Paolo Marchetti
Sapienza Università di Roma e IDI – IRCCS

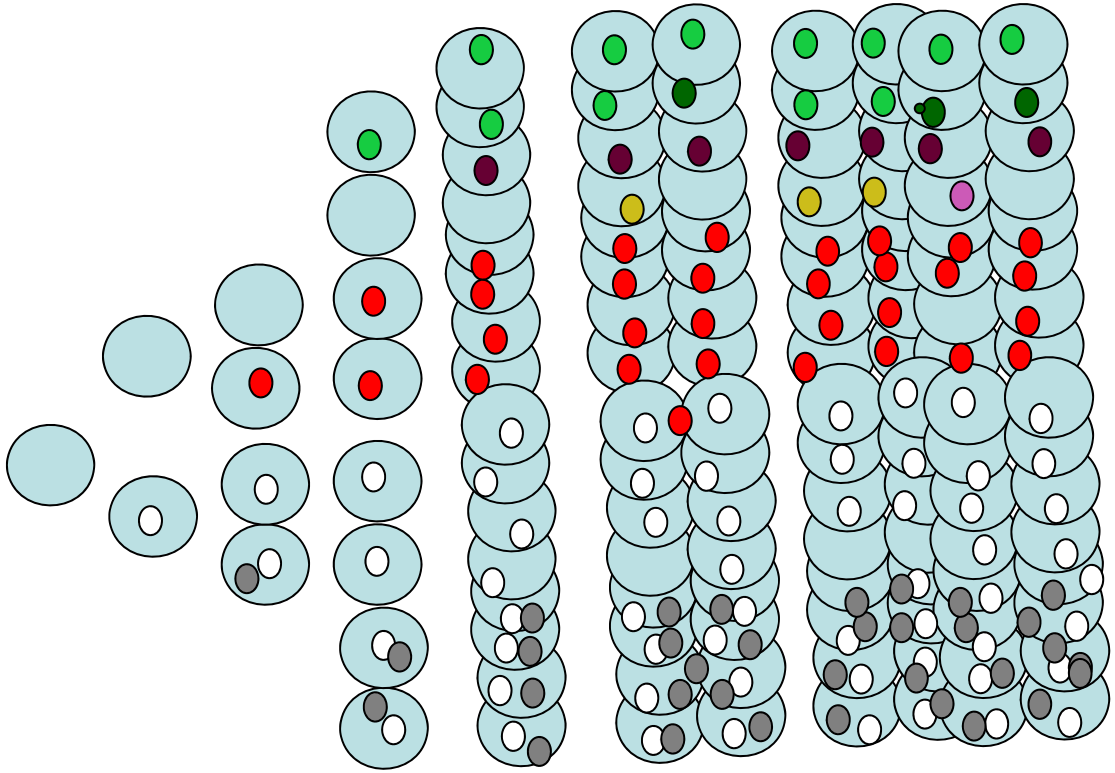
WHAT IS PERSONALIZED HEALTHCARE?

- Medical practices that are targeted to individuals based on their specific genetic code in order to provide a tailored approach.
- The goal of personalized health care is to improve health outcomes and the health care delivery system, as well as the quality of life of patients everywhere.

Every Tumor is Unique!

Mutations Are Random.

Every tumor develops a unique antigenic fingerprint.



10^{-8} per bp per cell division cycle on 6 x 10^{9} bp = thousands to millions of unique mutations

Every Patient is Unique!

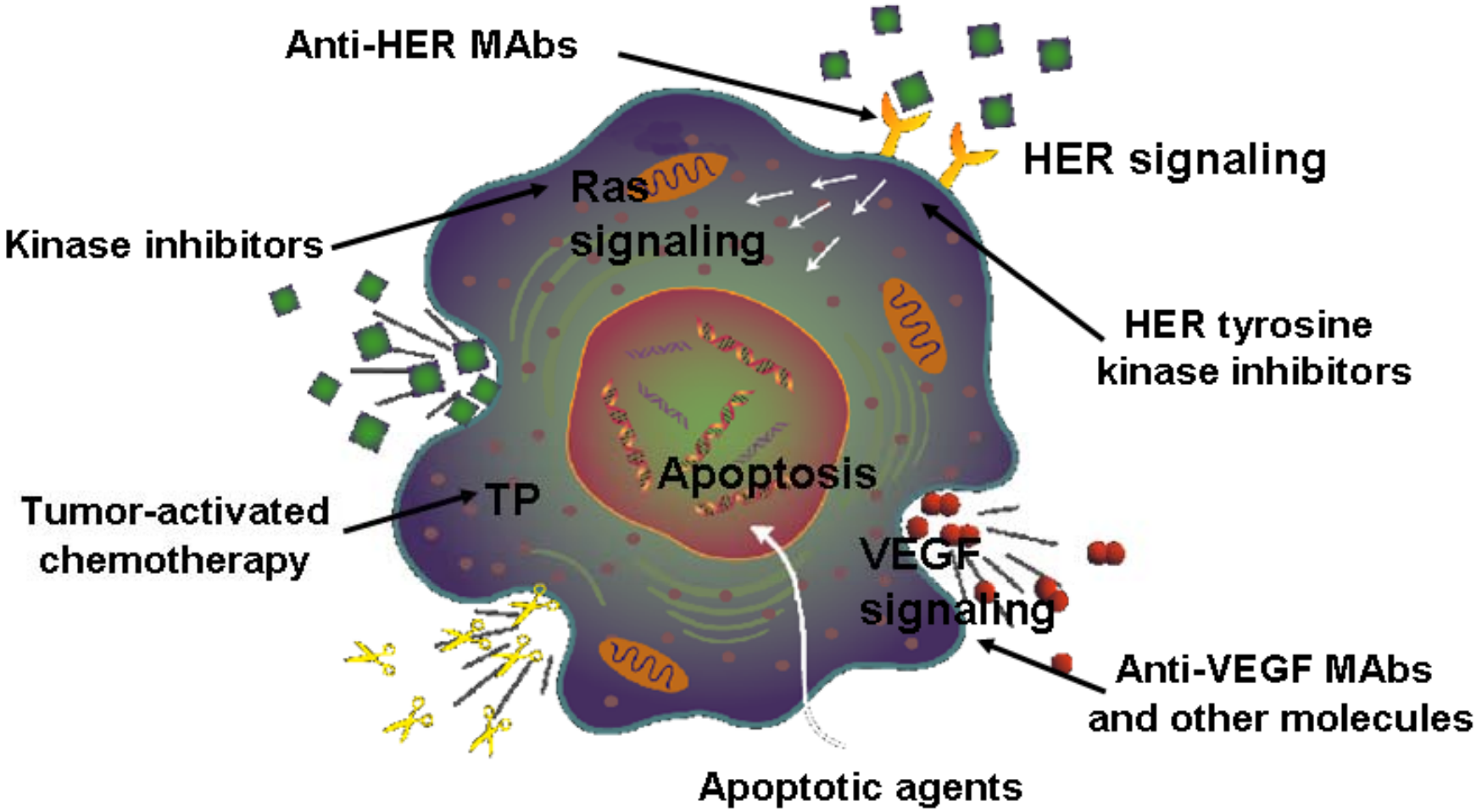
Problems Are Random.

