Quality, and Comprehensiveness in Cancer

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What is the rôle of Comprehensive Cancer Centres?

- CCCs integrate excellent **diagnosis and treatment with research and education**
- CCCs connect research with the healthcare systems (practice-changing)
- CCCs cover **all diagnostic and treatment modalities** (surgery, radiation therapy and medical oncology, including rehabilitation, psychosocial oncology, supportive care and palliative oncology)
- CCCs **disseminate their innovations** (the way they do this is dependent upon national health systems)

Which are the Comprehensive Cancer Centres in Europe?

1. There are standalone Cancer Centres, often with a long history of specialist cancer treatment and translational research, and significant parterships with Universities, e.g. NKI and Curie.
2. There are partnerships of a University, a University Hospital, and associated Institutes working in the cancer field. Examples of this form would include the Cancer Research UK Cambridge Centre and the Oslo Cancer Centre. Often these types of CCC have been formally brought into being only in the last 5-15 years as an answer to the critical challenge to integrate translational research and high quality care.

- What are the criteria for excellence?
- Who decides?
- We need pan-European quality standards to evaluate clinical and research excellence and improvement

OECI
Organisation of European Cancer Institutes
European Economic Interest Grouping

EACS
EUROPEAN ACADEMY OF CANCER SCIENCES

Hypothesis: CCCs in Europe account for much of European innovation in cancer – BUT only care for 5% of patients!

The challenges

- Variation in quality and accessibility of cancer care
- Increasing complexity and multidisciplinarity
- Common biology, diagnostic expertise and treatment across tumour types
- We require shorter development timelines which demand better integration of research and clinical care

Institutional Cancer Centre concept

- Governance
- Resources
- Coordination (MDTs, clinical pathways)
- Performance management
- Quality system
- Integration clinical care & research
- Continous education
- Patient involvement

1. Stand alone cancer institution
2. Within a University hospital

Evaluation & Development through OECI A&D Programme

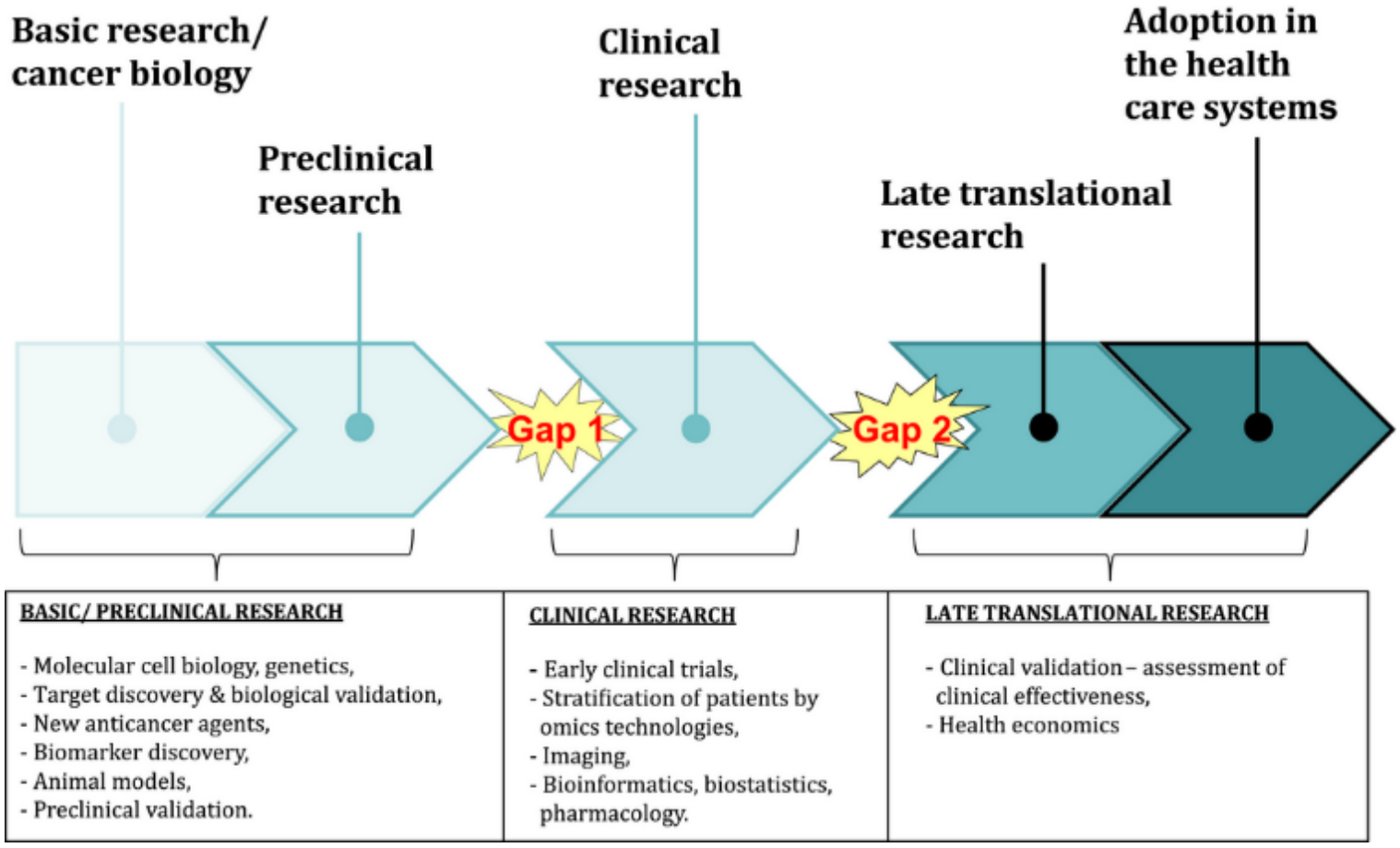
What are the Hallmarks of Comprehensive Cancer Centres (1)?

