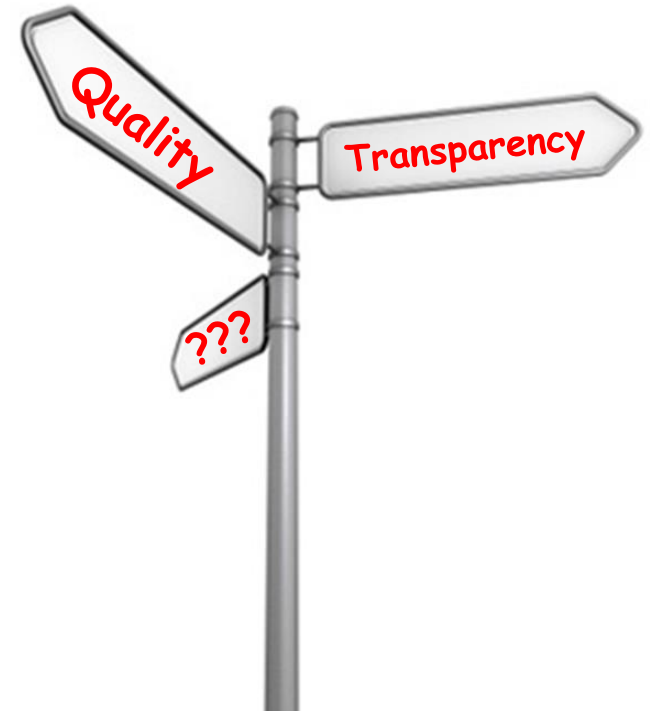# Patient assessments in surgery:

Variables which contribute most to increase satisfaction

Joachim Kugler, Tonio Schoenfelder, Tom Schaal, Joerg Klewer

Presenter Disclosures

Presenter: Prof. Dr. Joachim Kugler

(1) The following personal financial relationships with commercial interests relevant to this presentation existed during the past 12 months:

No relationships to disclose

1 Background

- Patient assessments important outcome measures, e.g., health care providers use patient satisfaction ratings for internal evaluations of their own performance as complement to other methods of quality assessment and assurance

- Hospital Value-Based Purchasing Program: patient evaluations of hospital care became even more relevant since satisfaction ratings have been linked to Medicare reimbursement

A hospital's Total Performance Score for the FY 2013 Hospital VBP Program:

Total Performance Score = (0.70 x Total Clinical Process of Care Domain Performance Score) + (0.30 x Total Patient Experience of Care Domain Performance Score)

1 Background

- Hospital Value-Based Purchasing

12 Clinical Process of Care Measures

1. AMI-7a Fibrinolytic Therapy Received Within 30 Minutes of Hospital Arrival
2. AMI-8 Primary PCI Received Within 90 Minutes of Hospital Arrival
3. HF-1 Discharge Instructions
4. PN-3b Blood Cultures Performed in the ED Prior to Initial Antibiotic Received in Hospital
5. PN-6 Initial Antibiotic Selection for CAP in Immunocompetent Patient
6. SCIP-Inf-1 Prophylactic Antibiotic Received Within One Hour Prior to Surgical Incision
7. SCIP-Inf-2 Prophylactic Antibiotic Selection for Surgical Patients
8. SCIP-Inf-3 Prophylactic Antibiotics Discontinued Within 24 Hours After Surgery
9. SCIP-Inf-4 Cardiac Surgery Patients with Controlled 6AM Postoperative Serum Glucose
10. SCIP-Card-2 Surgery Patients on a Beta Blocker Prior to Arrival That Received a Beta Blocker During the Perioperative Period
11. SCIP-VTE-1 Surgery Patients with Recommended Venous Thromboembolism Prophylaxis Ordered
12. SCIP-VTE-2 Surgery Patients Who Received Appropriate Venous Thromboembolism Prophylaxis Within 24 Hours

Clinical Process of Care Domain (70%)

