

Improving patient flows with an End-to-End approach

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Change agents, Operations Management

Karolinska University Hospital

- one of the largest hospitals in Europe



15 miles

15 000 employees



600 patients/day in our ED:s
1,680 beds
109,000 admissions/year
1,7 million patient visits/year

County council owned

- Patient care
- Research
- Education

Karolinska´s main strategies

Change culture and daily routine work

- Create safety culture
- Improve leadership

Lean transformation

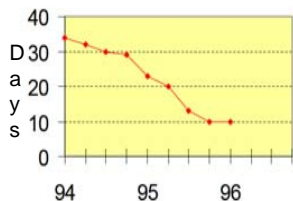
- Process orientation and continuous improvements
- Develop process oriented management
- Change in culture as a result

Create Academic Health Care System in Stockholm

- Strengthen clinical research
- Increase cooperation between health care, academy and industry

Learning by doing 1993-2007

Referral to first assessment



Outpatient Clinic
Dpt of Cardiology



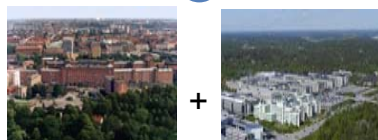
End-to-End approach
Maternity care
Top down & bottom up



End-to-End approach
ED/Ward
Top down & bottom up



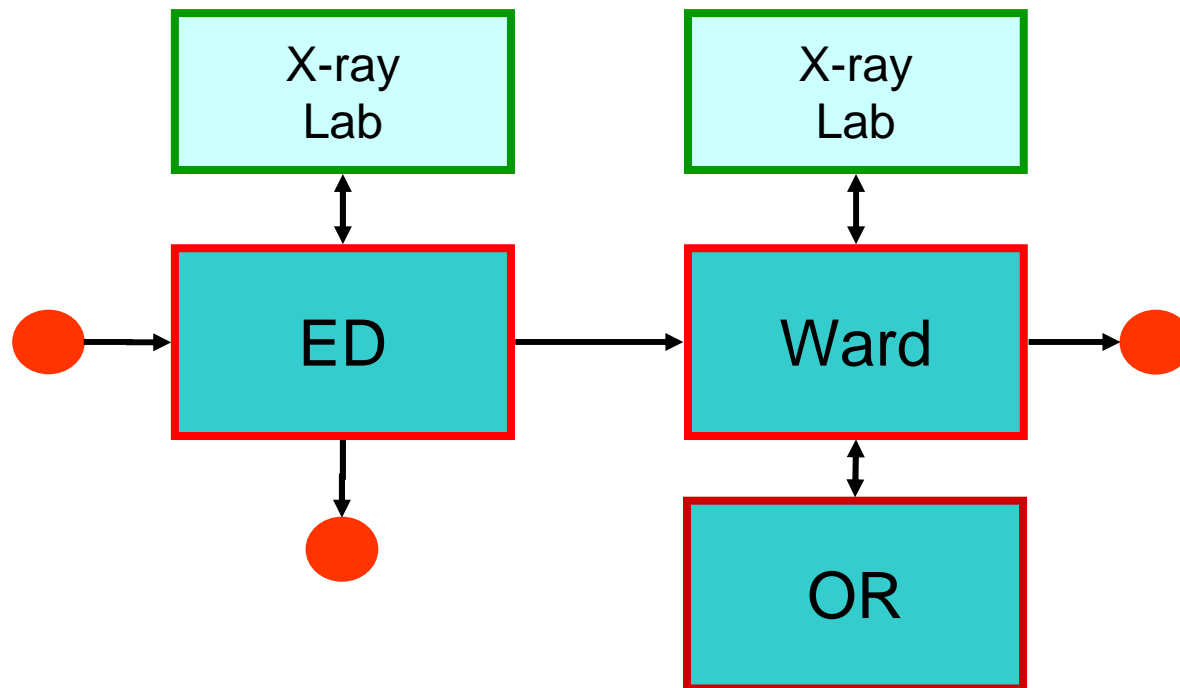
120 improvement projects
TQM, Six Sigma, SPC, LEAN
85 % success rate short term
Long term?