Every patient develops a unique individual fingerprint.

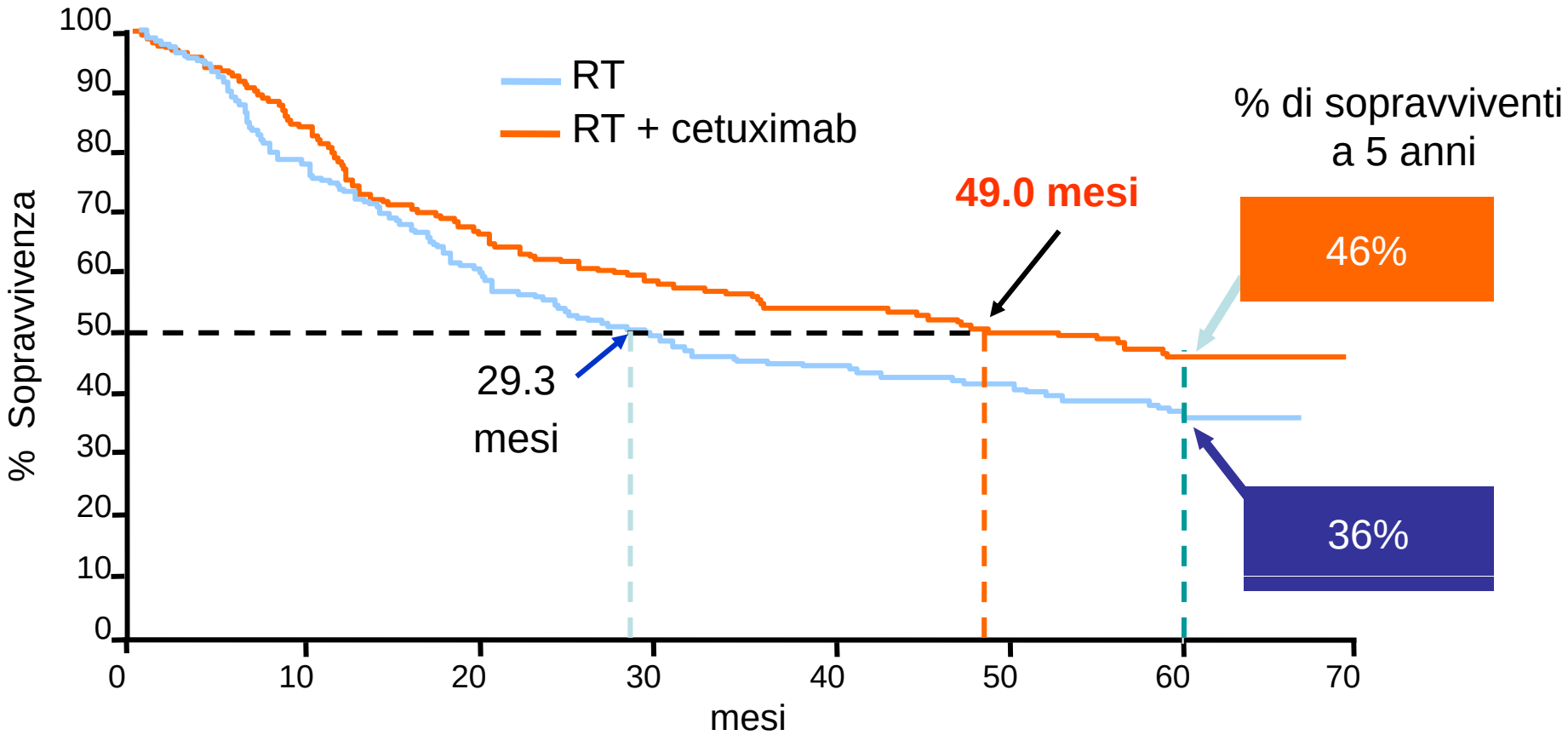


thousands of unique problems!

