



Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
Belgian Health Care Knowledge Centre

Quality indicators for the diagnosis and treatment of lung cancer

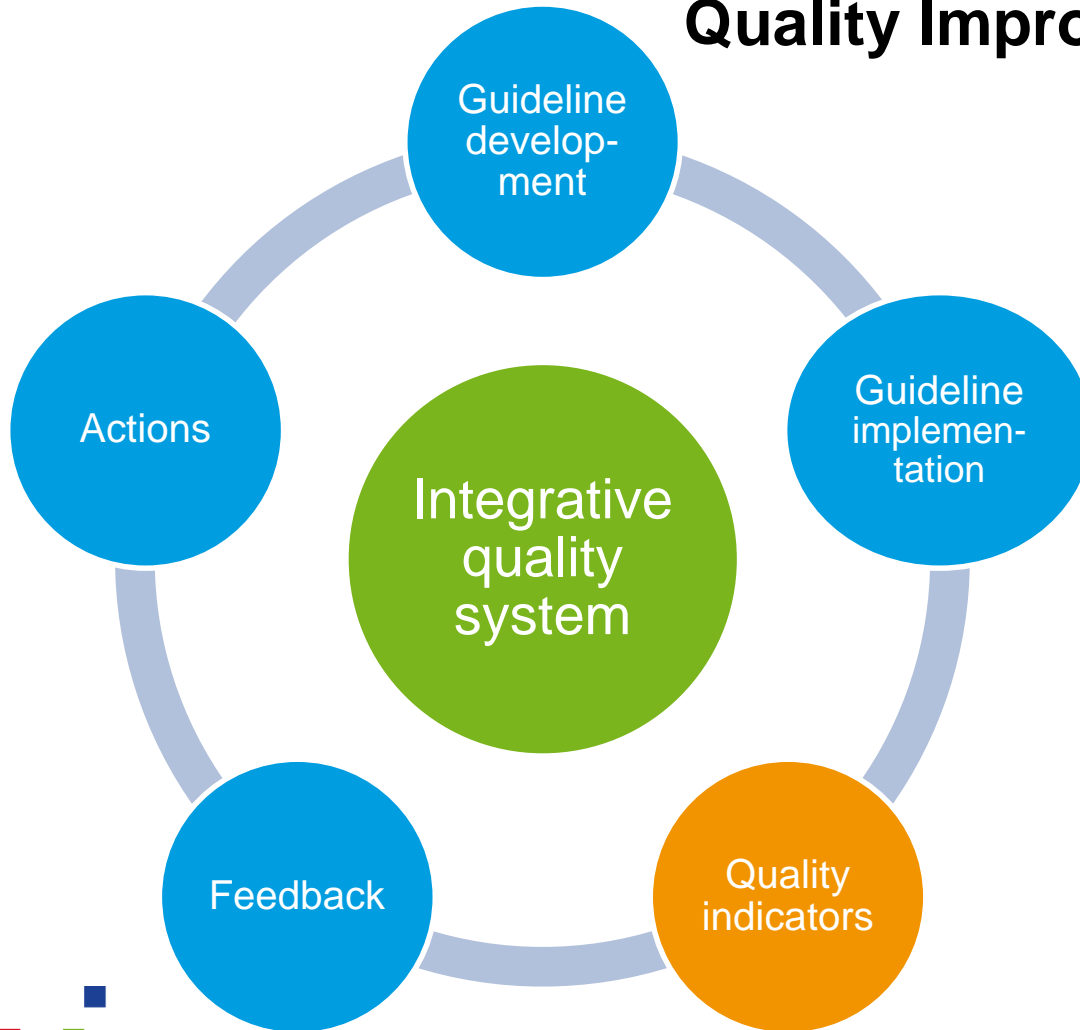
FRANCE VRIJENS, LEEN VERLEYE, CINDY DE GENDT*, VIKI
SCHILLEMANS*, JO ROBAYS, CÉCILE CAMBERLIN, CÉCILE DUBOIS,
SABINE STORDEUR, DAVID JEGOU*, GEERT SILVERSMIT*,
ELIZABETH VAN EYCKEN*, ISABELLE WAUTERS,
JAN P VAN MEERBEECK

