BOOK REVIEWS

Scand J Rehab Med 31: 130, 1999


This book is intended for patients with MS and their relatives as well as healthcare professionals involved in the treatment of these patients. A short introduction with up-to-date information about the disease, neuroanatomy, immunology and the new treatments for moderation of disease activity is given in the first part of the book. The main part deals with the different symptoms and their management. The chapters—two for each of 19 symptoms—start with a short description of the pathophysiology behind the symptom, presenting principles for rehabilitation and a well-covered list of medical treatment. The final part deals with physical exercise, nutrition and the process of psychological adaptation to the diagnosis. The language is pedagogical and although some topics are fairly complicated, most laymen will find it easy to understand. However, there is a problem with a book for both laymen and professionals. When describing how to evaluate symptoms and patient evaluations, expressions like “must”, “important to do” are used, for instance regarding fluoroscopy for dysphagia or MRT for low back pain. These recommendations are probably directed at doctors, but may induce anguish and doubt within patients about having received adequate examination. As a doctor I would have preferred fewer categorical formulations. The book contains many good common-sense suggestions about how to relate to different problems, but I miss advice to family/friends. The chapter about fatigue is an excellent presentation of this main problem, but the advice about how to cope is limited to home-keeping and very little about work outside the home nor about how family members and friends should relate to the problem. In spite of these minor objections, I warmly recommend the book not only to patients but also to doctors and other health professionals that although not specialised in MS come in contact with these patients.

Hans Neivar
Department of Neurology
Uppsala University Hospital
SE-75185 Uppsala
Sweden


This very comprehensive book describes the elementary and more complicated basic factors important for understanding the connection between wheelchair user, seating and mobility as well as between different powered and manual wheelchairs and how the wheelchair functions and how its adjustable parts are used for optimal person-to-device interface.

Wheelchair engineering and electronics fundamentals, biomechanics and requirements for wheelchair, selection of cushion and seating postural systems, as well as comparison between different powered and manual wheelchairs are all discussed in exhaustive treatment.

More than 100 photographs, informative illustrations and schematic diagrams interspersed throughout the book help the reader to understand the contents of the many closely written pages. The audience for this book is first of all students studying occupational therapy, physical therapy, rehabilitation science and rehabilitation engineering. This book can also be strongly recommended for occupational therapists, physiotherapists and others who have knowledge and an interest in human motor physiology or working experience within this field.

Stigfin J ohnsson
The Swedish Hardicap Institute
Box 501, SE-102 15 Stockholm
Sweden


Research in anxicestic lateral sclerosis (ALS) has accelerated during the last decade and consequently also our knowledge concerning all its different aspects. There are many books in this literature focusing on specific aspects of ALS.

The authors have succeeded in writing a book covering a wide range from pathophysiological findings in ALS to clinical features, including epidemiology and imaging techniques. An anxicestologist in an ALS team I would have appreciated more about the symptomatic treatment and usual care of the patient. Despite these shortcomings, however, the book is recom

recommended to anyone interested in ALS: physicians, medical students and other caregivers.

Angela Nygren, MD
Department of Neurology
Uppsala University Hospital
SE-751 85 Uppsala
Sweden

EFFECTS OF THE RESIDENT ASSESSMENT INSTRUMENT ON THE CARE PROCESS AND HEALTH OUTCOMES IN NURSING HOMES: A REVIEW OF THE LITERATURE

Walter P. Achtenberg, MD,1,2 Christen van Campen, PhD2, Anne Margrét, P, PhD,2 Ada Kerkastra, PhD,2 and Matt W. Röhrle, MD, PhD

ABSTRACT. The objective of the paper is to review the effects of the implementation of the Resident Assessment Instrument (RAI) on process measures (quality of care plans and staff satisfaction) and outcome measures (health problems and quality of life in nursing homes). All available publications on the effects of the RAI were included in the review. The most positive effects of the RAI were found in improvements in the comprehensiveness and accuracy of the care plans. As regards outcome quality, the RAI method had most positive effects on the health condition of nursing home residents with diminished physical and mental functioning. In psychosocial areas of assessment, fewer positive effects were found. We concluded that positive effects have been found, based on pre-test-post-test non-controlled designs. Control-group designs are needed in future evaluation studies to determine if these positive results will hold.

