U.S. Department of Health and Human Services
Assistant Secretary for Planning and Evaluation
Office of Disability, Aging and Long-Term Care Policy

NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES:

SAMPLE FRAME CONSTRUCTION AND BENCHMARKING REPORT

April 2010

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NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES: Sample Frame Construction and Benchmarking Report

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RTI International

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1. INTRODUCTION

The National Survey of Residential Care Facilities (NSRCF) is a new survey whose primary purpose is to provide data on residential care facilities (RCFs) and the characteristics of the people they serve. As such, the survey will supply providers, consumers, government agencies, and policymakers with data to plan for the long-term care of the United States population. The NSRCF is sponsored by the Office of the Assistant Secretary for Planning and Evaluation (ASPE)/U.S. Department of Health and Human Services, the National Center for Health Statistics (NCHS), the Agency for Healthcare Research and Quality (AHRQ), the National Center for Chronic Disease Prevention and Health Promotion, the National Center for Immunization and Respiratory Diseases, and the Department of Veterans Affairs. To help develop the survey, ASPE contracted with Research Triangle Institute (RTI) International to assist with survey design and sample frame development. RTI is also collecting the data for the survey under a contract with NCHS.

This report addresses the process of constructing the sample frame for the NSRCF, how well the final sample frame matches other estimates of the number of RCFs and beds/units, final modifications to the sample design, and recommendations for conducting future surveys. Within these sections, the authors highlight the challenges in obtaining and assembling the sample frame of licensed, registered, certified, listed, or otherwise regulated RCFs in all 50 states and the District of Columbia. The sample frame was constructed between June and December 2009, and an initial sample frame was delivered to ASPE and NCHS on December 22, 2009. After NCHS review, a final sample frame was delivered on January 4, 2010.

This report has seven sections:

- study definition;
- applying the inclusion criteria;
- building the sample frame: obtaining the licensure lists, converting them into usable format, cleaning and merging into a final format for delivery to NCHS;
- collecting data and creating codebook;
- benchmarking the NSRCF sample frame;
- allocating the sample among strata based on the NSRCF sample frame; and
- recommendations/lessons learned.

2. STUDY DEFINITION OF RESIDENTIAL CARE FACILITIES

Unlike hospitals and nursing homes, definitions and nomenclature regarding RCFs vary widely across states (Mollica, Sims-Kastelein, and O'Keeffe, 2007). Moreover, terms and definitions for RCFs vary within many states as well. These different definitions and nomenclature are a consequence of the lack of national standards, the relatively recent regulation of residential care in many states, and different state philosophies about what constitutes residential care. Unlike nursing home care where there is a significant amount of federal funding and oversight, only a very small amount of federal funds are spent on RCF care. Thus, there is also no standard federal definition of RCF. For the purposes of the NSRCF, RCFs are:

> Facilities with four or more beds serving an adult population that are licensed, registered, certified, listed or otherwise regulated to provide housing services (i.e., room and board with at least two meals a day), 24 hour/7 day a week supervision, and help with personal care (e.g., bathing, dressing, or eating) or health-related services (e.g., medication management).[1] Personal care and health-related services may be directly provided by the RCF or coordinated with outside parties.

> The following types of places are <u>not</u> included in the survey universe: (1) facilities that exclusively serve people with severe mental illnesses or persons with intellectual disabilities (i.e., mental retardation/developmental disability), although places or units that provide care to the people with dementia are included; (2) nursing homes (unless they have a unit or wing meeting the above definition and residents can be separately enumerated); (3) hospitals, including inpatient rehabilitation and long-term care hospitals (unless they have a unit or wing meeting the above definition and residents can be separately enumerated); (4) free standing hospice facilities; (5) Housing and Urban Development (HUD) section 202 or section 8 subsidized housing; (6) senior citizen cooperatives; (7) naturally occurring retirement communities; (8) commercial retirement communities that do not provide residential care services; (9) other places for independent living; and (10) facilities that are not licensed, registered, certified listed or otherwise regulated by the state even if they otherwise meet the criteria of RCFs (Wiener et al., 2006).

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[1] To be eligible for the study, facilities needed to have four or more beds. For facilities that were licensed by units, the number of units was converted to beds to assess if it met the four or more beds criterion.

3. APPLYING THE INCLUSION CRITERIA

3.1 Preliminary Identification of Qualifying Licensure Categories

The first task in constructing the sample frame was to identify the licensure categories of RCFs within each state that appeared to meet the study definition, as not all licensure categories do so. To make this determination, RTI research staff reviewed the *Residential Care and Assisted Living Compendium: 2007* (Mollica, Sims-Kastelein, and O'Keeffe, 2007); the *Assisted Living State Regulatory Review 2009* (National Center for Assisted Living, 2008); the *Inventory of Long Term Care Residential Places* (Social and Scientific Systems, Inc., 2003); and the Web sites of each state and their associated regulations for the different types of residential care. We found 50 terms for regulatory categories for RCFs that met our study definition (***Exhibit 1***). Twenty-three states use one single category, 17 use two categories, eight have three categories, and three states have four distinct categories. Presenting the same information by number of states using similar licensure terms (***Exhibit 2***), 18 states use Assisted Living Facility as a licensure term, seven use Assisted Living Residence, and eight use Residential Care Facility.

The differences among the regulatory terms are not straightforward. In some states, the variation is strictly based on the number of residents served. For example, North Carolina subdivides its Adult Care Homes licensure category into two categories: one serving 2-6 residents (licensed as Family Care Homes) and the remainder serving seven or more (licensed as Adult Care Homes). There are no differences between the categories in regard to services required. On the other hand, in some states, such as Utah, subcategories of RCFs (e.g., Assisted Living Facilities Type I and Type II) differ based on the level of care provided. In Utah, Type II facilities offer a higher level of supportive care for semi-independent residents (e.g., assistance with all activities of daily living or ADLs) than for the residents in Type 1, who require minimal assistance (e.g., assistance with up to two ADLs).

Some states discriminate among licensure categories based on the distinct services provided or the facility structure. For example, in Wisconsin, both Community-Based Residential Facilities (CBRFs) and Residential Care Apartment Complexes (RCACs) serve five or more residents. CBRFs limit the care provided to residents with no more than intermediate-level nursing home care needs and no more than three hours of nursing care per week per resident. On the other hand, RCACs can provide supportive, personal, and nursing services of no more than 28 hours per week per resident. RCACs may be attached to a nursing home or a CBRF, but must provide independent apartments with lockable entrances and exits, kitchen area with a stove, private bathroom, bedroom, and living areas. CBRFs have private or shared bedrooms with shared public living areas.

EXHIBIT 1: RCF Nomenclature by State	
State	**Licensure Term** **(Eligible Subcategories)**
Alabama	Assisted Living Facility (Group, Congregate, Specialty)
Alaska	Assisted Living Home (Adult Foster Care, Adult Residential Care)
Arizona	Assisted Living Facility
	Residential Care Institution
	Adult Foster Care
Arkansas	Assisted Living Facility
	Residential Care Facility
California	Residential Care Facilities for the Elderly
Colorado	Assisted Living Residence (Private Pay, Alternative Care Facilities)
Connecticut	Residential Care Home
Delaware	Assisted Living Facility
	Rest Residential Home
	Group Home Facility for Persons with AIDS
District of Columbia	Assisted Living Residence
Florida	Assisted Living Facility
	Adult Family Care Facility
Georgia	Personal Care Home (Adult Foster Care Home)
Hawaii	Assisted Living Facility
	Adult Residential Care Home
	Expanded Adult Residential Care Home
Idaho	Residential Care Facility/Assisted Living
Illinois	Assisted Living/Shared Housing Establishment
	Shelter Care
Indiana	Residential Care Facility
	Comprehensive Care Facility with Residential Care Bed
Iowa	Assisted Living Program
	Assisted Living Program for People with Dementia
	Elder Group Home
	Residential Care Facility
Kansas	Assisted Living Facility
	Residential Health Care Facility
	Home Plus
Kentucky	Assisted Living Community
	Personal Care Home
Louisiana	Adult Residential Care Facility (Assisted Living Facilities, Personal Care Homes, Shelter Homes)
Maine	Assisted Living Program (Residential Care II, III, IV)
Maryland	Assisted Living Program (Low, Moderate, High)
Massachusetts	Assisted Living Residence
	Rest Home
Michigan	Home for the Aged
	Adult Foster Care Home
Minnesota	Housing with Services Establishment with Class A or F Home Care Provider Agency
Mississippi	Personal Care Home Residential Living
	Personal Care Home Assisted Living
Missouri	Assisted Living Facility
	Residential Care Facility

EXHIBIT 1 (*continued*)	
State	**Licensure Term (Eligible Subcategories)**
Montana	Assisted Living Facility and optional: Personal Care Home, Adult Foster Care Home
Nebraska	Assisted-Living Facility
Nevada	Adult Group Care (Residential Group Care, Assisted Living Facility)
	Adult Group Care for Alzheimer's Disease
New Hampshire	Assisted Living Residence--Residential Care
	Assisted Living Residence--Supported Residential Health Care
New Jersey	Assisted Living Residence
	Comprehensive Personal Care Home
	Assisted Living Program
New Mexico	Adult Residential Care Facility
New York	Adult Care Home and Facility (Family Care Home)
	Enriched Housing Program
	Assisted Living Program
North Carolina	Adult Care Home (Family Care Home)
North Dakota	Basic Care Facility
	Assisted Living Facility
Ohio	Residential Care Facility (Assisted Living Facility)
	Adult Care Facility
	Adult Family Home
	Adult Group Home
Oklahoma	Assisted Living Center
	Residential Care Home
Oregon	Residential Care Facility
	Assisted Living Facility
	Adult Foster Care
Pennsylvania	Personal Care Home
Rhode Island	Residential Care
	Assisted Living Residence
South Carolina	Community Residential Care Facility
	Assisted Living Facility
South Dakota	Assisted Living Center
Tennessee	Assisted-Care Living Facility
	Home for the Aged
Texas	Assisted Living Facility (Type A and B)
Utah	Assisted Living Facility (Type 1 and 2)
Vermont	Assisted Living Residence
	Residential Care Home III and IV
Virginia	Assisted Living Facility
Washington	Boarding Home
	Assisted Living Facility
	Adult Residential Care
	Adult Family Home
West Virginia	Assisted Living Residence
Wisconsin	Residential Care Apartment Complexes
	Community Based Residential Facility
	Adult Family Home
Wyoming	Assisted Living Facility (Type I and II)
SOURCE: State Web sites and NSRCF research staff discussions with states.	

EXHIBIT 2: RCF Nomenclature and States That Use Them	
Term	**States Using Term**
Adult Care Facility	OH
Adult Care Home	NC
Adult Care Home and Facility	NY
Adult Family Care Facility	FL
Adult Family Home	OH, WA, WI
Adult Group Care	NV
Adult Group Care with Dementia	NV
Adult Foster Care	AZ, MI, OR
Adult Group Home	OH
Adult Residential Care	WA
Adult Residential Care Facility	LA, NM
Adult Residential Care Home	HI
Assisted Living Center	OK, SD
Assisted Living Community	KY
Assisted Living Facility	AL, AR, AZ, DE, FL, HI, KS, MO, MT, NE, ND, OR, SC, TX, UT, VA, WA, WY
Assisted Living Home	AK
Assisted Living Program	IA, MD, ME, NJ, NY
Assisted Living Program for People with Dementia	IA
Assisted Living Residence	CO, DC, MA, NJ, RI, VT, WV
Assisted Living Residence--Residential Care	NH
Assisted Living Residence--Supported Residential Care	NH
Assisted Living/Shared Housing	IL
Assisted-Care Living Facility	TN
Basic Care Facility	ND
Boarding Home	WA
Community Residential Care Facility	SC
Community-Based Residential Facility	WI
Comprehensive Care Facility with Residential Care Beds	IN
Comprehensive Personal Care Home	NJ
Elder Group Home	IA
Enriched Housing Program	NY
Expanded Adult Residential Care Home	HI
Group Home Facility for Persons with AIDS	DE
Home for the Aged	MI, TN
Home Plus	KA
Housing with Services Establishment with Class A or F Provider Agencies	MN
Personal Care Home	GA, KY, PA
Personal Care Home--Assisted Living	MS
Personal Care Home--Residential Living	MS
Residential Care	RI
Residential Care Apartment Complex	WI
Residential Care Facility	AR, IA, IN, MO, OH, OR
Residential Care Facility for the Elderly	CA
Residential Care Facility/Assisted Living	ID
Residential Care Home	CT, OK, VT
Residential Health Care Facility	KS

EXHIBIT 2 (*continued*)	
Term	**States Using Term**
Rest Home	MA
Rest Residential Home	DE
Shelter Care Home	LA
Sheltered Care Facility	IL
SOURCE: State Web sites and NSRCF research staff discussions with states.	

3.2 Issues in Deciding Whether Facilities Met Inclusion Criteria

Applying the survey definition of RCFs to determine whether they met the inclusion criteria was not always straightforward. There were many issues regarding the responsible entity, meals, 24-hour care supervision, and facilities that exclusively serve people with severe mental illness or intellectual disabilities.