Patient Experience of Care Domain (30%)
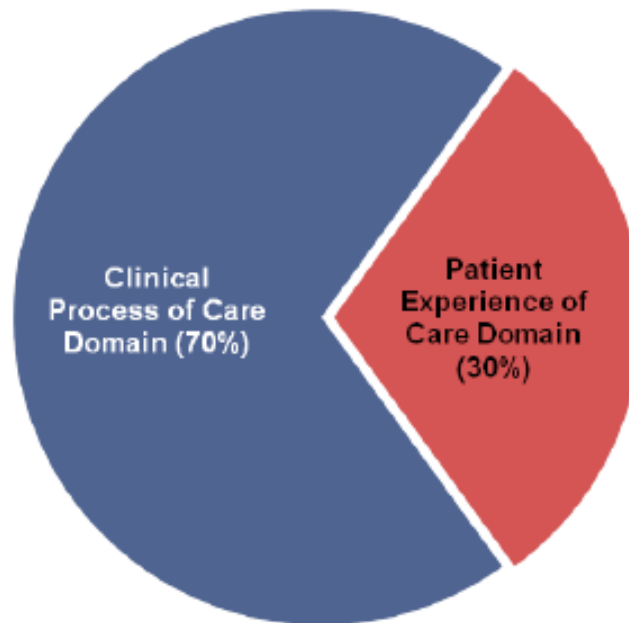
8 Patient Experience of Care Dimensions

1. Nurse Communication
2. Doctor Communication
3. Hospital Staff Responsiveness
4. Pain Management
5. Medicine Communication
6. Hospital Cleanliness & Quietness
7. Discharge Information
8. Overall Hospital Rating

2 Study objective

- ➢ For hospitals important to understand:
- ➢ which factors are the most relevant with regard to patient satisfaction and
- ➢ which factors associated with patients' assessments are alterable by different allocation of resources.

Aim of this study

- ▪ **To assess which aspects of the hospital stay contribute most to increase satisfaction of surgical patients**

3 Method and sample
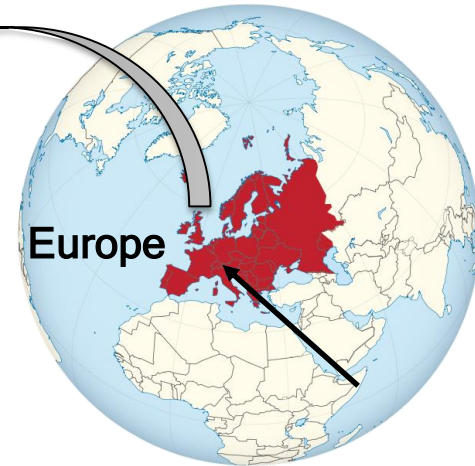
- Study data were obtained from
    - 55 hospitals
    - in the area of Dresden (federal state Saxony)
    - eastern part of Germany, total population of 1.65 million (2011)

3 Method and sample

- Analyzed study sample included 4.293 surgical inpatients aged 15 years and older who were discharged in 2012

- ➢ Hip and knee replacement surgery
- ➢ Gall bladder operation
- ➢ Carotid artery surgery
- ➢ Pacemaker implantation

3 Method and sample

- Analyzed study sample included 4.293 surgical inpatients aged 15 years and older who were discharged in 2012

➤ **Hip and knee replacement surgery**

Table 1: Snapshot of key hospital services in Germany compared with other OECD countries

	Germany	Rank compared with OECD countries	OECD average
Hospital discharges for major diseases			
Diseases of the circulatory system, per 1 000 population	35.7	1	19.6
Cancer, per 1 000 population	24.5	2	13.5
Procedures carried out as inpatient cases (involving an overnight stay in hospital)			
Cataract surgery per 100 000 population	178	7	118
Tonsillectomy per 100 000 population	157	3	80
Percutaneous coronary interventions (PTCA) per 100 000 population	624	1	177
Coronary bypass per 100 000 population	116	2	47
Appendectomy per 100 000 population	151	7	126
Cholecystectomy per 100 000 population			4
Inguinal and femoral hernia per 100 000 population			0
Prostatectomy (transurethral) per 100 000 males			7
Prostatectomy (excluding transurethral) per 100 000 males			4
Hysterectomy (vaginal only) per 100 000 females	178	6	113
Caesarean section per 1000 live births	314	9	261
Hip replacement per 100 000 population	295	1	154
Knee replacement per 100 000 population	213	2	122
Breast-conserving surgery per 100 000 females	232	1	108
Mastectomy per 100 000 females	69	8	56