* BELGIAN CANCER REGISTRY



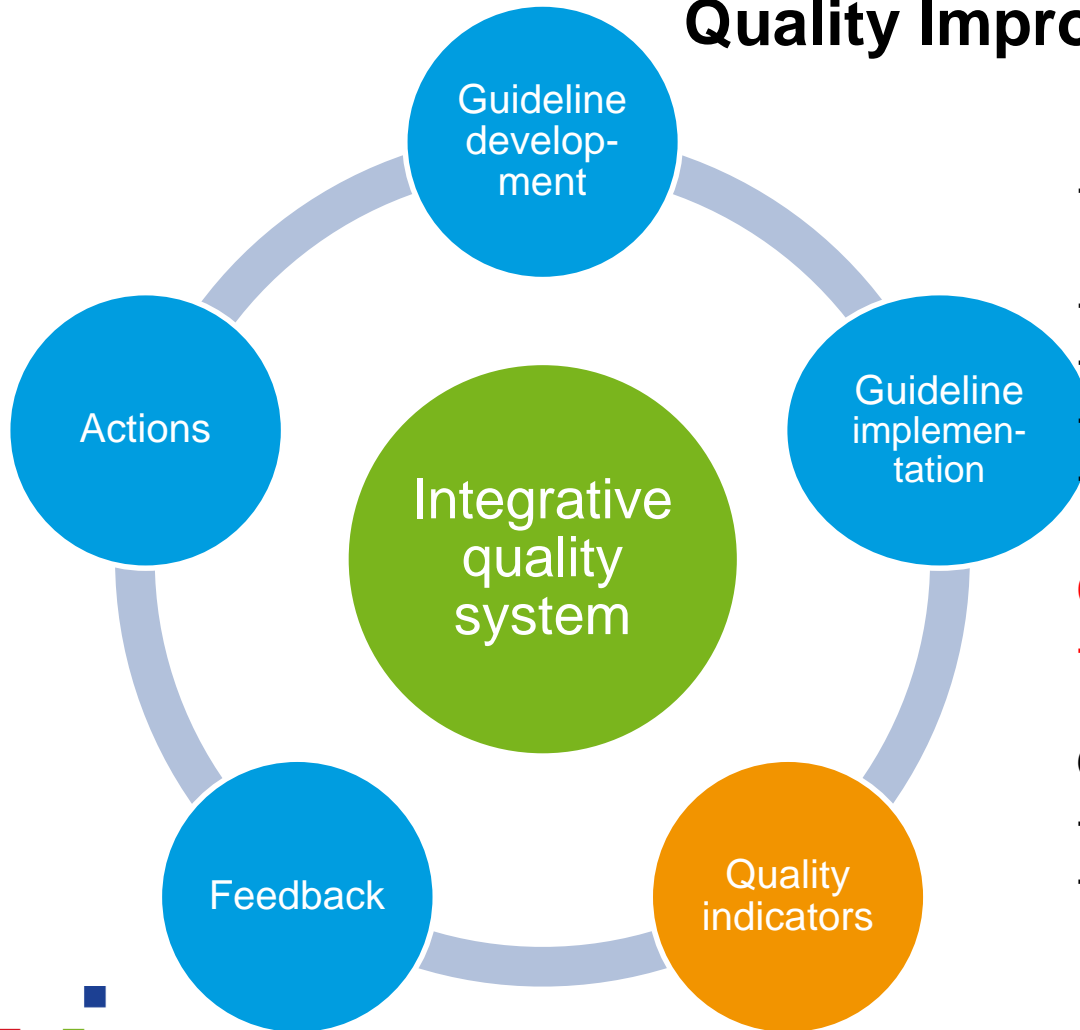
Background

Quality Improvement Cycle



Background

Quality Improvement Cycle



In the past, KCE reports:

- Rectum cancer - PROCARE (2008)
- Breast cancer (2010)
- Testis cancer (2010)
- Oesophageal cancer (2013)
- Stomach cancer (2013)

Current:

- Lung cancer

On-going:

- Head and neck cancer
- Ovarian cancer

What and how ?

