



Value Based Health Care Outcomes Workshop – Madrid 2018

The Martini Klinik Case Study:

What benefits does measurement give to a provider?

Burkhard Beyer MD

Martini Klinik, Prostate Cancer Center, Hamburg

The only European institution exclusively dedicated to prostate cancer diagnosis and treatment





Martini-Klinik

Specialized in Prostate Cancer

2005 founded at the University Hospital Hamburg-Eppendorf

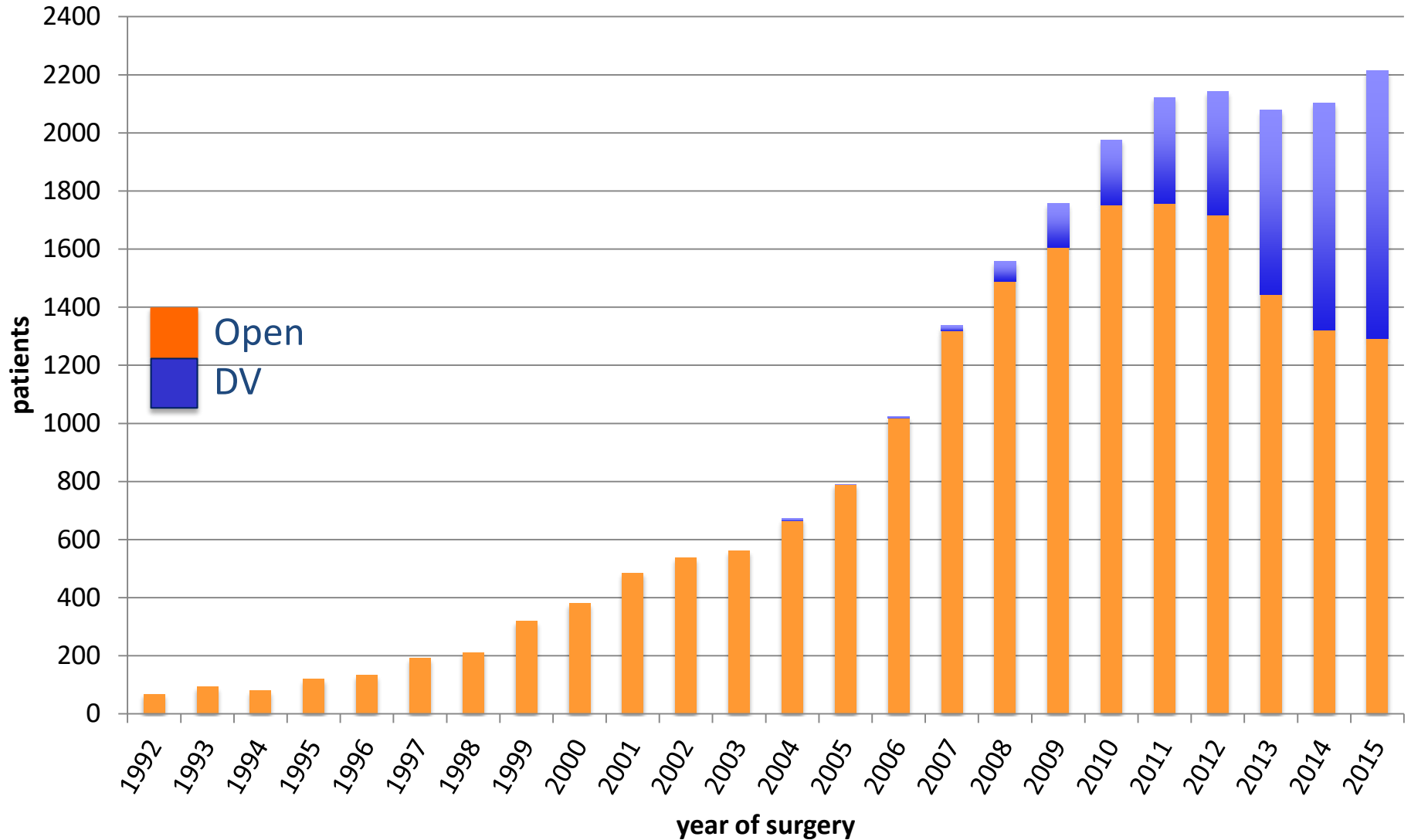
Integrated Practice Unit = IPU



- Diagnostics: Prostate Cancer Detection
Different types of imaging: US, MRI
- Local therapy: Open + robot-assisted Prostatectomy
Radiotherapy (inc. HDR-, LDR- Brachytherapy)
Focal therapy, Immunotherapy, Active Surveillance
- Therapy of metastatic/castration resistant PCa
- Psychooncology, Nutritional Medicine

- **> 5,000 patients**
- **> 750 prostate biopsies**
 - Conventional
 - Elastography
 - MRI Fusion
- **> 2,200 radical prostatectomies**
- **> 300 primary radiation therapies**

Radical prostatectomy: Martini-Klinik



Advantages of a high-volume center

For the patient:

- High-volume experience with continuous quality control leads to a better functional and oncological outcome
- Availability of a broad spectrum of therapeutic options with respective experience under one roof

For the urological community:

- Case load is a back bone for research
- Acceleration of introducing new therapies

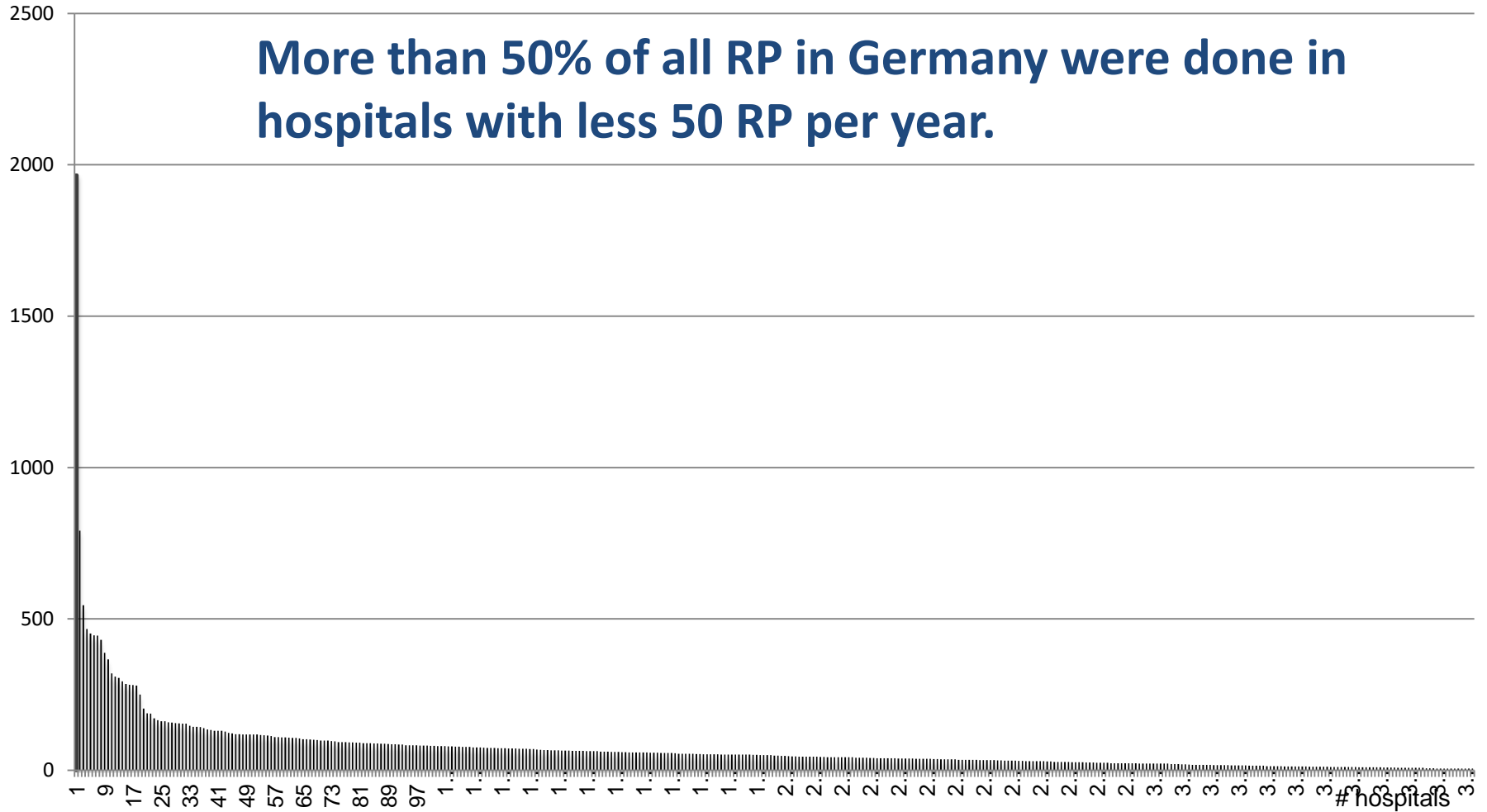
For the society:

- Better outcome, lower costs, objective counselling

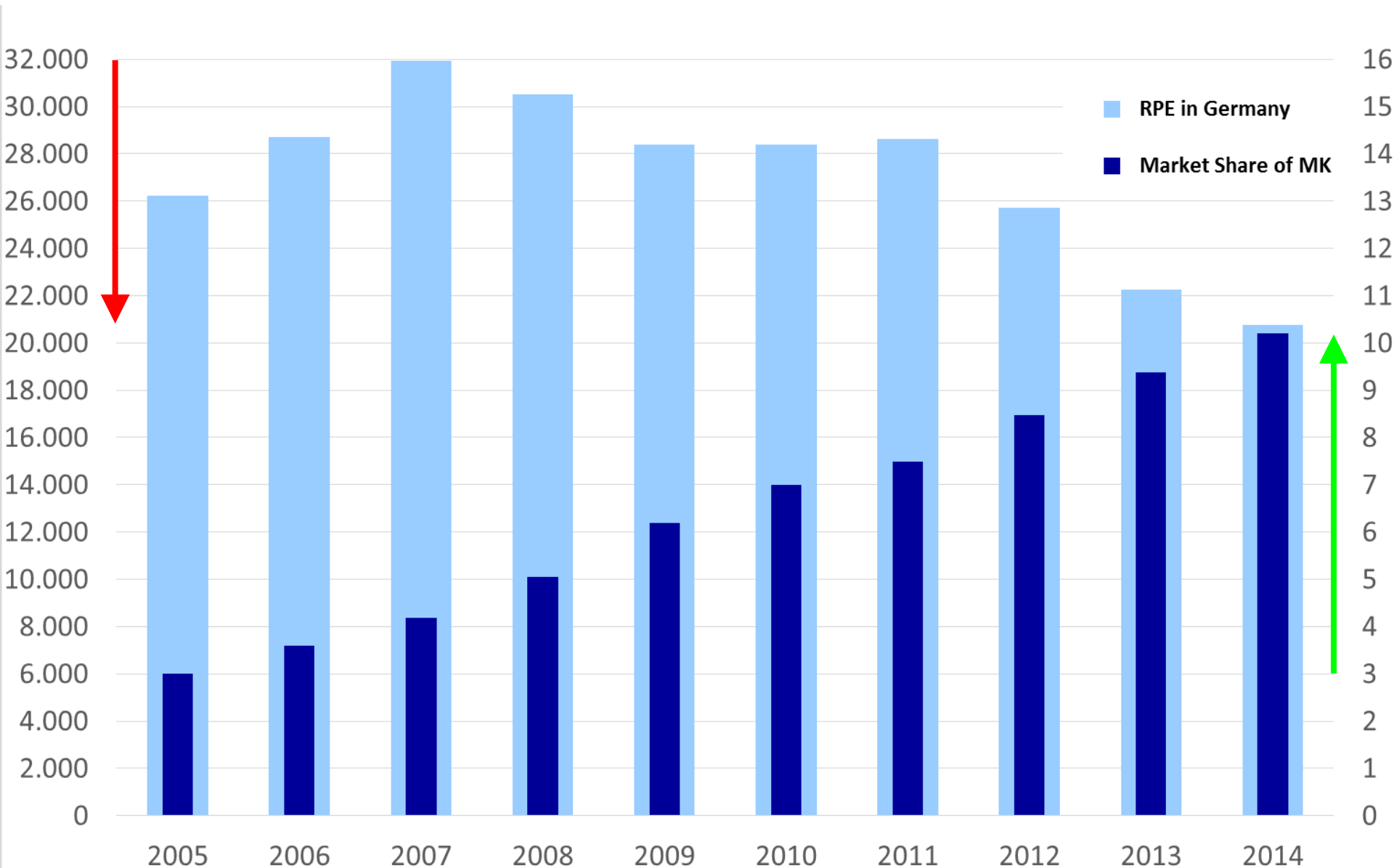
Disadvantages:

- none

prostatectomies per year



Prostatectomies and Market Share







Hierarchy



Faculty



- Each patient has only one contact person: his treating surgeon





- Each patient has only one contact person: his treating surgeon
- All are high-volume surgeons - all performing 200-300 RP/year

World J Urol
DOI 10.1007/s00345-016-1982-4

ORIGINAL ARTICLE

High volume is the key for improving in-hospital outcomes after radical prostatectomy: a total population analysis in Germany from 2006 to 2013

Christer Groeben¹ · Rainer Koch² · Martin Baunacke¹ · Manfred P. Wirth¹ · Johannes Huber¹

Received: 27 September 2016 / Accepted: 30 November 2016
© Springer-Verlag Berlin Heidelberg 2016

Variables	Mortality Odds ratio (95% CI)	Transfusion Odds ratio (95% CI)	Surgical revision Odds ratio (95% CI)
Caseload			
0–19	2.26 (1.21–4.20)	2.81 (2.62–3.01)	1.42 (1.10–1.82)
20–49	2.11 (1.39–3.20)	2.01 (1.92–2.10)	1.21 (1.03–1.41)
50–99	1.64 (1.12–2.40)	1.61 (1.54–1.68)	1.21 (1.07–1.38)
100–199	1.22 (0.78–1.85)	1.29 (1.23–1.35)	1.10 (0.96–1.25)
200 + (reference)	1	1	1
Share of RRPE and LRPE of annual caseload			
<25%	0.84 (0.45–1.57)	1.58 (1.49–1.67)	1.56 (1.31–1.86)
50–25%	0.75 (0.42–1.34)	1.64 (1.55–1.74)	1.27 (1.06–1.51)
>50% (reference)	1	1	1
Hospital without certification	1.42 (0.97–2.09)	1.20 (1.16–1.25)	1.08 (0.96–1.22)
Prostate cancer center (Reference)	1	1	1
Individual surgery performed as RRPE or LRPE			
Yes	1.02 (0.58–1.79)	0.26 (0.24–0.28)	0.89 (0.75–1.06)
No (reference)	1	1	1



- Each patient has only one contact person: his treating surgeon
- All are high-volume surgeons - all performing 200-300 RP/year
- All have a special scientific field of interest
e.g. genome analyses, new imaging techniques, metastatic PCa etc.

