APPENDIX S

Maine Health and Higher Educational Facilities Authority, Taxable Nursing Home Advance and Payment History

MAINE HEALTH AND HIGHER EDUCATIONAL FACILITIES AUTHORITY

TAXABLE NURSING HOME ADVANCE AND PAYMENT HISTORY

30-Sep-98

	The Viking	Country Manor	Robinson's NCF	Pleasant Hill	* Merrill Memorial Manor	** F.C.R.	Tall Pines	*** Riveridge	Woodford Park	
Total Advances	293,018.59	172,795.80	61,416.20	163,861.16	629,081.53	112,198.58	238,696.72	149,353.00	1,700,888.10	
Date of first advance	12/28/95	6/27/96	6/27/96	6/27/96		7/8/97	12/31/97	6/30/98	12/31/97	
Date of most recent advance	6/26/96	11/4/96	10/8/96	12/13/96		6/30/98	6/30/98	6/30/98	8/5/98	
Total repayment of advances	293,018.59	35,000.00	35,000.00	-	6,090.00	41,548.90	-	149,353.00	-	
Date of most recent payment	7/15/96	8/21/98	8/21/98			5/8/98		9/29/98		
Outstanding Balance	-	137,795.80	26,416.20	163,861.16	622,991.53	70,649.68	238,696.72	-	1,700,888.10	2,961,299.19

* - Merrill Memorial Manor closed October 1997. The Authority foreclosed on the property and is currently attempting to sell the licensed beds and is listing the real estate with a local agent.

** - F.C.R. has signed a sales agreement with Medical Care Development. The Authority advances will be made current at the closing date with the debt assumed by Medical Care Development.

APPENDIX T

Nursing Home Quality Indicator Development, Center for Health Systems Research and Analysis, University of Wisconsin, February 9, 1998

CHSRA

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University of Wisconsin

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Nursing Home Quality Indicator Development

Researchers at the Center for Health Systems Research and Analysis (CHSRA), University of Wisconsin-Madison have developed and tested a set of indicators of quality of care in nursing homes and quality monitoring system for using the indicators for internal and external quality review and improvement. The development of the quality indicators (QIs) and quality monitoring system (QMS) results from two related developments in the field of nursing home quality assurance. The first is the growing interest among health care professionals, consumers, policy makers, and advocates about issues related to the quality of care and quality of life of nursing home residents. The second is the Multistate Nursing Home Case Mix and Quality (NHCMQ) Demonstration funded by the Health Care Financing Administration (HCFA).

The QIs and QMS originally were derived from items on the Minimum Data Set Plus (MDS+). The MDS+ is an enhanced version of the MDS, developed for use within the NHCMQ Demonstration. Comparable QIs have been developed more recently to make use of the more commonly used MDS version 2.0. The differences between QIs based on different data sets are discussed more fully elsewhere (MDS+ and MDS 2.0 QI Variants).

The QIs were formulated and developed through a systematic process involving extensive interdisciplinary clinical input, empirical analyses, and field testing. Clinical and research staff at the University of Wisconsin-Madison developed an initial draft of a set of indicators and potential associated risk factors based on an extensive review of relevant clinical research literature and the care-planning guidelines from the RAPs. Several national clinical panels representing the major disciplines involved in the provision of nursing home care reviewed the initial draft. These disciplines included nursing, medicine, pharmacy, medical records, social work, dietetics, physical therapy, occupational therapy, and speech and language therapy, as well as resident advocates and administrators. The clinical panels provided a rigorous critique and assisted in refining or deleting proposed QIs and defining new QIs. The clinical review culminated in the panels being convened in July, 1991 to provide an assessment of the QIs within and across disciplines. This important step was followed with in-depth review by a research advisory panel convened to provide consultation in areas of analytic concern. The panel members have continued to provide consultation throughout the project. The result of the clinical panel meeting was a set of 175 QIs organized into the following twelve care domains:

1. Accidents
2. Behavioral & Emotional Patterns
3. Clinical Management
4. Cognitive Functioning
5. Elimination & Continence
6. Infection Control
7. Nutrition & Eating
8. Physical Functioning
9. Psychotropic Drug Use
10. Quality of Life
11. Sensory Function & Communication,
12. Skin Care

These 175 QIs have served as the basis for empirical analyses. QI development has been guided by several criteria including clinical validity, feasibility or usefulness of the information, and empirical analyses. Extensive analyses have been performed to further reduce the set of QIs to a comprehensive set of 30 QIs covering the twelve domains. (See QI Descriptions.) The QIs and QMS have been subjected to validation testing, and are now being used by some states' survey agencies and by a number of nursing facilities (PIP and ORYX projects) for quality assurance and improvement.

Last Updated February 09, 1998 04:51 PM

APPENDIX U

Nursing Facility Quality Indicator Descriptions, Center for Health Systems Research and Analysis, University of Wisconsin, February 6, 1998

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Nursing Facility Quality Indicator Descriptions

Below is a list of quality indicators (QIs), by domain, along with brief descriptions. Depending upon the version of MDS 2.0 assessment being used, the computation of some of these QIs varies or cannot be performed. Please see the precise definitions available for download elsewhere on this web site.

Accidents

QI 1.1 Incidence of New Fracture

Residents who have a hip fracture or other fracture that is new since the last assessment. This QI is not risk adjusted and the denominator (the denominator is the number of residents who could have flagged on the QI) is all residents on most recent assessment.

QI 1.2 Prevalence of Falls

Residents who have been coded with a fall within the most recent assessment (last 30 days). This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Behavioral / Emotional Patterns

QI 2.1 Prevalence of Behavioral Symptoms Affecting Others

Residents who have displayed any type of problem behavior toward others on the most recent assessment. Behavioral symptoms includes verbal abuse, physical abuse, or socially inappropriate/disruptive behavior. The behavior has had to occur at least once in the assessment period (7 days).

This QI is RISK ADJUSTED. Residents are considered more likely (are at HIGH RISK) to exhibit behavior symptoms if they are cognitively impaired or have any psychotic conditions. Residents who do not have any of these conditions are considered LOW RISK. The denominator for the QI is all residents on most recent assessment.

QI 2.2 Prevalence of Symptoms of Depression

Residents with symptoms of depression on the most recent assessment. This is a complex definition. Residents are considered to have this QI if they have a sad mood and have 2 or more symptoms of functional depression (defined below).

The symptoms of functional depression that are used in deciding whether a person meets one of these criteria also are complex. There are five symptoms, and some of those involve more than one item. These symptoms occurring within the most recent assessment period are: (1) negative statements exhibited up to 5 days or more per week; (2) agitation or withdrawal exhibited up to 5 days per week or more, or resists care at least 1-3 days in the last 7 days; (3) waking with an unpleasant mood up to 5 days or more, or not being awake most of the day and not comatose; (4) being suicidal or having recurrent thoughts of death up to 5 days or more; and (5) weight loss. This QI is not risk adjusted and the denominator is all residents on the most recent assessment

QI 2.3 Prevalence of Depression Without Antidepressant Therapy

Residents with symptoms of depression and no antidepressant therapy on the most recent assessment. Symptoms of depression are defined using the same criteria described above and no antidepressant therapy was provided. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Clinical Management

QI 3.1 Use of 9 or More Different Medications

Residents who received 9 or more different medications on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Cognitive Patterns

QI 4.1 Onset of Cognitive Impairment

This QI measures the onset of cognitive impairment between the most recent and previous assessments. It identifies those residents who were not cognitively impaired on the previous assessment, but who are cognitively impaired on their most recent assessment. Cognitive impairment is defined as having impaired decision making abilities and impaired short term memory problems. The denominator is only residents who were not cognitively impaired on the previous assessment. This QI is not risk adjusted.

Elimination / Incontinenece

QI 5.1 Prevalence of Bladder or Bowel Incontinence

Residents who were determined to be incontinent or frequently incontinent on the most recent assessment. (Remember that this means bladder or bowel.) The denominator for this QI does not count those people who were comatose, had indwelling catheters, or ostomies at the most recent assessment.

This QI is RISK ADJUSTED. Residents are considered more likely to be incontinent if they have a severe cognitive impairment or are totally dependent (self performance) in ADL's having to do with mobility (bed mobility, transfer, and locomotion). These residents are at HIGH RISK for incontinence. Those residents who do not have these conditions and are not excluded from the QI are considered LOW RISK.

QI 5.2 Prevalence of Occasional or Frequent Bladder or Bowel Incontinence Without a Toileting Plan

This QI focuses on those residents who are assessed as incontinent, either occasionally or frequently, and who do not have a toileting plan noted on the most recent assessment. In this case, the denominator would be those residents with frequent or occasional incontinence in either bladder or bowel on the most recent assessment. This QI is not risk adjusted.

QI 5.3 Prevalence of Indwelling Catheters

These are residents who were noted to have an indwelling catheter on their most recent assessment. The denominator is all residents on most recent assessment. This QI is not risk adjusted.

QI 5.4 Prevalence of Fecal Impaction

Residents who have been noted with a fecal impaction on their most recent assessment. This QI is considered to be a sentinel health event, meaning that even if one person flags on this QI, it is of such a serious nature, that it should be investigated. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Infection Control

QI 6.1 Prevalence of Urinary Tract Infections

Residents identified on the most recent assessment as having had a urinary tract infection. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 6.2 Prevalence of Antibiotic/Anti-infective Use

Residents identified on the most recent assessment as receiving any antibiotic/anti-infective medication. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Nutrition / Eating

QI 7.1 Prevalence of Weight Loss

Residents noted with a weight loss (5% or more in 30 days or 10% or more in last 6 months) on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 7.2 Prevalence of Tube Feeding

Residents noted to have feeding tubes on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 7.3 Prevalence of Dehydration

Residents who have been either coded with the condition of dehydration (MDS check box) or with a diagnosis of dehydration (MDS ICD-9 CM 276.5). This QI is not risk adjusted and the denominator is all residents on most recent assessment.

Physical Functioning

QI 8.1 Prevalence of Bedfast Residents

Residents who have been determined to be bedfast on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 8.2 Incidence of Decline in Late Loss ADLs

This QI measures decline in ADL functioning (self performance) over two assessment periods---the most recent and the assessment prior to that. Late loss ADLs are those which are considered the "last" to deteriorate—i.e., bed mobility, transferring, eating, and toileting. Over the assessment periods, there has been at least one level decline in two or more of these ADLs or there has been at least two levels of decline in one or more of them. In other words, the resident has experienced a gradual decline in two or more areas or a rather significant decline in one.

The denominator does not include residents who already were determined to be totally dependent or comatose on the previous assessment. This QI is not risk adjusted.

QI 8.3 Incidence of Decline in ROM

Residents with increases in functional limitation in Range of Motion (ROM) between previous and most recent assessment.

This QI is RISK ADJUSTED. Residents at HIGH RISK for the increases in functional limitations are those who are comatose on the most recent assessment. HIGH RISK residents also include people who were coded as being totally dependent in the mobility ADLs on the previous assessment. All other residents are considered to be LOW RISK. This QI includes only residents with the previous and most recent assessments on file.

QI 8.4 Lack of Training/Skill Practice or ROM for Mobility Dependent Residents

Cannot be defined because certain information is not available on the MDS 2.0 Quarterly.

Pyschotropic Drug Use

QI 9.1 Prevalence of Antipsychotic Use in the Absence of Psychotic and Related Conditions

This QI identifies those residents who are receiving antipsychotics on the most recent assessment. The denominator for this QI excludes those residents with psychotic disorders, schhizophrenia, Tourette's, Huntington's or those with hallucinations.

This QI is RISK ADJUSTED. Residents who exhibit both cognitive impairment and behavior problems at the most recent assessment are considered at HIGH RISK to receive antipsychotic medication. All others are considered at LOW RISK.

QI 9.2 Prevalence of Antipsychotic Daily Dose in Excess of Surveyor Guidelines

This QI identifies those residents with an average daily antipsychotic dose in excess of the surveyor guidelines on the most recent assessment. The denominator for this QI excludes those residents with psychotic disorders, schhizophrenia, Tourette's, Huntington's or those with hallucinations.

QI 9.3 Prevalence of Antianxiety/Hypnotic Drug Use

Residents who received antianxiety medications or hypnotics on the most recent assessment. The denominator for this QI excludes those residents with psychotic disorders, schhizophrenia, Tourette's, Huntington's or those with hallucinations. This QI is not risk adjusted.

QI 9.4 Prevalence of Hypnotic Use More Than Two Times in the Last Week

Residents who received hypnotics more than twice in the last week on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 9.5 Prevalence of Use of Any Long-Acting Benzodiazepine

Residents who received long-acting benzodiazepines on most recent assessment. This QI is not risk adjusted and the denominator excludes those residents with seizure disorders, cerebral palsy, tardive dyskinesia or spinal cord injury.

Quality of Life

QI 10.1 Prevalence of Daily Physical Restraints

Residents who were restrained (trunk, limb, or chair) on a daily basis on the most recent assessment. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

QI 10.2 Prevalence of Little or No Activity

Residents who, on the most recent assessment, were noted with little or no activity. The denominator includes all residents except those who are comatose. This QI is not risk adjusted.

Sensory Functioning

QI 11.1 Lack of Corrective Action for Sensory or Communication Problems

Residents with visual impairment, hearing impairments or poor expression or understanding, without corrective action. This QI is not risk adjusted and the denominator is all residents on the most recent assessment.

Skin Care

QI 12.1 Prevalence of Stage 1-4 Pressure Ulcers

Residents who have been assessed with any stage pressure ulcer(s) Stage 1-4 on the most recent assessment. Pressure ulcers can be identified on the MDS either by a checkbox or an ICD-9 707.0 code. The denominator is all residents on most recent assessment.

This QI is RISK ADJUSTED. Residents are considered to be at HIGH RISK for the development of pressure ulcers if they have any one or more of the following conditions: they are impaired for bed mobility or transfer; or are comatose; or are malnourished; or have an end stage disease on the most recent assessment. All other residents are considered to be at LOW RISK. Residents at low risk that flag should be investigated since this would be considered a sentinel event.

QI 12.2 Insulin-dependent Diabetes with No Foot Care

Insulin-dependent residents with diabetes that do not have a foot care program. This QI is not risk adjusted and the denominator includes all residents on the most recent assessment.

Last Updated February 06, 1998 04:24 PM

APPENDIX V

Summary of Minnesota Nursing Home Contract Project

NURSING HOME CONTRACT PROJECT

The Nursing Home Contract Project:

* Authorized by 1995 Laws of Minnesota, Chapter 207, Article 7, Section 32 (hereinafter Minn. Stat. Section 256B.434) and enables the Commissioner of the Department of Human Services to establish a contractual alternative payment system as an alternative way to pay for nursing facility services under the Medical Assistance (MA) program. To implement this legislation, the Department has developed the "Nursing Home Contract Project."

* The purpose of the Nursing Home Contract Project is to explore a contract-based payment system as an alternative to the current cost-based system for reimbursement of nursing facility services under Rule 50 and Minn. Stat., Section 256B.432.

* The Nursing Home Contract Project enables the Commissioner to determine whether a contract-based payment system reduces the level of regulation, reporting, and procedural requirements, and provides greater flexibility and incentives for nursing facilities to stimulate competition and innovation.

* Special attention will be paid to whether this project promotes consumer satisfaction, maximizes Medicare utilization, maintains the best outcomes for consumers, and networks with community long-term care resources.

* The Department established an external advisory committee to assist in the development and implementation of the Nursing Home Contract Project.

Requests for Proposals:

* The Commissioner was authorized to issue three requests for proposals ("RFPs") prior to July 1, 1997. The Commissioner could contract with up to 40 nursing facilities as part of each RFP.

* The 1997 Laws of Minnesota amended Minn. Stat. Section 256B.434. Effective July 1, 1997, the Commissioner is required to issue a RFP from nursing homes to provide services on a contract basis at least twice annually. The Commissioner may select the number of proposals that can be adequately supported with state resources.

Implementation Schedule:

* RFPs issued: Round 1 - 9/5/95; Round 2 - 2/20/96; Round 3 - 8/5/96.
A total of 111 facilities are currently under contract based on selections from the first three rounds.

- A fourth RFP was issued on 7/28/97. An additional 50 facilities have been selected to participate in the project. Contract negotiations are currently in process and expect to fully executed by December 31, 1997.

Reimbursement:

- Selected nursing facilities will be paid the case mix rate (total payment rate) that they would have received under Minn. Stat. Section 256B.432, for the first year of the contract. Nursing facilities will receive an inflation adjustment effective each July 1 thereafter, for up to a total of four consecutive years.

- The nursing facility is not subject to audits of historical costs or revenues, or paybacks; or retroactive adjustments based on those costs or revenues for any reporting year after the base year that is the basis for the calculation of the first rate year of the project.

- The nursing facility may charge a short-stay private pay rate for residents admitted to the nursing facility who are likely to be discharged less than 101 days after admission. The maximum private pay rate for short-stay private paying residents is an amount equal to the greater of the estimated Medicare payment rate for the nursing facility or the resident case mix payment rate.

- If the resident remains in the facility longer than 100 days, the nursing facility shall retroactively reduce the resident's payments to the contract payment rate effective from the date of admission and shall reimburse the resident.

- The nursing facility must agree to comply with Minn. Stat. Section 256B.48, subd. 1 regarding the provision of, and charges for special services. If the nursing facility included a special service beyond those required to comply with licensure or certification standards in the total payment rate for the base year rate, the nursing facility must agree not to charge separately for this same service while under contract.

Medicare Certification: A nursing facility selected to participate in this project may negotiate Medicare participation requirements as conditions of the contract. Requirements of the RFP are designed to maximize Medicare participation and prevent discrimination against MA patients.

Moratorium Exception: Contract payment rates will not be adjusted for any additional cost that a nursing facility incurs as a result of a construction project. Rates for a nursing facility under contract will not reflect any additional costs attributable to the sale of a nursing facility, or to any construction undertaken during the term of the contract. A nursing facility participating in the Project is not prevented from seeking approval of an exception to the moratorium, and if approved, the nursing facility's rates shall be adjusted to reflect the cost of the project.

For additional information, please contact Allan Weinand at the DHS - (612) 297-3711.
11/4/97

APPENDIX W

Report to the 1998 Minnesota Legislature on the Alternative Payment System for Nursing Facility Care

HW

REPORT TO THE 1998 LEGISLATURE ON NURSING HOME OUTCOMES: A COMPONENT OF THE ALTERNATIVE PAYMENT SYSTEM (APS) PROJECT

JANUARY 1998

MINNESOTA DEPARTMENT OF HUMAN SERVICES
AGING INITIATIVE: PROJECT 2030
444 Lafayette Road
St. Paul, Minnesota 55155-3844
612-296-2062

SUMMARY

The Laws of Minnesota 1997, Chapter 203, article 9, section 23 requires that the Commissioner of Human Services report to the Legislature on the plan to develop a system of incentive-based payments for nursing facilities in the Alternative Payment System Demonstration Project.

The Minnesota Department of Human Services is establishing a system of outcome-based measures for quality in nursing homes as a required component of the legislatively authorized Alternative Payment System Demonstration Project. This project is testing the feasibility of a new way of paying nursing facilities in Minnesota that is based upon a negotiated contract for services instead of a cost-based reimbursement system under Rule 50. The outcome measures developed could be used to pay nursing facilities in the project up to 5% above each facility's contract rate for achieving pre-determined benchmarks within these outcome measures.

The department is facilitating a public/private work group composed of key stakeholders to design and implement the system of quality outcome measures for nursing homes. The formation of this work group was suggested by the two nursing home associations and other stakeholders that responded to an RFI in March 1997. The department established this group in June 1997. Prior to this, the department had tried unsuccessfully for several months to find an appropriate and affordable outside contractor to complete this work.

