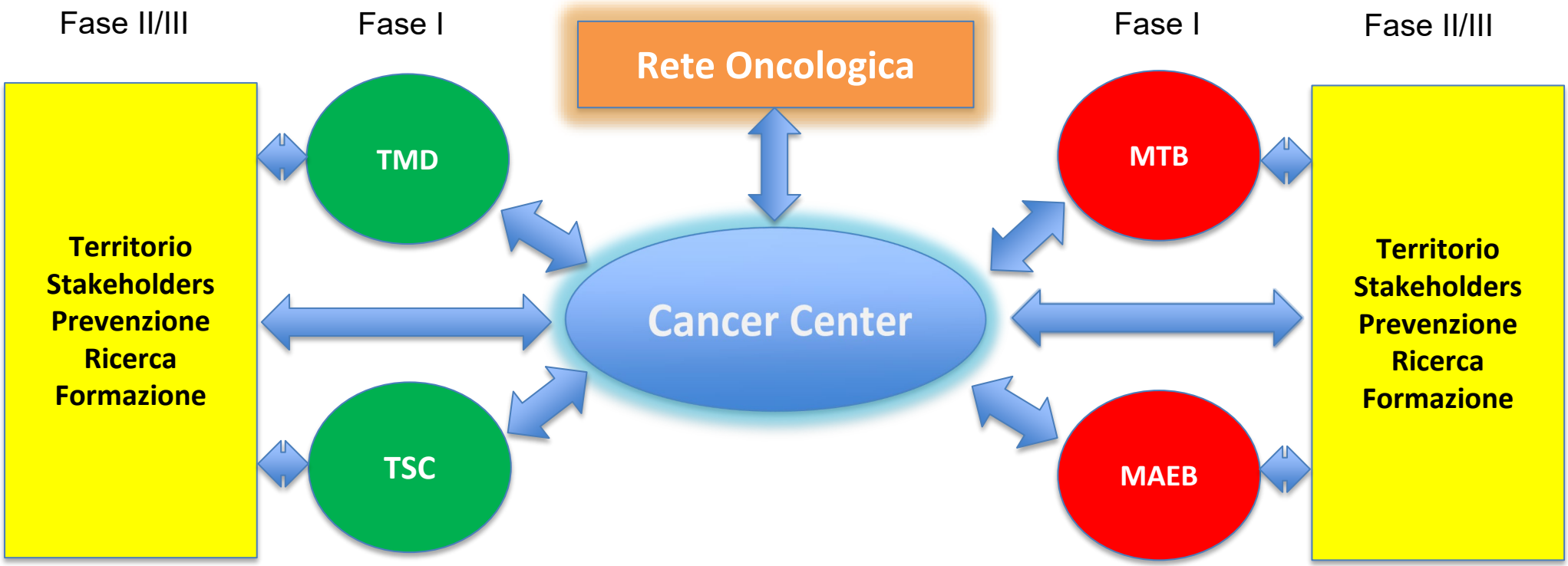
When it was originally created, SKI was a separate entity from Memorial Hospital, with its own management and its own board, although it was housed immediately adjacent to the hospital buildings on the Upper East Side of Manhattan.

The corporate entity called Memorial Sloan Kettering Cancer Center (MSK) was established in 1960. Two decades later, SKI and Memorial Hospital were unified into one institution, with a single president and chief executive officer. SKI remains the experimental research arm of MSK, committed to its original purpose of supporting fundamental science.

Il contesto locale

- La Regione Lombardia prevede nella sua organizzazione sanitaria la creazione di Center dedicati al trattamento di patologie che hanno un importante impatto sul sistema sanitario regionale.
- I Center sono elementi organizzativi orizzontali che formalizzano un metodo di lavoro le cui caratteristiche vengono esplicitate nel Piano di Organizzazione Aziendale Strategico (POAS).
- I Center nascono dalla necessità di creare un modello organizzativo in grado di gestire efficacemente processi orizzontali, realizzando integrazione tra le diverse funzioni, l'adozione di logiche di rete sia interne che esterne (ROL), e la presa in carico del paziente integrata rispetto ai diversi momenti di cura in un'ottica di miglioramento continuo.

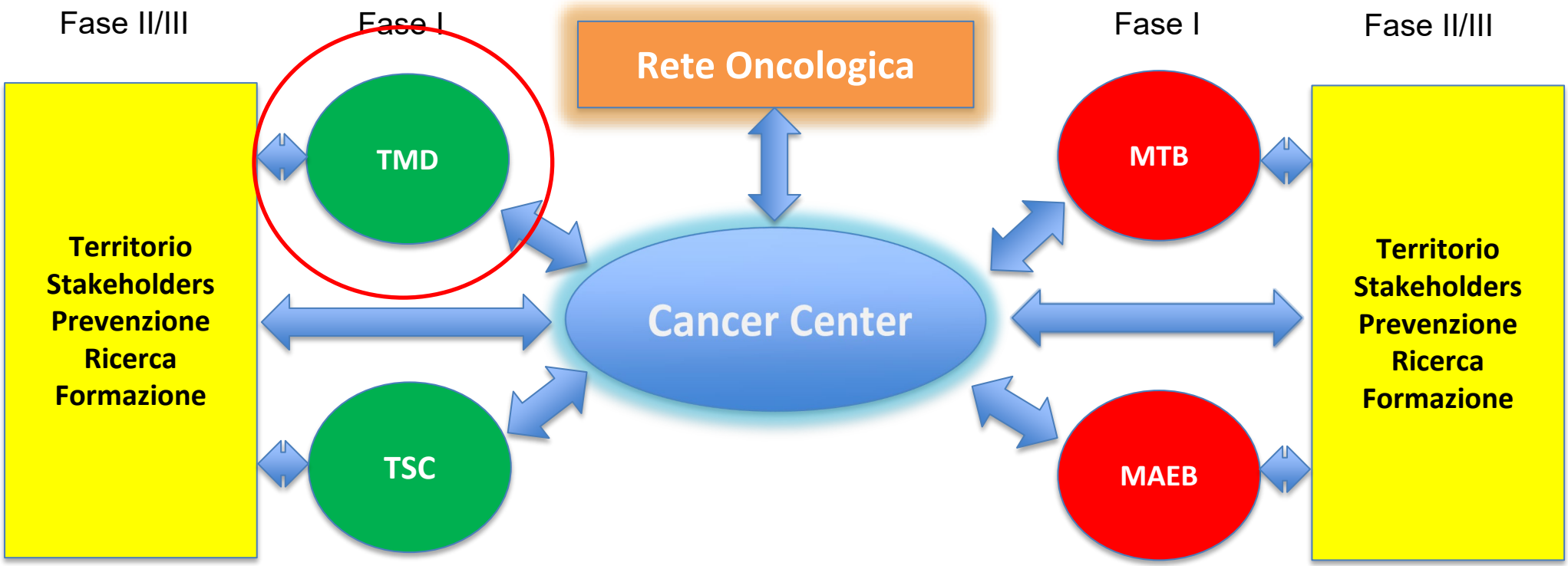
Cancer Center



TMD= Team Multidisciplinare; TSC= Team Simultaneous Care
MTB= Molecular Tumor Board; MAEB= Multidisciplinary Adverse Events Board

Grossi F, POLIS 2021

Cancer Center



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The Value of multidisciplinary team meetings for patients with gastrointestinal malignancies: A systematic review

Results

- 16 studies were included; the study quality was rated as fair.
- Four studies reported that MDTs changed the **diagnoses** formulated by individual physicians in **18.4–26.9%** of evaluated cases
- Two studies reported that MDTs formulated an accurate diagnosis in 89 and 93.5% of evaluated cases, respectively
- Nine studies described that the **treatment plan** was altered in **23.0–41.7%** of evaluated cases.
- Four studies found that MDT decisions were implemented in **90–100%** of evaluated cases. The reasons for altering a treatment plan included the patient's wishes, and comorbidities.

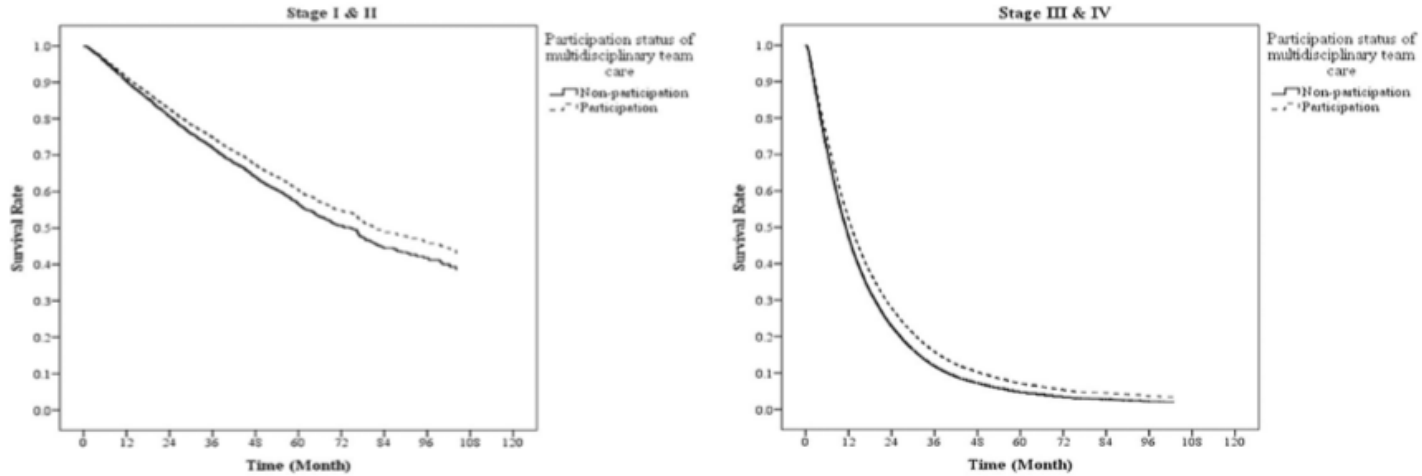
Basta YL, AnnSurg Oncol 2017

Impact of the lung oncology multidisciplinary team meetings on the management of patients with cancer

- Consecutive patient cases presented at the weekly lung oncology MDT meetings were prospectively enrolled. Investigators compared the clinicians' management plans pre-meeting with the consensus plans post-meeting.
- The meeting was considered to have an impact on management plans if ≥1 of the following changes were detected: tumor stage, histology, treatment intent or treatment modality, or if additional investigations were recommended.
- Of the 55 eligible cases, **the MDT meeting changed management plans in 58% (CI 45-71%; P < 0.005).** These changes included: **additional investigations (59%), or changes in treatment modality (19%),** treatment intent (9%), histology (6%) or tumor stage (6%).
- The **meeting recommendations were implemented in 72% of cases**. Reasons for non-implementation included deteriorating patient performance status, clinician's preference, the influence of new clinical information obtained after the meeting or patient decision.