Source: OECD Health Data 2012

Most 'favourite' procedure in Germany

3 Method and sample

- Data set was obtained through a validated, self-administered questionnaire

- Response rate about 24% (Total: n=17.887)

- Questionnaire was sent after discharge

- Participation was completely anonymous and voluntary

Bitte zutreffende Antworten ausmalen!

bitte nicht ausfüllen!

Umfrage zur Patientenzufriedenheit in Sächsischen Krankenhäusern

1. In welchem Krankenhaus sind Sie im Jahr 2010 bzw. 2011 behandelt worden?
(bei mehreren Krankenhausaufenthalten bitte ein Haus auswählen, auf das sich Ihre Antworten beziehen)

bitte nicht ausfüllen!

Name des Krankenhauses   Ort

2. Sind Sie... ☐ männlich ☐ weiblich

3. Wie alt sind Sie? ☐ jünger als 15 Jahre ☐ 21 - 30 Jahre ☐ 41 - 50 Jahre ☐ 61 - 70 Jahre ☐ älter als 80 Jahre
☐ 15 - 20 Jahre ☐ 31 - 40 Jahre ☐ 51 - 60 Jahre ☐ 71 - 80 Jahre

4. Wie oft waren Sie in den vergangenen fünf Jahren in einem Krankenhaus?
☐ 1 - 2 mal ☐ 3 - 5 mal ☐ mehr als 5 mal (☐ keinmal)

5. Durch wen sind Sie in das Krankenhaus eingewiesen worden? (bitte nur eine Antwort ankreuzen)
☐ Hausarzt ☐ Facharzt ☐ Selbsteinweisung (ohne ärztliche Einweisung)
☐ Notfall/Unfall ☐ Verlegung aus einem anderen Krankenhaus

6. Wie würden Sie Ihren Gesundheitszustand vor Einweisung in das Krankenhaus beschreiben?
☐ ausgezeichnet ☐ gut ☐ mittelmäßig ☐ schlecht

7. Was war der Grund für Ihre Behandlung? (bitte beziehen Sie Ihre Antwort bei mehreren Krankenhausaufenthalten nur auf den Aufenthalt im unter 1. genannten Krankenhaus)

☐ Geburtshilfe ☐ Herzschrittmacher-Implantation ☐ Anderer Grund (bitte nennen):
☐ Herzkatheter-Untersuchung
☐ Künstliches Hüftgelenk ☐ Halsschlagader-Operation
☐ Künstliches Kniegelenk
☐ Gynäkologische Operation
☐ Gallenblasen-Operation ☐ Brustkrebs-Operation

8. Bitte bewerten Sie Ihren Krankenhausaufenthalt unter folgenden Gesichtspunkten:
(Die Bewertung erfolgt nach Schulnoten: 1=sehr gut, 2=gut, 3=befriedigend, 4=ausreichend, 5=mangelhaft, 6=ungenügend)

