



'The Twilight'

Dusk or Dawn

Study of Dutch hospitals 2005

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Exhibit 1.

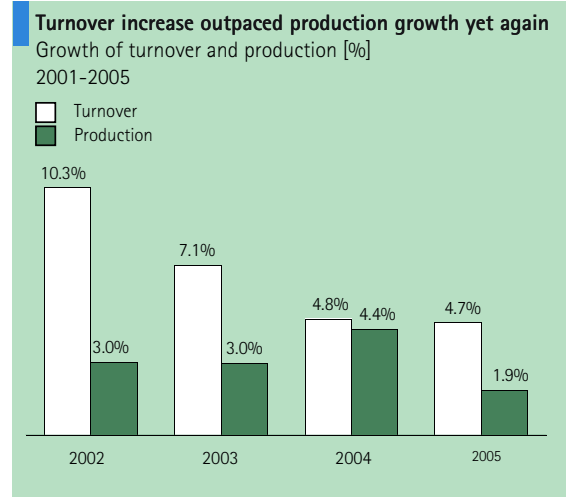
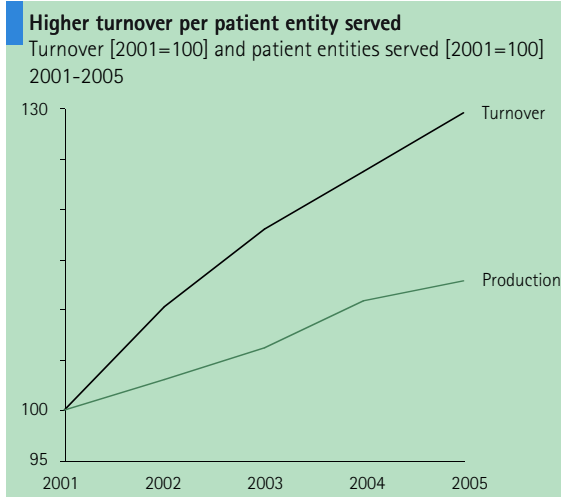
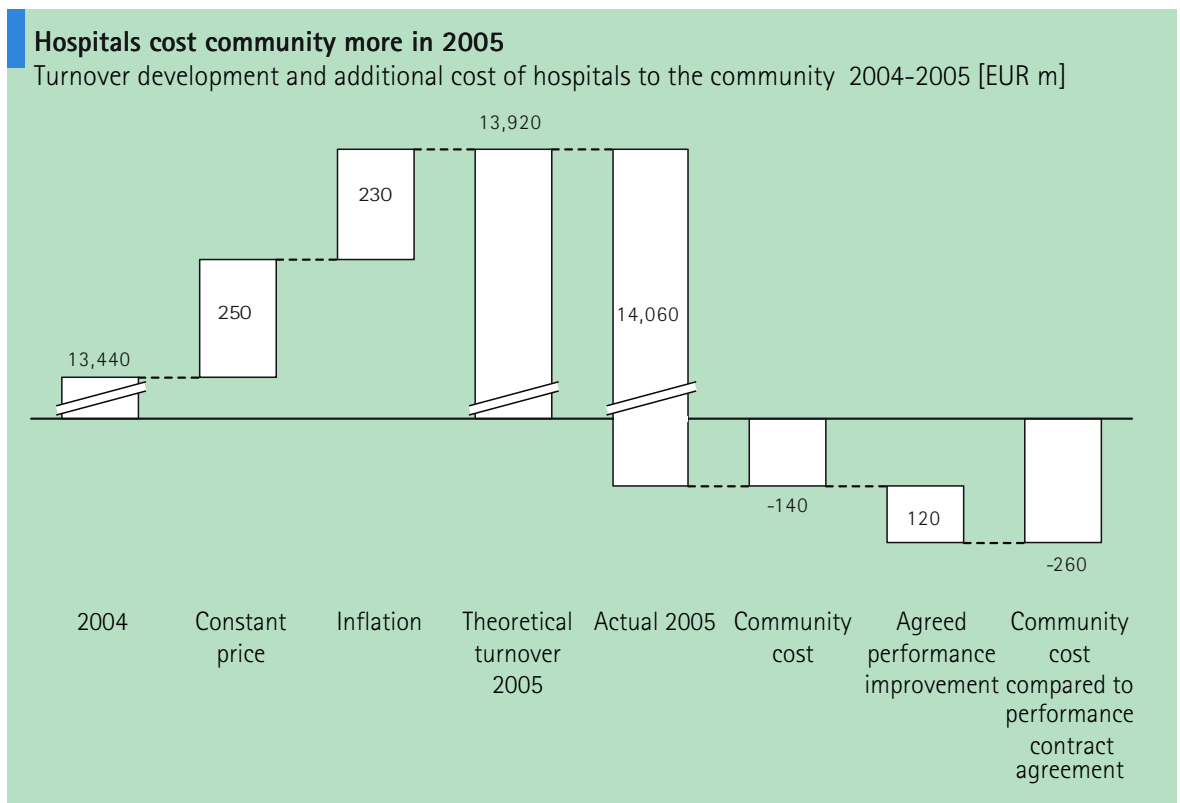


Exhibit 2.



Executive Summary

Dutch hospitals arrived... Dutch hospitals arrived at a crossroads in 2005. The liberalization agenda in making over the long last decades was implemented for the first time, albeit slowly, in 2005. In this report we present the developments in Dutch hospitals in 2005. It is yet unclear if healthcare can be "trusted" to freer markets. Given the challenges of delivering high quality, constantly improving healthcare at a "fair" price for the coming decade, it is important to see how the gradual liberalization of healthcare markets in the Netherlands is developing.

... disappointingly at a crossroads in 2005 In this light, 2005 was a disappointment. Dutch hospitals might be at a crossroads. But the crossroads is also shrouded in the twilight. On some metrics, like FTE productivity, Dutch hospitals did gain slightly. But neither the overall cost productivity, nor financial health, nor market churn could be sustained in 2005. 2005 could be the dawn of a new era, but it could also be the dusk before a coming darkness.

Based on our analysis of 93 Dutch hospitals we draw six main conclusions:

1) Turnover grew faster than production in 2005. Reduced growth in care volume in 2005 brings additional risk. (Exhibit 1)

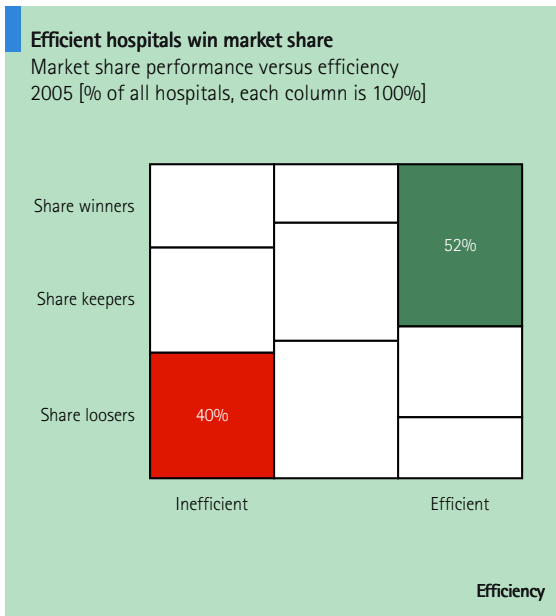
In 2005 patient entities, a measure of the volume of care delivered, grew slower than the turnover. While patient entities grew by 1.9%, turnover and costs grew by 4.7%. The volume growth of care in 2005 was significantly lower than levels in 2002-2004. In as much as this reflects unmet need for care, a future risk, both financial and medical, is in the making.

The lower production growth and the higher turnover growth is a failure for the productivity improvement targets which have been much flouted in the sector, and were agreed in a rather modest multi-lateral performance contract between the hospitals and the government.

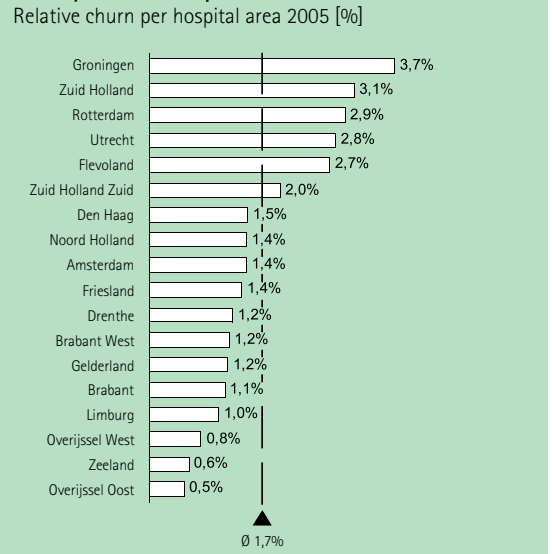
2) The performance contract failed to deliver benefit. Loss of productivity meant Dutch hospitals posted a "net community loss" of EUR 140 m. In determining budgets, the future growth and productivity gains potential of hospitals must be considered. A "one size fits all" strategy is failing and shall continue to fail.

(Exhibit 2)

Exhibit 3.



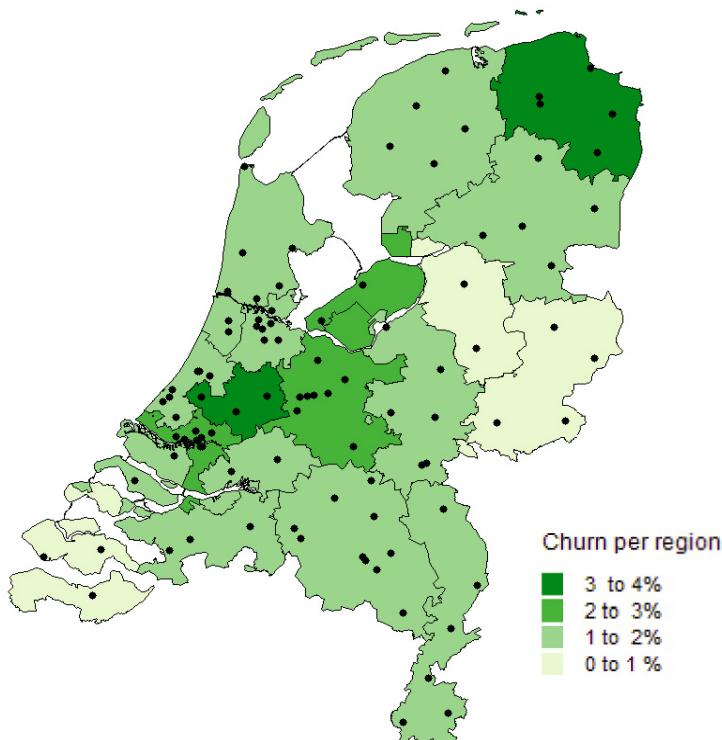
Patients in Groningen, Zuid-Holland en Rotterdam actively switched hospitals



Exh. 4B.

Exhibit 4A.

Groningen and Zuid-Holland Oost have highest churn rate
Churn per region 2004-2005 [%]



For 2005 hospitals had agreed to deliver a performance improvement of 1.15%. Without considering the technical aspects of the contract itself, we find that the higher turnover increase, and lower volume growth meant that hospitals posted a community loss of EUR 140 m. If on top of this the performance agreement of EUR 120 m is considered the total loss could be argued to be EUR 260 m. We conclude that the multi-lateral budget cut agreed in the performance contract did not work effectively. We believe that such contracts are fundamentally flawed for two reasons:

- a) Not all hospitals failed to improve performance. Performance improvement in 39 hospitals delivered EUR 120 m net community benefit¹. However 54 other hospitals posted a community loss of EUR 260 m. "A single size fits all" strategy does neither justice to the 39 improvers, nor does it deliver benefit for the entire sector².
- b) The future growth varies strongly per hospital, based on the underlying demographic trends in the care regions.

3) Efficient hospitals win market share (Exhibit 3). Churn in hospital markets did not increase (Exhibit 4A,B).

Efficient hospitals are more likely to win market share. More than half of the hospitals which were efficient compared to their own specific national peers won market share in their local markets. It appears cost efficiency is a good proxy for overall hospital performance. Perhaps a hospital that works cost effectively is also better at patient, family doctor, and insurer relevant issues, at thus wins in its local markets.

¹ Community benefit and loss here is defined as turnover minus the EUR value of production based on the productivity of the year before corrected for inflation.

² This distribution of hospitals in "community benefit makers" and "loss makers" is based on historical perspective only. It is reasonable to also include a hospital's starting position in considering budget cuts. An efficient hospital has a lower improvement potential. We use this limited 2004–2005 perspective for illustrative purposes only. For more refined tastes, an efficient hospital can be defined on basis of our peer baskets, normalized for special care.

Exhibit 5.

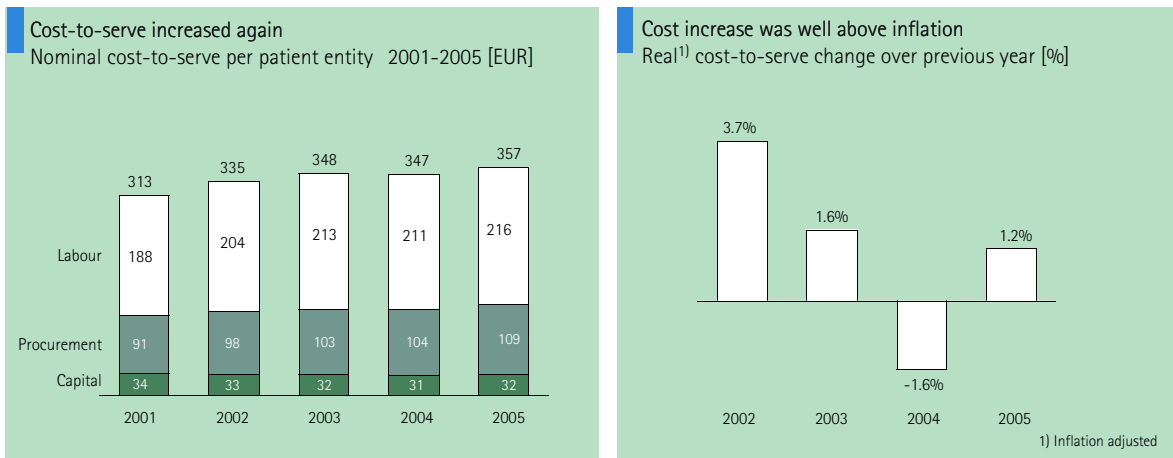
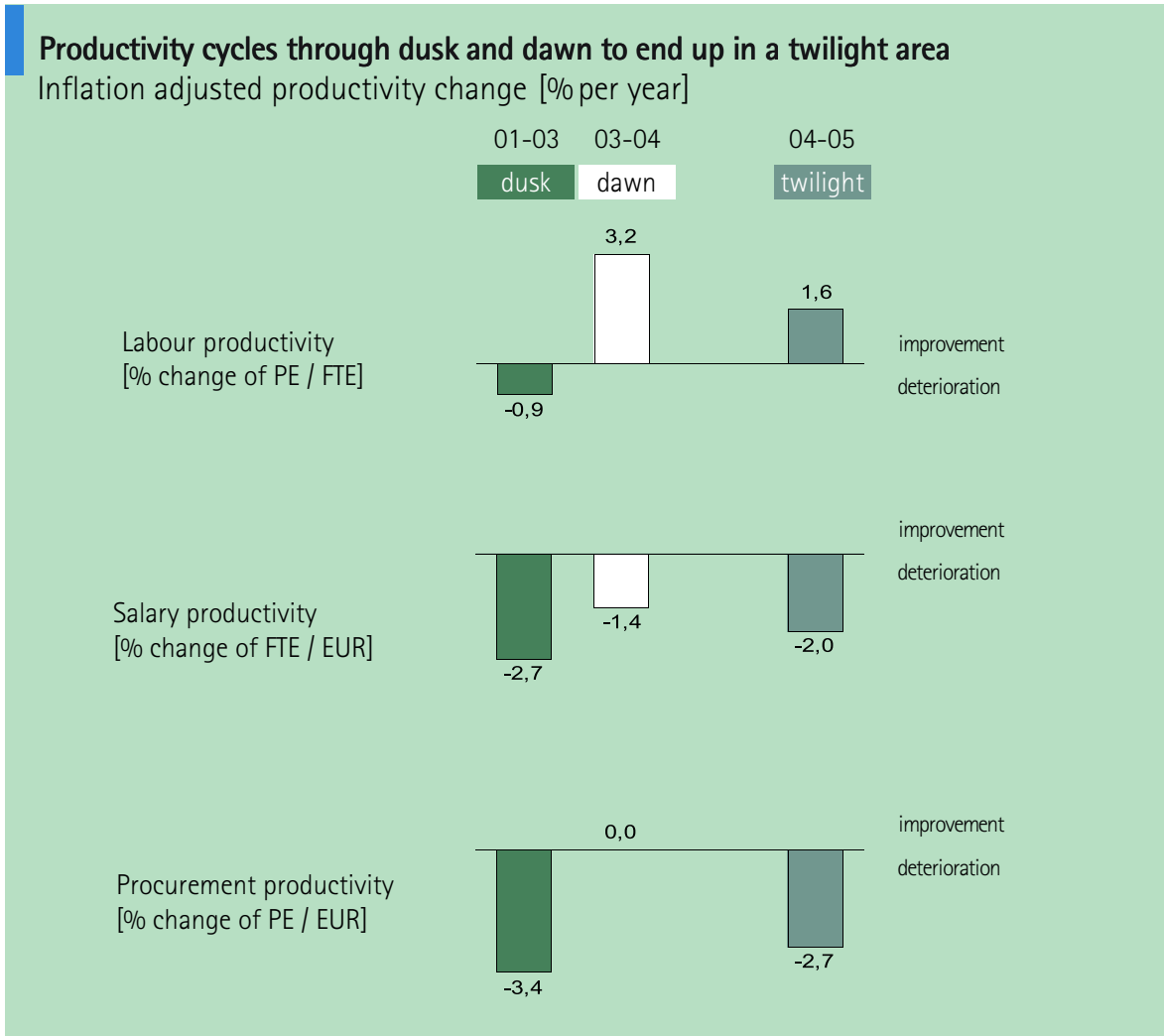


Exhibit 6.



In 2004 we found a churn of 1-2% amongst hospitals. We expected that the churn would increase with the introduction of B-segment. We found that it remained constant. In 2005 the churn was 1.7%. However there are significant regional differences. In Groningen and Zuid-Holland the churn is 3% and above, while in Overijssel en Zeeland it is less than 1%. The churn rate historically is constant between 1-2% per year. Given that the success of liberalization agenda must be its ability to enhance churn, 2005 was a disappointing start.

4) Productivity declined (Exhibit 5, 6)

In 2004 production had grown more or less in line with turnover, and on real basis hospitals improved productivity on both labor and procurement costs. In 2005 hospitals lost euro value productivity. Real cost-to-serve increased by 1.2%. On nominal basis all three cost-to-serve components, labor, procurement and cost of capital grew in 2005. 2004 improvement appears to be an exception in the light of the loss of productivity in 2005, and 2001-2003.

