Nordic Patient Safety conference 2010
- A short summary report

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The first Nordic Patient Safety conference 2010 was a great success. The first day was filled with world renowned keynote speakers. The second day this was matched with the world as-is with practitioners view on challenges and experiences of initiatives taken to improve health care regionally as well as nationally.

Day one

Professor Li Felländer Tsai kicked off the conference with saying the initiative was timely welcomed and that it is a start for strategic partnership. She stressed that patient safety is everybody's responsibility and that a common effort is necessary to handle the challenge and push for faster, cheaper and better. This also requires cross-learning from other fields of research.

The conference´s moderator, Bertil Guve, and also director of the Centre for Technology in Medicine and Health, reminded about the externals resources and the financial context in which patient safety exist. There are clear trends pointing in a direction where wages and health care costs are drifting apart. This is similar around the world but in the Nordic countries we have specific challenges. Although we claim our differences when around each other it is also easy to find commonalities and fruitful collaboration, not the least in issues regarding exclusively public funded health care and increasing number of elderly.

Bertil finished with an appropriate quote form Karl Popper and his writing *A world of propensities*:

"The risk of error as a state of exception is a deception."

First key note address was made by Professor Erik Hollnagel with the title "The deconstruction of patient safety and the way ahead". Deconstruction was meant as a theory of criticism to discuss not what safety is but what safety might be and in particular to discuss assumptions behind patient safety. As an example we tend to look at systems in a bimodal way of work or fail. Erik compares this with our human system which continues to work until end of life. We are not on or off during life.

Hollnagel and other safety researchers have for some time stated the need for non-linear models. There are things to learn from other safety critical systems but one must understand the specifics of the health care context, which is a complex socio-technical system. These systems are different from for example automotive manufacturing in terms of complicacy, comprehensibility and stability. Erik calls it an intractable system with much interdependent and team work. Descriptions are elaborate with many details but underspecified and principles of functioning are partly unknown. Changes (in system)

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consequently are made before description is complete. Another implication of this is that the system is partly unpredictable. One of the challenges for existing assumptions is that performance variability is both normal and necessary. Resources are finite, in terms of money, time and information. Resources are a common source for variability since inadequate resources will change work conditions from what is prescribed and from what is the procedure.

Non-linear models are explained by emergence rather than causality. The difference is that non-linearity is due to unexpected combinations. The main point is that unexpected combinations lead to normal things that happen as well in the same manner as incidents and near misses do. Therefore it would be more fruitful to study normal things. Instead of learning and reduce errors and weaknesses found by investigating adverse events one should focus on things that go right and increase ability to succeed under varying conditions. In other words improve resilience in the system. Erik cited Karl Weick´s definition on safety as a dynamic non-event and explained how he first had agreed, but lately had come to realize that safety is a dynamic event, of doing things right!

In some discussions after the talk Erik clarified that it is not the unlikely success stories that should be studied. They are rare events just as disasters and similarly not so frequent. It is the normal variability around both sides of the coin, normal things, those that work well and those that work less well (on which most focus is today, incidents or near-misses) that should be studied. Yet focus should change to study why things that work well, do work well.

The second key note address was made by Richard Cook under the title "The complexity in the Health Care System". Richard started off with giving us a perspective of the world saying we are lucky to have the problems we have and we should remember why we are in health care. Then he showed us pictures on himself and children in Haiti and under what conditions they saved lives there. Perhaps many of us thought, talk about resilience!

Richard then continued to really reveal humanities tendency to wish that the world would behave in a nice way so it would be more easily managed. He claims we all pretend we can control it. But his message was that we must open our eyes and minds and see the world as it is! Not what we want it to be or even should be. He continued to discuss why preventable accidents still happens. He argued that there are no preventable accidents with the logic that if it was preventable it would not have happened. In a satellite project millions of dollars were lost because "simply" 24 huge bolts were missing and we were asked how everyone could have missed that. Yet we KNOW that there are many contributory factors, yet, we PRETEND that it is an individual blunder. In the same way it is still claimed in most cases that doctors and nurses are the cause of the accident. Before the accident there might be consensus on the many possible many negative outcomes (due to many contributory factors) but after the accident it is evidently only one of these outcomes and again we pretend there is only one factor...

