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– engasjert for mennesket

Quality Management in a Norwegian Hospital

NICE (National Institute for Health and Clinical Excellence) stream HC2012

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Diakonhjemmet Sykehus

Presentation overview

- Short info about the Diakonhjemmet Hospital
- Our definition of quality!
- Technology supported Quality Management and Improvement
- A timeline of IT implementation in our hospital
- Emerging technologies
- Electronic Patient Journal
- Quality based management paradigm
- PDCA and ICT supported PDCA
- Process mapping for standardisation in clinical and non-clinical processes
- IT supported, quality paradigm based Hospital Management
- Does it work and can we measure the results?
- Conclusion

Diakonhjemmet Hospital

- City centre Oslo Hospital
  - Local hospital status
  - Emergency department
- Private - charity owned – non-profit – fully publically funded
- 205 beds (2011 – 234, 2010 – 244, 2009 – 270, 2008 - 290 beds)
- 7 clinical department (orthopaedic and general surgery, rheumatology, internal medicine, psychiatric acute ward and district centre, elderly psychiatry and child psychiatry)
- 1500 employees
- 12800 inpatient and 96000 outpatient visits
- 43000 radiology and over 1 mill lab tests
- Budget: £125 mill.

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Our definition of Quality

The ultimate focus is on the improvement of patient treatment and patient safety. This is not only dependent upon the treatment and nursing care but upon the total management of the hospital.

Finances, buildings, medical technology, cooperation with other parts of the healthcare system, ICT, personnel, HSE, research, Art and aesthetics and values all contribute in an inseparable way to the quality of patient treatment in a hospital.

Therefore a single sided focus on either finances or treatment will not yield the best level and improvement of quality.

And William Edwards Deming stated ” Management's job is to optimize the whole system” and ”Deming believed that 80–85% of quality (or lack thereof) was due to the system and not the individual”, *ergo of management*

Technology supported Quality Management and Improvement

- Due to the complexity of hospital management Diakonhjemmet has chosen a fully technology supported system of quality management and improvement
- Management support for technology and improvement
- Diakonhjemmet is fortunate to have a CEO with a keen awareness of the benefits of technology and a passion for improvement.

A timeline of IT implementation in our hospital

- 1989 Lab (electronic messaging in 1992)
- 1994 DIPS PAS/EPJ DOS version
- 2000 DIPS PAS/EPJWindows version
- Radiology (RIS / PACS) in 1999
- Paperless in 2006 ($1010^{06}101010$)
- GoTreatIt 2008 (Rheumatology)
- Electronic Messaging
  - Lab – 2006
  - Treatment documentation 2010
  - Messaging between the hospital and community healthcare 2011
- Administrative ICT support
  - Accounting and pay
  - Personnel management
  - Quality management
  - Building management
  - Internet and Intranet

Electronic Patient Journal

- Implemented in 1994

- Major milestone – full electronic EPJ
  - 10.10.06 10.10.10
  - No new patients with paper journal
  - All previous patients journal scanned before arrival (essential data only)
  - Journals always available for all caregivers

Use of emerging technologies

- Diakonhjemmet has embraced some of the new emerging technologies
- Telemedicine (teleconsultations)
  - European Centre of Excellence Rheumatic patients.
- EU research
  - Home based treatment of chronic heart patients

The basis of our quality management system

- Introduction to Plan – Do – Check – Act
- IT supported PDCA
- Lean
- Process mapping
  - Clinical pathways
  - non-clinical processes
- Combining it all
  - ”The whole is greater than the sum of the parts”

PDCA – Plan, Do, Check, Act

- William Edwards Deming
  - Loved in Japan, ignored in the US
  - Focus on systems, get it right first time, variation and waste reduction (Lean)

- In a hospital management paradigm
  - Put simply
    - *you do what you say you are going to and at least what you have to. Everything else comes second to this.*
    - *You measure it and analyse it*
    - *You try again when you don't achieve the targets and implement when you do.*