Since its formation, the group has resolved a large number of policy and procedural issues related to the design and implementation of an outcomes-based system of measuring quality of care in nursing facilities. The group has proven to be an excellent example of problem-solving and system development by those most directly affected by the decisions made. All members agree on the critical importance of establishing widely accepted outcome measures for nursing homes, but have various perspectives on how to accomplish the task. Thus far, the group has agreed on the quality indicator system to use and how the data will be collected, and chosen a subset of indicators to focus on. Still to be finalized in 1998 are the process to use for obtaining and using consumer satisfaction information on "quality of life" measures, the establishment of benchmarks for each of the quality indicators, and design of the actual incentive payment system.

Status of Work

Facilities in the APS demonstration project will begin transmitting Minimum Data Set (MDS) data to the Minnesota Department of Health on April 1, 1998, and the public/private group will begin tracking key quality indicators. The group hopes to set baseline benchmarks, begin the process of testing these benchmarks and develop a method for tying achievement of outcomes to incentive payments by June 1998. Once this work is successfully completed, the department estimates the first possible date for implementation of an incentive payment system would be July 1, 1999, if approved by the Legislature.

Why Outcomes are Important

Establishing a system of quality of care outcomes in nursing facilities and a way to regularly measure whether nursing facilities are achieving them is essential as the department moves forward in its transition from cost-based provider reimbursement to performance-based contracts where high achievement of outcomes can be rewarded. This project also helps prepare nursing facilities for the future, in which they will increasingly be under contract with managed care organizations to provide nursing facility care to managed care enrollees.

ADDITIONAL DETAILS ABOUT THE WORK ON NURSING HOME OUTCOMES

Purpose of Contract Project

The 1997 Legislature requested a progress report on the development of a system of outcome-based measures for nursing home care.

The outcomes-based system is being developed as a component of the Nursing Home Contract Project which the department has established to implement 1995 Minnesota Statutes, Section 256B.434. This law authorized the Commissioner of the Department of Human Services to establish a contractual alternative payment system as an alternative way to pay for nursing facility services under the Medical Assistance (MA) program. The purpose of this project is to explore a contract-based payment system as an alternative to the current cost-based system for reimbursement of nursing facility services under Rule 50. Facilities in the contract project sign a contract with the state agreeing to per diem rates adjusted for inflation and case mix only. This means that the facilities do not receive payments adjusted retroactively based on cost reports submitted and audited by the state, as is done under Rule 50.

Along with this new way of paying for nursing facility services, the 1995 legislation also authorized the Commissioner to develop outcome-based measurement standards and data collection processes related to the provision of nursing facility services and to develop incentive-based payments for achieving outcomes. Payments of up to 5% of each facility's contract rate may be paid to facilities that achieve specified outcomes.

Facilities must apply and be selected to participate in the Nursing Home Contract Project. As of January 1998, 160 nursing facilities (out of the 444 facilities in the state) have been selected and now participate in the project. As three more RFPs are issued between now and 1999, it is expected that up to 150 additional facilities may be added to the Contract Project. The facilities selected for the Nursing Home Contract Project are required to participate in the development and implementation of an outcome-based incentive payment system.

Implementation of the Outcomes Component of Contract Project

Soon after the establishment of the Contract Project in 1995, the department created a work group on outcomes. The work of this group resulted in the publication of an RFP in the State Register to hire an outside contractor to complete the work necessary to design a system of outcomes, test and validate these outcomes within contract facilities, design and test a system of incentive payments, and make recommendations for how the state could implement both these systems.

In March 1996, eight proposals were received and reviewed by both internal and external reviewers. However, the top-rated responders most capable of completing the large amount of work included in the RFP requested more funds than were available. Midway through the RFP process, HCFA had limited the amount of funds the project could request from each of the contract facilities to pay for the outcomes and incentive payment development work, thus reducing the amount of funding the department had anticipated to have available. Attempts by the state to secure other funds to supplement these existing funds were unsuccessful.

The RFP was cancelled, and state staff spent the next few months talking with national and local experts about outcomes systems, quality indicators, and payment systems based upon outcomes about alternative ways of completing the necessary work within the available budget. In early 1997, an RFI was published in the State Register, requesting ideas and suggestions for how best to complete the project. Responders to the RFI included the nursing home associations, other provider groups as well as national and local research and academic organizations.

As a result of the suggestions submitted under the RFI, the department formed a partnership with the other key stakeholders on this issue and began to facilitate a public/private work group comprised of these stakeholders—the nursing home associations, health plans, Minnesota Senior Health Options Project, the Department of Health, and consumer organizations (see Attachment A for the membership list). There was consensus among these stakeholders that together the group could define and resolve the issues surrounding outcomes and incentive payments more acceptably and effectively than an outside contractor. In particular, the two nursing home associations were moving ahead on outcomes-based systems and were hopeful that any system developed by the state would be based on already existing work and not be a separate or duplicative effort.

The public/private work group began meeting in June 1997, and held eight meetings between June and December to work on the design and implementation of the project. The group will continue to meet throughout 1998 to complete their work. The key elements of the project as designed by the group are described and summarized below.

Outcome-based Measures for Nursing Home Care

Even though a large number of data and reporting systems are required of nursing facilities by the federal and state governments, until recently, none have been comprehensive and detailed enough at the resident level to measure quality across facilities in a consistent and useful way. To address this problem, the Health Care Financing Agency (HCFA) developed a comprehensive system of resident-level data that includes a data system called the Minimum Data Set (MDS), under its mandate contained in the 1987 Omnibus Budget Reconciliation Act (OBRA),

The MDS includes information about a resident's functional, nutritional, cognitive, social, emotional, and clinical health status. HCFA has required all nursing facilities to complete and maintain MDS data on all their residents since 1991. However, by June 1998, all nursing facilities will be required to electronically transmit MDS data at least on a monthly basis to a state repository (the Minnesota Department of Health in Minnesota) that will in turn transmit the data to HCFA. Actually, facilities have between December 22, 1997 and June 22, 1998 to gear up to meet this requirement, but by the June date, they *must* be transmitting MDS data to the state.

This requirement has been anticipated for a number of years, but the dates for implementation have just now been established The MDS data will provide the consistent, system-wide data base necessary for the development of a valid outcomes and incentive payment system.

Over the past several years, researchers at the Center for Health Systems Research and Analysis (CHSRA) at the University of Wisconsin-Madison have developed and tested a set of quality indicators of care in nursing homes that uses resident-level data from the MDS. The quality indicators (QIs) are derived from items on the MDS and are markers that indicate either the presence or absence of potentially poor care practices or outcomes. These indicators were developed through a systematic process involving extensive interdisciplinary clinical input, empirical analysis and field testing, and are considered by many (including HCFA that paid for most of the research) to be the best system available for measuring clinical outcomes in nursing home care.

Currently, there are 30 quality indicators within 12 quality of care domains (see Attachment B). Those who designed this system (led by Dr. David Zimmerman) acknowledge that while it does capture many *clinical* measures, it does not adequately address *quality of life* measures since the types of data needed to fully assess these domains are not collected as a part of MDS.

Work Group Decisions on Quality Indicators (See Attachment C)

- The system of quality indicators used within the outcomes system will be the system developed by the CHSRA in Wisconsin and based upon the MDS data set. Beginning April 1, 1998, all contract facilities will be required to submit their MDS data to the Minnesota Department of Health. Tracking of quality indicators will begin as soon as possible after data collection begins.
- The group has identified approximately 15 of the 30 CHSRA quality indicators that measure outcomes they consider most related to quality of care in nursing homes. On January 23, 1998, a group of clinicians selected by work group members will meet to review the quality indicators and make their recommendations on which most accurately measure quality of care in nursing facilities. The work group will then use this information to finalize a subset of measures for which to set benchmarks and to include in the incentive payment system.
- Contract facilities will be required to use these quality indicators and the related outcomes in their continuous quality improvement (CQI) process, and show that they are integrating the information into their required quality improvement plans.

Decisions Yet to be Made

- The contract facilities will be required to complete consumer satisfaction surveys, and the results of these surveys will be the basis for quality indicators that measure "quality of life" outcomes. The details on the actual instrument(s) and questions, who to survey and who will administer the survey will be finalized in early 1998. At this point, the work group does not necessarily see these quality of life measures being connected to the incentive payment system.
- Specific benchmarks or standards for achieving outcomes still need to be established for the chosen subset of quality indicators. This work will be completed in 1998.
- A method of tying these benchmarks to a system of incentive payments still needs to be described, analyzed, tested and be prepared for implementation. This work will hopefully be completed by June 1998.

Additional Information Available

Additional detailed information on any of the issues, decisions and future work efforts on nursing home outcomes is available from LaRhae Knatterud, Aging Initiative: Project 2030, Minnesota Department of Human Services, 296-2062.

ATTACHMENT A

Public/Private Work Group on Outcomes in Nursing Homes

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ATTACHMENT B

Nursing Home Quality Indicators

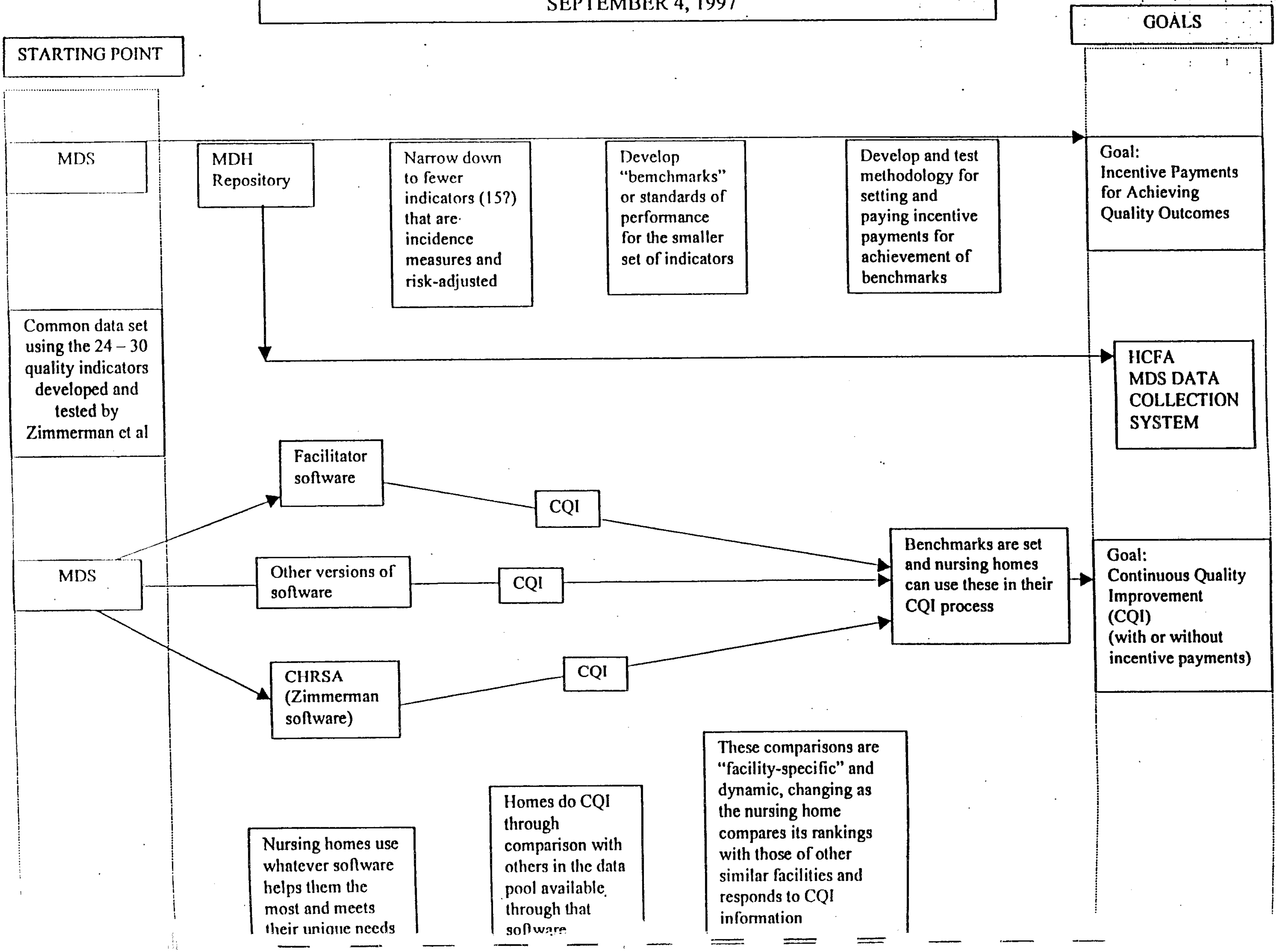
Domain	Quality Indicators	Process/ Outcome	Risk Adjustment
accidents	1. Prevalence of any injury	Outcome	No
	2. Prevalence of falls	Outcome	No
behavioral & emotional patterns	3. Prevalence of problem behavior toward others	Outcome	Yes
	4. Prevalence of symptoms of depression	Outcome	No
	5. Prevalence of symptoms of depression with no treatment	Both	No
clinical management	6. Use of nine or more scheduled medications	Process	No
cognitive patterns	7. Incidence of cognitive impairment	Outcome	No
elimination & continence	8. Prevalence of bladder/bowel incontinence	Outcome	Yes
	9. Prevalence of occasional bladder/bowel incontinence without a toileting plan	Both	No
	10. Prevalence of indwelling catheters	Process	Yes
	11. Prevalence of fecal impaction	Outcome	No
infection control	12. Prevalence of UTI's	Outcome	No
	13. Prevalence of antibiotic/anti-infective use	Process	No
nutrition & eating	14. Prevalence of weight loss	Outcome	No
	15. Prevalence of tube feeding	Process	No
	16. Prevalence of dehydration	Outcome	No
physical functioning	17. Prevalence of bedfast residents	Outcome	No
	18. Incidence of decline in late loss ADL's	Outcome	Yes
	19. Incidence of contractures	Outcome	Yes
	20. Lack of training/skill practice or ROM for mobility dependent residents	Both	No
psychotropic drug use	21. Prevalence of antipsychotic use in the absence of psychotic and related conditions	Process	Yes
	22. Prevalence of antipsychotic daily dose in excess of surveyor guidelines	Process	No
	23. Prevalence of antianxiety/hypnotic use	Process	No
	24. Prevalence of hypnotic use on a scheduled basis or PRN greater than two times in last week	Process	No
	25. Prevalence of use of any long-acting benzodiazepin	Process	No
quality of life	26. Prevalence of daily physical restraints	Process	No
	27. Prevalence of little or no activity	Outcome	No
sensory function/ communication	28. Lack of corrective action for sensory or communication problems	Both	No
skin care	29. Prevalence of stage 1-4 pressure ulcers	Outcome	Yes
	30. Insulin dependent diabetes with no foot care	Both	No

Source: Zimmerman et al. The Development and Testing of Nursing Home Quality Indicators. *Health Care Financing Review, 16(4)*: 107-123. Summer 1995

ATTACHMENT C

AGREEMENT BY MDS WORK GROUP ON PROCESS FOR USE OF MDS NURSING HOME OUTCOMES PROJECT

SEPTEMBER 4, 1997



APPENDIX X

“Assessing the Outcomes of Nursing Home Care,” by Dr. Robert Kane, June 6, 1998

June 6, 1998

Assessing the Outcomes of Nursing Home Care

Robert L. Kane

The State legislature authorizing the Contractual Alternative Payment Demonstration Project (CAPDeP) identified five areas within its outcomes framework for the demonstration project:

1. improved **cost-effectiveness** and **quality of life**, where effectiveness and quality of life are measured as clinical outcomes;
2. successful **diversion or discharge** to community alternatives;
3. decreased **acute care costs;**
4. improved **consumer satisfaction**;
5. the achievement of **quality care** (interpreted as better services or processes of care).

In one sense, this coupling of cost-effectiveness (especially the increased use of community care and the decrease in acute care costs) can be viewed as part of the overall thrust toward managed care. In a narrower sense, this effort can be seen as an attempt to link directly payment with the achievement of desired outcomes.

Defining and Measuring Quality Care in Long-term Care Nursing Facilities

Different dimensions of quality are included in the discussions of this topic. It may be helpful to distinguish among them. **Quality of care** usually refers to process measures that indicate whether the right things were done (and sometimes whether they were done with adequate skill). Quality of care also can be assessed in terms of outcomes. These outcomes may be thought of as both the absence of bad events and the presence of good ones. They can be expressed in clinical terms, such as death or measures of morbidity (e.g., decubiti) or physiology (e.g., blood sugar, blood pressure); or they can be expressed as more general domains such as function, cognition, social roles, and affect. The latter (in whole or in part) are often referred to as measures of **quality of life**. Most observers include **resident satisfaction** with care, services, and the living environment as an important quality outcome domain. Some people include **cost** as an outcome, but others, including the Institute of Medicine (Institute of Medicine, 1990), treat it separately, in order to calculate more rational cost-effectiveness ratios. The relevant cost as an outcome is not the cost of nursing home care, but the savings accrued by discharging a resident to some less expensive form of care or the savings from reduced use of expensive medical care, like hospitals.[1]

The Resident Assessment Instrument (RAI)

Assessing quality of care among residents in nursing facilities has been a great challenge. The 1986 report of the Institute of Medicine and the subsequent 1987 federal legislation (Nursing Home Reform Act), affirmed the importance of emphasizing clinical outcomes as a way to identify and measure quality care in nursing facilities. A central aspect of that effort was the institution of a national standard for the collection of resident assessment data, the Resident Assessment Instrument (RAI). A major component of the RAI is the Minimum Data Set (MDS). The MDS is a core set of screening and assessment elements which form the foundation of a comprehensive assessment for nursing home residents. The other components of the RAI include the Resident Assessment Protocols (RAPs) which prompt nursing home staff to do further assessments to determine the cause, extent, and nature of the actual or potential problems associated with the well-being of the resident. The RAI is to be used as the basis of developing and implementing an interdisciplinary plan of care to achieve the highest, practicable level of well-being for the resident.

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[1] There may be a net saving as a result of spending more money on primary care but less on hospital care.

The MDS has significant importance in that it is being used in all nursing facilities in Minnesota to systematically collect longitudinal data about all residents. Because it is an existing data collection system, it will serve as an important data source for developing an outcome-based measurement system.

The MDS is both a singular advance and a limitation. For many states, the MDS greatly increased the quality of information being collected as well as effective use of that information for planning and implementing care. However, the MDS was designed to be just that, a **minimum** data set. It was designed to be applied to all residents and thus used a lowest common denominator approach. The MDS uses only observational data; that is, information is reported by a third party who must infer from observable behaviors as many components of a total evaluation as are feasible from such a method. In effect, the MDS treats all respondents as though they were cognitively impaired, inferring outcomes from observed behaviors rather than asking directly. As a result, some important aspects of quality of life measures are absent and others can be only approximated. Although stringent efforts have been made to create measures from these observations that correspond to actual client reports, these quality of life measures cannot be interpreted as the real thing.

A second problem with the MDS is that the data are collected by nursing home staff (or sometimes by contractors). This approach can represent a real advantage in terms of increasing opportunities to use the data actively for care planning, but it means that certain aspects of questions cannot be realistically asked, such as questions related to how satisfied residents are with their care, living environment, and their overall quality of life. The RAI does not adequately address resident satisfaction and the construct quality of life. Nonetheless, quality of life is the essence of quality in nursing facilities.

The following table compares the dimensions of quality of life usually recommended for nursing home care appraisals (Kane, Bell, Riegler, Wilson & Kane, 1983) with the elements available from the revised MDS.

Measure	MDS Treatment
Physiological Function	minimal coverage
ADL Function	observed behavior, services provided
Pain/discomfort	observed symptoms
Cognition	observed confusion; some specific items
Affect (depression)	observed sadness, agitation
Social participation	observed behavior
Social interaction, intimacy	MISSING
Satisfaction	MISSING

Despite these limitations, however, the MDS data set will serve as the basis for most of the outcomes work to be used in this project, at least initially. Substantial work has already been done to develop quality indicators based on MDS data. Zimmerman (Zimmerman et al., 1995) has created a series of measures that attempt to assess quality for either the entire nursing home population or defined subsets.