For more: Resident Assessment Instrument; nursing homes; quality of care; care plans; staff satisfaction; health problems; quality of life; literature review.

INTRODUCTION

The Resident Assessment Instrument (RAI) was originally developed in the United States in response to poor quality nursing-home care that gave rise to public concern (17). In 1986, the Institute of Medicine reported on the quality of care in nursing homes. To improve the quality of care, the need for a uniform assessment instrument was identified as a key component (14). In 1987, the U.S. Congress mandated the use of a comprehensive validated assessment instrument for nursing homes as part of the Omnibus Budget Reconciliation Act (OBRA '87). The Health Care Financing Administration contracted a research consortium to design the system, which is now known as the Resident Assessment Instrument (RAI) (10).

The RAI describes a nursing home resident on multiple domains of function and is derived from caregiver observations (see Appendix). These data (the Minimum Data Set or MDS) can identify ("trigger") potential problems in 18 different areas. Special Resistant Assessment Protocols (RAPs) have been designed for each of these areas. These RAPs provide direction for the analysis and optimal management of each information. The MDS, triggers and RAPs lead to individual care plans formulated on the basis of a structured assessment (18, 20).

The contribution of the RAI to quality assurance and improvement is expected on the basis of the following thesis: Patient assessment by means of the RAI will provide more accurate information about patients' needs. Clinically tailored care plans will be formulated on the basis of the MDS (MDS and RAPs), which will diminish the gap between patients' needs and the care provided, and, consequently, quality of care will be improved. In this article, the effects of the implementation of the RAI are found in homicide process measures (effects of quality of the care process) and outcome measures (effects on health and quality of life) (4, 22).

The objective of this article is to review evaluation studies on the effects of the RAI on process and outcome measures of quality of care. The research question is: What are the effects of the RAI on: (a) process measures (the quality of care plans and staff satisfaction), and (b) the outcome measures of health problems and patient quality of life?

METHODS

The databases of Medline, Online-Current Contents, CINAHL

RESULTS

The evaluation study in the U.S. had a longitudinal cohort pre-implementation-post-implementation design, with four waves of data collection: two before implementation (fall 1990 and 6 months later), and two after (spring 1993 and 6 months later) (6, 9, 11, 16, 23, 27). The pre-RAI cohort consisted of 2,170 nursing home residents from 268 institutions in 10 states (the states were carefully selected to minimize bias). The post-RAI implementation cohort included 2,080 patients from 254 (out of the pre-test 268) nursing homes. The data were collected by specially trained research nurses. The sample was representative of U.S. nursing homes (23).

In Japan, the evaluation of the RAI implementation was carried out in 15 geriatric hospitals, 7 health facilities for the elderly and 5 special homes for the aged (13). The facilities were not representative of Japanese long-term care settings. The chosen facilities were selected by the research group on the basis of their high quality. However, even in these facilities, implementation was erratic, to the point that 9 facilities had to be excluded from the analysis. Data on the care plans were available from 7 geriatric hospitals, 6 health facilities for the elderly and 5 special homes for the aged. The evaluation consisted of two parts: first, cross-sectional samples from 90 care plans were compared at the time of their introduction with 92 care plans one year later, on the percentage of triggered RAP’s addressed; second, 135 care plans at introduction were examined and compared with 147 care plans one year after introduction, using selected standards.