One conclusion was that it is not reporting that is part of the solution, it is the understanding. An example was given that a "no-blame" ambition might turn into something like an apology. Instead of saying - You are stupid, we say - I am sorry you are incompetent! Another was describing the Root Cause

Analysis´s true purpose as a social activity "rebuild" in order to put the accident behind us and go back to where we were.

Managers were recommended, out of the three, faster, cheaper and better to pick two. Managers should also not depend on people to do safety but rather to show where the boundary of safety is. The boundary is relating to tracking the boarder of safety in Rasmussen's system model which is always moving (homeostasis).

The people in health care are committed to caring about people. Do not ask these people to sing little songs of safety. That will not make any difference. To see/show the world as it is does make a difference!

The third key note address with title "Safety at the sharp end: the role of non-technical skills" was made by Rhona Flin. Rhona described were in the system non-technical skills fit in by presenting a simplified model of job performance as a combination of latent conditions and individual actions. The latent conditions are consisting of and affecting things such as safety systems, organisational and professional culture and work conditions. Individual actions include and is affected by worker behavior and technical and non-technical skills. Embedded in non-technical skills may also be choices of which behavior to apply, depending on how responsible one feels for the behavior, often part of the professional culture.

Rhona argued that people in the system have no intention of doing un-safe acts. Poor non-technical skills may contribute to errors and unsafe behaviors while good non-technical skills contribute to safer behaviors and to avoid and capture errors. The focus idea is that teams have those days that go on smoothly. However, some teams have more of these than others. What is different in teams that make this difference?

Why do things go right? In aviation Crew Resource Management (CRM) is mandatory today. Since aviation and health care is not the same, CRM in health care is different from CRM in aviation. Although team work is good it is important to start with individual level and single discipline. Just like technical skills for various practitioners, the non-technical skills (for ex: decision making, teamwork, communication, leadership) to various and applied cases and examples should be trained. Rhona showed results from her research that good non-technical skills (NTS) can lead to positive outcomes and adverse events in surgery are primarily caused by perception, judgment, communication and teamwork. For health care she has developed Anesthetics Non-Technical Skills (ANTS).

Another interesting point was how people are affected by rudeness. She showed how rudeness (opposite to polite behavior) or aggressive communication impairs cognitive performance. In fact it was enough to be a witness of rudeness to effect performance of a group. Rona also raised awareness to things like the obvious to control work environment to protect surgeons' cognition. For example lowering music in OR when surgery is about to start but when the surgeon is done music is turned up, work is done. Well, what about the nurses' cognition!

A comment from the floor started an interesting discussion about silence and body language as a very powerful communication which most certainly can be considered and perceived as rude behavior.

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In the fourth key note address with title " Safety culture and Accountability" Sidney Dekker talked in the first part but had also invited a special guest, Julie Thao for a second part. In the first part Sidney discussed safety culture as a culture that allows the boss to hear bad news. Much like Richard Sidney expressed the importance of understanding how things really are. One point is that success is created by creative resources and showed a picture with two forklifts. One forklift helping the other to reach higher. Many witness about managers that say they want to have relevant information and to hear everything. But they do not accept everything they hear. Well, they accept everything, except violations, recklessness or gross negligence…The consequence is that evidence will be hidden, if blame is around. And Sidney asks, -Who gets to say? How much domain expertise is involved? Who supports second victims, like nurses?

In all design there are trade-offs. It is part of good engineering to always discuss advantages and disadvantages with a chosen design. I link this to Sidney's second part where we got to meet Julie Thao who became a second victim after trade-offs had been made. Intravenously (IV) bags had changed appearance and volume /size). This improvement of some aspect introduced new risks in another aspect. This contributed, among many other things, to the disaster that happened to Julie and her patient that she cared for.

