

INTER-RATER RELIABILITY: SELECTED PIB (2A) SCALES

by

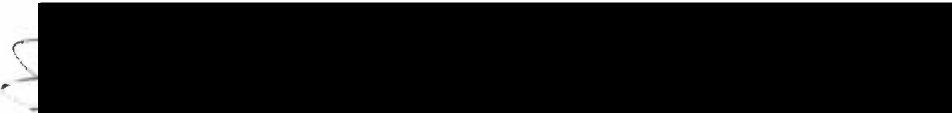
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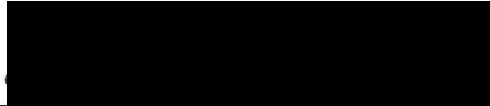
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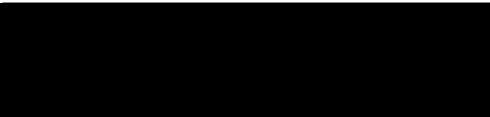
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CHAPTER I

Introduction

The number of people over age 65 in this country rose from 20 to 25.5 million between 1970 and 1980. This 27% increase raised the total proportion of people over 65 to 11.3% of the population, a drastic change from 1900, when the three million people in this category constituted only 4.1% of the population (Fairchild & Burton, 1983). With the expected enlargement of the elderly population to approximately 45 million by the year 2020 (U.S. Bureau of the Census, 1981), it follows that there has been a renewed interest in and examination of the services that exist and will be required in the future. Presently such services as health care, adult foster care, residential care and in home assistance are in greater demand.

Concurrent with this growth of the elderly population, phenomena such as the taxpayer revolt and inflation have combined to produce a hesitation on the part of the government to increase expenditures for care of the elderly. Proper allocation of whatever resources are available is considered a critical issue by those policy makers and experts in care of the aged who plan government interventions and support. Maddox (1981) believes that the key issue in allocation of resources is a broad political vision that can be translated into legislation and plans for financing. He notes that part of the problem is the absence of any concentrated approach on the part of interest groups who are critical of how services are currently operated.

The federal government has acknowledged the need to formulate a coherent public policy regarding the federal role in caring for the frail

elderly. The Federal Council on Aging has stated that there are a number of people being cared for in medical programs whose basic needs are primarily social (Fahey, 1981), which represents an expensive approach to their care. Alternatives to the way care is currently provided could improve the effectiveness, quality and efficiency, as well as lower the costs. A systematic approach to delivery is required.

In 1971 the Administration on Aging in Washington, D.C. asked the Duke University Center for Study of Aging and Human Development to undertake research studies which would explore alternatives to institutional care for impaired older persons (Pfeiffer, 1976). Upon further study, Pfeiffer found that the real questions were: "What are the various alternatives for care for older persons with differing degrees of disability?" and also, "When is institutional care the appropriate alternative in a spectrum of care?" (Pfeiffer, 1976, p. III). Charged with answering these questions, Duke University originated the OARS Project and the OARS Multidimensional Functional Assessment Questionnaire. This questionnaire is one of the many instruments developed in order to first assess an elderly population and, second, to describe any changes in their state of well being from their baseline.

The State of Oregon followed suit with the recognition of the need for an accurate assessment of its elderly population in order to equitably and efficiently meet the needs of those people requesting assistance from the joint federal and state program, Medicaid. A 1975 study resulted in the development and utilization of a check list by pairs of staff nurse evaluators to determine the physical and mental functional level of nursing home patients (Saslow & Huffman, 1975).

In 1979 the Placement Information Base (PIB) was developed in conjunction with the FIG/Waiver project in Southwestern Oregon. The PIB is a functional assessment instrument designed to provide a data base and to help professionals match the needs of clients with available services (see Appendix A). In 1980 the PIB was adopted by the state of Oregon to replace the various functional assessment portions of existing forms and to be used by the Senior Services Division (SSD) as part of its Pre-Admission Screening for Medicaid clients. The PIB has recently been revised and is now being evaluated for its use in a reimbursement formula for community and nursing home care.

Statement of the Problem

Like earlier versions of the PIB, the version (2A), studied here is designed to identify the needs of clients, and is used by SSD in the Pre-Admission Screening process. It has been proposed that, beginning in 1984, scores from selected PIB scales (11 out of 32) be combined to determine level of dependency in the functional area of activities of daily living. The eleven scales that contribute to the determination of how dependent a client is are combined to evaluate dependency in activities of daily living (ADLs) for reimbursement purposes (see Appendix B).

The Senior Services Division of Oregon plans to combine the dependency level in ADLs with an assessment of need for nursing management, nursing/rehabilitation services, stability of health needs, need for a structured environment, and self-management skills in order to determine reimbursement level. Various methods of combining the items are still being evaluated.

Because the PIB is being revised and may be used for a new purpose, it is important that it also be reliable for this purpose. A large number of Medicaid clients may have their reimbursement level for their care based on data from the PIB. In 1980, according to the Oregon Department of Human Resources, 8,000 of the state's 15,000 nursing home beds were occupied by individuals whose care was being paid for by Medicaid (cited in McKenzie, 1983).

The impact on the state's budget is also a compelling reason to insure that the instrument is reliable. With the era of cost containment and scarce resources upon us, every dollar spent must be justified. Clients inaccurately rated high will cost the state unnecessarily.

The proposed change in reimbursement will also affect health care providers, in that they would be paid according to a client's needs and abilities, rather than at a flat rate. Clients inaccurately placed in too low a reimbursement category would be a financial burden to the state.

Review of the Literature

Two areas are addressed in this literature review. First, the development, testing, and revision of the PIB are reviewed. Second, the specifics of instrument reliability and inter-rater reliability are examined.

Placement Information Base

The first version of what is now called the PIB was based on the proposed functional data elements for Greater Oregon PSRO authorization of SNF admissions, stays, and discharges (Oregon Medical Association, 1980). It was determined that more factors needed to be examined than were in the Observational Schedule #1. Observational Schedule #2 was then developed. This second schedule was based on functional data elements

from the Health Care Financing Administration "PACE II" instrument and the National Center for Health Statistics long-term care minimum data set. Because Observational Schedule #2 did not include key criteria deemed necessary by Adult Services workers and long-term care agencies and providers in Southwestern Oregon, Observational Schedule #3 drew scales from the Department of Human Resources guidelines for selection and review of appropriateness of placement (Oregon Medical Association, 1980).

Observational Schedules #1, #2, and #3 were field tested for inter-rater reliability by the nursing staff at the Benedictine Nursing Center at Mount Angel, Oregon (Oregon Medical Association, 1980). Fifty patients in the Skilled Nursing Unit, two intermediate Care Units, and one Residential Care Unit were rated. The agreement between pairs of observers was tested. The average percent of scales on PIB versions one, two, and three in which pairs of observers agreed totally, by patient, was 83.7, 77.6, and 70.7, respectively. When agreement was considered by pairs of raters agreeing or disagreeing by only one scale level, the percent agreement rose to 96.6 on version two, and 90.6 on version three.

On the basis of the Mount Angel field test results, a fourth version of the instrument was developed and scales were evaluated for their ability to measure a functional continuum (from independent to dependent), and for inter-rater reliability in a variety of settings when used by a variety of raters. Twenty-five of the scales were retained in the fifth version of the instrument. This instrument was named the Placement Information Base, and was used from 1980 until the present.

In 1983 the validity and reliability of the Placement Information Base were further addressed in two separate studies.

Dingman (1983) compared ratings on selected PIB scales for twelve elderly nursing home clients to a clinical assessment of cognitive functioning with individual interviews. Although she found discrepancies between PIB ratings on the five scales measuring cognitive functioning and the interview results, these findings were not further validated. These five scales, however, have been revised in PIB 2A.

McKenzie (1983) evaluated the suitability of this version of the PIB when used as a substitute for the entire Pre-Admission Screening process by the Senior Services Division in nursing home placement decisions in Oregon. She addressed such issues as whether PIB scales are capable of measuring constructs, characteristics, or traits useful in nursing home placement decisions, and how well PIB scales are correlated with nursing home placement as determined by the total Pre-Admission Screening process.

In her study, McKenzie hypothesized that the PIB scales could be grouped into three dimensions reflecting physical, mental and social functioning. Using these combinations, she tested the PIB to determine whether these three important constructs are adequately represented and whether this version of the PIB measures the functional range necessary to assess the population. The physical and mental combinations were evaluated by examining the within-dimension item correlations. The social functioning was evaluated by examining factor loadings, through factor analysis. Using Cronbach's alpha, internal consistency reliability was established for all newly constructed aggregate PIB scales. Internal consistency reliability alpha coefficients ranged from .75 for the overall social scale to .91 for the overall physical scale. The median correlation was .89 (McKenzie, 1983). McKenzie tested the construct validity

of the PIB as a means of establishing the usefulness of the instrument toward standardization, and demonstrated its validity. McKenzie's study confirms that PIB scales are capable of measuring constructs, characteristics, or traits considered useful in nursing home placement decisions.

McKenzie identified specific scales that warranted further inspection due to the fact that scores on these scales were not normally distributed. She questioned whether the skewed distributions were due to the fact that the clients tested were a more functionally impaired segment of the elderly population, or whether the skewed distributions reflected a bias among raters. She questioned whether those scales with bimodal frequency distributions were sensitive to middle ranges of the dimension being measured. She recommended further reliability and validity analysis.

