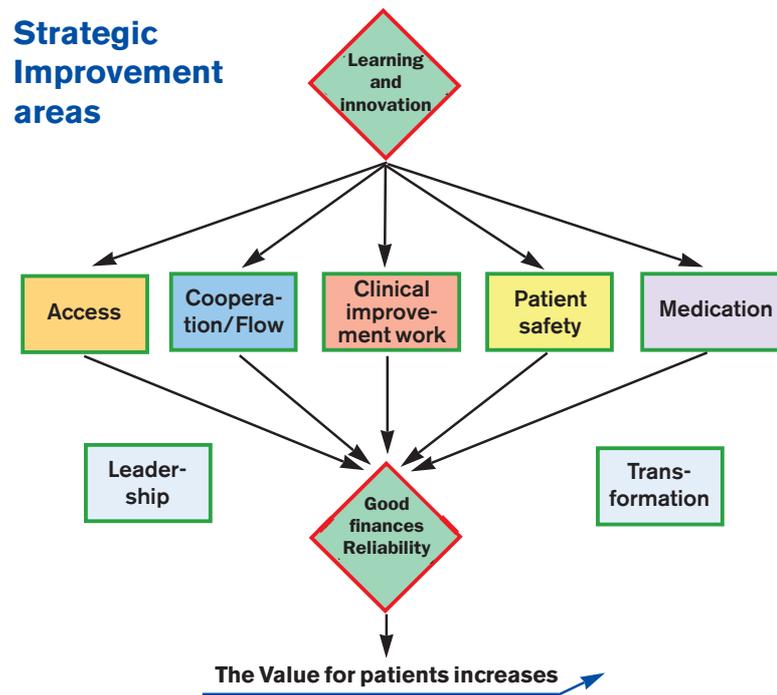


The Future is Now!



Development power for a healthcare system

Deming's Points - an Inspiration Source

"Every system is perfectly designed to achieve the result it performs"

"Draft a permanent aim for the improvement of goods and services"

"Stop being dependant of controlling afterwards in order to achieve quality"

"Accept the new philosophy"

"Improve all the time and forever all processes for planning, production and service."

"Establish learning at work".

"Establish leadership!"

"Drive out fear from the organization"

"Make everyone move!"

"Break down walls between professions and between professionals."

Edward Deming, professor and one of the most distinguished person behind the ideas about improvement work and Profound knowledge (system, variation, psychology and improvement knowledge).

– If all of our 9,000 co-workers are doing small changes and improvements in their daily life all the time, there will be a lot of action, much more than if we were to change structures in a traditional way, change to a buy and sell system or let the market take care of some of our business, which many other counties have done. This is also why we go for Learning and innovation!

Sven-Olof Karlsson
CEO

"The big difference is that we are not only working with quality control, we are developing it".

Göran Henriks
Development Director

List of Contents:

Introduction.....	3	Quality as a business strategy.....	10
The starting point for our work – how we have taken care of the Room of Possibilities!.....	4	System measurements.....	11
The management Group.....	4	"We develop the whole system at the same time".....	14
Big Group Healthcare.....	5	Access.....	14
Qulturum - the learning arena for the whole system.....	5	Support for the decision making.....	15
QUL – systematic quality work.....	5	IT support.....	17
Balanced scorecard.....	6	Types of care.....	18
The Development Stair.....	6	Claryfy ongoing relations.....	19
Pursuing perfection – we had the parts but didn't see the entirety.....	7	Support processes are strategic.....	19
Strategic areas for development and means to do it.....	8	Create capacity for learning and spread.....	20
Improvement work demands courage to change...9		Reliability and patient safety.....	21
		Good financing - reliable development.....	21
		Appendix.....	23

Introduction

The health care- and nursing is facing great challenges. More diseases are treatable, patients with chronic diseases are increasing, the ability to handle patients with multi diseases is being challenged, the demands from patients are greater and there is a constant struggle to keep the finances in balance and to recruit new personnel. This paper describes our way to meet these challenges.

We create a healthcare system, which will preserve and constantly recreate the commitment, which determines why you chose the health care sector as your workplace. That choice is made, not uncommonly, because you want to “make a difference” – to do well – for your fellow man.

Jönköping County Council is an organization with more than 9,000 employees. A typical day, 6,100 persons visit the health care services, 1,500 visit a specialist physicians, 1,300 visit general practitioners, 300 visit private doctors, appr. 160 are admitted to hospitals for treatment and 9 children are born.

The County Council is organized in three health care areas where each area consists of a hospital with an emergency room and several primary care centres.

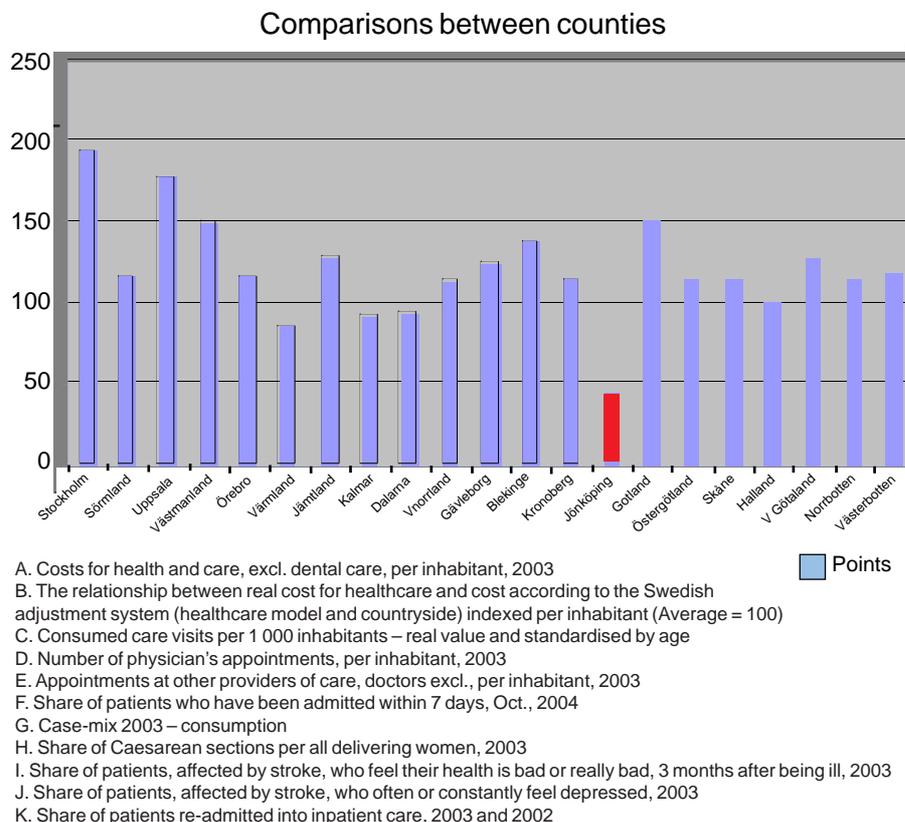
The County Council’s way of facing tomorrow is a systematic drive on co-workers and collaboration that has already been successful. All this will be explained in this paper. We have a vision and we know where we want to go so the future is really now.

Higher demand

We know that in the future we have to expect a higher demand on the services of the healthcare and nursing which among other things is caused by our increasing ability in the field of medical development. New groups can get treatment, which leads to higher demand on resources although the cost for each treatment is lower. Under what conditions can our County Council meet this demand?

The Swedish Association of Local Authorities and Regions (SALAR) (the former Swedish Federation of County Councils) on a yearly basis, puts together the results. We have taken these results and transformed them into an index compiling of eleven different parameters. Comparisons between counties reflect a “cost efficiency” perspective in which a lower value indicates a “better cost efficiency”. Jönköping County Council is in first place.

Picture 1.



Structural changes do not guarantee new results

The report from the Department of Finance called “*Iakttagelser om landsting* (Observations about County Councils)” (Ds 2005:7) states that “you have to realize which problems that are solvable and which problems that are unsolvable with structural changes. --- Traditions, ways of thinking and ways of behaviour will most probably not change because you change the structure”. This is one of our main points. When an entire activity develops – transforms – it is necessary that the entire system will be involved in the process of development. We get better results due to our work methods.

The development, which we describe, is not about a number of successful projects; it is about how you work systematically to get all processes in the system in motion and show results on a systematic level.

The development is characterised by the vision of leadership, partnership and learning, which the County Council strives for. The motivation to work is based on your own “problems to solve” and the leadership is about creating these possibilities!

In a system based on values, and under the right circumstances, we believe that people want to develop not only themselves but also their activity. It is therefore natural to assume on how people develop rather than on a project plan.

Today we have come a little way on our path and this paper summarises our experiences and impressions so far. There is no single effort or person, which have made these results possible. Every handshake, every care and every decision is a part of the entirety. Our experiences of a working day vary but it is the individual patient and the results we accomplish that determine the reality.

The starting point for our work: How we have taken care of the Room of possibilities!

The room of possibilities is the space for change inside an organisation. Through dialogue, good meeting places and a common set of languages for development, the possibilities will increase.

The vision “For a good life in an attractive county” covers a wide area and has grown for a long time from conversations within the Management Group. The aim of the vision is to look at why this activity pursues – in a wider perspective make a contribution to the citizens well being within the county and at why it should be attractive to live in a county with a good health care. The mission is to accomplish “more value” on the services, which we provide for the citizens. Connected to this vision are the county’s strategic goals:

The healthcare and nursing should be

- Available
- Be based on a entirety concerning the flow of patients and processes
- Turn out the best possible clinical results with the highest degree of security
- Be implemented at the lowest possible cost

In order to meet these demands we need motivated and involved co-workers

With good finances, which is one of our target areas, we mean creating added measures which will give us satisfied citizens/clients/patients with a high quality of living.

The Management Group – a group that leads and learns

A prerequisite for co-ordinated actions is that the Management Group (MG) works well together and that it focuses on the system as an entirety. The most important task for the MG is to “manage care” and to administrate and develop the systems total resources. A strong MG diminishes the risk of sub optimisation and fragmentation.

The MG supports activities in order to move from the habit of making changes in special projects to instead create a culture where change is part of every day life. The perspective of learning and changing is the engine that powers the organisation to make Quality the top priority. Another important task for the MG is to develop and review what the whole system accomplishes (system measures, p. 11).

Big Group Healthcare (BGH) – The Arena of learning for all operational heads of Departments

The purpose of the Big Group Healthcare (BGH), is that this should be an arena of learning for all operational managers and a place where you discuss the strategic questions for the county and also a place where you discuss the organisation, which has Quality as a business strategy. The strategy that quality and development is a necessity for a balanced finances is implemented and not the other way around. These meetings take place 5 days per year and are led by the head of the County Council. A review has shown that one third of the meeting is about good financing and two thirds about leaning and change.

These meetings are documented in a newsletter that is accessible to all employees via the Intranet.

Qulturum is the learning arena for the whole system.

Qulturum is the county's engine for learning and change and has a strategic purpose in the development of the activity and business. In order to manifest this role, Qulturum is a learning centre and meeting point where employees use action based training tools in order to improve their respective skills. Qulturum has the view that sending people to courses is inadequate; you have to work with your own problems at your own workplace and "act" yourself into a new way of thinking.

The Qulturum residence is also a manifest for a partnership with Apoteket AB (The Swedish Federation of Pharmacies). This partnership creates ties between healthcare and Apoteket, which can be noticed in the activities that are implemented within the strategic areas Good use of Pharmaceuticals and Patient security.

