RAPORTEJA

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Nord RAI Network and Research in the Care for Older Persons Final Report 1998–2008

On behalf of the NordRAI group

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SUMMARY

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NordRAI is a collaborative network of Nordic elderly care researchers (Danish Finnish, Icelandic, Norwegian, Swedish), health- and social care professionals, and policy makers who work together using interRAI instruments to improve the quality of elderly care.

NordRAI was planned as early as in 1993. However, the regular activities at its present form were initiated in 1998 and research projects with semi-annual meetings were made possible with regular funding from the Nordic Council during 2000-2004 to cover the meeting costs. The other source, the Scandinavian Lions Club Red Feather Campaign, covered the data collection costs in 2000-2002. Four representatives from each of the five Nordic countries have been attending the meetings, with the exception of the host who has additionally invited those with the interest or participation in Nordic RAI projects.

The NordRAI activities included 22 meetings. Of those 15 were full meetings during 1994-2008 and seven (7) took place during 2000-2004. In connection with the full meetings altogether eight (8) open one-day seminars have been organised from 1999 on. Since year 2001 the scientific planning and writing sessions have been organised seven (7) times, in different countries.

Of the outcomes of the activities the most important was the prospective randomized cross-Nordic acute care study using RAI AC as data collecting method. The study was successfully performed in one acute care hospital in each of the Nordic countries. A sample of 770 assessments of acute care patients 75 years of age or older was collected. Several peer reviewed articles have been written, two (2) published and one (1)accepted for publication

The Aged in the Home Care study (Ad-HOC) was an EU 5th framework funded research project conducted in 11 European countries including all the Nordic countries. New knowledge was gained when comparing the Nordic home care recipients to each other and to those residing elsewhere in Europe.

Altogether 13 commonly planned oral presentations concerning the NordRAI research have been given in international gerontological congresses.

The benchmarking activities comprise two visits by the health and social care professionals or other authorities of Helsinki city to Norway and Iceland. In addition, benchmarking of the elderly care and services has been presented in the various publications.

Future prospects include further developing the benchmarking activities in order to improve the quality of care provided for older persons and completing the scientific work among acute care patients.

In conclusion the NordRAI activities have been successful and will continue from 2008 on to find new research projects and forms of Nordic collaboration.

CONTENTS

1. AGEING IN THE NORDIC COUNTRIES

According to prognostics, life expectancy in the Nordic countries is increasing (Figure 1). If Iceland is taken as an example, the life expectancy for men and women at the age of 65 in 2001 was 17.5 and 20.7 years respectively, and at age 80, it was 7.7 and 9.2 years. Life expectancy at these old ages is similarly long in all the Nordic countries, of which, Sweden has the oldest population and Iceland the youngest. The average ageing curves show a trend towards there being more people - mainly women- in the oldest age groups. This development has been explained by low birth rates and longer life expectancy (Social Protection in the Nordic Countries, Nososco 2005).

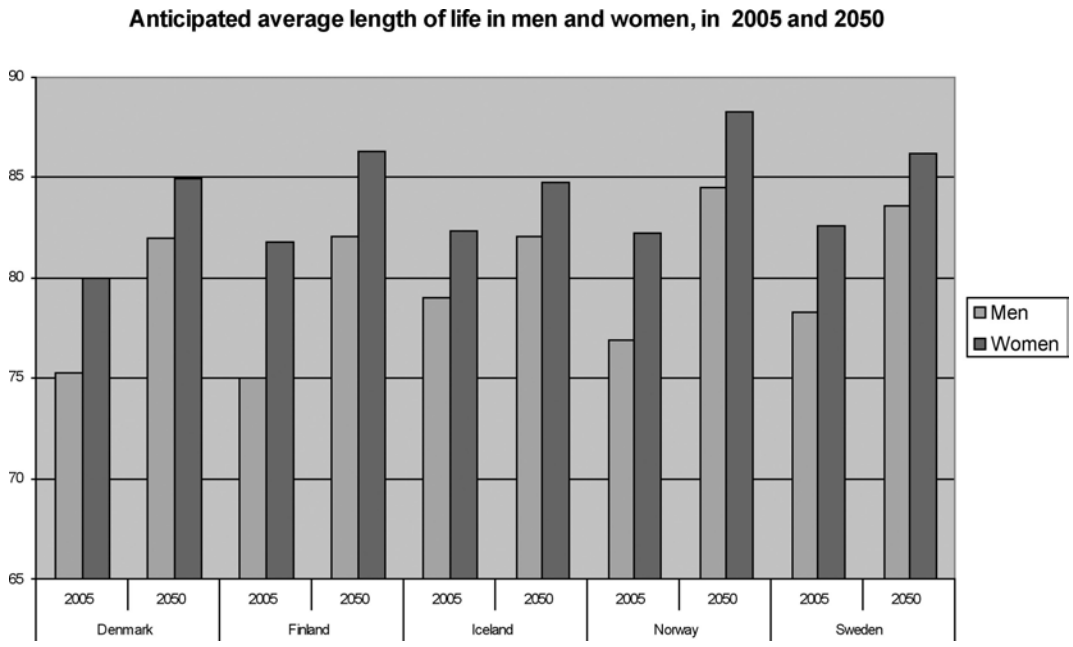

Figure 1. Life expectancy in 2005 and 2050 in the Nordic countries
(Source: Nososco, http://nososco-eng.nom-nos.dk/)

As people grow older they develop age related changes, tend to accumulate multiple diseases, take multiple medications and suffer from functional decline, both physical and mental. About a quarter of the elderly have such functional decline and of the oldest old about half of them will have one.

At no other stage in life is there such a load of disease and disability. The need for all kinds of health and social services thus increase with increasing age. With accumulating age the variability between individuals increases and broad range of services are needed at the community as well as at the hospital and institutional level. This is costly and is added to the cost of pension that governments pay out.

With growing numbers of older persons, the actual costs of care and services will inevitably increase. It is known that the last year of life in general is the most expensive as far as health care cost is concerned. If that last year of life is at a higher age, it is however, less costly. Prevention, primary, secondary and tertiary, is thus an important strategy, no matter the age.

Impact of well planned and high quality care and services can be measured even at the stage, where disability already is present and the needs of an older individual keep increasing. In such a stage, in persons life, benchmarking the processes and outcomes of care bring valuable information of the best practices. Key issue for proper and trustworthy benchmarking is uniform standardised assessment.

In the NordRAI project during 1998-2008 the NordRAI participants adopted uniform standardized assessment instruments in order to conduct studies and benchmark care of older persons in the Nordic countries.

2. INTERRAI INSTRUMENTS

2.1. History of RAI in the long-term care facilities

In the NordRAI-group, the common assessment tool for identifying care needs of the older persons, was Minimum Data Set (versions MDS 1,0 or MDS 2,0) for the long-term care institutional settings and Minimum Data Set (MDS-AC, version 1.4) for acute care.

Together with appropriate manuals and guidelines the MDS questionnaire forms the assessment tool called Resident Assessment instrument (RAI). This assessment tool was originally created in the United States, in the late eighties, by a multidisciplinary group of researchers to improve quality of care all over the nursing home industry in federal states (Morris et al. 1990, Hawes et al. 1997). Later on the algorithm for establishing payment systems was added into the questionnaire (Fries. et. al. 1994). Currently, all the US nursing homes with Medicare or Medicaid insurances are using the RAI systems both for monitoring quality of care and for the insurance based payments.

2.2. InterRAI

RAI 2,0 for long-term care facilities is federal property of the United States. However, outside its borders the copyright holder of all the RAI instruments is interRA® - a cross national non-profit research organisation with representation from more than 30 countries. Since 1990 interRA® has further developed the original RAI-idea to cover also rehabilitation, acute care, home care, mental health for any age groups, intellectual disabilities regardless age, palliative care and paediatrics. At present an updated fully integrated suite has been released to cover the care of vulnerable populations in a systematic manner that also is fully adaptable for electronic health records (www.interrai.org).

Currently various interRAI activities are performed in almost every part of the world (figure 2.).

Figure 2. Countries with InterRAI activities using one instrument or more.
(Source:interRAI 2007)

2.3. The structure of RAI-instruments

2.3.1. The MDS questionnaire

Every interRAI tool consists of the questionnaire and the full manual (HCFA 1990, 1995) to guide the assessor how to assess and how to use the information gathered from the patient. To support the individual care planning a specific Resident Assessment Protocol list (RAPs) has been created. Together with well validated scales the RAP-list is the back bone of the evidence based nursing and - in some cases - medical care. The NordRAI group adopted the RAI instrument for long term facilities as a starting point and therefore the instrument fort long-term care facilities (MDS-LTCF or MDS-NH) is presented as a model. Versions for almost all the other settings like home care, mental health or post acute care are structured similarly.

