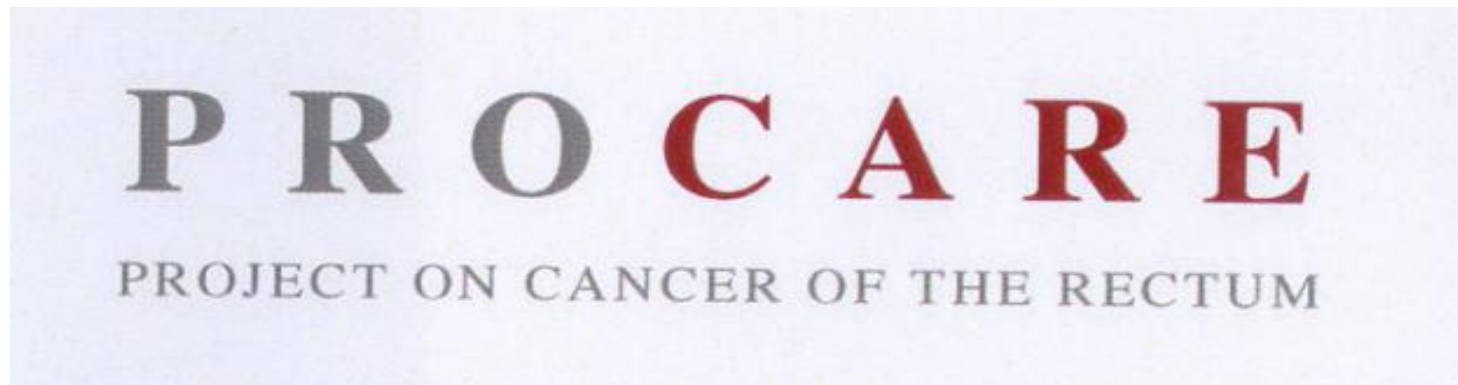


Quality assurance in PROCARE Surgery for rectal cancer



www.kankerregister.org

Why to measure ?

to measure is to know

if you cannot measure it, you cannot improve it

when you can measure what you are speaking about, and express it in numbers, **you know something about it...** It may be the beginning of knowledge, but you have scarcely, in your thoughts, advanced it to the stage of science

Sir William Thomson, Lord Kelvin

What to measure and to know ?

1. performance of QCIs to document variability between centres
2. identification of outcome/process related aspects with room for improvement
i.e. compare management of RC in less performing centres with better centres

everyone can learn at least something from everyone

QCI related to surgery

OUTCOME	PROCESS
R0 resections	APER/Hartmann rate
Intra-op rectal perforation	
Major morbidity	
Major leak after SSO	
Postop (or 30 d) mortality	
Stoma > 1 yr after SSO	
Distal margin +	TME quality
(y)pCRM +	Distal tumour-free margin

Quality assurance: who, how and why ?

1. administrators, managers ...

administrative data for
no risk adjustment

performance audit
stigmatisation, sanctioning

2. professionals ...

adm. + clin. data for
risk adjustment

performance audit +
improvement project
QA + educational + re-act

Quality assurance: how to measure ?

1. Data entry set

administrative data

numerator/denominator for 47 QCIs

risk (confounding) factors for adjustment per QCI

outcome and process related aspects

2. Database

paper forms

online

Number of data and time per item for collection and registration

	MINIMUM	MAXIMUM	TIME (sec)
Administrative	8	19	17
Diagnosis & staging	32	66	19
Neoadjuvant RT	18	29	40
Neoadjuvant CT	11	14	92
Surgery	43	79	21
Pathology	29	34	14
Adjuvant CT	11	14	92
Palliative CT	8	21	92
Follow-up	17	42	27
GLOBAL	177	318	33

Minimum/maximum time for collection and registration per clinical setting

	MINIMUM	MAXIMUM
Early RC	0:34:13	1:01:52
cStage II-III short RT	1:03:05	1:42:40
cStage II-III long RCT	1:30:27	2:21:03
Metastatic RC palliative	0:24:40	0:58:29
Follow-up	0:07:39	0:18:54

How to reduce the burden of registration?

