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Transforming residential long-term care in Oregon: Policy, organizational and local market factors

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TRANSFORMING RESIDENTIAL LONG-TERM CARE IN OREGON: POLICY, ORGANIZATIONAL AND LOCAL MARKET FACTORS

by

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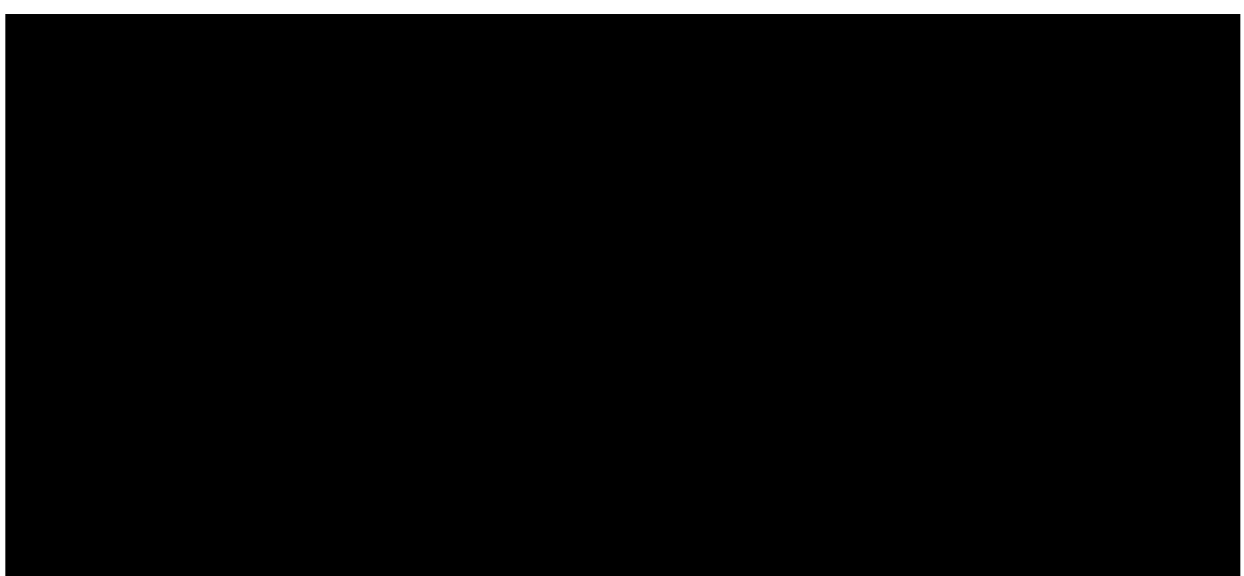

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Abstract

Transforming Residential Long-Term Care in Oregon:

Policy, Organizational and Local Market Factors

By Mauro L. Hernandez

A growing, diverse population of apartment-style assisted living (AL) and traditional residential care (RC) organizations has emerged during the last twenty years. National findings suggest that AL/RCs, particularly newer forms, may be less accessible to traditionally underserved long-term care (LTC) users. As an early innovator in AL/RC policy and practice, understanding recent developments in Oregon may be informative in considering demand projections across states. This study examines changing state-level environmental conditions and local market factors between 1986 and 2004, their relationship with the supply of residential LTC options in Oregon, and potential access for lower income and rural residents.

Primary data include key informant interviews and a database of all Oregon AL, RC and nursing facilities operating between 1986 and 2004. Secondary data came from state agencies, CMS Form 372 reports, and other public sources. Data were analyzed to describe changes in Oregon's LTC environment, state expenditures, and bed supply trends. Regression models were used to identify factors associated with county-level AL supply over time.

Selected findings include: early organizational founders and state actors employed a range of legitimating strategies to create a rapidly accepted and distinct AL form. State policies and practices channeled greater financial resources (reimbursement, loans) and institutional support for AL organizations. From 1990 and 2004, the distribution of LTC

beds in Oregon shifted with nursing facilities representing a declining proportion of total licensed beds--from 58% to 30%. By 2004, newer AL comprised the same proportion of total beds (30%), followed by traditional RC (21%) and smaller adult foster homes (19%). Compared to RC organizations, AL grew more rapidly during a shorter period of time; they are more accessible to rural and Medicaid nursing-home eligible residents. RC organizations are more likely to be smaller and specialize in Alzheimer's care. From 1990 to 2004, significant predictors of county-level AL bed supply included time (a possible proxy for investment markets and other changing national trends), older population size, population density, and RC bed supply. One Medicaid policy measure was a significant but marginal predictor of AL bed supply.

Signature of dissertation chair, Robert J. Newcomer, PhD

Date

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Chapter 1: Introduction

Statement of the Problem

Over the last two decades, the number of organizations providing long-term care (LTC) services in non-institutional group housing settings has grown dramatically. These broadly defined Assisted Living / Residential Care (AL/RC) organizations provide housing and a range of personal care and health-related services to multiple residents with LTC needs. AL/RCs represent one of several home and community-based service options that states have sought to expand through licensing and financing policies with the intent of reducing reliance on more costly institutional long-term care settings. Between 1990 and 2002, the national AL/RC supply grew by 97% in terms of client capacity, compared to 7% for the nursing facility industry (Harrington, Chapman, Miller, Miller, & Newcomer, 2005) and 14% for the U.S. population age 65 and older (U.S. Bureau of the Census, 1990, 2006).

In addition to growing numbers, studies suggest a variety of organizational AL/RC forms that differ in terms of such characteristics as their physical environment, service capacity, size, and resident population. More recently emerging forms that can serve nursing-home eligible clients in apartment-style settings have received a great deal of attention among state policymakers, consumer advocacy groups, investors and the media. Findings from national studies suggest that the growing AL/RC industry may be less likely to serve traditionally underserved segments of the LTC population, compared to other organizational forms within the field. Specifically, there is some evidence that AL/RCs, particularly these newer higher service apartment-style forms, may be less

accessible to individuals who have lower incomes (Hawes, Rose, & Phillips, 1999; Spillman, Liu, & McGilliard, 2002) or live in rural communities (Hawes, Phillips, Holan, & Sherman, 2003). Inequitable access to AL/RC due to income or rural location may contribute to unmet LTC needs or greater use of more costly service options.

Closer inspection of policy, institutional and economic environments at the state or substate level indicates varying conditions for the emergence of different organizational forms. State surveys report a range of discretionary policies and programs that have been adopted in varying degrees to stimulate the supply of AL/RCs while facilitating access to lower income residents. This has produced considerable variability in AL/RC regulatory and reimbursement policies, overall AL/RC supply, and use by Medicaid eligible clients (Kitchener, Hernandez, Ng, & Harrington, 2006; Mollica & Johnson-Lamarche, 2005). Despite a growing body of knowledge about AL/RC organizations, studies have not investigated AL/RC supply changes and potential access for low-income or rural populations while examining possible linkages with state policy, institutional and material-resource (e.g. alternative supply, demand, and public funds) environments. Moreover, no studies have provided an in-depth analysis of developments over time at the sub-state or county level. Without an adequate understanding of the interplay between organizations and their environments, policymakers may not be able to adequately predict expenditure and utilization outcomes from particular policy decisions. Other stakeholders may be less able to achieve their goals of expanding the supply of AL/RC organizations that are affordable, have high service capacity and are residential (AARP, 2004; Assisted Living Workgroup, 2003). .

Study Purpose

The present study addresses this knowledge gap by examining changes in environmental conditions for the LTC field in Oregon, describing population dynamics for two AL/RC organizational forms and identifying predictors of local supply for the newest form over time. The main goal is to discover the extent to which changing state-level environmental conditions and local market factors have: (1) altered the supply and mix of residential long-term care options and (2) facilitated potential access for individuals who have lower incomes or reside in communities located in rural areas. The specific aims of this study are to:

1. describe changes in the political, economic and institutional environments that transformed the population of residential long-term care providers in Oregon
2. describe changes in the statewide and local supply of residential long-term care organizations between 1986 and 2004
3. describe changes in the availability of ALF and RCF organizations serving lower income and rural residents over time
4. identify how state and local factors explain changes in the supply of ALF organizations both within and between counties over time.

The state of Oregon was selected as the study site for several reasons. During the 1990's, a great deal of interest was generated around one emerging subset of residential care termed "assisted living" in Oregon. In addition to using Medicaid funding normally limited primarily to nursing home care, this state's model was characterized by an emphasis on residential design features, a wider range of supportive services and an emphasis on consumer values such as privacy, choice and independence (Kane &

Wilson, 1993; O'Keeffe, O'Keeffe, & Bernard, 2003). In varying degrees, some states have attempted to encourage the development of similar models in response to fiscal concerns, consumer advocacy efforts and/or lobbying efforts by providers.

Although numerous reports describe the range of policies adopted in Oregon, little is known about the direct or indirect effect of these policies, intrastate differences or local market factors that may have contributed to LTC supply changes and potential access for lower income residents. Other national and multi-state studies provide indications of statewide supply for selected supportive housing settings; however, they have not monitored changes in supply at the community level. Furthermore, little is known about changes in the supply of more traditional AL/RC organizational forms that newer forms were intended to replace. The current study provides the first comprehensive, longitudinal view of changing environmental conditions and supply trends for different AL/RC forms at the state and substate level, while also describing potential access for low-income and rurally based AL/RC residents. It will also offer valuable insights to long-term care researchers, state policymakers and service providers by identifying predictors of local ALF supply.

Overview

The theoretical frameworks for this study are diverse. Chapter 2 first introduces theories and concepts from political economy of aging by highlighting some of the structural and contextual factors affecting the LTC field. The second major section of this chapter provides an overview of selected organizational theories and concepts that are relevant for understanding the transformation of this field through changes in environmental conditions and organizational population dynamics. The third section

introduces a health economics-based framework for examining the relationships between state policies, demand, supply and utilization developments. Chapter 3 provides an overview of residential LTC developments in the U.S. and Oregon by describing what is known about these organizations, the individuals who purchase these services, and the changing policy environment. Chapter 4 provides an overview of the methods used for conducting this project, introducing data sources and procedures, research questions and analytic methods used. The analytic results of this project are presented and discussed in the three major sections of Chapter 5. The first section of findings describes developments in Oregon's LTC environment by examining changes in the material-resource and institutional environments. The second section reports state- and organization-level supply trends for the ALF and RCF populations by examining population dynamics, bed supply changes and organizational characteristics (e.g. rural location, Medicaid participation and specialization). The final set of findings examines how three sets of factors (demand, supply and policies) are associated with the local supply of ALF organizations over time. Finally, Chapter 6 summarizes and discusses these findings, considers the sociological and policy implications of the study, and recommends future directions for further research.

Chapter 2: Theoretical Frameworks

The Political Economy of Aging

Theories and concepts from the political economy of aging provide one framework for examining developments in state long term care policies and programs. Political economy of aging focuses on structural features of the aging process (i.e. social class, gender, race/ethnicity) and the role of social and economic policies. This approach represents a reaction to functionalist theories that view dependency as normal and to individualist perspectives that ignore the role of social structures and processes (Walker, 1999). Social policies themselves are understood as a product of social forces unleashed by the economy, the state, and divisions of labor, class, sex, race and age. By examining the determinants or outputs of state Medicaid and welfare policies for example, studies employing political economy frameworks shift attention to macro-structural economic and social forces based in industry and the state (Barrilleaux & Miller, 1988; Estes, 1979; Hanson, 1983; Hwang & Gray, 1991; Walker, 1999; Wright, Erikson, & McIver, 1987).

This section first provides an overview of the political economy of aging framework primarily as elaborated by Estes (1979; 1991; 2001) and colleagues (1984; 2000; 1997; 2001) and then focuses on selected concepts and applications that are most relevant for this study. Selected theories of the state within this framework are also presented. The overall framework builds on critical gerontology perspectives and views aging as the product of interactions between political, economic and social structures. Age, class, gender, race and ethnicity are simultaneously individual attributes and

structural factors that become institutionalized in ways that profoundly shape economic, social and other public policies. Specifically:

> Public policy is understood as the outcome of the social struggles and the dominant, competing, and repressed interests of the period. Policy represents the structure and culture of advantage and disadvantage embodied in social class, racial, ethnic, gender, and social relations. Just as public policy both reflects and stimulates various social struggles, policy is a crucial determinant of the life chances, condition, and experience of elders in different structural locations in the society (Estes, 1999: 17).

General Framework

Estes proposes a multilevel analytic framework that links macrolevel (societal), mesolevel (organizational and institutional) and microlevel (individual experience) dimensions of aging. Ideologies, as belief and value systems, have a decisive role in shaping social structures and supporting dominant social relations. Society specific interactions between financial and postindustrial capital, the state, sex/gender systems, and the public/citizen produce the medical-industrial complex and aging enterprise described further below. The state is defined more broadly to include a range of social, political and economic institutions. It has conflicting functions and roles in providing for the aged by allocating resources, mediating societal groups, and alleviating adverse social conditions. Race, class, and gender comprise "interlocking systems of oppression" (Collins, 1991) that operate and influence both individual experience and larger power struggles that are determinant in social policy design and implementation.

Selected Key Concepts

As with the larger field of health and aging, developments in the long-term care arena and the emerging AL/RC industry sector reflect fundamental social processes, namely, *medicalization*, *commodification*, *privatization*, and *devolution*. (Estes & Linkins, 1997; Estes & Linkins, 2000; C. L. Estes et al., 2001). Medicalization refers to the process by which aspects of everyday life come under medical influence so that social problems are redefined and treated medically (Conrad, 1992; Zola, 1972). For several decades, the biomedical model has been the dominant view of aging, resulting in the social construction of aging as primarily a medical problem, which in turn has become the prevailing organizing focus of aging practice, research and policy. As a result, efforts to address problems of aging have given marginal attention to "root causes," specifically social and behavioral processes (e.g. income, education, housing, relationships). Biomedical dominance is illustrated by the funding of medical services through Medicare and of research through the National Institute of Aging, which marginalizes social and behavioral research (Estes & Binney, 1989; C. L. Estes et al., 2001). The reverse process of demedicalization may occur when medical terms or treatments are no longer considered appropriate for solving a particular problem (Conrad, 1992).

With respect to LTC, Lynch and Estes (2001) view the relative underdevelopment of community-based services partly as a function of the larger system's orientation to a medical model of care that is institutionally biased. Despite the incurability of chronic illness and related functional problems, physicians still play a significant role, often as gatekeepers for service and public benefits eligibility. The LTC system can be seen as comprised of multiple, often-competing professional interests working within a reimbursement system that favors acute biomedical care over personal, social and in-

home care. "The medical profession, business, and government are each more comfortable with a skilled nursing institutional mode of long-term care that serves as an extension of acute care medicine, allows for ready profit making, and limits social expenditures refereed by the state" (pp. 212-213).

The commodification of aging refers to the treatment of health care as a commodity for consumption, rather than as a social right (C. L. Estes, L. Gerard, J. S. Zones, & J. Swan, 1984). Since the 1960s, old age has been recognized as a market opportunity for service providers and business expansion, particularly with hospital and nursing home industries that grew with the enactment of Medicare and Medicaid (Estes, 1979). Similarly, more recent AL/RC growth may be understood as a function of "the growth imperative of capitalist systems [which] also leads to the expansion of markets for existing products, and the creation of new products to sell" (Estes et al, 2001: 49). The growing profit incentive, shifts in modes of production, shifts in ownership, and changes in reimbursement are cited as further evidence of aging commodification. The commodification process shifts many access, quality and cost decisions to the individual level as market-based rational "choices" (p. 52).

The decreased federal role and increased state variability in LTC services and expenditures are consequences of the "devolution revolution" that characterizes the late 20th century U.S. welfare state. Devolution refers to the shift in fiscal, policy and/or programmatic control of health and human services from federal to state and local levels. Over the last three decades, three waves of federalism and devolution policies have shifted power and responsibility for social services, mental health, welfare and basic health services to the states (Estes & Linkins, 1997). Problems with decentralizing aging and LTC policy decisions to states include the variability across states in: (1) their

commitment to equity, social justice and racial equality, (2) their fiscal (revenue generating) and operational capacity, and (3) the political will necessary to develop and implement needed programs (Estes, 1983). Further consequences of decentralization include the fragmentation of those interests that would advocate for the disadvantaged, increased private sector influence in state and local policymaking arenas, and limited participation in the discretionary policymaking process except by the most well-organized and well-funded actors (Estes, 1979). By shifting discretionary policymaking responsibilities to states, such as Medicaid eligibility criteria, covered services and program size, the structure of community-based LTC policies and programs in different states could open up a "race to the bottom" that has significant implications for service recipients and their caregivers (Estes & Linkins, 1997, 2003).

In capitalist economies particularly since the 1980s, the state is also seen as supporting increased privatization—"the administrative transfer of public goods and services to the private sector" (Estes & Linkins, 2000)—theoretically rationalized to be in the interest of increased efficiency and reduced costs. The state may be viewed as playing several key roles in facilitating the privatization of health and long-term care services:

> State policies create investment opportunities for private capital by rendering health and social service provision primarily through policies that promote private rather than public provision of services. In addition, the State limits its own activities in health and social services to those that complement the market and encourage the rapid development and expansion of new proprietary forms of organization in the human services (e.g. managed care) (Estes & Linkins, 2003: 130-131).

The creation of tax credit policies that encourage individuals to purchase private long-term care insurance policies exemplifies the state's role in stimulating market investment opportunities while presumably reducing the likelihood of future state welfare dependence.

Theories of the State

The state plays a central role in political economy although aging is viewed in this perspective as having a fundamental rather than a peripheral function to studying the state and society (Estes, 1999). A broad conception of the state includes the government's legislative, executive and judicial branches, as well as other systems, such as the military, criminal justice, public education, health and welfare institutions (Waitzkin, 1986). The central focus on older people acknowledges this population as the largest (non-corporate) beneficiaries of the welfare state and the biggest users of health and social services (Walker, 2006). Older persons are economically dependent on the state not only for health care but also for retirement income as evidenced by the two in three older adults for whom Social Security represents at least half of their income (SSA, 2005).

> In a theoretical model for social policy and aging, analysis at the level of the state investigates questions regarding the state's role in social provision for the aged, in light of the state's power to (a) allocate and distribute scare resources, (b) mediate between different segments and classes of society, and (c) alleviate conditions that potentially threaten the social order (Estes, 1999: 7).

The section below discusses key functions of the state, its crisis tendencies, and recent changes in the welfare state.

Key Functions of the State

The state and its institutions have a primary role in assuring "the survival of the economic system" (Estes, 1999: 20). With respect to state revenues and expenditures, two primary but contradictory state functions have been described by O'Connor (1973). For the late capitalist U.S. state, the first of these key functions is that of *accumulation* whereby the state "must try to maintain or create the conditions" to facilitate economic growth and profit through "capital accumulation," (p. 6). This function may take the form of direct payments, loan subsidies, education costs, grants and other expenditures that reproduce the labor force or facilitate commerce. The second contradictory *legitimation* function requires the state to minimize social unrest to maintain its base of social support and legitimacy. Programs like welfare and other social insurance programs are intended to provide a safety net for those who are impoverished by fluctuations in the labor market, long-term disability, low paying jobs, and rising living expenses many conditions of which are associated with the operation of capitalist enterprises.

Social policies for the aging may be understood in relation to these dual accumulation and legitimation functions. Regulatory and finance policies are essentially instruments to promote and facilitate market exchange (Offe, 1984) and to maintain the social order. According to Estes, Harrington and Pellow (2001), one way in which the state maintains its legitimacy by paying for long-term care services for its poorest and disabled citizens and by providing a minimal level of oversight to its licensed and contracted providers. The accumulation function requires the state to: (1) provide financing policies that subsidize for-profit sector growth and allow providers to stay in

business with adequate reimbursement and (2) ensure that regulations do not create an excessive cost burden for providers.

By extension, state expenditures are portrayed as having a twofold character. First, *social capital* expenditures, whether through investment or consumption, are those that ensure profitable accumulation. Second, *social expenses* subsidize those programs that do not contribute to productivity or profit but are necessary to "maintain social harmony" and fulfill the legitimation function of the state (O'Connor, 1973). All state agencies and programs serve both accumulation and legitimation functions. For example, Medicaid spending may be viewed as both a social capital outlay that can sustain provider profits and as a social expense that subsidizes the care needs of poor residents.

State Crisis Tendencies

Fiscal crises are not chance developments (Swan, Estes, & Wood, 1983). Rather, they are produced by structural features of government's contradictory functions of increasing public expenditures to meet dual accumulation and legitimation functions, while also limiting revenues. According to O'Connor, financial demands on the state are seemingly unlimited when compared with the public's ability and willingness to subsidize social capital and expenses. State revenue growth is unable to keep up with the costs associated with increasing demands on the state's budget. Economic conditions, taxpayer movements or powerful interest groups limit the ability of states to adopt revenue generating policies necessary to support public expenditures. The resulting "structural gap" between increased expenditures and constrained revenues produces the economic, social and political crises characteristic of recent decades. After spending itself into crisis, the state will respond by making cuts in one or both of its key functions (O'Connor, 1973).

Society's ideological infrastructure also frames the constant struggle between the state, capital and those who want social change (Offe, 1984). Conflicting ideologies of individualism, market dominance, and social responsibility have contributed to the seemingly perpetual state of crisis that characterizes late capitalist states (O'Connor, 1973). In particular, the increasing dominance of pro-market neoliberal ideology has contributed to the state's legitimacy crisis by successfully portraying government as being "incompetent and/or inappropriate to deal with most (if not all) problems of the society" (Estes, 2001: 100). Estes argues that such legitimacy problems have had a profound effect on social policies for the aging in the U.S., which continue to evolve within a policy environment that emphasizes deficit reduction, constrained social spending, market stimulation, entitlement erosion, and devolution of federal responsibility (Estes, 1989). The ascendance of neoliberal ideology has also had a limiting effect on the range of policy alternatives that may be considered as viable for addressing social problems of the aging (Estes & Associates, 2001).

Other state theorists also stress the importance of politics and political institutions. Unique characteristics of the U.S., such as the division of power across three branches of governments, a weak party system and a preference for self-ruling states constrains legislative innovation and encourages political gridlock (Myles & Quadagno, 2002). State institutional logics further determine the relative degree to which welfare functions are assigned to state institutions, market forces and / or families. Turning to Epsing-Anderson's (1990) typology, in "liberal" market oriented welfare states like the U.S., individual citizens become market actors who are expected to rely on the market for their welfare through subsidized individual welfare benefits. Contrasted with the "corporatist" regimes found in mainland European countries and the "social democratic" regimes of

Scandinavian markets, "liberal" welfare states are characterized by an emphasis on market relations rather than social rights, means-tested security schemes, and modest social insurance benefits (Myles & Quadagno, 2002).

During the last quarter century, other social forces have contributed to transformations of the modern welfare state. According to Myles and Quadagno (Myles & Quadagno, 2002)

> Unlike the golden age of expansion, the social policy agenda of the late twentieth century has been shaped by the 'politics of austerity.' The forces of globalization and postindustrialism, the revolution in family forms and gender relations, and an extended period of modest economic growth have created a very different social and political climate from that in which contemporary welfare states came to maturity between the 1950s and the 1970s (p. 35).

This increased demand for fiscal austerity has led nations to adopt policies to curb state growth and liberalize market forces (Quadagno & Street, 2006). In the U.S., these conditions, coupled with the rise of neoconservative ideologies that view the welfare state as a barrier to a free market, have resulted in what Quadagno (1999) calls a "capital investment welfare state." This shift is characterized by (1) restructured public benefits that coincide with private sector trends, (2) deemphasized collective responsibility in favor of greater individual responsibility for welfare needs, and (3) transformed public welfare programs from cash benefits and direct services to personal savings and investment incentives. Similarly, Gilbert (2002) describes the transformation of the traditional welfare state model to an "enabling state" where benefits have been restructured to restrict the scope of shared risks and greater costs are transferred to individual and families (Quadagno & Street, 2006).

With respect to the underdevelopment of community-based LTC, Lynch and Estes (2001) note how current dominant political forces point to the high costs of LTC coverage. These adversaries of social insurance for LTC argue that expanding community-based LTC coverage would displace family roles and result in a *woodwork* effect[1]. Yet the adverse consequences of an underdeveloped community-based care system are disproportionately endured by women and minority elders with fewer financial resources to purchase needed services and greater caregiving burden. The dominant market-based ideology in the U.S. favors privatized and corporatized LTC service delivery over welfare state benefits expansion, while promoting family caregiving and individual responsibility (Lynch & Estes, 2001). Efforts to reform LTC toward a more balanced system are further stymied by the devolution of federal responsibilities for social issues to the states level (pp. 207-210).

Theories of Organizations

The following section provides an overview of organizational theories and concepts that are relevant to and inform the theoretical framework of the present study. The first two subsections provide summaries of the organizational ecology and institutional perspectives. The next two subsections provide further elaboration about the relationship between organizations and their environments with particular attention to aspects of the institutional environment that shape organizational population changes.

[1] This generally refers to the result of providing a new LTC benefit or service, which will induce demand among community-based clients who may need / prefer services but choose not to use available institutional LTC services. A large "woodwork effect" may jeopardize the perceived cost-effectiveness of a program if the costs associated with serving new clients is not sufficiently offset by savings from individuals who actually substituted a more costly service with a less costly one.

The last two subsections consider key processes and forces that are relevant to examining the emergence, reproduction and evolution of organizational populations.

Organizational Ecology

The population ecology framework was proposed as an alternative to the more commonly accepted adaptation models for examining organizational diversity, countering an overemphasis on decision-makers and their strategic response to environmental changes as the main drivers of change (Freeman & Hannan, 1989; Hannan & Freeman, 1977). Events (founding, transformation, and disbanding patterns) are the dependent variables in ecological analyses that seek to understand how organizational populations change over time. Patterns of such events are related to population dynamics (previous foundings and disbandings) and organizational density (the total number of organizations in the population), which is a function of legitimation and competitive social processes (Carroll & Hannan, 1989). In this open systems model, the environment is a central component of the population ecology framework being responsible for differentiating and selecting "organizations for survival on the basis of fit between organizational forms and environmental characteristics" (Scott, 1998: 115).

Rather than emphasizing transformational or imitative processes for change, population ecologists focus on environmental pressures of competition and selection as the primary *external* motors. Selection processes, proposed to be the driving force for long-term change, are those changes in the organizational set composition where one form replaces another. Such processes favor organizational forms that have high levels of performance reliability and accountability (Hannan & Freeman, 1984). To address change, Hannan and Carroll (1995) emphasize analyzing "vital rates" of populations, i.e.

entries, change events, and exits, by looking at "effects of larger social, economic, and political systems." Dynamics within and between organizational populations are also stressed noting, for example, that increased levels of competition result in increased failure rates and decreased entrance and growth rates (Hannan & Carroll, 1995).

Organizational ecologists use organizational populations and fields as the most appropriate levels of analysis. Populations of organizations with shared blueprints occupy distinct niches, which include "all those combinations of resource levels at which the population can survive and reproduce itself" (Hannan & Freeman, 1977: 947). Niches vary in width with generalist organizations occupying the widest niches and specialists occupying more narrow niches. Organizations that occupy the same resource space and share the same externally sanctioned identities occupy the same niche and are considered to be in direct competition with each other (Hannan, Carroll, & Polos, 2003). Faced with intense levels of competition, organizations may adopt strategies for survival that include differentiation, divestment and diversification activities that result in lateral migrations into neighboring market niches or alterations in niche width (Baum & Singh, 1996; Delacroix & Swaminathan, 1991; Delacroix, Swaminathan, & Solt, 1989; Singh, Tucker, & Meinhard, 1991) .

Institutionalism

Like organizational ecology, institutionalism also emerged as a reaction to rational-actor models of organizations. However, this tradition emphasizes the homogeneity of organizations and the relative stability of institutionalized elements. Institutional theory focuses on "the objectified and taken-for granted nature of organizations and organizational environments" (Aldrich, 2003: 48). There is a focus on

state-dependent processes of institutionalization that make "organizations less instrumentally rational by limiting the options they can pursue" (DiMaggio & Powell, 1991: 12). Particular institutional arrangements may be understood as the collectivity of "shared rules and typifications that identify categories of social actors and their appropriate activities or relationships" (Barley & Tolbert, 1997: 96).

Organizations are embedded within highly institutional environments that are composed of logics (belief systems and organizing principles), actors (organizations themselves, individual consumers, suppliers, etc.) and governance structures (parent-holding company, corporate model, etc.) (DiMaggio & Powell, 1983; Scott, 1998). Organizations ceremoniously adopt practices and procedures that are "defined by prevailing rationalized concepts of organizational work and institutionalized in society" (Meyer and Rowan, 1977: 340). These practices and procedures comprise the legitimated blueprints or templates for organizational structure and action (DiMaggio & Powell, 1991). As rationalized institutional rules arise in given domains of work activity, formal organizations form and expand by incorporating these rules as structural elements. Doing so allows organizations to gain legitimacy and to secure the resources necessary for their survival (Meyer & Rowan, 1977).

Organizations are influenced by and respond to changes in regulative, normative and cultural-cognitive systems. Variation among organizations is "generated as organizations respond to, adapt to, or imitate the ebb and flow of normative and regulatory currents in their environments" (Aldrich, 2004: 49). Organizations also respond to changes in their competitive environments. The relative strength of institutional and competitive pressures may vary for different societal sectors and their corresponding environments (Scott, 1991). However, these processes may not be easily

disentangled considering that "even the most competitive of activities is possible only because of micro-and macrolevel institutional arrangements that insure the reproduction of economic exchange" (Powell, 1991: 185).

One of the common criticisms of institutionalism is the failure to adequately theorize politics and agency (Fligstein, 1996; Perrow, 1986). Building on Giddens' (1979) model of structuration, Barley and Tolbert (1997) have suggested a more recursive and evolving relationship between institutions and action. Rao, Morrill and Zald (2000) employ a more critical and political perspective to examine the role of social movements and collective action in creating new organizational forms across a broad range of fields. Recent work by Scott and colleagues (2000) has described how organizations are able to both create and modify their institutional environments. This may occur when powerful organizations are able to imprint their goals and procedures into institutionalized rules and by extension into the larger society (Meyer & Rowan, 1977). Within health care, these dynamics are evident in recent shifts toward market models of governance structure based in competition for resources, governed by contracts and characterized by parties seeking power and/or wealth. Growing proportions and numbers of privately owned, proprietary organizations become the institutional actors that individually and collectively, both produce and reproduce these new logics based on managerial techniques that emphasize cost containment (Scott et al., 2000).

Organizations and their Environments

The most basic level for examining a single organization and its environment is the organizational set. The organization's domain includes the focal organization, its products or services, and its consumers (Scott, 1998). Populations are aggregates of

individual organizations, which include all the organizations within a particular social system boundary that have a common form (Hannan & Carroll, 1995; Hannan & Freeman, 1977). At this level, ecological studies examine selection processes as determined by competition and environmental changes (Scott, 1998). Defining the particular organizational forms that comprise different populations presents an empirical challenge given the contested, dynamic and changing nature of form boundaries over time (Ruef, 2000). An interorganizational community considers the network of relations between similar and diverse organizations situated within a defined geographic area (Scott, 1998). According to Aldrich (2003), such communities are comprised of the "...set of coevolving organizational populations joined by ties of commensalism and symbiosis through their orientation to a common technology, normative order, or legal regulatory regime" (p. 300). Per Aldrich, defining the geographic boundaries of such communities is also largely an empirical question.

Moving up a level, the organizational field includes populations that produce similar goods and services and includes "...key suppliers, resource and product consumers, regulatory agencies, and other organizations..." (DiMaggio and Powell 1983: 143). According to Scott (1998), this level of analysis considers the material relationships, as well as the shared symbolic and cultural aspects of a system of organizations. Organizations may be linked directly or indirectly but they operate under shared conditions that produce structural similarities across forms. The organizational communities that comprise the larger field interact and influence each other in ways that produce shared beliefs and understandings, which ultimately become reinforced in regulatory or professional standards (Greenwood, Suddaby, & Hinings, 2002). With

increased field maturity, such "structuration" processes contribute to periods of "isomorphic" stability as roles, boundaries, and practices become more specified.

Moving beyond the organizational subject, the environment is the next level of analysis that is expected to shape or influence changes in organizational fields. As noted above, organizational ecology views survival as largely determined by the degree of fit between organizations and their environments (Hannan & Carroll, 1995). Scott describes institutional elements of the environment as the product of interactions between three categories of social forces, namely, the regulative (external systems of rules and governance systems), the normative (internalized moral framework, social obligations, and shared values) and the cultural-cognitive (beliefs, common symbolic systems, shared meanings) (Scott, 1998: 133-137). In their examination of the health services field, Scott and colleagues (2000) distinguish between material resource and institutional environmental factors. Viewing organizations as technical, production systems, the material-resource environment includes those factors that affect production flows, i.e. demand (sociodemographic characteristics), supply (number of physicians, public reimbursement or funding), technology and certain structural features (concentration, niche width) of the industry. Viewed as human, political, social and cultural systems, organizations are also shaped and respond to their institutional environment, which, in the case of health services, is composed of institutional logics (belief systems and organizing principles), institutional actors (organizations themselves, individual consumers, suppliers, etc.) and governance systems (p. 17-20).

Organizational studies view organizations as interdependent with their environments both in terms of how participants perceive their environments and how selected features are enacted into organizational structures and activities (Scott, 1998).

Environmental influence over organizations takes on different forms as structures may be imposed by a higher authority, authorized, induced, acquired, imprinted, incorporated, or by-passed (Aldrich, 2003; Meyer & Rowan, 1977; Powell, 1991). Technical environments provide the informational and material resources needed to develop and operate production systems that are effective and reliable. Institutional environments provide the cultural frameworks that stabilize inter- and intraorganizational relationships while also buffering organizations from turbulence (Meyer and Rowan, 1977). As with hospitals (Krein, 1999), an LTC organization's institutional environment includes licensing and regulatory agencies, professional and trade associations, consultants, other health and long-term care providers and the local community. While some activities may be legitimated through regulatory mandate or stakeholders, others will be considered legitimate if widely adopted by others.

Institutional Conditions for Population Change

According to Ruef (2000), "the emergence of forms is best understood in the context of a concrete system of interrelationships between organizational suppliers, consumers, regulators, and intermediaries operating in an institutional arena (660)." New institutionalists posit that population changes result from fundamental alterations in the institutional environment:

> When organizational change does occur it is likely to be episodic and dramatic, responding to institutional change at the macrolevel, rather than incremental and smooth. Fundamental change occurs under conditions in which the social arrangements that have buttressed institutional regimes suddenly appear problematic. (DiMaggio & Powell, 1991: 11).

Conditions of environmental scarcity and crisis may provide opportunities for entrepreneurial activity through the erosion of the taken-for-granted and symbolic value of prevailing institutional arrangements (Sine & David, 2003). As institutional arrangements (values, norms, policies, etc.) no longer favor particular organizational forms, their legitimacy may be gradually or suddenly eroded resulting in fewer actors choosing that form and selecting others instead (Aldrich, 2003).

Greenwood and colleagues (2002) identify various stages of institutional change beginning with the precipitating jolts that destabilize established practice due to social upheavals, technological innovations or regulatory changes. Such conditions provide opportunities for new or existing actors and entrepreneurs to develop innovative solutions to recognized problems. Innovation diffusion and institutionalization are impacted by the ways in which social actors are able to make sense of the world around them through complex and institutionalized theoretical formulations (Strang & Meyer, 1993). This process of *theorization*—"the rendering of ideas into understandable and compelling formats"—is fundamental to institutional dynamics (Greenwood, et al, 2002: 75). Whether framed as consistent with current norms or as functionally superior, new ideas will only diffuse if successfully presented as solutions to specified problems or as providing relative advantages over current practices (Rogers, 1995). As innovative ideas and practices diffuse across an increasing number of adopting social actors, new arrangements are able to achieve the taken-for-granted status necessary for survival (Greenwood et al., 2002; Suchman, 1995).

Power and Institutional Change

Although arguably a relatively under-examined topic in institutional studies, power dynamics may also reshape and maintain institutional arrangements. Power

relationships can be revealed by examining the role of elites in defining norms and standards of behavior and how they come to be enacted as policies and models of organizational structure (DiMaggio & Powell, 1983). At the organizational level, radical changes in structures and activities are either enabled or suppressed by power dependencies within an organization (Greenwood & Hinings, 1996). Greenwood and Hidings note that shifts away from prevailing archetypes requires that an alternative organizational form be articulated, that extant leadership and power structures facilitate the expression of alternatives, and that organizations have sufficient capacity and commitment to bring about change (p. 1045). At the institutional level, the interests of dominant groups are embodied in rules (Fligstein, 1996). Powell (1991) notes that "elites may be both the architects and products of the rules and expectations they have helped devise" (191).

The state in particular is a source of coercive power and material resources for compelling organizations to adopt legitimated structures and procedures (DiMaggio & Powell, 1983; Singh et al., 1991). In the LTC field, power dynamics have generally maintained the relative underdevelopment of home and community based services and the dominance of the nursing home industry (Lynch & Estes, 2001). In their examination of organizational changes and institutional arrangements in the LTC field, Kitchener and Harrington (2001) conclude that:

> The power of nursing home interests and the significance of decentralized decision-making among state long-term care systems helps explain both weak regulation in the industry and why home and community-based services were not expanded quickly and widely after federal government provided resources to do so (97).

Organizational Legitimacy and Population Emergence

Organizational communities include multiple populations that are fairly stable in the short term but in the longer term have growth patterns that typically rise then fall over time. According to Aldrich (2003) most entrepreneurial activity for establishing new organizations is more reproductive than innovative—entrepreneurs will draw from and build on an existing population's routines, knowledge, social networks, and available resources. Numerous environmental conditions will jeopardize the long-term viability of innovative new ventures whose routines and competencies represent a significant departure from established ways of organizing. Legitimation represents one of the key processes that may determine the viability of emerging organizational forms, their reproduction and long term survival.

Population ecologists have shown that low founding and high disbanding rates characterize younger and smaller organizational populations, in part because they initially lack external legitimacy (Aldrich, 2003). Such an environmental condition makes it more difficult for founders to mobilize needed resources, recruit employees, attract consumers, and gain support from key stakeholders (Aldrich & Fiol, 1994). However, by adopting institutionalized elements of the environment, such as formal structure, activities, and language, organizations come to be perceived as legitimate, thereby increasing the commitment of internal and external constituents (Meyer & Rowan, 1977).

According to Suchman (1995), "Legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed system of norms, values, beliefs, and definition" (p. 574). It is a socially constructed product of organizational behaviors and public beliefs, acceptance and support. Conflicting perspectives have viewed legitimacy as either an operational

resource that can be strategically extracted from the environment or as a set of beliefs that determines organizational form and practice, as well as public perception and acceptance. Several forms of legitimacy have been identified that condition the emergence of new organizational forms.

Cognitive legitimation refers to the process by which new ventures achieve their taken-for-granted quality, as well as their comprehensibility (Suchman, 1995). Gaining this type of legitimacy requires the spread of knowledge and increased familiarity among the public (Aldrich & Fiol, 1994). Sociopolitical legitimacy refers to the moral and regulatory acceptance of a new venture. Key constituents, including government officials and the general public will view socio-politically legitimated ventures "as appropriate and right, given existing norms and laws (Aldrich & Fiol, 1994: 648). Organizations may also attain moral or normative legitimacy based on what they accomplish (consequential legitimacy), the soundness of their practices (procedural legitimacy), their organizational features (structural legitimacy), the presence of charismatic leaders (personal legitimacy), or their ability to serve constituents' own interests (pragmatic legitimacy) (Suchman, 1995).

State Legitimation

Halliday and colleagues (1993) discuss how both the state and the market have legitimating roles with respect to different organizational forms. The state may do this through legislation, consultation, training, subsidies, grants, or regulations. Coercive and incentive strategies may be used to bring about conformity to state goals. Markets do the same by supporting ventures that demonstrate efficiency and profitability. However, the legitimating role of the state is essential. As Reuf (2000) points out: "Given the legal-rational authority of the state in modern society, its recognition of an organizational form

as a legitimate (or illegitimate) class of collective actors is often one of the most significant events in highly institutionalized arenas" (p. 671).

