HOPE 2010 Exchange program:

"The chronic patient – a clinical and managerial challenge"

report by:

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Introduction

This report consists of two parts. In the first part there is a short introduction of HOPE exchange program and this year's theme followed by a summary report. Take home messages are written individually by each participant and the rest of this report is written in collaboration of both participants in Norbotten County.

Part One

HOPE exchange program

In 2010, the HOPE Exchange Program has been organized for the 29th time. This 4-week training period is targeting hospital and health care professionals with managerial responsibilities. They are adequately experienced in their profession with a minimum of three years of experience and have proficiency in the language that is accepted by the host country. During their stay, HOPE Exchange Program participants have been discovering a different health care institution, a different health care system as well as other ways of working. Each year a different topic is associated with the program. “The chronic patient: a clinical and managerial challenge” is the subject for 2010.

The World Health Organization defines chronic conditions as requiring “ongoing management over a period of years or decades.” Chronic conditions cover a wide range of health problems from heart disease, diabetes and lung diseases to some infectious diseases such as HIV and AIDS which can be medically controlled. They also extend to cancer, to certain mental disorders such as depression and schizophrenia and to disabilities and impairments not defined as diseases, such as blindness and musculoskeletal disorders.

These conditions require a complex response and a coordinated effort from a wide range of health professionals for an extended period of time.

In the European Union a considerable part of the population report long-standing health problems. There is clearly a growing number of people with multiple health problems, particularly elderly people as an estimated two thirds of people over 65 years have at least two chronic conditions.

In response to this emerging health care challenge, many countries have experimented with new models of health care delivery to achieve better coordination of services across the continuum of care required by people with chronic conditions.

To study some of the underlying issues related to the growing number of patients with chronic conditions, HOPE and the Danish Regions proposed exchange participants to work on the topic: “The Chronic Patient: A clinical and managerial challenge”. A series of questions has been identified to facilitate this work. These questions are indicative. On the basis of these questions, health professionals will present their findings and examples of best practices:

1. Which clinical and managerial challenges in the treatment of people with chronic conditions can be identified at national, regional and hospital level as well as by other health care providers?
2. What is the approach of interest groups (politicians, planners, economists, health care professionals, patients, etc.)?
3. How are patients and carers included in the discussion and implementation of new practices and initiatives?
4. What good practices can be identified in coordination between the different levels of health care?
5. Are social care aspects taken into consideration?
6. What roles do IT and telemedicine solutions play?

Individual take home messages

Silvia González Azuara and Blaž Vrhnjak were guests of Norbotten County Council. Norbotten County covers a vast territory of 25% of Sweden's surface. 250,000 inhabitants live in Norbotten - therefore unevenly populated areas (on average less than 0.5 inhabitants per square kilometer) lie wide apart and these two factors are crucial in health care provision.

Take home messages (Silvia Gonzalez Azuara)

Three general take-home messages from my stay in Sweden could be:

- nursing staff motivated and well trained can play an important role in all levels of the health system,

- a single computerized medical record system and new technologies adapted to the healthcare system make work easier,

- how to achieve improved waiting lists (both primary and secondary level) with good management and improving the quality of work of the stakeholders.

Detailed take home messages by meetings:

Electronic patient record:

- an EMR created by health care professionals, who know the real necessities in the daily practice, but what is more important in continue development,
- sharing medical information between differents levels is really important for good health care. Using the same electronic medical report (EMR) everywhere really helps and sometimes save lives,
- a good registration system facilitates both clinical work as the medical research.

GP visit in Bergnäset:

- facilitate access to health care to patients without waiting lists: visits on the same day, telephone consultations, home visits…,
- connection between the primary care level and hospital level is essential (EMR, regular meetings

Chronic pain rehabilitation, Furunäset:

- approaching chronic pain patients from different points of view (multidisciplinary team), it is sometimes the solution to the problem. All professionals are equally important and responsible,

- working with the patient at the center as a whole and do participate in therapy,
- pain do not always have an organic cause. Analyze the personal environment to identify stressors to adapt the approach.

Medical Center in a rural area – Jokkmokk:

- adapting health resources to each situation,
- improving primary care level, giving it much resources as possible (eg diagnostic and therapeutic tests, adecuate facilities, well-trained professionals) is an effective way to cope with the problem of long distances,
- once again, the IT plays an important role when we are away from referral hospitals.

Gällivare hospital, a „rural" hospital:

- development over time of an important role of nurses as a way to solve the lack of doctors in hospitals in this area. How effective and resolute their work can be,
- good cooperation between different medical departments,
- local diseases: Epidemic nephropathy and familial insensitivity to pain.

