

# Zen and the Art of Hospital Maintenance

Dutch Hospital Study 2008



## Executive Summary:

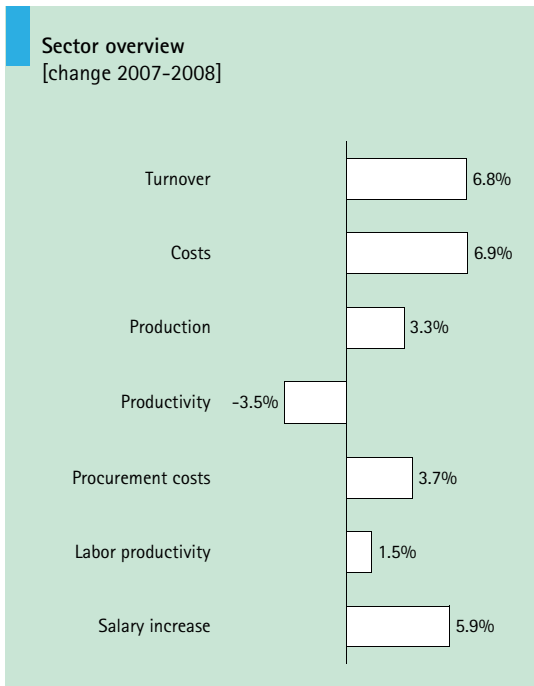
Based on the analyses of the annual reports of hospitals we present our 2008 study of Dutch hospital performance "Zen and the Art of Hospital Maintenance". Hospitals are complex organizations and are undergoing significant changes. These changes bring several risks. One of the new analyses we report in this study is an Early Warning System. The Early Warning helps identify at risk hospitals based on current, concrete risks.

The **Zen** and **Maintenance** aspects of care are two key concepts we emphasize in this report. Care is always about Zen: the complete feeling and healing aspect of our health. But to continue to provide this superior care hospitals need to be tuned in like good mechanics on the running of their operations. Volume, price, revenue, costs, case-mix, profits, debt, equity are all key metrics. Hospital management needs to continuously hear, see, smell, taste and touch this complex care machinery. It needs to be in tune with this engine. Anticipate early signals of malfunctioning. Have the competences and the tool kit at hand to make the necessary adjustments on the fly. And should the malfunctioning be major not hesitate to call in the cavalry. To help hospitals and other stakeholders keep a feel for the functioning of the hospital sector we publish our annual report.

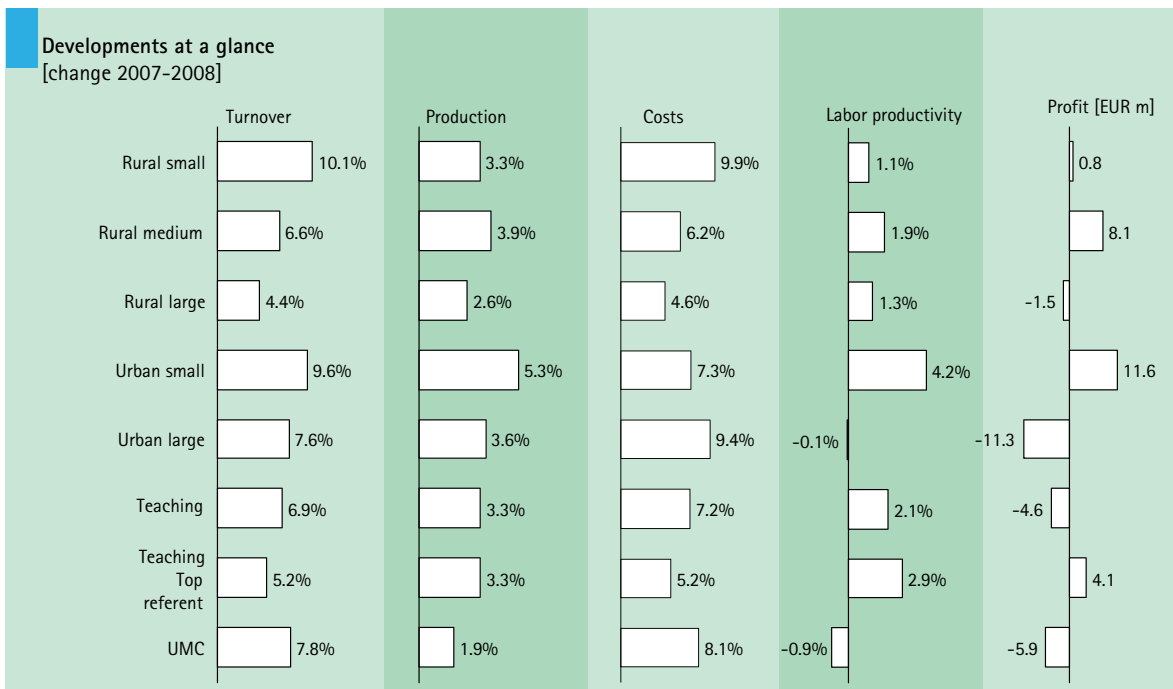
The five key conclusions of this report which cover 2008 are:

- 1) Revenues continue to increase well above economic growth, costs increased just a notch faster
- 2) Productivity of hospitals declined again in 2008
- 3) Labor cost, both salary of own personnel and number of externally hired personnel, saw sharp increase
- 4) Tumbling profits were propped up by bungling transition
- 5) Early Warning System is reported to identify hospitals at risk both due to low operational cash flow and large debt in changed cost of capital regulation regime

E1



E2



**1) Revenues continue to increase well above economic growth, costs increased just a notch faster (Exhibit E1, E2, E3)**

Hospital revenues increased by 6.8% in 2008. The total hospital revenues, excluding doctors not employed by hospitals, independent small clinics and specialty hospitals, was just under EUR 17 billion in 2008 (Exhibit E3). Including other hospital related revenues, the total revenue of hospitals is likely to be above EUR 20 billion in 2008.

The 6.8% growth is lower than the 2006-2007 growth of 7.6%, but higher than the 2002-2008 annual growth rate of 5.8%. The 6.8% however is in line with the long term historical growth of health care since 1972 in the Netherlands of 7% per year.

*3x faster than  
GDP growth*

The 6.8% hospital revenue growth in 2008 was higher than both the Gross Domestic Product (GDP) growth (2%) in 2008 and the general consumer inflation index (2.5%). Hospital revenues thus grew more than three times faster than the economy in the Netherlands. This gap between economic growth and hospital growth shall get bigger in 2009 when the economy will shrink significantly.

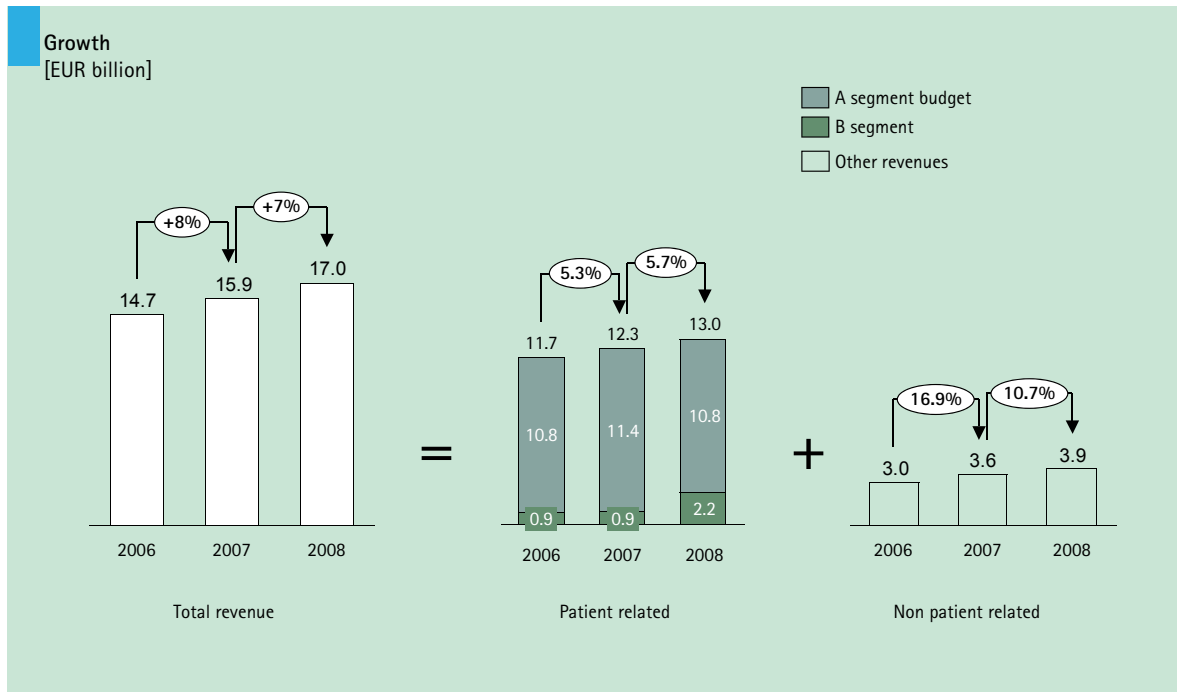
The long term healthcare growth of 7% per year since 1972 had a solid foundation of 5% economic growth per year. With health care becoming a bigger part of the economy, and the gap between economy and health care growth widening, the future sustainability of the current health care system is at considerable risk.