In response to both the above studies, and to suggestions and recommendations from PIB users, the PIB is undergoing a substantial revision. Version 2A of the PIB was developed in December 1983 and contains 32 scales. The response range of the scales varies from one to three to one to eleven. The range of each scale is from fully independent to fully dependent. Like the former PIB, each range of the scale is accompanied by a descriptive statement designed to make the scales "low inference" that require observation, but little interpretation, by the rater.

The constructs addressed in the instrument include activities of daily living, instrumental activities of daily living, self-management skills, cognitive skills, physical functioning and social functioning.

Reliability

The ultimate goal of multiple testing has been to obtain maximum validity and reliability of the instrument. Validity of an instrument

refers to whether or not it measures what it is supposed to. Reliability can be defined as the degree of consistency with which an instrument measures the attribute or attributes it is designed to measure.

Reliability of an instrument is necessary in order for the instrument to be valid. Reliability is essential in order for a test to be interpretable. If the instrument used to measure a variable is unreliable or inconsistent, then the relationship between variables is difficult to support. A highly reliable instrument will have few errors of measurement. Errors of measurement are random and variable errors that are not a result of differences in subjects. Error can be defined as any variable that is irrelevant to the purposes of the testing and results in inconsistencies in measurement (Brown, 1976).

Inter-rater reliability is one type of reliability. The inter-rater reliability of an instrument is estimated by having two or more trained observers watching some event simultaneously and independently recording the relevant variables (Polit & Hungler, 1978).

Inter-rater reliability can be examined by comparing percent of agreement between the two observers or raters. Agreement over 80% is considered good, over 90% is excellent. Cohen's kappa statistic is a widely used measure of agreement that removes the agreement between raters that was due to chance. A value of kappa greater than .75 is considered excellent agreement. Values below .40 may be taken to represent poor agreement beyond chance. Values between .40 and .75 may be taken to represent fair to good agreement beyond chance (Fleiss, 1981).

When an instrument has been significantly altered, or when it is being used for a new purpose, inter-rater reliability must be re-examined in order to insure that threats to the reliability have not been introduced. Common sources of unreliability include use of an instrument with a sample it was not designed for, examiner variation, instrument administration variation, or an ambiguous, high inference instrument.

Purpose of the Study

This study evaluated the inter-rater reliability of the 11 PIB (2A) scales which are proposed for use in determining levels of dependency in activities of daily living. Data from these scales will be combined with data from other sources in order to determine the client's reimbursement level for Medicaid purposes (see Appendix C).

Rationale for the Study

As previously noted the proposal to utilize PIB scores as a means of determining how dependent a client is for Medicaid reimbursement purposes has resulted in the need for further study. This, along with the fact that the PIB is being altered from the form in which it was previously tested, is a compelling reason to re-examine the PIB for inter-rater reliability.

While most of the items on PIB (2A) are very similar to those of the former PIB, many have been modified in some way. Scale titles remain similar. In the December 1983 version of the PIB (2A), the number of scales is not the same as the April 1982 version tested by McKenzie. Version 2A of the PIB has new scales that address all the content in the former version, with some additions and elaboration. For example, the former version had a scale titled Continenence. Version 2A has two scales

that cover this - Bladder Control (A19) and Bowel Control (A20). Version 2A has more scales that might assess a client living in a home situation rather than an institution. The scales used in formulating the number of dependencies for reimbursement were all present in the formerly tested PIB in some form.

Research Questions

There are two research questions in this study. Question number one: Is there acceptable inter-rater reliability on the PIB (2A) scales which will be used to determine client dependency in activities of daily living? Research question number two: Is the inter-rater reliability high enough on the individual PIB (2A) scales that measure dependence in ADLS that a client is assigned to the same Medicaid reimbursement category when rated by two raters?

Raters could agree enough to have clients placed in the same reimbursement category, yet not agree as often on individual scales. If this were true, the test would be more reliable for the "coarse" distinctions for reimbursement level, but could not be used as precisely for other, more specific purposes. Also, it is reasonable to expect that the current suggested reimbursement matrix may be modified in the future. If this should happen, knowing the reliability of individual scales will be important.

This researcher reports the over-all differences in ratings and examine the reasons for such occurrences. Sources of disagreement, if identified, can then be controlled for or removed in future use. Errors could possibly result from client placement setting, rater differences, such as professional background, differences in amount of or quality of

rater training and orientation, ambiguity of scale items, or limited access to required data.

It was anticipated that overall, the reliability of PIB (2A) scales would be high because of the use of descriptor statements for each level on the scales. The PIB is designed to minimize vulnerability to ambiguity by "anchoring" every level, or item, on every scale, by a descriptive, observable, functional, phrase or sentence; it is a so-called "low inference" design, unlike many of the rating scales frequently utilized for assessment. On low inference observation systems pure behavior is recorded as nearly as possible (Kerlinger, 1973). In contrast, high inference observation systems require interpretation of behavior. With high inference systems much training of observers or raters is required. Excessive burdens of judgment are placed on raters that could affect reliability.

In summary, this study will examine the reliability of PIB (2A) scales used to determine dependency in activities of daily living, and attempt to locate sources of error that could lower the PIB (2A) reliability.

CHAPTER II

Method

Design

This study was designed to test the inter-rater reliability of selected scales of items in the Placement Information Base Version (2A) when used as part of the data to determine reimbursement level for care of Medicaid clients in Oregon. Secondary data, collected by Oregon Senior Services Division staff were utilized. Potential risks to subjects are not evident to this researcher, and the anonymity of subjects has been preserved. Subjects in this study gave permission for this type of administrative research when they accepted Medicaid.

A widely accepted method of accurately testing inter-rater reliability was employed in this study. Two raters were instructed to rate each subject independently after a single evaluation. For each subject, both raters involved presumably utilized the same information.

Subjects and Setting

The 193 subjects in this study were clients receiving Medicaid in the state of Oregon. Subjects were either in nursing homes, residential care homes, adult foster care homes, or their own homes with live-in or daily help at the time of the study. Over one-half of the subjects were residing in nursing homes at the time of the rating. The remaining subjects were fairly evenly distributed between settings (see Table 1). Basic demographic data such as age and sex of the subjects were not collected. Although these data might be desirable to have, data utilized were secondary and did not include these correlates.

Table 1
 Number of Clients Rated by Each Team, With Team Composition,
 Client Placement, and Location

Team Number	Number of Clients Rated	Type of Raters	Placement	Location
1	15	Social worker/Case worker	Residential care Foster care	Bend
2	10	Social worker/Case worker	Residential care Foster care In-home, daily	LaGrande
3	9	PAS ^a registered nurse/Case worker	Foster care In-home, live-in In-home, daily	LaGrande
4	15	PAS ^a registered nurse/Case worker	Residential care Foster care In-home, daily	Central Point
5	15	PAS ^a registered nurse/Case worker	Residential care Foster care In-home, daily	Grants Pass
6	14	PAS ^a registered nurse/Case worker	Residential care In-home, daily	Eugene
7	15	Case worker/Case worker	Foster care In-home, live in In-home, daily	Eugene
8	20	QA ^c registered nurse/OFMC ^b registered nurse	Nursing home	Portland (Rest Harbor)
9	20	QA ^c registered nurse/OFMC ^b registered nurse	Nursing home	Portland (Park Royal)

(continued)

Table 1 (continued)

Team Number	Number of Clients Rated	Type of Raters	Placement	Location
10	20	QA ^c registered nurse/OFMC ^b registered nurse	Nursing home	Portland (Friendship)
11	20	PAS ^a registered nurse/Case worker	Nursing home	Portland (Fairlawn)
12	20	PAS ^a registered nurse/Case worker	Nursing home	Portland (Mt. Tabor)

^aPre-admission Screening

^bOregon Foundation for Medical Care

^cQuality Assurance

Each client placement setting is in one of ten geographical locations. All of the client ratings in nursing homes were done in Portland, Oregon, one team in each nursing home. Clients in community settings were chosen from Medicaid clients in Bend, LaGrande, Central Point, Grants Pass, and Eugene, Oregon.

Sample Selection Criteria

The subjects in this investigation were selected by the two member rating teams from the settings to which the teams were assigned. Subjects were to be chosen by the team members in order to represent as wide a range of client functioning as possible. This sample was a convenience sample, not a random sample.

Data

Data used in this study were gathered in December, 1983. Twelve two-member teams consisting of various combinations of registered nurses, social workers, or case workers were formed. The registered nurses were employed directly by the Senior Services Division (SSD) as Pre-Admission Screening (PAS), Nurses or Quality Assurance (QA) Nurses, or indirectly under a SSD contract with the Oregon Foundation for Medical Care (OFMC). The social workers and case workers were employed by SSD.

These raters represent the type of professionals who are likely to and at times do utilize the PIB in the course of their ongoing work. SSD staff utilize the Placement Information Base when they assess clients applying for Medicaid in terms of eligibility for reimbursement and type of placement. Oregon Foundation for Medical Care nurses and Quality Assurance nurses from SSD look at the client and her/his records after placement to assess the continued appropriateness of placement and/or

need for changes of placement or treatment.

Some raters had had prior experience with an earlier version of the PIB. All team members received group oral and written instructions on how to complete the PIB.

Data Collection Instrument

The data were collected using the Placement Information Base (2A) (see Appendix A). PIB ratings were made after the rater evaluated the client by any combination of client interview, audit of medical record or interview of family or staff in the client setting. The PIB is a functional assessment tool that measures an individual's functional status at the time of administration and takes about one hour to administer.