Physiotherapy – cardiac, pulmonary and geriatric rehabilitation in Sunderby Hospital and in Garnis RehabCenter:

- there are different levels of rehabilitation. Coordination and communication between them is important so that resources are appropriate for each patient,
- improving patients' health (both chronic and after an acute illness) acting on their physical activity as part of their treatment,

Cross-border collaboration and PHC in Övertörnea:

- behind every great project there is a great leader,
- physician shortages and geographical situation may not be a problem if you

have a motivated and well-trained team and a primary care center with the resources necessary to function as a small hospital,

- efficient management system in which the nurse plays a key role (call-center, care for minor acute problems, skilled labor, ambulance) and that physicians can enjoy their work

Elderly house in Lulea (The lighthouse):

- transition place to recovery and reintegration elderly,
- a cultural meeting point is needed for elderly in the community,
- it is important to provide assistance to relatives and carers.

Respiratory, Cardiology and Geriatric unit in Sunderby hospital:

- contact with other hospitals (e.g. specialized surgical services, tumor committee ...) through the EMR and IT support (e.g. telemedicine) facilitates a correct patient approach,
- cooperation with patient organizations and primary health care level to improve preventive measures should be more developed,
- important role of nurses.

Take home messages (Blaž Vrhnjak)

Three general take-home messages from the visit to Sweden would be:

- with good management it is possible to have empty waiting rooms and less stress for employees,
- well educated and very independent nursing staff can be a core of well organized and cost-effective system,
- knowing population data and applying them into everyday practice is a base for rationally organized health care system.

Detailed take home messages by meetings:

Electronic patient record:

- it is possible to have an EMR everybody can work with and that fulfills the needs of stakeholders,
- EMR is always work in progress,
- managing data is very important for everyday clinical practice, systematic reviews and improvements.

GP visit in Bergnäset:

- with an efficient CRM it is possible to have no waiting lines and same day access to physicians,
- cooperation between primary and secondary level can be less formal and more efficient (colleague-to-colleague discussions with volunteer GPs on selected topics, pooling of questions for meetings),
- effective EMR aids greatly to health-care provision.

Chronic pain rehabilitation, Furunäset:

- multi factorial pain syndromes can be improved with appropriate although not always the most inexpensive help,
- team work is very important (team of equal professionals), patient takes an active role in the team,
- recognizing the needs of the community and adapting to it with health care provision is important.

Medical Center in a rural area – Jokkmokk:

- with appropriate motivation primary care centers can act as small and cost-efficient hospitals with access to basic diagnostic and therapeutic tests and procedures,

- application of population data (incidence, prevalence of certain diseases etc.) to a specific smaller population (eg. the population taken care of in the primary care center) can aid greatly in resources planning and can improve health care provision,
- even in the most remote areas comparing to data gathered on national and international levels – regarding outcomes and other health-care indicators can lead to improvements locally.

Gällivare hospital, a „rural" hospital:

- nurses can provide a significant amount of services in health-care on secondary level,
- significant research can be done in more remote areas (e.g. Jan Minde),
- efficient organization can alleviate shortages of physicians (fusion of ICU, ER and recovery).

Physiotherapy – cardiac, pulmonary and geriatric rehabilitation in Sunderby Hospital and in Garnis RehabCenter:

- simple interventions like finding a suitable physical activity for everyone can improve health outcomes,
- communication with primary level can be improved (troubles forming COPD rehab groups),
- sometimes interactions between social/welfare services and health care system are not optimal,
- there is a danger that acute care overrides chronic patients rehabilitation.

Diabetes guidelines, research:

- a transition from opinion-based to evidence-based guidelines is crucial,
- economic factors must be taken into consideration,
- there should be enough room in the guidelines so they can be applied locally,

- importance of research and teaching processes in medicine is great.

Cross-border collaboration and PHC in Övertörnea:

- thinking about processes and project work influences health-care provision in a positive way,
- long distances and language barriers do not play a big role if there are independent and well educated health-care providers – eg. nurses and paramedics there,
- a pleasant working environment can help attracting new physicians and other personnel.

County council CEO meeting:

- it is important to implement measuring instruments so that work flow is controllable,
- financial outcomes are not the only ones health-care or county council management are looking for,
- finding new ideas and solutions is a continuous process and is encouraged on every level in county council.

Cardiology and Geriatric unit in Sunderby hospital:

- there are no/very few concerted primary preventive measures in place on national or county level,
- tight collaboration with hospitals in and out of county is crucial for good patient care,
- lack of physicians and long distances greatly affect the level and quality of patient care.

Answers to proposed Questions

Which clinical and managerial challenges in the treatment of people with chronic conditions can be identified at national, regional and hospital level as well as by other

health care providers?

1. One problem are elderly people with acute worsening of their disease or a new (perhaps infectious) disease. When they are referred to the hospital, they get a lot of expensive tests and (sometime unnecessary) treatment. And they are away from home for longer periods.
2. Another one is long distances between patients and health care facilities and also between different health care facilities.
3. Long waiting times and lack of physicians.
4. Coordination and information-sharing between health care providers (on the same and on different levels of care).

What is the approach of interest groups (politicians, planners, economists, health care professionals, patients, etc.)?