State legitimation may also increase the material resources available to emerging populations. Through "public capitalization" policies, states may use public funds to help found organizations that are believed to have some societal benefit (Dobbin & Dowd, 1997). Such inducement strategies may alter the structure of organizations and fields by making payment or funding eligibility conditioned on conformance to an agency's goals (Scott, 1991). State regulatory legitimation may also affect relationships between competing groups of organizations in ways that will increase foundings for a protected form while also endangering the survival and/or reducing foundings for another form. In this view, states create markets through the enactment of policies that shape the competitive environment in which organizations operate (Dobbin & Dowd, 1997). State policies enacted with support from political and social elites can stabilize populations and insulate them from competitive pressures (Powell, 1991). Other studies have shown the positive relationship between public funding and foundings of day care centers (Baum & Oliver, 1992), voluntary social service organizations (Singh et al., 1991) and child foster homes (Tucker & Hurl, 1992), hospitals and home health agencies (Ruef, Mendel, & Scott, 1998).

Organizational Legitimating Strategies

By incorporating elements of the broader institutional framework, new organizational forms may increase their chances of being perceived as legitimate and successful, as well as their chances of survival (Meyer & Rowan, 1977). They may also need to disentangle themselves from established systems that are considered marginal or illegitimate (Suchman, 1995). According to Aldrich (2003), organizations may employ

both cognitive and sociopolitical strategies to facilitate growth. At the organization level, pioneering founders may create a knowledge base through experimentation, as well as adoption and modification. To increase cognitive legitimacy, they may establish links to the past using symbolic language and behaviors. Charismatic leaders may also play instrumental roles by effectively reframing issues, building trust and credibility to change their followers' beliefs. Organizations seeking moral legitimacy may lay claims about how their goods or services serve the public good, often framed in normatively consistent, abstract language. Organizations may also adopt socially accepted practices or techniques for generating services, particularly when organizational outputs are difficult to evaluate (Suchman, 1995). By creating an interpretive frame that provides linkages between a new organizational form and established values, early founders may support the ability of later founders to marshal needed support (Aldrich, 2003: 250).

Within an emerging organizational population, cognitive strategies include encouraging convergence around a dominant design through the development of effective routines, competencies and shared knowledge that facilitate new entrants and increase the taken-for-granted nature of the new population (Aldrich, 2003). Early founders may collaborate with other organizations to create standard-setting bodies that encourage imitation, increase shared competencies and diffuse knowledge to increase reliability among constituents. Other forms of collective action may build sociopolitical legitimacy through the use of informal networks, strategic alliances or trade associations (Aldrich & Fiol, 1994). As third party actors, trade associations can play a key role in building a new industry's cognitive and sociopolitical legitimacy through standards development that become elevated to taken-for-granted status, incorporated in state regulations, and adopted by members. Successful collective mobilization around shared goals and

standards may result in a more favorable regulatory environment while also protecting members of new populations from legitimacy failures resulting from the illegal or immoral behavior of individual members (Aldrich, 2003).

Population Growth and Reproduction

From an evolutionary perspective, the emergence, reproduction and decline of organizational populations is largely a function of external processes and conditions. As noted above, population ecologists explain changes in form as a function of selective processes that provide for the survival of certain organizations and the elimination of others. Drawing on earlier work by Campbell (1969), Aldrich describes four key evolutionary processes. First, population *variation* may result from foundings that introduce alternative organizational forms whether through intentional (experimentation, imitation) or blind processes. Second, externally and internally driven *selection* processes will eliminate certain variation due to market forces, competition, conformity to institutional norms or other forces. Third, *retention* processes will preserve, duplicate and reproduce selected variation, with the state operating as a major constraint for new populations. Fourth, *struggles* over scarce resources and opportunities occur when new forms proliferate, resulting in higher failure and lower founding rates (Aldrich, 2003: 21-33).

External legitimation processes and competitive pressures affect entry and exit rates within emerging organizational populations, conditioned on the carrying capacity of an environment and population density. Population growth occurs when founding rates are higher than disbandings or exits. The lack of external legitimacy of new organizational populations with few members (low density) initially results in lower

founding rates and higher disbanding rates (Carroll & Hannan, 1989). Without sufficient familiarity and credibility among stakeholders, entrepreneurs face considerable challenges in mobilizing the necessary resources and support to establish new industries. Gaining access to capital, market support and government protection require some level of legitimacy (Aldrich & Fiol, 1994). Population ecologists hold that "organization density increases legitimacy at a decreasing rate and increases competition at an increasing rate" (Carroll, Hannan, & Zucker, 1989). As a new form becomes more prevalent, increased density legitimates the population resulting in higher founding rates and lower failure rates (Carroll & Hannan, 1989). However, further proliferation does not necessarily increase its taken-for-granted status. As density approaches an environment's carrying capacity, competitive effects increase with further entries resulting in lower rates of founding and survival (Dobbin & Dowd, 1997; Podolny, Stuart, & Hannan, 1996).

Institutional perspectives emphasize field level structuration and isomorphic processes that reduce variation as populations grow. Organizations in highly institutionalized environments are forced to become increasingly more similar with each other and with features of the environment (DiMaggio & Powell, 1983; Meyer & Rowan, 1977). As new fields become "structurated," organizations tend to become more homogenous through isomorphic processes thereby increasing their chance of survival (Meyer & Rowan, 1977; Zucker, 1987). Competitive isomorphism results from selection processes within an organizational community that are driven by competition. Organizations that compete for the same limited resources tend to become more similar as they adopt standard responses to environmental conditions. The weakest competitors that are selected out will represent organizational forms that are not optimally adapted to

changing environmental demands (Hannan & Freeman, 1977). Institutional isomorphism has to do with the competition for symbolic and material power. DiMaggio and Powell (1983) describe three types of institutional isomorphism that lead to organizational convergence around a common form:

1. *Coercive*: Pressure from parent organizations, cultural expectations, state legitimation structures or other societal demands
2. *Mimetic*: Imitation of more successful or visible examples to reduce environmental or technical uncertainty
3. *Normative*: Influence of cognitive authority and professional standards created by academia, professional networks, and trade associations.

The authors posit that isomorphic pressures will be greater under such conditions as: greater organizational interaction with state agencies, fewer alternative organizational models, ambiguity in goal specification, greater field professionalization, or greater field structuration.

The development of new organizational forms may also be dependent on population dynamics of existing forms within the organizational community (Ruef, 2000). Based on findings from selected studies, Aldrich (2003: 302) suggests a range of possible interorganizational population relations in terms of growth effects. In conditions of full competition, growth in one population will detract from growth in the other and vice versa. With partial competition, only growth in one population will negatively impact growth in the other. When one population grows at the expense of the other, competition is considered predatory. If populations have no effect on each other's growth, then competition is considered to be neutral (e.g. hospice and ALF). Conditions of partial or full mutualism may exist if one or both populations in overlapping niches

benefit from the existence of the other (e.g. ALF and real estate developers). A symbiotic relationship exists when two populations that are in different niches benefit from the existence of the other (e.g. ALFs and institutional investors). Finally, a dominant organizational population may control the flow of resources to another.

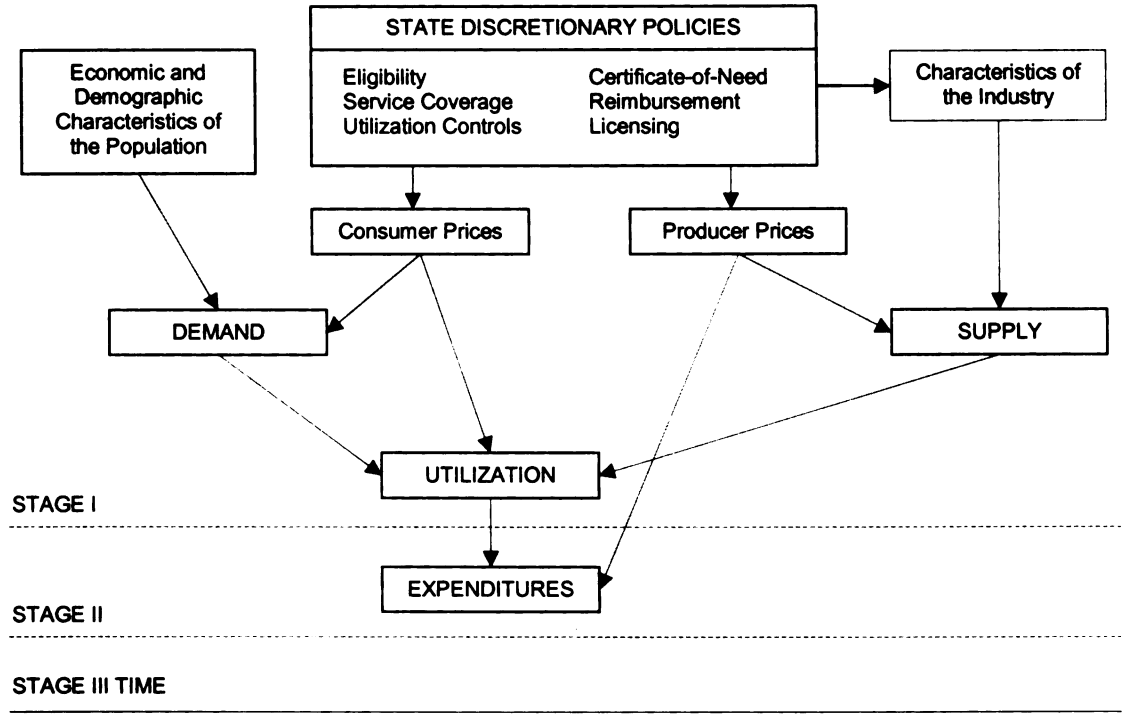
Health Economics

Studies that examine the relative merits of different health or long-term care policy options commonly employ an economics framework either explicitly or implicitly. Addressing current and future need for long-term care services is typically framed in terms of the growing demand for services, the available supply of service providers and the role of policies that ultimately influence service utilization and public expenditures. According to Feldstein (1998), economics can contribute to health policy development by providing the tools with which government can achieve its objectives of improving market efficiency and redistributing services and resources. The contribution of economics lies with "positive" analysis, which examines the consequences of particular policies (who benefits and bears the burden), as opposed to "normative" analysis, which focuses on what should be implemented. Premised on the underlying concept of rational choice and the basic problem of scarcity, economists use two basic tools to examine issues of efficiency and distribution. These include (1) marginal analysis for optimization problems (allocation of scarce resources to minimize production costs or maximize output) and (2) supply and demand analysis (for predicting new equilibrium situations with respect to changes in supply, demand, price, and corresponding expenditures). Welfare criteria must also be applied to evaluate how better or worse off people will be. With respect to health care services, these tools may be used to help

governments answer questions of economic efficiency (consumption and production, i.e. how much to spend, how best to provide) and health service equity (how to distribute services) (Feldstein, 1998). Recognized limitations for applying economics to medical care include flawed assumptions about consumer rationality, the limited access to information among consumers, as well as the vulnerable position of health consumers. Nevertheless, economics has been widely used in policy decision-making processes by examining the costs and benefits of different policy choices.

The present study employs an economics-based framework proposed by Paringer (1985) and adapted by Newcomer, Flores and Hernandez (Forthcoming) to examine the relationships between policy, demand and supply developments in Oregon over time. Paringer notes that states have targeted nursing home care over the last few decades since it has represented a large share of Medicaid growth. Although state Medicaid programs operate under minimum federal guidelines, Paringer notes that they have significant autonomy through discretionary policies to exceed minimum standards in four policy areas: (1) eligibility, (2) utilization control, (3) service coverage, and (4) reimbursement. These discretionary policies can be used to achieve the state's fiscal and programmatic policy goals. Reported variation in Medicaid expenditures and enrollment are a function of how these state discretionary policies are implemented (Harrington, 1999; Kane, Kane, Ladd, & Veazie, 1998; Kitchener, Ng, & Harrington, 2003b). Paringer provides a 3-stage economic framework for analyzing Medicaid state policy changes and their impact in the context of supply and demand. The first stage examines how state policies can affect expenditures and/or utilization through policies directed at adjusting either the demand or supply for services (Figure 1).

Figure 1 Economic Framework for Analyzing Long Term Care



Source: Paringer, 1985

Demand is understood as the number of people who want to purchase a particular long-term care service for a given price. The quantity demanded is a function of state or community sociodemographic and economic factors; health status; the price of services; the price and availability of substitute / complementary services; individual resources; individual tastes and preferences. Supply is understood as the amount of service that providers may be willing to provide at a given price. The long-term care supply is a function of the basic industry structure (e.g. number of beds; ownership type; affiliation); service costs (e.g. labor, construction / development); and state / federal policies. This framework distinguishes between demand, utilization and need noting that demand will equal utilization when a market is in equilibrium. In conditions of excess demand, people desire more services at given prices than are actually available. Excess supply exists when there is unused capacity as indicated by facility vacancy rates. Theoretically,

market forces should cause excess demand or excess supply to be temporary conditions that will adjust themselves often through price adjustments or rationing. Providers who enter the market in a situation of excess demand may ration the services to those for whom a higher financial return is expected. When the return for private pay clients is higher than for Medicaid clients, private pay residents will be preferred. In situations of excess demand, demand-side discretionary policies (e.g. increasing the income threshold for Medicaid eligibility) will have no effect on utilization since the supply shortage can not accommodate the increased demand. Such policy, supply and demand dynamics will ultimately affect utilization rates for different LTC services, which in turn influence state expenditures (Figure 1). The third stage of this model considers the impact of state discretionary policies and changes in supply, demand, utilization and expenditures over time (Paringer, 1985).

A range of licensing policies may be adopted by states to achieve agency goals of maximizing resident quality of care or quality of life. Regulatory changes may also be made to reduce unnecessary moves to costlier, institutional settings. Newcomer and colleagues (Forthcoming) consider both the intended and unintended consequences of adopting such licensing requirements as increased staffing standards and training, fire suppression systems, private apartment-style units, and less restrictive admission and retention criteria. Possible unintended consequences include higher rental or service charges, reduced legitimacy or supply of smaller non-apartment style facilities, and limited access for lower-income residents. For example, changing state licensing provisions that would allow AL/RC providers to admit more frail residents could significantly alter service demand by increasing the total number of individuals who could potentially be served in these settings to include those who are most impaired.

Demonstrating a larger potential market may allow providers to convince lenders to finance new supply development or expansion efforts. However, regulatory changes that allow a higher service capacity are often conditioned on other requirements to protect resident health and safety, such as higher staffing levels, enhanced physical plant life safety features, and nursing oversight. The unintended consequences of such policy changes would be to raise prices, which could constrain demand by lower income residents, particularly in the absence of adequate public subsidies.

Newcomer and colleagues (Forthcoming) consider the effects of other AL/RC financing polices that have been commonly adopted to realize various policy goals. For example, state loan programs may increase the supply of affordable AL/RC supply by providing more favorable rates, which lower monthly costs thereby increasing demand. However, smaller and non-apartment style providers may not qualify for such loans. Such conditions could limit growth in this category of providers, which seem more likely to serve residents who are more impaired, non-White and Medicaid eligible. Most states use Medicaid dollars to pay for AL/RC services and facilitate access for eligible residents yet provider and resident participation rates remain relatively low (Kitchener et al., 2006; Mollica & Johnson-Lamarche, 2005). Payment levels may not produce increases in the supply of public AL/RC beds if rates are set below private market rates in conditions of excess demand (Newcomer et al., Forthcoming) or if they are lower than the marginal cost of serving an additional Medicaid resident under most conditions (Paringer, 1985). Raising reimbursement rates should induce providers to increase supply by expanding the number of beds available to Medicaid residents either through new construction or allotted units/beds. However, other conditions may continue to limit affordable supply

growth, such as inadequate room and board payments, lack of development financing, and excess private-pay demand.

Factors not included in Paringer's model are policies regarding alternative LTC services and corresponding changes in the competitive environment. States may adopt policies to reduce nursing home use (e.g. preadmission screening, community relocation programs) and / or control supply growth (certificates of need, moratoria). While such policies may create favorable demand conditions that stimulate AL/RC supply growth, states have also sought to expand a fairly broad range of HCBS options, typically intended to allow individuals to remain in their own homes. Those that may be covered by state Medicaid programs include case management, in-home personal care, chore assistance, home health, adult day care, and respite services (Smith et al., 2000). As a result, "access to and demand for assisted living, especially among individuals eligible for Medicaid, is directly influenced by the combination of constraints on admission to nursing homes, the home care alternatives available, and the relative subsidies available for assisted living" (Newcomer et al., Forthcoming).

Chapter 3: Residential LTC in the US and Oregon

This chapter provides an overview of residential long-term care (LTC) developments in the U.S. and Oregon beginning with background information about assisted living / residential care (AL/RC) and LTC. The next major section summarizes what is known about AL/RC demand and supply by describing LTC demand generally and AL/RC resident characteristics specifically, as well as AL/RC industry and supply trends. The final section examines the AL/RC policy environment by describing state regulatory and financing trends.

Background and origins

AL/RC is often conceptualized by its location within the broader long-term care and health care fields. Although various stakeholders differ on how AL/RC should be defined, there is general agreement that AL/RC organizations include non-nursing home, residential settings that provide room, board, assistance with activities of daily living (ADLs), and 24-hour oversight (Assisted Living Workgroup, 2003). LTC has been broadly defined "as an array of health care, personal care, and social services generally provided over a sustained period of time to persons with chronic conditions and with functional limitations" (Wunderlich & Kohler, 2001). Here, LTC is distinguished from acute and primary health care by its extended duration and greater emphasis on personal care and social services. AL/RC organizations represent one of several LTC provider categories along with nursing homes, adult day care, home care and others. Assuming a range of LTC options with increasing service capacity and cost, nursing homes might occupy the highest position along such a continuum. At the other end are individuals and

organizations that provide scheduled services to clients who live in their own homes. The broad category of residential care settings, which include assisted living, are often conceived as falling somewhere in the middle depending on working definitions and the criteria being used to examine building and service characteristics (Zimmerman, Sloane, & Eckert, 2000). As of 1998, the typical AL/RC setting was a free-standing organization operating for less than 10 years and licensed to provide personal assistance services to about 50 residents (Hawes et al., 1999). Excluded from this study were smaller organizations that have been examined by others (Harrington et al., 2005; Hedrick et al., 2003; Newcomer, Breuer, & Zhang, 1994; Salmon, Hyer, Hedgecock, Zayac, & Engh, 2004) using broader AL/RC definitions.

Residential care has existed for several decades in some form, traditionally as small "mom-and-pop" operations. Known as boarding homes or board and care homes, these small settings provided personal care and oversight for a handful of clients, often in the service provider's own home (Pratt, 2004). Since at least the late 1800s, "homes for the aged" also represented a larger and related organizational form, often owned and operated by state or county governments to meet the housing and care needs of indigent populations. Other more recent forms of group residential care have included campus style Continuing Care Retirement Communities (CCRCs), smaller adult foster homes, and larger adult congregate housing with coordinated services (Kane & Wilson, 1993).

The more recent emergence of a type of residential care termed "assisted living"—distinct from what had become the less reputable "board and care" category--is believed to be more of a market phenomenon in response to the availability of private development financing, state LTC policy developments, and consumer preferences (Hawes et al., 1999; Mor, Sherwood, & Gutkin, 1986; Wilson, 1995). Entrepreneurial

efforts in different parts of the country produced hybrid settings that would look more like traditional housing but with greater service capacity than traditional board and care, thus allowing residents to "age in place" (Wilson, 2004). During the late 1980s and early 1990s, these projects were typically financed using owner equity, private investor groups or small business loans. At the time, state agencies were also beginning to rethink their residential care programs in response to local market activity, quality of care issues and state fiscal concerns. Adopting policies that would facilitate use of less costly AL/RC services by Medicaid nursing home eligible residents was proposed as one of several strategies that states could use to reduce nursing home utilization and related Medicaid expenditures (Alecxih, Lutzky, Corea, & Coleman, 1996; Doty, 2000; J. Wiener & D. G. Stevenson, 1998). As discussed further below, unique features of state policy environments likely conditioned the adoption or expansion of emerging form features.

As a laboratory of health and long-term care (LTC) policy reforms, Oregon's early innovations in AL financing, regulation, design and practice have received considerable attention and have influenced related developments in other states. Numerous reports have documented Oregon's LTC rebalancing efforts through structural, policy, and programmatic changes adopted over the last three decades (Justice & Heestand, 2003; Ladd, 1996; Sparer, 1999; Walters, O'Shaughnessy, Weissert, Stone-Axelrad, & Panangala, 2003). Two of Oregon's three AL/RC models were developed during this period and have received the most attention. Residential Care Facilities (RCFs) had already been established since about 1977 and previously licensed as Homes for the Aged. These represented typical board and care facilities serving residents who were either low-income elderly or individuals with mental retardation / developmental disabilities (MR/DD). Although typically freestanding organizations, RCFs might also

be a wing of a larger nursing facility. Living spaces could be shared by multiple residents and service capacity did not typically accommodate heavier care needs. Adult Foster Homes (AFH) were formally adopted as a nursing home alternative in 1981 and consisted initially of private residences that were first registered and later licensed to provide care for up to 5 residents.[2] Assisted Living Facilities (ALFs) emerged as a distinctly licensed form in 1990 although prototypes were developed in the 1980s under existing RCF regulations (Wilson, 1990). Both ALFs and RCFs currently serve 6 or more residents and now provide a similar range of personal care and health-related services. ALFs have been distinguished from RCFs by having only private apartments, having been originally required (rather than permitted) to provide a higher level of care, and having a philosophical orientation discussed in later sections of this report. All three settings are distinguished from Nursing Facilities (NFs), which provide nursing care on a 24-hour basis in institutions that meet requirements for Medicare and Medicaid nursing homes.

Overview of Assisted Living / Residential Care Research

Information about AL/RC providers and residents has not been regularly collected and reported at the state or national level. A number of federally sponsored AL/RC studies have reviewed policy developments (Lewin-VHI, 1996), examined quality of care and consumer protection issues (GAO, 1997, 1999; Reschovsky & Ruchlin, 1993), and described facility and resident characteristics both nationally and within selected states (Hawes et al., 1999; Spillman et al., 2002; Zimmerman, Sloane, & Eckert., 2001).

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[2] In Oregon, non-relative, professional AFHs are distinguished from Relative Foster Homes in which Medicaid eligible residents receive services in the home of a non-spouse relative provider.

Periodic AL/RC reports produced by the National Academy for State Health Policy have described state-level regulatory, financing, Medicaid participation and supply trends, as well as related federal policy developments (Mollica, 1995, 1998; Mollica, 2000, 2002; Mollica & Johnson-Lamarche, 2005). State reported supply data for a broader range of AL/RC categories, such as "non-aged" facilities, have also been collected for selected years (Harrington, Chapman, Miller, Newcomer, & Miller, 2003).

Studies describing the organizational and resident characteristics of Oregon's new ALF (Kane, Illston, Kane, & Nyman, 1990; Kane & Wilson, 1993) and AFH programs (Kane, Kane, Illston, Nyman, & Finch, 1991) drew attention to promising developments that allowed Medicaid nursing home eligible clients to be served in these lower priced and less restrictive settings. Quality of care and other consumer protection issues were reported in Oregon and three other states following a request by the U.S. Senate's Special Committee on Aging (GAO, 1999). Other recent Oregon studies have examined outcome trajectories and placement preferences for AL and nursing facility residents (Frytak, Kane, Finch, Kane, & Maude-Griffin, 2001; Reinardy & Kane, 2003), use of Medicaid dollars to pay for AL services (O'Keeffe et al., 2003), operationalization of AL values in marketing materials and daily practice (Carder, 2002a, 2002b), and implications of consumer discourse in assisted living (Carder & Hernandez, 2004).

In the absence of any national definition of AL/RC, as well as the large variety self-descriptive and categorical terms used by providers and states, AL/RC studies have employed different working definitions, inclusion and exclusion criteria. While there is general agreement that AL/RC excludes facilities that are licensed to provide 24-hour skilled nursing care, studies have used a range of attributes to define AL/RC, e.g. facility size, service mix, self-definition, number of residents per unit, year built, licensure status,

target population, etc. As a result, most of the AL/RC literature provides a wide range of fairly disconnected insights into how particular aspects of this industry may be evolving in selected facilities, local communities, states and points in time. The wide range of measurement, sampling, data collection and reporting strategies makes it particularly difficult to compare findings across studies. Nevertheless, the next two sections attempt to describe what is known about those who need and provide AL/RC and LTC, more generally.

Demand for Long-Term Care

Although advanced age is a key predictor of LTC services, particularly for nursing home care, LTC users include people of all ages who need some type of assistance with daily living activities (ADLs). According to data from the National Health Interview Survey and the National Nursing Home Survey, there were an estimated 9.5 million individuals who required long-term care in 2000, almost two thirds of these were age 65 or older. Most individuals needing LTC were living in community-based settings (83%), as opposed to nursing homes (17%). Of the estimated 7.9 million adults receiving long-term care in the community, more than half (57%) were older (65+). By comparison, most of the 1.6 million nursing home residents (94%) were age 65 or older (Health Policy Institute, 2003; Jones, 2002).

Demand for LTC services, including AL/RC, has been growing due to the increasing number of individuals who have chronic illnesses and/or who are older (Harrington, Swan, Wellin, Clemena, & Carrillo, 2000). While there are more individuals under age 65 with a chronic condition, advancing age increases the likelihood of having a chronic condition. As of 2000, the older population (age 65+) numbered 35

million or 13% of the US population—a 12% increase from 1990. The number of individuals 85 years of age or older is expected to more than double from 4.2 million in 2000 to 8.9 million in 2030 (Administration on Aging, 2002). More than half of this "oldest-old" group receives long-term care in community settings or nursing homes. Although prevalence rates for chronic disability among the U.S. elderly have been declining, the absolute number of older adults living in the community requiring assistance with 1 to 6 ADLs grew by about 18% from 1982 and 1999 (Manton & Gu, 2001). During the same period, greater use of HCBS is believed to partly explain a 20% decline in the reported number of institutionally-based elderly (Cutler, 2001; Manton & Gu, 2001).

Long-term care includes a range of paid and unpaid services provided to older and disabled adults. This care includes assistance with: (1) ADLs (e.g. bathing, dressing, eating, and toileting), (2) instrumental activities of daily living (IADLs, e.g. shopping, meal preparation, light housekeeping, and managing money), as well as (3) skilled nursing or therapeutic care to manage chronic conditions. The range of ADL needs varies considerably among community-based residents and is more intensive for nursing home residents. One in five community-based LTC adults require assistance with three or more ADLs compared to three in four nursing home residents (Health Policy Institute, 2003; Jones, 2002). Among older adults, increasing difficulty with performing ADL tasks is associated with moving from independent housing to supportive housing (Newcomer, Kang, Kaye, & LaPlante, 2002).

Table 1 presents estimates of the number of adults with limitations in two or more activities of daily living (ADLs) in the U.S. using data generated by The Lewin Group, which combine national level data on persons with disabilities with state-level data from

the U.S. Census Bureau.. Adults with two or more ADL limitations are estimated to increase by 22% from about 2.6 million individuals in 2005 to about 3.2 million individuals in 2015. By comparison, this segment of Oregon's population will increase by 20% from about 32,500 individuals in 2005 to about 38,900 individuals in 2015 (not shown). The fastest growing segment of this population includes those individuals aged 85 years and older, which will increase by 24% in Oregon compared to 35% for the U.S.

Table 1 Estimated Number of Persons with Two or More Limitations in Activities of Daily Living (ADLs), by Poverty Status, in the U.S.

Persons with 2+ ADLs by age and income

Percent of Poverty	2005			2010			2015		
	18-64	65+	85+	18-64	65+	85+	18-64	65+	85+
< 100%	219,512	214,057	72,282	229,737	236,766	86,471	235,503	267,832	96,599
< 150%	337,753	438,757	148,578	353,646	484,871	177,662	362,791	547,720	198,240
< 200%	432,032	619,419	208,031	452,489	683,776	248,724	464,351	771,823	277,412
All Income	712,477	1,443,009	479,794	746,396	1,592,358	575,029	766,482	1,797,206	641,993

Source: Author's analysis based on projections generated by The Lewin Group through the HCBS State-by-State Population Tool, available on-line at http://lewingroup.liquidweb.com/cgi-bin/woodwork.pl.

Assisted Living / Residential Care Resident Characteristics

Although there is general agreement about the growing demand for LTC services as the elderly population continues to grow, estimating demand for the AL/RC segment of that LTC market may be more difficult (NCAL, 2001). One way to examine potential AL/RC demand has been to describe the current residents of these settings.

Demographic. Recent national studies focus on AL/RC serving a primarily older population. Numerous studies report a great deal of variability in resident characteristics between and within states. These characteristics have been examined in relation to

different facility-level measures (types, size, affiliation, policies, staffing), which may be somewhat shaped by state regulatory and reimbursement policies (Chapin & Dobbs-Kepper, 2001; Curtis, Kiyak, & Hedrick, 2000; Hawes et al., 1999; Newcomer, Wilson, & Lee, 1996; Phillips, Hawes, Spry, & Rose, 2000). Looking across recent national and multi-state studies, the typical resident seems to be a white, widowed woman in her early to mid-80s (Hawes, Phillips, & Rose, 2000; Morgan, Gruber-Baldini, & Magaziner, 2001; Spillman et al., 2002). AL/RC use by racial / ethnic minority populations is disproportionately low. In one national study, almost all AL/RC residents were white (99%) (Hawes et al., 2000), compared to 89% of the oldest-old (85+) U.S. population (U.S. Bureau of the Census, 2000) and 85% of the nursing home resident population (Gabrel & Jones, 2000).

Service Need. Residents of AL/RCs for the elderly need care but are generally less impaired than nursing home residents (Borrayo, Salmon, Polivka, & Dunlop, 2002; Frytak et al., 2001; Spillman et al., 2002; Zimmerman et al., 2003). In 1998, about one in two (52%) AL/RC Medicare eligible residents needed help with three or more ADLs compared to three in four (74%) nursing home Medicare eligible residents (Spillman et al., 2002). At least half of AL/RC residents seem to need assistance with bathing (Hedrick et al., 2003; Newcomer et al., 1994; Zimmerman et al., 2001). Fewer residents receive assistance with hygiene, toileting, transferring and dressing; however, considerable variation is reported across studies and types of organizations. Medication assistance seems to be one of the more common services required by about three in four (75%) AL/RC residents (Hawes et al., 2000; Wylde, 1998). Compared to California, Florida and Ohio, Oregon ALFs reported the highest levels of need for assistance with

ADLs (GAO, 1999)[3]. There is evidence that average frailty levels within the national AL/RC resident population have been increasing (Hawes et al., 1995; Spillman et al., 2002). Such a trend would be consistent with policy changes permitting higher levels of impairment in AL/RC settings (Mollica & Johnson-Lamarche, 2005) .

Income. Comparing the income distribution of AL/RC residents and the older U.S. population suggests that individuals in the lowest income categories are less likely to use AL/RC. Residents in one national study were less likely to have incomes below $25,000 per year compared to individuals age 75 or older in the US overall (Hawes et al., 2000; U.S. Bureau of the Census, 1998). Using a much broader AL/RC definition including settings that are smaller or offer lower levels of services, Medicare Current Beneficiary Survey data indicates that almost half (48%) of AL/RC residents had annual incomes below $10,000 (Spillman et al., 2002). There is some indication that the proportion of lower income clients may have decreased in AL/RC and increased in nursing homes during the 1990s (Spillman et al., 2002). This may be due to newer facilities targeting a more affluent clientele (Golant, 1999; Kane & Wilson, 2001). Institutional lending practices during the 1990s may have driven this trend by defining the target market for project viability at a minimum of $25,000 to $35,000 annual income per year (DeShane, 2002; ProMatura Group, 1999).

Considering the high cost of AL/RC services and the limited extent of public assistance programs discussed below, one would expect demand to be effectively curtailed for lower income residents. Almost no information is currently available about sources of payment to draw conclusions about the role of Medicaid and other public or private resources used to cover the cost of care when personal income is inadequate.

[3] Oregon AFHs and RCFs were excluded from this study

Despite sampling limitations, industry supported surveys indicate that a small proportion of residents rely on Medicaid (7 – 9%) or family assistance (8 – 16%) (National Center for Assisted Living, 2001; Wylde, 1998). By comparison, more than half of nursing home residents (59%) rely on Medicaid as a primary source of payment (Jones, 2002).

Assisted Living / Residential Care Supply

Efforts to describe the supply of AL/RC organizations and understand their role in providing LTC have been limited by the lack of any uniform definition or trend data across states (Wunderlich & Kohler, 2001). National AL/RC supply estimates vary depending on the inclusion criteria and sampling procedures used by particular studies. The most recent survey of state agencies that license assisted living and board-and-care facilities primarily for older adults reported about 36,000 facilities with 909,000 units or beds across the 50 states and the District of Columbia (Mollica & Johnson-Lamarche, 2005). When counting all types of AL/RC, the national supply is probably higher. Earlier estimates by Harrington and colleagues (2005), which did not exclude providers who were smaller or served non-aged populations, reported about 51% more facilities and 13% more beds in 2002 than for the same period reported by Mollica (2002).

As indicated by the resident characteristics described previously, there is some indication that AL/RC organizations have not generally targeted segments of the population that are low-income or racial / ethnic minorities. National survey findings suggest that individuals living in rural areas may also face access problems based on the disproportionately low AL/RC supply in non-metropolitan areas relative to the distribution of the older population (Hawes et al., 2003). Compared to metropolitan

AL/RCs, non-metropolitan facilities in this study tended to be much smaller and more likely to have a higher proportion of semi-private accommodations.

Recent Growth

There is general agreement that the AL/RC industry has experienced considerable growth, particularly during the 1990s. From 1990 to 2002, the number of licensed AL/RC organizations increased by 57% while bed supply increased by 97% (Harrington et al., 2005). This study reported wide variation in growth rates across states while suggesting that some growth may not represent new beds in those states that had modified regulations to require licensure of previously unlicensed and undercounted beds. By 2004, Oregon had the largest population-adjusted AL/RC bed supply with 64 beds per 1,000 older (age 65+) adults, followed by Maine (47.3), Virginia (40.7), California (40.5) and Pennsylvannia (40.3). By comparison, Louisiana (8.3), Illinois (9.5), Mississippi (11.9), Iowa (12.0) and Arkansas (12.3) were the lowest ranking states in terms of older population-adjusted bed supply (Newcomer et al., Forthcoming). Studies have not examined factors contributing to differences in overall supply or changes over time.

There is little work that describes how particular AL/RC forms grew in quantity, whether proliferating across the U.S. or within various states. However, overall growth for the AL/RC industry during the last two decades has been largely fueled by private- rather than public-sector financing and payment sources. As a point of contrast, early growth for the nursing home industry was stimulated by state dollars, such as the 1954 amendment to the Hill-Burton act, loan guarantees through the Federal Housing Administration starting in 1959, and passage of Medicare and Medicaid in 1965 (Starr, 1982; Vladeck, 1980). State financing has played a notable though much smaller role in

facilitating AL/RC growth as discussed further below. Private sector financing options for new AL/RC ventures expanded considerably in the 1990s as developers were able to secure capital through public offerings on Wall Street, larger commercial loans, real estate investment trusts (REITs), and venture capitalists (Nordheimer, 1995; Pallarito, 1995). Even during a declining year of Wall Street financing, there were 15 public offerings in 1997 worth a total of $1.4 billion and an estimated $12.4 billion in private capital to support continued growth (Vickery, 1998). These sources of capital fueled regional and national expansion efforts for newly established AL/RC chains, such as Alterra, Assisted Living Concepts, Emeritus, and others. Diversification efforts by large chains in the hospitality (Hyatt, Marriott), nursing home (Beverly Enterprises, Manor Care), and senior housing (American Retirement, Holiday Retirement) industries may have stimulated some growth despite their representing a modest share of the overall supply (Nordheimer, 1995; Wiener, Stevenson, & Goldenson, 1999). While this more visible segment of the AL/RC industry likely represents a modest share of the overall supply (Harrington et al., 2005), it is likely that smaller operators benefited indirectly from these developments as AL/RC came to be viewed as a less risky and legitimate investment opportunity among conventional lenders and private investors.

Organizational Form Diversity

The AL/RC industry is often represented as being comprised of multiple organizational forms, such as (1) a "housing with services" model that is more geared toward housekeeping and social services than personal care, (2) a "personal care" model represented by traditional board and care, and (3) a more service-intensive "nursing home replacement" (or, aging in place) model designed to provide an intermediate level of care (Wilson, 1994). Recent studies have differentiated AL/RC forms by service capacity and

physical environment characteristics. For example, Hawes and colleagues (1999) used five classifications to categorize the national AL/RC supply based on reported levels of service (high or low) and privacy (high, low, or minimal). Those categorized as offering high levels of service and privacy[4] represented a small proportion (11%) of the U.S. population of AL/RC organizations. A variety of other classification strategies—whether distinguished by size, licensing category, age and/or service mix--have been used to describe within- and between-state organizational characteristics while exploring possible linkages with resident characteristics and outcomes. For example, residents in smaller AL/RC categories seem more likely to be poor, nonwhite and frail (Hedrick et al., 2003; Newcomer et al., 1994; Salmon et al., 2004; Zimmerman et al., 2003).

AL/RC organizations vary in terms of the types of clients they are willing or able to serve, which is usually determined by an organization's service capacity and residency (admission / discharge) policies. Core services typically include some level of assistance with personal care, medication supervision, social-recreational activities, meals, and housekeeping. What seems to distinguish organizations is the intensity and frequency of personal care assistance that an organization is willing and able to provide, as well as the availability of other specialized health and behavioral-related services (Hernandez, 2006). Consequently, AL/RC forms have emerged that serve different segments of the LTC population ranging from those who need minimal ADL assistance to individuals who would otherwise be in a nursing facility due to intermittent nursing needs, ADL dependence, and/or advanced cognitive and behavioral limitations (Hawes et al., 1999; Zimmerman et al., 2001). Such needs-based conditions for residency are reflected in

[4] Criteria for this category included having 80% or more private accommodations, employment of a full-time Registered Nurse regardless of facility size, and provision of nursing care by employed staff.

admission or discharge policies, which may be set according to some combination of state licensing requirements and organizational capacity / preference.

Other aspects of an organization's residency criteria and price may further segment the targeted market by resident payment source and income. Nationally, less than one in five (18%) administrators interviewed from "high privacy" / "high service" AL/RCs reported having at least one publicly subsidized resident. A small proportion of administrators would accept SSI (18%) or Medicaid (11%) and almost half (45%) would discharge residents when they exhaust their private funds (Hawes et al., 2000). Pricing policies vary by type of organization, available services, resident unit amenities and geographic market (Hawes et al., 2000; MetLife, 2005; Wylde, 1998). Findings suggest that AL/RC services may be priced higher than what typical LTC users may be able to afford (Hawes et al., 2000; Wylde, 1998).

Wide variation of physical environmental characteristics has been reported between and within states. AL/RC types may be distinguished by the number of residents typically permitted in each unit or sleeping area, the type of personal living space available, and the total number of individuals that can be served (Han, Sirrocco, & Rembsburg, 2003). For example, one type includes adapted single-family homes or purpose-built structures designed to accommodate no more than a handful of individuals either in shared- or private-bedroom units. Owners are typically the primary caregivers with additional staff hired depending on needs of the older person, state requirements, and size (Carder, Morgan, & Eckert, 2005). In terms of overall bed supply, estimates from national and multi-state studies suggest that the most common type of AL/RC settings are those that serve up to 50 residents living in private or semi-private rooms (Hawes et al., 1999; Zimmerman et al., 2003). These include newer purpose-built

facilities, older board and care homes and converted nursing home wings. A third, more recently developed AL/RC type is distinguished by individual living units that may only be shared by resident choice and contain features typically found in an apartment, such as a full private bathroom and kitchenette.