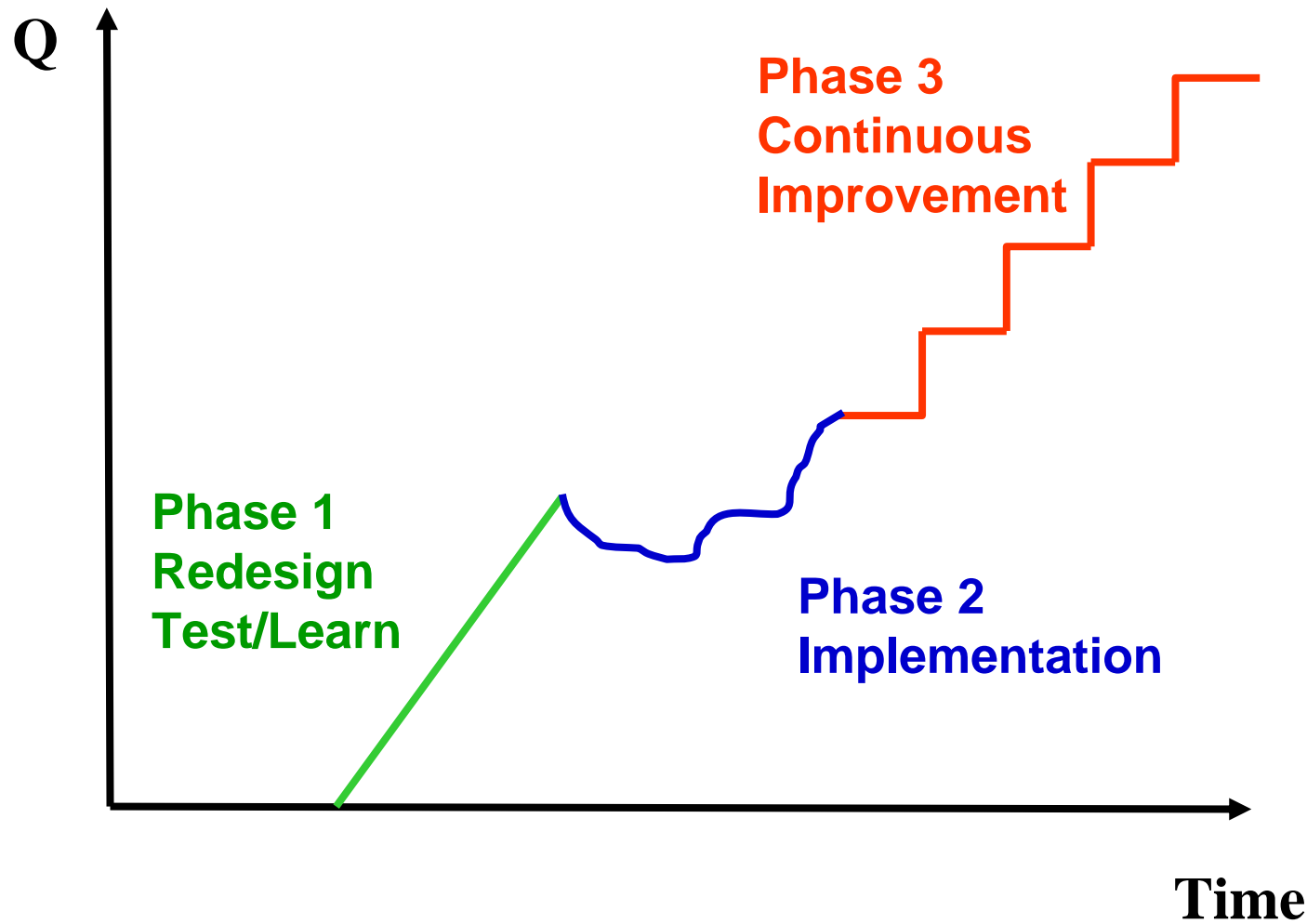
The merger



End-to-End approach



Our improvement model



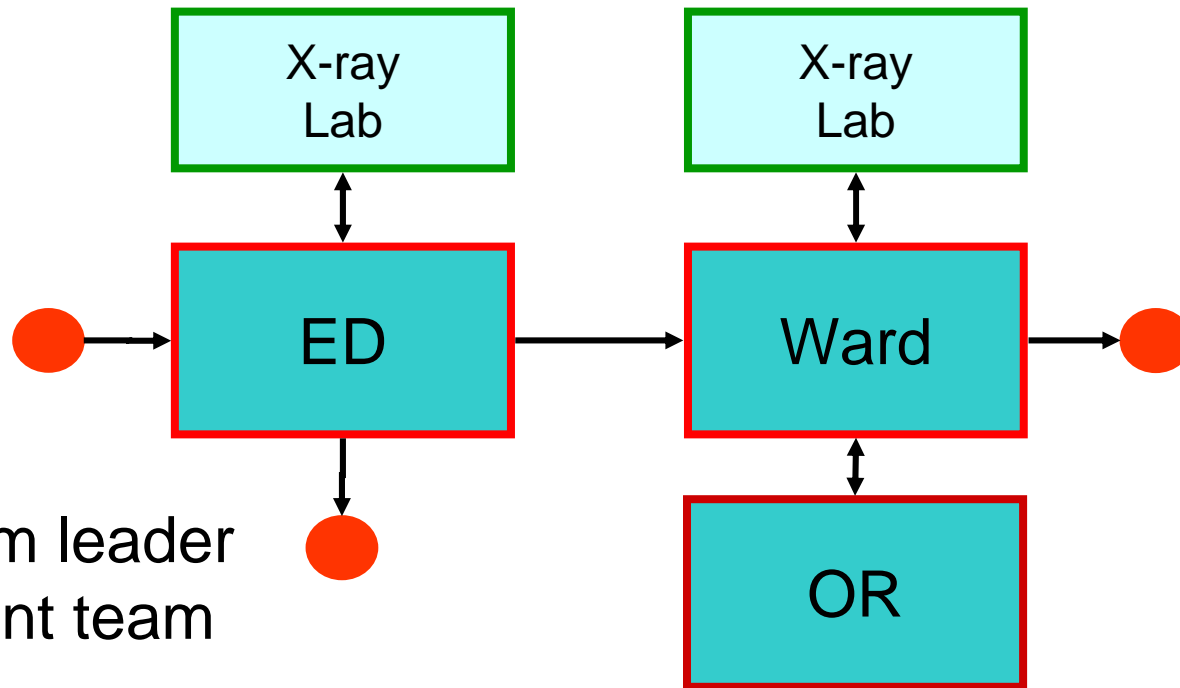
Value stream management system



Value stream management team



Value stream leader
Improvement team