Developing Valid Outcome-based Measurement Systems

A major philosophical issue around determining quality in nursing facilities and for residents is *what represents a good outcome*. Much of the past emphasis on quality assessment for nursing home residents and nursing homes has emphasized the absence of bad (undesired) events. Thus, great efforts have been spent establishing the use of chemical or physical restraints or the presence of pressure sores, or other untoward elements of care. While no one would want to condone the presence of these undesired elements of care, their absence alone does not indicate good care. An ideal outcomes system would include both measures of adverse events and the production of desired ends. To assess the latter, one needs to examine the rate that improvement in the major classes of resident outcome is achieved, where feasible, or at least that the rate of inevitable decline is slowed. In essence, assessing outcomes requires a comparison of observed outcomes to expected outcomes (Kane et al., 1983). It is critical to recognize that good nursing home care does not require that residents improve, only that their course is as good or better than expected. Hence slowing the rate of decline can constitute a positive outcome. The key to this approach lies with selecting the appropriate comparison group. For example, if (as in the case of demo) homes are selected from among those believed to be giving good care, comparing these homes to each other could subject them to a very stringent standard. All could be giving good care (compared to the general level of care in the area), even though some were doing better than others.

Basically, there are two ways to look at the achievement of outcomes. 1] One can examine the outcome at a certain point in time (e.g., three months after admission). In this instance, one is effectively looking at an outcome as a discrete event. Was a goal reached? For example, is a patient walking or able to perform certain ADLs? 2] One can look at outcomes as a measure of change (e.g., the difference in outcome status between admission and three months later); the change can be expressed as either improving, getting worse or staying the same, or it can be expressed in a more continuous form as the actual difference in score between the two times. For example, a patient has improved his functional score by 10 points or by 10%.

The standard applied to the outcomes can likewise be looked at in two ways. 1] One can establish an absolute threshold (e.g., the outcome must be above a given level or at least a minimum amount of improvement must be shown). In this instance, the provider is essentially being compared to himself. 2] The outcomes can be judged in comparison to what other providers have achieved (either those offering the same type of care or others given alternative forms of care for the same clientele). In this case, the provider's achievement is compared to how well others did. For example, one providers' patients may have gotten better but they did not improve as much as the average. Thus, the relative achievement is less than average, although it is still positive.

The following diagram shows how these two concepts can be combined.

	Measure of Achievement	(role of time)
Standard (compared to whom)	Fixed	Change
Absolute	*walking or # ADLs*	*improved 10%*
Relative	*90th percentile*	*improved more than average*

The demonstration project has identified 10 nursing home quality indicators from the 24 developed by Zimmerman et al. (Zimmerman et al., 1995)

- prevalence of any injury
- prevalence of problem behavior toward others
- prevalence of bladder/bowel control incontinence
- prevalence of occasional bladder/bowel control incontinence without a toileting plan
- prevalence of UTIs
- prevalence of bedfast residents
- incidence of decline in late loss ADLs
- lack of training/skill practice or ROM for mobility dependent residents
- prevalence of little or no activity
- prevalence of stage 1-4 pressure sores

Under the schema described above almost all of these would fall under the fixed column, because their existence at a point in time is the standard. In fact one is not outcome at all (i.e., lack of training/skill practice or ROM for mobility dependent residents); and one is mixture of outcome and process (i.e., prevalence of occasional bladder/bowel control incontinence without a toileting plan). These topics could be converted to change measures by comparing the rates at different times. Several would be better measures of quality if they used incidence in lieu of prevalence (e.g., prevalence of stage 1-4 pressure sores, prevalence of any injury, prevalence of UTIs). One implies a change measure (i.e., incidence of decline in late loss ADLs), but could be more explicitly organized to look at change more directly.

The fundamental basis of an outcomes approach lies in its ability to relate the outcome of interest to the care provided. To do this, it has to eliminate the effects of other factors that might influence the outcome. There are several ways to accomplish this goal. 1] One can use a randomized controlled design, where cases are randomly assigned to one type of treatment (or treater) or another. Because the cases are assigned by chance, presumably the other factors would be equally divided between both groups. Such a design is difficult to accomplish and certainly would not fit the realities of daily practice. 2] Another approach recognizes that the groups receiving different care are not randomly assigned. However, specific efforts are made to create homogenous subgroups that share the risk factors believed to be most pertinent to the outcomes of interest (e.g., bedfast residents with stroke at risk for pressure sores). However, it is hard to create such subgroups using more than a couple of variables. 3] Instead, statistical approaches can be utilized that correct or adjust for differences among cases. The key to this approach is to think of the definition of an outcome result as the comparison between the observed result of care and the expected result, where the latter is based on statistical predictions that adjust for relevant clinical and social factors associated with the case.

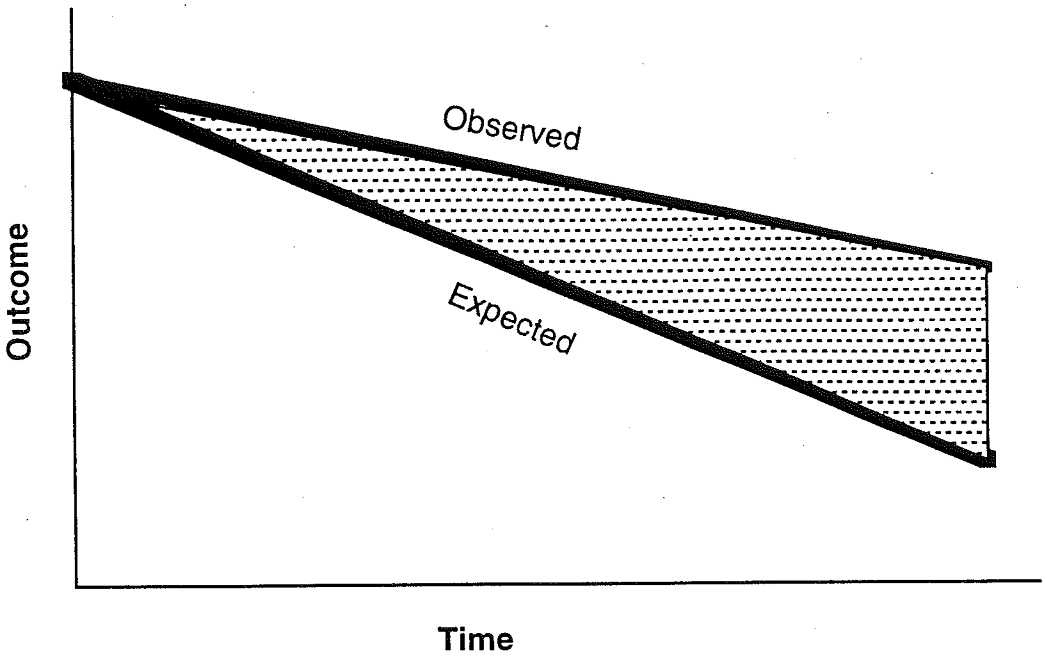
One way to think about outcomes analysis is to use the following conceptual model:

Outcomes = f(baseline, patient clinical factors, patient demographic factors, treatment)

The goal of the analysis is to separate the effects attributable to treatment from those influenced by patient characteristics. This correction for case mix is usually accomplished by statistical methods (like regression), but Zimmerman has developed explicit clinical subgroups for many of his various quality indicators to accomplish the same general goal.

Because many, but certainly not all, of the residents in nursing facilities suffer from serious chronic problems for which the prognoses imply functional decline, good outcomes should be thought of as **trajectories** that are at least as good or more positive *than would be expected* under conditions of good care. Good LTC may mean that the patient does less poorly than otherwise. Of course, deteriorating condition should not be accepted as inevitable. For many parameters improvement is possible. New studies have suggested that even in some areas like mobility, improvement is feasible for at least some patients. The goal of an outcomes system is not to base expectations on opinions or beliefs, but to use actual experience to compare the performance of one provider with that of all others. In this way, as knowledge and the skill in the field grow, so too will expectations.

The definition of what constitutes a good outcome is thus not based on how a given patient does over time, but how that course compares to what can be realistically (statistically determined) expected. The outcome can be based on performance in a specific domain or some sort of composite score based on a combination of several domains. The following diagram illustrates the relationship between observed and expected outcomes.



This diagram is the general outcomes model for any outcome. As shown, the observed course shows a decline over time, but this course is better than what would be expected for similar patients. The shaded area represents the extent of improvement between the observed and expected courses. If the outcome were something bad (e.g., a complication like an infection or becoming more depressed), then doing better than expected might be portrayed as having less of that attribute.

A payment system could be created that was proportionate to the size of the shaded area or one could simply opt for a dichotomous payment that would reward any improvement (or perhaps any improvement greater than some minimal level) over the expected. For example, a 10% difference between observed and expected outcomes could lead to a 10% bonus; whereas any improvement over 5% could also lead to a fixed bonus amount regardless of the amount of improvement over 5%. A third condition offers a hybrid; it could create bonus categories, for example 5-15% improvement could generate a 10% bonus, more than 15% would generate a 20% bonus.

Indeed, the appropriate interpretations of both the absence of bad events and the presence of good ones requires adjustments to recognize the differences in risk factors. These factors are often referred to as case-mix, although they should not be confused with the case-mix used for payment, which may or may not cover the same elements. Sophisticated statistical approaches are needed to correct for the differences in risk factors to assure that comparisons across institutions or among groups of residents (or across settings) are valid (Kane, Bell, Riegler, Wilson & Keeler, 1983); (Kane, 1994). We are proposing such statistical approaches in the development of outcome-based measures which will be outlined later.

One can use this approach for individual outcomes, but in most cases some summary measure is sought that combines a number of outcomes into a single conclusion.[2] This step requires some method for weighting the components to assure they are proportionately included in the aggregate measure. In all likelihood, not all elements are suitable for all residents. For example, cognitively impaired residents may not be able to express satisfaction. One can either use proxy information or

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[2] Some observers would argue that a single summary score may obscure too much and would prefer to use several separate outcome measures.

exclude that component. We have had experience collecting the value weights for the relevant outcomes from a variety of constituencies, including residents, providers, family members, regulators, policy makers, and the general citizenry. In general, we found a high level of concordance in the relative weights assigned to the various outcomes (Kane, Bell & Riegler, 1986). Moreover, our studies have shown that various raters apply different weights to different classes of residents (i.e., physically and cognitively impaired). Work to data has focused on weighing the positive functional outcomes). More work is needed to incorporate the negative outcomes as well.

Developing an Incentive System

The legislation for the Contractual Alternative Payment Demonstration Project (CAPDeP) requires that the alternative payment system contain some features. During the first year of the facility's contract with the Commissioner under this project, the Contractual Alternative Payment must be the rate the facility would have received under Minnesota's case mix system. In the second and subsequent years, the total payment to the nursing home can *be no larger* than the rate from the initial year (1) adjusted for inflation using the Consumer Price Index-All Items (United States City average), as is specified in the legislation, and (2) an additional 5 percent. Again, the incentive payment will be based on the facility's performance in achieving the five types of outcomes outlined in the legislation.

Until now nursing facilities have been paid under the prospective case-based payment system adopted in Minnesota in 1985. Under this system, Minnesota nursing homes are paid on the basis of 11 patient case types. Payments to a nursing home for resident days vary with the weight assigned to the resident's case type. Therefore, each facility has its own rate schedule for the 11 case types, based on past expenditures.

Each resident in Minnesota nursing homes is classified into one of 11 case-mix categories. Assessment for classification is done at admission, every six months, and after hospitalization. Classification is determined by key items in the Minnesota Department of Health Quality Assurance and Review (QAR) assessment instrument. Each of the 11 categories has an assigned average resource utilization weight.

Classification occurs in three steps. First, scores for key activities of daily living (bathing, dressing, grooming, eating, bed mobility, transferring, toileting, and walking) are converted from scale to a binary classification: "not dependent" or "dependent." Second, the "dependent" ratings for the ADLs are totaled and the total is used to classify residents into one of three "meager categories:" Light ADL, Medium ADL, and Heavy ADL. Third, assessments of key behavior, special nursing, and neurological conditions are incorporated to subclassify residents into their final case mix category:

Classification	**Weight (relative resource use)**
A. Light ADL	1.00
B. Light ADL Behavior	1.30
C. Light ADL Special Nursing	1.64
D. Medium ADL	1.95
E. Medium ADL Behavior	2.27
F. Medium ADL Special Nursing	2.56
G. Heavy ADL	3.07
H. Very Heavy ADL (Eating 3-4)	3.25
I. Heavy ADL Severe Neuro Impairment	3.53
J. Heavy ADL Special Nursing	4.12

Payment rates are based on facility costs from the previous year, plus an inflation factor, constrained by cost limits. Limits are a function of the average base year cost (plus an inflation factor) for all nursing homes in the facility's geographic group. Limits are more stringent for non-patient-care costs. There are also payments for cost components which are thought not to vary with volume or case mix. Costs which are assumed not to vary with case mix comprise about 3/4 of total home inpatient costs.

Facilities may also earn a profit, called an "efficiency incentive," of $2 per patient day if their non-patient-care costs are lower than the limit for their geographic area. Since there is a one-year lag in cost-based payments, facilities may also earn a one-time profit from the previous year. However, this one-time profit will disappear in the next year unless the costs continue to fall. Due to the limits and state-determined inflation factors, and the tying of the private price to the Medicaid reimbursement rate, there are also ample opportunities for facility losses (i.e., payments lower than actual costs).

Operating costs are divided into (1) care-related costs and (2) other operating costs, for limits and efficiency incentives. Care-related costs, in turn, are composed of nursing costs (including salaries, benefits, and payroll taxes).

It is important to recognize that the case-mix payment system (with whatever modifications) is likely to provide perverse incentives for outcomes that are directed at aspects of function. In effect, a case-mix reimbursement system rewards poorer functioning because poorer functioning is usually associated with needing more care and hence receiving a higher payment. These inherent contradictions need to be addressed.

Incentive Payments

Several approaches to rewarding good outcomes can be considered. Before considering the options, one wants to think about several issues: 1] Is this system designed to limit the state's risk? In essence, this question raises the issue about whether it should be feasible for every home to get the bonus, or should the bonus be reserved for only a few homes. Ideally, a bonus system should at least have the potential to be financially neutral by applying both rewards and penalties. However, it does not appear that the state wants to consider penalties at this stage. Hence, the rewards need to be constrained. 2] How important is simplicity of operation? For example, it is easier to administer a system that uses a fixed standard and rewards every home that exceeds it. A somewhat more complicated system would rank homes and reward only those in the top x%. A still more sophisticated system would make the payment proportional to the degree of improvement.

1. The simplest approach is some sort of goal attainment model, where nursing homes are paid a fixed amount if milestones are reached. This approach, which corresponds to the upper left-hand cell in the table shown earlier (absolute-fixed), was used as the basis for the QIP program in Illinois, a variant of which was later implemented in Florida as well. An evaluation of the Quality Improvement Project (QIP) suggested that it did not achieve its goals. Almost every home that applied was a winner and the measures became readily corrupted. The least satisfactory area was satisfaction (Geron, 1991). The MDS data could be used to create the criteria for the milestones. The standard would be a predetermined rate of performance (e.g., x % of cases above a certain level). Alternatively, the nursing home could be paid an incentive for each case that exceeds the threshold criteria.

For some outcomes, like decreased acute care costs, nursing homes could be paid a bonus proportionate to the amount saved. Such a system would require sophisticated accounting and could produce undesired incentives to avoid potentially useful care, especially for presumably terminal patients.

2. The goal attainment model could be made less expensive if, instead of rewarding any home that achieved the target, the system used a relative end point, whereby only those homes in the upper "x%" on a given item were rewarded. In effect, the homes would be ranked on the basis of their performance and only those at the upper end of the distribution would receive the bonus. This ranking method, which corresponds to the lower left-hand cell in the table (relative-fixed), poses special problems if the system is confined to only those homes participating in the demonstration. Because these homes are already pre-screened, the state may end up ranking homes that are already located in the upper end of the full statewide distribution. The homes would be competing with the best of the best rather than with the overall state average.

3. The next step in the progression of payment schemes would be to use a zero sum approach, which would feature not only winners but losers as well. Those at the top of the distribution would be rewarded, but those at the bottom would be penalized. This is another version of the relative-fixed approach from the table, but it could use relative-change if the comparison was based on changes in resident outcomes. The proportion of reward to penalty need not be equal; it can be adjusted such that level for rewards could be more generous than that for penalties.

The ultimate goal of an outcomes approach is to use the outcomes information as the basis for a payment system. We have previously proposed such a scheme (Kane, Bell, Hosek, Riegler & Kane, 1983). Several variations are feasible. At one level, one can use an adjustment factor based on the outcomes to adjust either the total payment or the portion attributable to variable costs. At least two options are available for the adjustment factor. One can create a variable that is proportional to the net (adjusted) amount of improvement or worsening or one can use a more categorical approach, where outcomes significantly better than expected are given a fixed positive bonus and those significantly worse a negative bonus. The payment system can be developed to be budget neutral by allocating payments in a redistributional (zero sum) model, where the rewards to winners equal the penalties to losers; or one can alter the balance such that more rewards are paid than penalties. Alternatively, one can design a system where nursing homes do not compete against each other, allowing all to win or to lose. One would probably not want to base the full nursing home payment on outcomes. A better formula would be something along the lines of

Outcome = *fixed payment* (based on case-mix) + *bonus* (based on outcomes)

The "bonus" could have a negative as well as a positive sign (i.e., it could be penalty as well as a reward).

If an outcomes payment approach is contemplated, the question then arises of how to merge it with the case-mix payment approach. If improved function is a goal, one would not want to pay more for functional decline. Hence case-mix should be used on admission and possibly at infrequent intervals, say once a year.

A final option would be not to use financial rewards at all but to rely on market motives by announcing/publicizing the names of the best homes. Discussions with the nursing home representatives some years ago, when this concept was first being discussed, suggested that this positive image would be incentive enough.

In calculating outcomes for determining rewards, there are two choices: 1] One can assign a reward to each outcome separately. 2] One can create an aggregated score for each resident as the basis for assessing improvement or decline. The latter will ultimately prove simpler but it requires making explicit statements about the relative importance of each outcome. Such decisions must inevitably be made in any event. Ignoring them and treating all outcomes as equivalent simply assigns a value of "1" to each; the value weights are hidden but they are still there. Equal weighting may not be appropriate. Techniques have been developed and used on a variety of constituencies to assess the values held by various groups. (Kane et al., 1986)

Potential Effect on Constituents

It is helpful to examine these alternative uses of incentive payments might affect the salient constituents, namely, the nursing homes, the clients, and the state. The following table summarizes some of the possible effects.

Scenario	Effect on:		
	Nursing Homes	Clients	State
Goal attainment	win only everyone can win	should benefit from better care	can raise costs
Reward best performers	force competition (best of the best)	should benefit from better care	limit costs
Zero sum	winners and losers; risky; likely to challenge system	could get caught in gaming	budget neutral
Proportional incentives	likely to challenge adjudications	could affect admission policies	could be expensive; could be operated as budget neutral; more work to administer; conflict with case-mix payment incentives
Reputation only	no risk; interest would vary with market conditions	information on which to base entry decisions	no cost; some potential political heat

The payer and the recipient of payment seem to have the most at stake. Nursing homes seem most likely to favor an approach where everyone can win and they are not placed in competition with each other. A system that includes penalties as well as rewards will be much less popular. An approach that tries to measure the size of the benefit will be more likely to be challenged.

Consumers should benefit from all of these approaches. The proportional incentive approach could cause nursing homes to be less anxious to admit patients where they did not feel they could make a difference.

The state faces some important choices. These options present different financial risks. The overall size of the risk can be capped by the amount placed at risk, but the size of the reward has to be large enough to warrant attention.