1. For elderly people it is very welcome to be home as long as possible. The families, the elderly and the community, including politicians agree.
2. Long distances influence the price of health care in different surroundings. Therefore it is not always clearly evident to every stakeholder what is important. The politicians sometimes do not see that the distances between regions/towns actually play a role in health care provision. For the patients it should not matter where they live to get good health care. For the economists it is more difficult to plan ahead. To doctors and other health professionals it is also a challenge to provide good health care, sometimes over long distances.
3. For patients and health care providers is very unacceptable to wait too long for needed care. The politicians followed the lead so now there is a national law sorting waiting lines out. This is a challenge for economists to plan.
4. Pretty much all stakeholders agree that good coordination and information sharing is vital/crucial for good health care.

How are patients and carers included in the discussion and implementation of new practices and initiatives?

1. For elderly people, there was some research done, what they want/how they want to live when they get elderly. Mostly it is what the society wants as a whole.
2. New solutions for tackling long distances are actively sought for (IT support, independent personnel). Implementation mainly depends on health care personnel.
3. A holistic approach has been chosen to shorten waiting lines. Sometimes financial incentives work and sometimes organizational solutions can be found. Patients and carers do not wish to wait too long but the implementation rests solely on health care providers/planners.
4. We have not talked to anyone yet what the role of patients was in implementing the IT support system here but everybody should wish for effective information sharing (not to draw blood twice daily for same lab results for example).

What good practices can be identified in coordination between the different levels of health care?

1. A smooth transition from hospital care is provided by social services (temporary housing). IT support makes it possible to communicate quickly and effectively. Another solution for unnecessary measures is having mini hospital wards in primary health care centers.
2. For dealing with long distances, some functions of specialist care are incorporated into primary care. Nurses play a vital role because they are well educated and very independent at their work. Also, paramedics are very well trained and effective.
3. Waiting lines are a complex problem, so there are a lot of partial solutions. Workload on doctors is greatly reduced by having very independent health care personnel (nurses who take care of diabetic patients, cardiac patients, kidney failure patients on their own). In the primary health care there is a telephone call system in place. A patients must have a health care provider's contact the same day, mostly they see the primary care professional they need to see the same day. Multi modal rehabilitation teams prevent multiple ineffective visits to specialist

care.

4. VAS, their EMR, is very effective and every health care provider uses it. This is a good practice in itself. Telemedicine also plays a great role (instructing patients in rehabilitation, having clinical consults, having meetings „on line“ etc. is a reality in Norbotten).

Are social care aspects taken into consideration?

Most decisions are taken after a period of discussion in different environments. They try to work as closely as possible with social care although the interactions are not always optimal.

What roles do IT and telemedicine solutions play?

In some areas (like Gälliväre, Jokkmokk and Övertörnea) telemedicine and teleconferencing is a reality. In other surroundings and fields it is still new and they are only building up systems for electronic communication (e.g. Garnis RehabCenter and Rehabilitation Unit in Sunderby Hospital).

Part two

Full Details Report - journal

16th of May, 2010.

Arrival to Stockholm. Accommodation.

17th of May, 2010: SALAR initial meeting

A short introduction of all participants (nine people, one from Malta, UK, Austria, Netherlands, Slovenia, France, three from Spain; with different backgrounds and interests). And a short introduction of national coordinator, Mr. Erik Svanfeldt.

What is HOPE and how it works follows next. It is emphasized that there are three different classes of members – national hospitals' associations, municipalities'/counties' associations or ministries – depending who is representing health-care providing organizations in respective countries.

A general overview of Swedish political and administrative levels has been explained next. Political decisions are influenced on an international level by the EU, on a national level by an unitarian state, a strong regional level is divided between County Councils and Regions (some counties have merged to form regions), locally decision-making takes place in municipalities. It is common for the Swedes to have elections for representatives to all levels at the same time (on the same day). Sweden has a population of 9.3 million people and consists of 20 county councils/regions with population between 127,000 and 2,019,000. There are around 290 municipalities with population between 2,500 and 829,000. Local self-government has the right to levy taxes on incomes and charge users for their services. All the regions and county councils have voluntarily formed an interest organization named SALAR in years 2003-2007 that monitors and represents their interests when negotiating with third parties (e.g. the state). It acts as an employer organization and offers services, support for operational development and an open space for dialogue among members. It consists of both political and professional bodies (more than 400 non-political employees). The

composition of political bodies reflects the political situation elsewhere.

The municipalities are responsible for: child care, preschools and schools; elderly care and support for the disabled,; social services; planning and building issues; health and environment protection; water and sewage; waste management; maintenance of streets and parks; emergency and rescue services; culture and leisure activities; tourism and economic development.

The county councils and regions are responsible for: health-care (takes roughly 90% of their budget), dental-care (free only for children and youth from 3-19), public transport, education and culture, regional development. 25% of Sweden's employees work in local and regional authorities. 80% are women. The services are financed through taxes (70%), state grants (15%) and fees. The state may not impose additional obligations on local authorities without additional funding. They also have a mechanism of redistributing the fundings based on tax base and level of expenditure.