Table 1. Minimum Data Set for long-term care facilities (MDS-LTCF version 2.0)

Section	Topic	Content
A	IDENTIFICATION, BACKGROUND INFORMATION	· country specific information · contains individual, unit, facility information · no obligatory regulations from interRAI
B	COGNITIVE PATTERNS	· memory problems · orientation (time / space) · daily decision making skills · signs of delirium · transitions
C	COMMUNICATION HEARING PATTERNS	· ability to hear · communication techniques and expressions · speech clarity · understanding · transitions
D	VISION PATTERNS	· ability to see · limitations and appliances
E	MOOD AND BEHAVOR PATTERNS	· mood · behaviour · transitions
F	PSYCHOSOCIAL WELL-BEING	· social involvement · unsettled relationships · past roles
G	PHYSICAL FUNCTIONING AND STRUCTURAL PROBLEMS	· Activities in Daily Living (ADLs) · balance · range of motion (joints) · modes of locomotion and transfer · task segmentation · rehabilitation potential · transitions
H	CONTINENCE	· urinary and faecal continence · bowel elimination patterns · appliances and devices · transitions
I	DISEASE DIAGNOSES	· diagnoses with ICD-10 codes
J	HEALTH CONDITIONS	· fluid status · gait and balance symptoms · mental and CNS symptoms · gastrointestinal symptoms · other acute conditions · pain · falls and accidents · stability of conditions
K	ORAL / NUTRITIONAL STATUS	· height and weight · nutritional problems and approaches · parenteral intake · transitions
L	ORAL / DENTAL STATUS	· dental care and problems
M	SKIN CONDITION	· ulcers · other skin conditions · treatment procedures · foot problems and care

N	ACTIVITY PURSUIT PATTERNS	· time awake · preferred activities and time for them · transitions
O	MEDICATIONS	· number of medications, · injections · psychotropic medications, diuretics, analgesics'
P	SPECIAL TREATMENTS AND PROCEDURES	· special treatments · therapies · programs · nursing rehabilitation
Q	DISCHARGE POTENTIAL	· discharge potential · overall change in needs
R	ASSESSMENT INFORMATION	· information about assessors
U	FULL MEDICATION LIST	· country specific , optional

First step in the implementation of the RAI-assessment tools is the education of the nurses how to assess an older individual with the help of an interRAI tool. The education is needed in order to guarantee the best possible assessment performance to secure the quality and reliability of the assessments. For example the validity of the scales derived from the assessment is based on accurate coding. All the nurses, who participated the Nord RAI activities, were highly qualified in assessing and most of them were teaching others how to assess properly and how to use the manual in the process.

2.3.2. Individual care planning

The concept of the interRAI tools is to make the thorough assessments to serve the care planning process. RAI-assessments are performed by day 14 from the day the person enters the setting. The observation and data gathering period takes one week. Reassessments are performed for example at minimum every three months in the United States and Canada, at minimum every 6 months in Finland. However, an assessment is performed always if the person's condition changes significantly.

In the individual care planning, the nurses use all the gathered information in addition to RAI-data. They interview the residents, their relatives, spouses, or significant others, they seek information from the previous caregivers and then base their nursing interventions on this knowledge. Figure 3 shows the process of creating evidence based nursing interventions.

The most important tool for the care-planners is the Resident Assessment Protocols (RAPs). They consist of 18 domains and each of the domains has the capacity of alarming the care-planner for potential threats or risks the patient is facing or for particular strengths that might help the individual to conquer those risks.

The alarming process is based on specific triggers. A trigger is one variable or a combination of variables that were checked in the boxes in the MDS-questionnaire. The care planner - usually a nurse- is supposed to collect all the trigged domains for each patient. With the help of the manual and the care planner's own professional skills it is possible to conclude which of the trigged domains are the most important underlying key problems of the patient and how the patient's strengths could be best used to solve those problems.

According to the RAI manual, the RAP Guidelines provide guidance on how to synthesize assessment information within a comprehensive assessment. The Triggers target conditions for

additional assessment and review, as warranted by MDS item responses; the RAP Guidelines help facility staff to evaluate "triggered" conditions.

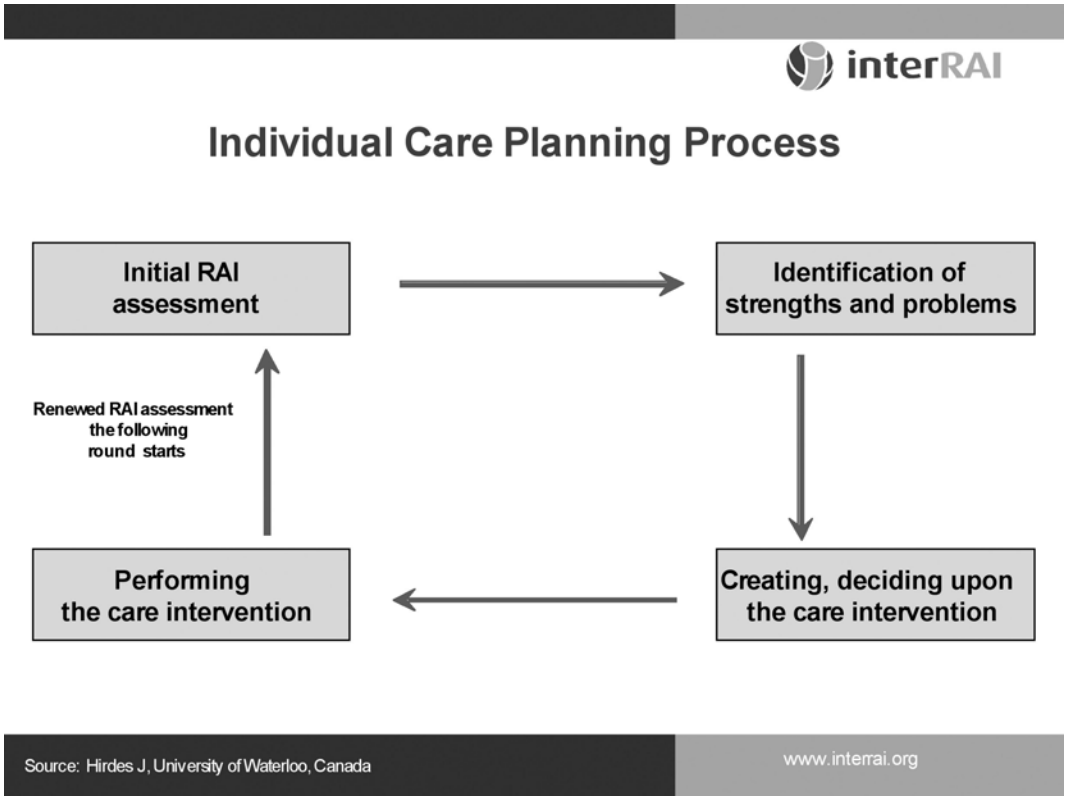

Figure 3. Individual care planning process embedded in the RAI-instruments (Source:Hirdes, university of Waterloo, Canada)

There are 18 RAPs in MDS version 2.0 of the RAI. The RAPs in the RAI cover the majority of areas that are addressed in a typical nursing facility resident's care plan. The RAPs were created by clinical experts in each of the RAP areas. The main RAP domains are presented in table 2.

Table 2. Resident Assessment Protocols (RAPs)

RAP	Topic	Triggers
RAP1	ACUTE DELIRIUM	· 9 triggers · if one or more triggers are active consider acute delirium · other: observe risk of falls
RAP2	COGNITIVE LOSS / DEMENTIA	· 4 triggers · if one or more triggers are active consider dementia disease · other: observe CPS score
RAP3	VISUAL FUNCTION	· 4 triggers · if one or more triggers are active consider remediable loss of vision · observe risk of falls
RAP4	COMMUNICATION	· 3 triggers · if one or more triggers are active consider acute remediable hearing /communication problem

RAP5a	ADL FUNCTION / REHABILITATION	· 13 triggers · if one or more triggers are active consider rehabilitation potential
RAP5b	ADL FUNCTION / RESTORATIVE CARE	· 1trigger · if this trigger are active consider restorative care
RAP6	URINARY INCONTINENCE / INDWELLING CATHETER	· 5 triggers · if one or more triggers are active create toileting plan or consider terminating use of IDC
RAP7a	PSYCHOSICIAL WELL BEING / PROBLEMS	· 7 triggers · if one or more triggers are active consider problems in social life that affects quality of life
RAP7b	PSYCHOSICIAL WELL BEING / RESOURCES ANS STRENGTS	· 2 triggers · if one or more triggers are active the resident has resources to improve his/her social life
RAP8	MOOD STATE	· 17 triggers · if one or more triggers are active consider mood problem · other: observe DRS score
RAP9	BEHAVIOR SYMPTOMS	· 6 triggers · if one or more triggers are active behaviour problem is present · other: observe risk of falls if wandering
RAP10a	ACTIVITIES / CHANGE	· 3 triggers · if one or more triggers are active change in nursing care needed
RAP10b	ACTITIVES / STRENGTH	· 2 triggers · if one or more triggers are active consider changing care plan
RAP11	RISK OF FALLING	· 7 triggers · if one or more triggers are active consider risk of falling · other: observe delirium, nutrition, dementia, balance vision
RAP12	NUTRITION	· 8 triggers · if one or more triggers are active consider malnutrition
RAP13	FEEDING TUBE	· 1 trigger · if resident has a feeding tubes assess possibilities for normal eating
RAP14	DEHYDRATION	· 10 triggers · if one or more triggers are active consider dehydration · other: observe risk of falls, delirium
RAP15	ORAL / DENTAL	· 6 triggers · if one or more triggers are active consider problems in dental hygiene
RAP16	RISK OF PRESSURE ULCERS	· 8 triggers · if one or more triggers are active consider risk of pressure ulcer
RAP17a	PSYCHOTROPIC DRUG USE / HYPOTONIA AND GAIT PROBLEMS	· 10 triggers · if one or more triggers are active consider problems with low blood pressure, syncope and gait problems · other: observe risk of falls
RAP17b	PSYCHOTROPIC DRUG USE / COGNITIVE DECLINE	· 12 triggers · if one or more triggers are active consider deteriorated cognition due to psychotropic medications
RAP17c	PSYCHOTROPIC DRUG USE / OTHER	· 3 triggers · if one or more triggers are active consider other adverse effect due to psychotropic medication
RAP18	PHYSICAL RESTRAINTS	· 3 triggers · if one or more triggers are active check up indications and consider removing the restraint

2.3.3. InterRAI scales

Various well validated scales can be driven from the assessment, once full assessment has been performed. These scales are also a helpful tool in the care planning process. Furthermore, they act as tools for leadership and management in addition to policy making across various care settings or in national decision making.