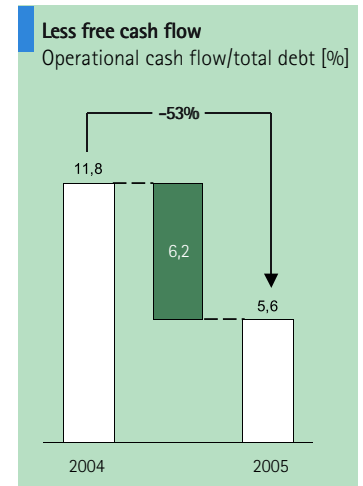
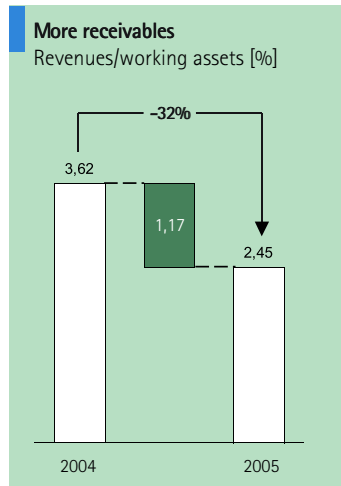
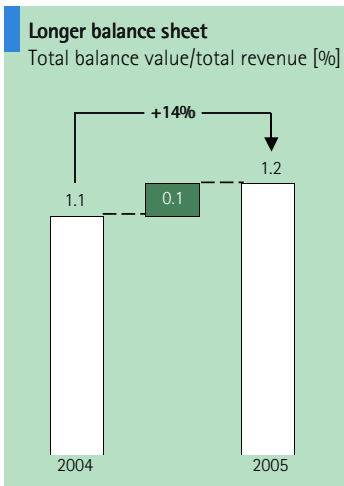
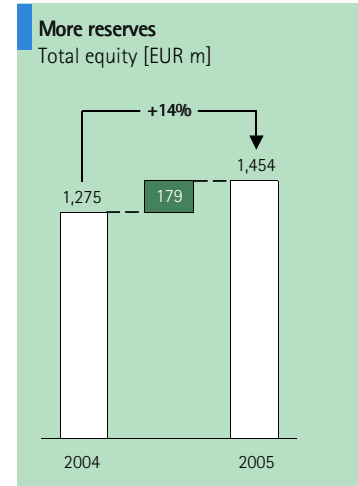
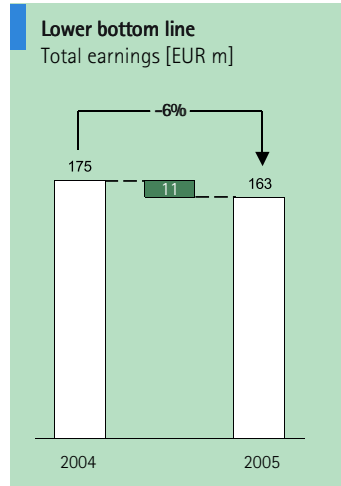
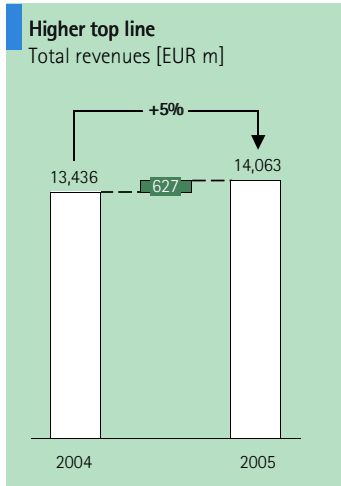
5) Hospitals financially slightly weaker (Exhibit 7)

Despite the turnover growth of 5%, the net results of the hospitals declined by 6% to EUR 163 m. 4 hospitals alone, UMC Utrecht, LUMC, AZM, and Zorggroep Noorderbreedte, were good EUR 54 m (33%) of the net results. The large financial gains made in 2004, were reversed in 2005. This is a logical consequence of the declining productivity of the sector. Introduction of DBCs wreaked havoc on the financial performance of hospitals. The balance sheet got much longer, the receivables grew and less free cash was available from "normal" operations. However, hospitals were more than adequately financed for the anticipated problems. In fact on average the entire sector had received more money upfront than required on basis of production. Thus there were no overall liquidity consequences.

6) Performance of hospitals is not aligned with incentives

In a rational world money would follow patients. A hospital that attracts patients and wins share would have higher turnover and book better financial results. Similarly a hospital that improves its productivity would also improve

Exhibit 7.



its financial position. If insurers are the new directors of hospital procurement, than they would seek alignment and create incentives for hospitals to reward and punish their performance. We report the market, operational and financial performance ranks of all Dutch hospitals. And for the first time we also report the hospital that booked the best performance improvement on all three measures in 2005. Unfortunately, our conclusion is that incentives are not aligned with hospital performance. Money does not follow patients, and neither does productivity improvement always result in better financial results. None of the six hospitals, one in each category, that won the highest market share in 2005, were also the financial winners (Exhibit 34). Money does not follow patients. Only two of the hospitals that improved their cost-to-serve were financial improvement front runners (Exhibit 34). Money also does not follow productivity improvement in hospitals. Aligning incentives with individual hospital's performance is critical if the sector's overall performance is to improve.

Introduction

2005 was supposed to be an important year...

Historically viewed 2005 was a watershed in the annals of Dutch healthcare. Winds of change blew over the insurers and hospitals. In line with the changes the role of the government and the regulatory bodies began to shift. In 2005:

- 1) DBC were introduced as the language for "buying and selling" healthcare products between insurers and hospitals.
- 2) Markets were liberalized. 5-10% of the volume of hospitals was earmarked as B-segment with both volume and price freely negotiable.
- 3) A multi-laterally negotiated macro budget discount of 1.15% was agreed for all hospitals.

The liberalization policy was more than a decade in making, and even though the actual changes in 2005 were limited, at least the first steps were taken. On top of the actual changes there is a sense of impending revolution in the air.

While 2005 might appear to be a watershed, we expect its importance will be dwarfed with the force and speed of changes to come. B-segment can be expanded, cost of capital and investment decisions can be liberalized, hospitals can be allowed to become for-profit, new relationships between insurers and hospitals can be forged, and so forth. In this sense 2005 was a test year to see how the sector would respond to the opportunities and challenges of liberalization.

In this report we present the results of the hospital performance in 2005. Based on the analysis we conclude that hospitals landed in a twilight zone in 2005. 2005 could be the dawn of a beautiful new era, but 2005 could also be the dusk of an approaching night. No doubt the proponents of current change would greet the 2005 results as the dawn of a new era. But the prophets of doom would just as well see in 2005 the first sign of impending crisis, the dusk before a long and dark night. Both camps could stake a "just you wait and see" claim, and both claims would be backed up. The 2005 performance of hospitals is sufficiently ambivalent to provide evidence for both camps.

...but ended up being a twilight year

The conclusion that Dutch hospitals, which are the cornerstone of our healthcare, landed in a twilight in 2005, is of course worrying. 2005 was meant to be a landmark. The successful liberalization of the insurers market in 2006 showed that for payers 2006 would indeed prove to be a landmark. The churn was much above expected and no real administrative chaos ensued.

Managing hospitals is complex

But the business of managing a hospital is complex. And the real value of healthcare reform challenge is at the provider level. This value was still missing in 2005. This is troubling given the developments in 2003-2004. In 2004 for the first time in four years, hospitals improved their performance. Productivity grew, financial positions improved. And as we reported last year, in 2004 there was already a churn between hospitals. These benefits were not completely lost in 2005. But neither were they persuasively reinforced.

In this study, we report for the second time, after The Pied Piper of Hamelin last year, the performance benchmark for the Dutch cure sector. We have analyzed 93 hospitals this year, up from 89 last year. In addition we have also added historical performance going back to 2001. The historical results are mainly included with the aim of being able to discern longer term trends in for example, churn, productivity, and financial robustness. Deciphering macro trends in the cure sector is one aim of the study.

Deciphering individual hospital's performance is the aim of the study

Our primary goal, however, is to be able to understand individual hospital performance. Sector wide averages for hospitals, which are fiercely complex, independent and intricately woven in the fabric of every citizen's life, are often a meaningless parade of numbers. We are much more interested in understanding the single hospital. Is a hospital winning market share or not? Is a hospital more or less productive than its "natural" peers? How does a hospital fare financially? We find that such simple questions are still unanswerable in the sector. Often the insurer cannot convincingly distinguish an "efficient" hospital from an "inefficient" one in its portfolio. But also surprisingly enough even the hospital itself does not always have a clear, and broadly shared view on its own performance.

Consistency in study is important

Our primary aim in undertaking this study is to provide hospitals and insurers with this insight. Consistency in such an annual study, for we intend to make this a fixed event on the Dutch healthcare calendar, is of crucial importance. If a study cannot be compared across two years, because the methodology has changed or the study has taken a new imperative, it is impossible for the readers to judge its relevance. Our study of last year addressed three performance dimensions of hospitals: market, operations and financial performance. We believe that these three dimensions are sufficiently complete to be continued this year, and in the years to come. Thus we have retained the main methodology and scope of last year's study.

Three new elements in study, but the core is the same as last year

Three changes are worth pointing out. The parameters for quality, as reported by IGZ for 2004, have been included. We have not included quality in the overall ranking of the hospitals, but we have analyzed whether quality is correlated to market, cost or financial performance. Secondly, we have split cost-to-serve into labor, procurement and capital. Lastly we have assigned all hospitals to relevant peer baskets. With a standard deviation in cost-to-serve of over 50%, the sector is too divergent to be treated as one entity for purposes of ranking and benchmarking. We have therefore divided the sector in six groups, UMC, STZ, large urban, large rural, small urban and small rural hospitals. We have benchmarked each hospital within its own group. We believe this provides a better measure of an individual hospital's performance. None-the-less our work for hospitals has taught us to be cautious in assigning value to such rankings blindly. Within a peer group structural differences can exist. Understanding and accounting for such differences is essential before a hospital can embark on a strategic course. Therefore as always, we do not report the names of individual hospitals in our results, but present overall trends.

Exhibit 8A.

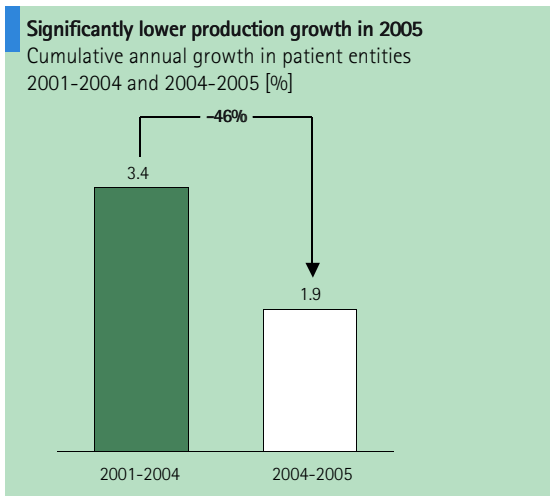


Exhibit 8B.

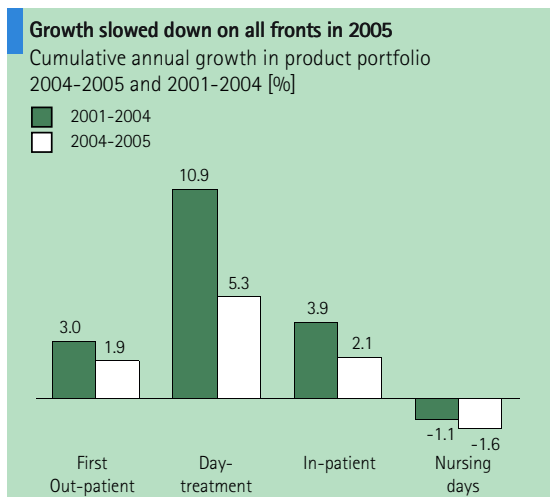
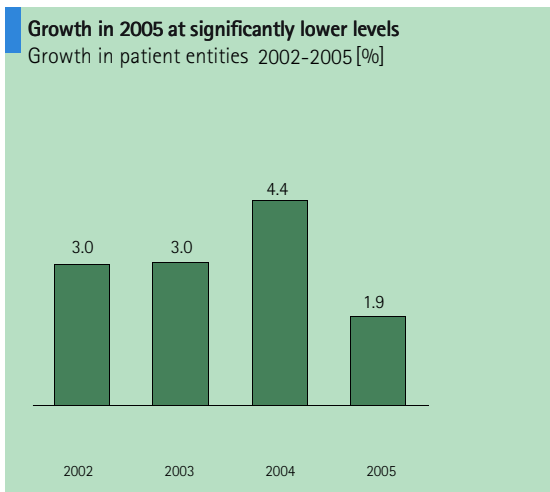


Exhibit 8C.



Market performance

1. Growth in healthcare volume slowed down in 2005: Do budget constraints encourage limiting care delivered or enhancing efficiency?

Lower volume growth in 2004

Growth of healthcare as measured in patient entities slowed down in 2005. While the historical growth through 2001-2004 was 3.4% annually, in 2004-2005 it slowed down to 1.9% (Exhibit 8A). On all cure products, first out-patient visits (EPB), day-treatments, in-patients, and nursing days, the growth slowed significantly (Exhibit 8B). This suggests that the problems of waiting lists manifested in 2000 may come to plague the sector once again in the coming period.

In contrast, hospitals turnover continued to increase, growing by 4.7% in 2005. The turnover of hospitals historically outpaces its volume growth (see Exhibit 1). However, in 2004 the gap was much smaller. In 2005 the gap appears to be widening again.

but continued turnover growth,

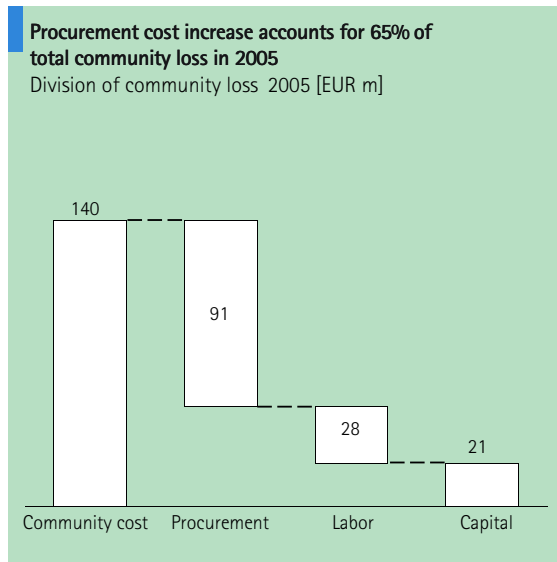
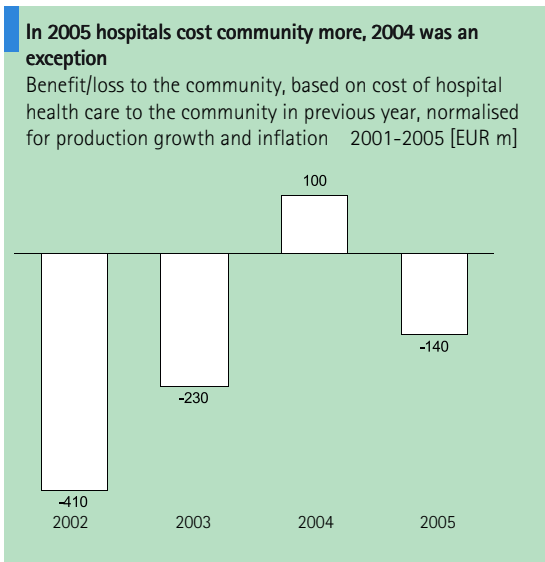
The much larger euro value increase in 2005 flies in the face of the agreement by the hospitals, insurers and government to achieve a performance improvement of 1.15%³. Even after correcting for inflation, on a like to like basis, it appears production fell back, turnover continued to increase, and thus productivity of hospitals also fell back. In real terms we estimate that hospitals received EUR 140 m more than would be expected on parity basis with turnover per patient entity served in 2004. If one included the performance contract in which a 1.15% cut was agreed, than EUR 260 m appears to have been extra in 2005 (Exhibit 2,9). Most of the community cost was due to spiraling procurement costs. Of the EUR 140 m, EUR 91 m or 65% was due to procurement (Exhibit 10).

implies productivity gap is widening again

We have calculated this "value versus volume" gap over the last 4 years, always using the turnover per patient entity of the previous year as the basis for the comparison, correcting for inflation for that year (Exhibit 9).

³ The technical aspects of the performance contract merit detailed separate discussion and are not the aim of this paper. We are here mainly interested in the productivity development of hospitals as measured in patient entities and euro value growth.

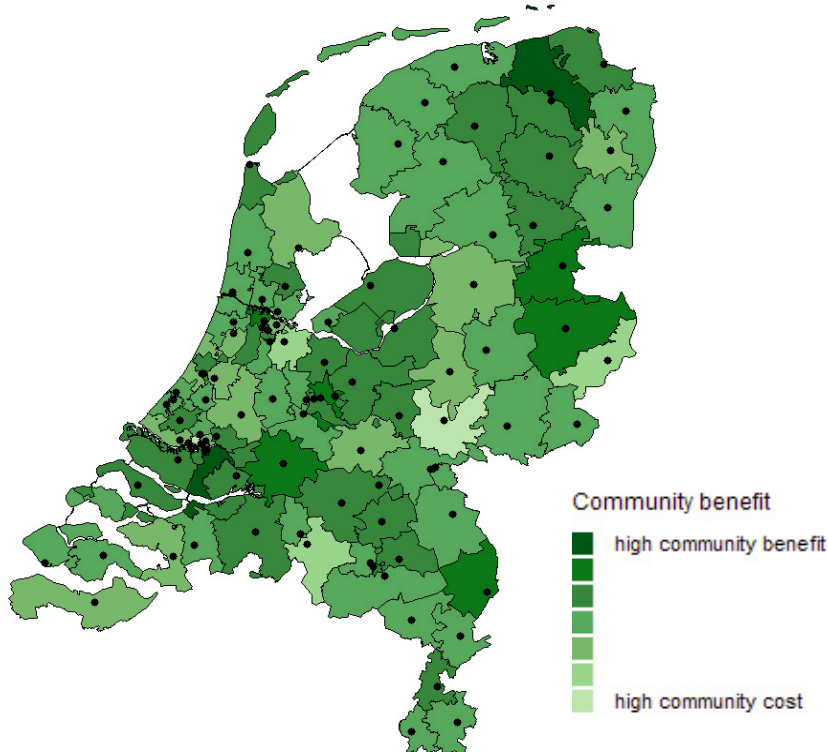
Exhibit 9.



Exh. 10A.

Exhibit 10B.

Community benefit varies across The Netherlands
 Community benefit and loss per hospital area based on previous year, inflation corrected, baseline patient entities growth 2004-2005 [high benefit – high cost]



For the first time in 2004 this measure was positive, or in other words, hospitals provided a net positive "community benefit" of EUR 100 m. In 2005 this became negative again with a net extra "community cost" of EUR 140 m. Had the hospitals met the performance contract they would have managed to deliver higher cure volume at a lower total price.