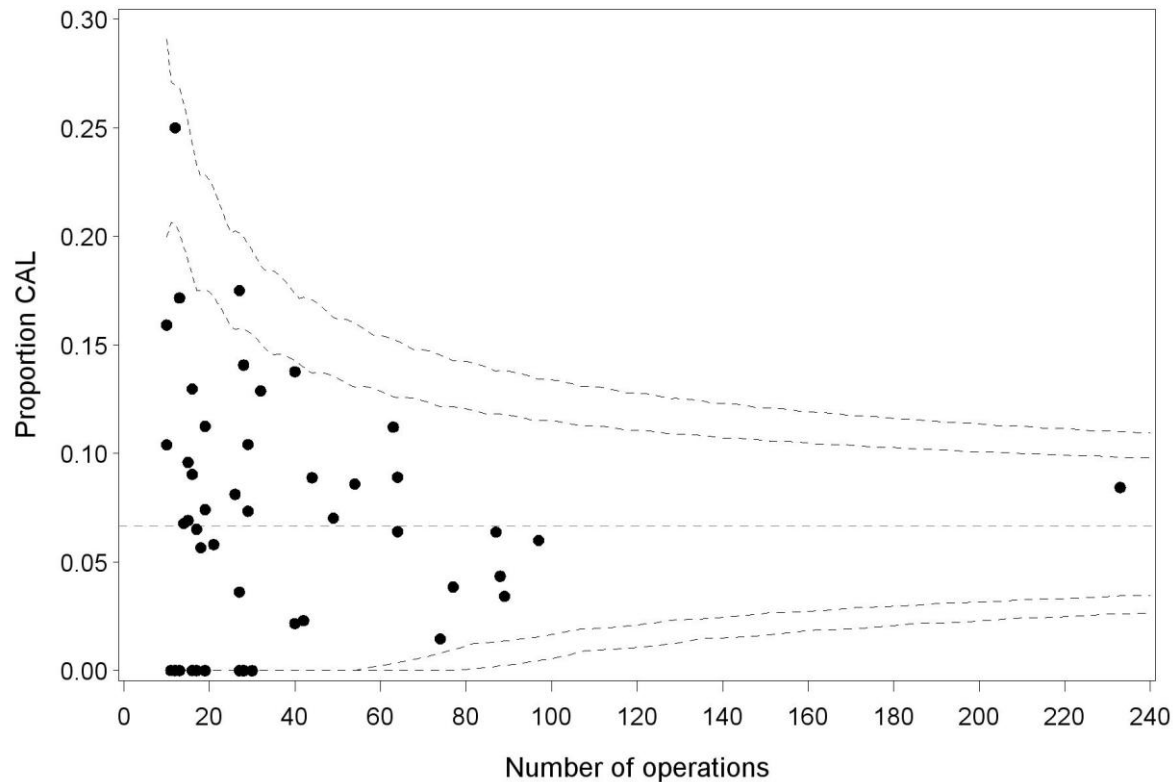
- **Structured reports** (staging, surg, path, RT, chemo)
- Linkage with administrative databases
- **Focus on 43 relevant QCI**s: 50% reduction of data
- **Use aggregate scores (11 QCI**s): 71% reduction of data
 - no info on**: LRR, DFS, DSS, use of CT/MRI/TRUS and their accuracy, nature/toxicity of (neo)adjuvant chemo, interruption/toxicity of RT, interval RT – surg., postop. mort., DS at 1 yr after SSO, distal tumor-free margin, TRG after RCT, ...