In general the more sophisticated systems (those that try to make the reward parallel to the performance) are the most complicated to understand and administer but the most likely to be fair. Because there will likely be more losers than winners, the pressure to change the system to make it easier to win will be great. The disadvantaged will want to challenge the system's fairness. A similar response to the market-driven approach may ensue if reputation is viewed as a major influence on admissions.

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APPENDIX Y

"Assuring Quality in Nursing Home Care," by Dr. Robert Kane, Journal of the American Geriatrics Society, Vol. 46, No. 2, February, 1998

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SPECIAL ARTICLE

Assuring Quality in Nursing Home Care

Robert L. Kane, MD

HISTORICAL PERSPECTIVE

The role of regulation and external monitoring is more stringent in nursing home care than in any other type of social service. The reasons are several. Unlike other professional groupings, such as medicine, nursing, social work, and hospitals, the nursing home industry failed to establish itself as a professional activity at the time of its growth surge in the mid 1960s. This growth coincided with the establishment of substantial federal investment in nursing home care, an investment that was unexpected and for which the governmental bureaucracy and the nursing home industry were unprepared. The initial experience was marked by exploitation and, subsequently, by scandal. The population served is viewed as very vulnerable, both physically and mentally.

Any private industry that uses substantial public funds is likely to be regulated. When the private organizations are largely proprietary and often without sophisticated operational structures, the role of regulation becomes even more dominant. Because catastrophes catalyze regulation, the notoriety that came from state and federal commissions that uncovered gross instances of flagrant exploitation fanned the flames of stringent regulation.

Nonetheless, the pressures for regulation of nursing homes have not been consistent, either temporally, or geographically, or politically. The 1986 Institute of Medicine (IoM) report[1] occurred as a result of conflict between forces that wanted more and less regulation. Until the passage of the 1987 Omnibus Budget Reconciliation Act (OBRA '87), there was great interstate variation in the stringency of regulations and standards. There is still substantial variation in the enthusiasm with which remedies to substandard care are pursued.

Theoretical Basis for Nursing Home Regulation

It may be helpful to distinguish among different dimensions of quality. The dominant paradigm in quality assessment continues to be the formulation developed by Donabedian, which distinguishes three categories of information about quality: structure, process, and outcomes. The three are linked conceptually, with the first two expected to increase the likelihood of the latter. Better structure and more appropriate processes are expected to yield better outcomes. The linkage between these elements remains more theoretical than empirical. Although there is some evidence that structural elements, such as staffing, can affect the outcomes of care, there are many areas in which the relationship between structure and outcomes is not established, including the necessity for specific training. Likewise, many professional orthodoxies about how care should be given have not been linked to better outcomes.

Quality of care usually refers to *process* measures that indicate whether the right things were done (and sometimes whether they were done with adequate skill). Quality of care also can be assessed in terms of *outcomes*. These outcomes may be thought of as both the absence of bad events and the presence of good ones. They can be expressed in clinical terms, such as death or measures of morbidity (e.g., decubiti) or physiology (e.g., blood sugar, blood pressure); or they can be expressed as more general domains such as function, cognition, social roles, and affect. The latter (in whole or in part) are often referred to as measures of quality of life. Most observers include resident satisfaction with care, services, and the living environment as an important quality outcome domain. Some people include cost as an outcome, but others (including the IoM)[2] treat it separately in order to calculate more rational cost-effectiveness ratios.

The second major distinction around quality efforts is the difference between quality assessment (where the Donabedian paradigm is applicable) and quality assurance. In general, it is much easier to detect a quality problem than to fix [illegible] Quality assurance efforts with regard to nursing home ca[illegible] have been marked by active litigation and extended legal challenges that have made the experience extremely adversarial. As a consequence, the role of the regulatory agent has become exclusively external lest any efforts to offer suggestions for improving care compromise the potential for enforcement. In the same vein, sanctions are directed toward increasingly specific and measurable transgressions, wh[illegible] are easier to defend but which may not address the [illegible] clinical germane aspects of care problems (e.g., unsanitary conditions, food temperature).

Studies of the outcomes of care are usually conducted for two reasons: (1) to provide a basis of accountability and (2) as a basis for improving the level of knowledge in a field. The former purpose is related directly to regulation, but the [illegible] can play a significant role as well. Outcomes are the [illegible] direct window on the effects of care. They are not u[illegible] often as process measures because the latter are more pr[illegible]sionally comfortable. Process measures are usually based on

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determining whether actions deemed to be appropriate for the situation are performed. The difficulty lies in deciding what is appropriate. In most cases, there is insufficient evidence to form a scientific opinion, and the decision rests on professional judgment. Carefully collected outcomes information linked to process items and client characteristics would alleviate this situation. An approach to implementing such a system is described later.

1987 OBRA

The passage of the nursing home reforms incorporated into the 1987 OBRA represent an important milestone in nursing home regulation. This law and its subsequent regulations were hailed as a dramatic shift in emphasis away from structure and process toward outcomes. Many of the mandates of the 1986 IoM report were incorporated into the bill, but the outcomes emphasis was oversold. The OBRA reforms went a long way toward standardizing quality standards for nursing homes and raising the expectations in many states, but the efforts were still largely structural and process.

One of the significant steps that came out of this reform was the introduction of a uniform set of information to be collected on every nursing home resident at regular intervals from admission through the duration of his/her nursing home stay. This Minimum Data Set (MDS) prescribed specific elements of information on various aspects of residents' status. It was intended to form the basis for both outcomes tracking as well as care planning. Unfortunately, the MDS was designed by a committee. In meeting the needs of a heterogeneous constituency, the information burden was increased, and the emphasis on outcomes tracking was undermined.

MDS STRENGTHS AND LIMITATIONS

The MDS represents an important shift in focus for nursing home regulation. It provides, for the first time, a universal set of information about residents that permits tracking and comparisons across nursing homes and among (and within) different classes of residents. It was designed to create a consistent set of information, with uniform definitions and reasonable levels of reliability for what is essentially a clinical tool.

A series of papers published in this journal suggested that the introduction of the Resident Assessment Instrument (RAI), which contains the MDS, was responsible for major improvements in nursing home care, including elements in the process of care,[3] improved function, cognition and psychosocial status,[4] health conditions,[5] and reduced hospitalization.[6] As noted in an accompanying editorial,[7] there are fundamental problems with the study designs. All of these studies rely on comparisons of care before and after the MDS was implemented. Because the RAI was mandated nationally, no comparable data are available to look for similar historical improvements in nursing homes where the RAI was not used. Such a causal argument is tenuous at best. The period covered saw major attention to nursing home quality as a result of the Nursing Home Reform Act, which was part of OBRA 1987. The changes in nursing home accountability, the emphasis on controlling the use of psychoactive drugs, and restraints that came in the wake of this new approach to monitoring quality of care in nursing homes make it very difficult to attribute the changes seen to a single component. Indeed, if one were to argue strongly for an RAI effect, one might be disappointed at the modest results reported. Even in areas where one could make a persuasive case that more complete and more structured record-keeping should influence the process of care, significant process improvement was found in only five of the 18 areas covered by the Resident Assessment Protocols although there was a consistent picture of more attention given to each.[3] The direct causal case for the claimed benefits is even harder to make. The inability to detect stronger effects may reflect a weakness in the MDS as a potential research tool.[8]

These results do not detract from the demonstrated value of introducing the RAI as part of an overall effort to improve nursing home quality. No one would argue with the desirability of using a systematic, structured approach to assessing residents. However, because the MDS is useful does not mean it cannot be improved.

The MDS' most serious flaw as an outcomes tool stems from its deliberate effort to provide uniform data. This decision has reduced the information to the lowest common denominator. For a nursing home population, this means that all residents are treated as though they were cognitively impaired. Cognitively intact residents, who could have provided insights into their status, are treated as if they could not respond directly to questions. In effect, all items are reported by an external judge, usually a nurse. As a result, several important domains of outcomes are either uncovered (satisfaction, meaningful social activity, and social interaction) or covered by use of third-party judgments that rely on observations (pain/discomfort, cognition, emotional state).

Although in some cases (e.g., depression) the training manual suggests specific behaviors to observe, these observations are used to form a judgment. It would be better to record the actual answers to specifically determined questions posed. Such a step would provide a better basis for any summary score and would increase the consistency across the raters. Although the RAI has been revised, no changes have been made to address this problem.[9]

Several studies have been undertaken to establish the validity of MDS information in areas where it does not seem to work especially well. Although there are no direct measures of cognitive function, a series of behavioral reports are used to create a cognitive score, which has been shown to correlate highly with more traditional measures of cognition.[10] In effect, what has been demonstrated is the ability to discriminate between those who are cognitively impaired and those who are not. Indeed, the results of a wide variety of cognitive measures correlate very highly in general. The critical issue for outcomes purposes is the sensitivity to change in resident status that each measure can provide. The same observations can be offered for the efforts to establish a measure of emotional function based on observed behaviors.

Some of the problems associated with the MDS are hard to avoid. Although it was intended to be used proactively to improve care by identifying areas that needed attention and by directing that attention to specific actions, the MDS was viewed by many from the outset as primarily a regulatory device imposed from without. Nursing homes, which had become adept at meeting the demands of external regulation, responded by making sure that the forms were completed as required. But the task was sometimes accomplished by dissociating the data from its use. In the most flagrant cases, external data collectors were contracted to complete the forms, and the information was never used clinically. Not theless, even if its proactive role is not universally achieved, the MDS can still provide useful outcome information, by focusing on those domains that are covered best.

NEED FOR MORE OUTCOMES EMPHASIS

Conceptual Issues

In an area like long-term care, where so little is established about the relationship between process and outcomes, there is a strong argument for concentrating regulatory activities on assuring that satisfactory outcomes are achieved. Such a philosophy is at odds with practice. Often when uncertainty about the best path to follow is greatest, the press for orthodoxy becomes most intense. One argument for eliminating variation under such circumstances is the need to collect systematic data, but the more fitting response to that challenge is to emphasize the collection of information, not to eliminate alternative approaches to care.

There are problems with an exclusive focus on outcomes. The most glaring is the need to make necessary adjustments to assure that the groups being compared are comparable. The key to any outcomes approach is comparing the actual result with that expected if comparable cases were treated under regular (or better) circumstances. One can set the standard for good care by using different comparison groups. Ordinarily one would want to use something that approximates what is believed to be good care, not just average care. However, it may be more feasible to begin by comparing results to the 50th percentile and gradually raising the standard over time. Sophisticated statistical methods are available for such purposes, but none can assure absolute comparability.

One way to enhance the comparisons between actual and expected outcomes is to focus the comparison on specific subgroups of patients. Good care may have dramatically different effects on different types of patients. Nursing homes house a heterogeneous cluster of residents. One classification system could utilize major diagnostic groupings similar to the DRGs. A more basic taxonomy would at least recognize the differences in natural history among the residents. At least five clusters can be identified:

1. Persons seeking rehabilitation or active recuperation; these people are expected to have short stays and to improve, with most discharged to the community
2. Persons with primarily severe chronic physical disability; these people will likely decline gradually over time; many will stay for some time; most are cognitively intact although some may be depressed by their circumstances
3. Persons with primarily cognitive impairments; these people are often very active and disruptive; their activities may adversely affect the quality of life for others; they will usually stay a very long time and decline over time
4. Persons in vegetative state; these people may have reached this stage by virtue of a physical or mental problem; they have lost the capacity to respond to their environment
5. Terminally ill persons; these people are too advanced to profit from active treatment; they have poor prognoses and need some form of hospice care.

Another problem outcomes present is that they are, by nature, retrospective. One assesses outcomes only after enough time has elapsed to measure the effects of actions taken earlier. Hence, problems can be addressed only after they have occurred. Efforts to head them off require addressing aspects of process. Likewise, outcome performance does not automatically point to the care deficiency; it simply tells you where to look. Subsequent detailed examination of the process of care is needed.

A major philosophical issue around determining quality in nursing facilities and for residents is *what represents a good outcome?* Much of the past emphasis on quality assessment for nursing home residents and nursing homes has emphasized the absence of bad (undesired) events. Thus, great efforts have been made to establish the use of chemical or physical restraints or the presence of pressure sores or other untoward elements of care. Whereas no one wants to condone the presence of these undesired elements of care, their absence alone does not indicate good care. An ideal outcomes system would include both measures of adverse events and the production of desired ends. To assess the latter, one needs to examine the rate that improvement in the major classes of resident outcome has achieved, where feasible, or at least that the rate of inevitable decline is slowed. In essence, assessing outcomes requires a comparison of observed outcomes with expected outcomes.[11]

The basis of an outcomes approach is its ability to relate the outcome of interest to the care provided. To do this, it has to eliminate the effects of other factors that might influence the outcome. One way to accomplish this goal is to use a randomized controlled design, where cases are randomly assigned to one type of treatment (or treater) or another. Because the cases are assigned by chance, presumably the other factors would be equally divided between both groups. Such a design is difficult to accomplish and certainly would not fit the realities of daily practice. Instead, statistical approaches need to be utilized that correct or adjust for differences among cases. The key to this approach is to think of the definition of an outcome result as the comparison between the observed result of care and the expected result, where the latter is based on statistical predictions that adjust for relevant clinical and social factors associated with the case.

One way to think about outcomes analysis is to use the following conceptual model:

$$\textit{Outcomes} = f(\textit{baseline, patient clinical factors, patient demographic factors, treatment}) \qquad (1)$$

The goal of the analysis is to separate the effects attributable to treatment from those influenced by patient characteristics.[12]

Because many, but certainly not all, of the residents in nursing facilities suffer from serious chronic problems for which the prognoses imply functional decline, good outcomes should be thought of as trajectories that are at least as good or more positive than would be expected under conditions of good care. Good long-term care may mean that the patient does less poorly than would otherwise be expected. Of course, deteriorating condition should not be accepted inevitable. For many parameters, improvement is possible. New studies have suggested that even in some areas like mobility, improvement is feasible for at least some patients. The goal of an outcomes system is not to base expectations on opinions or beliefs but to use actual experience to compare the performance of one provider with that of all others this way, as knowledge and skill in the field grow, so too will expectations.

The definition of what constitutes a good outcome is, thus, not based on how a given patient does over time but rather how that patient's course compares with what can be (statistically determined) expected realistically. The outcome can be based on performance in a specific domain or on some sort of composite score based on a combination of several domains. Figure 1 illustrates the relationship between observed and expected outcomes. This diagram is the general outcomes model for any outcome. As shown, the observed course exhibits a decline over time, but this course is better than what would be expected for similar patients. The shaded area represents the extent of improvement between the observed and expected courses. If the outcome were something bad (e.g., a complication like an infection or becoming more depressed), then doing better than expected might be portrayed as having less of that attribute.

The definition of what constitutes an outcome should be broad enough to include both positive and negative events. The absence of bad outcomes does not, per se, represent good care. Because the expected course of many people receiving long-term care is gradual deterioration in many sectors, a good outcome may well be doing better than expected, i.e., slowing the rate of decline.

Multiple Outcomes

Outcomes can be assessed across several domains. There is good consensus about the most relevant domains for long-term care. They include:

- Physiological (e.g., blood pressure, blood sugar, skin condition)
- Functional (e.g., ADLs/IADLs)
- Pain and discomfort
- Cognition
- Affect
- Social activities
- Social relationships
- Satisfaction (with both setting and care)

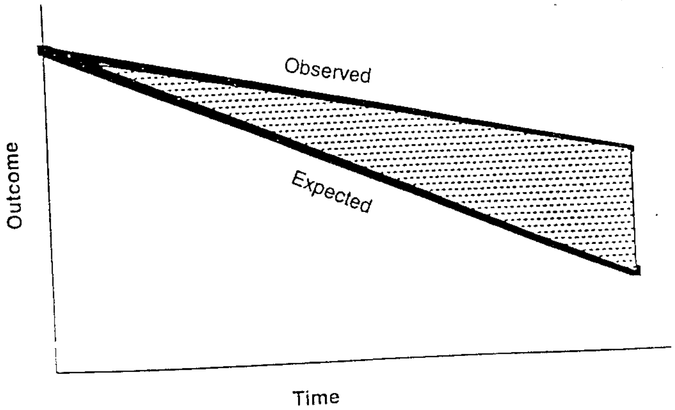

Figure 1. The relationship between observed and expected outcomes for a hypothetical patient. The figure applies to any outcome parameter. It suggests that a course which does better over time than would be expected should be judged as success. The shaded area represents the extent to which the patient's course exceeded expectations.

Each of these can be measured by a variety of instruments with established reliability and validity.,[13–16] Many, but not all, of these are captured in the MDS.

For some purposes, it may be preferable to treat each of these outcomes separately, especially to link various aspects of care to the results, but to arrive at a summary judgment about the overall quality of care some type of summary measure is needed. Too often outcomes are summed by simply adding together the values of the individual components. Such a process ignores the relative importance of each component and may add further bias by virtue of the individual scoring system used for each element. A more deliberate weighting of the individual scores is needed, but whose value weights should be used?

Some early work on this question suggests that the issue may not be as difficult as some expect. There was substantial agreement on the relative importance of the outcome components among residents, regulators, policy makers, providers, and the general public. Family members tended to be less discriminating, rating everything as important. There were, however, substantial differences in the weights assigned to different types of patients. Those most disabled, especially cognitively, received lower scores.[17] The results of this study suggest a composite scoring system can incorporate value preferences for different domains. Such weights could be obtained from surveys of the general public or other defined constituencies, or they could be obtained from the clients themselves. Indeed, it is feasible to allow each client, at least for those who are cognitively intact, to establish his/her own preference weights for the outcomes of their care.

Role of Outcomes

Outcomes may be used as ends in themselves (with rewards and punishments designed to respond to them) or they may be used as indicators of where to look for more detailed determinations about the quality of care rendered. In the latter case, they represent some form of screening.

The demands on the data and the measures are different under these two auspices. When used simply as screeners to identify suspected areas of poor care, substantial error can be tolerated because subsequent steps will be used to verify the presumed result. When the outcomes are used as the basis for subsequent actions to reward or punish care providers, then the measures must demonstrate a level of accuracy and discrimination that justifies such use. Part of the concern about accuracy will stem from being able to obtain sufficient numbers of cases from any single provider to generate a statistically significant sample. Undoubtedly, some type of aggregation of cases will be necessary in many instances.

Incentives can be linked to outcomes in various ways. The most direct is to tie payment to outcomes (expressed as the relationship between observed and expected). Better than expected outcomes could generate some form of bonus or reward; conversely, poor outcomes would lead to a penalty. The size of reward needs to represent a significant portion of the total costs of care lest providers focus on other ways to maximize their income by providing inadequate care. At some point, the dominant underlying reimbursement system may come into direct conflict with an outcomes approach. For example, a cost-based technique such as Resource Utilization Groups (RUGS) that tends to reward deterioration in client function when that deterioration is associated with the need for more care would be in direct conflict with [illegible] incentive system based on outcomes. It is important to recognize that systems like RUGS (and diagnosis-related groups (DRGs)) capture the current state of care. At best, they model how many resources are presently being used, on average, to provide care in the way it is currently given. They say nothing about what is required to give good care.

The reward/penalty need not be solely monetary. In many instances, public notoriety may be as strong a motivator as the modest financial rewards or penalties usually proposed. Publishing the results of outcomes assessments may become an important part of a nursing home's community reputation, both with potential consumers and those who refer cases. The effect on the demand for care may be more substantial than the bonuses associated with good results. Another way to reward good outcomes is to impose less oversight. Earlier programs, such as NYQAS in New York State[18] or the Quality Assessment Index in Wisconsin,[19] used the results of marker outcomes as indicators of nursing homes that needed more or less intense regulatory attention. The sentinel events that those programs used relied on specific indicators of potential problems, but the same approach could be applied to measures that reflected functional trajectories.

One of the advantages of an outcomes system is that it permits comparisons across modalities of care. At a time when new forms of care (or variations on extant themes) are developing continuously, it is helpful to be able to assess the relative effectiveness of alternative approaches to caring for comparable clients in different ways and even in different environments. Focusing on outcomes facilitates such comparisons, because none of the relevant variables are linked directly to a particular site of care or even a specific way of rendering that care.