Measurement of the Variables

Once the client scores on the PIB were obtained, the eleven PIB scales that were utilized to compute the dependency level of the client in activities of daily living were examined. These PIB scales were collapsed into six ADL categories (see Table 2), according to Saslow's suggested matrix (see Appendix B).

Table 2

Correspondence of PIB (2A) Scales to ADL Categories

	<u>PIB Scale</u>	<u>ADL Category</u>
A5a	Nutritional Status	ADL 1
A6	Eating	ADL 1
A16a	Grooming and Dressing	ADL 2
A17a	Bathing and Personal Hygiene	ADL 3
A3a	Mobility	ADL 4
A 4	Mobility in Emergency	ADL 4
A18a	Using Toilet	ADL 5
A19a	Bladder Control	ADL 5
A20a	Bowel Control	ADL 5
A7	Behavioral Demands on Others	ADL 6
B5	Response to Changes in Social Relationships and Living Arrangements	ADL 6

The response range on the 11 PIB (2A) scales relevant to the reimbursement category determination varies. Scales A6, A16a, A17a, A4 and B5 have a one to five response range. A19a, A20a and A7 have a one to six response range. A5a has a one to seven response range. A3a and A18a have a one to eight response range.

Determination of dependency level in any of the six ADL categories was made by examining client ratings on the eleven PIB scales. If a client received a score that fell into the designated dependent area for any PIB scale in the ADL category, the client was considered dependent in that category. For example, a rating of 6 or 7 on PIB scale A5a, or a rating of 4 or 5 on PIB scale A6 would cause the client to be rated dependent on ADL 1 (see Appendix B). Each time a client was rated dependent, this was counted as one dependency in the ADL category.

Although PIB (2A) scale A4 (Mobility in Emergency), is listed as one of the scales utilized in determining number of dependencies in ADLs, in fact, the reimbursement matrix does not consider any rating in scale A4 to be dependent. Therefore, despite the scale's inclusion in the matrix, it is possible to get a rating of dependent in only ten scales.

The number of dependencies in ADL categories are then used as one component of the reimbursement formula. For example, a client having dependencies in four or more ADL categories could have her/his care reimbursed at either Reimbursement Category One or Three, depending on her/his needs for nursing management, direct nursing/rehabilitation services, stability of health needs, need for a structured environment, and self-management skills. The last factor is considered with in-home clients only.

In order to analyze the data, client ratings on the eleven PIB (2A) scales which apply to the reimbursement category were recoded so that they could be converted to another variable labeled either NFDEP or NSDEP; number of ADL dependencies first rater, or number of ADL dependencies second rater. Ratings of each client were labeled either as first or second rating, referring to the rating by rater one or rater two respectively.

Once the NFDEP or NSDEP categories were created, these categories were converted to Functional Categories. Functional Categories provide a general picture of a client's overall ADL functioning. Functional Categories are divided into three levels; level A (dependent to 0 ADLs), Level B (dependent in 1 to 3 ADLs), and Level C (dependent in 4 or more ADLs). These general Functional Categories represent the categories which SSD is considering using as part of its determination of level of reimbursement to calculate dollar amount of reimbursement to the provider of client care. SSD would combine the number of ADLs the client is dependent in with separate assessments of need for nursing management, direct nursing or rehabilitation services, stability of health needs, need for a structured environment, and self-management skills (See Appendix C).

Although the self-management skills are also determined using PIB scales, their inter-rater reliability was not addressed in this study. These scales are utilized for reimbursement purposes only when assessing clients at home with live-in or daily help. While the sample surveyed in this study includes 26 subjects in the in-home category, decision rules have yet to be established regarding how scores on these scales will be used in the reimbursement scheme.

Methods of Analysis

Ratings by rater one and rater two were crosstabulated for each of the 11 PIB (2A) scales used to form the six ADL categories. Percent of exact agreement was examined, and Cohen's kappa was computed for rater agreement. Agreement within one level and agreement on whether clients were dependent or not was examined by percent agreement. Rater agreement by Functional Category was analyzed overall and by team, utilizing percent agreement and Cohen's kappa in an attempt to identify factors that tend to increase or decrease the rates of agreement.

CHAPTER III

Results and Discussion

Research Question One

Research question one is: Is there acceptable inter-rater reliability on PIB (2A) scales which will be used to determine client dependency in activities of daily living?

Cohen's Kappa

Computation of the Cohen's kappa statistic reveals the proportion of agreement between raters after chance agreement is removed from consideration. A number of researchers have expressed a preference for Cohen's kappa as the method for comparing two ratings. The statistic is lower than percent agreement, because the possibility that the raters will agree by chance is present in the percent agreement.

This statistic has been computed for the 11 PIB (2A) scales evaluated in this study. As can be seen from Table 3, the Cohen's kappa range varies from .29 to .65. The mean kappa is 0.5.

Percent of Exact Agreement

Since percent agreement is frequently reported in the literature, these figures are reported. Percent agreement is higher than Cohen's kappa because it includes agreement between raters that happen by chance. On the cross tabulation of rater one and rater two scores on the scales in question, the range of exact agreement is from 51.8% to 74.8%. The median agreement is 66.1%; the mean is 65.1 (See Table 4).

On scales where agreement is high, this may be due to the fact that these determinations are easier to make than scales with a low rate of

Table 3

Cohen's Kappa Statistic for Agreement on PIB (2A) Scales

	<u>PIB Scale</u>	<u>Cohen's kappa</u>
A5a	Nutritional Status	.29
A6	Eating	.45
A16a	Grooming and Dressing	.65
A17a	Bathing and Personal Hygiene	.59
A3a	Mobility	.40
A4a	Mobility in Emergency	.63
A18a	Using Toilet	.54
A19a	Bladder Control	.56
A20a	Bowel Control	.47
A7	Behavioral Demands on Others	.49
B5	Response to Changes in Social Relationship and Living Arrangements	.43

Table 4

Percent of Exact Agreement Between Rater One and Rater Two On
 PIB (2A) Scales Used to Compute ADL Dependencies

<u>PIB Scale</u>	<u>Number</u>	<u>Percent Agreement</u>
A5a Nutritional Status	102 ^c	52.9
A6 Eating	119 ^b	62.0
A16a Grooming and Dressing	143 ^a	74.8
A17a Bathing and Personal Hygiene	134 ^c	69.5
A3a Mobility	100 ^c	51.8
A4 Mobility in Emergency	143 ^c	74.1
A18a Using Toilet	126 ^a	65.9
A19a Bladder Control	134 ^b	69.7
A20a Bowel Control	127 ^b	66.1
A7 Behavioral Demands on Others	136 ^a	71.2
B5 Response to Changes in Social Relationships and Living Arrangements	111 ^a	58.1

Total clients rated on this scale =

^a191

^b192

^c193

agreement. The scale titled Grooming and Dressing, A16a (with 74.8% agreement), for instance, may be easier to rate than Nutritional Status, A5a (with 52.9% agreement). The former scale lends itself to a judgment which can be made by the rater in front of the client during the interview, while the latter scale would require some other information, perhaps gleaned from the medical record, or discussion with the care provider. This last process of digging for information requires some expertise and time, which might further explain some of the differences in the agreement between raters.

Scales A5a (Nutritional Status), B5 (Response to Changes in Social Relationships and Living Arrangements), and A3a (Mobility) show the lowest rates of agreement between raters.

These PIB scales which show less agreement are those scales which appear to require more judgment on the part of the rater. These scales were written such that the raters must make some inferences. Further, some of the scales require raters to discount the environment in which the client is placed. For instance, in scale A5a (Nutritional Status), the rater is required to evaluate a circumstance which, in the case of a client in a nursing home, is rigorously observed, while "a diet sufficient to maintain health status" might not be monitored as carefully, nor need to be, in a residential care or foster care home. In the former case, substantial disagreement might take place, documented in the medical record, concerning the ideal body weight of a client, and whether or not the client has maintained that weight. No such discussion would need to be evaluated by a rater of a client in a community setting. Thus, there might be some disparity in the observations made by the raters.

In the case of scales A19a (Bladder Control) and A20a (Bowel Control) the low rater agreement again suggests two possible problems raters might confront, regardless of the instrument in question. First, the information needed may be difficult to obtain. Outside the environment of a nursing home, the issue of continence might not be as carefully monitored; inside, it might not be well documented. Secondly, the issue of incontinence might be of some concern and a source of some embarrassment to the client, a fact which might alter the responses received by the raters, because of client reticence.

Percent Agreement Within One Level

Agreement is fairly high when agreement within one level rather than exact agreement is considered. The range of agreement is 76.2% to 95.9%. The median agreement is 95.9%, the mean is 88.3.

Scale A5a (Nutritional Status) shows 78.8% agreement between raters when a level difference of one is taken into consideration, scale A19a (Bladder Control), 84%, and A3a (Mobility), 85.5% agreement. (See Table 5) As expected, when evaluating the agreement within one level, all rates of agreement improve.

As illustrated in Table 5, on scale A18a (Using Toilet), the percent agreement rose from 65.9% to 76.2% if calculations are made comparing rater agreement by the difference of only one level. In each of the cases, an increase in agreement is seen, sometimes reaching virtually 96%, as in the cases of scales A6 (Eating), A7 (Behavioral Demand on Others), A16a (Grooming and Dressing), and A17a (Bathing and Personal Hygiene).