Leak-related morbidity and mortality

	NO LEAK	LEAK
N of patients	1694	121
REOPERATION		87%
LENGTH OF STAY	14.7 d	32.4 d
MORTALITY (in hos.)	1.1%	4.8%

Risk-adjusted early clinical leaks grade B and C after SSO around the overall rate of 6.7 %

Adjusted for gender, age (>60 yr), ASA 3 or more, BMI > 25



Colorectal Dis 2011, submitted

Early leaks after SSO

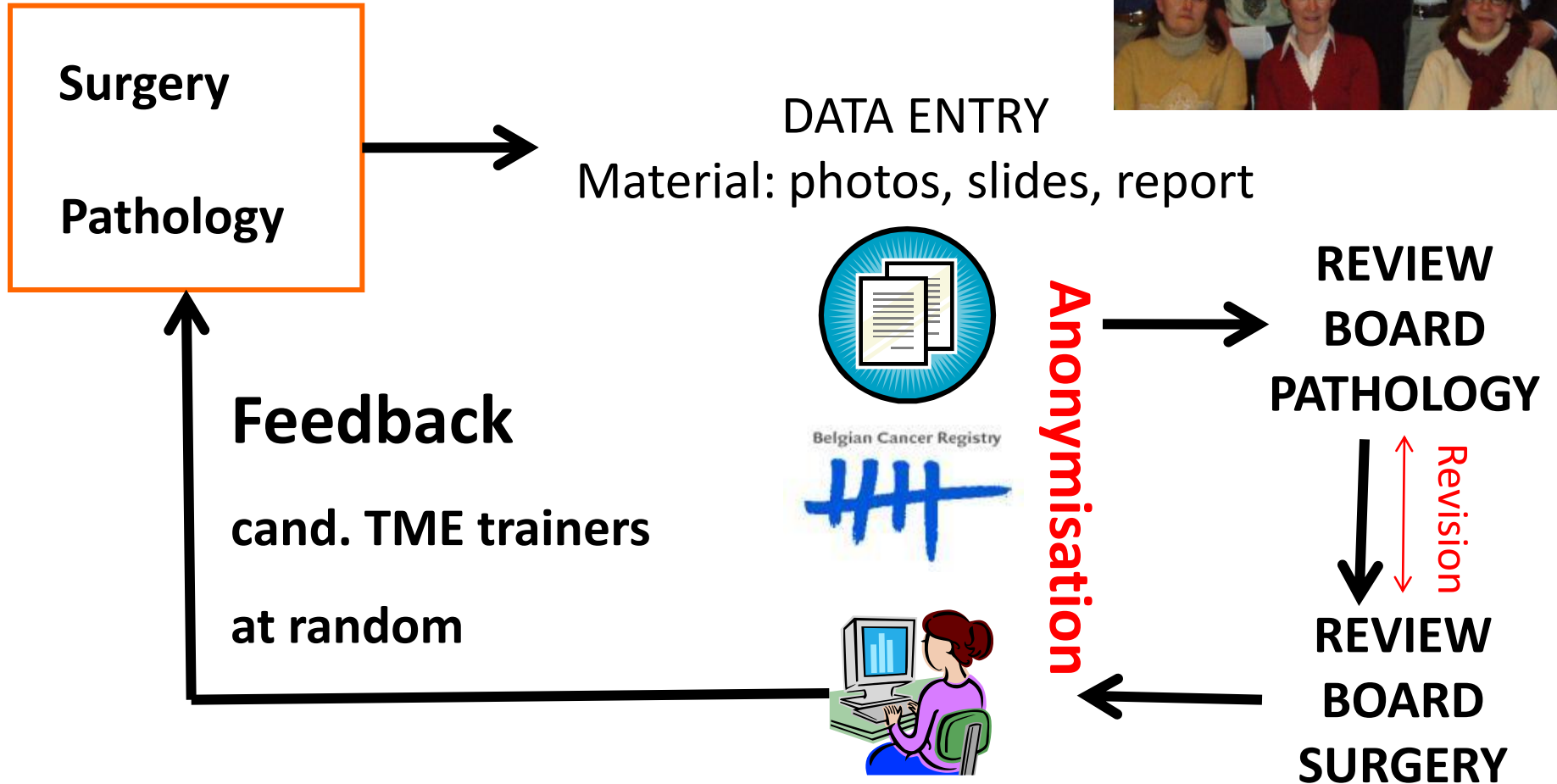
Surgical information on how to adjust practice

