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吴 敏 著

基于 需求与供给视角的 机构养老服务发展现状研究

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Nursing Home Care:
Demand and Supply



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总 序

《公共经济与公共政策齐鲁文库》第五批论著付梓出版之际，恰逢山东大学 110 周年校庆之时。校庆是一个回顾历史、反思理念、光大传统、继往开来的绝佳契机。抚今追昔，“为天下储人才，为国家图富强”的“祖训”熠熠闪光；崇实求新，是百年山大薪火相传的不竭动力。此次校庆的鲜明主题是“学术校庆”、“文化校庆”，我们这批论著就是山大青年学子献给母校的一份贺礼吧！

收入这批文库的论著有 4 部，《从公共品需求到公共品供需均衡：理论与现实》、《基于需求与供给视角的机构养老服务发展现状研究》、《我国慈善组织绩效及公共政策》和《税制结构变迁、效应及优化研究》。它们无一不是青年学者深切关注中国公共经济与公共政策的重大问题而进行研究的成果，无一不是从基础理论探究到中国现实剖析的结合之作，且大都是作者自主设计调研、开展实地调查、数据收集处理或进行案例剖析之作。尽管个别观点的论证还可以更加缜密，样本选择还可以更多，但瑕不掩瑜，值得鼓励。

到今年末，山东大学公共经济与公共政策研究中心、山东省公共经济与公共政策重点研究基地成立已有五年。

一批志同道合之人在资政育人、科学研究方面献计献策，通力合作，积极探索，使中心和基地业绩初显，师生受益，且形成一定社会影响力和学术竞争力。藉此机会，衷心感谢鼎力支持我们的各界朋友和社会贤达。

是为序。

樊丽明

2011年10月15日于山大

研究背景

根据国际上公认的人口老龄化社会的标准,我国在 1999~2000 年间就已经步入人口老龄化社会。面对不断加深的人口老龄化和逐渐增加的老年养老服务需求,传统的家庭养老功能却在不断弱化。在此形势背景下,政府出台了一系列政策鼓励社会力量兴办养老服务机构,为老年人提供社会化养老服务。近几年养老服务机构在数量和规模上呈现出较快发展的趋势。西方发达国家进入人口老龄化社会较早,机构养老服务设施网络建设和管理已经较为完善,但是我们国家在政治、经济和社会文化背景等方面与西方国家有着巨大差异,难以照搬国外的机构养老发展模式。而且我国人口基数大、人口老龄化发展快,要解决庞大的老年人群的机构养老问题,必须从我国的具体国情出发有针对性地开展机构养老服务。因此,十分有必要对国内机构养老服务的发展现状进行深入系统的研究。

虽然国内外已有学者在机构养老服务这一领域开展了相关研究,但在研究的角度、研究对象的选择以及研究内容和分析方法方面仍存有一定的局限性。现有研究多是对需求或供给单方面的研究,缺少对二者的整体分析,无法比较需求与供给之间的差距;对我国养老机构的研究多为非随机抽样的小样本研究或个案研究,所得结论难以具有代表性;缺乏对我国养老机构的设施、服务供给和人力资源等因素与养老机构入住率之间关系的相关研究,以及针对

国内养老机构的服务效率和服务质量的研究。

为此,本研究以济南市为研究现场,从老年人对机构养老服务的需求和养老机构的服务供给两个方面入手,对机构养老服务的发展现状进行较为全面的研究。研究经费由美国国立卫生研究院(National Institutes of Health, NIH)全额资助。

研究目的

本研究的总体目标是从需求与供给的角度分析机构养老服务的发展现状,结合定性和定量研究方法,分析机构养老服务的需方、供方和外部支持环境的现状以及需求与供给之间的差距,从而为政府应对人口老龄化带来的养老难题、促进机构养老服务发展提供科学依据和政策建议,为今后的研究建立基线、提供平台。具体目的包括:系统调查城市和农村地区老年人对机构养老服务的需求并分析其影响因素;调查机构养老服务供给和利用情况,分析影响因素,剖析需求与供给之间的差距;对养老机构的服务效率进行评价,探索影响服务效率的关键因素,对服务质量进行定性分析;为加快机构养老服务发展提供政策建议。

