



ESTRO

European Society for
RADIOTHERAPY
& ONCOLOGY

RADIOTHERAPY

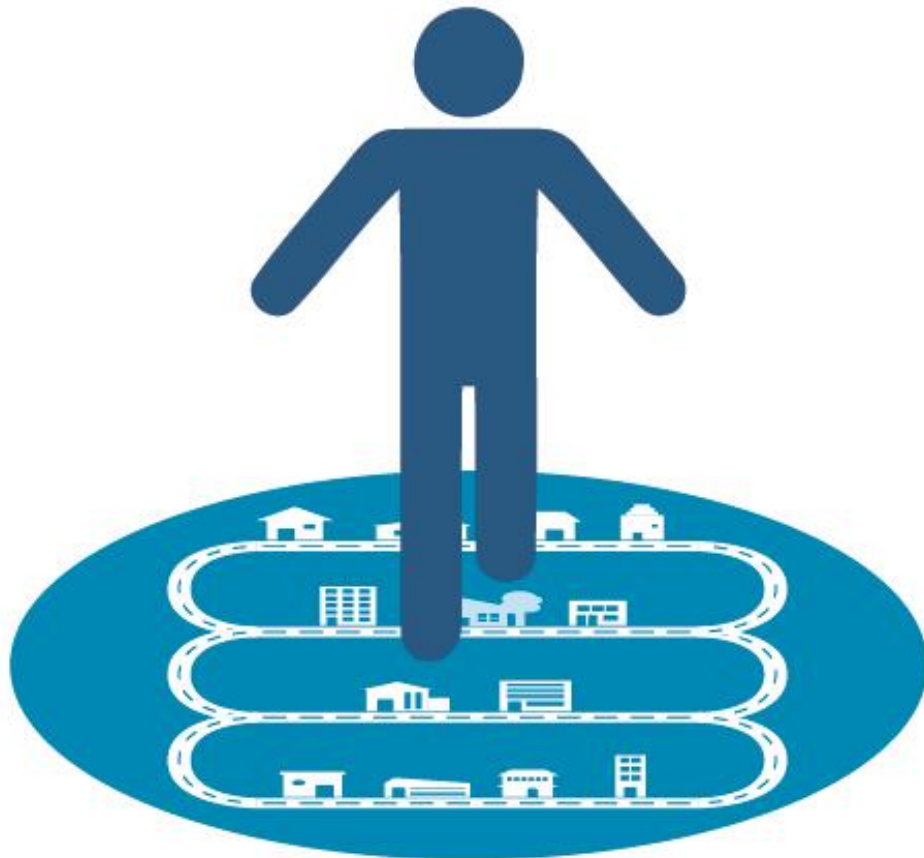
Value of AI in cancer care

Value Based Health Care

how do we define it?

Health outcome per dollar spent

PATIENT CENTRIC → increase value for patients, health **outcomes that matter to patients**, per dollar spent (*M. Porter, NEJM, 2010*)



The patient-centric approach is fundamental in the definition of Value-Based Health Care

Create value for the patient, defined as the ability to receive the **best possible** treatment, taking into account the **patients' wishes**, his or her **personal environment**, and therefore increase the chances of **surviving** and optimising **quality of life** during and after treatment.

(Lievens Y et al, Lancet Oncol, 2019)

Radiation Oncology.
Optimal Health FOR ALL,
Together.