Value stream management in practice

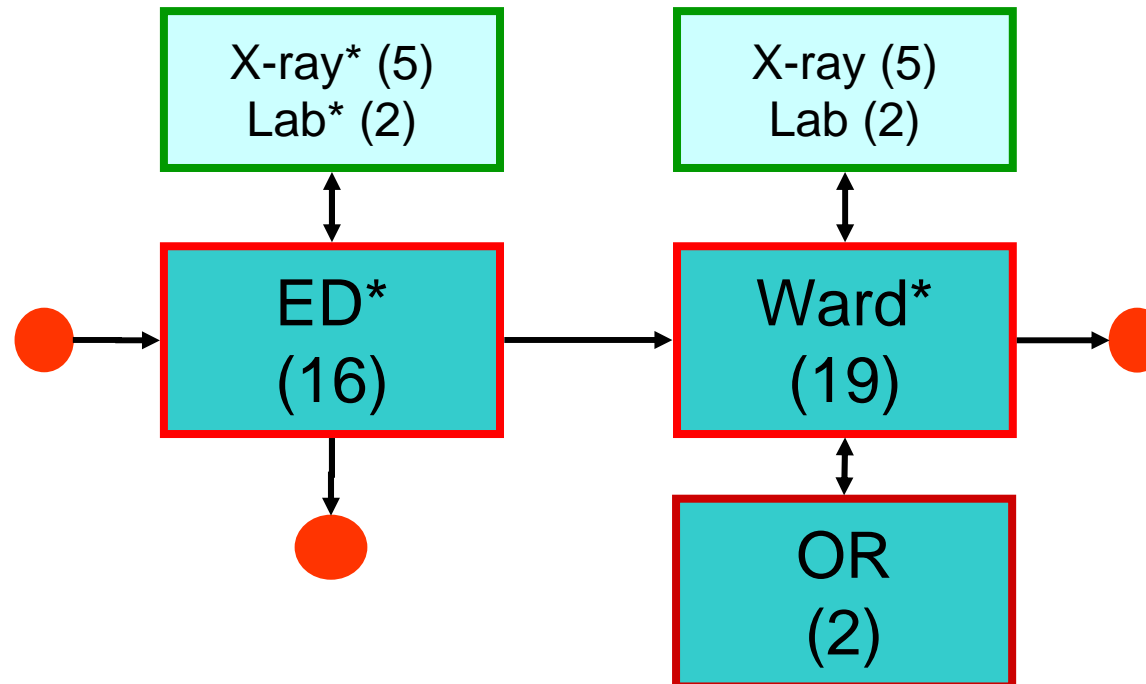


Current status

16 patient flows:

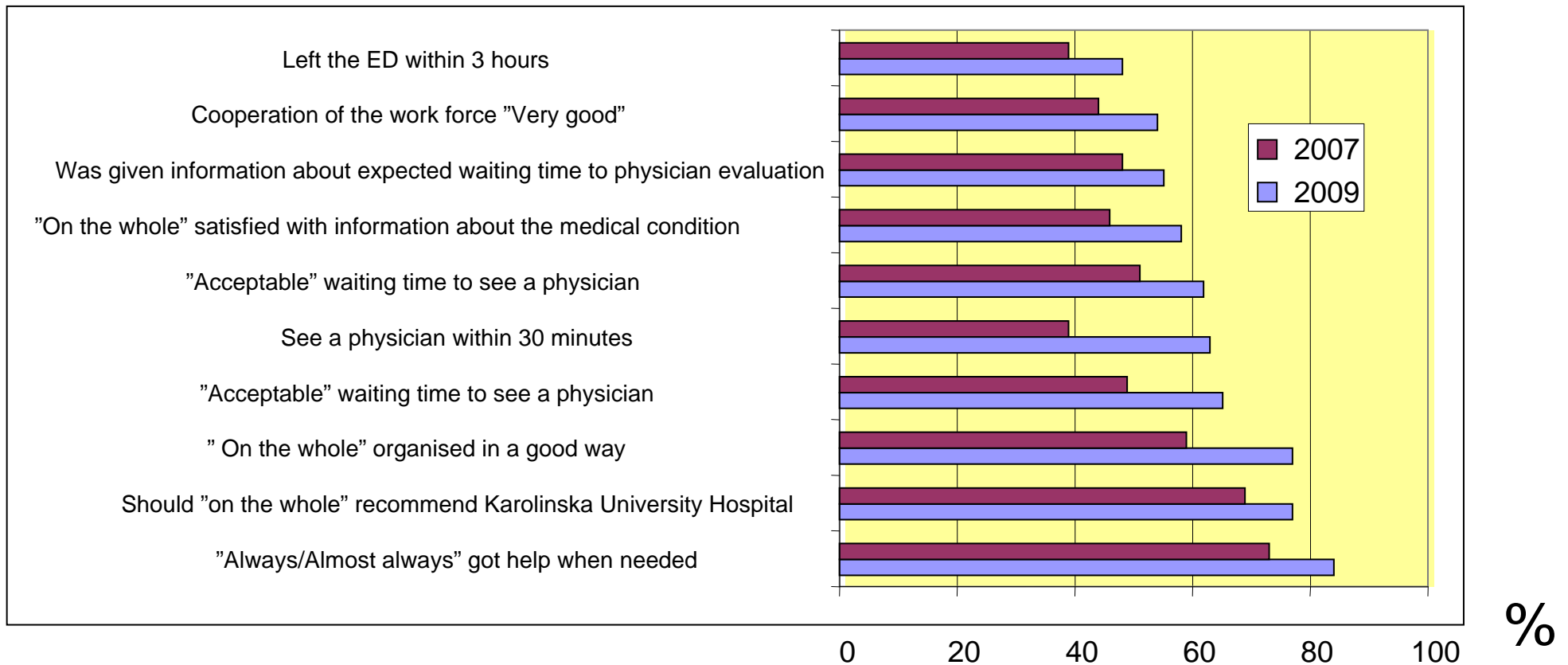
- Internal Medicine
- Surgery
- Orthopeadics
- Gynecology
- Ear-Nose-Throat
- Pediatrics
- Infectious diseases
- Neurology