Process measures: quality of care plans and staff satisfaction

In the U.S. study, residents’ care plans and the facilities’ medical records were evaluated for accuracy of information and comprehensiveness of information (number of RAPs addressed in the care plan) (Table 1) (9). For each resident in the pre- and post-implementation cohort, the RAPs in the medical record collected by specially trained research nurses were compared on 23 critical MDS items. In the post-RAI records, the information on MDS items was more accurate; the percentage of residents who had >90% of the 23 items accurate increased from 17.6% to 48.6% after RAI implementation. There was also a significant increase in the number of care plans addressing 12 out of 18 RAP areas: cognitive loss, skin function, communication, ADL rehabilitation, incontinence, mood state, behavior, falls, nutrition status, dehydration, dental care and psychotropic drug use. Pressure ulcer was significantly addressed less. In the same study, other process measures of quality in care were evaluated. In the post-RAI group there were fewer residents having physical restraints (9.5% decline) and indwelling catheters (29%); and increases in the use of toileting programs (5.1%), behavior management programs (5.9%) and hearing aids (6.6%) for those who seemed to need it. There was also an increase in the presence of advanced directives (64%). Changes in the following indicators were not statistically significant: “preventive skin care”, “the use of antipsychotics and antipsychotics-biopsychics”, the number of residents with inadequate vision who did not have glasses, solitary programs for urine incontinence and residents with mood problems who receive therapy.

In Japan, the evaluation study showed that one year after the implementation of the RAI the following RAPs were at least 10% more frequently addressed in the 9 care plans: falls (13.3%), nutritional status (14.0%) and dental care (10.9%) (13). Interestingly, a number of psychosocial RAPs were less often addressed: mood state (38.6% less), behavior problems (27.5%) and psychosocial well-being (12.5%) (Table 1). An improvement in the quality of the contents of the care plans was found with respect to a number of selected standards that were derived from an expert panel: “relationship between problems taken into account” (21.1% increase), “specific, individualized contents” (28.3%), “role of each member of staff” (19.5%), “future risks, options, prognosis taken into account” (17.3%), “improving and maintaining ADL and quality of life” (11.0%), and “enlivens daily through activities” (7.4%) (13).

As a second indicator of process quality, we examined the available studies to determine if the RAI was appreciated by the professionals who worked with it.
Table 1: Knowledge and Attitudes Towards Genital Abnormality

<table>
<thead>
<tr>
<th>Study</th>
<th>Design</th>
<th>Dependent Variable</th>
<th>Measuring Instruments</th>
<th>Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desai et al. (9)</td>
<td>Prototype group</td>
<td>Knowledge</td>
<td>Knowledge test</td>
<td>The prototype group of the participants received an educational intervention focusing on knowledge about genital abnormalities.</td>
</tr>
<tr>
<td>Phillips et al. (6)</td>
<td>Prototype group</td>
<td>Knowledge</td>
<td>Knowledge test</td>
<td>The prototype group of the participants received an educational intervention focusing on knowledge about genital abnormalities.</td>
</tr>
<tr>
<td>Phillips et al. (6)</td>
<td>Prototype group</td>
<td>Attitudes</td>
<td>Attitude scale</td>
<td>The prototype group of the participants received an educational intervention focusing on knowledge about genital abnormalities.</td>
</tr>
<tr>
<td>Fikos et al. (8)</td>
<td>Prototype group</td>
<td>Knowledge</td>
<td>Knowledge test</td>
<td>The prototype group of the participants received an educational intervention focusing on knowledge about genital abnormalities.</td>
</tr>
</tbody>
</table>

Results

The results of the educational intervention indicated a significant increase in knowledge and positive attitudes towards genital abnormalities among the participants in the prototype group. The intervention was effective in improving knowledge and attitudes, as evidenced by the statistically significant differences in the post-intervention compared to the pre-intervention assessments.
Evaluation of studies of staff satisfaction have been carried out in the U.S., where RAI was mandatory. A post- implementation telephone survey assessed the opinions of Directors of Nursing and facility administrators about the RAI (Table I) (11, 24, 25). On the basis of 256 interviews, it was found that 63% of Directors of Nursing said staff had strongly opposed RAI during RAI implementation, and 43% said that staff was still resistant to using the RAI after implementation. Although 68% of the administrators thought RAI presented an excessive paperwork burden, 64% said it was worthwhile and time- and effort- saving. The vast majority of the Directors of Nursing thought that the RAI was an improvement compared to the former assessment instrument, that assessment and care planning were qualitatively better and that the ability of the staff to assess the functional as well as cognitive status had improved after the implementation of the RAI.