- ESTRO 2030 VISION -

Artificial Intelligence

Impact on RT



Providing clinical decision support



Mining *-omics*, analysing data



Facilitating repetitive tasks, optimising time



Modeling behaviors, in heterogeneous contexts

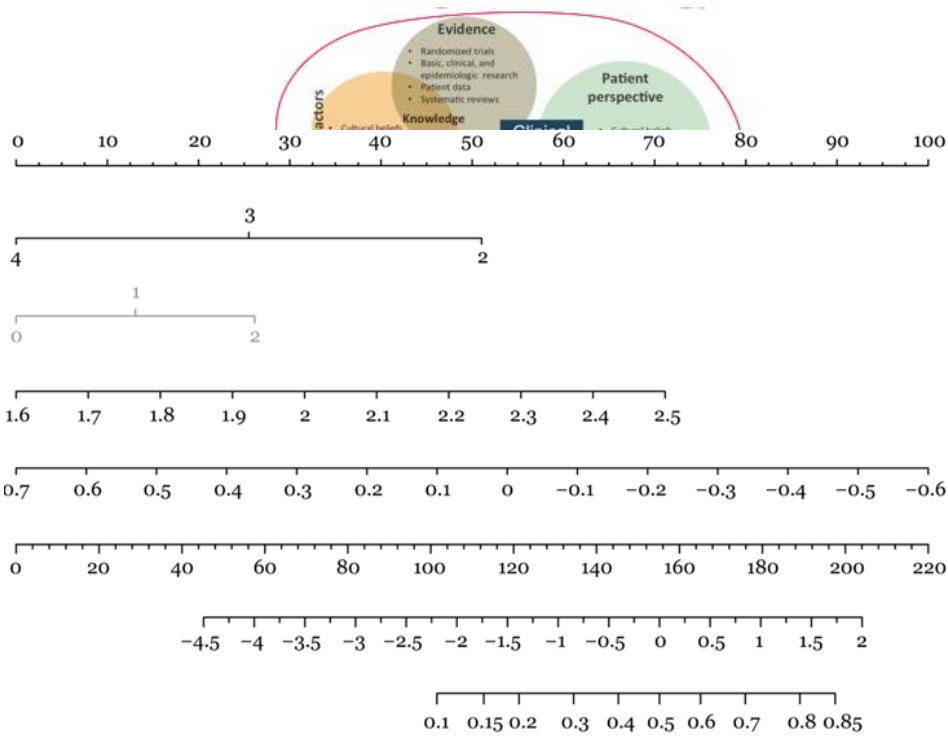
The patient pathway





Value based health care

Role of AI

consultation



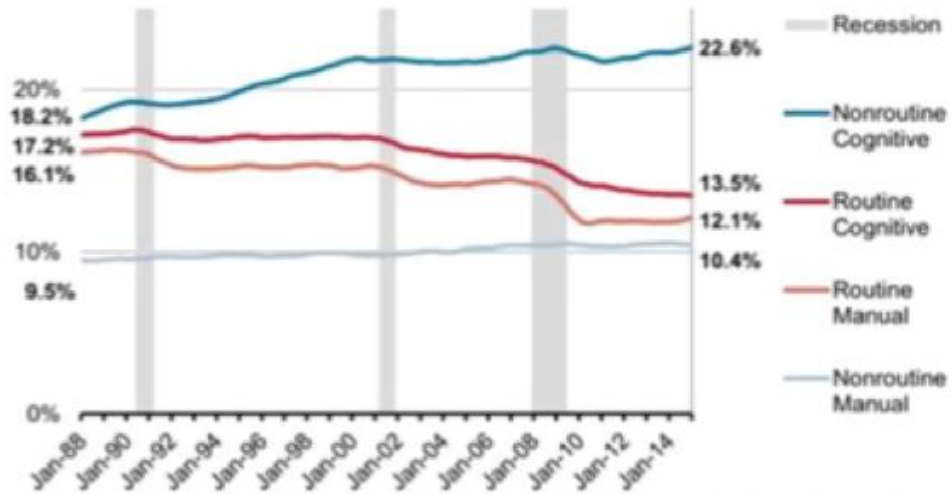
Clinical decision support		Personalized treatment to the patient's circumstances
Modeling of behaviors		Information on the treatment tolerance
		Clinical guidance, select best treatment



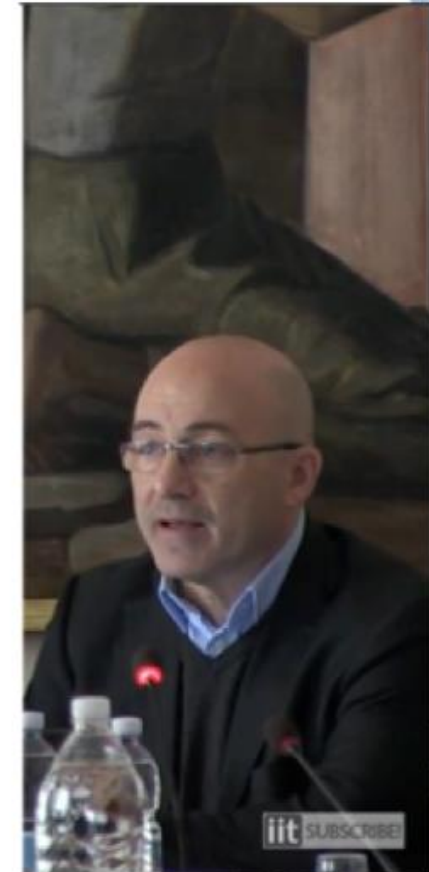
Delineation



NonRoutine vs Routine



Source: Henry Su and Nir Jaimovich for Third Way | WSJ.com



End of
treatment

%:

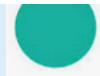
ty to

Impact of

Clinical
support

Repetitive

Mining –omics



standardization

CC

various software

Planning



First patient consultation



End of treatment

Impact of AI

Clinical decision support

Repetitive tasks

Mining *-omics*



Ease in following guideline, standardization

Interaction with industry to validate software's

?