I will not tell Julie's story here but will remind and encourage everyone to stop and think for a while how it could feel like to be part of a disaster where a patient dies of maltreatment. The woman's labor was complicated by an infection. Julie had worked over 14 hrs and slept at the hospital. Julie had intended to give her patient penicillin intravenously for the infection. Instead, accidentally she was given epidural anesthetic intravenously. When the patient had her first reaction everyone assumed it was a penicillin reaction and treated the patient accordingly. The baby survived. Julie was accused of crime. In her speech Julie told us all to remember to care for the second victim. When things like this happen you are no longer someone's colleague, you are their patient.

Remember what Richard said about people committed to caring for their patient, Rhona said about people have no intention of doing un-safe acts, what Erik said of insufficient resources changing work conditions and Sidney's question on who gets to say in terms of blame? It is a tough quest on us in this field to teach others understand these issues, yet I had never thought of the difficulty to face blame on oneself. Even if we have the models and theories to back up a defense and even if everyone was rationally OK with the idea that variability is normal and accidents are normal. How does one forgive oneself? Nancy Berlinger held a dinner speech on the theme "After harm – Medical error and the ethics of forgiveness.

Last speaker of the day was Professor Li Felländer-Tsai on "Evidence is not enough. Establishing a center for advanced simulation and training". This center has been relocated from research and development to Quality and patient safety department. This relocation has had tremendous symbolic value that these issues are in focus. The center holds systematic training and has shown good results in awareness of culture, values and mind sets.

Day two

Day two was titled "Current Situation and Visions for Patient Safety" and started off with of Patient safety at the national level in the Nordic countries.

Denmark was represented by Beth Lilja. She initially discussed that ethics has changed towards patient and that it is now easier to report when patient rights are violated. Through specific Patient ombud knowledge is combined with information from both the reporting system of adverse events and files of complaints. In a campaign called "Say Sorry" the corner stone for the success was a political perspective on patient safety. This included making it easy to do the right thing, to create motivation for change, establish the building platform and to present attractive alternatives. Two Partnership projects were presented, one on Patients and relatives and one on Providers. One part of Patient safety is to build patient safe hospitals. Many new hospitals are being built and these need to be built effectively from the beginning and for example take into account to build to prevent and make suicide attempts difficult. Other examples were checklists for "Safe surgery" which showed 30% reduction of post mortality. The overall result show that health care improved during the campaign.

Norway was represented by Öystein Flesland. As many others working with reporting system and improvements based on existing models Öystein admitted that he had found the first day speeches somewhat provocative. Norway's work for patient safety is mostly directed towards the regional and local level. The national level was least prioritized. He reported on work based on learning from mistakes, to analyze and learn both from existing reporting and learning systems and to identify new problem areas. The aim was to evaluate the existing reporting system and improve patient safety culture. There is lot of attention to the subject and a national patient safety campaign also in Norway, with focus on for example drugs and infections. They applied reporting for learning and a non-punitive system with anonymity for a just culture. However he was concerned with how to discuss the issue in media without communicating that 2000 lives are lost each year... Yet, the idea is to maintain and promote openness and relevant measurements. There is no measured baseline today. They measure costs but staff prefers to be measured on quality and safety. There is access to loads of indicators from OECD, nordic, national and local level but many are not useful. There is a challenge when the aim of the campaign is to have measurable effect and measurable sustained effect. Öystein claimed that Norway were years behind of Denmark and Sweden but will continue to, as he put it, steal and learn from their successes!

Finland's presentation was given by Amos Pasternack and presented work from the Finnish patient safety strategy, which is the first of its' kind. It has been drawn up by a Network together with the Ministry of Social affairs and Health. In relation to Richard Cook's statement that we must see the world as it is and not as we want it to be...Amos admitted the strategy is still what we want it to be. Their slogan is "We are promoting patient safety together". The finish approach stresses the role of patients and involves them with checklists when meeting with professionals and they are encouraged to take an active part in care. They have the right to know of the risks. The way towards a new culture is considered to be much dependent of leadership. However, creation of a new culture is not a top-down procedure and legislation mostly has focus on framework. So, a bottom-up approach, from the grass roots, is the finish goal for their strategy. The main actor on a national level was said to be the national institute of health and welfare. From a Swedish perspective there is a way in how Amos talks about the Finnish patient safety society as enthusiasts and optimists that give a sense of irony, but I am sure Amos was one of them. The first steps taken by Finland is teaching, learning and taking responsibility.

