Kwaliteit versus volume: wat heeft het PROCARE project ons geleerd?

28 Juni 2014

PROCARE

PROJECT ON CANCER OF THE RECTUM

Penninckx Freddy
namens PROCARE

Kwaliteit versus volume in de aanpak van rectumkanker

- PROCARE: doel en methode

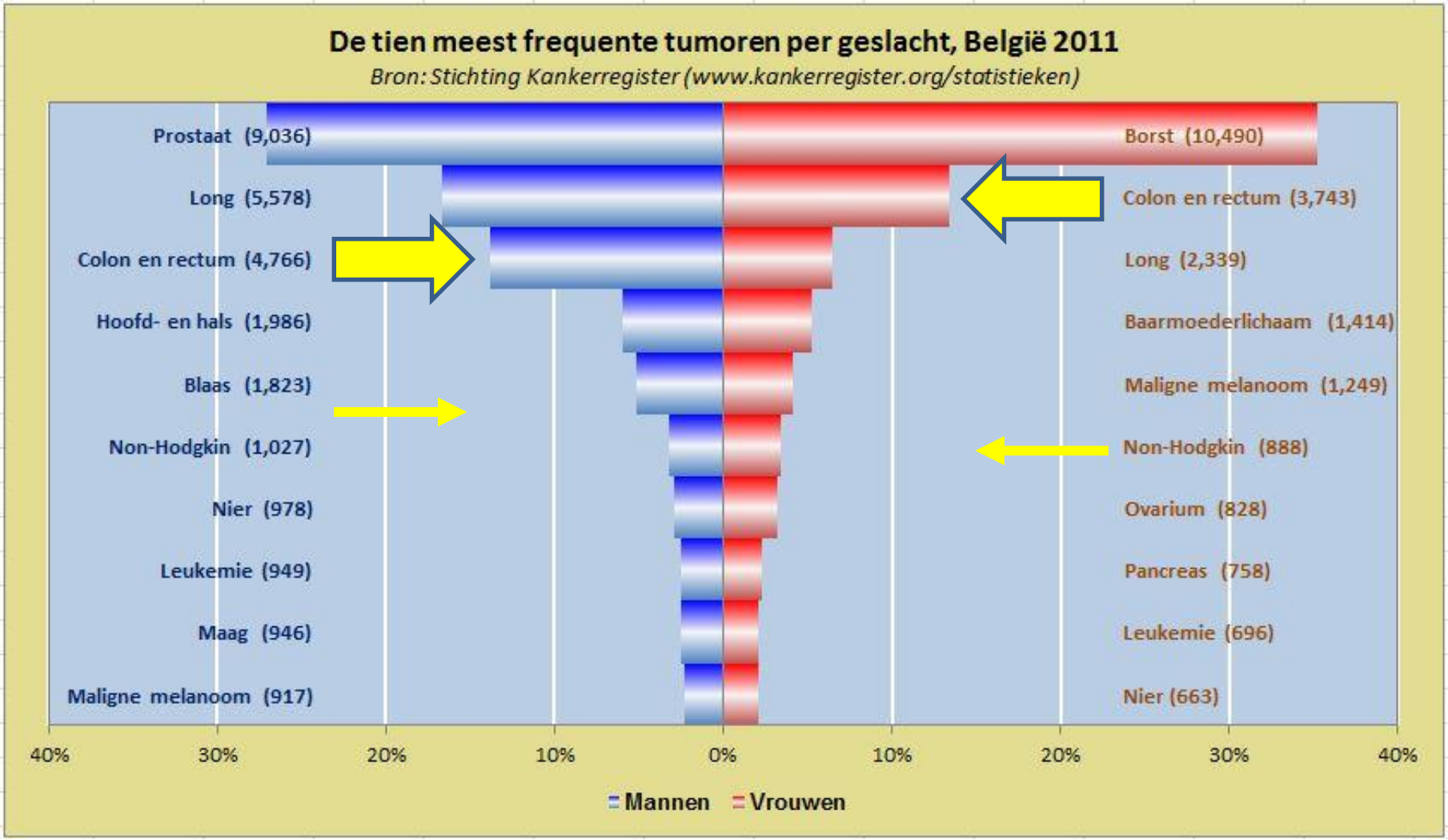
- Kwaliteit: variabiliteit en volume effect
- Effect size van volume

- ‘Kwaliteitssysteem’ belangrijker dan centralisatie

PROCARE
PROJECT ON CANCER OF THE RECTUM

Belgian Cancer Registry

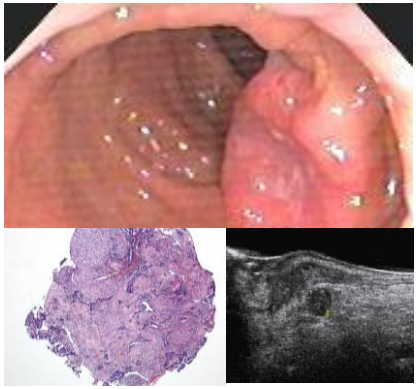
IMA-AIM



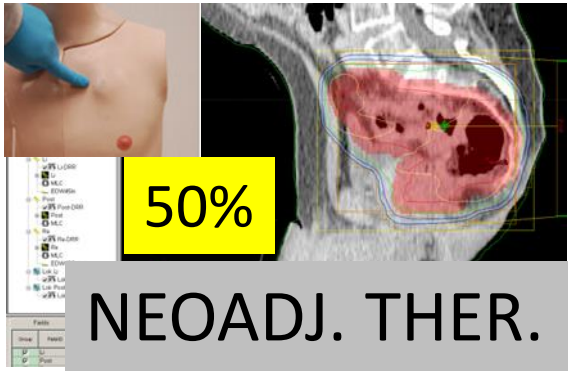
1507 + 886 = 2393 rectumkanker

6116 colonkanker (incl. rectosigmoidale junctie)

De multimodale aanpak van rectumkanker

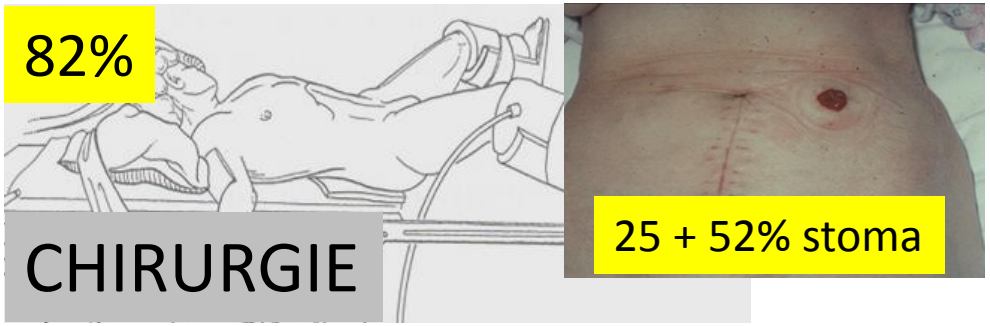


STADIERING



50%

NEOADJ. THER.



