The Department of Veterans Affairs Long Term Care Planning Model and the National Long Term Care Survey

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As the Veterans Health Administration (VHA) transformed itself into an integrated health care delivery system in the 1990s, assuming responsibility for the care of veterans across the continuum of care rather than in discrete, limited domains (such as acute hospital care), leaders recognized the need for projecting the future demand for long term care services. The shift to a managed care model, with a defined enrolled population of veterans highlighted this recognition. Readily apparent were the rapid aging of the enrolled veteran population, due both to aging of the World War II and Korean veteran cohorts, and increasing enrollment rates among already elderly veterans. These demographic trends ran into resource constraints of the VHA annual budget, with the passage of the Veterans Millennium Healthcare and Benefits Act of 1999 (Millennium Bill).   The Millennium Bill established a basic benefit package of home and community-based long term care (LTC) services and , as well as a Congressionally mandated nursing home benefit for any veteran with a 70% or greater service connected disability, regardless of whether the need for nursing home care was related to service, without any claim upon the veterans' income or assets. In the VA priority system, these veterans are classified as P1A.

Forecasting Enrollee Demand for Long Term Care

The Office of the Assistant Deputy Undersecretary for Health (ADUSH), developed a simple, static projection model for nursing home (NH)and home health care demand.   That model (LTC 2.0) stratified the enrolled veteran population into 9 priority groups (P1A, P1B, P2-8), four age strata (25-64, 65-74, 75-84, and 85+), and 6 ADL strata.   The nursing home use rate for each cell was calculated for men from the 1996 Medical Expenditure Panel Survey. The model output was "Average Daily Census", or the total annual bed days of care divided by the number of days in the year.   The home health care projection was similar, except it had a cell for IADL-only dependencies, and was based on males in the 1998 National Home and Hospice Care Survey.   The output prediction was "One or more home health visits" in the year.

The ADL deficiencies in these sources include difficulties in: bathing, dressing, getting in and out of bed or chairs, eating, using or getting to toilet, and walking across a room.   The IADL deficiencies include difficulties in: using the telephone, managing money, shopping for personal items, getting around the community, preparing meals, and doing light house work.

In a static projection model, the rates within the cells are fixed, and all changes in projected use over time are due to changes in the population within the cells. LTC 2.0 used

annual projections of the enrolled veteran population, but had no mechanism to change the disability profile of the enrolled population over time.

The first 2 years of experience with the Millennium Bill raised concerns that LTC 2.0 may not accurately project nursing home demand, as less than 25% of P1A veterans projected to need NH care were found in VHA-covered NH beds. Concurrent with this concern, VHA's Capital Asset Realignment for Enhanced Services (CARES) process moved into analyzing provision of long term care (LTC) services, and required accurate projections of LTC need to plan capital allocations through 2020. To address these concerns, planners at the Assistant Deputy Undersecretary for Health's Office of Policy and Planning (ADUSH) convened a working group of stakeholders within VHA and VA Office of the Actuary, VA Health Services Research and Development (including Dr. Kinosian, funded through IIR-02-159 "Aging Veterans Health Policy Model"), and Professor Stallard from Duke's Center for Demographic Studies.

LTC Model 3.0
The resulting modifications to the model (LTC 3.0) were based primarily on insights and data from the National Long Term Care Survey. This is the current model VHA uses to project demand for NH and Home and Community Based Care (HCBC). While the improvements in model performance are important, the close interaction between the policy and research communities during the rapid process of model development represents a useful model for future research and policy productivity.

LTC 3.0, the current VHA long term care model, is a static projection model, as was LTC 2.0. Improvements over LTC 2.0 include the incorporation of key elements that affect the use of long term care services in addition to age such as gender and marital status. A third element, cognitive status, will be added to LTC 3.1, once the 2004 NLTCS survey data are available.

