

hope
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The Future
of Hospitals
and Healthcare

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The Future of Hospitals and Healthcare



How future trends in Oncology may impact hospital organisation

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Lille, France





Prof. Eric F. Lartigau

Presentation

- Director, Centre Oscar Lambret Cancer , Lille (04/2016 -)
- M.D., Professor in Radiation Oncology
- University Degree in Health Economy

- Administrative and scientific responsibilities
 - Director, Comprehensive Cancer Research Center - SIRIC ONCOLille: 2012-today
 - Acting Chief Medical Officer, Accuray Inc., 2014 (6 months sabbatical)
 - Secretary, European Society for Therapeutic Radiology and Oncology (ESTRO) : 1997-2004
 - Secretary, Scientific Committee European School of Oncology (ESO) : 1996-1998

- Member of
 - ESTRO Advisory Committee on Radiation Oncology Practice (ACROP): 2015-today
 - ESTRO Clinical Committee Board Member: 2013-today

UNICANCER: The Group of Cancer Centers in France

- **18 Cancer Centers (20 hospitals): a national network:**

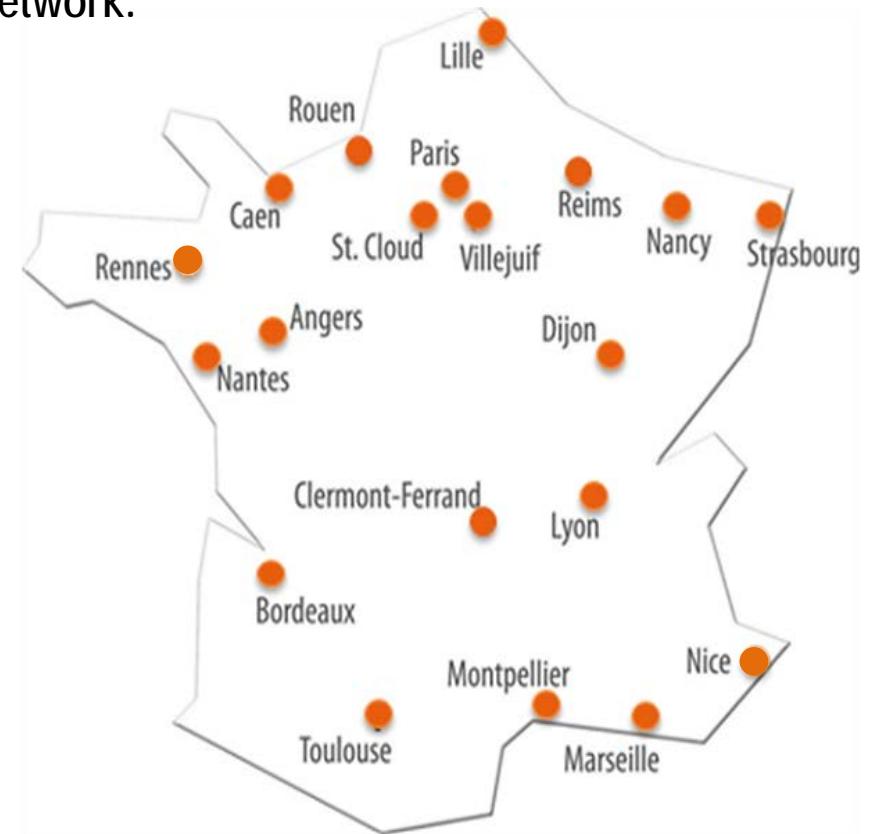
- Private nonprofit hospitals
- Mission: care, research, education

- **All types of cancer:**

- Adults and children
- Rare cancers
- Complex / advanced situations
- 18 000 professionals, 1800 MD

- **Activity :**

- 30% of the women with breast cancer
- 20% gynecological forms of cancer
- 19% of the patients with Ear-Nose-Throat cancer
- 21% of the patients with endocrine cancer



+ 120,000 cancer patients hospitalized every year

The UNICANCER model

Guaranteeing quality of care for everyone

At the heart of its strategy, UNICANCER defends the concepts of quality in management, individualized treatment and supporting care for the patient

- **Multidisciplinarity, from the first day (1945)**
- **Comprehensive care**
- **Research-care continuum**
 - >15% patients in clinical studies
 - 44% of PHRC-K in 2014 (20/45)
- **Performance and innovation : new technologies**
- **No private practice or added fees**

CHALLENGES in 2016 and after...

Europe/USA/Japan

- Aging population
- Human resources (surgeons...)
- Cost of drugs, but...