*Patient entities
reflect only
partially the value
hospitals deliver*

The rather outspoken conclusion we draw on productivity does deserve the necessary nuance, and according to us, three caveats are critical.

- 1) Such an analysis only addresses the cost aspects and not the benefit aspects. Should somehow hospitals have delivered much better health outcomes, while patient entities remained the same, such costs are justified.
- 2) But even more simply, without the difficult discussion on health outcomes, it is possible that part of this "failure" can be explained by more complex and expensive medical therapies required and delivered in 2005.
- 3) The third caveat is even simpler. 2005 saw the transition to DBC. We do not know for sure if hospitals were still registering FB parameters in 2005 with the same discipline as the years before. Perhaps in anticipation of DBC, some of the hospitals no longer reported patient entities fully.

We cannot adequately address any of these three caveats. We have analyzed the results reported in the annual reports of the hospitals. Should these not reflect the actual production or the nature of care hospitals have delivered, hospitals are doing themselves injustice.

It is not easy to reach a definite conclusion in the ongoing debate on whether hospitals received more money than was agreed in 2005. This is the claim made by the government and its proposal is to enforce it by a unilateral budget cut for 2007. This claim is being refuted by the hospitals. On a like to like production basis, assuming proper reporting, it would appear that the government is right - the hospitals received extra money in 2005. But should the complexity and expense of delivered cure be much higher in 2005 the hospitals may be right.

We can only definitely conclude that the extra 5% money hospitals received in 2005 was above the actual volume of cure delivered in patient entities (2%). From this undisputable fact we draw two important conclusions.

Central budget cuts are ineffective, Firstly, it appears that centrally imposed performance contracts, which really are budget cuts, even when multi-laterally agreed, do not work. In 2004 when no such contract was in place, hospitals became more productive and delivered a net community benefit of EUR 100 m. In 2005 when the budget cut was imposed, and markets were partially liberalized, the hospitals did not live up to the budget cuts, resulting in a net community loss of EUR 140 m.

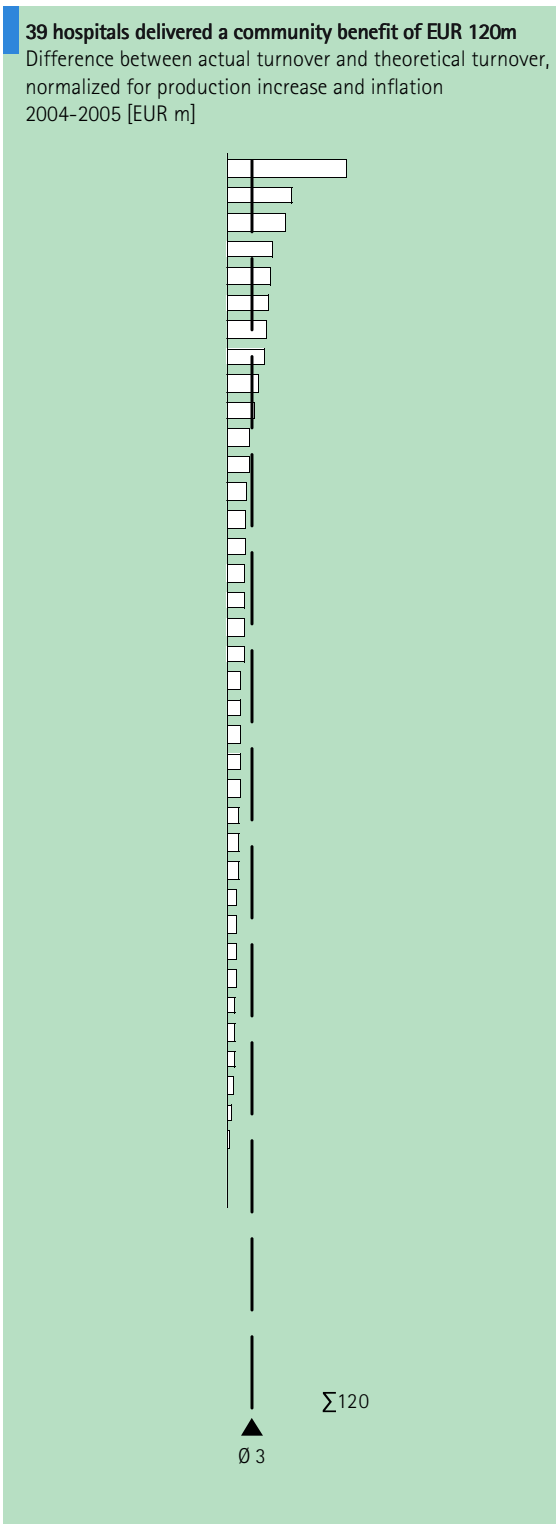
and have undesirable consequences Secondly, hospitals delivered much lower cure volume growth in 2005 than in the three years previously⁴. This may suggest that unmet demand is perhaps being built up, which can have undesirable consequences for the national health. In as much as this is actual need, sooner or later it will have to be met and we will have to pay for it. Over a medium term healthcare budget limits could result in unmet demand, the future community needs for healthcare could explode, and the political apparatus would then have little choice but to bow under the electorate pressure and allocate extra funds to healthcare. We have seen this before in 2000-2002. And we are seeing it now in nursing homes and other healthcare providers.

One of the underlying drivers for healthcare growth is demographics: growth in population and ageing. But the dominant driver for growth is the changing perception of when and which healthcare is "needed" - higher use of (newer) medical therapies. Herein human judgment plays a role, but availability of better and more accessible technologies is also important. Undoubtedly, availability of budgets also plays a role in delivering care - supply creates its own demand.

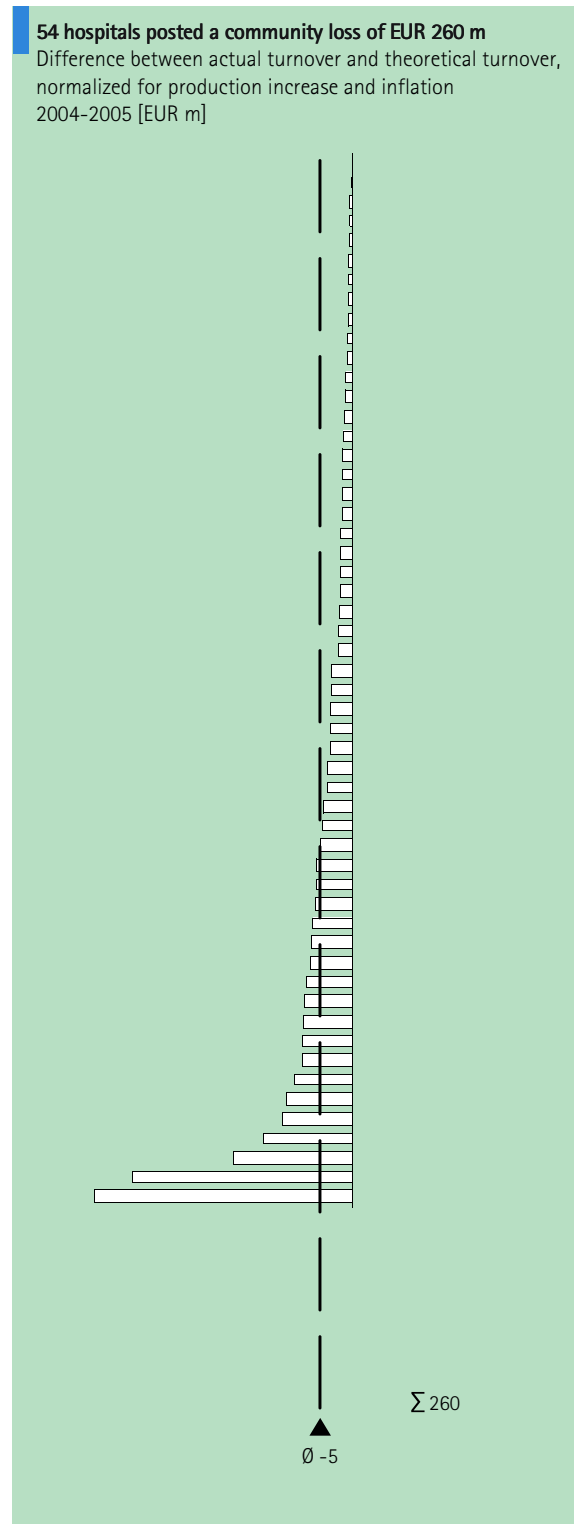
Budgetary constraints can work in two ways. One way is to limit delivered volume, thus creating unmet demand. But theoretically budget constraints can also encourage hospitals to improve efficiency and deliver the care demands within limited budgets. The latter was clearly the intention of the performance contracts agreed by the sector. In reality the former is what appears to have happened in 2005. That budgetary constraints should result in limiting delivered care is neither unpredictable nor unreasonable. On the contrary it is unreasonable to expect that by cutting off compensation any organization would be motivated to continue to deliver its services.

⁴ It is also possible that there was "overshoot" in previous years. We have no way of knowing the true underlying "demand" for healthcare.

Exhibit 11A.



Exh. 11B.



Budget cuts are doomed to fail

We do not believe that macro budgetary constraints, no matter how well hammered out in multi-lateral sector wide contracts, will work in the long term. The business of delivering healthcare is too complex, dynamic, intricate and independent, to be managed this way. 2005 provides the evidence for our contention.

In as much as growth slowdown in 2005 indicates unmet need, it will amount to a rain check for future cabinets to come. We will pay higher prices in the coming years for the budgetary constraints dictated today. It is thus important to think of other innovative mechanisms to enhance efficiency. After all, hardly anyone believes anymore that rationing the amount of bread, or capping the price of it, will result in better quality affordable bread for all in the long term. Why do we continue to believe that this is possible for healthcare?

A differentiated approach holds more promise

We believe that a differentiated approach holds more promise for achieving efficient healthcare markets. In such a differentiated approach the individual hospital historical cost performance, but also its future growth projections, must be considered in deciding budgets.

39 hospitals out of 93 in our analysis met the criteria of productivity improvement dictated by the government (Exhibit 11A,B). These 39 together delivered a community benefit of EUR 120 m. Thus a minority of the hospitals were good enough for the entire performance target. 54 hospitals posted a productivity loss of EUR 260 m. It is also not the case that all of the 39 hospitals that delivered a "community benefit" were structurally high cost hospitals in 2004. Had that been the case one could have argued that they were simply doing what the other 54 hospitals had already done before. We analyzed the operational cost-to-serve of the 39 hospitals which booked performance improvement in 2005. In this group both hospitals that were efficient or inefficient hospitals in 2004 are present.

Who can understand and reward differences best - technocrat or markets?

The challenge must be to encourage all hospitals to improve performance. The total community loss of EUR 140 m was not equally shared by all hospitals, and therefore it does not make sense to manage the entire sector as one entity. Recognizing and rewarding differences is key to improve performance. If the technocratic central regime cannot sufficiently distinguish between the different hospital performances, than it must delegate the responsibility to the "markets".

Exhibit 12A.

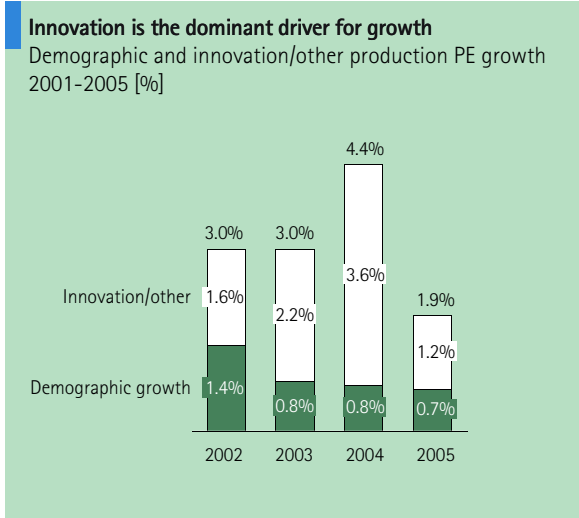
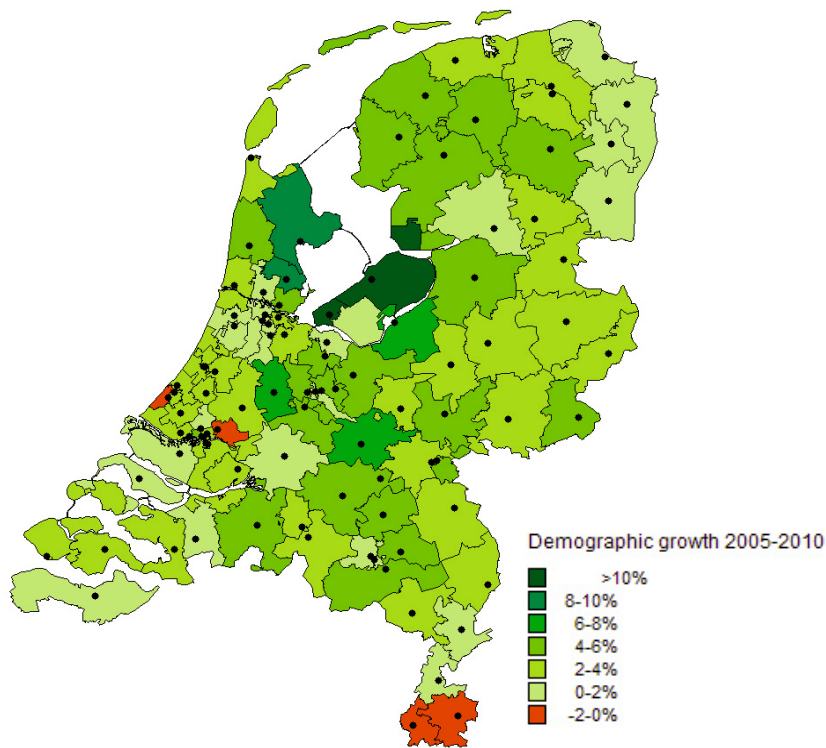


Exhibit 12B.

Projected demographic growth per hospital region 2005-2010



*Large differences
in demographic
growth per
hospital*

The demographic growth for a hospital depends strongly on the local community demographic trends. We estimate that the total demographic growth in 2001-2005 was 0.9% annually. But the variation across the hospitals was +15% and -1%. This large variation emphasizes the need for insurers and hospitals to allocate their growth budgets in line with the demographic trends. We have also estimated the demographic growth in 2005-2010 to be 0.7% annually. On top of demographic growth the extrapolated growth from enhanced medical therapies is estimated to be 2% annually (Exhibit 12A). Thus we expect annual growth of 3% for the coming five years.

The coming growth is not uniform across all hospitals. Hospitals in Almere shall experience the highest growth while the hospitals in Limburg will be confronted with a declining market. In directing future budgets for hospitals, demographic trends per clinical area, is the least that each insurer and hospital must have clearly mapped out on their strategic chart. In Exhibit 12B the projected growth across The Netherlands is mapped.

*'One size fits all'
strategy is flawed*

In determining growth budgets as well as budget cuts, the future growth (Exhibit 12B) and productivity gains (Exhibit 11) of hospitals must be considered. A "one size fits all" strategy is failing and shall continue to fail.

2. Partial liberalization, B-segment, did not result in increased churn. In Groningen en Zuid Holland churn is the highest. Zeeland and Overijssel are the least dynamic markets.

*Net churn
constant*

In 2004 we analyzed that the net result of patients changing their choice of hospitals was 1-2% of EPBs. We were curious if with the introduction of the B-segment in 2005 the churn would increase. Given the large differences between hospital performances, success of liberalization must be measured by effective churn. 1-2% churn is already high given the bottom-line of most hospitals. But the 20% odd churn in the insurance market witnessed in 2006 shows that Dutch population is willing to change their insurer in large numbers. However, on an average across the Netherlands, we find that the net churn between hospitals did not increase in 2004-2005 (Exhibit 4).

It is premature to conclude that patients and insurers are unwilling to switch volume between hospitals. Firstly, the volume of the B-segment is very small. While often

Exhibit 13A.

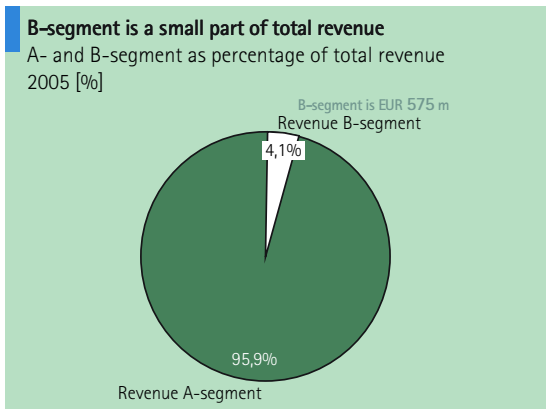


Exhibit 13C.

