Swedish test bed for innovative radiotherapy

Sweden’s university hospitals and leading specialist companies develop a national test bed for radiation therapy and quality assurance

Karolinska University Hospital, Regional Cancer Center Stockholm Gotland, Norrland University Hospital, Uppsala University Hospital, Sahlgrenska University Hospital, Skåne University Hospital, University Hospital in Linköping, Örebro University Hospital, Elekta Instrument AB, Siemens AB, Naslund Medical AB, ScandiDos AB, Cureos AB, Micropos Medical AB. Financed in part by VINNOVA (Swedish Agency for Innovation Systems) and coordinated by the Innovation Center at Karolinska University Hospital.
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To bring new innovations to patients

- Right Medical expertise
- The right patients in the right number
- Experienced investigators
- Real clinical environment
- Studies that can
  - Give approval to the authorities
  - Promote the product
Finding the key competences
One gateway to all Swedish university hospitals

National Platform for
- multicenter clinical trials
- innovative radiotherapy
- medtech
One gateway
to a world leading
test environment for
radiation therapy

National Platform for
• multicenter clinical trials
• innovative radiotherapy
• medtech
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For

- patients
- health care
- industry

National Platform for
- multicenter clinical trials
- innovative radiotherapy
- medtech
Why national mobilization?

From all over the country
- Patients
- Experts
- Users
- Different user environments

Simultaneously. And coordinated.
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Unique collaboration between health care, academia and industry

Health care
7 Swedish university hospitals
Regional Cancer Centre

Industry
Elekta, Siemens,
Micropos, ScandiDos,
Naslund Medical,
Cureos

coordination: Innovationsplatsen Karolinska
University hospital. Partial funding: VINNOVA
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Organization

Stakeholder meeting

Steering group
Nodes & business community
(chairman from Karolinska)

Reference groups
- Business community
- Process & methodology
- Patient associations

Innovation Center

Vinnova

Operational Unit (management):
Principal project manager
Operating project manager
Model project manager:
Subproject manager

Legal affairs
Method/model
Business development
Communication
etc
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Subproject

Morphological Diagnostics

Treatment planning & optimization

QA Verification of dose plan

Patient treatment

Monitoring, documentation and analysis

Prescription = radiation therapy

Imaging, QA/QC, patient re-/positioning, adaptive replanning

Imaging / IGR management of tumor motion

Information management
Technical base

- MR-based radiation therapy - the cornerstone in a modern test environment
- Quality assurance for MRI
- Database - uniform documentation radio therapy data
- Positioning - patient is always in the right position
- Adaptive radiation therapy - a model for clinical practice
- Showcase - International Marketing
MRI-based radiation therapy

**Parties** Representatives from the nodes, Siemens, Elekta, Naslund Medical, county hospital representatives (Gävle, Jönköping, Sundsvall)

**Goal** Develop and refine methods that make it possible to plan treatment, calculate dose, based on MRI data
QA for MRI-based radiation therapy

**Parties** Representatives from the nodes, Siemens, Elekta, ScandiDos.

**Goal** Set up a quality assurance system when radiation therapy is built up on MRI data.
Database solutions

Parties  Representatives from the nodes, Cureos, Elekta, ScandiDos. Except: SSM, RCC in cooperation, INCA (administrative system for Swedish quality register)

Goal  Build general database solution using uniform documentation of relevant radiation therapy data
Positioning and immobilization

**Parties** Representatives from the nodes, Institute of Design in Umeå, Elekta, Micropos Medical, Naslund Medical. Except: Skandion Clinic

**Goal** Create standard and verifiable method for evaluation of fixations, new equipment and new ways of working
Adaptive radiation therapy

**Parties** Representatives from the nodes, ScandiDos, Elekta

**Goal** Develop methods to streamline the process to enable adaptive radiation therapy to be implemented on a large-scale basis
International showcase

**Parties** All consortium members

**Goal** Demonstrate integration between the various parts of the test bed and market the test bed internationally
Swedish辐射治疗学术全球

学院
- 提高国际顶尖研究的兴趣
- 研究人员、用户、行业专业人士

医疗保健
- 加强其在国际上的地位
- 吸引人临床试验合作伙伴

行业
- 加强全球市场的竞争力
Challenges year 1

• Creating the consortium
  – Engaging the lawyer early in the process
  – Lawyer always open to Q&A sessions
  – Building trust
  – Creating an open and trusting environment
  – Early agreement around IPR
Challenges year 1 continue

• Triple helix interaction
  – The Technical/Scientific projects
    • Building the technical foundation and the triple helix collaboration
  – Increasing collaboration over the year
  – Towards open innovation environment
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Triple Helix interaction

Health care
Academy
Industry
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Health Care

Innovation

Industry

Resources
Time
Money

Innovation

Academy
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Our Need!
That way!

Health Care

Industry

Academy
Challenges year 2 and 3

- Change process
  - Leading Change
- Anchoring and Communication
  - "Whats in it for me"
- Future organisation and operation
- Business model
One gateway
to all Swedish university hospitals.
And to the world..
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