Ung KA, Asia Pac J Clin Oncol 2016

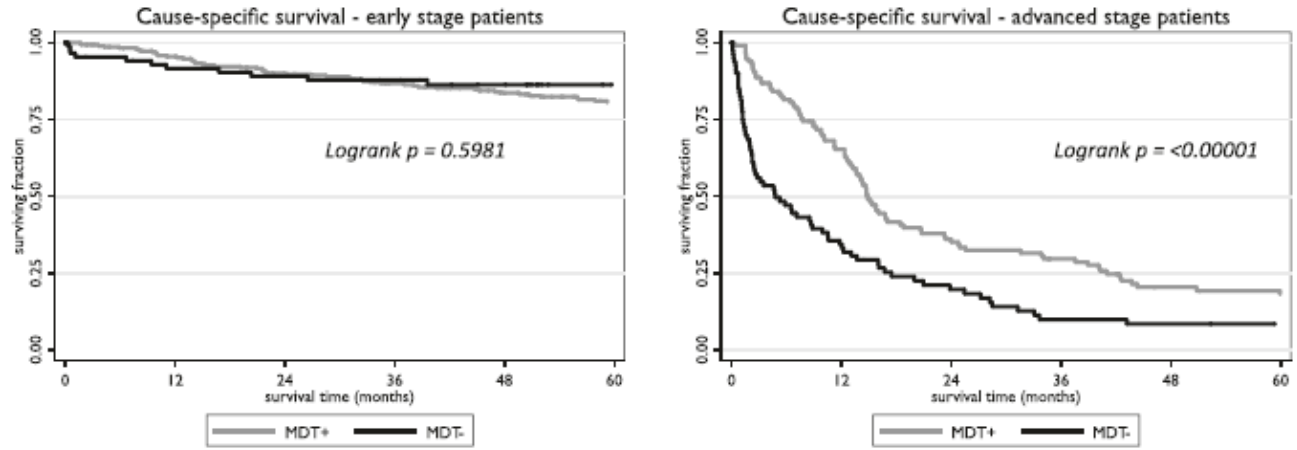
Effects of multidisciplinary team care on the survival of patients with different stages of NSCLC: a national cohort study



- In stage I&II,there was nostatistical significance in the survival rates between MDT participants and MDT non-participants (adjusted HR=0.89, 95%CI:0.78–1.01).In stage III&IV, the survival rates of MDT participants were significantly higher than those of MDT non-participants (adjustedHR=0.87,95%CI:0.84–0.90).
- This study revealed that MDT care are significantly associated with higher survival rate of patients with stage III and IV NSCLC, and thus MDT cares hould be used in the treatment of these patients.

Pan CC, PLOS One 2015

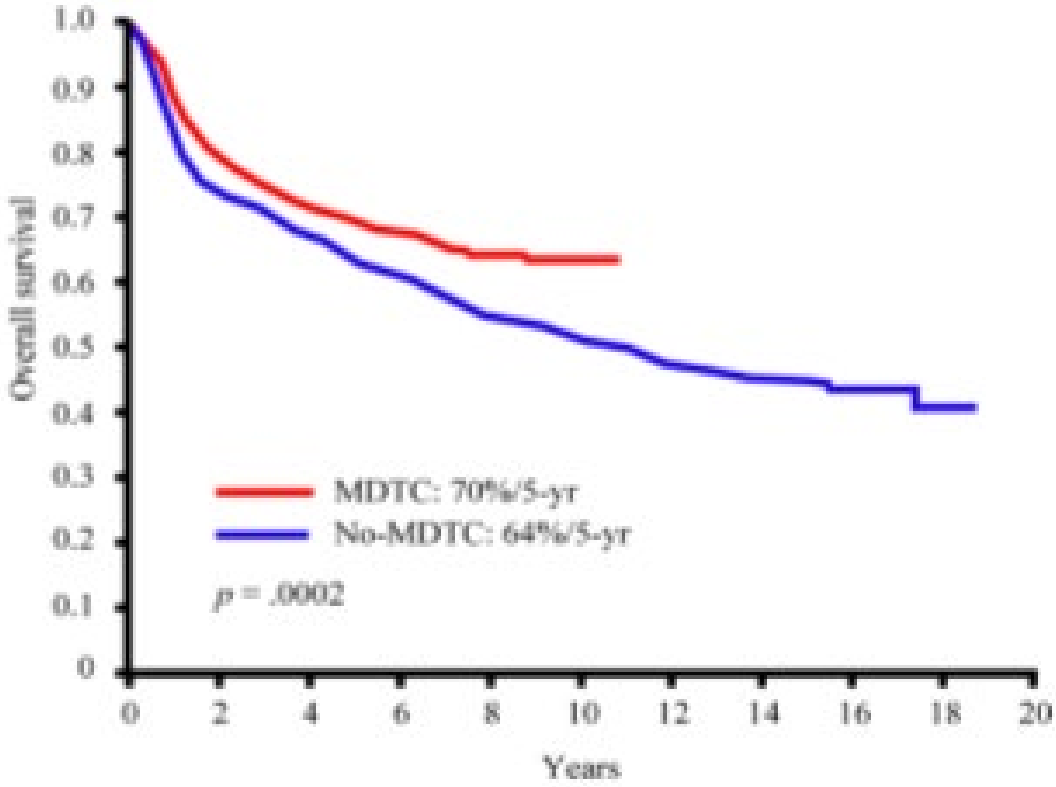
Do Multidisciplinary Team (MDT) processes influence survival in patients with colorectal cancer? A population-based experience



- Adequate MDT processes are associated with improved survival for patients with colorectal cancer.
- The MDT process predominantly benefits the 40% of patients who present with advanced disease and conveys little demonstrable advantage to patients with early tumours.
- These results call into question the current belief that all new patients with colorectal cancer should be discussed at an MDT meeting.

Pan CC, PLOS One 2015

Association between multidisciplinary team care approach and survival rates in patients with oral cavity squamous cell carcinoma



MDTC may serve as an independent predictor for survival in patients with oral cavity SCC. The survival benefit associated with MDTC might be explained by a higher nodal clearance, the identification of high-risk patients, the selection of the optimal supportive care approaches, and the reduction of treatment related morbidity.

Liao CT, Head Neck 2016

Oncologic multidisciplinary team meetings: evaluation of quality criteria

- Organization of the MTMs.
- Membership of the MTM and roles and responsibilities of the members.
- The meeting itself.
- Documentation of meeting-recommendations.

Ottevanger N, Journal of Evaluation in Clinical Practice 2013

Utilizing the multidisciplinary team for planning and monitoring care and quality improvement

Process standard

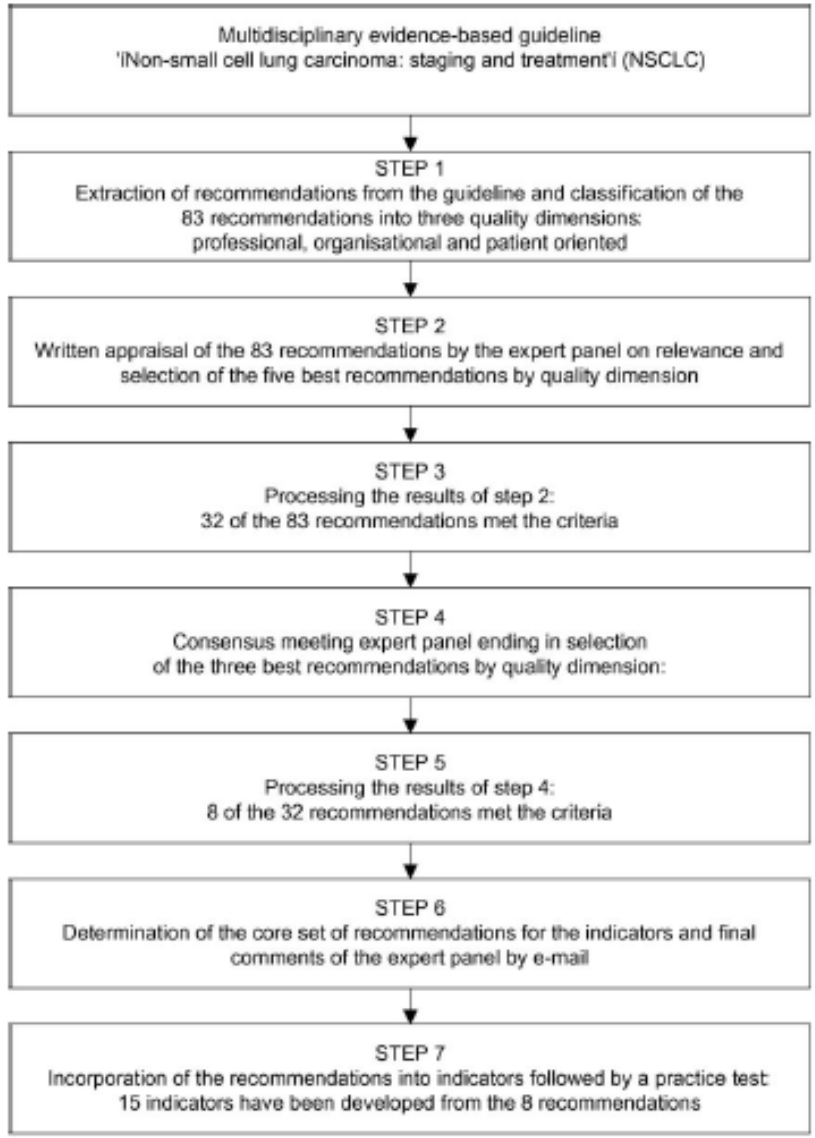
Standard 2.1	Diagnosis of rectal cancer confirmed by biopsy prior to treatment (target rate: 95%)
Standard 2.2	Patients must be registered into OSTRiCh database
Standard 2.3	Both systemic and local staging must be performed prior to definitive treatment. Systemic staging should consist of CT scan of the chest, abdomen, and pelvis. Local tumor staging should consist of MRI ± TRUS. Results of the MRI should be conveyed by a standardized synoptic reporting (target rate: 95%)
Standard 2.4	CEA level should be obtained prior to definitive treatment (target rate: 100%)
Standard 2.5	Individualized treatment planning discussion must occur at MDT prior to definitive treatment (target rate: 100%)
Standard 2.6	A Treatment Recommendation Summary (TRS) must be sent to the patient and referring or primary care physician prior to commencement of therapy (target rate: 100%)
Standard 2.7	Definitive treatment must begin within 30 days of patient's initial clinical evaluation at the institution (Target rate: 90%)
Standard 2.8	Standardized synoptic pathology report must be issued within 2 weeks of definitive surgical resection of the primary tumor. Tumor regression grade, budding, and growth border should be included in the report. (target rate: 90%)
Standard 2.9	Individualized treatment-outcome discussion must occur at MDT (target rate: 100%)
Standard 2.10	Adjuvant treatment (if selected) must begin within 6 weeks of definitive surgical resection of the primary tumor in uncomplicated cases (target rate: 75%)
Standard 2.11	Pretreatment staging, neoadjuvant therapy details, surgery details, pathology details, and adjuvant therapy details should be entered into database within 6 months of surgery (target rate:100%)
Standard 2.12	A Treatment Completion Summary and follow-up plan document must be sent to the patient and referring or primary care physician within 4 weeks of treatment completion (target rate: 100%)
Standard 2.13	The MDT must conduct an Annual Performance Review (target rate: 100%)
Standard 2.14	Molecular markers should be assessed when appropriate (target rate: 90%)

Quality indicators

1	Abdominoperineal resection rate
2	Anastomotic leak rate
3	Reoperation rate
4	30-day mortality rate after surgery
5	Involved CRM rate
6	Involved distal resection margin rate
7	Mesorectal grade rate
8	Lymph node yield greater than or equal to 12
9	Local recurrence rate
10	3-year disease-free survival rate

Patel A, Clin Colon Rectal Surg 2015

Development of quality indicators for diagnosis and treatment of pts with NSCLC



Hermens RPMG, Lung Cnacer 2006

Selezione degli indicatori ed esiti della valutazione (indicatori in linea con il benchmark)