Knowledge: guidelines

Delivery



First patient consultation



End of treatment

Impact of AI

Clinical decision support

Repetitive tasks

Mining *-omics*

Modeling of behaviors

use?

Knowledge: Guidelines

with industry to

Ease in following guideline, standardization

validate software's

IOT

End of treatment

Patient as co-manager of his/her health



First patient
consultation



End of
treatment

Impact of AI

Clinical decision
support

Mining – *omics*

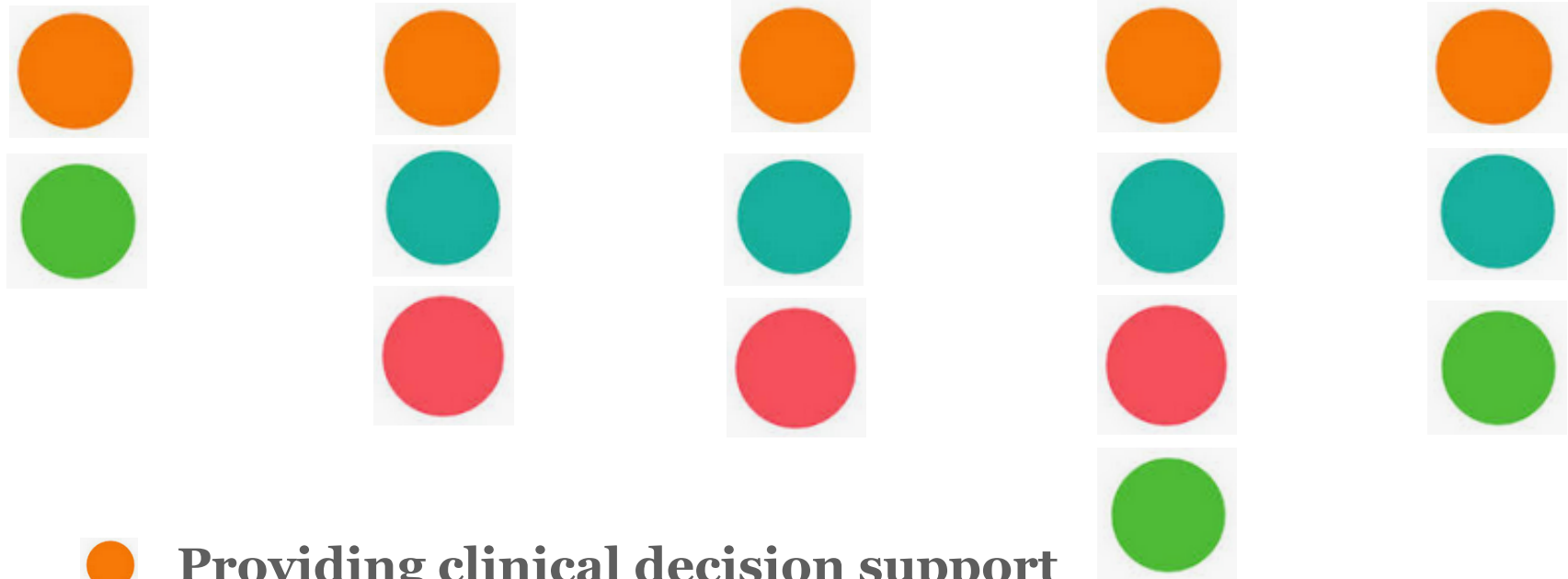
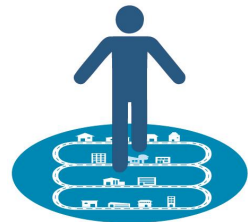
Modeling of
behaviors







How do we use?

Decision supporting
systems based on
data

AI and the patient pathway



-  Providing clinical decision support
-  Mining *-omics*, analysing data
-  Facilitating repetitive tasks, optimising time
-  Monitoring behaviors, in heterogeneous contexts