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Sweden's patient safety work was presented by Tobias Nilsson, who is a political advisor to the Ministry of Health and Social Affairs. He was honest about the fact that presentations on patient safety in his line of work often contained buzz words such as traditional, bureaucratic, hierarchical, waiting times, lack of transparency, monopoly etc. He claimed that we were on the move and had solved some of these issues. His advice was to demand a value based health care as anew emerging paradigm. The process was described as scientists find methods for efficiency and safety and administrators deal with efficiency and the clinician care for value. From the patient view important values and quality assurance were given such as plurality of providers; easy access to care; safety; freedom of choice of provider; open, transparent care and the right to make comparisons. Tobias discussed that before 2008 the term patient safety was not known in the department. Now a new Patient Safety legislation is presented 2010. The main improvements of this legislation is that: 1) it contains a reformed system of individual responsibility, 2) easier for patient to participate and call for attention to shortcomings and make complaints and 3) increased focus on the responsibilities of the care giver. Tobias discussed in terms of high risk individuals and their lack of respect for guidelines. I think many in the audience lacked a broader analysis of this concept. It was probably aimed at people with for example evident drug abuse problems that today are extremely difficult to stop from practice. I do not think it was meant as an input to the human error debate that many of us were tuned to. Anyway there were comments from the floor if Tobias thought that increased punishments which is proposed will have a positive effect and how he compared this to his party's otherwise very humane ideas of for example child care…or if punishments were common at the Ministry of Health and Social Affairs?

The day proceeded with several interesting presentations.

Henning Boje Andersen shared experiences from the Danish reporting system discussed the challenges of learning and establishing a non-punitive system and reminded us of Einstein's words: "Not everything that can be counted counts, and not everything that counts can be counted". There needs to be a balance between assessing risk individuals and reporting for quality improvement and work for strategic goals.

All the way from Canada, Karen Cardiff reported on training for adverse and critical events in safety in health care. She stressed the importance to create partnerships between researchers and decision-making. The new view and new breed of non-linear accident model was acknowledged. The Canadian Adverse Events project aim at regulations of safety in risk critical sectors. Parts of the project were a training component for training the "new view" and an evaluation component that measure effects. The evaluation was made by safety culture surveys, interviews, focus groups, textual analysis of reports and critical incidents using pre-specified criteria. Aspects included were: standard fixes, balance of safety and quality, senior level robust system guidelines protocols, understanding the need to adopt behavior and practice in unusual situations and narratives that explain critical incidents change from sharp and to the blunt end. It was clear that work as imagined differed from work as done, with little self criticism. Risk managers say they have adopted the "new view" and no blame but all in the system have a hard time to accept that accidents are "normal". In conclusion, training needs to be continued on understanding complex socio-technical systems and understanding background and source for failure.

Henriette Lipczak presented work from the Danish cancer society where they had compared statistics from different reporting systems giving sometimes different pictures of frequencies of adverse events

(AE). For example one source (GTT) had 46% of AE due to clinical process and procedures and medication of IV fluids 25%. In another data source (DPSD) medication accounted for 45% of AE and Clinical process and procedures for 19%. A third source was patient reporting. The comparison suggests that information from event typing is not enough but it is a good start for further analysis and intervention. Next step is to implement and recommend intervention.

Elfrid Målöy gave an example of a well structured research project from Molde University about responsibility development with an initiative to establish a responsible system. The background is that to conduct a medication error is a significant fear among nurses. The question asked was if there is a connection between culture and adverse events. With method from grounded theory a Responsibility Development improvement in Patient safety (RDP) model was developed. The model describes four phases: 1) insecurity (unfamiliar to situations), 2) search for alliances (to ask for help), 3) To trust team (find their own limit) and 4) greater security (have more experience and more knowledge).