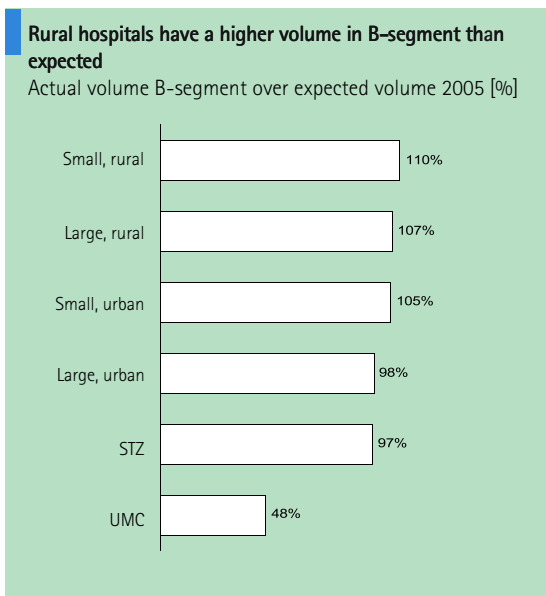
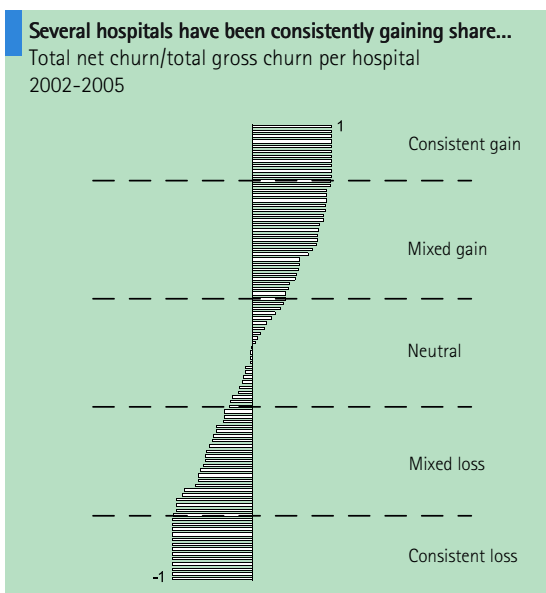
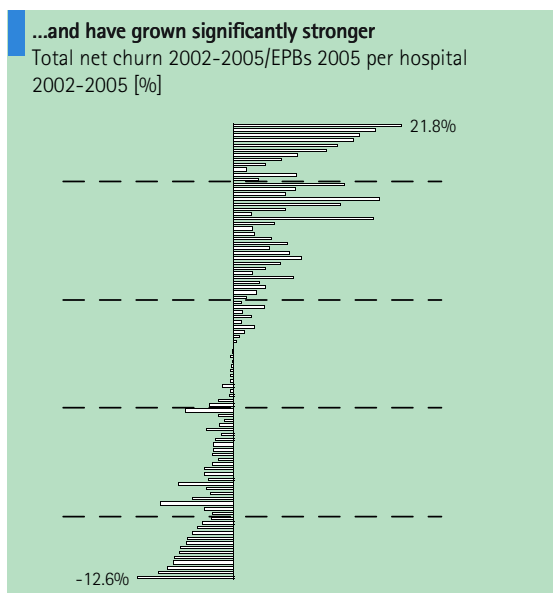
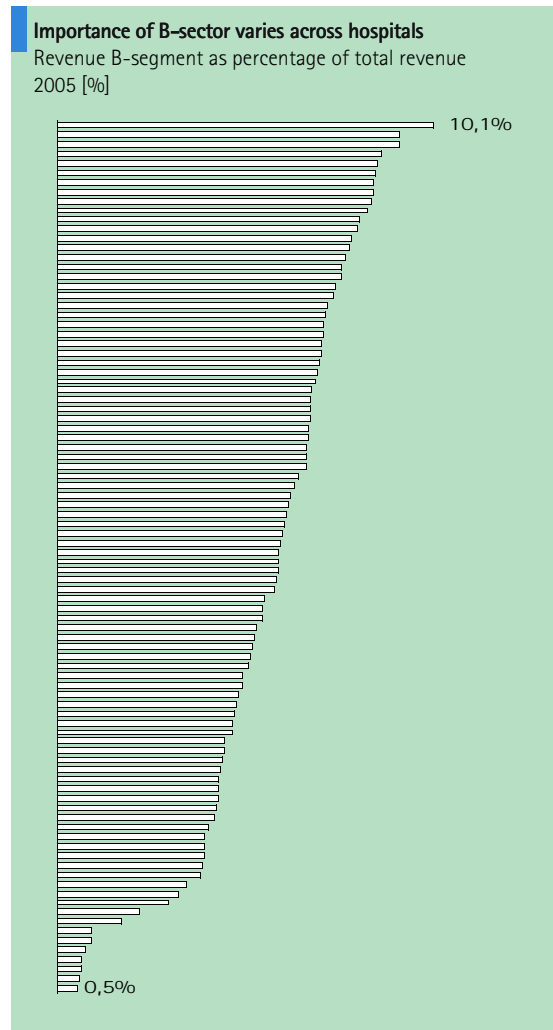


Exhibit 14.



Exh. 13B.



Annual churn is still low because...

8-10% is mentioned as B-segment share, we found that the actual B-segment was 4.1% of total hospital turnover⁵ (Exhibit 13). The hospital with the largest B-segment was at 10% while the lowest was at 0.5%. We have analyzed the actual B-segment share per hospital versus the expected share, and find that rural hospitals tend to have a large B-segment. Secondly, transparency in overall hospital performance is lacking. It is not just the patients who lack insight in hospital performance. Equally importantly, insurers also do not have sufficient insights in the hospital performance to persuasively direct patient flows. There is clearly a need and value in creating objective, balanced and integral insights in hospital performances. Such insights must include both operational cost performances but also quality and other discretionary needs of their insured. We return to cost and quality transparency in the next section.

...B-segment is small...

...and insight in hospital performance is limited

While national churn is low, the churn on a local level can be much higher. Exhibit 4B shows the churn across all of The Netherlands. We find that Groningen, Zuid-Holland and Rotterdam were the most dynamic markets for cure. Such large churns show that the winners in these regions grew significantly faster than their markets, winning share at the expense of other nearby located hospitals.

But over several years churn is large for individual hospitals

Based on a consistent market performance methodology it is possible to calculate churn in hospital markets. Next to churn in 2005, we have also analyzed churn over 2002-2005. We asked ourselves whether the same hospitals were winning share and emerging as local champions, and other hospitals were losing share and becoming vulnerable. The net churn over 2002-2005 for all Dutch hospitals is shown in Exhibit 14. A significant number of hospitals have been winning share over the last years, and others have been losing steadily. The largest gainer won more than 20% of its own volume over 2002-2005. The largest loser lost more than 10% of its volume over the same period. These are extremely large changes over short periods, and have undoubtedly had significant consequences for the hospitals in question.

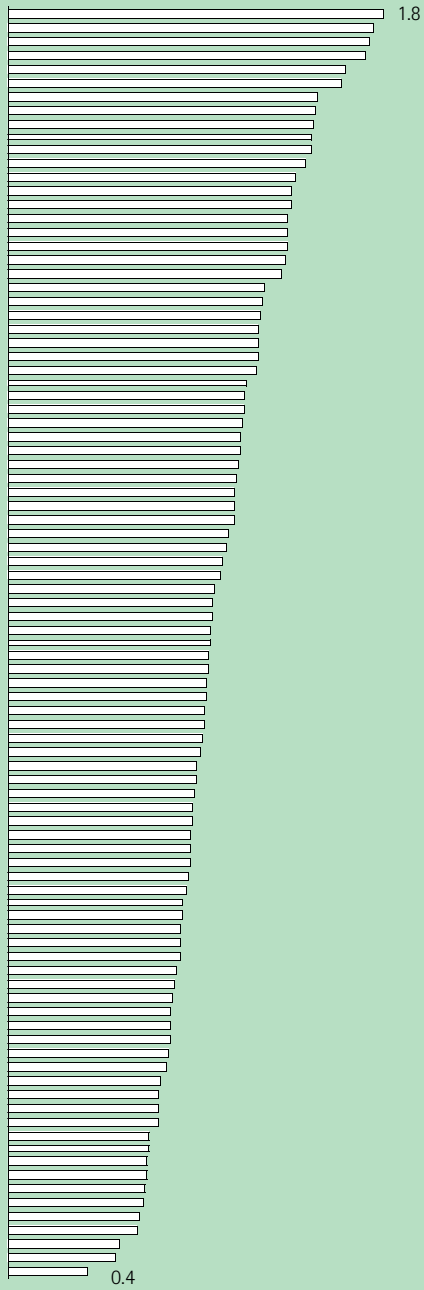
Last year we presented a methodology for determining market performance. We show the market scores for all Dutch hospitals per group, in 2005 in Exhibit 15. As expected the market position does depend on the hospital location and portfolio, with UMC having the highest average scores.

⁵ Based on 11 months.

Exhibit 15.

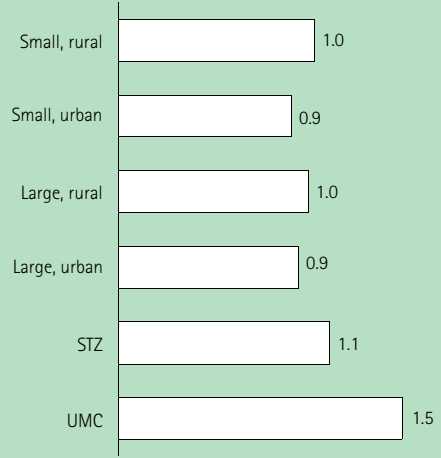
Market score varies across hospitals

Real EPB production/expected EPB production per hospital 2005



Urban hospitals have the lowest market score

Average of real EPB production/expected EPB production per group 2005



3. How to create more market dynamics? Drive cost and quality differentiation.

*3 pre-requisites
to improve
performance*

We work under the tyranny of competition all the time. In healthcare too an effective competitive field is needed. An effective competitive field has three pre-requisites:

- 1) It is possible to differentiate between the hospitals
- 2) Patients understand the differences
- 3) The consequences of the differentiation is felt by both the patients and hospitals

It is far from clear that in healthcare, we as a society are ready for such differentiation. We tend to believe that universal healthcare of the same quality and price is available for everybody at all times. After all do we really want an "Aldi" bypass surgery and an "Albert Heijn" bypass surgery?

Such comparisons create unnecessary confusion. Firstly, it is unlikely that such extreme difference in the core medical therapy is needed for market dynamics. Secondly, it is an illusion to think that such differences do not exist even today. Accepting that such differences exist and will continue to grow is the first step in driving the differentiation with the desired goal – that all hospitals improve their quality.

*But we have a
long way to go
for hospitals to
effectively improve*

Even if we acknowledge that such differences already exist, they are barely understood by patients and insurers. We, as patients, do not know, or perhaps even are incapable of understanding yet, the differences in medical therapies. In support processes such as food and cleanliness, differences are more tangible. Creating transparency in the differences in a comprehensible way is the second essential step for efficient markets.

Finally, if differences exist, and are understood, the consequences of the choices patients and hospitals make must also be felt and become traceable to the choices. No doubt there are consequences even today, but it is often difficult to relate these to choices patients and hospitals make. Patients, for example, may be willing to travel much longer to seek treatment by a renowned clinical group in a hospital. A hospital management may actively build up a clinical practice by attracting "prima donna" specialists. Or having failed to do so, may need to undergo restructuring. The pleasure and the pain of these choices have to be felt, if markets are to work effectively.

Exhibit 16A.

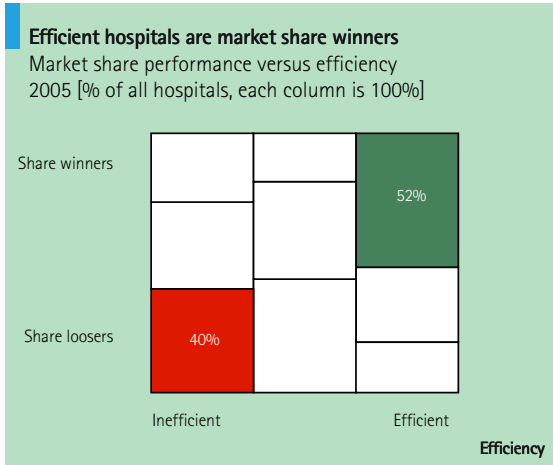


Exhibit 16B.

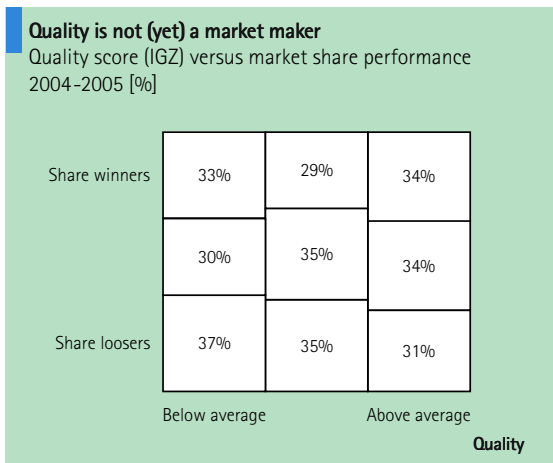
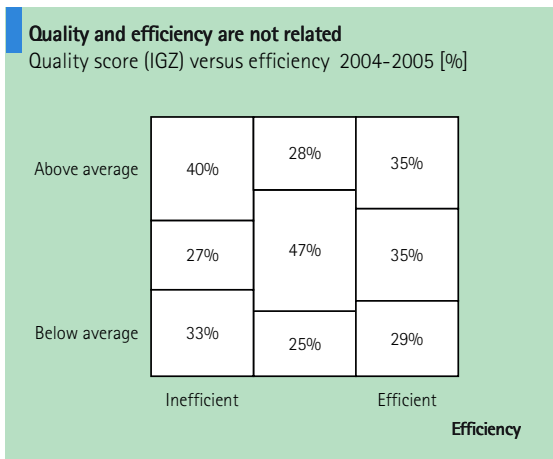


Exhibit 16C.



It is often a question of faith amongst different schools, whether the invisible hand of the markets or the visible hand of a powerful regulatory body is needed for efficient markets. We believe that no single body can effectively manage the entire healthcare sector. It is just too big, complex, intricate, dynamic and independent for that. Irrespective of your favorite school of thought, all three pre-requisites will need to be present if the performance of the sector is to improve.

We were curious to see to what extent healthcare markets were efficient in 2005. As measure of efficient markets we looked at both hospital price and quality against the hospital churn. Our underlying hypothesis is that in efficient markets, the best price and quality hospital will win market share.

In Exhibit 16A and B we plot the relationship between hospital efficiency, and quality against hospital churn. The price is based on a benchmark of each hospital within its own specific peer basket for 2005, while quality is based on 2004 IGZ validated data, which includes both the level of registration as well the rank of those metrics reported. To do justice to the uncertainty in the data, we ranked all hospitals in three groups, on both measures price and quality: out-performers, on par, and under-performers. Similarly the hospitals churn was ranked in three groups, share winners, share constant and share losers.

*Efficient hospitals
win share*

Exhibit 16A suggests that efficient hospitals tend to win market share. More than 50% of all efficient hospitals in their peer group won market share in 2005. And 40% of the inefficient lost share (the norm is 33% of the hospitals). These were small share wins, but none the less these suggest that efficiency is important. Since we have benchmarked hospitals on costs within their own peer groups (large, small, urban, rural, teaching, academic), size and profile themselves do not dictate cost efficiency. In general small hospitals tend to have simpler case-mix and thus lower cost for the same patient entities. By benchmarking within own peer basket we have accounted for these inherent differences. We cannot claim the efficiency itself causes gain in market share. But efficiency can be a suitable proxy for overall hospital performance. Perhaps a hospital that is run cost efficiently with keen eye for all processes, is also one that excels in managing their relationships with patients, family doctors, insurers and other stakeholders. And on the basis of excellent relationship management, such hospitals deliver superior care, winning market share. That cost efficiency is a proxy for market share win, is positive news for the sector. By leveraging cost efficiency advantages, the financing challenge of the future can be better met.

IGZ quality differences irrelevant for market share In contrast, quality of care delivered as reported by IGZ seems to have no effect on market performance (Exhibit 16B). It made no difference whether a hospital scored higher, lower or average on IGZ scores to its market performance. Despite the attention media devotes to IGZ scores, it appears this does not yet translate into active patient choice. Exhibit 16C confirms that there is no relationship between quality and costs.

Exhibit 17A.

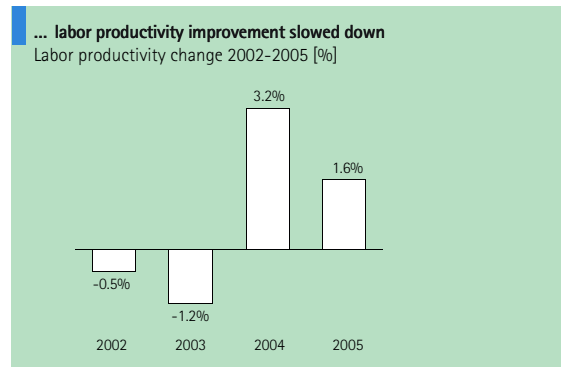
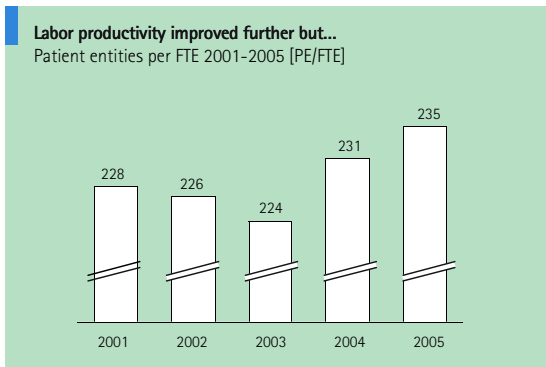


Exhibit 17B.

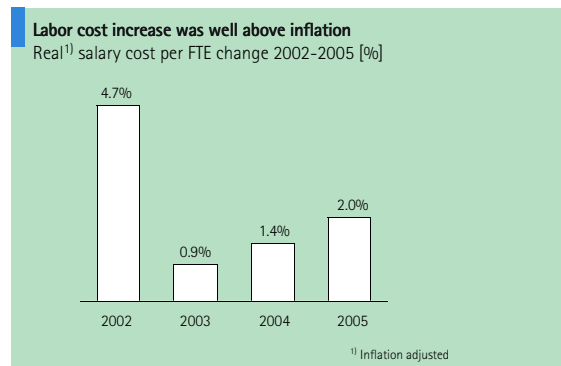
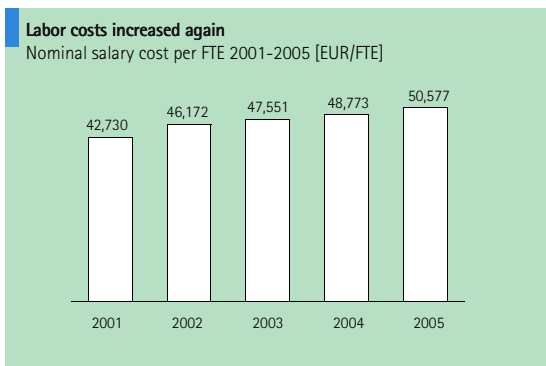


Exhibit 17C.

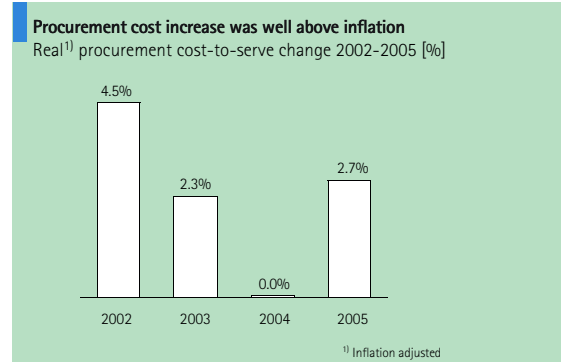
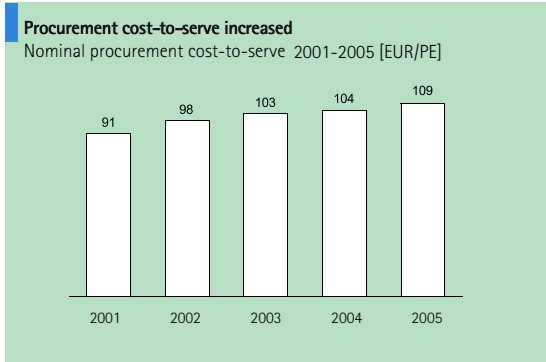
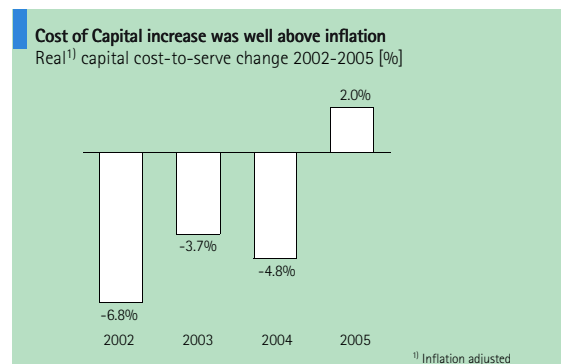
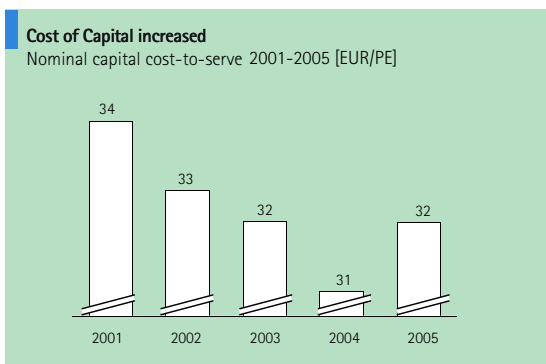


Exhibit 17D.