95% of ED patient flow



* Statistically significant changes in patient oriented measures

Improved ED patient experience

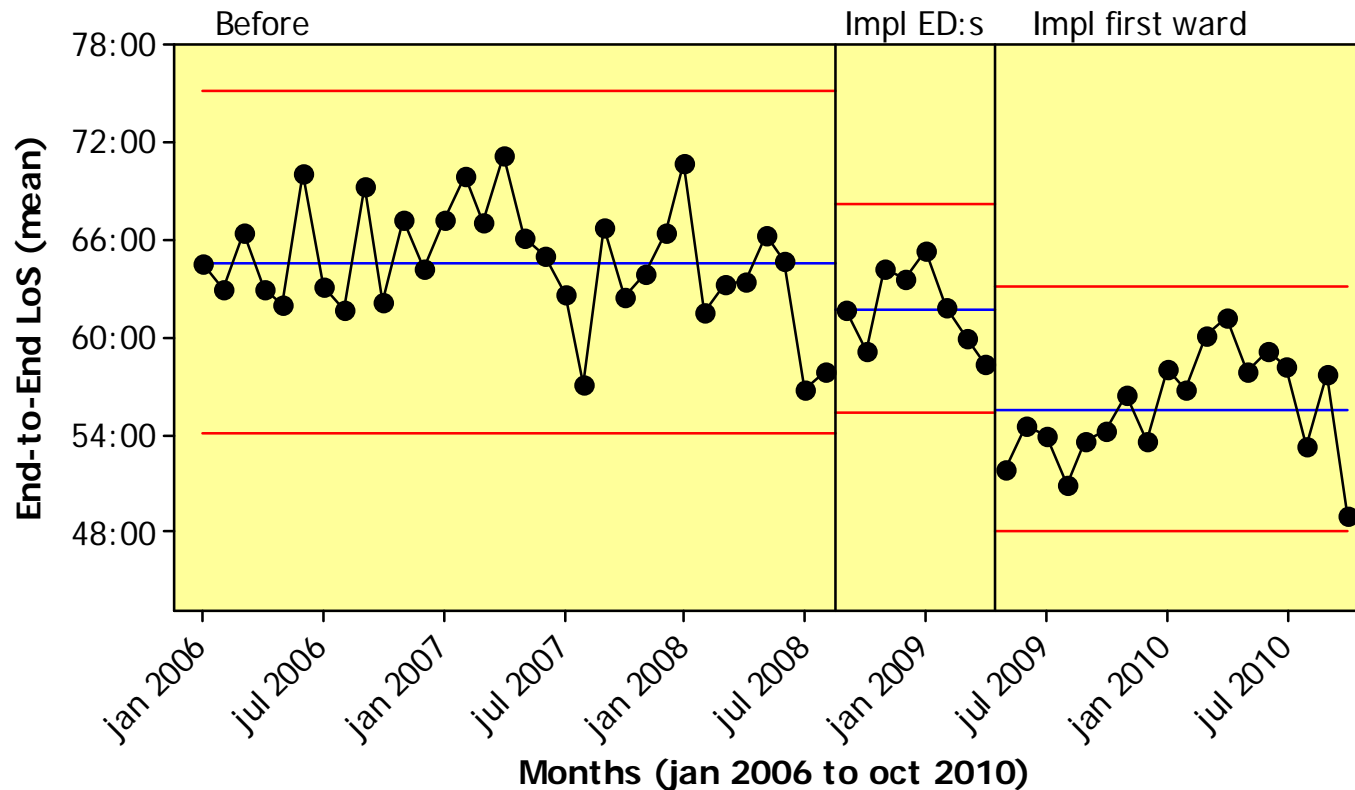


All significant changes in the patient inquiry 2007 to 2009 are presented above

End-to-End LoS for admitted patients