Targeting Dysregulated Pathways With Novel Agents



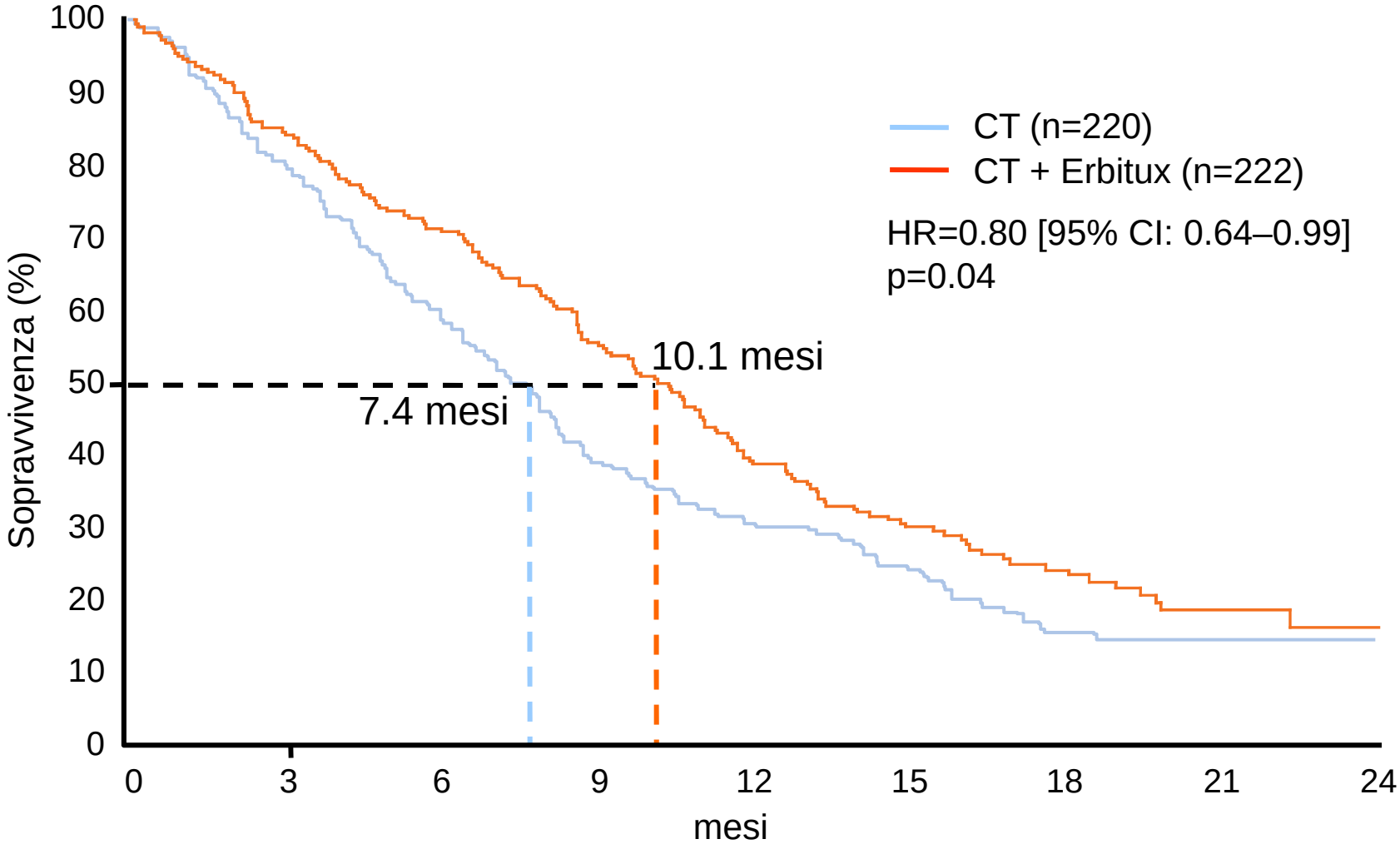
Nuove teconologie farmacologiche: aumentano la sopravvivenza nei pazienti con il tumore localmente avanzato



HR=0.73 [95% CI: 0.56–0.95]
p=0.018

Bonner et al. Lancet Oncol 2010

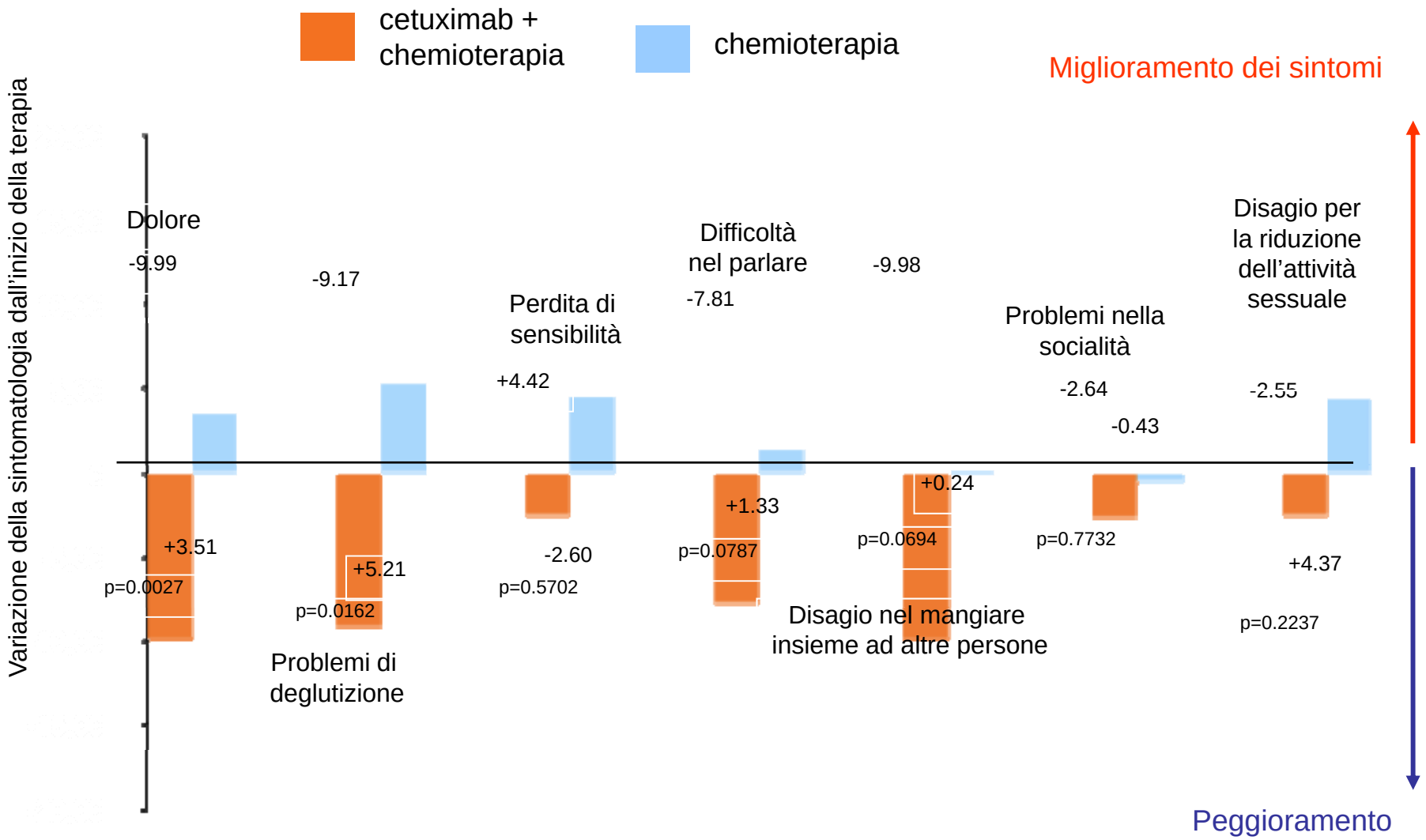
Nuove teconologie farmacologiche: aumentano la sopravvivenza nei pazienti con metastasi o recidiva di malattia