	P < 50 centres	P > 75 centres (12 centres)
Primary defunct. stoma	74%	45%
Mobilisation splenic flexure	90%	80%

Conclusion Steering Group on registration

- the context = a quality improvement project
- detailed clinical data from all centres are required (can be reconsidered in the future)
- a specific database remains of crucial value
- data collection and registration cannot be based on benevolence but should be compensated for

PROCARE TME Project



TME quality

	Database	Peer reviewed*
N of TMEs	1575	
TME quality reported	1076 (68%)	266
Incomplete TME	109 (10%)	86 (32%)

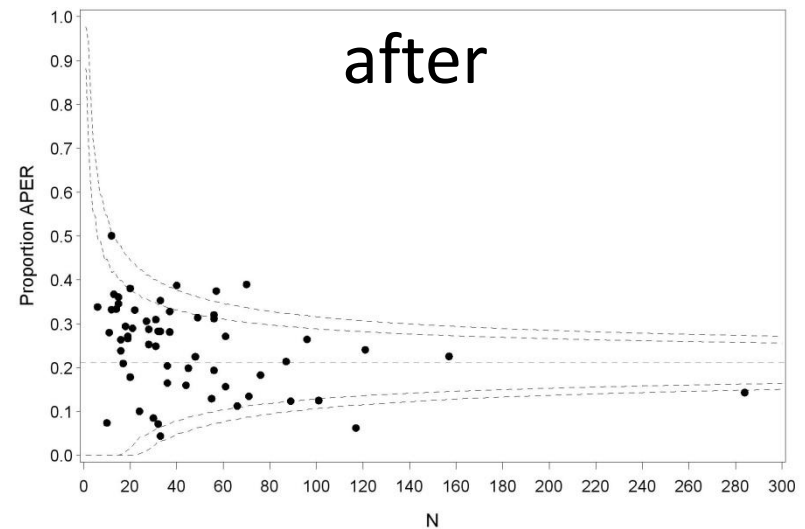
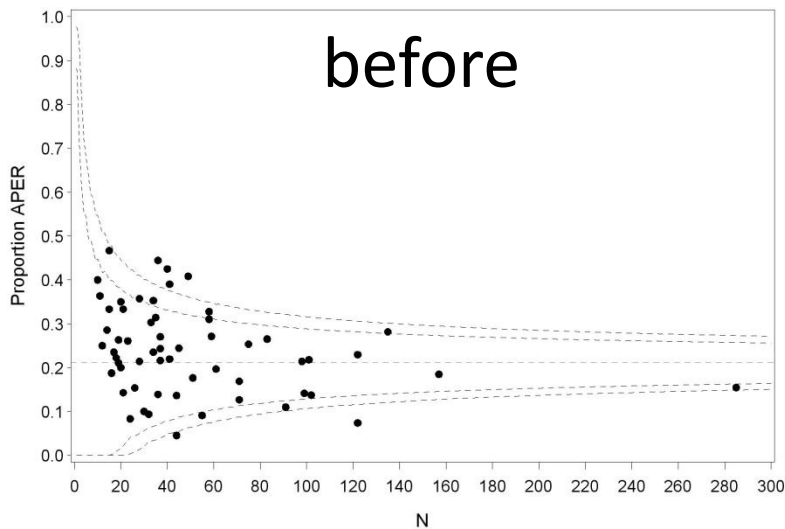
- Independent 'predictors' of incomplete TME
- pathologic BMI
 - radiochemotherapy without downstaging
 - lap and converted lap resection

* Ann Surg 2010; 252: 982-8

Effect of risk adjustment on APER rate for rectal cancer at any level

Overall APER rate = 21.1%

Adjustment for age, gender, ASA 3 or more, tumour level per third, cT4, preop incontinence