When the question was raised it was explained that tertiary care (sub-specialist, generally at university medical centers) is mostly financed by state and that selected hospitals sign special contracts with the state in order to do so.

The main objective of Swedish health-care system is to provide people with access to good health care. The health system is largely tax-financed and heavily decentralized. The state only establishes principles/guidelines, distributes responsibilities and supervises. Every county/region has to provide it's inhabitants with health care. There are roughly 1,000 primary health-care centers in Sweden and about 65 with 24h of emergency service, and 8 university hospitals (that are run by county councils). A mechanism of protection against high cost in health-care is in place – none pays more than 900 SEK for doctors' visit fees annually, 1400SEK annually for filling in prescriptions and there is also an upper limit of personal expenditure for assisting devices. 30% of municipalities' budgets is spent for elderly care, in regular or special housing (meals on wheels, transportation service, personal safety alarms, home help, short-term housing, daily activities). There are fees applicable for elderly care.

Care for the disabled is divided between the municipalities (education and social

services, personal assistance, local transportation service, grants for adapting houses, vehicles) and county councils/regions (rehabilitation, assisting technology, interpreting services, dental care for certain people).

In Sweden they have made some structural changes in the last years – they reduced the number of full scale emergency hospitals, strongly reduced the number of hospital beds (outpatient care and home care are the mantras), a process of differentiation and specialization took place.

In comparison to EU15, USA and Norway, Sweden has the oldest population, it's health-care system is cost-efficient, there is good accessibility but they have problems with long waiting lines for elective care. The challenges they face are: to reduce waiting lines, to coordinate care of chronic patients better, to make open comparisons (of quality and medical results) in order to improve transparency and efficiency (they monitor about 100 indicators), improve patient safety, reduce high levels of sick-leave (although the standard has risen, the life expectancy has risen and although people are healthier generally than before, there is more sick-leave than in the past). Politically, it was decided to stimulate new private enterprise working within the Swedish tax-financed health-care system (a goal in itself?). From January 2010 all patients have a new right to choose a primary care center (not the actual physician) and from July 2009 they have abolished state monopoly in the pharmaceuticals sales field (no price drops yet, so far).

The creation of a common EU market and the increasing mobility of patients and professionals have made more cooperation and new regulation necessary. The European Court of Justice has ruled that everybody has a right for reimbursement of costs of health-care provided in another member-state. Member-states may have a system of prior authorization for planned hospital treatment but not for non-hospital treatments (Swedish people do not need prior authorization, people use this option mostly for procedures with long waiting times (but not on a large scale yet) and for dental care (only up to 15% is covered in Sweden, so they have economic interests).

18th of May: SALAR initial meeting, day 2:

Two invited speakers first had an introductory speech for their respective fields and then were moderating discussion.

The first session was about the sick-leave problem. In Sweden, regardless of the economical growth and the improved health-care in many ways they were observing rising levels of sick-leave that started to interfere with many systems: social, health-care, employers' growth etc. By analyzing the causes of sick-leave they have found out that pain in the neck, shoulders or spine and minor psychiatric disorders are responsible for two thirds of sick-leave. Also, there were clear indications that sick-leave was inappropriately used as a social corrective (significantly higher levels in areas with poorer people). In order to lower the sick-leave rates they introduced several new approaches. Multi-modal rehabilitation is a rehabilitation program for individuals in which a variety of professionals take part: physiotherapists, physicians, district nurses, psychologists etc. and it has a goal to bring a diseased/disabled person back to some kind of work as fast as possible. Another new approach was a wider use of cognitive therapy, lead by trained therapists (mostly not psychologists or psychiatrists) for appropriate complaints and minor psychiatric disorders. A greater role of the employer (who pays the first two weeks of sick-leave) in bringing the disabled person back to working was also introduced. Also, they introduced national guidelines for how long people can be on sick-leave for the most common 150 diagnoses. As a result, from 2003, when they have observed the highest levels of sick-leave the rates have started to continually fall (by almost one third by now).

The program was well accepted by the employers and the authorities but the general public has somewhat mixed response. Because of a more transparent system some people were suddenly without a job or income and had to be included into job-searching programs (they have not, however, trace a significantly higher unemployment rates) but generally it is considered good for people to be placed in appropriate help programs (if one is unemployed, one should get help from the unemployment agencies, not the health-care system).

The other session was about elderly care. Elderly people's care takes up a significant amount of hospital beds and other resources in Sweden (around 30%) and the

population is aging still. Increasing the number of beds to be able to offer more to younger people needing care is not a favorable strategy because all available beds are always used. Therefore a lot of resources have been put in treating the elderly on an outpatient basis and to be able to offer them to live in their own homes for as long as possible (meals on wheels etc.). They are waiting for the people born in the forties to retire/get elderly because they are the generation requiring the most changes in society.