From Stavanger, Sissel Eikeland Husebö presented on education for teamwork. Simulations were proposed to promote coordination skills in nursing education. The background is that breakdown of teamwork has shown to contribute to adverse events and simulations may improve patient safety. However in studies there are more often have focus on experimental design rather than on the process of learning itself. So, the question was how simulation-based environments effect training? Aspects studied were different communication modes such as speech, bodily behavior, gestures and environment (structure). In a cardiac arrest setting it was shown that verbal speech was not enough. Indirect communication via bodily language and gestures were used. This combination of verbal and bodily communication in teamwork was suggested to be further explored in future research.

QUASER is a project for Quality and Safety in European Union Hospitals. The work was presented by Boel Andersson-Gäre from Jönköping academy. The vision of a patient voice was presented as: " They give me what I need the way I want it without harm". She also referred to the difference between theory and practice in what we know and what we do and the need for quality improvement and safety education. Quaser is a multi level (Macro-country, Meso-10 hospitals, Micro-in depth studies at 5 hospitals) project studying clinical efficiencies, patient safety from a human, social and organisational perspective. The research approach is translational. The idea is to reach out from research to the practice and they used a model of knowledge creation between these systems. It is an ongoing project with goals to 1) Quality and safety for hospitals and a 2) Framework for assessing hospitals quality in an evidence-based way.

Charlotta Grunewald gave us safe delivery, a Swedish health system intervention. To improve delivery there was stated a need to create awareness and identify and improve measurements. The work reported was from a self-survey on safety routines that had been conducting over 1,5 years including self assessments at maternity wards, with measure and reports, and auditors seminars, visits, reports analysis, and feedback on the reports. The work focused and a new CTG program to improve fetal surveillance. The evaluation will assess: a) Organisational routines and guidelines, b) level of competence in fetal surveillance before and after the CTG program, c) simulation, d) number of infants with delivery-related asphyxia, e) cost-effectiveness estimated through cost-utility analysis and f) in

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depth study of asphyxia. It is important that the professional organisation support resources and administrative support. It has already shown that at a ward level the self-assessment has been good for effective ideas.

Isis Amer-Wåhlin from KTH introduced the ambitions and intent with the Nordic Research Network. The goal is both patient safety and occupational safety. The research will include both socio-psychological processes as well as organisational structures promoting safety. The Nordic group is well suited for network due to similar demographics, knowledge base and public funding. OECD numbers were presented which show interesting similarities but also differences that can be studied and learned from.

At the end of day there was a panel discussion with the Key note speakers. They expressed that they were impressed to hear about the many successful initiatives taken in Nordic countries. Erik reminded us to ask the correct questions since to go for the simple question will lead to a simple solution and ultimately achieve little. Sidney minded us to forget about the silver bullets and quick fixes. From reality Richard would not let us forget that politicians cannot live with a problem. They need immediate solutions. It is important since most of us thought the order was; problem, then research and then solution! But although we will fail many times we need to communicate both darkness and roses and many times when we fail it is probably the process not the solution. Sidney gave it a go on saying three things to bring with us home. He gave us four: 1. Accidents do not happen because a single person messes up. 2. These are complex systems with complex properties. 3. Always get the "second story", the first story is never enough. 4. Make sure to have an emergency response for the press for when it happens. The conclusion I made of this last discussion was that although we agree we need to find other models for improving and sustaining an acceptable level of risk more work need is needed before we have methods or guidelines in place for non-linear approaches to show the world as it is. Still, the work that is going on today with reporting systems, training, and accident analysis is not all going to be replaced. Instead it will hopefully be complemented in the future. Until we have methods and tools that allow us to study when things go right in a systematic way we will work the best we can at the same time as we strive to further understand what it is that make it work and make sure the system better support this way of working.

I enjoyed the conference very much. This writing is my personal view. Please accept my apologies for misunderstandings and where I have not managed to do all the excellent speakers justice. Hope to see you again soon.

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