Among the useful scales is the Cognitive Performance Scale (CPS) that measure cognitive performance skills using a scale from 0-6, where 0 is intact cognition and 6 is very severe impairment (Morris et al. 1994, Hartmaier et al. 1995). The scale consists of five items, *short-term memory, decision-making skills, being understood by others, understood by others, self-performance in eating*, and *level of consciousness*.

Functional capacity can be assessed by using several RAI based scales. One of the most often used scales is Hierarchical ADL scale (ADLh) with a range from 0 to 6, where 0 represents independent and 6 totally dependent persons (Morris et al 1999). This scale is based on self-performance in the following tasks: *mobility, eating, toilet use,* and *personal hygiene*

To assess depression, Depression Rating Scale (DRS, scale 0-14, where 0-2 is absence of depression) is useful. Scores 3 or more represent depression that potentially needs medication (Burrows et al. 2003). This scale consists of seven items: *sadness, persistent anger, unrealistic fears, repetitive health complaints, other repetitive concerns, worried facial expressions*, and *crying*.

Pain assessment is based on direct questions about pain and observations. Observing pain behaviour in addition to questions offers an opportunity to include also those with extremely deteriorated cognitive skills into the assessments. The MDS-pain scale has been validated against Visual Analogue Scale (Fries et al. 2001).

Assessment of nutritional status is possible using the variables embedded to the MDS and the Body Mass index (BMI). The value of RAI-based nutritional assessments is mainly concentrated around sufficient caloric intake and has been studied by Blaum et al. (1997).

Resource Utilization Groups version III was created in the long process of preceding versions in 1994 by Fries et al. (1994). Since its publishing, it has been validated in several countries (Ljunggren et al. 1992, Carpenter et al. 1995, Björkgren et al. 1999 Carrillo et al. 1996, Topinkova et al. 2000). Country specific validation is not absolutely necessary any more, because the algorithm has been proven valid regardless the country or the culture. The validation of the case-mix index, embedded in the RUG-III algorithm, and derived from the variables in the MDS questionnaire is performed by time measurement. The case-mix index has shown up to 9-fold differences in the care needs between the residents with least needs compared to residents with greatest needs.

Payment systems can be created using the RUG-algorithm and such systems are fully functional in the nursing home industry in the United States, Catalonia (Spain), some parts of Italy and in Iceland. First steps of creating a Finnish RAI-based version of the payment systems have been taken during the spring 2008.

The MDS questionnaires and scales have showed high quality performance in the reliability tests (Hawes et al. 1995, Sgadari et al. 1997)

Table 4 shows the wide range of the most often used well-validated scales and help tools.

Table 4. RAI scales and other tools

	CPS [¤]	ADLh [#]	DRS [&]	SES [£]	RUG-III [§]	MDS-Pain [*]	RAPs
Aim	Cognition	Function	Mood	Activity of social life	Formal care burden	Pain	Care needs
Scale	0-6	0-6	0-14	0-6	0-22 0-34 0-55	0-3	no scale
Cut point	2+	1+	3+	1+	none	1+	none
Validated against	Mini-Mental State Examination	Barthel index	Cornell Hamilton GDS	no equivalent available	no equivalent available	Visual Analogue scale	no equivalent available
Range and level of use	individual facility nation	individual facility nation	individual facility nation	individual facility nation	(individual) facility nation	(individual) facility nation	individual

[¤] Cognitive Performance Scale
[#] Hierarchical ADL
[&] Depression Rating Scale
[£] Social Engagement Scale
[§] Resource Utilization Groups
[*] MDS-painscale
[+] Resident Assessment Protocols

2.3.4. Quality indicators

From the MDS-variables at minimum three different sets of Quality Indicators (QI) have been created. The first of these sets was created by Zimmermann et al. (1995) in series of large specialist panels. From originally suggested more than 150 indicators, a set of approximately 20-30 indicators were taken into use and thresholds for them set by Ranz et al. in 1997 and in 2000. Additional research has been invested in developing solid and reliable high-quality QIs for nursing homes. The aim has been in enhancing the possibilities for the long-term care facilities to follow up their own performance through time in one hand, and comparing quality of care with other facilities on the other. Moreover, the older individual's possibility to compare and choose a well-performing nursing home was also among the original aims.

Since the NordRAI collaboration network was established already in the nineties, the only QI-set available in that time was the one created by Zimmermann et al. (1995). Of the 26 indicators in use in at least two of the five Nordic countries, 22 express the prevalence of a named problem and 4 incidence. Five of the indicators have been risk-adjusted in order to overcome differences between units.

Table 4. The Zimmermann Quality Indicators

Area	Domain	Indicator	Risk adjusted	Prevalence (p) Incidence (i)
I	ACCIDENTS AND INJURIES	1. Any Injury	No	(p)
		2. New Fracture	No	(i)
		3. Falls	No	(p)
II	MOOD , BEHAVIOUR	4. Behavioural problem	Yes	(p)
		5. Depression	No	(p)
		6. Depression without management	No	(p)
III	CLINICAL CARE	7. Nine or more medications	No	(p)
IV	COGNITION	8. New cognitive impairment	No	(i)
V	CONTINENCE	9. Incontinence	Yes	(p)
		10. Periodic incontinence without toileting plan	No	(p)
		11. Coprostasis	No	(p)
VI	INFECTIONS	12. Urinary infections	No	(p)
VII	NUTRITION	13. Unintentional weight loss	No	(p)
		14. Feeding tube	No	(p)
		15. Dehydration	No	(p)
VIII	FUNCTION	16. Bedfast residents	No	(p)
		17. Functional loss	Yes	(i)
		18. Loss in range of motion	Yes	(i)
		19. Lack of rehabilitation plan	No	(p)
IX	PSYCHOTROPIC MEDICATIONS	20. Antipsychotic medications without proper indication	No	(p)
		21. Sedatives and hypnotics	No	(p)
		22. Regular use of hypnotics	No	(p)
X	QUALITY OF LIFE	23. Daily restraints	No	(p)
		24. Inactivity	No	(p)
XI	SKIN	25. Pressure ulcers (grade 1-4)	Yes	(p)

2.3.5. Compatibility of RAI instruments

The RAI-instruments have a common core that makes it possible to use same scales through the settings. However each of the instruments also includes domains and variables needed for that particular setting. For instance older persons seldom prepare their own meals in the institutional settings. However, meal preparation is a substantial skill in the everyday life at home.

RAI-AC used by the NordRAI group in the cross-Nordic acute care study, differs from all the other RAI instruments in the respect of measuring points and time-window. At admission, information is gathered from the first 24 hours of care in addition to premorbid status. The change happening in the condition during the current disease is also the maximal improvement the acutely ill older person is capable of. Therefore the first measuring point is the premorbid condition (immediately before the current disease), the second point is the admission and the measuring points are the day 7 from the admission and the discharge, if later than day 7. RAI-AC is shorter than other RAI-instruments.

2.3.6. Translated RAI instruments

In each of the Nordic countries several of interRAI tools have been translated. Back translation has been required of all the core variables. Table 5.shows the current status of the translations, in 2008.

Table 5. Translated interRAI tools.

Tools	Denmark	Finland	Iceland	Norway	Sweden
The interRAI screener					
Home Care	x	x	x	x	x
Assisted Living					
Long-term care facilities	x	x	x	x	x
Palliative Care			x	x	x
Acute Care	x	x	x	x	x
Post Acute Care			x		
Mental Health		x	x		
Community Mental Health		x			
Persons with Disabilities				x	

3. THE NORD RAI NETWORK

3.1. Forming the current NordRAI Group

Under the umbrella of the Nordic Geriatric Professors' meetings a specific group using the interRAI assessment methods for the care of older people was voluntarily formed in early nineties (1994). That group met in 1995 but faded out in lack of financing. However, in the late nineties the interest in RAI assessment instruments was increased in each of the Nordic countries and the group was reformed. The group was named NordRAI and all the members of the group were initially reaching out for the Nordic collaboration out of the personal and professional interest to improve the quality of care of older persons.

3.2. Vision and Goals of NordRAI

During 1998-1999, before the Nordic Council funding, the group met three times. The meetings were self funded and took place 2-4 April 1998 in Copenhagen (Denmark), in 27-29 November.1998 in Oslo (Norway) and in September 1999 in Stockholm (Sweden). The latter meeting was arranged in collaboration with SPRI (Table 7).

During these early meetings the goal and aims for the group were established. NordRAI was defined as a network of researchers, developers, and professionals working with the interRAI instruments, a family of standardised assessment systems, developed to improve the care of the elderly, frail, and disabled.