	sehr gut 1	2	3	4	5	ungenügend 6	kann ich nicht beurteilen	traf auf mich nicht zu
Wie war die Aufnahme im Krankenhaus organisiert?	☐	☐	☐	☐	☐	☐	☐	
Wie waren die Ärzte über Vorgeschichte und Krankheitsverlauf informiert?	☐	☐	☐	☐	☐	☐	☐	
Wie verständlich wurden Ihre Fragen von den Ärzten beantwortet?	☐	☐	☐	☐	☐	☐	☐	
Wie schätzen Sie die Betreuung durch die Ärzte ein? (Haben sie sich z.B. genügend Zeit genommen?)	☐	☐	☐	☐	☐	☐	☐	
Wie verständlich wurden Sie über Ihre Operation informiert?	☐	☐	☐	☐	☐	☐	☐	☐
Wie verständlich wurden Sie über die Narkose informiert?	☐	☐	☐	☐	☐	☐	☐	☐
Wie verständlich wurden Sie über einzunehmende Medikamente aufgeklärt?	☐	☐	☐	☐	☐	☐	☐	☐
Wie schätzen Sie Organisation und Ablauf von Untersuchungen, z.B. Röntgen, ein?	☐	☐	☐	☐	☐	☐	☐	
Wie beurteilen Sie die Wahrung Ihrer Privatsphäre bei Untersuchungen?	☐	☐	☐	☐	☐	☐	☐	
Wie wurden Sie auf die Zeit nach Ihrer Entlassung vorbereitet?	☐	☐	☐	☐	☐	☐	☐	

1126068824

(Formularnummer)

3 Method and sample

- Survey participants were
  - Policy holders of five different health insurances
  - Insurances cover about 85% of the total population
- In order to ensure all patients receive the same questionnaire, the **statutory health insurances were chosen as source of contact**
- Study participants were randomly selected

Questionnaire: 42 items

Umfrage zur Patientenzufriedenheit in Sächsischen Krankenhäusern

Patient demographic data (gender & age)

- Age (age groups)
- 15-20
- 21-30
- 41-50
- 51-60
- 61-70
- 71-80
- 80+

Name des Krankenhauses

2. Sind Sie... ☐ männlich ☐ weiblich

3. Wie alt sind Sie? ☐ jünger als 15 Jahre ☐ 2... als 80 Jahre

☐ 15 - 20 Jahre ☐ 31 - 40 Jahre ☐ 51 - 60 Jahre ☐ 71 - 80 Jahre

Visit characteristics

5. Durch wen sind Sie in das Krankenhaus ein...

☐ Hausarzt ☐ Facharzt

☐ Notfall/Unfall ☐ Verlegung aus einen

6. Wie würden Sie Ihren Gesundheitszustand

☐ ausgezeichnet ☐ gut ☐ mittelmä...

7. Was war der Grund für Ihre Behandlung? (...
nur auf den Aufenthalt im unter 1. genannten K...

☐ Geburtshilfe ☐ Herzsch...
☐ Herzkat...
☐ Künstliches Hüftgelenk ☐ Halssch...
☐ Künstliches Kniegelenk
☐ Gynäkologische Operation
☐ Gallenblasen-Operation ☐ Brustkrebs-Operation

- Source of admission (self, emergency, by medical practitioner, by specialist)
- Length of stay (assessed by patients as appropriate, too short, too long)
- Length of stay in days
- Number of prior hospital stays
- Occurrence of complications (Yes/ No)

➢ 5 Items

3 Method and sample

Patient satisfaction (18 Items)

...aufenthalt unter folgenden Gesichtspunkten:
...l=sehr gut,
...=mangelhaft,

6 point-rating scale ranging from 6 „excellent" to 1 „very poor"

Wie war die Aufnahme im Krankenhaus organisiert?

Wie waren die Ärzte über Vorgeschichte und

Organization:
Organization of admittance, discharge, and organization of procedures and operations

...informiert?

Information about treatment:
clear reply of inquiries by doctors,
information about medication, operation, anesthesia

Service variables:
Accommodation, Quality of food Cleanliness

Interpersonal aspects:
Kindness of doctors and nurses, individualized medical care

...Organisation und Ablauf von Untersuchungen, z.B. Röntgen, ein?

Wie beurteilen Sie Untersuchungen?

Overall Satisfaction
Willingness to return to same provider (Yes/ No)

Wie wurden Sie auf vorbereitet?