Identifying the "Facility"

Our working definition encompasses all types of RCFs, including assisted living facilities that arrange for personal care services from an outside vendor. Many states allow RCFs to contract out for additional personal care services, but two states, Minnesota and Connecticut, have licensure categories that license the service provider rather than the RCF. In these states, we needed to determine which RCFs were associated with the licensed service agencies. For example, in Minnesota, registered Housing with Services Establishments (HWSEs) contract with home care agencies to provide care services in the facility. Class F agencies are licensed to provide nursing services, central storage of medications, and other services performed by unlicensed personnel, but solely in HWSEs. Class A agencies are licensed to deliver nursing, therapies (physical, speech, respiratory, occupational), nutritional services, and other home care services in a variety of residential settings, of which HWSEs is one possible setting. Only HWSEs that contract with either a Class A or Class F agency are eligible for the study. We could not use the licensure lists of Class A agencies because they provided services outside of HWSEs, and the directory of Class F agencies does not provide information on the HWSEs that they serve. Given this, we had to work from internal state data on registered HWSEs, their associated capacity data, and affiliation with Class A or Class F agencies. It was not possible to identify individual licensed agencies, only the category.

In contrast, Connecticut licenses service providers (Assisted Living Services Agencies--ALSAs) to provide health care services to residents in Managed Residential Communities (MRCs). Neither ASLAs nor MRCs are required to provide 24-hour supervision for all of the residents; therefore, this licensure category was excluded. Connecticut does have licensed Residential Care Homes, which are included in the study.

Meals

Our study definition required facilities to offer at least two meals per day, but we found that some licensure categories only require that facilities provide one meal per day. For example, in Connecticut, MRCs are only required to offer one meal per day, which did not meet the study definition. Since we could not identify facilities that provided more than one meal, these licensure categories were considered ineligible. These categories were typically facilities with units/apartments.

24-Hour Care Supervision

The study definition requires RCFs to provide 24-hour care supervision seven days a week. A review of the states' regulations and public information Web pages found that 24-hour supervision is not consistently defined or, in some cases, not mentioned at all. A preliminary ASPE analysis of the *Residential Care and Assisted Living Compendium: 2007* identified about ten states for which it was unclear whether the regulations required 24-hour onsite presence of care staff.

In most states, the requirement is that a care provider must be in the building 24 hours a day. Thus, a concept of "onsite" that was limited to a care provider "in the building" 24 hours per day is consistent with how most states define the concept. However, some states define 24-hour supervision less restrictively. For example, in Minnesota, service providers must supply a means for assisted living clients to request assistance for health and safety needs 24 hours per day, seven days per week, from the establishment or a person or entity with which the establishment has made arrangements; has a person or persons available 24 hours per day, seven days per week, who is responsible for responding to the requests of assisted living clients for assistance with health or safety needs, who shall be: awake; located in the same building, in an attached building, or on a contiguous campus with the HWSE in order to respond within a reasonable amount of time; capable of communicating with assisted living clients.

After extensive discussion, ASPE, NCHS, and the RTI research team refined the definition of 24-hour care supervision as providing or arranging for a personal care worker, registered nurse, or licensed practical nurse to be onsite 24 hours a day, seven days a week, to meet resident needs that may arise. Onsite was defined as "located in the same building, in an attached building or on the same campus." Such needs can be met by the director or assistant director, if he or she provides personal care or nursing services to residents. However, facilities whose 24-hour supervision consists solely of security staff or emergency call buttons do not meet the study definition and, therefore, were ineligible for inclusion on the sample frame.

In Connecticut, where services are divorced from the residential living component for MRCs not regulated by the state, the separate state-licensed service provider agencies (Assisted Living Service Agencies) are not required to provide 24-hour awake staff. However, if an individual resident's care plan calls for such supervision, it is

provided. Based on this level of supervision, MRCs were excluded from the sample frame.

Identifying Facilities that Exclusively Serve People with Severe Mental Illness or Persons with Intellectual Disabilities

Identifying and excluding facilities that exclusively serve people with severe mental illness or persons with intellectual disabilities was critical because the survey was designed to collect information about facilities that serve older persons or younger people with physical disabilities. Facilities focused on people with mental illness or intellectual disabilities provide a very different set of services. For example, many of the services for these populations are provided at locations other than the facility, and residents leave the facility for much of the day.

Identifying facilities that exclusively serve these excluded special populations was complicated for a number of reasons. While some states have separate regulatory categories for facilities that serve these populations, many do not. Some states allow ordinary RCFs to serve these populations, and others do not. Some states dually license facilities serving any persons with severe mental illness and intellectual disabilities both as general RCFs and as facilities serving these specific populations. Some states have this dual license only for facilities that *exclusively* serve these populations, and some have this dual license for facilities that wish to serve *any* persons with severe mental illness or intellectual disabilities.

In addition, where specific regulation of facilities that serve the excluded populations is lacking, state lists of facilities serving persons with severe mental illness and people with intellectual disabilities usually did not have enough detail to be useful. The state service lists often did not differentiate between residential facilities and ambulatory services, adults and children, and facilities that admit a few persons with mental illness or intellectual disabilities and those facilities that focus exclusively on these populations. Moreover, in many states, mental health and intellectual disability services are organized at the county or local levels, and the state does not maintain statewide service or referral lists. For example, in Minnesota, Adult Foster Care homes are licensed by the state Department of Human Services but implementation occurs at the county level. At the state level, these lists of county services, if they exist at all, may not be accurate or current. Obtaining county or local lists would have been prohibitively expensive and of questionable reliability, and we did not attempt to obtain them.

RTI research staff identified facilities that exclusively serve people with severe mental illness through two mechanisms. First, we reviewed state regulations on RCFs that were available on the Internet. Second, we discussed this issue with officials in every state and the District of Columbia. We asked states whether there were separate licensure categories for facilities that exclusively served people with mental retardation/developmental disabilities or people with severe mental illness. We excluded those licensure categories from our sample frame.

If there were not separate licensure categories that exclusively served people with severe mental illness or intellectual disabilities and if people with these disabilities could be served in an included licensure category, we asked for a list of those RCFs that exclusively served these populations or if there was some other way to identify those facilities. In some cases, states were able to provide a list of these facilities or explain how to identify such facilities (i.e., all state-owned facilities would serve the severely mentally ill) and we excluded them. If they could not provide a list, we included all facilities in that licensure category. Thus, facilities with a mixed population were included in the sample frame, as were probably some facilities that exclusively serve people with severe mental illness and intellectual disabilities. For the survey, these facilities will be identified during the screening process.

In California and Minnesota, we excluded categories of facilities (Adult Residential Care Facilities in California and Adult Foster Care Facilities in Minnesota) where state officials or RCF experts (i.e., Catherine Hawes and Robert Newcomer) told us that the substantial majority of facilities in a licensure category exclusively serve people with severe mental illnesses or intellectual disabilities. Including these facilities would have added about 9,000 facilities, almost a quarter of the sample frame, most of which would have been ineligible for the survey. Screening those facilities as part of the survey to find eligible facilities would have been very expensive and not practicable.

4. BUILDING THE FRAME

Building the actual sample frame of individual facilities involved several steps: obtaining state licensure lists, converting the data into a usable format, assessing the completeness of the data, and cleaning and merging the state level files.

4.1 Obtaining State Licensure Lists of Residential Care Facilities

Contacting State Officials

We started obtaining licensure lists in June 2009. By December 2009, when the NSRCF sample frame was first delivered to NCHS, no list was older than five months. As described above, we started with state Web sites to inform us about the various regulations and terms used in the state, compiling information on each state on the RCF licensure categories that we believed met our study definition (see Appendix A). Based on information on each state's Web site and other sources, we contacted staff at the state regulatory agency to discuss the regulation of RCFs in that state, making sure that we had identified the appropriate licensure categories. We then requested an electronic file of the RCFs for which the agency was responsible.

This process was fraught with difficulties. Many states were responsive and assisted our research staff with the information we were seeking for the frame. Constructing the sample frame would have been impossible without them and we are extremely grateful for their help. However, in some states, officials were difficult to reach, even after repeated telephone calls and e-mails, or insisted on communicating through formal written requests rather than through informal telephone conversations or e-mails.

In addition, in some states, regulation of different licensure categories is the responsibility of more than one agency (e.g., New Jersey, Kentucky, and Massachusetts), which required us to make requests to multiple agencies. In these cases, state officials often did not know the names of other relevant state officials or did not know what their procedures were. In particular, regulators of RCFs were often unable to provide contacts in state departments of mental health or developmental disabilities.

Moreover, states tend to be understaffed and are under fiscal pressure; in general, regulating residential care is not as high a state priority as regulating nursing homes, where federal funds are available to help pay the cost. As a result, even when states were willing to help, they often did not have the resources to do the programming to obtain all of the data items that we requested for the sample frame.

Several states agreed to provide an electronic file of their administrative database, and for those that did not, we asked about facility information on the Web site. Only

when we could not obtain an electronic file directly from the state did we download the data from the Web. While some states provided all of the information we requested, many could provide only the bare-bones information (name, address, telephone number, number of beds). Although New York officials were willing to provide us with an electronic file, their requirement that we file a freedom of information request delayed their being able to do so by our cutoff date.

State Government Web Sites

One important lesson learned from this part of the process is that locations for state government Web sites change over time. Many Web sites identified in the previously published reports were no longer correct and were not automatically forwarded to the new links. Thus, the research team often had to relocate the appropriate Web page(s) for a particular state via their own searches.

In addition, listings often were not in a format conducive to uploading into a database. Some states allowed Web site visitors to download text databases, but did not provide the identification tags for the fields. Some directories were in a Word table format that required extra resources to convert into a format that could be exported into a database, and other states only had Portable Document Format (PDF) documents. In these cases we were able to use special software to extract the data (described below). More problematic were the Web sites where a listing of facilities was linked to individual facility Web page(s) with the details about each facility. In other words, no more than one facility could be displayed at a time. In states that could not provide us with an electronic file, these cases required extensive labor resources to obtain the relevant data for the sampling frame. In New York, we had to collect the information by hand from their Web site, which has data organized by county, forcing us to go through each county separately.

The timeliness of the information available on the Web varied, but many are quite current. For example, Illinois updates its licensure list daily; Connecticut and North Carolina update their lists approximately weekly; Minnesota updates its list about every two weeks; Kentucky updates its lists monthly, Maryland updates its list quarterly, and Virginia updates its list on an ad hoc basis.

4.2 Converting State-Provided Data into a Usable Format

We received files from the states in several different formats. The first step in converting these files to a consistent and useable format involved a manual review of the files to be sure we received the data we requested. For example, we verified that the correct category of facilities was included, that the key variables were included on the file, and that data for these key variables were not missing. Sometimes the file was sent to us without the expected information. In those instances, staff requested a new file or attempted to obtain an additional file of the missing information.

Another verification step involved checking that the correct data were in the correct data fields. In some cases the state had reversed the address information. For example, in North Carolina, the state files included facility addresses that were not the street address of the facility, but the mailing addresses or the owners' address. Because the interviewers need to know where the facility is located, and we needed location address to determine whether a facility should be combined, it was very important to have the street address (i.e., the geographic location) of the facility. Our staff made additional phone calls to try to resolve these issues; we were successful in some instances and unsuccessful in others.

After the files were manually checked to be sure they contained useable data, research staff developed specific instructions for the programmers to use to compile the individual state files, including specifications for eliminating facilities ineligible for the frame. For example, licensure lists in some states contained data fields identifying the types of residents served. For these states, definitions of the codes used to identify facilities that exclusively serve people with severe mentally illness or intellectual disabilities were provided to the programmers by the research staff. The programmers then wrote the SAS code to exclude those facilities from the sample frame. Once research staff were satisfied that the files were are comprehensive as possible, the programmers merged the different files.

Because the facility data from the states came in different formats with varying degrees of completeness, data files were processed on a state-specific basis to determine the most effective procedure of converting the data into a usable SAS format. The licensing agencies in most states were able to provide electronic files of their RCFs, but the formats varied. As mentioned above, the formats of these files included Excel spreadsheets, text files, Microsoft Word documents, and PDF files. For the PDF files, we used Able2Extract software to convert the files from PDF to a more usable format, such as Excel if the data were in a column format, or a text file if the data were not in a column format.

Some states, such as Delaware and Indiana, provided separate files for different types of licensure categories. For Kentucky, one licensure list was downloaded from the Internet and the other was provided to RTI in a PDF. In other states, such as Massachusetts and New Jersey, different licensure categories were the responsibility of separate state agencies. For these states, multiple files were converted to compatible formats, usually Excel spreadsheets but sometimes SAS datasets or text files, and were concatenated to create complete lists of RCFs for the state.

One state, Pennsylvania, provided multiple files for the same set of facilities--one file containing licensing data that included occupancy counts by types of residents and overall, and another file containing facility variables including address, city, state, zip code, phone number, county, and ownership type as well as licensee organization variables including address, city, state, and zip code. These two files were merged to produce a single file containing all provided data elements for the facilities and also to sort for eligible facilities.