82%

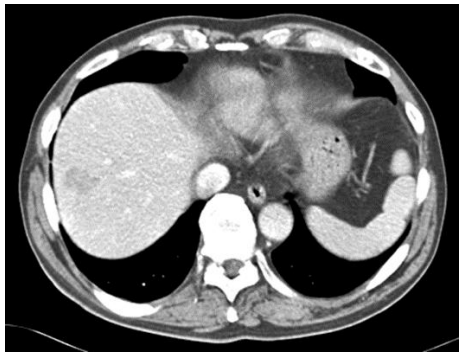
CHIRURGIE

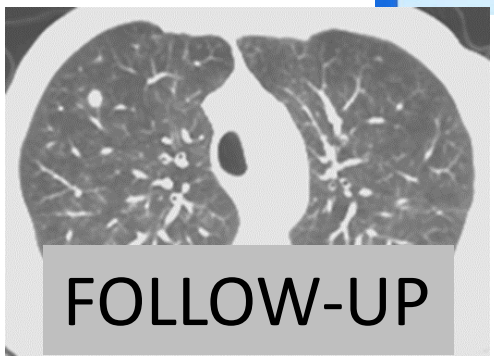
25 + 52% stoma

APO

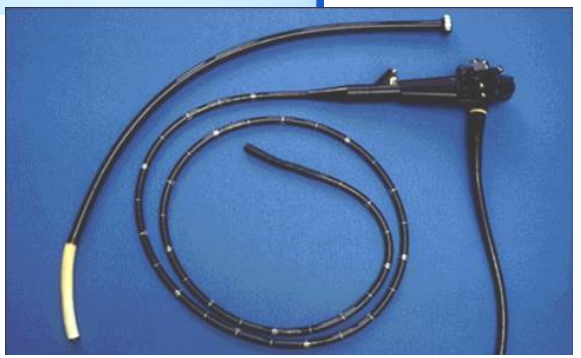
45%

ADJ. THER.





FOLLOW-UP



PROCARE
AIMS

2004 - 2005

2006 - 2014

reduce variability & improve outcome

for <u>all</u> aspects and stages of RC

- Multidisciplinary
- Profession-driven, all centers/teams
- Voluntary participation
- Educational (confidentiality)