Operational Performance

1. Hospital cost-to-serve on the increase again

Real c-t-s on rise again

The average cost-to-serve of Dutch hospitals increased again in 2005. In Exhibit 5 the nominal cost-to-serve, in Euros per patient entity, is shown for the last five years. The graph also shows the real⁶ cost-to-serve change for every year. After a rapid rise in 2001-2003, real cost-to-serve decreased in 2004, but it is on the rise again.

Managing c-t-s rise to deliver future care is required

The real cost-to-serve increase does not automatically imply loss of productivity. Part of the increase could also be due to more complex and more expensive medical therapies. The debate on whether hospitals are becoming less productive or are delivering better care is almost irrelevant considering the future needs. In either case, the unabated increase of cost-to-serve, well above inflation, would require increasing amount of money to be diverted to healthcare. In all scenarios it is important to achieve all potential productivity gain. The challenge for specialists and management is to make the therapies of yesteryears streamlined and more cost efficient today, so that we can continue to finance the latest complex and expensive therapies tomorrow. This was not achieved in 2005.

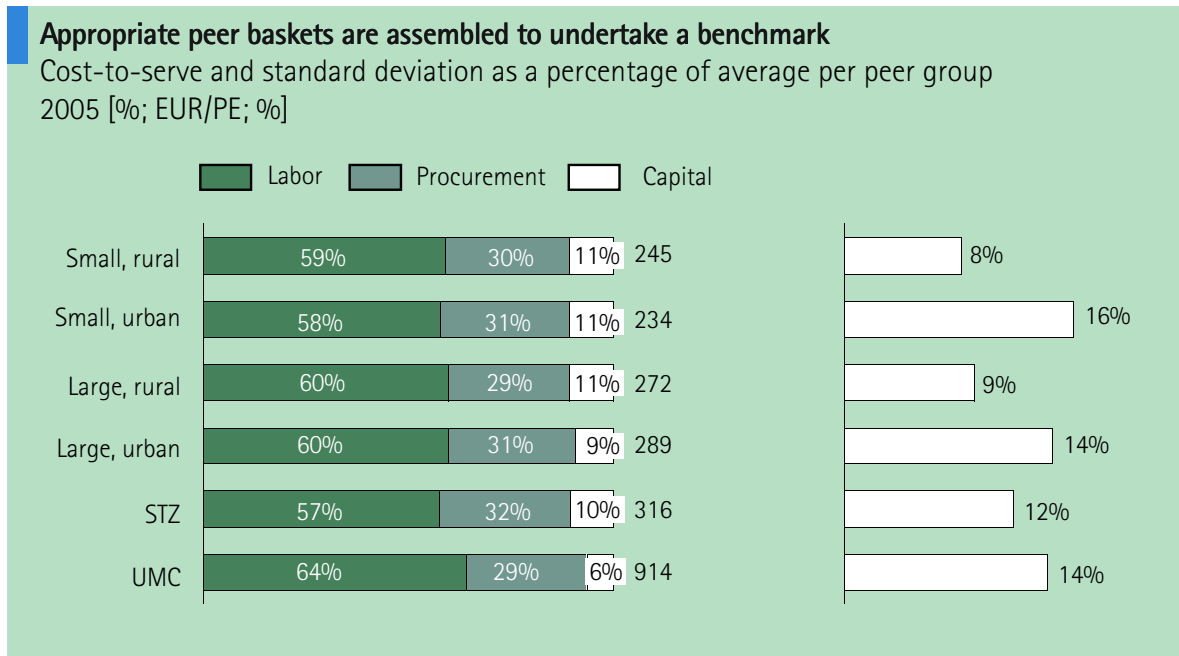
We have split the cost development in three components:

- 1) labor costs
 - a. labor (FTE) productivity
 - b. labor (salary) costs
- 2) procurement costs
- 3) cost of capital

In Exhibits 17A-D the cost-to-serve for all 93 hospitals, split over the three components, is shown for 2001-2005. The total cost-to-serve increased again in 2005, after a short lived improvement in 2004. The increase is mainly due to procurement, salary costs, and cost of capital. The labor productivity (patient entities served per FTE) improved once again in 2005, albeit at a slower rate of 1.6%. Real salary costs, however, increased by 2% and this more than fully compensated the improvements booked by labor

⁶ Corrected for inflation

Exhibit 18.



productivity. The highest increase was in procurement costs, which grew by 2.7% on real basis⁷.

The spiraling procurement costs were the largest contributor to decreased overall financial productivity. Of the total EUR 140 m "community loss" 65% or EUR 91 m was due to extra procurement costs, and 20% or EUR 28 m due to labor costs, the rest being higher cost of capital (Exhibit 10A)

Six peer baskets to benchmark performance...

We have benchmarked all hospitals on their cost-to-serve in 2005 (Exhibit 18, 19). To do the actual hospital portfolio justice we have created relevant peer baskets based on the type of care, the size of the hospital and its location. On this basis we assembled 6 peer baskets⁸ (see Exhibit 19A-F). These are:

- 1) University hospitals, UMC (8)
- 2) Teaching hospitals, STZ (19)
- 3) Large urban hospitals (6)
- 4) Large rural hospitals (16)
- 5) Small urban hospitals (9)
- 6) Small rural hospitals (35)

... with the aim to bridge differences

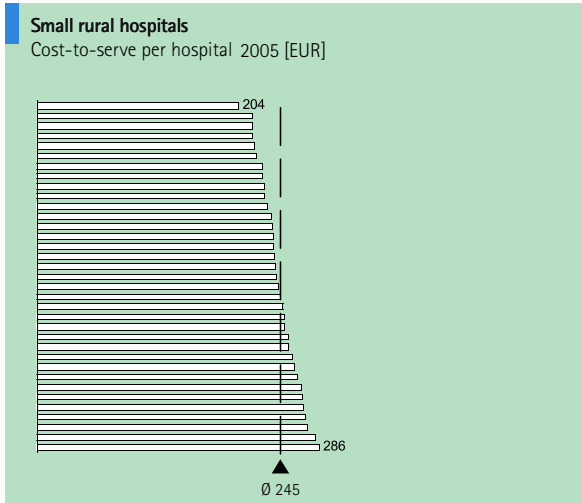
Undoubtedly, no two hospitals are the same. Because cure is an extremely people driven business, and human interaction is often idiosyncratic, individual differences between hospitals are large. But the purpose of a benchmark is to create a comparative playing field from which lessons can be learned. It is not a justification for why differences exist, but a means to bridge the differences.

The differences within the peer groups are much smaller. While the standard deviation across the Dutch hospital population is 58%, within the six peer groups it varies from 8-16% (see Exhibit 18). In developing a cost-to-serve benchmark we chose to rate

⁷ The biggest relative jump, albeit on a smaller basis was in cost of capital .

⁸ Hospitals that are neither UMC nor STZ, have been catalogued along two dimensions. While each such division remains arbitrary it does provide better peer baskets. First of all, hospitals were divided into two groups, large and small, depending on their total revenue. Large hospitals were defined as those with over EUR 100 m revenue. Both large and small hospitals have than be divided into an urban and rural group. Urban hospitals are hospitals in a city cluster with over 150,000 people with at least two competing hospitals. All other hospitals are catalogued as rural hospitals.

Exhibit 19A.



Exh. 19B.

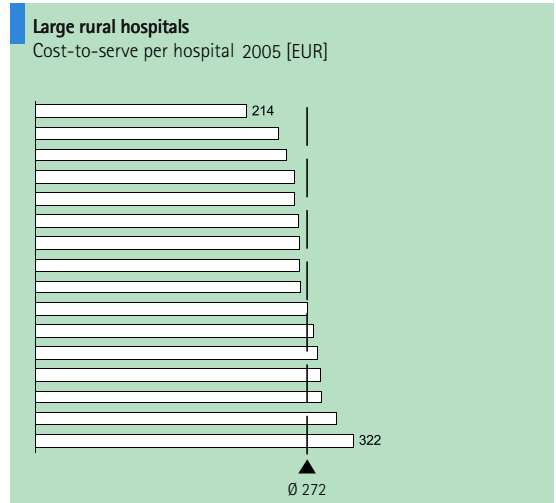
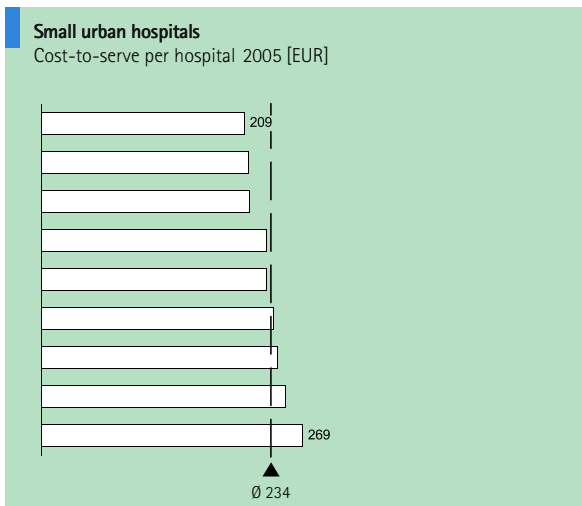


Exhibit 19C.



Exh. 19D.

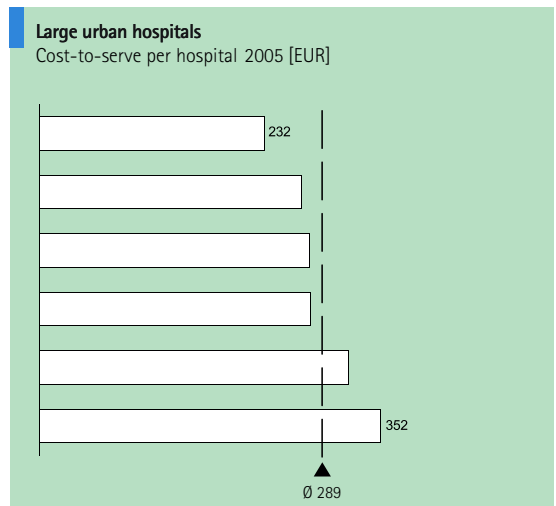
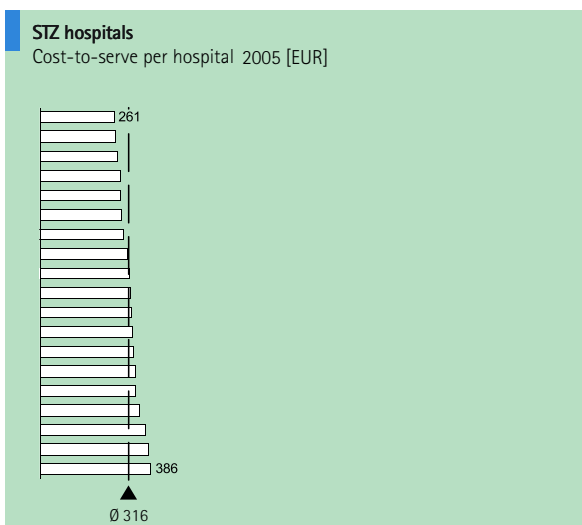
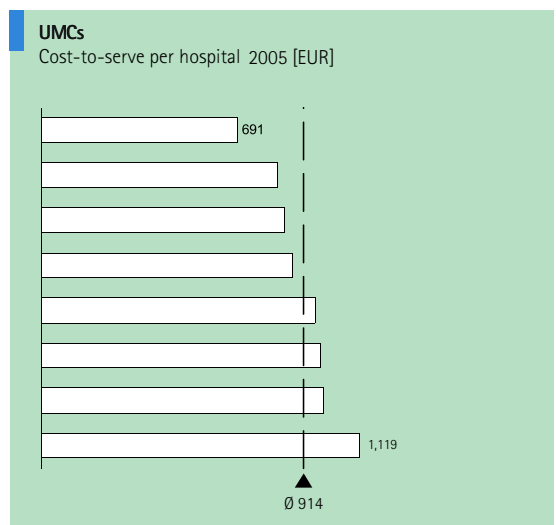


Exhibit 19E.



Exh. 19F.



each hospital based on its relative score within its own peer group rather than in a national benchmark. This is one of the major improvements in our reporting compared to 2004.

*Large differences
in improvement
potential...*

We have also analyzed the evolution of each peer basket over 2001-2005 (Exhibit 20). We find that UMC⁹ and STZ hospitals have shown the largest increase, supporting the hypothesis that the increase in cost-to-serve may be related to more complex and expensive medical therapies. None of these groups have however improved productivity in this period. The increase in costs has been the lowest for the large urban group and the small hospitals. These groups also became more homogenous over the same period, perhaps reflecting some transfer of learning, or more external pressure.

*... and also actual
improvement*

The differences within hospital performances are still formidable. 20 Hospitals improved their total cost-to-serve. 54 Hospitals improved their total labor performance in 2005. In 2004 nearly all hospitals had improved their labor performance, 74 out of 90 were more productive. Thus it appears that the momentum to improve performance has been lost. But yet such potential is certainly there. 4 out of the 93 hospitals improved labor productivity by more than 10% and 11 between 5-10% in 2005 (Exhibit 21). The highest improvement of 16% was booked by MCRZ. These are significant numbers to achieve in one single year. Importantly, not all of these hospitals were just making good a historically poor performance. 6 out of the 11 improvers between 5-10% were already out-performers in our benchmark in labor productivity in 2004. Despite this, they posted further improvement in performance, demonstrating that most hospitals have significant room to improve.

Procurement cost-to-serve improvement was less impressive. Only 26 out of 93 hospitals improved performance. Yet 10 hospitals improved by more than 5% (Exhibit 21).

It is important for hospitals to judge their operational and cost performance. Often the discussion around costs is fogged up with issues about special care products like dialysis or cancer treatment, but also in terms of special populations served, like older people or foreigners. After correcting for such differences a consistent and shared

⁹ UMC increase in cost-to-serve may also be due to merger with the faculties

Exhibit 20.

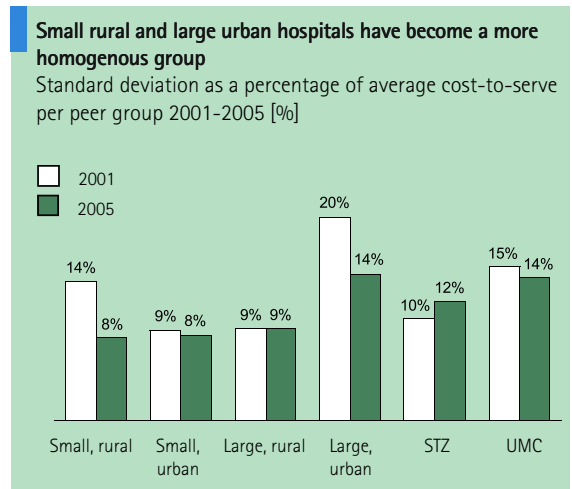
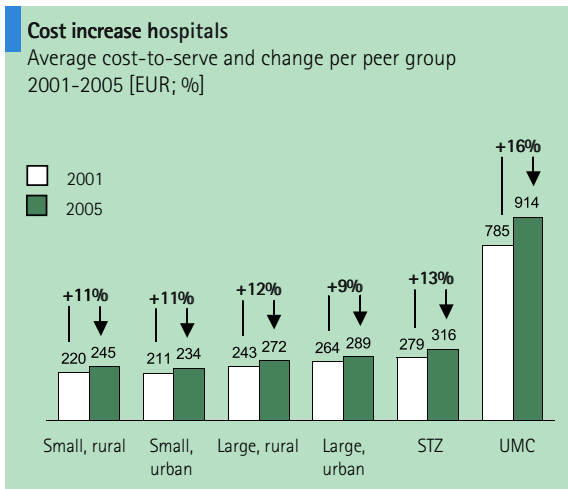
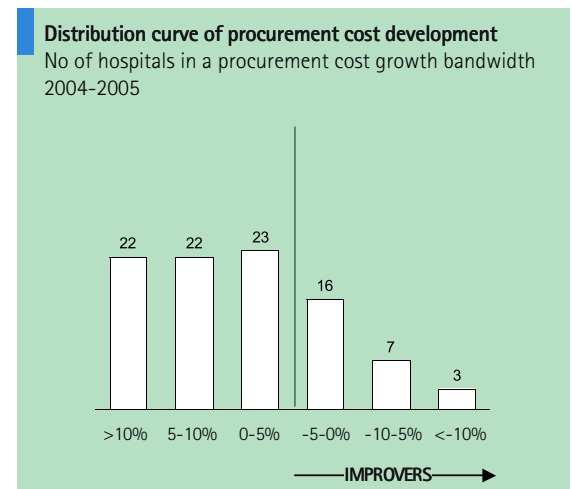
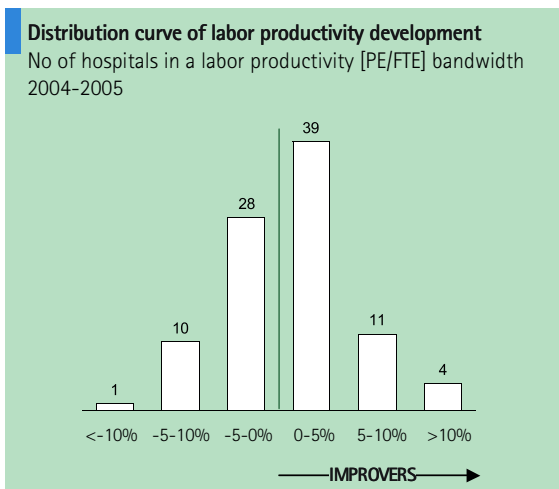


Exhibit 21.



*Operations
excellence as a
strategy to deliver
better care*

view is needed of a hospital's performance. Only then it is possible for the specialists and other professionals, together with their management, to develop an operations improvement program. On one side professionals do need (more) money to be able to deliver care their patients need. On the other side the hospital management must try to put cost rationalization on the strategic agenda. There is viable tension in most hospital boards and specialist staff on this key issue. By auditing its cost position, hospital boards can free up inefficiently used resources and channel these resources to help healthcare professionals to deliver the care required.

By developing a peer basket for each hospital and further breaking up costs in labor, procurement and cost of capital we have developed an instrument to help each hospital audit its cost position. Insights from this analysis combined with the hospital's ambition forms the basis for its operational strategy.