After stratifying the enrolled veteran population by priority group, age, gender and marital status, rates of nursing home use and use of HCBC services were calculated from the 1999 NLTCS. Rates were calculated for both all survey respondents, and for enrolled veterans. There were 1,543 enrolled veterans identified in the1999 survey sample, after matching the 20,000 1999 NLTCS survey respondents with the 2002 VA enrollment file.

In the 1999 and earlier waves of the survey, veteran status was ascertained only in the detailed community survey. Thus, veterans identified by the survey were a biased sample of the of the entire veteran population, since only those who screened in on the disability screen were given a detailed survey. To avoid this bias, rates for LTC 3.0 were based on enrolled veterans.

Population Issues: The VHA enrolled population is not co-extensive with the population covered by the NLTCS. While strengths of the NLTCS included its concurrent coverage of institutional as well as community dwelling individuals, it's dependence upon the Medicare sampling frame has posed greater problems for VHA. than for other parties (such as ASPE). While approximately. 4% of the adult population over the age of 65 are not Medicare beneficiaries, that figure represents approximately. 5.6% among VHA enrollees according to the 2005 Survey of VA Enrollees. Surveys of this population for VHA has indicated they are more

disabled than a random 4% sample of enrollees.   Further, between 15-20% of VHA enrollees who use NH care are less than age 65.

In order to project NH demand for individuals less than age 65, we used ADL items that were present in both the 1999 National Health Interview Survey , the 1999 NLTCS, and the 1997 National Nursing Home Survey. We constructed a national population by combining the NHIS (community dwelling) and the NNHS (institutional) populations, to derive national rates for each of the cells in the NH portion of the projection model.   The underlying theory was that the combined NHIS and NNHS were the equivalent strata-specific surveys of a single population, and would be the equivalent, for those aged 65 and above, to the NLTCS. We compared cell-specific rates for individuals over age 65, and found greater instability in the estimates derived from the NHIS/NNHS estimates. In particular, across all three age strata (65-74, 75-84, 85+), numbers of individuals are each level of disability were smaller in NHIS than they were for the NLTCS community sample. Over those three age groups, NHIS identified 72% of the disability as found in NLTCS. Removing standby-assistance as a disability category brings the two surveys into closer congruence, though still not equivalent, with NHIS identifying 93% of the (restricted) disability found in the NLTCS.   However, the disability rates of nursing home residents were nearly identical for nursing home residents. Consequently, rates of NH use for each disability class were greater using the NHIS/NNHS approach.   For LTC 3.0, we thus used the NLTCS estimates for age 65+, and the combined NHIS/NNHS estimates for those <65 years.   (See Appendix A for a detailed comparison).

In order to project HCBC service demand for those aged <65, we used the 2000 National Home and Hospice Care Survey, again using a set of ADL and IADL measures common to NHIS, NLTCS, and NHHCS. (ADLs were also common to NNHS, which does not include an IADL assessment, by definition).

Review of VA enrollee demographic data suggested a biased ascertainment of marital status, a key differentiating factor in the use of LTC services in the NLTCS and other national surveys. The bias was that marital status was most reliably obtained when enrolled veterans appeared at VHA facilities to receive care, with substantial gaps existing for those who did not use services in a recent year.   In order to compensate, the age/gender-specific marital status rates were taken from the NLTCS, and applied to the age/gender specific priority group distribution, so that the enrollee population could be stratified by PG/age/gender/marital status.

Population Summary: The VHA's ability to fully populate LTC 3.0 was constrained by data gaps, some of which were filled by data from the 1999 NLTCS.   Two missing elements: veteran status of NLTCS respondents, and marital status of enrolled veterans by PG/age/gender were subsequently corrected in the 2005 VA Survey of Enrollees.