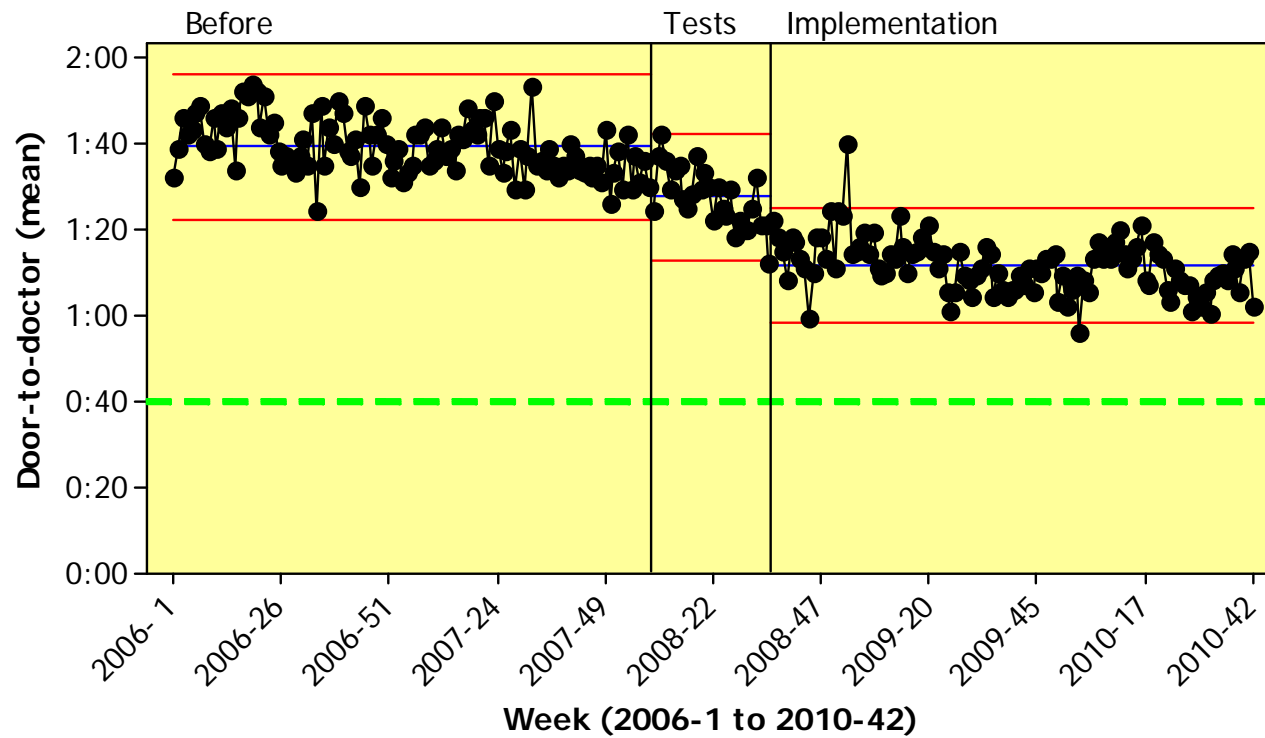
Arrival at the ED until leaving the hospital for admitted patients

10 wards at Karolinska 24/7



Door-to-doctor time

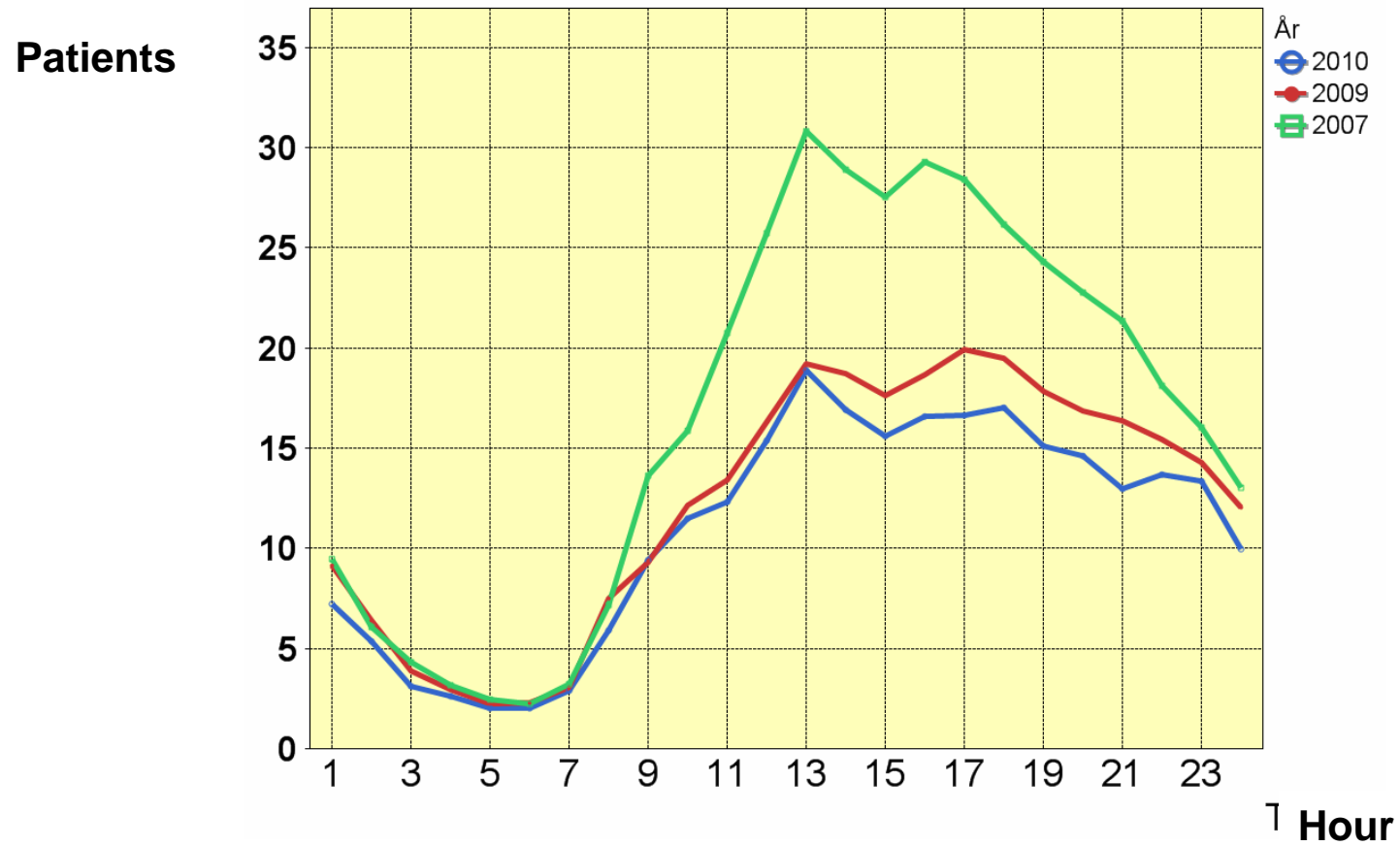
Door-to-doctor time
16 ED:s at Karolinska 24/7