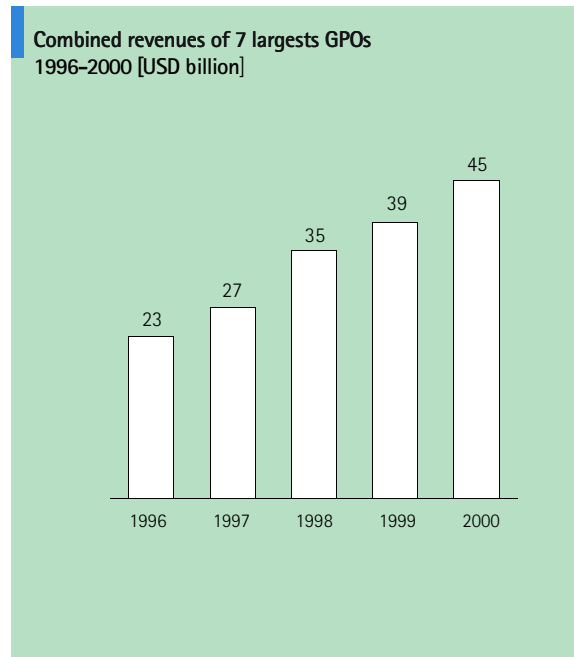
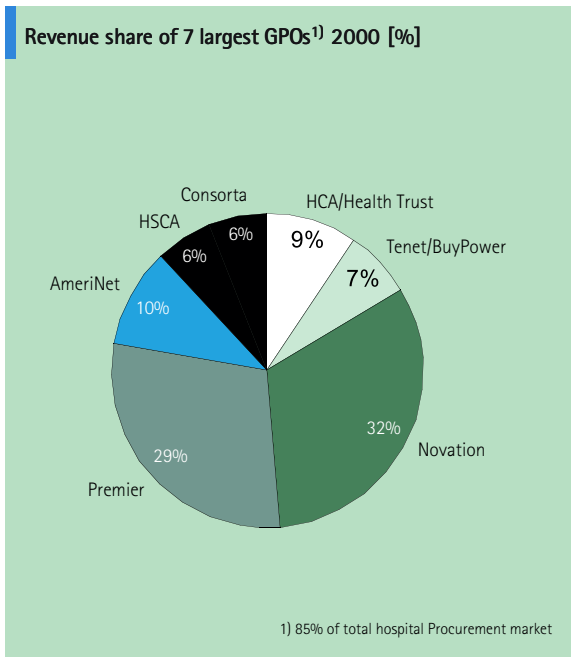
When analyzing a hospital, the individual performance of each clinical department in the portfolio must also be separately analyzed. We have developed a benchmark methodology to do this taking into account the profile of each department.

2. Procurement is the single biggest operational challenge for hospitals.

*High overlap and
high transaction
cost motivation
for partnership
amongst hospitals*

Procurement is a challenge for most hospitals. We have looked at procurement performance of several Dutch hospitals in detail. Achieving procurement excellence requires serious review of existing hospital procurement strategies and in our view needs totally new concepts. For example, Group Purchasing Organizations, which manage the entire procurement processes of several hospitals, is one such new concept. Most hospitals have more than a thousand suppliers, and the list of commodities bought is equally large. The combined transaction costs of hospitals and suppliers alone are estimated by some studies to be around 10% for non-medical supplies and as much as 25% for medical supplies. These costs include the administrative costs of deciding which commodities to purchase, ordering processes, order receiving and managing processes, delivery processes and payment processes. In our work across many hospitals we find that most hospitals buy the same commodities from the same suppliers, or in other words there is a large overlap between the hospitals' procurement. Bundling volume together has significant potential for cost improvement, not just in volume pricing, but also in the undesirably high transaction costs.

Exhibit 22.



Partnership holds more than just cost management promise

In other industries new innovative models of interaction between the suppliers and customers, for example, Efficient Consumer Response or ECR, have made the supply chains enormously more efficient and resulted in much better and cost effective performance. In healthcare the value of such partnerships between suppliers and hospitals is even greater. The value of such partnerships is not just in costs, but also in innovation and service improvement. The innovation of suppliers is essential to the performance of hospitals. New technologies continuously appear. These are new medicines but also new apparatus and concomitant processes. Professional hospital procurement would help improve all aspects of vendor hospital value.

Both procurement and users must work together

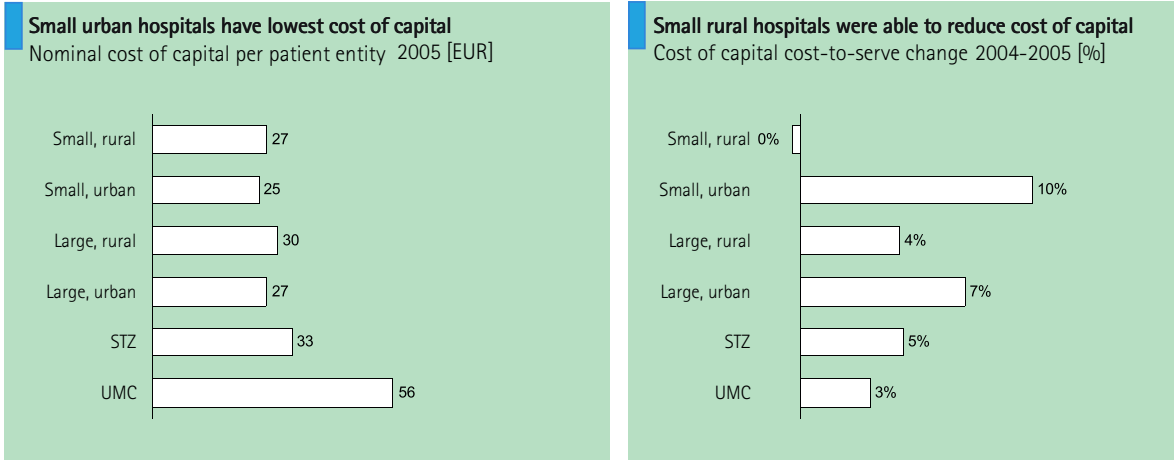
Based on our assignments we find that hospitals need to urgently and dramatically redesign their procurement departments. For most hospitals the main tasks of procurement are still administrative processes. To improve would require serious investment in the procurement managers and processes. Procurement would need to become valuable partners in making procurement choices with the users. Often the frustration of the procurement department is that the users are not willing to provide insight in their decision making process. The incentives for users to provide insight and improve procurement are indeed lacking. There is however also another consideration. The users are also not convinced that providing transparency to the procurement department would result in any additional value. Our recommendation is that the onus lies with both procurement and the users. They must work together to improve procurement.

In the light of the tremendous potential, as well as the current limited competencies with hospital procurement, we believe that emergence of Group Purchasing Organizations is essential to bring procurement to a higher level. By bundling the resources of many hospitals, a GPO will be able to create the required scale to be a serious partner in the procurement process.

The promise of GPO

In the US several GPOs already exist. The biggest of these are not-for-profit with the hospitals themselves as the shareholders. The biggest GPO, Novation, managed EUR 15 billion of procurement on behalf of thousands of member hospitals (Exhibit 22). The 7 largest GPOs manage more than 85% of the total GPO purchasing volume, a total of EUR 45 billion. The GPOs reduce transaction costs by bundling the interaction moments between suppliers and hospitals. In fact, in US these GPOs are paid a 3% Contract Administration Fee by the suppliers, part of which the non-profit GPOs transfer to the hospitals.

Exhibit 23.



No doubt GPOs in the US are growing fast. It is time that a small, modest, entrepreneurial, effective GPO emerged in the Netherlands, and then grew just as fast.

3. How to make your capital sweat more? Understand what your capital is doing.

This year we have looked at cost of capital separately. Both for financing of real estate, as well medical and non-medical capital goods, hospitals invest capital. Historically this was approved and financial rules set by a technocratic government body – the CBZ.

Both real estate and equipment capital costs matter

While there is of late considerable attention on the real estate management aspects, the cost of equipment is also important. In our study published earlier this year we have analyzed the cost of capital of hospitals in detail. We conclude that of the 12% total cost of capital, 40% is real estate and the rest is related to cost of equipment.

The cost of capital is highest for UMC and top clinical hospitals and lowest for general community urban hospitals (Exhibit 24). Cost of capital increased for all hospitals in 2005, only small rural hospitals managed to slightly reduce it.

Real estate choice driven by communities served

Given the community nature of hospitals, real estate management options are limited. A city hospital could hardly relocate to a periphery if its mission is to provide accessible care to the population in the center of the town its serves. Real estate strategy for a hospital is driven primarily by its community function.

Equipment needs are perpetually 'unsatiated'

It is important to understand the effectiveness of investment and utilization in hospital equipment. Anybody who has worked in a hospital must be familiar with the annual cycle of investment decision making. Every clinical and other department has long standing, and unfilled "wish lists". The stated needs always exceed the available budget and the available budget usually is bigger than the strict technocratic norms. The process by which these wish lists are justified or granted is a mystery. "Waiting time" that is those longest on the list, may be first this time, strategic alliance between management and a specialist may play a role, the ability of the vendor to cut a deal may also play a role. Even just buying equipment without approval is also not unheard of. What is often missing is a consistent, well founded, investment plan with risk assessment, coupled to an objective evaluation cycle.

Rigorous investment evaluation process needed, because impact of investments shall continue to rise

The importance of a well thought out and executed investment strategy is critical for a hospital. The volume of hospital investment is increasing and shall continue to do so. The impact of investment is higher - the availability of the clinical equipment can be critical to the care delivery process. The equipment is getting more complex and "prohibitively" expensive. "Disruptive" technologies shall continue to come to the market. Importantly the speed of innovation is accelerating, and there is a bigger chance that a major investment yesterday in expensive state of the art diagnostic equipment will be redundant tomorrow.

As the role and impact of equipment becomes more important, we may end up in a "medical arms race". Signs of a medical arms race are already visible in some regions for some equipment. Is it really necessary that all hospitals in a 30 km radius have their own PET/CT scans, or bunkers with accelerators?

Trust the hospital to develop own investment strategy

Like labor and procurement costs, managing cost of capital is best done at the hospital level, with perhaps the insurer acting as a strong coordinator in a region. No technocrat miles away has better insight in the clinical needs than the local specialist. We must trust that the specialist, with the hospital management and the insurer, will make the most effective investment decision.

Benchmark can be a valuable tool

We have developed a benchmark to help hospitals manage their investment decisions. In the benchmark the utilization of key equipment will be reported and ranked against other hospitals. It is also possible to relate cost of capital to other costs like labor and procurement. By providing insight in current cost of capital we hope to help hospitals enhance utilization of past investments but also develop well founded, objective, cost effective decisions based on strategic choices.

4. Fewer patient entities per EPB: more cure in day treatment, and out-patient, and lower average length of stay.

The shift in production-mix in hospital continued in 2004-2005. The trend of doing more in day treatment and more in out-patient rather than in-patient is ongoing (Exhibit 24). The number of day treatments per patient continue to increase. At the same time the average length of stay continues to decline. Looking at performance of individual hospitals, we conclude that even those hospitals who were front runners

Exhibit 24.

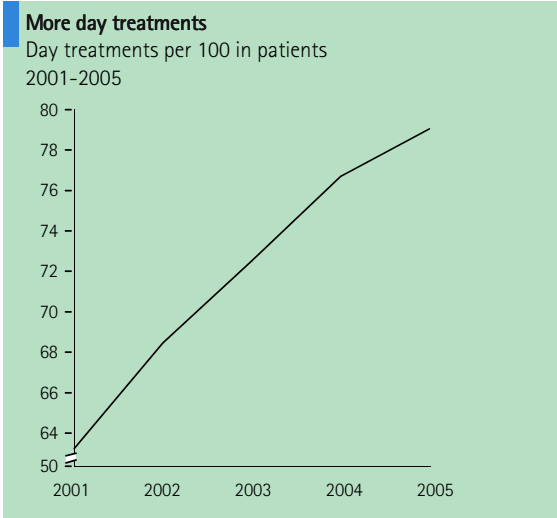
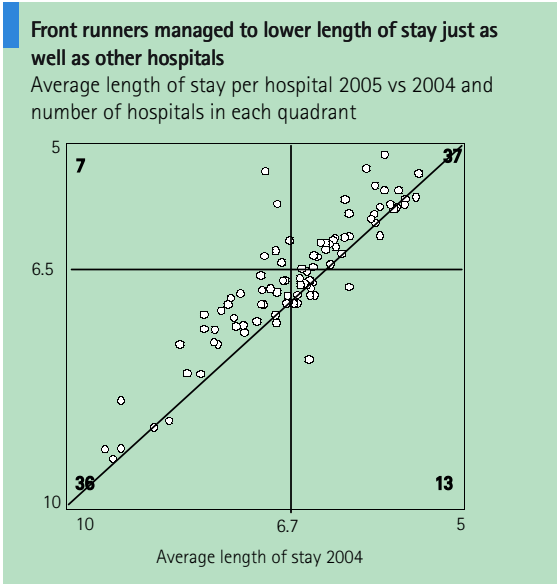


Exhibit 25.



in day treatments and lower length of stay in 2004 further managed to improve their operations in 2005 (Exhibit 25). Based on this we conclude that it is possible for most hospitals to optimize further. We expect this trend to continue for the coming years.

5. Cost is a weak market maker. For cost to be a strong market maker, insurers must first and foremost have insight in the cost efficiency of their hospital portfolio.

Insurers must facilitate efficient hospitals to win share

Last year we reported that cost-to-serve was a driver for the market performance in some regional Dutch markets. If cost containment is the rationale for liberalization of healthcare markets, than its success must be measured by market share win of efficient hospitals. Simply translated insurers must put mechanisms in place to facilitate above market growth of efficient hospitals at the expense of inefficient hospitals. However this approach requires at the very least that the insurers can tell an efficient hospital from an inefficient hospital.

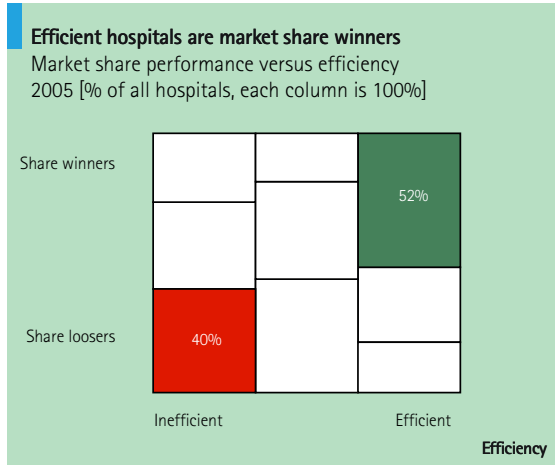
To do so requires being able to tell an efficient hospital from an inefficient one

DBC's, may one day form a basis to measure efficiency. But we have shown that even in terms of current parameters, which are much more usable and reliable than DBC's today, it is possible to measure cost efficiency of hospitals. Our approach requires quantifying the volume and price component and doing that for the different care categories: general, special and unique care, in terms of out-patient and in-patient care.

We have developed such an approach in our assignments last year. We have demonstrated that this can be a powerful tool for insurers and hospitals to create cost efficiency insight and programs.

Our approach is based on comparing each hospital in its own peer group. The justification of a cost structure is a hospital's profile or product mix, but the justification for its growth is its ability to do that cost effectively compared to other peer hospitals in local markets.

Exhibit 26A.



Efficiency already plays a significant role in patient choice...

In Exhibit 26A we plot the cost efficiency position of all Dutch hospitals in 2005, against their share development in 2004-2005. Should cost be a market maker, one would expect that cost efficient hospitals compared to their national peers would win share in their local markets. We find that cost efficiency does play a role in making markets. More than half of efficient hospitals also won market share. This is a statistical correlation, not a causal one. We think cost is a proxy for the overall performance of a hospital. We have no real reasons to believe that either patients, or family doctors, or insurers are actively directing patient traffic to efficient hospitals. But perhaps a cost efficient hospital also excels in care delivery and thus wins market share.

...patients like efficient hospitals

Insurers must leverage this 'efficiency potential'

Given the large cost difference even within peer baskets we believe there is significant room to further leverage cost efficiency of hospital to drive their growth. Based on our assignment experiences, we find that both hospitals and their main insurers lack sufficient insight in the cost position. Insurers need to invest urgently and substantially to improve their healthcare purchasing. Improvement is needed at three levels:

- a. create insights in hospital performance
- b. translate insights in goals for each hospital in the insurers portfolio
- c. monitor and realize the goals

Based on these cost insights, insurers together with their hospitals can develop individually tailored growth strategies.

6. Quality is not a market maker. But neither does quality cost more.

Hospitals are mired in interesting, intriguing and sometimes conflicting myths. Does delivery of high healthcare quality require more or less money? Or in other words: Is a higher quality hospital cost inefficient or efficient?

Does quality cost less...

A streamlined process, that is rigidly protocolled, practiced and executed, gets everything right the first time, on time. This saves expenses and enhances quality. The wonderful experiences documented in the book "The machine that changed the world" about the lean and mean, just in time operations of Japanese car manufacturers are no doubt an inspiration for this school of thought.

*...or does quality
cost more?*

There are others who argue that delivering quality requires making costs. It is easy to pinch here and there and behold one has lower costs! A diagnostic test skipped, fewer control visits, a less well schooled provider, and costs are under control.

The relation of costs with quality is never easy to decipher. The biggest problem is defining costs and quality in a meaningful, comparable way. The definition of cost is difficult enough, but that of quality is even more tedious and treacherous. On cost measures, we have developed a pragmatic and usable definition as outlined above. On quality we do not believe a similar usable measure exists today. A number of initiatives are ongoing. These include the IGZ parameters, but also the private initiatives of hospitals and other rating organizations and media.

For those who have tried to buy a car, comparing two cars is also difficult. Every manufacturer has its own specific features and these make cross comparisons on price difficult. Cars are well documented products, millions of people drive similar cars, specialized firms rank them, and scores of TV programs are devoted to cars. In comparison healthcare products and their quality is shrouded in mystery. Most users can hardly judge what they get. And "testing" regimes are difficult to simulate or reproduce.

*Quality is the
critical healthcare
parameter...*

We believe that ultimately the issue of quality is much more relevant than price for the patient. Healthcare is a dream product for most marketers. While most other sectors are gradually eroding to commodities, healthcare is a super niche; where quality, quality, quality is all that matters.

*...but is not easy to
measure*

However the healthcare marketer does have one great problem; it is not easy to distinguish quality between hospitals and ultimately specialists. If one cannot measure quality in any convincing and communicable way, how is a marketer going to bring the message home to its markets?

*'Inside out' initiatives
like those at the
Cleveland Clinic hold
the most promise for
measuring quality*

We expect that in the coming years tremendous more work will be undertaken to develop quality parameters. We wait eagerly for Dutch initiatives of specialists and other professionals, like those in The Cleveland Clinic. The Cleveland Clinic has been publishing clinical outcomes since 1998. Out of 26 major clinical areas, in 2004 it published result books on 24. Such results are made public on its own website. And in some reports where national benchmark data is available these are also benchmarked.

Exhibit 26B.