Prof. M. Graefen	(Outcome Study Group, Robotic Surgery)
Prof. H. Heinzer	(Resident Education, Events)
Prof. H. Huland	(International Outcome Standardization)
Prof. A. Haese	(Robotic Surgery, Serum/Urine Marker)
Prof. T. Steuber	(Advanced PCa)
PD Dr. G. Salomon	(Focal Therapy, Imaging)
Dr. U. Michl	(QoL, Functional Data)
Dr. I. Thederan	(Organisation, Complementary Medicine, Nutrition)
PD Dr. L. Budäus	(Imaging, Fusion biopsies)
Prof. Dr. D. Tilki	(Basic Science)
PD Dr. T. Maurer	(Radioguided Surgery)

Associated Faculty

- Dr. von Breunig Anesthesiology
- Prof. Dr. Sauter Pathology
- Dr. Schwarz Radiation Therapy
- PD Dr. Beyersdorff Radiology
- Dr. Krüger Psychoonkology



Registration desk

Specialist department registration

Resident cardiologist

Consultant cardiologist

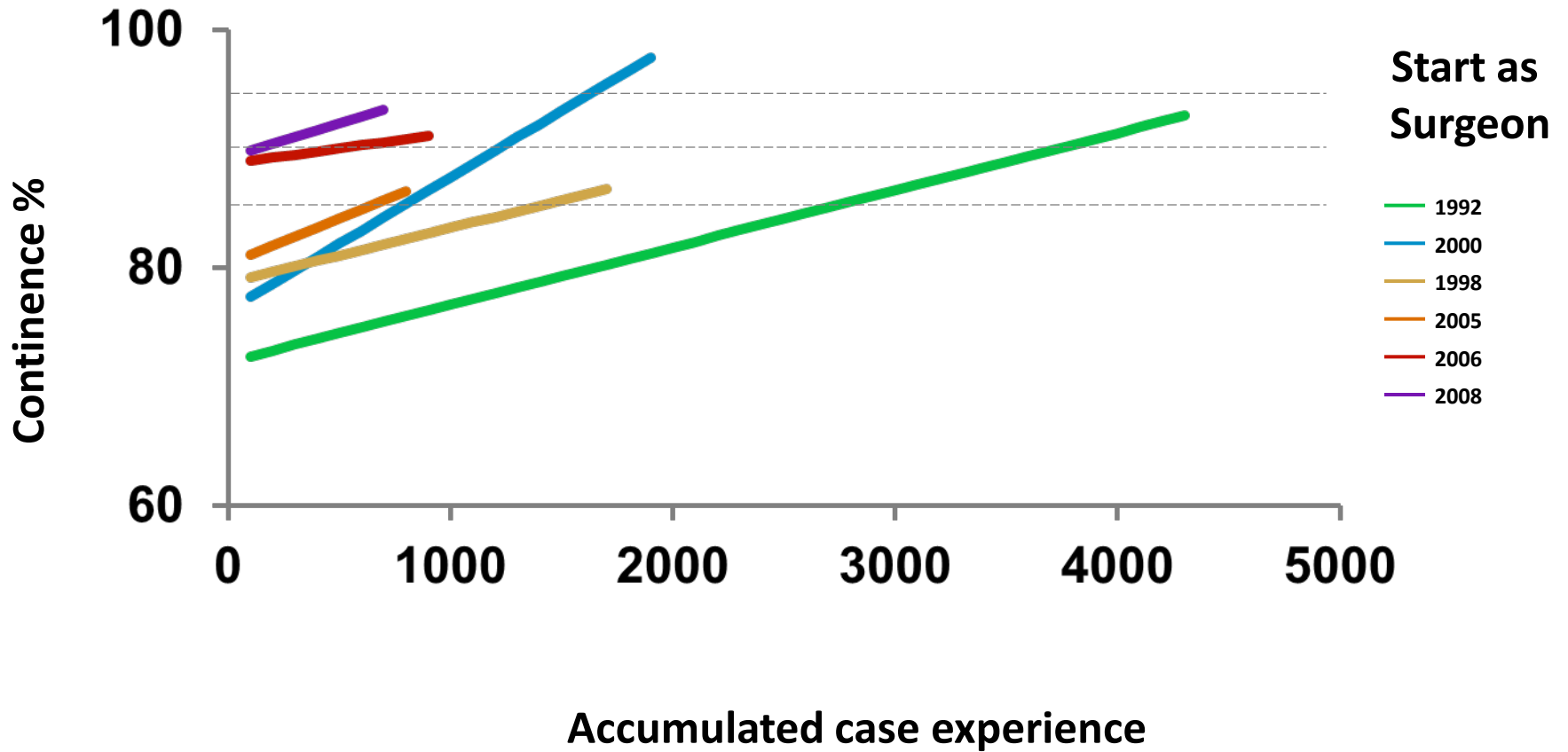
Specialist department registration

Appointment

Associated Cardiologist



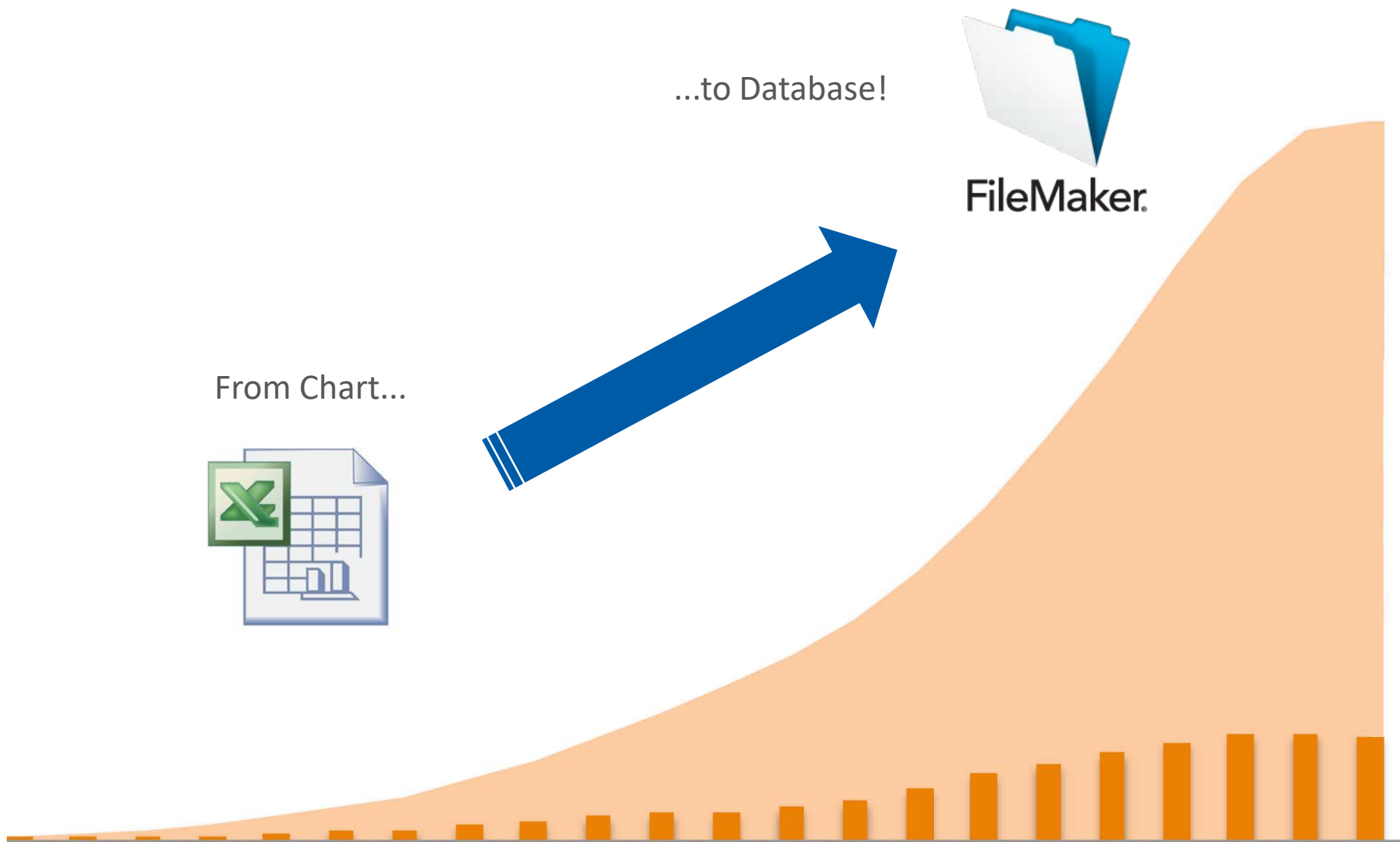
- Code of conduct
 - Respectful interaction
 - Self-improvement
 - Common goals
- Contracts of employment contain **quality criteria**
 - Rates of nerve sparing
 - Continence rates
 - Positive surgical margin rates
- Fulfilment induces a payment into a pool, which is later divided equally and paid to all faculty members