30 min reduction 24/7

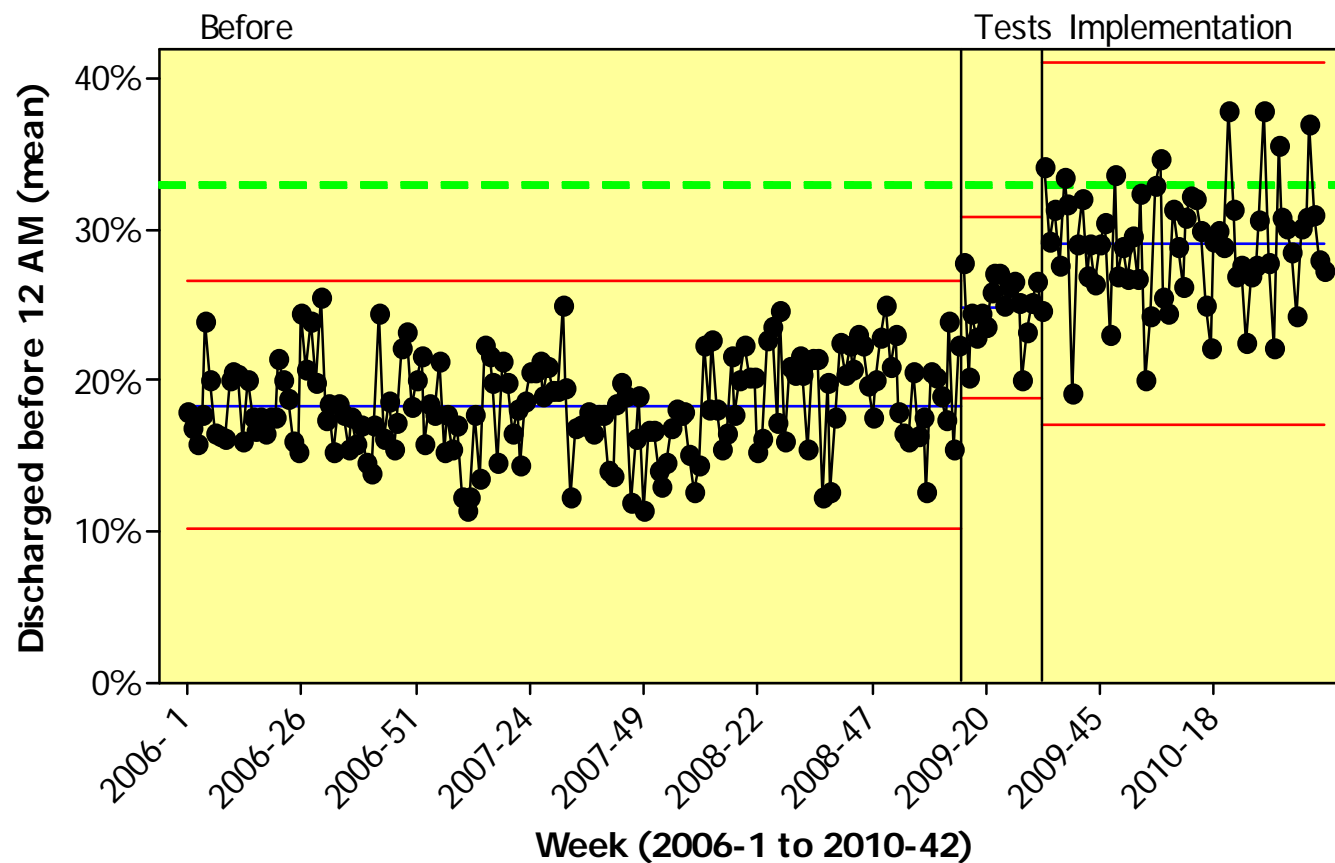
40 min reduction weekdays 8 AM – 4 PM

Number of patients waiting for doctor each hour



Discharged before 12 AM

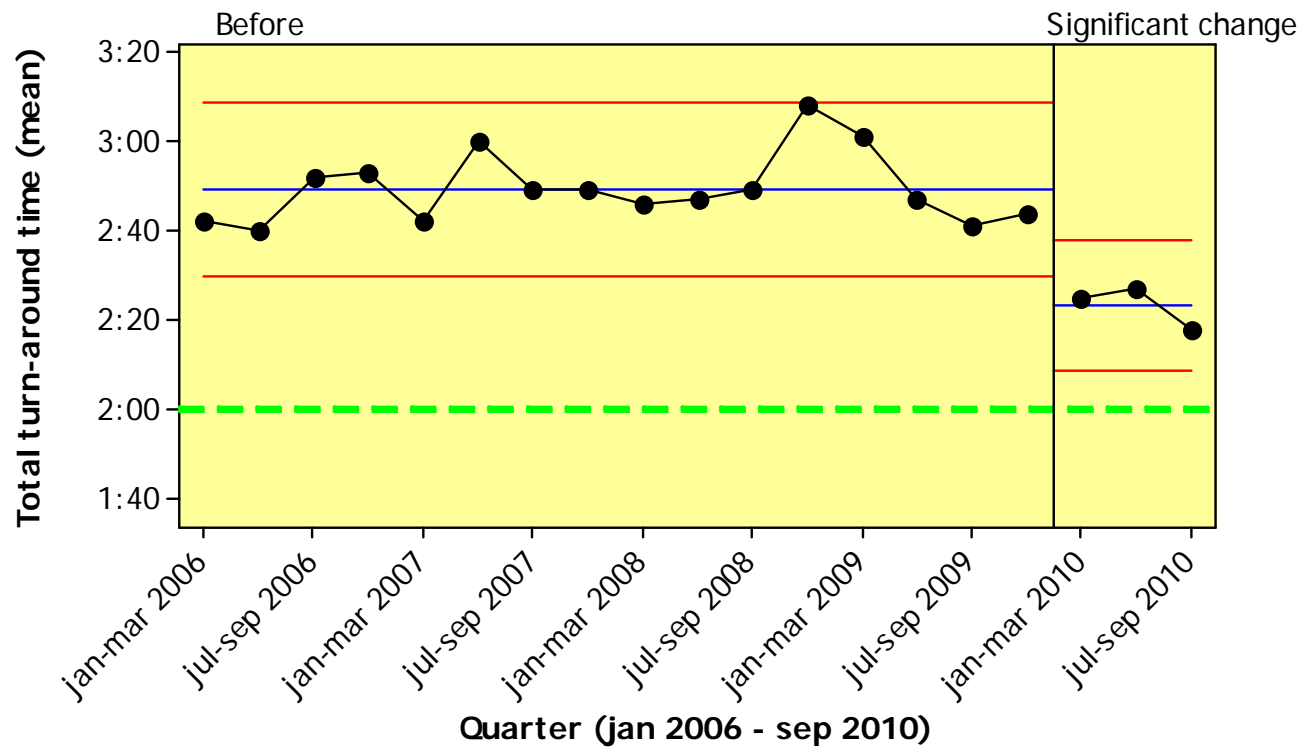