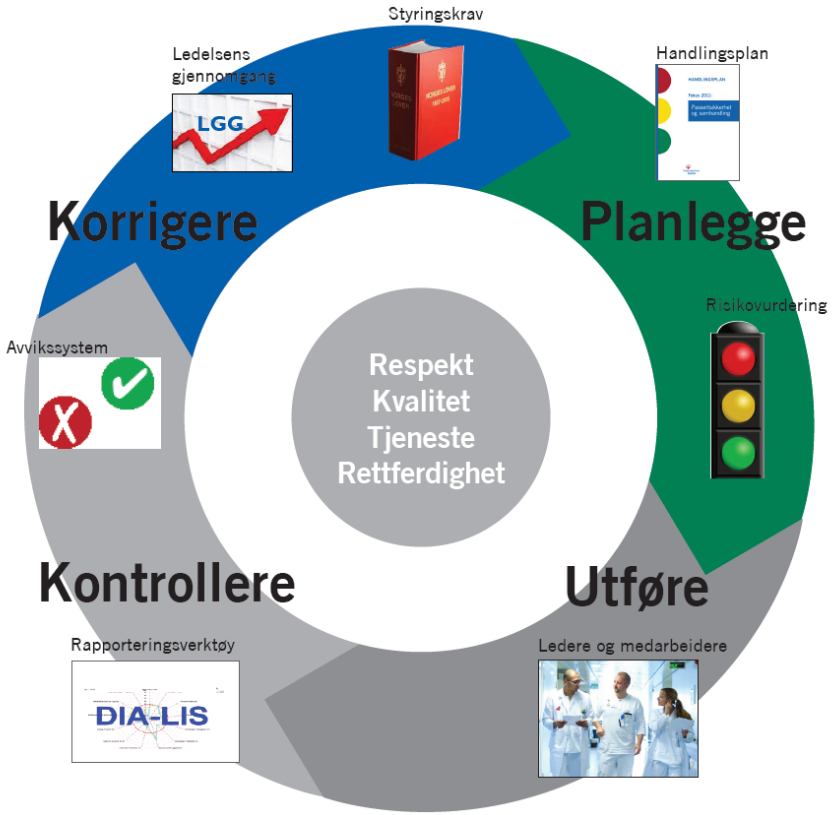
- Lean in Hospitals
  - Lean is based on Deming's ideas (PDCA and reduction in variation)
    - *Deming[1] "invented" PDCA and took it to Japan. Toyota embraced it. Womack, Jones and Roos and Licker documented what Toyota had done (The Machine that Changed the World and The Toyota Way) and called it Lean.*

1. Actually Shewart described PDCA before Deming

Quality based management paradigm

- **PDCA**

- **Plan** – Strategy and yearly targets
- **Do** – Daily activity and projects
- **Check** – reports and analysis
- **Act** – implement the positive, take another round on the outstanding challenges
- Constant review of adverse events – BOTH from treatment, legal requirements and from goal achievement



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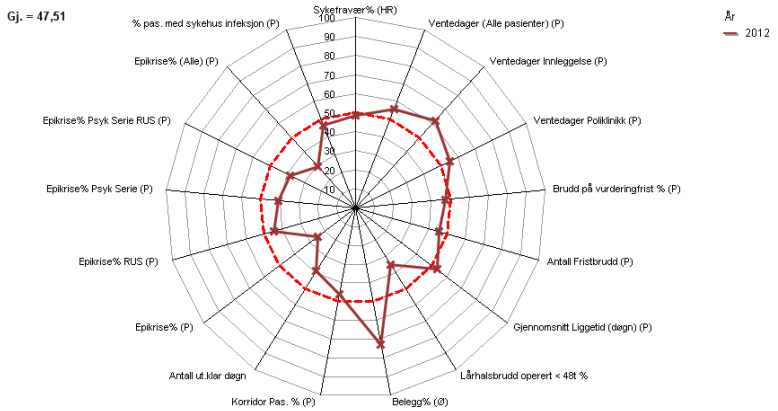
ICT supported PDCA

- Process mapping
  - Clinical pathways
  - Administrative processes
- Performance management
  - KPI
  - National and regional indicators
- Adverse event / continuous improvement
  - patient, ICT, information security, HSEQ, fire safety, MTU, etc
  - Targets and legal requirements
- Document management
  - administrative
  - patient related

•Legal requirements
•Roles and responsibility
•Personnel competence
•Documented procedures

IT supported, quality paradigm based, hospital management

- Combining all the information in a hospital.
  The Management Information System ***DIA-LIS***
  - ✧ Patient administration
  - ✧ Treatment statistics (i.e. DRG coding)
  - ✧ Finances
  - ✧ Manning levels
  - ✧ Adverse events



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Does it work and can we measure the results?

- Quality (not outcomes)
- Patient safety
- Employee absenteeism
- Patient satisfaction
- Finances

- Examples.....