The primary goal was to involve everyday professionals in systematic assessments and by using individual care planning improve quality of care. The impact of care interventions was planned to be demonstrated through quality indicators. The secondary goal was to conduct cross-Nordic studies to demonstrate the value of common assessment tools. The key domains were

- Comprehensive assessment
- Individual care planning
- Quality monitoring
- Benchmarking
- Research & Policy Making

Case-mix payment and budgeting were discussed, however not included into the research agenda at this time point. The NordRAI network decided to meet semi annually, seek funding for the meetings and for a common research project.

Size of the group was approximately 20 in each of the meeting, indicating four participants from each of the countries. However it was agreed that in each of the meeting the current host of the meeting was allowed to invite all the associated professionals he/she felt appropriate to attend.

Web pages were established in 1999 (www.nordrai.org)

3.3. Funding

The Nordic Council and Council of Ministers agreed to support the semi-annual meetings during 2000-2004. In addition, a cross Nordic research project, *"The Nordic Acute Care Study"* got funding 2001-2003 from the international Lions organisation through the "Red Feather" campaign.

3.4 The NordRAI group membership

The membership of the NordRAI was not strictly defined. The official website (www.nordrai.org) presents the names and contact information of the permanent participants of the group (Table 5). However, in order to spread the work and implement the assessment systems, several individuals from distinct organisations have attended the meetings during the years. The participants of the NordRAI meetings have also changed due to changes in the working positions or variations in the focus of the current meeting. The size of approximately 20 participants, in each of the meetings, turned out to be optimal.

Table 5. Contact information of the NordRAI members in the NordRAI website

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Thomas Emilsson CGH	thomas.emilsson@sll.se

The agreed rule was to invite 4 participants (not necessarily always the same persons) from each of the Nordic country. If any of the countries wished to send more than four those persons were welcomed to participate with their own funding. Since the meetings were alternating

from country to country, it was agreed upon that the host's privilege was to invite any collaborating partner(s) who had shown interest in NordRAI work. It was also seen beneficial to open the doors wide open to welcome as many colleagues as possible to improve the quality of care and services.

Table 6. Additional active participants in the NordRAI-meetings

Denmark	**Iceland**
Ann-Marie Beck	Hrafn Pálsson
Else Knudsen	Thordis Loa Thorhallsdottír
Finland	**Norway**
Johan Boholm	Dag Terje Finbakk
Tarja Itkonen	Øyvind Antonsen
Kaija Lindman	Nina Bruun
Robert Åström	
Sweden	
Ann-Sofie Brink	
Görel Hansebo	
Michael Högberg	
Suzanne Kumlien	

3.5. The NordRAI meetings

3.5.1. The Full NordRAI Meetings

The NordRAI meetings in their present form started in 1998. In the early phase the meetings started to take standardized form: first the country reports were presented, after that the progress and the impact of the common initiatives, and finally the research, science.

Due to high cost of travelling to Iceland, there was only one annual meeting after Iceland had hosted the meeting in 2003. Otherwise the meetings occurred semi-annually and over the weekends. Arriving by noon on Friday allowed two half-a -days and one full day (Saturday).

Table 7. List of full NordRAI-meetings

1. Iceland, Reykjavik September 1994
2. Norway, Oslo 1995
3. Denmark, Copenhagen April 1998
4. Norway, Oslo October 1998
5. Sweden, Stockholm September1999
6. Finland, Kokkola September 2000
7. Denmark, Copenhagen June 2001
8. Norway, Oslo November 2001
9. Sweden, Stockholm June 2002 (open seminar only)
10. Iceland, Reykjavik/Myvatn September 2002
11. Sweden, Stockholm February 2003
12. Finland, Helsinki, March 2004
13. Denmark, Copenhagen, April 2005
14. Denmark, Roskilde, November 2006
15. Norway, Oslo May 2008

An open one-day seminar was arranged either prior to or after the meeting (Appendix 3).

The aim of the open seminars was to create general interest in high quality care of older persons and to utilize the situation where experts in elderly care from all the five Nordic countries were present due to the NordRAI meeting. The first one was held in Stockholm, Sweden in 1999 and followed by Kokkola, Finland, where a two-day seminar was arranged in September 2000. First day was aimed to the Finnish speaking RAI users and the second for those interested in cross Nordic development. One of the main topics in Kokkola was the initiation of the Cross-Nordic research project.

3.5.2. The scientific writing meetings

The scientific meetings were held at lower costs, they were shorter without an open day seminar. Some of them were held in the member's home in order to save the accommodation costs. (Roskilde October 2003, Roskilde 2005, and Porvoo 2006). The program was focused on planning symposia in scientific meetings and writing the papers.

Table 9. List of the scientific writing meetings

16. Denmark, Århus, May 2002 (in connection with 16th Nordic Congress in Gerontology)
17. France, Paris, June 2003 (in connection with Ad-HOC scientific meeting)
18. Sweden, Stockholm, May 2004 (in connection with 17th Nordic Congress in Gerontology)
19. Iceland, Reykjavik September 2004
20. Denmark, Roskilde, February 2005
21. Norway, Oslo November 2005
22. Finland, Porvoo, May 2006 (in connection with 18th Nordic Congress in Gerontology)

3.6. The RAI-related activities

3.6.1. Research and implementation of RAI in each of the Nordic countries

NordRAI related activities in Denmark

Dan-RAI the Danish team working with RAI instruments, was formed in connection with "Liv Paa Plejehjem", a survey of all nursing home residents in Copenhagen 1993. Cross Nordic work with researchers in the other Nordic countries began and Nord RAI was established in 1994. With inspiration and help from Nordic colleagues long term care data from the 5 Nordic countries was analysed and comparative studies in hospitals (RAI AC) and home care (RAI –HC) as part of the European effort (ADHOC) were designed and performed. The resident assessment instrument has been regularly used in one nursing home (Benediktehjemmet, Copenhagen) and in several research projects.

NordRAI related activities in Finland

The FinRAI team was established in 1994 as a part of a pilot project for testing the RAI instrument for nursing home care. Currently, the research group consists of senior researches and Ph.D. students from STAKES (National Research and Development Centre for Welfare and Health) and the University of Jyväskylä – Chydenius Institute. In addition, the nursing team responsible for education in benchmarking and content services for the RAI-users have been

actively participating the FinRAI activities. An active part in the FinRAI team has been the software company (RAIsoft.ltd) that has produced software programs for RAI users since 2000 (www.raisoft.com).

In 2004 a FinRAI web-portal was developed (www.finrai.org) and it is open to the public.

The implementation of RAI, in Finland, started in 2000 in long-term care facilities. The RAI activities currently cover approximately one third of the long-term care beds. The implementation of the home care instrument was piloted in 2001-2002 launched in 2003 and covers currently approximately one quarter to one third of home care in Finland. In addition, assisted living facilities have adopted the RAI instruments and in 2008 the coverage is one sixth of the assisted living clients of the country. Altogether 11 000 individuals were assessed by MDS 2.0 long-term care form and 9 000 by home care forms semi annually, in 2008.

In 2006 the piloting of the corresponding instrument for mental health was initiated. Full benchmarking activity is planned during 2008. The full pilot for RAI-AC is planned for 2009.

If a unit (home-care unit or a nursing home ward) wishes to join the benchmarking activities, in Finland, they make an active commitment to assess every individual they care for, in their unit at minimum semi-annually. They also send semi annually a copy of the assessment data to STAKES, where a feedback report for the participants for benchmarking purposes is produced. Each unit and facility can compare their results both at facility level and ward level by using internet based benchmark database.

As a result of the Nordic collaboration, one nursing home from Norway has been participating the benchmarking project, in Finland, since 2000.

The RAI-data base accumulated in STAKES has offered an opportunity for multiple types of reports and analyses. Several hundred articles, presentations, posters, and abstracts have been produced from the material, and some of them can be found in the appendix 2.

Altogether seven researchers have completed their doctoral theses, in which the RAI data has been utilized. Five of them rely on RAI data in all their articles, the other two have one RAI-based article of four. Five PhD students are still "in the pipeline". The names and the topics of the completed academic dissertations are given in the table 7.

Table 7. Academic dissertations derived from the RAI project, in Finland

Academic Dissertations
• Harriet Finne-Soveri: Daily Pain in Institutional Long-Term Care (2001)
• Magnus Björkgren: Case-mix Classification and Efficiency Measurement in Long-term Care of the Elderly. (2002)
• Juha Laine: Laatua ja tuotannollista tehokkuutta (2005)
• Marja-Liisa Laakkonen: Advance care planning : Elderly patients' preferences and practices in long-term care (2005)
• Hanna-Mari Alanen: Use of Antipsychotic Medications in Long-Term Care (2007)
• Kerttula A-M: Methicillin Resistant Staphylococcus Aureus in Long-Term Care institutions (2007)
• Laura Pekkarinen: Work Stressors in institutional Long-Term Care (2008)

NordRAI related activities in Iceland

The research and clinical work using different RAI instrument started in 1993, in Iceland. The use of RAI-NH (version MDS 2,0) been mandated for all nursing homes in Iceland since 1996 and for reimbursement purposes from 2004. The instrument for home care (RAI HC) has been used for several research projects and is now being implemented for the home care and home nursing in Reykjavik. , two of the RAI instrument are now being implemented at the National

Hospital in Iceland. The instrument for mental health RAI MH is being implemented at the Division of Mental Health and RAI Post-acute Care instrument is being implemented at the Division of Geriatric Medicine. Other instruments in the RAI family that have been used in research projects are RAI Acute Care and RAI Palliative Care. It is safe to say that the use of RAI instruments has had a great impact on research and clinical care of the elderly in Iceland as well as in research in other areas of heath care.