Considering agreement within one level is important because it is a more realistic expectation than absolute agreement.

Table 5

Percent Agreement Within One Level Between Rater One
and Rater Two on PIB (2A) Scales Used to Compute ADL Dependencies

<u>PIB Scale</u>	<u>Number</u>	<u>Percent Agreement</u>
A5a Nutritional Status	152 ^c	78.8
A6 Eating	184 ^b	95.8
A16a Grooming and Dressing	182 ^a	95.1
A17a Bathing and Personal Hygiene	184 ^c	95.5
A3a Mobility	165 ^c	85.5
A4 Mobility in Emergency	176 ^c	91.3
A18a Using Toilet	146 ^a	76.2
A19a Bladder Control	161 ^b	83.6
A20a Bowel Control	161 ^b	83.7
A7 Behavioral Demands on Others	183 ^a	95.9
B5 Response to Changes in Social Relationships and Living Arrangements	167 ^a	90.4

Total clients rated on this scale =

^a191

^b192

^c193

However, disagreement within one level can be critical if the disagreement falls at the "criterion cut" between "dependent" and "independent" on a given scale.

Approximate Percent Agreement on Dependent ADL Ratings

The previous analyses have given agreement on the PIB (2A) scales as a whole. However, for purposes of reimbursement, it is only important whether raters agree that a client is dependent or independent on each of the 10 scales. As previously stated, a client's dependency on each of these scales is combined to determine whether the client is dependent in 0, 1 to 3, or 4 or more ADLs. This information is a factor in the Medicaid reimbursement formula. Therefore, it is important to look at how often rater one and rater two agree that a client is dependent on each of the ten PIB (2A) scales that assess activities of daily living. The percent agreement regarding client dependency was obtained by averaging the total number of clients rated dependent by either rater one or rater two, and dividing this number into the number of clients rated dependent by both raters. As illustrated in Table 5 approximate percent agreement between raters regarding a client's dependency on the PIB (2A) scales measuring ADL functioning varied dramatically. The range of approximate agreement is from 40.0 to 82.61. The median approximate agreement is 68.

It is interesting to note that scales with the lowest agreement as determined by using Cohen's kappa (Table 3) and percent agreement (Table 4) are not the scales that are the lowest when considering percent agreement on dependent ADL ratings (Table 6). A20a (Bowel Control) is lowest (40%) on Table 5; A18a (Using Toilet) is the highest (82.61%). This may indicate that for some scales agreement is easier to make at some levels, ie. the dependent levels than across the entire response range (Tables 3 and 4).

Table 6
Approximate Percent Agreement on Dependent ADL Ratings

PIB Scale		Rated Dependent by		Both	Percent Agreement
		Rater 1	Rater 2		
A5a	Nutritional Status	14	15	8	55.17
A6	Eating	22	27	18	73.47
A16a	Grooming and Dressing	63	62	48	76.80
A17a	Bathing and Personal Hygiene	68	69	56	81.75
A3a	Mobility	46	47	38	81.72
A4	Mobility in Emergency	a	a	a	a
A18a	Using Toilet	71	67	57	82.61
A19a	Bladder Control	50	45	34	71.58
A20a	Bowel Control	29	25	11	40
A7	Behavioral Demands on Others	1	0	0	0
B5	Response to Changes in Social Relationships and Living Arrangements	28	17	11	48.8

^aNo value can be computed because no dependencies are defined for this scale.

Summary Question One

In review, the results of research question one indicate that certain scales have a lower rate of agreement than others. Scales A3a (Mobility), A5a (Nutritional Status), and B5 (Response to Changes in Social Relationships and Living Arrangements), have low agreement rates, as shown by both Cohen's kappa and percent agreement. The amount of judgment required by the raters may be a factor in the varying rates of agreement. Sensitive topics such as bladder and bowel continence might lead some clients to hide problems in these areas. Lack of documentation may contribute to rater disagreement.

Research Question Two

Research question two is: Is the inter-rater reliability high enough on the individual PIB (2A) scales that measure dependence in ADLs that a client is assigned to the same Medicaid reimbursement category when rated by two raters?

Cohen's Kappa

Overall, raters agree with a kappa of .76 on Functional Category assignment. When analyzed by team, the agreement ranges from .31 to 1.0 (see Table 7). Kappa was not computed for team seven because the expected frequency of agreement was low due to many zeros in the cross tabulation.

Percent Agreement

Overall percent agreement between raters regarding assignment of clients to Functional Category A, B, or C is high. Raters agree 79.3% of the time, or on 153 of the 193 clients on Functional Category assignment.

Table 7
Cohen's Kappa Statistics for Functional
Category Assignment by Team

<u>Team</u>	<u>Cohen's Kappa</u>
Team 1	.44
Team 2	1.0
Team 3	1.0
Team 4	1.0
Team 5	.64
Team 6	.63
Team 7	-
Team 8	.58
Team 9	.31
Team 10	.70
Team 11	.65
Team 12	.38

Nearly half of the clients (45.6%) are rated Level A by both raters. Fifteen percent are rated Level B by both raters. Almost 19% are rated Level C by both raters.

Of the 40 disagreements, 23 are between Level A and Level B, 16 are between Level B and Level C, and one is between Level A and Level C. Table 8 summarizes these results.

Examination of Factors

The next analysis was done to evaluate the extent that client placement and/or type of rater influenced rate of agreement on Functional Category assignment.

Placement

Teams evaluating clients in the community settings tend to agree a higher proportion of the time than teams in nursing home settings (see Table 9). Overall, raters agree on 90.41% of the Functional Category assignments for clients who resided in the community settings, and on only 70% of the Functional Category assignments in the nursing home settings.

The lower rate of agreement in nursing home settings might be surprising at first, considering the fact that there is presumably a greater amount of written documentation on client performance, and that documentation is often done by, or under the supervision of, professional health care providers. However, upon further reflection, the documentation may not address relevant matters. Clients in nursing homes may be seen by an observer as more dependent than they really are. For example, a client might use a wheel chair in a nursing home because it is there, or because the staff feels more comfortable with the client in the chair

Table 8
Percent Agreement on Functional Category Placement
By Rater One and Rater Two

<u>Rater One</u>	<u>Rater Two</u>		
	<u>Level A</u>	<u>Level B</u>	<u>Level C</u>
Level A (0 Dependencies in ADLs)	88 (45.6%)	10 (5.2%)	1 (0.5%)
Level B (1-3 Dependencies in ADLs)	13 (6.7%)	29 (15.0%)	8 (4.1%)
Level C (4 or more Dependencies in ADLs)	0 (0%)	8 (4.1%)	36 (18.7%)

Table 9

Client Placement, Type of Rater, and
Percent Agreement on Functional Category Assignment by Team

<u>Team</u>	<u>Client Placement</u>	<u>Type of Raters</u>	<u>Number</u>	<u>Agreement on Functional Category</u>	
				<u>Number</u>	<u>Percent</u>
1	Residential care Foster care	Social worker/Case worker	15	13	87
2	Residential care Foster In-home, daily	Social worker/Case worker	10	10	100
3	Foster care Live-in and daily	PAS ^a registered nurse/Case worker	9	9	100
4	Residential care Foster care In-home, daily	PAS ^a registered nurse/Case worker	15	15	100
5	Residential care Foster care In-home, daily	PAS ^a registered nurse/Case	15	14	93
6	Residential care	PAS registered nurse/Case	14	13	93
7	Foster care In-home, live-in & daily	Case worker/Case worker	15	9	60
8	Nursing home	QA ^b Registered nurse/OFMCC registered nurse	20	15	75

(continued)

Table 9 (continued)

Team	Client Placement	Type of Raters	Number	Agreement on Functional Category	
				Number	Percent
9	Nursing home	QA ^b registered nurse/OFMC ^c registered nurse	20	11	55
10	Nursing home	QA ^b registered nurse/OFMC ^c registered nurse	20	16	80
11	Nursing home	PAS ^a registered nurse/Case worker	20	16	80
12	Nursing home	PAS ^a registered nurse/Case worker	20	12	60

^aPre-Admission Screening

^bQuality Assurance

^cOregon Foundation for Medical Care

if she/he is a bit unsteady ambulating. This might lead to a discrepancy in perceived dependence on the part of the raters. Some raters might automatically rate a client dependent without pursuing exactly what the client's abilities are. This could be a factor in the lack of rater agreement. The environment itself could be interfering with an accurate determination of how dependent a client is. The fact that the client is in an institution may make her/him more likely to act and to be judged dependent. The institutional setting might confound a rater and contribute to the lack of agreement found in the nursing home setting.

Raters

An analysis was also done on reliability by type of rater. Raters in the residential care, foster care, and client's own homes are social workers, case workers, and pre-admission screening registered nurses. Raters in the nursing home settings are quality assurance registered nurses, Oregon Foundation for Medical Care registered nurses, pre-admission screening registered nurses, and case workers.

Due to the design of the study it was difficult to compare teams of raters in the two different settings, community and nursing home. Only the PAS registered nurse/caseworker combination was present in both settings. The lowest rate of agreement was between QA registered nurses and OFMC registered nurses rating nursing home clients. The next lowest was the case worker/case worker team in the community and the PAS registered nurse/case worker in the nursing home. The PAS registered nurse/case worker combinations in the community achieved the highest rates of percent agreement.