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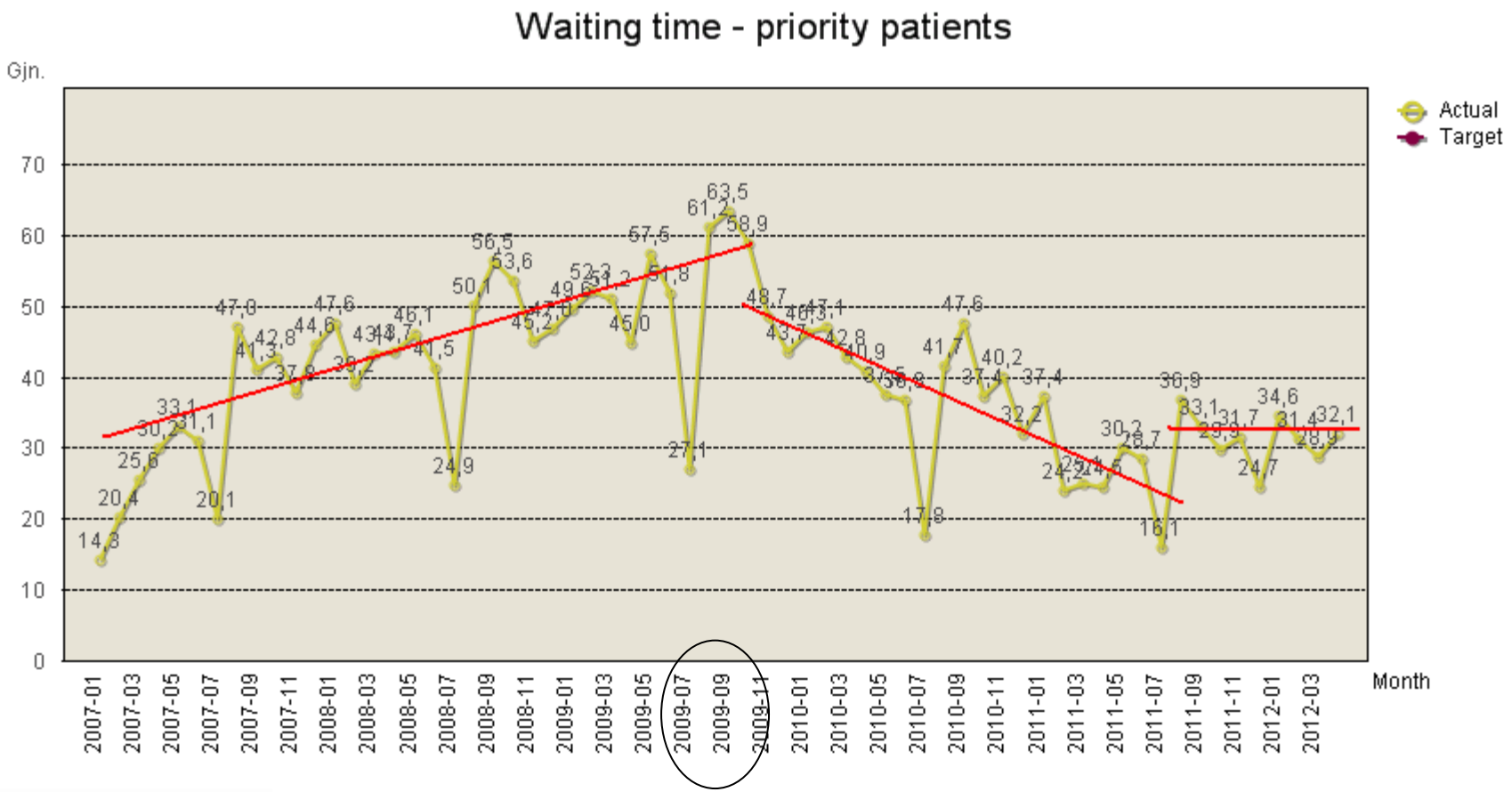
Waiting time, treatment guarantee and bed blockers