Assisted Living / Residential Care State Policy Developments

Regulatory and finance policy activity at the state level, and to a lesser extent at the federal level, have responded to AL/RC market developments while generally providing favorable conditions for industry growth and form diversity. State policies provide the conditions and restrictions for organizations choosing to develop and operate an AL/RC through licensing regulations that specify the necessary components of an organization's physical and operational blueprint. State and federal agencies may also provide development financing to build new projects and provide financial assistance for eligible residents through direct subsidies to residents and service reimbursement to providers.

Licensing and Regulatory Policies

Much of the interest in AL/RC has had to do with the adequacy of state regulatory and enforcement activities for ensuring some level of safety and health for the more vulnerable adults who choose to live in such settings. Research and media reports about variable quality across AL/RC organizations and states (Fallis, 2004; GAO, 1997, 1999; Hawes, Wildfire, & Lux, 1993; McCoy & Hansen, 2004; Phillips et al., 1995) have contributed to ongoing discussion and debate about the need for improved state oversight standards (Assisted Living Workgroup, 2003; Retsinas, 2005). Specific recommendations and best practices for improved regulatory oversight have appeared in

several white papers and reports (Assisted Living Quality Coalition, 1998, 2000; Assisted Living Workgroup, 2003; GAO, 2004; Wilson, 1996; Wunderlich & Kohler, 2001). Cautionary observations have been made about the unintended consequences or tradeoffs that may result from regulatory requirements that may: increase costs and reduce access for lower-income residents (Newcomer et al., Forthcoming; O'Keeffe et al., 2003); overemphasize quality of care versus quality of life domains (Assisted Living Quality Coalition, 1998; Kane & Wilson, 2001); or drive smaller operators out of business (Ball et al., 2005; Morgan, Eckert, Gruber-Baldini, & Zimmerman, 2004; Zimmerman et al., 2005).

In all states, operating an AL/RC requires licensure, certification or registration with a particular state agency. State administrative rules vary considerably regarding definitions and requirements for: physical plant design, staffing levels and qualifications, permitted / required range of services, residency (admission / discharge), resident rights, and other administrative policies, such as licensing renewal, monitoring and enforcement (Carlson, 2005; Mollica & Johnson-Lamarche, 2005). Since state rules may be more or less specific about these structural and procedural requirements, AL/RC organizational forms tend to vary both between and within states. For example, the creation of distinct licensing categories for smaller adult foster homes in some states may provide a legitimate blueprint that new operators can more readily adopt than in other states whose existing AL/RC regulations may be too costly or impractical for such small organizations. The creation of multiple licensing levels within a state or the lack of specificity about required nursing, behavioral or ADL assistance services (Carlson, 2005) allows organizations to choose whether they will maintain a higher or lower service capacity.

There has been substantial legislative and regulatory activity across states during the last decade in response to concerns about the increased frailty levels of residents, inadequate care and staffing practices. According to Mollica and Johnson-Lamarche (2005), 28 states had revised their regulations between 2003 and 2004 while 22 states were revising their regulations. Commonly revised provisions included minimum staffing levels, training requirements, residency criteria, consumer disclosure, contracts, and Alzheimer's special care units. By 2004, 41 states had adopted the term "assisted living" and 29 states and the District of Columbia had incorporated philosophical statements about privacy, autonomy and decision-making into regulatory or Medicaid standards. Little is known about the effectiveness of these regulatory developments in addressing quality concerns or any unintended consequences for AL/RC supply and use by lower income residents.

Finally, AL/RC growth may be partly explained by the relatively infrequent use of state certificates of need (CON) and moratoria policies to control the creation of new organizations. CON policies in states like New Jersey and Arkansas require state agency approval to develop an AL/RC by demonstrating that there is a need for such services in a community. Other states like North Carolina and Georgia have implemented moratoria on the issuance of new AL/RC licenses to control utilization by Medicaid residents resulting from excess bed capacity. Most states (84%), including the District of Columbia, used either CON's or moratoria to control nursing home supply (Harrington, Anzaldo, Burdin, Kitchener, & Miller, 2004). By comparison only 11 states had CON policies and 4 had moratoria policies in 2004 that restricted new AL/RC development and expansions--a slight increase from four years earlier (Mollica, 2000; Mollica & Johnson-Lamarche, 2005). Although little is known about the effectiveness of these policies in

limiting AL/RC development, possible consequences include reduced competition and higher prices in certain markets, as well as a reduction in the supply of lower-priced or Medicaid beds (Newcomer et al., Forthcoming).

AL/RC Licensing in Oregon

Oregon ALFs and RCFs are currently licensed by the Department of Human Service's division of Seniors and Persons with Disabilities (SPD). They have historically operated under separate regulatory standards authorized under RCF statutes but with different operational, environmental and philosophical requirements. For example, RCF regulations have used classifications for organizations that serve more or less impaired residents and staffing ratio's that vary by time of day and bed capacity. ALFs were originally expected to serve more impaired residents than RCFs but with staffing levels subjectively determined according to client needs. Individual units in RCFs must be at least 80 square feet per resident and may be shared by two non-related individuals. They must provide toilets for every 6 residents and showers or tubs for every 10 residents. ALFs must provide private apartment-style units that are at least 220 square feet plus a private bathroom and kitchenette. ALF regulations have also contained provisions for operationalizing philosophical principles of privacy, dignity, choice, individuality, independence and a homelike environment (Mollica & Johnson-Lamarche, 2005; O'Keeffe et al., 2003). In recent years, RCF regulatory revisions have incorporated many of the ALF provisions including philosophical principles and other operational requirements for assessments, service plans, residency agreements, personnel qualifications, move-out criteria and scope of services. ALFs and RCFs may use registered nurses to delegate skilled nursing tasks to unlicensed personnel. Both are inspected at least every two years with more frequent monitoring visits as needed.

Serious licensing violations can lead to licensing restrictions (e.g. admission restrictions and additional staffing requirements), civil monetary or criminal penalties, and license non-renewal, denial, suspension or revocation. A statewide moratorium on licensing new ALFs and RCFs has been in place since 2001 that includes various exception provisions.

Definitions and licensing requirements for "Residential Facilities" were first established in 1977 with periodic revisions during the last three decades. Although RCFs currently serve primarily older and physically disabled adults, they also served persons with mental retardation and developmental disabilities until 1985 when jurisdiction was transferred to the Mental Health Division.[5] Separate ALF licensing requirements were first adopted in 1990 with periodic revisions taking place since 1999. Unlike RCFs, which have received comparably less attention in state and national policy reports, more has been written about the origins of ALFs in Oregon.

Early theorization and codification of a distinct ALF model was largely the result of Keren Brown Wilson's work beginning in the early 1980s. Prior to proposing this model, Wilson had been involved in the design and operation of what was considered Oregon's first ALF prototype in 1982 and a second facility that served as the location for a Medicaid demonstration project when it opened in 1987 (Wilson, 1990). Developing these first projects involved ongoing negotiations with state officials and regulatory waivers to allow certain design features (e.g. locking doors and stovetops) and a broader range of services (e.g. incontinence and nursing care) than normally provided under existing RCF rules. By 1988, evaluation findings from the single Medicaid demonstration project, which involved serving 20 nursing home eligible clients at a

[5] OAR 410-05-080, effective March 1, 1985.

higher reimbursement rate than used for RCFs, provided the rationale for expanding the program statewide (Kane et al., 1990).

Working closely with SDSD, Wilson proposed fairly specific programmatic, environmental and philosophical components that would set ALFs apart from the existing residential care models in Oregon. The first of three major components of the proposed model was an environment whose normalization required using residential architectural styles and scale, providing privacy and control of one's personal space, and including features that would accommodate changing needs. According to Wilson (1993), individuals should be provided with their own living space that included such features as a food preparation and storage area, a private full bathroom with a roll-in shower, and a lockable front door. Second, a more comprehensive, flexible and less medically oriented package of services should allow residents to play a more active role in meeting their needs and preferences. An enhanced service capacity required a comprehensive assessment and service planning process to effectively deliver services to meet IADL, ADL and nursing needs. Finally, an overarching philosophical orientation would infuse the services and environment with the values described above. As part of this values re-orientation, Wilson (1995) argued that a shift was needed to reaffirm consumer autonomy and empowerment. Other key concepts--'aging in place,' bounded choice, shared responsibility and negotiated risk--were proposed in response to resident preferences to remain in these settings as their needs changed, and to manage individual preferences that might put a resident or others at risk. This early conceptualization of an ideal-type form of assisted living was largely reflected in initial licensing requirements for Oregon ALFs, as well as recent changes to both ALF and RCF rules that have added more procedural clarity and revised early concepts.

Development and Service Financing

State as Lender

Federal, state and local government agencies may provide direct assistance and development incentives to AL/RC developers through various financing mechanisms designed to help lower the cost of housing while facilitating or ensuring access for applicants with limited financial resources. Very limited financing options are available both for new or existing housing projects that are participating in programs funded by the US Department of Housing and Urban Development (HUD). These include the "Supportive Housing for the Elderly" and the "Assisted Living Conversion" programs, which are fairly small relative to the total AL/RC supply (GSA, 2002; HUD, 2000). State housing finance agencies also provide financing to affordable housing projects, which may include AL/RC in some states using tax credits and low-interest loans financed through general obligation bonds. National, state, or individual project trend data for the HUD and Low-Income Housing Tax Credit programs are not readily available. In 1997, loan programs administered by state financing agencies financed just 36 AL/RC projects and 30 multi-level LTC facilities in 31 states (Harrington, LeBlanc, & Wong, 2002).

Except for case studies and policy reports (Jenkens, Carder, & Maher, 2004; Wilden & Redfoot, 2002), little is known about the extent to which states and localities have supported AL/RC development through these public financing mechanisms. These reports identify program characteristics that present barriers to wider use among new and existing AL/RC projects. Originally designed to support affordable residential housing, eligibility requirements for these programs include non-institutional design features (i.e. private apartment-style units with full kitchens and baths) and service capacity

restrictions (i.e. no frequent nursing). State bond-financed loans and tax-credit programs may be less available to rural or smaller individual projects, due to investor and underwriter preferences for larger transactions that can offset their fixed costs (Jenkens et al., 2004). Furthermore, such programs are not generally operated to proactively stimulate AL/RC development in underserved areas (Newcomer et al., Forthcoming).

Resident Subsidies

The federal Supplemental Security Income (SSI) program is probably the most common direct subsidy for low-income AL/RC residents although recent national or state enrollment trends for this population are not available. Payment standards and eligibility requirements for this program are uniform across states (SSA, 2001). Twenty-eight states also have State Supplemental Payment (SSP) programs that can enhance SSI to cover additional AL/RC costs; however, most of these provide less than $100 per month (Mollica & Johnson-Lamarche, 2005). In California, individuals living in licensed Residential Care Facilities for the Elderly (RCFE) receive a federal monthly SSI payment of $603 and an additional $412 in State Supplemental Payments (SSP) (California Department of Social Services, 2006). Since national AL/RC market rates can be two to three times higher (MetLife, 2005), such subsidies may be inadequate to induce most AL/RC providers to expand the supply of affordable units or accept SSI/SSP recipients without additional subsidies (Newcomer et al., Forthcoming).

Provider Reimbursement

The Medicaid program is the largest public payer of LTC services for eligible individuals. Medicaid finances the health and long-term care needs of 52 million people in the US (Rowland, 2005), accounting for $173 billion (or 15%) of all US health care,

$51 billion (or 44%) of nursing home care and $14 billion (or 32%) of home health care expenditures (Smith, Cowan, Heffler, & Catlin, 2006). Over the next ten years, Medicaid expenditures are projected to double from $320 billion in 2006 to $670 billion in 2015 (Borger et al., 2006). While federal Medicaid statutes require states to pay for nursing home and home health care under their Medicaid programs, AL/RC and other home and community-based services are considered optional services (Smith et al., 2000).

Medicaid AL/RC and HCBS Policy Trends

In 2004, some type of Medicaid service payment for AL/RC residents was available in 40 states plus the District of Columbia. As shown in Figure 2, a growing number of states do provide some kind of Medicaid coverage for AL/RC residents.

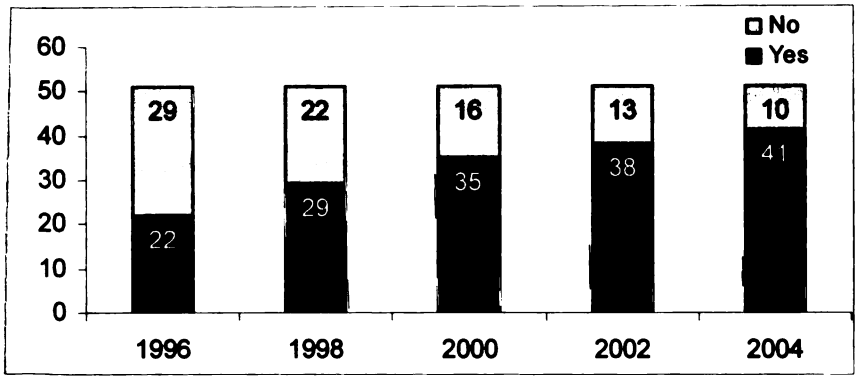

Figure 2 States Providing Medicaid AL/RC Payment, 1996 - 2004

Adapted from: Mollica, 1996, 1998, 2000, 2002; Mollica & Johnson-Lamarche, 2005
Notes: Includes fifty states and the District of Columbia; excludes AL/RC Medicaid programs for non-aged / disabled populations; reported figures have been adjusted so that states with programs that were approved or in pilot stage but not yet fully implemented were not counted as providing Medicaid coverage.

In most cases, states choosing to use Medicaid funds to pay for AL/RC services do so either by: (1) applying for a federal Medicaid 1915(c) HCBS waiver, (2) modifying the Medicaid state plan to include personal care as an optional service that can be provided for AL/RC residents (Smith et al., 2000). In 2004, eight states were using both options and eight states had capitated Medicaid LTC programs—whether financed using a

1915(c) HCBS waiver or a 1115 demonstration waiver—that could include AL/RC in their list of covered services (Mollica & Johnson-Lamarche, 2005).

State policy decisions to pay for AL/RC services under an HCBS waiver rather than as a state plan benefit have fiscal, operational, access and utilization implications. HCBS waivers (versus PCS) allow states to: specify the number of individuals served and maintain waiting lists; use the more restrictive nursing home eligibility criteria; use less restrictive income criteria, such as 300% SSI. States must also demonstrate cost effectiveness in relation to institutional care spending. As a state plan PCS benefit, states may not restrict the number of eligible individuals although income criteria may be more restrictive since the income threshold is much lower (Mollica & Johnson-Lamarche, 2005; Smith et al., 2000). Furthermore, individuals need not require institutional level of care and states are not required by federal statute to demonstrate cost effectiveness in relation to nursing home spending (Doty, 2000). However, Medicaid reforms enacted by the Deficit Reduction Act of 2005 will allow states to provide HCBS waiver services without having to apply for a waiver or demonstrate program cost neutrality. Under this new option, states will be able to use less restrictive need criteria, cap enrollment and maintain waiting lists, and offer the services in targeted geographic areas rather than statewide (Crowley, 2006).

Federal requirements for HCBS waivers allow states to define the types of AL/RC settings that will be eligible for reimbursement and the range of required services (Smith et al., 2000). Services typically include a range of personal assistance services, meals and medication oversight, as well as other optional services, such as medication administration, skilled nursing and transportation. Medicaid payments may not be used for room-and-board costs, which are paid by residents using personal income, state

supplementation where available, and family assistance where permitted. States may choose to include all types of AL/RC in their waiver program although some pay for certain types and not others. In states that recognize distinct AL/RC types, whether defined in Medicaid contracting or licensing provisions, the more common practice seems to include contracting all types but with different reimbursement rates (Mollica & Johnson-Lamarche, 2005). As a result, Medicaid covered AL/RC services may not be easily comparable across states since they may include a very different range of covered settings and required services. At the state level, Medicaid reimbursement policy decisions may be influenced by regulatory or statutory requirements, local supply characteristics, or the relative influence of various interest groups (O'Keeffe et al., 2003).

Differences in Medicaid AL/RC policy and program characteristics result in considerable variation in participation and expenditures trends across states. According to the most recent review of AL/RC Medicaid programs, states use a variety of reimbursement methodologies (e.g. tiered by impairment level, flat daily, case-mix adjusted, hourly, etc.), payment levels (e.g. up to $87 per day in Arizona compared to $47 per day in Florida), room and board rates, and personal needs allowances. The reported number of Medicaid participants per licensed beds ranged from about 5 participants for every 1,000 beds in Delaware to 6 participants for every 10 beds in North Carolina (Mollica & Johnson-Lamarche, 2005). State Medicaid waiver AL/RC programs vary widely in the number of population-adjusted participants and expenditures (Kitchener et al., 2006). Differences are likely the result of multiple programmatic factors including the age and size of the program, adequacy of payment levels, and eligibility requirements for clients and providers. Other studies have also identified several state-level supply, demand, policy, resource and political factors that predict Medicaid HCBS waiver

spending and utilization (Kitchener, Carrillo, & Harrington, 2002; Miller, Harrington, Ramsland, & Goldstein, 2002; Miller, Rubin, Elder, Kitchener, & Harrington, 2006).

Medicaid utilization and expenditures for AL/RC services have grown considerably, yet Medicaid participation rates remain low relative to nursing home care. Medicaid waiver program trends for more broadly defined AL/RC services and populations between 1995 and 2002 show that the number of participants nearly tripled to 120,000 and that expenditures more than quadrupled to $2.3 billion (Kitchener et al., 2006). Yet the number of Medicaid waiver participants reported in this study represented less than 12% of the licensed AL/RC supply in 2002 (Harrington et al., 2005). Nursing home residents are much more likely to rely on Medicaid (59%) as a primary source of payment (Jones, 2002). Possible organizational level explanations for lower Medicaid AL/RC participation include provider aversion to Medicaid reimbursement programs, which are thought to be inadequate, unresponsive to cost increases over time, and costlier in terms of more regulatory oversight and client needs (Mollica, 2002; O'Keeffe et al., 2003). Other reported state-level barriers to program expansion include state budget pressures, inadequate room-and-board coverage, restrictive financial eligibility criteria, and woodwork effect concerns among policymakers (Doty, 2000; Mollica, 2002; O'Keeffe et al., 2003).

Medicaid and AL/RC Reimbursement Policies in Oregon

The Medicaid program is the largest purchaser of long-term care services in Oregon. Financial eligibility criteria for Medicaid covered nursing home or waiver services are not as restrictive in Oregon compared to other states. Group A individuals are SSI recipients or have incomes at or below the state's SSI/SSP level. Group B individuals can earn 300% of SSI (or $1,692 per month in 2004). Oregon uses a Miller

Trust to allow categorically eligible individuals who earn more than 300% of SSI to qualify for Medicaid when income is insufficient to cover long term care costs. Functional eligibility criteria for Medicaid covered nursing home and waiver services is based on a system of 17 "service level priorities" (also known as "survivability levels"). Level 1 includes the most impaired clients who are dependent in mobility, eating, toileting, and cognition. The least impaired clients, who are in service level 17, need assistance in bathing or dressing (O'Keeffe et al., 2003).

By the beginning of the study period, Oregon had already been covering services both in institutional settings through its Medicaid state plan and in home and community based settings, mostly through its Medicaid waiver and to a lesser extent using state general funds. A small demonstration, known as the FIG Waiver Project, first began using federal and state dollars in 1979 to move nursing home residents into community based settings in five southern Oregon counties. FIG Waiver money was used primarily to pay for in-home care, as well as what later came to become licensed adult foster homes. In 1981, Oregon began using its Medicaid waiver program to pay for adult foster home, residential care facility and in-home personal care services statewide. Coverage for assisted living facilities was added in 1990 when it created the new licensure categories and after having contracted with its first demonstration site three years earlier (Kane et al., 1990; Ladd, 1996). By 2004, Oregon's CMS Form 372 reported covering the following HCBS service categories under the state's Medicaid waiver program for older and disabled adults: adult day care, adult foster care (both in relative and non-relative homes), assisted living facilities, home adaptation, home delivered meals, in-home care (both client and agency employed), specialized living facilities, and transportation.

Chapter 4: Methodology

Overall Research Design

The study uses a historical prospective design to examine changes in Oregon's LTC environment, as well as state- and county-level changes in AL/RC supply. The period observed for organizational supply trends is 1986 to 2004. Data come from a combination of both quantitative and qualitative sources. These include state administrative records, national datasets, key informant interviews, and a review of selected statutes, regulations, Medicaid reimbursement and public development financing policies. The setting and units of analyses for this study include the state of Oregon, its 36 counties and two focal organizational populations--licensed ALFs and RCFs.

The study has three major areas of analyses. The first set of descriptive findings is based on both qualitative and quantitative data sources that were examined to describe the changing environmental conditions in Oregon's long-term care field. The second set of descriptive findings is based on quantitative data that describe trends in the overall population and supply of assisted living / residential care organizations. The third set of predictive findings is also based on quantitative data but using multivariate analyses to identify predictors of county-level assisted living facility bed supply.[6] The research questions, data sources, and data collection procedures are described below followed by separate sections that describe the procedures for the descriptive and predictive analyses.

[6] Predictors of residential care facility bed supply were not examined since the data set was too unbalanced. There was a much larger number of counties with no residential care beds in numerous years of the study period (see Appendix B County RCF Bed Supply).

Research Questions

A principle aim of this study was to describe changes in Oregon's LTC environment that may have influenced ALF and RCF population dynamics and bed supply. Specific questions are:

1. What changes in Oregon's material-resource environment may have affected production flows to ALF and RCF organizations.
2. What changes in Oregon's institutional environment influenced population dynamics for ALF and RCF organizational populations.

A second aim was to describe the changing characteristics of two focal organizational populations both at the population and local level. The specific question is:

3. How have segments of the residential long-term care industry in Oregon changed in terms of organizational characteristics, such as size, rural location, specialization, acceptance of Medicaid?

A third aim was to identify state and local factors that might explain changes in the supply of ALF organizations within-counties, between counties and over time. The general question (specified further below) is:

4. How are time, demand, supply and policy characteristics associated with ALF bed supply?

Data Sources and Procedures

Original Data

Key Informant Interviews and Textual Materials

Interviews were conducted with 33 state officials, operators, developers, lenders and aging advocates who participated in semi-structured telephone and in-person interviews throughout the data collection stages of the project. These interviews were recorded using detailed notes and lasted between 25 minutes to 2 hours, with shorter follow-up correspondence by telephone or email. Contacts were made with state officials currently or previously responsible for state policies and programs, public and private lenders, representatives of AL/RCF provider and developer organizations, and representatives of advocacy organizations for older and disabled adults. Interviewees were selected and recruited either directly or indirectly through referral, starting with a convenience sample of contacts with whom the author had prior working relationships. The names and contact information for most of these individuals are publicly available from directors of state agencies, provider organizations, published reports, and advocacy organizations.

One of the purposes of these interviews was to gain further insight into the policy development / implementation process in Oregon during the study period, particularly in areas that have received less attention in previous studies. A standard set of questions was used with each interviewee category. For example, state officials were asked to identify and discuss different policies or programs, which in their experience had altered the mix of available options for residential long-term care. They were asked to describe

how policies came to be proposed, developed, implemented or changed while identifying any barriers or enabling factors both within and outside the agency. Key informant interviews were also used to identify less quantifiable factors that might explain differences in AL/RC supply and use by different client populations.

Current and archival materials were obtained from SPD regarding supply-related state policies (e.g. licensing regulations, policy reports, moratoria, certificate of need, etc.) that might facilitate or impede market entry or expansion for new facilities. Information was also gathered from SPD regarding any changes in Medicaid long-term care service eligibility criteria, reimbursement rates, and preadmission screening procedures. Program information was also collected from Oregon Housing and Community Services about its Elderly and Disabled Loan Program. Textual materials were reviewed from the agency's webpage, loan application and related forms. Historical policy information was collected from the Oregon Health Care Association (OHCA), an industry trade association that provided access to extensive archival materials that were not readily available at SPD. These included policy reports, newsletters, facility lists, provider directories, training documents, and mailed correspondences. While some of these policy changes facilitated interpretation of changes in the LTC environment and descriptive supply trends, others were used to identify predictors of ALF supply changes.

Long-Term Care Supply Database

An organization-level database of all ALFs, NFs and RCFs operating between 1986 and 2004 was created using electronic files, reports, and historical records obtained from SPD and other sources. An initial step was importing records from an electronic file provided by SPD, which included data for each currently licensed facility, such as:

the facility name, street address, city, county, initial license and closure dates, Medicaid provider status, facility identifier, current bed capacity, owner, operator, phone number, Alzheimer's designation, etc. Additional steps were taken to collect and estimate historical licensed bed capacity data for each facility, correct inaccurate data for initial license dates and enter data for missing facilities that had closed before SPD created the electronic file sometime in the mid 1990s. Sources for missing bed capacity data or closed facilities included electronic files, reports, and lists obtained from SPD, other state agencies and OHCA. Annual facility bed capacity data were recorded from these historical records and on-site file review, or estimated for missing years using standardized protocols described further below. Any remaining discrepancies about facility opening dates, closure dates or bed capacity were addressed by contacting SPD staff, OHCA staff or the facility by email or telephone. Separate county level and state level files were also created that included aggregated ALF, NF and RCF bed supply data for further analyses. Variables represented the total number of beds for each licensing category, in each county (or state) and year.

All facilities: To avoid double counting the supply of beds in a given county and year, beds were not counted when they had been converted to another licensing category or transferred upon closing to another nursing facility before the end of the year. In cases where a location or building had beds or units operating under multiple licensing categories, each licensed provider was treated as a separate though related organization. Such facilities were identified by sorting the database by city and name, by city and address, by city and owner and by city and management agent. These were coded as either multi-level campuses (yes/no) or ALFs with RCFs (yes/no) that had the same

owner or operator. Facilities were coded as Alzheimer's specialized (yes/no) if the SPD database included any beds that were designated for an Alzheimer's Care Unit.

Assisted Living Facilities: SPD administrative files were reviewed on-site for all currently open ALFs to identify years for changes in bed capacity as recorded on filed copies of licenses or other documentation. SPD program staff were consulted regarding discrepancies in ALF bed capacity found during the on-site file review. Provider directories available for 1999 and 2005 from OHCA were also reviewed. Files included records dating back to 1990. For 3 ALFs that had an initial license date prior to January 1990, a dummy RCF record was created for that facility using the recorded initial licensing date and a closure (i.e. RCF to ALF conversion) date of 12/31/89. Since ALF licensing regulations did not become effective until 1990, this provided a more accurate count of Oregon's RCF supply prior to 1990. The initial licensing dates for these ALFs were then adjusted to 1/1/90. Except for facility conversions, ALF beds were counted if the facility was licensed during the calendar year regardless of the number of months open. In other words, beds for the one ALF that closed in February or any ALFs that opened in December were counted for that year.

Nursing Facilities: Multiple sources were used for adjusting initial licensing dates and estimating annual bed capacity counts for NFs for several reasons. First, initial licensing dates recorded in SPD's database were found to be inaccurate for most NFs, particularly those licensed prior to 1993. Apparently, 1993 had been used as a default year for older NFs when the database was created. Second, SPD's database did not include historical bed capacity data. Third, nursing facility administrative files are archived annually off-site. Time and space limitations made review of archived files impractical. Supplemental information was collected from the following sources:

Oregon's Office of Health Policy (OHP),[7] Health Division,[8] and the Senior and Disabled Services Division (SDSD);[9] SPD's Client Care Monitoring Unit;[10] an Online Business Registry Database;[11] OHCA.

A first step was to determine an actual or estimated initial licensing year for all facilities that had opened before 1993 but had more recent initial licensing dates (n=205). For 103 NFs in the database, estimated opening dates were based on construction dates included in a 1990 list provided by OHCA. For 59 other NFs, actual opening dates were used that were included in a partial SDSD report from 1991 where facilities could be matched by name, owner and/or street address. For 4 NFs appearing on both lists but with conflicting dates, the SSD date was used. Opening dates for 5 facilities was estimated by comparing facilities listed in OHP reports between 1989 and 1994 or by examining the number of facilities and beds per county in OHP's Nursing Home Utilization Report for 1982 to 1992. For facilities that could not be identified on any of these lists, the oldest recorded name was entered into an online business registry database maintained by the Oregon Secretary of State Business Division. The oldest registry date for 14 NFS was used for matched results that were older than an agency list of NFs from 1983. Facilities that were still open but not found on any of these sources were contacted by telephone. The administrator or staff for 7 NFs were either able to provide an exact or

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[7] State of Oregon, Office of Health Policy, Annual Reports for Nursing Homes and Hospital Based Long-Term Care Units, 1982-1992 (County bed counts by year); State of Oregon, Office of Health Policy, Selected Nursing Home Statistics, FY 1989, 1991, 1992, 1993, 1994; State of Oregon, Office of Oregon Health Policy and Research, Data & Analysis Unit, electronic file containing data from Nursing Home Annual Reports for the period 1988-2003;

[8] State of Oregon, Health Division, Long-Term Care Facilities, 1981-1986 (excluding ICF-MR data)

[9] State of Oregon, Senior and Disabled Services Division, Long-Term Care Facilities, 1983, 1994, 1995 (excluding ICF-MR data); Senior and Disabled Services Division, Facilities Licensed as Nursing Homes, 1991

[10] SPD, Client Care Monitoring Unit, electronic file provided upon request by staff responsible for maintaining On-Line, Survey, Certification, and Reporting (OSCAR) system for years 1996-2004

[11] Oregon Secretary of State's Corporate Division, www.filinginoregon.com/online.htm

approximate year of opening. The website for one facility was used to estimate the initial licensing date. A dummy opening date of 1/1/83 was entered for 13 NFs that were listed in the oldest SDSD report available. Although their beds were included in organizational population and county level supply counts, these NFs were excluded from annual population entry counts.

Three primary sources noted above (SPD facility lists, OHP county and facility reports, and CCMU) were used for entering each facility's annual licensed bed capacity for earlier years. Actual reported figures were entered from: (1) facility lists available for specific years (e.g. 1983, 1989, 1991-1995), (2) an electronic file maintained by CCMU staff for the On-Line, Survey, Certification, and Reporting system for years 1996 to 2004, and/or (3) an electronic file provided by OHP based on annually submitted facility reports for years 1988 - 2003. Multiple sources were often used for individual years due to identified reporting errors and missing data. If a facility's bed capacity from an earlier (e.g. 1986) and more recent (e.g. 1989) source matched, the same amount was entered for missing years between the two sources. Otherwise, several approaches were used to estimate when a change in licensed bed capacity occurred. First, for large reported increases across multiple years of missing data (e.g. 50 more beds in 1989 than 1983), it was assumed that facilities increased their bed capacity by no more than 10% per year due to Certificate of Need restrictions. Smaller increases were assumed to have occurred about halfway between the two reported periods. Further adjustments were made to these estimates using OHP county bed capacity reports. For conflicts between OHP and CCMU files where SPD data were not available, OHP figures were used since self-reported by facilities for the entire fiscal year rather than an earlier survey date. For conflicts between three data sources, the amount reported by two sources was used,

assuming that the third source contained a reporting error. Conflicts between SPD and OHP data were resolved on a case by case basis in consultation with SPD staff where possible. For closed facilities that were not included in OHP or CCMU electronic files, the most recently reported bed capacity was entered for all years between the most recent reported year and the bed capacity in SPD's electronic file upon closure if the amounts matched. Otherwise, estimates were made as described above for missing years.

Residential Care Facilities: Multiple sources were used for adjusting initial licensing dates, estimating annual bed capacity counts, and adding previously closed RCFs for several reasons. First, information was missing for older RCFs that had closed before SPD's database was created. Second, initial licensing dates for a few RCFs recorded in SPD's database were found to be inaccurate based on earlier facility lists. Third, SPD's database did not include historical bed capacity data. Fourth, RCF administrative files are periodically archived off-site. Time and space limitations made review of archived files impractical. Therefore, supplemental data sources included non-archived SPD administrative files; agency RCF lists from 1986, 1993 and 1996; a list of RCFs per initial licensing year provided by SPD staff; OHCA member directories for 1999 and 2004.

Initial licensing dates were adjusted for 29 RCFs that were found to be incorrect since they appeared on facility lists that were older than the date recorded in SPD's database. Currently open facilities were contacted by telephone to determine the actual opening date when SPD staff could not confirm otherwise. If unable to confirm by telephone, the earliest reported facility names for such addresses were entered into the Oregon Secretary of State, Corporate Division's online business registry database noted above. Results from the online registry were used when the reported date preceded the

earliest SSD listing. When unable to find a match with the online registry, the initial license dates were adjusted by subtracting two years from the earliest reported license expiration date. For example, Patton Home in Portland was listed as being initially licensed in 1997. Since Patton Home appeared in facility lists for 1986, 1993 and 1996 at the same address with the same number of beds, the initial license date was considered invalid. Facility staff reported and the online business registry confirmed that the Patton Home has been in existence since July 1889. Therefore, the initial license date was adjusted to 7/1/1889.[12]

The first step for collecting historical RCF bed capacity data involved reviewing available administrative files at SPD and recording information from license copies. Most RCF files contained license copies no older than 2000 although some had not been archived since 1997. End of year amounts were used when a facility's bed capacity changed during the year. Next, the licensed bed capacity was entered from matched RCFs found in earlier lists. Unmatched RCFs were also added to the database if more than one year of data was available and initial licensing and closure dates could be estimated. When facility lists from 1986, 1993 or 1996 reported the same bed capacity as the current on-site files, it was assumed that no change in bed capacity occurred in missing years. The following steps were taken when prior reports indicated a change in bed capacity. Estimates for missing years between 1986 and 2000 were recorded assuming that the bed capacity changed half way between the missing years. For example, when lists indicated that an RCF had 20 beds in 1993 and 40 beds in 1996, the estimated number of beds was entered as 20 beds in 1994 and 40 beds in 1995. As an

[12] Although Patton Home was probably not licensed in 1889, this date was used for calculating the age and entry date of the organization. For 2 RCFs that appeared to be part of an older nursing facility with a larger or equivalent number of beds, the nursing facility's opening date was used.

exception to this procedure, when records indicated the RCF had relocated to a new address, the bed capacity increase was recorded for the year of the move if known. State officials were also contacted by telephone and email to determine if additional information might be available for bed capacity changes in missing years. An OHCA provider directory was also used to confirm and adjust estimates for SPD data missing from 1999.

Additional adjustments were made in situations where multiple co-located RCF buildings with the same owner or operator had been licensed separately in previous years but consolidated under one license more recently. In such cases, historical records were consolidated so that the multiple buildings were treated as a single organization that had expanded its bed capacity at different times. For example, Gateway Living in Springfield was operating multiple co-located buildings under one RCF license. Each building had been originally opened in different years with separate licenses.

Adult Foster Homes: State-level AFH supply data came from periodic reports compiled by SPD from local offices showing estimated total homes and beds from 1991 to 2004. There are 6 SPD regions made up of 8 metropolitan counties, another 10 regions that cover 26 non-metropolitan counties and 1 region that has a metropolitan and a non-metropolitan county. Estimates for previous years were made using figures reported by Kane and colleagues (1990) for the number of AFH beds in 1990 and homes in 1988. Neither county- or organization-level AFH data were available for the study period through SPD's main office. AFH supply figures exclude unavailable historical data for relative foster home providers that are not licensed.

Medicaid Policies

As noted above, data from key informant interviews and other archival materials were used to describe reimbursement policy changes. Tables of provider reimbursement rates were created primarily using data abstracted from SPD rate schedules available for years 1987 to 2004. Rate schedules include a monthly room and board rate for different eligibility categories (e.g. Older American's Act, Adult Disabled, General Assistance) and a monthly or daily payment rate schedule by provider category. Daily rates for AFH, RCF, and ALF providers were calculated by adding the monthly room and board rate for older adults with the highest service rate, then dividing the total by 30.4 days. The exception was the RCF service rates in years 1987 to 1993, which varied by licensed bed capacity. The 11-15 bed payment category was used for each of those years since the largest proportion of RCFs (25 – 30%) fell into that size category. Missing AFH and RCF payment rates for 1986 were estimated using the average annual increase from 1987 to 1990. For comparison purposes, the lowest published daily rate for NFs was used for years 1995 to 2004 since most residents fall into that payment category according to industry representatives. NF rates were not included in rate schedules for prior years; therefore, average interim rates for years 1988 to 1994 were used as reported by SPD staff. For years 1986 to 1987, the average per diem reimbursement rate for intermediate care facilities were used as reported by Swan and colleagues (1993). The most recent reported reimbursement rate was used when more than one rate adjustment was made during the year, e.g. 2000, 2001, 2003, and 2004.

Additional Data Sources

Demand

Indicators of county-level demand were obtained for each year of the study period using data from a variety of sources. The Area Resource File (ARF) is a compilation of county level data assembled by the Health Resources and Services Administration, Bureau of Health Professions. Other sources included the Population Research Center at Portland State University for intercensal population estimates; the U.S. Department of Commerce, Bureau of Economic Analysis for income; the U.S. Federal Reserve for lending rates. Measures of demand included: total population size, personal income per capita, population per square mile, and population aged 65 years or older. Since older population estimates were missing for 1986, linear interpolation was used to estimate those figures from 1985 and 1987 estimates. Other county level measures of demand (e.g. race / ethnicity, education, poverty, and disability) were not available particularly for earlier years in the study period. Counties were coded as metropolitan or non-metropolitan based on Department of Agriculture Rural-Urban Continuum Codes for Metro and Nonmetro Counties from 1995.

Medicaid Waiver Participants and Expenditures

CMS Form 372s report unduplicated participant and expenditure data for state Medicaid waiver programs. The University of California San Francisco's Department of Social and Behavioral Sciences has collected this data from Oregon state officials since 1989. Data were included for what is currently the state's Aged and Disabled waiver (#00185). Oregon has reported relative and non-relative AFH data as a single category while ALF and RCF data have been reported separately on CMS Form 372. Data from

these forms were entered into an Excel database to allow for further descriptive analyses to be conducted. Missing data for 1991 and 1993 were estimated using linear interpolation.

Public Financing Trends

The Housing Programs Management Section of Oregon Housing and Community Services (OHCS) maintains administrative records for projects financed through the Elderly and Disabled Loan Program. A list was obtained for all projects that received below-market interest rate mortgage loans through this program as of November 1, 2004. This list included the project name, owner, loan amounts, type and number of financed units, loan closure and maturity dates, as well as initial and current interest rates. Data were entered into the facility database described above after matching either the project's name or the borrower's name when the project's name had changed. Loans were excluded when issued to apartment-only or congregate housing-only settings. In other words, they were excluded when no ALF or RCF units were financed by the loan or the project name (or the borrower name and county) could not be matched with an ALF or RCF in the database. Apartment or congregate housing loans were entered into the database when also financing ALF or RCF units, or the loan was issued to a matching ALF or RCF. For example, Aspen Court in Madras received $623,000 in 1985 to finance what would later be 15 licensed ALF units but were not licensed at the time. In 1991, Aspen Court also received a $300,000 loan for 13 congregate units and another $224,000 loan for what was assumed to be acquisition and rehabilitation costs since no units were specified. These amounts were included in the database. Reported state-level OHCS lending trends for ALFs and/or RCFs include units and loan amounts for ALF/RCF affiliated apartment, congregate units, and acquisition / rehabilitation.