Once we acquired the RCF data from a state, the first task was to transfer the data into an Excel spreadsheet formatted with columns prelabeled according to the frame variables. For states that provided the data in columns, this step consisted of copying and pasting the data into the appropriate columns.

However, for states that did not provide data in a column format, we had to do some preliminary work with the files before the data could be transferred into the Excel spreadsheets. The files had to be read into SAS and then data values for each frame variable had to be extracted from the lines of data. Often this involved breaking a single line of data into several fields.

The information below is a hypothetical example of the data structure from the District of Columbia that was not formatted with one variable per column. Consequently, the rows of data had to be partitioned into the appropriate data fields. For example, WASHINGTON, DC 20015 had to be broken into the three variables of city, state, and zip code for the facility, and the row with the phone and fax number had to be split into facility phone and facility fax. Once the values were extracted from the rows of data, the Excel spreadsheets were populated using SAS.

License #	Facility/Phone/Fax	Status	Bed Count
ALR-1234	ABC HOUSE JOHN SMITH 123 FIRST STREET WASHINGTON, DC 20015 202-555-2345 202-555-0037 jsmith@abchouse.com	LICENSE	131

The next step was to read the data into SAS and process the data. The data were converted from Excel into a SAS dataset using SAS import statements. The SAS import program formatted the variables so they would be the same for all states.

4.3 Cleaning and Merging the State Level Files into a Single Sample Frame

In cleaning and merging the state level files into a single sampling frame, issues arose concerning combining facilities, converting units to beds, and identifying chains.

Identifying Possible Combinations

States have complicated systems of determining how many licenses to issue to an RCF. Some RCFs have multiple residential care licenses; some of the licenses are co-located on the same property but in different buildings, others are in the same building but in different sections or on different floors of that building. Some facilities have multiple licenses for the same level of care; others have licenses for different levels of residential care. There are campus settings with multiple levels of care, including

nursing home care (i.e., Continuing Care Retirement Communities) and Independent Living that are ineligible for this study.

This fragmented licensing system creates a problem because the survey is meant to gather information about the RCF as a whole rather than just a particular floor, wing, or building. To address this problem, we combined licenses for wings, floor, and close-by buildings to create entities that conform to what most people would consider a unified facility. Our definition of a "facility" was a function of physical proximity of the different levels of care and some overall unified management. RTI worked with ASPE and NCHS to develop decision rules on when and how to combine licenses to create unified facilities. These rules for combining licenses were especially important for establishing the size of the facilities--the key variable for sample selection.

We developed sorting algorithms to systematically identify multi-license settings and to combine them into single sampling units, where appropriate. Facilities with multiple residential care licenses to care for residents in the same building (i.e., facilities caring for residents at different levels of disability that possess various types of residential care licenses) were combined. In order to be combined, the decision rule was that facilities must have the same owner and administrator and be geographically located at the same address or within two digits from each other (e.g., 5419 Reno Road and 5417 Reno Road). In these cases, the presumption was that both facilities could share staff and have common management. Most combined entities were small facilities, but some large facilities were co-located on a campus setting. When ownership information was missing from a state licensure list, we combined facilities with the same administrator if they were geographically located within two digits of each other. We did not combine facilities that had different administrators or owners.

As expected, we ran into situations where key information was not available on the licensure lists, though it appeared that the facilities were likely operated together (i.e., four digits off with the address, Facility Name ends in a sequential number, such as Harbor House 1 and Harbor House 2); however, we strictly adhered to our decision rule and did not combine these facilities if the owner and the administrator information were missing. As a result, we may have missed combining some facilities.

Overall, 446 facilities (1.1% of all facilities on the frame) were flagged as combined facilities. These 446 facilities were licensed for a total of 21,433 beds (2.0% of all licensed beds on the frame). Seventeen states had no combined facilities due either to only having few facilities in their state or to having missing data for owner and administrator. The states with the highest percentage of combined facilities were North Dakota (12.5%) and Alabama (18.3%).

Looking ahead to survey implementation, RTI, NCHS, and ASPE agreed that for combined facilities with multiple levels of care, the facility respondent would answer the questions based on the section of the facility with the highest proportion of residents. If by chance, that number was equal across the different licensure categories, then the respondent would be instructed to answer based on the highest level of care provided.

Converting Units to Beds

The recommended study design for the NSRCF involves the selection of RCFs using a stratified sample selection scheme in which the facility strata are defined by bed size. The vast majority of the states were able to provide the number of licensed beds for each facility. However, four states, Illinois, Kentucky, Massachusetts, and North Dakota, license at least some RCFs by units rather than beds. Theoretically, a unit, such as a two-bedroom apartment, could have one, two, or more people living in it. For facilities in states that license by units, we imputed the number of licensed beds using a conversion factor based on discussions with officials in the relevant states. The conversion factor of units to beds was equal to 1.0 for Illinois and 1.1 for the other three states. For example, in Kentucky, a facility with 100 units was imputed to have 110 beds.

Once the number of beds was determined for each facility, the facility was assigned to one of four sampling strata depending on their number of beds. *Exhibit 3* provides definitions of the facility strata.

EXHIBIT 3: Facility Strata Definitions	
Facility Stratum	**Number of Beds**
Small	4 - 10 beds
Medium	11 - 25 beds
Large	26 - 100 beds
Extra-large	101+ beds

Identifying Chains

Many facilities that are part of a chain must obtain permission from their home or corporate office before participating in surveys, such as the NSRCF. To help prevent chains receiving multiple requests from sampled facilities and to reduce the risk of multiple refusals, RTI plans to send information to each chain in the sample to notify them that at least two of their facilities have been chosen to participate in the NSRCF. Thus, the sample frame has to identify facilities that are in a chain and then identify which chain it is. We defined a chain as an individual or corporation owning two or more facilities. Identifying chains was extremely complex, requiring the development of a number of computer programs and substantial manual review of a large number of facilities.

A facility was flagged as part of a chain if it met one of four conditions:

First, we considered a facility to be part of a chain if the state identified a facility as being part of a chain on the licensure list. However, only Missouri and Wisconsin provided this information. The files for these two states included a chain indicator and chain name; chain contact information was not provided.

Second, facilities were checked to determine if they were part of the list of the "Top Forty" chains identified by *Provider Magazine*. *Provider Magazine* annually identifies the largest assisted living facility chains according to "total assisted living facility occupant capacity." Since our goal was to identify as many chains as possible, we concatenated the list of the Top Forty chains from each year from 2005–2009. Even though we refer to this list as the Top Forty chains, our list actually contained 84 chains giving us an extensive list of the largest, most recognizable chains in the United States. *Exhibit 4* provides the complete list of top chains.

EXHIBIT 4: Assisted Living Chains Identified by *Provider Magazine* as Being the Nation's Top Forty Chains, 2005-2009	
Chain Name	Chain Name
ABCM Corp	Five Star Quality Care
Advantage Health Systems	
Advocat	Genesis HealthCare Corp.
Aegis Living	Golden Living
Alden Management Services	Grace Living Centers
American Retirement Corp.	
American Senior Communities	Harborside Healthcare Corp--now Sunbridge
Americare	HCR Manor Care
Apple Health Care	Health Care Associates
Arbor Company	Hearthstone Assisted Living
Assisted Living Concepts	HHHunt Senior Living
Athena Health Care Systems	Home Quality Management
Atria Senior Living Group	
Avamere Health Services	Independent Healthcare
Avante Group	
	JEA Senior Living
Belmont Village	Juniper Communities
Benchmark Assisted Living	
Benedictine Health System	Kindred Healthcare
Beverly Enterprises	KISCO Senior Living
Bickford Senior Living Group	
Brandywine Senior Care	Leisure Care
Britthaven	Liberty Healthcare--Long Term Care
Brookdale Senior Living	Management Services
	Life Care Services
Capital Senior Living	Lifecare Centers
Care Initiatives	
Chelsea Senior Living	Medicalodges
Complete HealthCare Resources	Merrill Gardens
Country Meadows Retirement	Mountain West Retirement--now Bonaventure
Covenant Care	National Healthcare
	NewSeasons Assisted Living--now part of Five Star
Daybreak Venture	
DePaul Adult Care Communities	
	Nexion Health
Ecumen	
Elderwood Senior Care	One-Eighty Leisure Care
Emeritus Corporation (Emeritus Senior Living on 2008 list)	
	Petersen Health Care
Encore Senior Living	Prestige Care
Extendicare Health Services	
	Ridgeline Management

| EXHIBIT 4 (*continued*) ||
Chain Name	Chain Name
Sava Senior Care	Tandem Health Care--now Consulate Health Care
Silverado Senior Living	
Skilled Healthcare Group	The Evangelical Lutheran Good Samaritan Society
Somerford Corp.	
Southern Assisted Living	The Medilodge Group
Sterling Healthcare	The Wellington Group
Stonegate Senior Care	Trilogy Health Services
Summerville Senior Living	
Sun Healthcare Group	UHS-Pruitt Corp
Sunrise Senior Living	United Methodist Homes
Sunwest Management	
	Vetter Health Services

The fields for licensee organization name, owner name, and facility name were all searched for key words that would identify them as a Top Forty chain. For example, we searched for the key word BICKFORD to identify facilities belonging to the Bickford Senior Living Group and EXTENDICARE to flag facilities that are a part of Extendicare Health Services. A list of facilities that were flagged as being part of a Top Forty chain were printed to check that the chains were identified correctly and that the algorithm had not mistakenly identified a facility as belonging to a chain.

The majority of the time, we were sure that the Top Forty chains had been flagged correctly. But for a few of the facilities, the match was not obviously correct so we checked the facility Web site to check chain affiliation. For example, if the algorithm was set to check the facility name, the keyword KINDRED would set a flag indicating "Kindred Care Homes" is part of the Kindred Healthcare chain. If the algorithm checked the licensee organization name, "Juniper Springs Center" might have been identified as linked to the Juniper Communities chain. To evaluate whether these facilities were accurately flagged as being part of a chain, we printed an exception report and manually reviewed the cases to determine whether they should indeed be categorized as a Top Forty chain.

Third, we checked to determine if all facilities not flagged as being part of a Top Forty chain were part of a regional or smaller chain. To identify these chains, we matched facilities on names for licensure organization, owner, and facility contact and flagged facilities having names in common as chain facilities. Again, a list of all facilities flagged as chains was printed and checked for accuracy.

Fourth, the last automated step in determining chains involved checking for facilities that had similar names, such as Harbor House I and Harbor House II. We examined the data for these facilities to see if they seemed to be linked facilities. We checked addresses to determine if the facilities were in close proximity. Many facilities were on the same street but were not combined facilities because their street numbers varied by more than two digits, which was our criteria for combining facilities. We also checked that the names of the facility were indeed similar. For example, Rainbow Assisted Living and Rainbow Homes of Smithville might be flagged because they both begin with "Rainbow," but the complete names of the facilities suggest that these are

not linked facilities. Many facilities identified in these steps had suffixes in their facility names, which suggested that they were indeed linked facilities. Examples include: RICHMOND HILL REST HOME #1 and RICHMOND HILL REST HOME #2 or THE BRADFORD VILLAGE OF KERNERSVILLE--WEST and THE BRADFORD VILLAGE OF KERNERSVILLE--EAST. If RTI staff judged that they were linked facilities, they were marked as chains.

As a last check for chains, the facility names for all facilities not marked as chains after the four steps above were printed and examined for any other possible chain identification by checking for spelling differences that would prevent the files from matching exactly using the automated SAS procedures for identifying chains described above. For example, the facility names DM FAMILY CARE HOME #1 and D.M. FAMILY CARE HOME #2 would not be flagged by our automated program because of the different formats of the initials in the facility name. But the names of facilities suggest that they are linked facilities. Any chains identified in this final step were either flagged manually in the state file or the state file was corrected to standardize the spelling of the facility names for the linked facilities.

We identified 16,379 facilities (about 41.3%) of the 39,635 facilities on the frame as being affiliated with a chain. Of the chain facilities, 1,381 facilities were associated with the Top Forty chains and the remaining 14,998 were associated with regional or smaller chains.

Quality Control Checks

As with many sampling frame construction tasks, the quality control checks of the data required collaboration between the technical research team and the SAS programmers. As the research analysts received files from the states (or downloaded files from the state Web sites), a manual review was conducted to ensure that the state had provided the correct information. Following the research analyst's initial examination, the assigned programmer for the state conducted a preliminary quality control check by reviewing the file to confirm that it contained the data fields we were expecting to receive. Specifically, the programmer checked to make sure that the number of facilities on the file seemed reasonable and the correct licensure categories were included. Using the text documents provided by the research staff, the programmer could determine whether the state had excluded facilities that exclusively served people with severe mental illness or intellectual disabilities or had fewer than four beds. In several cases, additional cleaning had to be done on the files to make sure the file excluded the appropriate facilities.