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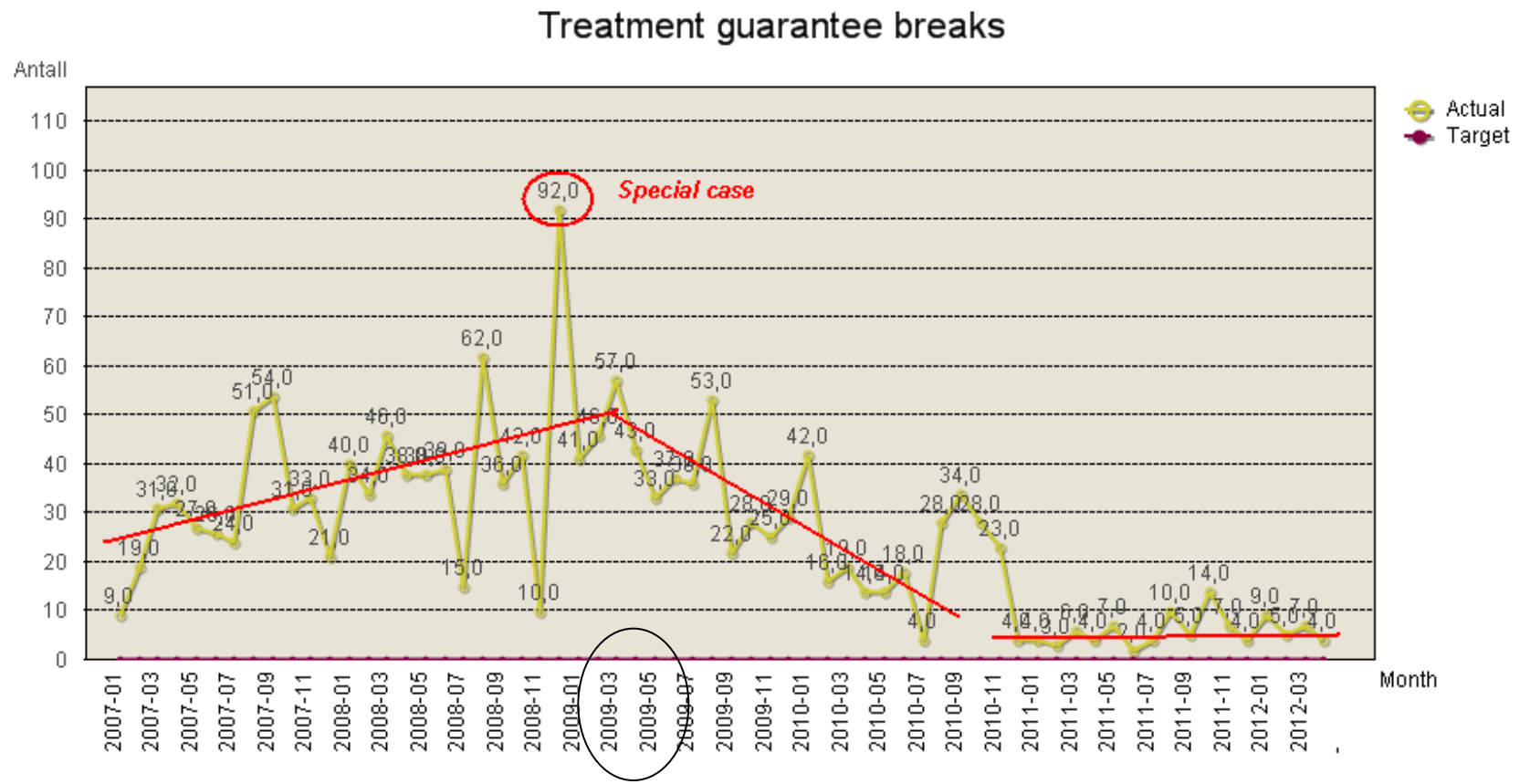