研究方法

本研究通过文献复习法、焦点小组访谈法等收集机构养老服务需求与供给的定性资料,通过现场调查和自填问卷收集定量资料。焦点小组访谈法主要用于获得机构养老服务利益相关者对机构养老服务供给和利用情况的认识,对机构养老服务现状及存在问题进行定性分析。分别组织了5个焦点小组(社区老年人组、养老机构入住老人组、管理人员组、工作人员组、政府官员组),共访谈49人。现场调查主要用来获取城市和农村地区65岁以上老年人的基本情况、生活现状和养老需求资料。采用多阶段分层抽样方法,在济南市历下区、市中区、槐荫区、天桥区和历城区的11个社区调查709人,在平阴县的9个村调查362人。自填问卷主要用于获取养老机构的机构建设、人员、服务、运行情况等相关数据。对济南

市历下区、市中区、槐荫区、天桥区和历城区中的各类养老机构（不包括农村敬老院）进行普查。统计分析方法主要包括描述性分析、单因素分析、多水平模型、累积 logistic 回归模型、数据包络分析和 Tobit 回归模型等，分别采用 SPSS16.0、HLM6.08、SAS9.0、Max DEA 5 和 Eviews3.1 软件进行统计分析。

主要研究结果

（1）老年人机构养老服务需求及其影响因素：城市地区 7.60% 的老年人有入住养老机构的需求，农村地区这一比例约为 5.00%。约 80% 的老年人表示期望得到养老机构提供的日常生活护理和医疗护理服务。社区周围建有养老机构、子女人数较少、健康状况较好、对机构养老服务的了解较多的老年人更有可能入住养老机构，其 OR 值及 95% 可信区间分别为 2.99（1.022，8.757）、2.00（1.404，2.857）、1.68（1.221，2.326）和 1.65（1.321，2.060）。

（2）机构养老服务供给现状：济南市历下区、市中区、槐荫区、天桥区和历城区的养老机构中有 48 所正常营业，其中 45 所养老机构发回了有效问卷。45 所机构的总床位规模为 4938 张；由政府企事业单位兴办的有 9 所，由个人兴办的 36 所。①硬件设施建设方面：90% 以上的养老机构中入住用房的使用面积能达到《老年人社会福利机构基本规范》的要求；85.44% 的养老机构中设有文化娱乐设施，66.67% 的养老机构中设有健身设施，88.89% 的养老机构能够为入住老人提供室外活动的场所。②机构工作人员方面：老年护理人员所占比重最大（平均占 51.74%），但仍存在护理员数量不足的问题，而且老年护理人员主要来自于农村务工人员 and 城市下岗人员，学历为高中及以下的比例为 85.63%，缺少老年护理方面的专业培训，人员流动性较大。③提供养老服务方面：约 70% 的养老机构能够提供日常生活照料、医疗服务、娱乐活动、康复训练等多种养老服务。由政府企事业单位兴办的养老机构均能够提供医疗服务，个人兴办的养老机构中有 33.30% 不能提供医疗服务。

④收费标准方面：由养老机构自行制定收费标准，多数养老机构的每月平均收费处于 800 ~ 1100 元的中等水平。

(3) 服务质量定性分析：管理人员组和工作人员组访谈对象认为养老机构服务质量较高，能够满足入住老人的要求；入住老人组访谈对象虽然对老年护理人员的工作态度评价较高，但对服务水平和质量仍存有一定的不满。养老机构管理人员对机构养老服务的质量管理意识较为薄弱，管理方式粗放，缺少服务质量控制标准和评估机制。

(4) 机构养老服务需求与供给之间的差距：与老年人入住养老机构的需求相比，养老机构的床位数量还存在较大缺口。如果仅考虑城镇居民，满足老年人入住养老机构的需求，理论上 5 个区中养老机构的床位供给能力尚需扩大 1.72 倍。此外，在服务水平、服务质量和专业化程度上与老年人的需求之间也存在较大差距。总体上看养老机构的收费与城市地区老年人的平均收入水平基本相适应，但是远高于农村老年人的平均收入水平。