The administration of the county's research and development (R&D) is also handled inside the building, as is a unit for Children's health/prevention and Futurum – the co-ordination of the clinical practise and research.

The activities co-ordinated by Qulturum are summarized in a supplement.

QUL – systematic quality work

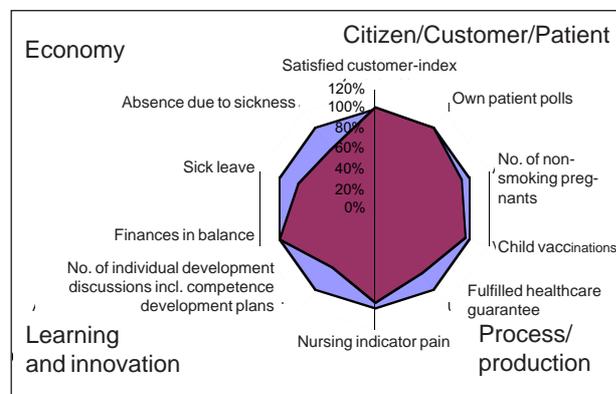
Our systematic work concerning the development of our activities started in the middle of the 1990:ies. In 1997, the county decided to apply the management tool for quality, provided by the healthcare, called QUL, (Quality, Development, Leadership) and that the 13 fundamental valuations have to permeate the activity.

As of today, 35 activities have established complete descriptions according to QUL. Five units have participated in "Distinction in Swedish Health care" (the Swedish equivalent to the Malcolm Baldrige Award in USA) and the Medical clinic at Höglandet hospital in Eksjö and the Technical and Service support Department at Ryhov County Hospital in Jönköping have been designated as examples within Swedish healthcare.

The biggest hospital unit within the county (Ryhov County hospital in Jönköping) has been awarded with a special mention by the judges of the competition.

For more than 10 years, this healthcare area has applied a way of thinking which is partially based on QUL called The Development Guide. This guide provides a structure for planning and self-evaluation and considers both questions of policy and process.

The County has developed a wide range of educational programmes based on the 13 basic values. Within the framework of these programmes every individual employee is given the opportunity to identify "lack of quality", establish a course of action and a goal for improvement. In order to create conditions that are widely supported we have 137 employees who



Picture 2: The county's scorecard 2004 presented as a spider diagramme where 100 % is goalfullfillment.

are trained as QUL-examiners. These examiners are used as tutors and so far 4,977 employees, (appr. 50% of the workforce) have been through this special training program.

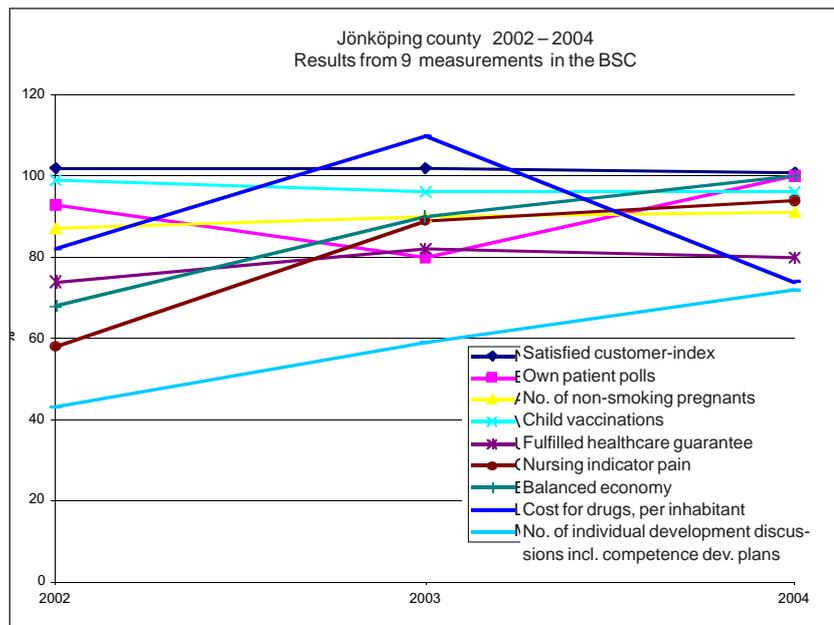
Balanced Scorecard

Balanced Scorecard (BSC) is a tool, which makes conditions for a dialog and a holistic view of the activity, and also makes clear not only the financial results but also customer/patient results, results of the process and learning & renewal.

Since 1997, BSC has been the template, which is used in the organisation to communicate plans and results. The design is used for the county's total budget and long range plan.

The different levels of scorecard are inter linked between each other where a comprehensive scorecard gives guidance for a scorecard on a lower level. Although they are inter linked it is important that the employees can use them freely in order to get the data that are important to her/him.

The County has for instance formulated goals for each primary care unit in order for them to offer support to patients who want to stop smoking and programmes on weight loss.



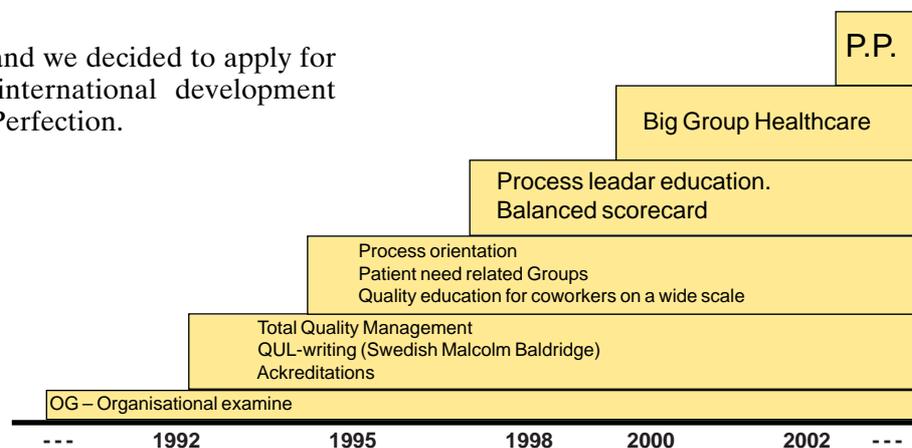
Picture 3: BSC-trend 2002-2004 on over all level to show a trend.

The Development Stair

The County's development stair regarding quality work started already in the beginning of the 90's and continued with broad education regarding QUL's basic values and process management. More than 50% of the workforce went through this training.

Several of our laboratories were among the first to be accredited.

BGH was founded and we decided to apply for membership in the international development programme Pursuing Perfection.



Picture 4: Our Development Stair – PP = Pursuing perfektion/Best possible.

Pursuing Perfection: We had the parts but didn't see the entirety

In the year of 2000 Jönköping County Council had taken the basic steps in order to continue our progress. We had gained approval for the basic values of QUL. BSC was used all through the system and several units had established accounts of their activities according to QUL.

At this time we understood that we had to start with a better emphasis based on the population and patient orientation as well as from the workforce and the widening of their competence.

Through our own actions we understood that the starting point is the employees and their need to renew their competence and that the efficiency with the processes can be improved.

We asked ourselves “Can there be a Toyota” within the healthcare industry, an activity of high quality and low on cost with a lot of involvement? In this context we saw Pursuing Perfection (PP) as a possibility. The Institute of Healthcare Improvement (IHI), Boston, Mass., has an assignment to challenge a number of American health care systems in order to build bridges between what is described as possible in medicine literature or has been performed somewhere, and what is being done in practise to day. A report from the Institute of Medicine (IOM) calls this gap “the Quality chasm”.

The study shows that healthcare has been built with the handicraft industry as a model and that the time has come to change the system in order to comply with new circumstances. We realised that many of the findings could be applied in the Swedish healthcare and nursing.

One of 13 in Pursuing Perfection

The County Council applied to become a member in PP as a European reference organisation based on the quality work we had been doing in the 90's, (see The Development stair, picture 4) and a leadership focused on quality. The application was granted and we became a part of an international group for development. The group consists of (apart from Jönköping) seven US, one Dutch and four British healthcare systems.

The goal for phase 1 was to lead some clinical processes over the quality gap, and after that another 12.

The set phrase “A mile deep” is used to illustrate the importance of “going deep” in every chosen process and to achieve results on an entirely new level.

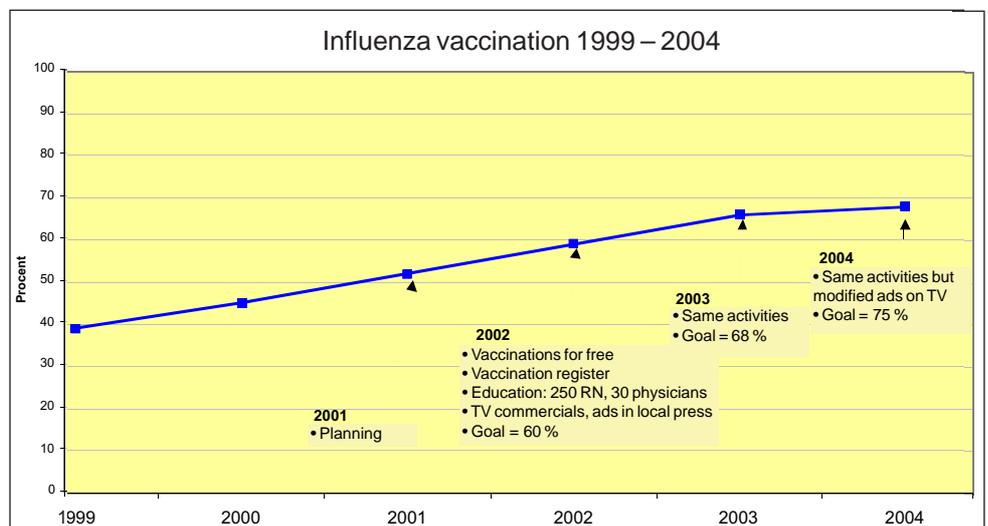
The quality perspectives of the processes are patient security, flow, patient centeredness, equality, effectiveness and efficiency. We chose to call our work “ To accomplish best possible” and we called the development work Pursuing Perfection. Since then we have developed this to be a part of our daily work life.

Access – our first process

We chose access as our first “Best possible process”. We knew the methods to improve access and we also understood that space for new learning would be created when access was improved (please look at page 14).

Another “Best possible process” was to increase the number of people above the age of 65 who took a yearly influenza vaccination (pic. 5).

We developed base line measurements and we are now running an IT-based system, which registers people who are vaccinated. We run vaccination units during “flue periods” and also work with information in the media. Our workforce did a great job during 2004 and we achieved our goals.



Picture 5: Influenza vaccination – a good development.

Our goal for 2005 is 75%. The vaccination is free of charge for the target group and a study shows that the Swedish society can save 70–350 million Swedish crowns (SEK) each year if every person 65+ gets a vaccination.

Our experiences of these first “Best Performance Processes” were the value of base line measurements and the risk of suboptimization when moving across borderlines.

A success has been to establish groups with clear goals consisting of cross professional individuals within the county borders. Our experiences from the work made us realise that it was not good enough to work with 15 processes only. It had to be something more. It was all about “a mile wide and a mile deep at the same time”, we reported to IHI/Pursuing Perfection.

Strategic areas for development and means to do it

In order to organise and energise the development work, the MG decided to focus work on a number of strategic target areas. These targets were evaluated in BGH and then presented graphically in something we call our “Diamond picture”.

Our strategic goals are based on the general needs and expectations of our patients and on what they expect from the care we provide.