The inability to obtain an unbiased assessment of veteran status in the 1999 NLTCS was corrected in the 2004 NLTCS by moving the veteran status question to the Screener. In the 2004 NLTCS, 3,950 respondents were identified as veterans, of whom 1,440 were identified as enrollees when matched with the VHA enrollment file, or 36% of the veteran population. There was substantial mortality among enrolled veterans, with 424 of the 1,545 enrolled veterans identified in the 1999 survey who matched VHA enrollment files not being identified in the 2004 NLTCS (27% 5-year mortality).   These rates (60% of males aged > 65, 36% of veterans enrolled) are somewhat smaller (66% of all males as veterans) and larger (33% of all veterans

enrolled) than conventional VHA wisdom.

Identification of the veteran pool from which enrollees arise will allow VHA to track and analyze changes in enrollment rates, particularly those that may be related to LTC services which VHA provides in a more comprehensive and integrated fashion, without estate recovery implications, than is often available in the private sector.

Disability within the Stratified Population: Because VHA NH benefits are dependent on Priority Group, projecting NH demand must be done within a priority group specification. Because the NLTCS sample is inadequate to provide stable estimates for all priority groups, an alternative source of functional status for enrolled veterans was required. The VHA has used a Survey of VA Enrollees (SOE) in 2002 to provide detailed information on veterans to inform actuarial-based health care demand projections for enrolled veterans from their contracted actuary (Milliman), which included functional status questions. The 2005 SOE sample (58,000 enrolled veterans), of whom 42,000 responded (73% response rate for this telephone survey) represented a detailed, priority group stratified population. However, review of disability rates for this group were substantially greater than reasonable upper bounds from national surveys which identified veteran status (NHIS, NLTCS, or Health and Retirement Survey).

To better account for disability levels in the LTC 3.0 model, VA used the age/gender/marital status specific functional measures and adjusted the disability distribution within each priority group strata. Thus, the overall level of disability from the SOE was adjusted to the level measured within the NLTCS, but relative differences of disability between priority groups were maintained by using one adjustment for each disability level, across priority groups.

Comparison of disability between enrolled veterans and all males in the NLTCS appeared substantially similar, supporting using the NLTCS disability distribution as the basis for adjusting the reported level of disability from the Survey of Enrollees, even though the adjustment required fairly strong assumptions of uniform bias among priority groups.

Subsequently, for the 2005 SOE, VA revised their survey and methodology, replicating the functional status questions in the NLTCS screener, including the step logic for time screens on each item, and ensuring the same set of functional status questions. Initial analysis of overall disability levels are now consistent with past NLTCS estimates. A detailed comparison with the 2004 NLTCS population is currently underway.

Disability decline: An issue for a static projection model, where institutionalization rates, given disability levels are fixed, concerns changes in the level of disability. One of the major findings to emerge from the multiple waves of the NLTCS has been the marked and consistent decline in disability across the various disability thresholds. . Three options were provided in LTC 3.0: (1) the observed rate of decline from waves 2-5 (under the assumption of compression of morbidity), (2) constraining the rate of decline to the decline in mortality (under the assumption of the rate of mortality decline representing long-term equilibrium), and (3) no decline in disability from 1999 levels (as a worst-case scenario, and incorporating impacts of increasing obesity on future functional capacity).

The impact of changing assumptions of disability decline on either needs for HCBC or NH care was minor (<7%).

Substitution: There is substantial theological belief that provision of HCBC may provide a substitute or may decrease demand for nursing home care. This has raised repeated requests to connect the two projection models (HCBC and NH use), so that a given increase in HCBC services would result in a decline in NH use. While individual studies have found some substitutability, the lack of consistent evidence for strong substitution effects precluded direct incorporation of substitution in LTC 3.0. Thus, the current model has 2 separate, unconnected projections: HCBC services and NH care.   However, to the extent there is substitution, those effects are captured in the service use rates from the 1999 NLTCS survey.

Estimation of substitution of HCBC services and Assisted Living for NH use is one of the objectives of the current modeling effort funded by HSRD.