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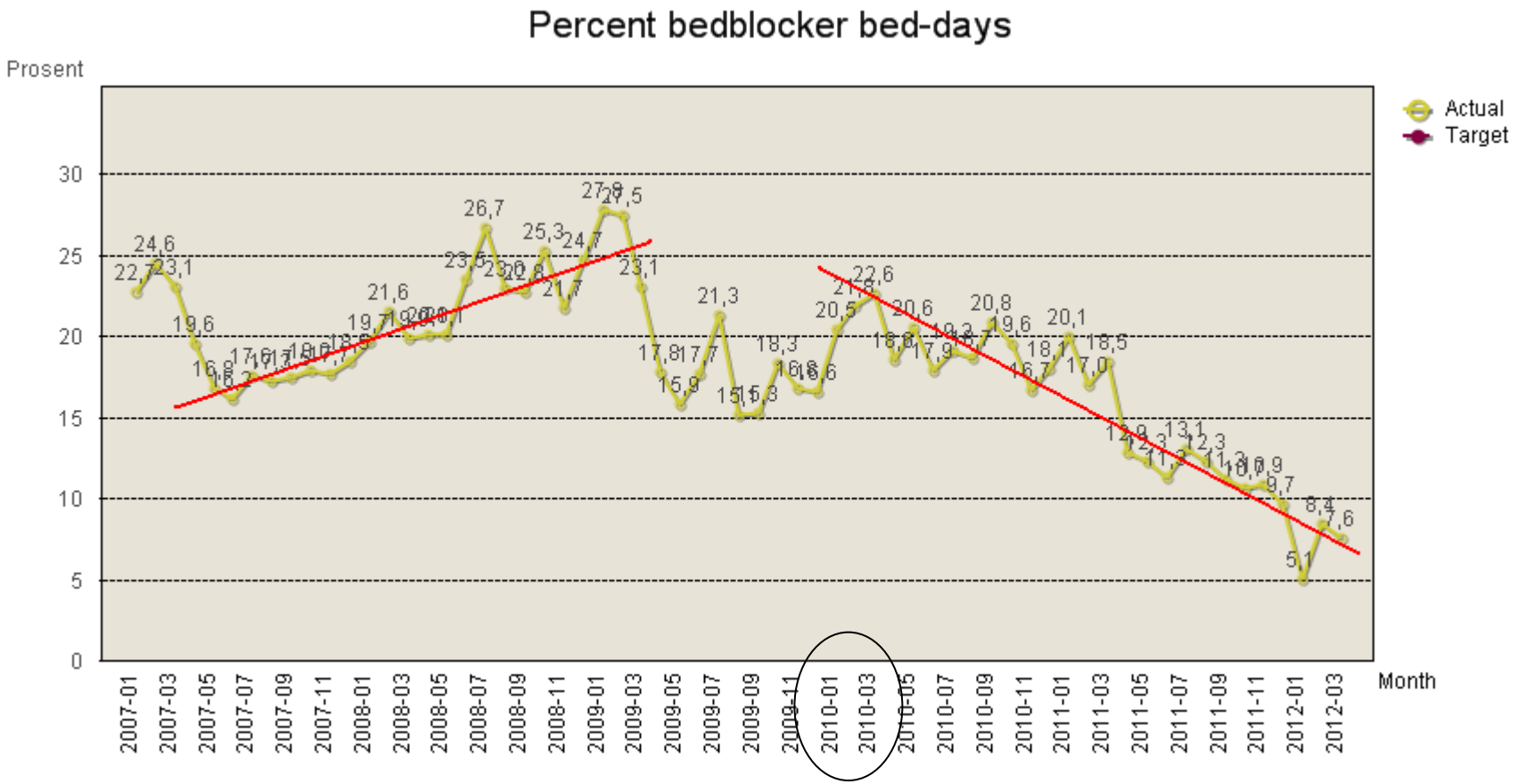