Our targets are also linked to the perspective of quality targeted by IHI.

These are our strategic goals:

Access is a concern for the system and given high priority by everyone.

Collaboration/flow consists of methods on how to work even more focused on the patient through cooperation within and between different systems.

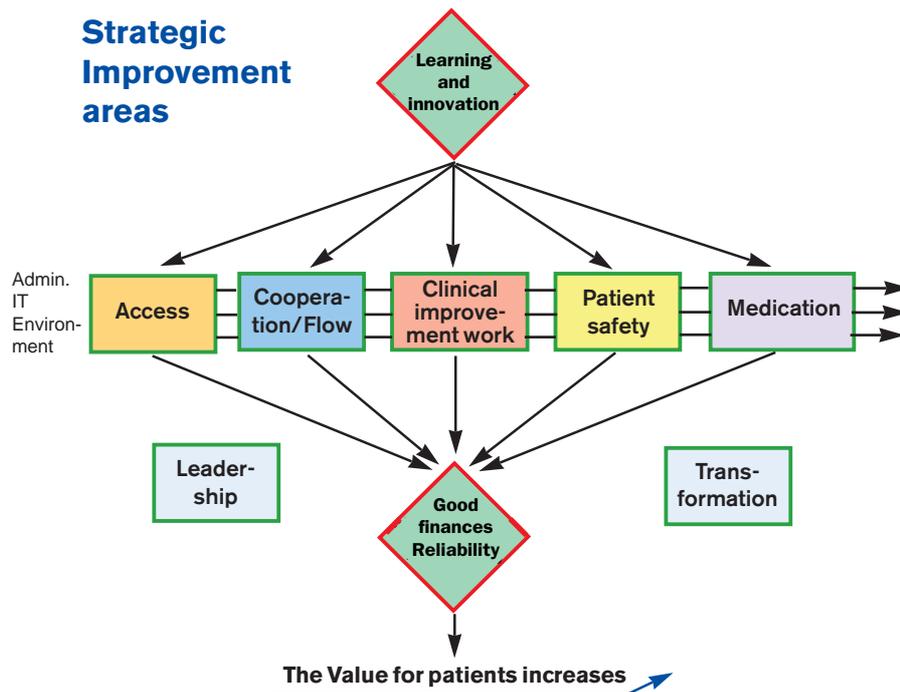
Clinical improvement work and **Patient safety** is the base for the clinical work

Medication – improvements in this area is about improving under/overdosing and removing errors or misuse.

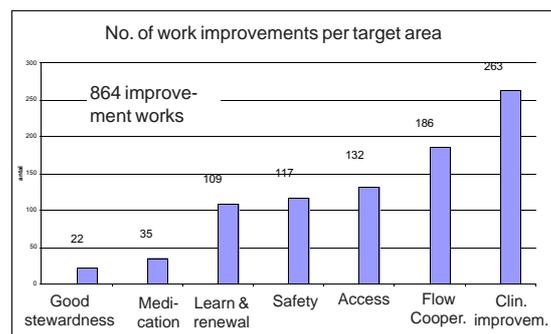
Learning/innovation is an area for the co-workers’ commitment, managing and management.

Good finances/reliability is an effect of the development in the other areas.

It is the development work in the different areas within “the diamond” that makes us change our methods, work procedures and habits. Every unit starts from its own quality gaps. In total these efforts improve the quality for the patients.



Picture 6: The Diamond



Picture 7: Improvement work inside the Diamond During special gatherings called Dialog Days, with participants from a wide range of units and during management meetings, we evaluate the improvement works that are planned, on going or finished (picture 7); This shows the need to have deeper knowledge in knowing what it means to change something in a large system. Each administration presents their plans to improve their resp. activity within the Diamond – the quality plan becomes clearer.

Improvement work demands courage to change.

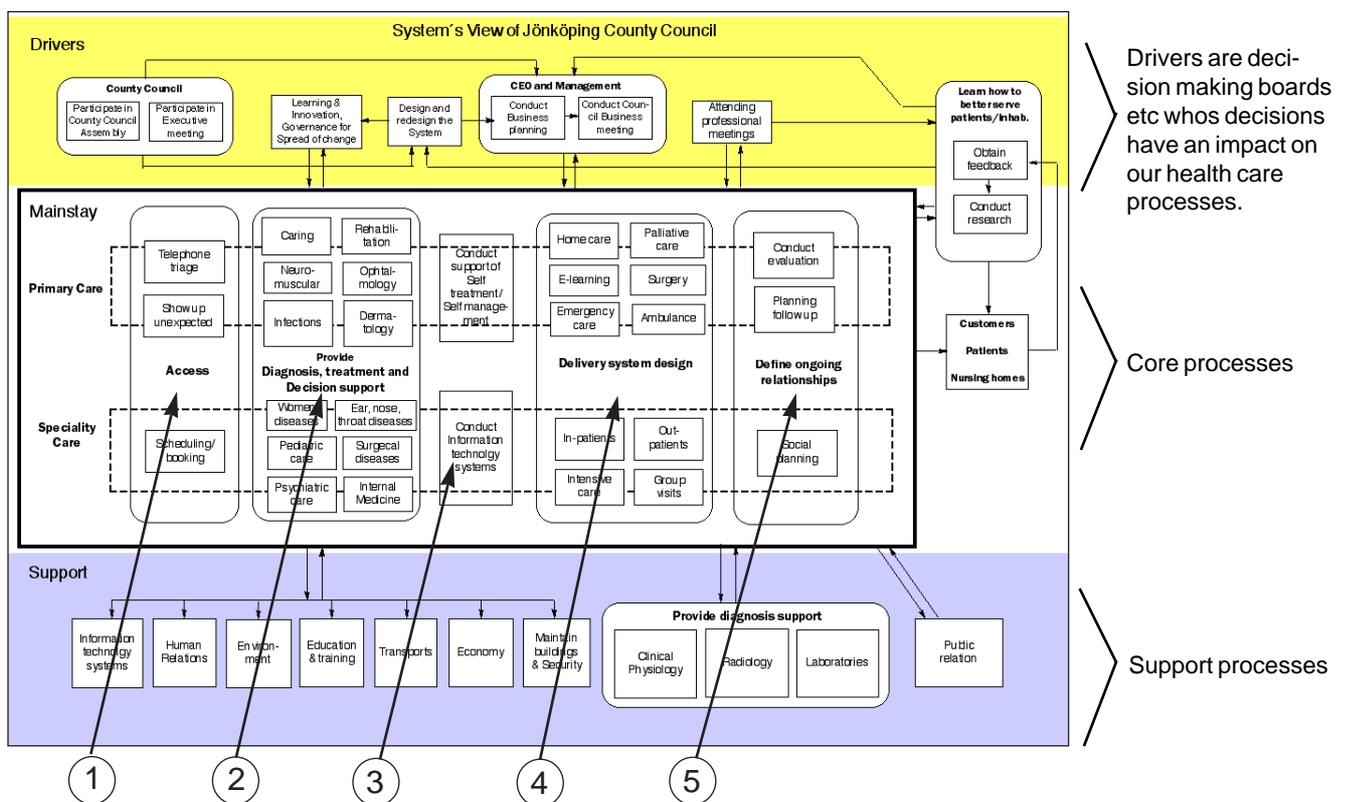
It is difficult to implement long lasting changes in the form of projects. It is easy that the focus turns to formulating goals, staffing and finances while the focus on patients and results end up in the background. The commitment of those who are taking part is high but the project lacks the conditions for a general involvement within a working place.

Today we have learned that a single project is not enough.

The understanding of the need of constant improvement and change, on all levels, has been accomplished. By testing many ideas on a small scale we can find the gold bullions.

The strategy is not to make major changes in the organisation but to create circumstances for the units to make their own changes, all related to their own quality gaps.

The need for “The County as one system” is emphasized even more. Creating a System picture is a method that illustrates the processes and their connections to each other. Already in 2002, the MG and BGH created a system picture for the healthcare and nursing in our County (picture. 8):



Picture 8: healthcare as a system is the foundation in our description of having Quality as a business strategy.

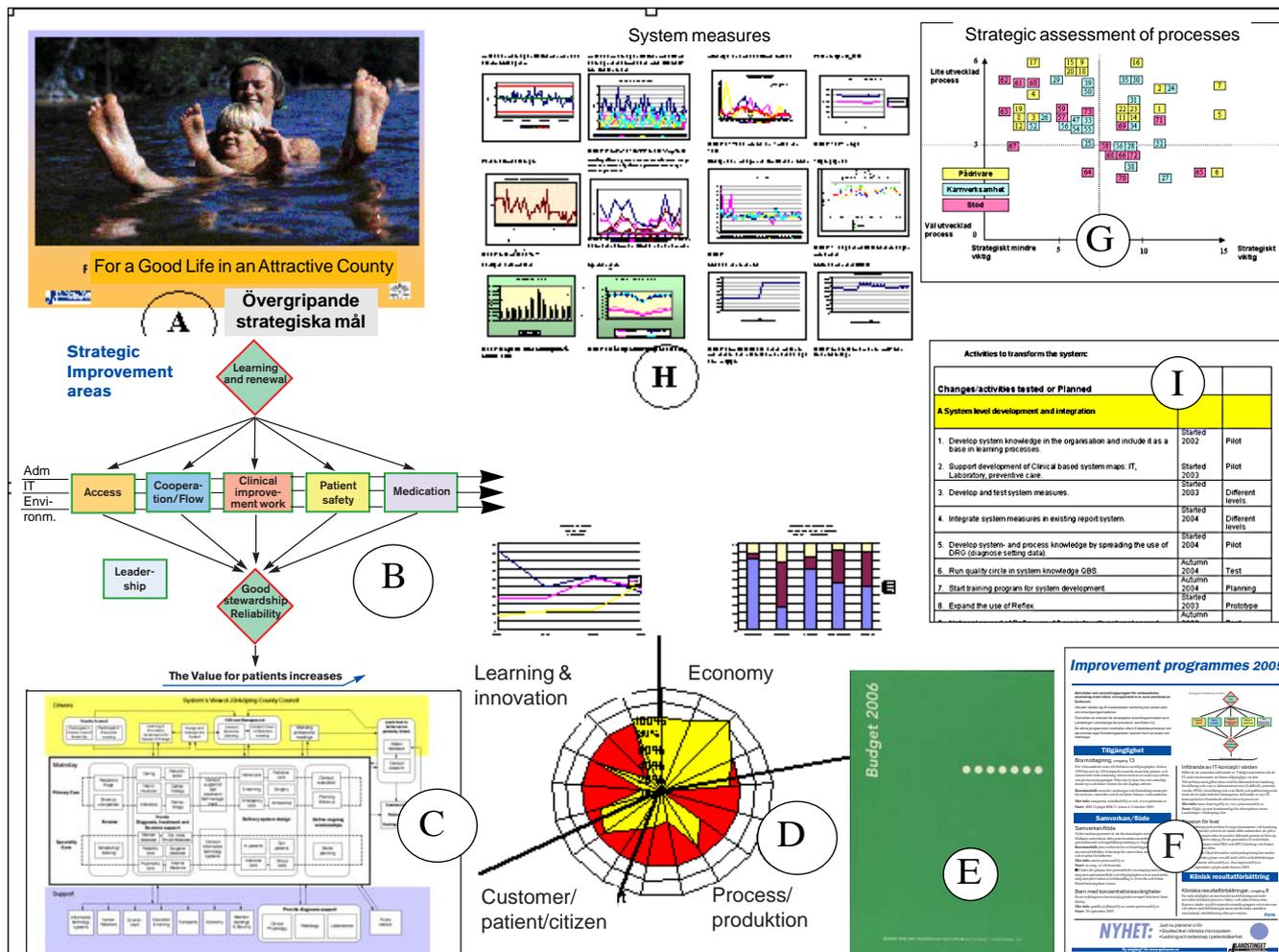
It is a “map” of the system, (not a flow chart or an organisational outline) and it points out all processes, functions and links.