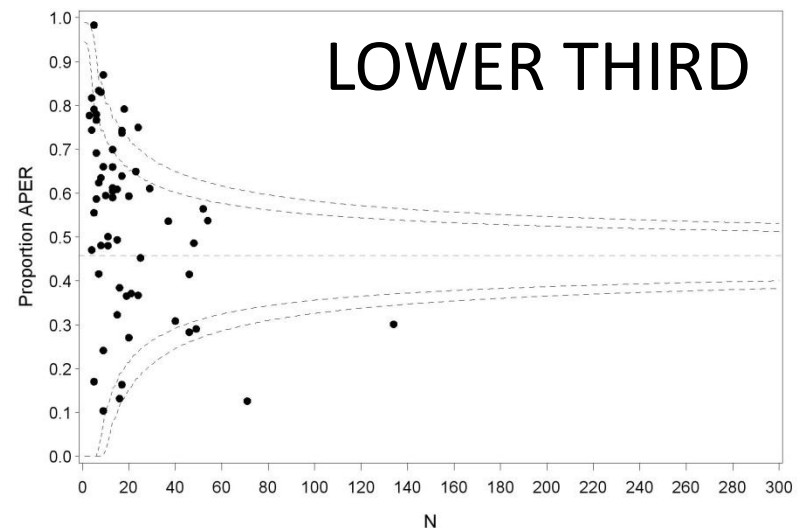
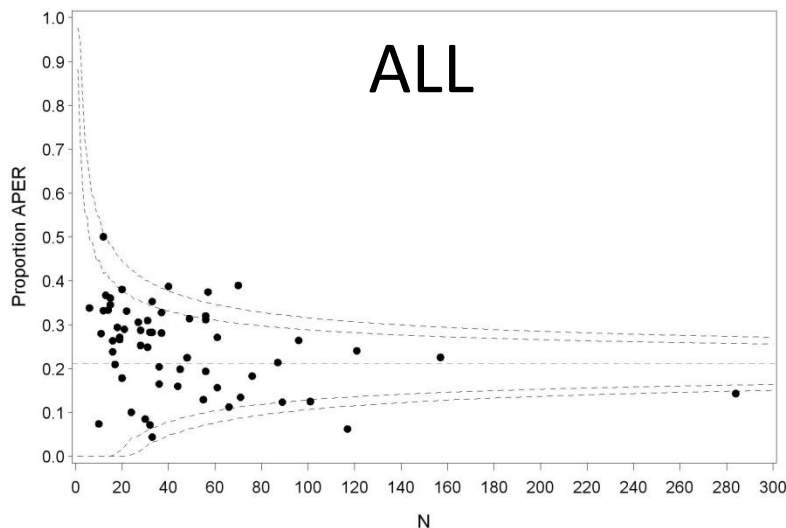
8 centres > predicted 95% limit

6 centres > predicted 95% limit

3 / 8 + 3 others

Risk adjusted APER rate for rectal cancer in lower third

Overall APER rate = 21.1% vs. lower third APER rate = **45.8%**
Adjustment for age, gender, ASA 3 or more,
(tumour level), cT4, preop incontinence