It is difficult to draw conclusions on how the type of rater affects the rate of agreement due to the variation in rates of agreement across placement settings.

Identical training on how to use the PIB (2A) for this study was presumably received by each rater. However, these raters have varying amounts of experience using the PIB. Comfort with, and understanding of the instrument most likely varied. The requirement to rate the client's capacity, rather than to describe what the facility lets or invites them to do, may not be well understood or feasible to ascertain under pressure, without practice. In the course of their daily work, PAS registered nurses use the PIB regularly; QA registered nurses do not. Experience using a functional assessment tool could cause a rater to rate clients differently than raters who are using the instrument for the first time. Although the PIB is designed to be a low-inference instrument, familiarity with it, or lack of it, could affect client ratings in this study. In actual use, these differences might not persist because raters would quickly gain experience using the PIB and differences might be reduced in this way.

Summary Question Two

In summary, rater agreement on client Functional Category assignment is .76 when using Cohen's kappa. Percent agreement is 79.3%. Agreement varies depending on client placement. The nursing home setting may confuse raters because some clients may act as if they were dependent when they possibly are not. Type of rater may also be a factor in rate of agreement between raters, but the design of this study does not allow examination of that hypothesis.

CHAPTER IV

Summary, Limitations, Recommendations and Conclusions

Summary

This study examined the inter-rater reliability of the Placement Information Base (2A) when used as an assessment instrument to determine dependency in activities of daily living (ADLs) for Medicaid clients in Oregon. Specifically, the purpose was to evaluate the reliability of the 11 PIB (2A) scales used to determine dependency in ADLs. Whether clients were assigned to the same Functional Category (a breakdown of ADL dependencies to 0, 1 to 3, or 4 or more dependencies) was also evaluated. Because it has been proposed to utilize the PIB as part of a formula to reimburse care providers according to the needs of Medicaid clients and because the PIB has been revised, it was felt that the PIB needed to be examined for its reliability. Review of the literature surveyed the development of the PIB and noted past studies on reliability.

The sample population studied consisted of 193 clients whose care was reimbursed by Medicaid in December, 1983. Clients were independently rated by two raters using the PIB (2A). Rating teams were various combinations of case workers, social workers, or registered nurses. Ratings were cross tabulated: rater one by rater two; by PIB scale and by Functional Category.

Certain PIB scales A4 (Mobility in Emergency), and A16a (Grooming and Dressing), and A17a (Bathing and Personal Hygiene) show a higher rate of agreement than others. Scales A3a (Mobility), A5a (Nutritional Status), and B5 (Response to Changes in Social Relationships and Living Arrangements) are identified as having low rates of agreement. The Cohen's kappa on PIB (2A) scales ranges from .29 to .65. The mean kappa is .50.

The percent of exact agreement between two raters on the PIB (2A) scales examined ranges from 51.8% to 74.8%. The median agreement is 66.1%.

Percent agreement within one level ranges from 76.2% to 95.9%. The median agreement is 95.9%.

The approximate percent agreement on dependent ADL ratings ranges from 40.0% to 82.61%. The median agreement is 68%. The scales that show low rates of agreement on dependent ratings are not the same scales that are low in rate of overall agreement. A20a (Bowel Control) had only 40% agreement.

Possible reasons for these rates of agreement were explored. Factors identified as possibly leading to low rates of agreement on PIB (2A) scales were: a requirement that the rater make judgments about the clients; the influence of the environment on how dependent a client appears; difficulty obtaining information from the client due to client reticence; and poorly documented behaviors in the medical record.

These same factors presumably influenced agreement on whether clients were assigned to the same Functional Categories. The environment appeared to influence the raters' ability to agree on client ratings, as is seen in the lack of rater agreement in nursing homes (70%) and the high agreement (90%) in the community settings. However, differences of types of raters and amounts of experience could also explain these results.

The Cohen's kappa statistic for overall agreement between raters by team on assignment to Functional Categories is .76. The range is from .31 to 1.00. The percent agreement between raters regarding assignment of clients to Functional Categories is 79.3%.

Limitations

Data utilized in this study were secondary. The Senior Services Division of Oregon gathered the data. In future studies, data on the age and sex of the subjects might be useful in drawing conclusions about difficulties in rating certain types of subjects. How long the client had been in a placement setting was not determined.

The training of the raters was done throughout the state. Some raters received one training session, and others had had prior experience with other versions of the PIB. This prior experience variable was not controlled for in this study.

Future studies would glean more data by insuring that comparable teams be utilized in both community and nursing home placement settings. This would enable the researcher to compare the agreement rates by type of rater without considering placement as a variable.

Recommendations

This reseaaacher recommends that PIB scales with low agreement be revised and retested in pilot studies.

The source of low agreement in the nursing home setting needs to be located, perhaps by questioning those professionals who were raters in this setting in order to identify problems they might have had.

Standardized assessments and documentation in the medical record of clients in nursing homes would be helpful in determining client needs, dependencies, or strengths.

Conclusions

Whether the reliability of the PIB (2A) scales is sufficiently high for its intended uses will have to be determined by the Senior Services

Division. The overall rate of agreement on assignment of clients to Functional Categories was 79 percent. This rate might be increased by refinement of PIB (2A) scales with low inter-rater reliability. The rate of 79 percent means that statistically, an average of 21 out of every 100 Medicaid clients could be placed in an incorrect reimbursement category. Individual clients, providers, and the Medicaid budget are all likely to experience impact in the event of incorrect placement. On the other hand, the cost of achieving absolute precision may be very high.

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APPENDIX A
Oregon SSD PIB II Reliability
Test Form

2A

Client I.D. No.: _____
As of _____ Date

Rater I.D. No.: _____
Completed on _____ Date

Rate the client according to how they usually function.

When, on any scales, you are not sure which of two or more levels to choose, because the wording seems to fit, or not fit, about as well; or, because the person's capabilities seem to vary; select and circle the level with the lowest number, the most functional level characterizing the person. Remember that, for the typical five alternative scale, the basic meaning of the levels is:

1. No Problems: Functions about average, or better; managing independently.
2. Mild Problems: Beginning to have some problems with function; may need occasional help.
3. Moderate or continuing problems with the function; needs limited regular assistance in order to carry on.
4. Marked Need: Problems with the function; needs frequent assistance.
5. Severe Need: Problems with the function; needs continuous assistance, care, and supervision.

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CLUSTER A-1: VISION, with glasses, if used - if the person is confused, make the best estimate you can.

1. Full, normal vision.
2. Minimal loss. Sees adequately in most situations; can see newspaper, public notices, television, medication labels.
3. Moderate loss, can read large print, see simple pictures, and see obstacles, but not details, usually can count fingers at arm's length.
4. Severe loss, cannot find way around without feeling or using cane, cannot locate objects without hearing or touching them; can tell light from dark.
5. Total blindness. Cannot tell light from dark.

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CLUSTER A-2: HEARING, with hearing aid, if used - if the person is confused, make the best estimate you can. If he or she refuses to use hearing aid, rate hearing without the aid.

1. Full, normal hearing.
2. Minimal loss. Hears adequately in most situations. Can carry on an unrestricted conversation or otherwise responds appropriately to being addressed without speaker raising voice or altering normal pace and style of diction in groups as well as one-to-one; responds to TV or radio; when addressed from behind; etc.
3. Moderate loss, hears adequately only in special situations, i.e., one-to-one, with firm clear diction, raised volume of radio, etc.
4. Severe loss, hears with difficulty even in special situations, i.e., conversation restricted, many misunderstandings, or frequently fails to respond, etc.
5. Total deafness. Hearing not useful for communication.

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CLUSTER A-3 (a/b): MOBILITY, (a) PERFORMANCE: Report what he or she is doing at this time. Describe the extent to which the individual is physically able to get around alone, using whatever mechanical aids (walker, cane, wheelchair) he/she has; (b) CAPABILITY: Report what the person is capable of doing in a "best" situation.

1. Has no difficulty and is capable of taking regular outside walks for exercise.
2. Walks or gets around without difficulty both inside and outside, but is not capable of taking regular outside walks for exercise.
3. Walks or gets around easily inside, can get to various rooms alone, but needs some help from another person outside.
4. Gets around in own room, but, even with mechanical aids, needs assistance from another person beyond that.
5. Gets around in room, with or without mechanical aids, but needs help from another person to transfer; may or may not need assistance to go further.
6. Does not get around, even in room, without continuous assistance by another person.
7. Does not get around, even in room, without continuous assistance, and needs total lift to transfer.
8. No mobility. Must spend nearly all the time in bed.

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CLUSTER A-4: MOBILITY, IN EMERGENCY, WITHOUT MECHANICAL AIDS. Take into account both the person's physical and mental limitations in an emergency situation.

1. Can, and will, get outside of a building, even if stairs are involved, without assistance from one or more other persons.
2. Can, and will, get outside of a building, if stairs are not involved, without assistance of one or more other persons.
3. Can, and will, get out of a room, without assistance of one or more other persons, but can not get out of building.
4. Can, and will, get out of bed without assistance of one or more other persons, but can not get out of building.
5. Can not or will not get out of bed without assistance of one or more other persons.

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CLUSTER A-5 (a/b): NUTRITIONAL STATUS (Weight, Hydration, etc.); (a) IF SUPERVISED, is the person's food and fluid intake sufficient to maintain nutritional status; (b) ON HIS/HER OWN, is his or her food and fluid intake sufficient to maintain nutritional status. Hydration refers to fluid balance sufficient to maintain bodily functions, as indicated by the condition of the tongue and skin.