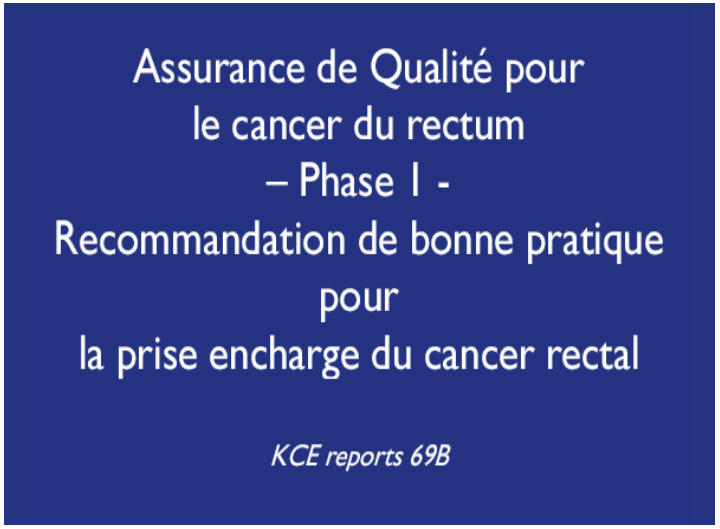
Belgian Cancer Registry

PROCARE
PROJECT ON CANCER OF THE RECTUM

PROCARE
METHODS

Guidelines
Implementation of guidelines
Quality of Care Indicators

Registration (151 items) for
Benchmarking and
Feedback

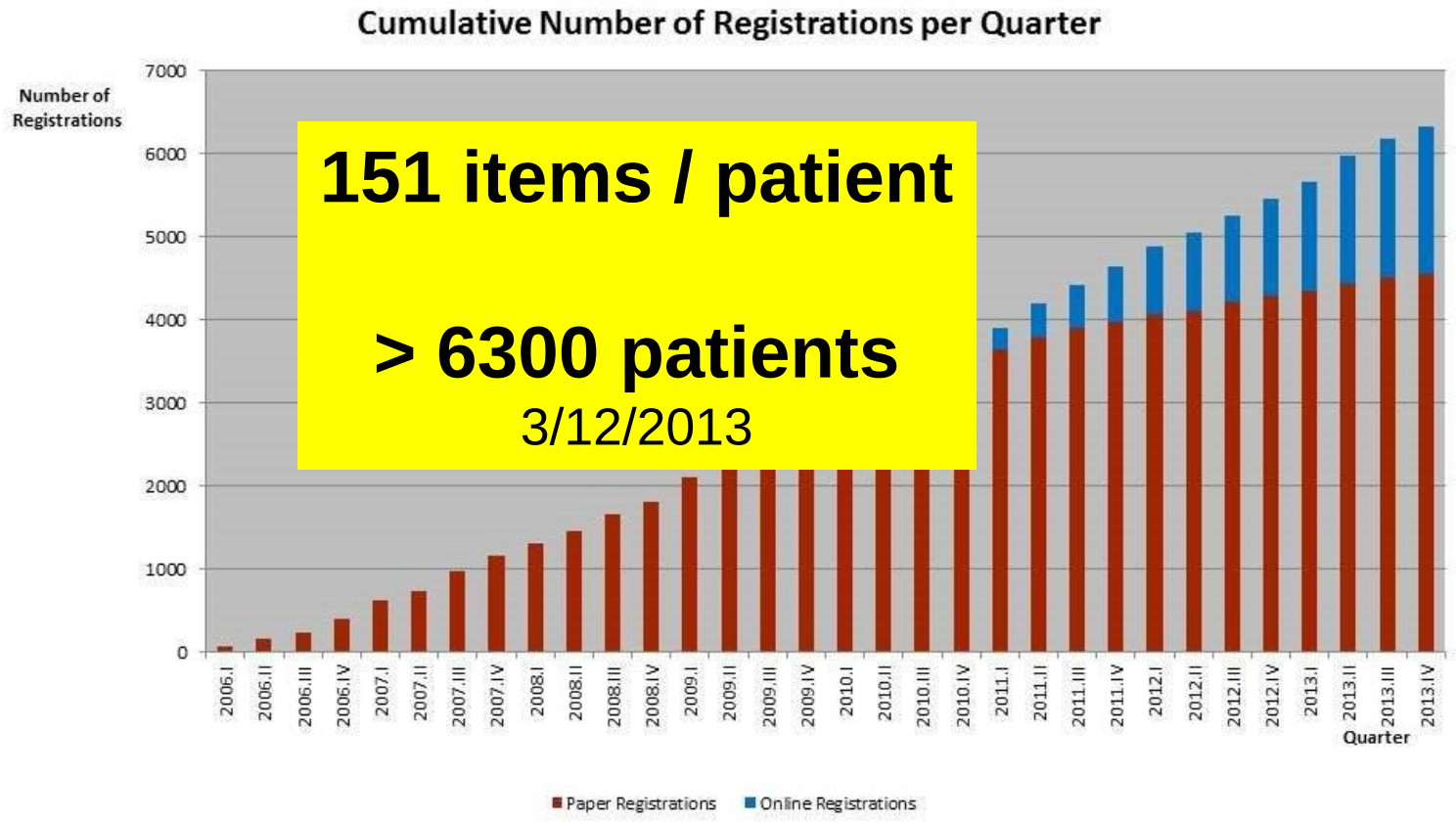


www.kankerregister.org
www.registreducancer.org

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

PROCARE
PROJECT ON CANCER OF THE RECTUM

Een grote inspanning op vrijwillige basis, maar …



151 items / patient

> 6300 patients

3/12/2013

PROCARE
PROJECT ON CANCER OF THE RECTUM

Registratie in PROCARE t.o.v. BKR/IMA (2006-2008)

- 37 % van alle rectumkankers (C-20)
- 43 % van ptn met radicale resectie

- Door onvolledige deelname
- Door onvolledige registratie

Eur J Cancer 2014; April 10 (participation in 2006-08)

PROCARE
PROJECT ON CANCER OF THE RECTUM

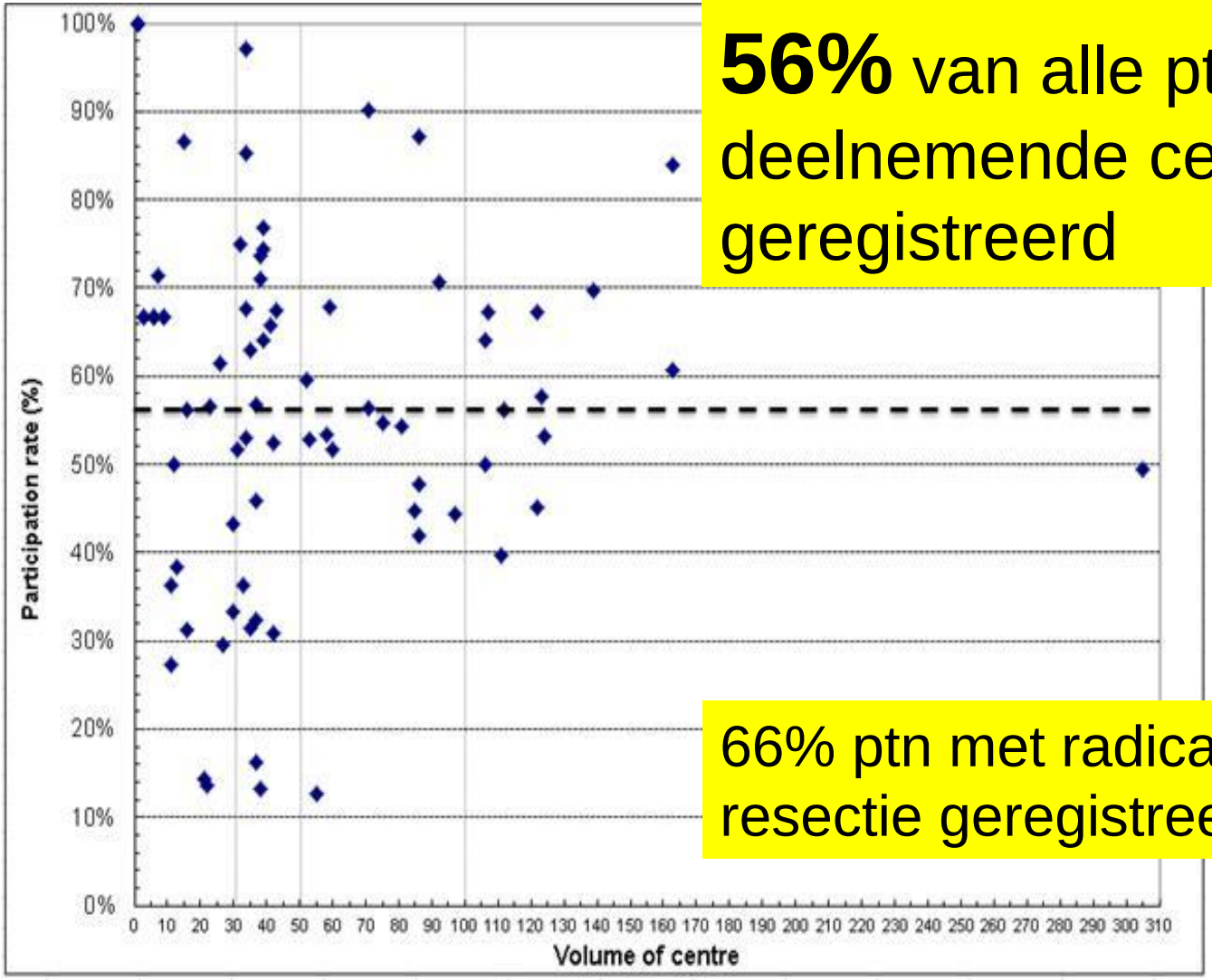
… onvolledige deelname aan PROCARE (2006-08)