Reliance: It is important for VHA to know not only how many veterans will enroll to receive health care from VA, but also, among those who are enrolled, how many will use VHA for particular services.   Few comprehensive analyses have been done, where all care consumed, regardless of provider, is combined, and the portion provided by VHA identified. Data from surveys suggests that VHA provides about 40% of inpatient care and 55% of outpatient care for enrolled veterans.

A particular concern for VHA was the reliance of P1A veterans on VA for nursing home care. These veterans received a NH benefit without estate implications in the Millenium Bill, representing a value of $60-90,000 depending upon the state.   Using the number of identified P1A veterans who received NH care, and the estimated need for NH care from LTC 3.0,   it appeared that 63% of estimated P1A need was being met by VHA, a more credible measure than the 25% from LTC 2.0.

Current work is now examining the reasons why that 37% of P1A veterans who need NH care do not receive it from VHA.   The implications can be potentially large; since geographic or other structural reasons would likely remain, absent specific programming to overcome those barriers, while if it were due to individuals already having spent-down assets and receiving Medicaid, then future cohorts, who did not need to qualify for MA might use VHA services at a higher rate.   Further, states facing constrained Medicaid funds may find renewed interest in coordinating this benefit.

Knowing the source of NH care, and location of such care, during intervals between survey waves would be helpful in estimating the proportion of NH care that VHA provides. In the current survey, while payor is known for the survey year, subsequent years are unknown, as is even residence in a NH, unless the respondent is being covered by Medicare or paid by VHA (in our current dataset). The ability to accurately track most NH care provided to veterans would require incorporation of Medicaid data to the NLTCS/Medicare files, and be more complete with incorporation of MDS files for NLTCS respondents.

Under our HSRD project, but through ADUSH, we have incorporated 1 year of Medicaid data (FY 2000), with a commitment to add more years, for the veteran subsample of the survey, in order to better characterize non- VHA NH use for the cohort.

Projection to local level: The VHA LTC model (both versions 2.0 and 3.0), project demand down to the medical center level.   There are various reasons for this, including the development of need-based targets for HCBC services. LTC 2.0 projected   by using the age and gender distribution of each medical center's population, and assuming national rates of disability, and service use based on the age/gender structure of each medical center's enrollees.

LTC 3.0 was able to develop estimates at a VISN level (aggregates of states), using data from the NLTCS and the (constrained) SOE, but projections below the VISN level down to the medical centers were again based on the age/gender structure of the particular medical center's enrollees.

VA has worked with the Bureau of the Census to develop county level estimates of the veteran population, estimating priority group status of all veterans (not just enrolled veterans). In order to complete this project, a way to derive significant ADL and cognitive deficits (for priority group 4, "Catastrophically Disabled") from the relatively sparse Census 2000 questions on function was required. Professor Stallard, working with VA economists credentialed at the Bureau, recoded the NLTCS functional status questions into the Census functional questions, and then derived a set of probabilities for disability level (from the NLTCS), given a particular pattern of answers to the 5 relevant Census 2000 questions. This indirect mapping provided an estimate of veterans beyond the level of "catastrophic" disability, representing 3+ ADL deficits or significant cognitive impairment (MMSE<10).

This ability to combine the rich data from the NLTCS with the statistically powerful data from the 1:6 detailed sample from the Census has helped VA define its target population at the medical center level. While this has been done probabilistically, a more direct method would extend the value of the Census 2000 functional status questions, by directly matching the NLTCS with Census 2000, and producing a table that gives the actual coefficients relating patterns of answers to Census 2000 questions to detailed disability levels in the NLTCS. In order to perform this match, both sets of questions need to be administered to the same population.

VHA makes use of targets at the local level in order to motivate the system to achieve broader organizational goals. For many of these, poorly measured at the local level, the target is a per cent expansion in services (independent of a discriminating denominator, such as disability). The ability to accurately estimate the relevant denominators, using Census 2000, would give not only VHA, but other agencies the tools needed to direct and encourage HCBC services, tied to need.