Quality is not (yet) a market maker

Quality score (IGZ) versus market share performance 2004-2005 [%]

Share winners	33%	29%	34%
	30%	35%	34%
Share losers	37%	35%	31%
	Below average		Above average
			Quality

Exhibit 26C.

Quality and efficiency are not related

Quality score (IGZ) versus efficiency 2004-2005 [%]

Above average	40%	28%	35%
	27%	47%	35%
Below average	33%	25%	29%
	Inefficient		Efficient
			Efficiency

The delivery of healthcare is an extremely complex, individual driven profession¹⁰. And it is a constantly evolving profession. This makes the task of outsiders like us in deciphering quality extremely difficult. We believe strongly that inside-out driven initiatives like those of The Cleveland Clinic are the most useful.

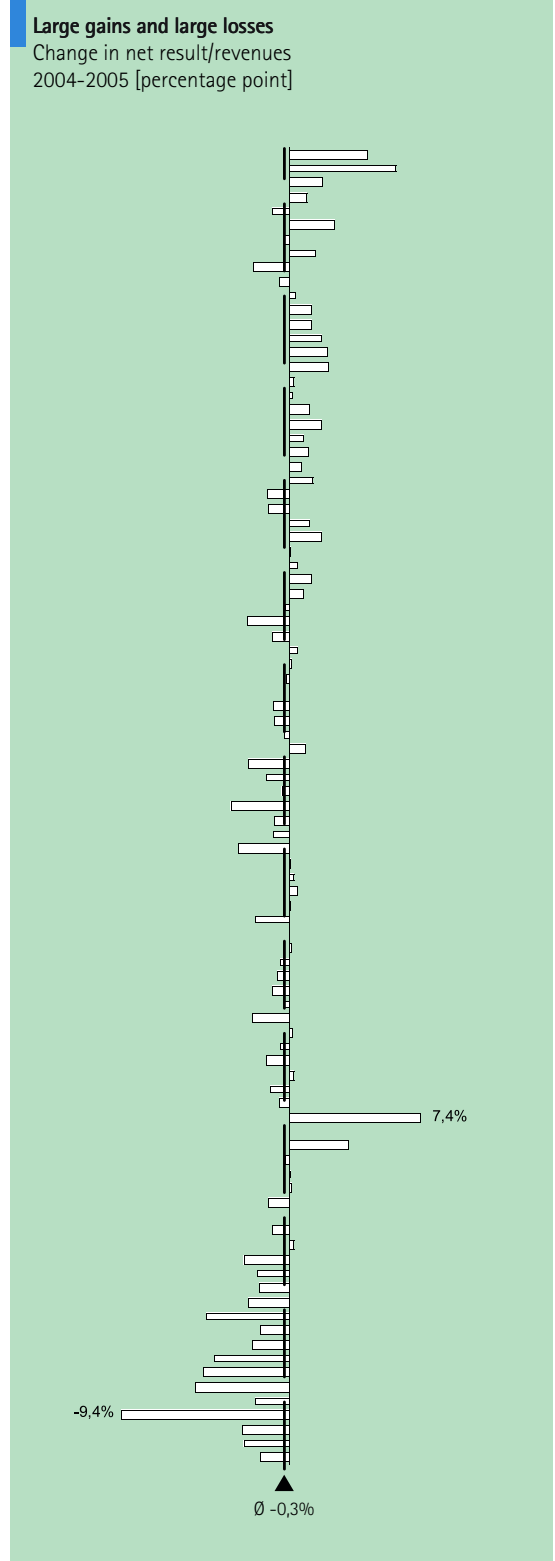
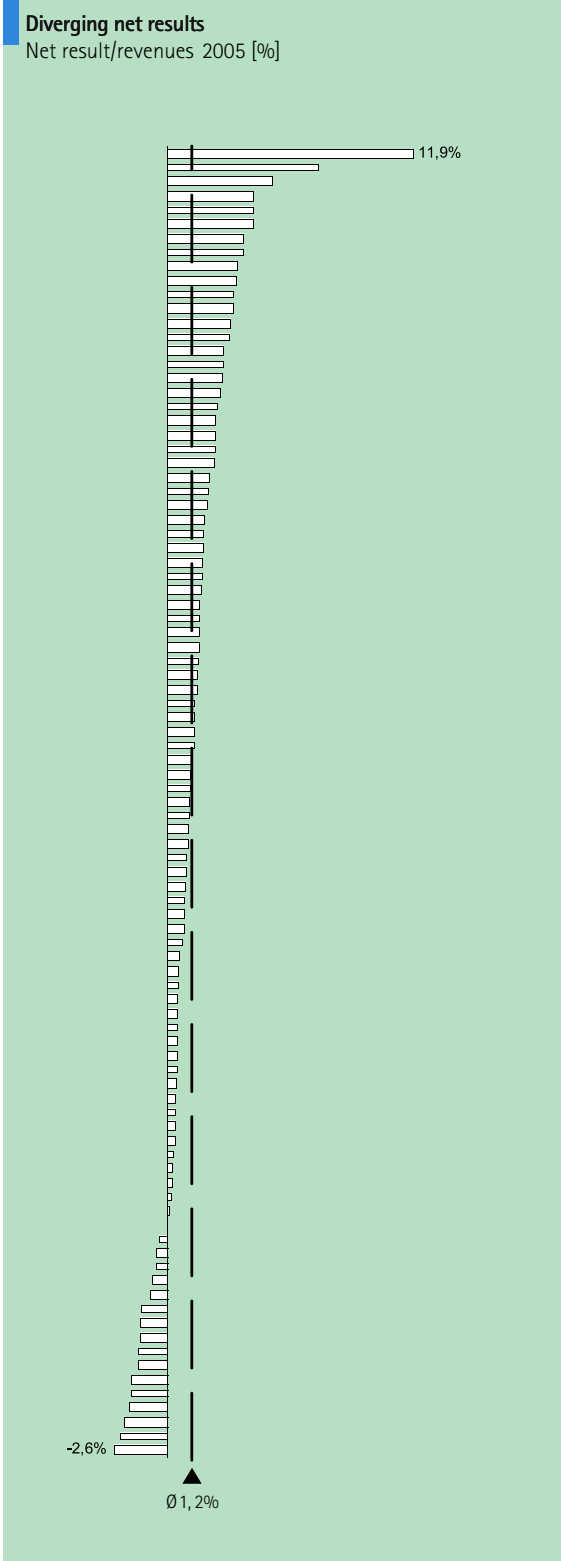
While we hope that in the future better measures evolve, for 2004-2005 we would need to do with what we have. We have looked at quality measures as reported by the IGZ. We have not made a selection between the different measures, but taken the entire gamut. In this we considered both the level of registration, as well as the ranking within those registered. On this basis we have developed a rank of all Dutch hospitals for the last year for which validated data is available 2004.

*Higher score on
IGZ measures do
not result in more
patients*

There is no correlation between cost and quality ranking (Exhibit 26C). Quality is unfortunately not a market maker either. We also do not find that out-performers in IGZ quality metrics won market share at the expense of under-performers (Exhibit 26B). We are inclined to believe that should quality be measurable in a meaningful way, and should quality results be available in a comprehensible way, quality would indeed become a strong market maker. The current lack of correlation perhaps says more about where IGZ is in its evolution cycle, than about importance of quality itself.

¹⁰ A little bit like strategy consulting, if we are allowed to draw a tongue in cheek parallel here.

Exhibit 27.



Financial Performance

1. **Net results declined. Four hospitals good for a third of all profits.
Winners outpacing the losers.**

Financial results for hospitals, like their market and operational performance ended up in a limbo in 2005, going nowhere.

*Net results
declined*

The net results of all 93 hospitals in our analyses decreased slightly in 2005 by EUR 11 m to EUR 163 m. While in 2004 net results were rosy: only 5 out of 90 hospitals reported a loss, and 61 out of 90 improved results, the situation in 2005 was totally different. 16 out of 93 reported a loss and only 44 out of 93 improved their results. (Exhibit 27)

*And growing
differences
in financial
performance*

There is however a huge and growing difference between a few, financially very healthy hospitals, and many struggling hospitals. 4 hospitals alone, UMC Utrecht, LUMC, AZM, and Zorggroep Noorderbreedte, were good for EUR 54 m of the net results. There are 34 hospitals with negative results around -1%. But most hospitals hovered around the zero line, just under or over it.

Hospitals are diverging in their profitability. It is more likely that a few hospitals will post comparatively high profits and others rather large losses. The financial "winners and losers" are gradually emerging and the winners are putting more distance between themselves and the rest. Exhibit 28 shows that as the "weaker" hospitals are moving back towards the dramatic levels of loss before 2004, the "stronger" hospitals posted even higher profits than in 2004.

In general it were the financial results of healthy hospitals in 2004 that improved further in 2005 (Exhibit 27). The notable exception was MCRZ which improved its net result from -7% to +0.5%, a positive gain of EUR 14 m. The financially healthy hospitals are gaining further ground on the financially weak hospitals. But a determined turnaround effort like at MCRZ also reaps rewards.

*Rural hospitals
have highest
profitability*

The profitability of the different categories of hospitals shows interesting differences. In Exhibit 29 the profitability of the six groups is shown in 2005, along with the historical development over 2001-2005. We find that the rural hospitals tend to be the most profitable, while urban hospitals have improved their margins the most in 2001-2005.

Exhibit 28.

Structurally higher profit levels than 2001, but few hospitals made most of the profit in 2005

Cumulative profit from largest loss to highest profit per hospital 2005 ['000 EUR]

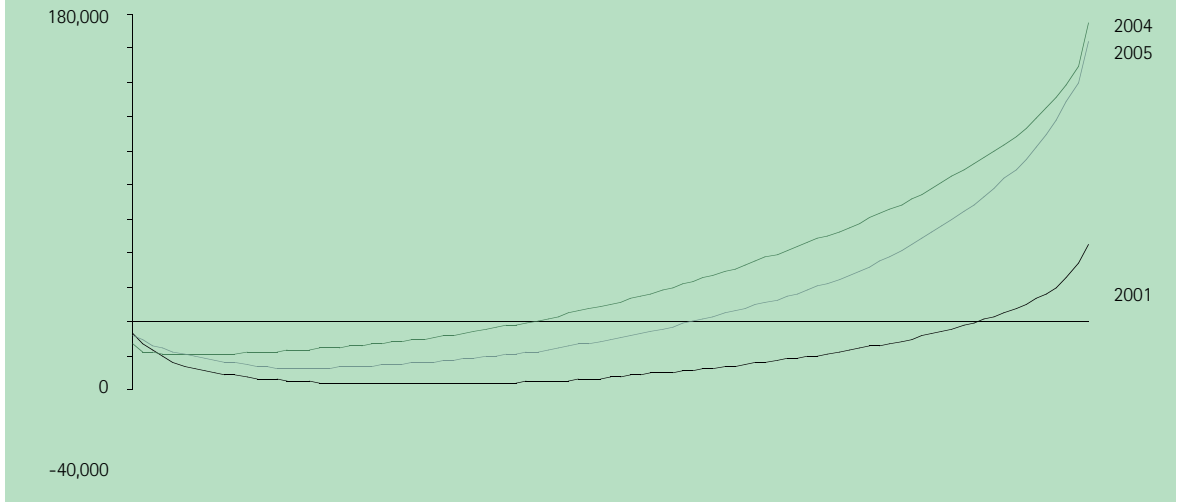
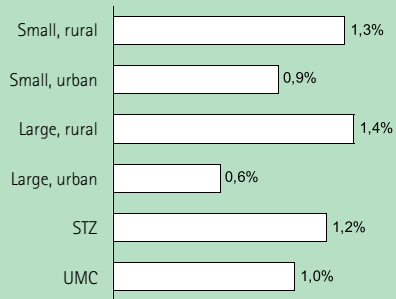


Exhibit 29.

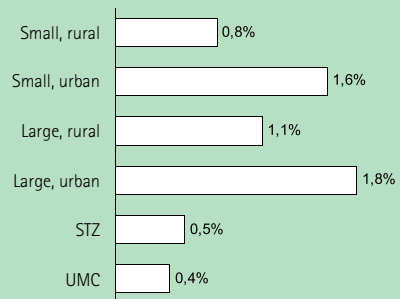
Rural hospitals are most profitable

Net result/revenue per peer group 2005 [%]



Urban hospitals realized largest profitability improvement

Percentage point increase of net result/revenue per peer group 2001-2005 [%]



In conclusion it is interesting to revisit the discussion on performance contracts and net results of hospitals. The motivation of performance contracts is to improve operational productivity. If the operational improvement is above the performance contract stipulated cuts, the net results of hospitals would improve. However if the operational improvement is lower, the net results would worsen. A nearly constant net result suggests that the operational performance did not improve significantly.

Real risk of the sector slipping further next year

In any event hospitals do not have extra money in their accounts to pay for the 2006, or the 2007 performance cuts. The proposed cuts in 2006 and 2007 would mean that nearly all hospitals would make losses, should like in 2005, they be unable to improve operational performance by reducing the cost-to-serve. Hospitals gradually slipping in the red, and delivering structurally lower levels of care is one scenario for how hospitals may emerge from the 2005 twilight zone.

2. The balance sheet is getting longer but not stronger. DBC blues.

2005 created havoc on the balance sheets of hospitals. Being required to deliver and account for cure in terms of DBC rather than the Functional Budget meant it became unclear what hospitals were delivering.

In terms of FB the care delivered grew by about 2%. In terms of DBC we know that the care paid for shrank. Or in other words about 20-30% of the work hospitals delivered was stamped as "work in progress" and was at the end of the year unaccountable. What this 30% really is, is unclear. It could be actual work in progress that is partial DBC that would be closed one day. It could be that DBCs that were not properly opened or registered and thus did not correspond to cure that was delivered, or not delivered.

What are DBC doing to the balance sheet?

If we look at the working capital of the hospitals, as we predicted last year, it exploded. Working assets sky rocketed from EUR 3.7 billion in 2004 to EUR 5.7 billion. EUR 2 billion worth of services delivered by hospitals are still unaccounted for in DBC terms. In more ways than one this is strange. Somehow there is no doubt that EUR 2 billion of care was delivered by hospitals because they were paid for it, and thus it was okay for them to book it as turnover in 2005. Yet it is formally work in progress otherwise the receivables could not increase by such a large amount. These receivables are only receivable in terms of DBC accounting, but they have already been paid for by insurers in terms of FB.

What does it mean to have a large work in progress that is already paid for and booked as turnover but not formally completed and accounted for? And what does all of this have to do with DBC?

The story of 'The Great Dutch Car Company' and its mobility therapies

Consider an automobile manufacturer. Thousands of parts go into assembling a car. In 2004 let us assume that our illustrative, wonderful car company, *The Great Dutch Car Company*, delivered millions of cars. Some of the cars delivered were of the same type, others were different. *The Great Dutch Car Company* did not measure or report the different parts and specification of the cars they delivered. If a consumer came to them with a car request they diagnosed her needs, translated the needs in car specification and went about assembling the car from scratch and delivered it with pride.

The Great Dutch Car Company had an agreement with the Mobility Insurers that they were paid not in terms of types of cars but in terms of FTE employed, kilos of steel, plastic and cloth used to make all the different cars. *The Great Dutch Car Company* and their payers the Mobility Insurers both felt that they had the moral obligation to provide the most suitable car for the specific mobility needs of whoever came to them with their needs.

The financing of all cars was done by the powerful Ministry of Mobility via an independently run Dutch fund called Mobility Insurers. All citizens paid directly and indirectly to the Mobility Insurers, and in return were guaranteed a good mobility. There was general sense in the society that mobility was a key right of all Dutch citizens and any citizen who felt that their mobility was sub-optimal came to *The Great Dutch Car Company* via an intermediary that first ensured that the mobility need was genuine. *The Great Dutch Car Company* went about diagnosing the needs, designing and manufacturing a new car for that individual. And the Mobility Insurers paid the bill.

For years *The Great Dutch Car Company* was accused of not delivering what was required, not working hard enough, and not being transparent in its accountability, and generally being too expensive. There was great concern that at this rate it would be impossible to meet the mobility needs of all citizens in the future, as costs would sky rocket. It had always proven impossible to improve the productivity and there was no sign of improvement. After all, *The Great Dutch Car Company*, and the Mobility Insurers, had been growing at double the rate of economic growth. Technology improvements

The Great Dutch Car Company' was accused of being lazy and unproductive

had made better and safer cars possible and citizens constantly wanted better mobility. It had proven impossible to check either. A Mobility Insurer to which all citizens paid directly and indirectly meant that everybody felt they had an inalienable right to the best mobility standards of the day. After all they had paid for it. *The Great Dutch Car Company* whose job was to translate mobility needs into cars took great pride in their work and had constantly grown at the cutting edge of mobility therapies. The company argued that the value they had delivered in constantly improving mobility, which had allowed the economy to grow, went unappreciated.

The problem the Ministry of Mobility and the Mobility Insurers argued was that it was not clear what *The Great Dutch Car Company* really did. There was a huge mismatch between what they delivered and what was paid for. The company had been paid every year, year on year, much more in euros than the growth in the kilos of steel, plastic and cloth justified.

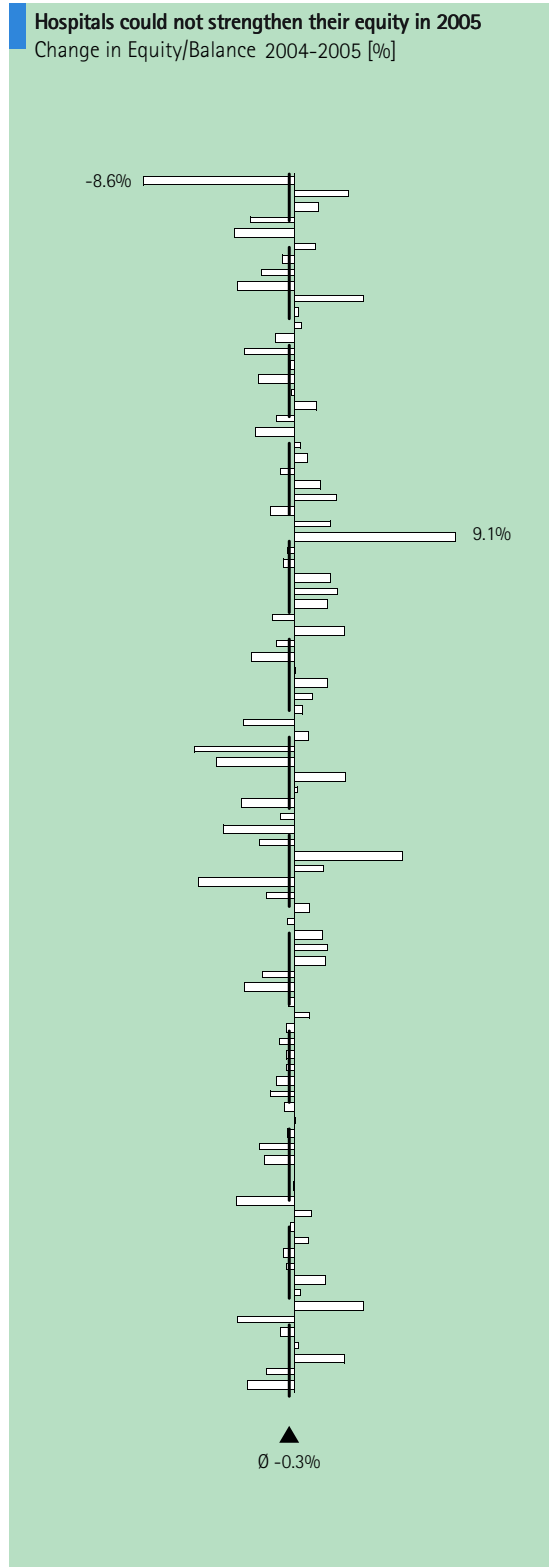
The Great Dutch Car Company' felt its efforts were not recognized

The Great Dutch Car Company made no profit. The company argued they designed and assembled cars on an individual need basis, and both the technology to address the needs got better and the perception of people's needs grew. The Company felt pinched by the Ministry and Mobility Insurers budget cuts. They argued they could no longer deliver the car needs of their consumers. The economy was going to suffer from a mobility crisis, they warned.