78 (62-67) / 108 centra	Beds	Participation (%)
Type		
Univ. hospitals	15%	100
Gen. hosp. with univ. beds	**85%**	**65**
General hospitals		**71**
Region		
Flanders		75
Wallonia		**51**
Brussels Capital		93
Volume of centre		
≤ 30 (10/yr)		**50**
31 – 74		75
≥ 75 (25/yr)		89

Eur J Cancer 2014; April 10 (participation in 2006-08)

PROCARE
PROJECT ON CANCER OF THE RECTUM

… onvolledige registratie door deelnemende centra



56% van alle ptn uit deelnemende centra geregistreerd

66% ptn met radicale resectie geregistreerd

Eur J Cancer 2014; April 10 (participation in 2006-08)

PROCARE
PROJECT ON CANCER OF THE RECTUM

Registratie door deelnemende centra is gebiased

<75 yr	61
>75 yr	**47**
WHO 0	69
WHO 1-2	59
WHO >2	**38**
cStage I-II	62
cStage III	71
cStage IV	**41**
Neoadjuvant no	**52**
Neoadjuvant yes	77

Eur J Cancer 2014; April 10 (participation in 2006-08)

PROCARE
PROJECT ON CANCER OF THE RECTUM

Variabiliteit en volume effect

- Op zorgkwaliteitsindicatoren

  PROCARE

  - per domein
  - globale score
- Op bepaalde outcome parameters

  BKR/IMA en/vs. PROCARE

  - type radicale resectie (APE ratio)
  - 30 d postop mortaliteit
  - overleving

PROCARE
PROJECT ON CANCER OF THE RECTUM

Effect of hospital volume on 23 QCIs (PROCARE)

STAGING

cStage reported

distance to MRF in cStage II-III

staging accuracy

TIME TO FIRST TREATMENT

NEOADJUVANT TREATMENT

RT/RCT for cStage II-III reported

RT/RCT for cStage II-III

idem if < 75 yr

idem if > 75 yr

SURGERY

good TME quality

negative resection margins (R0)

APE rate (adjusted)

major complications after SSO or APE

30-day mortality (adjusted)

PATHOLOGY

TME quality reported

pCRM reported

N nodes if no/short RT

N nodes after RCT

ADJUVANT CHEMOTHERAPY

for pStage III if < 75 yrs: reported

for pStage III if < 75 yrs: administered

FOLLOW-UP

data on LR/DM reported

LOCAL RECURRENCE RATE (adjusted)

OVERALL RECURRENCE RATE (adjusted)

OVERALL SURVIVAL (adjusted)

Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

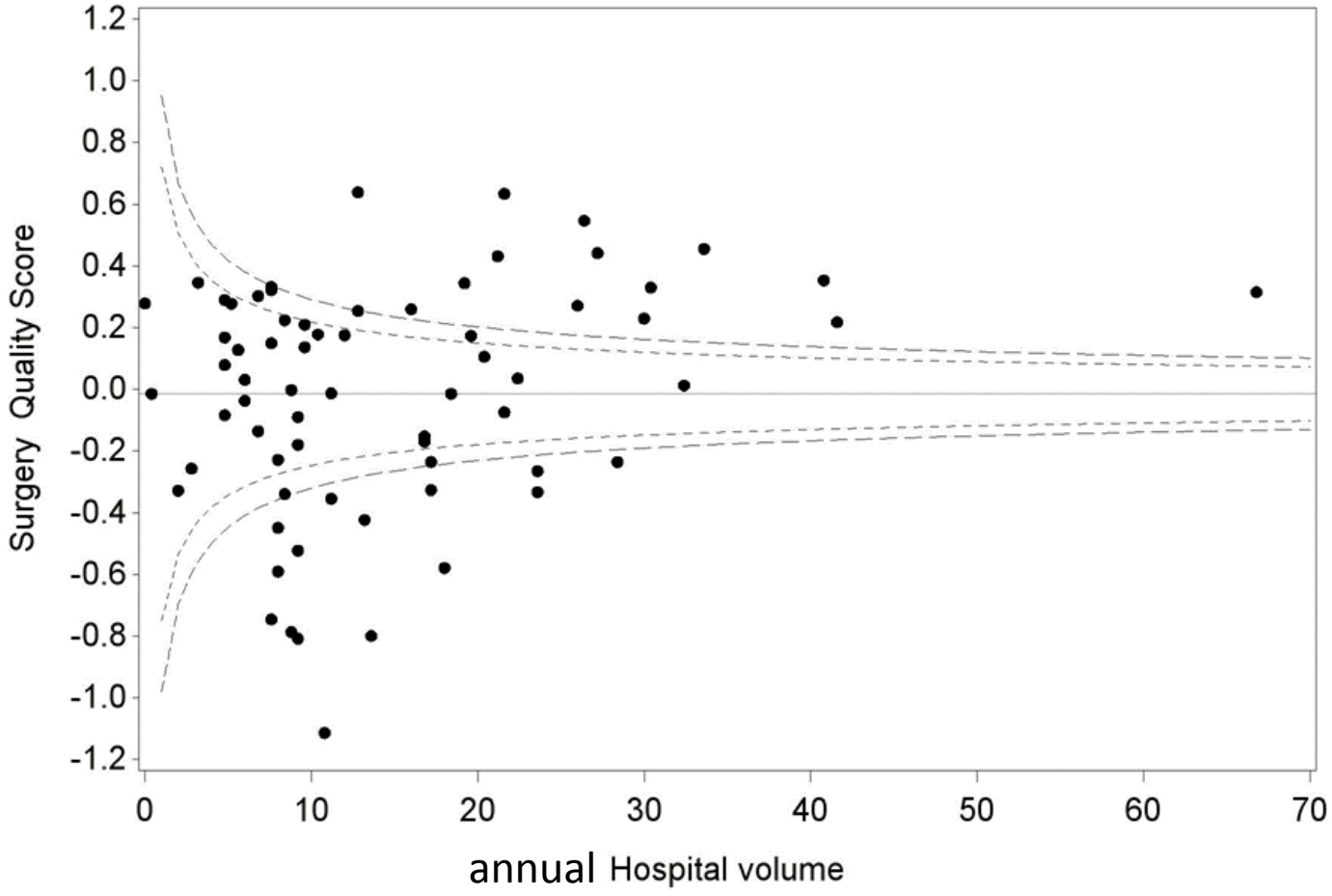
Pearson correlations (p-value) between quality scores and hospital volume