*Costs grew just a  
notch faster than  
revenues*

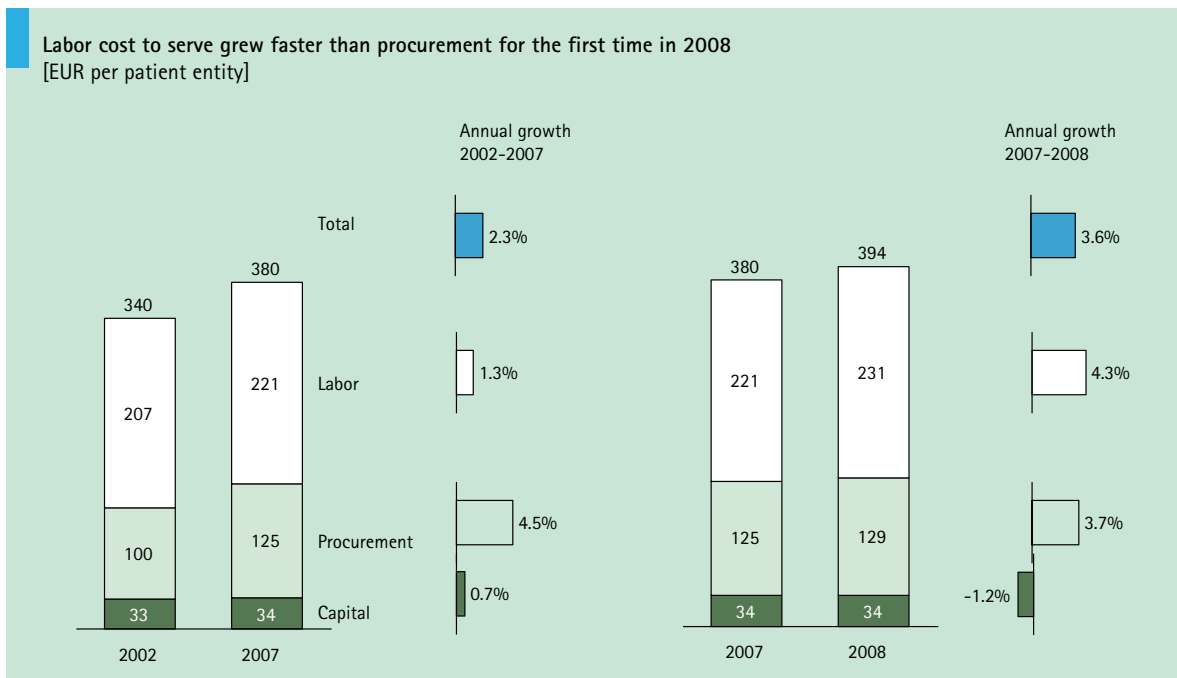
The risk of future hospital growth was further compounded by continued increase in hospital costs in 2008. The hospital costs increased 6.9% in 2008, a tenth of a percent higher than the revenues. In contrast, in 2007 the cost increase was significantly lower than the revenue increase. Large and top care hospitals had a larger cost increase than revenue growth in 2008 (Exhibit E2).

The underlying profitability in 2008 is much lower since a significant portion of the revenue increase is due to uncertainties and mistakes made in estimating the budget correction for expanding the B segment in 2008.

E3



E4



EUR 50-100 mln  
"windfall" due to  
underestimated  
"schoning"

We have estimated that 0.4% of the revenues, or EUR 68 million was the underestimation in the B segment correction, the so called *schoning*. Putting is bluntly: continuing bungling up of the transition to B segment cost EUR 68 million unnecessarily extra. Not all hospitals profited equally from this "windfall". Those that managed to underestimate their B segment and delivered more B volume gained the revenue for the same procedures twice, but there were also hospitals that delivered lower B segment volume than the *schoning*, and thus missed the revenues all together.

B-segment is  
but ~15% after  
expansion in 2008

In 2008 B segment was expanded to a theoretical 20%. We report that the size of the B segment in 2008 was 13% of the total hospital revenue. B segment relative to just the patient related hospital budgets was 17% (Exhibit E3). Looking at it any way B segment is significantly lower than 20% in 2008, just as it was lower than 10% earlier. Despite the emotions B segment evokes it was still but a small part of the total hospital revenues in 2008.

It is not possible to ascertain the growth of B segment for sure due to its expansion in 2008. Based on historical growth of B and A segment and correcting for *schoning* it would appear B segment growth was more or less in line with the A segment growth; both being around 7%.