INDICATORE	MEDIANA/%	BENCHMARK
I. Da primo accesso in pneumologia a visita oncologica – stadi IIIB-IV	**31 giorni**	**28-42 giorni (B)**
II. Da PET a chirurgia	**26 giorni**	**14-28 giorni (B)**
III. Da prima procedura diagnostica (broncoscopia) a diagnosi patologica	**5 giorni**	**7 giorni (B)**
IV. Da primo accesso in pneumologia a diagnosi patologica	**15 giorni**	**15-20 giorni (B)**
VII. Pazienti per i quali c'è evidenza di discussione multidisciplinare	**50%**	**55% (A)**
VIII. Pazienti con PS sec. ECOG>1 sottoposti a CT di prima linea con 2 farmaci	**0%**	**0% (A)**
IX. Pazienti che hanno ricevuto più di 3 linee di CT	**0%**	**0% (A)**
X. Numero medio di valutazioni oncologiche per paziente	**18 valutazioni**	**16 valutazioni (A)**
XI. Pazienti deceduti entro 30 giorni dall'ultima CT	**16 %**	**20% (B)**

Fasola G, JTO 2012

Selezione degli indicatori ed esiti della valutazione (indicatori non in linea con il benchmark)

INDICATORE	MEDIANA %	BENCHMARK
I. Da primo accesso in pneumologia a visita oncologica – stadi I-IIIA	**106 giorni**	**56-84 giorni (B)**
V. Da diagnosi patologica a chirurgia – stadi I-IIIA	**49 giorni**	**28-35 giorni (B)**
V. Da diagnosi patologica a CT – stadi IIIB-IV	**26 giorni**	**14-21 giorni (B)**
VI. Pazienti sottoposti a chirurgia che hanno eseguito mediastinoscopia preceduta da PET	**3%**	**80-100% (A)**

Fasola G, JTO 2012

Proposte di miglioramento

- assicurare la presenza dell'anatomopatologo durante l'esame broncoscopico per la valutazione estemporanea del campione prelevato
  - ↓ n° di broncoscopie/procedure diagnostiche
  - ↓ tempi di attesa
  - ↓ rischio di complicanze e il disagio
- adeguamento della strumentazione (ecoendoscopica)
- aumentare il n°di sessioni di chirurgia toracica
- valutazione anestesiologica pre chirurgica strutturata
- .....

Fasola G, JTO 2012

NAVIFY Tumor Board

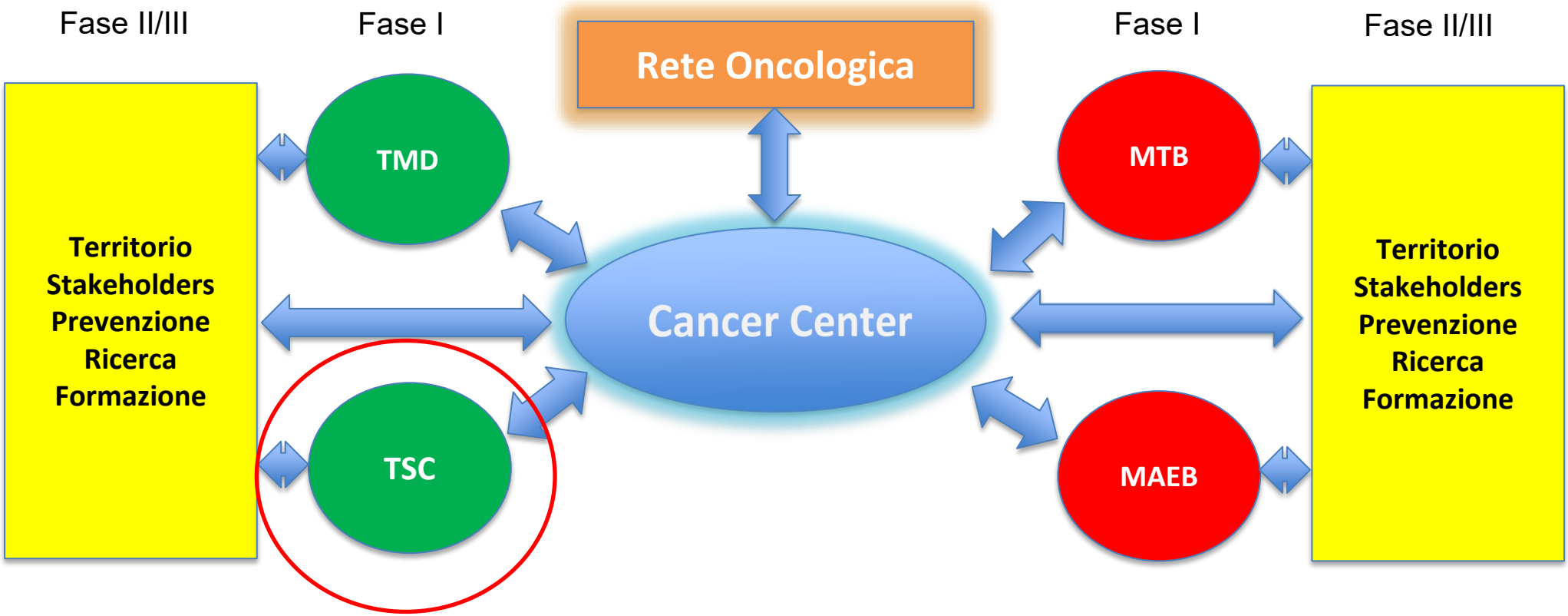
NAVIFY® Tumor Board

Modernizing tumor board conferences

A cloud-based solution that enhances the efficiency of multidisciplinary tumor board meetings, supporting the essential functions of coordination, presentation and documentation—including automatically capturing, customizing and reporting key metrics essential for accreditation and quality measures.

Request a demo

Cancer Center



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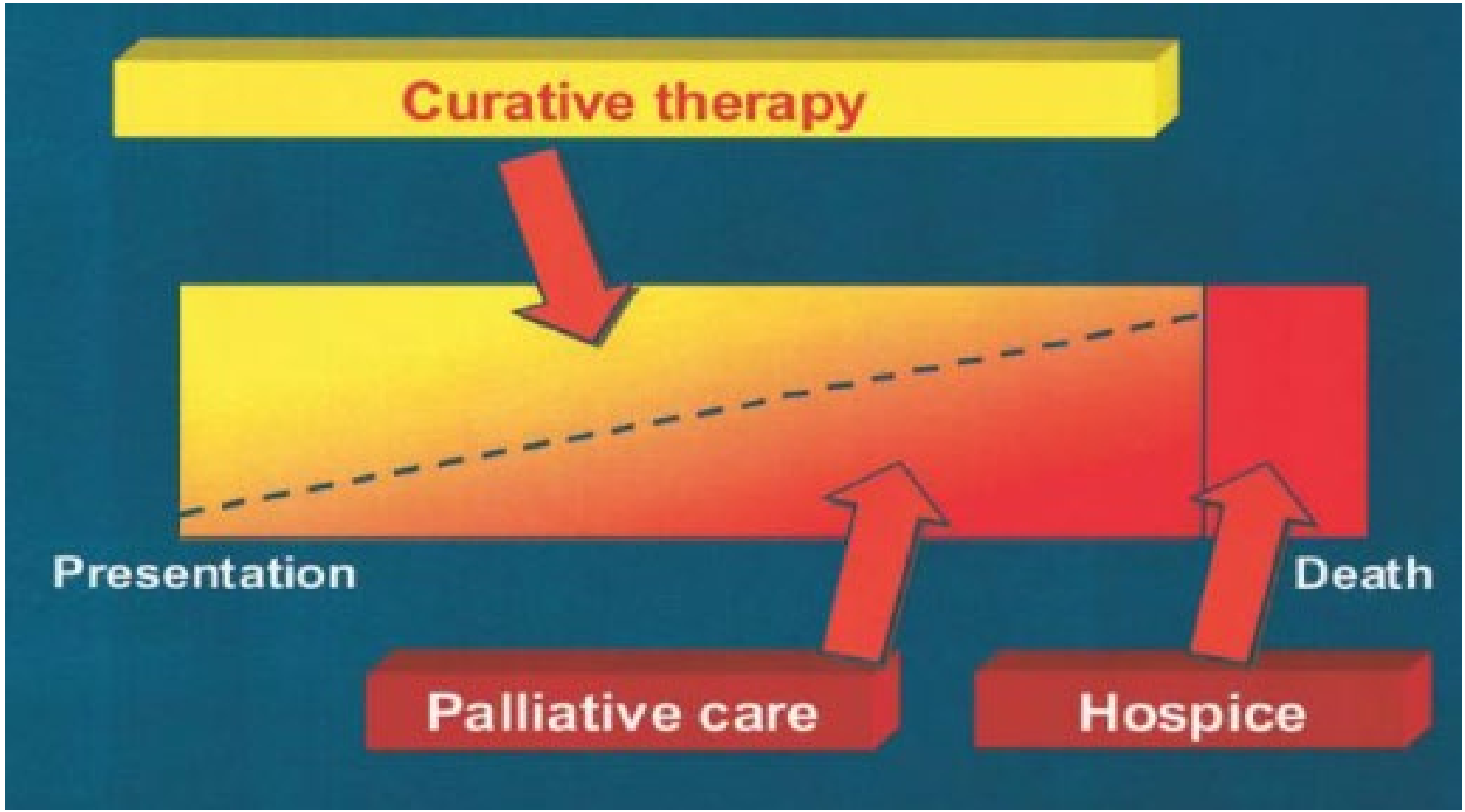
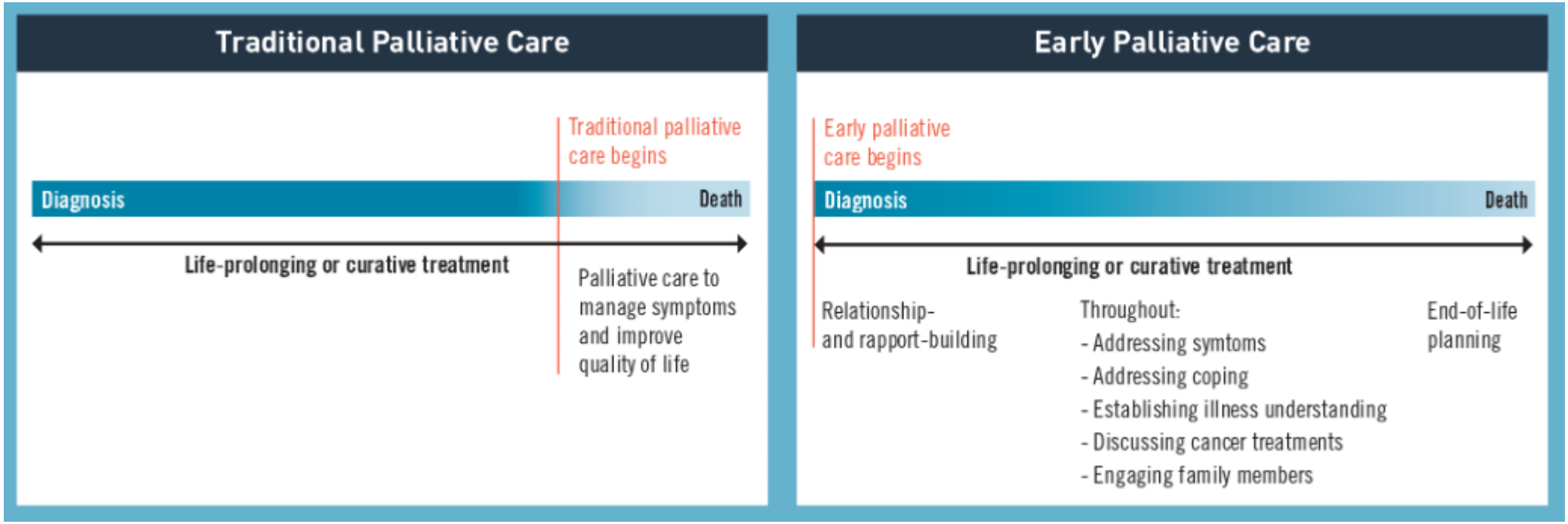
Grossi F, POLIS 2021