- High quality **outpatient and inpatient facilities** delivering an optimal patient experience
- Translational science with a breadth and depth of **preclinical and clinical capability**
- A strong **clinical trials infrastructure** and a breadth of open clinical trials with Chief/Principal Investigators drawn from the CCC staff
- A **high rate of accrual of new cancer patients** (10-30%+)
- **High quality diagnostics**, and capabilities in molecular pathology and molecular imaging
- A **consistent academic output** in highly-rated journals across a wide spectrum of disciplines
- Evidence of innovation in **patents, spin-off companies, and practice changes**

What are the Hallmarks of Comprehensive Cancer Centres (2)?

- Excellent **e-hospital and information systems** which allow the collection of clinical data and linking these with Big Data analytics for research
- **Educational programmes** which comprehensively cover education and training of cancer clinicians and scientists, and the education and support of patients and their carers
- A commitment to **networking across the population served**, linking (with ICT interoperability) into primary care, survivorship, and supportive and palliative care services
- Integration with national **prevention, screening and early detection strategies**
- Many CCCs have access to **high quality basic science facilities**

The Comprehensive Cancer Centres are capable of bridging the gaps between translational research and clinical practice

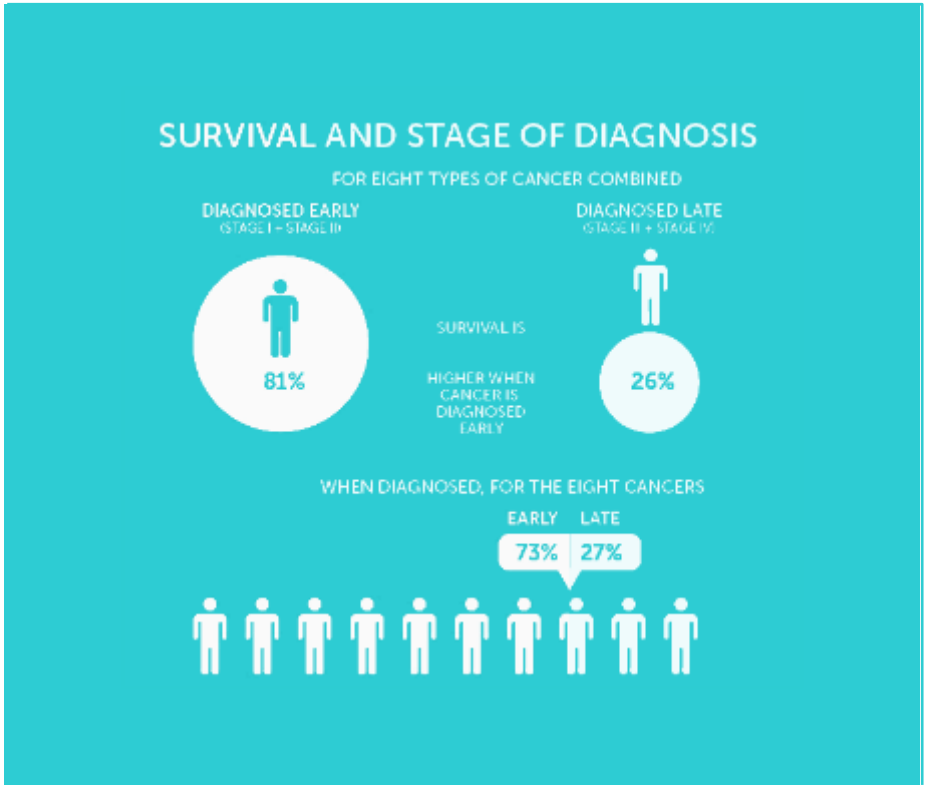


Molecular Oncology
Volume 11, Issue 12, pages 1661-1672, 9 NOV 2017 DOI: 10.1002/1878-0261.12143
http://onlinelibrary.wiley.com/doi/10.1002/1878-0261.12143/full#mol212143-fig-0001

Comprehensive Cancer Centres can tackle the challenge of Early Detection of Cancer – by understanding cancer evolution; population risk; making diagnostic innovations and validating biomarkers

- 74% of patients whose cancer is diagnosed at stage 3 &4 will die from the disease within 10 years.

