Ellen Tveter Deilkås

MD, PhD

Senior advisor, Campaign secretariate, National unit for patient safety/
Clinical consultant, Akershus University Hospital

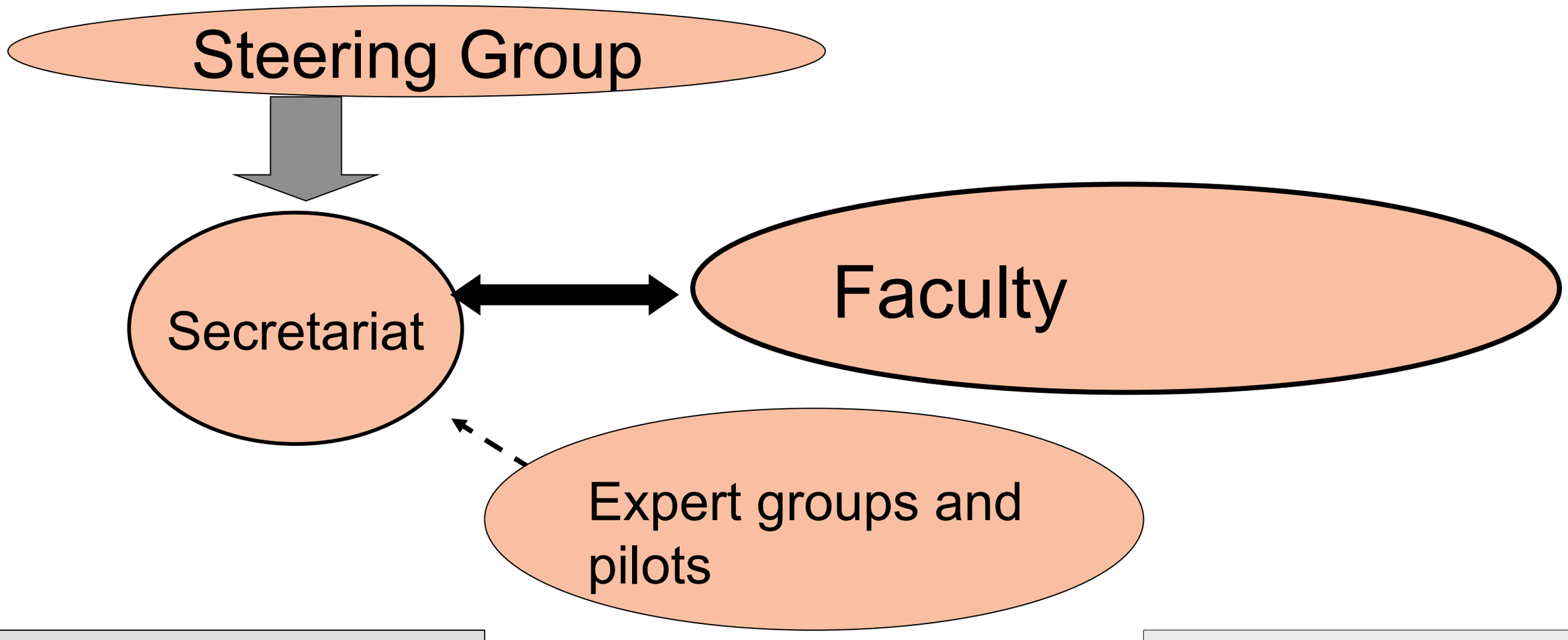
I TRYGGE HENDER 24 7

Nasjonal pasientsikkerhetskampanje

# Required patient safety campaign

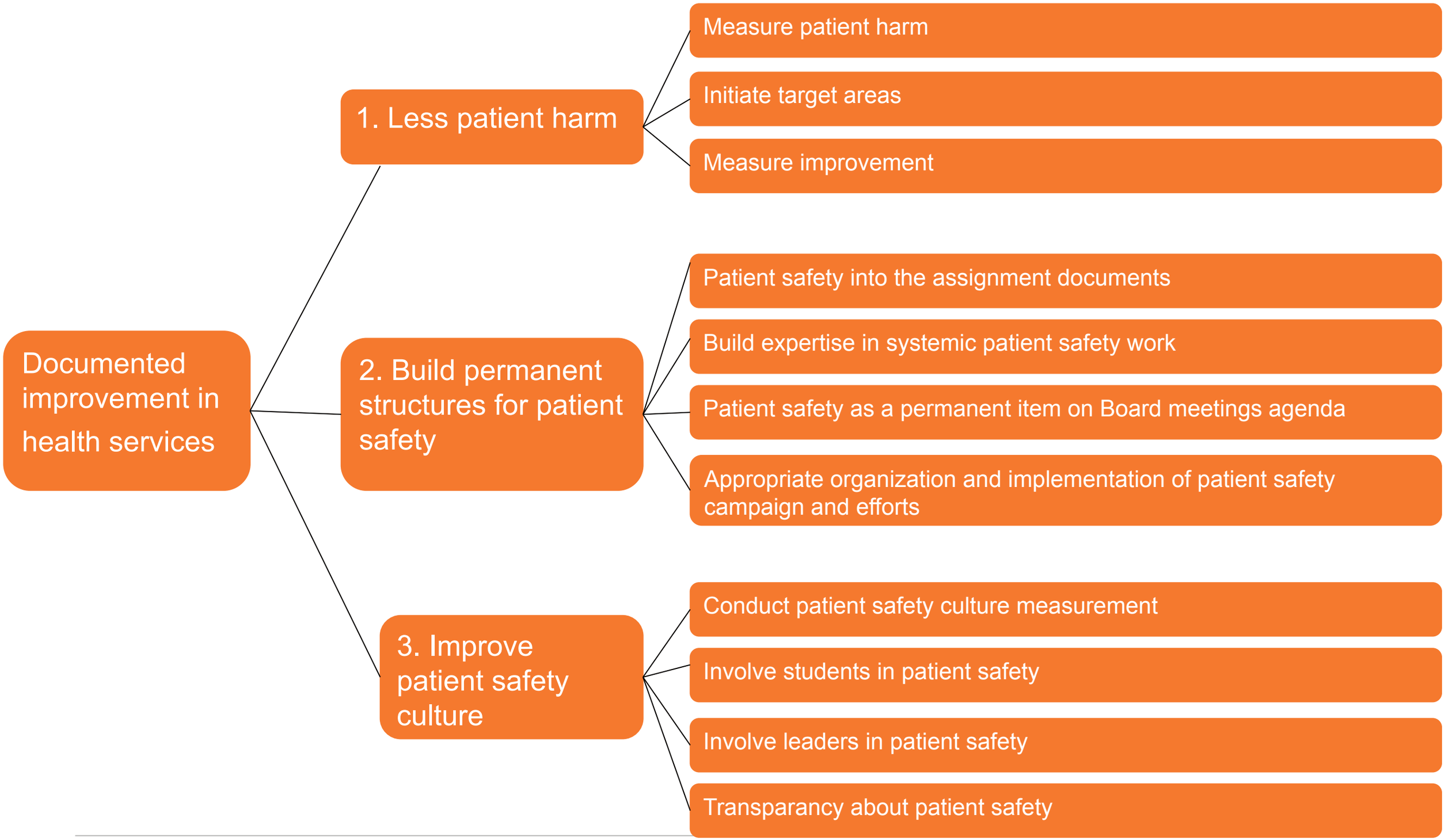
"I have faith that this targeted campaign will provide a national boost for better patient safety," said minister of health and care services Anne-Grete Strøm-Erichsen.

# Organization




**Municipal health services are invited to participate**

**Specialist health service Regional campaign leaders, Local campaign leaders**


Documented improvement in health services
1. Less patient harm
Measure patient harm
Initiate target areas
Measure improvement
2. Build permanent structures for patient safety
Patient safety into the assignment documents
Build expertise in systemic patient safety work
Patient safety as a permanent item on Board meetings agenda
Appropriate organization and implementation of patient safety campaign and efforts
3. Improve patient safety culture
Conduct patient safety culture measurement
Involve students in patient safety
Involve leaders in patient safety
Transparancy about patient safety

# Medical record review with Global Trigger Tool Background

- Only between 5 and 20% of incidents of patient harm documented in medical records had been reported by health personnel
- Using the Global Trigger Tool (GTT) reveals to 94% incidents of patient harm documented in the medical records **(Utah-Missouri study)**

# Global Trigger Tool (GTT)

## Structured medical record review

- Random selections of 10 patient admissions are examined twice every month
- The  medical records are filtered with  a list of standardized criteria  called triggers
