

Andy Hyde

dedicated to people

# Making *IT* work for you:

Hospital Discovery through a Business Discovery solution.

# Content

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- Information for decision making - right information, right time, right format
- How many computer systems do you have that you don't use in decision making?
- Using the data
- Business Intelligence and Business Discovery
- Some results
- Conclusions

# Right information, right time, right format.

- What information do managers need to make informed decisions?
  - ✧ Correct information
  - ✧ When they need it
  - ✧ In a format that is usable
- Different needs from the Board of Directors to the ward manager
- What about clinical staff – should doctors and nurses have access to information too?



# How many IT systems do you have?

Patient Administrative System (PAS)

**Electronic Patient Record (EPR)** >100mill records

Radiology (RIS / PACS)

Adverse Event reporting

Lab system

Document Management System

Electronic Correspondence Archives

Specialist Clinical Systems

Food Ordering

Buildings maintenance

Medical Equipment Technology (MET)

Personnel management

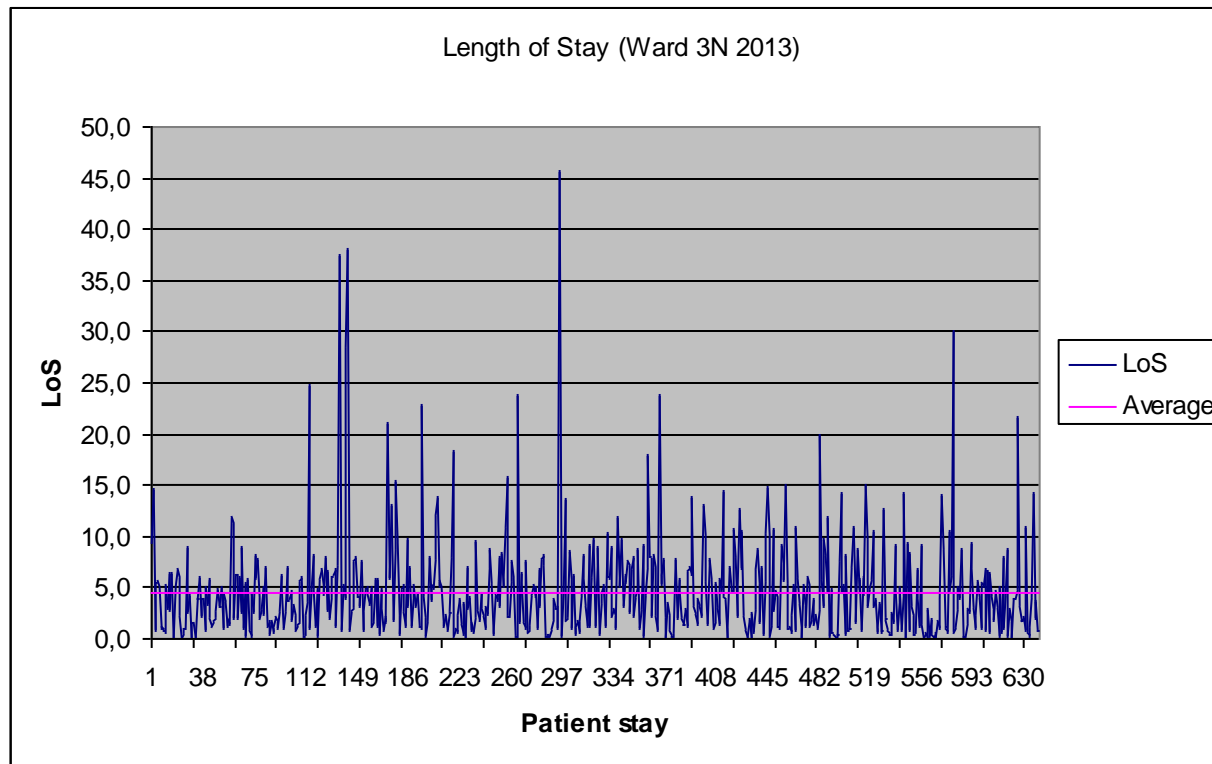
Financial management

# Using the data?

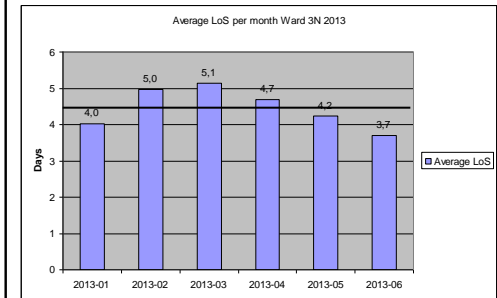
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- Reporting upward and outward
  - ✧ Aggregated and summarised information
  - ✧ Financial information
- Pitfalls
  - ✧ Quality of the data
  - ✧ Definition of the data
  - ✧ Timeliness
- Averages and medians vs. individual cases and variation
  - ✧ Statistical Process Control (SPC)