Relying exclusively on post-hoc measures of outcomes may limit regulatory programs too severely. There are some outcomes that should be prevented. Waiting to respond to their appearance is too late. For example, one would not want to wait for a nosocomial infection before assuring that adequate infection controls were in place. Likewise, there are some aspects of care that are best measured directly. Although it is possible to capture the results of some process variables, such as courtesy and respect, through dimensions of client satisfaction, the latter measures may be too insensitive and are certainly too late to affect the care. It is preferable to observe these behaviors directly.

EFFECTING AN OUTCOMES APPROACH

One of the concerns about implementing an active system of outcomes determination is the cost associated with data collection. Because the information should be collected directly from clients (or their proxies), it requires an investment of considerable time. Although some may argue that it is time well spent, such an outlay for regulatory purposes would not be well received in times of budgetary constraints. Some of the costs could be offset by reducing other, less satisfactory regulatory actions, but the overall effect on regulatory costs would likely still be positive.

One way to implement an outcomes system within extant budgetary constraints is to adopt the MDS. The first step might utilize those variables that are best covered in the data collected, namely those addressing function. Models that compare actual and expected values for this domain could be developed at very modest costs.

A second step would be to create two forms of the MDS, one for cognitively intact respondents and a second that retains the current approach of external rating. The interview form could cover many of the missing or modestly addressed outcomes domains not easily accessible in the current MDS. Using cognitive intact clients as the basis for determining some aspects of care that might also affect the cognitively impaired has precedent. This sentinel approach forms the rationale for requiring that risk-based Medicare HMOs have at least 50% non-Medicare enrollees. The underlying belief is that private sector market forces at work will protect the Medicare beneficiaries' interests by speaking out against inadequate care. Likewise, cognitively intact nursing home residents can serve as bellwethers for poor interpersonal care on behalf of those unable to voice a protest.

Using the data generated by the staff being judged may raise some concerns about the possibilities of manipulation, but the outcomes system is not easy to game. Although it is possible to exaggerate the initial levels of impairment in order to create more sympathetic trajectories of expected values, such a step works only at the first round. Because the outcomes from the first follow-up also serve as the baseline for the second round, such distortions are difficult to sustain. Any operational system would likely require some method for randomly checking the assessment results to assure valid responses, but this validity testing would be much less expensive than a full blown primary data collection.

TWO-TIERED REGULATORY APPROACH

The overall regulatory approach that could best incorporate an outcomes principle would use a two-level system similar to that proposed for quality assurance for acute care under Medicare.[1] The primary investment in quality improvement would come from continuous quality improvement (CQI) techniques employed by the institution to foster its own care. Nursing homes that could not mount such CQI efforts would be subject to stricter oversight.

Outcomes (generated from analyses of data collected as suggested above) would be used to monitor the overall quality of care. As problem areas are detected (types of care or patterns of outcomes), special studies would be mounted to examine those areas in greater detail. These studies would be primarily process oriented, but they could entail more detailed examination of the outcomes of care as well. The oversight system would be responsible for assuring the validity of the data collected as part of the clinical routines.

The Role of CQI

In the current parlance, CQI stands as the engine that drives quality improvement. The term quality improvement is seen as kinder and gentler than quality assurance. The latter assumes a more regulatory tone. Classic CQI looks very much like an earlier version of cybernetic management with a phase of problem identification, a planned response, and evaluation to assess whether the intervention actually led to an improvement.[20] This earlier experience suggests some potential problems with this approach. The nursing home may be an even more difficult environment in which to introduce this concept.[21] Perhaps the most serious is the danger that, especially under outside pressure to conduct such efforts, the institution will opt for problems that can be managed. Rather than looking for the most important problems, those that create the greatest threat to successful ou comes, the staff charged with the responsibility for conducting CQI may choose the problems they think they can fix, thereby improving their track record. For example, when hospitals were required by PSROs to conduct a certain number of Medical Care Evaluation studies, they chose the topics that produced the most accessible data.

As CQI has entered the age of medical marketing, with its emphasis on addressing consumer expectations, nursing homes at the cutting edge of implementing CQI seem to be focusing on aspects of care that address family concerns. Thus, they may put more effort into finding ways to make visitors feel comfortable than into improving the care provided to residents. Those things that are most obvious to outsiders will get attention before the generally more critical infrastructure is tackled. Customer focus has been perverted into customer appeasement.

The fundamental concept of customer responsiveness has been widely misunderstood. It is one thing to work with customers to develop better ways of coordinating activities. It is quite another thing to define outcomes solely on the basis of customer expectations. The world is filled with important inventions that would never have been created if industries simply relied on their customers to define their needs. The key to customer focus is using that input to look beneath the surface to address the issues that bear on the things that create the problems that provoke customers. Superficial implementation of CQI can lead to satisficing (i.e., doing just enough to keep critics happy, rather than addressing the issues in earnest).

In light of these concerns, some form of external monitoring that holds care providers accountable for meaningful outcomes seems especially necessary in the era of CQI.

CONCLUSION

Long-term care is still in a state of evolution. Regulations will need to evolve with these changes. The goal should be to create a climate of accountable innovation. An emphasis on outcomes will provide such a condition. Outcomes can be used in a variety of settings and can compare results across settings. As new forms of long-term care arise, the challenge will be to regulate them such that the regulatory process does not preordain the structure. Requiring that any type of long-term care achieve reasonably expected functional and quality of life results across a variety of domains after adjustments for client characteristics should provide for fair competition on the basis of socially relevant parameters.

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APPENDIX Z

"Predicting the Outcomes of Nursing Home Patients," by Kane, Bell, Riegler, Wilson and Keeler, The Gerontologist, Vol. 23, No. 2., 1983

We propose a system of nursing home reimbursement based on attaining achievable outcomes. The crux of the system rests on our ability to predict patient outcomes from one point in time to the next. Using three waves of data collected at 3-month intervals on approximately 250 patients, we were able to predict patient functioning in six domains (physiologic, activities, affective, cognitive, social, and satisfaction) with R^2 values ranging from 0.51 to 0.93. Predictions of discharge (better, worse, or dead) were less accurate, with R^2 values of 0.36 to 0.39.

Predicting the Outcomes of Nursing Home Patients[1]

Robert L. Kane, MD, Robert Bell, PhD, Sandra Riegler, MS, Alisa Wilson, MA, and Emmett Keeler, PhD[2]

The nursing home symbolizes the failure of the American society (Valdeck, 1980). We seem to be spending more to buy less. It is an institution shunned by both patients (U.S. Comptroller General, 1979) and physicians (U.S. Congress, 1975). But the problem is too big to ignore. In 1979 we spent almost $18 billion on nursing home care, more than half of that from public funds (Fox & Clauser, 1980). Demographic predictions indicate that this level of expenditure will accelerate as the population ages.

Efforts to improve the quality of nursing home care have met with limited success. Despite protestations about the need to consider quality of life concepts, most regulatory effort has addressed the nursing home as a miniature hospital (Kane and Kane, 1979). But it is difficult to establish clear links between the process of care and its results. In comparison to acute care, long-term care (LTC) is a low-technology endeavor where substitution of personnel and technique seems possible. Nor is it easy to apply traditional quality of care approaches to the nursing home setting (Kane et al., 1979). Meaningful criteria that monitor important process of care dimensions are difficult to create and apply. Consequently, the present regulatory system has concentrated, for the most part, on identifying substandard care at the cost of working to improve the general level of care.

Reform of the system should have the following overall goals:

1. To provide an incentive for high-quality care, defined in broad terms to include social and psychologic health as well as physical health.
2. To discourage market skimming whereby certain patients (usually those needing the least care in a category) are admitted while others with greater care needs are not.
3. To overcome the general tendency toward assuming that more is necessarily better and especially the perverse incentive of cost reimbursement that rewards the development of increased dependency.
4. To minimize the negative aspects of regulation (i.e., to avoid both the recordkeeping burden and the constraints on creativity).
5. To use the free market as much as possible to encourage the expansion of good homes and the closure of poor ones.

The core of our proposed approach links payment for care to the outcomes of that care, but we seek to achieve that linkage in a way that will not reward patient selection. The general thrust of the proposal is shown in the following basic payment formula: Nursing Home Payment = Cost × Prognostic Adjustment Factor.

In this approach, a nursing home is paid the sum of the payments for each patient. These individual payments are based on the product of the average cost of caring for such a patient times the prognostic adjustment factor (PAF). This PAF reflects the extent to which the actual outcome of care exceeds or falls short of an expected level. In its simplest form, one might assign a PAF value of 1.5 if the actual outcome is better than expected, 1.0 if it is as good as expected, and 0.5 if it is worse than expected. In practice, the PAF can be used as a continuous variable directly tied to the ratio of observed/expected outcomes.

Figure 1 offers a general model of the concept and illustrates how the predicted values are generated. At Time 1, an independent group (or individual) not part of the caregiving team (e.g., the state's utilization review team) gathers data on the patient. These data are used to generate a predicted course for that patient based on the experience of similar patients. The course can be essentially one of three: the patient gets better (A), stays the same (B), or gets worse (C). Each of these can be pictured not as a narrow line but as a band defined by confidence intervals to allow for variation.

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[1] This project was supported by grant HS 03275 from the National Center for Health Services Research, OASH.

[2] The Rand Corporation, 1700 Main Street, Santa Monica, CA 90406.

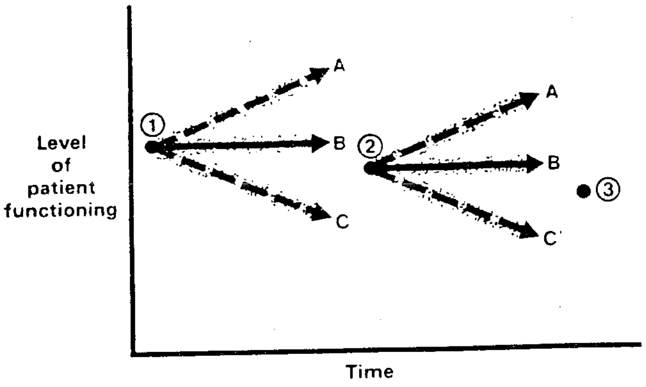

Figure 1. Diagrammatic representation of serial outcome assessments for a nursing home patient.

At Time 1, the patient's prognosis for the subsequent period is projected. (The grey areas indicate confidence intervals.) Basically one may look for some degree of improvement (here represented by line A), or maintenance (line B), or a worsening state (line C). When the patient is reassessed at Time 2, his actual outcome (shown as a point) is then compared with that expected by prognosis; if the prognosis had been along line C, the patient's status would be recorded as a positive outcome. However, if the prognosis had been along lines A or B, the outcome would be less than adequate. The actual outcome at Time 2 serves as the basis for a new prognosis, shown as A', B', or C'. These are in turn compared with actuality at Time 3 and so on.

The same data gatherer returns after a suitable period of time (perhaps 6 months) and again assesses the patient. By comparing the actual status of the patient to the predicted course, we arrive at the PAF for that patient over that interval of time. It is crucial to appreciate that we are primarily interested not in the outcome (i.e., the status at Time 2) but in how that state compares to the predicted state. Thus the same outcome could yield a better, the same, or a worse PAF, depending on what had been predicted.

The process is itself iterative in several respects. The data gathered at Time 2 are used to predict Time 3 as well as to reward Time 2. The prediction equation for Time 3 can also incorporate terms that reflect the changes from Time 1 to Time 2, thus providing a measure of self-correction for the system.

One must appreciate that the example shown in Figure 1 assumes a single point of data at each time. In fact, the data are a profile covering a variety of domains. It is necessary to reduce this profile to a point by applying appropriate weights to the several outcome measures. The weights represent the relative value placed on each outcome (Kane & Kane, 1982). Different groups (e.g., patients, policymakers, caregivers, taxpayers) may in fact place differing importance on the various outcome states. Ascertaining these thus becomes an essential component of the research. The overall system involves several steps:

1. Measuring multidomain functioning of each nursing home patient.
2. Measuring associated attributes that might be used to predict the future status of the patient.
3. Using data from earlier (Time 0) and current (Time 1) measurements to predict future (Time 2) status in each of several important domains.
4. Comparing actual status at Time 2 to expected (predicted) status in each domain.
5. Combining multidomain results into a single determination of how the outcome compared to what was expected.
6. Paying the nursing home for care of that patient using a formula that adjusts payment upward for better outcomes (actual/expected) and downward for poorer ones.

The fairness and utility of an outcome-based reimbursement system rest on the ability to develop an adequate predictive model for the outcomes used. Both by choice and by chance, nursing homes differ in their patient difficulty mixes. If the reimbursement system does not adequately account for the differences in expected outcomes (under normal care), nursing homes that take difficult patients will be unjustly penalized. If good prediction models can be developed, however, outcome-based reimbursement will provide an unbiased incentive for improved care.

Methods

To develop our prediction models, we have followed patients in four Los Angeles area nursing homes nominated by peers as giving good care. An instrument was developed to obtain data from patients via performance measures, structured interviews, and self-report on a broad set of functional aspects covering six distinct domains: physical, functional (ADL), cognitive, affective, social, and satisfaction. Extensive work was devoted to the development of reliable measures and suitable scales by which to aggregate these data (Kane et al., 1982). Virtually all data were obtained from the patients; we obtained only demographic information and diagnoses from medical records. The data are gathered by a specially trained collector (usually a nurse) in an interview/examination every 3 months. The sample sizes thus fluctuate as new patients are added and previous ones discharged; the average number of patients in any wave of examinations is about 250.

The data from earlier waves are used to predict the patient's status at later waves. The mathematical models have relied primarily on regression analyses. Beginning with the second wave of data collection, the interviewers were asked to make clinical predictions about expected change in domain over the subsequent three-month interval. The accuracy of these predictions is compared to that of the mathematical approach.

Several independent (predictor) variables have been tested with varying degrees of success. Most of the regressions have included age, length-of-stay (LOS), sex, and nursing home. LOS is measured in months from the date of the most recent admission to the date of the first interview. Because of the long tail of the LOS distribution and the expectation that its effect diminishes for long stays, the actual variable used is log (LOS − 1). Other independent variables include scale scores from earlier waves.

Admission diagnoses were collected from the patient's chart. To reduce the diagnosis list to a manageable number, relationships were studied using a series of eight variables, indicating whether the resident had any of the diagnoses associated with various organs or functions such as brain, cardiac, vascular, etc. Proportions of patients with some diagnosis in each of the eight groups appear in Table 1. Correlations among the diagnosis variables are generally small. Somewhat more of the correlations are statistically significant (usually negative) than we would expect under the hypothesis of independence, but the correlations are small enough that we need not worry about multicollinearity in the regressions.

Many of the regressions also include the variable "total," the sum of the eight diagnosis indicators as a measure of ill health at admission. It should be noted that the total variable may differ from the actual number of diagnoses.

Results

Predicting scale scores. — Of the variables available to us, by far the best predictor of any scale score is the same scale score from a previous wave. Results appear below for three distinct sets of least-squares regressions using data from the first three waves:

- Predicting "first interview" outcomes from background variables (demographics and diagnoses)
- Predicting Wave 2 and 3 outcomes from background variables and information from the previous wave (scale scores and prognoses)
- Predicting Wave 3 outcomes from background variables and information from both prior waves

Table 2 compares R-square values (proportions of total variance explained by the model) for the three types of models. To maintain comparability across waves, each set of three R-squares is for the same dependent variables on the same samples: Wave 3 outcomes for all residents with complete data for all three regressions. Sample sizes range from 78 to 126 for the various domains.

Table 2 and other analyses indicate the following findings.

- Little predictive ability is derived from background characteristics only.
- The ability to predict scale scores jumps dramatically with information from a previous interview. Almost all of the increase is due to knowledge of the previous value for the same scale.

Knowing the scale score from two previous interviews provides a statistically significant improvement over knowing only one prior score, but this additional gain is small compared to that derived from knowing one prior score. The predictive power of the more recent interview (three months prior) is only slightly, if at all, greater than that of the earlier interview (6 months prior). Thus a measurable "momentum effect," where patients who are improving (or worsening) continue that trend, does not appear to exist.

Table 1. Percentages of Patients with Each Diagnosis Type

Diagnosis	Frequency
Brain	60
Cardiac	38
Vascular	22
Arthritis	16
Hypertension	15
Decubiti	11
Pulmonary	9
Cancer	7
Renal	1

Table 2. R-square Values for Wave 3 Scale Score Outcomes

	Basis for Predictions		
Outcome Scale Score	Background Only	Background & Wave 2	Background & Waves 1 and 2
Cognitive	.13	.82	.86
MSQ	.19	.92	.93
Affect	.10	.69	.70
Frequency of emotion	.02	.40	.47
Satisfaction	.07	.78	.84
ADL	.15	.67	.74
Social	.18	.49	.58
Inside activities	.27	.64	.71
Pain	.15	.59	.64
Physical	.16	.42	.51

Status Changes

Status changes (deaths and discharges) are often very important outcomes. First, they are likely to accompany dramatic alterations for better or worse in the patient's functioning abilities. Depending on when the changes occur, they may or may not be measured by the interview process. Second, a discharge to the community generally has positive implications going far beyond the improved condition that made it possible.

Four types of status changes have been used: death, discharged better (to the community), discharged worse (usually to a hospital), and other discharges. Just over one-half of the other discharges were classified (by the nursing homes) as "against medical advice." Some of the others were transfers to another nursing home, indicating no particular change of functioning.

The ability to predict status changes is decidedly worse than the ability to predict scale scores. For example, the *R*-square value for predicting death with two waves of data was only 0.36; for predicting those discharged worse, it was only 0.39. Although such low *R*-square values are common for 0-1 variables, they highlight the difficulty of predicting rare events. One reason for this outcome is that no strictly comparable data are collected during the interviews: any status change is qualitatively different from any other event in the patient's current tenure in the nursing home. Another reason is that we have observed relatively few status changes so far. Because our data analysis population was derived primarily from persons already resident in the nursing homes, long-stay residents, a relatively stable group, are over-represented.

Separate regressions for recent admissions (patients interviewed within 6 months of admission) and earlier admissions indicate tentatively that different models may fit best for these two groups (Table 3). As more new admissions are interviewed, the number of discharges should increase substantially; thus our ability to model this process should improve.

Recently admitted patients are much more likely to incur status changes of any type than are long-stay patients. This finding is consistent with the model of Keeler et al. (1981). They found that nursing home admissions (or discharges) consist of about equal numbers of short and long stayers. Short stayers are patients who enter with an acute problem that is typically resolved (for better or worse) in a few months' time. Long stayers are at relatively constant risk during their tenures in the nursing homes. Thus they may leave within a short period of time, or they may stay for several years. Figure 2 relates the likelihood of various status changes to length of stay. The highest curve in the figure (L) shows the probability of leaving for any reason. For various LOS values (at the time of a patient's interview) given on the horizontal axis, the vertical axis indicates the proportion who left the nursing home within the next three-month period (each data point represents about 86 observations). The graph indicates that recent admissions are several times more likely to leave the home than are more long-term residents, although the probability never drops below about 10 to 12%. New admissions had more than a 40% chance of leaving within 3 months.

Table 3. R-square Values for Status Change Outcomes Within Three Months

Outcomes	All	Recent Admissions[a]	Earlier Admissions
Discharged	.10	.13	.08
Discharged better	.12	.16	—[b]
Discharged dead	.08	.09	.12
Discharged worse or dead	.04	.06	.05

[a] Patients admitted within 6 months of the interview.
[b] Only one patient in this group was discharged better.

The other two curves show the same relationship for two specific status changes: deaths (D) and discharges better (B). Although the highest probability of each change occurs for newly admitted patients, the relationship with LOS is much stronger for discharges to the community than for deaths. The figure indicates that only one patient who had been in a nursing home for more than 8 months was discharged to the community. In contrast, the probability of death seems to stabilize for long LOS at a leve near 6%.