Vermorken et al. NEJM 2008

Nuove tecnologie farmacologiche: controllo e riduzione dei sintomi

Riduzione dei sintomi nei pazienti con tumore recidivante e/o metastatico



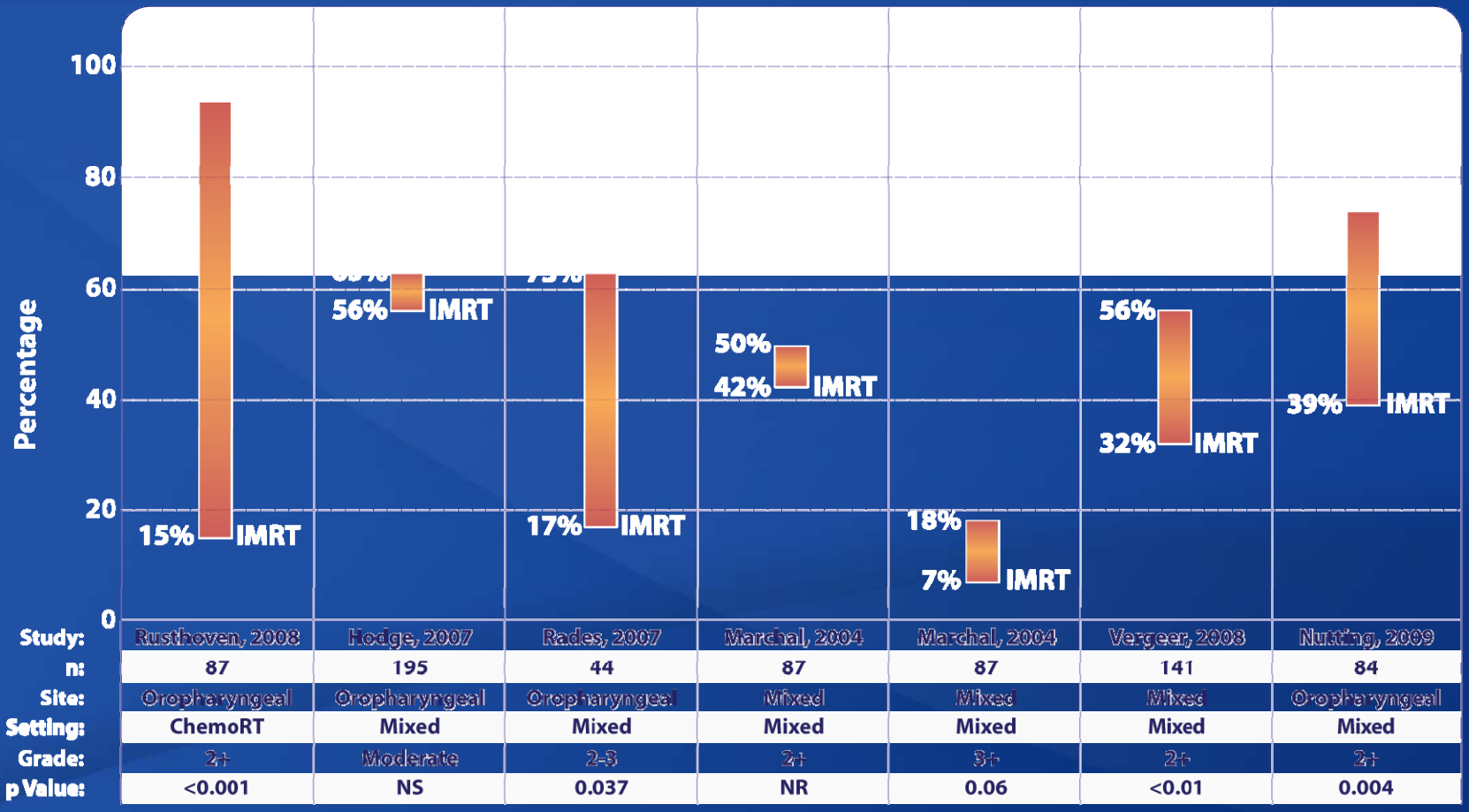
Rivera FH et al. ESMO 2008

Comparative Effectiveness and Safety of Radiotherapy Treatments for Head and Neck Cancer

David J. Samson et al., AHRQ Publication May 2010

- The results of the comparative effectiveness review of four types of radiotherapy (IMRT, 3DCRT, 2DRT, and proton beam therapy) are summarized.
- A small body of randomized, controlled trials is accompanied by a larger body of poor quality observational, nonrandomized studies.