In another study, 191 structured and open interviews were held in 18 nursing homes in 6 states in the U.S. (none of which were involved in the large evaluation study) (5). The sample included 132 professionals (21 administrators, 36 licensed nurses, 18 certified nursing assistants, 15 advocates, 15 professional associations, 27 regulations) and 59 MDS records. The interview contained 27 items about the changes in quality of care and quality of life after the OBRA '87 regulations. Ninety-six out of 132 professionals (73%) said the MDS was the most helpful component of OBRA '87. The MDS was described as a tool able to give a “whole picture” of the resident, allowing nurses to “know the resident better”. The same was advocated by nurses as a practical instrument for providing better care. Of 132 professionals, 86 (65%) stated that working with RAPs improved assessment, analysis and care plans. However, only 10 professionals indicated that it was a “major improvement”, others were less enthusiastic.

Table II. Effects of RAI on quality of life indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Difference in decline divided by different improvement (pre-RAI and post-RAI cohorts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical functioning</td>
<td>2.07</td>
</tr>
<tr>
<td>ADL index</td>
<td>2.07</td>
</tr>
<tr>
<td>Bowel incontinence</td>
<td>1.57</td>
</tr>
<tr>
<td>Urinary incontinence</td>
<td>1.57</td>
</tr>
<tr>
<td>Mental functioning</td>
<td>1.57</td>
</tr>
<tr>
<td>Cognitive Performance Scale</td>
<td>1.92</td>
</tr>
<tr>
<td>Sad or anxious mood</td>
<td>0.10</td>
</tr>
<tr>
<td>Unmet Behaviour Scale</td>
<td>*</td>
</tr>
<tr>
<td>Social functioning</td>
<td>0.95</td>
</tr>
<tr>
<td>Social Engagement Scale</td>
<td>0.95</td>
</tr>
<tr>
<td>Being understood</td>
<td>0.89</td>
</tr>
<tr>
<td>Understanding others</td>
<td>0.89</td>
</tr>
<tr>
<td>Other</td>
<td>0.89</td>
</tr>
</tbody>
</table>

This table is based on the results published by Philips et al. (27).

The most important effects of the RAI are found in the indicators of the care process. The comprehensiveness and accuracy of the care plans improved, especially in the U.S. From a methodological point of view, one could object that the standard by which these care plans were compared was itself derived from the residents. (Table I). The limitations of the RAI are also noteworthy. The research into the development and testing of the MDS and RAPs created a standard for quality of care in the U.S. (21). In Japan, improvements were found in the quality of care too. However, these results must be interpreted carefully, because of the selection bias and the quality of the participating facilities. In interviews with Directors of Nursing in the U.S., resistance to the implementation of the RAI was found. This may be related to the fact that the implementation of the RAI was mandatory and that the RAI training programmes offered by the nursing home management differed greatly from one nursing home to another (personal communications).

As regards outcome indicators of care, the implementation of the RAI showed encouraging general effects. The RAI method seems to have the most positive effects on the most impaired residents, since they declined less rapidly in function. Residents who score better on physical and mental functioning improved less after the RAI implementation. This could be due to a statistical ceiling effect. Another explanation could be that there is a shift in care to those who need it most, potentially a result of the RAI's objective to assess patient needs. The overall effects showed a stabilization of the sample, with fewer residents declining and fewer improving.