In the mainstay part we have our core processes: 1. Access, 2. Diagnoses, treatment and decision making, 3. IT support, 4. The design and organisation of the healthcare work, 5. The clarification of ongoing relations. Within these areas there are a number of processes.

The picture is divided into Core business, Driver units where decisions are made that influence the work in the core business and Support (supporting processes). The strength of the picture is that it points out all processes, functions and links and raises questions like “Who is responsible for these” rather than “Who is where in the organisation”.

Quality as a Business Strategy

The County Council has chosen Quality as a comprehensive business strategy for the organisation. What we consider when we say that Quality is our business strategy is shown in the picture:



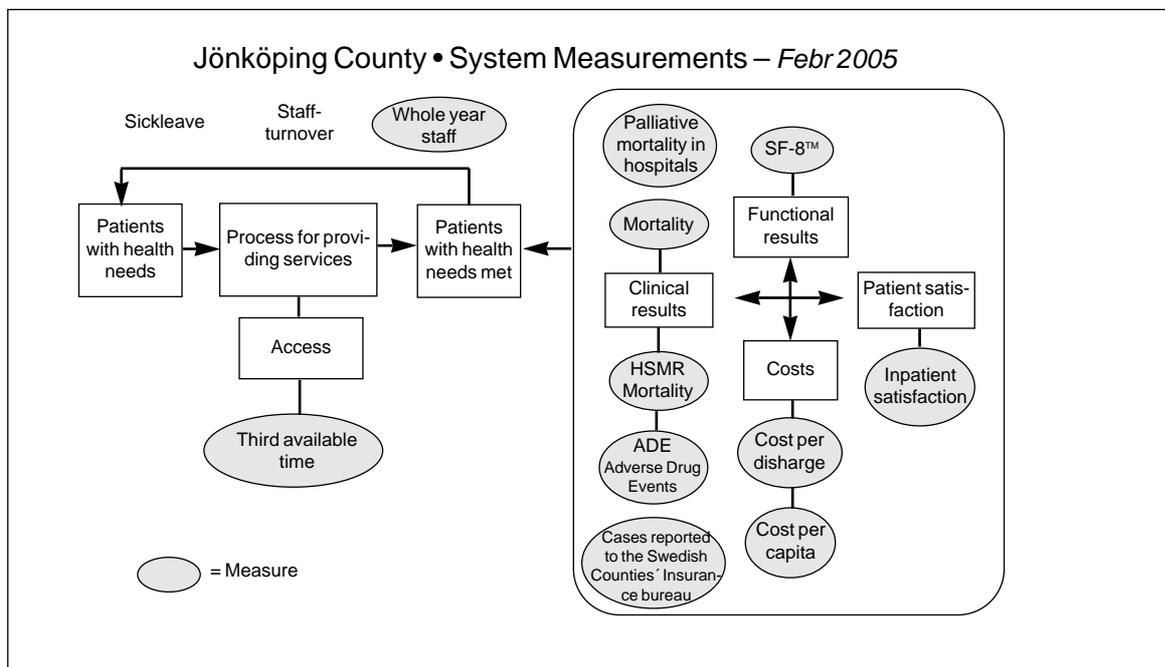
Picture 9: To have Quality as a Business Strategy.

- (A) The County's vision is formulated based on the needs of what our system has to accomplish.
- (B) In order to accomplish our vision, we focus on 7 strategic areas. This is illustrated in the "Diamond picture". We also link our improvement works to the strategic areas (I).
- (C) The system/the activity is the instrument needed to accomplish the vision (here we illustrate this with the System picture, i.e. the chart which shows our processes, what we do).
- (D) How the system works is reported in the BSC.
- (E) The activities are planned and documented in our Long Range plan/budget.
- (F) A compile of our ongoing works of improvement; this is reviewed at least twice a year (is a range of programmes and activities, "Work smarter", which Qulturum offers to units within the organisation). The range is based on analyses of which processes that need to be given priority to (G).
- (G) Every process is evaluated in order to find out how well it works and how important it is strategically in order to meet the goal and vision of the County. Those found to be important can and will be developed further.
- (H) In order to ensure that the system as a whole moves towards the vision we need a measurements (=on this level, i.e. to reach the goal of the County). The measurements as such can indicate new needs for improvements.
- (I) The changes in activities are reported on a quarterly basis to IHI. This is done in order to compare with other systems within Pursuing Perfection (called The Transformation report).

■ We have established system pictures for, such as IT-support, general health, environment and clinical physiology.

System measurements

Systematic measurements are important when you have a process oriented view of the system (H in picture. 9). The measurements have been chosen in co-operation with other organisations within the Pursuing perfection which also look at the system as a process in order to meet the patients needs.



Picture 10: The Counties system measurements presented as the Value Compass with its four perspectives.

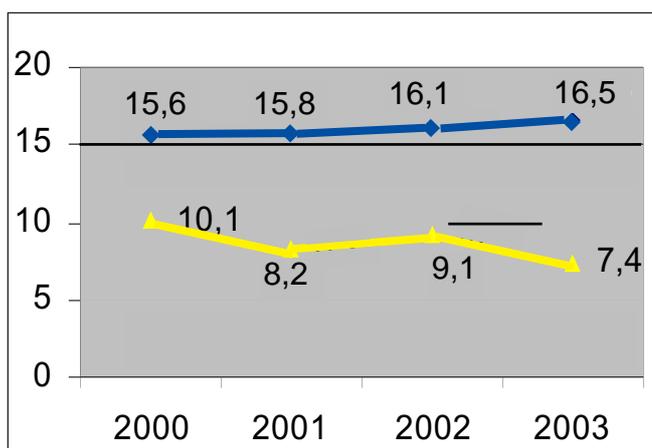
To get a holistic view the measurements are placed in the four perspectives of “the Value Compass”. All together, these measurements are a guideline to if changes in the system are improvements. Several of the measurements are reported on a monthly basis, reflecting the county as a whole and are presented as a chart over time.

The over all review focuses on **the patients**. Satisfaction, access, safety and mortality are examples of this. During 2005 we are establishing workgroups within the county and their mission is to work with improvements based on the measurements. Up until now this has been done for mortality, access, risk, safety and incidents.

For example, by measuring the mortality rate, the Intensive care unit at Ryhov County hospital can prove the effect of systematic improvements (picture 11).

In order to visualize the results from our system measurements together with other changes, we have prepared a “data wall”. This is a way to illustrate “Quality as a Strategy” and makes it easier for the management to follow the measurements and the developments. The transformation report to IHI is a living document, which illustrates changes that have been made in order to move the whole system.

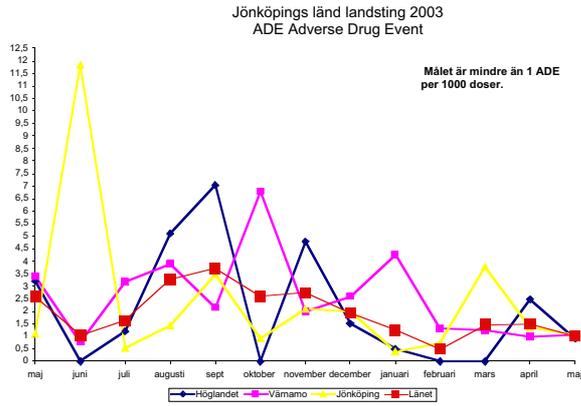
On the next page, you will find a summary of the system measurements from the spring 2005.



Picture 11: Mortality ICU at Ryhov County hospital. The yellow serie shows that the mortality has decreased from 10,1 to 7,4 as an effect of changes and that new ways of working and standardized templets has been implemented. This has happend although the care burden has increased some according to an assessment made with IT-support Apache (upper blue serie).

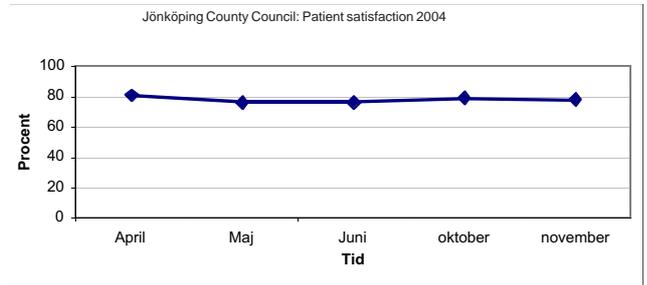
System measures datawall: May 2005:

Adverse Drug Events (ADE)



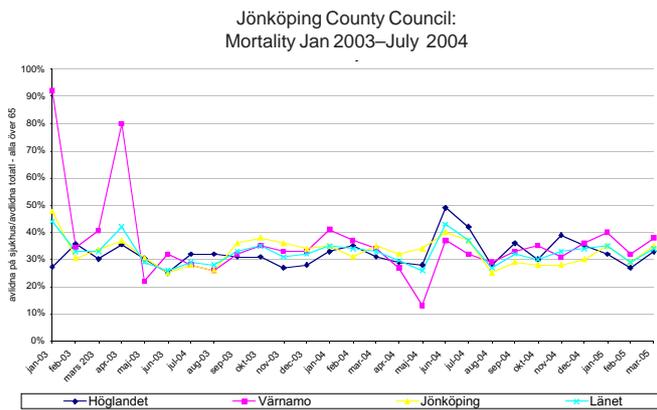
Mål: >1/1000 less then 1 ADE per 1000

Patient satisfaction

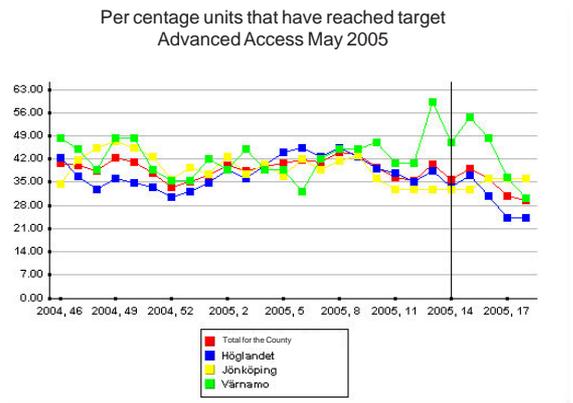


Mål: 100 per cent satisfied

Mortality in hospitals Age 65 +

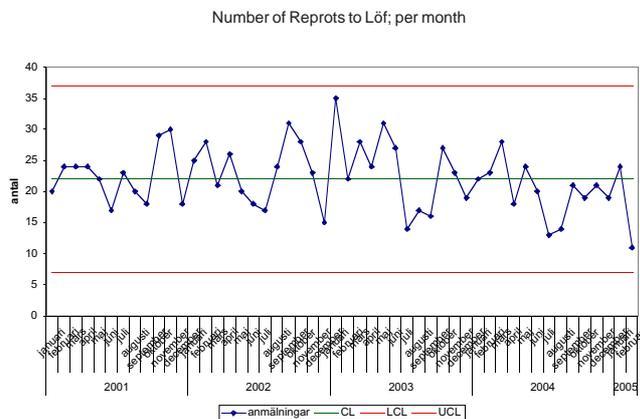


Access



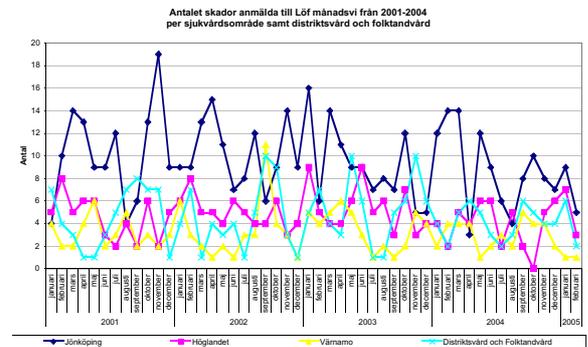
Mål: 14 days to specialist care, 3 days to GP in primary care