Historically large  
increase in  
cost-to-serve

## 2) Productivity of hospitals declined again in 2008 (Exhibit E4)

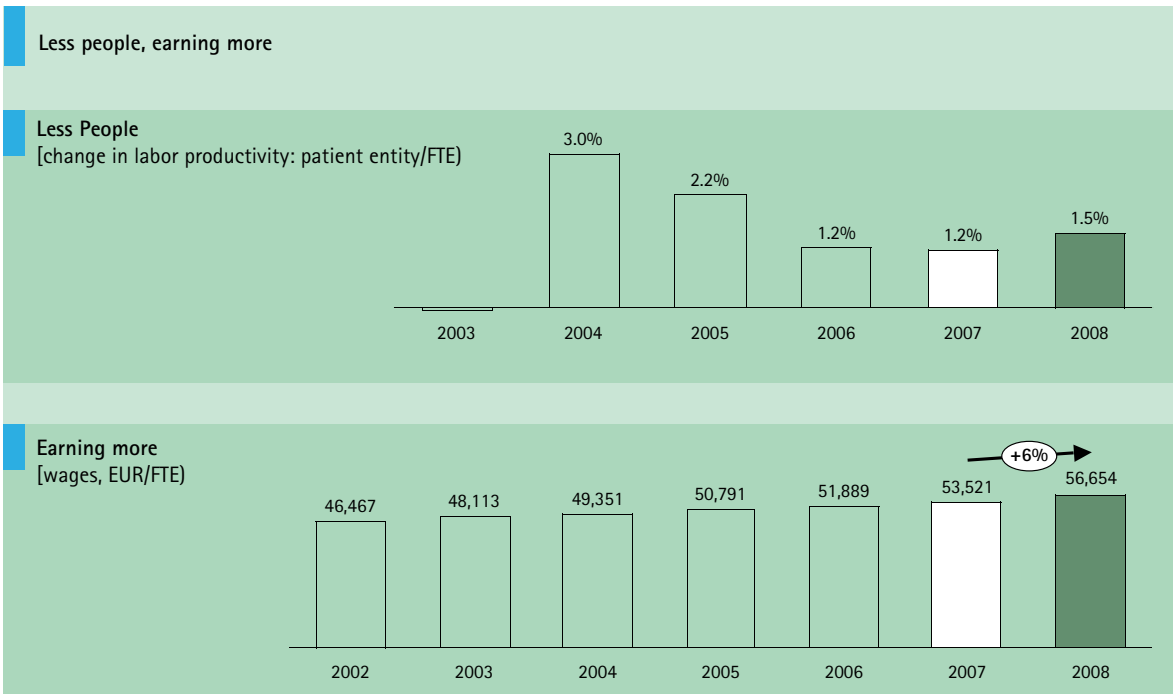
The cost-to-serve of hospitals increased in 2008. Cost-to-serve measures the costs incurred to deliver one patient entity<sup>1</sup>. The cost-to-serve increased by 3.6% in 2007-2008. Cost-to-serve measures the hospital productivity. However since it does not include all cost parameters like expensive medication, it does not necessarily reflect the complete services delivered by a hospital. Nonetheless it does allow for comparison between similar hospitals, our eight peer groups. And it also allows for analyzing long time cost and productivity trends.

The annual cost-to-serve increase in the period 2002-2007 was 2.3%. The 3.6% increase in 2008 is significantly higher than the previous five year period.

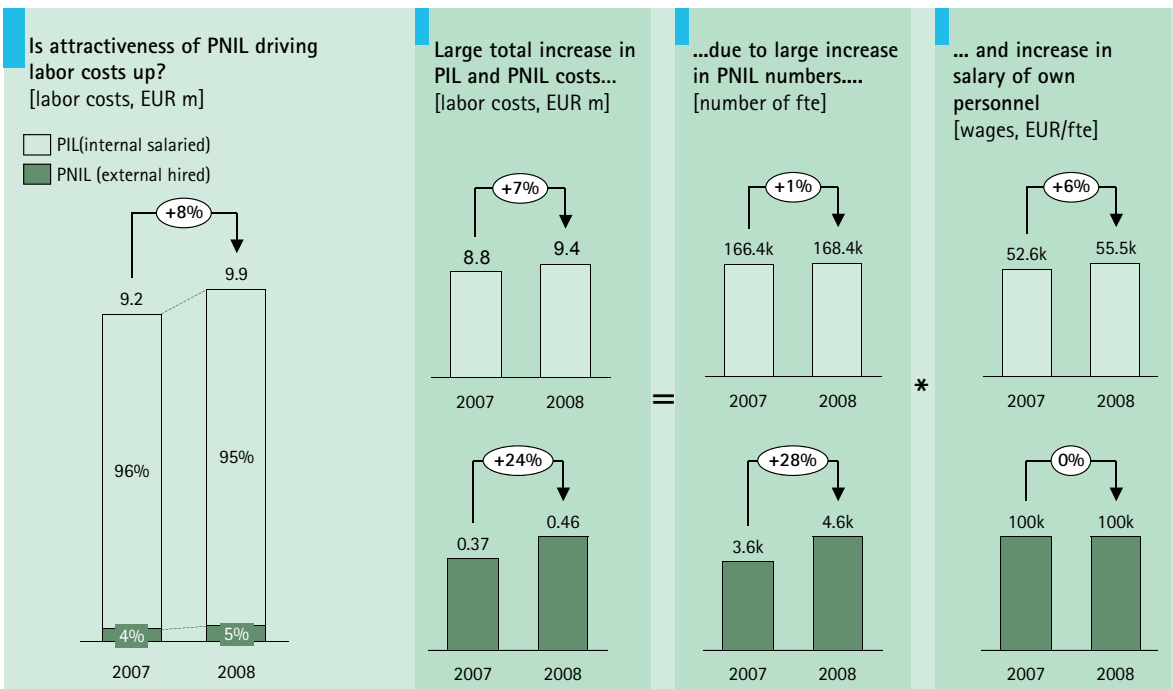
Hospitals have failed to make significant productivity gains as a sector. Innovative procedures and medication are of course more expensive. But