6 centres > predicted 95% limit

10 centres > predicted 95% limit

6/6 + 4 others

APER, Hartmann and SSO per rectal third

	APER	Hartmann	SSO
Upper	1%	17%	22%
Mid	7%	52%	49%
Lower	92%	31%	29%

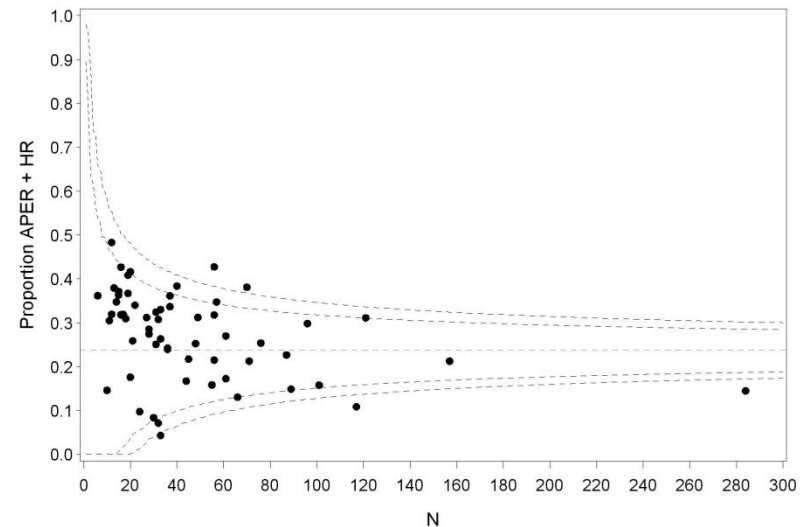
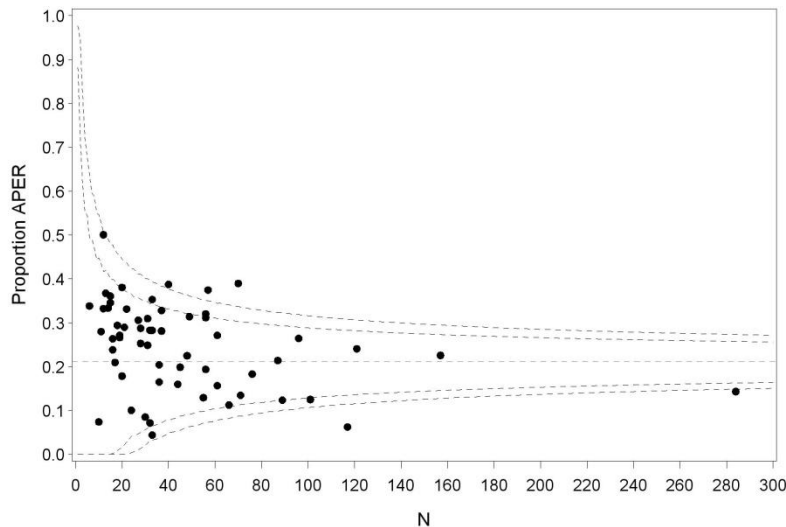
65% Hartmann procedures in pts > 75 yrs

52% Hartmann procedures in pts with ASA 3 or more

31% Hartmann procedures in pts with preop incontin.

Risk adjusted APER vs. APER + Hartmann rate for rectal cancer at any level

Overall APER rate = **21.1%** vs. overall APER + HR rate = **23.7%**
Adjustment for age, gender, ASA 3 or more, tumour level, cT4, preop incontinence



