

Introduction

On 11 March 2011, the Great East Japan Earthquake occurred, and a massive tsunami with a maximum wave height of 40 m caused destruction to many cities along 500 km of Japan's north-eastern coast; it directly killed 15,882 people and 2,668 individuals are still missing [1]. The recovery process has been slow owing to the overwhelming scale of the damage. After the disaster, people who originally resided in tsunami-hit coastal areas and many affected cities evacuated to other cities or nearby areas in the mountains. In the affected cities, access to such places as retail stores and the availability of public and business services worsened. Those access barriers probably increased the risk of older evacuees becoming physically and social inactive. One survey reported that 30% of respondents cited poor access to transportation as the prime reason for not going out; this was followed by a lack of purpose or places to go (16%) and a lack of motivation to go out (16%) [2].

Numerous studies have reported that among older adults, physical and social inactivity in addition to homebound status are important risk factors for functional decline and death [3–8]. In particular, the homebound lifestyle of older adults has been an area of serious public health concern [1]. However, the effects of access difficulties on older adults' inactivity after the 2011 disaster have not been studied.

The purpose of this study was, therefore, to evaluate the effect of the built environment in terms of physical access to retail stores on older adults' inactivity in a city severely affected by the disaster. We focused on retail stores (including grocery stores, convenience stores, supermarkets and shopping centres), because shopping has been identified as a primary reason for going out in the daily lives of older Japanese adults: a national representative survey reported that 66.2% of older respondents selected 'shopping' as their main reason for going out [5].

Methods

Data

Rikuzentakata, the site of this study, was one of the cities most seriously damaged by the disaster: of its total population of 23,302 before the catastrophe, 1,773 people died or are still missing. Like many cities affected by that tsunami, Rikuzentakata is a rural area, and it had a highly aged population before the disaster: 34.9% of its population was aged 65 years or over in 2010 [9].

Forest accounted for 80.6% of the total land area, and most areas of flat land were located by the coast or around river estuaries (see Supplementary data, Appendix Table S1 available in *Age and Ageing* online). Before the earthquake, the population was concentrated in the flat coastal areas. Of 7,730 houses, 3,368 (43.6%) were affected by the disaster and 3,159 were 'completely destroyed' [9]. Since the community infrastructure in the flat areas was also totally shattered,

many victims who lost their houses insisted on moving to areas in the mountains (Figure 1) [10].

We used the data of the third wave of the Health and Living Condition Survey conducted by the Rikuzentakata city government. The home-visit interview survey was carried out from August 2012 to October 2013 among all residents of 6,027 households on the resident registry. Individuals living in temporary housing as earthquake victims were not surveyed, because those individuals had been previously surveyed. Among them, 3,855 households responded to the interviews (response rate = 64.0%). Interviewers gathered information on current morbidity, socio-economic status, health behaviour (eating meals and snacks, smoking status and amount of alcohol consumed per day), frequency of going out and social support. Of 11,370 respondents in total, we used the data of 4,149 people who were 65 years or older. We eventually employed the data of 2,327 older adults with the necessary information for this analysis, including accurate residential address.

Geographical information

We obtained information on grocery stores, convenience stores and shopping centres from the online community directory database Town Page (NTT data, Tokyo, Japan) in August 2012. We removed data relating to facilities in the areas directly hit by the tsunami. Information on shopper bus stops and hawker sites was provided by the disaster support team of Iwate Prefecture Consumer Cooperative. We used ArcGIS data collection (ESRI, Redlands, CA, USA) for road network data; where road information was lacking, we referred to road data of digital national land information [11]. Using these data, we calculated three distances related to road networks: the distance to the nearest retail stores; distance to retail stores or hawker sites and distance to retail stores or shopper bus stops. Following the study by Satoh *et al.* [12], we assumed that going uphill and downhill require extra effort to move and we penalised slope angles on the road by putting a weight of

$$1 + \sin \theta$$

on the surface road distance, where θ represents the slope angle. Slope angle data were obtained from the 10 m mesh altitude data of digital national land information. The data were linked to road data using geographical information systems.

Measurements

Dependent variables: homebound

Following recent reviews, homebound status was determined by the frequency of going out [4]. Respondents were asked about the frequency of going out, and the response options were as follows: (i) daily; (ii) once every 2 or 3 days; (iii) once every 4 or 5 days and (iv) less than that (i.e. once every 6 days or more). We dichotomised the responses and determined those who went out once every 4 or more days as homebound.