# Averages vs. variation

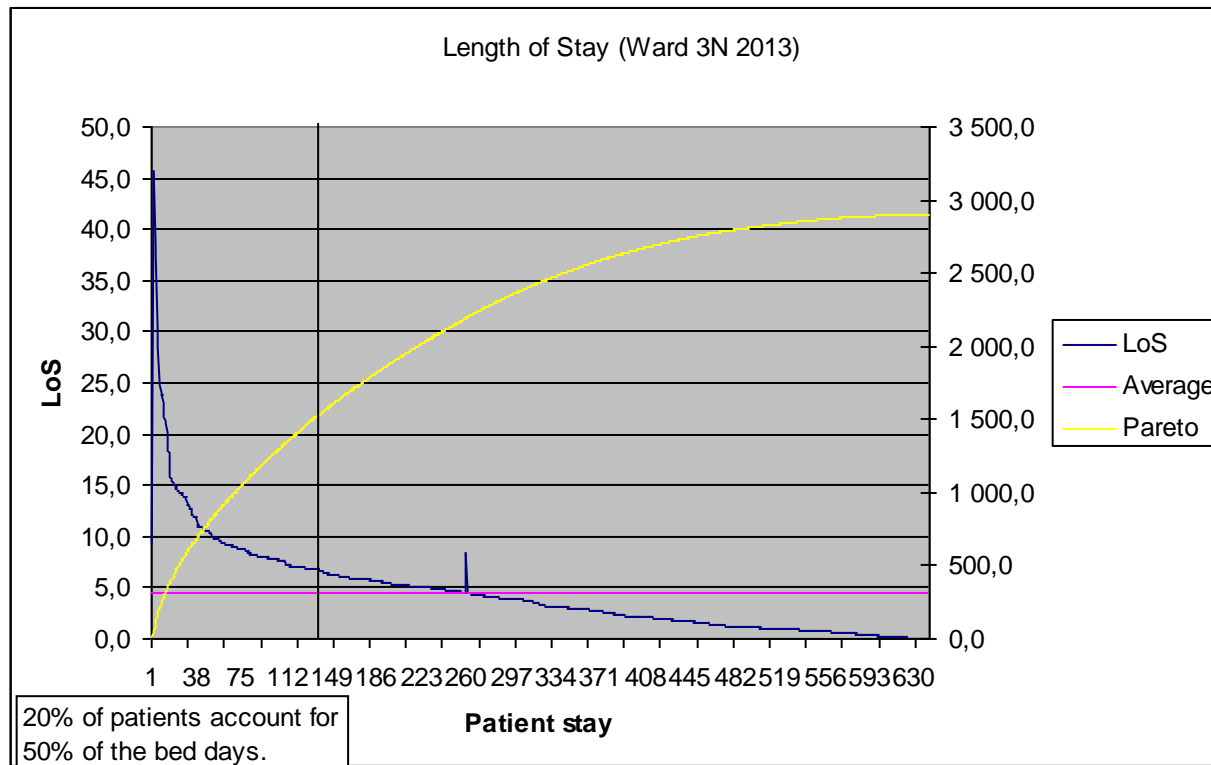


Average LoS =  
4.5 days

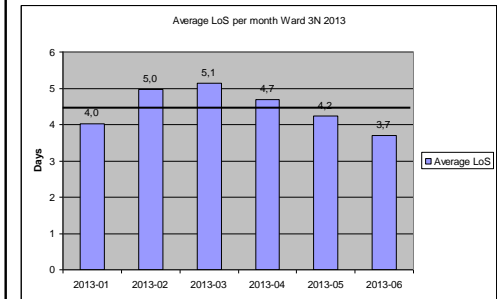


Diakonhjemmet  
Hospital

# Averages vs. variation

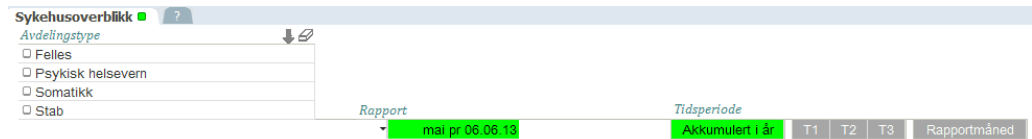


Average LoS = 4.5 days



# Business Intelligence and Business Discovery

- Business Intelligence
  - ✦ Dashboards
  - ✦ Looking backwards
  - ✦ Averages
  
- Business Discovery
  - ✦ Interactive dashboards
  - ✦ Looking forward
  - ✦ Cases