The next quality control step involved reviewing facility contact name data fields for misspelled or mistyped names, such as Tammy T. Love and Tammmy T. Love, or variation of punctuation, such as Jamie K. Smith and Jamie K Smith. Names were made consistent across the state file if we felt confident that the names belonged to the same person.

Once the programmers compiled a state file, the research analysts reviewed the file to make sure that all of the notations in the supporting text documents about the state files had been taken into consideration. Research staff conveyed any issues identified with the files to the senior programmer, who then revised the SAS program or made data edits and reran the analysis. Research analysts conducted a final review to make sure that errors were corrected or issues resolved.

Lastly, when the files were concatenated within states and across states to create the national frame, frequencies were run to verify accurate coding of variables, variable fields, and the distribution of the number of facilities and beds.

4.4 Standardization of the Frame Data

Once the files were converted into SAS datasets, several of the variables were standardized so that the data were in the same format for all states. First, all text-field variables were converted to capital letters. Second, any leading spaces were removed from the text-field variables. Third, all addresses, including the facility street and mailing address and the licensee address, were standardized to the official street suffix abbreviations of the U.S. Postal Service. For example, AVENUE and AV were converted to AVE and CIRCLE, CRCL, and CRL were converted to CIR. Fourth, most states did not provide the type of ownership, but where they did, this variable was grouped into categories. The ownership classifications from the states were assigned to one of three ownership categories--for-profit, non-profit, or government. *Exhibit 5* lists the categories provided by the states and their assigned ownership group.

Fifth and finally, most states did not provide information on the types of residents allowed to be served in a facility. Moreover, when they did provide this information, the variable containing the types of allowable residents varied greatly across states. We attempted to standardize the types of allowable residents coding while still maintaining some state-specific names. *Exhibit 6* shows the coding used in the standardization of the types of residents variable.

EXHIBIT 5: Standardization of Ownership Type	
Standardized Ownership Type	**Ownership Type from States**
For-profit	For-profit For-profit corporation For-profit LLC For-profit partnership For-profit/individual General partnership Individual Limited liability Limited liability limited partnership Limited partnership LLC LLC (multiple member) LLC (single member) Housing and redevelopment authority
Non-profit	Non-profit Non-profit corporation Non-profit corporation/church related Non-profit organization Non-profit ownership--other
Government	Government Government-city Government-city/county Government-county Government-district Government-hospital district Government-state Group Healthcare authority Hospital district/authority

EXHIBIT 6: Standardization of Types of Allowable Residents	
Standardized Type of Allowable Residents	**Types of Allowable Residents from States**
AD	Alzheimer's/dementia
AIDS	AIDS
ALC/DRUG	Alcohol/drug dependent
ALZ	Alzheimer's
CC	Correctional clients
DEM	Dementia
DD	Developmentally disabled
EL	Elderly, advanced aged, aged
MI	Mentally ill
MH	Mental health
MR	Mental retardation
OTH	Other populations
PD	Physically disabled
PH	Physically handicapped
PREG	Pregnancy
MF	Medically fragile

5. COLLECTING DATA AND DEVELOPING CODEBOOK

A codebook was developed for the NSRCF sampling frame that listed the variable names, variable descriptions, formats, and value ranges (for numeric variables) to allow other data users to use the sample frame data file. The codebook was developed in Excel and contained worksheets for contents of the frame data, variable creation notes, frequencies of categorical variables, means of continuous variables, facility and bed counts by sampling strata and by state, and percentage missing for all variables.

All variables included in the NSRCF sampling frame are listed in **Exhibit 7**. The sample frame included variables obtained from the states' licensure lists as well as a few variables created by RTI, including a conversion factor variable, calculated beds, a chain indicator flag, and a combined facility flag.

The completeness of the data varied by data elements. All states provided facility licensure type, which aided in determining eligibility for our survey. Every state also provided the counts necessary to determine number of beds per facility, thus allowing us to remove facilities with fewer than four beds and to assign facilities to sampling strata. Data were available on more than 99% of facilities for street address, city, state, zip code, and telephone number. Ownership data were missing on 57% of facilities, and a facility contact name was missing for 28% of facilities.

EXHIBIT 7: Variables Included on NSRCF Sample Frame and Percent of Facilities with Missing Data		
Variables Included on NSRCF Sample Frame	**Number of Facilities with Missing Data**	**Percent of Facilities with Missing Data**
Facility Variables		
Facility ID--state assigned (text-field)	11,656	29.4
Facility name (text-field)	0	0.0
Facility street address (text-field)		
Address--line 1	393	1.0
Address--line 2	38,935	98.2
City	0	0.0
State	0	0.0
Zip	59	0.1
Facility mailing address (text-field)		
Address--line 1	21,065	53.1
Address--line 2	39,514	99.7
City	20,909	52.8
State	20,833	52.6
Zip	20,912	52.8
Facility phone number (text-field)	8,433	21.3
Facility fax number (text-field)	29,239	73.8
Facility Web site (text-field)	39,523	99.7
Facility e-mail (text-field)	38,030	96.0
Facility county (text-field)	6,727	17.0
Facility FIPS (Federal Information Processing Standards) county code (text-field)	6,727	17.0
Facility administrator or contact person contact info (text-field)		
Contact person name	11,041	27.9
Contact person title	18,097	45.7
Contact person phone number	308	0.8
Contact person e-mail address	38,439	97.0
Licensee Variables		
Licensee organization name	19,081	48.1
Licensee contact name	26,084	65.8
Licensee address (text-field)		
Street address--line 1	23,637	59.6
Street address--line 2	38,773	97.8
City	23,603	59.6
State	23,587	59.5
Zip	23,874	60.2
Licensee phone number (text-field)	32,900	83.0
Licensee fax number (text-field)	39,635	100.0
Licensee e-mail (text-field)	39,635	100.0
Licensure Variables		
License number--state assigned (text-field)	23,849	60.2
Licensure type--licensed, registered or certified (text-field)	0	0.0
Licensing categories (text-field)	0	0.0
Indicator for single or multiple RCF licenses (text-field)	0	0.0

EXHIBIT 7 (*continued*)		
Variables Included on NSRCF Sample Frame	**Number of Facilities with Missing Data**	**Percent of Facilities with Missing Data**
Number of Beds/Sampling Strata Variables		
Type bed or unit which specifies which was reported by the state (text-field)	0	0.0
Number of reported beds (numeric field)	0	0.0
Number of reported units (numeric field)	0	0.0
Conversion factor of units to beds (numeric field)	0	0.0
Number calculated beds--units converted to beds = # of units x conversion factor (numeric field)	0	0.0
Bed capacity--sum of # of reported beds and # of calculated beds (numeric field)	0	0.0
Bed size stratum name (text-field)	0	0.0
Additional Variables		
Types of allowable residents--Aged, Disabled, Alzheimer's/Dementia, Non-Ambulatory, MR/DD, Severely Mentally Ill (text-field)	22,290	56.2
Indicator of whether state issues Medicaid waivers for RCFs (numeric field)	0	0.0
Indicator or whether facility accepts Medicaid waivers (numeric field)	32,091	81.0
Chain affiliation flag (numeric field)	0	0.0
Combined facilities flag (numeric field)	0	0.0
Additional notes that include other relevant data fields obtained from licensure lists (text-field).	26,335	66.4
Type of ownership--for-profit, non-profit, or government (text-field)	22,602	57.0
Unique ID--RTI assigned	0	0.0
MR/DD = mental retardation/developmental disabilities.		

6. BENCHMARKING THE NSRCF SAMPLE FRAME

Since there is no "gold standard" list of RCFs as there is for hospitals and nursing homes, a key issue is how well the NSRCF sample frame identifies the universe of qualifying facilities. To address this issue, we identified alternative estimates of the number of RCFs and beds and compared them to the number of facilities and beds on the NSRCF sampling frame. Where possible, we made adjustments to the data sources to make the counts more comparable.

6.1 Data Sources

Although no complete dataset is available to benchmark our estimates of the number of residential care beds and facilities, at least four data sources allow for rough comparisons. As with the construction of the NSRCFS sample frame, the identification of RCFs across these four sources was complex. First, using the 2002 Health and Retirement Study, the 2002 Medicare Current Beneficiary Survey (MCBS), and the 1999 National Long-Term Care Survey (NLTCS), Spillman and Black (2006) estimated the number of older people living in RCFs rather than the number of RCFs and beds. Different methods were used to identify people living in RCFs in each survey.

Their general strategy was to "include any place identified either as being a named residential care type or, in the case of the MCBS and the Health and Retirement Study, providing services consistent with residential long-term care" (Spillman and Black, 2006, p.6). However, their definition of services was broader than the one used in the construction of the NSRCF sample frame. For example, for the Health and Retirement Study, they included people who reported that their residence did not offer ADL assistance but offered oversight (an emergency call button or checks on residents) or nursing, housekeeping, and group meals. Spillman and Black excluded people living in facilities that served people with mental illness or intellectual disabilities.

In addition to the variability in the estimates of residents due to the imprecision in the definition of RCF categories, a limitation of Spillman and Black (2006) for our purposes is that their estimates are of the number of residents rather than beds or facilities. To make their data more comparable to the NSRCF sample frame, we converted the number of residents identified by Spillman and Black to an estimated number of beds. However, nationally representative data on RCFs to make this adjustment are not available so we used data on nursing homes instead. Using the median nursing home occupancy rates reported by the American Health Care Association and the proportion of nursing home residents who are age 65 and older from the 2004 National Nursing Home Survey, we estimated the total number of residential care beds. Specifically, we assumed that 85% of people in RCFs are age 65 and older and used this to calculate the total resident population. We then applied the median nursing home occupancy rate of 87.9% to estimate the total number of residential care beds. Another limitation of their estimates is that their data sources are

8-10 years old and do not account for changes in the number of beds or facilities since the data were collected.

The second data source we used is the *Inventory of Long Term Care Residential Care Places* developed by Social and Statistical Systems, Inc. (SSS) (2003) for NCHS, AHRQ, and ASPE. While this data source is almost seven years old, it contains a comprehensive listing of RCFs against which we could check the NSRCF sample frame. Their listing of long-term care residential care places includes categories of licensed facilities that are aligned with those included on the NSRCF (e.g., assisted living facilities, board and care homes, family care homes, adult care facilities, residential care places, and homes for the aged) that provide services. They define long-term care as the receipt of human help for instrumental activities of daily living or ADLs, including reminders and standby help, due to physical, mental, or emotional problems. While the NSRCF is limited to facilities with some type of government oversight, SSS also included residential places without government oversight if a list of facilities could be found. Facilities that exclusively served people with severe mental illness and persons with intellectual disabilities are excluded. Although the SSS listing has missing data on bed size in many states, we were able to use the data for benchmarking purposes by subsetting to only those states reporting bed size. We also eliminated facilities with fewer than four beds for comparisons to the NSRCF sampling frame.

The third data source we benchmark against is the *Residential Care and Assisted Living Compendium: 2007* (Mollica, Sims-Kastelein, and O'Keeffe, 2007). Similar to the NSRCF sampling frame, the *Compendium* mostly excludes categories of facilities that exclusively serve people with severe mental illness or persons with intellectual disabilities. Again, similar to the NSRCF sample frame, categories of facilities that may serve a mixed population of older people and people with severe mentally illness or intellectual disabilities are included in the *Compendium*. Some facilities licensed separately as adult foster/family care are included in the *Compendium* counts of facilities; the NSRCF also includes facility counts for this licensure category for a few states where they have four or more beds. The *Compendium* also includes some categories of facilities (e.g., Illinois' Supportive Care category, Connecticut's MRCs and North Carolina's Multi-unit Housing with Services) that we do not believe meet the relatively strict definition of 24-hour care supervision we employed to build the NSRCF sample frame. These categories of facilities are included in the *Compendium's* national estimates, but are omitted from our frame. For reasons related to the timeliness of the provision of data by the states, the number of beds in Minnesota and New Mexico are missing from the *Compendium*. To make our comparisons, we have removed them from the NSRCF sample frame for the beds analysis.

Finally, we compared our sampling frame to Stevenson and Grabowski's (2010) data on the supply of assisted living facilities nationally. These researchers utilized information in the *State Residential Care and Assisted Living Policy: 2004* (Mollica, Johnson-Lamarche, and O'Keeffe, 2004) to guide their work and to determine the criteria for inclusion in their database. To eliminate small group homes and to narrow

their focus to purpose-built facilities, they limited their analysis to facilities with at least 25 beds. They were unable to collect data from the District of Columbia for their estimates. Therefore, for comparisons with the NSRCF sample frame, we omitted the District of Columbia and subset the NSRCF sample frame to facilities with at least 25 beds.

6.2 Benchmarking Results

As shown in *Exhibit 8*, the NSRCF sampling frame contains information for 39,635 facilities representing a total of 1,073,043 beds. *Exhibit 9* shows the results of the analysis of the NSRCF sampling frame and the other data sources with the adjustments described above. While there are differences, the NSRCF benchmarks quite well against other estimates of the number of RCFs and beds. In each instance, these analyses give us confidence that the NSRCF sampling frame is comprehensive and nationally representative of state-regulated residential care beds and facilities that serve older people and adults with physical disabilities.