NordRAI related activities in Norway

RAI was introduced in Norway in 1995.Diakonhjemmet hospital induced a project in a Nursing home. Diakonhjemmet University College and collaboration with the hospital used RAI in a palliative care project in1997.

In 1997 The University College continued with RAI in home care projects, sheltered living and hospital care. Norway has participated in Nordic and other international RAI projects. At Diakonhjemmet RAI is used in teaching of the nursing students. Three nursing homes are using RAI as their main documentation system.

The data produced from the NordRAI activities are used for one academic dissertation.

In addition, Norway played a central part in developing and testing of the RAI-AC instrument. Furthermore, Norway was the first country to compare the RAI-AC with the traditional patient documentation charts – this idea lead later on to the design of the Nordic acute care study.

NordRAI related activities Sweden

The RAI instruments have been mainly used for research purposes in Sweden since the late 1980's. Sweden was the first country outside of the US to show interest in the instrument for Nursing homes that had been legally mandated in the US from 1987. Five academic dissertations have been produced based on the RAI-data.

4. OUTCOMES OF THE NORDIC NETWORK

Care practices have been benchmarked in three different ways, 1) by networking (visiting and comparing results) 2) through existing data and by 3) initiating research projects.

4.1. Benchmarking through networking

First visit was paid by the elderly care authorities (17 persons) of the health- and social departments in Helsinki City 7th through 10th September 2004, to the RAI-using nursing homes in Norway and in Iceland. The second visit was paid two years later (18th- 21st October 2006) by the same organisations but different individuals (15 persons).

The purpose of these visits was to learn to know the similarities and differences in care practices between the countries and to initiate a network of nursing homes. The information of observations and impact of networking presented in this report were derived from the non-published reports in 2004 and 2006.

Some observations from the first visit, September 2004

The most impressing finding for the Finnish delegation was the efficiency and quality of the whole concept of Soltun Nursing home, in Reykjavik, Iceland. The building it was created around the best possible nursing philosophies, the best technologies were used, and in the same time as the care models were tailor-made for heavy care (heaviest possible care) residents, the wellbeing of the staff was also taken into account. The skilful planning how to increase the independence and decision making freedom (self empowerment) for both the residents and the nursing staff was considered interesting and encouraging.

The second and equally impressing finding, for the delegation, was the quality improvement groups formed by the staffing who gave recommendations and guide-lines for issues like restraints, falls or medications. Particularly the use of restraints was discussed also in Norway (Cathinka Guldberg Sentret, Oslo), and in several meetings, in Finland, after the visit.

Impressive was also to find out the development and improvement, in Iceland, since 1996. The Finnish delegation also initiated development programs, among other things, around the following topics after the visit

- Systematic care-planning and follow-up of the quality of care leads to improvement of care.
- Impact of systematic approach on the economical situation of the long-term care facilities was demonstrated particularly by Soltun.
- Possibility to deliver adequate information from the long-term care facilities for local politicians and by doing so to achieve positive impact on elderly care.
- How to benchmark nationally and internationally

Impact of the first visit

Positive development was seen on several areas, in the long-tem care facilities, in Helsinki. Those include among other things guidelines for the use of restraints and use of psychotropic medications. Some of these changes were ideas directly or indirectly adopted during the visit to Iceland, in 2004. Some of them were already "hanging in the air" prior to the visit but were accelerated by the positive reflections from the nursing homes in Iceland and Norway.

RAI-instruments and systematic monitoring of the nursing outcomes was adopted for monitoring multiple purposes. Until then the RAI-forms had been more or less filled to create statistics. In 2004 these data were taken as tools for leadership and management and considerable changes in multiple fields have been observed.

Some observations from the second visit, October 2006
There had been further improvement both in Cathinka Guldberg and in the Soltun nursing homes compared to the situation in 2004. RAI figures, mainly quality indicators showed considerable improvement.

The discussion points concerning the Soltun nursing home were:

- Case-mix of the residents was as heavy as originally planned and the turnover of the residents was rapid.
- The quality control of the caring patterns was well functioning on multiple fields.
- Safety issues were controlled by policies for restraints, rehabilitation, caring procedures and technological solutions.
- The Vigil technologies as to alarms and monitoring were introduced and discussed.. Ceiling rails for lifts were seen necessary for the Finnish nursing homes and were discussed
- The autonomy of the nurses in working time planning was introduced and discussed.
- Systematic planning and follow up of the quality results does lead to improved quality,
- Impact of systematic approach on the economical situation of the LTCFs – particularly Soltun

4.2. Benchmarking through existing data

A comparative study of pain by Finne-Soveri et al.(2000) in long term care, in four Nordic countries, shows the similarity of percentage of daily pain in persons with severe ADL disability (Table 8). The data was driven from three previous data-collections and from one on-going study.

The key questions in benchmarking are whether the differences in prevalence are due to true presence or absence of any particular problem, or differences in assessing the problem. The better the assessment of problems the more of them will be found (ascertainment bias). Further questions deal with selection and interpretations of quality of care around it.

Table 8. Prevalence of pain in the institutional long-term care in four Nordic countries.

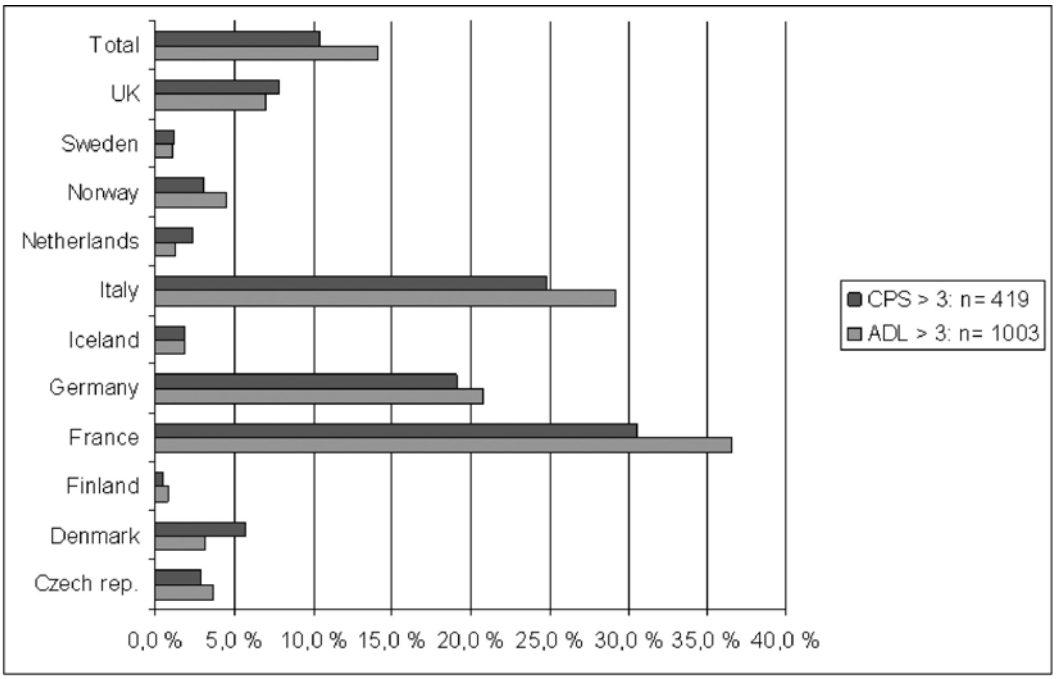
Country	Number of LTC residents	% in daily pain
Iceland	1264	22.7
Denmark	3451	27.7
Sweden	968	25.0
Finland	714	27.5

4.3. Research projects

4.3.1. The Aged in the Home Care (The Ad-HOC study)

The Aged in the Home Care (Ad-HOC) was a 5th framework funded European study of older persons receiving home care in 11 European countries. The data collection was performed in 2001-2003 and approximately 30 peer reviewed articles have come out the project. Since every Nordic country participated the study and the principal investigators were also Nord-RAI members, the project gave insight to the similarities, in home care, between the Nordic countries compared to most of the Europe.

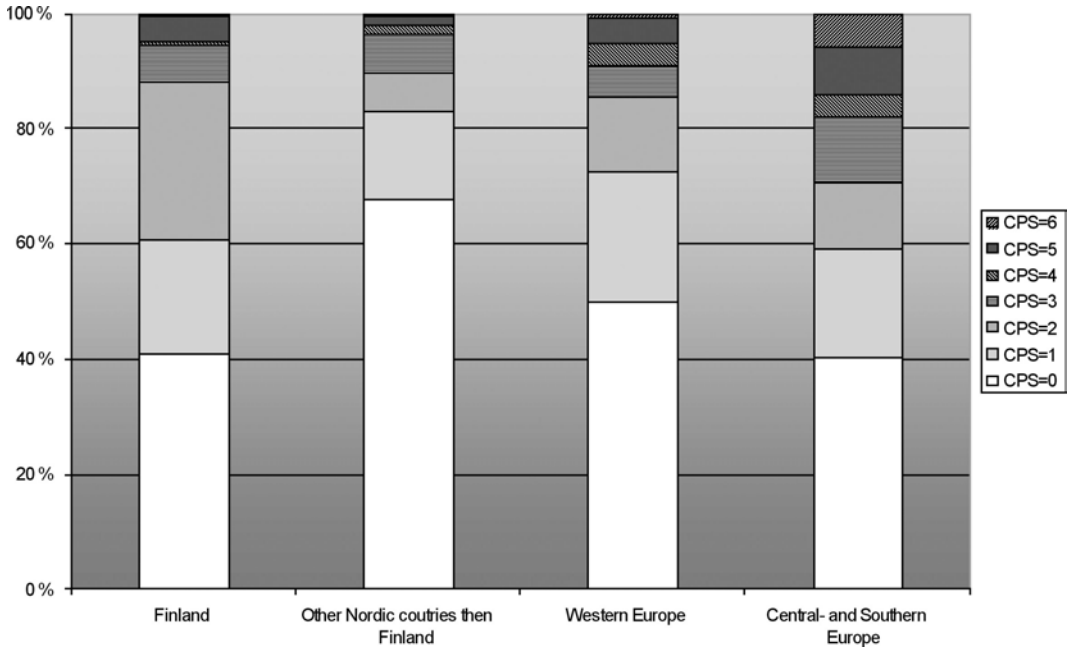
Figure 4 shows through the well-validated scales embedded in the RAI-systems the degree of cognitive and functional decline in the home care clients in the eleven countries that participated the Ad-HOC study.