STAGING cCRM, staging accuracy	0.123 (0.319)
NEOADJUVANT R(C)T for cStage II-III	0.119 (0.339)
SURGERY **good TME quality, R0 resection, adjusted APE rate**	**0.265 (0.029)**
PATHOLOGY N nodes after RCT	0.139 (0.268)
ADJUVANT CHEMO for pStage III	0.005 (0.975)
GLOBAL SCORE	**0.237 (0.052)**

Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

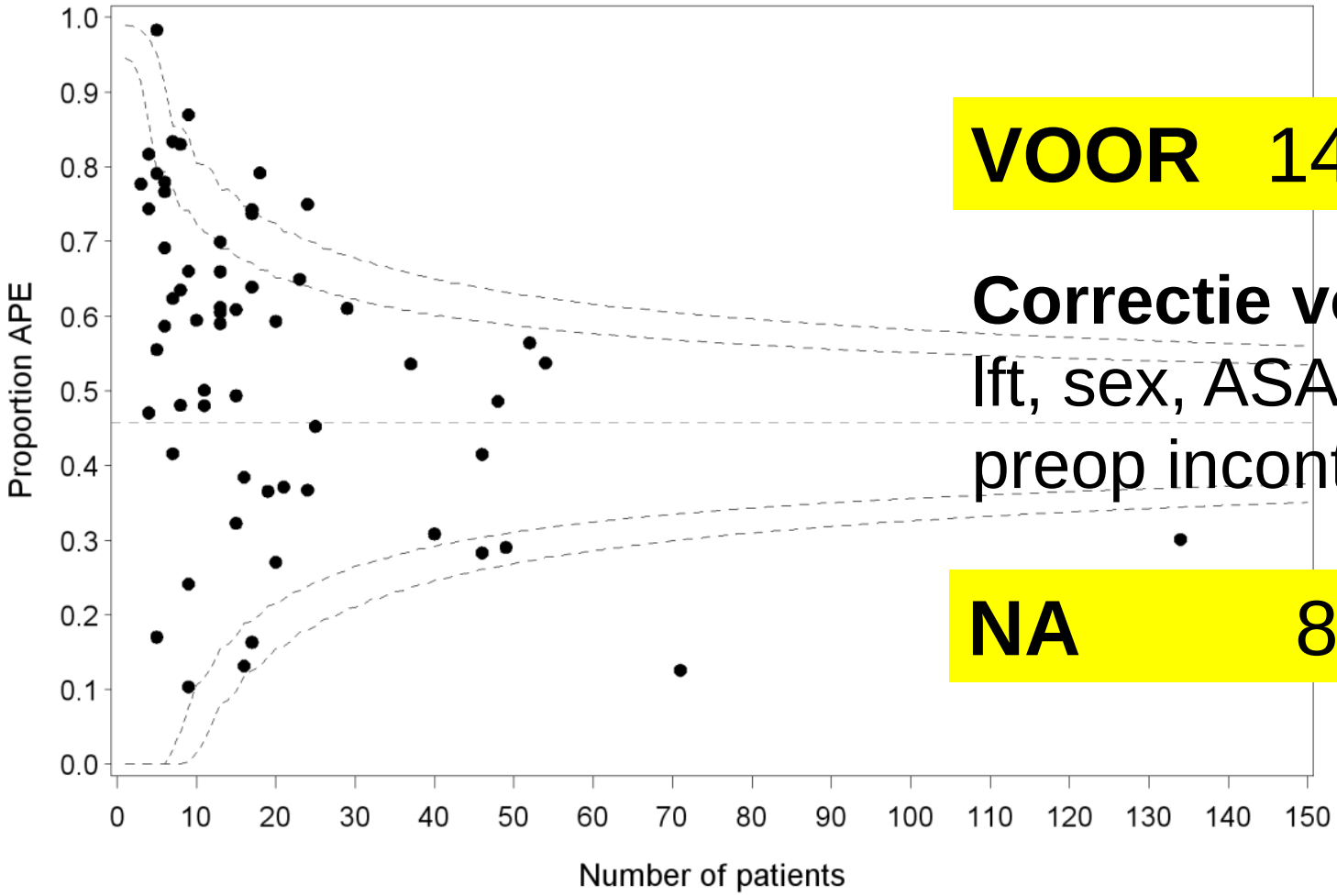
Funnel plot of surgery quality score and hospital volume



Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

Variabiliteit in PROCARE
Percentage APE bij rectumkanker op 0-5 cm



VOOR 14

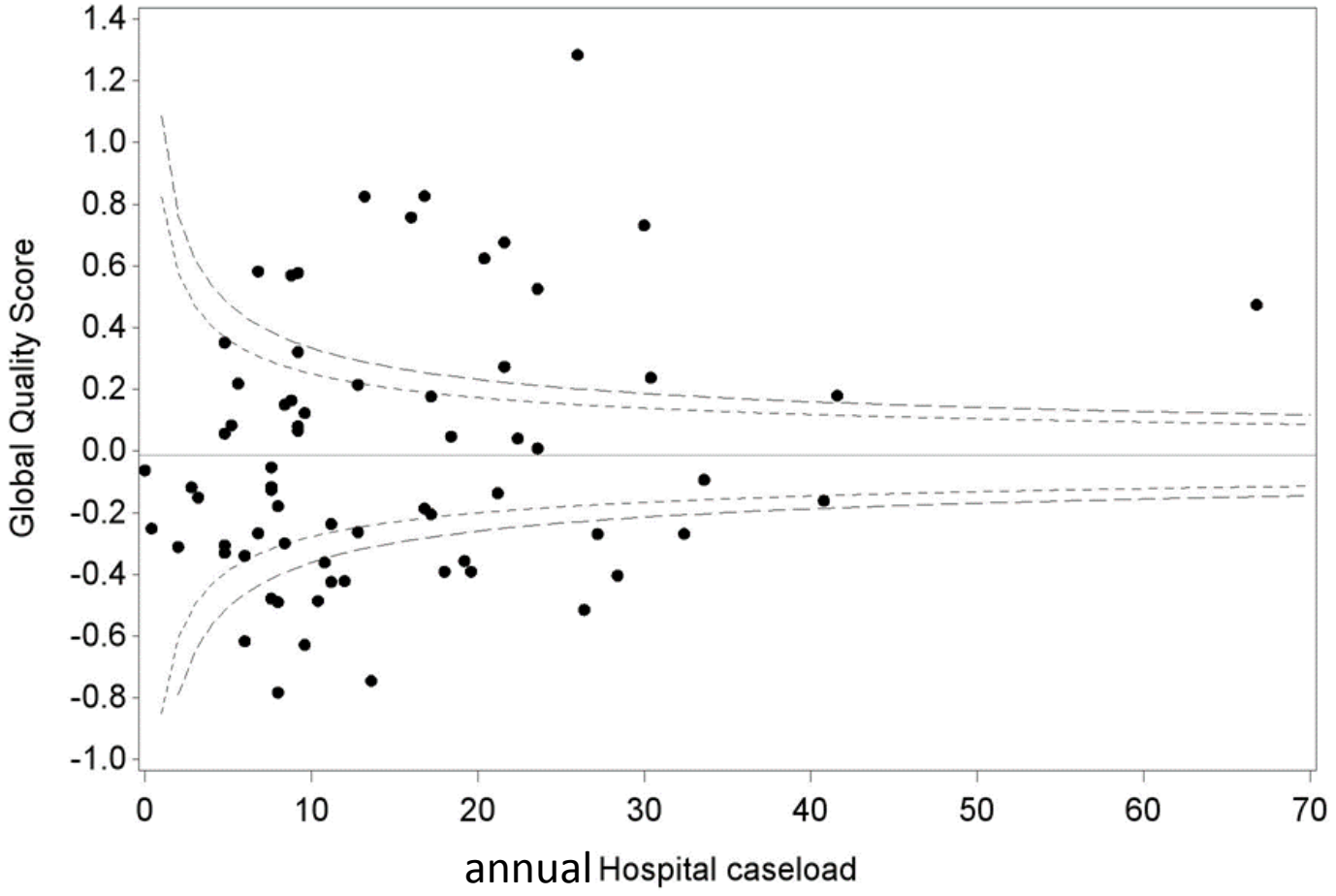
Correctie voor
lft, sex, ASA, cT4,
preop incontinentie

NA 8 + 2

Gut 2013; 62: 1005-11

PROCARE
PROJECT ON CANCER OF THE RECTUM

Funnel plot of global quality score and hospital volume



Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

Volume effect size on SSO rate in PROCARE and in BCR/IMA

	PROCARE N = 1263	BCR/IMA N = 5869
SSO rate (unadjusted)	**OR 1.020/case (1.008-1.032)**	OR 1.007/case (0.997-1.017)
RR/10 added cases (gender, age, ASA3, cT4, inco. adjusted)	3% increased chance to avoid an APE / 10 cases more per yr	

Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

Volume effect size on 30-day mortality

	PROCARE N = 1263	BCR/IMA N = 5869
30 d mortality	1.3 %	**2.4 % [p=0.001]**
30 d postop mortality (age adjusted)	OR 1.007/case (0.986-1.026)	**OR 0.987/case (0.977-0.997)**
RR/10 added cases (age adjusted)		**14% less risk / 10 cases 14% of 2.4 = 0.3 reduction**

Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

Volume effects

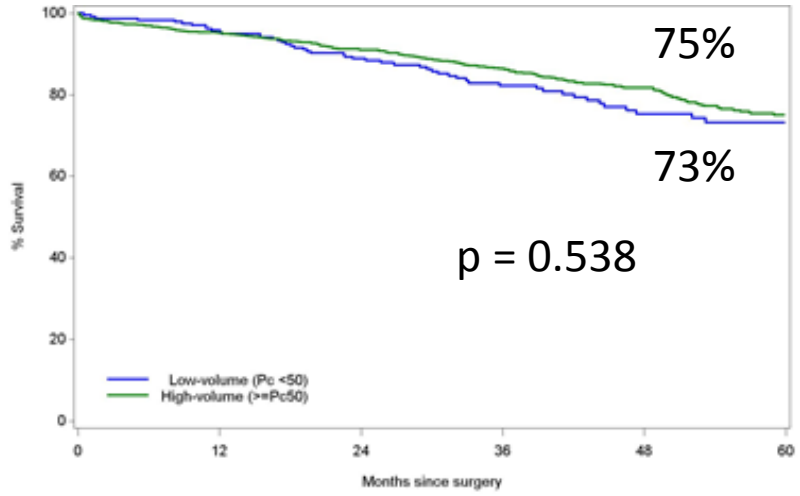
	PROCARE N = 1263	BCR/IMA N = 5869
SSO rate (unadjusted)	**OR 1.020/case (1.008-1.032)**	OR 1.007/case (0.997-1.017)
30 d postop mort. (age adjusted)	OR 1.007/case (0.986-1.026)	**OR 0.987/case (0.977-0.997)**
OS (age, sex, pStage adjusted)	HR 0.996/case (0.987-1.005)	**HR 0.994/case (0.990-0.997)**

Br J Surg submitted 2014

PROCARE
PROJECT ON CANCER OF THE RECTUM

OS in pStage I-III rectal cancer treated in hospitals with BCR/IMA-based **volume < versus > the median**

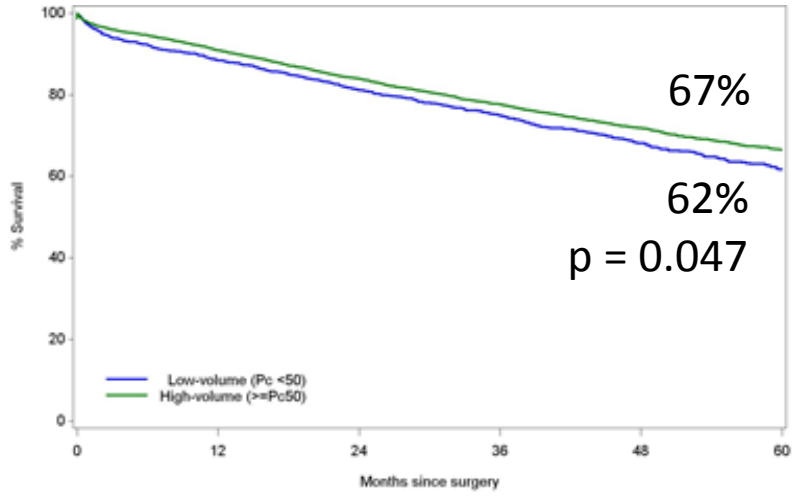
PROCARE



Number at risk						
Low-volume	240	230	187	131	83	46
High-volume	1023	972	826	643	434	226