## Hele sykehuset

f.o.m. januar 2013 t.o.m. mai 2013  
(akkumulert i år)

	Resultat	Mål	Resultatutvikling
<b>Økonomi og aktivitet</b>			
Økonomi - budsjettavvik (t.o.m. 2013-05)	17,497	0	mai'11 - mai'13
Gj. liggetid - somatikk	4,1	4,5	
Utskrivningsklare liggedøgn	7%	3%	
<b>Personal</b>			
Sykefravær	9,3%	8%	
Fast medarbeider turnover (rullerende gj. 12 måneder)	12,7%		
<b>Kvalitet og pasientsikkerhet</b>			
Epikrisetid	81%	100%	
Fristbrudd (ordinært avviklede pasienter fra ventelisten)	18	0	
Prevalens av sykehusinfeksjoner	3,7%	3%	



# Looking ahead – on time delivery of care

**Oversikt** Fristbrudd, ventende pasienter (6) Mulige fristbrudd i framtida (17) Fristbrudd, avviklede pasienter ?

Velg avdeling

<input type="checkbox"/> ALD	<input type="checkbox"/> BUP	<input type="checkbox"/> KIR
<input type="checkbox"/> MED	<input type="checkbox"/> REV	<input type="checkbox"/> VPA

Q NPR-id.

## Fristbrudd

Oppdateres hver time mellom kl. 06 - 22  
Sist oppdatering: 17.06.13 kl. 11:16

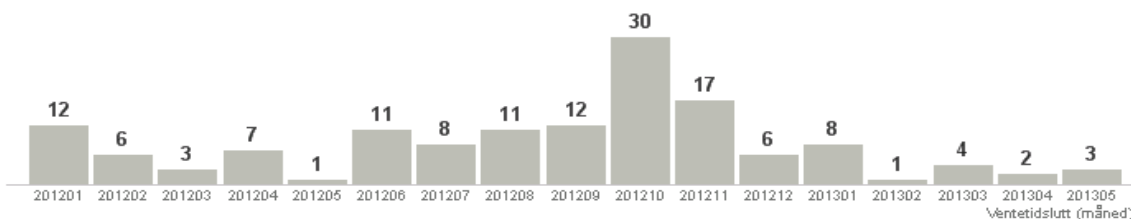
Antall fristbrudd for ordinært avviklede pasienter fra ventelisten

"fortid"

hittil i år

denne måned

KIR	14	0
REV	3	0
VPA	1	0



**Fristbrudd, ventende pasienter :**

**6**

"nåtid"

	Fristbrudd, ordinært	Fristbrudd, med utsettelse etterpå
KIR	1	
REV	1	2
VPA	2	

**Mulige fristbrudd i framtida :**

**17**

"framtid"

	Framt. brudd	Neste brudd
BUP	2	om 21 dager
KIR	2	om 11 dager
MED	5	om 21 dager
REV	5	om 13 dager
VPA	3	om 16 dager

Overdue now

Overdue next 3 weeks



# On time – per patient

Oversikt   Fristbrudd, ventende pasienter (6)   **Mulige fristbrudd i framtida (17)**   Fristbrudd, avviklede pasienter (7)

Velg avdeling 

ALD    BUP    KIR  
 MED    REV    VPA

Q NPR-Id.