For a number of reasons, we have modeled status changes separately for recent admissions, patient who were first interviewed within 6 months of thei last admission to the nursing home. One reason is that different variables may relate to status changes of short stayers than to long stayers. For example

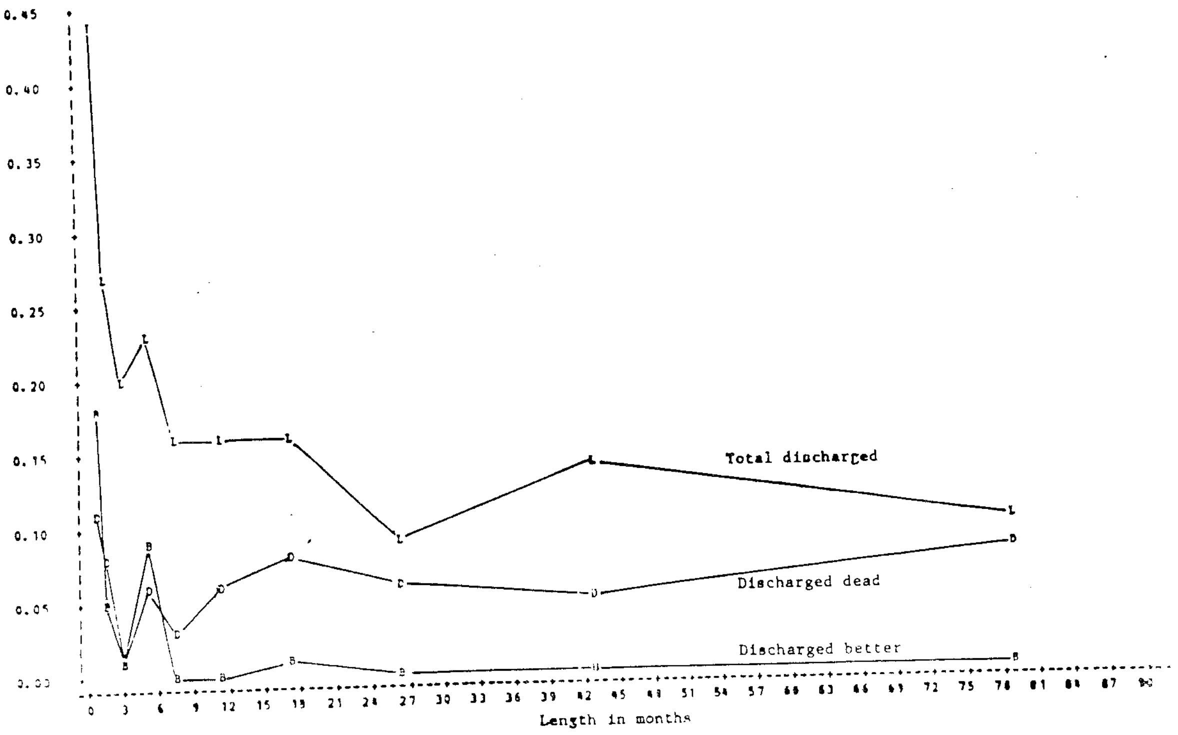

Figure 2. Lengths of stay for study patients discharged from nursing home.

admission diagnoses might be important for new admissions but lose importance as time passes. In that case, different models would be needed for the two groups. Also, because a status change may be the only measured outcome for many new admissions, it is more important to accurately model status changes for the group. Finally, model development is easier and more precise for a sample with a sizeable proportion of status changes.

Among the variables that related significantly to one or more of the status changes of new admissions are length of stay (measured more finely than "more or less than 6 months"), certain diagnoses, age, interviewer prognoses, and nursing home. Interestingly, no relationships were found with variables indicating potential living arrangements in the community—marital status, number of children or siblings, and frequency of recent family visits—nor was the patient's sex significantly related to any of the changes.

Table 4 shows that significantly different patterns of discharges among new admissions occurred at the four nursing homes. Nursing homes #1 and #2 had much more stable populations than did the other two homes. Homes #3 and #4 had higher rates in all three discharge categories. The higher turnover rates are also reflected in greater proportions of new admissions at those two homes.

To study other relationships with status changes, we have fitted simple linear regression models using status changes as 0-1 dependent variables (on the sample of new admissions). Although these models may not provide the best prediction equations (logistic regression or polytomous logistic regression might fit better), they do provide valid inference about which predictor variables are related to status changes.

Most of the demographic variables (marital status, sex, number of children, and number of siblings) were not statistically significant in any of the regressions. The relationship between age and leaving the home at all was marginal (p approximately 0.05, depending on the exact choice of variables). Older patients were somewhat less likely to leave the nursing home, especially to go to the hospital.

Considering the large number of possible comparisons, little evidence was found that individual diagnoses related to status changes. One hypothesized relationship, that patients with brain disorders would not return to the community, is supported by mild evidence (p ranging from 0.04 to 0.12). Despite the lack of findings for individual diagnoses, the total number of problem areas related to status changes was exactly as anticipated. Patients with diagnoses in many areas were both more likely to die and less likely to be discharged better. When neither the nursing home nor first interview scale scores are included in the regression, each relationship is significant at $p < 0.03$. The reliability of the diagnoses data is severely limited by the quality of the record-keeping on patients' charts. It is likely that much stronger relationships could be found if better data were available.

Table 4. Distribution of Patient Outcomes After Three Months for New Admissions at Each Nursing Home

	Percentage with Each Outcome Nursing Home				
Outcome After 3 Months	#1	#2	#3	#4	Total
Still in home	82	87	63	51	67
Dead	9	8	5	11	8
Discharged better	3	5	7	24	9
Discharged worse	6	0	12	11	11
Discharged otherwise	0	0	12	3	6

Note: Table includes only the 217 residents who were interviewed within 6 months of admission.

Two scale scores from the first interview, the cognitive and ADL scales, were assessed as predictors of status changes. Neither of those two exhibited a relationship with any of the status changes except discharges to the community. High cognitive and ADL scores were both positively related to being discharged within 3 months ($p < 0.03$ and 0.06, respectively). Not having a score (due to not completing that part of the interview) was neither a positive nor a negative indicator of any particular change.

As Table 4 suggests, the frequency of certain status changes differs significantly across nursing homes. The regressions that control for background characteristics and first interview scale scores support that assertion. Although there is no evidence for a difference in death rates, the comparison for discharges to the community and all discharges are very significant ($p < 0.001$). Unfortunately, it is difficult to discriminate among the factors that possibly contribute to this finding: different patient difficulty mixes, perhaps resulting from differences in admission policies; differences in the quality of care; and differences in discharge philosophy or policy.

Clinical prognoses. — Late in Wave 1, the interviewers began to predict future functioning in five of the domains. Because of the obvious difficulty of predicting meaningful change, a large majority of the residents were given prognoses of "the same" (see Table 5). Consequently, the effective sample sizes, those with prognoses of change, are on the order of 20 to 50. Not surprisingly, the correlations among the five prognoses are high, ranging from 0.28 (affect with medical) to 0.58 (cognitive with social) except for one correlation of 0.71 (medical with ADL).

Prognoses were generally not significant as predictors of the corresponding scale scores but were sig-

Table 5. Distributions of Interviewer Prognoses (Percentages)

Domain	Better	Same	Worse
Cognitive	1	90	9
Affective	7	80	12
Physical	7	85	8
Social	3	92	4
Medical	7	80	13

Table 6. Frequencies of Status Outcomes by Clinical Prognosis

	Status after 3 months				
Prognosis	Discharged Better	Still in Home	Discharged Worse	Dead	Total
Better	5	10	2	1	18
Same	7	168	20	9	204
Worse	2	25	2	8	37

nificant predictors of status changes. Table 6 shows the relationship between medical prognoses and status three months later. The interviewers were best able to predict those patients who would be discharged better and those who would die.

Discussion

Our prediction work has indicated that we can predict future scale scores quite well by using performance on the same scale from an earlier interview. Because of this stability for most residents, we can infer that unexpectedly large deviations from the predictions reflect real changes rather than unreliability of the predictive model.

In contrast to the findings for scale scores, predicting status changes is quite difficult. One reason is that no strictly comparable data are collected during the interviews; any status change is qualitatively different from any other event in the patient's current tenure in the nursing home. Another reason is that the data most likely to shed light on the patient's probable course—accurate information about the patient's medical condition and potential outside living arrangements—have been difficult to obtain. Finally, our sample has included fairly few recent admissions, the patients most likely to change status. This fact has severely limited our ability to develop and test models for that group.

Predictions of scale scores or status change will be diminished by the appearance of unforeseen events, some of which may be out of the immediate control of the nursing home. For example, a patient may develop a new serious medical problem. Such events represent, in essence, "noise" in the system. They can be handled in one of several ways. If they are assumed to be random events, they become part of the error term and are a source of imprecision necessitating the confidence intervals shown in Figure 1. Alternatively, major events could be the basis for negotiating an "exception" to the reimbursement policy. In general, we favor a system in which the predictions are presented to the nursing home administration in advance and the equivalent of a contract struck on the basis of an agreement that the prediction is a reasonable expectation for the patient over the next time interval. Frequent exceptions would clearly become a burden.

Critics may argue that we are prematurely advocating this prognostic reimbursement system because the predictions for change in status are not yet at the same level of precision as are the individual scale scores. We recognize this problem but anticipate greater accuracy as our experience grows. Consultation with a variety of statisticians and economists has reassured us that, even at our present levels of predictability, the approach can exert a useful positive effect on the nursing home industry. One of the great advantages of our approach is that it can continually update itself. Once put into operation, the predictions will become even more accurate as the data base expands substantially. These newer predictions will then form the basis of the next round and so on, in an iterative fashion.

Our prediction models use measures at two levels of aggregation. Although a number of individual variables can be used as predictor variables gathered at one point in time to predict the status of a patient at some later point, the measures used to identify that status must be reasonably few. Thus, a substantial amount of aggregation is needed to describe patient outcomes. We are seeking a single aggregated measure for each of the major outcome domains that we have identified. These outcomes, in turn, must be further aggregated by a second process if we are to be able to compare them, either to each other or to some set of norms. The ultimate goal of this project is to develop a means of predicting the expected course of a nursing home patient in order to compare the actual status of a patient with that predicted. A single term is thus needed.

The reduction of multiple outcome measures for each of the domains to a single summary outcome will be accomplished by applying appropriate weights derived from ascertaining relative value preferences (or utility weights).

The assignment of value weights to health outcomes is another area of research in this study. In a climate of diminishing resources, issues such as which outcomes of care are important, to whom, and at what cost are critical for both the recipients and the financers of care. Two components are involved in a valuation of health status: the resources needed to attain or maintain a certain health status and the preferences of the patient and his/her family concerning different health states. The resource need can be estimated directly on a time/cost basis, but the estimation of value preferences for different health states is much more complex. The progress in health status measurement and value preference measurement in the context of long-term care has recently been reviewed (Kane & Kane, 1982).

Especially at a time when the cost of long-term care is likely to make most policy-makers shudder, it is critical to appreciate that this system need not increase the cost of care. Indeed, one of its virtues is its adaptability to different constraints and reimbursement schemes. It is essentially a means of improving quality by redistributing resources from those homes with worse to those homes with better outcomes.

In our original formulation, we proposed a system of reimbursement that would set the PAF at 0.5 for outcomes worse than expected, 1.0 for those equal to predicted, and 1.5 for those better than predicted. With the experience from this study and subsequent practice, the PAF can be set so that the outcome adjustments will average out. The system will then have no direct effect on total costs.

In the short run, costs can be controlled by substituting whatever share of true costs the payer is willing to pay in lieu of true costs (perhaps measured as average current expenditures plus inflation). In the long run, costs should fall to the extent that a less structurally regulated environment reveals more efficient ways of providing quality care.

The "costs" to be adjusted could come from any reimbursement scheme. They could be a flat fee based on level of care (as is now essentially the case), prospective fees based on a finer determination of the case mix need for both quantity and level of service (the equivalent of AUTOGP in hospitals), or fee for service. Some examples of case-mix adjustments have been developed (Cavaiola, 1975; Costa & Bice, 1980). The outcome adjustments, like other quality-inducing schemes, make more sense for prospective reimbursement (where the inherent problem is ensuring that patients get the quality we pay for) than for cost-reimbursement (where the problem is controlling costs). Moreover, the same data used to determine a finer gradation of prospective fees can be used to measure progress for the PAF.

Modifications of the prognostic factors can reflect decisions about how much we want to change the nursing home industry status quo. If we want to avoid disruption to the industry, even at a cost in long run inefficiency, we can tie the adjustment of reimbursement to variable costs, make the adjustment factors small, and pay everyone, including the homes with inefficient plants, their fixed costs. Risks of unlikely outcomes can be reduced by making the adjustment factors continuous, by making the size of the factors dependent on the size of the home, and other methods discussed by Keeler and his colleagues (1982). If we want to induce substantial changes, we can base "costs" on average total costs and make the adjustments substantial. It should be noted that this approach is an iterative system; the baseline (i.e., expectations) will rise as the system has a positive effect on the market. In aggregate, it will produce a distribution around that rising mean.

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APPENDIX AA

Report of the Task Force on Minimum Staffing and Memorandum from Brenda Gallant of the Task Force on Minimum Staffing

STATE OF MAINE
DEPARTMENT OF HUMAN SERVICES
BUREAU OF MEDICAL SERVICES

ANGUS S. KING, JR.
GOVERNOR

KEVIN W. CONCANNON
COMMISSIONER

August 19, 1997

TO:

Senator Judy Paradis
Representative Elizabeth Mitchell
Co-Chairs
Joint Standing Committee on Health and Human Services
115 State House Station
Augusta, Maine 04333

TO:

Kevin W. Concannon
Commissioner
Department of Human Services
11 State House Station
Augusta, Maine 04333

Dear Senator Paradis, Representative Mitchell and Commissioner Concannon:

In accordance with Chapter 34 Resolves (H.P. 828 - LD 1133 Resolve, to Ensure Quality Care to Residents of Nursing Facilities through the Establishment of a Task Force on Minimum Staffing), enclosed is a report concerning the findings and recommendations of the Task Force on Minimum Staffing.

If you have any questions, please contact me at 624-5443. Thank you.

Sincerely,

Louis T. Dorogi
Director
Division of Licensing & Certification
and Chair, Minimum Staffing Task Force

LTD:el
Enclosure

PRINTED ON RECYCLED PAPER
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STATE HOUSE STATION, AUGUSTA, MAINE 04333
TTY: (207) 624-5512
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(207) 624-54

SUBJECT: REPORT OF THE TASK FORCE ON MINIMUM STAFFING

INTRODUCTION:

In September, 1996, the Commissioner, Department of Human Services, selected members of his licensing staff and the Ombudsman met in Brunswick, Maine with a delegation of Certified Nursing Assistants (CNAs) to discuss their concerns on minimum staffing in nursing facilities. The CNAs reported staffing patterns which they felt were inadequate to meet the needs of residents. Subsequently, the Director, Division of Licensing and Certification, established a working group of Bureau of Medical Services staff, advocates, providers and CNAs to review and study current minimum staffing in nursing facilities. This group began meeting in December, 1996. A participant list is included in this report (Tab A).

During the 118th Legislative Session, Representative David Etnier sponsored a bill establishing a Minimum Staffing Task Force (Chapter 34 Resolve). The resolve (see Tab B) required that the Task Force shall:

- Review the departmental rules concerning the current minimum staffing levels required of nursing facilities;
- Consider the appropriateness of increasing the minimum staffing level at nursing facilities;
- Identify and discuss other issues that are relevant to the study; and
- Make recommendations to change departmental rules concerning minimum staffing levels of nursing facilities, based on the findings of the task force.

The Task Force was to include representatives from the Department of Human Services, Long Term Care Ombudsman Program, the Alzheimer's Association, family members, CNAs, licensed nurses and nursing facility providers.

The Task Force was to submit a report concerning the findings and recommendations to the Commissioner of Human Services and to the Joint Standing Committee on Health and Human Services within 90 days after the effective date of the resolve.

BACKGROUND:

Maine's minimum staffing requirements were established in 1974. These ratios have remained constant since that time. These ratios are considered to be contingency level minimums and not a prescription for daily operational staffing levels. Yet, there appears to be a lingering belief among the public, including some long term care providers, that minimum staffing serves as a yardstick for routine nursing home operation. Chapter 9 of the nursing home licensing regulations states that facilities are required to staff according to the needs of residents. Federal regulations also require that nursing facilities provide the necessary care for residents to attain or maintain the highest practicable level of physical, mental and psychosocial well-being of each resident.

The existing nursing home licensing regulations (Tab C) specify in Chapter 9 that the minimum staffing ratios consist of a combination of licensed (Registered Nurses or Licensed Practical Nurses) and Certified Nursing Assistant staff for each shift at nursing homes. Chapter 9.A.4. states:

> "The nursing staff-to-resident ratio is the number of nursing staff to the number of occupied beds. Nursing assistants in training shall not be counted in the ratios.
>
> The minimum nursing staff-to-resident ratio shall be:
>
> a. One-to-eight on the day shift;
> b. One-to-twelve on the evening shift; and
> c. One-to-twenty on the night shift."

Effective October 1, 1993, the Department of Human Services implemented its nursing facility Case Mix Payment System on a facility fiscal year basis. The framework for this began in 1992, with changes to the *Principles of Reimbursement* (Tab D) for nursing homes. Reimbursement for direct care patient costs (including wages and benefits for RNs, LPNs, CNAs, ward clerks and patient activities staff) of each facility's rate were to be adjusted on a quarterly basis to reflect changes in the facility's case mix. Nursing facilities were now to be reimbursed on the basis of patient care acuity. Prior to the Case Mix Payment System, nursing facility staffing was set and approved by the

Division of Licensing and Certification Long Term Care staff on a case-by-case basis. Now the facilities are to staff in accordance with the needs of its residents, as determined by patient acuity and reimbursed by the Case Mix Payment System. The Principles of Reimbursement allow facilities to keep 25% of savings in the category of direct patient care costs. Representatives of the Division of Reimbursement and Financial Services reported that in 1996, 30% of nursing facilities had, in fact, experienced savings in their direct care costs. Some Task Force members felt that this presented a financial incentive to facilities for staff at levels which do not meet residents' needs.

With the advent of LD 418, beginning in January 1994, the Medicaid medical admission criteria for nursing home care changed. This change was in response to legislation which sought to "reallocate scarce long term care resources" while ensuring "appropriate and cost effective services". The legislation targeted nursing facility use to persons who could not be served in less restrictive settings. It also extended opportunities for home and community based care to those who otherwise might become nursing home residents. New pre-admission criteria required a higher level of functional impairment and nursing care needs. All nursing facilities were now required to participate in Medicare and establish a minimum number of Skilled Nursing Facility beds to maximize opportunities for Medicare reimbursement. Simply put, the legislative changes increased the acuity of nursing home residents and widened the gap between existing minimum staffing requirements and the needs of nursing home residents.

Task Force Deliberations

As noted in the Introduction, an ad hoc working group had been operational since December, 1996. Its membership and work was incorporated into the deliberations of the legislatively mandated Minimum Staffing Task Force. Its minutes and supporting documentation are enclosed at Tab E.

Appointments to the current Task Force membership are enclosed at Tab F. The original work group participants were expanded to include additional CNA, family and consumer representation. The Department of Human Services provided staff support and meeting sites for the Task Force. Minutes of the Task Force meetings are enclosed at Tab G.