LTC 3.1: The 2006 version of the LTC planning model will incorporate data from the 2004 NLTCS, and the 2005 SOE. Again, the accuracy of the SOE (in aggregate) will be aligned to the 2004 NLTCS, although it appears that by modifying the SOE to reflect the NLTCS screener, the results are substantially the same.

Cognitive impairment will be added as a stratification variable before the functional status distribution is applied, so that NH or HCBC service use will be conditional upon the priority group, age, gender, marital status, and cognitive status- specific disability distribution.

Process

The modification of VA's LTC Planning Model was rapidly achieved by close work between the NLTCS investigators at CDS, VA HSR&D, and planners at ADUSH. Administrative arrangements between CMS and VA for data sharing were used to allow rapid linking of VA enrollment files to the NLTCS, as well as VA administrative data and the pilot link with Medical Assistance data. Incorporation of another VA project (VetPop) at the Census opened opportunities to provide small-area estimates of disability, where VA had traversed the

bureaucratic terrain to work under Title 13, but needed the NLTCS disability data in order to complete the project of identifying Catastrophically Disabled veterans.   Close involvement of policy makers in development of the model led to ready appreciation of data gaps, and correction of several gaps in the subsequent round of administrative data collection.

Summary of Survey Enhancements:

To date, the comprehensive nature of the NLTCS has been a major strength in the improved LTC 3.X.   The next version (LTC 4.0- for release in 2006), will be based on a Grade of Membership transition model, and will take full advantage of the longitudinal, panel structure of the survey.   The question the HSR&D project addresses is to define the incremental gain in predictive precision from the greatly increased level of model complexity, moving from a simple static projection model to a complex transition-GOM model.

Value to VHA could be increased by filling certain gaps, which have received less than satisfactory compensation, to date.   Important gaps to be filled include: 1) excluding 20% of VHA nursing home residents due to age, 2) excluding 6% of VHA >65 year old enrollees due to non-Medicare status, and 3) inability to identify overlap services except in survey years, and then only for the survey month.   Addition of merged data would help with the need to identify overlapping programs, by incorporating Medical Assistance files into the CMS/ VHA data. Addition of MDS data would give detail on transitions into and out of nursing facilities.

A supplemental sample of the population between ages 50-65 would help VHA both project current demand more accurately, but also to project future nursing home demand, incorporating cohort effects, as would a sample of enrollees >65 without Medicare.   The difficulty in using the NHIS/NNHS two strata approach to fill this gap, given what is known about the approach where ages overlap with the NLTCS,   makes this an important area for expansion.

Direct estimation of Census 2000 disability, using the matched population between Census 2000 and the 1999 NLTCS would allow VHA to better estimate disability among veterans (and among enrolled veterans) at the county and market sector levels , facilitating the development of targets that are needs based. This can be accomplished either by matching the 1999 round with the detailed census sample, or by administering the Census 2000 (or American Community Survey) disability questions on the next round of the NLTCS screener.

An important policy need would be met by measure of an interval period (e.g., 2 years) for individuals already in the prior cohort to determine functional status transitions, and health service use.   In the current structure, there is little ability to identify functional trajectories within a 5-year cycle due to interval clinical events. A more comprehensive linking of administrative data would assist in identifying those events, location changes and service use patterns that might imply functional change.   However, the wide variation of service use for any   given set of functional characteristics would argue for directly determining functional status, conditional on those clinical events.

VHA has a fairly traditional health care delivery structure for providing LTC services,

which excludes residence from the service package, except as nursing facilities for all but veterans with primarily behavioral health conditions. As residential alternatives become an increasingly important part in a complex matrix of mixing residence, supportive living services, and chronic disease management, being able to identify transitions among those residential alternatives, and their impact on more traditional services will be important to direct future planning and program development. Such alternatives include not only assisted living (at various levels), but group homes, foster homes, and technologically "smart" homes.