1. (a) If supervised, follows; or (b) if on own chooses, a diet sufficient to maintain health status, fluid intake adequate for hydration, weight usually stable.
2. With minimal direction: (a) if supervised follows; or (b) if on own chooses, a diet which is sufficient to maintain health status, may need reminders to maintain fluid intake adequate for hydration, weight usually stable.
3. Eats regularly or irregularly but, even with minimal direction, (a) inaccurately follows, if supervised; or (b) if on own, inconsistently chooses a diet which would be sufficient to maintain health status. However, does not yet exhibit medical symptoms of deteriorating nutritional status; may or may not have adequate hydration; weight may or may not be stable.
4. Eats regularly, but even with minimal direction, (a) inaccurately follows, if supervised; or (b) if on own, inconsistently chooses a diet which would be sufficient to maintain health status. Exhibits beginning medical symptoms of deteriorating nutritional status; may have slow, steady increase or decrease in weight over past few months; may show observable signs of inadequate hydration.
5. Eats irregularly, and, even with minimal direction, (a) inaccurately follows if supervised; or (b) if on own, inconsistently chooses; a diet which would be sufficient to maintain health status. Exhibits beginning medical

symptoms of deteriorating nutritional status; may have slow, steady increase or decrease in weight over past 12 months; may show observable signs of inadequate hydration.

6. Has marked food and/or fluid intake disorder. May show consistent over-eating; severe weight gain or loss; excessive weight; may forget to eat; may refuse to eat. May show signs of low fluid intake such as poor skin elasticity, flushed, dry skin, coated tongue.
7. Exhibits medical symptoms attributable to seriously deteriorated nutritional status; extreme dizziness; loss of consciousness; swelling of arms or legs; absence of urination; irritability; confusion.

CLUSTER A-6: EATING, with special equipment if regularly used.

1. Feeds self, chews and swallows solid foods without difficulty; or can feed self by stomach tube.
2. Feeds self, chews and swallows solid foods which have been cut or pureed. May need reminding or encouragement to maintain adequate intake.
3. Needs assistance and/or encouragement with feeding, but chews and swallows solid foods (which may have to be cut or pureed). May have difficulty swallowing; or must be fed by another, by stomach tube.
4. Needs total assistance and/or encouragement with feeding; has difficulty with chewing or swallowing, even with food cut or pureed.
5. Must be fed intravenously.

CLUSTER A-7: BEHAVIORAL DEMANDS ON OTHERS

1. Personal problems, disturbances, emotional states do not particularly restrict the individual's type of living arrangement and companions.
2. Personal problems, habits, disturbances, emotional states other than abusiveness, hostility, or violence, restrict individual's type of living arrangement and companions.
3. Person is sometimes or frequently abusive, either physically or verbally, towards others, requiring special tolerance or management.
4. Person is occasionally hostile or combative.
5. Person is regularly hostile or combative and professional judgment is required to determine when to administer medications.
6. Person is dangerous or violently abusive to self or others, may not be controllable with medications, may require physical restraints.

CLUSTER A-8: AWARENESS OF OWN CARE NEEDS FOR ACTIVITIES OF DAILY LIVING AND SELF-MANAGEMENT

1. Fully aware of care needs and responsible for care of self.
2. Fully aware of care needs, but needs to be checked up on once or twice a day.
3. Fully aware of care needs, but needs help with activities of daily living and/or self-management skills.
4. Is not fully aware of own care needs; needs some supervision and/or assistance with activities of daily living and/or self-management skills. Does not wander off physically.
5. Is not aware of own care needs; needs much supervision and/or assistance with activities of daily living and/or self-management skills. May regularly wander off physically.

CLUSTER A-9: MANAGEMENT OF HEALTH CONDITION. Describe the person's capability of managing his/her physical and mental health needs, beyond personal care needs. Note: A terminally ill person who is bedfast, but managing his/her own care, is rated accordingly, not automatically rated "10" or "11". Rate the person's basic, continuing health condition - not temporary acute situations.

1. No significant illnesses or disabilities; needs only routine health care such as annual checkups.
2. Has one or more (moderate) medical problems or disabilities but manages own medical needs between physician visits.
3. Has a medical problem which requires short-term attention or corrective measures but is expected to be able to resume self management when the short-term medical problem is resolved.
4. Has at least one moderate medical problem which requires periodic medical attention or intervention once a month or less.
5. Has a medical problem which occurs rarely but when present requires intense medical attention.
6. Has at least one moderate medical problem which requires attention or intervention beyond the personal care level more than once a month but less than daily.
7. Has at least one moderate medical problem beyond the personal care level which requires attention or intervention at least once a day.
8. Moderately impaired; requires substantial medical/nursing care or other interventions on a less than daily basis to maintain vital bodily functions and to prevent worsening of general condition.
9. Moderately impaired; requires substantial medical/nursing care intervention on at least a daily basis to maintain bodily functions and to prevent worsening of general condition.
10. Highly impaired, frequently confined to bed or wheelchair; requires medical/nursing care interventions on at least a daily basis to maintain vital bodily functions and to prevent worsening of general condition.
11. Highly impaired; needs medical/nursing care interventions on a more than one shift basis to maintain all bodily functions and to prevent worsening or to ensure maximum comfort achievable.

CLUSTER A-10: MANAGING MEDICATIONS. Consider the person's currently prescribed oral, surface, and injectable medications. Select the one category which fits the individual's capabilities best. Rate what the individual is capable of doing on his/her own; do not assign the rating to match the policy or practice of a provider.

1. Needs no medications; or if needs them, can manage medications alone. Knows what to take, can take medications at correct times, can store medications properly.
2. Knows own medication program and is capable of self-administering medications, but policies of, or practices in, the current living situation prohibit self-medication.
3. Medications must be laid out each week, but person has no problems taking correct ones at correct times.
4. Able to self-administer medications but needs blood drawn for lab, or needs studies or monitoring by a health professional for the regulation of medication.
5. Must be given direct daily reminders regarding medications, but can follow them.
6. Needs daily assistance with self-administered medications.
7. Can manage some but not all of own medications, needs to have some medication administered by someone else regularly but less than daily.
8. Cannot manage own medications, needs to have all medications administered by someone else on a regular but less than daily basis.
9. Can manage some but not all of own medications, needs to have some medication administered by someone else daily or more frequently.
10. Cannot manage own medications, need to have all medications administered by someone else daily or more frequently.

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CLUSTER A-11: SKIN CONDITION. Describe current condition of skin.

1. No significant skin problems.
2. Skin dry; scaly; requires lotions, or other skin softeners, applied by self or others.
3. Skin breakdown, rashes occur occasionally; skin tears or bruises easily; area(s) of skin reddened, does not return to normal color following massage or position change.
4. Skin is blistered, peeling, cracked, scraped or burned; damage is still superficial.
5. Area(s) of skin broken with the top layer of skin not present, and underlying tissue damaged; drainage may be present; or open, healing surgical wound.
6. Area(s) of skin and underlying tissue destroyed with formation of deep, crater-like ulcer; or open surgical wound requiring complex treatment.

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CLUSTER A-12: POSITIONING AND WEIGHT SHIFTING, the individual's ability to move his or her own body weight when in bed or in a wheelchair.

1. The person can shift his/her own body weight for position changes independently.
2. The person can shift his/her own body weight for position changes most of the time, but needs the help of another individual on occasion.
3. The person can assist with shifting his/her own body weight for position changes, but requires the help of another individual.
4. The person is not able to shift own body weight, and position changes must be redone by another person.
5. The person is not able to shift own body weight, and position changes require two or more people.

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CLUSTER A-12: RSCD FOR POSITIONING AND PROTECTING.**CLUSTER A-13: RANGE OF MOTION ACTIVITY,** the person's ability to exercise the joints of his or her arms and legs in order to prevent contracture (frozen muscle joint).

1. The person is able to perform full range of motion independently (active) through normal exercise or activities.
2. The person is able to perform full range of motion most days but occasionally needs the activity performed by another person (active).
3. The person is able to perform full range of motion, but only with the help of another person all of the time (active).
4. The person is not able to perform range of motion and the activity must be done totally by another person (passive).
5. The person has at least one contracture and the range of motion activity must be done or supervised by a licensed professional (passive).

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CLUSTER A-13: MUSCLE AND JOINT MOTION**CLUSTER A-14: PREPARATION FOR SLEEP**

1. Can totally prepare for bed without assistance.
2. Can usually prepare for bed without assistance.
3. Requires daily assistance to prepare for bed.
4. Requires daily total help to prepare for bed.

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CLUSTER A-15: NIGHT-TIME NEEDS FOR ASSISTANCE

1. Requires no care during at least five uninterrupted hours of sleep.
2. Requires no care during at least five hours a night, even though sleep may be interrupted.
3. Requires care at least every four hours during the night.

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CLUSTER A-16 (a/b): GROOMING AND DRESSING; (a) PERFORMANCE: report what he or she is doing at this time; (b)

1. Grooms and dresses self without any help. Combs hair, manages buttons, ties shoes, etc.
2. Grooms and dresses self without any help, but may need to be reminded to do so on some days.
3. Grooms and dresses self without any help, but must always be reminded to.
4. Needs help from another person to do some parts of grooming, or some parts of dressing, such as managing buttons, or tying shoes; may or may not need reminding.
5. Needs help from another person to do all of grooming, or all of dressing, or both.