Martini-Database





Martini-Database

- Prostate Cancer Database since 1992
- Outcome data from >26.000 patients after RP (January 2018)
- Profound preoperative data from each patient and his tumour (Risk stratification)

Database-Problems

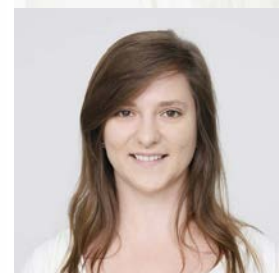
- No money: not from administration or grants
- No IT-System
- No motivation of the staff



Katja Gedai
OUTCOME STUDY GROUP



Kirsten Hase
OUTCOME STUDY GROUP



Madlen Hoffmann
OPERATIVE STUDIENLEITUNG



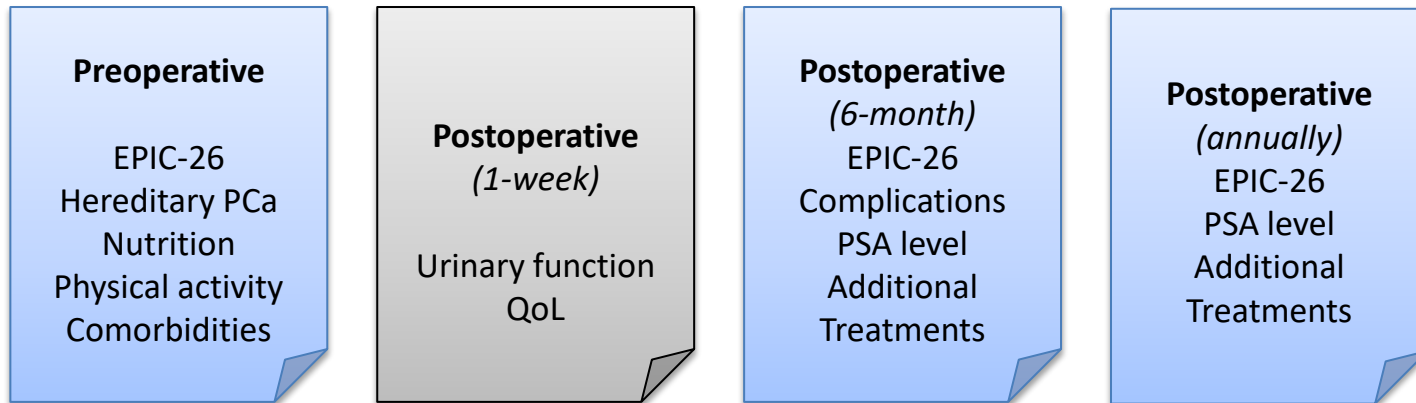
Dr. Pierre Tennstedt
OUTCOME STUDY GROUP

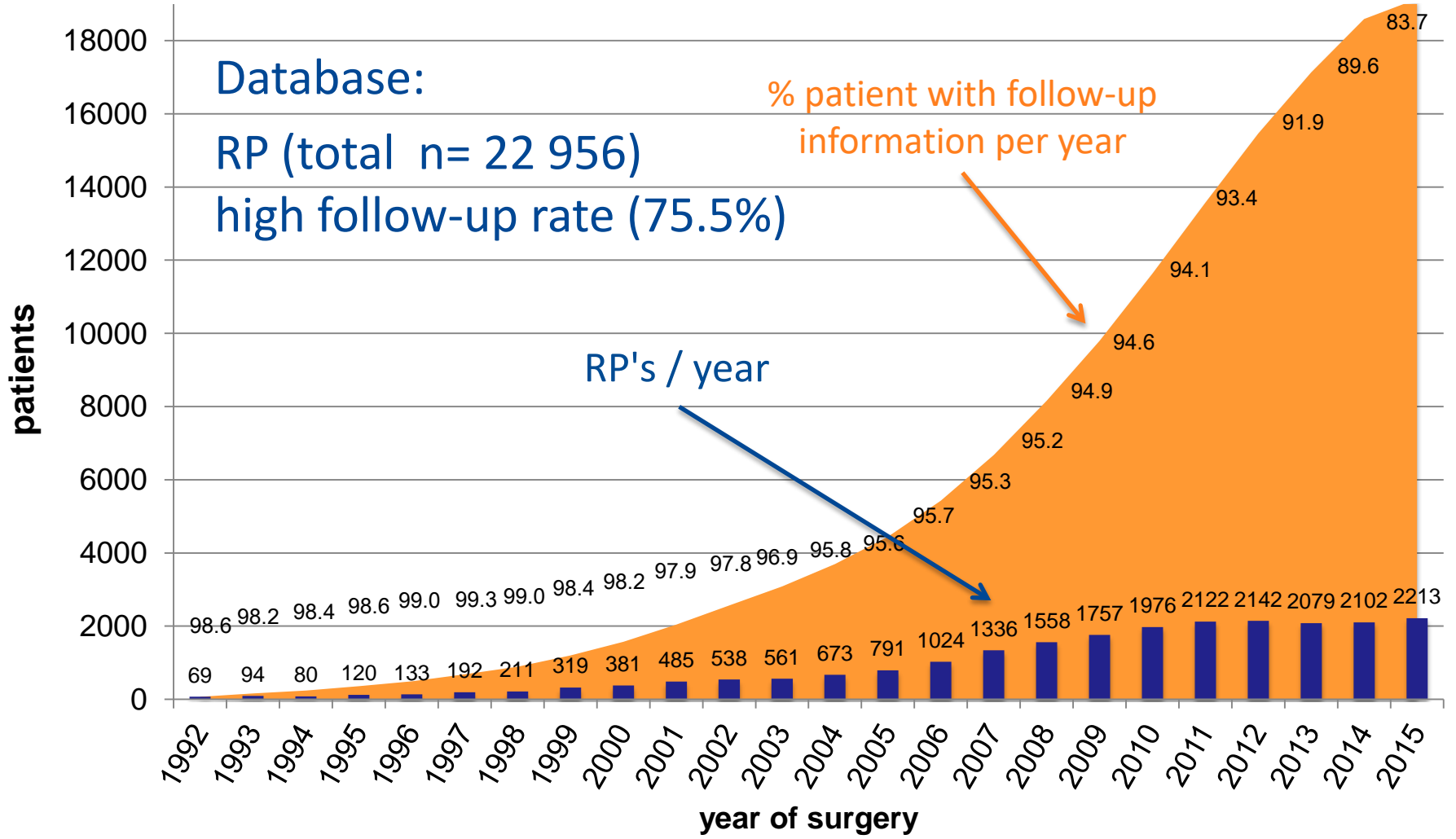


Anke Renter
FORSCHUNGS- &
STUDIENKOORDINATORIN



Marco Polte
MEDIZINISCHE DOKUMENTATION





Median
 Follow-up in
 months

1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
189.2	181	192.8	178.3	179.2	180.4	170.2	156.7	144.7	144	132.1	120.4	108.7	96.7	84.9	80.7	72	60	48.1	36.2	24.8	13.6	8.9	1.4