- The filtered medical records are studied to uncover whether patient harm has occurred
- Team of two nurses and a doctor
- 1 day total per team per month

# Severity Categories

- **E:** Temporary harm to the patient and required intervention
- **F:** Temporary harm to the patient and required initial or prolonged hospitalization
- **G:** Permanent patient harm
- **H:** Intervention required to sustain life
- **I:** Patient death

# Global Trigger Tool

- **Definition of harm:**
- Unintended physical injury resulting from or contributed to by medical care that requires additional monitoring, treatment or hospitalization, or that results in death.
- **Statistical method:**
- Data are plotted in timeseries and analyzed with statistical processcontrol

# GTT in the patient safety campaign

**Steering group decision:**

- Global Trigger Tool  will be used to measure the amount of patient harm
- Local timeseries and baseline
- National baseline based on aggregated data from 2010
  - Minimum 200 medical records from every trust
- Pragmatic concerning organizational level
  - Trust/Hospital/Department

# Interrater reliability

Weighted Kappa scores between independent internal teams: 0,64

”.. we conclude that the GTT is a reliable and practical method for estimating the occurrence of adverse events to hospitalized patients. Our study suggests that the GTTcan be used in a random sample of hospitals to determine regional or national rates of adverse events.”

Paul J.Sharek, Gareth Parry, Donald Goldmann, Kate Bones, Andrew Hackbarth, Roger Resar, et al. Performance Characteristics of a Methodology to Quantify Adverse Events over Time in Hospitalized Patients. Health Serv Res 2010;46(2):654-78.