Team Simultaneous Care



Benefit of early vs traditional palliative care



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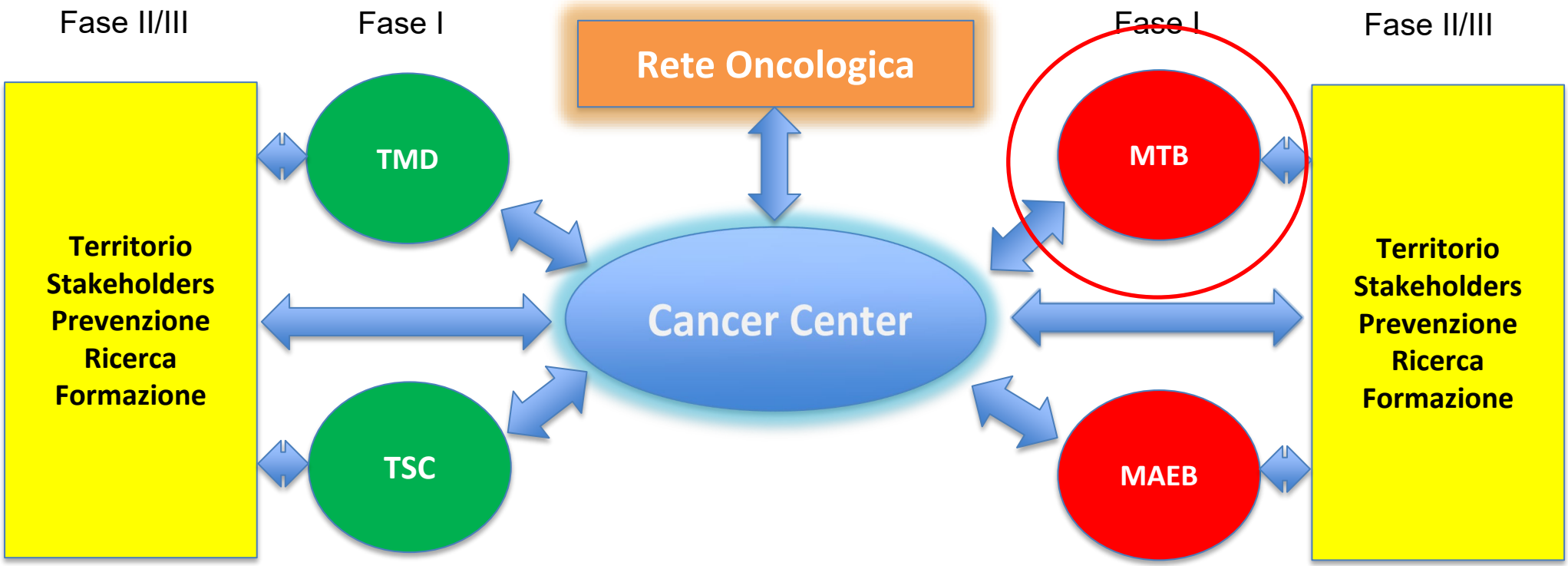

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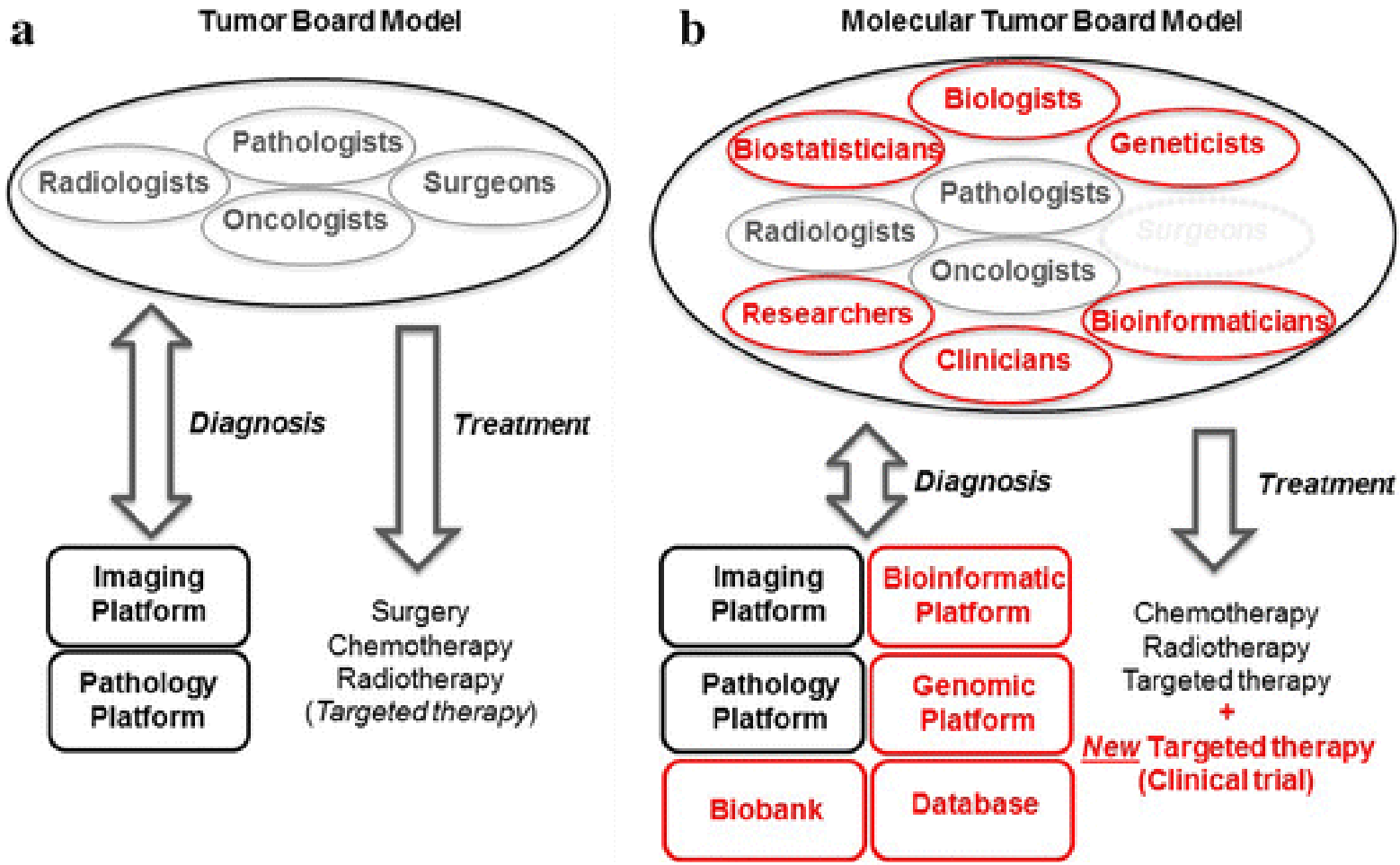
Molecular tumor board



Stoeklé HC, Sci Eng Ethics 2018

NAVIFY Mutation Profiler

NAVIFY Mutation Profiler**

NAVIFY Mutation Profiler is a clinical next-generation sequencing (NGS) reporting solution that helps labs and clinicians:

- Drastically reduce NGS curation time
- Accurately and efficiently interpret the clinical significance of mutations
- Increase diagnostic reproducibility
- Automate a concise, professional report

Read more about NAVIFY Mutation Profiler

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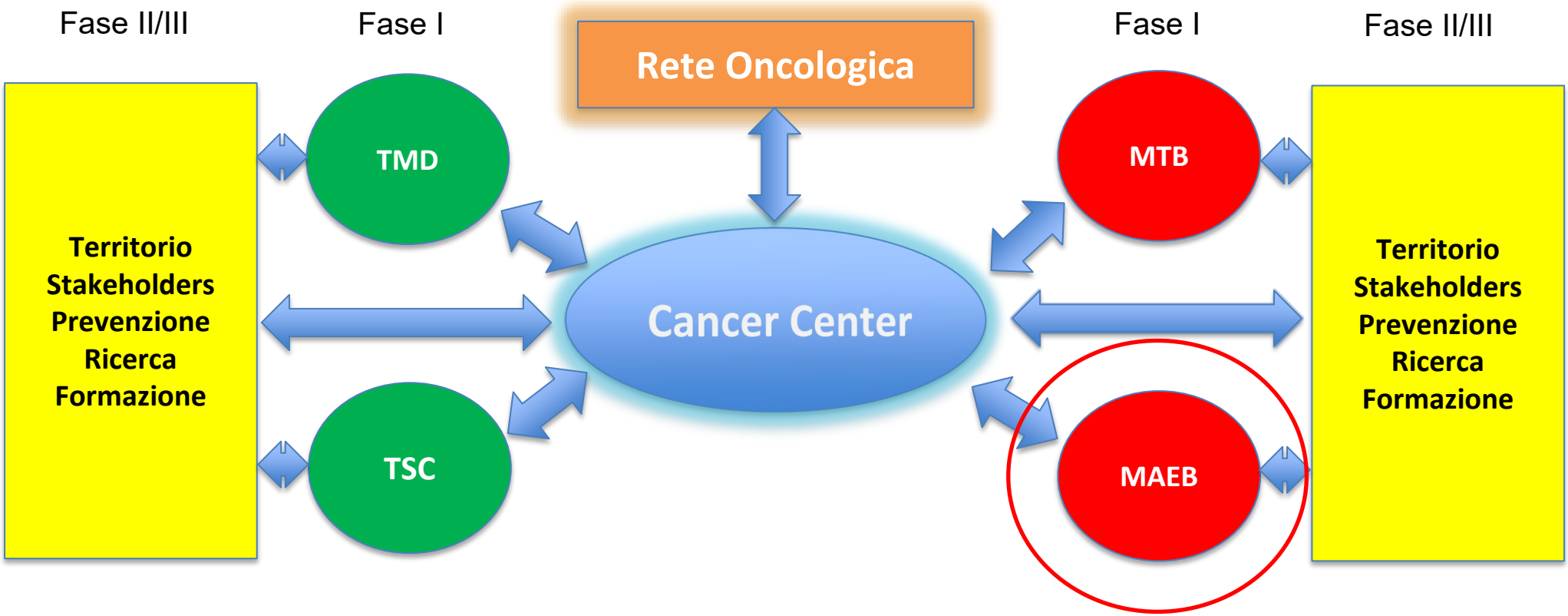