Emerging countries

- Human resources
- Teaching, training
- Access to technology & drugs

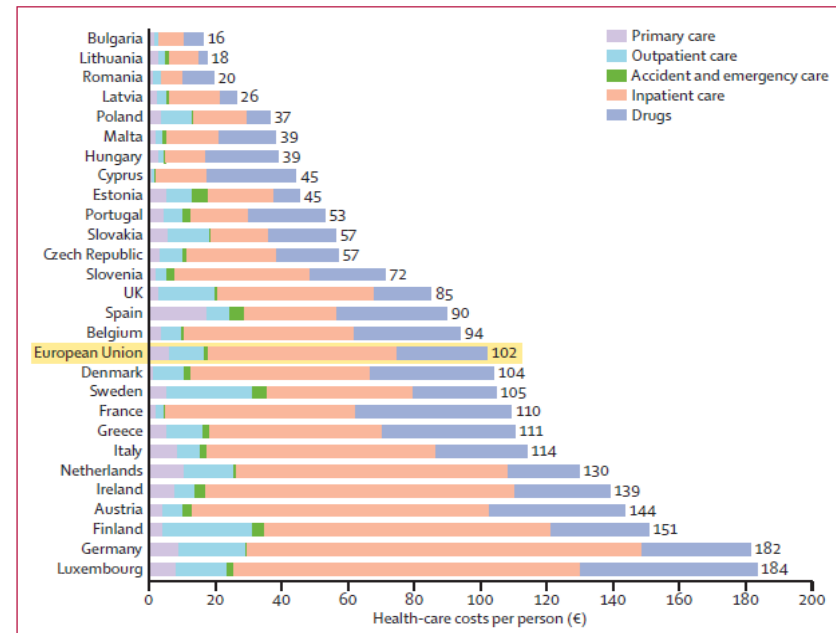


Figure 1: Health-care costs of cancer per person in European Union countries in 2009, by health-care service category
Data not adjusted for price differentials.

UNICANCER study « EVOLPEC »

Mapping changes in Cancer Care by 2025

- Identify, qualify and quantify the main developments /innovation trends in oncology in the next few years
- Share with all stakeholders (Government, National Cancer Institute...) prospective figures in order to adapt health system
 - **40 experts interviewed** from:
 - French Cancer Centers
 - University hospitals, private clinics
 - Pharmaceutical industry
 - Abroad (Netherlands, USA, UK)

EVOLPEC Methodology

Phase 1: Identifying 6 main trends

- Ambulatory care
- Radiotherapy
- Chemotherapy
- Tumour characterisation
- Interventional radiology
- Supportive care



Phase 2: Qualifying and quantifying

- Taking into account IARC (International Agency for Research on Cancer) demography and epidemiological trends
- Assess financially each trend



Phase 3: Evaluate the impact on

- Bed numbers
- Equipment time
- Medical time

UNICANCER anticipates the cancerology of tomorrow

Major changes by 2025 are:

- Trend n°1: An increase in **out-patient surgery**
- Trend n°2: **Radiotherapy** will be more targeted and **less invasive**
- Trend n°3: The development of **oral targeted/Immuno treatments**
- Trend n°4: **The characterization of tumors**, making it possible to better understand them in order to better treat them
- Trend n°5: The development of **interventional radiology**
- Trend n°6: The development of **supportive care**

→ Impacts on: **bed capacities, human resources, finances**

Trend n°1: Increase of ambulatory surgery

Today

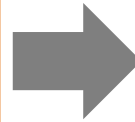
- Ambulatory surgery brings the patient out of hospital on the day of admission
- In cancerology, ambulatory surgery is already a fact:
23 % breast cancers (40% CLCC, was 12%-17% in 2013)
- Very much encouraged by French public authorities
 - Patient benefits (security, comfort...)
 - Social security expenses (efficiency, costkilling...)

Trend n°1: Increase of ambulatory surgery Tomorrow

GOAL:

Breast: 50%

Ovarian, thyroid: 15%



Consequences:

- + 135 % ambulatory surgery stays
- + 40 % ambulatory surgery beds
- - 20% conventional beds

With increase of treated patients : 8-9% (IARC figures)

Trend n°2 : Decrease in the number of radiotherapy sessions Today

- > 180 000 patients treated every year
25% of them in UNICANCER centers
- **Hypofractionated radiotherapy:** Intensify the delivered dose during each session in order to reduce the number of sessions

(Figures : French NCI)

Trend n°2: Decrease in the number of radiotherapy sessions Tomorrow

Hypofractionation

50 % lung cancer treatments (30 down to 5 sessions)

45 % breast cancer treatments (30 down to 20 sessions)

35 % prostate cancer treatments (38 down to 10 sessions)