Analytic Procedures for Descriptive Findings

State Policies, Programs and Environmental Changes

Atlas Ti, a computer software program that assists with analysis of qualitative data was used to code and organize electronic files for interviews, statutes, regulations, public testimonies, newspaper articles and policy reports. As materials were reviewed, they were marked with code terms that were developed to help summarize the data. Over 200 codes were generated for quotes that were marked by topic (e.g. ALF philosophy, Medicaid rate, RCF views), actor (e.g. agency, provider, advocate), tactics or strategies (e.g. economic framing, legitimacy building, model promotion, raising concerns), provider type (RCF, ALF, AFH, NF) and aspects of particular policies (e.g. change condition, consequence, rationale). Code terms were attached to segments of text, which allowed for the generation of analytic reports using both individual and overlapping quotes (e.g. text coded with both "Medicaid rate" and "Provider RCF"). These textual data were examined to identify key policy and program developments that might have influenced the ability of individuals to use different services (demand) or provider decisions to enter markets and expand the number of available beds (supply). A timeline of key policy events was also drafted using previous policy reports and coded data. From these, a much smaller list of policy developments were selected that were described in terms of their key features. Data were also analyzed to find evidence of policies and programs that reflected prevailing belief systems in terms of the reported rationale for their adoption or rejection, as well as organizing principles in terms of rules and procedural characteristics. Evidence of legitimacy shifts, crises, institutional actors and

changing power dynamics were also examined by reviewing quotes that had been coded for the various actors, as well as their actions, strategies and views in relation to other actors, policies and organizational populations. Theorization, legitimation and isomorphic processes were identified and summarized using these same procedures.

Demand, Alternative Supply, Utilization and Expenditure Trends

Changing demand characteristics (e.g. population distribution, population density, income per capita, and older population) were examined using descriptive statistics, such as counts, totals, proportions, and means. All statistics were computed using SPSS version 12. NF supply changes were also examined using descriptive statistics (e.g. frequencies, proportions, means) and graphical plots of entries, exits and bed supply totals. AFH supply changes were examined using these same procedures except for organizational population dynamics (i.e. entries and exits) for which data were not available. For Medicaid waiver participant and expenditures, three sets of state program data were produced for selected residential care programs between 1989 and 2004: (1) participants by AFH, ALF and RCF service category, (2) ALF and RCF participants per licensed bed, (3) expenditures per ALF and RCF service category. AFH participants per licensed bed were not reported since relative foster home providers are not licensed and non-relative participants are not reported separately. No ALF participants and expenditures were reported by Oregon to CMS in 1990, possibly due to an underreporting error.

ALF/RCF Organizational Population Changes

ALF and RCF population dynamics (entries, exits, and density) and organizational characteristics (bed supply, metro / non metro location, Medicaid contracting, vertical integration, Alzheimer's specialization) were examined using descriptive statistics (e.g. frequencies, counts, proportions, means) or graphical plots of facility counts or bed totals. For county-level comparisons, beds were standardized by the number of older people aged 65 years or older in 1,000s. To facilitate comparisons of characteristics over time, entry year variables were created that grouped ALFs by quartiles and RCFs by quintiles of entries over time. Since the goal was to have a similar number of organizations in each entry year grouping, the number of years included in each ALF quartile and RCF quintile differ. Initial licensing dates were used for examining ALF and RCF Medicaid contracting trends since actual contracting dates were not available. The working assumption was that providers had not changed their Medicaid contracting status since initial licensing based on state agency staff reports that such changes were rare among ALFs and RCFs. One county (Sherman) was excluded that had no ALFs, RCFs, or SNFs throughout the study period. Note that statistical tests of significance for various organizational population characteristics were not conducted since data were for the entire population of organizations rather than samples.

Analytic Procedures for Predictive Findings

Measures

The data analyses involve three types of variables--the outcome variable, control predictors and question predictors—examined at 3 different levels of analysis (within county, between county and over time). Table 2 provides brief descriptions of these variables, which are all time-varying, i.e. their values may differ over time.

Table 2 Description of Outcome, Predictor and Control Variables

VARIABLE		DEFINITION
OUTCOME VARIABLE		
	ALFBEDS	Natural log of the total licensed ALF beds in a county
CONTROL VARIABLES		
	TIME	A variable indicating elapsed years where 0 = the year 1990
Demand	OLDERPOP	The natural log of the total county population aged 65 years and older
	POPDENS	Natural log of the county's population density measured as total population per county square mile
PREDICTOR VARIABLES		
Supply	RCFBEDS	Natural log of the total licensed RCF beds in a county
	SNFBEDS	Natural log of the total licensed SNF beds in a county
Policy	MEDICAID ALF	A variable representing the highest daily Medicaid reimbursement rate for ALFs divided by the county's average daily wages

Time interaction terms were tested for all the predictors and were retained in final models for two of the predictors (OLDERPOP and MEDICAID) as described further below.

Outcome Variable

The outcome variable is each county's ALF bed supply (ALFBEDS). Based on exploratory analyses showing a skewed distribution of the ALF bed supply and a non-

linear relationship between the outcome and predictor variables, the ALFBEDS variable was defined as the natural log of total ALF bed supply to normalize its distribution. Data were skewed because of the large number of non-metropolitan counties, which tend to have a smaller number of beds, as well as the large bed supply that characterizes the much smaller number of metropolitan counties in Oregon. See Table 16, pg. 157 for descriptive statistics of the outcome variable.

Control Predictors: Time and Demand

Time was included as a variable ranging from 0 in 1990 to 14 in 2004. Three demand variables were also included as controls: (a) OLDERPOP, the county population of older (age 65+) adults, (b) POPDENS, the total county population divided by the number of square miles, and (c) INCOME, the total annual income per capita divided by 10,000. In the regression analyses, log transformations were used to address skewness and non-linearity with the outcome variable. Note that OLDERPOP and POPDENS are highly correlated ($r = 0.87$, $p<.001$, Table 3). To ensure that multi-collinearity was not a problem, separate regression models were created to examine model stability when including OLDERPOP as the only demand predictor (Model 1D) then adding POPDENS as a second predictor (Model 1E). Problematic collinearity effects would be evident in substantial changes to OLDERPOP's regression weight, larger standard errors and loss of statistical significance. INCOME was not log transformed. See Table 16, pg. 157 for descriptive statistics of these demand predictors.

Table 3 Pearson Correlation Statistics between Predictor Variables

	POPDENS	INCOME	SNFBEDS	RCFBEDS	MEDICAID ALF
OLDERPOP	**0.869*****	0.405***	**0.913*****	**0.852*****	*-0.615****
POPDENS		0.500***	**0.805*****	*0.739****	*-0.718****
INCOME			0.280***	0.445***	-0.589***
SNFBEDS				*0.748****	-0.513***
RCFBEDS					-0.532***

NOTES: n = 387; ***p<.001; bold face type = very strong relationship; italicized type = strong relationship

Question predictors

To answer research questions about the influence of alternative LTC supply and state policies on county ALF supply, two supply and two policy predictors were included in the data-analyses.

Supply characteristics

The predictor variables for county RCF bed supply (RCFBEDS) and SNF bed supply (SNFBEDS) were defined as the natural log of the total bed supply in each county and year. Again, log transformations were used to address data skewness and non-linearity with the outcome variable. See Table 16, pg. 157 for descriptive statistics for the supply predictors. Note in Table 3 above that RCFBEDS and SNFBEDS are highly correlated with each other (r=0.75, p<.001), as well as with the demand predictors OLDERPOP and POPDENS. As with the correlated demand predictors, each supply predictor was added into separate regression models, which were inspected to ensure that multi-collinearity was not a problem. It was expected that collinearity problems would

be evident in substantial changes to regression weights, larger standard errors and/or loss of statistical significance when adding a highly correlated predictor.

Policy characteristics

The one policy predictor, MEDICAID ALF, was defined as the highest daily Medicaid reimbursement rate for ALFs divided by the average daily wage per county in each year. Since ALF Medicaid reimbursement rates in Oregon do not vary by geographic location, adjusting payment rates in this way recognizes that their effect on supply may vary by market because of local operating cost differences. Personnel costs may account for 40-60% of AL/RC expenses (Sterns & Morgan, 2001); therefore, adjusting payment rates using county average wages may provide an indication of the varying purchasing power of a given level of reimbursement. In markets where Medicaid rates are higher relative to local payroll costs, Medicaid payments may induce providers to increase the total supply of beds available for both private-pay and Medicaid residents. Conversely, ALF supply growth may be constrained in markets where Medicaid rates are inadequate to cover higher payroll costs resulting in providers being more reluctant to add beds that might only be filled by Medicaid residents See Table 16, pg. 46 for descriptive statistics for this predictor.

Statistical Approach

The approach taken to respond to each of the 5 research questions is described next. The questions build upon each other and within the ALF bed supply model. For example, question 4.1 is necessary to determine what demand characteristics are associated with ALF bed supply. Then to answer questions 4.2 – 4.4, the variables that are significantly associated with ALF bed supply and provide a better fitting model are used as statistical controls for examining the impact of the predictors added in subsequent models. The

statistical approach is described here and the findings for each question are described in Chapter 5, C. Modeling Predictors of Local ALF Supply, page 157.

Multilevel modeling is a flexible multivariate analysis procedure that allows for within- and between-subject change to be examined simultaneously using longitudinal data. In this case, county-level ALF bed supply is the outcome of interest and the subjects include all Oregon counties with any ALF beds across 15 observation periods or years. A taxonomy of statistical models was developed by systematically adding necessary predictors to (and removing unnecessary ones from) sequential linear regression models that answered specific research questions described below. Prior to building the sequential models, predictors were examined individually, first using univariate analyses to ensure that data were normally distributed. Second, bivariate analyses explored relationships between each predictor variable and the outcome variable using Pearson correlation statistics and visual inspection of scatterplots. Skewed distributions and curvilinear relationships were addressed by using the natural log of the outcome variable and specified predictors. Third, preliminary regression models were examined that included each predictor individually while only controlling for the effects of time. Finally, as noted above, correlations of the remaining initial predictors were examined to identify potential multicollinearity problems (Table 3). To address potential concerns with predictor correlations (e.g. between OLDERPOP, POPDENS, and RCFBEDS), the effects of the correlated predictors were examined by comparing models with and without including each of the predictors. Coefficients were examined in terms of their direction, strength and p-values. If the original predictor and outcome remain clearly related and in the same way as in the previous model without the correlated

predictor, then there is sufficient evidence of independent effects for both predictors to remain in the model.

Question 4.1: How are time and demand characteristics (older population size, population density and income) associated with ALF bed supply?

Question 4.1 was addressed by fitting and comparing 6 regression models. Model 1A presented an unconditional means model that provides a description of the outcome variation with no predictors. Model 1B added Time using a third-order polynomial function that includes predictors Time, $Time^2$ and $Time^3$. Visual inspection of average change trajectories suggested a curvilinear growth pattern. Further exploratory analyses indicated that a cubic function provided a better fit than a quadratic function. Results from Models 1A and 1B help identify whether there is systematic variation in the outcome variable and where the within or between county variation exists. Model 1C represented the logged ALF bed supply as a function of time and the size of the older population. Model 1D allowed the effect of older population size (logged) to vary by time using an interaction term. Models 1E and 1F added population density (logged) and income to the equation. Two additional models (not reported) were tested that allowed the effects of population density and income to vary by time using interaction terms. Although including these interaction terms showed marginally better fit based on an improved chi-square statistics for the -2 log likelihood parameter ($p \leq .01$), differences in the more conservative AICC and BIC statistics did not indicate a large enough improvement to retain the terms in subsequent models. See Table 17, pg. 161 for Question 4.1 results.

Question 4.2: Controlling for time and local demand characteristics, how are local alternative supply characteristics (RCF beds and SNF beds) associated with ALF bed supply over time?

Question 4.2 was addressed by fitting and comparing 2 regression models. Model 2A represented the logged ALF bed supply as a function of time, demand, and the logged supply of RCF beds. Model 2B added the logged supply of SNF beds. Two additional models (not reported) allowed the effects of RCF and SNF supply (logged) to vary by time using interaction terms. The model with a RCF bed supply and time interaction did not provide a better fit. The model with a SNF bed supply and a time interaction term produced a nonconvergence problem, possibly due to the small sample size and model overspecification (Singer & Willett, 2003a). See Table 18, pg. 166 for Question 4.2 results.

Question 4.3: Controlling for time, local demand and alternative supply characteristics, how are state Medicaid policies associated with ALF bed supply over time?

Question 4.3 was addressed by fitting and comparing one final regression model. Model 3 represented the logged ALF bed supply as a function of time, demand, the logged supply of RCF beds and wage adjusted Medicaid ALF rates, while allowing the effect of Medicaid to vary over time using interaction terms. One model (not shown) examined Medicaid as a main effect; however, it did not provide a better fit than the model presented. See Table 18, pg. 166 for Question 4.3 results.

Rationale for State and Organizational Populations Selection

The state of Oregon was selected for this study because of prior LTC delivery system reforms recognized for promoting access to home and community based services for Medicaid eligible clients (Justice & Heestand, 2003). Oregon has developed and implemented a range of policies consistent with legislation enacted in 1981 to ensure that older adults are entitled to services that are cost effective and provided in the least restrictive setting. Reports have identified a range of key policy initiatives responsible for reforming Oregon's long-term care system including: (1) becoming the first state in 1981 to secure a Medicaid waiver to fund certain home and community based services that would be treated as entitlement programs with no waiting lists; (2) limiting nursing home growth by using the nursing home certificate-of-need program; (3) maintaining Medicaid nursing home rates relatively low to minimize incentives for entry by new providers; (4) agency efforts to expand the range of available home and community based services; (5) rules that allow nurses to delegate routine nursing tasks to unlicensed caregivers in community settings; (6) a well developed case management system that maximizes community placement for clients; (7) strong pre-admission screening requirements for all nursing home applicants (private and public) (Kane & Wilson, 1993; Ladd, 1996; Mollica, 2002; O'Keeffe et al., 2003; Sparer, 1999; Wilson, 1993).

These and other LTC reform efforts have been understood as having reduced nursing facility use by increasing home and community based service (HCBS) use, such as AL, resulting in considerable estimated savings (Alecxih et al., 1996; Ladd, 1996). Despite a substantial increase in Oregon's elderly population, between 1981 and 1997, the number of Medicaid nursing home residents declined from 8,400 to 6,800 while the number of home and community-based service recipients increased from 3,000 to 26,200

(Sparer, 1999). By 2005, Oregon had the highest proportion of Medicaid long-term care HCBS expenditures yet ranked 38th among states in Medicaid expenditures per capita (Burwell, Sredle, & Eiken, 2006). Adjusting for the population of older adults, Oregon also ranks first among states in the supply of residential care beds (Newcomer et al., Forthcoming) and use of residential care by Medicaid waiver participants (Kitchener et al., 2006).

The focal organizational populations for this study are ALFs and RCFs with attention given to changes in the supply of AFHs and NFs. Although AFH may be considered a type of AL/RC, the lack of comparable organization- or market-level data for the study period limited closer examination for the purposes of this study. Oregon is known for having adopted policies to promote the development of its high-service, apartment style ALF model. Less is known about changes in the RCF model that represents the older, more traditional type of board and care facility in the U.S. Oregon state policies currently allow both types of organizations to admit and retain residents while also providing a more generous Medicaid reimbursement compared with other states (Mollica, 2002; O'Keeffe et al., 2003). Interviews with stakeholders suggest that ALF supply in rural areas is generally adequate (O'Keeffe et al., 2003). More recently, state fiscal crises and overbuilding concerns have resulted in Oregon having adopted a moratorium on new ALF and RCF development in 2001 in lieu of proposed rate reductions, as well as proposing reduced Medicaid provider rates (O'Keeffe et al., 2003). Such findings suggested the need for closer examination of changing supply trends for both types of organizations.

Limitations

There are a number of limitations to this study. First, supply data include estimates for historical bed capacity, opening and closing years. Confirmation with individual providers or through archived record reviews was either not possible or practical given the large number of facilities and years. However, the study used conservative methods to develop estimates, often cross-checking multiple secondary data sources. Second, closed RCF organizations that were not listed on SPD reports, particularly since 1993, may have been under counted. For example, 19 RCFs in the database that were listed in an agency report from 1986 were excluded from the analyses since they did not appear on any other facility lists and their closure dates could not be estimated. A third methodological limitation is the use of demand and alternative supply predictors that are statistically correlated. The issue of potential endogeneity bias has also been raised since RCF and SNF bed supply measures may not be independent predictors of ALF bed supply. Specifically, both supply predictors may themselves be a function of the demand variables included in the regression models. As a result, interpretation of these findings will be made with caution and alternative methods for future studies will be considered.

Another limitation is the lack of environmental and organizational level data that may be influencing ALF supply changes. For example, changes in the availability of private financing options from equity investors and lenders were not directly measured in this study yet they may be dampening the effects of other supply, demand and policy predictors. The lack of county-level supply data regarding adult foster home supply and other LTC services (e.g. in-home care, adult day care) provides a limited understanding of local demand and AL/RCF supply dynamics. Such a limitation hinders the ability to

examine how AL/RCF supply growth in Oregon may be influenced by competition with other LTC services. A fourth related limitation is the lack of data regarding service use by payer source for each type of service that would facilitate further examination of Medicaid utilization patterns as a function of local supply availability, demand and policy changes.

Finally, data from this single state study limits the ability to generalize findings to other states that have unique demographic, political and industry characteristics. The observational nature of the present study limits the ability to make causal inferences between independent variables and outcomes for the predictive analyses. For example, it will not be known whether ALF organizations chose to enter markets that had lower levels of RCF supply, or whether RCF supply remained low because of ALF development activity.

Chapter 5: Findings

Research findings are organized into three major sections. Section A describes changes in both the material resource and institutional environments that created the conditions for LTC organizational field transformations in Oregon. Section B examines population dynamics for organizations licensed as ALFs and RCFs. The final section C examines county-level ALF supply change as a function of selected demand, supply and policy predictors.

A. Trends in the Long-Term Care Material-Resource and Institutional Environments

This section describes changes in Oregon's LTC environment that provided the conditions and resources for organizational population changes during the study period. The first two subsections consider the changing material-resource environment, which includes those factors that affect production flows to the AL/RC organizational populations. Demand factors include characteristics of Oregon's population and state policies that facilitate access to LTC services. Supply factors include changes in the supply of alternative LTC settings (i.e. nursing facilities and adult foster homes) and state policies that provide financial resources to develop new facilities and to pay for services provided to Medicaid eligible residents. The third subsection describes institutional elements of Oregon's LTC environment, which include institutional logics (belief systems and organizing principles) and institutional actors (e.g. state agencies, industry, and consumer groups). This subsection describes antecedents for change in the AL/RC populations as well as institutional processes (e.g. theorization, legitimation and

isomorphism) that transformed both the organizational populations and the institutional environment.

Changing Characteristics Affecting Demand

This section describes selected sociodemographic and policy changes that fueled increasing demand for LTC services during the study period.

Characteristics of Oregon's Population

Demand for LTC services throughout the state is primarily a function of the distribution of Oregon's population and their changing characteristics. As shown in Figure 3, Oregon consists of 36 counties with most of its population located in the western third of the state.

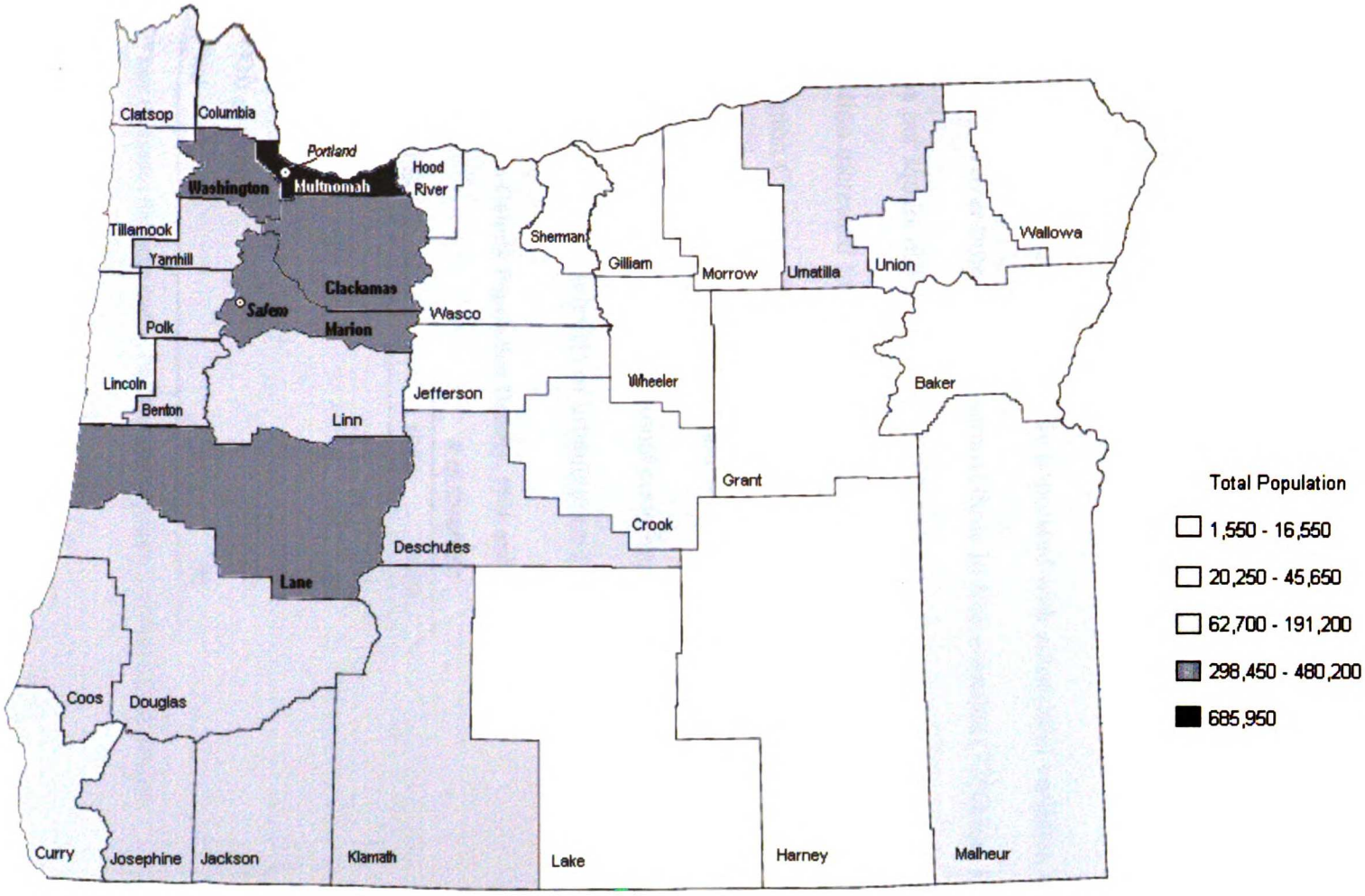

Figure 3 Oregon Counties and Population, 2004

Source: Figure created using data reported in "Certified Estimates for Oregon, its Counties and Cities," July 1, 2004, Population Research Center, Portland State University.

Density and Urbanization

Between 1986 and 2004, Oregon's total population increased by 33% from 2.7 to 3.6 million persons. Metropolitan counties grew more quickly, averaging about 2% per year compared to 1% in non-metropolitan counties. The five counties that experienced the most growth were Deschutes (97%), Washington (77%), Jefferson (65%), Crook (56%), and Yamhill (55%). Those that grew least were Wheeler (3%), Lake (1%), Wasco (-1%), Grant (-8%), and Sherman (-10%).

Generally, Oregon is sparsely populated with substantial variation between counties and over time. In 2004, almost three in four counties (72%) had fewer than 50 persons per square mile (Table 4). Between 1986 and 2004, Deschutes County's population increased from less than 23 to almost 45 persons per square mile compared to Washington County, which grew from 375 to almost 664 persons per square mile. In 1990, only 2 counties (Multnomah and Washington) had populations that were more than 75% urbanized. By 2000, 6 additional counties (Benton, Clackamas, Jackson, Lane, Marion, Polk) had such levels of urbanization (HRSA, 2003).

Table 4 Oregon County Population Density, 1986 and 2004

	# of Counties	
Persons per Square Mile	1986	2004
Less than 10	14	12
10 to 49	12	14
50 to 99	6	4
100 or more	4	6
Total	36	36

Sources: Population Research Center, Portland State University; U.S. Bureau of the Census

Older Population

Although the size of Oregon's older (age 65+) population grew by 28% between 1986 and 2004, growth rates among the non-elderly were somewhat higher (34%). However, the "older-old" segment of the population—those age 75 or older--increased by 54% and represented a growing proportion of both the overall and older (age 65+) population (Table 5). There is considerable variation in the proportion of older-old (age 75+) adults across counties, ranging in 2004 from a high of 13% in Curry to a low of about 4% in Washington. Only Multnomah had a smaller proportion of individuals age 75 and older in 2004 (6%) than in 1986 (7%).

Table 5 Oregon Age Distribution, 1986 - 2004

Age Group	1986	1992	1998	2004
Less than 65 years	2,340,744	2,562,477	2,849,253	3,127,220
65 years or more	357,156	409,090	432,721	455,380
% of Total	15.3	16.0	15.2	14.6
75 years or more	147,980	177,137	210,610	227,206
% of Total	5.5	6.0	6.4	6.3
% of Older (age 65+)	41.4	43.3	48.7	49.9

Sources: Population Research Center, Portland State University
Note: Estimated data for 1986 based on linear interpolation using reported estimates for 1985 and 1987.

Income Levels

In 2004, median household income in Oregon was $42,617 compared to $44,389 for the U.S (DeNavas-Walt, Proctor, & Lee, 2005). Income per capita was about $30,500 in Oregon but varied considerably across counties ranging from just over $37,000 in Clackamas to $20,000 in Malheur. In 2004 dollars, personal income in Oregon grew by 25% since 1986 but again with substantial variation across counties. Benton had the

highest average increase per year (2%) and overall (44%) compared to Sherman, where real income declined by less than 1% per year and by 33% from 1986 to 2004.

Public Financing of Long-Term Care Services

During the study period, Oregon adopted a number of policies that have facilitated access to LTC services, particularly in HCBS settings, for individuals lacking sufficient income to purchase needed services. Medicaid financial eligibility policies for HCBS like AL/RC have remained less restrictive relative to other states. Functional eligibility criteria tightened in recent years in response to state budget crises. Changes in Medicaid service coverage may influence demand for long-term care services by expanding the range of options available to older or disabled consumers.

Client Eligibility Criteria

Throughout the study period, proposed state expenditure reductions have included restricting eligibility by eliminating some of the highest (least impaired) service categories. Although such proposals had been successfully opposed in prior years, the final budget for 2003 was the first to eliminate service levels 12 – 17. As a result, almost 4,800 clients lost their eligibility for Medicaid LTC services, representing almost 1 in 7 program participants. According to SPD documents, the large majority of these disenrolled clients were in-home service recipients (80%). Residents in licensed facilities also received service termination notices including 600 in assisted living, 440 in adult foster homes, 111 in residential care, and 176 in nursing facilities. Interviews with state officials indicated that at least 2 RCFs in Oregon may have closed for financial reasons due to loss of income from clients who became Medicaid ineligible. SPD was

considering several other policy options to address the state's budget deficit by reducing enrollment growth and the number of eligible clients. Representatives noted that ALF and RCF Medicaid clients are much less likely than in-home care and nursing home clients to have incomes below 100% of SSI. Policy options under consideration included making the financial eligibility threshold more restrictive, tightening the enrollment cap or reducing scheduled increases for Medicaid waiver programs, and moving to a more risk-based enrollment criteria.

Utilization controls

A number of state policy reports have identified several policies that Oregon has adopted to reduce utilization of nursing home care and increase use of lower priced HCBS (Dietsche, 1997; Justice & Heestand, 2003; Ladd, 1996; O'Keeffe et al., 2003). Interviews with key informants, as well as a review of public testimonies and statutes provide further evidence of how these and other utilization controls redirected long-term care users to AL/RC and other HCBS services. In 1978, Oregon adopted preadmission screening requirements for Medicaid nursing home eligible applicants. Although originally adopted based on federal screening requirements for Medicaid nursing home applicants with mental illness or mental retardation, procedures were implemented more broadly to help all clients identify community-based options and programs that would best meet their needs. The Oregon legislature approved funding for Nursing Home Relocation Services in 1982, which financed an aggressive effort by state officials to move targeted residents out of nursing homes and into community-based settings. Officials pointed to a "risk intervention program" that was established in 1985 to facilitate access to home and community-based services for private-pay nursing home

clients. Later, the preadmission screening requirements were expanded to include private-pay applicants in 1989. Unlike most other states, Oregon has not limited the size of its Medicaid HCBS waiver program through enrollment caps or waiting lists. In practice, HCBS has been treated as an entitlement for individuals eligible for Medicaid LTC.

Changing Characteristics Affecting Supply

This section describes changes in the supply of alternative LTC settings, public financing policies and private sector lending and investment trends that contributed to ALF and RCF supply developments during the study period.

Alternative Settings

Assuming that all licensed LTC settings in Oregon compete in markets that have a limited number of individuals needing 24-hour service availability, population dynamics for nursing facility and adult foster home organizations should influence (and be influenced by) ALF and RCF population changes.

Nursing Facilities

By the beginning of this study period, Oregon nursing facilities had already begun a gradual decline, evidenced by a 4% population decrease between 1978 and 1986 (DuNah, Harrington, Bedney, & Carrillo, 1995). Findings from the current study indicate that there were approximately 15,400 licensed beds in 192 Oregon nursing facilities at the end of 1985. At least 12 of these organizations (6%) had existed since before 1950 and

almost half (46%) opened during the 1960s.[13] This decade represents a period of rapid growth compared to organizational entry rates in subsequent decades.

During the more recent period, Oregon experienced a steady, gradual decline in nursing facility beds that is mostly due to low organizational entry rates and high exit rates. Between 1986 and 2004, annual exits outpaced entries by almost 4 to 1 (Figure 4). Nursing facility population entries averaged less than one per year, with even fewer since 1998. Most of the 18 entries were clustered during the late 1980's and mid 1990's. Population exits occurred in almost every year and increased between 1998 and 2003. During this period, 67 organizations ceased to operate as licensed nursing facilities. Records indicate that 47 facilities typically closed voluntarily, mostly because of "financial failure" related to declining census and/or reimbursement policies. Another 12 facilities exited the population through "transformation" to a different form as residential care facilities (n = 7) or assisted living facilities (n = 5). The state closed 9 facilities involuntarily, presumably due to regulatory noncompliance. These represent permanent exits from the nursing home population. Organizations that closed temporarily due to relocation, ownership / management changes or other reasons were not counted as exits or new entries.

[13] Data were not available for this early formative period of the nursing home population or for the subsequent periods when these organizations experienced most of their growth, transformations and stabilization. Without observations of early entries and exits from the nursing home population, data for this population has "left-censoring" limitations so that only its later period of decline is examined in this study.

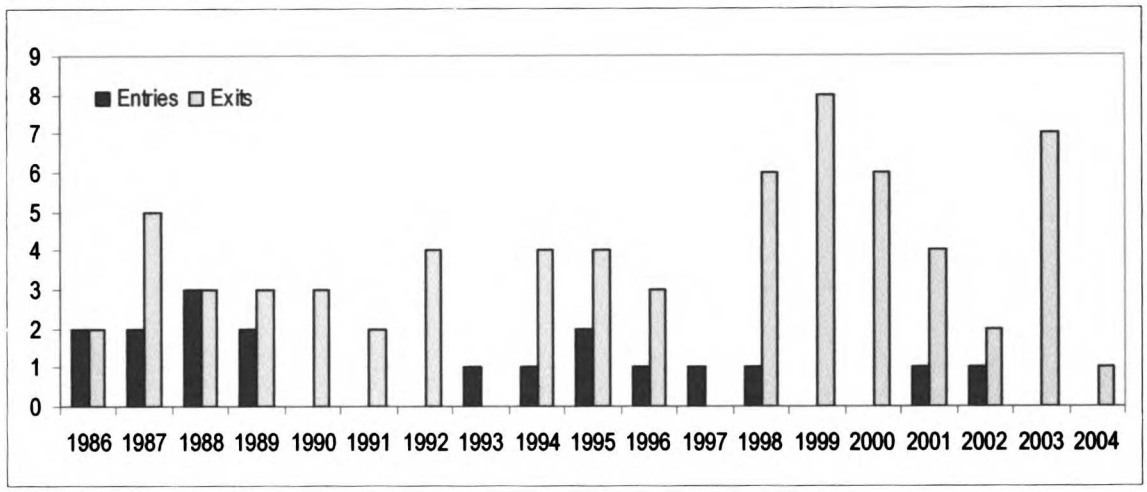

Figure 4 Oregon Nursing Facility Population Entries and Exits, 1986 – 2004

Despite reported decreases in nursing facility occupancy rates (OHPR, 2005), contractions in organizational size do not seem to explain the state's declining nursing facility bed supply. Examining a subset of nursing facilities that were open in all years of the study period (n=133) indicates that more frequent expansions offset any contractions. More than one in three of these nursing facilities (35%) increased their licensed bed capacity by an average of 14.5 beds between 1986 and 2004. By comparison, one in five of these nursing facilities (20%) reduced their licensed bed capacity by 19 beds. The remaining 60 organizations (45%) had the same number of beds in 1986 and 2004. Overall, this subset of organizations increased in size slightly from about 11,800 beds in 1986 to almost 12,000 beds in 2004.

The net loss of skilled nursing facilities during the study period reduced Oregon's licensed bed supply considerably. As illustrated in Figure 5 below, the number of nursing facility beds decreased by 18% from about 15,500 beds at the end of 1986 to 12,600 beds at the end of 2004. The rate of decline increased somewhat in more recent

years from about 6% between 1986 and 1998 to 10% during the shorter period between 1999 and 2004.

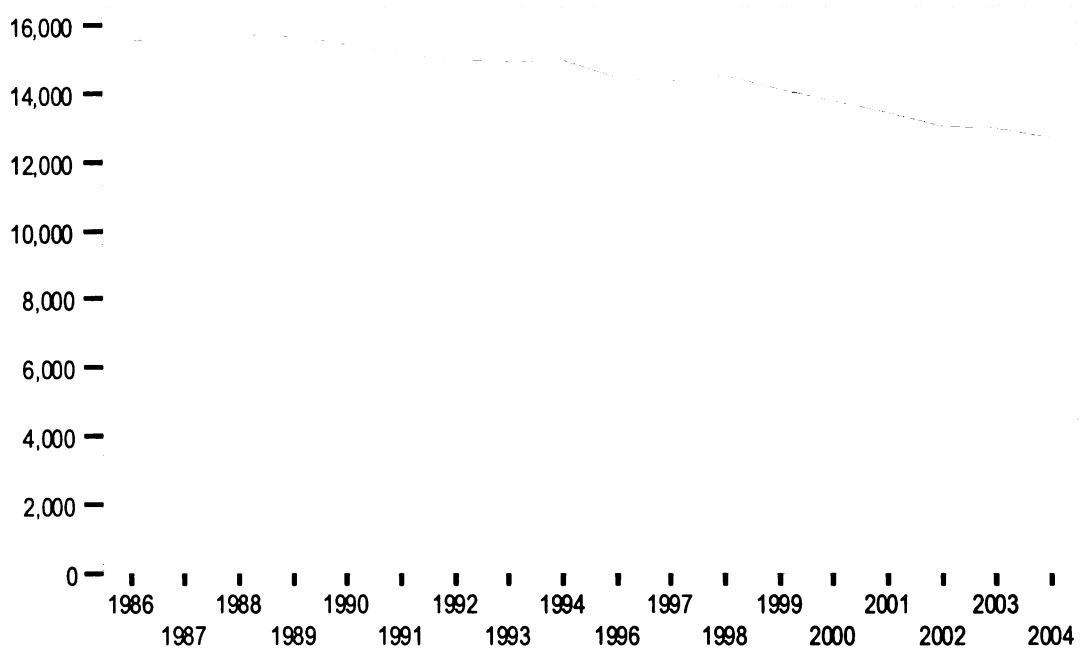

Figure 5 Oregon NF Licensed Bed Capacity, 1986 - 2004

Metropolitan counties have maintained a disproportionately larger supply of nursing facility beds. In each year of the study period, three in four (74%) nursing facility beds have been located in metropolitan counties. Adjusting the nursing facility bed supply in each county for the size of the older (age 65+) population over time illustrates the relatively steady decline in both types of markets, as well as the slightly higher supply of metropolitan nursing facility beds (Figure 6). Specifically, the number of nursing facility beds per 1,000 older adults decreased steadily by about 2.5% each year in both metro and non-metro counties. Differences in the population adjusted bed supply

fluctuated slightly but averaged about 4 more beds per 1,000 older adults in metro counties throughout the study period.[14]

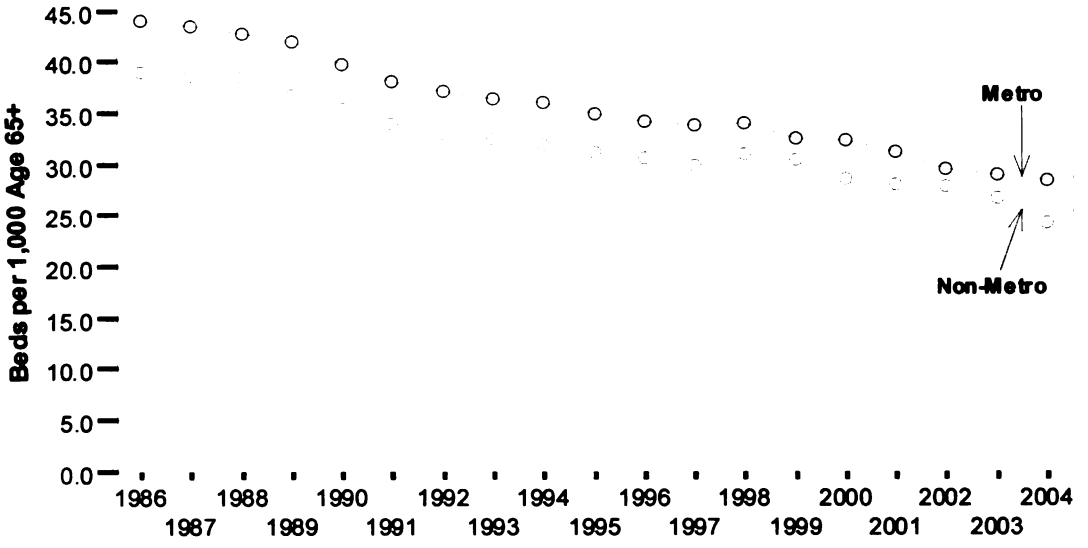

Figure 6 Mean NF Beds per 1,000 Population Age 65+ by Location, 1986-2004
NOTE: N = 35 counties (9 metro; 26 non-metro) with nursing facility beds

Adult Foster Homes

Although registered since 1981 and licensed since 1986, the earliest available estimates indicate approximately 6,362 beds in 1,450 licensed adult foster homes in 1988. Supply grew rapidly during the first half of the study period and peaked in 1995 with almost 9,500 beds in 2,233 homes. During the second half of the study period, Oregon's adult foster home supply has decreased by about 14% to 8,173 beds in 1,812 homes in 2004 (Figure 7). Statewide organization-level data are not available to examine entry, exit and bed-size trends over time.

[14] One non-metro county (Sherman) had no nursing facilities throughout the study period and was excluded.