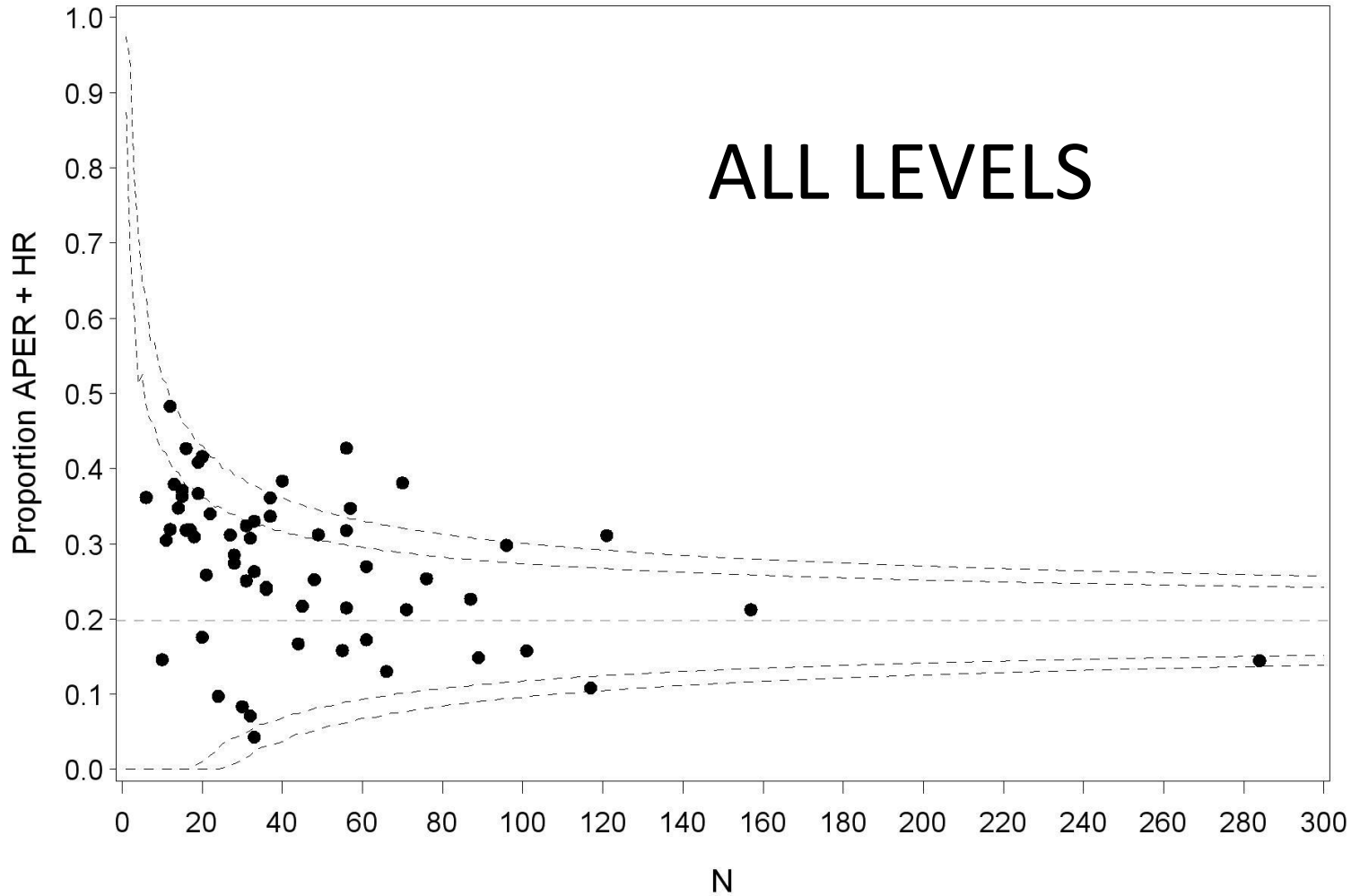
6 centres > predicted 95% limit

6 centres > predicted 95% limit

5 / 6 + 1 other

APER + HAR rate

Targeting P25 (19.8%, 95%-99% prediction limits)



QCI APER rate

- Risk adjustment required
- Can not be based on administrative data(base)
- Confounders: gender, age, ASA 3 or more, tumour level, cT4, preop incontinence
- APER + Hartmann rather than APER
- Target at P25 performance

Conclusions

- Educational improvement project vs. administrative audit(s) with repressive intention/character
- Full dataset needed for benchmarking of QCIs and to indicate aspects of better practices
- Burden of registration should be compensated for
- ‘Suboptimal’ performance should induce re-action