**Mulige fristbrudd i framtida**  Skriv ut

Velg fristbruddstype 

Ordinær 17  
 Utsettelse etter fristbrudd 0

Oppdateres hver time mellom kl. 06 - 22  
Sist oppdatering: 17.06.13 kl. 11:16

## Mulige fristbrudd i framtida (17)

Avdeling	LNR	NPR-Id.	Mottatt	Frist	Dager til frist	Diag.-Grp.	Seksjon	Lok.	Post	Planlagt oppmøte	Klokkeslett	Rekkefølge	Avsluttmåte (kontakt)	Utsettelse	Hint
KIR	1	11021620	14.06.13	28.06.13	11	Melan/mistank om melanom(Rett/2u)	Generell- /Gastrokirur	STEIN k-st59							Intet planlagt oppmøte. Frist er om 11 dager.
REV	2	11021620	04.06.13	30.06.13	13		REV MED	STEIN r-pol		05.06.13	09:30	1	Ordinært avsluttet (avsl.: 05.06.13)		Ventetid sluttdato er ikke satt (behandleren bestemmer).
							REV MED REV BHL	STEIN r-pol		05.07.13	09:00	2			NB: Planlagt oppmøte er etter fristen!
							REV MED REV BHL	STEIN r-pol		05.07.13	09:30	3			NB: Planlagt oppmøte er etter fristen!
							REV MED REV BHL	STEIN r-pol		??.08.13	tent.	4			NB: Planlagt oppmøte er etter fristen!Tentativ dato. Frist er om
							REV MED REV BHL	STEIN r-pol		??.09.13	tent.	5			NB: Planlagt oppmøte er etter fristen!Tentativ dato. Frist er om
REV	3	11021620	14.06.13	30.06.13	13		REV MED	STEIN r-pol		14.06.13	13:00	1	Ordinært avsluttet (avsl.: 14.06.13)		Ventetid sluttdato er ikke satt (behandleren bestemmer).
REV	4	11021620	03.06.13	01.07.13	14	m/leddheve - m/inflamm (Rett/4u)	REV MED	STEIN r-pol		11.06.13	14:10	1	Ordinært avsluttet (avsl.: 11.06.13)		Ventetid sluttdato er ikke satt (behandleren bestemmer).

Unfortunately NO direct link to the PAS/EPR ☹

# Business Discovery

- What do you need to know that you didn't know you needed to know?

The screenshot shows the QlikView interface with a 'New Sheet Object' dialog box open. The dialog lists various 'QlikView Objects' such as List Box, Bar Chart, Line Chart, etc. A 'Fields' list is visible on the left, containing fields like Dato2, HENVISNINGID, MOTTATTDATO, etc. A data table is shown on the right with columns for 'Antall' and 'VURDERTDATO'. Red arrows point to a new field 'NPRid' in the Fields list and a selection in the data table.

**New field added by the user**

**Field selection**

# Collaboration

**Henvisninger mottatt for mer enn 21 virkedager siden (før 16.05.2013) men ikke enda vurdert**

Virkedager: 1 5 8 12 16 20 23 27 31 34 38

Avdeling: ALD BUP KIR KLA MED RAD REV VPA

Ryddeliste - ikke vurderte henvisninger

Avdeling	NPRid	HenvisingID	Datert	Mottatt	Ø-Hjelp	Alder*	Kommentær
KIR	1000051	2435214	08.05.2013	15.05.2013	Nei	58	> 21 virkedager
VPA	1000001	2433564	10.05.2013	13.05.2013	Nei	25	> 21 virkedager
VPA	1000204	2432468	08.05.2013	10.05.2013	Nei	23	> 21 virkedager
VPA	1110002	2432395	07.05.2013	10.05.2013	Nei	29	> 21 virkedager
REV	1000100	2425312	24.04.2013	26.04.2013	Nei	51	> 21 virkedager
REV	1850006	2424269	22.04.2013	25.04.2013	Nei	61	> 21 virkedager

**Notes**

Note ID: Server\AT01 - Created on 2013.06.17 at 12:12

Text Object

**TEST**  
by DIAKONSYKKA-HYDE

First | Most Recent

TEST

- Comment 0: 2013.06.17 at 12:13 by DIAKONSYKKA-HYDE  
What do you think of these numbers Manuel?
- Comment 1: 2013.06.17 at 12:13 by DIAKONSYKKA-HYDE  
Vi må bli enda bedre...
- Comment 2: 2013.06.17 at 12:14 by DIAKONSYKKA-HYDE  
The surgery department should not have referrals older than 10 days!!