<sup>1</sup> Patient entity is a weighted product mix basket of out-patient visits, day treatments, in-patient visits and nursing days.

E5



E6





by quantum gains in proven procedures that still constitute the majority of the volume, hospitals can improve productivity significantly. This missing productivity gain aspect of running hospitals is captured in the word maintenance in the title for this study. Such a productivity gain would help both finance new procedures, and make hospitals financially healthier. Importantly it mitigates the hospital revenue growth risk.

However hospitals as a sector have failed to gain this quantum productivity. The 2008 productivity decline is mainly due to explosive growth in personnel costs.

### 3) Labor cost, both salary of own personnel and number of externally hired personnel, saw sharp increase (Exhibit E4, E5, E6)

In 2008 the major cause of loss of productivity was labor salary increase and growth of externally hired personnel. The total cost of hospital labor grew 8% in 2008 to EUR 9.9 billion (Exhibit E6).

*Labor costs main  
cost driver in 2008  
...*

Since 2002 procurement costs have been the main driver of cost increase. The procurement productivity declined 4.5% per year in 2002-2007 while the labor productivity declined 1.3% per year in the same period (Exhibit E4). In 2008 this trend was reversed. In 2008 the labor productivity declined by 4.3% while the procurement productivity loss was 3.8%.

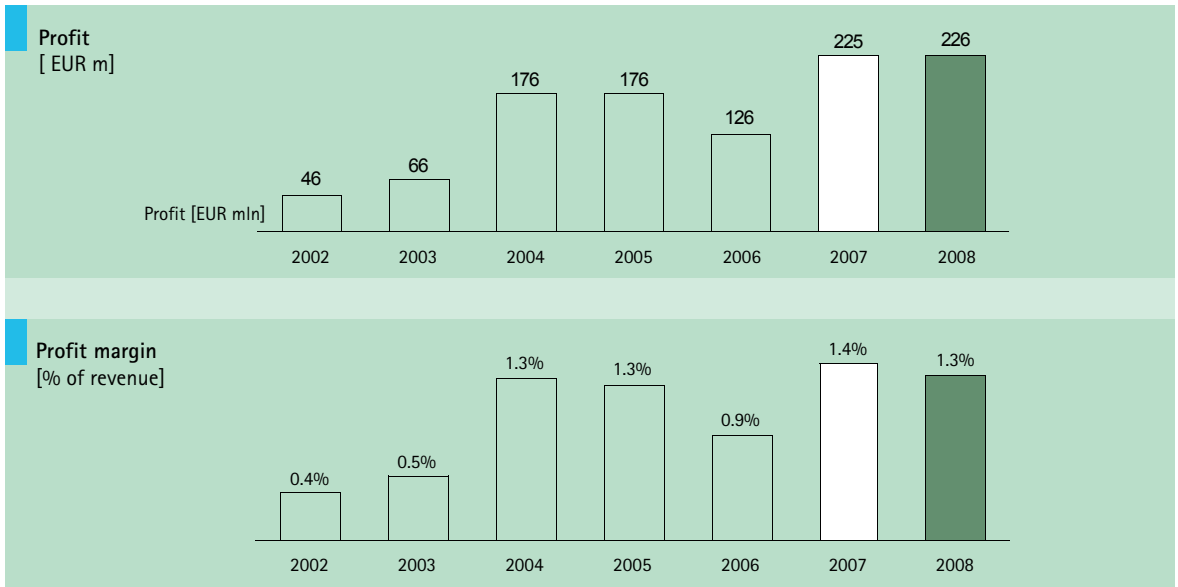
*... mainly due to  
salary increase  
and ...*

We have analyzed the three potential sources of loss of labor productivity: fte productivity, salary increase per fte and outsourcing to external personnel. Fte productivity at hospitals has been improving steadily since 2002. In 2008 it improved again by 1.5% (Exhibit E5). However the salary per fte excluding external personnel grew by 6% in 2008. 6% salary increase is double of the average salary increase in the Netherlands across all sectors in 2008.