After lunch, we had a plane to catch to get to Luleå, where we met our local hosts, Carina and Susanne who have taken us to our apartments and with whom we had an introductory dinner.

19th of May: Introduction and electronic patient record

We visited the Landstinshuset (County Council building, built in 1976). Norbotten is situated in the northern part of Sweden and is the biggest region (25% of Sweden's surface) with a population of only 250,000. Lulea is the capital and where the Landstingshuset is located. The county council is an organization with many activities and types of professions and among others they have the mission to provide good health care. Norbotten has five hospitals (Kiruna, Sunderby, Gälliväre, Pitea, Kalix) and 33 primary care centers, some with patient beds. Our hosts, Susanne and Carina work in the Medicine department.

Electronic patient record

Is called VAS and they started developing it in 1990's in close co-operation with health care staff. The system is owned by Norbotten County Council and is the same for all the hospitals and primary health care centers in Norbotten (interconnection). This helps tracing patients' medical history throughout the health care system. Every patient has a reference number (ICD 10) for each health problem and it's used in all the clinics the patient needs. All activities are interlinked.

20th of May: Sunderby Hospital introduction

Opened in 1999, just 18 km from Lulea (they closed down two hospitals, one in Pitea

and one in Lulea, then built a new one half way from one city to the other). Is a local hospital for Lulea and Boden. Created with both human and environmental well being in mind. It's a combination of design and technology providing better care for patients and better working environment for staff.

Norbotten landscape is represented in architecture: mountains, rivers, lakes... The interior of the hospital is designed like a small town. On the ground floor, from the main entrance, two main streets (inland and coastal) are found. The different care units are reached via footbridges and crossings (staff uses kick bikes for moving around).

Care units that need to work in close co-operation have been placed together. Most of the rooms are oriented towards the park surrounding the hospital; windows are lower so even patients in their beds can see outsides. In the middle of the park there is an artificial lake and large open areas.

In the center of this hospital hospital the X-ray unit has been placed, and also operating theaters and laboratory - easy to reach for all the clinics.

The emergency service has a separate entrance. The heliport is connected to the building by a heated passageway to have good access. Two emergency elevators allow direct access to X-ray, intensive care rooms and operating theaters. The average of visits in this unit is 80/day.

Kitchen, restaurant and cleaning are managed on contract basis.

Sunderby hospital is just 10 years old but they intend to expand it.

21th of May: Bergnäset Primary care center (PHC, Meta Wiborg)

Is situated in the south-west of Lulea. Takes care of a population of 17000 people and is opened during the day only. In this PHC 9 doctors, 8 nurses, laboratory staff, and an administrative worker work.

Meta (PCP, director) shows us the building. Doctors' offices are very different from mine (SGA) - desk is in front of windows, the door is behind doctor's back and the stretcher is on doctor's right side). Each doctor has around 1350 patients assigned,

including pediatric population. Doctors spend all days there. They usually have 6-8 visits in the morning and in the afternoon. They consult patients and a lot over the telephone (average of visits a year is patient around 1.3/patient/year but administrative and phone contacts are not registered). Some of physicians take care of people in elderly homes.

PHCs use the same EMR software as others health care providers in Norbotten (e.g. Sunderby hospital). PCPs have reference specialists from the hospital to consult via EMR software or regular meetings (voluntary work of colleagues).

In Bergnäset, the laboratory works all day long and it can do simple tests (urine, pregnancy...) and they take samples (blood and others) which are sent to another laboratory (usually results are back on the same day). One interesting thing is that the patient can make an appointment for blood drawing through the Internet

Some nurses do specific tasks in a part of their working time (eg. take care of DM patients, asthmatic patients, pediatric care).

Primary health care – a managerial view, Mats Werström

General physician and nowadays responsible of the primary health care in the County Council. He gave us a global overview of the situation of PHC in Norbotten with 33 PHC centers.

There are not enough doctors in Norbotten, some of them come from Stockholm for a while and it's expensive for the County Council. There is an important gap between primary health care level and hospital, this is one of the most important problems which they are trying to solve.

24th of May: Chronic Pain – Teamwork Furunaset

On this day we have visited a primary care center near Piteo. There we have met a multidisciplinary team of professionals who work with chronic pain patients and who have had good results with the way they work in the past. First, their philosophy was