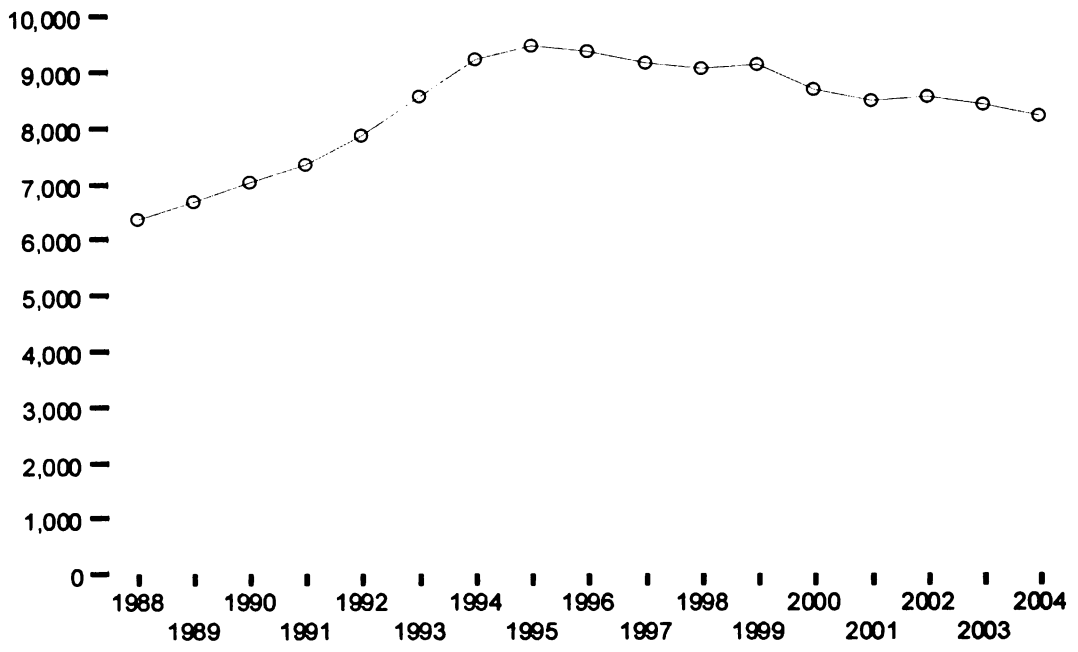

Figure 7 Oregon AFH Bed Supply, 1988 – 2004

NOTE: Data sources include SPD administrative data for 1990 – 2004; estimates for 1988 and 1989 were made using figures reported by Kane et al, 1990

The adult foster home supply has remained disproportionately higher in metropolitan areas. Between 1991 and 2004, more than two in three adult foster home beds were located in the 6 SPD regions containing 8 of Oregon's 9 metropolitan counties. The 10 SPD regions containing 26 of Oregon's 27 non-metropolitan counties had 24% of Oregon's AFH beds in 1991 and 21% of the beds in 2004. One SPD region that includes a metropolitan and a non-metropolitan county contained 8% of the AFH beds throughout the study period. Adjusting the adult foster home bed supply in the 6 metro and 10 non-metro SPD regions for the size of the older (age 65+) population illustrates the recent decline in both types of markets, as well as the slightly higher bed supply in metropolitan areas (Figure 8). Specifically, the number of adult foster home beds per 1,000 older adults decreased steadily by just over 2% per year in metro counties and by 5% per year in non-metro counties since 1995. Differences in the population adjusted bed supply

favored metro counties throughout the study period, ranging from just over 4 to 7 beds per 1,000 older adults in 1993 and 2004 respectively.

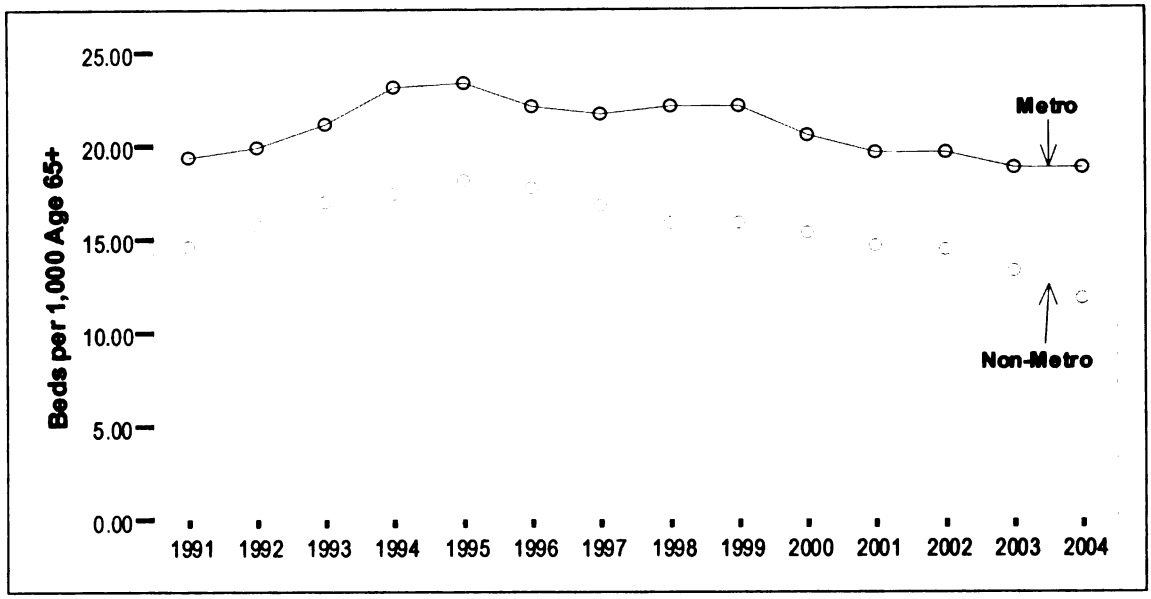

Figure 8 Mean AFH Beds per 1,000 Population Age 65+ by Location, 1991-2004

Note: Includes 16 SPD multi-county regions (6 metro; 10 non-metro); excludes 1 SPD region with a Metro and Non-Metro county

Development Financing

During the study period, public financing options in Oregon facilitated the development of ALF settings while indirectly influencing private lending practices according to interviews with ALF providers. State loan program characteristics included both incentives and requirements for organizations to ensure a supply of units that would be affordable to lower income residents. As the cost of private sector financing decreased and the range of lending options increased, financial barriers to establishing new (or expanding existing) organizations decreased. A flood of dollars from debt and equity markets beginning in the mid 1990s combined with declining interest rates provided easier access to development capital.

The Elderly & Disabled Loan Program

The Oregon Housing and Community Services (OHCS) Department administers various programs that finance low-income housing using tax-exempt bonds. OHCS uses the Elderly and Disabled Loan Program to provide loans with favorable interest rates for projects that can include senior independent apartments, congregate care, RCFs, and ALFs. These loans provide below-market interest rates and are financed through the issuance of tax-exempt general obligation bonds in pooled bond sales (OHCS, 2003). To qualify for the loan program, projects must be multi-unit housing being newly constructed or acquired with rehabilitation. Individual units must be apartment-style complete with a living area, sleeping area, private bath and complete kitchenette. Borrowers must choose what portion of the units will be occupied by lower income households. Either 20% of units must be occupied by residents at or below 50% of the area median income or 40% must be at or below 60% of the area median income. Loan applications are reviewed and approved on a case by case basis with no formal process for evaluating supply needs throughout the state or adopting lending practices that might favor development in more underserved areas.

A review of loan recipients shows that the Elderly & Disabled Loan Program has financed a very small number of RCFs. As of 2004, there were 57 loans for 44 ALFs projects and 3 RCF projects (8 ALFs received more than one loan). These loans financed 2,182 total units--including 189 congregate units in 3 projects--worth $117.7 million. Most of these loans were for ALF projects that received $106.4 million (90.3%) in financing, compared to $11.4 million (9.7%) for RCF projects. Overall these loans represented 52% of the $230.1 million financed by the Elderly & Disabled Loan Program

and 39% of the 5,612 total units. The remaining loans were for 26 congregate housing and 42 apartment projects, as well as 4 non-elderly RCFs for MR/DD clients.

As shown in Figure 9, OHCS loan activity for ALF or RCF projects varied over time. The solid line graphs the total amount of permanent loans that closed for ALF and RCF projects each year. Oregon's growing level of investment in ALF and RCF projects is illustrated by the dashed cumulative loan curve. Three loans closed in 1985 and 1986 worth $6.6 million followed by three years of no AL/RCF loan closings. The three peaks shown in Figure 9 represent four loans in 1991 worth $12.8 million, ten loans in 1996 worth $20.3 million and 5 loans in 2001 worth $17.5 million. In certain years, expenditure trends reflect project size and unit cost differences rather than the actual number of loans. For example, the third peak in 2002 represents 5 loans for 216 units worth $17.5 million (or $80,915 per unit) compared to the five loans in 1995 for 134 units worth $7.2 million (or $53,478 per unit).

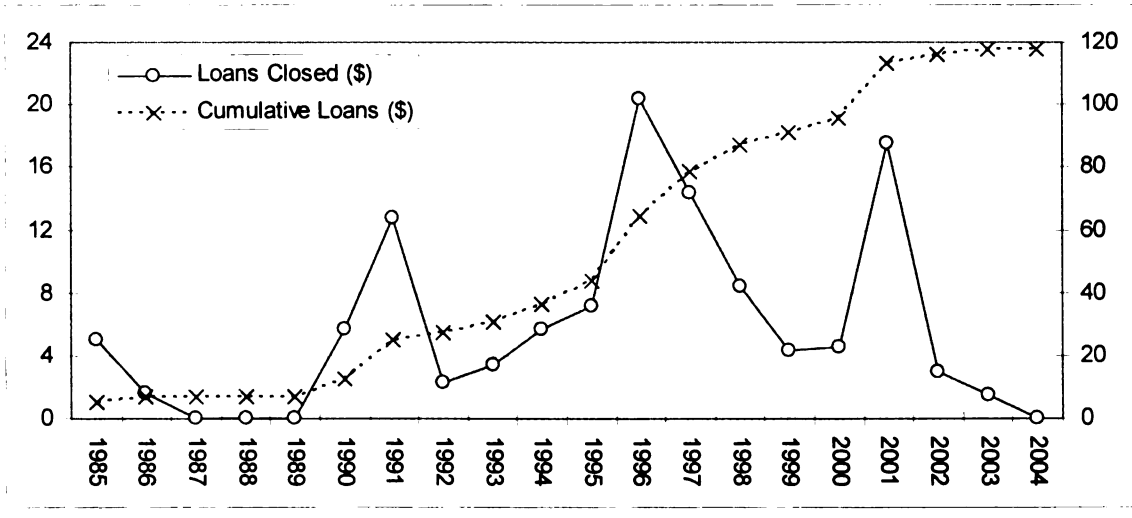

Figure 9 Oregon Elderly & Disabled Loan Program: AL/RCF Financing, 1985 – 2004 (in millions)

SOURCE: Oregon Housing and Community Services
NOTE: Excludes project loans with no ALF or RCF financed units

Examining OHCS loans and county-level ALF supply indicates that the loan program stimulated early ALF supply growth throughout the state and that the proportion of publicly financed ALFs varies considerably across Oregon counties. Of the 34 counties with any ALFs, a large majority (71%) had ALFs that had been financed through the Elderly & Disabled Loan Program. This program financed the first ALFs to open in 21 counties and the only ALFs operating in 3 counties (not shown). As shown in Table 6, a majority of ALFs in 6 counties (18%) were publicly financed. Ten counties (29%) had no ALFs financed by this program, all of which were non-metro counties with anywhere from 1 to 5 privately financed ALFs.

Table 6 OHCS Financing per County ALF Supply

	Proportion of ALFs per County with OHCS Financing					
Counties	0 %	1 – 25 %	26 – 50%	51-75%	76-100%	Total
N	10	8	10	2	4	34
%	29	24	29	6	12	100

Sources: OHCS and SPD administrative data
Note: Excludes OHCS financed RCFs and 2 counties with no ALFs

Lending trends at the organizational level suggest a declining role in public financing among ALFs. Overall, almost one in four ALFs (23%) were OHCS financed (n=194). In more recent years, a much smaller proportion of new ALFs have received loans from the Elderly & Disabled Loan Program. Specifically, OHCS financed ALFs represented 38% of those licensed from 1990 to 1997 (n=92) and only 9% of those licensed since 1998 (n=102). Interviews suggest that declining interest rates may have made private sector lending options more attractive over time. According to a representative of a private lending institution, commercial real estate interest rates are

generally based on yield rates for U.S. Treasury 10-year securities. These rates have decreased from 10.6% in 1985 to 4.3% in 2004, resulting in a 4% decrease per year.

As private lending rates have become more competitive, interviewees noted how other requirements of the Elderly & Disabled Loan Program have made the program less appealing. First, pre-payment restrictions have become a major disincentive for borrowers who can not reduce debt or refinance a project under more favorable terms. A second reported disincentive for participation is the restriction on profit distribution, which only allows borrowers to withdraw any surplus income once per year after OHCS has reviewed the project's financial statements. Third, projects must get permission from OHCS before seeking additional outside financing to expand or renovate the existing project. Fifth, periodic rent increases must be approved by OHCS prior to implementation. Although this excludes the service portion of a resident's monthly charges, providers still felt that this and other requirements made the loan program a less attractive financing option. Finally, providers expressed future concerns with low-income set-aside requirements as Medicaid rates were reportedly not keeping up with operating costs.

Private Sector Debt and Equity-Based Financing

The availability of capital to finance development activities in private markets shifted dramatically during the study period, which was characterized by limited private lending and investment dollars during the early years, followed by a flood of money from debt and equity markets from about 1994 to 1999, then a period of cautious and limited investment in subsequent years. According to early ALF developers, conventional banks were not interested in financing AL projects in the early 1990s. Among banks that would

provide loans, equity requirements and interest rates were high. Loan applicants would have to personally guarantee construction loans during this period, which slowed the pace of development unless one had substantial assets or was able and able to work with a "money partner" who would have a larger ownership interest in the real estate or business. Lenders also avoided the industry because of the perceived complexity in mixing elements of the real estate, hospitality and health care industries. Failure risks were thought to be more costly because of the single purpose use of the buildings and the potentially negative publicity associated with foreclosures. Nevertheless, a few early projects in Oregon were able to get financing through conventional lenders. Once these developers were able to demonstrate that they could fill these first projects and meet their financial projections within 30 to 45 days in one case, lenders "were standing in line."

In the early 1990s, Wall Street began positioning the AL industry as an alternative investment opportunity to skilled nursing homes. According to the industry association, banks were no longer lending money to build nursing facilities. In previous years, there had been considerable investment activity among health care Real Estate Investment Trusts (REITs) that were helping skilled nursing operators to grow and develop through sale and leaseback transactions. Essentially, investment banking institutions would help skilled nursing operators maintain their operations, sell the real estate to a REIT and use that capital to purchase other nursing homes. However, competition for SNF financing had become tighter by 1993 when REITS shifted their attention to the AL field. According to an underwriter who worked for one of the most active institutional investment banks in this field:

"...REITS were looking at other asset classes. There was some attraction to independent [living]. Assisted living seemed to have the sex appeal of the medical plus social model...it didn't suffer from the negative stigma of reimbursement. The private pay nature of the industry interested people...Wall Street liked the demographic market and how fast the companies could grow.... Wall Street and REITS were looking for an investment opportunity. The industry, from a public market standpoint, was birthed from a desire for a fast-growing investment opportunity. That was the backdrop to why AL became so popular."

The first initial public offering for Standish Care's assisted living venture in 1992 generated increased publicity for the industry and among potential funding sources. Later that year, a Wall Street Journal article drew further attention to "a movement called 'assisted living'" that featured Rackleff House in Oregon as a prototype and Wilson as one of the movement's pioneers. Media articles and investor reports, like one that appeared in the Oregonian, quoted analysts and underwriters describing AL as a "field of dreams business...if you build it, they will come" (Woodward, 1995). Analysts noted how current and future demand for less institutional long-term care options was growing because of demographic projections, changing consumer preferences and certificate of need restrictions for nursing home growth. According to a New York Times article, "the supply of customers is almost endless" (Nordheimer, 1995). AL was framed as filling a niche that was widening, partly because nursing homes were nearing full capacity and expanding into subacute care. In late 1994, Wilson co-founded Assisted Living Concepts (ALC), a Portland based organization that became the first AL-only company to raise

about $18.5 million through an initial public offering. A secondary offering raised another $32 million two years later. At least 16 other companies also went public between 1994 and 1998 whose proposed construction and "ramp-up" rates were set high to meet Wall Street analyst expectations of high growth and earnings. During this relatively short period, the range of financing options widened to include the largest banks on Wall Street like Smith Barney that could bring in both institutional and retail investors, as well as private banks like Bank of America that would provide debt capital.

The supply of capital began to tighten in August 1998 due to a temporary oversupply condition, according to one industry article (Zacharia, 2001). Companies were reporting rent up rates that were much lower than originally projected. A few providers were defaulting on their loans while others like Manor Care and later Marriott were looking to sell off their AL portfolios. Investment banks and analysts were downgrading AL companies due to poor earnings quality and lease-up rates. By the end of 1999, industry newsletters were reporting that the health care industry in general and the AL segment specifically were becoming unattractive sectors among commercial lenders. Investors were avoiding or selling small capitalization stocks like AL in favor of technology and internet stocks. In April 1999, six of the 15 publicly traded AL companies were trading below $5 per share. One of these was Portland-based ALC, which had recently gone through a failed merger attempt and was facing investor lawsuits after being forced to restate earnings from previous years. For the next two years, there was what one analyst described as "a capital crisis--supply and demand imbalance due to rapid growth that had really been unchecked. It put companies in financial distress" By 2001, national AL construction rates had fallen to the lowest levels in five years due to

these oversupply concerns and the lack of capital investment. Companies no longer had access to money from Wall Street investors who had either lost or made little money on AL.

There is some indication that the negative outlook among AL investors and lenders has begun to shift in the last two years of the study period. Interviewees described how private lending markets were favoring acquisition, rehabilitation and refinancing transactions over new construction partly because of lingering concerns about over building. Acquisitions were providing a more favorable investment option since underperforming facilities could be bought at a discount by a more experienced provider who could "get them filled up, then refinance them for additional acquisitions." According to one underwriter, capital is still available but only to more experienced providers with a track record.

Provider Reimbursement Rates

Medicaid reimbursement rates provide a financial incentive for LTC organizations to make more beds or units available to lower income, eligible residents. As organizations become more reliant on Medicaid as a primary or secondary source of revenues, the adequacy of these rates in relation to operating costs may influence organizational survival, particularly in more competitive environments.

Monthly payments to long-term care providers in Oregon varied by licensing category and by changes in reimbursement policies for each of these settings over time. As shown in Figure 10, nursing facilities have received the highest reimbursement throughout the study period with a widening gap between these and other settings. ALF rates were set relatively high at the beginning of the study period and have received

steady, gradual increases in most years. Adult Foster Homes and RCFs began with relatively low payments and experienced marked stepped increases following reimbursement policy changes. As a result, payment gaps favoring ALFs have narrowed. The following is a summary of major reimbursement policy changes for each of these settings.

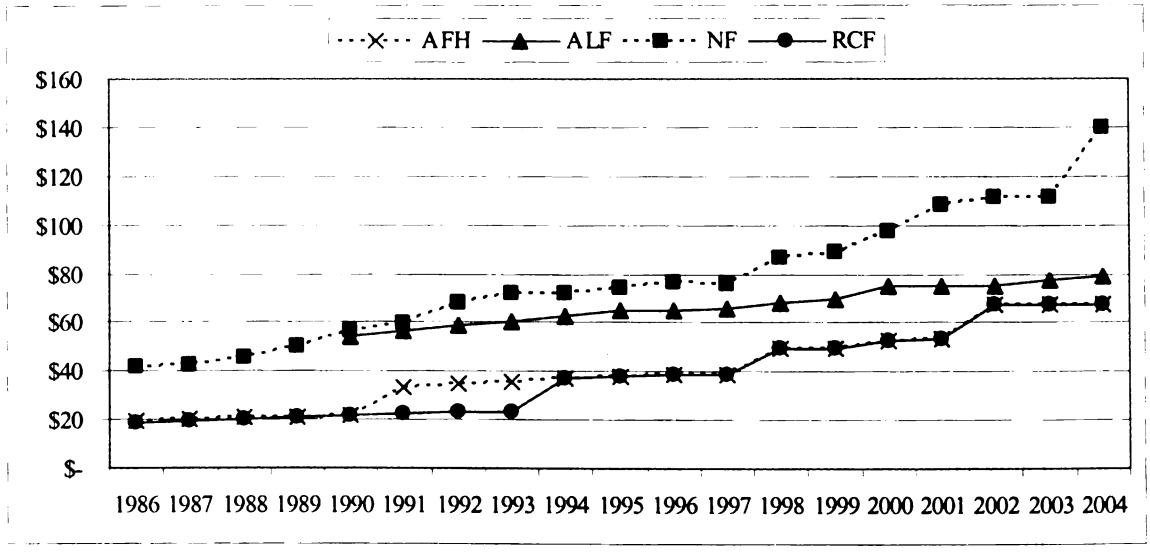

Figure 10 Oregon Daily Medicaid Service Rates by Licensed LTC Setting, 1986 – 2004

SOURCES: Swan et al., 1993; SDSD Average Interim Rates, 1988-1994; SPD Rate Schedules, 1987-2004
Estimated data: 1986, AFH and RCF rates
NOTE: Except for SNFs, daily rates represent the highest Medicaid service payment, which excludes room and board payments by residents. SNF rates since 1995 represent the most common Basic service level.

At the beginning of the study period, monthly payments to adult foster homes varied according to the number of services being provided. For example, in July 1990 a provider would receive up to $336 per month for a resident receiving 8-12 services and qualifying for a "special" service category. The following year, Oregon adopted a tiered payment system that varied by client impairment level and provided a substantial increase in monthly service payments. Adult foster home payments nearly doubled to $665 per month for residents in the highest of 5 service level. Several factors influenced these changes including state interest in expanding the adult foster home supply, recent

licensing changes intended to improve quality while also allowing retention of more impaired residents, and study findings showing considerable levels of impairment overall and higher impairment among private-pay clients (Kane et al., 1990; 1991). Reimbursement policies were again modified in 1998 that changed the method for determining service levels and increased rates at all service levels. For residents in service Level 5, monthly payments increased by about 40%. Then in 2002, the 5-tier system was replaced by a "base rate" and "add-on" payment system developed by a stakeholder workgroup in response to legislative mandate for restructuring payments to community-based care settings. The new system effectively increased the highest possible payment by almost 36%. By July 2004, adult foster homes were receiving a base monthly rate of $917 and an additional $225 for each of 3 possible "add-on's" for a maximum monthly payment of $1,592.

Since 1994, RCF providers have been reimbursed using the same payment system and levels used for adult foster homes. Previously, RCF service rates varied according to each facility's licensed bed capacity without adjustments for client impairment levels. Between 1986 and 1993, RCF service payments remained fairly low at about $280 to $350 per month. Several factors led the agency to eventually adopt the AFH rate system for RCF providers in 1994 including: pressure from field case managers reporting increasingly impaired RCF residents, providers lobbying for more equitable payment, and central office staff hoping that recently revised rules and better payments would improve care in these settings. State officials and provider representatives attributed recent RCF supply increases to 1998 reimbursement rule changes that formalized special contract rate negotiation for targeted populations. Although previously granted on a case by case

basis, eligible RCFs could negotiate a flat rate for all residents equivalent to the much higher Service Level 5 ALF provider rate. The most common specialized facilities were those serving residents with Alzheimer's or dementia-related care needs. As noted above, the "Base Rate and Add-On" payment system was implemented in 2002. This rate restructuring was expected to result in a 28% average monthly payment increase for RCF providers based on estimates of the number of clients who would qualify for the Base Rate and various add-ons. However, industry representatives note that very few providers are paid more than the first of three possible "add-ons."

ALFs have been paid using a 5-tiered system since Medicaid reimbursement became available statewide for these settings in 1990. Service levels are determined by the amount and type of assistance with ADL and behavior needs. The highest (Level 5) payment applies for residents who are either dependent in three to six ADLs or are dependent in behavior or one or two other ADLs. The initial rate for the lowest service level was set at about 35% above the highest RCF rate. State officials set the highest service level at about 80% of the nursing home rate. Higher ALF payment rates were motivated by the department's desire to attract developers to build new ALFs and to encourage providers to admit and retain residents with higher service needs. For 10 of the 14 subsequent years, ALFs received a cost of living increase that averaged about 3% per year. Since 1996, there have been several unsuccessful attempts to reduce ALF service payments in order to increase parity with other residential settings and, in recent years, to reduce Medicaid expenditures due to the state's budget crises. The legislature has repeatedly rejected ALF payment cuts, partly in response to joint opposition by the provider and senior lobbies. However, a coordinated effort by providers and Oregon

Housing and Community Services presented evidence that half of the buildings financed by the Elderly and Disabled Loan Program might default on their loans. As noted in the media, "Lawmakers realized that the cut would cause many assisted living facilities to default on millions of dollars in taxpayer-backed construction loans, costing the state more than the cut would save" (Barnett, 2001).

In contrast to residential care rates that are mostly the product of state agency and stakeholder negotiations, nursing home payment policies have been cost-based and framed by statutory developments and legal battles. Before 1997, industry representatives described nursing home rates as having been mostly been driven by the federal Boren Amendment, which required that rates be "reasonable and adequate" in order to cover costs associated with providing quality services (J. M. Wiener & D. G. Stevenson, 1998). Multiple industry lawsuits challenged the state's reimbursement policies, eventually resulting in a revised rate schedule for nursing homes that went from a 5-tiered system to a flat base rate with a "complex medical" add-on rate. The current reimbursement system is defined in statute with complex provisions for annual payment increases using cost-report data submitted by providers. The most recent spike in reimbursement rates (Figure 10) was the result of legislation passed in 2003, which established a Quality Assurance Fund for Oregon financed by a nursing home provider tax, which in turn allowed the state to draw down additional federal Medicaid matching dollars and increase payment levels to providers. Described as a "sweet deal" that the industry made with the legislature, an older consumer advocate and former state official expressed concern that the policy has created "a significant windfall for nursing homes."

Medicaid Utilization and Expenditures

Although Medicaid utilization and expenditures are themselves determined by the available supply of service providers, changes in the flow of residents and public dollars available to different organizational forms may stimulate (or dampen) future population growth. Furthermore, examining utilization in relation to available supply may also provide an indication of the market niche for different organizational forms. Throughout the study period, relative and non-relative AFHs have served the largest portion of Medicaid residents in community-based settings. As shown in Figure 11, utilization grew most rapidly in early years when the number of residents increased tenfold from about 700 AFH residents in 1989 (not shown) to almost 7,500 AFH residents in 1994. Thereafter, Oregon's AFH caseload fluctuated slightly but remained relatively flat until 2004 when the number of Medicaid AFH residents declined by 9% to 6,795--the lowest amount since 1993.

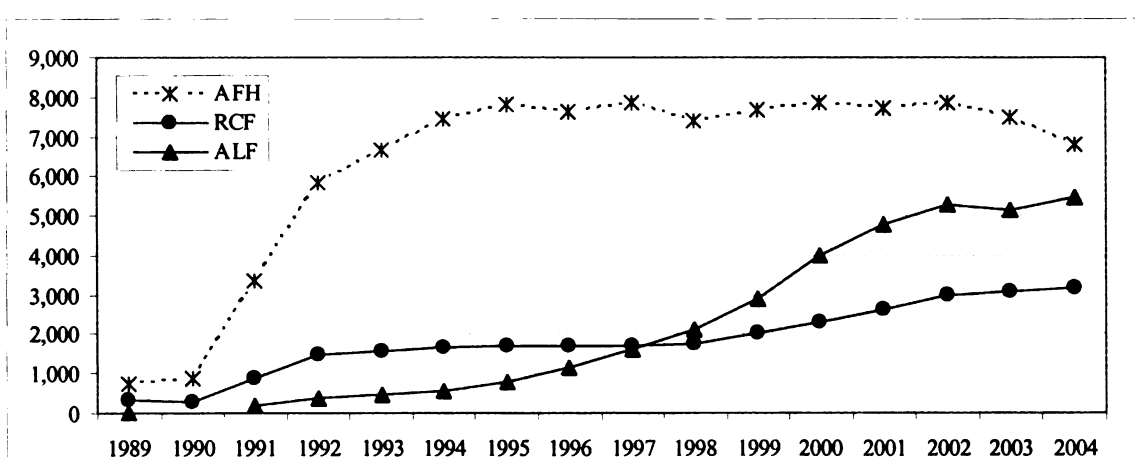

Figure 11 Medicaid Participants by Licensed Residential Care Setting, 1989 – 2004

NOTE: AFH = non-relative and relative adult foster home; RCF = residential care facility; ALF = assisted living facility. The data presented are the author's analysis of CMS Form 372 waiver data. Estimated data: 1991 and 1993.

ALF use by Medicaid residents grew steadily since Oregon first reported 193 participants in 1991. By the end of 2004, there were almost 5,500 Medicaid recipients served in ALFs—a tenfold increase since 1994. RCF use by Medicaid residents has grown more slowly. Although more Medicaid residents were served in RCFs than ALFs in earlier years, RCFs have served the smallest proportion of Medicaid residents in community-based settings since 1998. Utilization grew rapidly in 1991 and 1992, slowed to about 3% per year between 1993 and 1998 and increased to about 14% per year through 2002.

Adjusting annual Medicaid caseloads by the supply of licensed ALF and RCF beds reveals changes in how different organizational types have relied on public revenue sources over time.[15] Medicaid residents represent a considerable portion of the licensed bed capacity for both ALFs and RCFs. Between 1992 and 1998, the proportion of Medicaid users to ALF beds hovered around 30% then rose to over 40% thereafter (Figure 12). For RCFs, Medicaid users represented a slightly larger portion (37%) of licensed beds from 1992 to 1996, but then declined and stayed below ALF levels in subsequent years. In 2004, there were 22 Medicaid ALF users and 18 Medicaid RCF users for ever 50 licensed beds of each type.

[15] Adjusting Medicaid AFH utilization by licensed bed supply was not possible due data limitations since non-relative and relative adult foster home clients have not been reported separately.

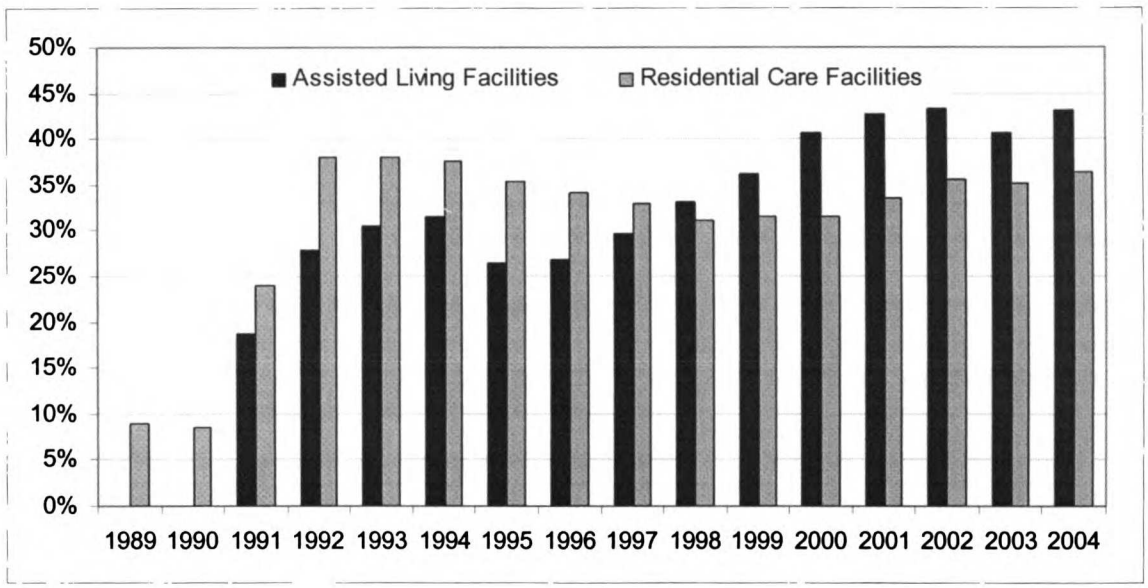

Figure 12 Proportion of Medicaid Residential Care Participants per Licensed Beds by Category, 1989-2004

NOTE: The data presented are the author's analysis of CMS Form 372 waiver data with estimated data for 1991 and 1993, using bed supply data collected by the author.

Changes in total annual Medicaid expenditures per licensed setting reflect utilization and reimbursement policy changes described above. In 1991, Oregon spent almost $1.5 million on ALF services (Table 7). That figure had increased more than tenfold to $15.6 million in 1998. Expenditures continued increasing to $55.0 million in 2003 and decreased to $54.4 million (-1%) in 2004. Considering that there were 6.5% more participants that year, this slight decline may be due to decreases in average service levels. According to industry documents, modifications in Oregon's client assessment tool became effective in 2003 that shifted a portion of ALF Medicaid residents to a lower service level than they had previously been scored.

Table 7 Medicaid Expenditures per Residential Care Category, 1989 – 2004 ($ millions)

	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04
ALF*	-	-	1.5	2.9	3.9	4.8	6.0	8.4	13.8	15.6	25.5	37.5	46.9	51.8	55.0	54.4
RCF	0.5	0.5	1.7	2.8	4.3	5.6	6.1	6.6	7.2	7.3	12.0	14.6	18.3	26.1	27.4	28.3

NOTE: The data presented are the author's analysis of CMS Form 372 waiver data with estimated data for 1991 and 1993, using bed supply data collected by the author.

* Missing ALF expenditure data for 1990 may represent a reporting error.

Medicaid spending trends for RCF clients also reflect utilization patterns and reimbursement policy changes. They increased more than tenfold from $0.5 million in 1989 to $5.6 million in 1994. By 2004, RCF expenditures had increased fivefold to $28.3 million. Substantial expenditure increases occurred in 1999 (64%) and 2002 (42%), coinciding with reimbursement policy changes described above.

Changes in Oregon's Institutional Environment

Preceding sections have focused on those aspects of the environment that determined the flow of resources to support existing or emerging LTC organizational populations in Oregon. Using interview data, as well as policy and document reviews, this section describes changes in the institutional environment that shaped population dynamics in Oregon's LTC field. Though focused primarily on the study period, from about 1986 to 2004, this section draws attention to events, factors and ideas that undermined dominant beliefs and practices while also fostering change (Scott et al., 2000).

Institutional Logics in Oregon's LTC Field

Oregon's LTC field may be characterized by shifts and conflicts between previously dominant institutional logics that characterized what Kitchener and Harrington (2004) describe as the "'traditional' nursing home" archetype and those represented by an "'insurgent' HCBS" archetype. Such institutional logics include the belief systems (specified goals or values to be pursued) and organizing principles (legitimate means or practices for pursuing these goals) that characterize an organizational field (Friedland & Alford, 1991; Scott et al., 2000).

Several, often competing belief systems became evident in examining LTC policy and organizational developments in Oregon. One of the dominant beliefs was that older and disabled adults should be able to live in the least restrictive settings possible. This notion was incorporated into nursing home preadmission screening or client relocation practices that required case managers to identify alternative community based settings for current or potential nursing home clients. A related goal was that services should be cost-effective whether that meant for individual users, the state and/or service providers. In state practice, this meant requiring case managers to inform potential nursing home clients about less costly alternatives. These two goals were tied to state agency goals for reducing nursing facility utilization using two major strategies: containing or reducing nursing facility supply and increasing the supply and use of HCBS. The first strategy was framed as an "economic imperative [since] nursing home care was driving up costs," according to one advocate. An economic downturn in Oregon during the late 1970s combined with anticipated future demand for LTC provided a greater sense of urgency for reducing nursing facility use. Building up HCBS was also part of the economic

equation since they were believed to provide a lower cost alternative to nursing home care.

The larger goals had been formalized into Oregon statutes by 1981 with the passage of Senate Bill (SB) 955, the key enabling legislation for the state's LTC reforms efforts. Current statutes require the state's lead agency to "...regulate and provide leadership to insure that the elderly citizens of Oregon will receive the necessary care and services at the least cost and in the least confining situation." (Oregon Revised Statutes Chapter 410 Section 50 (ORS 410.050)). Although driven by economic imperatives, these values also reflected older advocate demands for providing more alternatives to nursing home care as described further below. Other societal values of dignity, independence and self-direction were also incorporated into state law. Specifically, the first section of the statute states:

> The Legislative Assembly finds and declares that, in keeping with the traditional concept of the inherent dignity of the individual in our democratic society, the older citizens of this state are entitled to enjoy their later years in health, honor and dignity, and disabled citizens are entitled to live lives of maximum freedom and independence. (ORS 410.001)

Further, implementation of the state's policy recognizes:

> ... the right of free choice in planning and managing their lives; by increasing the number of options in life styles available to older citizens and disabled citizens; by aiding older citizens and disabled citizens to help themselves; by strengthening the natural support system of family, friends and neighbors to further self-care

and independent living; and by encouraging all programs that seek to maximize self-care and independent living within the mainstream of life (ORS 410.020 (2)).

In Oregon, maximizing client independence and other quality of life domains became dominant logics of this period but not without conflict. Quality of care continued to have what some informants suggested was a secondary or competing role. Although older and disabled adults were recognized as experiencing gradual losses in self-care abilities, there was a growing belief that LTC recipients should still be able to make choices about the services they want or need, as well as how those services should be provided. This included allowing clients to make choices that might conflict with professional recommendations. Greater emphasis was placed on quality as determined by consumers, their preferences and satisfaction. In contrast to institutional settings, these beliefs implied a more limited role for clinical professional oversight and external regulatory monitoring. Such beliefs were not widely accepted by individual actors within the LTC field resulting in ongoing ideological conflicts that often escalated either within the state agency or among other participants and stakeholders. Interviews suggested the persistence of a related tension between the notion of ensuring the least restrictive setting and professional judgments about setting "appropriateness." Participant accounts differed regarding the perceived capacity of different organizational forms to meet the needs of more cognitively or physically impaired residents.

Other institutional logics were evident in a range of organizing principles that prevailed during this period. One of these was the "social model" of care that had been proposed as an alternative to the prevailing "medical model." According to a video that

was circulated throughout Oregon's aging network, operating within the medical model meant that trained professionals and clinicians were conferred authority and central roles in decision-making processes. The alternative social model was said to emphasize decision making processes that were driven by an individual's expressed needs and preferences. In the former model, unquestioned compliance with prescribed orders and routines was expected whereas the latter recognized the right of individuals to refuse services. While the medical model views aging as a disease to be cured giving primacy to the medical and physical aspects of an individual, the social model adopted a view of aging as a natural life process and recognized the importance of other social and psychological factors.

Another organizing principle during the study period was that care and services for the elderly should be managed and provided through a locally controlled network of government agencies that employed professionals from multiple disciplines and a range of specialized service provider organizations. In addition to consolidating all LTC administrative and budget functions within a single state agency, SB955 also provided the framework for Oregon's service delivery system. This included providing a single entry point for participants to access LTC by integrating all Medicaid LTC programs through the state's area agencies on aging and county offices. Reviews of provider licensing requirements revealed other state required organizing principles. Specifically, services should be individualized to client needs and preferences, clients should be provided the opportunity to age in place, and care and services should be planned and organized using professional (not necessarily clinical) evaluation criteria. At the state

and local levels, consumers (or their advocates) were also to have formal roles in policymaking and planning processes.

Policy developments also reveal an organizing principle that the business of LTC should be supported regardless of organizational proprietary status. With few exceptions, the provision of LTC services as a profitable venture was not generally considered problematic. Recognizing that "most of the providers are business interests," one former agency official noted the importance of maintaining a balance between business interests and the provision of services. Regulatory and finance policy decisions were often framed in terms of whether they were "good for business," would "drive some facilities out of business," or could be implemented in ways that would lessen any adverse impact on businesses. Negative views of for-profit ventures were generally limited to large national chains or out-of-state, inexperienced developers that were viewed as having little regard for Oregon's value system.

Institutional Actors and Antecedents for Organizational Change

According to Scott and colleagues (2000), "institutional actors, individual and collective, both create (produce) and embody and enact (reproduce) the logics of the field (172)." The principle types of actors during the study period were (1) state officials who were primarily engaged in efforts to develop policies and programs that realigned Oregon's LTC system, (2) the "senior lobby" and consumer organizations that advocated for aging services LTC reforms, (3) the nursing home industry and its trade associations that initially opposed and later accommodated themselves to changes in the field, and (4) the emerging ALF industry including its innovators and trade associations that drove efforts to establish the legitimacy of a new organizational form. Other secondary actors

included private and public lenders who financed the development and growth of the AL/RC industry; nurses who occupied positions within provider organizations and state agencies; and adult foster home and residential care facility providers that were generally not as well organized or represented.