Appendix

Comparison of disability estimates from the NLTCS and the NHIS/NNHS

VHA provides LTC (both nursing facility and home and community based care) to a substantial number of veterans below the age of 65. Between 15-20% of VHA nursing facility ADC are for veterans aged below 65. The NLTCS has the strength of being a unified survey of institutional and non-institutional persons, but limited to those aged >65. Other surveys have the strength of covering all ages, but are restricted to either those non-institutionalized (National Health Interview Survey [NHIS], Health Retirement Survey [HRS], Survey of Income and Program Participation), or to only those who receive a particular service (National Nursing Home Survey [NNHS], National Home and Hospice Care Survey [NHHCS], the 1996 Medical Expenditure Panel Survey-Nursing Home Component [MEPS-NHC]).

To estimate the proportion of the US population in NHs in 1999 by age, marital status, and number of ADL limitations, a fraction was formed using data from two sources: data from the National Nursing Home Survey [NNHS] and the NHIS. This method estimates the proportion of the 1999 US population in NHs exclusive of residents in other institutional settings (dormitories, prisons, military barracks, etc.).

The NNHS current NH resident sample consists of a two-stage stratified random sample of US NH residents. The first stage of the sample consists of 1,423 NHs selected from a population of 18,000 NHs via a stratified random sample. The second stage obtained data from 8,215 current NH residents from a sample of up to six residents *per* home. Data on residents was obtained via a combination of personal interviews and review of residents' medical records.

The NHIS is a multi-stage random sample of persons from non-institutionalized dwelling units in the US. An oversample of Hispanics and African-Americans is included. Data were obtained regarding 97,059 residents via personal interviews in 37,573 households. Because of the small number of veterans represented in the <65 population, we used the entire gender-standardized sample. Response rates for the functional status questions were in excess of 95%.

Age was classified as 18-44, 45-54, 55-64, 65-74, 75-84, and 85 and older; or as 18-64, 65-74, 75-84, and 85 and older. Five daily limitations were defined in both the NHIS and NNHS, and are found in NLTCS:
- bathing/showering
- getting in and out of bed/chairs ("transferring")
- dressing
- toileting
- eating

The above five ADLs represent the core activities for disability classification. Indoor mobility and continence were not included because of their absence in NHIS.   The common IADLs that could be measured in the 2000 NHHCS, 1999 NHIS, and 1999 NLTCS were: walking, light house work, managing money, shopping, using the telephone, and preparing meals. These represented the core IADLs. The population can be described as being in one of six disability classes: **Class 0** (those with no disability), **Class 1** (those with IADL disability or ADL deficits that do not require the assistance of others, which we classify as low-level), **Class 2** (those with 1 ADL deficit requiring the assistance of others), **Class 3** (those with 2 ADL deficits), **Class 4** (those with 3 ADL deficits), **Class 5** (those with 4 ADL deficits), **Class 6** (those with 5 or more ADL deficits).

   In the Tables below, we show the ratios for Classes 2-6, which are 1 or more ADL deficits that require the assistance of another person. Table 1 uses the NLTCS implementation of the HIPAA threshold for disability, assistance of another person. Assistance of another person can be either stand-by assistance (e.g., cueing) or direct physical assistance. Table 2 uses the more restricted definition of direct physical assistance, and doesn't include those persons for whom assistance for that ADL was "standby". We did this to explore the hypothesis that the understatement of disability in NHIS relative to NLTCS was due to the imprecise wording of the person-assistance question, so that some respondents would include stand-by help and others would not.   The question from the NHIS for each ADL is: " Do you/Does this person need the help of other persons.." without specifically asking about whether the help is stand-by.