The overall work of both groups combined, addressed the following:

- Institute of Medicine's Nursing Staff in Hospitals and Nursing Homes (1995)
    - The Ombudsman reported on this study.
- Current Licensing Requirements for Staffing in Nursing Facilities
    - Division of Licensing and Certification staff reviewed the *Regulations Governing the Licensing and Functioning of Skilled Nursing Facilities and Nursing Facilities*, as well as the lack of a minimum Federal staffing criteria. Additionally, Division staff reviewed and discussed State and Federal nursing home inspection procedures and requirements.
- Multi-State Nursing Home Case Mix and Quality Demonstration Project
    - The Project Director reviewed time studies used to determine reimbursement for staffing, case mix data, case mix national and state goals, salary data and the rate of inflation. The Director also assisted the Task Force in a staffing exercise to understand development of staffing for a nursing facility.
- North Country Associates participants (who operate nursing facilities in the state) reviewed their use of staffing decisions based on resident needs vs. case mix reimbursement.
- The Administrator and Director of Nursing from Marshwood Nursing Care Center (located in Lewiston) presented a discussion on how staffing is established in their facility.
- The Service Center, Division of Audit and Reimbursement and Financial Services reviewed direct and indirect costs, cost reports and cost analysis of transfer of specific direct care costs to indirect care.

- A Registered Nurse from First Atlantic Corporation (which operates nursing facilities in the state) reviewed a computer program showing staff needs based on the nursing facilities' case mix acuity levels.

- A representative from Howard Technical System presented "Staffing Standards from the MDS" (Tab H).

- Bureau of Medical Services, Reimbursement and Financial Services staff reviewed staffing shifts from the direct care component to the indirect care components for reimbursement and also reviewed actual nursing staff per facility by bed size, which varies significantly from nursing facility to nursing facility.

- Bureau of Medical Services, Reimbursement and Financial Services staff presented data showing disparities in staffing patterns.

- Bureau of Medical Services representatives reviewed the use of nursing facility licensed staff not utilized for direct care functions, such as for marketing functions and administrative functions.

- The Director of the Multi-State Nursing Home Case Mix and Quality Demonstration Project and an R.N. from North Country Associates reviewed actual staffing levels for a selected nursing facility and compared them to the staffing levels based on case mix. Some facilities staff higher than case mix allowances because of resident (acuity) needs. Initial indications show that the case mix acuity index could be considered as criteria for minimum staffing.

- Family members reviewed the difficulties faced by residents when a facility does not staff according to resident needs.

- The Maine Health Care Association and provider representatives reviewed the difficulties of staff retention currently experienced in many areas of Maine, due to the economic upturn.

- CNAs reviewed the increased work demands based on increased resident acuity levels and paperwork demands of licensed nurses.

Additionally, data (Tab I) was obtained from multiple sources to provide information on a variety of related areas:

- Data from the Muskie Institute was received on Nursing Facility ADL Comparison for 1993-1996 showing changes and an increase in aggregate ADL scores from 10.570 in 1993 to 12.827 in 1996.
- Staffing Models for Long Term Care, National Association of Directors of Nursing Administration/Long Term Care (1997)
- Combined Federal and State Nursing Services Staffing Standards for U.S. Medicare and Medicaid Certified Nursing Homes (1993)
- Nursing Facilities, Staffing, Residents and Facility Deficiencies, 1991 through 1995, by Charlene Harrington, Ph.D., University of California, January 1997
- Consumers' Minimum Standards for Nurse Staffing in Nursing Homes, National Citizens Coalition for Nursing Home Reform, 1995

FINDINGS:

Some major findings emerged from the deliberations of the Task Force. These findings precluded any consensus being reached by the Task Force for a simplistic numerical ratio increase in minimum staffing. They were as follows:

- The definition of direct care within the *Principles of Reimbursement* does not take into account that not all facility licensed nurses routinely provide hands-on direct care to residents. Staff defined as "direct care" under the *Principles of Reimbursement* are being utilized to fulfill non-direct care functions.
- Since Maine is one of the Case Mix Reimbursement System Demonstration states, the available Case Mix Assessment Data should be utilized to provide a more empirical staffing criteria based on fluctuating resident acuity.

- Increased patient acuity based on redefinition of nursing home admission criteria indicates a need for acuity-based staffing.
- Industry representatives pointed out that, given the existing reimbursement system, an increase in the number of CNA staff could result in less licensed nursing staff being available for direct care.
- Many Task Force members questioned the purpose of facilities keeping direct care costs low in order to maximize the financial incentive offered under the *Principles of Reimbursement*. Facilities are allowed to keep 25% of savings.
- The allotted 90 days to complete its deliberations was considered to be inadequate by all Task Force members, given the complexity of the issue.

RECOMMENDATIONS:

The Task Force will not, at this time, recommend a change of the minimum staff requirement in the regulations. The Task Force agrees with the October 1995 report by the Consumers' Minimum Standard for Nurse Staffing in Nursing Homes, National Citizens Coalition for Nursing Home Reform, which states:

> "...nursing home residents have sensory and functional disability, chronic illness and changes in health status and need nursing personnel to be available at all hours to observe and respond to their care needs, give timely, kind and competent assistance and notify both family and physician when there are significant changes."

The Task Force recommends:

1. That, in order to ensure that the needs of residents residing in nursing facilities are met, a Demonstration Project be initiated to determine a minimum staffing methodology using the Case Mix Acuity Index and to find efficiencies in the current system to ensure cost neutrality in the nursing home budget. The Demonstration Project would consist of representatives of the Minimum Staffing Task Force performing on-site

reviews of 12-15 statewide nursing facilities and examine staffing patterns, Case Mix data, resident needs, reimbursement and evaluation of existing staffing methodology.

2. That the following issues be addressed in the Demonstration Project:

    - Direct Care - That the Department of Human Services adopt a definition of direct care which specifies the functions of direct care staff for clarity and which would be the same for the licensing regulations and the *Principles of Reimbursement*.

    - Examine and analyze data from Maine's participation in the Multi-State Nursing Home Case Mix and Quality Demonstration. Due to the extent of current data available, it is expected that the data will assist the committee in creating recommendations for a minimum staffing criteria.

3. That the Task Force analyze the results of the Demonstration Project and provide those results to the Joint Standing Committee on Health and Human Services by March 1, 1998.

INDEX TO ENCLOSURES

Subject: ***ADDITIONS TO THE REPORT OF THE TASK FORCE ON MINIMUM STAFFING***

BACKGROUND

During the 118th Legislative Session, a Minimum Staffing Task Force was established under Chapter 34 Resolves (H.P. 828 - LD 1133 Resolve, to Ensure Quality Care to Residents of Nursing Facilities Through the Establishment of a Task Force on Minimum Staffing). [See Tab A]

The Resolve required that the Task Force shall:

- Review the departmental rules concerning the current minimum staffing levels required of nursing facilities;
- Consider the appropriateness of increasing the minimum staffing level at nursing facilities;
- Identify and discuss other issues that are relevant to the study; and
- Make recommendations to change departmental rules concerning minimum staffing levels of nursing facilities, based on the findings of the Task Force.

Task Force representation included staff from the Department of Human Services, Long Term Care Ombudsman Program, Alzheimer's Association, family members, Certified Nursing Assistants, licensed nurses and nursing facility providers. The Task Force was to submit a report of their findings and recommendations to the Commissioner, Department of Human Services, and the Joint Standing Committee on Health and Human Services within 90 days of the effective date of the Resolve.

On August 19, 1997, the Minimum Staffing Task Force submitted its report, findings and recommendations. [See Tab B] Given the allotted time, the Task Force listed a number of findings and recommendations, among which were the following:

- No recommended changes at this time to the minimum staffing requirements in the current regulations.

- Initiation of a Demonstration Project to ascertain whether a minimum staffing methodology could be determined using the Case Mix Acuity Index and find efficiencies within the current system to ensure cost neutrality in the nursing home budget. The Demonstration Project was to consist of reviews of 12-15 statewide nursing facilities and was to examine staffing patterns, Case Mix data, resident needs, reimbursement and conduct an evaluation of existing staffing methodology. The Task Force would review and adopt a definition of "direct care" that correlates with the *Principles of Reimbursement*. Additionally, The Task Force was to examine and analyze data from the Multi State Nursing Home Case Mix and Quality Demonstration to assist in creating recommendations for a minimum staffing criteria.

TASK FORCE ACTIVITIES

The Minimum Staffing Task Force did not ask for an extension to the 90 days allotted by the Chapter 34 Resolve, but continued its work unofficially to implement its recommendations, with most of its original membership intact. The Task Force developed a Demonstration Project and representatives of the Minimum Staffing Task Force performed on site visits to 11 nursing facilities. The purpose of the on-site visits was to examine staffing patterns, case mix data and resident needs and to determine nursing facilities staffing methodologies. Task Force representatives developed and followed a "Protocol for On Site Visits". [See Tab C] During the on-site visits, the Administrator, Director of Nursing, direct care staff and residents and family members were interviewed with specific questions developed by the Task Force. [See Tab D] All Task Force representatives performing on site visits signed a "Confidentiality Statement for the Minimum Staffing Task Force". [See Tab E] After the on-site visits were completed, the data from the visits was analyzed by the Task Force to assist the Committee in establishing recommended minimum staffing in nursing facilities. [See Tab F]

Key Findings

- One out of eleven nursing facilities uses the Case Mix Index information to determine the staffing needs of the facility.
- Ten of the eleven nursing facilities do not use the Case Mix Index information to determine staffing needs. In these facilities, the Case Mix Index information is viewed as a reimbursement issue.
- Administrators and Directors of Nursing have differing views on how the nursing facility census impacts staffing needs. Directors of Nursing focus more on the acuity level of residents.
- Maintaining optimum nursing staff to meet resident needs is difficult. CNA shortages are a statewide issue, although the most northern nursing facilities are maintaining needed staffing levels. Recruiting and maintaining CNA staff is difficult due to the low unemployment rate and the increasing care needs of residents.
- Regulatory requirements place paperwork demands on nurse managers and nurse supervisors, which take time away from providing direct care to residents.
- Staffing in nursing homes must remain consistent, even with fluctuating resident acuity levels, in order to retain staff.
- Residents, families and CNAs recommend lower nurse-to-resident ratios to assure quality of care.

The Task Force reviewed the direct care givers (RN, LPN, LVN or CNA) to residents staffing recommendations by the National Citizens Coalition for Nursing Home Reform. [See Tab G] Data was collected and presented by a Task Force member from the Bureau of Medical Services, Reimbursement and

Financial Services, to analyze the fiscal impact of lowering the minimum staffing ratios. [See Tab H] The fiscal impact of nursing ratios of 1:5 on the day shift, 1:10 on the evening shift and 1:15 on the night shift is an annual increase of $868,096.94 ($299,840.68 = State share). The annual cost for a minimum staff ratio of 1:6 on the day shift, 1:10 on the evening shift and 1:15 on the night shift is $103,372 ($35,705 = State share).

CONCLUSIONS

The Task Force reached the following conclusions:

- Minimum staffing is not the same as "best practice". Minimum staffing reflects a minimum safety threshold, not a prescription for daily staffing.
- It was not within its mandate to realign, for the purpose of reimbursement, the definition of direct care services as defined in the licensing regulations with those in the *Principles of Reimbursement*. The Task Force believes that this task should be given to the Commission to Examine Rate Setting and Financing of Long Term Care Facilities.
- That staffing ratios are only one factor in achieving best practice. Other factors include staff retention, recruitment, staff training and facility leadership. Reimbursement needs to match staffing levels. Those day-to-day levels are best set by the nursing facilities, based on meeting the needs of the residents.
- That assigning any set of ratios as a minimum staffing requirement is an inexact process and merely a temporary solution to the challenge of achieving quality of care throughout the Long Term Care system.

RECOMMENDATIONS

The Task Force recommends:

- That the following changes to the current minimum staffing requirements be implemented:

  1:6 Day Shift
  1:10 Evening Shift
  1:15 Night Shift

  A copy of the proposed changes to the *Regulations Governing the Licensing and Functioning of Skilled Nursing Facilities and Nursing Facilities* is enclosed. [See Tab I]

- That the Legislature examine the issue of CNA availability in many parts of the state.

- That the issue of CNA reimbursement be reviewed by the Commission to Examine Rate Setting and Financing of Long Term Care Facilities, with a focus on reimbursement for direct care and indirect care vs. routine services. The Commission should also examine these issues with the understanding that quality health care requires more than just direct care givers.

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Memorandum

To: Senator Judy Paradis, Representative J. Elizabeth Mitchell, Co-Chairs, Joint Standing Committee on Health and Human Services;

Kevin Concannon, Commissioner, Department of Human Services

From: Brenda Gallant, Long Term Care Ombudsman

Subject: L.D. 1133, Task Force on Minimum Staffing

Date: March 16, 1998

During last year's session, the Legislature established a Task Force on Minimum Staffing, pursuant to L.D. 1133. I participated in that Task Force as the representative of the Long Term Care Ombudsman Program. After a year of meetings, which included task force members' participation in a study of staffing patterns at 11 nursing homes, the Task Force has presented the Health and Human Services Committee with a report, dated March 2, 1998 entitled "Additions to the Report of the Task Force on Minimum Staffing." In that report, a recommendation was made to increase minimum staffing requirements to 1:6 on the day shift, 1:10 on the evening shift, and 1:15 on the night shift. (The current requirements set minimum staffing levels at 1:8 on the day shift; 1:12 on the evening shift and 1:20 at night.) **I respectfully disagree with this recommendation, and would like to offer my own views and recommendations in this report.** My position is based on complaints received by the Ombudsman Program from residents and families, information from licensed nursing staff and certified nurses' assistants working in facilities, as well as on the data collected by the Task Force.

Findings

I would like to add the following findings to those in the Task Force report:

- During fiscal year 1997 the Ombudsman program received 150 complaints related to staffing at nursing facilities.
- Only four facilities in the entire state have staffing ratios of less than 1 to 6 on the day shift, 1:10 on evenings and 1:15 on nights. *Consequently, an increase in the Department of Human Services' staffing requirements to 1 to 6 on days, 1:10 on evenings and 1:15 on nights as recommended in the Task Force report, will not serve to improve staffing in most facilities or address quality of care problems which result from inadequate staffing.*

- The Task Force has recommended an increase in reimbursement to nursing homes of approximately $103,372 ($35,705 State share), in connection with the proposed increases in minimum staffing. *This increased appropriation is unnecessary, when the proposed requirement would simply maintain the status quo.* Moreover, within nursing facilities, residents have varying levels of need. A blanket ratio does not take this into account.

- Current reimbursement to nursing homes for the purpose of paying direct care staff is made according to case mix reimbursement methodology, which gives facilities more money when they care for residents with a higher level of need. In fact, if facilities have savings in the direct care category, they are permitted to keep 25 percent of those savings. Thus, facilities may have an incentive to under-staff, so that savings may be realized. This sends a mixed message to providers.

- Reimbursement mechanisms, staffing requirements and quality of care are closely intertwined. The way that the DHS reimburses facilities for direct care to residents has a significant impact on staffing and on quality of care. The Task Force report concludes that "it was not within its mandate to realign, for the purpose of reimbursement, the definition of direct care services as defined in the licensing regulations with those in the Principles of Reimbursement," and recommends referral of this issue to the Commission on Rate Setting and Financing of Long Term Care Facilities. I disagree with this statement. I believe development of a definition of what constitutes "direct care" staff under DHS staffing requirements is essential.

- The Task Force report states that "Minimum staffing is not the same as 'best practice.' Minimum staffing reflects a minimum safety threshold, not a prescription for daily staffing." The question this raises is how does a minimum standard which reflects only a bare safety threshold, protect and preserve each resident's right to quality of care?

- *It is evident from discussions among Task Force members, as well as from the data gathered by the Task Force, that facilities may include nurses engaged in paperwork functions as direct care staff, in meeting minimum staffing requirements. Other staff such as ward clerks or CNAs doing data entry may also be included as direct care staff.* A "minimum staffing" regulation is not meaningful unless it defines what type of staff person is considered "direct care" staff for the purpose of ensuring that adequate staff are available to meet residents' needs.

Recommendations:

- *The concept of "minimum staffing" should be eliminated altogether and replaced with a requirement that facilities maintain staffing which is adequate to meet the needs of the curre mix of residents based on acuity*, as reflected in the facility's case mix data, drawn from the "MDS plus" assessments. Each facility has information about what its "case mix" is.

- New staffing requirements tied to resident acuity rather than staff to resident ratios would be framed like this: "Maine nursing facilities must provide direct care staff on all shifts based on the acuity of residents as it is determined by case mix data." The Department of Human Services should be directed by legislation to promulgate regulations in accordance with this principle.

- I agree with the Task Force findings that it is exceedingly difficult in some areas of the state to attract and retain qualified staff, particularly CNAs. There may well be justification for increased reimbursement to facilities in those areas, to reflect the higher wage scales and the need to rely on "temp" agencies to fill unexpected vacancies. ***This increased reimbursement should be carefully targeted to the particular staffing and labor shortage problems faced in particular areas of the state. A blanket increase in reimbursement which essentially maintains staffing at current, inadequate levels will do little to improve quality of care.***

Thank you for your attention to these important issues. I would be glad to answer questions.

APPENDIX BB

Report of the Task Force on Paperwork Reduction in Nursing Facilities

TASK FORCE ON PAPERWORK REDUCTION IN NURSING FACILITIES

FINAL REPORT TO THE MAINE LEGISLATURE
JANUARY 1997

BACKGROUND

In July ,1995, Shelly Lezer, RN (then Director of Nursing Services at the Freeport Nursing Home) contacted Senator Phil Harriman R- Brunswick in an attempt to get some regulatory relief from the ever increasing burden of repetitive paperwork in nursing facilities. The concern expressed at that time was that the paperwork requirements were:

1. costly
2. counterproductive in terms of resident care
3. causing experienced nurses to leave gerontological nursing

Senator Harriman requested that Shelly gather information from other nurses which would demonstrate the scope of the problem. Shelly and a small group of peers designed a questionnaire that would capture the needed information and mailed that questionnaire to 700 gerontological nurses throughout the state in August. Forty three percent of the nurses responded in less than one week.

Of the nurses responding more than half indicated that between 50 and 75% of the required paperwork was redundant; 224 of these nurses estimated that only 25-50% of the paperwork was needed to ensure quality of care; 228 said the time they spent doing paperwork diminished resident care; more than half indicated that they received conflicting information from the regulatory agencies at least quarterly.

The problem was multifaceted and due in large part to the multiple agencies involved in the regulation of these issues. While each of the agencies involved (Bureau of Medical Services, Case Mix Demonstration Project, The Muskie Institute, BEAS, Department of Health and Human Services) had a legitimate need for the information requested, none knew what the others were requesting. The result was confusing to providers and regulators alike Gathering and documenting the same information in multiple formats was counterproductive and costly. At a time when residents were much more in need of time and services from Registered Nurses they were receiving less attention and their medical records were receiving more.

Results of the questionnaire were conveyed to Senator Harriman who then submitted to the Maine Legislature a bill designed to reduce the amount of paperwork required. The bill did not pass in both houses and an appeal was made to the Legislative Council which endorsed it unanimously! The Human Resources Committee subsequently heard testimony on this bill and in the end directed that a Task Force be created to address the issue of excessive documentation requirements in nursing facilities. Appointments to the Task Force were completed by the middle of May (see attached list of appointees and Department Representatives) and the group met for the first time on May 29, 1996. As directed by the Legislature a chair was elected by the nurse members of the Task Force. The members agreed to meet every other week and did so until the final meeting on January 9. 1997.

GOALS AND OBJECTIVES

The goal of the Legislative Task Force on Paperwork Reduction was to "study the needs of the patient and family, the nursing and professional staff of the nursing facility, the department and other interested parties .....(and).. shall search for methods of meeting the legitimate needs of all parties in the most efficient, efficacious and collaborative manner possible".[1]

It quickly became apparent that the first objective was to clarify the issue for members of the Task Force. It is fair to say that all members learned a great deal about the workings of all the other entities involved. Once members had a clearer sense of perspective we began the process of determining further objectives. We acknowledged the fact that there were some issues over which we had no control due to federal mandates. There was also acknowledgment of some confusion on the part of providers as to what was a requirement and what was facility practice.