10 wards att Karolinska University Hospital 24/7



X-ray *total* turn-around time

Time from first doctor assessment to available X-ray result

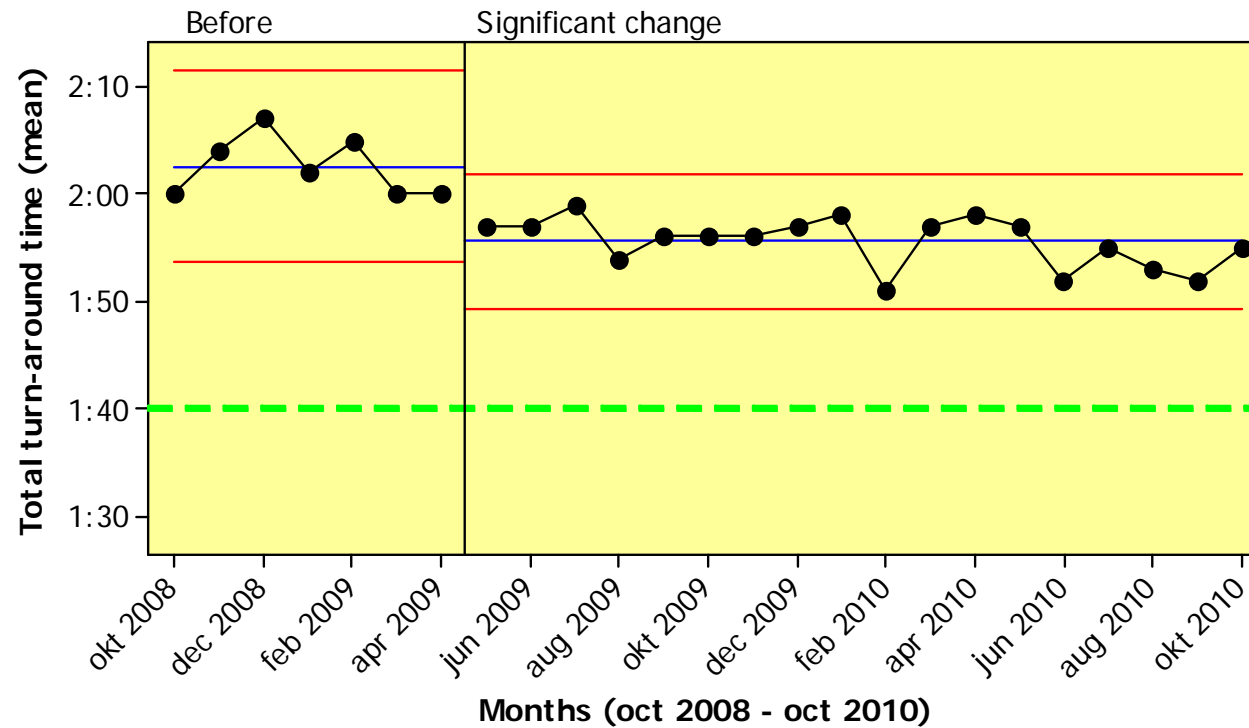
CT Brain at all ED:s in Karolinska Solna 24/7