CPS=Cognitive Performance scale; scale rages from 0 to 6, where more than 3 represents severe cognitive decline
ADL=Activities in Daily Living; scale rages from 0 to 8, where more than 3 represents severe functional decline
(Source: the Ad-HOC database 2003)

Figure 4. Cognitive impairment and physical dependency among home care recipients in 11 European countries

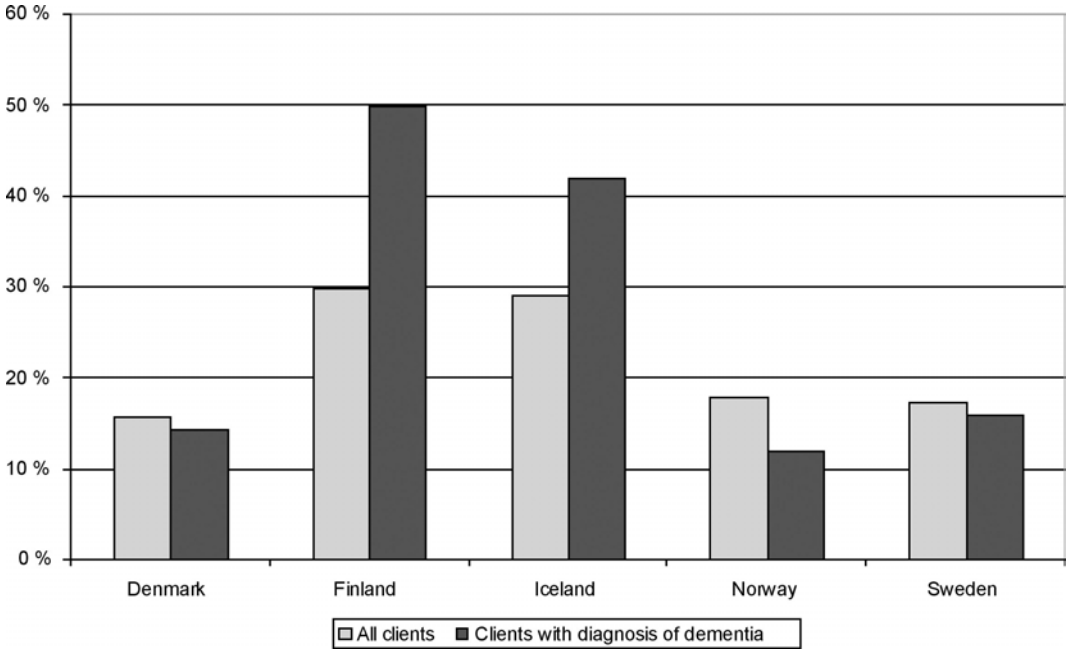
Figure 5 shows the general distribution of cognitive decline in Finland and other Nordic countries compared to other parts of Europe. Even if home care recipients with severe cognitive decline are less often seen in the Nordic countries compared to other parts of Europe. However those with mild or moderate cognitive decline are more often seen in the home-care, in Finland than in the other Nordic countries (Finne-Soveri .2006)



CPS=Cognitive Performance scale; scale rages from 0 to 6, where more than 3 represents severe cognitive decline
Source: Finne-Soveri H. Suomalaisen kotihoidon asiakasrakenne eurooppalaisesa vertailussa. Kirjassa: Kotihoidon asiakasrakenne ja hoidon laatu - RAI-järjestelmä vertailukehittämisessä (toim Finne-Soveri H, Björkgren M, Vähäkangas P, Noro A). Stakes. Vaajakoski 2006:151-157.

Figure 5 Distribution of cognitive decline among home care recipients in Finland, other Nordic countries than Finland and in other parts of Europe

Diseases causing dementia are growing in prevalence with advancing age. Since substantial percentage of home care recipients suffer from cognitive decline it is of importance to treat adequately all types of concomitant diseases or symptoms that might have an impact on development of dependency. Depression is known to have an impact on physical functions in addition to quality of life. Therefore it is of interest to find out the differences in prescribing patterns between the countries (Figure 6). Is it so that clients with dementia in Denmark, Sweden, and Norway do not express symptoms of depression, whereas home care clients in Finland and Iceland do? The other explanation might be the eagerness of Finnish and Icelandic physicians to prescribe antidepressants. Important question is, in which of the countries the clients would benefit of the care pattern and thus be best off?



(Source: the Ad-HOC database 2003)

Figure 6. Use of antidepressants according to presence of dementia among home care recipients, in the Nordic countries

4.3.2. The Nordic RAI-AC study

The Nordic Acute Care Study was launched in 2001 after receiving funding for data collection from the Scandinavian Lions Organisation Red Feather campaign.

The cross-Nordic aims for the study were 1) to compare the issues and outcomes of elderly acute care cross nationally in the Nordic countries, such as length of stay (LOS), mortality and discharge placement (to nursing home, other institutions, home care, etc.), ADL and cognitive outcome 2) to investigate in what functional and cognitive states do we discharge patients in the Nordic countries and 3) does different organisation of the care influence the outcome of care?

Single country aims were to 1) compare the value of a standardised assessment system with the traditional patient record in the acute care of the elderly in identifying co-morbidity in need of further evaluation 2) identify geriatric issues and predictors of outcome of care episode of elderly in acute care in each of the Nordic countries, which each has a somewhat different system.

The meetings related to the planning and writing phase of the study are given in 3.5.2.

The data collection was performed in an acute care hospital in each of the Nordic countries. The sites were Copenhagen, Helsinki, Oslo, Reykjavik and Umeå and the data collection method was RAI-AC. The design of the study was prospective randomised and observational. Patients aged 75 years or over were recruited after informed consent. Altogether 770 individuals participated and were followed for one year after the index admission.

Table 9. Study sites, catchment areas and the average length of stay in 2001

Location	Catchment area n	+75 years n (%)	Length of stay (days)
Bispebjerg, University Hospital, Copenhagen, Denmark	210.000	21.000 (10)	7.2
Umeå University Hospital, Sweden	140.000	9.900 (7.1)	4.5
Laakso Hospital, Helsinki, Finland,	100.000	7.400 (7.4)	15.1
Landspitali-University Hospital, Iceland	170.000	9.400 (5.5)	6.7
Diakonhjemmet Hospital, Oslo, Norway	90.000	8.000 (8.9)	7.2

In the first published Nordic RAI-AC article by Jonsson et al (2006) the results showed that systematic approach is required, in acute care hospitals, when the needs of older patients are assessed. The bad news was the results. They showed that great proportion of important patient -related information was missing from the formal patient documentations whereas systematic RAI-AC documentation brought those issues in day-light. Missing documentation were issues related with suffering and risk of functional decline. The good news was the good usability of the RAI-AC instrument. Table 9 shows the number and characteristics of the patients (n=417) enrolled to the comparison of RAI-AC and ordinary patient documentation.

There was another publication (in press) derived from this comparison, where physicians' and nurses' documentations were compared to RAI-AC in Iceland and in Finland. The analysis stresses the need for different professionals to read each others documentation instead of double documenting some of the issues and totally ignoring others. Collaboration between professionals, in acute care, saves valuable time and increases accuracy of documentation.

Readmission rates have been studied and presented in scientific Nordic congresses in 2006 (Jyväskylä, Finland) and in 2008 (Oslo, Norway). Readmission rates were high in those with functional decline at the index admission.

Polypharmacy and potentially inappropriate medications have also been studied and a publication is on its way.

Table 9. Study sites, catchment areas and the average length of stay in 2001

	Denmark	**Finland**	**Iceland**	**Norway**	**Sweden**	**Total study population**
n	98	78	80	80	81	417
Mean age in years	84.4	83.4	83.6	83.4	83.2	83.6
Male / Female (%)	28/72	22/78	29/71	44/56	31/69	30/70
IADL score 0-21 (mean)	10.8	11.0	7.9	7.4	7.5	9.0
ADL score 0-6 (mean)	0.41	0.97	0.24	0.59	0.27	0.49
CPS score 0-6 (mean)	0.80	0.71	1.01	0.74	0.32	0.72
Patients with admissions prior to index admission within 90 days (%)	31	65	31	21	33	36
Length of stay (days)	17.4	15.2	18.0	8.5	6.3	13.2
Number of medications at admission (mean)	7.2	8.6	7.5	3.6	7.8	

In every scale 0 represents normal

The outcomes of the study are still in press (accepted for publication in Aging Clin Res) and they handle with issues such as predictors for length of stay, mortality, and nursing home placement and how to improve both documentation and planning of the care episodes.