EXHIBIT 8: Number of Facilities and Beds in the NSRCF Sample Frame, by State		
State	Total Facilities Per State	Total Beds Per State
Alabama	259	2,280
Alaska	251	9,620
Arkansas	103	5,508
Arizona	1,905	28,907
California	7,633	164,497
Colorado	491	15,557
Connecticut	100	2,765
District of Columbia	26	1,044
Delaware	36	2,124
Florida	2,168	66,599
Georgia	1,516	27,912
Hawaii	467	4,277
Iowa	385	20,626
Indiana	230	7,594
Illinois	269	12,179
Indiana	213	16,655
Kansas	338	11,209
Kentucky	267	10,909
Louisiana	123	5,617
Massachusetts	292	16,613
Maryland	1,118	18,648
Maine	371	7,911
Michigan	3,216	40,876
Minnesota	1,262	59,050
Missouri	581	21,080
Mississippi	177	5,148
Montana	208	4,792
North Carolina	1,207	39,543
North Dakota	112	4,408
Nebraska	255	9,780
New Hampshire	135	4,902

EXHIBIT 8 (*continued*)		
State	Total Facilities Per State	Total Beds Per State
New Jersey	319	23,335
New Mexico	185	4,614
Nevada	326	6,151
New York	480	39,357
Ohio	886	39,995
Oklahoma	201	9,968
Oregon	2,273	30,367
Pennsylvania	1,161	63,364
Rhode Island	62	3,794
South Carolina	406	15,972
South Dakota	155	3,734
Tennessee	307	14,819
Texas	1,437	48,441
Utah	161	5,821
Virginia	558	31,577
Vermont	114	2,750
Washington	3,072	42,936
Wisconsin	1,696	33,098
West Virginia	101	3,112
Wyoming	21	1,208
Total	39,635	1,073,043
SOURCE: RTI International analysis of NSRCF sample frame.		

Spillman and Black reported total number of residents; therefore, to make our comparisons we converted their estimate of the total number of residents for each survey to total number of beds represented in each study. Based on these calculations, using the 2002 Health and Retirement Study, Spillman and Block identified 904,750 residential care beds, while the NSRCF sample frame represent 1,073,043 residential care beds. Comparing the 2002 MCBS data to our frame, the MCBS data represent approximately 1,046,618 residential care beds. Finally, we estimate that the number of residents reported in the NLTCS would convert to 1,016,942 residential care beds.

SSS compiled data on the number of facilities and the number of beds for 34 states and the District of Columbia. For these states and the District of Columbia, they identified 32,725 RCFs compared to 31,615 facilities on the 2009 NSRCF sample frame; the SSS sample frame had 772,489 beds compared to 838,619 beds on the 2009 NSRCF frame. The variances between the two data sources are concentrated in the small and medium-sized facilities (i.e., those facilities with fewer than 26 beds). There were 1,628 fewer small and 555 fewer medium facilities in the NSRCF frame than in the SSS file (*Exhibit 10*). The largest increases in the number of beds are in a few states (e.g., California, Minnesota, Oregon, Texas, and Washington). Even though the NSRCF frame contains fewer facilities, the number of beds is larger. Overall, these differences are small considering the amount of time that has elapsed since the SSS data were collected. Data on the differences in the numbers of facilities and the number of beds by state is provided in *Exhibit B-2*.

The *Compendium* reported that there were 38,412 facilities, and the 2009 NSRCF sampling frame contains 39,635 facilities. While there are differences in the state level

estimates, the differences between the two sources of data are minimal given the somewhat different definitions of RCFs. A state level comparison is provided in *Exhibit B-3*.

EXHIBIT 9: Comparisons of NSRCF Sample Frame to Other Data Sources						
Data Source	**Facilities**			**Beds**		
	Total Facilities (Benchmark)	**NSRCF Facilities**[1]	**Difference**	**Total Beds (Benchmark)**	**NSRCF Beds**[1]	**Difference**
Spillman and Black[2]						
2002 AHEAD				904,750	1,073,043	168,293
2002 MCBS				1,046,618	1,073,043	26,425
1999 NLTCS				1,016,942	1,073,043	56,101
SSS Frame	32,725	31,615	−1,110	772,489	838,619	66,130
2007 Residential Care and Assisted Living Compendium[3]	38,412	39,635	1,223	972,579	1,009,379	36,800
Stevenson and Grabowski[4]	11,276	11,314	38	839,746	844,653	4,907
Source: RTI International analysis of NSRCF sample frame, SSS (2003); Spillman and Black (2006); Mollica, Sims-Katelin, and O'Keeffe, 2007; and Stevenson and Grabowski (2010).						
1. Numbers vary due to adjustments made for comparability to the benchmark data.						
2. Using the percent of the nursing home population age 65 and older from the 2004 National Nursing Home Survey and the median occupancy rate from the American Health Care Association's report on Trends in Nursing Homes, the total number of persons in RCFs reported by Spillman and Black have been converted to the total number of residential care beds for comparison with the NSRCF data.						
3. The national estimate of RCFs from the *Residential Care and Assisted Living Compendium: 2007* has been adjusted to make comparisons to the NSRCF sampling frame. The number of beds for Minnesota and New Mexico are not available in the *Compendium*; therefore, we have removed the estimates of the number of beds for these states from both the NSRCF.						
4. Stevenson and Grabowski report data for RCFs with 25 more beds. We have adjusted the NSRCF facility and bed counts to represent only those facilities with 25 or more beds. The District of Columbia is not included in the Stevenson and Grabowski data; therefore, we omitted DC from the NSRCF counts.						

To provide an accurate comparison of the number of residential care beds, we made adjustments to the total number of residential care beds by removing data for Minnesota and New Mexico from our counts. Comparing the two data sources on number of residential care beds, the *Compendium* reported 972,579 beds compared to 1,009,379 beds for the NSRCF sampling frame, 36,800 fewer than our sampling frame.

EXHIBIT 10: Number of Facilities in NSRCF and SSS Sample Frames, by Strata for States with Bed Size			
Sampling Strata	**SSS Frame**	**NSRCF**	**Difference**
Small	20,327	18,699	−1,628
Medium	4,982	4,427	−555
Large	5,869	6,676	807
Very large	1,547	1,813	266
Total	**32,725**	**31,615**	**−1,110**
SOURCE: RTI International analysis of the NSRCF sample frame and the SSS sample frame.			

Our closest match is with the Stevenson and Grabowski (2010) data. After subsetting our frame to include only facilities with 25 or more beds, the difference in the number of facilities between the two listings is 38 facilities (11,314 facilities in the NSRCF frame compared to 11,276 facilities in Stevenson and Grabowski's listing). The number of residential care beds in the NSRCF sample frame (844,653) is virtually the

same number of residential care beds in Stevenson and Grabowski (839,746 beds). Indeed the difference is only about 5,000 beds. Because this analysis is limited to facilities with at least 25 beds, these results also give us confidence that the differences we found between our sample frame and the *Compendium* are related to differences between those two sources in the number of small and medium facilities.

7. SAMPLE SIZE REANALYSIS WITH NSRCF SAMPLE FRAME

To ensure that the sample sizes per stratum provided in the NSRCF sampling frame have the optimal statistical power, the NSRCF sampling frame was used to reevaluate the power estimate simulations conducted for the report, *Designing a National Survey of Residential Care Facilities: Final Design Options Memo* (Wiener et al., 2006). The earlier sample sizes by stratum were calculated using a simulation of the SSS sample frame. Because the overall design effect and the unweighted design effect increased in the NSRCF sample frame compared to the SSS file, the original sample size distribution of facilities across strata reduced our ability to detect differences by about two percentage points from the original simulation.

Using the newly constructed sample frame and staying within the original total number of facilities planned to be sampled, RTI conducted new simulations and proposed a new optimum distribution of facilities across strata, which was approved by ASPE and NCHS. The differences in the proposed samples are summarized in *Exhibit 11.* These figures represent the number of completes needed by strata. The total optimal sample derived by the new statistical simulation was 20 fewer facilities than the original sample (2,230 rather than 2,250 facilities) for the small, medium, large, and extra-large facilities. We recommended that 20 facilities be added to the medium facility stratum to bring the sample back to the original total of 1,650 facilities for the medium, large, and extra-large strata. Our recommendation for the small stratum remained 600 facilities. Thus, our total number of recommended facilities is 2,250 across all four strata.

EXHIBIT 11: Optimal Sample Sizes for SSS and NSRCF Sample Frames, by Strata				
Facility Stratum	**Sampling Strata**	**Original Number of Facilities**	**Final Number of Facilities**	**Number of Residents per Facility**
Medium	11-25 beds	650	650	3
Large	26-100 beds	650	750	4
Extra-large	101+ beds	350	250	6
Total sample of medium, large, and extra-large		1,650	1,650	6,390
Design effects of medium, large, and extra-large		1.05	1.02	1.47
Small	4-10 beds	600	600	3
Total Sample		**2,250**	**2,250**	
NOTE: The calculated number of medium facilities using the sample was 630. The recommended number of facilities based on the sample frame includes 20 extra facilities for the medium category bringing the number of medium facilities up to 650. This addition brings the total number of recommended facilities based on the sample frame up to the original 2,250 facilities.				

Despite the increase in the number of facilities in the sample frame, the statistical power with the new distribution across strata remains the same as for the original distribution of facilities. Using the same program as was originally used to calculate the needed number of completes using the SSS sample frame and before adding in the additional 20 facilities to the medium category, *Exhibit 12* shows the ability to detect differences for the new distribution across strata. The sample of 1,630 medium, large and extra-large facilities is able to detect a difference of prevalence estimates of 0.07 where 50% of the population is in subpopulation 1 and 50% are in subpopulation 2. Since there are no design effects for small facilities, the ability to detect differences for small facilities is not affected.

EXHIBIT 12: Ability to Detect Differences among Facilities, Excluding Small Facilities					
Number of Facilities	Percentage of Interviews in Subgroup 1	Design Effect	Effective Sample Size Subgroup 1	Effective Sample Size Subgroup 2	Difference of Prevalence Estimates
1,630	50%	1.017	801.7	801.7	0.07
1,630	60%	1.017	962.0	641.4	0.08
1,630	80%	1.017	1,282.7	320.7	0.09
NOTE: Assumptions: alpha=0.05, power=80%. Design effects estimates based on sample selection simulations conducted on the NSRCF sampling frame data. Does not include the 20 additional facilities added to the medium category to bring the total number of facilities back to 2,250.					

Selecting three residents in small, three residents in medium, four residents in large, and six residents in very large facilities, we obtain the same ability to detect differences as we did in the earlier sampling strategy. The sample of 6,390 residents in medium, large and extra-large facilities is able to detect a difference of prevalence estimates of 0.05 where 50% of the population is in subpopulation 1 and 50% are in subpopulation 2. These results are summarized in *Exhibit 13*.

EXHIBIT 13: Ability to Detect Differences among Residents, Excluding Small Facilities					
Number of Residents	Percentage of Interviews in Subgroup 1	Design Effect	Effective Sample Size Subgroup 1	Effective Sample Size Subgroup 2	Difference of Prevalence Estimates
6,390	50%	1.424	2,244.3	2,244.3	0.05
6,390	60%	1.424	2,693.1	1,795.4	0.05
6,390	80%	1.424	3,590.8	897.7	0.06
NOTE: Assumptions: alpha=0.05, power=80%. Design effects estimates based on sample selection simulations conducted on the NSRCF sampling frame data.					

The ability to detect differences among residents in the small strata remained the same. The sampling of small facilities was done separately from the main survey of larger facilities as outlined in the *Design Options Memo*. The small facilities were selected using simple random sampling. Under simple random sampling, no design effects are incurred by the sample design. So the design effect of sampling the small facilities remained equal to 1.0 and did not change the effective sample size for the analyses.

8. RECOMMENDATIONS/LESSONS LEARNED

Constructing the sample frame for the NSRCF was a challenging task because of the decentralized system of regulating RCFs in the United States. For a national survey, we had to develop a single definition of RCFs that not all facilities met. State regulations are often vague and hard to understand, making decisions about whether to include or exclude facilities difficult. Constructing the sample frame required substantial personal interaction with state officials, often with multiple officials within a state and with staff in more than one agency. While many states had easily accessible electronic lists of facilities with a lot of information, other states had only very minimal lists or had them in formats that were very difficult to use. In addition, while many states were very cooperative, other states required repeated contacts and communication with multiple officials.

Presented below are lessons learned from constructing the sample frame in 2009 and recommendations/areas for consideration for collecting this information in the future. Most of the recommendations are designed to make the sample frame construction simpler.