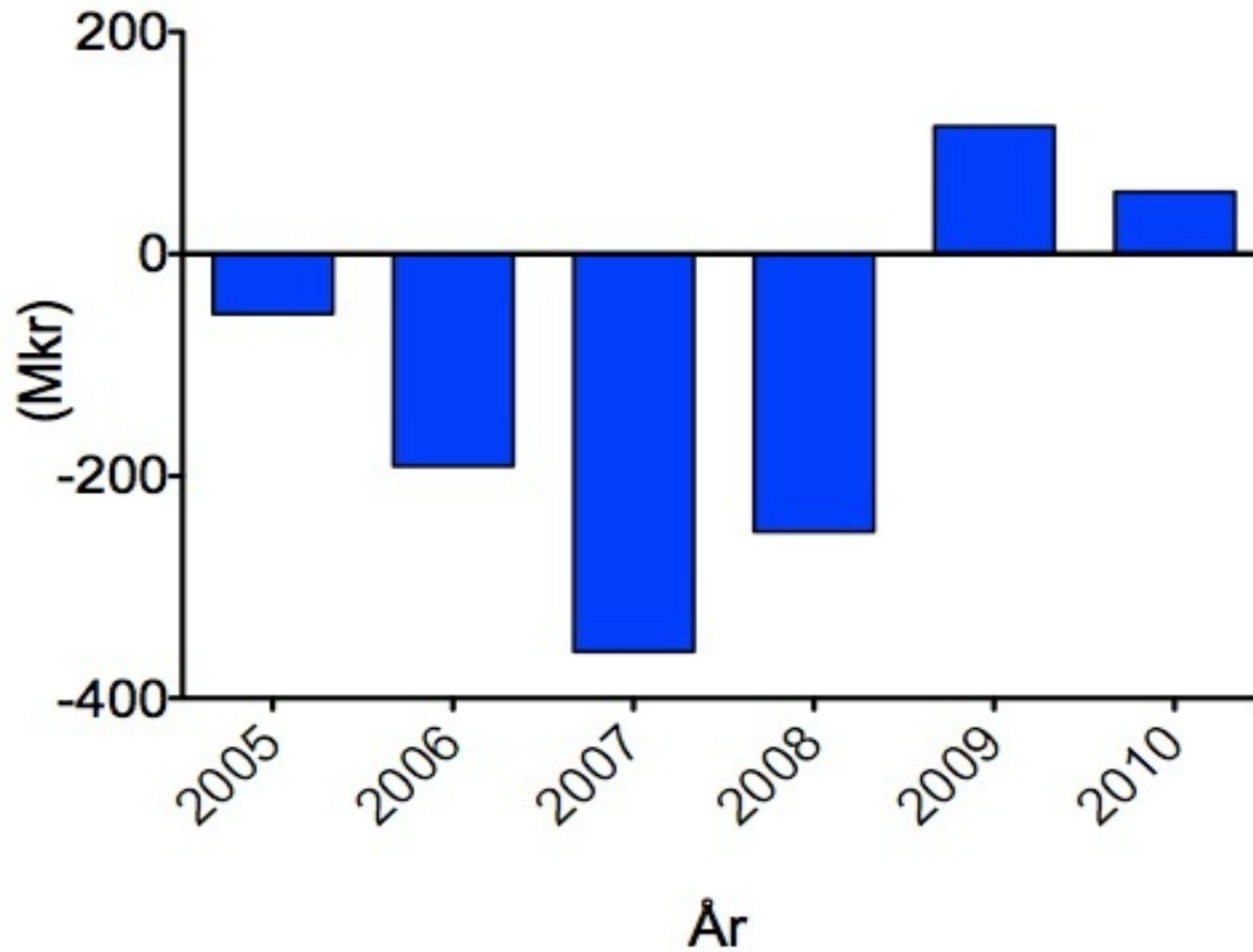
Clinical Chemistry *total* turn-around time

Time from first doctor assessment to last available test-result at visit

Clinical Chemistry testing at all ED:s in Karolinska Solna 24/7

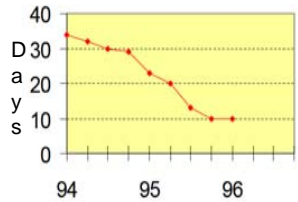


Financial results at Karolinska 2005 - 2010

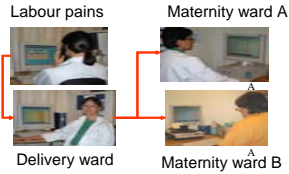


Learning by doing 1993-2010

Referral to first assessment



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End-to-End approach
Maternity care
Top down & bottom up



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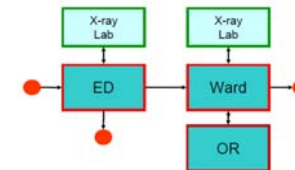
Swedish LEAN Award
St Görans Hospital



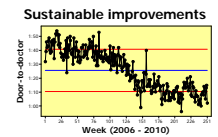
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The merger



End-to-End approach
ED/Ward
Top down & bottom up
Support processes



Sustainable
improvements



Challenges from the CEO`s perspective

- Other projects
 - Make priorities
- Continuous productivity improvement
- To involve the whole organisation
 - Leadership
 - Staff involvement
- The change agents risk become "burned"
- Why lean transformation – only to become more effective?

Current problem

We have set up a value stream management system which sits parallel to our line management structure. We have also put in place supporting structures including an operations management team, improvement teams consisting of staff members, written work standards, procedures for handling deviations, visual management as well as comprehensive data support.

BUT our senior management team is not yet fully committed and has not invested enough time in learning of LEAN principles and the design of a LEAN transformation. They also do not invest enough time at the "Gemba" to learn, or in their managements team meetings to follow up. As a result, some of their direct and indirect report areas are also less than fully committed.

The situation is starting to change, but **we would like your advice how we can inspire and engage the senior management to get more involved and committed to make the LEAN transformation a core part of their agenda?**