Database

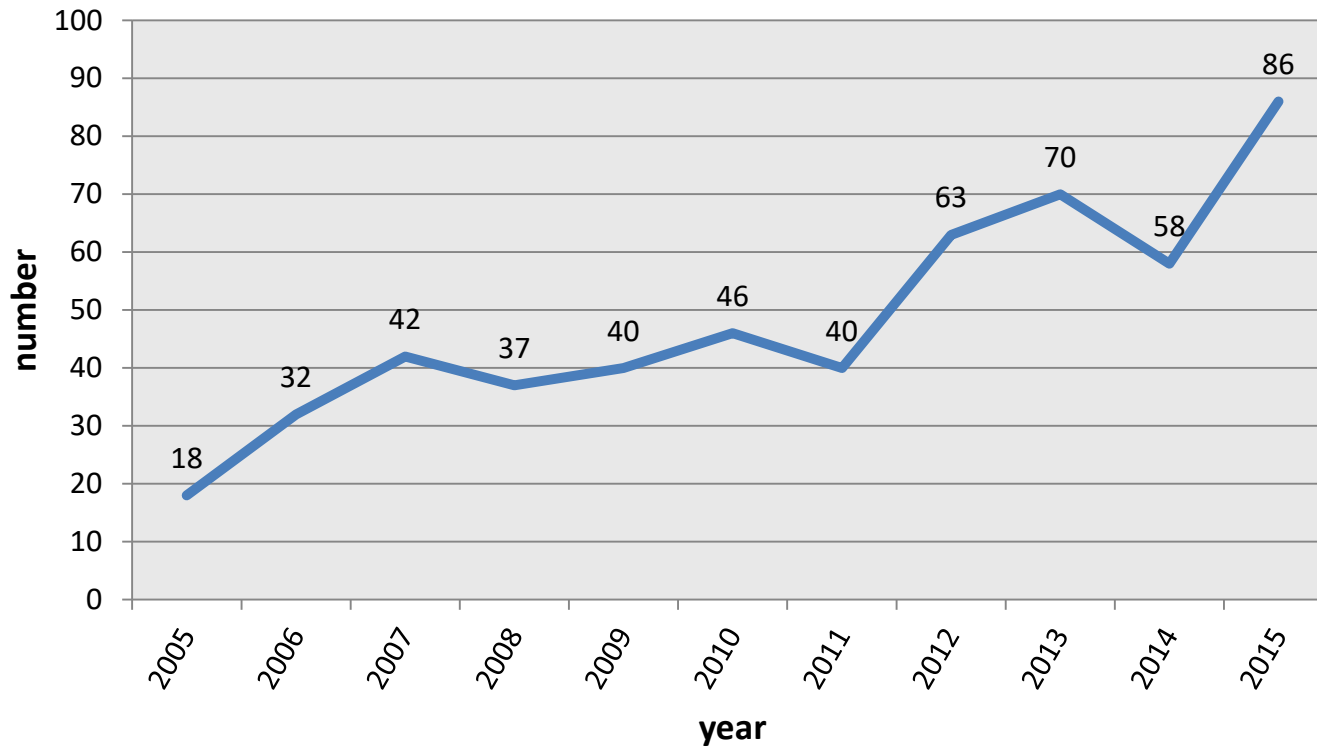
Outcome measurement

- 1. Clinical research**
- 2. Basic science**
- 3. Patient counselling**
- 4. Quality control**
- 5. Value based health care**

Clinical science

Number of publications / year

300 – 400 Impact factor points / year



Basic science: ICGC,TCGA



International Cancer Genome Consortium

CANADA

- Pancreatic cancer (Ductal adenocarcinoma)
- Pediatric brain tumors (Medulloblastoma)
- Prostate cancer (Adenocarcinoma)

UNITED STATES

- Bladder cancer
- Blood cancer (Acute myeloid leukemia)
- Brain cancer (Glioblastoma multiforme/ lower grade glioma)
- Breast cancer (Ductal & lobular)
- Cervical cancer (Squamous)
- Colorectal cancer (Adenocarcinoma)
- Endometrial cancer (Uterine corpus endometrial carcinoma)
- Gastric cancer (Adenocarcinoma)
- Head and neck cancer (Squamous cell carcinoma/ Thyroid carcinoma)
- Liver cancer (Hepatocellular carcinoma)
- Lung cancer (Adenocarcinoma/ squamous cell carcinoma)
- Ovarian cancer (Serous cystadenocarcinoma)
- Pancreatic cancer (Adenocarcinoma)
- Prostate cancer (Adenocarcinoma)
- Renal cancer (Renal clear cell carcinoma/ Renal papillary carcinoma)
- Skin cancer (Cutaneous melanoma)

MEXICO

- Blood cancer (Diffuse large B-cell lymphoma)
- Breast cancer (Ductal carcinoma)
- Cervical cancer
- Head and Neck Cancer (Squamous cell carcinoma of oral cavity/oropharynx/ sinonasal cavity/ hypopharynx/larynx)
- Pediatric solid tumors

EU / UNITED KINGDOM

- Breast cancer (ER positive, HER2 negative)

UNITED KINGDOM

- Bone cancer (Osteosarcoma/ chondrosarcoma/ rare subtypes)
- Breast cancer (Triple negative/lobular/ other)
- Chronic Myeloid Disorders (Myelodysplastic syndromes, myeloproliferative neoplasms and other chronic myeloid malignancies)
- Esophageal cancer
- Prostate cancer

EU / FRANCE

- Renal cancer (Renal cell carcinoma) (Focus on but not limited to clear cell subtype)

FRANCE

- Breast cancer (Subtype defined by an amplification of the HER2 gene)
- Liver cancer (Hepatocellular carcinoma) (Secondary to alcohol and adiposity)
- Prostate cancer (Adenocarcinoma)

GERMANY

- Malignant lymphoma (Germinal center B-cell derived lymphomas)
- Pediatric brain tumors (Medulloblastoma and Pediatric pilocytic astrocytoma)
- Prostate cancer (Early onset)

ITALY

- Rare pancreatic tumors (Enteropancreatic endocrine tumors and rare pancreatic exocrine tumors)

SPAIN

- Chronic lymphocytic leukemia (CLL with mutated and unmutated IgVH)

SAUDI ARABIA

- Thyroid cancer (Papillary carcinoma)

CHINA

- Colorectal cancer (Adenocarcinoma, non-Western)
- Esophageal cancer (Squamous carcinoma)
- Gastric cancer (Intestinal- and diffuse-type)
- Liver cancer (Hepatocellular carcinoma, HBV-associated)
- Nasopharyngeal cancer (Nasopharyngeal carcinoma, Asia)

INDIA

- Oral cancer (Gingivobuccal)

JAPAN

- Liver cancer (Hepatocellular carcinoma) (Virus-associated)

SOUTH KOREA

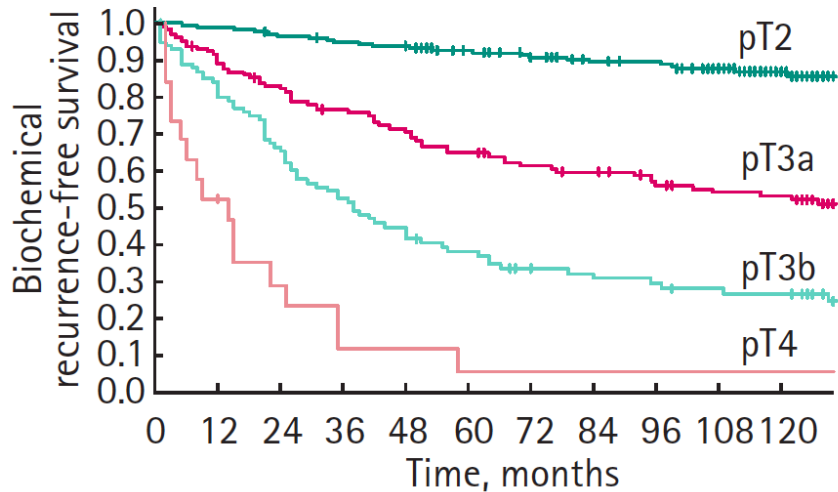
- Breast cancer

AUSTRALIA

- Ovarian cancer (Serous cystadenocarcinoma)
- Pancreatic cancer (Ductal adenocarcinoma)
- Prostate cancer