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CLUSTER A-17 (a/b): BATHING AND PERSONAL HYGIENE, (a) PERFORMANCE: report what he or she is doing at this time.

Personal hygiene includes washing the hands and face, shampooing or shaving, nail care, care of the mouth; (b) CAPABILITY: report what the person is capable of doing in a "best" situation.

1. Bathes and manages personal hygiene regularly, without reminders and without any help.
2. Bathes and manages personal hygiene without any help, but must be reminded at least some of the time.
3. Bathes and manages personal hygiene but requires minimal help with some parts of the activities.
4. Bathes and manages personal hygiene but requires substantial help with major parts of the activities.
5. Does not do any part of bathing, or other management of personal hygiene, or both, another person must do everything.

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CLUSTER A-18 (a/b): USING TOILET, (a) AT THIS TIME: report what level of help is needed in the present arrangement; (b)

- BEST SITUATION:** report what the person can do under the best circumstances.
1. Can get to and from toilet, adjust clothes, clean self, etc., without help.
 2. Needs help getting to toilet, but needs no other help.
 3. Can get to toilet, but needs some help once there.
 4. Needs help getting to toilet, and needs help once there.
 5. Can get to toilet, but needs total help.
 6. Needs help getting to toilet, and needs total help once there.
 7. Can not use toilet, but is aware of need.
 8. Can not use toilet, and is not aware of need.

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CLUSTER A-19 (a/b): BLADDER CONTROL, to what extent is the individual's bladder under his/her control, day and night, whether naturally or with ostomy, catheter, etc. Cleaning of appliances is included in general "clean-up". (a) **AT THIS**

TIME: report what level of help is needed in the present arrangement; (b) **BEST SITUATION:** report what the person can do under the best circumstances if assistance were available when the individual needs it, rather than on an arbitrary schedule.

1. No incontinence; needs no assistance; self care.
2. No need for care of catheter or other appliance by another person.
3. Incontinent once or twice a week, but able to manage own clean-up without the assistance of another person.
4. Incontinent several times a week, but able to manage own clean-up without the assistance of another person; or needs occasional care of catheter or other appliance by another person.
5. Incontinent several times a week; needs assistance of another person for clean-up; or needs catheter care or appliance care by another person more than once a week but not daily.
6. Incontinent at least once during the day; needs assistance of another person for clean-up at least once during the day; or needs catheter or appliance care at least once during the day by another person.
7. Incontinent during the day and night; needs assistance of another person for clean-up during the day and night; or needs catheter or appliance care during both day and night.

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CLUSTER A-20 (a/b): BOWEL CONTROL; to what extent is the individual's bowel under his/her control, day and night, whether naturally or with ostomy, etc. Cleaning of ostomy or other appliances is included in general "clean-up". (a) **AT THIS TIME:** report level of help that is needed under the present arrangement; (b) **BEST SITUATION:** report what the person can do under the best circumstances if assistance were available when the individual needs it, rather than on an arbitrary schedule.

1. No incontinence; needs no assistance; self care. No need for care of appliance by another person, and no need for enemas.
2. Incontinent once or twice a week, but able to manage own clean-up without the assistance of another person.
3. Incontinent several times a week but able to manage own clean-up without the assistance of another person; or needs occasional care of catheter or other appliance by another person; or occasional provision of or assistance with enemas.
4. Incontinent several times a week; needs assistance of another person for clean-up; or needs appliance care or provision of or assistance with enema by another person more than once a week but not daily.
5. Incontinent at least once during the day; needs assistance of another person for clean-up at least once during the day; or needs appliance care at least once during the day by another person; or provision of or assistance with enemas daily.
6. Incontinent during the day and night; needs assistance of another person for clean-up during the day and night; or needs appliance care during both day and night; may need provision of or assistance with enemas day or night.

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CLUSTER B-1: TRAVEL, assuming that the transportation is available and accessible.

1. Is capable of using private and public transportation properly and appropriately, on own. Can drive safely.
2. Is capable of using public transportation properly and appropriately, with reminders or encouragement. Cannot or should not drive.
3. Is capable of using public transportation for both short and long trips with specific instructions.
4. Is capable of managing routine trips with specific instructions, but is totally dependent on others for long trips.
5. Is totally dependent on being accompanied or helped by others when any travel is necessary.

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CLUSTER B-2: PERSONAL AND FOOD SHOPPING

1. Is capable of shopping regularly without help. Needs no assistance with choice of items.
2. Is capable of shopping without help, but must be assisted from time to time with selection of items.
3. Is capable of doing some shopping, but often needs help with physical process of getting items or selection of items.
4. Is capable of doing some shopping, but always needs help with physical process of getting items or selection of items.
5. Is not capable of doing any shopping.

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CLUSTER B-3: HOUSECLEANING, adequacy with respect to endangering the individual's help, safety, and well-being.

1. Is capable of taking adequate care of the living space for which he/she is responsible, both light and heavy work.
2. Is capable of doing his/her light housekeeping, but needs assistance with heavy work.
3. Is capable of doing his/her light housekeeping, with minimal assistance, but needs to have the heavy work done.
4. Must have regular assistance with light housekeeping, and needs to have the heavy work done.
5. Totally dependent on others for both light and heavy housework.

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CLUSTER B-4: PREPARING FOOD

1. Is capable of preparing own meals.
2. Is usually capable of preparing own meals.
3. Is usually capable of preparing light meals, but needs help with main meals.
4. Can occasionally prepare light meals, but needs help.
5. Can not prepare meals.

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CLUSTER B-5: RESPONSE TO CHANGES IN SOCIAL RELATIONSHIPS AND LIVING ARRANGEMENTS

1. Accepts change: actively adapts, makes plans, handles crises well, is confident.
2. Accepting of changes, but needs some help in adapting and making plans and decisions.
3. Actively resistant to change; refuses to make decisions; consistently negative or hostile.
4. Neutral or passive. Requires regular assurance and/or guidance.
5. Withdrawn, afraid, or insecure; consistently needs support.

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CLUSTER B-6: PARTICIPATION IN SOCIAL ACTIVITIES, assuming that these are or could be made available.

1. Able to decide independently the kinds and extent of social activities in which to participate, and to arrange to participate, in groups such as family, neighbors, church/fraternal/occupational/ social/political/organization(s); living facility; etc.
2. Able and willing to be involved regularly in social activities with at least one kind of group.
3. Able and willing to participate in activities with at least one of these kinds of groups if reminded and/or assisted to do so.
4. Able and willing to go to or be present at activities of at least one of these kinds of groups if reminded and/or assisted to, but needs prompting and encouragement to participate; or is only responsive when visited by a particular person or a limited number of people.
5. Not able or willing to go to activities of any of these kinds of groups, nor to be involved if present at them. May not be responsive to visitors, may have no social relationships.

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CLUSTER B-7: INDEPENDENT ACTIVITIES, in which the individual actively responds.

1. Spends most of the time each day on a variety of self-motivated or independent activities, including reading, hobbies, crafts, occupations.
2. Spends most of the time each day on a limited variety of self-motivated activities.
3. Spends two to four hours each day on independent activities.
4. Spends one to two hours a day on independent activities.
5. Spends less than an hour a day on independent activities.

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CLUSTER B-8: MANAGING FINANCES; can the person take care of, or direct others in handling, financial business at home in a responsible way.

1. Takes care of writing checks, paying bills, taxes, handling insurance claims, etc., without help.
2. Takes care of writing checks and paying bills without any help, but needs help with taxes, insurance claims, and balancing checkbook, etc.
3. Is capable of managing day-to-day buying but needs help with checkbook and financial business.
4. Can handle purchasing some items but cannot handle day-to-day financial business.
5. Completely unable to handle financial business.

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CLUSTER B-9: ABILITY TO COMMUNICATE FACE-TO-FACE

1. Individual can communicate and organize information with detail appropriate to the situation; can state name, address, telephone number, time and place accurately and appropriately.
2. Is beginning to have problems of organizing or remembering information; for example, can usually state name, address, telephone number, accurately and appropriately; or must, but does, use I.D. card for these purposes.
3. Can not always provide information relevant to a situation; can identify self only sometimes or does so incompletely; gives name but not address, for example.
4. Can seldom identify self, even with I.D. card, or does so inaccurately at least some of the time.
5. Can not state name/address/telephone number information accurately and appropriately; can not use I.D. for these purposes.

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CLUSTER B-10: ABILITY TO COMMUNICATE BY TELEPHONE, when a telephone is available and convenient; with special equipment if needed.

1. Is capable of making and taking calls appropriately, and about as frequently as some years ago.
2. Makes and takes calls appropriately, but not nearly as frequent as before; can use phone appropriately in emergency.
3. Makes few calls, but takes calls and handles most of them appropriately.
4. Makes few or no calls, but takes some calls and handles at least some appropriately; or occasionally abuses use of telephone.
5. Neither makes nor takes calls appropriately; or consistently abuses use of telephone.

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CLUSTER B-11: NATURAL PHYSICAL CARE AND SUPPORT; availability and commitment of friends/family/neighbors/volunteers to give physical care if and when necessary.

1. One or more persons available to give care for the foreseeable future.
2. One or more persons available to give care for several months.
3. One or more persons available to give care from time to time for several months.
4. Several persons available to help out, one at a time or in rotation, from time to time, but there is no one to take overall responsibility for helping on a regular basis.
5. No person available to help except perhaps under extreme circumstances.