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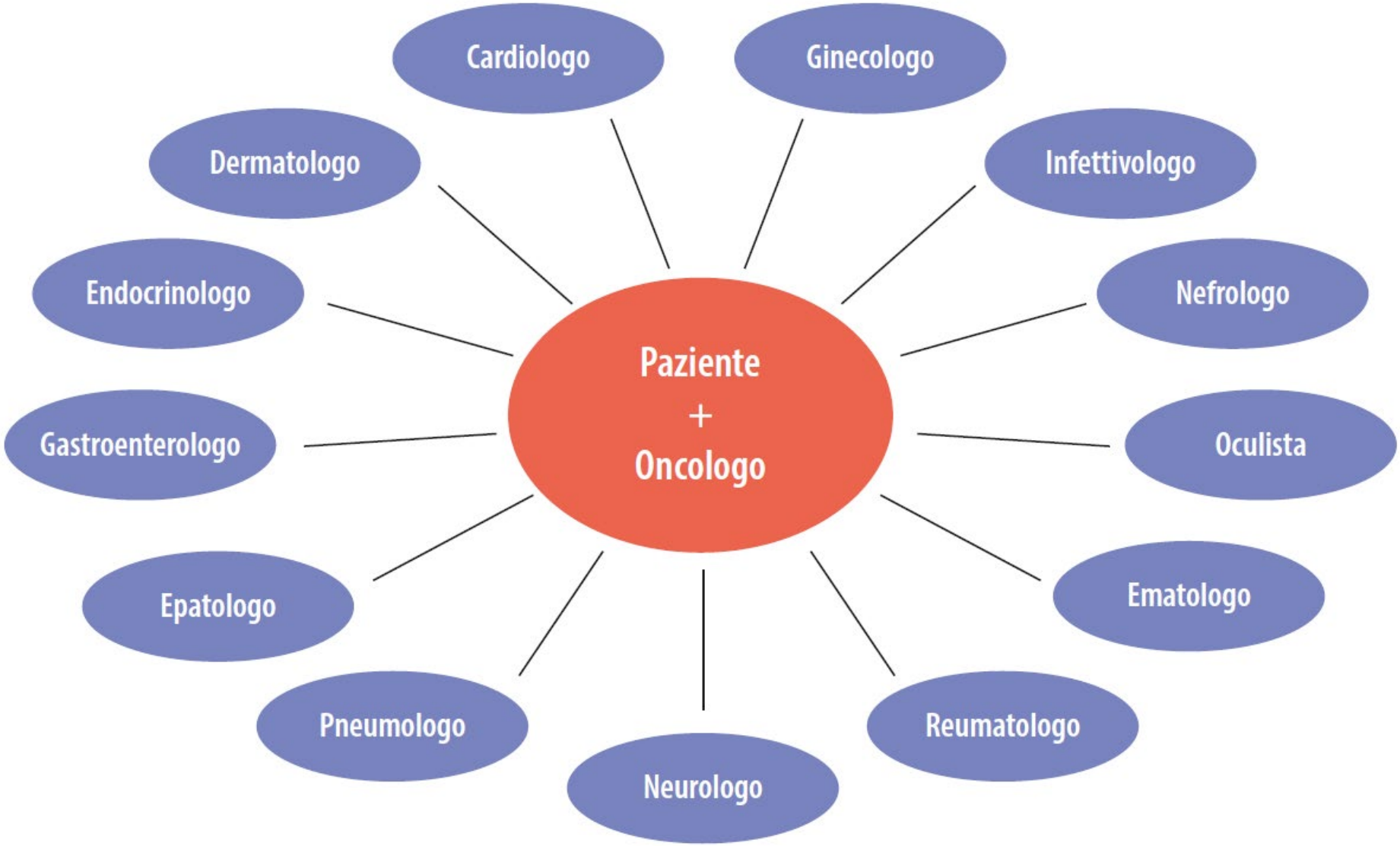
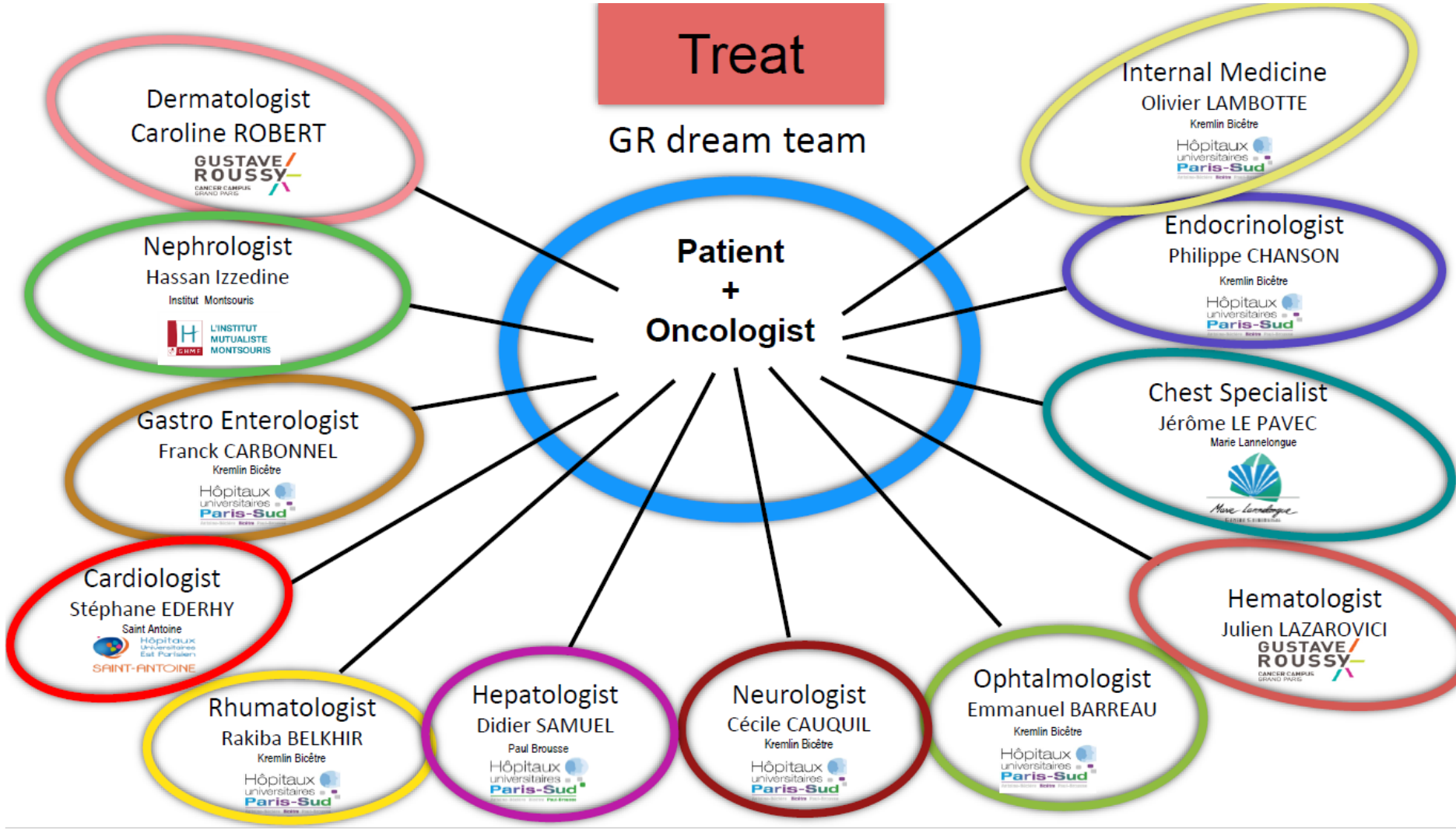
Define your dream team (MAEB)



The IGR dream team



Manuale del Policlinico di Milano

La gestione degli eventi avversi da immunoterapia

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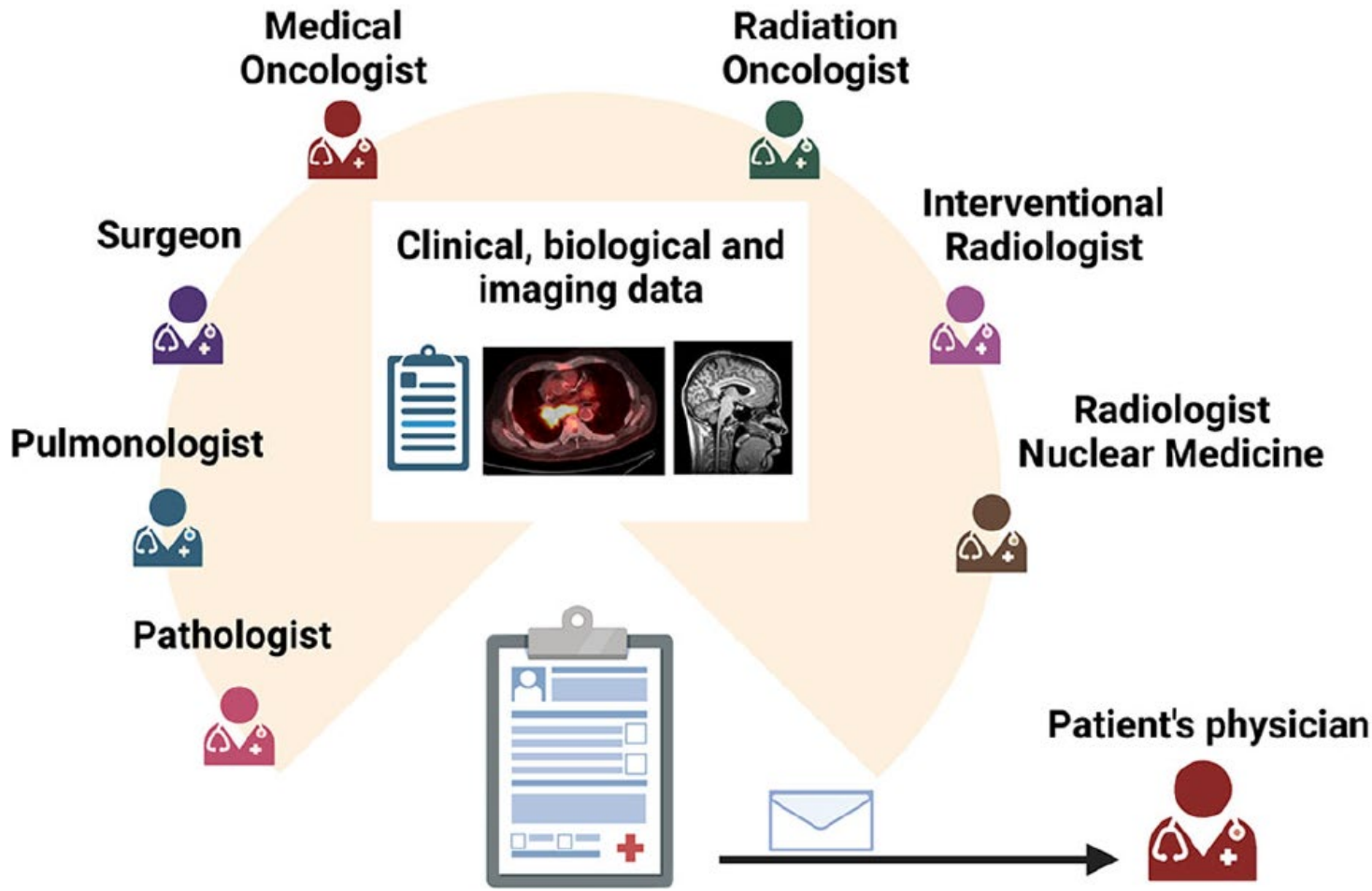
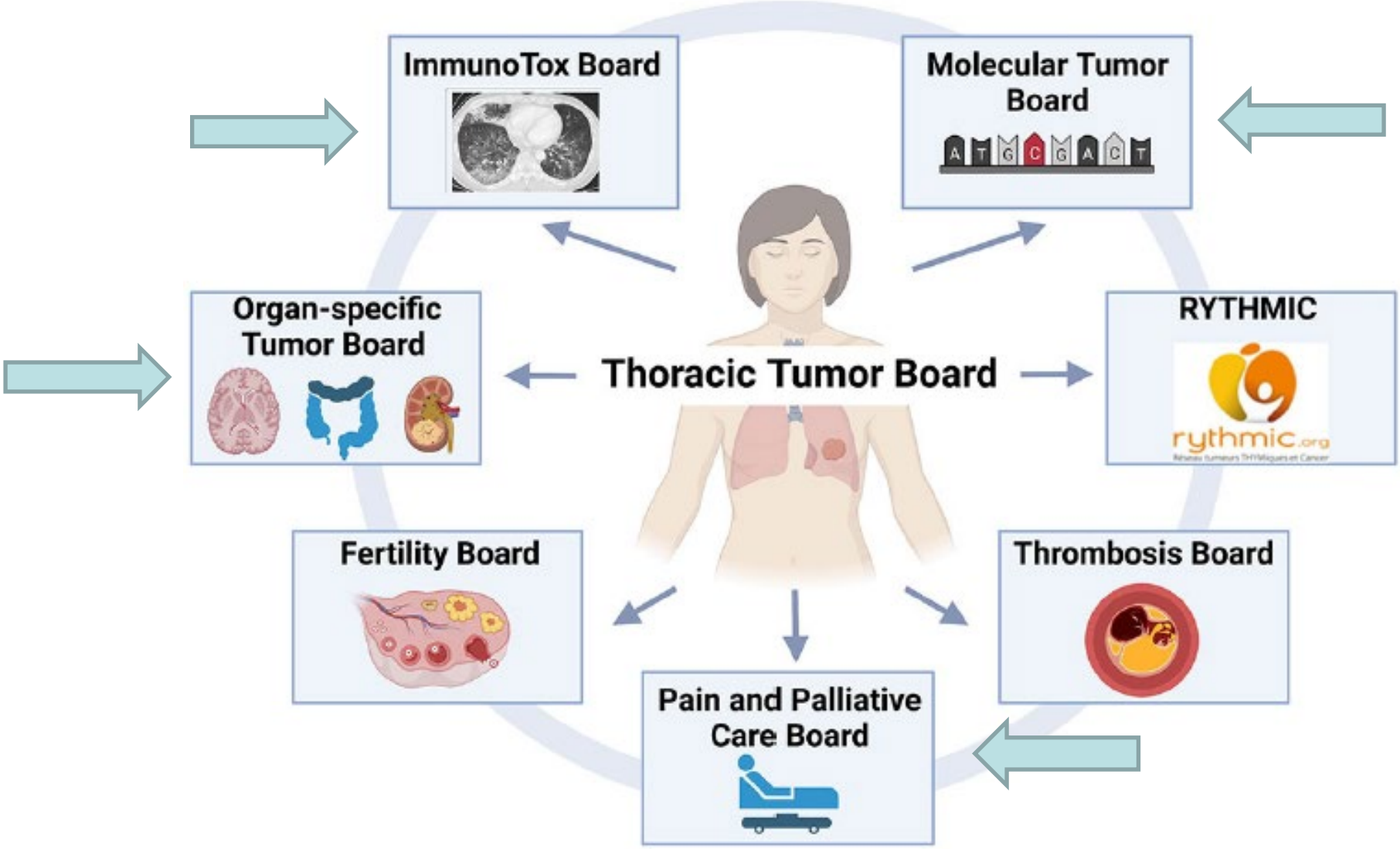
Multidisciplinary Tumor Boards: Six Eyes See More than Two