Reports to Lof, no. per month



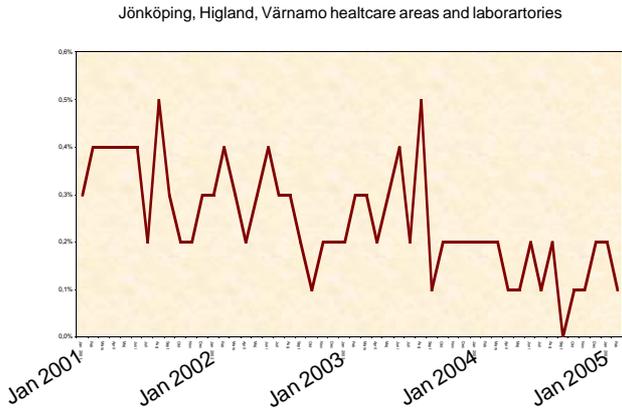
Lof = The Swedish counties' mutual insurance company

Reports to Lof, the number divided in the three healthcare areas plus local and public dental care.

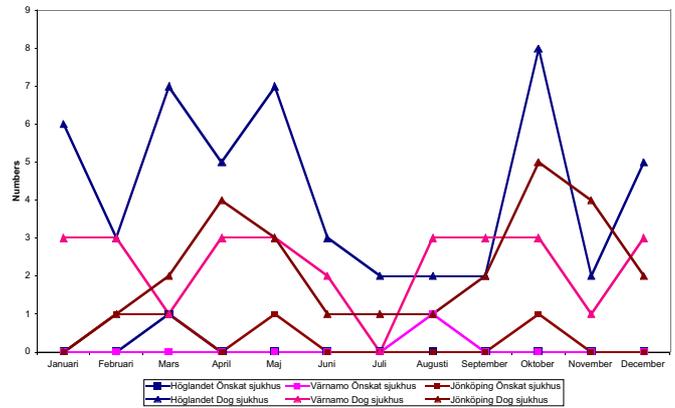


Goal: No more than expected value (27)

Staff turnover

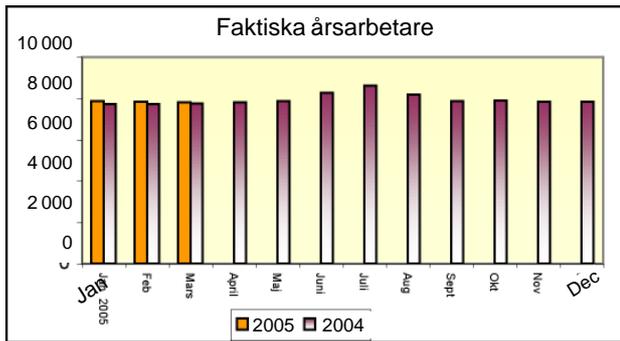


All palliative patients who wish to continue to be treated at a hospital, and the number of palliative patients who die in a hospital, per month 2004



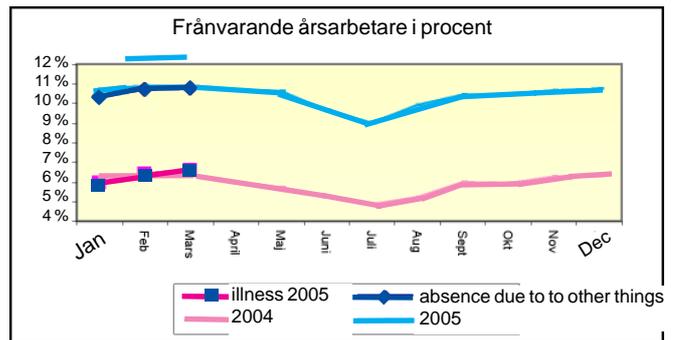
Goal: The patients themselves decide where to die, but preferably at home.

Nb. of co-workers counted as full time staff member on a yearly basis



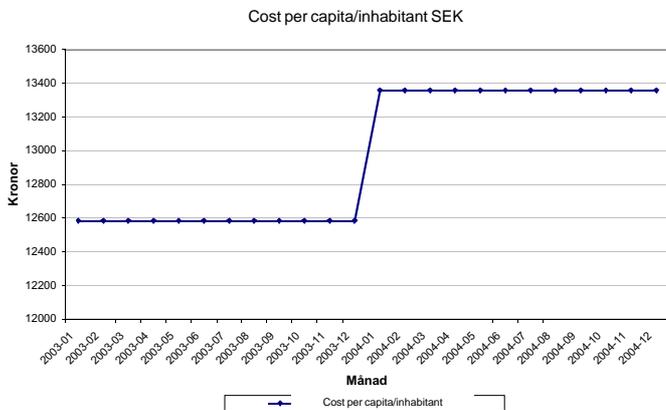
Goal: Today's level of staffing minus 100

Absence due to illness



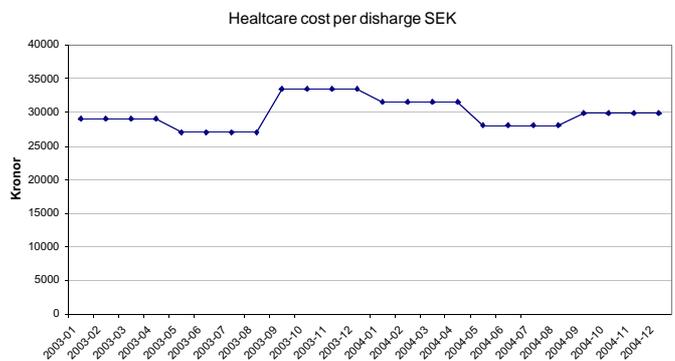
Goal: A yearly reduction of 10%

Costs per inhabitant



Goal: Assuming all other measurements are good, the costs should be as low as possible

Cost per care occasion



Goal: Should not increase more than the increases in wages and costs

“We develop the whole system at the same time”

As we have seen in the system picture that describes the healthcare and nursing (page 9), our mainstay activities can be divided into 5 parts (1-5)

When we develop the five categories in the mainstay part of the system picture the development areas of the Diamond are an important support. The thought is that we in all development work focus on better access, medication, patient safety, clinical outcome and flow/co-operation.

An important part of the development work is made through cross professional teams from our activities and from other counties that participate in development programmes in the form of networks (collaboratives) where theory is mixed with our own improvement work. In these programmes, the participants will be introduced to new improvement methods that have been developed in the last couple of years, e.g. Mark Murray about access and waiting times, Brent James about clinical improvements and IT support, Tom Nolan about the Improvement Model and measurements, Edward Deming, Cliff Norman, Lloyd Provost among others about knowledge of systems, variation (measurements), the psychology of change and knowledge of improvement, Paul Batalden, Gene Nelson and Marjorie Godfrey among others about clinical micro systems, the Value Compass etc.

Another part takes place through ventures like unit leadership development programmes, front line leaders, residents and interns etc. In these programmes more emphasis is placed on leadership in a changing environment, in flow with support functions, in a no boundary environment and in a learning organisation.

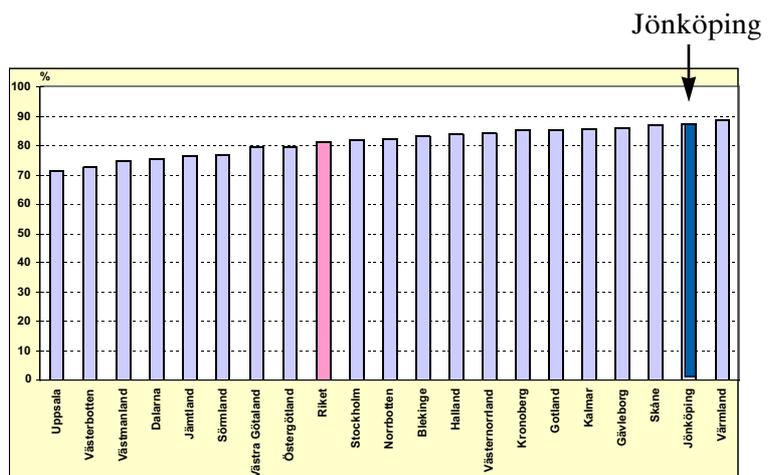
Here are a few examples of what we have achieved in our improvement work.

Access (no 1 in the system picture).

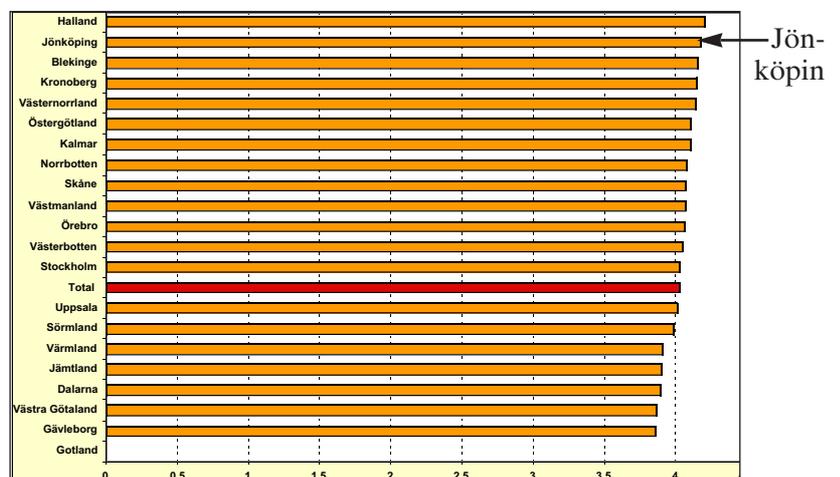
■ A part of the Swedish National Healthcare Visit Guarantee includes the inhabitants access to a general practitioner in primary care within 7 days. A goal-oriented commitment during the last three years, where more than one hundred teams have worked with access, has produced good results. According to the Swedish Federation statistics, Jönköping is now in second place; close to 90% (picture 12).

■ Another important aspect concerning access is “right care on the right level”. In a comparison with other counties we have a good position when measuring “visits at other care providers” than physicians (picture 13).