General Approach

- *State cooperation.* Constructing the sample frame required intensive interaction with busy state officials, who have limited resources. In some cases, officials were cooperative at the beginning, but were unwilling to delve into the details of their regulatory system. In one case, New York, we had to ask for the publicly available facility list as a freedom of information request. For many states, responding to our data request was a low priority. *Although it comes at the risk of an older sample frame, RTI recommends starting the sample frame construction earlier than the six months that we spent on this task. We also suggest sending lead letters from high-level federal and Association of Health Facility Survey Agency officials.*

- *Expertise on RCFs.* This report demonstrates the complexity of constructing the sample frame. Working with the states and the data required substantial substantive understanding of the nuances of residential care regulation; constructing the sample frame was not simply an exercise of concatenating a number of data files, although it required that as well. *For any future survey planning and development, RCF expertise is critical.*

- *Manual review and computerized algorithms.* Constructing the sample frame, especially addressing issues of combining facilities and identifying chains, required a large amount of manual review--printing out lists of facilities and inspecting them. This was true even after developing computerized algorithms. Sometimes the computerized algorithms created their own problems that needed

to be addressed. Because the lists are as different as the number of states, it is very difficult to develop these algorithms, even when research staff understand the details of residential care. An algorithm that appears to work in one state or for one of that same state's lists does not work in another state. *RTI recommends that any changes in the process for sample frame construction result in a simpler, less complex procedure. Changes that make the process more complex should be avoided if at all possible.*

Specific Issues

- *24-hour supervision.* A central component of our definition of RCFs is round-the-clock supervision by care staff. While most states provided enough information in their regulations to determine whether a licensure category met the criteria, many did not specifically address this issue or did so in a vague fashion that did not allow for an assessment of whether the facilities met the standard. While RTI does not have a specific recommendation on this issue, determining whether a licensure category met this element of our definition of RCFs was difficult.

- *Identifying facilities that exclusively serve people with severe mental illness or intellectual disabilities.* Identifying facilities that exclusively serve people with mental illness or intellectual disabilities was a process of scanning licensure requirements and talking with state officials. In the vast majority of states, the officials generally responsible for regulating RCFs had little contact with their counterparts in departments of mental health and developmental disabilities and little understanding of how their sister agencies worked. State officials told us that some licensure categories that were included in the sample frame mostly, but not exclusively, served people with severe mental illness or intellectual disabilities. Although we do not know for sure in advance of the survey, we suspect that the programming and staffing for these facilities will be very different than facilities geared to older people. Most, but not all, of these problem facilities are small homes. *If this project is repeated in the future, RTI recommends that consideration be given to changing the minimum threshold from four beds to ten beds so that the survey will be focused on facilities serving older people and younger adults with physical disabilities. This would make the survey more comparable to other studies. Small facilities could be studied through other projects. RTI also recommends that consideration be given to excluding facilities where state officials report that a "significant proportion" of residents in a licensure category or facility are people with severe mental illness or intellectual disabilities rather than only excluding those facilities that exclusively serve these populations.*

- *Combining facilities.* ASPE, NCHS, and RTI staff spent many hours debating how to combine licenses in facilities that had more than one license or where close-by buildings with separate licenses appeared to be under the same management. RTI staff spent many hours developing and running computerized algorithms to

identify facilities that should be combined, and manually inspecting printouts of facilities to make sure that they were properly combined and that other possible facilities were not missed. With all of this effort, only 1.1% of facilities representing 2.0% of beds were combined. Although combining facilities is a significant issue in North Dakota and Alabama, both of these are small states and do not account for a large proportion of beds or facilities. The small number of combined facilities does not seem proportionate to the effort involved. *RTI recommends against combining facilities in the future. The license should be the unit of analysis. There is a small, but real, risk that two licenses will be sampled for what is, in reality, the same facility.*

- *Chains.* RTI spent a great deal of time and effort identifying facilities that are part of large national chains and also regional and local chains. A chain is defined as two or more facilities under the same ownership. The primary purpose of identifying chains at the sample frame stage is to send lead letters to the corporate offices to notify them that at least two of the facilities in the chain have been selected for the sample. Although 41% of facilities were identified as part of a chain, only about 3.5% of facilities were in the larger national chains. Identifying the small chains was very difficult, prone to error, and somewhat unreliable given extensive missing data on ownership/licensee information. Moreover, it is statistically unlikely that more than one facility in the small chains would be chosen for the sample, although it can happen. *At the sample frame construction stage, RTI recommends that identification of chains be limited to those owned by the large national chains. The survey itself should ask about ownership; in this case, self-report should be more reliable.*

- *Converting from units to beds.* Most states license facilities by beds, but some license facilities by units. In theory, some units could have more than one person living in them (e.g., a two-bedroom apartment) and should be counted as more than one bed. Since the sampling strata are based on number of beds, we developed a conversion factor to estimate the number of beds from the number of units in states where the state could not provide us with the number of beds. Little data were available to develop the conversion factor, and few state officials were willing to offer an estimate of the number of residents per unit. The few state officials who were willing to provide an estimate suggested a conversion factor of around 1.1 beds per unit. To our surprise, most states that license by units were able to provide us with the number of beds, so we did not have to apply our conversion factor in very many cases. Since the conversion factor was almost 1.0, application of the conversion factor did not change the number of beds very much. *For states that cannot provide the number of beds in each facility, RTI recommends eliminating the use of the conversion factor and counting the number of units so that it equals the number of beds. Counting units as beds would be more straightforward and easier to explain than developing a conversion factor based on little data.*

- *Variables on the sample frame.* RTI asked states to provide data on a substantial number of variables, many of which were unavailable for a substantial proportion or majority of facilities, thus making the information of little value. The variables with a large number of missing values included fax number, Web site address, e-mail address, information on licensee, and ownership. *RTI recommends abandoning efforts to collect data on individual facilities on those variables for which there was a substantial amount of missing values in the 2009 sample frame construction.*

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APPENDIX A: STATE AGENCY WEB SITES

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
Alabama	Department of Public Health, Bureau of Health Provider Standards	(334) 206-5300	Ms. Diane A. Mann Director The RSA Tower P.O. Box 303017 201 Monroe Street Montgomery, AL 36104 Phone: (334) 206-5366	http://adph.org	Assisted Living Facilities
Alaska	Department of Health and Social Services, Division of Public Health	(907) 269-3640	Ms. Jerri Van Sandt Assisted Living Licensing Unit Manager 619 E. Ship Creek Avenue Suite 232 Anchorage, AK 99501 Phone: (907) 269-3645	http://www.hss.state.ak.us/dph/CL/ALL/default.htm	Assisted Living Homes
Arizona	Department of Health Services, Division of Licensing Services	(602) 364-2639	Mr. Larry Martens, LPN, BS Program Manager 150 N. 18th Avenue Phoenix, AZ 85007 Phone: (602) 364-2639	http://www.azdhs.gov	Assisted Living Facilities, Adult Foster Care Facilities, Residential Care Institutions (none currently licensed)
Arkansas	Department of Health and Human Services, Office of Long Term Care, Division of Medical Services	(501) 682-8468	Mr. Jim Hicks Manager of Residential Care Facilities P.O. Box 8059 Mail Slot 8409 Little Rock, AR 72203-1437 Phone: (501) 682-6970	http://www.state.ar.us/dhs/ading/assistedliving.html	Assisted Living Facilities, Residential Care Facilities
California	Department of Social Services, Community Care Licensing Division		Mr. Jeff Hiratsuka Deputy Director 744 P Street MS 19-50 Sacramento, CA 95814 Phone: 916-657-2346	http://www.ccld.ca.gov	Residential Care Facilities for the Elderly
Colorado	Department of Public Health & Environment, Health Facilities Division	(303) 692-2800	Mr. Terry Zamell Program Manager 4300 Cherry Creek Drive S. Denver, CO 80246-1530 Phone: (303) 692-2884	http://www.healthfacilities.info	Assisted Living Residences
Connecticut	Department of Public Health, Facility Licensing & Investigations Section	(860) 509-7400	Mr. Irvin Moy Public Health Services Manager 410 Capitol Avenue Hartford, CT 06134 Phone: (860) 509-5479	http://www.dph.state.ct.us	Residential Care Homes
Delaware	Department of Health & Social Services, Division of Long Term Care Residents Protection		Mr. Robert Smith Licensing and Certification Chief 3 Mill Road Suite 308 Wilmington, DE 19806 Phone: 302-577-6661	http://dhss.delaware.gov/dhss/dltcrp/licfac.html	Assisted Living Facilities, Group Home Facility for Persons with AIDS, and Rest Residential Homes
District of Columbia	Department of Health, Health Regulation Administration	(202) 442-5888	Ms. Valerie Ware Program Manager 825 North Capitol Street, NE Washington, DC 20002 Phone: (202) 442-4733	http://hrla.doh.dc.gov/hrla/cwp/view,a,1384,q,573800,hrlaNav,%7C33257%7C.asp	Community Residence Facilities and Assisted Living Facilities

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
Florida	Agency for Health Care Administration, Division of Health Quality Assurance, Bureau of Long Term Care Services	(850) 487-2515	Mr. Bernard Hudson Unit Manager, Long Term Care Long Term Care Section Mail Stop #33 2727 Mahan Drive Tallahassee, FL 32308 Phone: (850) 488-5861	http://ahca.myflorida.com/MCHQ/Long_Term_Care/Assisted_living/alf.shtml	Assisted Living Facilities, Adult Family Care Facilities
Georgia	Department of Human Resources, Office of Regulatory Services, Personal Care Home Program	(404) 657-5856	Ms. Victoria Flynn Director Two Peachtree Street, NW Atlanta, GA 30303-3142 Phone: (404) 657-5718	http://www.ors.dhr.georgia.gov	Personal Care Homes
Hawaii	Department of Health, Office of Health Care Assurance	(808) 586-4080	Mr. Keith Ridley Chief 1250 Punchbowl Street Honolulu, HI 96813 Phone: (808) 586-4080	http://www.state.hi.us/doh/resource/ohca	Assisted Living Facilities, Adult Residential Care Homes
Idaho	Department of Health and Welfare, Licensing and Certification	(208) 334-6626	Ms. Jamie Simpson, MBA, QMRP Supervisor P.O. Box 83720 3232 Elder Street Boise, ID 83720-0036 Phone: (208) 334-6626	http://www.healthandwelfare.idaho.gov/SITE/4332/DEFAULT.ASPX	Residential Care Facility/Assisted Living
Illinois	Department of Public Health, Division of Assisted Living, Bureau of Long Term Care	(217) 782-2913	Mr. Richard L. Dees Assistant Deputy Director 5th Floor 535 West Jefferson Street Springfield, IL 62761 Phone: (217) 782-2913	http://www.idph.state.il.us	Assisted Living/Shared Housing Establishments, Shelter Care Facilities
Indiana	Department of Health, Division of Long Term Care	(317) 233-7442	Ms. Miriam Buffington Program Manager 2 North Meridian Street Indianapolis, IN 46204-1864 Phone: (317) 233-7613	http://www.in.gov/isdh/20227.htm	Residential Care Facilities
Iowa	Department of Inspections and Appeals, Division of Health Facilities, Adult Services Bureau	(515) 281-7039	Ms. Rose Bocella Quality Coordinator Lucas State Office Building 321 East 12th Street Des Moines, IA 50319-0083 Phone: (515) 281-5077	https://dia-hfd.iowa.gov/DIA_HFD/Home.do	Assisted Living Programs, Assisted Living Programs for People with Dementia, Elder Group Homes, Residential Care Facilities
Kansas	Department on Aging, Licensure, Certification and Evaluation Commission	(785) 296-1253	Ms. Susan Fout Director of the Mental Health and Residential Care Facilities Division New England Building 503 S. Kansas Avenue Topeka, KS 66603 Phone: (785) 296-6029	http://www.agingkansas.org	Assisted Living Facilities, Home Plus, and Residential Health Care Facilities
Kentucky	Division of Health Care	(502) 564-6546	Ms. Mary Curlin Director, Division of Health Care 275 E. Main Street, 5 E-A Frankfort, KY 40621-0001 Phone: (502) 564-6930	http://chfs.ky.gov/os/oig/dhcfs.htm	Personal Care Homes