By: Mihaela Aldea, MD, PhD, Cecile Le Pechoux, MD, Sacha Mussot, MD, David Planchard, MD, PhD, and Benjamin Besse, MD, PhD

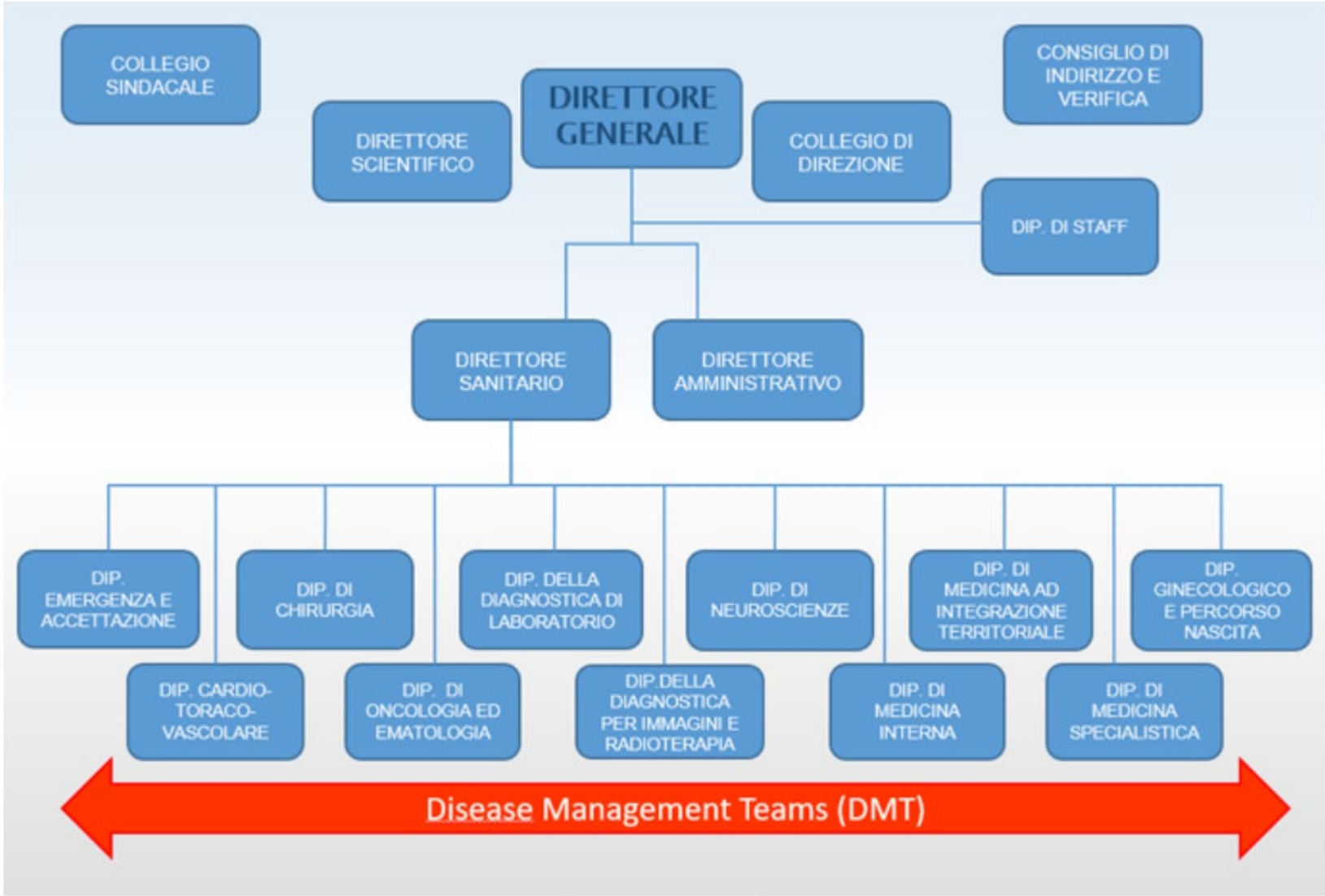
on: February 23, 2022 In: EVOLVING STANDARDS OF CARE



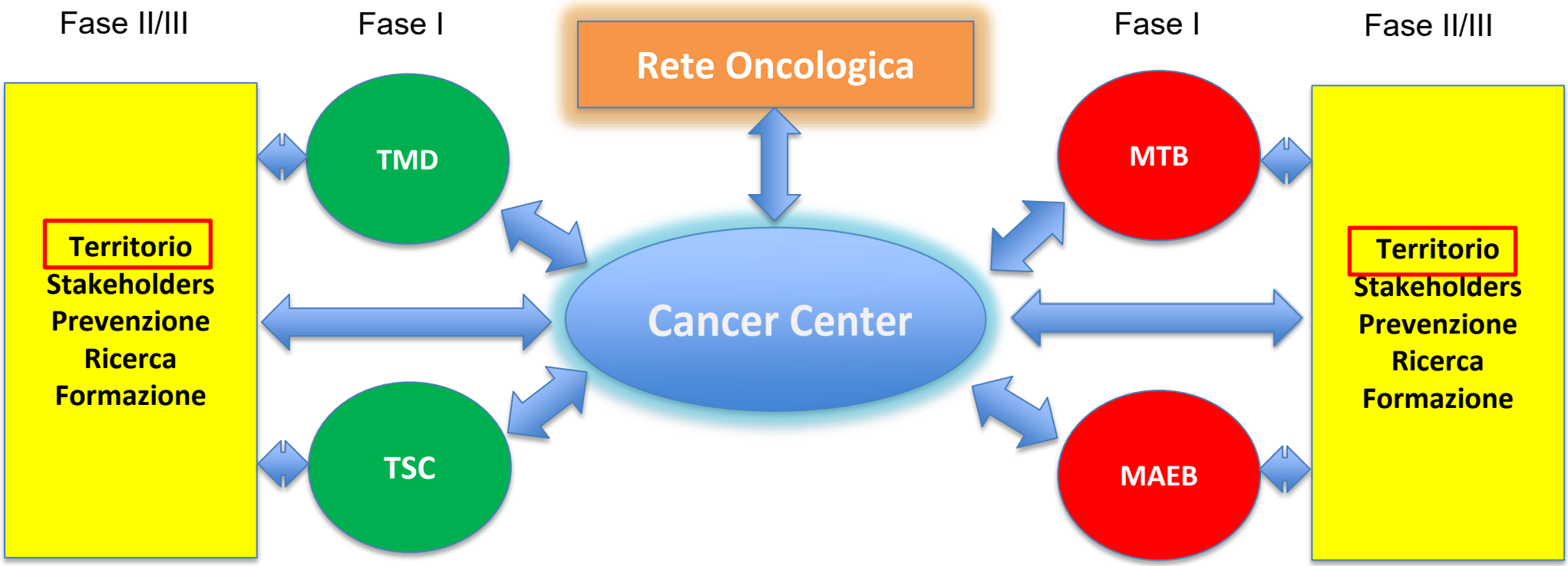
Next-Generation Multidisciplinary Tumor Boards at Gustave Roussy, Villejuif, France



Policlinico San Martino Genova



Cancer Center



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Territorio e Oncologia

- Full treatment (Cittiglio, Tradate, Luino)
- Simultaneous care (precoci e tardive)
- Homoncology (terapie orali domiciliari)
- Follow-up (mammella, colon)
- Prevenzione

Oncologi di comunità

Dedicated to advocating for community oncology patients & practices

Advocacy — Get Involved!
Publications — Studies & Reports
Resources — Tools to Succeed
Events — Meetings & Activities
Membership — Our Community
News — Latest Updates
About Us — Who We Are

Home / About Us / Who We Are

About the Community Oncology Alliance

The Community Oncology Alliance (COA) is a non-profit organization dedicated to advocating for community oncology practices and, most importantly, the patients they serve. COA is the only organization dedicated solely to community oncology where the majority of Americans with cancer are treated. The mission of COA is to ensure that cancer patients receive quality, affordable, and accessible cancer care in their own communities. More than 1.5 million people in the United States are diagnosed with cancer each year and deaths from the disease have been steadily declining due to earlier detection, diagnosis, and treatment.

Cancer treatment can be intense and span many years requiring regular physician visits for chemotherapy and checkups. Keeping patients close to their homes, families, and support networks lessens the burden of this devastating disease. With the majority of Americans battling cancer receiving treatment in the community setting, it is imperative that the vitality of the community cancer care delivery system be preserved.