■ An example, where better access provides better medical results, is the work with Dyspepsia at Höglandet hospital. By making the patients meeting a surgeon within 24 hours, the diagnosis becomes better and some of the patients do not have to be put under



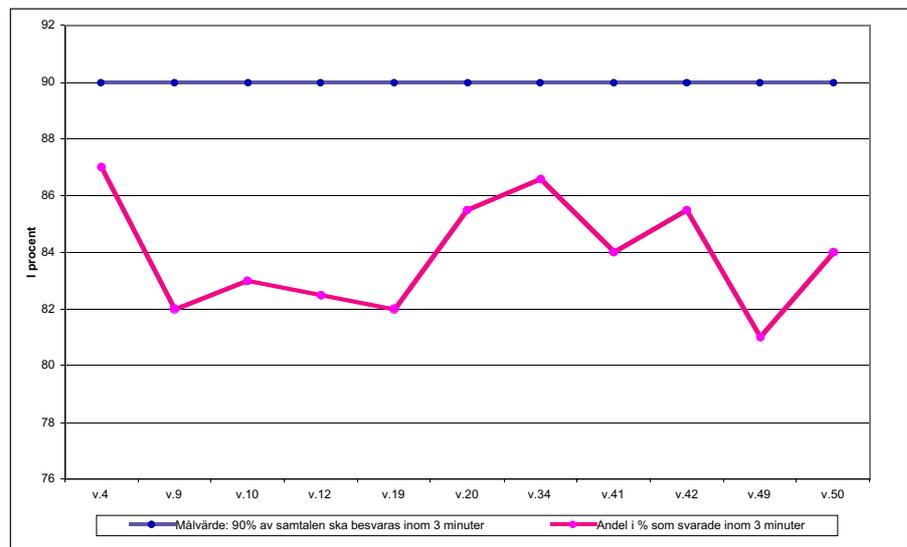
Picture 12: Visit guarantee to a general practitioner in primary care. Comparison between counties.



Picture 13: Care at the right level. Comparison between counties.

unnecessary medication. This affects our budget and target area, Good finances According to a study made by the county's financial department, profits can be calculated to be up to 15 million SEK per year.

■ Our goal regarding access on telephone is three minutes (picture 14).



Picture 14: Phone access – red line = share that replied within 3 minutes.

■ All our primary care units have their own homepage, and this has also proven to increase co-operation; e.g. patients can make changes in reservations and apply for a new prescription.

■ The county's goal is so called “**Advanced access**”- a patient shall receive a professional judgement within three days in primary care and within two weeks in specialist care. For that reason, we measure Third Available Time (3T). We have a checkpoint, which produces a report, on our Intranet.

In order to find the balance between the need for “visit times” and the capacity to offer “visit times”, we have developed a new tool, the Balance Counter. By developing the internal capacity, we avoid that support processes become bottlenecks. We have ongoing projects in e.g. surgery, radiology, clinical physiology and the county's central administration.

We use starting time, surgeon operation time and waiting time as tools to improve working-flows and use of space.

Support for the decision making (no. 2 in the System picture)

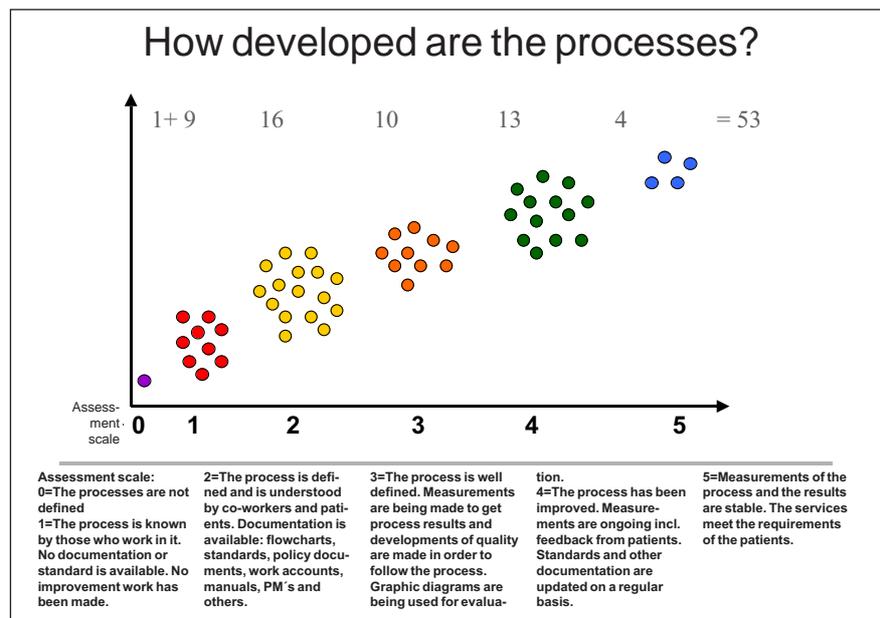
■ A crucial point for the patient is that the support for making decisions in the care work. Clinical registers are a tool for this.

Sweden has appr. 60 national quality registers, either complete or under construction. By improving the use of these registers, the clinical results can be improved. We have been appointed by The Swedish Association of Local Authorities and Regions (former Federation of County Councils) to run, in co-operation with others, several projects in order to develop national quality registers. Up until now, we have been working with cataract, diabetes and depression.

■ Within the framework of Big Group Healthcare, our Medical Program Groups have been asked to make a summary, which shows what national, international, and own clinical registers they presently use.

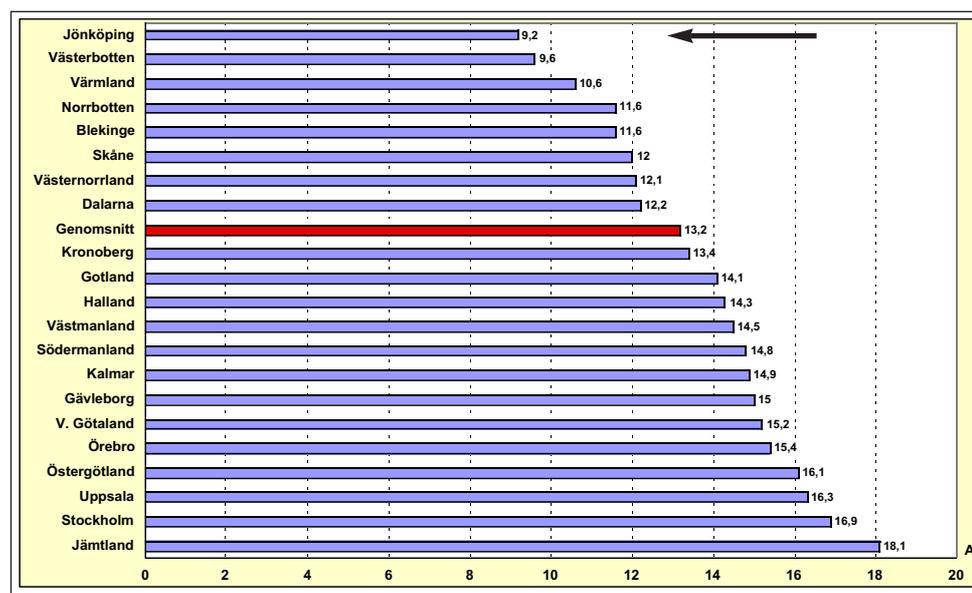
There are more than ten registers available to the Medical Program Groups and within each of those registers there are several measurements. Each group has identified two important processes, each consisting of two measurements. The processes have been evaluated in terms of “gap of quality” and rated degree of development. The challenge is to move the work of improvement for each of these at least one step to the right (see picture 15).

Follow up is made at special meetings headed by the County CEO. This is a way to emphasize the strategic importance of clinical outcomes.



Picture 15: 53 processes are being followed with extra care and assessments are made of how mature the processes are. The goal is to move the processes one step to the right on the scale within one year.

■ For one of the measurements a report published by The Federation makes it clear that patients suffering from stroke, in our county, are less depressed than others (picture 16).



Picture 16: Strokepatients – depression. Red is average.

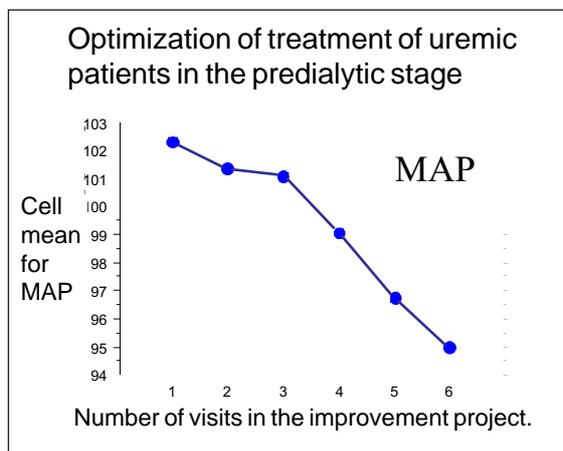
■ The guidelines for health care are tools to make sure that everybody receives secure and equal care. The county's goal for the most important processes is presently to use 25 county guidelines in the whole county. Seven of these guidelines have been instigated as of today. In addition to these seven, we have guidelines for care (falls, pressure wounds, nutrition and pain), which are targeted against hospitalised patients, 65+, (appr. 24 000 per year).

The guidelines are linked to a web based IT support system called MOA, (Measure and Analyse, picture 20), where you can see the results. The goal is to reduce the suffering for the patient.

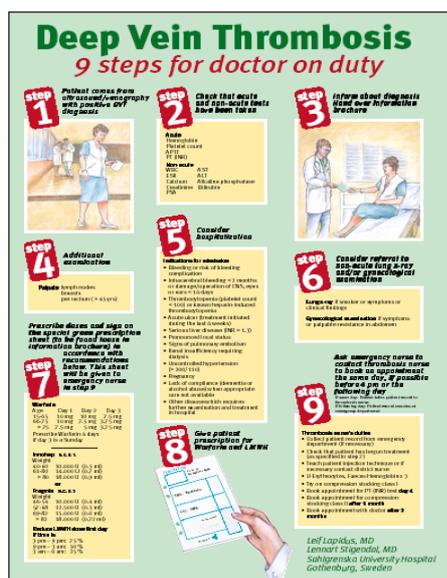
We can also show gains on resources when we perform successful works of quality. Falling Accidents costs appr. 378 million SEK per year (est. from the Swedish Rescue Services Agency), poor nutrition means care over a longer period of time and every pressure wound generates a cost of appr. 200 000 SEK.

■ The Internal Medicine Department at Höglandet hospital has, in co-operation with the internal medicine clinics in Norrköping, Linköping and Kalmar, produced a clinical register for Uraemia patients. They have a control group in Norrland and the goal is to delay the use of Dialysis treatment. This work has been very successful (picture 17, progress rate, comparison between hospitals) and every treated patient receives follow up data. Every point in the chart is the median for the group of patients and the measuring intervals are 3 months.

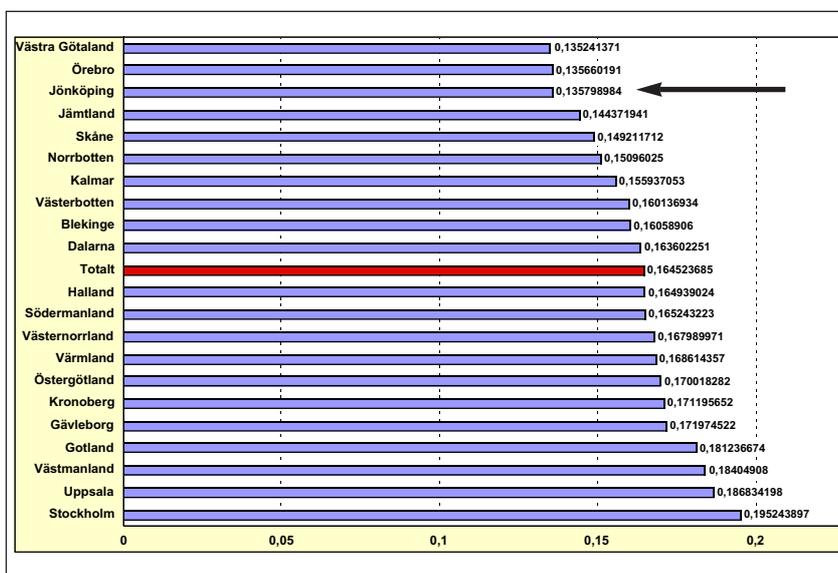
■ Another support for decision-making is the guidelines concerning patients with feared Deep venal thrombosis (picture 18). The medically responsible have produced a poster with supports for making decisions combined with guidelines for care. This information has been web based and the caregiver can move ahead step by step on the pc.