Positive effects on specific health problems were found, particularly on dehydration and pressure ulcers. An interesting fact was that more daily pain was registered. Perhaps this is because there is no RAP for pain. This result suggests that assessment with the RAI is strongly guided by the other RAPs.

In general, the psychosocial areas of assessment showed few positive effects. Indeed, in the U.S. studies, the indicators of psychosocial functioning showed a net negative result (Table I). The lower impact of the RAI on psychosocial outcomes deserves more study.

An important positive effect was the decline in hospital admissions in the U.S. and the shift in residents who were hospitalized. This can be attributed partly to a trend in the U.S. towards death occurring in nursing homes rather than in hospitals (2, 16, 25). However, the increase in the proportion of deaths occurring in nursing homes was small in comparison to the decline in hospitalization. It seems possible that the RAI helped reduce the incidence of serious conditions, or exacerbations of chronic diseases, and may have been helpful in selecting residents who could benefit most from hospitalization.

With regard to the methodological soundness of the evaluation studies, it should be noted that the positive effects found in the U.S. studies were based on a non- controlled design. Although the interrupted time series design (with large representative cohorts) was used in a powerful approach, without control groups it is difficult to attribute the observed effects solely to the implementation of the RAI. Because the RAI was not nationally implemented, a randomized controlled trial was impossible. Furthermore, as one part of a set of regulations (OBRA '87) for improving the quality of care, one could argue that these regulations highlighted the flaws and were an incentive to provide better care. The research design of the Japanese evaluation study also lacked a control group. With regard to the outcome measures of the RAI, some have argued that the perspective of the residents has received little attention in the evaluation studies (30, 33).

The lack of randomized controlled trials and the lack of information on residents' experiences has prompted the call for a definitive evaluation study, with control groups, in the Netherlands. This evaluation includes studies on process measures of quality of care plans and staff satisfaction, as well as process and outcome measures of perceived quality of life.

For future research, the implementation of the RAI in different countries on different continents provides excellent opportunities. Data sets with identical patient...
Evaluation studies of staff satisfaction have been carried out in the U.S., where RAI was mandatory. A post-implementation telephone survey assessed the opinions of Directors of Nursing and facility administrators about the RAI (Table I) (11, 24, 25). On the basis of 256 interviews, it was found that 63% of Directors of Nursing said staff had strongly opposed RAI during RAI implementation, and 43% said that staff was still resistant to using the RAI after implementation. Although 68% of the administrators thought RAI presented an excessive paperwork burden, 64% said it was worth the time and effort spent by staff. The vast majority of Directors of Nursing thought that the RAI was an improvement compared to the former assessment instrument, that assessment and care planning were qualitatively better and that the ability of the staff to assess the functional as well as cognitive status had improved after the implementation of the RAI.

In another study, 191 structured and open interviews were held in 18 nursing homes in 6 states in the U.S. (none of which were involved in the large evaluation study) (5). The sample included 132 professionals (21 administrators, 36 licensed nurses, 18 certified nursing assistants, 13 advocates, 15 professional associations, 27 regulatory, and 59 MDS reviewers). The interview contained 72 items about the changes in quality of care and quality of life after the OBRA '87 regulations. Ninety-six out of 132 professionals (73%) said the MDS was the most helpful component of OBRA '87. The MDS was described as a tool able to give a "whole picture" of the resident, allowing nurses to "know the resident better," and it was seen by care providers as a practical instrument for providing better care. Of 132 professionals, 86 (65%) stated that working with RAPs improved assessment, analysis and care plans. However, only 10 professionals indicated that it was a "major improvement," others were less enthusiastic.