We reviewed documentation requirements by the various regulatory agencies and recommended or implemented changes that will provide documentation to:

* assure and validate high quality resident care
* assist in a method for determining medical eligibility
* demonstrate compliance with State and Federal Regulations.

It was a very complicated process. While the Task Force was meeting, other regulatory changes were taking place, and major changes anticipated with the adoption of the federally mandated resident assessment form (MDS 2.0). We were mindful throughout the process that we must consider the current regulatory framework, as well as the anticipated Federal requirements which had no date certain for becoming effective in the State of Maine.

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[1] LD 1689 Maine State Legislature

ACCOMPLISHMENTS

Throughout the work of the Task Force, members remained committed to working collaboratively and to understanding the issues from all aspects. As a result we were able to make many changes that will be beneficial to all parties. It is our collective view that regulatory bodies, providers, taxpayers, and, most importantly, the residents for whom we provide services, will benefit from the work we have done. We believe that this work was necessary and the process a good one. The process speaks to cooperation, collaboration and joint problem solving in the long term care arena. As the system continues to change at a rapid pace, it would seem to be a model that could be duplicated in our continued search for an efficient, efficacious and humane health care system. The refinement of this effort could be the beginning of a CQI model across the continuum of care.

Through the work of this Task Force the following changes were made in documentation requirements:

Principles of Reimbursement

Many issues that are regulated by Licensing and Certification were duplicated in the Principles of Reimbursement for Nursing Facilities. This required facility staff to review multiple documents in order to remain in regulatory compliance. In addition, each time one of these areas changed multiple documents had to go through the costly rule making process. All areas of duplication have now been removed from the Principles of Reimbursement.

Unresolved conditions report

This is a summary report of ongoing clinical issues compiled from the resident assessments (MDS+) sent to the Muskie Institute each month. Any identified errors, including typographical errors, required re-accomplishment of the entire resident assessment. Working with High Tech Software, the Task Force requested the ability to track such issues before transmission to the Muskie Institute. This has been accomplished and will save resources for both providers and the Muskie Institute.

Schedule for completion of the Resident Assessment (MDS+)

Maine was not following the national schedule for the completion of the resident assessment (MDS+), but rather required them to be completed on a more frequent basis. The major reason for this was that Maine is a Case Mix reimbursement state. The Task Force determined that there was no compelling financial reason to continue completing multiple assessments for each resident and that requirement was changed. Maine now follows the national assessment schedule.

MDS+ as a sole source of information

The information located on a resident assessment (MDS+) has been required to be validated in other areas of the resident record in order to be considered "true". Task force members have agreed that the initial MDS+ should not require validation of ALL information in the record as this information can be obtained from the resident, family, or other care providers. Subsequent MDS+s would require more areas of validation.

Triggers and RAPS

RAPS (resident assessment protocols) "are problem oriented frameworks for additional assessment based on problem identification items (triggered conditions)."[2]There are currently 18 identified RAPs with an additional four under development. They are , in practice, a detailed recipe for care planning.

There has been much concern and confusion over what the requirements are for "working" the RAPs. Most facilities have adopted lengthy , commercially available forms in an effort to address issues that have arisen at time of survey relative to whether or not the RAPs have been "worked" Licensing and Certification has respond to this issue via Task Force discussions. It will now be acceptable for the interdisciplinary team to write a summary statement indicating why the decision to proceed or not proceed with care planning was made. There is no regulatory requirement for the use of any particular form or format.

Survey issues

Facilities have been required to transfer data from facility staffing schedules to a state specified form , which was a lengthy, time consuming and redundant process. Licensing and Certification has now agreed that copies of facility schedules will be accepted.

There were other survey issues that we were unable to resolve because they are Federal requirements. Several of the Task Force Members are participating in a Federal work group that is attempting to re-design some of the very issues that we have raised in Maine (paperwork requirements for short stay admissions, federal forms at survey, data gathering at survey, etc.). Other issues that are federal requirements (medication review, monthly progress notes) were also outside of the scope of our work.

Care Planning

Care plans remain lengthy and poorly utilized by many team members.. The Task Force recommends a care plan format that is usable and meaningful to all team members. . In that spirit we have developed a format that is being tested in the pilot project discussed

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[2] Long Term Care Resident Assessment Instrument User's Manual version 2.0 October 1995 page 4-1

below. The format being tested has the potential to significantly reduce duplication and redundant documentation It is the concept that is endorsed by this Task Force pending final results of the pilot program. Facilities would have the option of adopting the concept at that time.

The Pilot Demonstration Project

The Task Force members have agreed in concept to a new mechanism for documenting and validating resident care that meets the goals and objectives of this project. Three facilities (Southridge Living Center in Biddeford, Auburn Nursing Home in Auburn, and The Barron Center in Portland) are currently piloting the system. The pilot will be in progress from January 1 until March 31, 1997. All levels of nursing home beds are involved and all regulatory bodies will continue to work together on this . At the successful conclusion of the project all interested parties will be offered the opportunity to learn the new concept. Early reports from the participating facilities indicate that it is working well. This new way of dealing with documentation should be effective, efficient and easily used by all.

RECOMMENDATIONS

The Members of the Task Force on Paperwork Reduction in Nursing Facilities believe that the work they have done was necessary and will have a positive effect on consumers. The reduction in duplicative paperwork will allow us to spend our time and resources in a more cost effective and rational manner. The collaborative work that providers and regulators have done has increased our ability to see the larger issues and make recommendations for improvements at all levels of the system. The individual changes that were made and will continue to be made as a result of our work are, of course, important. We believe strongly that the more far reaching accomplishment was in the process of collaborating and joint problem solving. All parties were in the same room at the same time discussing issues that effected all of our consumers. We developed a mutual understanding of the bigger issues. We have learned a great deal about all areas of health care regulation.

The issues that lead to the creation of this Task Force are not going to disappear unless there are changes in the way we communicate and collaborate in the field of health care. If we can improve services and reduce duplication of effort surely we will be conserving resources that are scarce. All members of the Task Force are committed to cost effective high quality care in the most appropriate setting for our consumers. We believe that the efforts of the Task Force should continue in some way. Extending this effort across the continuum could assist emerging areas of the health care system in avoiding the same problems that we have begun to resolve.

We respectfully suggest that the work of this Task Force could be the basis of something larger. Health care providers and regulators working together to identify and solve problems would be a more CQI/TQM approach than the inspection model we currently have .We would ask that the Task Force continue for one year for purposes of developing a CQI/TQM model to problem solve across the continuum of care. Given the success of this Task Force we would request that providers and regulators continue to work together on this project.

TASK FORCE ON PAPERWORK REDUCTION IN NURSING FACILITIES
MEMBERS

Appointed by the President of the Senate:

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Elected as Chair
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*Replaced Shelly Lezer who relocated to Pennslyvania

APPENDIX CC

Agreement of the Department of Human Services and the Maine Health Care Association, January 30, 1998

MEMORANDUM OF AGREEMENT

Joint Committee to Study the Viability of Maine Nursing Facilities

Maine Department of Human Services
And
Maine Health Care Association

Background

In 1993, public policy for long-term care undertook a new direction. The so-called "Med 94 legislation," put into place policies which supported consumer choice in long-term care and encouraged the delivery of Medicaid-funded care in the most appropriate environment. In general, the intent of the legislation was to shift public funding for long-term care from high cost nursing home care to lower cost community-based health care. This new policy followed nearly a decade of public policy that encouraged expansion of nursing home beds.

The Med 94 legislation and its accompanying rules raised the medical eligibility standards for admission to nursing homes, thus encouraging delivery of services in a home setting or institutional settings less restrictive than nursing facilities. Nursing facilities were urged to convert some of their beds to residential care beds, and were allowed to bank a certain number of NF beds. The policy, in fact, reduced nursing facilities occupancy rates—from 96% in 1993, to 86% in 1997, and significantly shifted public funds to home health care services. The number of nursing home beds, however, was not reduced to the level desired by the state. Consequently, the nursing home industry experienced a precipitous fall in financial stability.

In September 1997, the Commissioner, Maine Department of Human Services (DHS), and the President, Maine Health Care Association (MHCA), agreed to enter into a formal discussion of the problems attending the downsizing of nursing facilities, and, if possible, to define mutually agreeable strategies to address the problems.

Purposes/Goals

DHS Commissioner Concannon and MHCA President Orestis committed a team of key staff[1] to enter into a series of five meetings across the Fall, 1997. The discussion group was charged with deriving a common understanding of the problem, articulating a set of solution criteria, identifying options for resolving the identified problem, and establishing a set of agreed upon recommendations.

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[1] DHS: Kevin Concannon, Commissioner; Christine Gianopoulos, BEAS; Cathy Cobb, BEAS; John Bouchard, Div. of Audit; Christopher Nolan, BMS; MHCA: John Orestis, President; Paula Valente, Executive Vice President; John Pelletier, Member; Michael McNeil, CPA, Consultant

Findings

Problem Definition: The discussion group generally agreed that the challenge was to find a way to "right size the number of nursing home beds, while attending to the economic and social impact on owners, employees and communities." The focus of the problem to be resolved was articulated as follows: *Financially viable nursing facilities that provide top quality care in the financial, geographic and social context of Maine.*

The financial viability of the nursing home industry is further challenged by certain emerging and interrelated influences. The group identified five factors significantly affecting the financial viability of nursing homes over the next five years: *number of beds and distribution; hospital restructuring; management capability of NFs; certificate of need; consumer preferences.*

Criteria for Solutions: In the process of brainstorming possible strategies to address the problem the group posed nine criteria for evaluating strategies:

1. Feasible—can we do it;
2. High leverage—affects multiple factors;
3. Affordable;
4. Safety—protects the consumer;
5. Politically sellable/can communicate;
6. Consumer impact—increases personal control and responsibility;
7. Impact on competition;
8. Less capital intensive; and
9. Fair and equitable.

Strategies – Brainstorming: The group identified the following fourteen possible strategies:

1. State-sponsored buy out of obsolete facilities;
2. Incentives for entrepreneurial providers;
3. Create single long-term care bed license; eliminate Med 96; case mix payment reflect the changed case mix; use standard assessment tool as part of standardized payment;
4. Bed/Occupancy/Cost analysis by component—data base for entire continuum of care;
5. Highest/best use of facility;
6. Separate vouchers for housing and services based on case mix across the continuum;
7. Contract with providers on number of beds or capitated system;
8. State commitment to training/retraining providers, regulators, consumers, public;
9. Comprehensive plan for geographic locale (county);
10. "Managed care" on regional approach through capitation and need planning;
11. CON process maintain competition;
12. Free enterprise approach;
13. Change financial system to social insurance model; and

14. Institute an outcome compliance approach.

The group noted that certain of these strategies are impractical, some are long-term and others short-term strategies, and that they need to be considered in light of current realities; bed occupancy rates have remained high in certain areas; over bedding persists in at least another eight areas (Portland, Lewiston, Augusta, Bar Harbor, Pittsfield, Caribou, Fort Kent, and Norway); decline in financial viability of NF persists (with some facilities being unable to meet their loan covenants).

Recommendations

Following analysis and deliberation of the strategies by two subcommittees, a series of recommendations were adopted by the two parties.

The DHS and MHCA will work together to:

1. Develop the industry's management capacity to enable the industry to:

    - Promote entrepreneurial, economically viable alternative uses for existing physical and human resources, so that the industry can better serve the changing needs of consumers;
    - Address the broader human resource needs, in order to create a stable, professional workforce. This would include efforts to improve the supply and availability of labor, training of staff, adequacy of pay and the development of professional career opportunities for long-term care health workers—all of which are critical to maintaining quality care and the financial viability of the industry.

    Lead Agency: Maine Health Care Association will develop an action plan. The DHS will collaborate with MHCA by providing appropriate state resources to support the plan.

    Time Line: MHCA in consultation with DHS will develop an action plan by February 1998.

2. Extend the initial classification period from 30 to at least 90 days in order to allow sufficient time to establish a clear picture of the resident's needs.

    - Exception would be individuals eligible for Medicaid within community. They are limited to 30 days unless they apply for NF eligibility.

    Lead Agency: Department of Human Services/BEAS initiated a practice change in November 1997.

3. Revise existing licensing rules to achieve simplicity and consistency across various long-term care services. Eliminate requirements that are not critical to consumer health and safety. Establish a single, long-term care license for providers who offer

multiple services, e.g. nursing facility, residential and home health, in order to encourage the development of integrated services.

Lead Agency: The Department of Human Services, in consultation with the Maine Health Care Association, will conduct the review and propose rule changes as appropriate.

Time Line: Complete by December 1998.

4. Seek to amend and broaden existing legislation which allows nursing facilities to provide home health under limited circumstances.

   Lead Agency: The Maine Health Care Association.

   Time Line: MHCA will draft legislation for introduction and consideration during the current session of the 118th Legislature.

5. Design a demonstration project with a small number of facilities (<6) to allow multi-level facilities to "flex" beds in order to accommodate the needs of residents.

   Lead Agency: The Department of Human Services will seek the authority for such a demonstration project. The DHS, in consultation with the MHCA, will design the project and identify potential demonstration sites.

   Time Line: Complete by December 1998.

6. Modify existing policies and rules to facilitate reduction in licensed Nursing Facility beds and stabilize the financial status of Nursing Facilities, by:

   a. providing for the non-applicability of depreciation recapture if depreciable assets are sold to a purchaser who will not use the assets for a health care service for which future Medicare, Medicaid, or state payments will be received.

      Lead Agency: Department of Human Services will modify Principles of Reimbursement.

      Time Line: Include at next revision of Principles.

   b. changing the minimum occupancy requirements from 97% to 95% for use in the preparation of pro forma cost reports for the establishment of revised nursing facility and residential care rates for conversion projects.

      Lead Agency: Department of Human Services will modify Principles of Reimbursement.

      Time Line: Include at next revision of Principles.

c. recognizing a portion of the acquisition cost for the rights to a nursing facility license in the fixed cost component of a purchaser's Medicaid rate for those situations where the purchaser acquires the entire existing nursing facility license of a provider and delicenses all or a significant portion (at least 50%) of the beds associated with that license.

Lead Agency: Department of Human Services will amend the Principles of Reimbursement.

Time Line: Include at next revision of Principles.

7. DHS and MHCA agree to meet quarterly to review progress of implementing these recommendations.

AGREED TO BY THE UNDERSIGNED PARTIES:

1/30/98
John C. Orestis, President
Maine Health Care Association
date

Kevin W Concannon
Kevin W. Concannon, Commissioner
Department of Human Services

1-30-98
date

APPENDIX DD

Petition to the Commission to Examine Rate Setting and the Financing of Maine's Long-term Care facilities

PETITION TO THE COMMISSION TO EXAMINE RATE SETTING AND THE FINANCING OF LONG TERM CARE FACILITIES

We, the undersigned, family caregivers of loved ones in nursing homes in Maine, are pleased to know of the Commission's work. Our long-standing distress about the quality of care provided and the constant frustration we have endured in our efforts to improve conditions in our own back yards prompts us to place this Petition before you and for the record.

Given your wide-ranging charge, we assume you have already heard from numerous consumers voicing similar concerns to ours. We wish to add to their voices and outline the barest minimum improvements in the system which should be the heart of your report.

Preliminary information from the Long Term Care Steering Committee's recent consumer survey shows four major areas most in need of immediate improvement.

1. Staffing. Too few and often with too little training and supervision.
2. Lack of staff means there is no time to provide tender loving care, almost as important as physical attention.
3. Food. Little or no attention to individual preferences.
4. Lack of security and care for safety and well-being of residents in Alzheimer's units.

There are many more issues we could bring to your attention if only more time were available or we had had more advanced notice of your important work.

We have come to the conclusion, reluctantly, that consumers have little to lose under present arrangements and much to gain in the future if your report addresses these core issues. Hence our determination to play a new and enhanced role in the future in all major policy matters relating to the care of our family members, as well as young and disabled people who suffer under the present system.

November 12, 1998

APPENDIX EE

Two letters to the Commission to Examine Rate Setting and the Financing of Maine's Long-term Care Facilities and One Letter to a Nursing Facility Administrator Delivered with the Petition that is Appendix DD

Dear Sir:

The Care at Parkview was quite poor due to Lack of help, especially Night shift "3-11" One girl used to work all alone taking care of 15 to 16 patients. Lately they have 2 for 3-11 shift.

Most people in residential still Need a Lot of care. My Mother if Left alone to care For herself, does a poor Job of it. I have seen quite a Few Messes, that I'm sure wouldn't happen if They had more help.

Anita Coulanguay

PO Box 157
Madison, Maine 04950

Hilton Power
5 Atwood Lane
Brunswick, ME 04011-3407

Dear Hilton Power:

Our mother has been a resident at Parkview Nursing Center for 2 ½ years. During this time we have noticed a decline in the level of care she receives, increasing turnover in staff and a decrease in the activities provided.

The personnel who provide direct care are concerned, caring individuals. They are trying to provide more than basic care but are unable to because of limitations in staffing set up by the administration.

We are providing you with a few examples of situations in which complaints were made about the care being provided at Parkview:

I visited Mom on a Sat. afternoon and arrived to find her and another resident wet with urine to the knees. I was upset by the situation and both residents were promptly changed and cleaned when I notified the charge nurse. Since the nurse couldn't tell me how this could have happened, I wrote to the Administrator. I was informed that "agency" people were on duty that day. In answer to my comments about the staff being short-handed he remarked that the requirements for staff to patient ratio were being met.

Mom's Care Meeting was held on Aug. 5 Th., it was decided to make changes in her meal time arrangements. She would be moved to a feeding table with fewer distractions so that she might be more apt to feed herself. If not then help would be available. One and one half months later, the changes had not been implemented. The acting DON admitted that she was responsible for not following up. When Mom was moved to this table, we noted that the table was too high for even an average sized person to eat at comfortably. It has been lowered but not enough. Mom is a small person.

Recently, my sister was informed that Mom had choked on her "ill-fitting" dentures and that it was unsafe to have them in at night. We later learned that the situation was exaggerated and at no time was she in danger. Arrangements were made to have a dentist evaluate the fit of Mom's dentures and he has determined that they fit fine.

I am enclosing a copy of my original letter to Parkview Administrator.

Sincerely,
Rose Marie St Peter
Rose Marie St. Peter

PO Box 157
Madison, Me. 04950
Aug 9, 1998

Administrator
Parkview Nursing and Rehab. Ctr.
Livermore Falls, Me. 04254

Dear Skip,

I am Rose Marie St. Peter, Loretta Roy's daughter and am writing to apprise you of a situation I found when I visited her on Sat. Aug. 8th.

I arrived at 2:15 P.M. and found Mother sitting in her wheelchair wet to the knees in urine. There were no aides in the area so I informed the charge nurse, Sally. She immediately took Mom to the bathroom and washed & changed her. She commented that it was no wonder that she was wet because there was no incontenence pad on Mom. Neither Sally nor Jackie were able to explain how this happened since they didn't know who or when she had last been taken to the toilet. Mom is unable to give any information about this but she knew what condition she was in and was upset about it.

She was not the only patient in this condition. Daniel was wet and needed help. I informed Jackie of this when I noticed. It was taken care of right away also.

I sincerely hope that this was an isolated incident. But please know that I am very upset and have shared this with other patient's visitors. These family members all voiced concerns with what they perceive as a decline in the level of care at Parkview.

I usually visit on Saturday mornings and know that the 2 aides on duty work very hard to give very basic care. I have noticed that they now are responsible for handing out snacks that were given out by the dietary dept. This added task shortens the time they can spend feeding snack to patients unable to feed themselves. I'm sure that this is only one example of them being expected to do more with less. At some point this places pateints at risk. These aides have (precious, little time left for a smile or a kind word or a touch on the arm or shoulder that's not involved with basic care.

My sister and I have agreed to visit at less regular times than we have been. We hope never to have to write you with a complaint of this sort again

Sincerely

Rose Marie St Peter

P.S. Phone: 696-5514 c̄ questions if any.
p̄ 6 p.m