Picture 17: After the improvement work on Uraemia patients could start their dialysis later.



Picture 18: A check list was created in a project on Deep Vein Thrombosis.



Picture 19: Low rate of Caesarean sections, Swedish counties.

■ Another notable result is the low number of females giving birth by Caesarean section (picture 19). ■ We also have guidelines for obesity.

IT-support (no. 3 in the system picture)

In order to provide the best possible care, we develop means and work methods at the same time. The county uses more than 600 IT-support systems, which causes fragmentation. Höglandet hospital has an all-inclusive administrative system for patients (SPAS). This has made us realise the necessity for an all-inclusive IT-support for the whole of our system. Together with Östergötland County Council, we presently develop a "Caregiver portal", which consists of a number of IT services.

- PÖS (Patient Overview) is a summary with selected information from the different units where a patient has been treated.
- The Pharmaceutical module is a write out prescription- and distribution support, which handles pharmaceuticals. This module, county common, creates a list of pharmaceuticals, on paper, for each patient.
- LabRos is an electronic reservation- and reply system, which operates between care units and laboratories.
- EBBA is an IT-supported administrative system for inpatients, which deals with the registration and och discharging of patients, short-term leaves, occupancy rates in a unit, clinic and hospital.

To support improvement work, we have special IT-support:

- MOA (picture 20) is an IT support with the aim to give the care provider a possibility to register values for a single patient and these values can be summarised as results of the process on a systematic level. MOA makes it possible to co-operate boards between caregivers. During the test phase, we have participants from three care processes: pressure wounds, falls, and nutrition.

- POP is a register for processes and projects, which has been developed within the county. It can be used to register processes and works of improvements within each process.

- Reflex (Results, Innovation, Learning in the Extranet) is an interactive tool for improvement work conducted at different workplaces, regardless of caregiver organisation.

- The improvement guide is an interactive learning course, used to learn more about profound knowledge in improvement work.

Picture 20: MOA (Measure and Analyze) is a IT support system which provides results and statistics regarding patients and groups of patients.

Types of care (the design and organisation of the healthcare system, no 4 in system picture)

This part of the system picture visualises the question about where the care is taking place and where it should be taking place, seen from the patients' view. New knowledge, techniques, resources and co-operation all have influence on where and how the care is carried out. Here are a few examples to show where changes have been made.

- SIM reception: reception for infections, run by nurses
- Ambulance personnel instantly measures the patients exhalation air and transforms the data to the emergency room
- Nurses at schools have been provided with tools to support children who suffer from asthma. This lessens the immediate hospitalisations.
- "Medicine direct": a hot line between community and primary care personnel on the one side and a specialist on the other side to get a quicker evaluation on the condition of a patient.

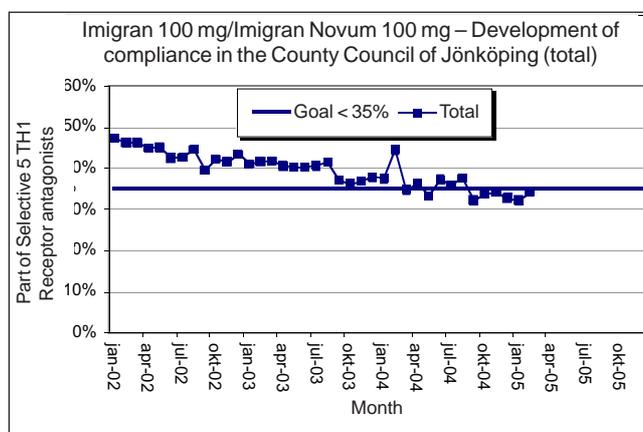
Other examples are:

- Palliative care with a greater degree of consideration to the patients wishes of where the care should be carried out (see system measurements)

- Medication – where the treatment is changing all the time. The Committee on Pharmaceuticals recommends changes of pharmaceuticals and measure compliance over time. Imigran is a good example (see picture 21).

- To follow a recommended process for writing out prescriptions can mean lower cost and better safety for the patient.

- Certain pharmaceuticals can be ordered by using e-mail.



Picture 21: The Committee on Pharmaceuticals measures compliance in accordance with their recommendations. This chart concerns Imigran

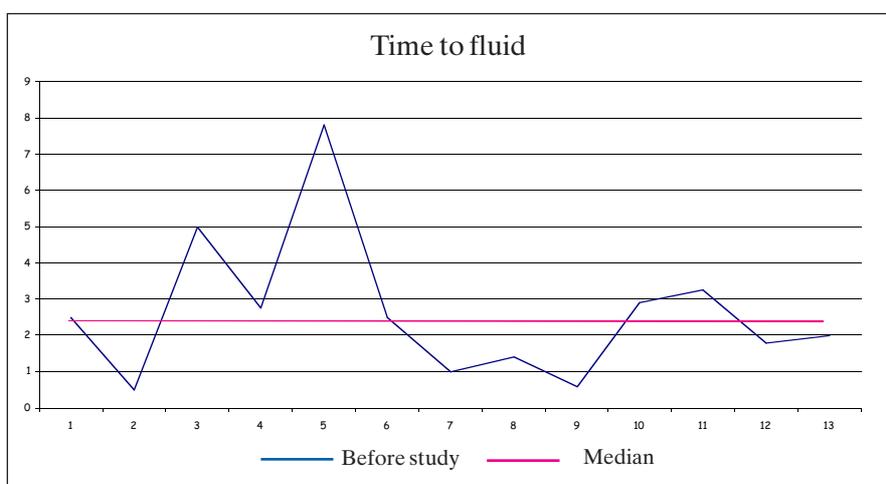
Clarify ongoing relations (no. 5 in system picture)

■ To clarify ongoing relations is an important area for developments. The Internal medicine clinic at Eksjö has adapted the method Business Reengineering to the healthcare sector and proven how this method can accomplish good results for patients. The clinic has won many awards for its work and has proven large access to all specialists.

■ Another example is the improvement work “Best Possible for Children”. A new arena, called The Child Dialogue is a meeting point for all care providers who in any way work with children and their families.

All professions meet, in form of a dialogue, and develop a common set of values, goals, programs of care and measurements. This co-operation strengthens the ability to pull in the same direction. We have found a lot of processes where the results for the children depend on the interaction of different care providers within the county, e.g. asthma for children, obese children, children with concentration difficulties and children with special needs.

The time for acceptance to the hospital to the time the child gets fluid is measured for children with gluten intolerance and ketoacidosis (picture 22).



Picture 22: For children with ketoacidosis = accumulation of ketone bodies in tissue in diabetes, causing acidosis) the time for acceptance to the time the child gets fluid is measured.

Support processes are strategic

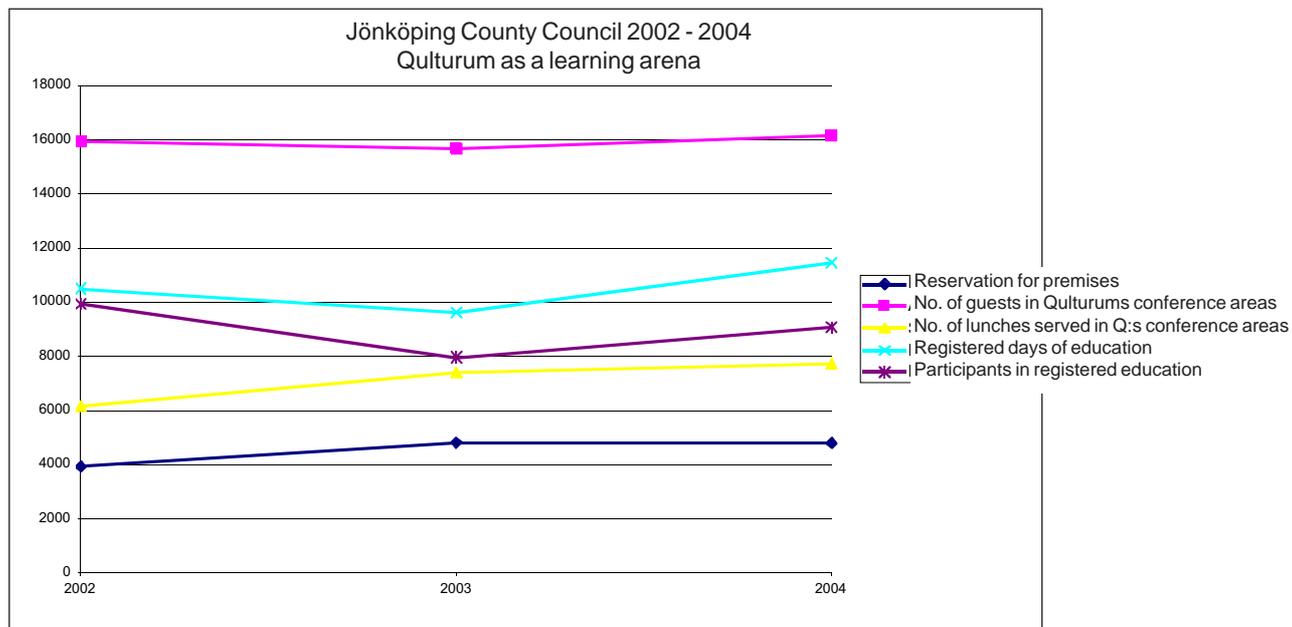
Up until now we have focused on the core business. When the processes of the core business are improved the need for good support processes emerge. These processes must be developed parallel to the core business. We have also realised that the success is closely knit to the fact that the development of support processes is connected to the strategic target areas in the Diamond. Here are some support processes that are gaining in significance:

- The support process IT-support for change
- The support process to catch the results of the system
- The support process, which turns over theoretical knowledge into practise. The unit Futurum co-ordinates clinical practise for physicians, nurses, physiotherapists and occupational therapists etc. Seven profile areas have been defined. In addition, Futurum supports closer links between theory and practise.
- The support process, which makes visible the economic results due to improvements.
- The support process to develop working environments (“The dialogue” is the name of a tool for evaluation which is distributed to co-workers every other year. 88% send in their evaluation and the target areas are individual, the relationship between employees, leadership and working environment. Everybody evaluates his closest manager and this is used when a senior official has a personal development discussion with this manager. Each unit has to make a list of improvements on the basis of the results in the Dialogue.

Create capacity for learning and spread

It is strategically important to create capacity for learning and for spread of good examples and results. Through cross professionalism, analyses of quality gaps and measures of “our own performance right now”, we create occasions for learning, where involvement and conditions for spread are integrated from the beginning.

The spread of new knowledge is not reduced to situations for further training but becomes a normal part of looking for information as a working condition. Qulturum is the county’s learning arena (picture 23), which offers necessary support.



Picture 23: Qulturum as a learning arena from the point of view: number of participants in activities, education days, visits to conferences, booked rooms and served lunches at the Qulturum residence.