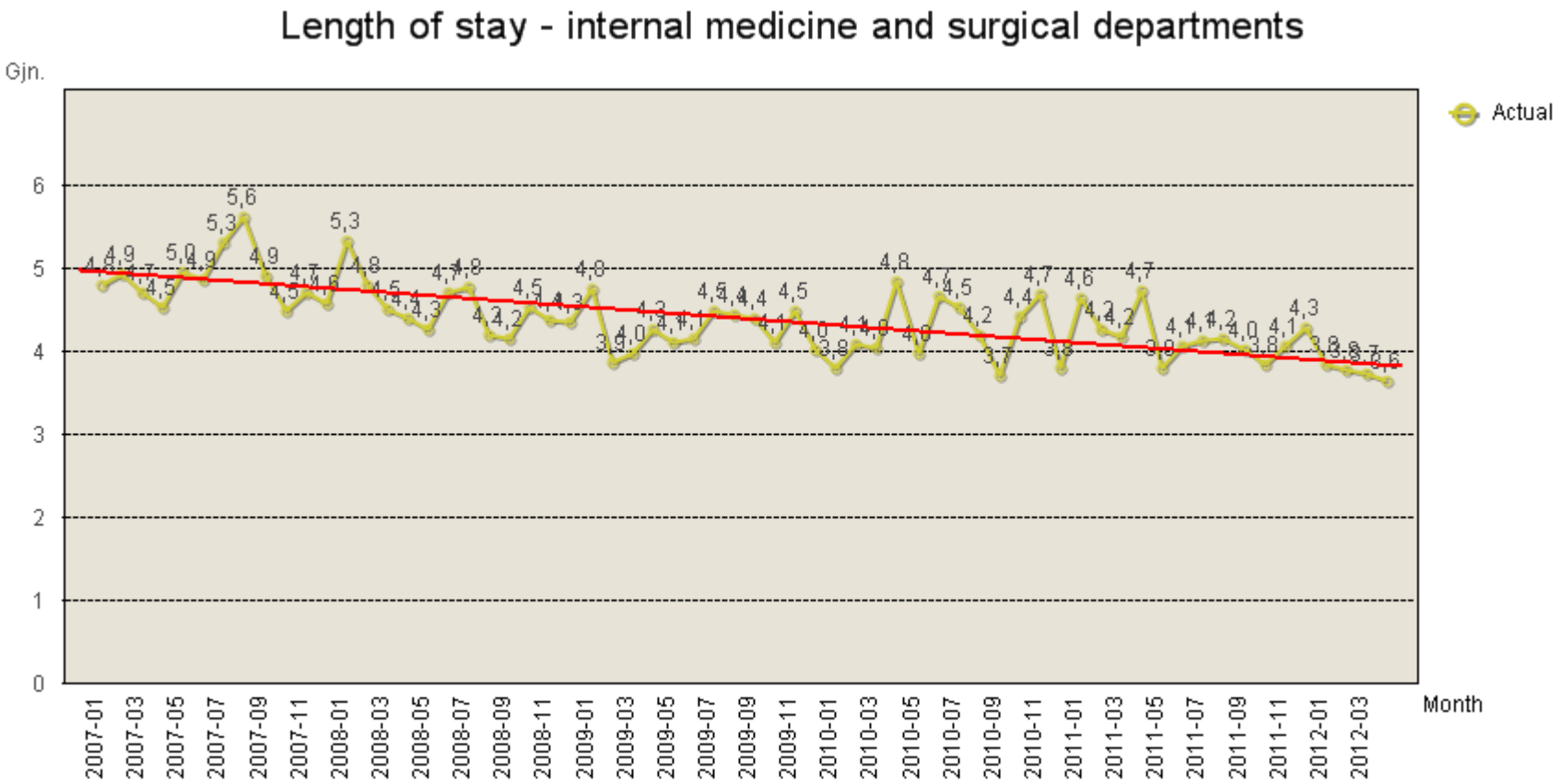
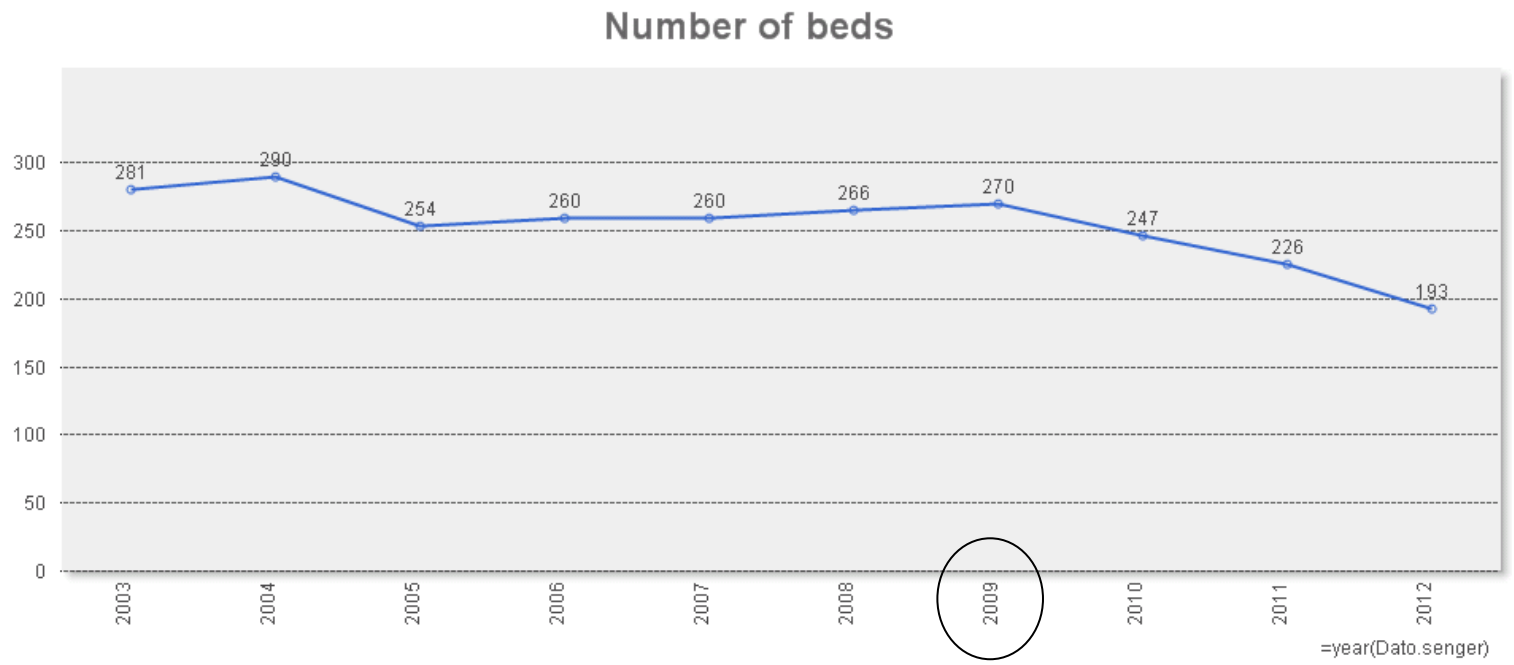