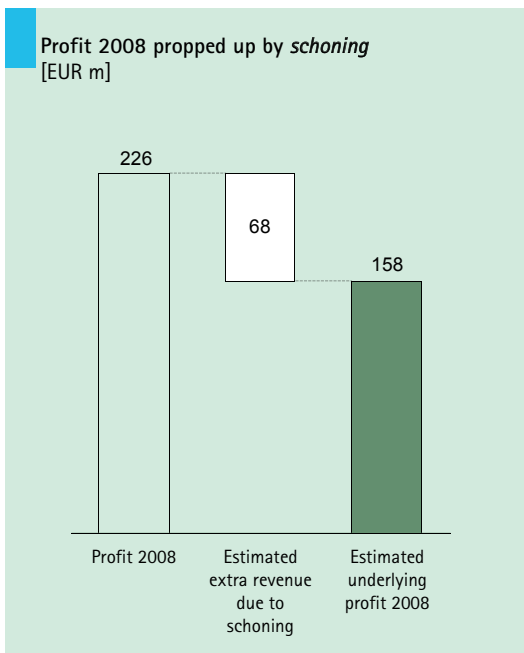
*... more external  
personnel*

The large salary increase was not the only source of labor cost increase. Hospitals also hired many more personnel externally. We have estimated that the external personnel grew by 28% in 2008. External personnel are still a small group of the total labor at hospitals, less than 2%. We estimate that there are about 5000 external personnel or about 50 per hospital. However the average salary of the external personnel is significantly higher than the salary of hospital employed personnel (Exhibit E6).

E7



E8



*The cost of the  
'revolving door'*

This is what one can call the double whammy. Shortage of personnel at key positions allows them to quit their jobs, and get themselves hired back in as external personnel at significantly higher wages. A fair transaction in a fair market place. To stem this tide hospitals agree to higher salary increases. But the salary difference between hospital employed and self employed is so large, that it makes hardly any difference to the growth of the external personnel but does lead nonetheless to higher salaries for own personnel.

*The coming labor  
crunch ...*

Personnel, or talent shortages is likely to be even a bigger issue for hospitals than financing. Even if hospitals continue to grow at twice the GDP rate and constitute 30% of the economy, it can still be a well judged tradeoff people make between different expenses, in which health care is likely to be more important. However delivering care will require personnel. The current level of labor intensity for care delivery is simply not sustainable in the future. Improving labor productivity must thus become a top priority for hospitals.

*... and how to  
address it*

In our work over the years at hospitals we have found significant wastage of labor talent. Activities that are ironically enough both wasteful and also frustrating for personnel: administrative duplications, illogical and unproductive routing, poor planning, clogged up work flows that require endless attention, rectification of own and other's mistakes, etc. By addressing each individual work flow hospitals can significantly improve their labor productivity, enhance quality and at the same time make work more rewarding for their personnel. In health care growth dictates that more personnel are needed than are available. It is therefore imperative that the entire sector take up this labor challenge urgently and seriously.

#### **4) Tumbling profits were propped up by bungling transition (Exhibit E7, E8)**

*On the face of  
it profit in 2008  
unchanged ...*

Hospitals reported a total net profit of EUR 226 million. This was 1.3% of the revenues in 2008. The profit margin in 2008 was slightly lower than the 1.4% in 2007.

EUR 226 million however also reflects the problems in accurately estimating the correction for an expanded B segment. We have estimated that EUR 68



*... but due to  
schoning underlying  
profit lower*

million was paid too much to hospitals in 2008. This has come about because the size of the new B segment was underestimated in 2008. We have calculated that the underestimation was about 7% of the new B segment and about 0.4% of the total hospital revenue. Had the A segment correction been budget neutral than the underlying profit of the hospital would have been 0.9% or EUR 158 million (Exhibit E8).

*Transition appears  
to be the worse of  
both worlds where  
we have landed ...*