Median volume = 11/yr
Volume <Pc50 = 19% pts

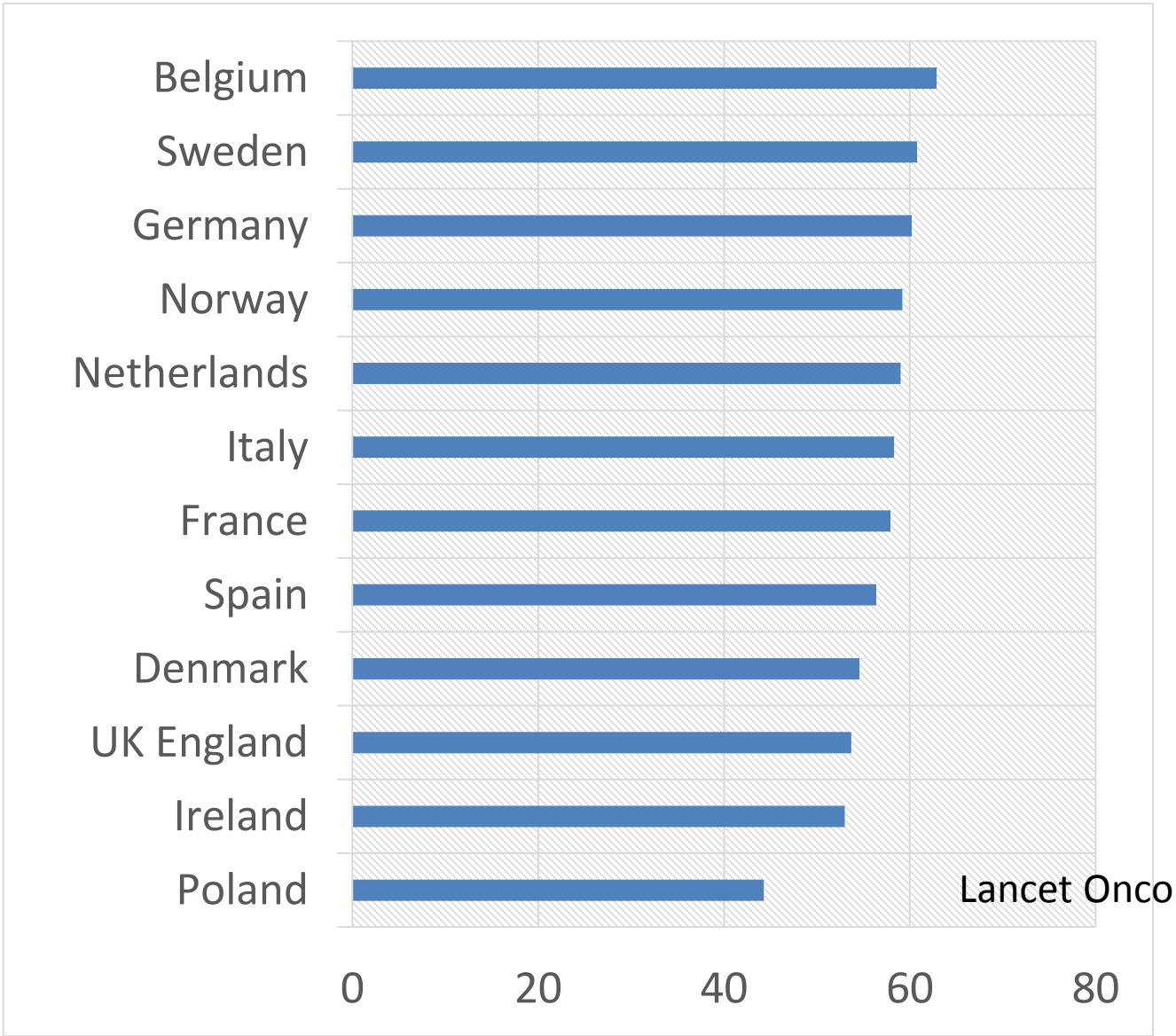
BCR/IMA



Number at risk						
Low-volume	1479	1308	1159	844	542	307
High-volume	4390	3990	3546	2621	1781	1042

Median volume = 10/yr
Volume <Pc50 = 25% pts

5-yr age-standardized Relative Survival for rectal cancer 2000-2007



Lancet Oncology 2014, 15: 23-34

Besluiten

- België scoort zeer goed
- Volume effect ja, maar beperkt (welke cut-off?) en
- Centralisatie is geen garantie voor zorgkwaliteit
- Audit van zorgkwaliteit is essentieel
- Kanker-specifieke registratie moet verplicht worden
- Benchmarking en feedback naar teams
- Zorgkwaliteit bewaking door peers en de overheid

PROCARE

PROJECT ON CANCER OF THE RECTUM

A minimum compulsory cancer-specific data entry set

Annexe 93

FORMULAIRE D'ENREGISTREMENT REGISTRE DU CANCER

Patient : ..... Date de naissance : .....
N° national/ N° organisme assureur : .. .. Sexe: .....

1. DATE D'INCIDENCE (JJ-MM-AAAA).....
ordre de priorité décroissante: 1=première confirmation histo/cyto,2= évaluation clinique/hospitalisation, 3= décès

2. MOYEN DE DIAGNOSTIC (entourer, plusieurs items sont permis):
1 = autopsie (pas d'application pour la CMO)
2 = histologie tumeur primitive
3 = histologie métastase
4 = cytologie / hématologie
5 = examen technique (ex. RX,endoscopie,...)
6 = examen clinique
7 = marqueur tumoral (ex. PSA, HCG, AFP, Ig, ...)
9 = inconnu

3. SCORE OMS DU DIAGNOSTIC (entourer)
0 = Asymptomatique, activité normale
1 = Symptomatique, mais ambulant
2 = Symptomatique, alité <50% de la journée
3 = Symptomatique, alité >50% de la journée
4 = Complètement dépendant pour les soins, grabataire

4. LOCALISATION DE LA TUMEUR PRIMITIVE (remplir) : .....

5. LATERALITE uniquement pour organes pairs (entourer) : 1. gauche 2. droite 3. inconnu

6. DIAGNOSTIC HISTOLOGIQUE (remplir): .....

7. DEGRE DE DIFFERENCIATION (entourer): 1 = bien 2 = moyen 3 = peu 4 = indiff/anapl 9 = inconnu

8. TNM CLINIQUE (UICC 2002): cT..... cN..... cM.....

9. TNM PATHOLOGIQUE (UICC 2002): pT..... pN..... pM.....

10. AUTRES TYPES DE STADE CLINIQUE (remplir): .....
1. Ann Arbor , 3. Figo, 4. Salmon Dury, 5. Clark , 6. Breslow, autre
Stade (remplir): .....