Length of stay and number of beds

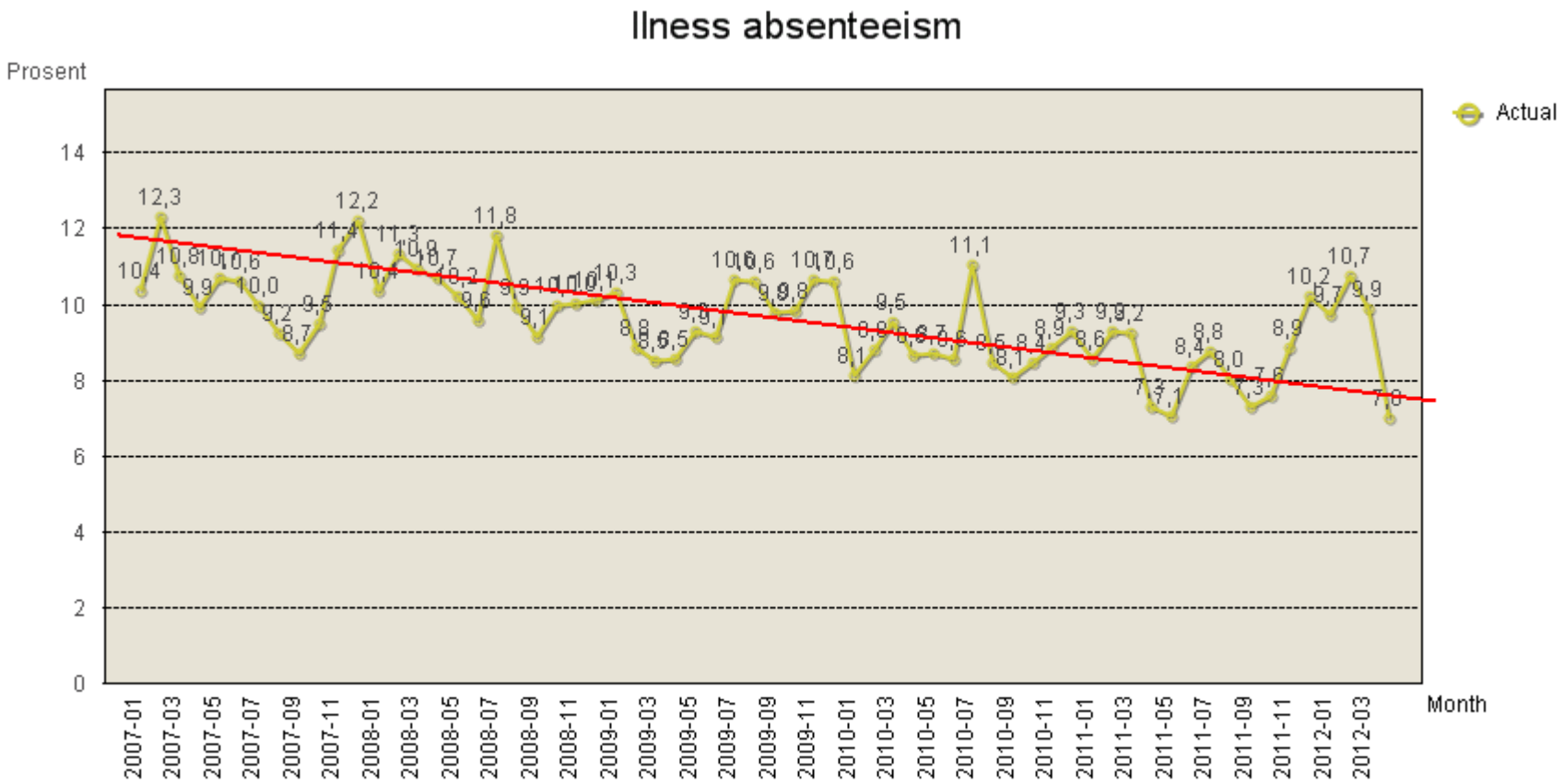


Excluding bedblocker days

Length of stay and number of beds



Absenteeism



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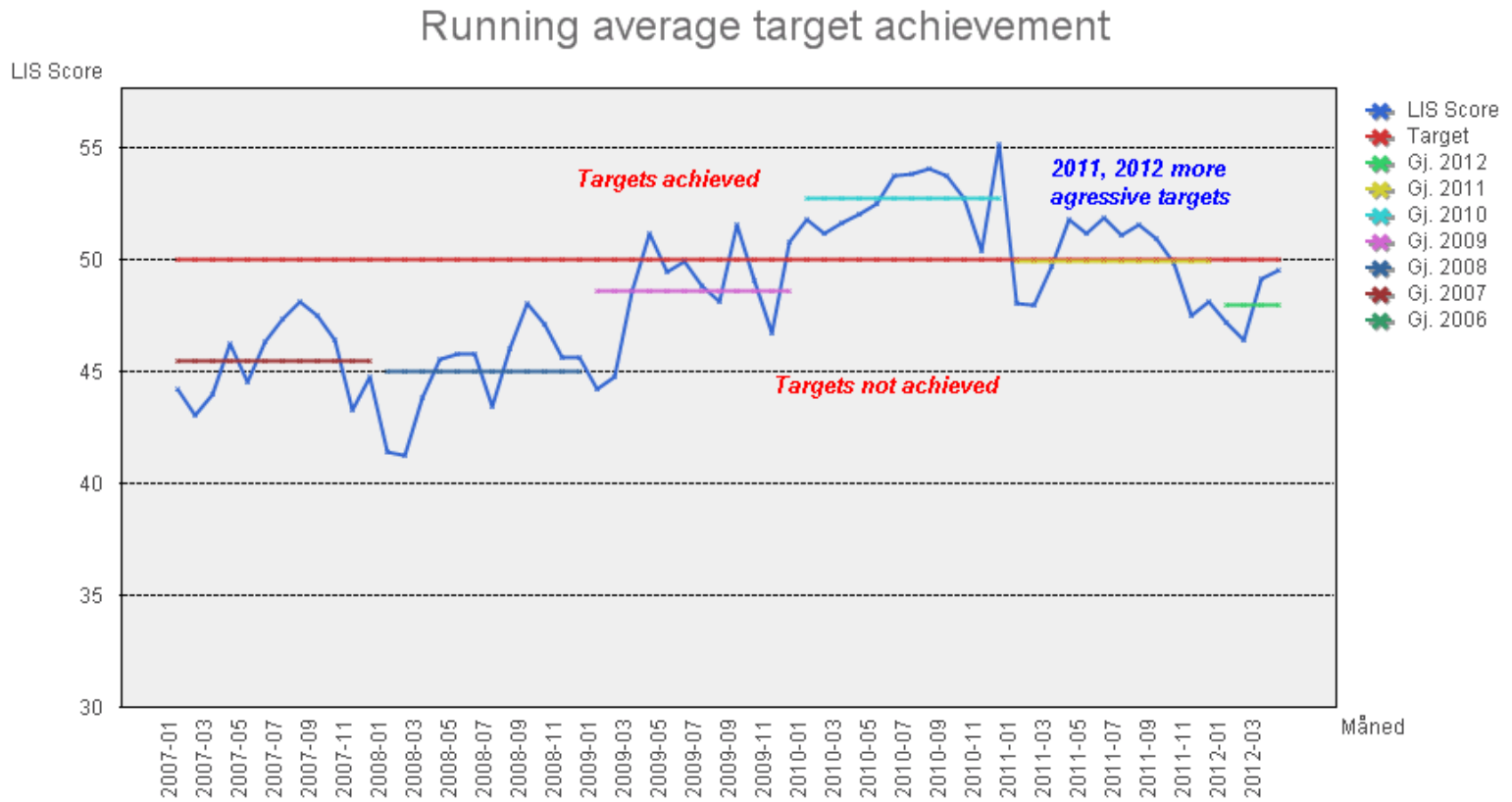
Overall management measure