(5) 养老机构床位利用情况及其影响因素：养老机构平均入住率为 73.33%。兴办主体、服务项目数量和是否获得政府资助是入住率的影响因素。由政府和企业事业单位兴办、服务项目数量较为丰富、能够得到政府资助的养老机构更有可能获得较高的入住率，其 OR 值及 95% 可信区间分别为 0.06 (0.01, 0.40)、1.55 (1.00, 2.50) 和 4.13 (1.05, 16.33)。45 所养老机构的 2971 名入住老人中，以 70 ~ 79 岁年龄段老年人最多 (占 47.36%)，80 岁以上高龄老人 (占 31.71%)、生活部分自理 (占 35.54%) 和不能自理老年人 (占 31.57%) 的比例相对较高。

(6) 养老机构服务效率评价及影响因素：28 所养老机构的服务效率得分小于 1.00，效率得分平均为 0.8065 (四分位数间距 $Q = 0.2261$)；对低效率养老机构投入指标的理想值分析发现，17 所养老机构中固定资产投资可降低比例超过 40%。9 所政府企事业单位兴办的养老机构中有 6 所养老机构的服务效率得分小于 1.00，效率得分平均为 0.8392 ($Q = 0.1290$)；36 所由个人兴办的养老机构中

有 22 所养老机构的服务效率得分小于 1.00, 效率得分平均为 0.7770 ($Q=0.3246$)。养老机构中娱乐设施的种类和管理人员数量是养老机构服务效率的影响因素, 偏回归系数分别为 0.041 和 -0.113 (P 值分别为 0.016 和 0.001)。

结论与建议

5%~8% 的老年人有入住养老机构的需求, 对养老机构日常生活护理和医疗护理服务的需求较大。社区周围建有养老机构、子女人数较少、健康状况较好、对机构养老服务的了解较多是机构养老服务需求的影响因素。与老年人入住养老机构的需求相比, 养老机构的床位数量还存在较大缺口, 尤其在服务水平、服务质量和专业化程度上与老年人的需求存在较大差距。多数养老机构存在资源利用不足的问题, 固定资产投入利用不足的问题最为突出。

政策建议: (1) 加大对养老机构和机构养老服务的宣传, 引导老年人合理选择机构养老服务, 加快居家养老服务的发展; (2) 政府对入住养老机构的老年人给予一定比例的补助, 为有机构养老服务需求的老年人提供一定的经济保障; (3) 加大对机构养老服务的政策扶持和资金资助力度, 整合社会闲置资源兴办养老服务机构, 加快养老机构的发展; (4) 严格把关老年护理人员的专业培训和职业资质, 鼓励卫生专科学校和职业学校培养老年护理专业人才; (5) 加强对养老机构服务质量管理, 建立和完善质量控制标准和评估机制。

创新与不足

本研究的创新之处在于首次对国内机构养老服务进行了较为全面和系统的研究, 所获得的研究经验和研究结果可为后续研究提供借鉴和参考, 同时为政府制定机构养老服务相关政策提供理论和实证基础。具体体现在:

(1) 研究角度方面, 构建了一个定性和定量研究方法相结合、涵盖机构养老服务需方和供方的研究框架, 为今后相关研究提供了

平台,同时对机构养老服务需求和供给之间的差距进行了剖析,从而更有助于全面了解机构养老服务的发展现状,为有针对性地开展机构养老服务奠定了基础。

(2) 研究内容和方法方面,首次对国内养老机构的服务效率进行了评价,并对养老机构入住率和服务效率的影响因素进行了分析;针对采用多阶段分层抽样方法获得的数据具有组内相关性的问题,利用多水平模型分析了国内老年人机构养老服务需求的影响因素,提高了结果的可靠性;在服务效率评价中,结合国内养老机构的实际情况对投入产出指标进行了筛选,为数据包络分析方法在国内机构养老服务效率评价中的应用做了有价值的尝试。