Research questions

1. Develop set of QI for lung cancer diagnosis and treatment, and evaluate variability between centres
2. Identify comorbidities based on reimbursed pharmaceutical data (for case-mix adjustment)
3. Evaluate volume-outcome relationship

Methods

- Review of literature for existing indicators
- Data analysis: Linkage of databases:
 - Belgian Cancer Registry (diagnosis in 2010-2011)
 - AIM - IMA
 - BCSS - KSZ (vital status)
- Pilot study in 6 hospitals

Selected QIs: 23

**Outcomes:
Survival (2)**

**Quality of data
reporting to BCR
(1)**

**Diagnosis and
staging (12)**

**Treatment NSCLC
(4)**

**Treatment SCLC
(1)**

**Outcomes:
short term
mortality after
treatment (2)**

**End-of-life
(1)**

Outcomes: Survival (2)

Results

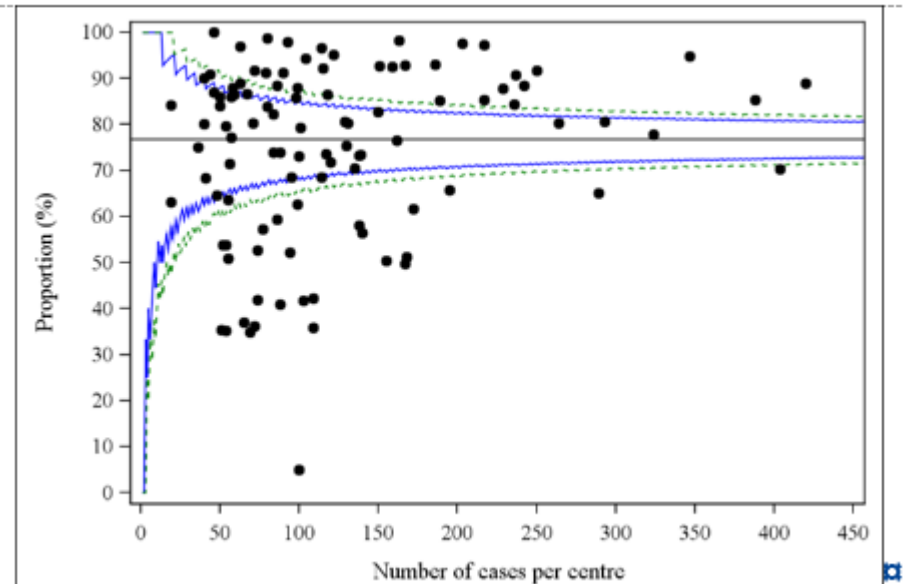
- **Poor prognosis:**
1-year observed survival 43.9%
(stage I 88.4%, stage IV 28.2%)
- **Good results for outcomes:**
 - 5-year relative survival higher than European mean (and similar to Central Europe)

Quality of data reporting to BCR (1)

Results

- Room for improvement:
 - Reporting to Belgian Cancer Registry suboptimal (e.g. 23% clinical stage missing)
 - Large variability

DR-1·(A)·%·cTNM·stage·reported·to·the·BCR·α



Results (1)

- **Excellent results for:**
 - **Histological confirmation of diagnosis**
 - **PET-CT before curative treatment**
- **Room for improvement:**
 - **Brain imaging before treatment cIII pts**
 - **Variability in time « diagnosis to treatment »**

Results (2)

- **No evaluation, but informative for centre:**
 - **EGFR: old data 2011, change in guidelines**
 - **Mediastinal staging: no target**
 - **MOC-COM: target +- 100%, but problem billing data**

**Treatment NSCLC
(4)**

**Treatment SCLC
(1)**

Results

- **Guideline concordant treatment:**
no target (similar or even higher than other countries), but informative for centres
- **Good results:**
appropriate use of adjuvant chemotherapy

**Outcomes:
short term
mortality after
treatment (2)**

Results

- **Good results for outcomes:**
 - **Post-operative mortality < 5%**
- **To be investigated further:**
 - **Short-term mortality after end radiotherapy (9%). Limited variability. Patient selection?**

Results

- **Chemotherapy near the end of life (« aggressiveness of treatment »):**
 - relatively low (10%) but higher than other types of cancer (5%)
 - In international comparison (6 countries, all cancers), Belgium highest rate chemo near the end-of-life (all cancer types)

Second research question: comorbidities based on pharma billing data

■ 4 main comorbidities studied:

■ Cardiovascular disease



■ Respiratory disease



■ Diabetes



■ Renal insufficiency



■ **But shortcomings: no specific diagnosis and no disease severity**

■ **Conclusion: when possible, use Charlson score based on RHM-MZG data**

Third research question: volume-outcome (surgery)