State agency activities during the first part of the study period reflected a culture of risk taking and experimentation as the newly established department and its leadership sought to create and support new service delivery models. The department's director at the time, Richard "Dick" Ladd, and his staff were largely credited with providing the leadership that drove Oregon's LTC reform efforts. Having initially been brought into the Department of Human Services to develop and run the Flexible Intergovernmental Grant ("FIG") Waiver Project, Ladd was able to use the demonstration findings to provide the governor and legislature with an economic rationale for subsequent policy reforms. Operated in 1979 with federal and state funds, this small demonstration included moving nursing home residents into community based settings in five southern Oregon counties. FIG Waiver money was used primarily to pay for in-home care, as well as what later came to become licensed adult foster homes. According to one former state official, it was viewed as an opportunity to use combined funds to create a "nursing home without walls." At the federal level, passage of the Omnibus Reconciliation Act of 1981 provided the financing mechanism for Oregon to expand its small demonstration program statewide.

During this earlier period, agency leadership was working closely with the "senior lobby" to help achieve departmental goals by providing advocates with training and information. Ladd was described as having an open door policy with seniors who "could

go into his office and say, 'jump' and he'd say, 'how high?'" At the time, the senior lobby was largely represented by activist organizations like the Gray Panthers and United Seniors of Oregon who benefited from having members who were retired union activists with decades of legislative advocacy experience. According to one former state official, "There were fleets of seniors, pretty much coordinated and keeping in touch with each other.... [T]he key was to find out where the leaders were and get them the information they needed." A former Gray Panther explained:

> Informal conversations between state officials and advocates allowed advocates to understand where the critical issues were with the legislature and what the trigger points were. The agency readily provided information that could be used in advocacy--information and numbers.

As another state official pointed out, "We armed them well to make the cases for us. They would advocate and speak to things that we couldn't."

This early period, from the early 1970s and mid 1980s, was considered the "hey-day" for groups like the Gray Panthers "in terms of funding and energy." They were focused on LTC reform, testified before the legislature, staffed a nursing home hotline and sponsored statewide forums to make policy recommendations for the 1980 White House Conference on Aging. Although intended to gather recommendations for nursing home reform, the sentiment from these forums was that "people had given up on reforming nursing homes; they wanted there to be alternatives." According to state officials, the senior lobby was largely responsible for redefining the state's policy on aging through SB955 and specific components, such as the consolidation of all aging programs, the shift to more local government control, the emphasis on home and

community based services. Once this enabling legislation was passed and HCBS programs had been adopted, the senior lobby remained actively engaged to ensure their continued funding.

State relations with the nursing facility industry were generally considered adversarial. Certificate of need policies had been adopted during the late 1970s to limit nursing home supply growth and reimbursement rates were held down as a further disincentive to market entry. The agency's director was determined that the nursing home supply would be reduced dramatically. According to one consumer advocate, "Dick Ladd wanted to take a fifth of the nursing homes and make them skilled and the other eighty percent would become RCFs or ALFs." Although not specified in statute, values about providing the least restrictive and cost effective settings meant in practice that nursing facilities would be considered "the placement of last resort" according to state officials. Statutory language also provided that savings from reduced nursing home expenditures could be used for Medicaid or state funded HCBS alternatives (ORS 410.050).

The last ten years of the study period were marked by shifts in state policy and program priorities, as well as changing relations with providers and older advocates. Such shifts were attributed to changes in agency leadership and staff, state fiscal crises, as well as legitimacy changes for organizational forms. State actions during this period can be characterized by retrenchment in some areas and fine tuning of recently developed programs. At the beginning of this period, there was an interest in "leveling the playing field" for provider categories that had previously fallen out of favor--residential care and nursing facilities. Efforts were focused on improving reimbursement rates for these

settings. Leveling the playing field also meant increased regulatory activity through rule revisions, restructured oversight responsibilities and greater enforcement efforts for community-based settings, with an emphasis on quality of care domains. In 1997, facility licensing and oversight functions were decentralized to the Client Care Monitoring Units, which were already responsible for nursing home surveys. Since about 1998, there has also been ongoing activity in revising ALF and RCF licensing requirements in contrast to previous years when there was relatively little activity.

More recent years are also characterized by several crises for the state itself and its view of different provider types. These crises contributed to shifts in policy priorities, resource allocations and state relations with stakeholder groups. Nursing facilities had already experienced a legitimacy crisis beginning in the 1970s due to concerns about poor quality, excess supply and escalating Medicaid costs. However, state officials were more receptive to industry concerns about the economic hardship being faced by these settings and the unintended consequences of previous policy decisions, which were resulting in high vacancy rates and facility closures. Policy initiatives to increase reimbursement rates and further reduce excess nursing facility supply were intended to address these concerns and minimize adverse effects on clients. The state began experiencing fiscal crises in 2001 as state expenditures were outpacing revenue growth. These crises were the product of earlier tax policy changes, an extended economic recession and reduced public support for state funded aging and social service programs. As discussed in the next section, the ALF population was also experienced a legitimacy crisis at this time.

State and provider relations with the senior lobby have also evolved over time. While advocacy groups had been previously represented by traditional activists pushing for program expansion, a more professionalized senior lobby with formalized stakeholder roles has become more focused on program survival. Faced with governor mandates to reduce department expenditures, agency staff described "a distinct shift in recent years" with advocates no longer being utilized to oppose proposed budget cuts. This was partly attributed to the governor having a "stronger hand" over department leadership and a relationship with the senior lobby that was described as more bureaucratic and less advocacy oriented. As a long time agency staffer noted,

> There's not enough care and feeding of advocates as it was in those days. Part of it was that the former focus has changed with the new administrative structure...the combination with disabilities has watered down the focus on seniors who tend to get pushed aside.

Others suggested that the senior lobby is less effective partly because of the disappearance of older activists and a fading senior movement. Where senior lobby and nursing home industry relations were more adversarial in previous periods, they have established a more collaborative relationship in recent years, adopting an attitude that "we're all in this together." Years earlier, the for-profit nursing home association had made the decision to work more cooperatively with consumers and is currently a member of United Seniors of Oregon. Both groups have worked together through the formation of joint coalitions, such as Save Oregon Seniors, and serving on committees such as the Medicaid Long Term Care Quality and Reimbursement Advisory Council to oppose budget cuts and reimbursement changes.

AL/RC Theorization, Legitimation and Isomorphism

As described above the HCBS archetype had already been theorized and institutionalized into statutes, organizational forms, and regulations. Within what was originally the Senior Services Division (SSD) and later the Senior and Disabled Services Division (SDSD), interviews indicate that the favored services developed between the early 1980s to mid 1990s included in-home care, Adult Foster Care, relative foster care and Assisted Living Facilities. The state adopted a range of policies to legitimize these new organizational forms, recruited or directed potential providers to adopt these forms, used public dollars to help finance their development and created incentives for providers to serve Medicaid eligible residents. By 1989, Oregon had also made a considerable financial investment in non-nursing home care as evidenced by the $8.5 million in Medicaid HCBS spending--mostly for in-home care--which represented more than a third (36%) of Medicaid LTC expenditures that year.[16]

During the 1980s, separately licensed RCFs were less favored by agency leadership because of their perceived low service capacity and less desirable physical environment. Licensing regulations in 1983 were fairly minimal with nine pages of requirements for providing assistance with some activities of daily living and supervision. A former state official who was relocating nursing home residents in 1980 described RCFs as "awful places." Although regulations were substantially revised in 1985, these settings were not considered the placement option of choice particularly as agency leadership was developing service models to meet future needs and preferences. According to one advocate, "RCFs at this time were the forgotten stepchild of the system."

[16] Based on CMS Form 372 data for 1989 collected from Oregon by UCSF.

The case for developing an alternative residential care model was largely made by Wilson who was then hired by Ladd to draft the first set of ALF rules. According to Wilson, the rationale for creating separate rules from RCFs included the desire for "fresh language" that would "make people feel that this would be something different. By people, I mean providers and regulators." New rules would address the "negativity" and "old baggage" associated with older RCFs. They would also allow for the addition of design and service requirements that would be difficult to incorporate into existing RCF rules without having to "grandfather" the old RCFs. Wilson drafted the first set of rules in late 1988, served on all rule writing committees, and gave presentations throughout the state in order to generate interest among providers.

The first set of rules began with philosophical definitions of assisted living that described how each of six values was to be supported by the physical environment and programs. An SDSD concept paper from 1989, "Assisted Living – A Social Model Approach to Services," also described the structural and programmatic features of this "new, viable option" that promoted resident involvement in decision-making and emphasized the six values. It noted how SDSD was working with various stakeholders to develop ALFs and preparing policies, procedures and educational models for developers entering the market, as well as state and local agency staff. Other early ALF adopters noted how the AL model was being "whistle-stopped" around the state during this time. SDSD helped produce a video, "Beyond Loving Care," that featured Ladd and Wilson introducing the "new research based model" to multiple audiences. They discussed the medical versus social model dichotomy, the types of clients that could be served, and the range of services to be provided. Featuring interviews with resident, family member and

staff from the single Medicaid demonstration site, Wilson discussed how traditional values of home, privacy, choice, independence, individuality, and privacy were operationalized by the model.

ALF licensing rules were finalized within a year of their first being drafted and became effective in 1990. To bypass the legislative process, agency staff had chosen to adopt these new rules under existing RCF statutes despite an unsuccessful legal challenge to SDSD's rulemaking authority from the nursing home association. To further manage nursing home opposition, the industry was represented as one of several stakeholders in the rule writing process. They also became a target audience for adopting the ALF model, which was presented to operators as a potential new business opportunity. According to one state official, the nursing home industry's "concerns started to evaporate once they realized they could develop and operate ALFs also."

Although agency leaders and program staff were generally committed to growing this service model, not all state employees in Salem or local AAA offices had shared levels of enthusiasm. As one former state official noted, the video "... was ridiculed by staff internally. It was not a pleasant time. It was a propaganda film to get people on board with AL." Staff raised questions about government taking an active role in growing an industry comprised of mostly private, for-profit providers with what some considered limited government oversight. Others were critical of the 'kid glove' treatment that the ALF industry received. As one former state official noted, "Dick called off [the Client Care Monitoring Unit] going in to survey the two demonstration projects and only offer protective services. He didn't want someone going in finding lint

in the dryers. There was a lot of dissention within SDSD about ALFs being untouchable."

Nevertheless, state efforts to support industry growth and adoption of the theorized AL model continued through most of the 1990s. Agency staff were reportedly trying to "recruit people to build under the new rules or convert RCFs." Over time, developments in the ALF population seemed to influence practices and policies for RCF organizations. Providers reported adopting aspects of ALF philosophy (e.g. "aging in place") and practices (e.g. nurse delegation). One consumer advocate observed that RCFs did not seem to grow until ALFs began to open. Except for the lack of private apartments, several informants noted that newer RCFs have become indistinguishable from ALFs. With recent RCF rule revisions having incorporated several of the philosophical and practice requirements that had previously only been required for ALFs, further integration of the two licensing categories was being considered by stakeholder groups by the end of the study period.

Other policy developments began to make RCF licensure more attractive than in previous years. The first was increased financial support through higher Medicaid reimbursement rates as described above. According to one state official, "We knew RCFs weren't going away so we had to do something to bring them into the fold that would improve the quality." Developers also began to view the RCF licensing category as providing more flexibility. Individual units could be built as either private or shared occupancy thus allowing more flexibility in adjusting bed capacity. Shared occupancy units could be used to maximize revenues by "doubling up" Medicaid residents and by offering a lower priced option for private pay applicants who earned too much to qualify

for Medicaid but not enough to afford a private unit. Key informants described Alzheimer's unit endorsement rules and recently adopted special contract rate provisions as the main incentives for RCFs to develop as specialized units. Although these "special care units" had existed as a private pay option since at least the early 1990s, the Alzheimer's Association had later pushed for additional requirements, which clarified programmatic features of "endorsed" units. Later, the enhanced Medicaid rates for Alzheimer's units "penciled out for people, and once it pencils out, you get growth."

By the latter part of the 1990s, ALF support seemed to have waned among state officials and some consumer groups due to a number of factors including: rapid growth, quality of care problems, case mix differences, state and industry conflict of interest concerns and possible overbuilding. More recent licensing and reimbursement policy activity suggests some erosion in the legitimacy or most-favored status of the ALF population. Questions had been raised for years about the comparably generous ALF reimbursement rates since clients with similar needs could be found in all setting types. Consumer advocates reported conflicting concerns that some ALFs were accepting clients with more complex needs than staff could readily accommodate, while other ALFs were asking residents to move sooner than what they felt was appropriate. Others suggested profiteering and possible conflicts of interest since the organization that Wilson had co-founded was one of the largest for-profit ALF chains in Oregon and the U.S. Ladd, who had by then retired from public service, was serving on ALC's board of directors since at least 1995. As SDSD responded to quality of care concerns by convening stakeholder groups to revise and clarify ALF licensing requirements between 1998 and 1999, the General Accounting Office released its own findings regarding

quality of care problems in Oregon and three other states (GAO, 1999). Two years later, the state adopted a statewide moratorium on new ALF and RCF development partly in response to reported concerns about excess supply and overbuilding. The moratorium policy was finalized just two months after an exposé in the Oregonian drew attention to management and financial problems at ALC, as well as quality of care problems in its facilities.

B. Assisted Living and Residential Care: Population Dynamics, Supply and Changing Characteristics

This section describes changes in Oregon's population of licensed ALF and RCF organizations. The first subsection compares population dynamics for these categories of organizations in terms of state level entry and exit rates over time, as well as within-state variation. The next subsection examines the licensed bed supply for each population statewide, as well as the county-level variation for each by type. Supply availability in metropolitan and non-metropolitan counties is examined in the third subsection by examining population entries over time and changes in the population-adjusted bed supply in both types of markets. The last subsections describe changing organizational population characteristics for these two organizations including Medicaid contracting rates, integration with higher levels of care, and Alzheimer's specialization.

Organizational Entries and Exits

This section examines state level ALF and RCF organizational supply changes during the study period by describing entries into and exits from the respective ALF and RCF population categories, as well within-state variation and total population density.

ALF Population Entries and Exits, 1990 – 2004

Beginning with the establishment of new licensing rules in 1990, the ALF population experienced rapid growth that fluctuated during a fairly narrow period of time, totaling 194 newly established ALFs. Entry rates were high for this population, averaging 13 new facilities per year during the entire 15 year period, though at a slightly higher pace during the second half (Figure 13). The most dramatic increase occurred in 1995 when 21 ALFs were licensed compared to just 5 in the previous year. Annual entry rates peaked in 2000 with 27 new ALF licenses and declined each year thereafter to only 1 new ALF licensed in 2004. This population experienced only 2 exits or 1 for every 97 entries—one of these continued operating as an Alzheimer's Care Unit with an RCF license and the other closed voluntarily.

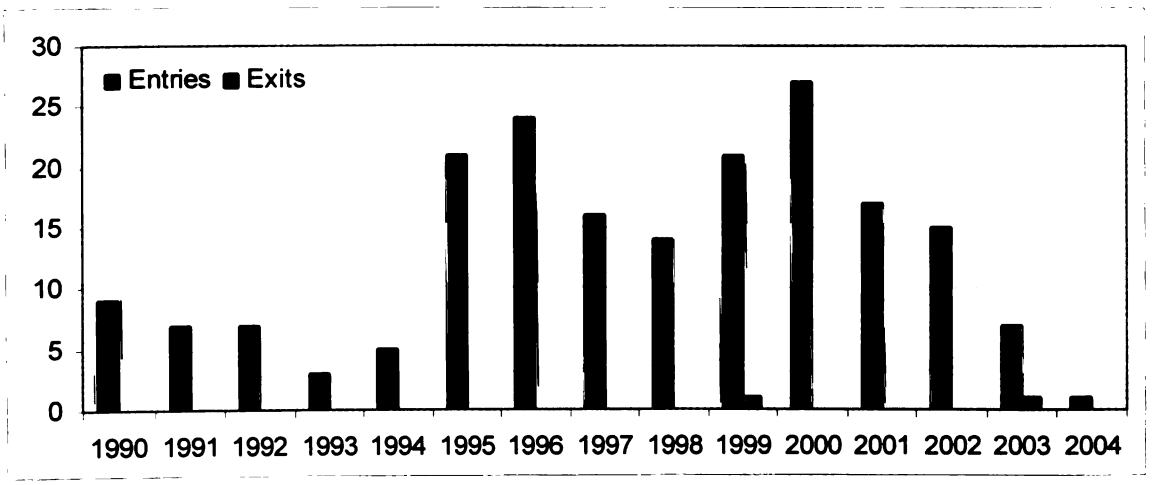

Figure 13 Oregon ALF Entries and Exits, 1990 – 2004

ALF entries varied across counties and over time. Only two counties (Sherman and Wheeler) had no new ALFs licensed during the study period. Total ALF entries ranged from just one in Gilliam, Grant, Harney, Lake, Morrow and Wallowa to 23 in

Clackamas, which had entries in all but three years. Multiple ALF entries within counties were also clustered and/or spread out with no activity over several years. In counties with at least 3 entries, new ALFs were often licensed within a year of each other. The two ALF exits occurred in Deschutes and Multnomah.

The net ALF supply (or population density) is plotted in Figure 14, which illustrates slow initial growth and the possibility of recent stabilization after a period of rapid growth between 1995 and 2002. With about 19 new ALFs entering the market each year, most of Oregon's ALF supply (80%) was licensed during that 7-year period. The relative lack of organizational failures resulted in a population growth curve that was fairly steep relative to the RCF population described below.

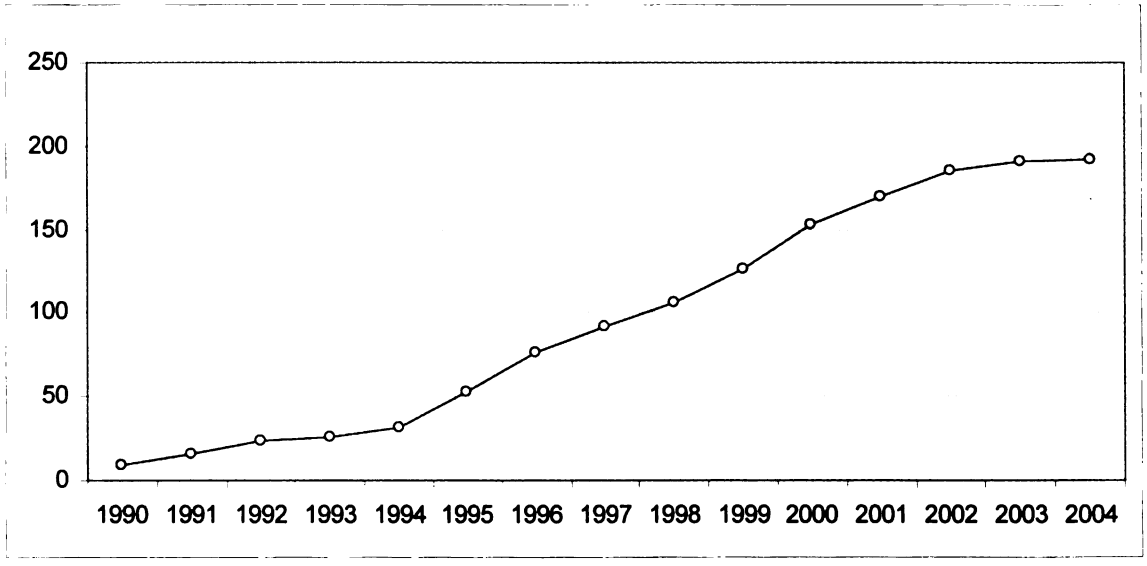

Figure 14 Oregon Assisted Living Facilities, 1986 - 2004

RCF Population Entries and Exits, 1986 - 2004

At the beginning of 1986, there were 82 RCFs that were either free-standing or co-located with a nursing facility or another senior housing setting. More than two in three of these RCFs had opened in the preceding six years. From 1986 to 2004, the RCF

population also experienced considerable, though fluctuating growth, averaging about 11 entries per year with much higher rates in recent years (Figure 15). A modest growth period that peaked in 1993 was followed by a more dramatic growth period that peaked sharply in 2000 with 32 new facilities and decreased just as rapidly thereafter. Of the 210 newly licensed RCFs, two in three entries occurred in the second half of the study period. RCF population exits numbered almost one for every four entries. Exits also seemed to fluctuate during the study period with an average of four closures in the nine-year period from 1996 to 2004, compared to two closures per year in the preceding ten-year period. Of the 55 facilities that exited the RCF population during this period, 20 closed for unreported reasons. Of these, almost half (45%) were co-located with a nursing home that either remained open (n=4) or closed the same year (n=5). Agency staff reported that 20 RCFs closed voluntarily for a variety of reasons including: financial hardship related to small size; inability to maintain an adequate census; state pressure to close due to significant and ongoing regulatory noncompliance; loss of residents who no longer qualified for Medicaid due to changes in eligibility criteria. Eleven facilities exited the population through "transformation" to a different form as either unlicensed senior housing (n = 3), ALF (n = 5) or SNF (n = 3). Those in the last category were already part of an existing SNF and converted through the certificate of need process. Of the ALF conversions, four occurred within about a year of the new regulations being implemented. License revocation actions by the state resulted in 4 involuntary closures.

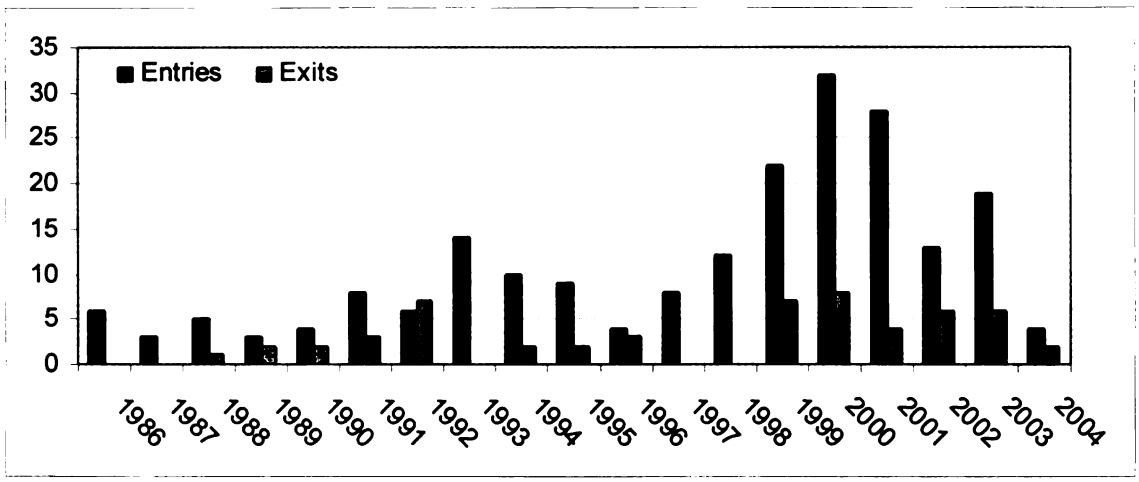

Figure 15 Oregon RCF Entries and Exits, 1986 - 2004

RCF entries and exits varied across counties and time. Seven counties (Gilliam, Grant, Lake, Morrow, Sherman, Tillamook, and Wallowa) had no new entries during the study period although Grant had one earlier RCF entry. Total RCF entries ranged from just one in Crook, Harney, Jefferson, and Wheeler to 31 in Multnomah. Multiple entries within counties were sometimes clustered in 1 to 4 year periods and/or spread out with no activity over several years. Of the 31 counties with RCFs, the majority (61%) had at least one facility that exited the population. These ranged from one exit in 8 of the counties to 9 exits in Multnomah.

The combined effects of entries and exits produce the organizational density plot shown in Figure 16, which illustrates an RCF population that more than doubled in size through steady increases that steepened during the second half of the study period. Between 1986 and 2004, the RCF population expanded by an average of 6% per year with peaks of 9% in 1994 and 14% in 2000.

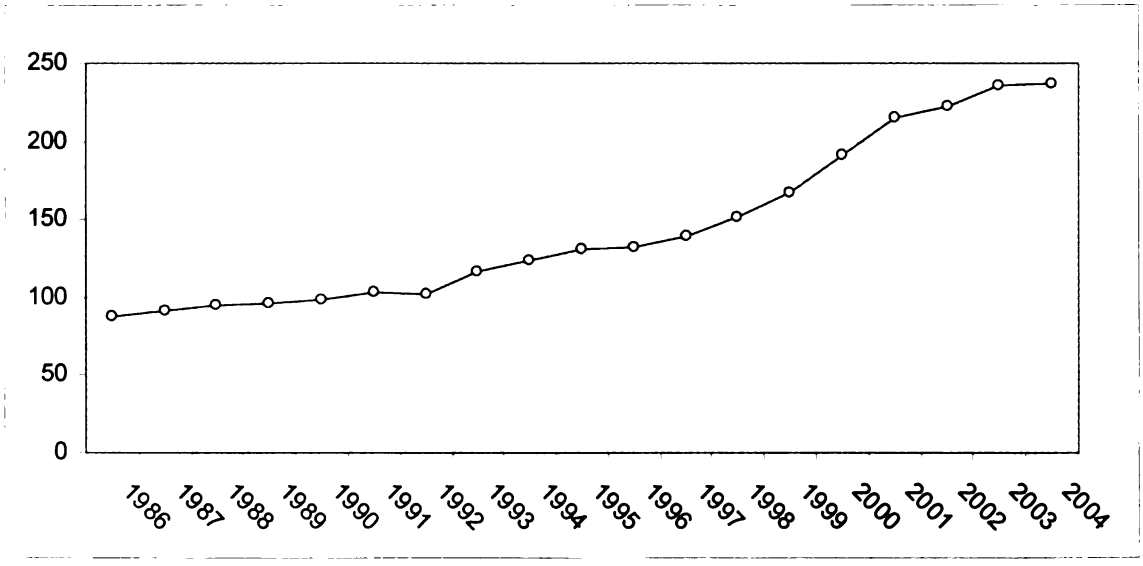

Figure 16 Oregon Residential Care Facilities, 1986 - 2004

Organizational Bed Supply

This section describes state-level ALF and RCF bed supply trends during the study period, as well as county-level trends and variation over time.

ALF and RCF Bed Supply, 1986 – 2004

The ALF bed supply grew rapidly during a relatively short period of time from less than 700 beds in 1990 to almost 12,700 beds by the end of 2004 (Figure 17). Supply increased fairly rapidly at first, averaging 28% per year between 1990 and 1994. The following six years represented the highest period of growth when supply more than tripled, increasing by almost 35% each year. Growth rates declined in each subsequent year between 2001 and 2004, averaging less than 7% per year.

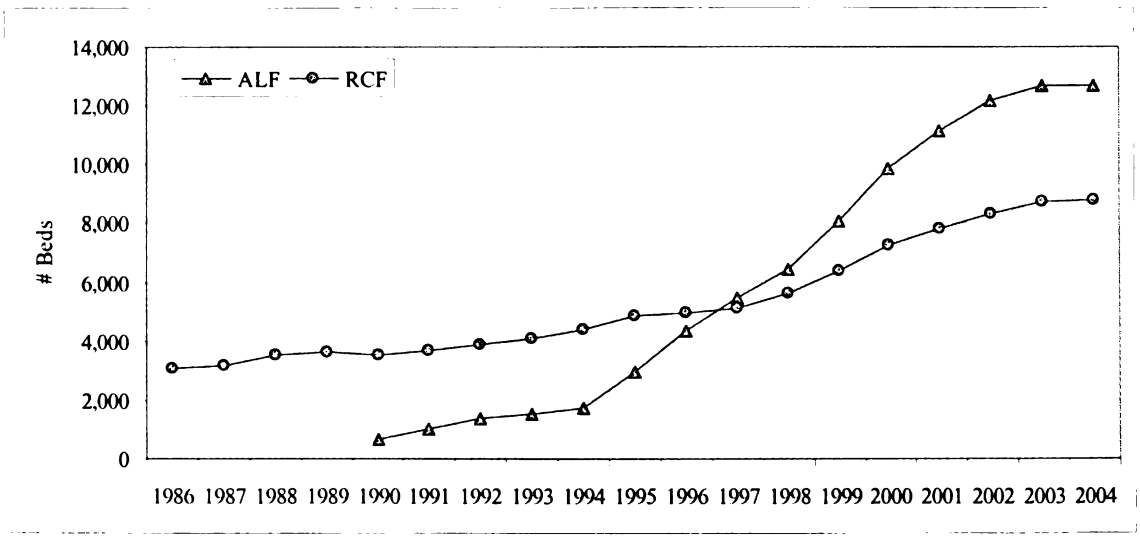

Figure 17 Oregon ALF and RCF Licensed Bed Capacity, 1986 – 2004

By comparison, the RCF bed supply increased nearly threefold from just over 3,000 beds in 1986 to almost 8,800 beds at the end of 2004. RCF bed supply increases were more modest during the earlier part of the study period, averaging about 8% per year between 1986 and 1997. The highest years of growth were from 1998 to 2001 when Oregon's RCF bed supply increased by 40% overall (11% per year). In later years, growth rates have been more modest, averaging 4% per year.

ALF and RCF Variation by County

The ALF bed supply varied greatly across county and time. By the end of 1990, 8 of Oregon's 36 counties (Clackamas, Clatsop, Douglas, Lane, Marion, Multnomah, Union and Washington) had some licensed ALF beds. Five years later, the majority of counties had ALF beds except for 10 counties. Only 3 counties (Morrow, Sherman and Wheeler) had no ALF beds by 1999. Of these, only Morrow added ALF beds in 2002. Several counties (e.g. Clackamas, Marion, Multnomah, etc.) experienced steady bed supply increases in most years of the study period (see Appendix A County ALF Bed

Supply). Counties, such as Douglas, Malheur and Tillamook, grew in a stepwise manner with multiple years of zero growth alternating with single year increases. Still other counties had relatively flat growth patterns (e.g. Gilliam, Grant, Harney, Lake, etc.) with fewer than 50 beds at any time during the study period. The total supply of ALF beds varied widely, ranging in 2004 from 16 beds in Morrow to almost 1,700 beds in Washington.

The RCF bed supply also varied across counties and time; however, more counties had no supply or relatively little growth over a nineteen year period. At the end of 1986, 23 counties had between 3 and almost 1,000 beds. Thirteen counties had no RCF beds. By 2004, six of these counties (Gilliam, Lake, Morrow, Sherman, Tillamook, and Wallowa) continued to have no RCF beds while another six of these did not have any RCF beds until the years between 1998 and 2000. A few counties (e.g. Jackson, Lane, Marion) experienced continuous growth throughout the study period (see Appendix B County RCF Bed Supply). More commonly, counties had a fluctuating supply of RCF beds that occasionally dipped either for single or multiple years (e.g. Multnomah, Benton, Linn, etc.). In 8 counties, the RCF bed supply was fairly flat, growing to no more than 40 beds. Except for the counties with no RCFs in 2004, county RCF supply ranged from 15 beds in Harney and Coos to almost 2,000 beds in Multnomah.

Supply Availability in Metro and Non-Metro Counties

This section examines ALF and RCF supply availability in metropolitan and non-metropolitan counties by describing organizational entry and exit rates, as well as population-adjusted bed supply trends over time.

Organizational Entries and Exits in Metro and non-Metro Counties

Between 1990 and 1995, when ALFs first became licensed, entries favored non-metropolitan areas compared to later periods (Table 8). Interviews with providers and developers suggest that such markets were perceived to have fewer perceived barriers to market entry, such as cheaper land and labor; a lack of desirable supportive housing options, and no other ALFs. In subsequent years, almost 2 in 3 ALF entries were in metro counties. The two ALF population exits occurred in a metro and a non-metro county. By 2004, a significant majority of ALF organizations (59%) were located in the 9 metro counties.

Table 8 Proportion of Oregon ALFs (%) by Location and Entry Year

	Entry Year				
Metropolitan Location	<= 1995	1996 – 1998	1999 – 2000	2001 +	Total
Yes	46	65	63	63	59
No	54	35	38	38	41
Total	100	100	100	100	100
N	(52)	(54)	(48)	(40)	(194)

Note: Includes currently open and closed facilities

The proportion of new RCFs in metro and non-metro counties remained relatively stable throughout the study period. However, development activity seems to have increased in non-metro areas during periods of more rapid facility development. As shown in Table 9, a larger proportion of non-metro entries occurred between 1994 and 2001 compared to other entry periods. Population exits rates resembled the overall distribution of entries with 38 of the 55 (70%) closures or conversions occurring in metro areas (not shown).

Table 9 Proportion of Oregon RCFs (%) by Location and Entry Year

Metropolitan Location	Entry Year <= 1983	1984 – 1993	1994 - 1999	2000 - 2001	2002+	Total
Yes	74	73	68	63	72	70
No	26	27	32	37	28	30
Total	100	100	100	100	100	100
N	(61)	(70)	(65)	(60)	(36)	(292)

Note: Includes currently open and closed RCFs

Population Adjusted Organizational Bed Supply in Metro and non-Metro Counties[17]

Although a larger proportion of ALFs are located in metro counties, bed supply trends seemed to follow the distribution of the older (age 65+) population. Examining county-level bed supply adjusted for the population of older adults suggests that ALF growth favored non-metro areas in most years. Between 1994 and 1999, the average number of ALF beds per 1,000 older individuals was almost twice as high in non-metro areas (Figure 18). This gap narrowed in subsequent years although the number of population-adjusted beds in 2004 remained slightly higher in non-metro (32.6) than in metro counties (30.3).

[17] Note that Sherman was excluded from this analysis since it did not have any assisted living, residential care or skilled nursing facilities throughout the study period. Counties were included if they had either ALF or RCF beds with zero beds during he study period. For example, Lake had no RCF beds and some ALF beds for part of the study period; therefore, it was included in both ALF and RCF analyses.

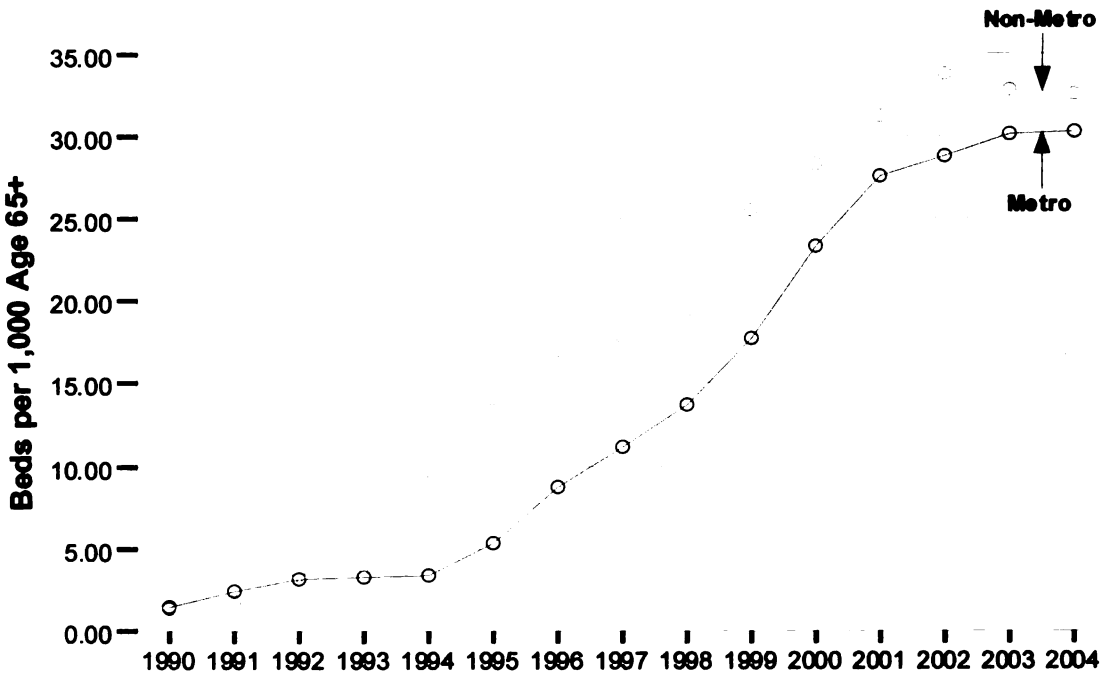

Figure 18 Mean ALF Beds per 1,000 Population Age 65+ by Location, 1990-2004
NOTE: N = 35 counties (9 metro; 26 non-metro) with ALF beds

Making similar older population adjustments to the county-level RCF bed supply illustrates the relatively steady increase in both types of markets overall (Figure 19). Some differences in growth patterns are worth noting. First, the decline in population adjusted RCF beds between 1989 and 1990 is the result of two large RCFs in Multnomah and Washington that became ALFs. Second, a sharp increase in non-Metro population-adjusted RCF bed supply is mostly due to the addition of 34 beds in Wheeler in 1999, which previously had no beds. Since Wheeler only had 348 older adults in 1999, the population adjusted supply became 97.7 RCF beds per 1,000 older adults. Third, the more recent widening gap between metro and non-metro counties is likely the combined effect of limited bed supply growth in some non-metro counties and decreases in others (see Figure 30 and Figure 31 in Appendix B County RCF Bed Supply), as well as incremental increases in the older population. Nevertheless, RCF bed supply across

metro counties increased from just over 9 beds per 1,000 older adults in 1986 to 21 beds per 1,000 older adults in 2004. For the same period, non-metro counties began with less than 4 beds per 1,000 older adults and ended with just over 13 beds per 1,000 older adults.

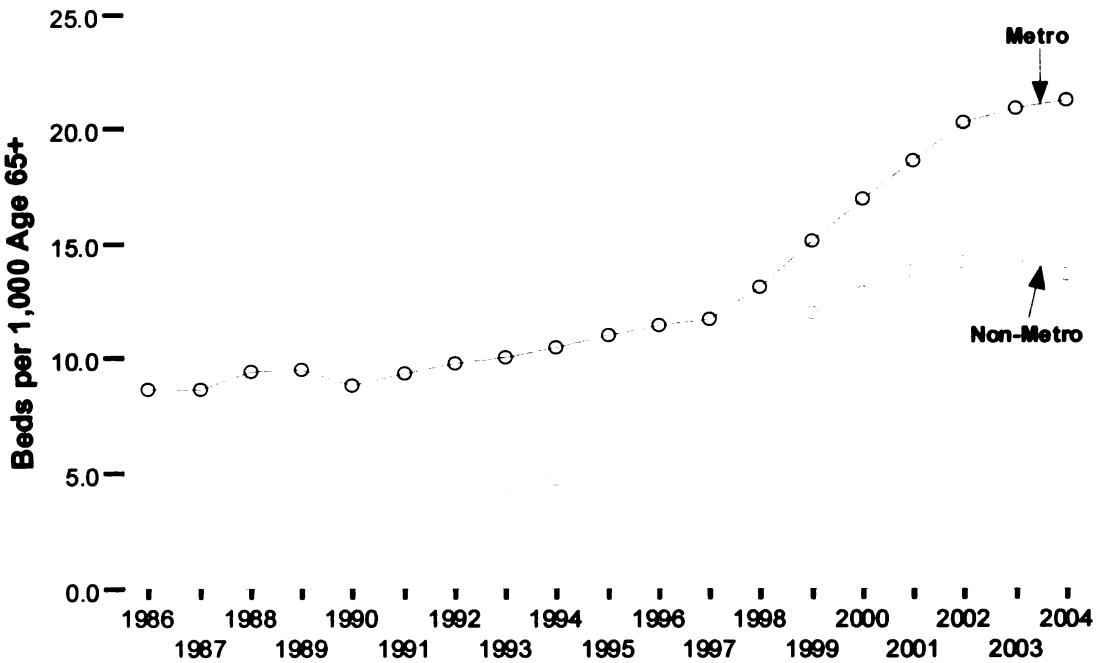

Figure 19 Mean RCF Beds per 1,000 Population Age 65+ by Location, 1986-2004
NOTE: N = 35 counties (9 metro; 26 non-metro) with RCF beds

Medicaid Participation by ALF and RCF Organizations

To examine the relationship between state finance policies and organizational populations, this section briefly examines ALF and RCF Medicaid contracting trends over time using organizational entry years. Although actual Medicaid contract initiation and termination data were not available for the study period, agency staff reported that providers typically became contracted Medicaid providers upon initial licensing and that changes in contracting status were rare in later years. Therefore, the working assumption

was that providers remained either contracted Medicaid providers or not contracted (i.e. private pay only) since their entry year. Other possible location and organizational predictors of Medicaid contracting decisions are also noted.