All programmes for development and improvement have the following rules:

- The programmes are addressed to cross professional teams.
- We use good examples from previous programmes.
- The programmes consist of 4-5 Learning Seminars and Active periods for own improvement work at the workplace and self-learning
 - The goal for the team is to implement a change and achieve new results
 - The work always consists of something you want to improve in your own line of work or at your workplace, to find out what it looks like before a change (establish a baseline), put up goals for the improvement and measure the effects over time
 - The PDSA cycle is the established tool for improvement
 - The Value compass is used when we develop processes

The County Council has established a model in order to conform and spread new knowledge to the activities. This is done in a Maturity ladder where new work methods are developed, first through small tests, then spread demands, pilots and concepts are developed, and finally, we try to find good examples and prototypes.

In the test phase we try on a small scale. In the second phase, the pilot phase, we invite units more openly to take part and common measurements are established. The pilot phase can go on for along period of time but subsequently the concept is established and the pilot becomes a prototype.

There are principals for learning in the test phase, the pilot phase and the prototype phase. In the supplement you will find activities related to the Diamond and classified after target areas.

Reliability and Patient safety

In order to accomplish the best possible clinical processes, we have to rely on a modern safety culture and safety thinking.

The County has established a county common “Risk and Safety council”, which is helped by reference groups focusing on patient safety. In the County we measure safety in our three health care areas and new quality methods are developed. All participants in Pursuing Perfection are presently joined in developing a new tool called “Global Trigger Tool”. This tool will be used in advance to evaluate the possibilities for mistakes within the system.

We also use methods for risk at three different levels:

- 1) Preventing mistakes – Using methods like FMEA (Failure Mode Effective Analyse) and “Root Cause Analyses” we can identify and evaluate security risks.
- 2) Identifying problems and mistakes – Using methods like “The Patient’s Direct Channel”, ADE (a measurement for serious pharmaceutical mishaps) and Synergy (common IT-system for register incidents) we can identify problems and mistakes. Using these methods, discrepancies move from being knowledge at a separate clinic to being knowledge within the whole system.
- 3) Attend to made mistakes – Using MTO (Man Technique Organisation) we can make flow analysis and assessments of how serious risks and incidents are and we can study processes where mistakes are frequent or where there has been a serious incident, especially if it involved a patient.

Standardizing, support for decision-making, good documentation support, and the best possible access promote the reliability of the system.

Good financing – Reliable development

Our tax rate has been one of the lowest in Sweden. It was raised in 2004 –in order to keep a durable development – to 10.67 SEK (the average in Sweden being 10.75). All new commitments have to be financed through more effective work. The budget is balanced. It is very important for us to visualise the economic gains made by developments. On a system level, we do this with our system measurements.

On the process level we are testing a new tool, “The Conceptual Model”, in order to visualise the economic perspective related to each process. The new tool is presently used on influenza vaccination, pre-uraemia, children asthma, and prevention of falls, benign gynaecologic surgery and SRRI (anti depressive pharmaceutical, e.g. the process where this is used).

Environmental work

The driving forces behind the environmental work are the knowledge that a good environment is a condition related to good public health and a prosperous development for the region. It also contributes to a long-term durable use of resources.

During the last couple of years we have worked intensely in order to introduce a environmental leadership system according to ISO 14001 and to make the environmental work a natural part of the development of the organisation.

Treatment of hospital waste (%)	2002	2003	2004
Recycling of materials	16	18	20
Biological treatment	4	4	11
Recycling of energy	20	23	55
Depositing trash	49	46	5
Purchases with environmental demands	74	94	97

According to one estimate, it is possible to reduce costs by as much as 15% if you develop the inner efficiencies (“Observations of counties”, Ds 2005:7). We estimate that the possible saving in our county, due to a more effective work, is appr. 80 million SEK, or 2% of the net costs. On a

national level, including all counties, this is the equivalent of savings of 3 000 million SEK on a yearly basis, or 30 000 millions during a 10 year term.

- So, as you can see, we create our space for development right now – the Future is Now!

Authors: Lennart Ljungkvist, Annika Nordin, Rolf Bardon, Göran Henriks

The results within “Best possible” are cumulative, not random. The base has always been our knowledge of quality and our previous experiences of improvement work. We realised very early that our staff wasn’t a *resource*, they were just human beings, who work and perform according to their understanding, motivation and ambition and that this knowledge is a source to constant possibilities.

With one eye, we have glanced at Edward Demming’s 14 points for the development of quality and we can state that we have worked with all of them. Possibly, the most important point is “Drive out fear”.

The 2005 edition of the national conference called “The Power of Development”, where co-workers present the result of improvement work, has the topic “Focus on patients means enjoyment in work”.

Göran Henriks, utvecklingsdirektör

“...Maybe the shock will be just as it was in the automobile industry; an attractive product developed outside the US ... Jönköping County which has proven overall to be the highest performing of all Pursuing perfection sites, both financially and clinically, has perfected its chronic disease management to achieve some of the lowest population-based hospitalisation rates for asthma that IHI has ever seen.

If a “Toyota” does appear outside the US, these Pursuing perfection sites will be well positioned to understand its essential elements and adopt them to the American health-care consumer.

D. Berwick, T. Nolan, A Kabcenell, IHI

Appendix: Perspectives on development with a focus on strategic targets

Complete summary of activities in order to create capacity for learning

	Maturity		Maturity		Maturity
Development of systems and integration		Development of clinical results			
-Extent/spread		-Extent/spread		• Network of leaders in cooperation with municipalities – established	P
• Using DRG to develop systems and knowledge of processes – 30 participants	P	• Developed break-through work Clinical results on a workplace level – 66 teams (65 JKP) 331 participated (325 JKP)	PR	• Big Group Health care – 5 times per year	P
• QBS quality circle; Quality as a Business Strategy – 1 course, 32 participants	T	• Developed national break. Through work with its base in clinical registers – cardiology, diabetes, cataract and depression; 36 teams (9 JKP)	PR	• Policy for leadership – established	P
• The Improvement guide – knowledge of statistics through e-learning. Increase the spread, 40 participants	PR	• TCAB “care at bedside” – Medical clinics at 3 of our healthcare areas	P	Access	
• Statistical process control – 3 courses, 106 participants (62 JKP)	P	• Developed break-through work for primary care - 8 teams (7 JKP) 39 participants (33 JKP)	P	-Extent/spread	
• Spread Best Possible Knowledge – short seminars for “care developers”, 2 courses	P	• Improve the variation within Children’s asthma from 10-2 to 10-3 – Concerns the entire patient group “Children’s asthma”	T	• Break through programme Bra mottagning (Good reception), 281 teams, 1.450 participants (87 teams JKP)	PR
• Head office- “from governing to support and strategy” – the entire staff participates in the development work	T	• MOA register for clinical results – 2 tests + 6 processes	P	• Book about access “When there is not enough time” – More than 730 external orders + all educations in our county as well as in Halland, Skåne and Kronoberg	PR
• MOA, develop a clinical register and spread, 6 processes	P	• Establish/spread the guidelines for care through the whole system – fall, nutrition, pressure soar and pain, venal thrombosis- 8 new treatment guidelines on the intranet	P	• Develop the access inside surgical activities – all healthcare areas	P
• Establish a group of economists as a resource in the work for improvements – 15 participants	P	• Evaluation of Clinical result improvements, 1 report	P	• Regional network concerning access – we participate	P
• Develop knowledge of systems in the entire organisation – integrated in management training, large group health care etc.	P	• “Move” 53 processes to a higher “level of maturity” – 53 processes	T	• Access work group for the whole county – all healthcare areas	P
• Develop tools to be used in visualizing the economic side of process developments – 2 + 6 processes	P	• Establish LabRos; referral and reply system, Ongoing; 6 workplaces	P	• Report about access and effect on workplaces - finished	P
• Develop system measurements; integrate them in the current measurement system – integrated in the monthly report and the annual report	P	• Create routines for reporting, documentation and learning – in progress	P	• Access report place om our intranet, 40 per of units report	P
• Develop and establish “Synergi”-a report system for incidents- to be implemented during 2005; 5.000 participants	P	• Group with the mission to reduce number of mortalities – being established	T	• The tool The Balance counter, used by 70 units	PR
• Use BSC on all levels of the system – the entire system	PR	• Group meeting with CEO in each healthcare area to discuss the results – ongoing, every semester	P	Cooperation/flow	
• Develop Reflex and increase the usage – 39 projects, 348 teams	PR	• Physical therapists, occupational therapists, speech therapists	P	Extent/spread	
• Spread of Reflex on a national level – 10 projects	T	• International health	P	• Developed break though cooperation/flow, 11 teams (20 JKP) 76 participants (73 JKP)	P
• Integrate the environmental issues on a systematic level	P	• Meetings to follow up the results – medical programme groups and CEO	P	• Developed break through regarding children’s obesity – 10 teams 74 participants	P
• Development of a system picture, part of a central BSC	P	• Education concerning guidelines for care - nursing	P	• Home pages – all units	PR
• Collaboration team together with the IT centre – scheduled meetings	P	• Conferences for general practitioners	P	• Network for Esther – established	T
• Practice for students on Futurum – all medical students, occupational therapists and nurses	PR	Leadership for transformation		Medication	
• Special themes for Futurum – acute abdomen, children’s health, infections, cardio vascular diseases; learning/renewal/communication/neck-back, odontology	P	Extent/spread		Extent/spread	
• The festival of Clinical Microsystems and a national network – 2 festivals with 200 participants	PR	• Management training programme aimed at head of wards etc. LUV – 81 participants	P	• Development break through pharmaceuticals – 38 teams	P
• The Power of development – a national conference, spread of outcomes, 2 conferences, appr. 900 participants	PR	• Management training programme aimed at activity managers – 35 participants	P	• Developed break through Old people and pharmaceuticals – is being planned	T
• Support the creation of system pictures presenting the key activities IT-centre, the laboratories, public health, clinical physiology, environment	P	• ALV – Active management training – 25 participants	P	• Developed break through on a national level regarding pharmaceuticals and patient safety	P
• Transformation report – updated at least 4 times a year	PR	• MBA programme leadership/development leaders together with Växjö – 4 participants from JKP	PR	• Pharmacists in care – Certain primary care areas and clinics	P
• Poster – “Quality as a Business Strategy”- in the making	T	• Management training programme aimed for “pair of leaders” + in cooperation with UMAS – 56 participants (45 JKP)	P	• “Passion for life” – is being planned	T
• www.qulturum.se - the County’s site for works of development – appr. 1.500 visitors per month	PR	• Knowledge of improvement aimed at students and teachers	P	Patient safety	
• Newsletter Clinical Microsystems	PR	• Management development aims at doctors/med.students (AT/ST)–192 + 82 part.	P	Extent/spread	
• National distribution of the newsletter 5 times a year	PR	• Training aimed at development supervisors	PR	• Developed break through concerning Patient safety, 20 teams (18 JKP)	P
		• Groups for reflection	P	• Structures of measurements and routines for the measurement ADE, 3 healthcare areas	P
		• Training in how to lead “groups for reflection” –12 participants	-	• Risk and advices for safety of the county – established	P
		• Supervising pedagogy aimed at doctors	P	• National conference regarding Patient safety – implemented	P
				• Developed break through FMEA + support functions – 26 teams (24 JKP)	P
				• Support group for use of the FMEA tool – established	T
				• Reference group for patient safety – established	P
				Good economizing	
				Extent/spread	
				Environmental education – 5.559 participants	PR

T = Test, → P = Pilot, → PR = Prototype