(3) 研究结果方面,本研究揭示了国内养老机构的基本情况、硬件建设、人员配置、提供服务和财务状况等因素与养老机构入住率和服务效率之间的关系,计算了济南市养老机构的服务效率得分,发现多数养老机构存在投入资源尤其是固定资产投资利用不足的问题,这些研究结果增加了对国内机构养老服务的新认识,并为加强养老机构管理、促进养老机构建设、加快养老机构的发展提供了新的实证依据。

本研究的不足之处与研究展望:

(1) 本研究是对国内机构养老服务的基线研究,在此阶段的研究中仅对养老机构的服务质量进行了定性分析。在今后的研究中将进一步开展服务质量测量指标体系构建和服务质量定量评价方面的相关研究,探讨服务质量的影响因素。

(2) 在机构养老服务需求和养老机构服务效率的影响因素分析方面,将在今后的研究中进一步扩大变量范围,探讨更多的社区层面变量与老年人入住养老机构需求的关系、与个体因素的交互作用,并进一步分析外部因素(如政策环境、筹资渠道、社会信誉、对外宣传等)与养老机构服务效率之间的关系。

关键词 老年人 机构养老服务 需求 供给 发展现状

ABSTRACT

Background

According to the international standards of aging, China has become an aging society since 2000. As population are rapidly aging and the demand for elderly care are increasing, government encouraged for-non-profit organizations and individuals to provide nursing home services for the elderly since the traditional family supports for elderly people were decreasing due to the socioeconomic development and one child policy. In recent years, nursing home care has evolved rapidly in China. It's necessary to conduct researches on demand and supply for nursing home care deeply and systematically, considering the rapid aging population in China.

Although a number of researchers have carried out lots of studies in the field of nursing home care, there are still some limitations in terms of research design, selection of sample, research contents and analysis methods. For the majority of sampling methods in the researches on nursing facilities are non-probability sampling or case study, it's difficult to draw a representative sample. Current studies tend to focus on the demand or supply of the nursing home care and the comprehensive analysis are lacking, so it's difficult to measure the gap between demand and supply of nursing home care in China. The relationship between factors such

as service environment, services offered, staffing in nursing homes and the occupancy rate, as well as the efficiency and quality of nursing home care in China are not well understood.

A study on the development of nursing home care in China based on the demand and supply was conducted in the city of Jinan. It's supported by grant from National Institutes of Health of the USA.

Research Objectives

The goals of this research are to analyze the current status of nursing home care in China in terms of demand of elderly people and supply of nursing facilities, using qualitative and quantitative research methods. Specific aims of the research are to: 1) investigate the perceived nursing home care demands of elder residents in urban and rural areas, as well as current supply in Jinan, China, and examine the potential gap between nursing home care demand and supply; 2) identify the predictors of demand for nursing home care and determinants of occupancy rate in nursing facility; 3) evaluate the efficiency and quality of nursing home care; 4) provide recommendations on nursing home development for government and policymakers.

Study Design

Document analysis and focus group interview were conducted to collect qualitative materials, while field investigation and self-administrated questionnaire survey were carried out for quantitative study. Purpose of focus group interview was to measure the perceptions of stakeholders of nursing homes regarding the demand and supply of growing nursing home care. Five focus groups were organized (for community and institutionalized elderly, nursing home providers and administrators as well as government officers) including a total of 49 participants. Purpose of field investigation was to collect data of the demand for nursing home care of old-

erly people aged 65 + in both rural and urban areas. Based on multistage sampling method, in urban area a total of 709 questionnaires were returned from five districts, and in rural area a total of 362 questionnaires were returned from nine villages. Purpose of self-administrated questionnaire survey was to collect data of service environment, staffing, financing, and services offered in nursing homes in Jinan, China. A total of 45 questionnaires were returned. Statistical analysis methods included descriptive analysis, multilevel model analysis, cumulative logistic regression model, data envelopment analysis and Tobit regression model, using statistical analysis software of SPSS16.0、HLM6.08、SAS9.0、Max DEA 5 and Eviews3.1.