4.3.3. Presentations in international conferences

The preliminary results of the Nordic study have been presented in the Nordic forums. Here only the Nordic Congresses in Gerontology are listed.

16th Nordic Association of Gerontology, Århus May 2002

1. Finne-Soveri UH, Noro A, Kuusi U, Putkonen P, Lindman K. Predictors for length of stay in acute care (oral presentation).

Vth IAG European Region Congress of Gerontology, Barcelona 2-6th July 2003

1. Noro A, Finne-Soveri UH, Jonsson P, Jensdottir AB, LjunggrenG, and the AC-study group in Finland, Iceland, Sweden Norway and Denmark: Do nurses and physicians documentation in patient journals differ? Comparison of RAI-AC assessment and journal documentation in Finland and Iceland.
2. Noro A, Finne-Soveri UH, Björkgren M, Laine J Vähäkangas P, Häkkinen U: Learning from best practices – Quality and Efficiecy in Long term elderly care in Finland.
3. Finne-Soveri UH, Noro A and the Nordic AC study group: Predictors of 3-mo mortality among 75+ patients in acute care hospital in Helsinki, first outcome results of a 5 nordic Country study using RAI-AC.

17th Nordic congress of gerontology, Stockholm May 2004

1. Grue EV, Sørbye LW, Bjørnson J, Vibe,O. Cognitive function and mobility in elderly predict mortality and nursing home placement one year after acute hospitalisation. 17th Nordic congress of gerontology, Stocholm May 2004. Nordisk Gerontologisk förening MåP 156:16. (poster presentation).

18th Nordic congress of gerontology, Jyväskylä May 2006

1. Jonsen E, Noro A, Jensdottir AB Ljunggren G, Grue EV, Bucht G, Björnson J, Finne-Soveri H, Jonsson PV. Nurses and phycisians documentation in the acute care in the elderly. 18th Nordic congress of gerontology, Jyväskylä May 2006. Nordisk Gerontologisk förening 2006:101 (oral presentation).
2. Sörbye L, Schroll MA, Finne-Soveri H, Jonsson PV, Ljunggren G. Unintended weight loss and physical performance - a comparative study of home-care clients 65+ in five Nordic countries (AD-HOC data). 18th Nordic congress of gerontology, Jyväskylä May 2006. Nordisk Gerontologisk förening 2006:109. (oral presentation).
3. Finne-Soveri H. Jonsson PV, Jonsen E, Noro A, Jensdottir AB, Ljunggren G, Grue EV, Scroll M, Bucht G, Björnsson J. Frequent hospital admissions among 75+ patients in five Nordic countries. 18th Nordic congress of gerontology, Jyväskylä May 2006. Nordisk Gerontologisk förening 2006: 200 (oral presentation).
4. Jonsson PV, Noro A, Jensdottir AB, Ljunggren G, Grue EV, Schroll MA, Bucht G, Bjornson J, Finne-Soveri H, Jonsen E. Do patients' needs at admission to hospital predict the outcomes of care at one year? 18th Nordic congress of gerontology, Jyväskylä May 2006. Nordisk Gerontologisk förening 2006,:201(oral presentation).

19th Nordic congress of gerontology, Oslo May 2008

1. Finne-Soveri H. Jonsson P, Jonsen E, Noro A, Jensdottir AB, Ljunggren G, Grue E, Schroll M, Björnson J. Readmission is an alarming sign in 75+ acute care patient. 28th May 2008 (oral presentation) Abstract book. 19th Nordic congress of gerontology, Oslo May 25-28, 2008:87-88.
2. Jonsson P, Noro A, Finne-Soveri H, Jensdottir AB, Ljunggren G, Bucht G, Grue E, Björnson J, Jonsen E, Schroll M. Admission profile is predictive of outcomes in acute hospital care. 28th May 2008 Abstract book. 19th Nordic congress of gerontology, Oslo May 25-28, 2008:86. (oral presentation)
3. Noro A, Poss J, Hirdes J, Finne-Soeri H, Jonsson P. MAPLe-AC predicts outcomes of acute hospital care of elderly patients 28th May 2008. Abstract book. 19th Nordic congress of gerontology, Oslo May 25-28, 2008:87. (oral presentation)
4. Samuelsson O, Finne-Soveri H, Noro A., Bjornson J. Jonsson P. In appropriate medication detected on admission to acute . Data from the Nordic Acute Care study. 28th May 2008. Abstract book. 19th Nordic congress of gerontology, Oslo May 25-28, 2008:88(oral presentation)
5. Grue E, Ranhoff AH, Noro A, Finne-Soveri H, Jensdottir AB, Ljunggren G, Bucht G, Bjornson J, Jonsen E, Schroll M, Jonsson P. Sensory impairment in older parients in medical wards, IADL loss and falling. 27th May 2008. Abstract book. 19th Nordic congress of gerontology, Oslo May 25-28, 2008:25. (oral presentation)

4.3.4. Useful publications by the NordRAI members

During time period ranging from 1998 to 2008 NordRAI members have been publishing a number of publications. A number of them is found in the references and in the appendix 2

5. CONCLUSIONS AND FUTURE PROSPECTS

Nordic countries have their background in the socio-economic welfare model, partially in the common languages but mainly in the mutually shared perception of life. Caring for older and other vulnerable populations becomes increasingly important in the ageing Europe and in the world. NordRAI network shows a couple of practical examples how to learn from each other and to improve care and services by collaboration.

Until today the initiatives to make national permanent impact by systematic and standardised assessments have in some of the Nordic countries been lying on the shoulders of enthusiastic individuals, in others, the mental support or a mandate from a university, research institute, or ministry of health, has made the effort easier. The impact is already visible.

Randomised intervention studies where new medications or care-patterns are tried out, are not always easy or low-cost to conduct and perform in the frail populations. Needed samples are large and risks for exclusions or failure to collect informed consents are substantial. Multicenter- or register based studies are natural and available options. It is, however, of importance to consider how many and what kind of studies can be run, in the elderly care services, where workers have more tasks do than time to perform them.

Therefore information derived from the normal patient/client documentation is a very good option, as long as the documentation is accurate and standardized. NordRAI has worked hard for that purpose.

The future aims for NordRAI are to

- develop and share Nordic best practices of elderly care as to quality, staffing management and payment / financing.
- develop Nordic quality values and evidence based quality standards for benchmarking in long-term institutional and home care.
- broaden the vision towards financing and payments of the elderly care services
- conduct randomised studies based on standardised patient/client documentation in home care, long-term care facilities, mental health, post acute care and palliative care
- further develop the NordRAI network by organizing seminars to learn more from each other

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www.interrai.org
www.nordrai.org
http://nososco-eng.nom-nos.dk/
www.raisoft.com
www.stakes.fi

Useful RAI - related cross-national publications

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APPENDIX 1. ACRONYMS AND EXPLANATIONS

Short form	Term	Explanation
ADL	Activities of Daily Living	Dressing, transferring, walking, washing, bathing, toileting, eating
ADLh	Activities of Daily Living Hierarchy	Functional capacity. Hierarchical ADL scale ranges from 0 to 6, where 0=independent and 6=totally dependent)
BMI	Body Mass Index	Indicator for sufficient energy intake
CHSRA	Center for Health Systems Research (University of Wisconsin-Madison)	First set of Quality Indicators was created by David Zimmerman in the CHSRA, University of Wisconsin. The Quality Indicators presented in this report
CPS	Cognitive Performance Scale	Cognition. Scale ranges from 0-6, where 0=intact and 6=very severe cognitive decline
DRS	Depression Rating Scale	Depression, Scale ranges from 0 to 14 and scores 3 or more indicate potential presence of depression
MDS 2.0	Minimum Data Set 2.0	Least needed set of information to make an adequate care plan for an older person with co morbidities. The questionnaires in the RAI systems are called MDS-forms, Numbers imply to the version.
RAI	Resident Assessment Instrument	MDS-form + MDS manual + guidelines
RAPs	Resident Assessment Protocols	A problem/strength list that flags for substantial problems and strengths that need to be notified in the individual care plans
RAI-AC	RAI-Acute Care	RAI systems for acute care settings
RAI-AL	RAI-Assisted Living	RAI systems for assisted living settings
RAI-HC	RAI-Home Care	RAI systems for home care settings
RAI-LTC	RAI-Long Term Care	RAI systems for long term care settings
RAI-MH	RAI-Mental Health	RAI systems for psychiatric hospital settings
RAI-PAC	RAI-Post Acute Care	RAI systems for post acute care /rehabilitation settings
RAI-PC	RAI-Palliative Care	RAI systems for palliative care settings
SES	Social Engagement Scale	Measures types and magnitude of social engagements in a scale from 0 to 6 where 0=no activities and 6=all the measured activities
QI	Quality Indicator	In this report equals for CHSRA or Zimmermann's quality indicators

APPENDIX 2. USEFUL PUBLICATIONS BY COUNTRY

Denmark

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APPENDIX 3. EXAMPLES OF SEMINAR PROGRAMS