Studies Regarding Quality of Life and Adverse Events: IMRT vs. 3DCRT

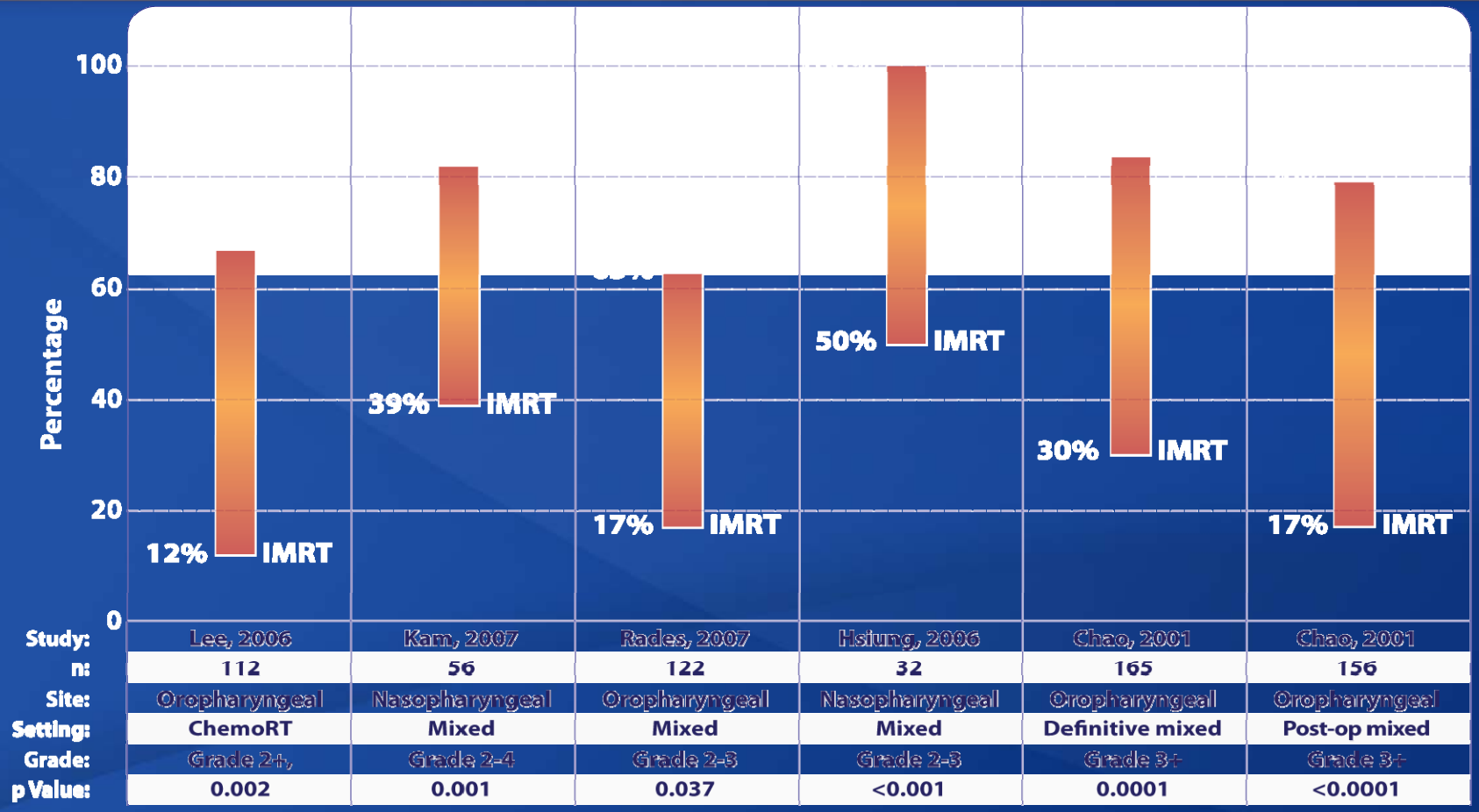


Study:	Rusthoven, 2008	Hodge, 2007	Rades, 2007	Marchal, 2004	Marchal, 2004	Vergeer, 2008	Nutting, 2009
n:	87	195	44	87	87	141	84
Site:	Oropharyngeal	Oropharyngeal	Oropharyngeal	Mixed	Mixed	Mixed	Oropharyngeal
Setting:	ChemoRT	Mixed	Mixed	Mixed	Mixed	Mixed	Mixed
Grade:	2+	Moderate	2-3	2+	3+	2+	2+
p Value:	<0.001	NS	0.037	NR	0.06	<0.01	0.004

NS = not significant; NR = not reported

Samson DJ, et al. AHRQ Comparative Effectiveness Review No. 20. Available at: http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=447.

Studies Regarding Late Xerostomia: IMRT vs. 2DRT



Study:	Lee, 2006	Kam, 2007	Rades, 2007	Hsiung, 2006	Chao, 2001	Chao, 2001
n:	112	56	122	32	165	156
Site:	Oropharyngeal	Nasopharyngeal	Oropharyngeal	Nasopharyngeal	Oropharyngeal	Oropharyngeal
Setting:	ChemoRT	Mixed	Mixed	Mixed	Definitive mixed	Post-op mixed
Grade:	Grade 2+,	Grade 2-4	Grade 2-3	Grade 2-3	Grade 3+	Grade 3+
p Value:	0.002	0.001	0.037	<0.001	0.0001	<0.0001

IMRT = intensity-modulated radiation therapy; 2DRT = two-dimensional radiation therapy; RT = radiation therapy

Samson DJ, et al. AHRQ Comparative Effectiveness Review No. 20. Available at: http://www.effectivehealthcare.ahrq.gov/index.cfm/search-for-guides-reviews-and-reports/?pageaction=displayproduct&productID=447.

Leaving the era of the "median results", but targeting ... what?

- Patient
- Tumor
- The patient with a cancer!

Simultaneous care in oncology

Unmet needs in cancer patients



Significant unmet needs

- The NHS Cancer Plan [2000] has highlighted the need to streamline cancer services ‘around the needs of the patient’ and to provide ‘the right professional support and care as well as the best treatments’.
- However, the real question is whether the overall needs of cancer patients are actually being met.

K. Soothill et al., Supportive Care in Cancer, 2001

Significant unmet needs

- Significant unmet needs are those needs that patients identify as both important and unsatisfied.
- The range of unmet need, and the kinds of patients who are more likely to claim unmet need, should be carefully identified.