# Legal clarification

- A letter from the Ministry of Health dated 01.09.10 concludes that GTT can be used for quality improvement purposes in the campaign within the legal framwork of ” helsepersonelloven §26 første ledd ”, provided the trusts do not release information that may identify individuals.

- ”Datatilsynet” considers that the information to be reported from the trusts, to the campaign, is anonymous.

## The secretariat has

- Translated the GTT manual made by the Institute for Healthcare Improvement
- Held 20 training courses with more than 200 participants since December 2010.
- Posted information on the Web pages –
  - FAQ list
- Phone conferences and workshop
- Summary  template and  Annual report template with guidance

## Teams have

- Conducted  training on medical records from own trust
- One full day, about 40 records

# Data



- 18 of 19 health trust and five private hospitals reported results from medical record review .
- 39 teams at different organizational levels
  - Trust/hospital/ department
- 7819 patient admissions, randomly drawn from a population of 500250 admissions.
  - No overlap between populations of admissions that the reviewed are drawn from
- The teams categorized the incidents of patient harm according to severity (E-I) and type.

# Dataanalysis

- Estimates from the GTT teams at different organizational  levels were weighted
  - total number of admissions, which the reviewed admissions were drawn from
- Estimates of national rate were made based on aggregated data
  - Adverse events, disregarding types and severity were symmetrically distributed amongst the 39 teams
  - Confidence intervals took into account weights of team results

# Estimates:

I TRYGGE HENDER 24 7
Nasjonal pasientsikkerhetskampanje

| Percent (%) | patient stay with at least one adverse event | patient stay with at least one adverse event in category E | patient stay with at least one adverse event in category F | patient stay with at least one adverse event in category G | patient stay with at least one adverse event in category H | patient stay with at least one adverse event in category I | patient stay with at least one adverse event in category F or more serious |
|---|---|---|---|---|---|---|---|
| Estimate | **15,96** | 8,06 | 7,12 | 1,13 | 0,175 | **0,66** | **8,89** |
| Standard deviation | 1,11 | 0,72 | 0,74 | 0,15 | 0,09 | 0,09 | 0,80 |
| Minimum | 3,5 | 0 | 2 | 0 | 0 | 0 | 2,5 |
| Maximum | 38 | 27,5 | 18 | 3 | 4 | 2 | 21 |
| Conf interval lower limit. | **13,78** | 6,66 | 5,67 | 0,83 | 0,000 | **0,48** | **7,32** |
| Conf interval upper limit. | **18,13** | 9,47 | 8,58 | 1,42 | 0,36 | **0,83** | **10,47** |

# Types of adverse events

I TRYGGE HENDER 24 7
Nasjonal pasientsikkerhetskampanje

| Admissions with at least one adverse event s distributed according to type | Upper confidence interval 95% | Lower confidence interval 95% | |
|---|---|---|---|
| 14,02 | 17,68 | 10,48 | Urinary tract infections |
| 12,28 | 17,12 | 8,00 | Adverse drug events |
| 11,04 | 13,57 | 8,56 | Other infections |
| 10,13 | 13,07 | 7,51 | Postoperativ wound infection |
| 9,58 | 12,52 | 7,02 | Other surgical complication |
| 9,17 | 11,23 | 7,16 | Bleeding |
| 7,44 | 9,24 | 5,8 | Reoperation |
| 7,1 | 9,85 | 4,77 | Lower respiratory tract infection |
| 6,53 | 8,85 | 4,44 | Other injuries (delayed diagnosis) |
| 5,71 | 9,01 | 3,03 | Decubitus ulcers |
| 4,92 | 6,48 | 3,49 | Postoperativ bleeding/hematoma |

# Sources of error

- Differing practices between teams according to how closely they investigate physician and nurses notes
  - Variation in the number of  patient harm in the E category
    - For example, pressure ulcers and cuts by falls
- Different expertise in teams that affects understanding of what gives permanent harm
  - Variation in the  assessment of if harm should be categorized as F or G
    - For example, septic arthritis
- Variation in clinical judgment when evaluating whether or not damage is the natural result of underlying disease or if there is an injury caused by treatment
  - For example, peripheral palsy related to the op of aortic dissection

# Sources of error

- The weighting  of results according to the total number of admissions, which the reviewed admissions are drawn from, make results from large hospitals  dominate the national aggregate.
  - Makes the aggregate more imprecise, especially for severity categories  with small numbers, like deaths
- Norsk regnesentral has on request from the campaign reviewed the review process. Their report is available on the campaign's website.

# Room for interpretation

- For management use
  - Demonstrates risk, not error
  - Improvement areas may be demonstrated depending on categories for types of harm
- If used at clinical level it is advised to supplement the review with items of specific clinical interest.

# Managing results

I TRYGGE HENDER 24 7
Nasjonal pasientsikkerhetskampanje

- Boards and management at trust level review results for patient harm (GTT)with subanalysis once a year. Boards initiate interventions and monitor activity related to reducing risk.
- Boards and leadership review timeseries with results for patient harm (GTT) three times a year.

# I TRYGGE HENDER 24 7

Nasjonal pasientsikkerhetskampanje