PROCARCARE

A successful registration project
General Overview
Past & Future
What?

- PROCARE = PROject on CAncer of the REctum
  - Multidisciplinary Belgian Project
  - Launched in 2003 → 2012 → 2015

- **Objective:**
  *Improve outcome in patients with rectal cancer by reducing diagnostic and therapeutic variability*

- ! Basis of PROCARE = prospective (online) registration
- ! Continuous program on quality of care assessment

  Different disciplines
Overview Project

1. Guidelines (Evidence Based)
2. Quality Indicators
3. Training

DATA ENTRY

Belgian Cancer Registry

1. Guidelines (Evidence Based)
2. Quality Indicators
3. Training

BSCRS
BVRO – ABRO
Digestive Club Pathology
College of Oncology
RBRS
BSMO, BGDO

BOARD PATHOLOGY
Anonymisation
Revision

BOARD SURGERY
Revision

BOARD RADIOLOGY
Anonymisation
Revision

BOARD RADIOTHERAPY
Revision

Feedback

Surgery
Radiotherapy
Chemotherapy
Pathology
Radiology
Financial support

- 2006-2007:
  - EUROCHIP

- 2007-2008:
  - KCE

- 2008-2012 + 2012-2014:
  - INAMI RIZIV

- 2013-2015:

→ End PROCARE project: 2015
PROCARE projects

Registration & Feedback
TME-evaluation
PROCARE RX
PROCARE RT
PROCARE projects

Registration & Feedback
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PROCARE RT
Registration: Who? What?

- Belgian patients (INSZ/NISS)
- Treatment
  - Incl. palliative treatment
- Invasive adenocarcinoma of the rectum
  - Excl. pT0, pTis
  - Lower Limit max. 15cm
- Exclusion: synchronous tumor (i.e. 3 months related to date of incidence)
- Date of incidence from 01/01/2006
Cumulative Number of Registrations per Quarter

> 6180 registrations
93/111 (84%) Belgian Hospitals

www.kankerregister.org/procare
Physicians different disciplines / hospitals work together on 1 case
Easy + safe data transfer
eHealth-services: create user access + protect privacy of patients
**Feedback: What?**

- Descriptive information
- Information on ‘missing data’
- Quality of care indicators (QCI)

- Feedback report & definitions, graphs, survival curves
- Validation + analysis of patient data
- Once a year (December 2013-January 2014)

- Teams with > 10 registrations: **personal** feedback
- **General** feedback results on [www.kankerregister.org/procare](http://www.kankerregister.org/procare)
Definitions

 ypStage after radical surgical resection

 ypStage 0
 N: Number of patients in denominator with ypStage 0 or ypTisNO
 D: Number of patients treated with radical surgical resection after neoadjuvant chemoradiation and for whom ypStage is not missing

 ypStage 1
 N: Number of patients in denominator with (yp)pStage 1
 D: Number of patients treated with radical surgical resection and for whom (yp)pStage is not missing
### Feedback report (2006-2012)

#### Demographic Data

<table>
<thead>
<tr>
<th></th>
<th>N Procare</th>
<th>%Procare</th>
<th>p25</th>
<th>median</th>
<th>p75</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patients registered</td>
<td>5459</td>
<td>15</td>
<td>41</td>
<td>75</td>
<td></td>
</tr>
<tr>
<td><strong>SEX</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-&gt; Number of male patients</td>
<td>3403</td>
<td>62</td>
<td>56</td>
<td>62</td>
<td>67</td>
</tr>
<tr>
<td>-&gt; Number of female patients</td>
<td>2056</td>
<td>38</td>
<td>33</td>
<td>38</td>
<td>44</td>
</tr>
<tr>
<td><strong>AGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-&gt; Mean age</td>
<td>67</td>
<td>66</td>
<td>68</td>
<td>69.5</td>
<td></td>
</tr>
<tr>
<td>-&gt; Median age</td>
<td>68</td>
<td>67</td>
<td>69</td>
<td>70.5</td>
<td></td>
</tr>
</tbody>
</table>