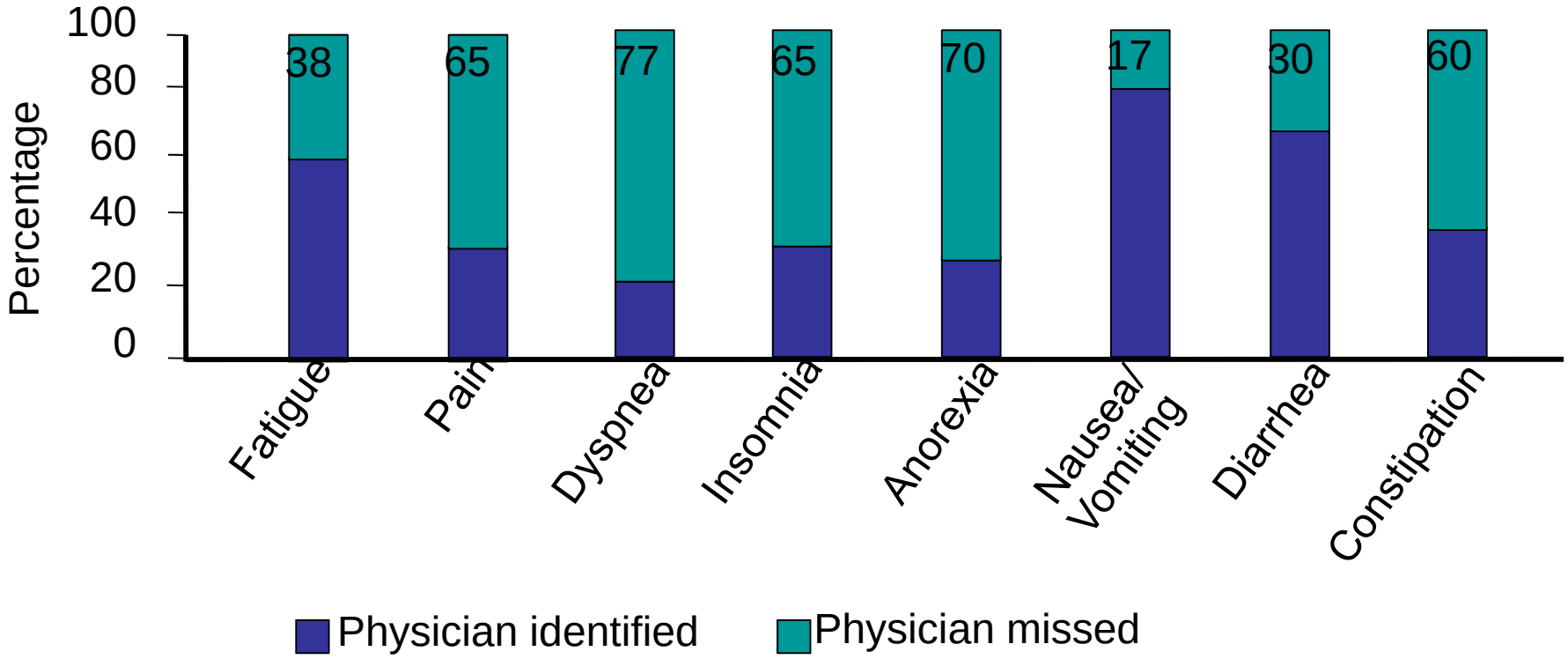
K. Soothill et al., Supportive Care in Cancer, 2001

Number of unmet needs

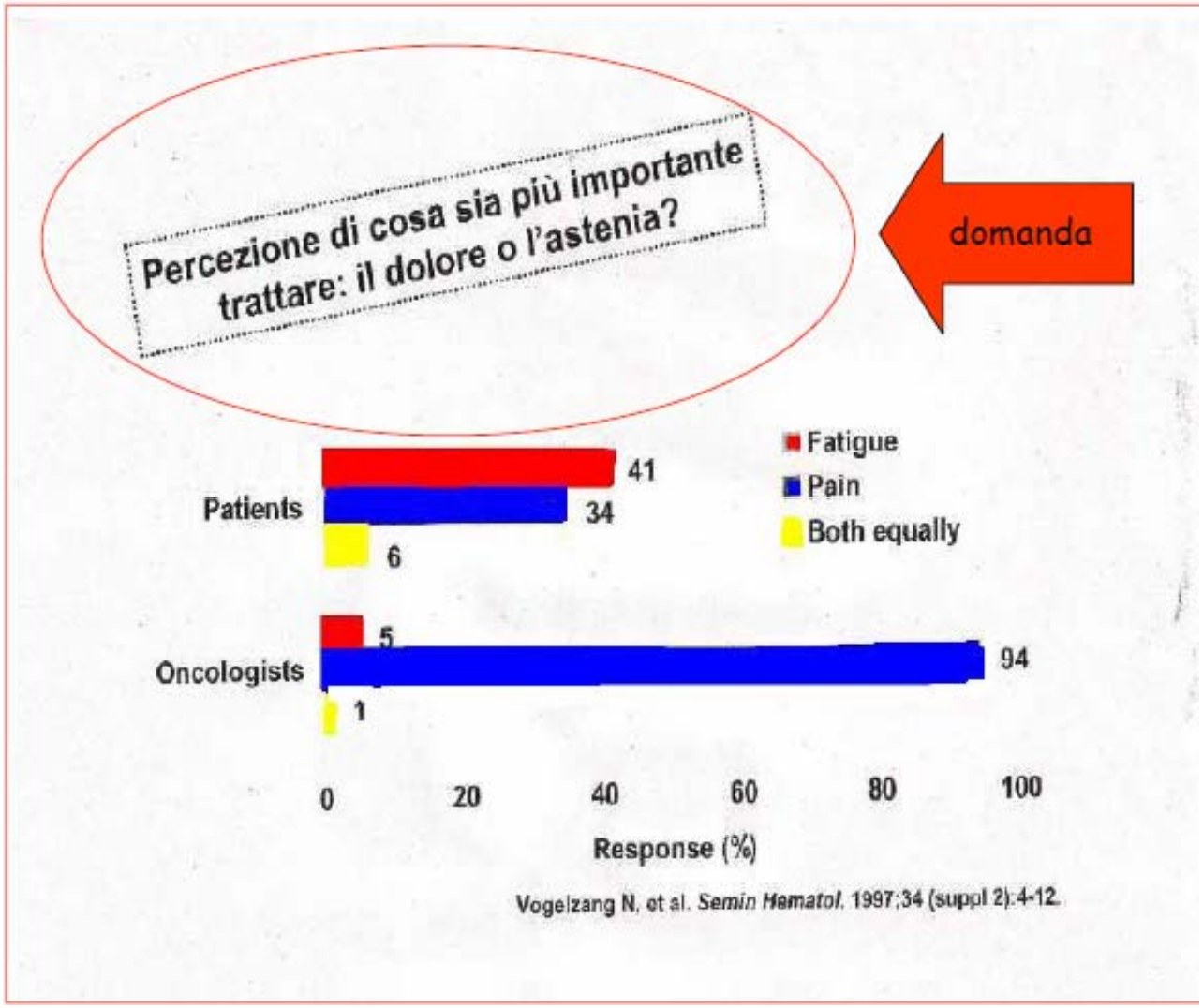
No. of significant unmet needs	No. of patients	Percentage of total patient sample
Nil	183	62.0
1	37	12.5
2	17	5.8
3–9	45	15.3
10+	13	4.4
Total	295	100.0

K. Soothill et al., Supportive Care in Cancer, 2001

How Accurate Is Clinician Reporting of Chemotherapy Adverse Effects?