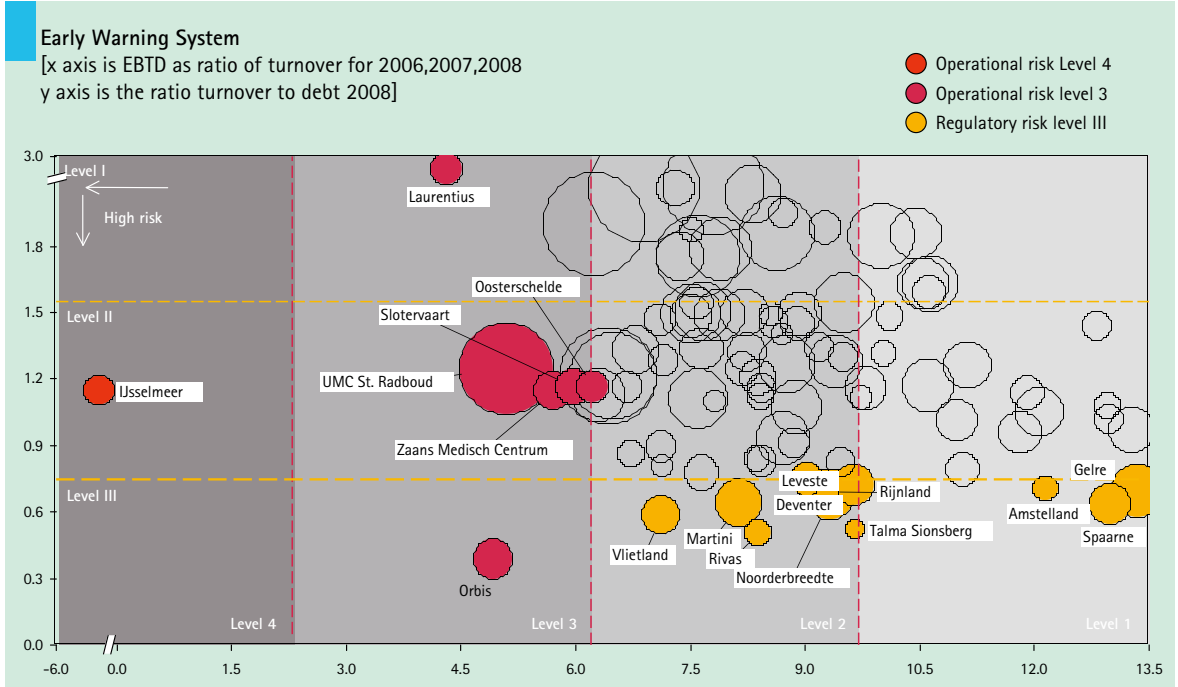
Undoubtedly it is not easy to estimate the correction required. The insurers, NZa and SDO have a major information handicap compared to the hospitals. But stepping aside from the blame question, the *schoning* issue is just one example of the administrative uncertainty and additional cost we have created during the transition of the hospitals to a more transparent and performance driven business model. We seem to have landed in a worse of both world scenarios; we have increased the administrative costs of transition but the full benefits elude us.

*... not by behavior  
alone but mainly  
by DBC language*

The language of the new world, DBC, is no doubt complex, but nobody appears to comprehend it fully. And thus nobody appears to be responsible to ensure it is developed and used as it was intended. The EUR 50-100 million *schoning* underestimation is just one example of this bungling. A similar loss must have occurred in 2005 and will occur again in 2009. The overestimation of doctors' salaries due to changes in DBC structures that apparently nobody can explain adequately since in principle they were meant to be budget neutral, is another glaring example of the unintended consequences of this new DBC structure. And on top of it we must also consider the incurred huge costs of developing this DBC system and maintaining it across the entire spectrum of shareholders.

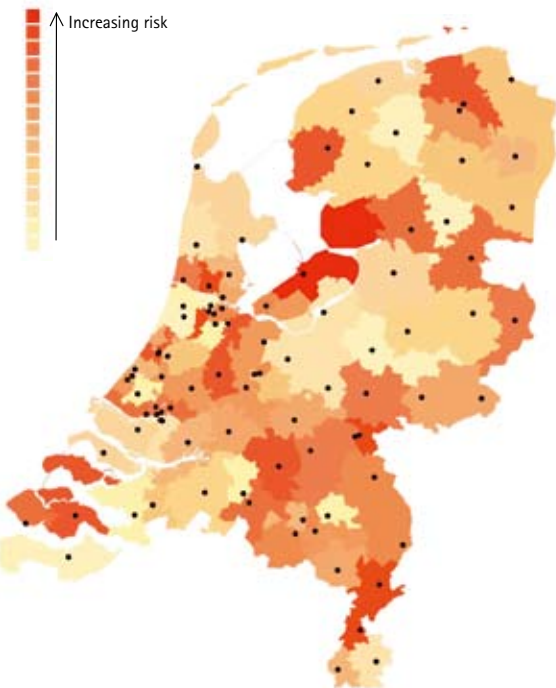
Having recognized the folly of DBC all hope now seems to rest on the DOT improvement. The unfounded hope in DOT is more a reflection of our clueless situation today than a confidence that DOT will correct this insanity. We desperately need to acknowledge the folly of DBC, do a brutally honest risk assessment on DOT, and consider totally new "out of the box" ideas.