introduced: body and mind always work together. This message was then repeated several times throughout the session. Firstly it was explained to us, which are the different views on chronic pain: the physiotherapist explained that she can act as a gatekeeper into the multi-modal chronic pain management program and so can every other participating member of the team. Then the five cornerstones of their program were introduced: active (empowered) patient, dialogue, synchronism, balance, values. Empowered patient means that the patient has full control of the situation, that there is no discussing among the professionals about the patient when the patient is not present, that the patient agrees to every step taken in the process of healing and that he or she can say no. The dialogue stands for the need to communicate in an efficient way, not only to patients but also among team members. Synchronism stands for timely actions of different (or the same) team member in order to help the patient. Balance stands for the steady state in mind and body, an also at work. Values stand for common goals, beliefs and aspirations the team and patient need to share. The psychotherapist introduced the idea of via vitae/ via dolorosa and explained that the (self-)limiting negative emotions (from anger to abandonment) can be present even in absence of clinical depression and that they do exert a great influence on self-perception and pain-perceptions. The team members have observed that most of they patients are women with less education and that in general they are “yes-sayers” who have difficulties turning people down but have second thoughts afterwards. They also observed that most of them have low self-esteem. The occupational therapists visits the patients in their homes and has explained some methods of offering help in structuring everyday activities for patients and how supportive networks (families etc.) influence the perception and function of chronic pain. The involved physiotherapist explained how she works with body-awareness. One of involved physicians explained how serious conditions must be ruled out before multi-modal chronic pain treatment but there is no need for a definitive diagnosis at the time of beginning it. Also, the role of analgesics was stressed, and that of TCA and other pain modulating drugs also. At any given time they have around 20 patients involved in the program and on a yearly basis they treat 60-70 patients this way. Because the treatment is successful (most of their patients either go/return to work (even part-time), start employment rehabilitation and report a significantly lower pain level. Some big changes

in patients' lives has also been observed (e.g. some divorces). It was noted that most people with modern day disorders (of the lifestyle) could benefit from this kind of treatment. Because of their success they are teaching other tams locally and nationally about their way of helping people.

25th of May: Jokkmokk Medical Center (Peter Olsson)

Jokkmokk is at a location far from hospitals so the primary medical center functions as a mini-hospital. Is the key organization of all health- and medical-care services. Has both expertise and resources to cover the needs of the community 24 hours a day.

This primary health care center is responsible for 6000 residents (including Sami population) and offers 24-hour services with 6 ward-like beds (that are used both for acute care and for administering some medications: blood transfusions, cancer therapies...). They also have ambulance service with nurses/paramedics.

In Jokkmokk they have their own laboratory and biochemical technicians, radiology, delivery room, eye and ear microscopes, minor surgery operating theater.

There are 5 doctors and nurses (5-7?) working as a team. The population is divided in 5 geographical areas for which a doctor and a nurse are responsible for (changes are possible if patients wish so). Nurses are specialized: diabetes, tobacco and alcohol cessation, asthma.

26th of May: Full day visit to Gällivare Hospital

At Gällivare hospital we have met the Medicine department staff. On the day of arrival (previous day) there was a short informal meeting with Ulf Bölsoy, an endocrinologist about next day's program. In the morning we took part in staff meeting. Shortly we introduced ourselves and our backgrounds. Then, Head of Medicine has given an overview of Gällivare hospital – that it provides secondary care to about 30,000 inhabitants of the surrounding area, that they take care of a very diverse population,

partly Sami and partly Finnish. Also, a disease prevalent only in the north of Sweden (because it is closer to continental Europe by means of land transport – moving rat population) – nephropathia epidemica (high fever, signs of viral infection and kidney failure, very often resolves on its own, preferred mode of treatment is “hands off”) was discussed. Next, difficulties regarding shortage of physicians were discussed. They try to recruit physicians from other countries, sometimes educational backgrounds differ among EU member states. Because of shortage of physicians the nurses play a vital role in health-care provision. In the field of diabetes, the nurse provides educational aspects of treatment, initiates and changes diabetes treatments (including insulin + titration) – patients only seen by a doctor once a year. In the field of cardiovascular medicine the nurses also provide the educational aspects of treatment and titrate medicaments to desired outcomes (blood pressure, heart rate etc.) As a multidisciplinary approach, dietitians and podiatrists work with diabetic patients also. The same goes on in the field of nephrology with chronic renal failure patients.

Gällivare hospital has about 110 hospital beds (around 6 physicians, including interns and residents of internal medicine work there). 15-20 are “internal medicine” beds but they have a physician/patient allocation program so if the surgical specialties urgently need more beds, some of the internal medicine's can be taken and vice versa. To optimize work flow, some years ago the emergency room was fused with cardiac intensive care unit and surgical intensive care unit (approximately 6 beds). Emergency room is run by interns, ICU is run by anesthesiologists who consult internal medicine specialists or surgeons on specific problems. Most of care is delivered via polyclinic and they have a hospital hotel for people who have no reason to be admitted but cannot/do not wish to travel to and from the hospital every day.

They do not offer PCI for (N)STEMI, they often start thrombolysis in the ambulance car (accessibility problems). They have consultations via the telephone or via teleconferencing. Every health-care provider in Norbotten has the same IT support (VAS) and everyone can view full data-set on a given patient (given the authorization). ECG recordings are saved in the system electronically and can also be sent from the emergency vehicle (as can be monitoring data).