11. DATE DEBUT DU PREMIER TRAITEMENT (JJ-MM-AAAA): .....

12. TRAITEMENTS DEJA RECUS:
remplir chronologiquement à partir de la date du premier traitement

10: chirurgie
20: radiothérapie
25: chimioradiothérapie concomitante
40: chimiothérapie
15: greffe moelle osseuse
30: isotopes
50: hormonothérapie
60: immunothérapie
90: pas de thérapie
95: refus thérapie
99: inconnu

13. PLAN DE TRAITEMENT ULTERIEUR (intention)
remplir les codes chronologiquement, voir point 12 - jusqu'à max. 1 an après le début du traitement

14. SYMPTOMATIQUE / PALLIATIF (entourer): OUI NON

15. NOUVEAU DIAGNOSTIC (1) OU FOLLOW-UP (2) : (entourer) 1 /2 .....

COORDINATEUR

Dr : .....

Institution : .....

BCR + IMA

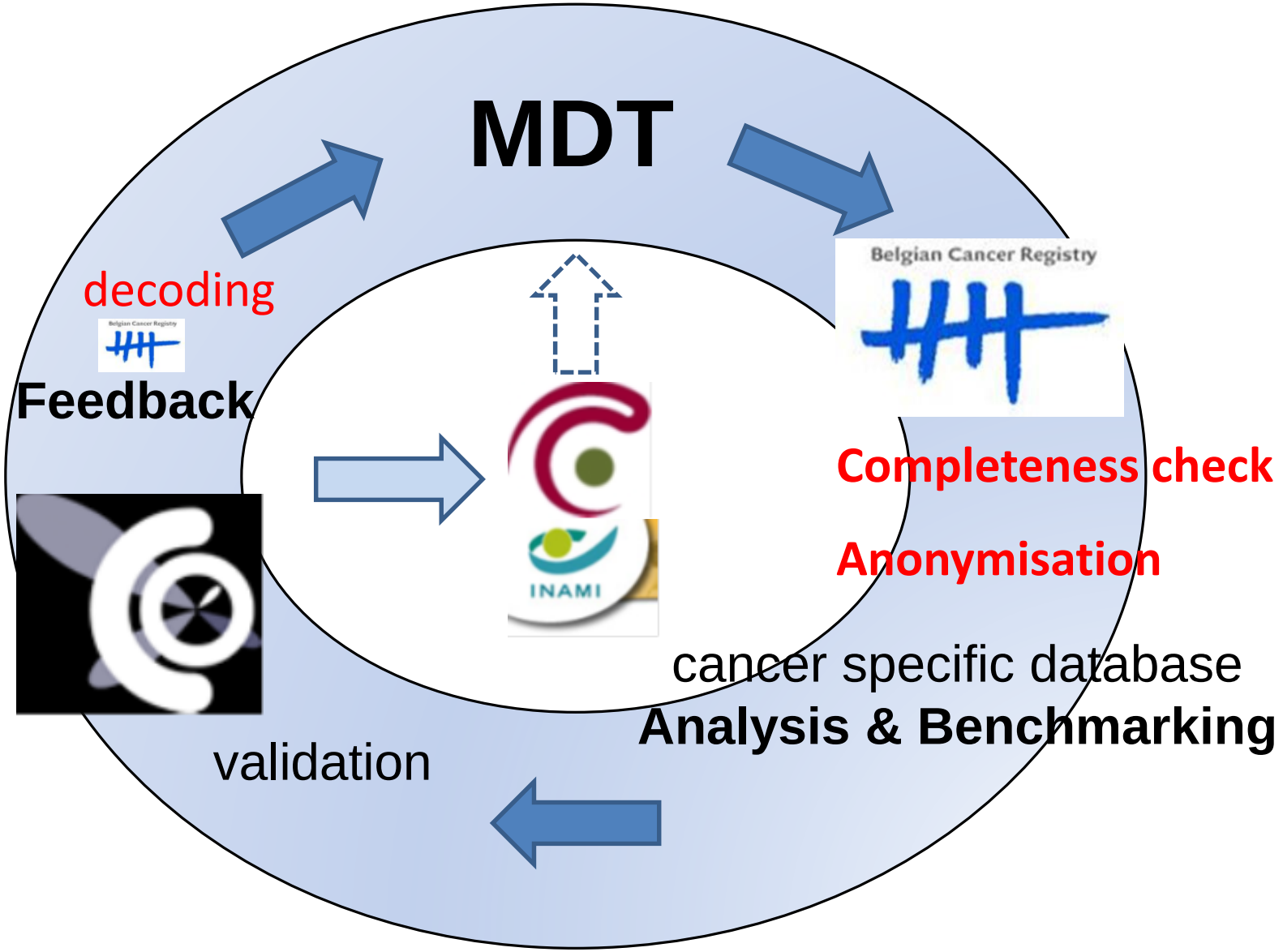
+ 29 additional items

8 pre-treatment items
8 (post)operative items
6 pathology items
7 radio(chemo)ther. items

Belgian Cancer Registry

PROCARE
PROJECT ON CANCER OF THE RECTUM

From project to structure
Proposed 'audit loop'



How PROCARE became possible

- Belgian Foundation against Cancer (2006, 2013)
- **RIZIV/INAMI (2007-2012-2014)**
- KCE (2007, 2008, 2010)

- Steering Group (all societies)
- **Participating professionals**
- **Belgian Cancer Registry**

RBSSurgery (BSCRS), BSSO, BGES
BSRadiotherapy – Oncology
BSPathology (Dig Path Club)
BSMOncology, BGDO
RBSRadiology
VVGE
SRBGE
BSGIEndoscopy
BPSA
FBCR