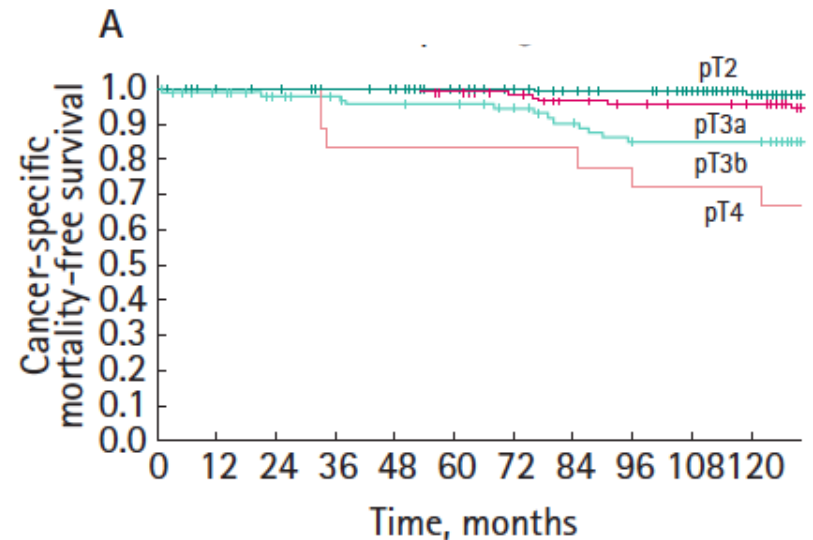
Patient counselling

BCR-free survival



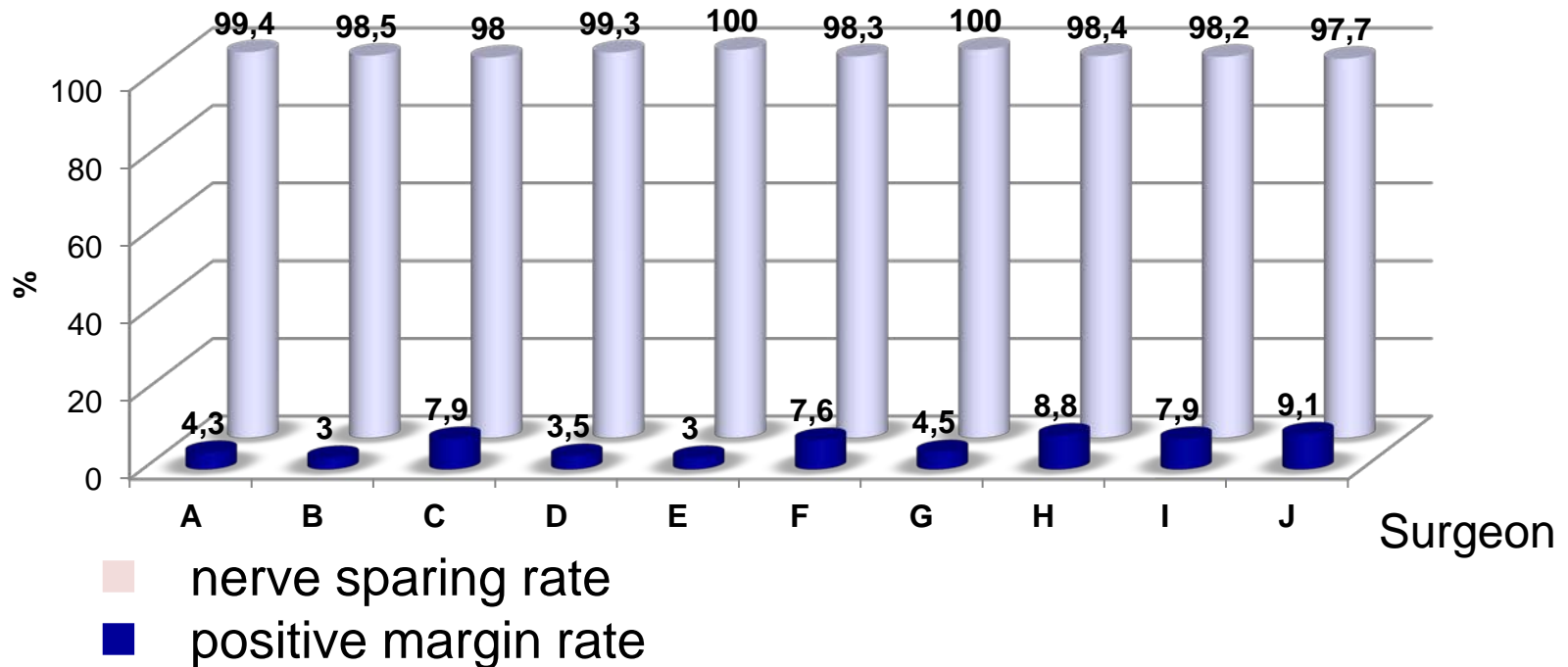
pT-stage	10 year BCR-free
pT2	87,0%
pT3a	53,0%
pT3b	28,5%
pT4	9,4%

Cancer-specific survival



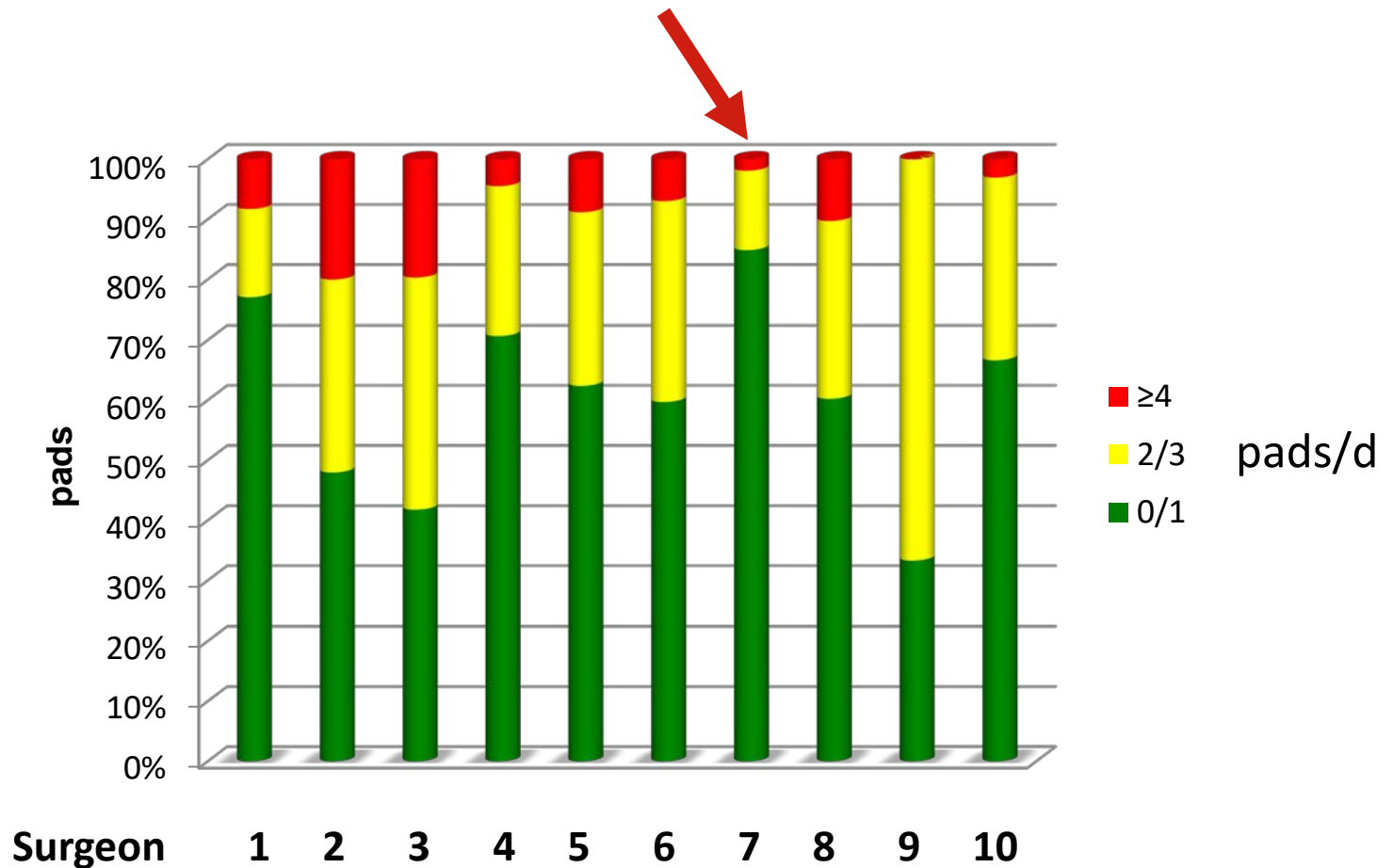
pT-stage	10 year cancer-specific survival
pT2	98,0%
pT3a	96,0%
pT3b	85,0%
pT4	72,0%

pT2 Tumors



One week letter:

Continence 1 week after removing the catheter



available at www.sciencedirect.com
journal homepage: www.europeanurology.com



European Association of Urology

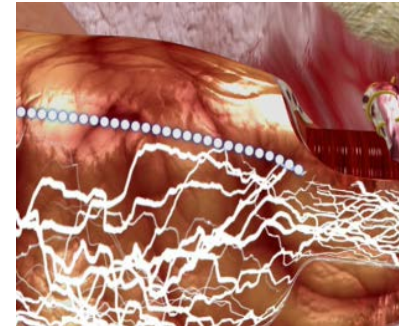
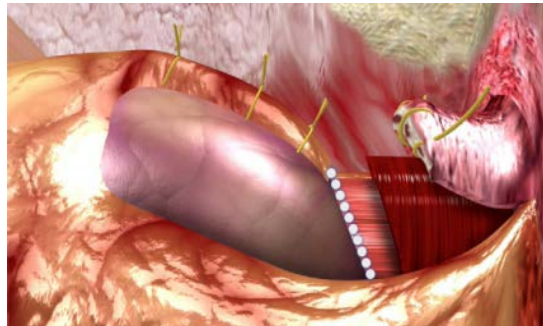
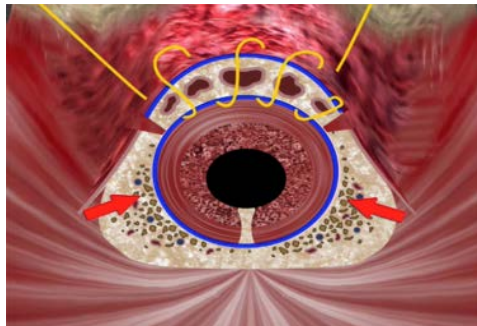


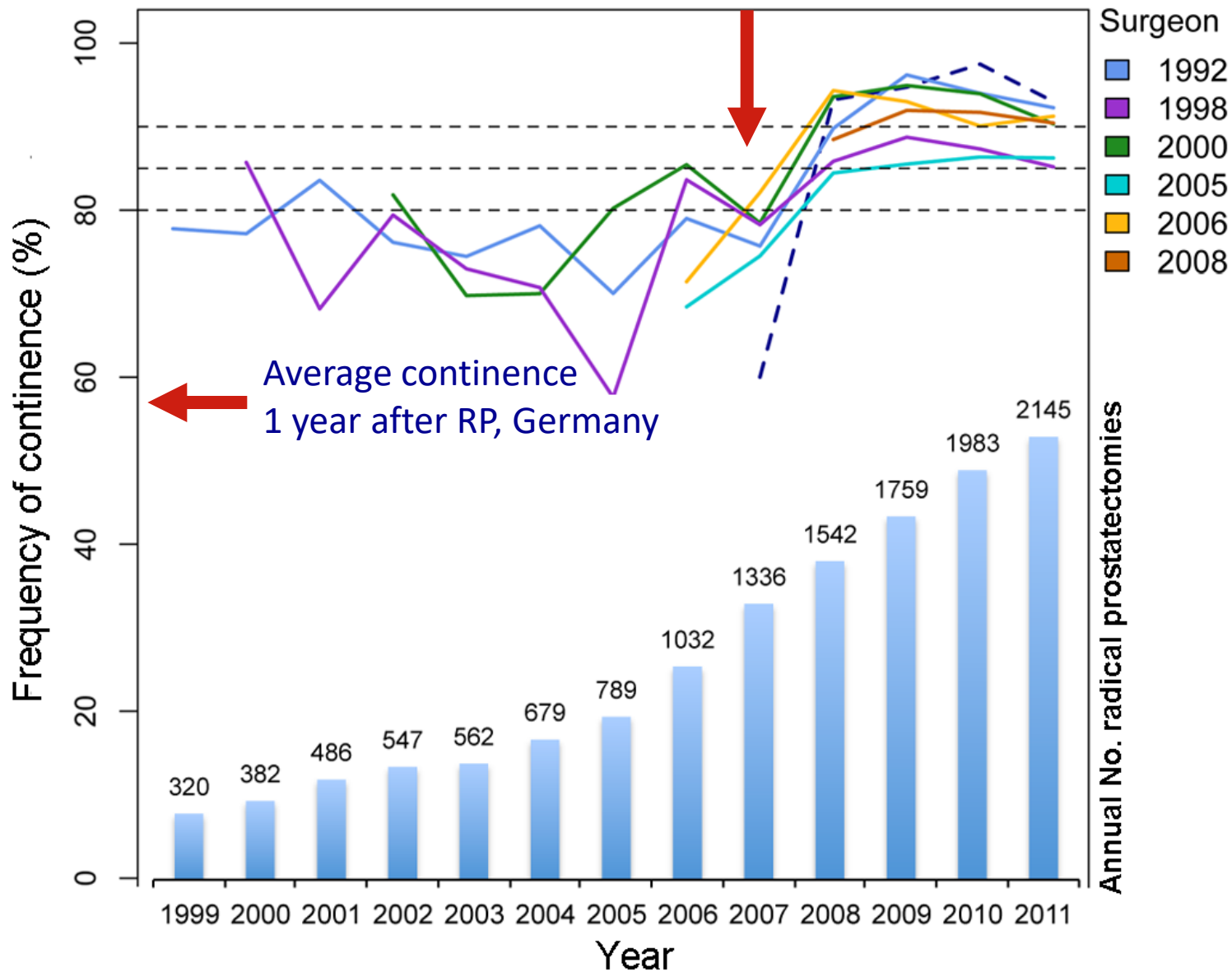
Surgery in Motion

Full Functional-Length Urethral Sphincter Preservation During Radical Prostatectomy

Thorsten Schlomm*, Hans Heinzer, Thomas Steuber, Georg Salomon, Oliver Engel, Uwe Michl, Alexander Haese, Markus Graefen, Hartwig Huland

Martini-Clinic, Prostate Cancer Centre, University Medical Centre Hamburg-Eppendorf, Hamburg, Germany





Value-based Healthcare (VBHC)



$$\text{Value} = \frac{\text{Patient health outcomes achieved}}{\text{Cost of delivering those outcomes}}$$

Redefining Healthcare; M. E. Porter & E. O. Teisberg 2006

Outcome measurements
are the powerful lever to unlock a
value-based healthcare system

“Es ist unethisch, keine Outcome Messungen zu haben”

“Stern” interview - march 2013:

Traditional instruments for quality control in health care

- Process / management control
- Certification, audits, quality report
- Minimal surgical volume regulation

Value-based Healthcare System: ICHOM

- Systematic
- Standardised
- Risk adapted
- Transparent
- International comparable
- Outcome-analysis by the use of PROM

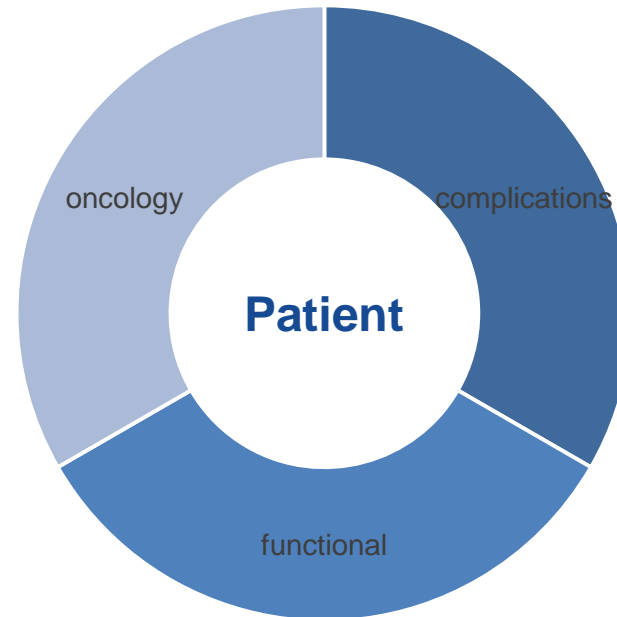
Minimal Data Set per disease:

Only outcome data which matters for the patients



Treatment modalities

- Watchful waiting
- Active surveillance
- Prostatectomy
- External beam radiation
- Brachytherapy
- Androgen deprivation
- others

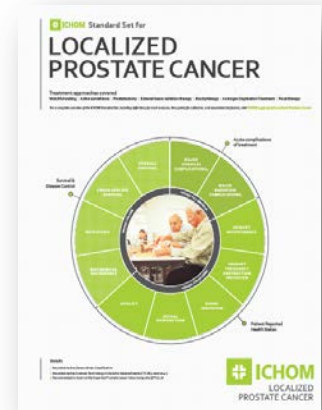


PCO-CRV Trial

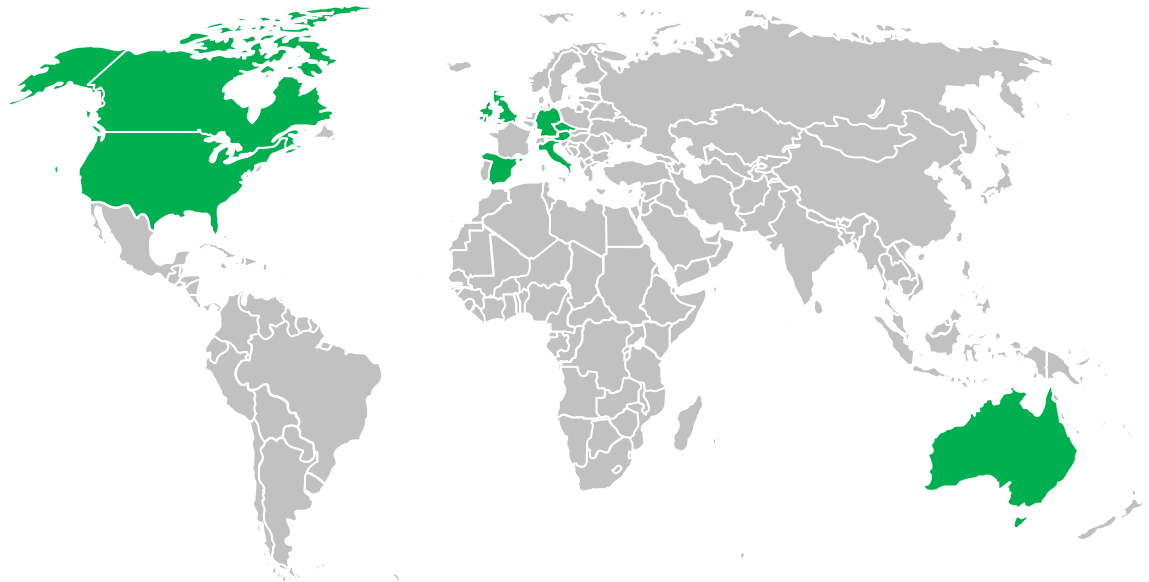
140 institutions in 14 countries

Prostate Cancer Outcomes-Compare And Reduce Variation

- To describe international patterns of presentation, care, and patient-reported outcomes for men diagnosed with localized prostate cancer.
- To provide feedback on quality metrics and outcomes; thereby identifying organisations with better and worse outcomes and to identify contributing structure and process factors.



ICHOM Standardset





Förderverein
Hilfe
bei Prostatakrebs

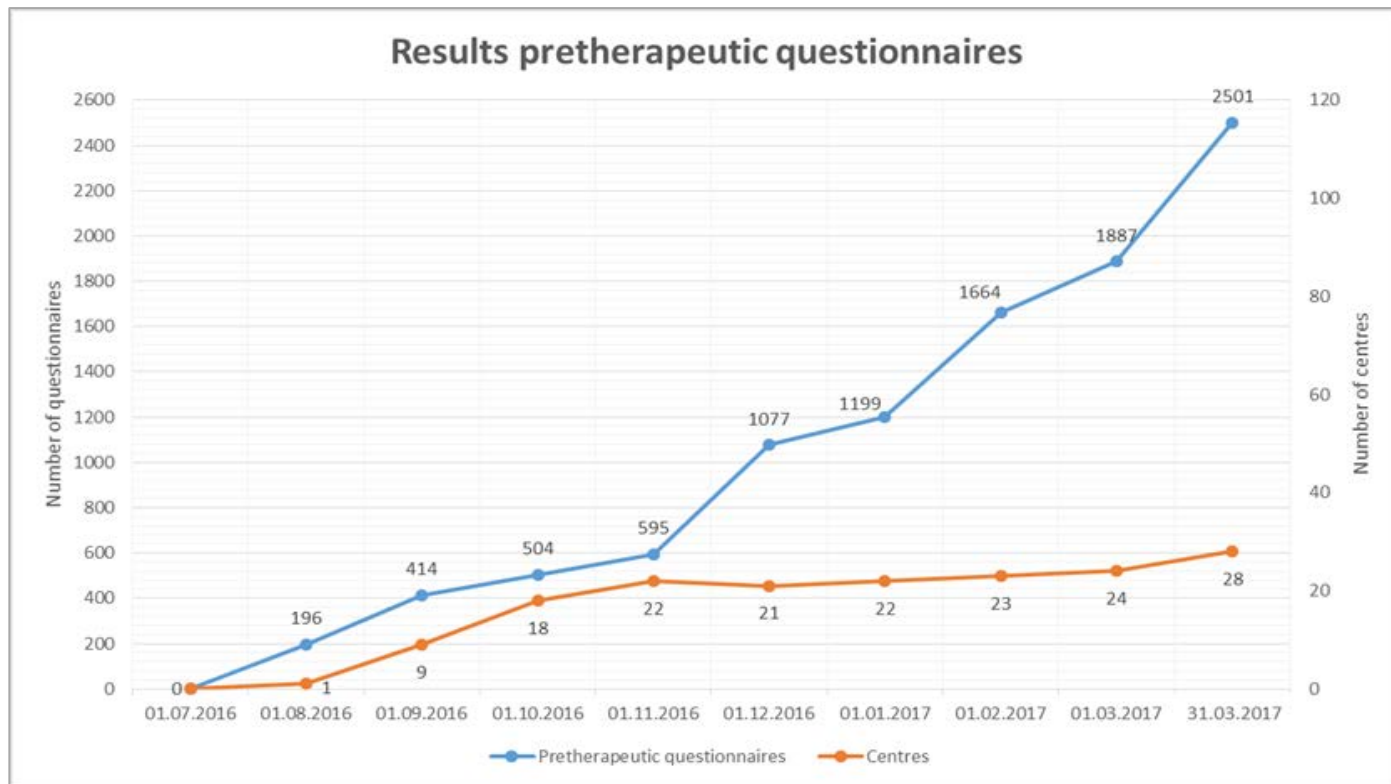


ONKOZERT

DKG 
KREBSGESELLSCHAFT

28 DKG-certified Prostate cancer centers
in Germany and Switzerland

Since July 2016 more than 2,500 patients were included in the PCO Study



The Martini-Klinik provides a good case study of how value-based healthcare could be introduced on a wider basis in Germany within a specialised care context. The hospital's commitment to expanding its database of patient outcomes, and its willingness to share best practice among staff surgeons and revise its surgical methods accordingly, are likely to contribute to improved value—and these methods could be applied successfully to other parts of the country's healthcare system.



Martinistraße 52
D-20246 Hamburg

Burkhard Beyer

Outcome Study Group

Phone: +49 (0) 40 7410-52272

Mail: beyer@martini-klinik.de

www.martini-klinik.de