In 2004, more than two in three (69%) RCFs were contracted Medicaid providers compared to most ALFs (89%) and nursing facilities (93%). Grouping ALFs by entry year, the proportion of Medicaid contracted ALFs remained relatively high over time with a recent decline in the proportion of new ALFs choosing to accept Medicaid reimbursement (Table 10).

Table 10 Proportion of Medicaid Contracted ALFs (%) by Entry Year, 2004

	Entry Year				
Medicaid Provider	Pre -1995	1996 – 1998	1999 – 2000	2001+	Total
No	8	11	8	18	11
Yes	92	89	92	82	89
Total	100	100	100	100	100
N	(52)	(53)	(48)	(39)	(192)

Note: Excludes ALF exits

By comparison, RCFs open before 1984 were the most likely to be Medicaid providers (81%). Less than half of the RCFs licensed since 2002 (49%) chose to serve Medicaid residents (Table 11).

Table 11 Proportion of Medicaid Contracted RCFs (%) by Entry Year, 2004

	Entry Year					
Medicaid Provider	Pre-1984	1984 – 1993	1994 - 1999	2000 – 2001	2002+	Total
No	19	31	28	32	51	31
Yes	81	69	72	68	49	69
Total	100	100	100	100	100	100
N	(43)	(42)	(58)	(59)	(35)	(237)

Note: Excludes RCF exits

Location and organizational characteristics may influence Medicaid contracting decisions for both organizational populations. ALFs and RCFs located in metropolitan counties were much more likely to forego Medicaid contracting (17% and 37% respectively) than those in non-metropolitan counties (3% and 17% respectively). ALF organizations that were co-located with an RCF were less likely to be Medicaid providers (78%) than those that were not (92%) while RCFs were just as likely to be Medicaid providers, regardless of ALF co-location.

Vertical Integration of ALF and RCF Organizations

Decisions to enter the ALF or RCF population may represent diversification efforts intended to widen an organization's existing (or narrowing) market niche while increase (or maintaining) total revenues. A small proportion of ALFs were co-located with a jointly owned or managed nursing facility (11%, n=21). The proportion of NF co-located ALFs fluctuated over time with the highest proportion of such entries occurring in recent years (Table 12). These facilities were more typically located in a separate building than the NF, particularly in earlier years. Those licensed since 1999 were much more likely to share the same address as the NF (89%) than those licensed between 1990 and 1998 (42%; not shown).

Table 12 Proportion of NF Co-Located ALFs (%) by ALF Entry Year

	ALF Entry Year				
NF Co-location	<= 1995	1996 - 1998	1999 – 2000	2001+	Total
No	90	85	96	83	89
Yes	10	15	4	18	11
Total	100	100	100	100	100
N	(52)	(54)	(48)	(40)	(194)

By comparison, a slightly higher proportion of RCFs were co-located with a nursing facility, representing 15% (n=43) of all RCFs operating during the study period. Older RCFs were more likely to be co-located with a nursing facility (Table 13), typically as a wing of the SNF rather than as a freestanding building, particularly in more recent years. Specifically, those licensed before 1986 were somewhat more likely to share the same address as the NF (86%) than those licensed since 1986 (95%; not shown). Nursing facility co-located RCFs were 2.6 times more likely to have closed than those that were not. Interviews suggest that some RCFs were added to facilitate future SNF expansion. Such RCFs would be built to institutional standards and later gradually converted to SNF beds as permitted by certificate of need regulations.

Table 13 Proportion of NF Co-Located RCFs (%) by RCF Entry Year

	RCF Entry Year					
NF Co-location	<= 1983	1984 - 1993	1994 - 1999	2000 – 2001	2002+	Total
No	75	81	95	85	92	85
Yes	25	19	5	15	8	15
Total	100	100	100	100	100	100
N	(61)	(70)	(65)	(60)	(36)	(292)

Alzheimer's Specialization among ALF and RCF Organizations

Organizations choosing to develop a specialized Alzheimer's Care Unit (ACU) typically used an RCF license rather than an ALF license. In 2004, a much larger proportion of RCFs (38%) had designated ACUs than ALFs (1%). Licensing data did not contain information for initial ACU designation dates, which may have occurred sometime after entry. Interviews indicate that some specialized RCFs were purpose-built in recent years while other ALFs and RCFs chose to specialize several years after initial

licensing by designating part or all of the facility. Nevertheless, RCFs that were licensed in more recent entry periods were increasingly more likely to have a designated ACU. In the two most recent entry periods, such specialized RCFs represented a majority of new entries (Table 14).

Table 14 Proportion of RCFs with Alzheimer's Care Unit (%) by Entry Year and Location, 2004

	Entry Year					
Have ACU Unit	Pre-1984	1984 - 1993	1994 - 1999	2000 - 2001	2002+	Total
No	88	71	57	49	47	62
Yes	12	29	43	51	53	38
Total	100	100	100	100	100	100
N	(43)	(42)	(58)	(59)	(35)	(237)

Alzheimer's specialized RCFs were more likely to be in metro counties (41%) than non-metro counties (34%). They were slightly more likely to be Medicaid providers (71%) than RCFs that were not specialized (68%). Alzheimer's specialized RCFs were also larger (M = 47 beds; SD = 30) than those that were not specialized (M = 30; SD = 25). More than three in four (77%) of the specialized RCFs were using all of their licensed beds as a designated ACU.

Both of the Alzheimer's specialized ALFs were private-pay facilities located in the Portland metropolitan area that had designated less than a third of their total bed capacity as an ACU. In 3 cases, ALFs choosing to develop an on-site ACU reduced their ALF bed capacity and secured an RCF license for the designated wing or floor. As noted previously, another ALF converted all of its beds to an ACU licensed as a RCF.

More commonly, ALFs have developed an RCF licensed ACU on the same or adjacent property, either during initial construction (n=27) or as a later addition (n=9). In 2004, most of the RCFs co-located with an ALF (91%) were designated Alzheimer's Care Units (Table 15).

Table 15 Proportion of RCF licensed ACUs (%) by ALF co-location, 2004

	RCF co-located with ALF		
Alzheimer'sCare Unit	No	Yes	Total
No	73	9	61
Yes	27	91	39
Total	100	100	100
N	(192)	(45)	(237)

C. Modeling Predictors of Local ALF Supply

This chapter examines how three major types of factors are associated with the local bed supply of ALF organizational populations over time: (1) county-level demand factors (i.e. age, income, population density) (2) county-level alternative supply factors (i.e. nursing facilities, residential care facilities), and (3) state policies (Medicaid ALF reimbursement rates).

County-Level Outcome and Explanatory Variables

Table 16 presents the means and standard deviations of the variables included in the data-analysis for the full sample of counties when they had any ALF beds in years 1990 to 2004. Medians and inter-quartile ranges are also shown since these values were used to examine predicted ALF bed supply at lower, middle and higher levels of particular predictor variables. Note that the total number of valid cases was 387 rather than 540 (36 counties x 15 years) since two counties had no beds in any year and the remaining counties had an average of 3.6 years (s.d. = 3.0) with no ALF beds.

Table 16 Descriptive Statistics for the Outcome, Predictor and Control Variables

Variable	Mean (Standard Deviation)	Median (Inter-Quartile Range)
ALFBEDS	238 (315)	125 (48; 278)
OLDERPOP	14,798 (17,417)	8,477 (3,370; 16,905)
POPDENS	121 (291)	38.8 (9.8; 70.9)
INCOME	22,474 (4,241)	21,961 (19,560; 24,823)
RCFBEDS	214 (369)	90 (15; 224)
SNFBEDS	492 (702)	227 (120; 507)
MEDICAID ALF	0.83 (0.10)	0.84 (0.78; 0.91)

N = 387 valid observations

Outcome Variable

The outcome variable is each county's logged ALF bed supply (ALFBEDS). The average number of beds across all counties and years (without the log transformation) was almost 240 beds, ranging from 16 to 1,668 beds, with a standard deviation of 315 beds.

Control Predictors: Time and Demand

Time was included as a variable ranging from 0 in 1990 to 14 in 2004. Without the log transformation, the average value for OLDERPOP across all counties and years was about 14,800, ranging from 313 to about 79,000 (not shown in Table 16) and a standard deviation of over 17,000 older adults. The average value for POPDENS across all counties and years was 121 individuals per square mile, ranging from 0.69 to 1,576, with a standard deviation of about 291. The average value for INCOME was almost $22,500, ranging from about $14,500 to 37,100 and a standard deviation of about $4,200.

Question predictors

Supply characteristics

Without the log transformation, the average value for RCFBEDS across all counties and years was 214, ranging from 0 to 2,042 (not shown in Table 16) and a standard deviation of almost 370 RCF beds. The average value for SNFBEDS across all counties and years was more than twice as high at 492, ranging from 0 to almost 3,800, and with and a standard deviation of about 700 SNF beds.

Policy characteristics

The average value of MEDICAID ALF was 0.83, ranging from 0.51 to 1.06 (not shown in Table 16), and with a standard deviation of 0.10. In other words, the average wage-adjusted Medicaid payment per resident per day was 0.83. These values may seem low since the Medicaid rate has been divided by each county's average daily wage. For example, in 2001, the Medicaid ALF rate was $60.54 per day while the average annual wage in Multnomah was $37,239 (or $102 per day) compared to $23,768 (or $65 per day) in Polk. As a result, values for the Medicaid variable in 2001 were 0.59 for Multnomah and 0.93 for Polk. In other words, daily Medicaid payments to ALF providers were equivalent to 59% of average daily wages in Multnomah compared to 93% of average daily wages in Polk.

Results

The major findings for the three research questions are presented next. Findings from each question were used in determining the feasibility of subsequent questions.

Question 4.1: How are time and demand characteristics (older population size, population density and income) associated with ALF bed supply?

The first step of the multilevel model was to fit an unconditional means model using no predictors (Model 1A in Table 17). This provides a description of the outcome variation rather than describing change over time. The within-county "residual" variance component is 0.525 while the estimated between-county variance (labeled "intercept") is 0.689. The corresponding intraclass correlation coefficient (0.568)[18] indicates that more than half the variation in ALF bed supply is attributable to differences among counties.

[18] $\rho = 0.698 / (0.698 + 0.525)$

Wald z-statistics for these variance components (each at the .001 level) suggest the existence of additional outcome variation that may be predictable.

The second step was to fit an unconditional growth model by adding TIME as the only predictor, positing a cubic change trajectory based on exploratory analyses. Model 1B in Table 17 presents the results of fitting the unconditional growth model to ALF bed supply data. Assuming the true change trajectory is curvilinear, Model 1B should provide a better prediction of the observed ALF bed supply than Model 1A. The strength of the association for $TIME^3$ ($p<.001$) and the large improvement in goodness of fit statistics confirm that ALFBEDS is systematically associated with a cubic function for TIME. Using predicted values from Model 1b, Figure 20 compares the average number of actual and fitted ALF beds in counties with any beds. The curvilinear effect of time suggests the existence of period effects that contributed to minimal supply growth in early years once counties added ALF beds, more rapid growth between 1994 and 2000, and diminished rates of growth beginning in 2001.

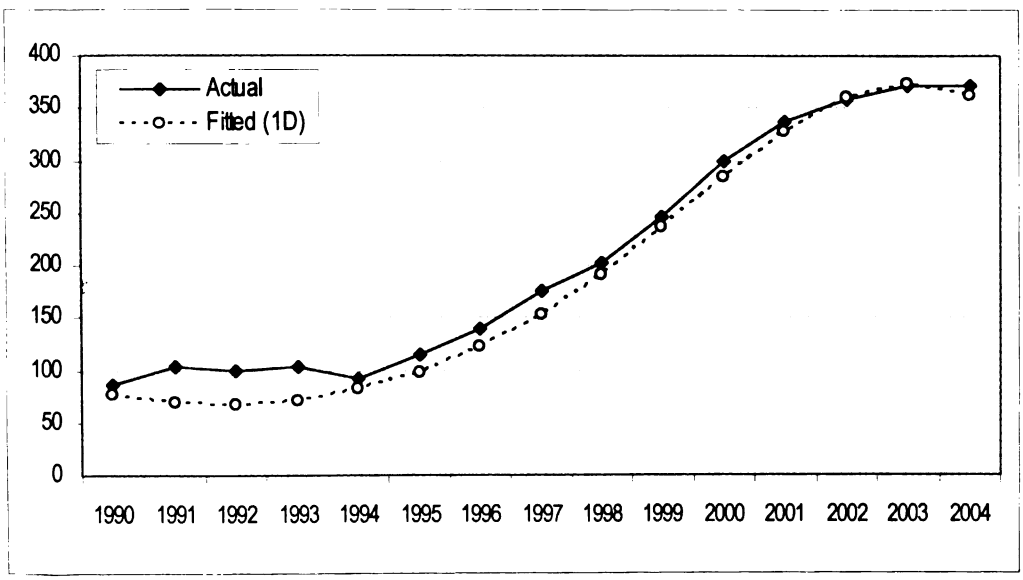

Figure 20 Actual and Predicted Mean ALF Bed Supply (Model 1B) for Oregon Counties, 1990 – 2004

Table 17 Regression Coefficients (and Standard Errors) from Models Predicting ALF Beds by Oregon County, 1990 – 2004, Research Question 4.1

	1A	1B	1C	1D	1E	1F
INTERCEPT	4.751***	4.041***	-3.099***	4.294**	7.060***	6.980***
	(0.147)	(0.212)	(0.051)	(1.429)	(1.386)	(1.412)
TIME		-0.127~	-0.093	-1.342***	-1.479***	-1.482***
		(0.066)	(0.070)	(0.286)	(0.282)	(0.283)
$TIME^2$		0.041***	0.039***	0.088***	0.097***	0.097***
		(0.006)	(0.007)	(0.017)	(0.016)	(0.016)
$TIME^3$		-0.002***	-0.002***	-0.002***	-0.002***	-0.002***
		(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
DEMAND						
OLDERPOP			0.800***	-0.030	-0.431*	-0.426*
			(0.051)	(0.156)	(0.160)	(0.160)
OLDERPOP x TIME				0.140***	0.151***	0.150***
				(0.030)	(0.030)	(0.030)
OLDERPOP x $TIME^2$				-0.006**	-0.006***	-0.006***
				(0.002)	(0.002)	(0.002)
POPDENS					0.289***	0.276***
					(0.057)	(0.060)
INCOME						0.056
						(0.132)
VARIANCE						
Residual (County)	0.525***	0.050***	0.050***	0.051***	0.051***	0.051***
Intercept	0.689***	0.856**	1.937**	0.819**	0.728**	0.764**
Time		0.063**	0.063**	0.027*	0.030*	0.027*
Covar w/ Intercept		-0.134~	-0.317**	-0.118*	-0.103~	-0.112~
$Time^2$		0.000**	0.000*	0.000*	0.000*	0.000*
Covar w/ Intercept		0.005	0.013**	0.004	0.003	0.003
Covar w/ Time		-0.003**	-0.003**	-0.001*	-0.001*	-0.001*
GOODNESS-OF-FIT						
Deviance (-2LL)	942.4	275.8	193.9	172.8	160.4	160.3
AICC	946.5	290.1	218.8	201.9	191.7	193.7
BIC	954.3	317.4	265.4	256.2	249.8	255.61

Note. n=387, ~p<0.1; *p<.05; **p<.01; ***p<.001; p-values for variance components are based on Wald Z statistics

Model 1C adds older population size (OLDERPOP) as a main effect, which was found to have a strong positive effect on ALF bed supply (p<.001) as expected. This model assumes that the effect of OLDERPOP on ALFBEDS remains the same even though the value of OLDERPOP changes over time. Since the outcome and predictor are

logged variables, the reported coefficients may be difficult to interpret directly from Table 17 above. However, a one-unit increase in the logged number of older adults is associated with a 122% increase in the predicted number of ALF beds.[19] The statistically significant within-county variance component ("Residual") for Model 1C remains unchanged from Model 1B, suggesting the need to examine the effects of other time-varying predictors.

In Model 1D, time interaction terms were added to OLDERPOP. Although values for this predictor already vary over time, Model 1D assumes that older population effects will vary over time. In other words, the relationship between older population size and ALF bed supply is expected to change from one year to another, whether because within-county supply grows faster than its older population or because between-county supply and older population dynamics change over time. As shown in Table 17, both interaction terms (OLDERPOP x TIME and OLDERPOP x $TIME^2$) were statistically significant ($p < .01$ and $p < .001$ respectively). Inspecting the Deviance, AICC and BIC statistics confirm a better fitting model when allowing older population effects to vary over time. Graphing fitted trajectories using the results in Model 1C illustrates how the effect of the OLDERPOP varies at different levels of time, as well as at different levels of OLDERPOP (Figure 21). Comparing prototypical counties at low (25^{th} percentile), median, and high (75^{th} percentile) levels of older adults, those with higher levels of older adults experienced higher growth rates in all years. The weight of the older population effects increases each year suggesting that this measure of local

[19] Using the following expression EXP(ALFBEDS) = (-3.099) + (-0.093 x TIME) + (.039 x $TIME^2$) + (-0.002 x $TIME^3$) + (0.800 x OLDERPOP) when TIME = 9 (or 1999) and substituting values of 8 (=Ln(2,981), 9 (=Ln(8,103)) and 10 (=Ln(22,026) for OLDERPOP results in 72, 161, and 358 ALF beds, where EXP(ALFBEDS) is the inverse log of the predicted value.

demand becomes a stronger predictor of ALF bed supply over time. Specifically, the regression weight for OLDERPOP increases each year from 0.44 in 1994, to 0.78 in 1999, to 0.85 in 2004.[20]

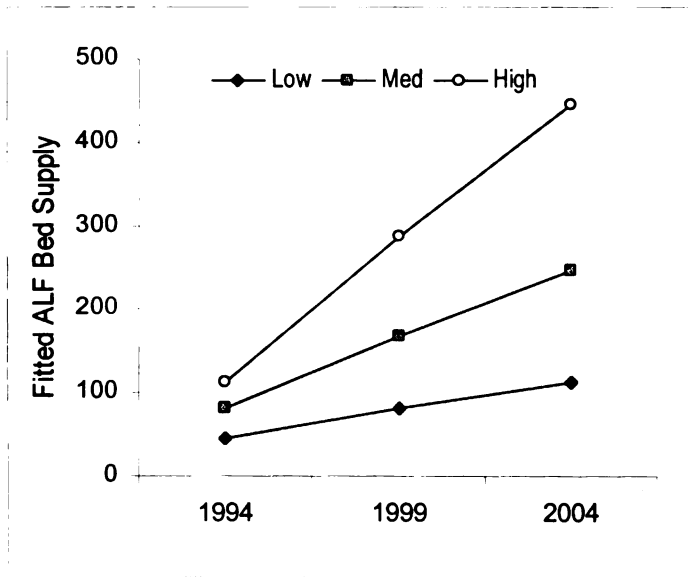

Figure 21 Fitted Relationship Between ALF Bed Supply and Older Population Size Over Time

Note: Fitted ALF bed supply calculated using estimates shown for Model 1D when Time = 4, 9, and 14 and using the 25th (Low), 50th (Med) and 75th (High) percentiles for OLDERPOP overall. The inverse logs of the outcome values are shown to facilitate interpretation.

Adding population density as a main effect (POPDENS) improved overall model fit (Model 1E) suggesting that more densely populated counties will have higher levels of ALF bed supply. Figure 22 illustrates the relationship between population density and ALF bed supply in 2004 using a hypothetical scenario where 3 counties have the same number of older adults but vary in population density from just under 10 persons per square mile to about 71 persons per square mile. The relationship appears to be curvilinear—as population density increases, ALF bed supply increases but at a decreasing rate.

[20] From Model 1D, the total regression weight for OLDERPOP = (-0.03) + (0.140 x TIME) + (-.0006 x $TIME^2$)

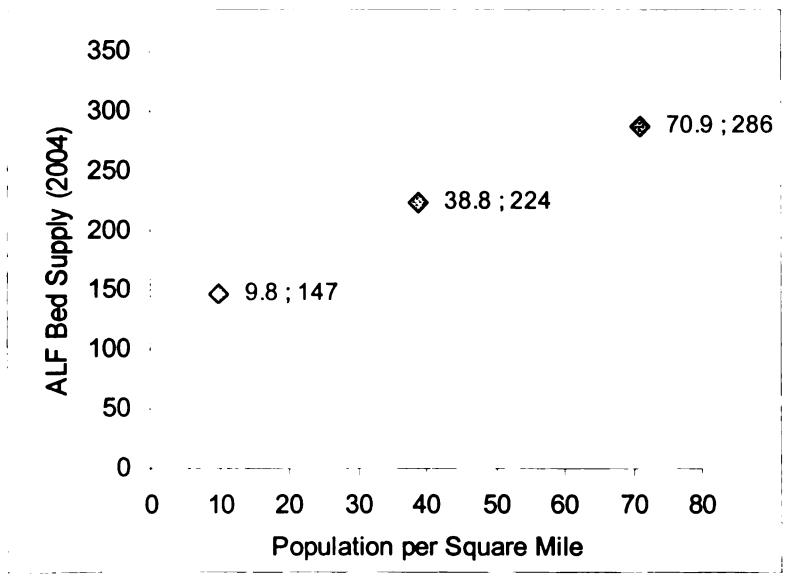

Figure 22 Fitted Relationship Between ALF Bed Supply and Population Density (Year=2004)

Note: Fitted ALF bed supply calculated using estimates shown for Model 1E, holding older population constant using its median value for 2004 and using the 25th, 50th and 75th percentiles for population density in 2004. The inverse logS of the outcome and predictor values are shown to facilitate interpretation.

It has been noted that interpretation of the independent effects of POPDENS may be problematic since the predictor is highly correlated with OLDERPOP (r=.87, $p < .001$). Despite possible multicollinearity problems indicated by the reduced regression weight for OLDERPOP (Table 17), POPDENS was retained in the model since OLDERPOP effects remained statistically significant and standard errors were relatively unchanged. Time interaction terms for POPDENS were tested but not kept in the model. Exploratory analyses that included such a time interaction term seemed to provide a marginally better fit based on the Deviance and AICC statistics; however, the BIC statistic was somewhat higher (worse fit) and the POPDENS by time interaction terms were no longer significant in subsequent models that contained other supply and policy predictors.

The final step was to add income per capita (INCOME) as a main effect in Model 1F. Although preliminary analyses without the other demand predictors indicated that

INCOME was a positive, near significant predictor of ALF bed supply ($p < .1$), it became less significant in the multivariate model ($p = .674$) and resulted in a slightly worse fitting model (Table 17).

In summary, the supply of ALF beds in Oregon counties between 1990 and 2004 was a function of cubic time, older population size and population density with the effect of older population varying over time. Income did not have a significant effect on county ALF bed supply when controlling for the effects of time and other demand characteristics.

Question 4.2: Controlling for time and local demand characteristics, how are local alternative supply characteristics (RCF supply and SNF supply) associated with ALF bed supply over time?

The first column of Table 18 presents the main effect of RCF bed supply (Model 2A), which was positive and significant ($p < .001$). Assuming that RCF and ALF organizations are in direct competition for the same limited number of potential residents, a negative relationship might have been expected in terms of county-level bed supply. A positive relationship suggests that on average, county-level carrying capacity remained higher than total ALF and RCF supply thus allowing each type of organization to grow without negative crowding effects. Comparing coefficients, standard errors and p-values in Models 1E (Table 17) and 2A (Table 18) indicates that adding RCFBEDS did not change the substance of the control predictors (DEMAND and POPDENS) despite their being highly correlated. Again, direct interpretation of the predictor's coefficient is complicated by the use of logged variables.

Table 18 Regression Coefficients (and Standard Errors) from Models Predicting ALF Beds by Oregon County, 1990 – 2004, Research Questions 4.2 - 4.3

		2A	2B	3
	INTERCEPT	8.823***	8.880***	14.817***
		(1.523)	(1.518)	(2.398)
	TIME	-1.466***	-1.449***	-3.020***
		(0.296)	(0.296)	(0.516)
	$TIME^2$	0.089***	0.089***	0.175***
		(0.016)	(0.016)	(0.027)
	$TIME^3$	-0.002***	-0.002***	-0.002***
		(0.000)	(0.000)	(0.000)
DEMAND	OLDERPOP	-0.680***	-0.712***	-0.839***
		(0.177)	(0.179)	(0.171)
	OLDERPOP x TIME	0.153***	0.151***	0.216)***
		(0.032)	(0.032)	(0.034)
	OLDERPOP x $TIME^2$	-0.006***	-0.006***	-0.009***
		(0.002)	(0.002)	(0.002)
	POPDENS	0.263***	0.266***	0.187**
		(0.056)	(0.057)	(0.051)
SUPPLY	RCFBEDS	0.160***	0.159***	0.143***
		(0.027)	(0.027)	(0.026)
	SNFBEDS		0.036	
			(0.042)	
POLICIES	MEDICAID ALF			-5.006**
				(1.666)
	MEDICAID ALF x TIME			1.163**
				(0.351)
	MEDICAID ALF x $TIME^2$			-0.064***
				(0.018)
VARIANCE	Residual (County)	0.046***	0.046***	0.046***
	Intercept	0.929**	0.911**	0.856**
	Time	0.035*	0.035*	0.031*
	Covar w/ Intercept	-0.144*	-0.141*	-0.131*
	$Time^2$	0.000	0.000	0.000*
	Covar w/ Intercept	0.005~	0.005~	0.004~
	Covar w/ Time	-0.002*	-0.002*	-0.001*
GOODNESS -OF-FIT	Deviance (-2LL)	127.6	126.9	114.0
	AICC	161.1	162.6	154.1
	BIC	222.9	228.2	227.2

Note. n=387, ~p<0.1; *p<.05; **p<.01; ***p<.001

Figure 23 illustrates the relationship between RCF bed supply and predicted values for ALF bed supply in 2004 using estimates from Model 2A at different levels of RCF bed supply while holding the demand predictors constant at their median values in 2004.[21] As the first plotted figure shows, counties with very few RCF beds may be more likely to have a considerable supply of ALF beds that is lower than counties with more RCF beds. Holding the number of older adults and individuals per square mile constant, higher levels of RCF bed supply seem to be associated with higher levels of ALF bed supply but at a diminishing rate.

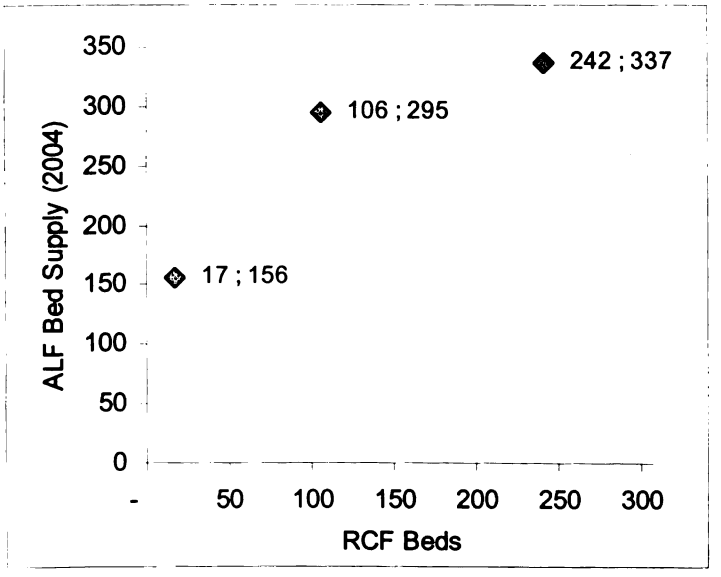

Figure 23 Fitted Relationship Between ALF Bed Supply and RCF Bed Supply (Year = 2004)

Note: Predicted ALF bed supply calculated using estimates shown for Model #2A while holding demand predictors constant using their median value for 2004 and using the 25th, 50th and 75th percentiles for RCF beds in 2004. The inverse logs of the outcome and predictor values are shown to facilitate interpretation.

As with other models, time interaction terms were tested for RCFBEDS but model fit did not improve (not shown).

[21] $EXP(ALFBEDS) = 8.823 + (-1.466 \times TIME_{2004}) + (0.089 \times TIME^2_{2004}) + (-0.002 \times TIME^3_{2004}) + (-0.680 \times OLDERPOP_{Q2,2004}) + (0.154 \times OLDERPOP_{Q2,2004} \times TIME_{2004}) + (-0.006 \times OLDERPOP_{Q2,2004} \times TIME^2_{2004}) + (0.263 \times POPDENS_{Q2,2004}) + (0.160 \times RCFBEDS_{i,2004})$.

The second column in Table 18 presents the main effect of SNF bed supply (Model 2B), which appears marginal but not statistically significant (p=0.391). Although preliminary analyses without the other demand and supply predictors showed a modest positive and statistically significant relationship between SNFBEDS and the outcome variable ($p < .001$), its effects were diminished and became less significant in the multivariate model ($p = .391$). Time interaction effects could not be tested due to software and sample size limitations, which resulted in model convergence problems. Examining coefficients, standard errors and p-values in Models 2A and 2B indicates that adding SNFBEDS did not change the substance of the control and supply predictors (DEMAND, POPDENS and RCFBEDS) despite their being highly correlated.

In summary, the supply of ALF beds in Oregon counties between 1990 and 2004 seemed to be positively associated with RCF bed supply when controlling for the effects of time, older population size and population density. SNF bed supply was not a significant predictor of ALF bed supply when controlling for the effects of these demand predictors and RCF bed supply.

Question 4.3: Controlling for time, local demand and alternative supply characteristics, how are state policies (Medicaid ALF rates) associated with ALF bed supply over time?

The underlying question for testing the first policy effect in Model 3 was to determine whether Medicaid payments, when adjusted by local average wages, were associated with county-level ALF supply after controlling for the effects of time, demand and alternative supply. In other words, would higher wage-adjusted Medicaid rates predict greater ALF supply? As shown in Table 18, the relationship between Medicaid

and county-level ALF supply was marginal, time varying and negative ($p < .01$). Note that time interaction terms were included in Model 3, assuming that their effects might vary over time. Both interaction terms (MEDICAID x TIME and MEDICAID x TIME^2) were statistically significant ($p < .01$ and $p < .001$ respectively). Without the time interaction terms (not shown), the effects of Medicaid were still negative but less statistically significant ($p = .10$). Visual inspection of fitted trajectories from Model 3B (Figure 24) suggests that counties with higher levels of MEDICAID had slightly lower levels of predicted ALF beds when TIME = 4 and 14 (Year = 1994 and 2004) but slightly more ALF beds when TIME = 9 (Year = 1999). Specifically, a typical county whose Medicaid rate was equivalent to 78% of the county's average wage would be predicted to have about 42 more beds in 2004 than a similar county whose Medicaid rate was about 91% of the county's average wage.

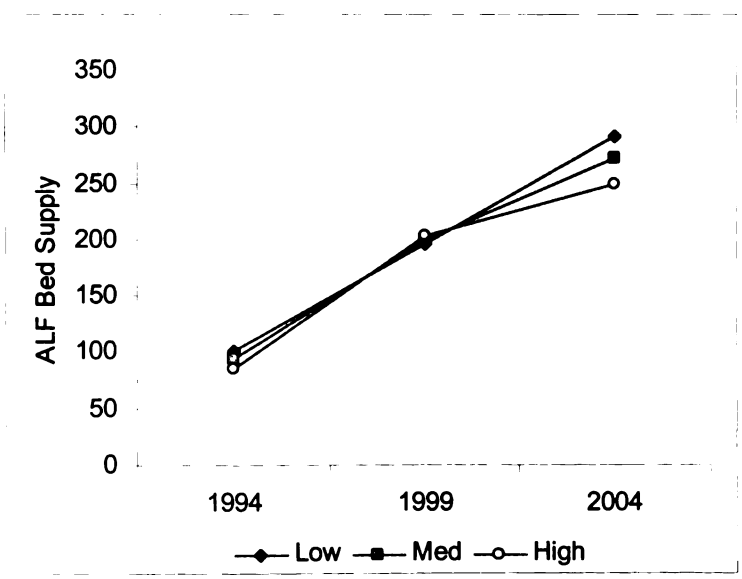

Figure 24 Plot Displaying Fitted Relationship between ALF Bed Supply and Medicaid over Time

Note: Fitted ALF bed supply calculated using estimates shown for Model #3 when Time = 4, 9, and 14 and using the 25th (Low), 50th (Med) and 75th (High) percentiles for MEDICAID overall. The inverse log of the predictor values are shown to facilitate interpretation.

Further interpretation of results from Model 3 may be problematic. First, compared to Model 2A, the Deviance and AICC statistics suggest a slightly improved fit; however, the more conservative BIC statistic suggests otherwise. Second, problems with multicollinearity may exist since MEDICAID has a strong negative relationship with measures of older population size (r = -0.62; $p < .001$) and population density (r = -0.72; $p < .001$). Finally, considering the time varying effects of MEDICAID, Model 3 was retested excluding the first four years of the study period, which produced a better fitting model in which the policy predictor was no longer significant ($p < .2$). This suggests that other unmeasured period effects may have washed out the effects of state Medicaid policies in more recent years.

Chapter 6: Discussion and Conclusion

This chapter summarizes the major findings of the analyses and discusses them in relation to theoretical concepts in Chapter 2 and research questions in Chapter 4. The final sections of this chapter discuss the contributions of this research to the fields of sociology and policy while suggesting future directions in research.

Summary of Findings

Changes in the LTC Material-Resource Environment

A growing population of older adults in Oregon, coupled with selected policies have fueled increasing demand for long-term care services, and home and community-based services (HCBS) in particular. There was modest growth in Oregon's older and overall population that varied across counties, few of which were densely populated. As the first state to secure a federal Medicaid 1915(c) waiver, Oregon has facilitated statewide access to HCBS for nursing home eligible, lower income clients since 1981. Favorable Medicaid program characteristics include relatively generous income eligibility criteria, coverage of all major HCBS options, nursing home preadmission screening requirements, and no enrollment caps or waiting lists. Apartment-style Assisted Living Facilities (ALFs) and more traditional Residential Care Facilities (RCFs) have also experienced decreasing competition from other long-term care settings. In terms of total licensed beds, Oregon's supply of nursing facilities (NF) continued declining throughout the study period and the adult foster home (AFH) supply has contracted since peaking in 1995.

The present study identifies state policy differences for AL/RC organizations that channeled greater resources and created more favorable conditions for increasing the supply of a higher service, apartment-style model. First, more generous reimbursement rates reflected an early goal among agency leaders to make this model accessible to Medicaid residents by incentivizing ALF participation and retention of increasingly frail residents. More recent policy changes have narrowed reimbursement gaps, recognizing higher resident impairment levels and expanded service capacity among other AL/RC categories. However, compared to RCFs, the total number of Medicaid residents in ALFs was about 72% higher in 2004 while Medicaid ALF expenditures were 92% higher. Second, the Elderly and Disabled Loan program facilitated early ALF development when conventional lenders were more reluctant to finance new projects. Requirements for full apartments and low-income set aside units combined with more favorable Medicaid reimbursement rates steered most loan applicants to the ALF licensing category. Although state policies may have directed greater public resources to ALFs, a dramatic shift in equity, commercial debt and venture capital markets channeled greater financial resources to fuel industry expansion from the mid to late 1990s. As one reporter observed, "Access to Medicaid money and state construction loans jump started this industry, which Wall Street investment then spread nationwide" (Hoover Barnett, 2001).

Changes in the LTC Institutional Environment

This study documents changes in elements of Oregon's institutional environment that provided opportunities for entrepreneurial activity in the LTC field, which were quickly legitimated through a variety of strategies. Recent developments suggest a period of stabilization and retrenchment marked by shifting legitimacy of organizational

forms and power dynamics among institutional actors, triggered in part by state fiscal crises.

First, a number of structural changes in the state's LTC system were made during the early 1980's to ensure that funding, policies and administrative functions facilitated access to HCBS. Practices were adopted within these structures that embodied alternative values and beliefs (e.g. individualized services, "aging in place," self-direction) consistent with other goals shared by state policymakers and older advocates that individuals should have access to the most cost-effective services in the least restrictive setting. These structural changes were the result of earlier shocks to the LTC system that challenged prevailing institutional arrangements due to both fiscal and legitimation crises for the state. These included a recent economic recession coupled with the recognition of runaway nursing home costs and anticipated increases in LTC demand. The legitimacy of the state's aging and LTC programs and services had also been under attack by aging advocates. By the beginning of the study period, new logics that characterized the "insurgent" HCBS archetype (Kitchener & Harrington, 2004) were becoming institutionalized and greater state resources were being extended to support HCBS providers, which had been framed as the more cost-effective option to traditional nursing home care.

Second, preceding shifts in power dynamics among institutional actors provided opportunities for early HCBS innovation. State actors demonstrated considerable autonomy in altering institutional arrangements. Informants attributed changes within the LTC environment largely to state coordinated collective action that involved well-organized and trained older activists and professional advocates. A culture of structural

change and risk-taking within the newly established agency was supported by enabling legislation, strong leadership and strategic transmission of information directly to the legislature using economic frames and indirectly through older activists who were demanding nursing home alternatives. State actors favored the development of new LTC service models, particularly in-home care and adult foster homes. In contrast to conditions in other parts of the country, the eroded power and legitimacy of the nursing home industry in Oregon and the increased power of the senior lobby during this preceding period allowed the HCBS sector to flourish. These conditions allowed HCBS to expand quickly and widely, encompassing various service "models" across the entire state.

Third, early ALF founders and state actors employed a range of organizational legitimating strategies that facilitated the emergence and rapid adoption of an alternative AL/RC form while also influencing policies and practices for preexisting forms. Early theorization proposed an alternative to both traditional nursing home and residential care settings using ideas and language that increased their taken-for-grantedness and facilitated acceptance by various constituencies. Framed as representing both the "social model of care" and a cost-effective alternative, ALF structures and practices were imbued with abstract concepts and values that provided linkages to institutionalized goals. By creating an interpretive frame that linked ALFs to established norms and values, early founders provided a blueprint that later adopters could use to mobilize support from lenders, consumers and employees (Aldrich, 2003).

Other cognitive and procedural legitimating strategies included borrowing practices, structures and language from other sectors (e.g. senior housing, hospitality and

nursing homes) that were used to render the proposed model more understandable and compelling to participants. In this way, the proposed ALF model might be considered as reproductive as it was innovative since entrepreneurs drew from existing routines, knowledges and resources. Marketing activities by new organizations, local and national media attention, training videos, and published research findings provided greater visibility. Often framed as serving the public good, these activities also conferred ALFs with a sense of moral legitimacy (Aldrich & Fiol, 1994). Formalizing this model through a separate regulatory framework provided the ALF form with immediate sociopolitical legitimacy while also disentangling it from the more marginal RCF form and the less legitimate nursing home form. By adopting a regulatory framework within a few years of prototype development, the state and early founders were also able to encourage convergence around a dominant design that may have facilitated new entries.