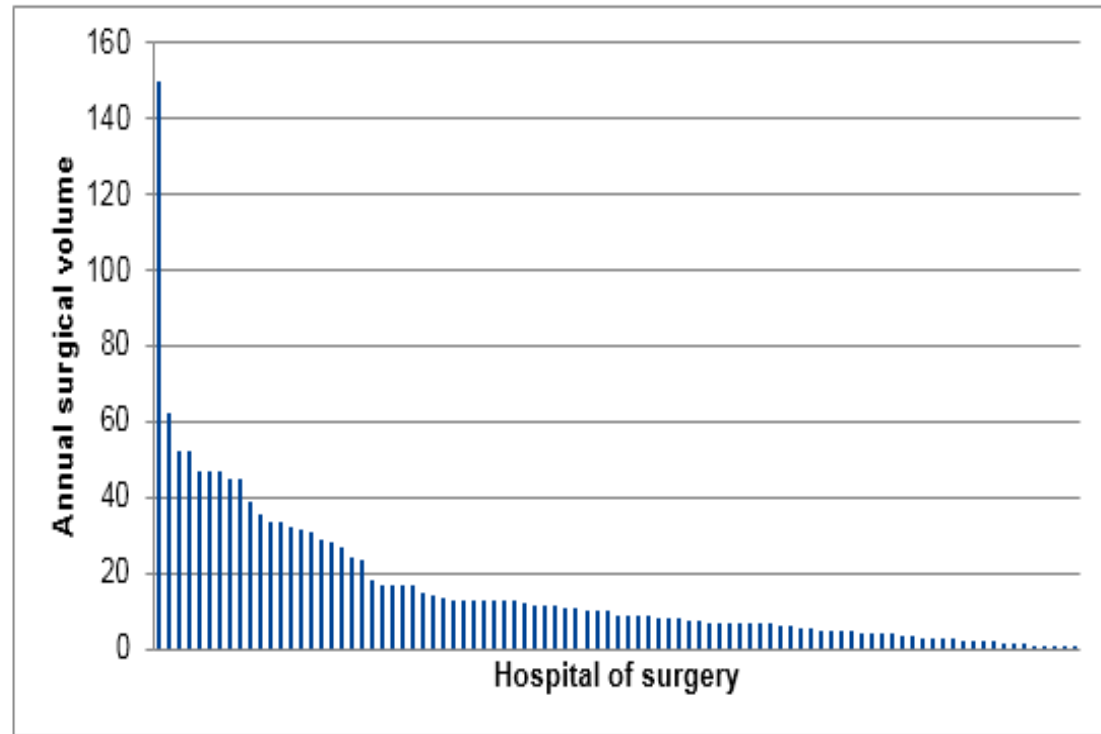
DISPERSION OF SURGICAL EXPERTISE

89 hospitals in analysis

50% of the hospitals are
very-low volume centres
(<10 patients operated /year)

9 are high-volume centres
(at least 40 patients operated
per year)

Figure 2 – Annual surgical volume for lung cancer patients* (2010-2011)



Volume-outcome (surgery):

- **Conclusions:**
 - Post-operative mortality: very low-volume centres have worse outcomes
 - 1-year survival: volume-outcome confirmed
 - 3-year survival: smaller impact of volume on survival
- **Limitations in analysis:**
 1. Complexity of surgery not taken into account
 2. Case-mix adjustment: only a selection of comorbidities (use of proxies)
 3. Some high-volume centres are a fusion
 - of low/medium-volume centres

Recommendations to:

the Ministers
of Health

- follow-up of the quality system
- centralise surgery (minimum 10/year)

the clinical
teams

- evaluate their results (feedback)
- improve reporting to BCR

the BCR

- further develop case-mix correction (link with RHM-MZG)
- explore collection of PROMs

the
pathological
laboratories

- provide pathological reports in synoptic format

Colophon

- **Author(s):** France Vrijens (KCE), Leen Verleye (KCE), Cindy De Gendt (Stichting Kankerregister), Viki Schillemans (Stichting Kankerregister), Jo Robays (KCE), Cécile Camberlin (KCE), Cécile Dubois (KCE), Sabine Stordeur (KCE), David Jegou (Fondation Registre du Cancer), Geert Silversmit (Stichting Kankerregister), Elizabeth Van Eycken (Stichting Kankerregister), Isabelle Wauters (UZ Leuven), Jan Van Meerbeeck (UZA)
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Colophon

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