![Table showing demographic data](chart.png)
Graphs
Rectal perforation

% patients for whom rectal perforation was reported by centre

Number of patients treated with radical surgical resection and for whom rectal perforation (yes or no) was reported by centre

Legend: Centre pct  95% UL  95% LL  99.8% UL  99.8% LL  Overall pct
5-Year observed survival after R0 radical resection per (y)pStage

<table>
<thead>
<tr>
<th>Observation</th>
<th>(y)pStage</th>
<th>N at risk</th>
<th>5Y OS</th>
<th>Lower 95CI</th>
<th>Upper 95CI</th>
<th>P-value</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>ypStage 0</td>
<td>358</td>
<td>0.91</td>
<td>0.86</td>
<td>0.94</td>
<td>&lt;.0001</td>
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<tr>
<td>2</td>
<td>ypStage I</td>
<td>1032</td>
<td>0.86</td>
<td>0.83</td>
<td>0.88</td>
<td>.</td>
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<tr>
<td>3</td>
<td>ypStage II</td>
<td>906</td>
<td>0.74</td>
<td>0.70</td>
<td>0.77</td>
<td>.</td>
</tr>
<tr>
<td>4</td>
<td>ypStage III</td>
<td>893</td>
<td>0.65</td>
<td>0.66</td>
<td>0.69</td>
<td>.</td>
</tr>
</tbody>
</table>
PROCARE projects

Registration & Feedback
TME-evaluation
PROCARE RX
PROCARE RT
TME-evaluation: What? How?

- **What?** Anonymous quality assessment of resected TME-specimens, pathological and surgical data

- **How?**
  1. **BCR:** select + collect the anonymous material (photos, coupes)
  2. **Pathology Board:** assess the quality of the resected specimen on evaluable cases
  3. **Surgery Board:** final decision on the quality of the resected specimen + on adherence to guidelines
  4. **BCR:** personal feedback on surgical + pathological aspects

- Phase 2 (2009-2011): non candidate trainers
- Phase 3 (2010-2013): all surgeons → to do: give feedback
TME-evaluations: Conclusion

- Guidelines rectal cancer
  - Photos fresh specimen, before inking:
    - Ventral
    - Dorsal
    - Macro-sections

- Study (publication, 2013):
  - Results local pathologists vs. expert reviewers
PROCARE projects

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PROCARE RX: What?

- **What?** Online reviewing platform for **radiologists**

- **How?**
  - 2\textsuperscript{nd} opinion (cTN+cCRM) based on CT/MRI-images pelvis
  - Expert radiologists review **anonymous + at random**
    \( \rightarrow \) Discordance?: 2nd + final review

- **Review with anonymity of patient, radiologist, hospital and reviewer**

- **Status:** only 21 cases (!)
  \( \rightarrow \) stimulate participation

[www.kankerregister.org/procare](http://www.kankerregister.org/procare)
PROCARE RX: In Practice

- Access via Lokale Beheerder/Gestionnaire Local of the hospital
- Only for radiologists
- Save access via eHealth platform
PROCARE projects

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PROCARE RT: What?

- **What?** Online reviewing platform radiotherapists (Aquilab)
- **Aim?** Central review Clinical Target Volume (CTV) and organs-at-risk delineation (neoadjuvant irradiation of rectal cancer)
- **Status:** 20 participating hospitals, >1200 cases revised → Stopped
- **Future:**
  - Closed
  - Abstract Estro + publication
  - PROCAB RT (breast cancer)

www.kankerregister.org/procare
From project to structure

Project prolonged until 31 December 2014

Conditions:

- Minimum dataset rectal cancer
  - Via MOC- and cancer registration
- Risk-adjusted analysis of QI
- Feedback with benchmarking
Stichting Tegen Kanker

- Financial support until December 2015
- Statistical analyses:
  - Document variability in staging, treatment and outcome
  - Improvement of preoperative staging, neoadjuvant RT-planning and pathological staging
  - Risk-adjusted benchmarking
  - Document postoperative morbidity and mortality after radical resection
PROCARE
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