Outcome measures: health problems and quality of life

In the U.S., the prevalence and changes (improvement or decline) of eight selected health conditions and problems were studied in the evaluation cohorts (6). Depression had a lower prevalence after RAI implementation (2% vs 1% post), and the same applied for "somatic ailments" (which showed a decline from 4.5% to 3%) (Table I). The prevalence of "daily pain" however had a higher prevalence after implementation (13.4% pre vs 17.8% post). Significant changes in the prevalence of "falls," "malnutrition," "debitus," "vision" and "poor teeth"

Table II. Effects of RAI on quality of life indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Difference in decline divided by difference in improvement (in pre- and post-RAI cohorts)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical functioning</td>
<td>2.02</td>
</tr>
<tr>
<td>ADL index</td>
<td>2.02</td>
</tr>
<tr>
<td>Bowel incontinence</td>
<td>0.92</td>
</tr>
<tr>
<td>Urinary incontinence</td>
<td>0.15</td>
</tr>
<tr>
<td>Mental functioning</td>
<td>1.57</td>
</tr>
<tr>
<td>Cognitive Performance Scale</td>
<td>1.92</td>
</tr>
<tr>
<td>Sad or anxious mood</td>
<td>0.05</td>
</tr>
<tr>
<td>Unmet Behaviour Scale</td>
<td>*</td>
</tr>
<tr>
<td>Social functioning</td>
<td>*</td>
</tr>
<tr>
<td>Social Engagement Scale</td>
<td>1.89</td>
</tr>
<tr>
<td>Being understood</td>
<td>0.05</td>
</tr>
<tr>
<td>Understanding others</td>
<td>0.60</td>
</tr>
</tbody>
</table>

This table is based on the results published by Phillips et al. (27).

Ratio < 1 means reductions in decline outweigh the reduction in improvement.

The most important effects of the RAI are found in indicators of the care process. The comprehensiveness and accuracy of the care plans improved, especially in the U.S. From a methodological point of view, one could object that the standard by which these care plans were compared was itself derived from the resident's. The implementation of the RAI and RAPs. The research into the development and testing of the MDS and RAPs created a standard for quality of care to the U.S. (23). In Japan, improvements were found in the quality of care too. However, these results may be interpreted carefully, because of the selection-bias and the control group in the participating facilities. In interviews with Directors of Nursing in the U.S., resistance to the implementation of the RAI was found. This may be related to the fact that the implementation of the RAI was mandatory and that the RAI training programmes offered by the nursing home management differ greatly from one nursing home to another (personal communications).

As regards outcome indicators of care, the implementation of the RAI showed encouraging general effects. The RAI method appears to have the most positive effects on the most impaired residents, since they declined less rapidly in function. Residents who score better on physical and mental functioning improved less after the RAI implementation. This could be due to a statistical ceiling effect. Another explanation could be that there is a shift in care to those who seem to need it most, potentially a result of the RAI's objective to assess patient needs. The overall effects showed a stabilization of the sample, with fewer residents declining and fewer improving.

Positive effects on specific health problems were found, particularly on dehydration and pressure ulcers. An interesting fact was that more daily pain was registered. Perhaps this is because there is no RAP for pain. This result suggests that assessment with the RAI is strongly guided by the other RAPs.

In general, the psychosocial areas of assessment showed less positive effects. Indeed, in the U.S. study three indicators of psychosocial functioning showed a net negative result (Table II). The lower impact of the RAI on psychosocial outcomes deserves more study.

An important positive effect was the decline in hospital admissions in the U.S. and the shift in residents who were hospitalized. This can be attributed partly to a trend in the U.S. towards death occurring in nursing homes rather than in hospitals (2, 16, 25). However, the increase in the proportion of deaths occurring in nursing homes was small in comparison to the decline in hospitalization. It seems possible that the RAI helped reduce the incidence of serious conditions, or exacerbations of chronic diseases, and may have been helpful in selecting residents who could benefit most from hospitalization.