20 % brain cancer treatments (30 down to 10 sessions)

Increase of time per session



- + 9 % machine time use
- Increase in complexity
- Human resources (physics)

With increase of treated patients : 8-9% (IARC figures)

Trend n°3: Medical treatments (at home)

Today

- + 2 millions hospitalisations per year
- The picture:
 - Oral treatments:
 - Tablets, drinkable solutions
 - 25% of treatments
 - Targeted therapies:
 - Targeting a specific mechanism of the cancer cell
 - Half of the drug approvals since 2004
 - Good part of these new therapies are oral
 - Low rate of home care: 3%

Trend n°3: Medical treatments (at home)

Tomorrow

BREAKTHROUGHS:

Increase of targeted therapies

+25% length of metastatic treatments

Several lines of treatment

50% of treatments: oral

Development of home care

New treatments (IMMUNO ++)



Consequences :

- 14 % of sessions at home
(vs 3% today)
- **+ 9 % oncologists**
- New TT = new toxicities

With increase of treated patients : 8-9% (IARC figures)

Trend n°4: Tumour characterisation

Today

- Identification of several molecular modifications at cell level (molecular biology)
 - Early phase screening (for genetic predispositions)
 - Targeted therapies
 - Preventing toxicities
- 60 molecular tests available
- 170,000 patients have been screened

Trend n°4: Tumour characterisation

Tomorrow

TENDENCIES:

Systematic screening of at risk population

Characterising as diagnosis routine

Follow up of metastatic patients



- “Characterised” tumours x 7
- + 51 % pathologists, oncogeneticians and bioinformaticians
- Biopsies x 2 to 3: liquid biopsies
- + 32 % ambulatory seats

Trend n°5: Interventional radiology: less invasive medical treatment for the patients

Today

- **Interventional radiology: diagnosis or treatment by a radiologist, under control of imaging technology (scan, echography...)**
 - Use of natural ways to access the tumor
 - More precise and less invasive treatments

Trend n°5: Interventional radiology: less invasive medical treatment for the patients

Tomorrow

BREAKTHROUGHS:

New guidance techniques

Non invasive techniques

Administration of
medication improving



Consultations x 6

Interventional radiologists X3

+ 23 % seats

+ 16 % scan use time

+ rooms

+ surgery blocs

+ anesthesists

With increase of treated patients : 8-9% (IARC figures)

Trend n°6: Supportive care

Today

- Supportive care: global care needed all through the illness, parallel to oncological treatments
 - Against pain
 - Palliative care
 - Psychological needs
 - Social care
 - Adaptated fitness
- Aim: patient, and not illness, as the core of care organisation
- 63% French population consider supportive care as important to fight cancer (*Baromètre cancer Institut Curie 2013*)

Trend n°6: Supportive care Tomorrow

TENDENCIES:

Existing care supply
increasing

Proved positive impact on
health (less relapses...)



Team :

For 4 doctors (palliative care, pain) :

**14 non medical
professionals**

(social counseling, dietitian,
physiotherapist, psy, socio-
esthetician...)

With increase of treated patients : 8-9% (IARC figures)

Increase in out-patient care

■ Impacts on patient

- Less invasive care, less care episodes
- More care at home : go back and forth between hospital and home
- Better peripheric care
- New role for patients with improvement of empowerment
- The development of e-health

■ New mission : to follow out patients and to guarantee safety and quality outside of direct hospital care

The next [®] evolution: Participative Oncology

- Patient is central
- Who's better reporting outcome and morbidity: **the patient** of course !!!!

New needs for Hospitals

- Technological hub: to treat patients based infos

- Consultation platforms

 - Specialized consultations

 - Coordination consultations

- New jobs / units

 - Dosimetrists, nurses

 - Supportive care units

- Coordination hub hospital/GPs-liberal professionals²⁴

To be achieved:

**From quality/safety
productivity
to individual/collective outcome
and back...**



**No reporting without toxicity/economics/PRO's... :
multicriteria endpoints !!!**

Under referring hospital responsibility/coordination ?

and tomorrow....

- Key challenge : **reporting real life results !!!**
- Recording
- Evaluating
- Reporting
- New technologies and the patients/family

Patient is : critical but not sufficient in evaluation of outcomes !

Cochrane 2013 **patient-reported outcome measures (PROMs)** for
follow up after Gynaecological cancer treatment : a review

Objectives: evaluate PROMs as an alternative to routine follow up

Conclusion: **No studies and therefore no analysis**

To be developed ++++++

Palliative and Supportive Care (2014), **12**, 69–73.
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Use of an electronic patient-reported outcome
measurement system to improve distress
management in oncology

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