Add Comment

Collaboration between users in realtime online

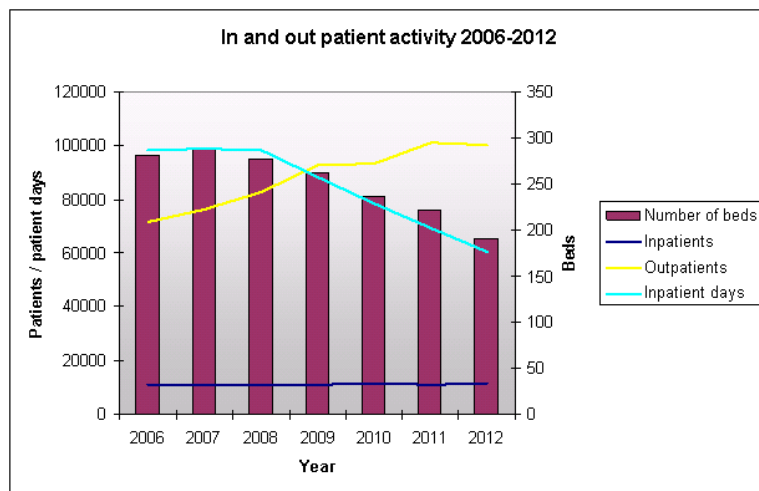
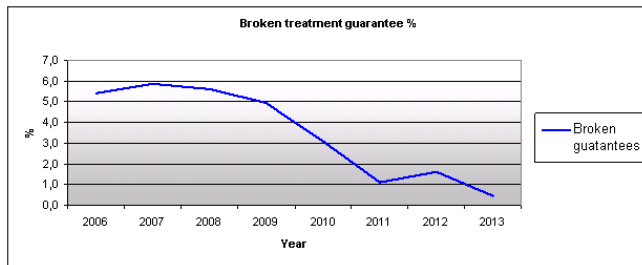
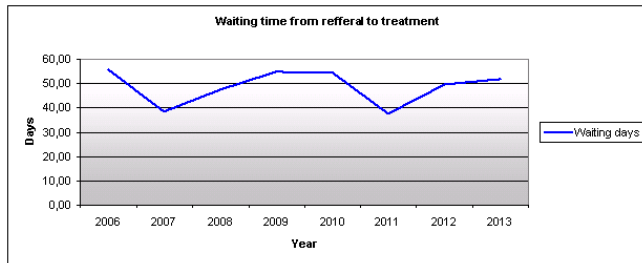
# A method for using Business Discovery

- Rapid cycle PDCA (Lean / Action Research)
  - ✧ Hypothesis – what is the problem?
  - ✧ Implement a change
  - ✧ Did it work?
  - ✧ Yes – carry on doing it
  - ✧ No – try something else



- Collaboration with the people doing the work, i.e. front line workers meeting the patients. Only they understand the problem and the value of finding a solution.

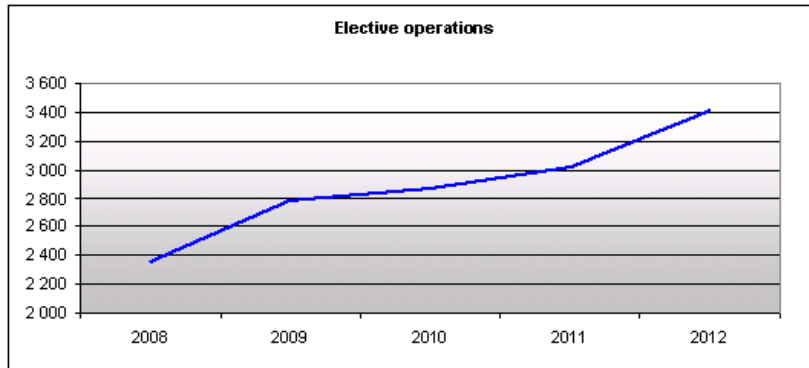
# Results



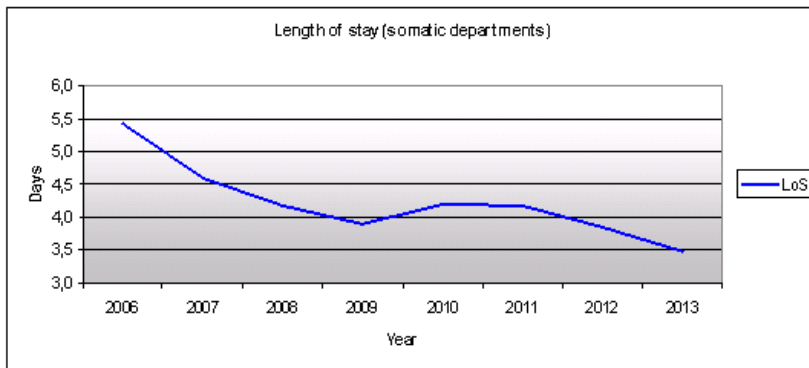
Consistently low waiting times for treatment and low rate of guarantee breaks through focus on variation in a process that should be stable.

Reduced number of beds  
 Constant number of inpatients but..  
 Reduced numbers of inpatient days  
 Increased number of outpatients

# Results



40% increase in OR throughput



Reduction in Length of Stay in the somatic departments

# Conclusions

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- We use data not just for reporting but for analysis and looking forward
- We focus on variation and not just averages
- We (can) use ALL the data we have in our computer systems
- We have discovered things we didn't know, not always pleasant things either.....
- We have improved our processes to the benefit of the patients
  
- Next is to apply the same methods to patient treatment and improve outcomes

## Questions?



# Thanks

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