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
Kentucky	Cabinet for Health & Family Services, Department for Aging & Independent Living	(502) 564-6930	Ms. Phyllis Sosa Acting Director, Long Term Living, Division of Operations and Support 275 E. Main Street Frankfort, KY 40621-0001 Phone: (502) 564-6930	http://www.chs.ky.gov/aging	Assisted Living Communities
Louisiana	Department of Social Services, Bureau of Residential Licensing	(225) 342-9734	Ms. Yvonne D. Stewart Licensing Manager P.O. Box 3078 627 N. 4th Street, 1st Floor Baton Rouge, LA 70821 Phone: (225) 342-9640	http://www.louisiana.gov/	Adult Residential Care Facilities
Maine	Department of Health and Human Services, Division of Licensing and Regulatory Services, Assisted Housing Program	(207) 287-9300	Mr. Todd Beaulieu Licensing Manager 221 State Street Augusta, ME 04333 Phone: (207) 287-9300	http://www.maine.gov/dhhs/dlrs	Assisted Living Programs and Residential Care Facilities
Maryland	Department of Health and Mental Hygiene, Office of Health Care Quality	(410) 402-8217	Ms. Roslyn Tyson Assisted Living Licensure Coordinator 201 W. Preston Street Baltimore, MD 21201 Phone: (410) 402-8189	http://www.dhmh.state.md.us/ohcq	Assisted Living Programs
Massachusetts	Executive Office of Elder Affairs	(617) 727-7750	Mr. Duamarius Stukes Director, Housing and Assisted Living Programs One Ashburton Place, 5th Floor Boston, MA 02108 Phone: (617) 222-7465	http://www.state.ma.us/elder	Assisted Living Residences, Residential Care Homes (Rest Homes)
Michigan	Department of Human Services, Bureau of Children and Adult Licensing	(517) 373-8580	Ms. Deborah J. Wood Division Director P.O. Box 30037 235 S. Grand Avenue Lansing, MI 48909 Phone: (517) 335-6483	http://www.michigan.gov/afchfa	Homes for the Aged and Adult Foster Care Homes
Minnesota	Department of Health, Licensing and Certification Program	(651) 201-4101	Ms. Mary Absolon Program Manager P.O. Box 64900 85 E. Seventh Place, Suite 300 St. Paul, MN 55164-0975 Phone: (651) 201-4100	http://www.health.state.mn.us	Class A and F Home Care Provider Agencies
Mississippi	Department of Health, Bureau of Health Facilities Licensure and Certification	(601) 364-1110	Ms. Marilynn Winborne Bureau Director 570 East Woodrow Wilson Drive Jackson, MS 39216 Phone: (601) 364-1110	http://www.msdh.state.ms.us	Personal Care Homes Residential Living and Personal Care Homes Assisted Living
Missouri	Department of Health and Senior Services, Division of Regulation and Licensure, Section for Long Term Care Regulation	(573) 526-3050	Ms. Shelly Williamson Interim Administrator P.O. Box 570 Jefferson City, MO 65102 Phone: (573) 526-8524	http://www.dhss.mo.gov/showmelongtermcare/longtermcare.html	Assisted Living Facilities and Residential Care Facilities

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
Montana	Department of Public Health and Human Services, Quality Assurance Division, Bureau of Licensure	(406) 444-2676	Ms. Jan Kiely Health Care Facility Program Manager P.O. Box 202905 555 Fuller Avenue Helena, MT 59620 Phone: (406) 444-1575	http://www.dphhs.mt.gov	Assisted Living Facilities
Nebraska	Department of Health and Human Services, Division of Public Health, Office of Long Term Care Facilities, Licensure Unit	(402) 471-2133	Ms. Eve Lewis Section Administrator P.O. Box 94986 301 Centennial Mall S. Lincoln, NE 68509-5026 Phone: (402) 471-3324	http://www.hhs.state.ne.us/crl/Medfac/ALF/alf.htm	Assisted-Living Facilities
Nevada	Division of Health, Bureau of Health Care Quality and Compliance, Licensure & Certification	(775) 687-4475	Ms. Patricia Chambers, RN 4150 Technology Way Carson City, NV 89706-2009 Phone: (775) 687-4475	http://www.health.nv.gov/HCQC.htm	Adult Group Care--Assisted Living, Residential Group Care; Adult Group Care for Alzheimers Disease--Residents with Dementia
New Hampshire	Department of Health and Human Services, Division of Public Health, Office of Operations Support, Health Facilities Administration	(603) 271-4680	Mr. John Martin 129 Pleasant Street Concord, NH 03301-3857 Phone: (603) 271-5321	http://www.dhhs.nh.gov/DHHS/BHFA/default.htm	Assisted Living Residences--Supported Residential Health Care and Assisted Living Residences--Residential Care
New Jersey	Department of Health and Senior Services, Division of Long Term Care Systems, Office of Certificate of Need and Health Care Facility Licensure	(609) 633-9034	Ms. Barbara Goldman Assistant Director P.O. Box 360 Trenton, NJ 08625-0360 Phone: (609) 984-8185	http://www.state.nj.us/health	Assisted Living Residences, Comprehensive Personal Care Homes and Residential Health Care Facilities
New Mexico	Department of Health, Division of Health Improvement, Health Facility Licensing and Certification Bureau	(505) 476-9025	Ms. Amber Espinosa-Trujillo	http://dhi.health.state.nm.us/fjlc/index.php	Adult Residential Care Facilities
New York	Department of Health, Adult Care	(518) 408-1133	Ms. Mary Hart Director Corning Tower Empire State Plaza Albany, NY 12237 Phone: (518) 408-1600	http://www.health.state.ny.us	Assisted Living Residences (Adult Care Homes and Facilities, Enriched Housing), Enriched Housing Program and Assisted Living Program
North Carolina	Department of Health and Human Services, Division of Health Service Regulation, Adult Care Licensure Section	(919) 855-3765	Ms. Barbara Ryab Chief 2708 Mail Service Center 805 Biggs Drive Raleigh, NC 27699-2708 Phone: (919) 855-3765	http://www.ncdhhs.gov/aging/agh.htm	Adult Care Homes (Family Care Homes)

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
North Dakota	Department of Health, Division of Health Facilities	(701) 328-2352	Dr. Darleen Bartz 600 E. Boulevard Avenue, Dept 325 Bismarck, ND 58505-0250 Phone: (701) 328-2352	http://www.health.state.nd.us/	Basic Care Facility
North Dakota	Department of Human Services, Assisted Living Facilities	(701) 328-2321	Dr. Lianne Deal 600 E. Boulevard Avenue, Dept 325 Bismarck, ND 58505-0250 Phone: (701) 328-4893	http://www.nd.gov/dhs/services/medicalserv/medicaid/assisted-living.html	Assisted Living Facility
Ohio	Department of Health, Division of Quality Assurance		Ms. Rebecca Maust Chief P.O. Box 118 246 N. High Street Columbus, OH 43216-0118 Phone: (614) 466-7857	http://www.odh.ohio.gov/odhPrograms/ltc/rcfacal/rcfac1.aspx	Residential Care Facilities and Adult Care Facilities
Oklahoma	Department of Health, Protective Health Services, Licensure	(405) 271-6868	Ms. Darlene Simmons 1000 N.E. 10th, Room 1011 Oklahoma City, OK 73117-1299 Phone: (405) 271-6868	http://www.ok.gov/health/Protective_Health/Health_Resources_Development_Service/Health_Facility_Systems_/Continuum_of_Care_Facility_and_Assisted_Living_Center_Licensure/	Assisted Living Centers and Residential Care Homes
Oregon	Department of Human Services, Health Care Licensure and Certification Section	(971) 673-0540	Mr. Dennett Taber 800 N.E. Oregon Street, Suite 305 Portland, OR 97232 Phone: (503) 945-5793	http://www.oregon.gov/DHS/spwpd/index.shtml	Residential Care Facilities and Assisted Living Facilities
Oregon	Department of Human Services, Seniors and People with Disabilities	(503) 945-5793	Ms. Sylvia Rieger 800 N.E. Oregon Street, Suite 305 Portland, OR 97232 Phone: (503) 945-5793	http://www.oregon.gov/DHS/spwpd/index.shtml	Adult Foster Cares
Pennsylvania	Department of Public Welfare, Bureau of Adult Residential Licensure	(717) 783-3670	Ms. Tara Pride P.O. Box 2675 Harrisburg, PA 17105-2675 Phone: (717) 346-8116	http://www.dpw.state.pa.us/about/OLTL/	Personal Care Homes
Rhode Island	Department of Health Facilities, Division of Health Facilities Regulation	(401) 222-2566	Mr. Richard Yacino Chief 3 Capitol Hill Providence, RI 02908-5097 Phone: (401) 222-4537	http://www.health.ri.gov/	Assisted Living Residences
South Carolina	Department of Health and Environmental Control, Division of Health Licensing, Bureau of Certification	(803) 545-4370	Mr. Shelton Elliott 2600 Bull Street Columbia, SC 29201 Phone: (803) 545-4227	http://www.scdhec.gov/healthy-living.htm	Community Residential Care Facilities
South Dakota	Department of Health, Office of Health Care Facilities Licensure and Certification	(605) 773-3356	Ms. Rosemary Connot 600 East Capitol Avenue Pierre, SD 57501-2536 Phone: (605) 842-2969	http://www.state.sd.us/doh/Facility/levels.htm	Assisted Living Centers, Adult Foster Care Homes
Tennessee	Department of Health, Division of Health Care Facilities, Licensure Unit	(615) 741-7221	Ms. Bobbie Woodard Supervisor N. Cordell Hull Building, 3rd Floor 425 5th Avenue Nashville, TN 37247-0508 Phone: (615) 741-7189	http://health.state.tn.us/Hcf/index.htm	Assisted-Care Living Facilities and Homes for the Aged

State	Agency	Agency Phone	Agency Contact Title Agency Address Contact Phone	Agency Web Site	Licensure Team
Texas	Department of Aging and Disability Services	(512) 438-2630	Ms. Dotty Acosta 701 W. 51st Street Austin, TX 78751 Phone: (512) 438-2170	http://www.dads.state.tx.us/	Assisted Living Facilities
Utah	Department of Health, Bureau of Health Facility Licensing, Certification and Resident Assessment	(801) 538-6158	Mr. Joel Hoffman Director P.O. Box 16990 288 N. 1460 West Salt Lake City, UT 84116-0990 Phone: (435) 251-8955	http://www.health.utah.gov/licensing/	Assisted Living Facilities
Vermont	Agency of Human Services, Department of Disabilities, Aging, and Independent Living, Division of Licensing & Protection	(802) 241-2345	Ms. Frances Keeler Director 102 S. Main Street, Weeks Building Waterbury, VT 05671-1601 Phone: (802) 241-2358	http://www.dail.vermont.gov	Assisted Living Residences and Residential Care Facilities
Virginia	Department of Social Services, Division of Licensing Programs	(804) 726-7157	Ms. Judy McGreal 7 N. 8th Street Richmond, VA 23219-3001 Phone: (804) 726-7157	http://www.dss.state.va.us/	Assisted Living Facilities
Washington	Department of Social and Health Services, Aging and Disability Services Administration	(360) 725-2300	Mr. Denny McKee P.O. Box 45130 Olympia, WA 98504-5130 Phone: (360) 725-2348	http://www.adsa.dshs.wa.gov	Boarding Homes, Adult Family Homes, and Assisted Living Facilities
West Virginia	Department of Health and Human Resources, Bureau for Public Health, Office of Health Facilities Licensure and Certification	(304) 558-0050	Ms. Sharon Kirk Program Manager Capitol and Washington Street 1 Davis Square, Suite 101 Charleston, WV 25301 Phone: (304) 558-3151	http://www.wvdhhr.org/ohflac/Residential/Contact.aspx	Assisted Living Residences
Wisconsin	Department of Health Services, Division of Quality Assurance, Bureau of Assisted Living	(608) 266-8598	Mr. Kevin Coughlin 1 W. Wilson Street Madison, WI 53703 Phone: (920) 448-5255	http://dhfs.wisconsin.gov/bqaconsumer/AssistedLiving/AsLivindex.htm	Community Based Residential Facilities, Adult Family Care, and Residential Care Apartment Complexes
Wyoming	Department of Health, Aging Division, Office of Healthcare Licensing and Surveys	(307) 777-7123	Ms. Jean McLlean Survey Agent 401 Hathaway Building Cheyenne, WY 82002 Phone: (307) 777-7123	http://wdh.state.wy.us/ohls/index.html	Assisted Living Facilities, Adult Foster Homes, Boarding Homes

APPENDIX B: BENCHMARKING TABLES

EXHIBIT B-1: Estimates of the Residential Care Population			
	HRS[1] 2002 (number)	MCBS Cost and Use[2] 2002 (number)	NLTCS[3] 1999 (number)
Residential Care Population by Type of Setting			
Other residential care, not nursing facility		781,981	759,808
Community residential care	675,984		
Population Converted to Beds[4]			
Other residential care, not nursing facility		1,046,618	1,016,942
Community residential care	904,750		
SOURCE: Spillman and Black (2006), Table 2 in *The Size and Characteristics of the Residential Care Population: Evidence from Three National Surveys.* U.S. Department of Health and Human Services. 1. All HRS estimates include the non-institutional population only. 2. MCBS estimates include only Medicare enrollees. Weights for the cross-section of persons alive and enrolled on September 1 used in the estimates were adjusted by age to enrollment totals provided by the Centers for Medicare & Medicaid Services. 3. About 2.8 million NLTCS respondents report their residences are in "a building or community intended for older or retired, or disabled persons." Only about 500,000 of them identify a type of residential care setting, including retirement home. 4. RTI conversion of the resident populations reported for each survey to total residential care beds was accomplished by dividing the resident population by 85% (the proportion of residents over age 65 as reported by the 2004 National Nursing Home Survey); we then divided the result by 87.9% (the median percent of people in residential care facilities as reported by the American Health Care Association Trends in nursing facility characteristics. Available at: http://www.ahcancal.org/research_data/trends_statistics/Documents/trends_nursing_facilities_characteristics_Dec2009.pdf.			