It has been shown to us that national guidelines for diabetes were published and that every county decides locally how to implement those guidelines. To help allocating the resources, the guidelines also consist of 185 recommendations, rated 1-10, according to importance/relevance. On an Internet page they have also collected recommendations for physicians in an easy to access way grouped together as clinical problems (diabetic foot, cardiovascular risks etc.). They are frequently used.

Another local disease has been introduced: familial insensitivity to pain (it has been discovered and firstly described by an orthopedist working in this hospital (Jan Minde) who held a short presentation of the disease (HSAN V). No counseling is offered to families with the disease treat.

Thursday 27th of May: Rehabilitation of chronic patients, Physiotherapy Department, Sunderby Hospital

Cardiac: Kristina M. Larsson, Anette Karlström

We visited cardiac rehabilitation team consisting of 3 physiotherapists. Most of the patients have some sort of ischaemic cardiomyopathy. It is common to contact them in the intensive care unit, at the very beginning of hospital based treatment. First of all, to do breathing exercises and to start moving as far as possible (the aim is not to make the patient more ill than he/she already is). Then, when they are on cardiology ward they perform the stairs test to evaluate his/her strength. Afterwards they go to the gym to start different kinds of exercises: bicycle mainly, but also cardio machines and swimming pool exercises (we attended the first class of a new group).

They use Bjorg scale that allows to know how the patient feels instead of checking the heart frequency (we could see this scale on all the bicycles and in some other places of the gym and in the swimming pool).

Respiratory: Anna Nygren

She talked to us about her usual activities as a respiratory physiotherapist. She performs walking tests and spirometry before a patient visits a respiratory medicine specialist. They used to work as a multi modal team (nurses, doctor, physiotherapist, nutritionist, occupational therapist) with groups of patients (most of them COPD). But these groups were not successful because most of patient lived far away from the hospital and it was not possible for them to pay for the transport. On the other hand there is also poor communication with the primary health care level in order to recruit patients to participate.

28th of May: Diabetes Guidelines and Respiratory medicine - full day visit to Sunderby Hospital

In the morning we have had a meeting with Mats Eliasson, one of the leading physicians in diabetes research and guidelines development. We were talking about how Swedish national guidelines for diabetes were created.

In the past there were guidelines present but they were more like a wish-list compiled by academic medical doctors and therefore had difficulties being applied in real life situations. Also, they were opinion-based and that opinion was thought to be biased by different interests. Therefore they discontinued the use of such guidelines. Some years ago there was a need for guidelines again but this time a different approach has been taken. They looked into NICE recommendation in the UK and then developed their own guidelines from scratch. A diverse group of professionals was formed: diabetologists, primary care physicians, diabetes nurses and others. Firstly they formed questions they wanted answers to. Then they distributed the work among writers and settled for a common method of evidence search, evidence evaluation and evidence implementation. After that they formed 185 recommendation statements. All of them have then been rated 1-10 according to how relevant that issue is in diabetes care regarding immediate risk to health and risk of future harm to the patient and regarding medico economical evaluation. Those rated higher (1, 2, 3...) are thought to be the most important and one should not consider implementing those rated 8, 9 and 10 before statements rated with previous numbers are not implemented. This rating system then serves as a health-care

provision planning tool for county councils who have a little different objectives. Because of the rating system and because a vast majority of Swedish physicians is following the guidelines there is no need for minimum standards of care. There are also recommendation on which kinds of treatments not to use because of inefficiency/harm to patients.

In the afternoon we met a respiratory medicine specialist who has explained how the cooperation among primary health care level and the Sunderby specialists works (referrals, fast tracks for diagnosis and treatment of cancer patients). Most of their work is out-patient based, even thoracic needle biopsies (people stay in hospital hotel if there is no other option). They hold regular meetings with their reference hospital for thoracic surgery and radiotherapy (in person and via teleconferencing). They cooperate with patient organizations to provide some preventive care and rehabilitation in the community. Formal rehabilitation programs for those who need it are held at the primary level and also in their unit by a specialized physiotherapist.

31st of May and 1st of June: Cross border collaboration – Primary Health Care Center in Övertorneö (Elisabeth Eero)

Övertorneö is a municipality with about 5000 inhabitants where cross border cooperation is extremely well developed (emergency care every other weekend is alternatively delivered from Finnish or from Swedish side when one PHC takes care of population on both sides of the border).

We visited Övertörneo primary health care center which acts as a mini-hospital. It is very well-equipped to treat patients on-site with radiology diagnostics, laboratory, minor surgery and orthopedics, gastroscopy, fiber optic rhinolaryngoscopy, ocular microscopy, ultrasound machines, exercise EKG facilities, thrombolysis is available. There are also 7 ward beds (one of them reserved for palliative care) and ambulance paramedics.

The medical center is a gate keeper for all health problems people might have and can provide initial treatment for emergency patients and refer them to Kalix hospital if it is necessary.