NAVIFY Oncology Hub

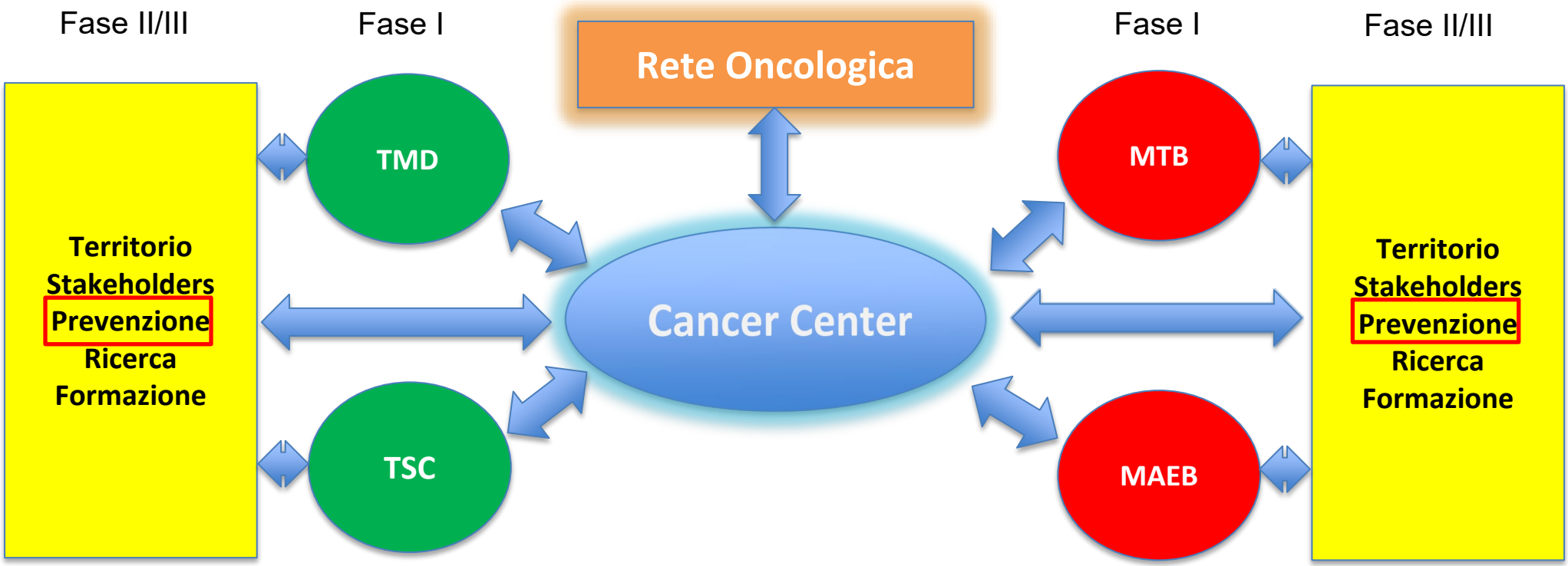
With NAVIFY Oncology Hub, you can spend less time on patient records, and more time with your patients

Access the data you need quickly and make care decisions more efficiently

Quickly and easily align and collaborate with care teams

Facilitate clear, meaningful discussions with patients about their progress and complex treatment decisions

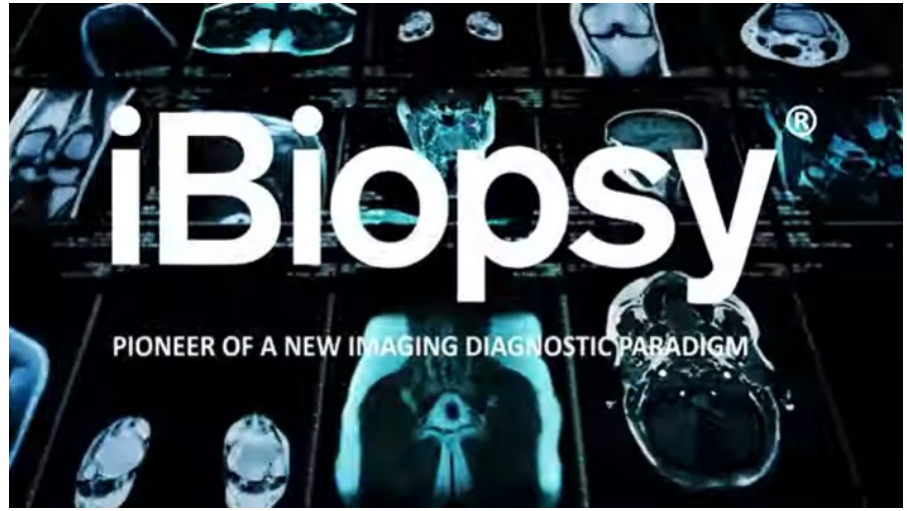
Cancer Center



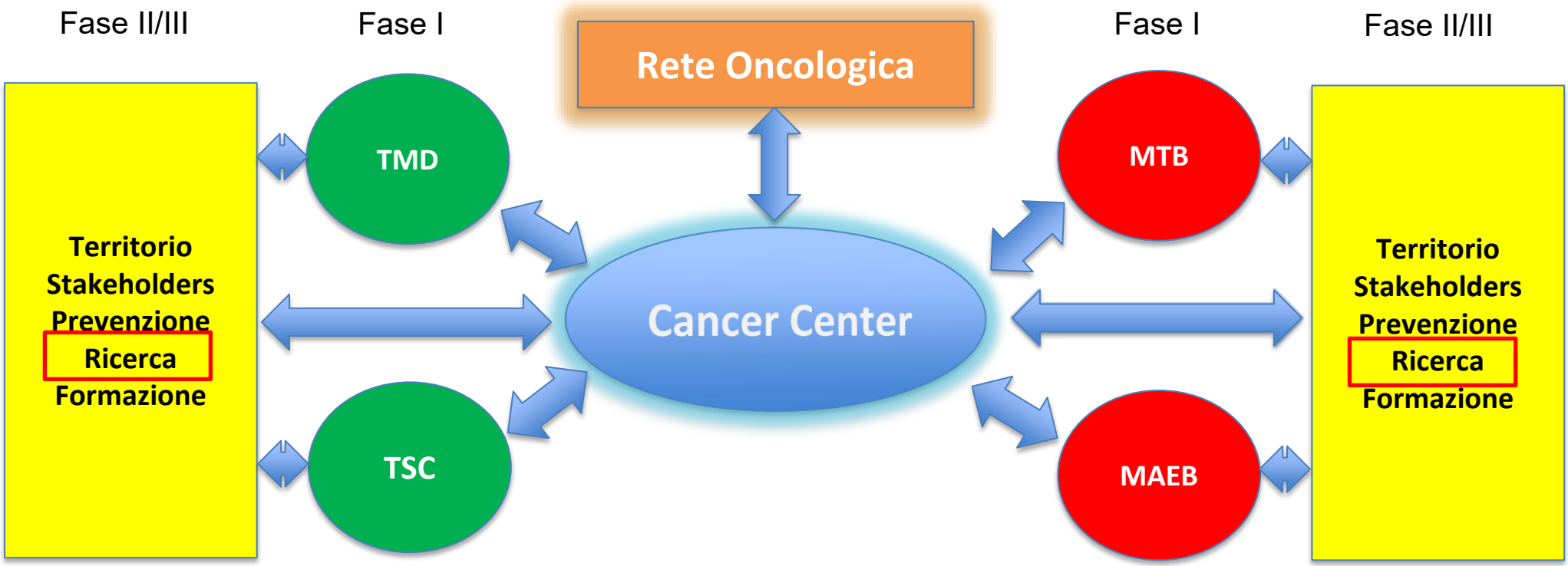
TMD= Team Multidisciplinare; TSC= Team Simultaneous Care
MTB= Molecular Tumor Board; MAEB= Multidisciplinary Adverse Events Board

Grossi F, POLIS 2021

Prevenzione: screening dei tumori polmonari



Cancer Center



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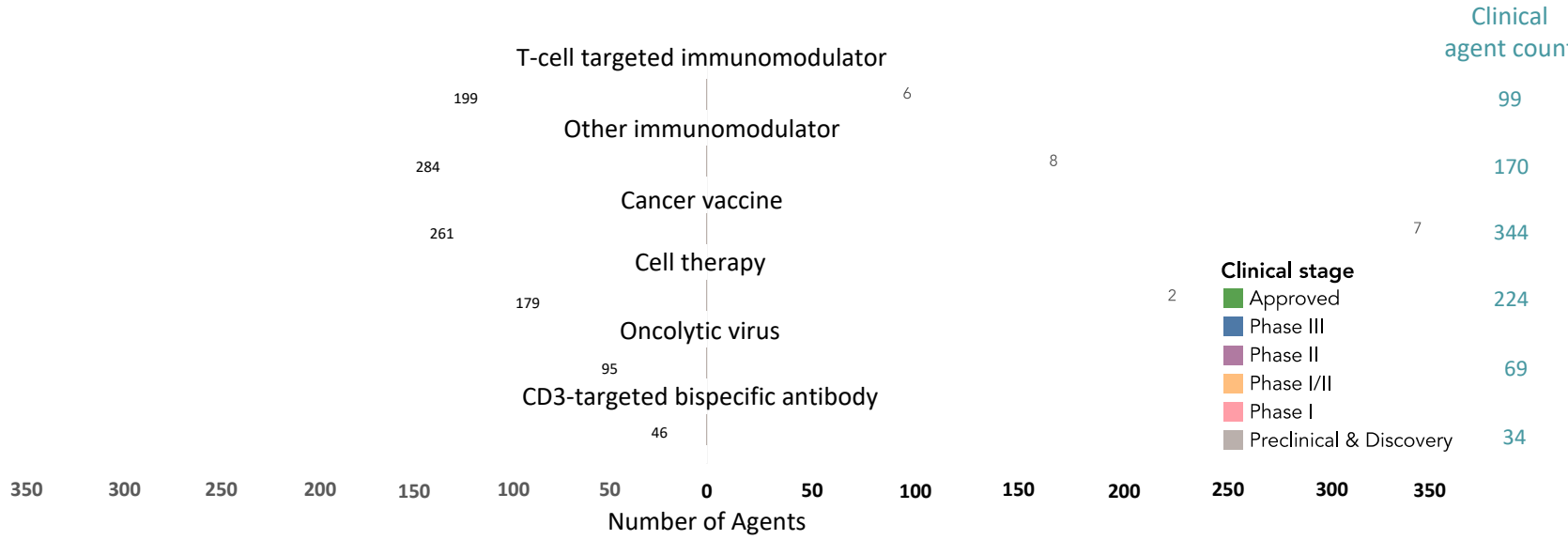
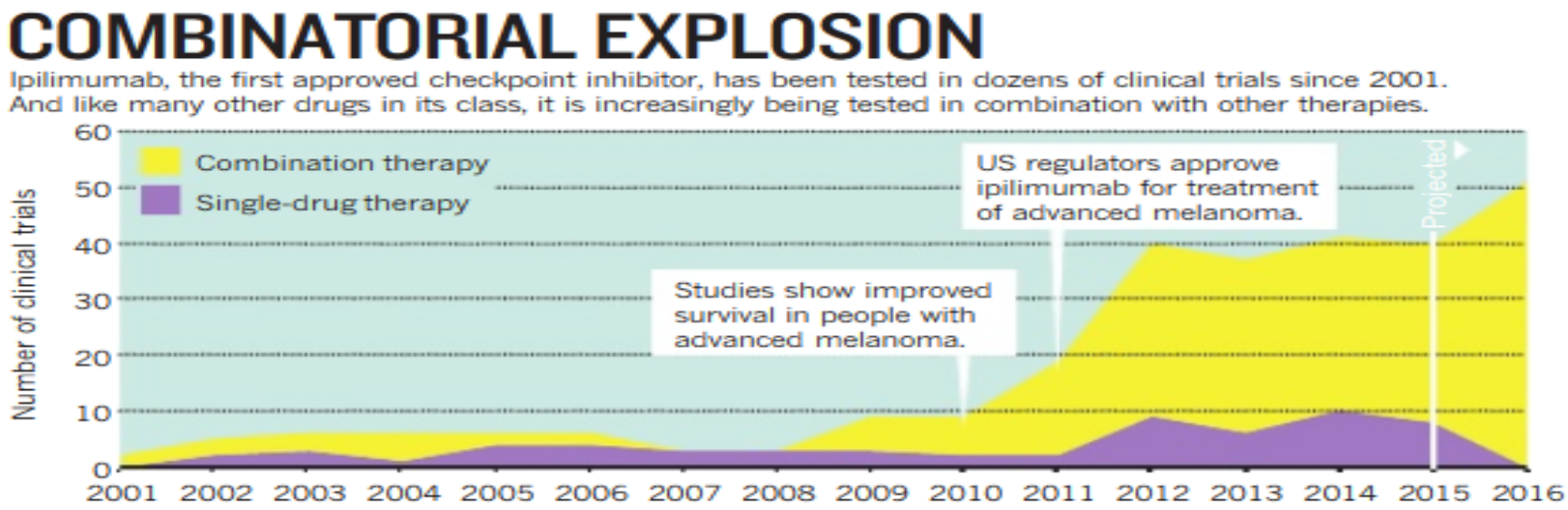
A revolution in cancer care
>2000 immunotherapy agents in development