Principal Findings

1. Demand for nursing home care of the elderly and predictors: Among the 1071 elderly residents surveyed, only a small number were willing to reside in nursing home, and the percentage was 7.60% in urban area and 5.00% in rural area. The expected nursing home services were focused on daily care and medical care. Predictors of demand for nursing home care included three explanatory variables of resident level in multilevel model, which were fewer adult children (odds ratio [OR] = 2.00; 95% confidence interval [CI]: 1.40 – 2.86), better physical health status (OR = 1.68; 95% CI: 1.22 – 2.32), comprehension of nursing home care (OR = 1.65; 95% CI: 1.32 – 2.06), and one contextual variable of community level in the model, which was whether there was a nursing home established around community in which the elderly resident lived (OR = 2.99; 95% CI: 1.02 – 8.76).

2. Current supply of nursing home care: There were 48 nursing facilities located in five districts in Jinan with approximately 5,000 beds. Out of 45 nursing facilities investigated, nine were owned by the government or non-for-profit organizations, and 36 were owned by individual.

Service environments in the majority of nursing homes can meet the requirements of regulations and standards made by the government. Generally, service environment in nursing home with larger bed size was better than that in nursing home with small bed size. Nursing aids was the majority among staffing in nursing home (51.74%), and the lacking of nursing staffing was a popular issue in nursing facilities in China. Furthermore, majority of nursing staffing were laid-off workers or rural migrant workers with lower educational level and without skilled training of elderly care, and frequent turnover of nursing staffing was another issue affecting the administration of nursing home care. Seventy percent of nursing homes provide elderly care, medical care, recreational activities, and rehabilitation service. Nursing homes owned by government, non-for-profit organizations or with more than 150 beds had the advantage of providing better medical care for residents. Charging standard for residents was established by nursing home administrators and the average charging standard ranged from 800 yuan to 1100yuan in Jinan, China. Generally, charging standards of nursing facilities with larger bed size were higher.

3. Qualitative analysis of nursing home care quality: Most participants in focus groups for administrator were satisfied with the quality of nursing care; however, some participants of focus groups of nursing home residents concerned the quality of nursing home care.

4. The gap between demand and supply: There was a huge gap between the demand for nursing home of elderly people and the beds supply in nursing homes in Jinan. Theoretically, the bed size of nursing facility should increase by 1.72 times in order to meet the demand for nursing home care. Gap also remained between the level of service, the quality of nursing home care and the demand of the elderly. In general, charging standards of nursing facilities could accord with income levels of elderly people in urban area, while exceeded the paying capacity of elderly

people in rural area.

5. Utilization of nursing home care and determinants: Average occupancy rate of nursing facilities in Jinan was approximately 70 percent. Determinants of occupancy rate included ownership, services offered and financing support from government. Nursing home owned by the government or non-for-profit organizations, offering abundant services, achieving financing support from the government had a probability to get higher occupancy rate. Of 2971 residents in 45 nursing homes, the elderly aged 70 - 79 accounted for 47.36%, aged 80 + accounted for 31.71%, the elderly who are requiring assistance in daily life accounted for 35.54%, and the elderly who are totally dependent in daily life accounted for 31.57%.

6. Evaluation of nursing home care efficiency and predictors: Out of 45 nursing homes analyzed in Jinan China, 28 (accounting for 37.78%) were found be inefficient with an average relative efficiency score of 80.65% (quartile range = 22.61%). Six of nine nursing homes owned by government or non-for-profit organizations and 22 of 36 private nursing facilities were DEA-inefficient with average relative efficiency scores of 83.92% (quartile range = 12.90%) and 77.70% (quartile range = 32.46%) respectively, however the difference was not statistically significant. We found that facility characteristics including location, ownership, hospital affiliation, as well as services offered, financing support from the government did not affect efficiency of nursing homes in Jinan, China. Categories of recreational activities and the number of administrators in nursing home were potential influencing factors of nursing home care efficiency and their coefficients of Tobit regression were 0.041 and -0.113 respectively, indicating that higher categories of recreational activities provided in nursing home contributed to greater efficiency, while higher number of administrators led to lower efficiency.