The Great Dutch Car Company argued that their compensation in three key ingredients used and hours of labor did no justice to the services they delivered. They wanted a better system that would reflect the true complexity and value of what they delivered. *The Great Dutch Car Company* felt that such a system would help them sell their products and services better. *The Great Dutch Car Company* anticipated that a product and service library that was a fair reflection of their efforts would result in them getting more money.

The Ministry and the Mobility Insurers were also highly supportive of such a library of products and services. They felt that it would make obvious the unproductive ways of *The Great Dutch Car Company* and would be a powerful tool for them to restrict its unmerited growth. At last they felt such a library would show that *The Great Dutch Car Company* was an unproductive colossus that needed desperately to improve its productivity.

Exhibit 30.



All three parties for totally conflicting reasons and goals become ardent supporters of the same new project whose aim was to develop a library which would reflect the true measure of what *The Great Dutch Car Company* did. With much fanfare the DBC project – **Diligently Build Cars** was launched. The hopes of this project, staffed with the most brilliant minds, including consultants, were high.

*A new language
was needed to
make everything
transparent
- Diligently Build
Cars*

In 2005 after several years of tedious analysis all products and services of *The Great Dutch Car Company* were catalogued in DBCs – **Diligently Build Cars**. The project had chosen for a detailed and meticulous approach. Since it was impossible to say beforehand which car needed to be assembled for each need, all cars built over the last five years, in ten chosen pilot factories of *The Great Dutch Car Company*, were built up on paper once again from scratch. All the different parts, thousands of them that went into the car were catalogued, including all the labor hours. It was argued that there was no fixed formula, but a mere chance, that certain functionality delivered by a certain part, in a certain car, for a certain consumer, with a certain mobility need would be required. Thus each DBC came to be defined as a collection of hundreds and thousands of parts, and labor hours, with an associated probability of occurrence. There was a 2% chance that a stainless steel exhaust pipe was needed, coated with zinc, for people living in a rural province close to pig farms. But there was a 23% chance that the stainless steel exhaust pipe could be without zinc coating if the village was near a horse farm. And so forth.

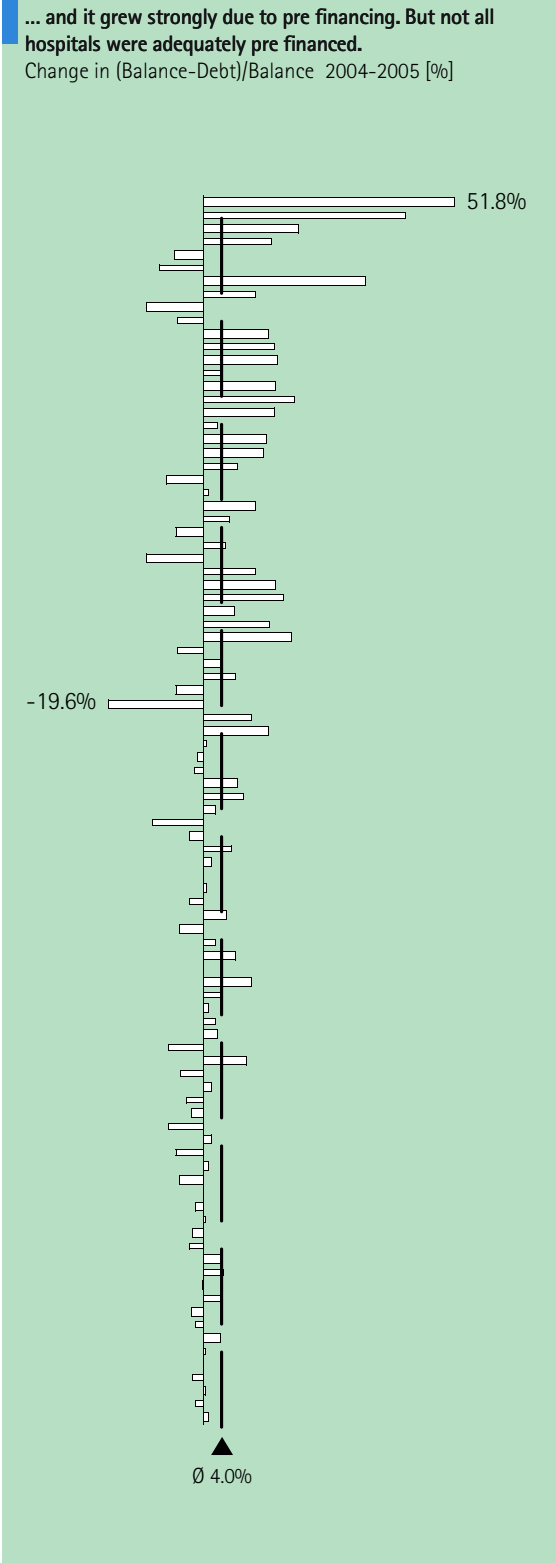
*And after a superman
effort and budget all
works of The Great Dutch
Car Company were
catalogued*

The project team was highly and rightly so proud of their work. After years of sleepless nights they had produced a library of hundred of thousands of DBCs, each reflecting a type of car or mobility solution that *The Great Dutch Car Company* offered. The project was massively over its budget but the results were cutting edge. No other country in the world had ever undertaken such an ambitious approach.

*The DBC library is
both to small...
...and to big*

There were of course some apprehensions. The professionals in *The Great Dutch Car Company* argued that the half million DBC were too limited. Given the large differences in mobility needs and solutions of the 16 millions citizens, and the speed with which these changed, it would be impossible to do justice to the complexity of their tasks. The Ministry and the Mobility Insures were also apprehensive that such a vast library would prove difficult to manage in any pragmatic way.

Exhibit 31.



But of course all parties had committed themselves to the success of this project. And success it needed to be. It should have mattered that the measure of success for each was inherently conflicting. For *The Great Dutch Car Company* success meant getting more money for what they did, for the Mobility Insurers it meant, paying less for what they received. But both sides went bravely forward armed with this new library of products and services they bought and sold.

First year something strange happened. The kilos of steel, plastic and cloth, and labor hours grew by 2%. But the prices again grew faster than the production by 5%. But measured as Diligently Built Cars, the production fell by 20%. It was as if measured in what *The Great Dutch Car Company* always reported they plodded along as always, if somewhat slower than usual. But measured as DBC they had fallen back considerably.

Anticipating the switch the Mobility Insurers had transferred extra funds to *The Great Dutch Car Company* in 2005. In fact, they had transferred too much funds it appeared. In Diligently Built Cars, *The Great Dutch Car Company*, fell behind, but in turnover and extra cash on the balance sheet it was still fine.

Were enough cars built and delivered or not? Measured in kilos of steel, plastic and cloth, the answer was a hesitant yes. Measured in Diligently Built Cars – the answer was a no. What exactly was happening? There was several billion euros worth of Diligently Built Cars as work in progress on the balance sheet. But as kilos of steel, plastic and cloth they were also on the profit and loss sheet as turnover. And worryingly the kilos delivered were lower than the historic levels.

*And would remain
so given the
conflicting motives
for wanting DBC*

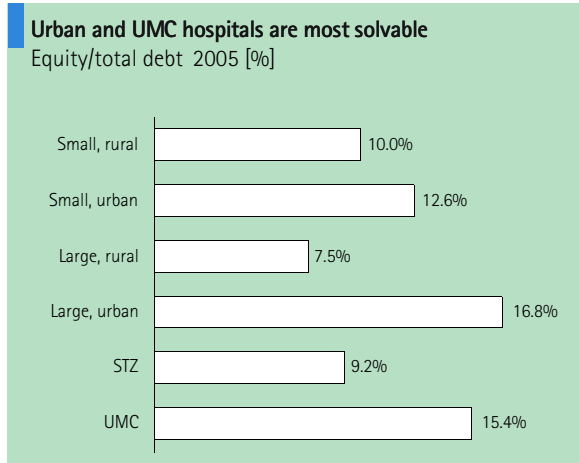
The first year of working with Diligently Built Cars, showed that something would need to be done to rebuild the DBC to something useful. And while all parties are still looking for a "technical" solution, it is important to remember the solution will also have to address the inherent conflict in the aims of creating such a product library.

To come back to the financial results of the Dutch hospitals, in 2005, the balance sheet got longer. In terms of DBC there was a huge work in progress.

*Balance sheet of
hospitals in 2005
got longer*

Since the operational financial results did not improve the solvability of the hospitals did not improve significantly either. In Exhibit 7 we show that the solvability of all Dutch hospitals in 2005, improved by EUR 179 m, a little more than the total net results

Exhibit 32.



posted. In Exhibit 32 the solvability of the six groups of hospitals is shown. UMCs and large urban hospitals have the best position. The individual hospital solvability is shown in Exhibit 30, 31. There are remarkably large differences in financial strength, and wherewithal to survive hard market blows, between hospitals. And therefore when the rules of engagement change, ensuring level playing field is going to be difficult. There probably never was a level playing field. And there never ever will be a level playing field. Some hospitals are just so much better prepared for the coming changes. The weak therefore will need to be much more selective and rigorous in their choices, and thorough in implementation.

The receivables and the operational cash flow of hospitals are shown in Exhibit 7. As mentioned the receivables exploded but due to sufficient pre-financing. We find no evidence that the hospitals had to borrow extra funds to pre finance their production. On the contrary, it appears that the insurers had amply compensated them beforehand. Given the arbitrary nature of these changes, we have not included these in our ranking this year. We hope in the coming years these will settle down to "normal" operational levels, for these do indeed reflect financial discipline and competencies of hospitals.

Exhibit 33.

	Outperformers 2005	On-par performers 2005	Underperformers 2005
Small, rural	Beatrixziekenhuis Bethesda Ziekenhuis Elkerliek Ziekenhuis Flevoziekenhuis Franciscus Ziekenhuis Roosendaal Laurentius Ziekenhuis Nij Smellinghe Refaja Ziekenhuis St. Jansdal Van Weel-Bethesda Ziekenhuis Wilhelmina Ziekenhuis Assen Ziekenhuis Zeeuws-Vlaanderen	Antonius Ziekenhuis De Tjongerschans Delfzicht Ziekenhuis Gemini Ziekenhuis 't Lange Land Ziekenhuis Scheper ziekenhuis Sint lucas ziekenhuis Slingeland Ziekenhuis St. Jans Gasthuis Waterlandziekenhuis Ziekenhuis Rivierenland Zorgcombinatie Noorderboog	IJsselmeer Ziekenhuizen Oosterscheldeziekenhuizen Pantein Rode Kruis Ziekenhuis Ruwaard Van Putten Saxenburgh Groep Stichting Ziekenhuis Lievensberg Streekziekenhuis Koningin Beatrix Talma Sionsberg Zorggroep Utrecht West Ziekenhuis Walcheren
Small, urban	St. Anna Zorggroep Stichting Bronovo-Nebo Ziekenhuis Amstelveen	IJsselland Ziekenhuis Ikazia Ziekenhuis Mesos Medisch Centrum	BovenIJ Ziekenhuis Diaconessenhuis Leiden Havenziekenhuis
Large, rural	Gelre Ziekenhuizen Orbis Medisch en Zorgconcern VieCuri Medisch Centrum Ziekenhuis Bernhoven Ziekenhuis De Gelderse Vallei Ziekenhuis Hilversum	Meander Medisch Centrum Spaarne Ziekenhuis Westfries Gasthuis Ziekenhuisgroep Twente	Albert Schweitzer Ziekenhuis Amphia ziekenhuis Groene Hart Ziekenhuis Kennemerland TweeSteden ziekenhuis Zaans Medisch Centrum / Ziekenhuis de Heel
Large, urban	Diaconessenhuis Utrecht/Zeist/Doorn St. Franciscus Gasthuis Rotterdam	Medisch Centrum Rijnmond-Zuid Rijnland Ziekenhuis	Slotervaart Vlietland-Ziekenhuis
STZ	Canisius-Wilhelmina Ziekenhuis Jeroen Bosch Ziekenhuis Medisch Centrum Haaglanden Stichting Deventer Ziekenhuisgroep St. Antonius Ziekenhuis St. Elisabeth Ziekenhuis Zorggroep Noorderbreedte	Catharina Ziekenhuis Isala Klinieken HagaZiekenhuis Martini Ziekenhuis Máxima Medisch Centrum Medisch Centrum Alkmaar Onze Lieve Vrouwe Gasthuis Reinier de Graaf Groep St. Lucas Andreas Ziekenhuis	Alysis Zorggroep Atrium Medisch Centrum Medisch Spectrum Twente
UMC	Academisch Ziekenhuis Maastricht Erasmus Medisch Centrum Leids Universitair Medisch Centrum	Universitair Medisch Centrum Groningen Universitair Medisch Centrum St. Radboud Universitair Medisch Centrum Utrecht VU Medisch Centrum	Academisch Medisch Centrum

Ranking

We have ranked all hospitals based on mostly the same metrics as last year. These are:

- 1) Market metrics
 - a. Market score
 - b. Share win/loss
- 2) Operational performance
 - a. Cost-to-serve
 - b. Patient entities/EPB¹¹
 - c. Average length of stay
- 3) Financial performance¹²
 - a. Net results
 - b. Solvability

As mentioned, rather than ranking all hospitals in one group, we divided all hospitals in six groups. We believe that, given the large differences between hospitals, this is a much better measure of their performance. A small rural hospital in a relatively low competitive area, like Walcheren, is hardly comparable with a large, top clinical, teaching hospital like OLVG in Amsterdam. In our discussions with management and specialists we find that due recognition of the peer group is essential in any strategic decision. We hope by comparing hospitals only within their peer groups, we have developed a better measure of their performance.

The ranks of all hospitals are shown in Exhibit 33. The ranking is shown per group. In each group, the out-performers, on-par, and under-performers are separately indicated. The biggest aim of such benchmarks is to recognize those who do well. But an equally valid aim is to also recognize those who have improved the most within their groups. Current positions maybe legacy lock-ins. The motivation and ability to improve and develop further is the key. Therefore this year we also report the highest performance improvements in each category. We have highlighted which individual hospital made the most dramatic and laudable improvement last year, and highlighted the areas in which the improvement was booked (Exhibit 34).

¹¹ Last year we reported day treatment as a ratio of in-patient. We consider all patient entities over EPB as a better measure of the choice hospitals make in delivering care

¹² Given the problems with the introduction of DBC we believe working assets and operational cash flow are less relevant metrics this year

Exhibit 34.

	Highest share winners 2004–2005	Most Cost-to-serve improvement 2004–2005	Best Financial result improvement 2004–2005
Small, rural	Van Weel-Bethesda Ziekenhuis	Bethesda Ziekenhuis	Stichting Christelijke Zorgvoorzieningen Talma Sionsberg
Small, urban	Stichting Bronovo-Nebo	Ikazia Ziekenhuis	IJsselland Ziekenhuis
Large, rural	Spaarne Ziekenhuis	VieCuri Medisch Centrum	Ziekenhuis De Gelderse Vallei
Large, urban	Diakonessenhuis Utrecht/Zeist/Doorn	Medisch Centrum Rijnmond-Zuid	Medisch Centrum Rijnmond-Zuid
STZ	Catharina Ziekenhuis	St. Lucas Andreas Ziekenhuis	St. Lucas Andreas Ziekenhuis
UMC	Universitair Medisch Centrum Groningen	Universitair Medisch Centrum Groningen	Academisch Ziekenhuis Maastricht

In a rational world money would follow patients. A hospital that attracts patients and wins share would have higher turnover and book better financial results. Similarly a hospital that improves its productivity would also improve its financial position. If insurers are the new directors of hospital procurement, then they would seek alignment and create incentives for hospitals to reward and punish their performance. Unfortunately, incentives are not aligned with hospital performance. Money does not follow patients, and neither does productivity improvement always result in better financial results. Aligning incentives with individual hospital's performance is critical if the sector's overall performance is to improve.

The Twilight

It is tempting to speculate the reasons for the missed opportunity in 2005:

- Was there too large an uncertainty in the pace and magnitude of reform – the size of B-segment is too small to be of any consequence?
- Where the incentives to reform misaligned and no sensible action could be expected?
- Perhaps the very direction of reform is wrong. Liberalization is not the way to go; rather we need a strong, socialistic, centrally managed healthcare?
- But perhaps it was the macro budgetary constraints that worked counter-productive? In the face of such top-down, old fashioned limits, hospitals went into reverse again?
- Perhaps insurers, too long molded in the frame of an administrative office, need much more time to take up the intended role of strong protagonists in improving hospital performance? In 2005 they were perhaps not yet prepared for this role?
- Or perhaps hospitals themselves were unprepared for the role? They made a feeble effort in 2004 but in 2005 could not sustain it.

All the arguments might be valid.

We believe liberalization reform is inevitable. It may be that in the coming political period, the clock is temporarily turned back. But it is difficult to imagine any scenario where government could successfully manage the healthcare economies on a centralistic paradigm. Devolution of the power to the actors is essential for improvement. The complexity of delivering healthcare dictates this.

2005 will be seen as a first reckoning of the changes to come. Perhaps our expectations for 2005 were too high. Reforming a mammoth sector with the entrenched complexity is a process that takes decades, not years. And anyway it shall always proceed with triumphs and tribulations. We can unhappily conclude that 2005 was neither. We may be disappointed that it is not a triumph which we wished, but luckily it was also not a tribulation which would be seen as a major setback. The challenge is back with the insurers and the hospitals to demonstrate the benefits of the current policy changes.



Following 'The Pied Piper of Hamelin' last year, this year we present 'The Twilight', a study on the key developments in Dutch hospitals in 2005.

Having worked for leading hospitals and insurers in 2005-2006, we have come to better appreciate the complexity of delivering and managing healthcare. We hope this report helps the sector further improve its performance.

Gupta Strategists is a boutique consulting firm dedicated to deliver strategic value to the healthcare sector. Combining client work with independent studies we aim to contribute to the development of our clients and the sector.

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