They have to overcome a lot of problems: lack of physicians (because of the geographic situation) long distances to nearest hospital... That is one of reasons why the nursing staff play an important role in this team. They are taking care of most health care demands. There is a call center for people. Nurses decide if the patients have to come to the PHC or they can wait and also whether the patient can be seen by a nurse or a doctor must be involved.

2nd of June: Lighthouse house (Monica Forsberg)

We visited the Lighthouse center. It is a short term housing facility, a transition place (as they want to be known) in Lulea community. Most of employees are nurses but there are social workers, occupational therapist and physiotherapists, too.

The guests of this center come from different places - some from hospitals after acute problems have been solved (e.g. after a stroke) but disability remains - in order to face the situation and helping them (giving tools, advices) to face daily activities and to make them as autonomous as possible. Another kind of guests is those waiting for a free spot in an elderly house or those who stay for a few days to provide family some rest from the regular turmoil of taking care of a chronic patient.

The average time spent in the center is around 30-40 days. There are no waiting lists (no more than 2 weeks), the stay is paid by the resident according to his/her possibilities but with a maximum limit.

To relatives they offer support, help them to go on and prevent stressful situations, teach them how to take care of disabled relatives, how to adapt houses for elderly people...

Another kind of activities that are also offered here are: central of safety alarm is situated here (around 200 calls/day), cultural meeting point for elderly people in the community, fitness and inside beach facilities.

3rd of June: Full day visit to Garnis RehabCenter in Boden

In Garnis RehabCenter we learned that there are three levels of rehabilitation in

existence. Garnis Rehab center together with Sunderby hospital's rehabilitation ward belongs to the highest, third level. They are a facility based on a hotel-like accommodation facilities for people 16-65 years old without permanent medical staff. People come there for an initial week to be given appropriate tools and knowledge to do the rehabilitation and then they are sent back home for a few weeks, with individual assignments and goals. Every week they follow-up the progress. After the designated amount of time people come back to RehabCenter for another three weeks to learn additional things about rehabilitation and to strengthen new cognition models. They work in multidisciplinary teams and evidence-based as much as possible. Lately, they have a project going on with an aim of creating a "cookbook" for rehabilitation: who does what and on which level. They measure the individual's progress throughout the rehabilitation program with several measurement tools (mostly in form of questionnaires). People have to be fully diagnosed and treated before they enter Garnis RehabCenter and be medically stable. Also, they want to achieve ISO management standards. When the patient enters, the rehabilitation program is already formed at previous levels of rehabilitation process they only modify it accordingly to patients needs. When the patient is ready to be discharged, a report goes to the referring and primary care physician and a further rehabilitation plan goes to his previous rehabilitation team/physiotherapist.

4th of June: Full day visit to Sunderby Hospital - Cardiology

We met Peter Johansson, a cardiologist consultant. We were discussing the role of independent and self-sufficient nurses in the field of cardiology. They have already established nurse outpatient clinics in the field of pacemakers and elective coronarography where they follow agreed guidelines and are even better than the physicians in adjusting the pacemaker settings. We were told that only a few years back they started the same project in the field of heart failure. They have written documents on: what is the expected work flow, what is the content of a regular visit, which guidelines to follow, what are the laboratory tests to be performed and a written delegation of workload from doctors to nurses (including titration of medications within

preset limits). Then we discussed some problems they encounter at the cardiology ward. One is 24/7/52 provision of PCI. Right now they have only 2 fully trained cardiologists to do the angiographies and one still in training. They do approximately 2100 angiographies per year and in the summer they hire help (due to vacation). Later we addressed the problem of medication expenditure, physician education (50% of congress expenses can be paid by the industry), lack of physicians. A lack of coordinated preventive measures was also noted, in the context of a long history of social engineering.

Full Day Visit to Sunderby Hospital – Geriatric Medicine

The geriatric ward in Sunderby hospital is quite large; a big part of pathology they treat is stroke patients. They do thrombolysis on a "regular" ward and keep the staff well educated (yearly updates) - so the staff is following the latest guidelines and feels competent when dealing with patients. Another part is taking medical and rehabilitation care of non-acute geriatric patients who do not need attention of acute specialists – eg. cardiologists, respiratory medicine specialists... They aim to treat the patients with as few medications as possible and prioritize medical problems. Empowering patients and raising general awareness about old age is a major part of their work. They also have made some studies regarding hospital nutrition and found out the patients do not like meals being delivered from the cooking facilities on plates (condensed water in sauces, the taste was not intensive enough, smell was inadequate etc.) and therefore went back to distributing food to patients locally, from a "micro kitchen" on the ward, where cinnamon buns are sometimes baked in order to facilitate hunger and eating processes.

Meeting With Norbotten County Council CEO

A comprehensive management model was explained in the light of County Council not being a for-profit organization (a summary in a short video presentation is available on line from Norbotten County Council web page – www.nll.se). Then the take home

messages from each meeting were stressed and health care systems form visitors' countries explained.