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CLUSTER B-12: NATURAL EMOTIONAL AND SOCIAL SUPPORT; availability and commitment of friends/family/neighbors/volunteers to give emotional and social support if and when necessary.

1. One or more persons available to give support for the foreseeable future.
2. One or more persons available to give support for several months.
3. One or more persons available to give support from time to time for several months.
4. Several persons available to help out, one at a time or in rotation, from time to time, but there is no one to take overall responsibility for helping on a regular basis.
5. No person available to help except perhaps under extreme circumstances.

APPENDIX B
Interim Recommendations for
ADL/Self-Management Skill Categories

Placement and Reimbursement Category	1. A.D.L.					
	1 Eating/ Nutrition	2 Dressing	3 Bathing/ Personal Hygiene	4 Mobility	5 Bowel & Bladder	6 Behavior
Placement and Reimbursement Sub-Category						
PIB-II Scales	A 5a 6	A 16a	A 17a	A 3a 4	A 18a 19a 20a	A 7 B 5
Designated "Independent" Under SSD LTC Policy	1 2	1 2	1 2	1 2 3	1 2 3	1 2
Designated "Needs assistance" Under SSD LTC Policy	3 4 5	3 4	3 4	4 5 6	3 4 5	3 4
Designated "Dependent" Under SSD LTC Policy	6 7	5	5	7 8	6 7 8	5 6

Interim Recommendation for ADL/Self-Management Skill Categories by Michael Saslow, Oregon State Health Planning and Development Agency to Lucille Pugh, Oregon Senior Services Division. November 29, 1983.

Placement and Reimbursement Category	2. Self-Management Skills				
	1 Medication Management	2 Transportation	3 Meal Preparation	4 Shopping	5 Maintenance of Household
Placement and Reimbursement Sub-Category					
PIB-II Scales	A 10	B 1	B 4	B 2	B 3
Designated "Independent" Under SSD LTC Policy	1 2	1 2	1 2	1 2	1
Designated "Needs Assistance" Under SSD LTC Policy	3 4 5 6 7 8	3 4	3 4	3 4	2 3 4
Designated "Dependent" Under SSD LTC Policy	9 10	5	5	5	5

APPENDIX C
Reimbursement Categories

NURSING FACILITY	RESIDENTIAL CARE FACILITY	ADULT FOSTER HOME	LIVE-IN	DAILY
<p><u>Category 1</u></p> <p>Daily Nursing Management Daily Direct Nursing/Rehab. Service(s) ADL's: Dependent - 4 or more Need assistance } Remainder Independent } Unstable Health Needs/Condition</p> <p><u>Category 2</u></p> <p>Daily Nursing Management Daily Direct Nursing/Rehab Svcs. ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Unstable Health Needs/Condition</p> <p><u>Category 3</u></p> <p>Less Than Daily Nursing Management but RN available Routine Direct Nursing/Less Than Daily Rehab. Service(s) ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Stable Health Needs/Condition Structured Environment to Maintain Stability</p> <p><u>Category 4</u></p> <p>Less Than Daily Nursing Management but RN available Routine Direct Nursing/Less Than Daily Rehab. Service(s) ADL's: Dependent - 1-3 Independent or Need Assistance with Remainder Stable Health Needs/Condition Structured Environment to Maintain Stability</p> <p><u>Category 5</u></p> <p>Less Than Daily Nursing Mgmt but RN available Routine Direct Nursing - Daily or Less ADL's: Dependent - 0 Independent - 4 Need Assistance - Remainder Stable Health Needs/Condition Structured Environment to Maintain Stability</p>	<p><u>Category 1</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 2</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 3</u></p> <p>Daily Supervision ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Stable Condition Supervised Environment May Need Routine Nursing Tasks by Licensed Provider (or PDN*)</p> <p><u>Category 4</u></p> <p>Daily Supervision ADL's: Dependent - 1-3 Needs Assistance } Remainder Stable Condition Supervised Environment May Need Routine Nursing Tasks by Licensed Provider (or PDN*)</p> <p><u>Category 5</u></p> <p>Do not need Nursing Management or Availability Daily Supervision ADL's: Dependent - 1-3 Needs Assistance } Remainder Independent } Stable Health Needs/Condition Structured Environment to Maintain Stability *May need Nursing Tasks PDN/HHA</p> <p><u>Category 4</u></p> <p>Do Not Need Nursing Management or Availability Daily Supervision ADL's: Dependent - 1-3 Needs Assistance } Remainder Independent } Stable Health Needs/Condition Structured Environment to Maintain Stability *May need Nursing Tasks PDN/HHA</p> <p><u>Category 5</u></p> <p>Do not need Nursing Management or Availability Daily Supervision ADL's: Dependent - 0 Independent - at least 4 Need Assistance - Remainder Stable Health Needs/Condition Structured Environment to Maintain Stability *May Need Nrsng. Tasks PDH/HHA</p>	<p><u>Category 1</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 2</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 3</u></p> <p>Daily Supervision/ Unscheduled Care Needs ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 4</u></p> <p>Protective Supervision/ Unscheduled Care Needs ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 5</u></p> <p>Protective Supervision/ Unscheduled Care Needs ADL's: Dependent - 0 Independent - at least 4 Need Assistance - Remainder Stable Condition May Need Routine Nursing Tasks</p>	<p><u>Category 3</u></p> <p>Scheduled Care Needs ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Self-Management Skills: Dependent - 5 or more Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 4</u></p> <p>Scheduled Care Needs ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Self-Management Skills: Dependent - 0-4 Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 5</u></p> <p>Scheduled Care Needs ADL's: Dependent - 0 Independent - at least 4 Need Assistance - Remainder Stable Condition May Need Routine Nursing Tasks</p>	<p><u>Category 1</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 2</u></p> <p>Daily Supervision Daily Nursing Tasks (PDH/HHA Licensed Provider) ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Unstable Condition Supervised Environment</p> <p><u>Category 3</u></p> <p>Protective Supervision/ Unscheduled Care Needs ADL's: Dependent - 4 or more Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 4</u></p> <p>Protective Supervision/ Unscheduled Care Needs ADL's: Dependent - 1-3 Need Assistance } Remainder Independent } Stable Condition May Need Routine Nursing Tasks</p> <p><u>Category 5</u></p> <p>Protective Supervision/ Unscheduled Care Needs ADL's: Dependent - 0 Independent - at least 4 Need Assistance - Remainder Stable Condition May Need Routine Nursing Tasks</p>

APPENDIX D
Human Subjects Exemption

THE OREGON HEALTH SCIENCES UNIVERSITY

Research Services

3181 S.W. Sam Jackson Park Road Portland, Oregon 97201 (503) 225-7784

March 17, 1984

Joan Carr LaPorte, B.S.N. SON

Re: ORS# 1579


TITLE: Assessing inter-rater Reliability of the placement
Information Base Version 2A

Your above entitled study now falls under one of the categories which is now considered to be exempt from the requirement for committee on Human Research review. We, therefore, have put your study into our exempt files and you will receive no further communication from our Committee concerning this study.

if the involvement of human subjects changes in this study you should contact the Committee on Human Research to find out whether or not these changes need to be reviewed.

If you have any questions regarding this change of status of your above study contact Donna Buker at x7887.

Sincerely,


Michael A. Wall, M.D., Chairman
Committee on Human Research

MAW:db



AN ABSTRACT OF THE THESIS OF

JOAN CARR LaPORTE

For the MASTER OF NURSING

Date of Receiving this Degree: June 8, 1984

Title: INTER-RATER RELIABILITY: SELECTED PIB (2A) SCALES

Approved:


Darlene Schroedl McKenzie, R.N., Ph.D., Thesis Advisor

This study examines the inter-rater reliability of the Placement Information Base (2A) when used as an assessment instrument to determine dependency in activities of daily living (ADLs) for Medicaid clients in Oregon. The purpose of the study is to evaluate the reliability of the 11 PIB (2A) scales used to determine dependency in ADLs. How often subjects were assigned to the same Functional Category (a breakdown of ADL dependencies to 0, 1 to 3, or 4 or more dependencies) is examined.

The sample studied were 193 clients whose care was reimbursed by Medicaid in December 1983. Placement settings included nursing homes, residential care homes, foster care homes and subjects' homes. Subjects were independently rated by two raters using the PIB (2A). Rating teams consisted of various combinations of case workers, social workers, or registered nurses. Secondary data collected by SSD were utilized.

Ratings were cross tabulated (rater one by rater two), by PIB scale and by Functional Category.

The PIB (2A) scales have Cohen's kappas ranging from .29 to .65. The percent of exact agreement between raters ranges from 51.8% to 74.8% on the scales studied. Scales A3a (Mobility), A5a (Nutritional Status) and B5 (Response to Changes in Social Relationships and Living Arrangements), are identified as having the lowest agreement between raters.

Overall, raters agree with a kappa of .76 on Functional Category assignment. The percent agreement on Functional Category assignment is 79.3%. Raters agree in community settings more often (90.41%) than in nursing home settings (70%).

Possible reasons for the low rates of agreement on some scales are given. Factors leading to low agreement in the nursing home setting are discussed.

It was recommended that PIB (2A) scales with low agreement be re-examined and retested in order to improve the agreement and therefore the inter-rater reliability of the PIB (2A).