EXHIBIT B-2: Comparison of NSRCF Sample Frame with SSS Frame for States with Bed Size Available					
State	**Facilities**			**Beds**		
	SSS Frame	**NSRCF**	**Difference**	**SSS Frame**	**NSRCF**	**Difference**
Alabama	334	251	−83	11,279	9,620	−1,659
California	6,342	7,633	1,291	154,069	164,497	10,428
Delaware	28	36	8	1,376	2,124	748
District of Columbia	183	26	−157	1,826	1,044	−782
Florida	2,814	2,168	−646	87,057	66,599	−20,458
Hawaii	513	467	−46	3,132	4,277	1,145
Illinois	17	269	252	1,363	12,179	10,816
Indiana	218	213	−5	12,978	16,655	3,677
Iowa	132	385	253	5,600	20,626	15,026
Louisiana	68	123	55	3,947	5,617	1,670
Maine	516	371	−145	7,847	7,911	64
Maryland	1,015	1,118	103	17,067	18,648	1,581
Michigan	4,171	3,216	−955	47,007	40,876	−6,131
Minnesota	2,300	1,262	−1,038	9,415	59,050	49,635
Mississippi	411	177	−234	23,488	5,148	−18,340
Nebraska	223	255	32	8,428	9,780	1,352
Nevada	288	326	38	4,135	6,151	2,016
New Hampshire	140	135	−5	3,930	4,902	972
New Jersey	357	319	−38	21,974	23,335	1,361
New York	539	480	−59	40,350	39,357	−993
North Carolina	2,592	1,207	−1,385	62,858	39,543	−23,315
North Dakota	46	112	66	1,490	4,408	2,918
Oklahoma	218	201	−17	10,166	9,968	−198
Oregon	187	2,273	2,086	10,403	30,367	19,964
Pennsylvania	1,847	1,161	−686	70,459	63,364	−7,095
Rhode Island	69	62	−7	3,324	3,794	470
South Carolina	527	406	−121	17,510	15,972	−1,538
South Dakota	221	155	−66	4,631	3,734	−897
Tennessee	349	307	−42	13,975	14,819	844
Texas	1,314	1,437	123	41,232	48,441	7,209
Utah	143	161	18	4,281	5,821	1,540
Vermont	151	114	−37	5,876	2,750	−3,126
Washington	2,334	3,072	738	29,514	42,936	13,422
Wisconsin	2,085	1,696	−389	29,172	33,098	3,926
Wyoming	33	21	−12	1,330	1,208	−122
Total	**32,725**	**31,615**	**−1,110**	**772,489**	**838,619**	**66,130**
SOURCE: RTI International analysis of the SSS sample frame and the NSRCF sample frame.						

State	Facilities		
	Total Residential Care and Assisted Living Compendium: 2007	Total NSRCF	Difference in Number of Facilities 2009-2007
Alabama	307	251	−56
Alaska	229	259	30
Arizona	1,951	1,905	−46
Arkansas	119	103	−16
California	7,471	7,631	160
Colorado	495	491	−4
Connecticut	163	100	−63
Delaware	32	36	4
District of Columbia	22	26	4
Florida	2,400	2,168	−232
Georgia	1,860	1,516	−344
Hawaii	490	467	−23
Illinois	346	230	−116
Indiana	278	269	−9
Indiana	190	213	23
Iowa	227	385	158
Kansas	169	338	169
Kentucky	289	267	−22
Louisiana	105	123	18
Maine	681	371	−310
Maryland	1,366	1,118	−248
Massachusetts	190	292	102
Michigan	4,706	3,216	−1,490
Minnesota	1,239	1,262	23
Mississippi	185	177	−8
Missouri	616	581	−35
Montana	184	208	24
Nebraska	276	255	−21
Nevada	258	326	68
New Hampshire	142	135	−7
New Jersey	222	319	97
New Mexico	284	185	−99
New York	500	480	−20
North Carolina	1,307	1,212	−95
North Dakota	111	112	1
Ohio	1,205	886	−319
Oklahoma	206	201	−5
Oregon	429	2,274	1,845
Pennsylvania	1,550	1,161	−389
Rhode Island	63	62	−1
South Carolina	480	406	−74
South Dakota	157	155	−2
Tennessee	328	307	−21
Texas	1,433	1,437	4
Utah	151	161	10
Vermont	118	114	−4

EXHIBIT B-3: Comparison of NSRCF Sample Fame with *Residential Care and Assisted Living Compendium: 2007,* Including All Categories of Facilities

EXHIBIT B-3 (*continued*)			
	Facilities		
State	**Total Residential Care and Assisted Living Compendium: 2007**	**Total NSRCF**	**Difference in Number of Facilities 2009-2007**
Virginia	577	558	−19
Washington	551	3,068	2,517
West Virginia	120	101	−19
Wisconsin	1,599	1,696	97
Wyoming	35	21	−14
Total	**38,412**	**39,635**	**1,223**

SOURCE: Mollica, R., Sims-Kastelein, K., and O'Keeffe, J. (2007). *Residential Care and Assisted Living Compendium: 2007*. Research Triangle Park, NC: RTI International.
NOTE: Data for the *Compendium* are from **Table 2** of the document. Our analysis identified a calculation error and, thus, the total number of facilities is different. The original table shows a total of 38,373 facilities.

EXHIBIT B-4: Comparison of Residential Care Beds, *Residential Care and Assisted Living Compendium: 2007*, and NSRCF			
	Beds		
State	Total Residential Care and Assisted Living Compendium: 2007	Total NSRCF	Difference in Number of Beds 2009-2007
Alabama	9,509	9,620	111
Alaska	1,912	2,280	368
Arizona	27,000	28,907	1,907
Arkansas	5,018	5,508	490
California	161,586	164,497	2,911
Colorado	14,237	15,557	1,320
Connecticut	2,808	2,765	−43
Delaware	1,804	2,124	320
District of Columbia	509	1,044	535
Florida	75,450	66,599	−8,851
Georgia	26,500	27,912	1,412
Hawaii	4,284	4,277	−7
Illinois	16,800	12,179	−4,621
Indiana	6,819	7,594	775
Indiana	14,665	16,655	1,990
Iowa	10,800	20,626	9,826
Kansas	7,186	11,209	4,023
Kentucky	6,802	10,909	4,107
Louisiana	4,889	5,617	728
Maine	8,703	7,911	−792
Maryland	20,093	18,648	−1,445
Massachusetts	11,900	16,613	4,713
Michigan	46,095	40,876	−5,219
Mississippi	5,133	5,148	15
Missouri	21,166	21,080	−86
Montana	4,351	4,792	441
Nebraska	10,063	9,780	−283
Nevada	3,941	6,151	2,210
New Hampshire	4,283	4,902	619
New Jersey	17,761	23,335	5,574
New York	39,170	39,357	187
North Carolina	41,642	39,543	−2,099
North Dakota	3,472	4,408	936
Ohio	44,005	39,995	−4,010
Oklahoma	9,302	9,968	666
Oregon	22,130	30,367	8,237
Pennsylvania	71,831	63,364	−8,467
Rhode Island	3,574	3,794	220
South Carolina	16,279	15,972	−307
South Dakota	3,578	3,734	156
Tennessee	16,289	14,819	−1,470
Texas	45,853	48,441	2,588
Utah	5,256	5,821	565
Vermont	2,610	2,750	140
Virginia	31,964	31,577	−387
Washington	26,829	42,936	16,107

EXHIBIT B-4 (*continued*)			
	Beds		
State	**Total Residential Care and Assisted Living Compendium: 2007**	**Total NSRCF**	**Difference in Number of Beds 2009-2007**
West Virginia	3,510	3,112	−398
Wisconsin	31,782	33,098	1,316
Wyoming	1,436	1,208	−228
Total	**972,579**	**1,009,379**	**36,800**

SOURCE: Mollica, R., Sims-Kastelein, K., and O'Keeffe, J. (2007). *Residential Care and Assisted Living Compendium: 2007*. Research Triangle Park, NC: RTI International.

NOTE: Because the *Compendium* counts do not include the number of residential care beds for Minnesota and New Mexico, these states have been removed from this analysis for both the *Compendium* and the NSRCF counts.

EXHIBIT B-5: Comparison of Residential Care Facilities and Beds, NSRCF Sample Frame and Stevenson and Grabowski						
	Facilities			Beds/Units		
State	Stevenson and Grabowski	NSRCF Facilities with 25 or more Beds	Total NSRCF	Stevenson and Grabowski	NSRCF Facilities with 25 or more Beds	Total NSRCF
Alabama	116	128	251	6,502	7,657	9,620
Alaska	11	12	259	750	820	2,280
Arizona	168	188	1,905	14,759	16,316	28,907
Arkansas	92	84	103	5,022	5,179	5,508
California	1,034	1,060	7,633	120,406	121,818	164,497
Colorado	164	181	491	10,852	12,391	15,557
Connecticut	39	39	100	1,752	1,737	2,765
Delaware	27	30	36	1,841	2,021	2,124
Florida	780	674	2,168	61,301	55,978	66,599
Georgia	254	284	1,516	15,554	17,988	27,912
Hawaii	7	17	467	249	1,998	4,277
Idaho	69	101	230	4,295	5,971	7,594
Illinois	255	193	269	15,651	11,185	12,179
Indiana	305	192	213	24,530	16,321	16,655
Iowa	192	285	385	12,451	19,121	20,626
Kansas	191	196	338	9,346	9,545	11,209
Kentucky	163	164	267	9,198	9,495	10,909
Louisiana	72	74	123	4,781	5,152	5,617
Maine	118	121	371	5,503	5,879	7,911
Maryland	147	150	1,118	10,980	11,138	18,648
Massachusetts	163	227	292	11,364	15,559	16,613
Michigan	182	190	3,216	14,650	15,102	40,876
Minnesota	687	655	1,262	65,069	52,155	59,050
Mississippi	72	74	177	3,653	3,775	5,148
Missouri	314	306	581	16,740	16,944	21,080
Montana	43	50	208	2,653	3,173	4,792
Nebraska	156	141	255	8,569	7,979	9,780
Nevada	50	49	326	3,730	4,054	6,151
New Hampshire	55	61	135	3,256	3,993	4,902
New Jersey	197	256	319	17,710	22,203	23,335
New Mexico	61	48	185	3,914	3,226	4,614
New York	402	406	480	37,145	37,943	39,357
North Carolina	490	486	1,207	34,425	34,458	39,543
North Dakota	50	58	112	2,522	3,627	4,408
Ohio	483	437	886	37,888	36,180	39,995
Oklahoma	152	159	201	8,708	9,438	9,968
Oregon	323	328	2,273	20,535	21,499	30,367
Pennsylvania	903	811	1,161	62,531	58,353	63,364
Rhode Island	49	47	62	3,623	3,535	3,794
South Carolina	211	212	406	13,485	13,859	15,972
South Dakota	47	53	155	2,090	2,385	3,734
Tennessee	228	221	307	13,489	13,700	14,819
Texas	507	544	1,437	36,061	38,642	48,441
Utah	61	65	161	4,135	4,594	5,821
Vermont	34	39	114	1,501	1,776	2,750

EXHIBIT B-5 (*continued*)						
	Facilities			Beds/Units		
State	Stevenson and Grabowski	NSRCF Facilities with 25 or more Beds	Total NSRCF	Stevenson and Grabowski	NSRCF Facilities with 25 or more Beds	Total NSRCF
Virginia	370	365	558	29,103	29,070	31,577
Washington	397	414	3,072	25,053	26,621	42,936
West Virginia	36	39	101	2,052	2,244	3,112
Wisconsin	330	385	1,696	17,155	19,744	33,098
Wyoming	19	15	21	1,214	1,112	1,208
Total	11,276	11,314	39,609	839,746	844,653	1,071,999
SOURCE: RTI International analysis of NSRCF sample frame; and Stevenson, D.G., and Grabowski, D.C. (2010). Sizing Up the Market for Assisted Living. *Health Affairs*, 29(1):35-43 (doi: 10.1377/hlthaff.2009.0527).						
NOTE: Stevenson and Grabowski do not include data for the District of Columbia; therefore, for this analysis we have omitted DC from the NSRCF frame counts.						

DESIGNING A NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES

AND

NATIONAL SURVEY OF RESIDENTIAL CARE FACILITIES

Reports Available

Design and Operation of the 2010 National Survey of Residential Care Facilities

HTML http://aspe.hhs.gov/daltcp/reports/2011/NSRCFdo.shtml

PDF http://aspe.hhs.gov/daltcp/reports/2011/NSRCFdo.pdf

National Survey of Residential Care Facilities: Sample Frame Construction and Benchmarking Report

HTML http://aspe.hhs.gov/daltcp/reports/2010/sfconst.htm

PDF http://aspe.hhs.gov/daltcp/reports/2010/sfconst.pdf

Residential Care Facilities: A Key Sector in the Spectrum of Long-term Care Providers in the United States

HTML http://aspe.hhs.gov/daltcp/reports/2011/RCFkey.shtml

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200 Independence Avenue, S.W.
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