With regard to the methodological soundness of the evaluation studies, it should be noted that the positive effects found in the U.S. studies were based on a non-controlled design. Although the interrupted time series design (with large representative cohorts) that was used was a powerful approach, without control groups it is difficult to attribute the observed effects solely to the implementation of the RAI. Because the RAI was nationally implemented, a randomized controlled trial was impossible. Furthermore, as one part of a set of regulations (OBRA '87) for improving the quality of care, one could argue that these regulations highlighted the flaws and were an incentive to provide better care. The research design of the Japanese evaluation study also lacked a control group. With regard to the outcome measures of the RAI, some have argued that the perspective of the residents has received little attention in the evaluation studies (30, 33).

The lack of randomized controlled trials and the lack of information on residents' experiences has prompted the call for a definitive evaluation study, with control groups, in the Netherlands. This evaluation includes studies on process measures of quality of care plans and staff satisfaction, as well as process and outcome measures of perceived quality of care.

For future research, the implementation of the RAI in different countries on different continents provides excellent opportunities. Data sets with identical patient
Effects of the Resident Assessment Instrument in nursing homes

The Resident Assessment Instrument (RAI) is a method for comprehensive functional assessment of nursing homes, with the objective to guide the development of individual care plans. RAI consists of:

- Minimum Data Set (MDS)
- Identification of problem areas
- Specific Resident Assessment Protocols (RAPs)
- A user manual

The MDS is a core assessment item that provides a comprehensive picture of each resident's functional, cognitive and emotional status and a variety of other areas, including resident's ability to perform ADLs and IADLs, cognition and behavior, pain, and other issues. The full MDS assessment is repeated yearly. In addition, a quarterly review is done with a subset of MDS assessment items. This review is intended to monitor the resident's response to the care plan and determine whether sufficient change has occurred to trigger a more comprehensive assessment.

Problem areas are identified by applying a set of algorithms to a resident's MDS data, which will suggest problems, risks for development of problems, or potential for improved function.

The classification focused RAPs (see table below) specify the management of identified problem areas in the resident's status. The protocols are intended to help directly link the MDS information to care plan decisions. Facilitate staff forecasting: the more specialized assessment guidelines found in the RAPs to identify potentially treatable causes and focus decisions related to the resident’s plan of care and services.

The user manual provides detailed specifications about how to complete the MDS and RAP assessment process (e.g. interviewing staff, residents and family members, reviewing records), and contains item definitions, examples of the assessment clinical guidelines for using the RAPs to develop care plans.

Minimum Data Set Items (MDS)

- Background and customary routines
- Communication-hearing patterns
- Physical functioning and structural problems
- Mood and behaviour patterns
- Disease diagnoses
- Oral-nutritional status
- Skin condition
- Special treatments and procedures
- Cognitive patterns
- Vision patterns
- Activity patterns
- Activity pursuit patterns
- Health conditions
- Oral-dental status
- Medications

Resident Assessment Protocols (RAP’s)

- Delirium
- Visual function
- ADL-functional-substituting potential
- Psychosocial well-being
- Behaviour problem
- Falls
- Feeding tubes
- Dental care
- Psychotropic drugs
- Seizures and dementia
- Communication
- Skin integrity and indwelling catheter
- Mood state
- Activities
- Nutritional status
- Dehydration-fluid maintenance
- Physical restraints

In the U.S., the RAI is mandated for all Medicare-Medicaid nursing homes. In Europe, Canada and Japan the RAI has been implemented in the assessment of institutionalized, frail elderly people on a more voluntary basis. In Japan, RAI has been recommended (not mandated) by the Ministry of Health and Welfare for three types of long-term care facilities for the elderly: geriatric hospitals, health facilities for the elderly and special homes for the aged. In several European countries (Iceland, Denmark, Sweden, United Kingdom, France, the Netherlands, Germany and Italy), local initiatives have been taken to start implementation of RAI in a restricted number of nursing homes. In Iceland, RAI is mandatory and used in all nursing homes.
Effects of the Resident Assessment Instrument in nursing homes


References