AL/RC Supply Trends

Supply trends differed across residential care categories in Oregon. As noted above, the smaller, AFHs were the dominant setting in most years but bed supply had contracted since 1995. Speculation about possible causes included higher operating costs attributed to more impaired residents and licensing requirements, inadequate payment rates and growing competition from ALFs. Recent Medicaid case mix data suggest an erosion of the AFH private-pay market compared to earlier findings reported by Kane and colleagues (Kane et al., 1991). Other studies of small AL/RC settings (Ball et al., 2001; Morgan et al., 2004), have noted that these and other conditions may adversely impact the long term survival of this smaller form of residential care. Oregon's ALF

supply grew most rapidly and experienced almost no organizational failures. By comparison, RCF supply grew less rapidly, partly due to higher closure and conversion rates throughout the study period. RCFs also tend to be much smaller (mean: 37, s.d.: 28) than ALFs (mean: 66; s.d.: 26). Interviewees attributed recent RCF resurgence in the late 1990s to the development of formalized standards for Alzheimer's care units and more favorable reimbursement rates for such specialized providers.

Other organizational population characteristics suggest that in Oregon the more recently developed ALF model may be more available to individuals living in rural areas (33 beds per 1,000 older adults) than traditional RCFs (13 beds per 1,000 older adults). The population-adjusted supply of ALF beds is slightly higher in non-metropolitan counties, while the reverse is true for the population-adjusted RCF bed supply. These findings contrast with earlier findings from a national study that suggest an undersupply of broadly defined AL/RC in rural areas, particularly those categorized as "high privacy and high service" (Hawes et al., 2003). Greater supply of apartment-style ALFs in Oregon's rural communities may be due to unique state policy and market conditions. RCF expansion into rural markets has been more gradual over time. By 1998, there were twelve non-metro counties with no RCFs and only four counties with no ALFs. Six counties continued to have no RCF beds in 2004 compared to only one county that had no ALFs. Higher land and labor costs in urban areas might also explain why RCF beds are more likely to be found in those markets. The RCF form may be preferable for urban developers looking to cut costs since individual units can be built that are smaller with shared baths and no kitchenettes.

A significant finding was that ALF organizations in Oregon are also more likely to accept Medicaid-eligible residents than the more traditional RCF model. Medicaid contracting rates for both ALFs and RCFs are relatively high in Oregon, compared to other states (Mollica & Johnson-Lamarche, 2005). Other national and multi-state studies have found a much smaller proportion of facilities that would either accept (Hawes et al., 2000) or retain (Zimmerman et al., 2001) Medicaid residents. The newer apartment-style ALFs in Oregon were more likely to accept Medicaid payment (89%) compared to the smaller RCFs (69%) that allow shared occupancy. SPD utilization figures for July 2004 reported that RCF Medicaid residents represented almost 13% of available RCF beds. These rates were much higher for ALF (31%), non-relative AFH (33%) and NF (43%) settings. There is however some indication that more recently opened ALFs and RCFs are choosing not to become Medicaid providers. Specifically, about two in five ALFs licensed since 2001 were private-pay only compared to about one in five of those licensed in all previous entry periods. Period differences are even more striking for RCFs. Only two in five RCFs licensed before 1984 were private-pay only compared to more than half of those licensed since 2002. Further study is needed to determine whether lower participation rates may be related to concerns about the gradual erosion of payment levels that providers report have not kept pace with operating cost increases and/or with the increasing payments that can be extracted from private pay residents. Increased uncertainty about future Medicaid revenue streams may have also influenced contracting decisions among newer providers familiar with Oregon's budget deficits since 2001 and repeated attempts to cut Medicaid ALF rates since 1999. Industry representatives also report increased overall occupancy rates since Oregon implemented

its AL/RC moratorium suggesting that providers may be less motivated to fill vacant beds with Medicaid clients.

ALF Supply Predictors

Multivariate analyses examined ALF bed supply in 35 Oregon counties over a 15-year period as a function of time, demand, supply and policy predictors. Findings support that selected demand factors—namely older population size and population density--were significant predictors of ALF bed supply between 1990 and 2004. Income per capita did not have a significant effect on county ALF bed supply when controlling for the effects of time and other demand characteristics. Changing legitimating processes and greater competitive pressures in more recent years are suggested by the significant effect of time as a cubic function and the time-varying effects of older population size. Here, the curvilinear effect of time suggests period effects with major shifts that coincide with the increased availability of private sector financing in 1994 and the state's moratorium on new ALFs in 2001. During the earlier years of the study period, supply growth was relatively modest as the ALF form was fairly new and early founders reportedly faced greater challenges in securing resources and support to establish new organizations. As the ALF form became more prevalent, increased supply and other environmental changes likely increased their legitimacy and available resources resulting in a period of more rapid population growth. As local ALF supply began approaching an area's carrying capacity[22] in terms of the number of potential older users, competitive effects likely increased with further ALF entries resulting in slower growth in the most recent years.

[22] According to Hannan and Freeman (1989) as cited in Aldrich (2003), an environment's carrying capacity is not generally known in advance but is revealed as organizational growth rates stabilize--reaching zero or decreasing.

Controlling for the effects of time and demand predictors, ALF bed supply seems to be positively associated with RCF bed supply suggesting that counties with greater RCF supply did not have fewer ALF beds. Conditions of excess or latent demand that characterized most years of the study period may have allowed both populations to grow simultaneously, at least until more recent years when local supply began approaching the environment's carrying capacity. ALF diversification efforts may also explain such a relationship considering that ALF-affiliated Alzheimer's care units were typically licensed as RCFs. The more recent emergence of freestanding RCF licensed Alzheimer's care units may represent a specialized niche in more competitive markets. An unexpected finding was that on average, total SNF bed supply at the county level and any changes in SNF supply over time were not associated with ALF supply levels when controlling for other demand and supply predictors. Although Oregon's aggregate supply of SNF beds was decreasing between 1990 and 2004, local bed supply changed very little (+/- 2%) or not at all in 14 of the 35 counties included (40%). The possibility of endogeneity bias raises a cautionary note about these findings since both RCF and SNF supply may themselves be a function of the demand variables that were included as controls.

When controlling for the effects of time, demand and alternative supply, the state policy measure was found to be statistically significant but a very marginal predictor of local ALF bed supply. The effects of wage adjusted reimbursement policies were in the opposite direction than expected, suggesting that counties with *lower* reimbursement rates, typically metropolitan counties, had marginally higher ALF supply. A possible explanation is that wage-adjusted reimbursement differences across counties were not

large enough to affect local ALF bed supply decisions. Second, Medicaid rate increases over time and differences by county may not have reached what Tucker and Hurl (1992) describe as the "threshold of payment" necessary to attract more ALF entries or increases in supply. These authors also found that reimbursement policies and other economic incentives had a relatively weak or no effect on foster home entries in Canada. Payment increases may have had other effects, such as broadening the overall capacity for the ALF population by inducing providers to accept a larger number of Medicaid residents as described above. A more likely function of this policy was to induce particular structures consistent with state goals so that actors choosing to enter the market would favor one form (ALF) over another (RCF). One plausible explanation for the marginal effects of wage-adjusted Medicaid payments is that private debt financing and equity investment played a much greater role in fueling ALF bed supply growth. Any such policy effects were likely washed out by the much larger changes in private capital availability during the study period. To test this possibility, regression models were also examined that excluded years prior to the first initial public offerings in 1994. Results (not shown) indicate that the Medicaid policy measure was not a statistically significant predictor of ALF bed supply between 1994 and 2004.

Study Contributions

This research contributes to the growing literature on structural developments in the long-term care field, particularly studies that have examined new and existing forms of assisted living / residential care and their policy environments. For political economy of aging theories, this work demonstrates how social policies for the aging are a function of competing ideologies that shape social structures and support dominant social relations

between the state, industry and the public. Evidence of the state's dual accumulation and legitimation functions is provided through the adoption of regulatory and finance policies in Oregon that both (1) contributed to the legitimacy and the financial resources available to an emerging and largely for-profit industry and (2) responded to public demand for less institutional care options by paying for service costs for its poorest and disabled citizens. Reported developments in Oregon's LTC system and the AL/RC industry reveal aging commodification and state supported privatization processes--rationalized in terms of broader increased efficiency and cost reduction goals--through the creation of new investment opportunities for private capital, as well as public expenditures that support rapid market expansion efforts.

For theories of organizations, the LTC field represents a key area for examining the dynamics of new form emergence through the rearrangement of institutional structures and practices from other related fields. This work provides empirical support for both institutional and ecological theoretical propositions about how organizations are shaped by and also influence their environments. Rather than finding that organizations and individuals are passive participants in legitimating processes, the study provides evidence of how they actors worked to reshape their environments by employing belief systems, values and language into organizational legitimating strategies. Opportunities for entrepreneurial activity in the LTC field were created through fundamental changes in the institutional environment that eroded the taken-for-granted value of prevailing arrangements through individual and collective action. Individuals and organizations in positions of power are shown imprinting goals and procedures into institutionalized rules and the larger society. This study demonstrates the state's ability to facilitate the

expression of alternative organizational forms within the aging and LTC field while also using its power and resources to compel organizations to adopt legitimated rules and procedures. For policymakers and AL/RC proponents, such findings demonstrate how the adoption of various financing and regulatory policies may contribute to the supply of particular AL/RC forms that are accessible to traditionally underserved populations. These and other policy developments have arguably helped transform the landscape of LTC settings in Oregon from one dominated by institutional settings in 1990 to a more balanced environment in 2004 where residential settings represent 7 of 10 licensed beds in the state.

Implications for Future Research

The findings of the present study draw attention to the need for further work on AL/RC organizational populations, which consider the broader LTC field that they comprise, as well as the multiple environments in which they emerge. A strength of the study is that it examines developments over a period of time finding evidence of various processes that shaped the larger environment and the organizational populations. A major limitation of this work is that it focuses on developments within a single state; therefore, findings may not be generalized to LTC organizational and environmental conditions in other states. However, this study identifies several conditions that precipitated organizational population changes in Oregon. Future research might verify the presence of these and other conditions in studies that examine AL/RC organizational dynamics in other states. Studies might also examine strategies employed by institutional actors in other states to adopt, reinvent or reject Oregon's widely promoted path-breaking innovations. The single state analysis may have also impeded the ability to examine

Medicaid policy effects on AL/RC supply due to the limited variability of the predictor variable. Future studies should examine state variation in AL/RC supply as a function of state regulatory (e.g. permitted range of services) and finance (e.g. Medicaid) policies while controlling for the effects of local demand and alternative supply factors.

A second limitation of the present study is the lack of organizational-level data for exploring organizational adaptive and selection processes, as well as policy effects more directly. Future studies should examine organizational survival for particular organizations and forms to better understand how competitive and institutional processes may shape prevailing structures and practices in the field. A more comprehensive analysis of AL/RC population dynamics would employ an interorganizational community approach that accounts for the supply of alternative service options, such as local adult foster homes and paid in-home care provided by agencies or individually hired workers. Interviews also suggest that field level structuration and isomorphic processes have forced AL/RC to become increasingly more similar with one another while increasing their survival chances. Examining organizational entries and attributes may reveal the relative influence of coercive, mimetic and/or normative processes that have led to organizational convergence. Study findings also suggest interorganizational relations that deserve further examination. Specifically, how have changes in the supply and use of newer AL/RC forms influenced developments among other more established or competing forms?

Further analyses are indicated by a number of possible methodological and conceptual limitations identified while examining ALF bed supply predictors. First, demand models should be further developed using alternative measures that are less

highly correlated with each other. This might include replacing the population density variable with a dichotomous (metro/non-metro) or ordinal (high, medium, low) variable using each county's Rural-Urban Continuum Code. Second, two alternative approaches should be explored to address the bias introduced by the possible endogeneity of the RCF and SNF supply predictors. The first option would involve using values for each of the supply predictors that are lagged by at least two years. In other words, an alternative model would use values for the demand predictors that are contemporaneous with the predicted outcome (ALF bed supply) but values for the supply predictors would be from two years earlier. A second option would involve using two-stage least squares regression to create new instrumental variables that replace the problematic RCF and SNF supply variables. A final limitation of the models tested in this study is the inability to distinguish between- and within-county effects for each of the time-varying predictor variables. Rather than representing each of these predictors using a single variable, alternative estimations methods would involve decomposing the variable into multiple constituent variables, which separately identify sources of variation in the outcome (Singer & Willett, 2003b). For example, OLDERPOP could be decomposed using within-county centering to include the average number of older persons across all years for each county i ($OLDERPOP\_AVG_i$) and the deviation of each year's $_j$ rate from this average ($OLDERPOP_{ij}$ - $OLDERPOP\_AVG_i$). Such a refinement would provide an alternative approach for representing each predictors' effects in terms of its average value over time (between-county effects) and its relative magnitude at each point in time, in comparison to the average (within-county effects).

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Appendix A County ALF Bed Supply

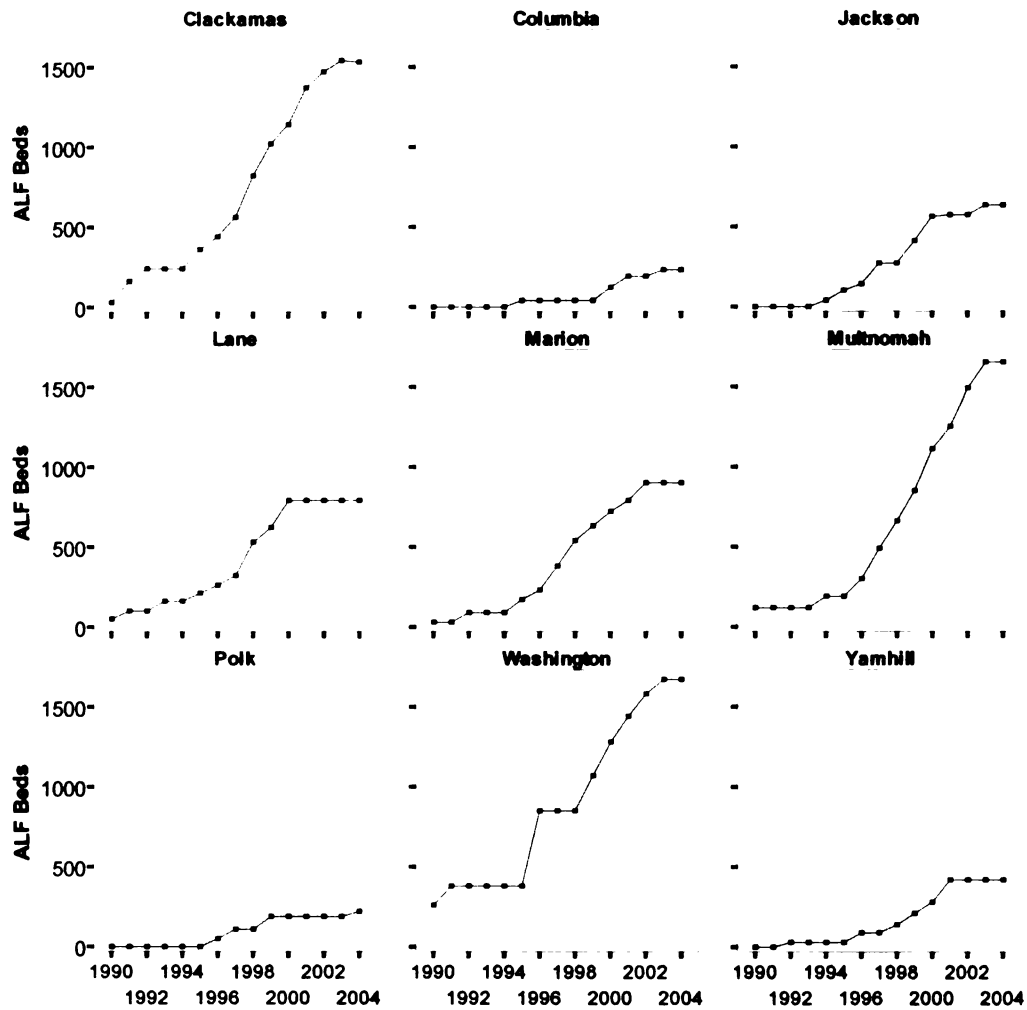


Figure 25 Metro Counties: ALF Beds, 1990 – 2004

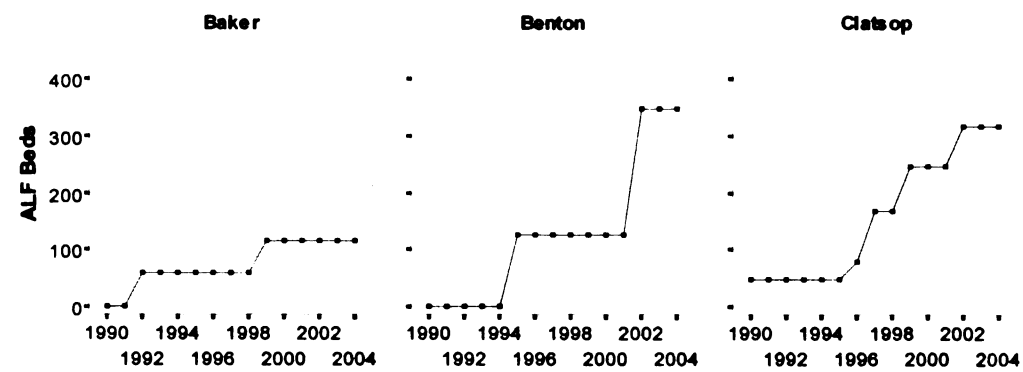


Figure 26 Non-Metro Counties (a): ALF Beds, 1990 - 2004

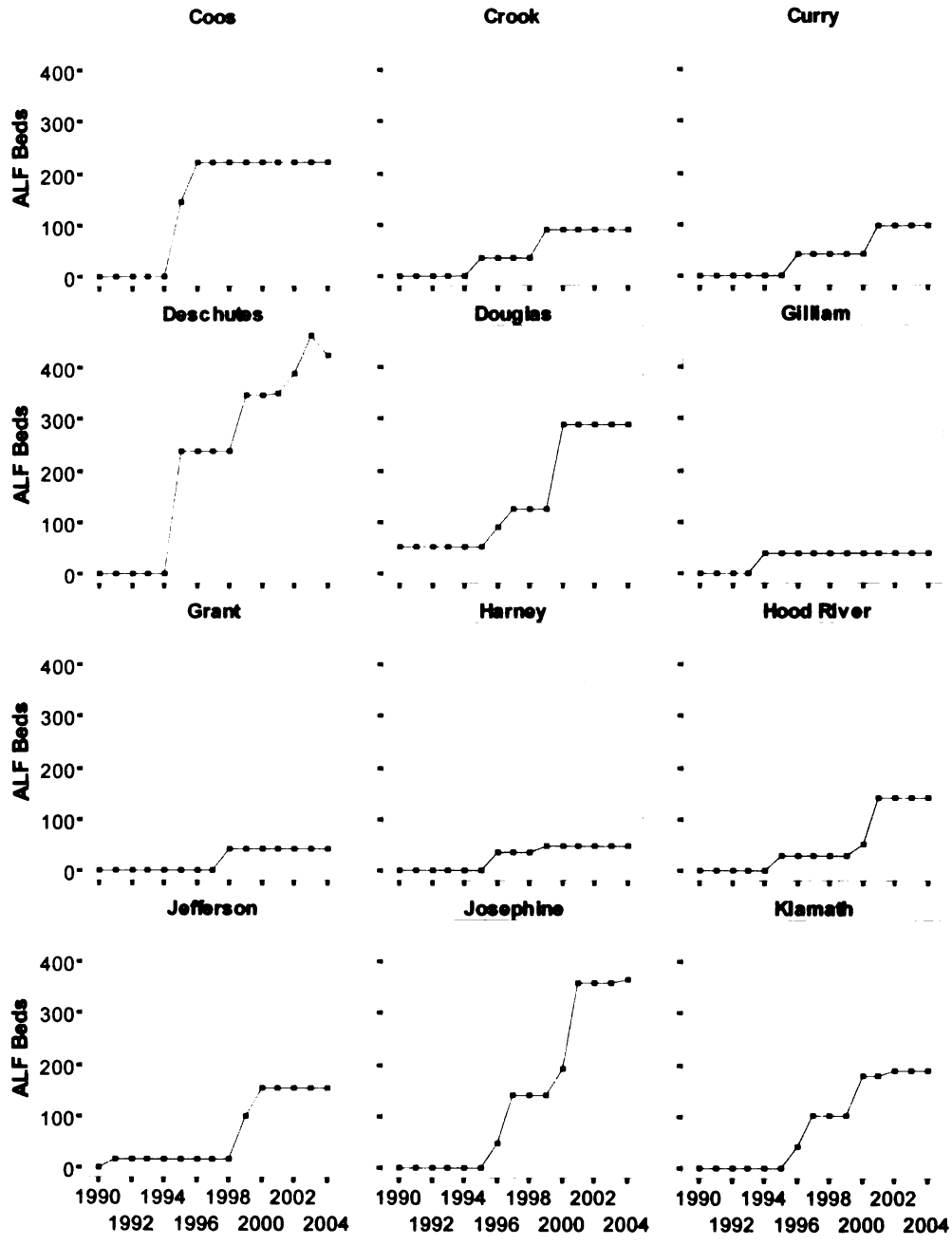


Figure 27 Non-Metro Counties (b): ALF Beds, 1990 - 2004

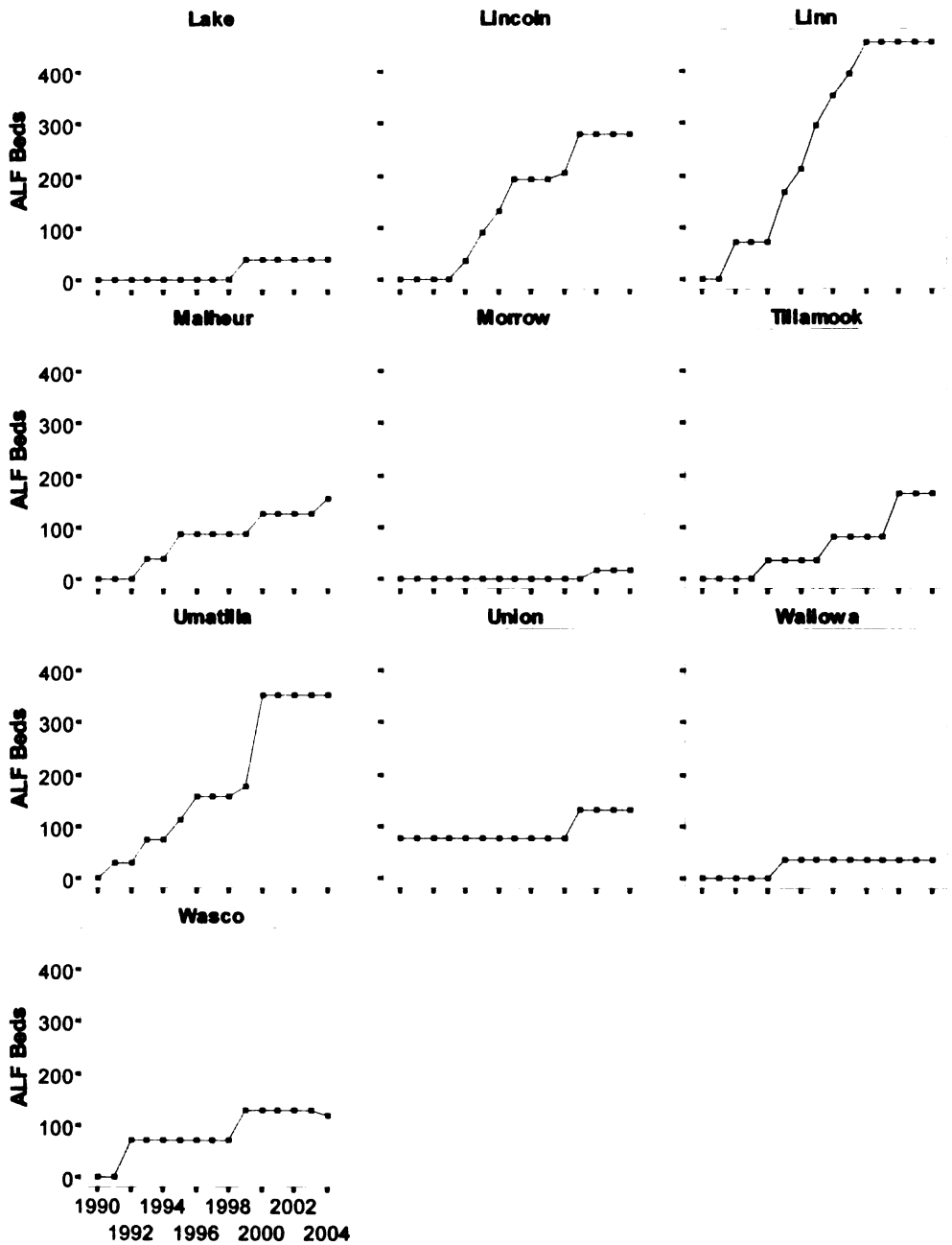


Figure 28 Non-Metro Counties (c): ALF Beds, 1990 - 2004

Note. Figure excludes Sherman and Wheeler Counties, which had no ALF beds during the study period.

Appendix B County RCF Bed Supply

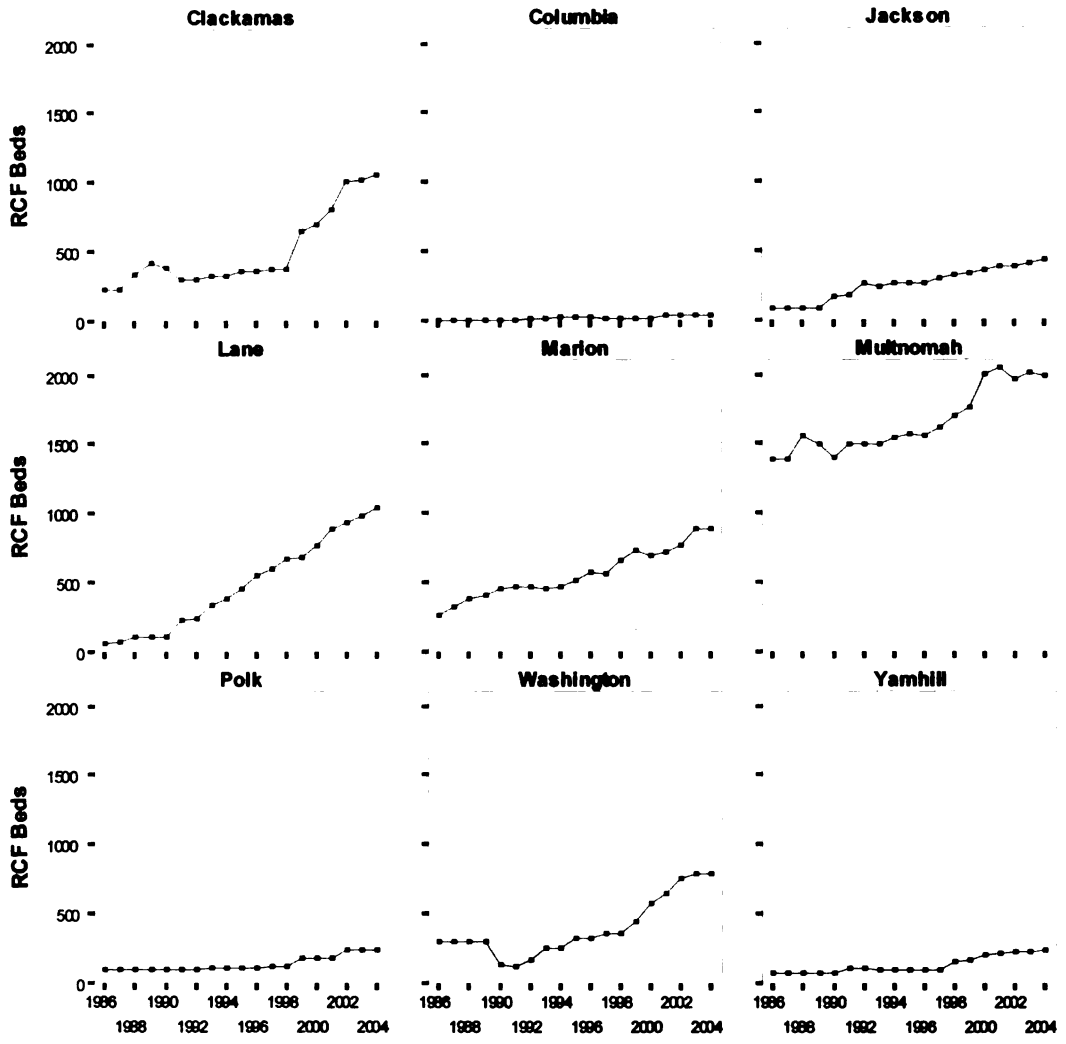


Figure 29 Metro Counties: RCF Beds, 1990 – 2004

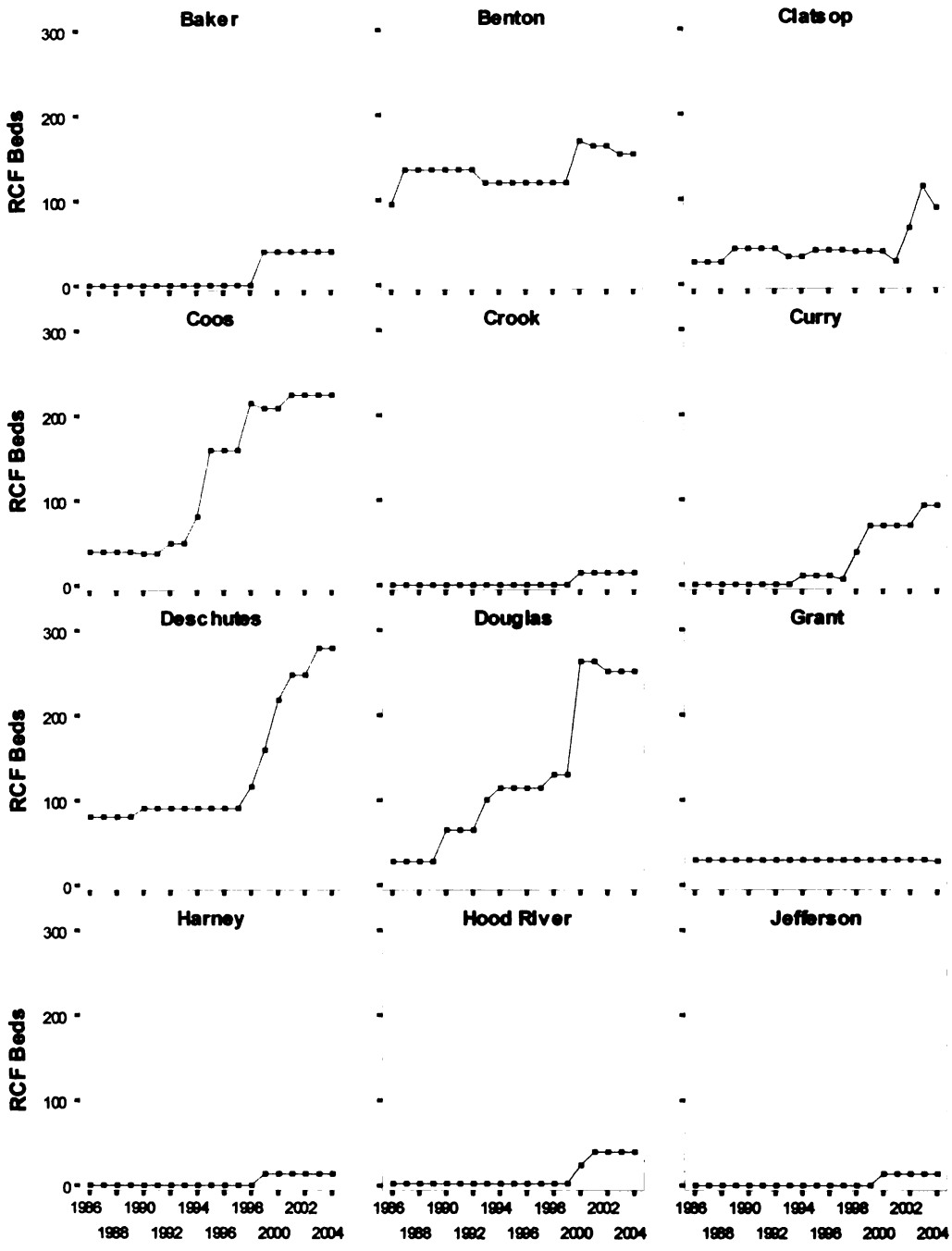


Figure 30 Non-Metro Counties (a): RCF Beds, 1990 – 2004

Note. Figure excludes Gilliam County, which had no RCF beds during the study period.

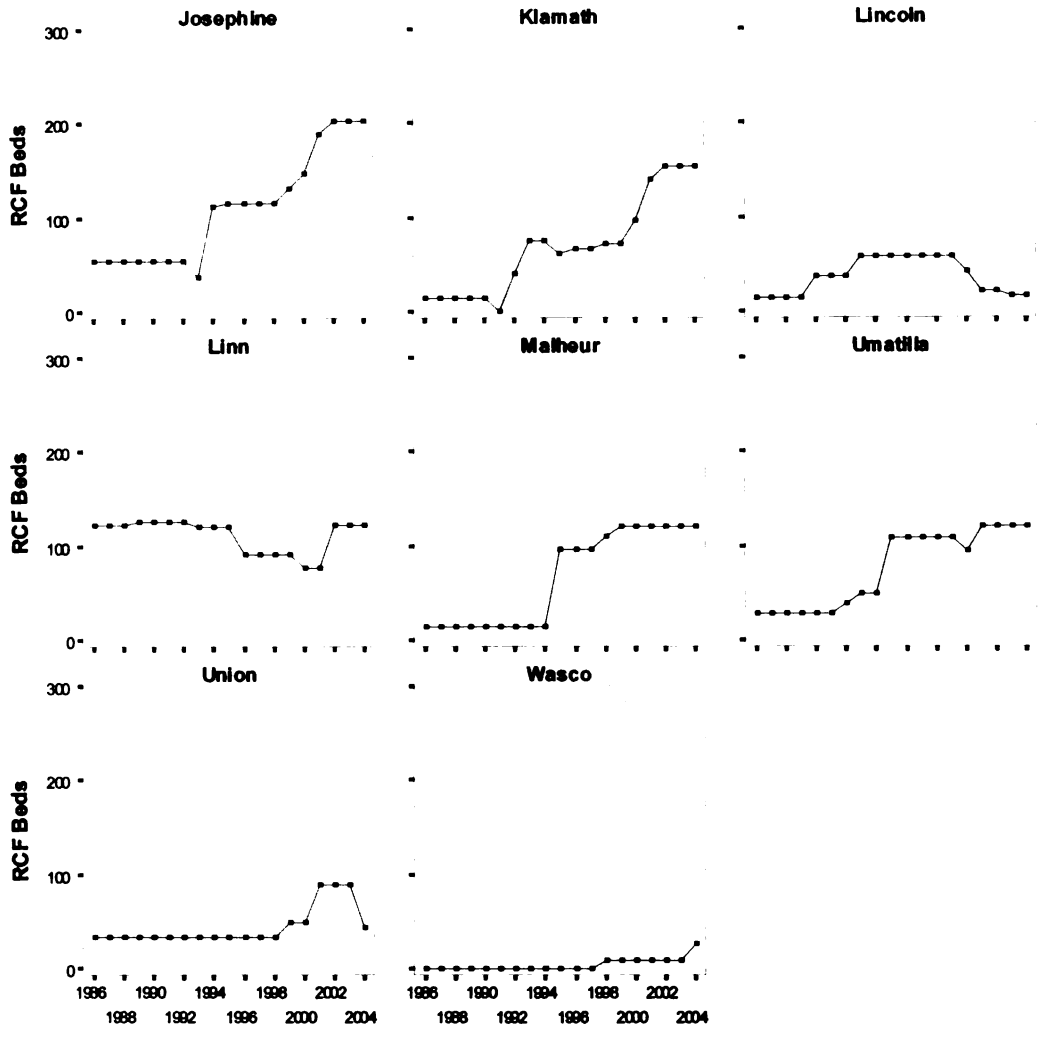
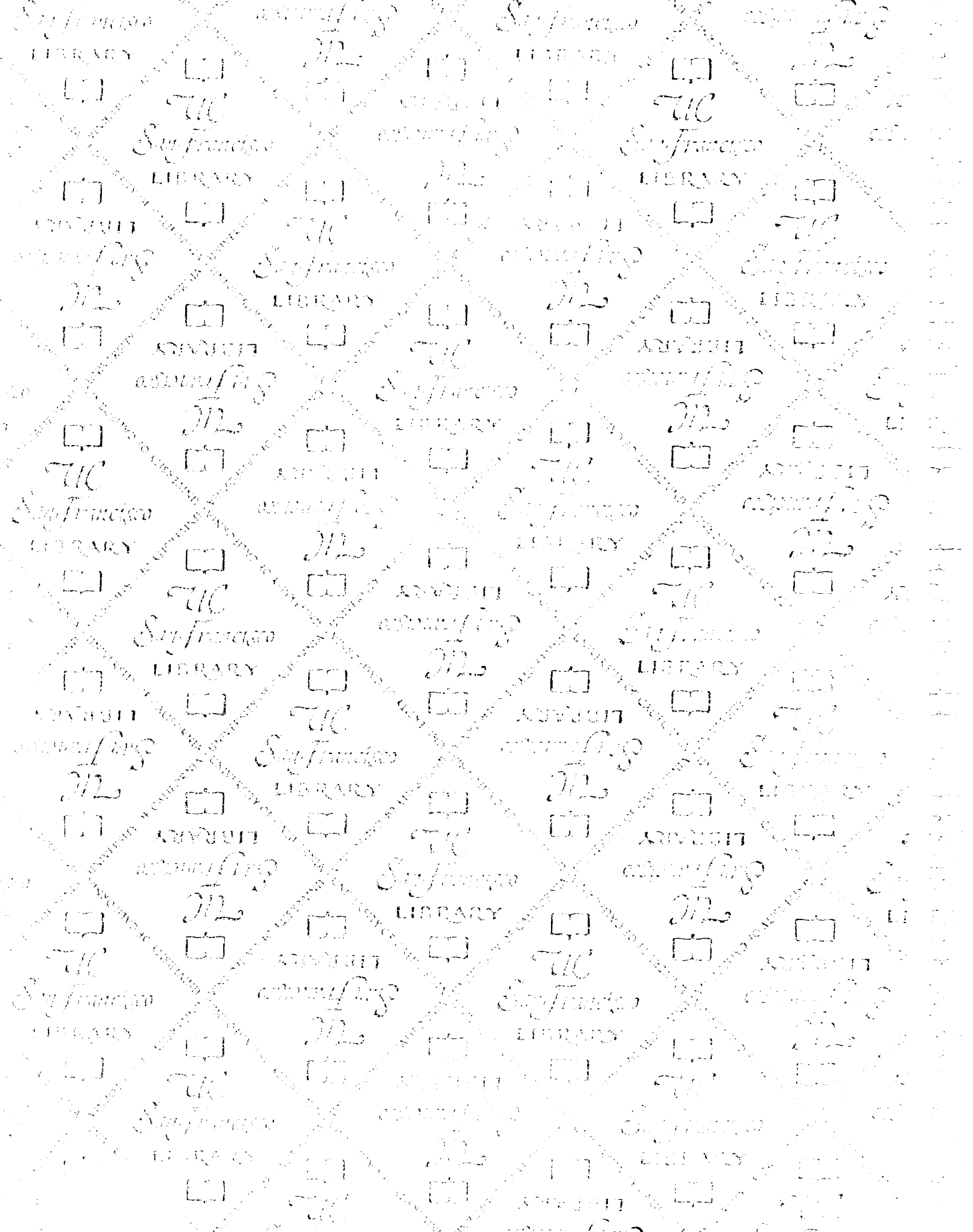


Figure 31 Non-Metro Counties (b): RCF Beds, 1990 – 2004

Note. Figure excludes Lake, Morrow, Sherman, Tillamook and Wallowa Counties, which had no RCF beds during the study period.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