Program of an open RAI seminar in Stockholm, September 1999

0830-0900	Registrering	
0900-0910	Introduction	Gunnar Ljunggren, dr, RAI-enheten, KI
0910-0940	Inledningsanförande	Alf Svensson
0940-1020	Kvalitetssystem inom äldrevården - vad är det?	Ulla Höjgård, Socialstyrelsen, Ulla Åhs, Kommunförbundet
1020-1040	Kvalitetssystem i Sverige - erfarenheter med RAI-instrumentet	Gunnar Ljunggren
1040-1100	Paus - frukt	
1100-1120	Dokumentation och vårdplanering	Görel Hansebo, högskolelärare, doktorand
1120-1140	Stroke-patienten i vårdkedjan i Stockholm	Suzanne Kumlien, högskolelärare, doktorand
1140-1200	Kvalitet i äldreomsorgen i Sotenäs	Agneta Stenquist, MAS, Sotenäs
1200-1220	Vårdplanering med RAI på plejehjem i Köpenhamn	Kiddy El Kholy, sjukhemschef, Köpenhamn
1230-1330	Lunch	
1330-1350	Datoriserat stöd för kvalitetsarbete i äldrevården	Roy Franzén, fil. dr, Bergsjö data AB
1350-1415	Smärta och demens i Helsingfors	Harriet Finne-Soveri, överläkare, Helsingfors
1415-1445	Kvalitetssystem i Island inom äldrevården	Pálmi Jónsson, överläkare, Reykjavik Hrafn Pálsson, departementsråd, Reykjavik
1445-1510	Paus - kaffe	
1510-1535	Uppföljning av kvalitet i äldrevården i Norge	Liv Wergeland Sörbye, sjuksköterska, forskningsamanuens, Oslo
1535-1600	Sammanfattning och avslutning; vision om RAI - kontaktnät för fortsatta projekt	Michael Högberg, Ulla Höjgård, Ulla Åhs m.fl

Program of the open seminar in Kokkola, Finland (September 2000); Towards integrated care. RAI in the Nordic Countries

0830 – 0845	Opening - Integrated care assessment – chains of care Magnus Björkgren, Chydenius Institute, Finland
0845 – 1015	Long-term care issues - National implementation of the RAI in nursing homes in Iceland: Why and how? Palmi JÙnsson, The University Hospital, Iceland - Using quality indicators in nursing homes Anna Birna JensdÙttir, The University Hospital, Iceland - Case-mix classification in long-term care Magnus Björkgren, Chydenius Institute, Finland
1015 – 1045	COFFEE BREAK
1045 – 1200	Care planning and documentation - RAI compared with traditional medical records in acute care Jan Bjørnsson and Else Vegnes Grue, Diakonhjemmets Hospital Oslo, Norway - Training of nursing staff – panel discussion Kiddy el Kholy, Denmark, Pia Vähäkangas, Finland, Hlif Gu½mundsdÙttir, Iceland, Olaug Vibe Norway, Ann Sofie Brink, Sweden.
1200 – 1315	LUNCH
1315 – 1445	Home care issues - Quality indicators in home care of the elderly Marianne Schroll, Bispeberg Hospital Copenhagen, Denmark - Assessing care needs in home care Hlif Gu½mundsdÙttir, The University Hospital, Iceland - Follow-up of home care clients Liv Vergeland Sørbye, Diakonhjemmet Hospital Oslo, Norway
1445 – 1515	COFFEE BREAK
1515 – 1630	International comparisons - Use of antidepressants in four Nordic Countries Harriet Finne-Soveri, Stakes, Finland - Use of restraints in eight countries Gunnar Ljunggren, Karolinska Institute, Sweden - Characteristics of long-term care residents Anja Noro, Stakes, Finland
1630 – 1645	Discussion

Copenhagen, Denmark June 2001

08,30 - 09,00	Registrering og kaffe; dansk
09,00 - 09,15	Velkomst v. Marianne Schroll, professor; dansk
09,15 - 09,35	1. Hvad er RAI? Kiddy El Kholy, plejehjemsforstander; dansk
09,40 - 10,00	2. Implementering af RAI i Finland Magnus A. Björkgren, økonom; svensk
10,05 - 10,25	3. Implementering af RAI i Finland Harriet Finne-Soveri, læge; svensk
10,30 - 11,00	Kaffe
11,00 - 11,20	4. Livskvalitet og mulighed for meningsfulde aktiviteter på plejehjem i Island Ingibjörg Hjaltadöttir, Chief of Geriatric Nusring; engelsk
11,25 - 11,45	5. Resultater fra RAI Hjemmepleje i Stockholm Gunnar Ljunggren, overlæge dr. med; svensk
11,50 - 12,10	6. Resultat från vårdtyngdmåling med RUG III på geriatriska kliniker i Stockholm Michael Högberg, økonom; svensk
12,10 - 13,10	Frokost
13,10 - 13,30	7. To år efter akut indlæggelse på sygehus - hvad er der sket med 80-100 årige ? Liv Wergeland Sørnye, sygeplejerske, 1. Amanuensis; norsk
13,35 - 13,55	8. Dokumentation / RAI Acut Care - Oslo Jan Bjørnson, overlæge, dr. med Else Grue Sygeplejerske, forsker; norsk
13,35 - 14,30	Kaffe
14,30 - 14,50	9. The past experience and future potential for MDS-RAI in Iceland Pálmi V. Jönsson, MD, professor; engelsk
14,55 - 15,15	10. Bedre sygepleje ved brug af systematiske metoder, anvendelse af RAI´s kvalitetsindikatorer som hjælpemiddel Anna Birna Jensdöttir, Chief of Geriatric Nursing; dansk

Program of the NordRAI meeting Sweden, Stockholm February, 2003

Thursday	Friday	Saturday	Sunday	Monday
February 6	February 7	February 8	February 9	February 10
Breakfast at the Hotel	Breakfast at the Hotel	Breakfast at the Hotel	Breakfast at the Hotel	Breakfast at the Hotel
Open symposium, Elderly Care		RAI-AC-project, HF-PJ	Summing up RAI-AC, PJ	Open symposium, Palliative Care
all day			NordRAI, further developments, MS	
			Future meetings within and without RAI-coop	
		Lunch	Lunch	
	Introduction, Country reports, GL	RAI-AC-project, HF-PJ		
	RAI-NH and RAI-HC in Gävleborg, AGM			

Program of the NordRAI meeting, Finland, Helsinki March, 2004

NordicSeminar day Thursday 11.3.2004	**NordRAI-meeting Friday 12.3.2004**	**NordRAI-meeting Saturday 13.3.2004**	**NordRAI-meeting Sunday 14.3.2004**
9.00 - 11.30 RAI-seminar at Helsingin työväenopisto (Helsinginkatu 26)	9.00 - 13.00 Various activities at Stakes (Lintulahdenkuja 4)	8.30 - 12.00 Future of NordRAI at Stakes (Lintulahdenkuja 4)	8.30 - 12.00 Summing- up and farewell! at Stakes Lintulahdenkuja 4)
Chair Markku Pekurinen		Chair Harriet Finne-Soveri	Chair
9.00 Opening Director Juha Teperi, Stakes	9.00 - 13.00 RAI-AC research meeting at Stakes (Monitoimi A) Chair Palmi Jonsson	8.30 - 9.00 Update of visions of InterRAI stategic planning committee, HFS	8.30 - 12.00 Group work continues and reports of groups
9.15 Magnus Björkgren	9.00 - 13.00 Visits to Nursing homes	Themes for discussion:	Next meeting
10.30 Anna Birna Jensdottir		- history, present and future	
		- how do we proceed?	Other issues
	9.00 - 13.00 Software demonstrations Oy Raisoft Ltd, in meeting room Selleri	- funding: Nordic Council; Baltic co-operation and coordination	
		- etc.	

11.30 - 12.30 Lunch-meeting with invited facility leaders of Helsinki	13.00 - 14.00 Lunch at Stakes, Amica	12.00 - 13.00 Lunch at Stakes, Amica	12.00 - 13.00 Lunch at Kustaankartano Elderly centre
12.30 - 16.00 Chair Anja Noro	14.00 - 19.00 Start of the NordRAI meeting Chair Anja Noro	13.00 - 17.30 Steps forward Chair Magnus Björkgren?	
12.30 Gösta Bucht	14.00 Welcome and Introduction of Stakes, Head of Division Ilmo Keskimäki	- ongoing and planned projects '- benchmarking? '- common database '- research: AC, AdHOC '- staffing '- training and software? '- care planning?	
13.15 Harriet Finne-Soveri	14.15 Tuula Saarela: Psycogeriatric Patients and Wards		
14.30 Palmi Jonsson	14.30 Hanna-Mari Alanen: Residents with Schizophrenia - the forgotten people. Findings from Finland.		
15.00 Panel Discussion	14.45 Päivi Voutilainen:		
	15.00 Päivi Topo: Dementia Care Mapping as a tool to develop psychosocial aspects of care. First Finnish experiences.		
	15.15 Timo Sinervo: Combining data on RAI-MDS and workers' well-being. Are patients a source of stress and is stress a source of bad quality?		
	15.30 Anja Kahanpää: The Perceived Quality of Care (KOLA)		
	15.45 Juha Laine: Use of labour and capital resources in institutional long-term care - Efficiency of production and quality of care.		
	16.00 Timo Hujanen: Measuring health-related quality of life and effectiveness of long-term care among the elderly.		
	16.15 Pause		
16.15 - 17.30 BM-Steering group	16.30 - 19.00 Country Reports		