Mathematical modeling to rationalize our research



« There will be not enough money on this earth to test all the possible combinations »

Ira Mellman, Vice-President, Cancer Immunology, Genentech Inc.
AACR, New Orleans April 2016

Computational oncology to rationalize our research

REVIEWS

Computational oncology — mathematical modelling of drug regimens for precision medicine

Dominique Barbolosi[1], Joseph Ciccolini[1], Bruno Lacarelle[1], Fabrice Barlési[1,3,5] and Nicolas André[2,4,5]

Abstract | Computational oncology is a generic term that encompasses any form of computer-based modelling relating to tumour biology and cancer therapy. Mathematical modelling can be used to probe the pharmacokinetics and pharmacodynamics relationships of the available anticancer agents in order to improve treatment. As a result of the ever-growing numbers of druggable molecular targets and possible drug combinations, obtaining an optimal toxicity–efficacy balance is an increasingly complex task. Consequently, standard empirical approaches to optimizing drug dosing and scheduling in patients are now of limited utility; mathematical modelling can substantially advance this practice through improved rationalization of therapeutic strategies. The implementation of mathematical modelling tools is an emerging trend, but remains largely insufficient to meet clinical needs; at the bedside, anticancer drugs continue to be prescribed and administered according to standard schedules. To shift the therapeutic paradigm towards personalized care, precision medicine in oncology requires powerful new resources for both researchers and clinicians. Mathematical modelling is an attractive approach that could help to refine treatment modalities at all phases of research and development, and in routine patient care. Reviewing preclinical and clinical examples, we highlight the current achievements and limitations with regard to computational modelling of drug regimens, and discuss the potential future implementation of this strategy to achieve precision medicine in oncology.

[1]SMARTc Unit, Aix Marseille Université, INSERM, CRO2 UMR_S 911, Marseille 13005, France.

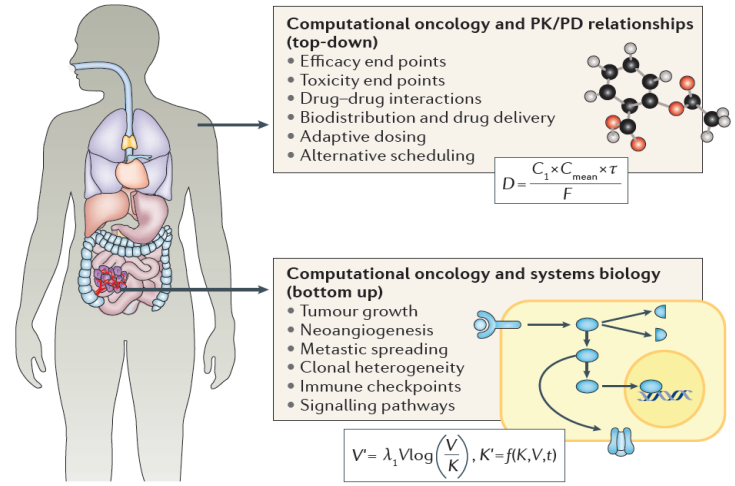
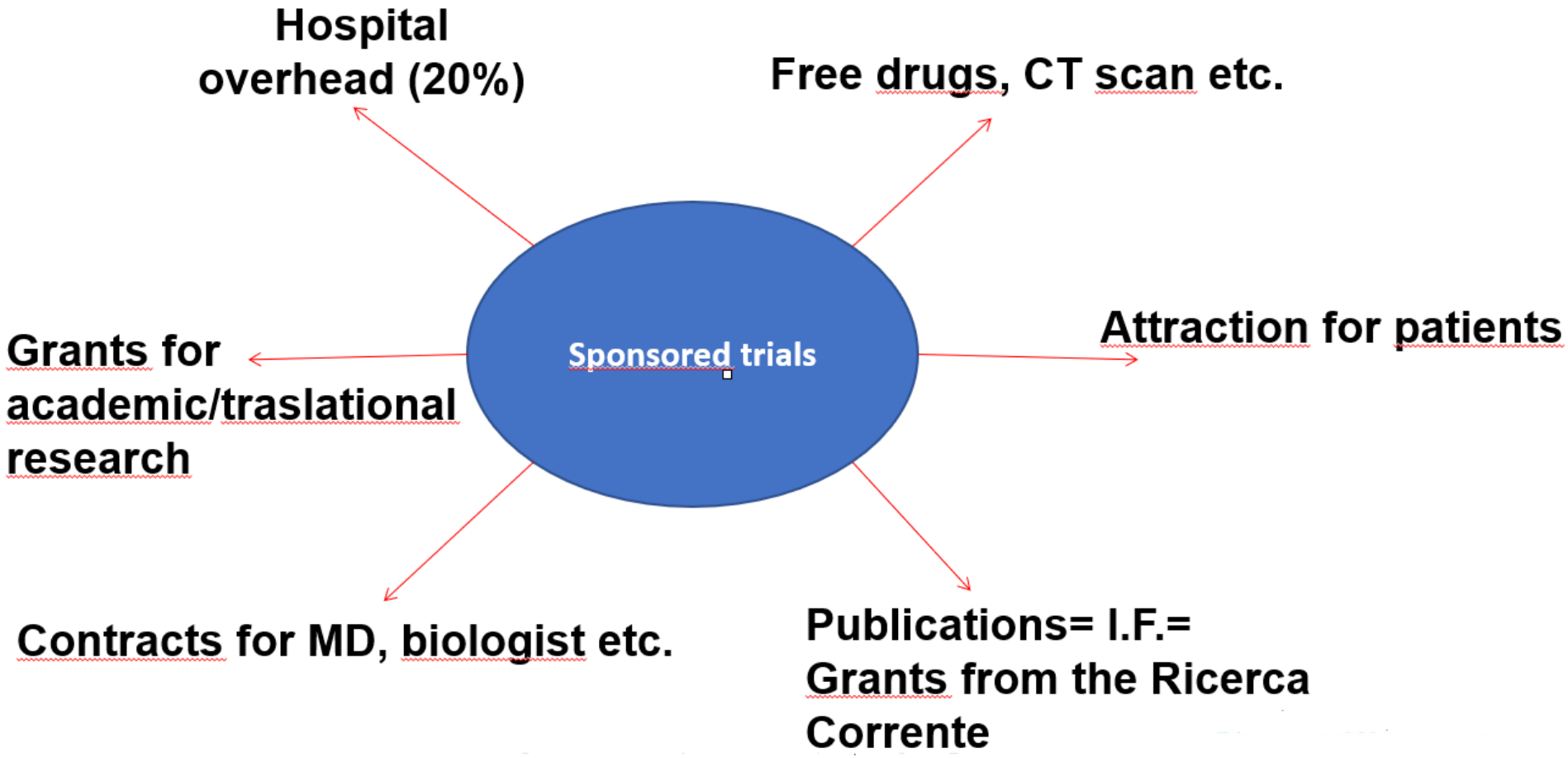


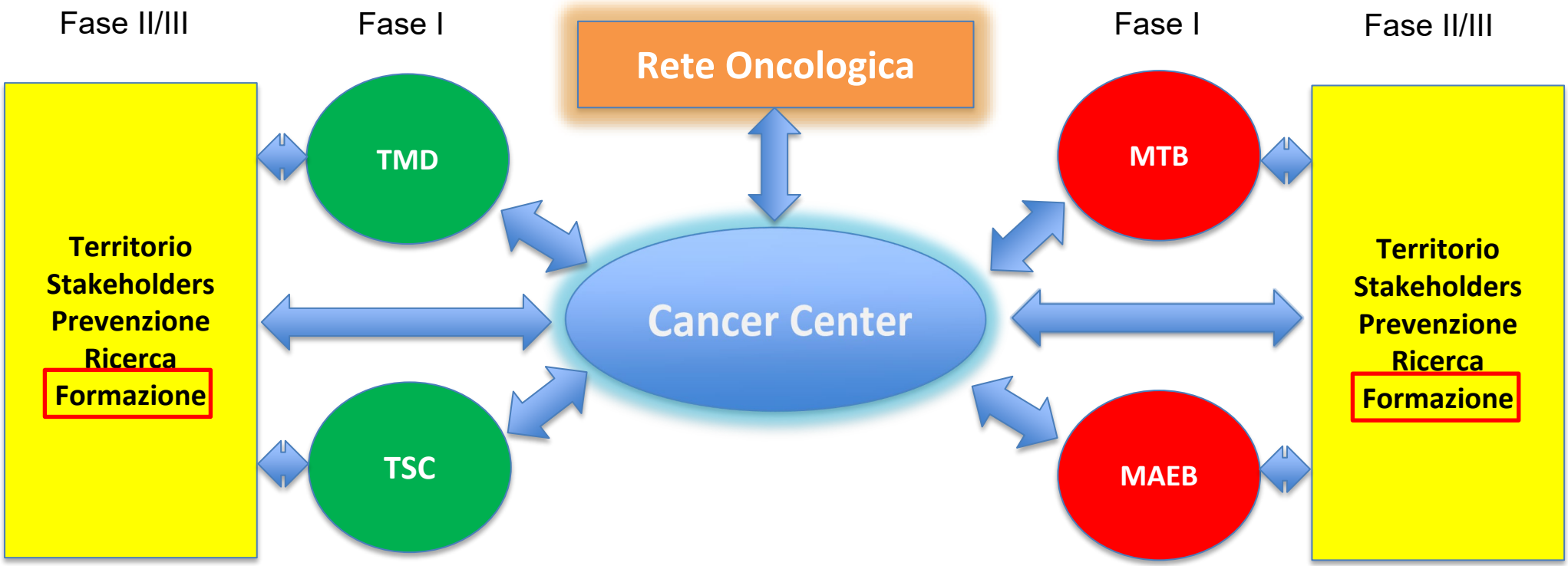
Figure 1 | **Possible implementation of mathematical modelling in computational oncology.** Mechanistic models used in the field of systems biology aim to investigate tumour biology (tumour growth, angiogenesis, metastasis, drug resistance, and so on), whereas phenomenological or semi-mechanistic approaches can be used in PK/PD modelling to refine scheduling and dosing of anticancer agents.

Barbolosi D, Nat Rev Clin Oncol 2015

Why sponsored clinical trials are convenient for our hospitals/university/IRCCS



Cancer Center



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Training the next generation oncologists

Ensuring oncologist training keeps up with innovative practice

Grazie per l’attenzione!

francesco.grossi@asst-settelaghi.it