   Inspection of the two tables shows that, over the entire sample, the NNHS and the NLTCS are in substantial agreement (ratios close to 1), with NLTCS underreporting disability relative the NNHS for the 65-74 group, but within 1 SE.   For the community sample, there is a fairly consistent underestimate of disability from the NHIS, relative to the NLTCS for all male age groups of more than 30%, and for females from between 13-35%, with the overall understatement nearly 28% for the population.   While this is reduced to a 5% understatement for females overall, and a 7% understatement for the entire population by not considering stand-by assistance in the NLTCS count,   for both males and females aged 85 and above, disability is still understated by nearly 20% in the NHIS relative to the NLTCS.   Thus, other factors in survey design and methodology that might threaten validity—such as problems with only telephone ascertainment in individuals with high levels of physical and sensory disability, and use of proxy respondents-- as well as non-explicit questioning for levels of disability, are likely responsible for the underestimate in NHIS.   This latter factor is important, in that NHIS represents the primary source of disability levels in the population below the age of 65.
The Health and Retirement Survey, which extends to age 50, includes a discrete code for standby personal assistance. We are now reconstructing the same disability distributions for comparison with the NHIS and NLTCS, for the common set of ADL measures.

Table 1 Ratios of disability by class in NHIS, NLTCS, and NNHS

Ratios
NHIS/NLTCS   NNHS/NLTCS

Gender	Age	Disability Class	Data	
			NHIS	NNHS
Males	65-74	2	69.8	39.7
		3	89.9	626.5
		4	67.9	150.2
		5	127.9	151.1
		6	14.0	113.4
	65-74 Total		66.8	118.0
	75-84	2	55.5	49.2
		3	111.4	176.5
		4	49.5	84.8
		5	102.9	125.8
		6	50.0	79.4
	75-84 Total		67.1	96.4
	85+	2	82.9	56.9
		3	95.0	71.6
		4	31.2	110.4
		5	96.9	128.2
		6	31.7	100.5
	85+ Total		65.3	100.6
Male Total			66.6	102.1
Female	65-74	2	54.2	186.6
		3	82.7	153.8
		4	36.5	340.4
		5	140.2	170.6
		6	82.7	65.1
	4 Total		71.3	126.8
	75-84	2	58.2	135.6
		3	127.0	87.5
		4	123.6	103.2
		5	144.0	157.0
		6	56.4	71.5
	75-84 Total		87.3	103.6
	85+	2	60.3	61.6
		3	121.0	93.0
		4	66.3	89.0
		5	64.0	132.5
		6	40.4	73.3
	85+ Total		64.5	92.6
Female Total			75.3	98.7
PopulationTotal			72.4	99.6

Table 2 Ratios of disability in NHIS and NLTCS using only Active personal assistance

			Ratios	
			NHIS/NLTCS	**NNHS/NLTCS**
			Data	
Gender	Age	Disability Class	NHIS	NNHS
Males	65-74	2	82.5	39.7
		3	137.6	626.5
		4	56.5	150.2
		5	108.5	151.1
		6	38.3	113.4
	65-74 Total		87.6	118.0
	75-84	2	66.9	49.2
		3	110.7	176.5
		4	64.4	84.8
		5	102.3	125.8
		6	149.5	79.4
	75-84 Total		93.4	96.4
	85+	2	68.1	56.9
		3	142.6	71.6
		4	28.7	110.4
		5	111.5	128.2
		6	119.9	100.5
	85+ Total		81.8	100.6
Males Total			88.5	102.1
Females	65-74	2	55.2	186.6
		3	104.8	153.8
		4	47.8	340.4
		5	185.5	170.6
		6	227.7	65.1
	65-74 Total		92.7	126.8
	75-84	2	63.5	135.6
		3	132.2	87.5
		4	132.0	103.2
		5	217.8	157.0
		6	131.1	71.5
	75-84 Total		111.8	103.6
	85+	2	61.2	61.6
		3	149.4	93.0
		4	73.8	89.0
		5	51.0	132.5
		6	91.4	73.3
	85+ Total		79.7	92.6
Female Total			95.5	98.7
Population Total			93.2	99.6