1126068824
(Formularnummer)

3 Method and sample

Data analysis

Logistic Regression using "overall satisfaction" as dependent variable

1. Associations between "overall satisfaction"/ and assessed variables?

Pre-selection of variables: Influence on dependent variables? (Chi²-test, U-test, KW-Wallis-test, p≤ 5%)

No: excluded

Yes

2. Performance of logistic regression

Dependent variable:
Overall satisfaction with the hospitalization

Overall satisfaction dichotomized:
„Satisfied"   ≙ 2 highest ratings (5+6)
„Unsatisfied" ≙ 4 lowest ratings (3 to 6)

4 Results

Sample characteristics (N= 4.293 *)

➡️ **Gender**

female	male
57.9%	42.1%

➡️ **Age groups**

15-50	51-60	61-70	71-80	80+
9.0%	12.4%	26.5%	39.6%	12.4%

➡️ **Perceived length of stay**

Appropriate	Too short	Too long
74.3%	9.7%	3.3%

➡️ **Length of stay in days**

1-2	3-7	8-14	>14
6.3%	34.0%	45.5%	12.4%

➡️ **Complications (discharge)**

Yes	No
11.4%	88.6%

➡️ **Perceived health status prior to hospitalization**

perfect	good	fair	bad
1.5%	23.4%	36.1%	39.0%

*Presented data are valid percent without missing cases

4 Results

Patient Satisfaction

➤ | **Overall satisfaction** | **Excellent/ good** 87.0% | **Fair – very poor** 13.0% |

➤ | **Willingness to return** | **Yes** 86.9% | **No** 3.4% | **Not sure** 9.7% |

➤ **Significant influence of complications:**

| **Yes** Median:4.69 | **No** Median: 5.24 |

➤ **Significant influence of perceived LOS:**

| **Appropriate** Median: 5.29 | **Too long** Median: 4.59 | **Too short** Median: 4.90 |

➤ Influence of age, sex, actual LOS in days, and self-perceived health status:

None found (n.s.)

4 Results

Patient Satisfaction ⊕ ⊖
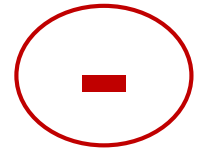
Most positive ratings	
Item	**% satisfied**
Kindness of doctors	93.5%
Kindness of nurses	93.7%
Kindness of service personnel	92.6%
Cleanliness	90.5%
Organization of admittance	90.3%

Most negative ratings	
Item	**% satisfied**
Clear information about medication	63.7%
Organization of discharge	70.6%
Doctors` knowledge of patient anamnesis	76.0%
Organization of pro-cedures and operations	79.8%
Quality of food	79.9%

Satisfied = ratings of "excellent"/ "very good"

4 Results

- ## Results of the logistic regression analysis

Variable	Overall satisfaction OR (95% CI), P
Kindness of nurses	1.81 (1.30-2.52), <0.001
Kindness of doctors	n.s.
Kindness of service personnel	1.89 (1.17-3.03), <0.01
Organization of admittance	1.37 (1.01-1.71), <0.01
Organization of discharge	1.23 (1.01-1.49), <0.05
Organization of procedures & OP	n.s.
Accommodation	1.71 (1.32-2.29), <0.001
Cleanliness	n.s.
Quality of food	n.s.
Occurrence of complications	n.s.
Clear information about undergoing treatment: -clear reply of inquiries by doctors, clear information about medication, anesthesia, operation	n.s.

5 Conclusions

- This research suggests that
  - ➤ Organization of admittance[1,2]
  - ➤ Interpersonal aspects of care[1,2], particularly the interaction between nurses[3,4,5], service personal and patients
  - ➤ Accommodation[4]
- are strong drivers of overall satisfaction and willingness to return
- are more important to patients in surgery than technical aspects of care
  - ➤ Providing information about hospital stay neither associated with satisfaction nor willingness to return[1,4]
- ✓ Health care organizations should focus on those aspects in order to increase satisfaction of surgical patients

6 References

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[4] Schoenfelder T, Klewer J, Kugler J (2011) Determinants of patient satisfaction: a study among 39 hospitals in an in-patient setting in Germany. Int J Qual Health C 23:503-509.

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Thank You!