E9



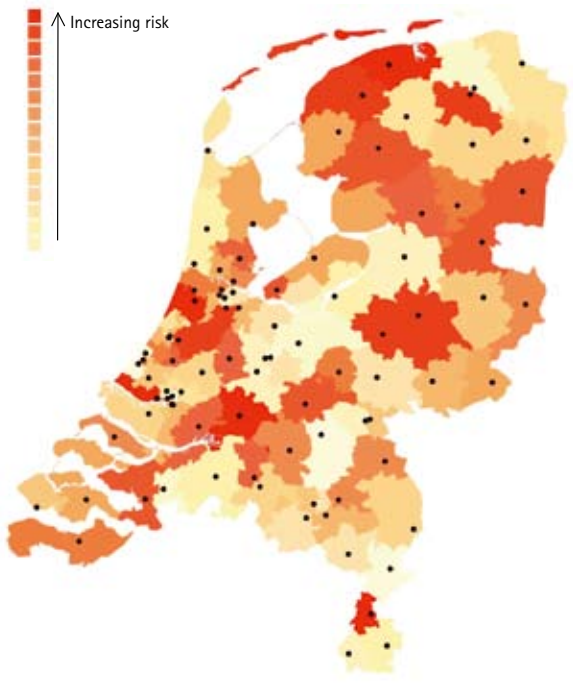
E10

**Early Warning System Dutch landscape**  
[based on EBDT as % of turnover;  
average 2006-2008]



**Early Warning System Dutch landscape**  
[based on debt as multiplier of  
turnover; 2008]

E11



*Is DOT just blind  
faith after the  
unrealistic DBC  
ambition?*

At the same time since B segment is only between 10-20% of the total revenues<sup>2</sup>, we have not been able to gain sufficiently from this performance driven paradigm.

We have thus enhanced the costs but not the full benefits of the performance driven hospital financing we were supposed to have introduced.

It will take a brave person who has sufficient authority to act on what we have been saying for a while now: this emperor is wearing no clothes<sup>3</sup>.

**5) Early Warning System developed to identify hospitals at risk both due to low operational cash flow and large debt in changed cost of capital regulation regime (Exhibit E9, E10, E11)**

We have developed an Early Warning System to identify hospitals at risk. We have used two types of risk both based on current and past hospital performance:

- a) The operational cash flow of hospitals over the last three years. This reflects the amount of free cash available to tide hospitals over in difficult times. We have used earnings before depreciation as share of turnover in 2006-2008<sup>4</sup>. Low EBTDA<sup>5</sup> (2006-2008) identifies hospitals with low cash flow.
- b) The debt of hospital in relation to turnover. This identifies hospitals that have made recent large investments which have so far been covered by the previous cost of capital regime. Should these hospitals receive capital costs in relation to production rather than investments they will be in financial trouble.

We have defined four levels of operational cash flow risk and three levels of debt risk. The hospitals in these highest risk levels (level 4 and 3 for operational cash flow and level III for debt) are shown in Exhibit E9.

*Spotting hospitals  
at risk early ...*

In maps E10 and E11 we show these relative risks on the Dutch maps. The darkest regions reflect the relative higher risk of continuing hospital operations in these regions in the future.

<sup>2</sup> Depends on how revenues are defined. 11% if all hospital revenues are included, 17% if only patient related budget is considered.

<sup>3</sup> See our earlier study *The Twilight* for a discussion on DBC.

<sup>4</sup> Corrected for interest payments in 2008 only.

<sup>5</sup> EBTDA: Earnings Before Tax, Depreciation and Amortization.





*... so that they  
can address it ...*

Hospitals have other future risks: like loss of market share, spiraling out of control costs, future investments, budget cuts, etc. However all of these future risks are also opportunities to strengthen their own position. For each of the high risk hospitals there is a varying potential of improving productivity and gaining market share. In almost all cases these hospitals are in a position to improve their operations and mitigate the identified risks on their own.

*... for it pays to  
mitigate risk early  
than to do damage  
control*

We have quantified the cost of not addressing the risk adequately and on time. Should the risk blow up into a crisis like IJsselmeerziekenhuizen then the cost of the crisis is EUR 300 million for the seven hospitals in operation cash flow risk level 4 and 3. This is 23% of their turnover. The performance improvement required of this group is just EUR 54 million which is 4% of their turnover. Clearly it pays to identify and avert risk sooner (EUR 54 million turnaround) than later (EUR 300 rescue operation).

Not all of these hospitals are at risk of closing operations tomorrow. These risk levels qualify the relative risk among hospitals. In this sense the cutoff between levels is somewhat arbitrary. Hospital performance is a continuous line and we have arbitrarily defined the cutoff to identify different risk levels. The issues we want to emphasize by doing so are:

- Hospitals have different relative risks
- We need a system to continuously monitor hospitals
- We need a clearly laid out program for averting the risk.

For further information please refer to:

[www.gupta-strategists.nl](http://www.gupta-strategists.nl)

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