Percezione dei sintomi: un obiettivo comune?



ESMO takes a stand on supportive and palliative care

- Make alleviation of pain and other symptoms a high priority
- Medical oncologist must be expert with the evaluation and management of pain and other symptoms
- Cancer center should provide supportive and palliative care as part of the basic basket of services.

(Ann Oncol 14: 1335, 2003)

Bridging the Divide: Integrating Cancer-Directed Therapy and Palliative Care

- We must take symptom management a priority at diagnosis, throughout treatment, during periods without treatment, and finally, at the end of life
- We need all of these effort and more to traverse the divide that now exists between palliative care and cancer-directed therapy.

(JL Malin, JCO 22: 3438, 2004)

Support Care Cancer (2005) 13: 855–869
DOI 10.1007/s00520-005-0818-3

SUPPORTIVE CARE INTERNATIONAL

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Anna Iolanda Rispoli
Katia Cannita
Paolo Marchetti
Corrado Ficorella

Assessment and treatment of symptoms among Italian medical oncologists

43.7% of Medical Oncologists used multiple symptoms tools and 37.9% used symptom specific tools;

58.9% used some instrument to assess pain.

More than a third of the respondents (35.5%) used patient-tailored protocols.

No statistical differences were found regarding region of residency, availability of consultants in pain therapy and/or palliative care, colleagues with main interest on palliative care, and beds dedicated to palliative care.

Support Care Cancer (2005) 13: 865–869
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Assessment and treatment of symptoms among Italian medical oncologists

Support Care Cancer (2005) 13:215–218
DOI 10.1007/s00520-004-0687-1

ORIGINAL ARTICLE

Giampiero Porzio
Marco Valenti
Federica Aielli
Lucilla Verna
Filomena Narducci
Maurizio Valeriani
Enrico Ricevuto
Corrado Ficorella
Paolo Marchetti
Vincenzo Tombolini

Pain evaluation and management: a survey of Italian radiotherapists

Ministero della Salute
PIANO ONCOLOGICO NAZIONALE 2010/2012

3.0 Il percorso del malato oncologico nel SSN pag. 37
3.1 Integrazione del percorso diagnostico-terapeutico pag. 37
3.1.1 MMG – Associazioni
3.1.2 Assistenza ambulatoriale
3.1.3 L' ospedale
3.1.4 Azioni programmatiche
3.2 La continuità assistenziale sul territorio pag. 49
3.2.1 Ottimizzazione dei percorsi di cura e organizzazione di rete
3.2.2 Strumenti informatici a supporto dell'assistenza oncologica: i Sistemi CUP
3.2.3 Il modello *simultaneous care* (presa in carico del malato oncologico)
3.2.4 Riabilitazione dei malati *oncologici*
3.2.5 Cure palliative
3.2.6 Sviluppo della terapia del dolore
3.2.7 Sviluppo della psico-oncologia
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3.3 Il paziente oncologico anziano pag. 66
3.3.1 Considerazioni generali
3.3.2 Ottimizzazione dei percorsi di cura per il paziente anziano oncologico
3.3.3 Integrazione/coordinamento dell'assistenza intra ed extraospedaliera al paziente anziano
3.3.4 Azioni programmatiche

Terapia dei sintomi

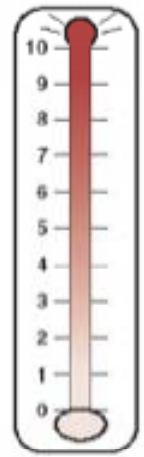
NCCN Practice Guidelines in Oncology – v. 1.2005 Distress Management

SCREENING PER LA MISURAZIONE DEL DISAGIO (STRESS)

OSPEDALE SANT' ANDREA
SECONDA FACOLTÀ DI MEDICINA E CHIRURGIA
UNIVERSITÀ DI ROMA "LA SAPIENZA"

Cognome e Nome: _____ Sex M F Data_____
Età_____ Diagnosi_____

Istruzioni: La prego di cerchiare il numero **(da 0 a 10)** che meglio descrive la quantità di **disagio emotivo** che ha provato nell'ultima settimana oggi compreso



10 = MASSIMO DISAGIO EMOTIVO (MASSIMO STRESS)

0 =NESSUN DISAGIO EMOTIVO (NESSUNO STRESS)

La prego di indicare se qualcuna delle seguenti voci è stata causa di disagio nell'ultima settimana oggi compreso

A. PROBLEMI PRATICI

( ) Problemi di alloggio
( ) Problemi economici
( ) Problemi scolastici/lavorativi
( ) Problemi di trasporto
( ) Problemi nella cura dei figli

B. PROBLEMI RELAZIONALI:

( ) Nel rapporto con il partner
( ) Nel rapporto con i figli
( ) Nel rapporto con altri familiari
( ) Nel rapporto con amici, colleghi

C. PROBLEMI EMOZIONALI:

( ) Depressione
( ) Paure
( ) Nervosismo
( ) Tristezza
( ) Preoccupazione
( ) Perdita di interessi nelle attività usuali

D. ASPETTI SPIRITUALI/RELIGIOSI

( ) Problemi inerenti la propria fede o gli aspetti spirituali (ad es. il senso della esistenza)

E. PROBLEMI FISICI

( ) Dolore
( ) Problemi a lavarsi/vestirsi
( ) Nausea
( ) Senso di fatica e stanchezza
( ) Problemi di sonno
( ) Problemi a muoversi
( ) Problemi respiratori
( ) Ulcere alla bocca
( ) Problemi ad alimentarsi
( ) Difficoltà a digerire
( ) Stipsi
( ) Disturbi della minzione
( ) Febbre
( ) Secchezza della cute/prurito
( ) Naso chiuso o senso di secchezza
( ) Formicolio alle mani o ai piedi
( ) Senso di gonfiore
( ) Problemi sessuali
( ) Diarrea
( ) Problemi di memoria/concentrazione
( ) Problemi su come ci si vede e come si appare

ALTRI PROBLEMI _____

The rehabilitation approach to cancer treatment originates with National Cancer Act (NCA) of 1971

In 1972, the NCI sponsored the National Cancer Rehabilitation Planning Conference and developed training programs and research projects to identify 4 objectives in cancer rehabilitation:

Psychosocial support

Optimization of physical functioning

Vocational counselling

Optimization of social functioning

Oggi…

- La tutela della salute = prodotto
- L’assistenza sanitaria = servizio
- il malato = utente
- l’ospedale = azienda
- lo Stato, definisce, eroga, paga e controlla le prestazioni.

ma è corretto definire la salute come un prodotto o servizio e la persona malata come cliente o utente?