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Patient satisfaction

Sykehus	Pleie-personalet	Informasjon	Legene	Pårørende	Organ-isering	Standard	Utskrivning	Sam-handling	Pasient-sikkerhet	Ventetid elektive pasienter	Totalt
Østfold	59	49	56	50	49	56	46	51	49	51	56
Ahus	61	56	59	60	61	17	46	52	58	53	59
Hamar	40	51	44	46	45	45	44	46	17	36	41
Gjøvik	29	21	22	30	39	28	36	9	29	5	17
Kongsvinger	29	33	28	14	26	34	11	10	9	16	23
Lillehammer	35	21	13	31	29	33	25	33	20	11	26
Tynset	6	5	8	9	4	6	4	16	27	28	5
Elverum	43	45	53	41	56	30	60	22	47	29	40
Aker	51	47	51	48	47	41	43	61	60	35	57
OUS	38	31	35	40	57	40	55	59	31	46	51
Drammen	44	40	45	56	57	54	57	25	45	49	52
Ringerike	24	19	22	18	36	8	42	21	48	13	25
Kongsberg	7	7	5	8	9	24	6	37	5	9	6
Bærum	52	53	46	53	53	44	24	41	41	42	46
Sunnaas	15	34	31	11	10	37	30	17	11	13	16
Rjukan	13	25	20	25	23	9	23	4	20	10	12
Notodden	21	10	16	12	17	10	17	1	10	19	10
Skien/Porsg	41	60	49	34	49	28	53	57	45	29	44
Kragerø	46	61	60	47	60	16	61	43	52	2	45
Vestfold	22	34	41	38	41	19	46	30	38	24	33
Kr'sand	34	18	38	33	37	31	12	27	41	26	31
Arendal	14	12	5	16	21	21	36	11	24	33	20
Flekkefjord	9	9	5	7	13	5	7	5	15	41	9
Diakonhjem	**10**	**8**	**17**	**5**	**17**	**14**	**9**	**23**	**30**	**8**	**7**
Lovisenberg	16	27	10	27	12	22	7	45	7	31	18
MHansen	7	11	10	20	5	13	33	52	6	44	21
Feiring	2	1	2	1	2	1	5	6	3	15	1
Glittre	1	2	1	18	1	4	1	2	2	61	2
RevmaL	5	6	4	6	6	2	2	18	1	31	4
Betanien	4	25	24	4	20	11	13	42	13	57	24
Stavanger	47	43	48	55	51	42	50	48	51	60	59
Stord	33	57	57	24	34	48	41	28	34	1	29

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Finances

- The hospital makes a profit that is reinvested in new infrastructure, new technology, research and its employees
  - four new wards
  - new library, auditorium and learning centre
  - new accident and emergency
  - Highest number of research points of all non-university hospitals
  - Relatively modern technology park
  - High expenditure on further education

Still a long long way to go....

- Changing the culture of 1500 people takes time – a long time

Conclusions

- Quality of treatment, patient safety and patient satisfaction are not just the product of what doctors and nurses do but are a product of everything the hospital does.
- Deming said ”eliminate numerical quotas”. However good you are, whatever level of performance and quality, the goal is always to improve.
- IT is essential to support managing the complexities of a modern hospital.
- We have demonstrated that through our IT supported, quality paradigm based, hospital management approach we have improved
  - quality and patient safety
  - patient satisfaction
  - finances
  - employees working environment

Thank you

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Join us in the Afterthoughts Lounge ☺

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