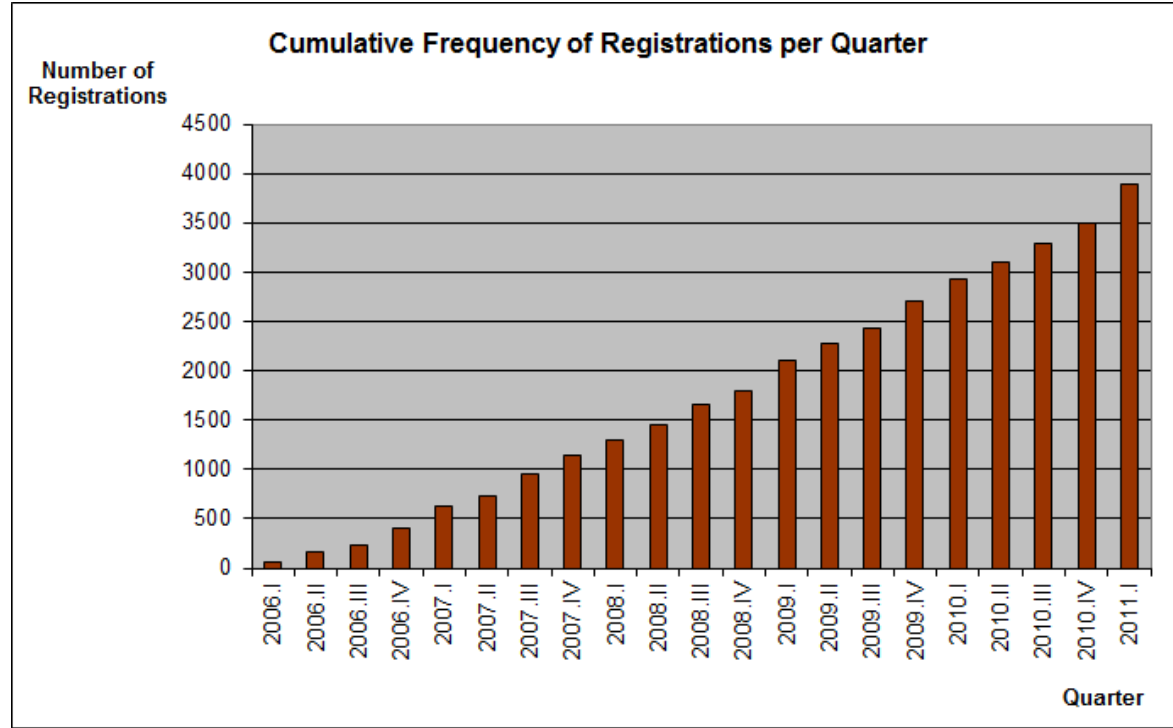
Messages

- Quality of care should (also) be assured by peer-professionals
- All centres should participate in an improvement project
- Everyone can learn something from everyone and improve
- Re-act on risk-adjusted benchmarking

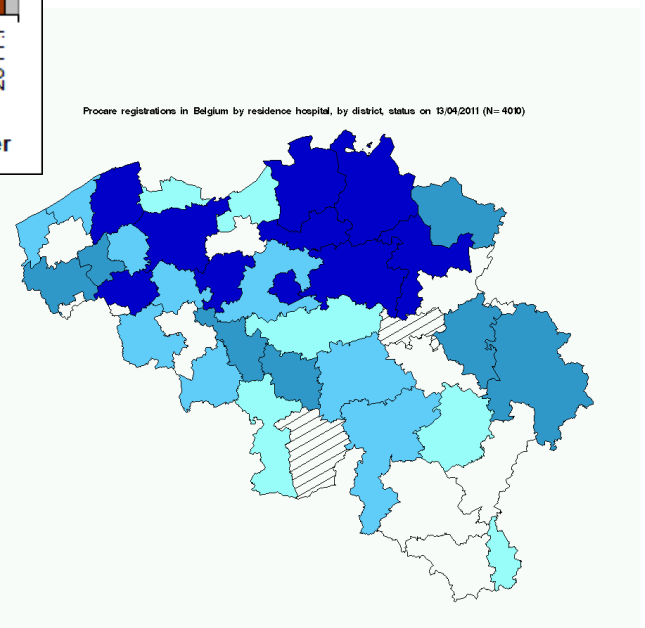
FUNDING
for
training (review)
and registration

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CONGRATULATIONS



Thanks



P R O C A R E

PROJECT ON CANCER OF THE RECTUM