Comprendere ilPaziente!

- Quanto è grave la sua malattia?
- Quanto è curabile la sua malattia?



The risk perception attitude (RPA) framework

- Four attitudinal groups based on their perceptions of risk and beliefs of personal efficacy.
  - Responsive (high risk, high efficacy)
  - Avoidance (high risk, low efficacy)
  - Proactive (low risk, high efficacy)
  - Indifference (low risk, low efficacy)
- These groups differ from each other in their self-protective motivations and behaviors.

Study of unmet needs in symptomatic veterans with advanced cancer

- The total number of unmet needs was predictive of QOL.

Shirley S. Hwang et al., 2004

End of life issues and spiritual histories

- Patients facing end-of-life issues have spiritual concerns that may have an impact on their medical decision-making.
- Conclusion:
  - Spiritual concerns of many patients facing end-of-life decisions are not being addressed.

King DE e al (2003) End of life issues and spiritual histories South medical Journal 96: 391- 393.

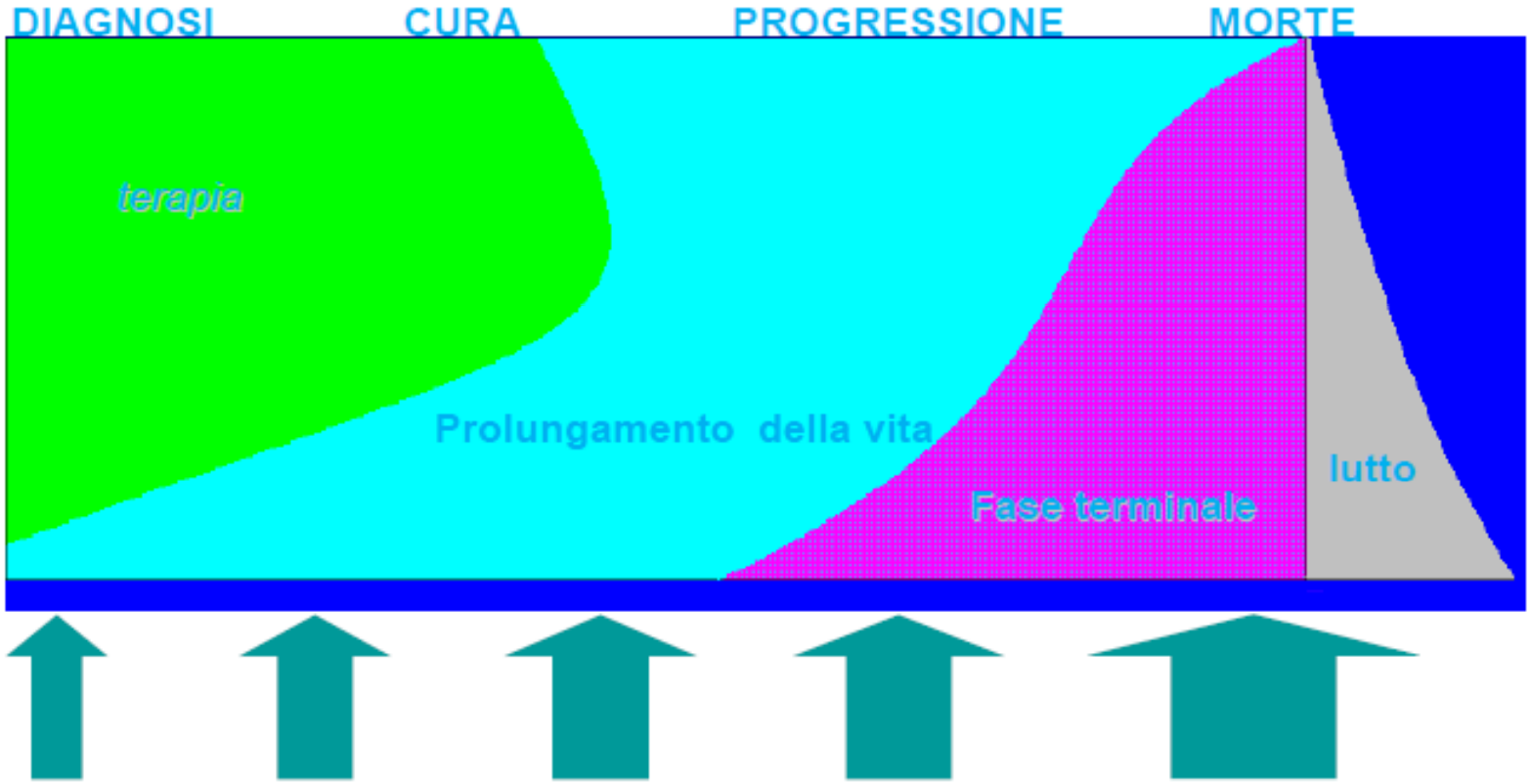
Cancer & the family fatigue

Cancer survivors with unmet needs were more likely to use complementary and alternative medicine.

- Despite advancements in cancer care, cancer survivors continue to experience a substantial level of physical and emotional unmet needs.
- Cancer survivors who experienced unmet needs within the existing cancer treatment and support system were more likely to use CAM to help with cancer problems.

JJ Mao et al., J Cancer Surviv. 2008

Non-Simultaneous care



Terapia di supporto

Associazione Italiana di Oncologia Medica

Task force: Cure Palliative in Oncologia*

Coordinatore V. Zagonel

RUOLO DELL'ONCOLOGO MEDICO NELLE CURE PALLIATIVE:

LA POSIZIONE DI AIOM

