

# Stress on the Ward: Evidence of Safety tipping points in hospitals

Stefan Scholtes  
Judge Business School  
Cambridge

NIHR CLAHRC SMSKS 2012



## Surgical items left inside patients as top cancer hospital has four major blunders in just six weeks

- Other errors include wrong implant fitted and 'wrong site surgery'
- The mistakes were 'never events' - as the NHS classifies them as basic errors that should never take place

By CLAIRE BATES  
UPDATED: 15:33, 7 November 2011

Comments (19) | Share | +1 | 0 | Tweet | 0 | Facebook

A leading cancer specialist hospital is in crisis after staff made patient blunders in just six weeks.

Surgical items were left inside two patients, while a third case 'wrong site surgery' - where surgeons operated via an incision in the body.

In a fourth error the wrong implant was fitted inside a patient.



Bupa

homes<sup>24</sup>

jobs<sup>24</sup>

drive<sup>24</sup>

mydate<sup>24</sup>

myphotos<sup>24</sup>

familynotices<sup>24</sup>

jumbo<sup>24</sup>

MyMoney<sup>24</sup>

MyVouchers<sup>24</sup>

## Budget cuts taking their toll, say stressed hospital staff

Charlotte Orson  
Thursday, March 8, 2012  
10:27 AM

Recommend

Tweet 3

A HIGH number of surgical infections at Addenbrooke's in Cambridge and a tide of patients being readmitted to the hospital via A&E show patient safety is being jeopardised, hospital workers say.

Comments | Email | Print | Got it

And the troubles of Cambridge University Hospitals NHS Foundation Trust (CUH) - which runs Addenbrooke's and the Rosie - are further compounded by the Government insisting it makes a further £43m of efficiency savings over the next year.

**Tickets**  
Today's Tickle  
The English School Of Falconry  
Just £39 For A Half

*“...Crowding is a big issue. I can sense when the hospital becomes unsafe...”*

Deputy Medical Director

How do you sense this?

*“...our escalation policies don't work any more*

*...we do not have enough time to make careful decisions*

*...we make more errors”*

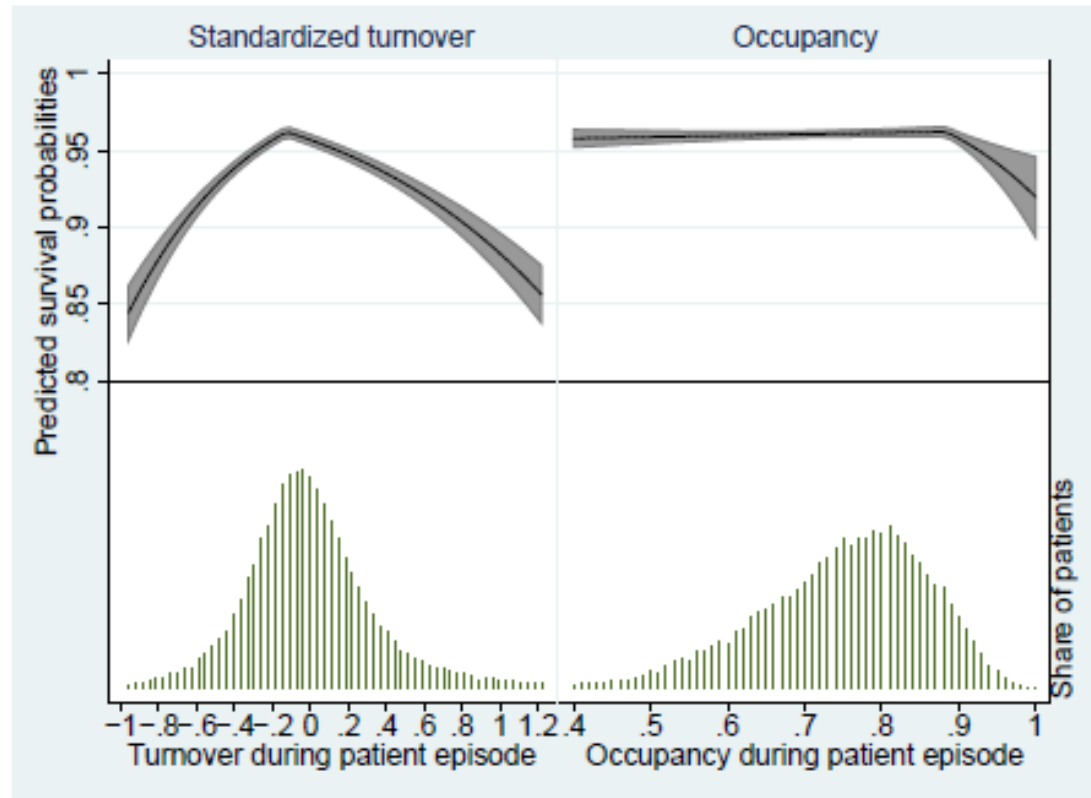
**Research question:**

**Does organizational workload affect safety?**

# Workload as patient risk factor

- Traditional risk factors:
  - Primary condition, co-morbidities, age, gender, socio-economic status, emergency admission, etc.
- Workload as a risk factor:
  - Average workload in the clinical unit during the patient's stay
- Workload dimensions:
  - Occupancy (% beds occupied)
  - Patient turnover (admissions+discharges)

Sample of ~90,000 patients in 244 clinical departments in 87 German hospitals across six conditions with high-mortality risk (PNE, STR, CHF, AMI, GIH, HIP)



Effect size: **~15%** = ~1,335 of ~8,900 in-hospital deaths could have been avoided if no patient had been exposed to workload above the estimated tipping point  
(Kuntz/Mennicken/Sch. 2012)

# Impact requires excitement

*“I have just reread your figures...this is so dynamite....”*

Clinical director X

*“If we could identify what factors altered the tipping point we might be some way to understanding how to improve outcomes with less staff – to increase efficiency. What are those factors – cultural, technological, skill mix, experience?”*

Clinical director Y

**Cambridge Safety Study, based on 4 years of patient data for Addenbrooke's (Freeman, Robinson, Savva, Sch.)**

*“I keep saying the sexy job in the next ten years will be **statisticians**. People think I'm joking, but who would've guessed that computer engineers would've been the sexy job of the 1990s?”*

Hal Varian, Chief Economist Google  
McKinsey Quarterly 2009