- In stark contrast, 81% of patients who are diagnosed with the same cancer at an stages 1 & 2 are alive at 10 years.

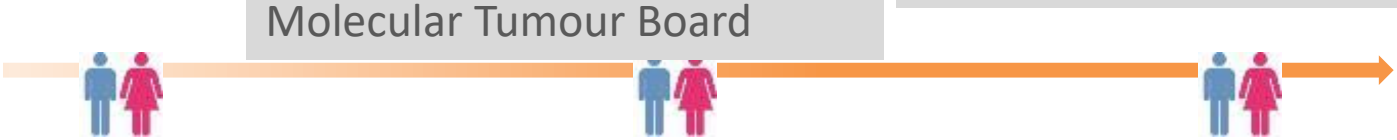


CANCER RESEARCH UK | CAMBRIDGE CENTRE

Comprehensive Cancer Centres pioneer where Integrated Cancer Medicine can fully be practiced

DNA and RNA sequencing
Electronic medical record
Molecular Tumour Board

Actionable mutations direct clinical trial enrollment

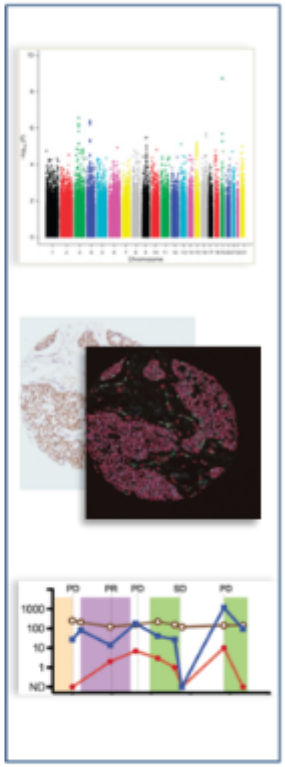


Tissue biopsy

Liquid biopsy

Imaging

Highly annotated record



eHospital

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Comprehensive Cancer Centres can bring scientists right into the hospital

National Institute
for the Early Detection of Cancer

Institute
for Integrated Cancer Medicine

UNIVERSITY OF CAMBRIDGE

Cambridge University Hospitals NHS
NHS Foundation Trust

Comprehensiveness needs Leadership and Organisation, and the OECI Accreditation Programme tests this

- Leadership
- Organisation
- Strategy
- Bench to bedside and back

OECI believes in an institution-based organisation of quality care and research, supported by networking

- Organ-based approaches (IPUs – Michael Porter) are good as far as they go (at the level of pathways of care, and MDTs, team benchmarking)

- Comprehensive approaches will take us further, because:

  - The growing understanding of the –omics of cancer
  - The core functions of radiology and pathology required
  - Learning from colleagues in different disciplines
  - A high offering of clinical trials

We need to think in terms of operational networking as well as network structures

- How is translational research and innovation accelerated?
- How are practice changes disseminated in a health economy?
- The structure of effective networks is likely to depend on the health system of the Member State
    - Consider also the function of:
        - Patient pathways
        - Professional clinical groups (Evidence Review Groups)
        - National bodies/regulators

Recent examples of how OECI Peer Reviews have spurred Cancer Centres to improve (1)

One centre in a University Hospital re-organised its cancer services to create a Comprehensive cancer centre with a collaborating University

Another centre used the OECI report to lobby the regional government for funds for more investment in radiology and radiotherapy equipment

Recent examples of how OECI peer reviews have spurred Cancer Centres to improve (2)

One centre developed a comprehensive survivorship support programme in response to the Report

Another centre completely overhauled its Clinical Trials Programme and Management system

Other examples of how OECI peer reviews have spurred Cancer Centres to improve (3)

- Development of MDTs
- Cancer Registries
- Complications reporting
- Nursing training
- Electronic patient records and prescribing
- Biobanking

The six domains of the OECI accreditation programme test comprehesiveness, and have been approved by ISQua

- Planning and organisation of integrated care
- Multidisciplinary teams and care
- Translation of research into care
- Education for professionals
- Patient satisfaction and involvement
- Constant quality improvement

About 75% of the standards relate to clinical care and overall governance

Conclusions with relevance to a Cancer Mission

- OECI can help the EU ensure that there are Comprehensive Cancer Centres serving every Member State and **all** the population with a catchment of between 5 and 10 million).
- OECI **should lead in advising CCCs on their development** and growth in excellence – and **not be exclusive**
- OECI can help CCCs spread innovation and quality, and be hubs within their own region
- There are key questions around sharing data and interoperability for the next big leap forward in cancer medicine
  - The CCCs need to enhance their role in Early Detection and development of new biomarkers and screens
  - CCCs need to be clearer in their strategy around –omics and precision cancer medicine to focus on data which are actionable


Thank you