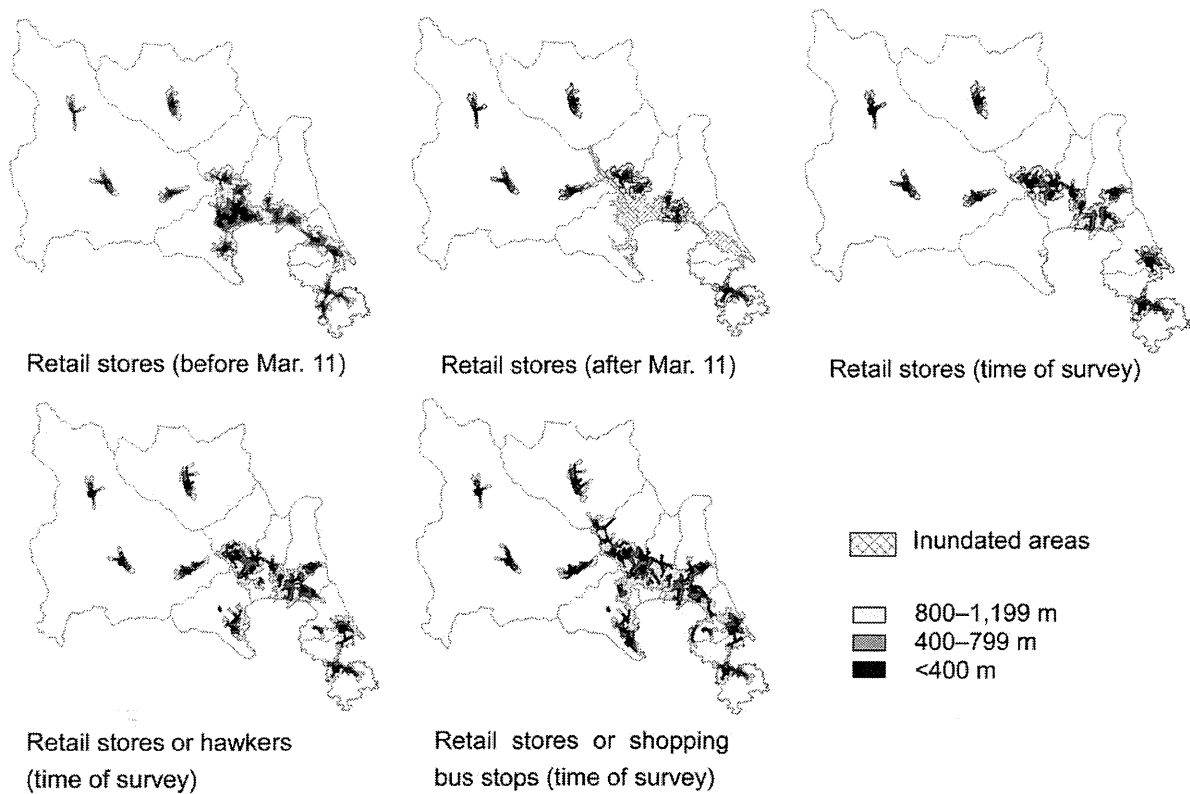


Figure 1. Road distance areas from retail stores, hawkers and shopping bus stops before the earthquake (on 11 March 2011), just after the earthquake and the time the survey started (August 2012).

Explanatory variables

Our main explanatory variables were road distances from the residential addresses to retail stores (including small grocery stores, convenience stores and supermarkets), hawkers sites and shopping bus stops. After the earthquake, private stores and consumer cooperatives started hawker sales for people residing in regular or temporary housing located in remote areas. Shopping bus services were also improved, covering wider areas than before the earthquake. Shopping buses take passengers to a shopping area located in the city centre for free.

Co-variates

As potential confounding factors, we used age, morbidity (diabetes, hypertension, hyperlipidaemia, heart diseases, brain diseases, cancers, orthopaedic disorders, psychiatric disorders, asthma, allergic diseases and other conditions), types of income (pension, wage, none and other) and availability of contact with neighbours (yes or no).

Statistical analysis

Geographical information analysis

The calculated road distances were divided into four categories: <400 m, 400–799 m, 800–1,199 m and 1,200 m or more.

First, we visually evaluated the changes in the areas covered by those road distances. We then calculated the population coverage for the road distances to retail stores, hawkers sites or bus stops in terms of eight districts. For this, we used the geographical information systems software ArcGIS.

Epidemiological analysis

We then linked the results of the geographical information analysis to the survey data. We first evaluated the prevalence of homebound status according to the respondents' socio-demographic status, district of residence and distance to retail stores or shopping bus stops. Then, we used Poisson regression with a log link function to evaluate the association between those distances and the risks for homebound status, considering potential confounding factors. We separately created three models using the distances to the nearest retail store (Model 1), retail store or hawker site (Model 2) and retail store or shopping bus stop (Model 3). To address clustering within households, we used the generalised estimating equation (GEE) technique. All analyses were categorised by gender. The GEE was required, despite the gender stratification, because there were some addresses at which more than one older couple resided. We employed SPSS version 22 (IBM, Armonk, NY, USA) for the analysis. All *P* values were two-tailed.

Risk of being homebound among older adults in Japan

Results

Geographical analysis

As expected, most of the retail stores, hawker sites and shopping bus stops were in areas that had not been reached by the tsunami (see Supplementary data, Appendix Figures S1 and S2 available in *Age and Ageing* online). The geographical distribution of the road distances to retail stores, hawker sites

and shopping bus stops dramatically changed before and after the earthquake (Figure 1). The coverage of populations within a certain road distance to those facilities also underwent a major change (Figure 2). Baseline coverage and the degree of changes varied across districts. Just after the earthquake in Yonezaki, Otomo and Kesen districts, the distances to retail stores largely increased. In the latter two districts, all residential addressees were 1,200 m or more from the nearest

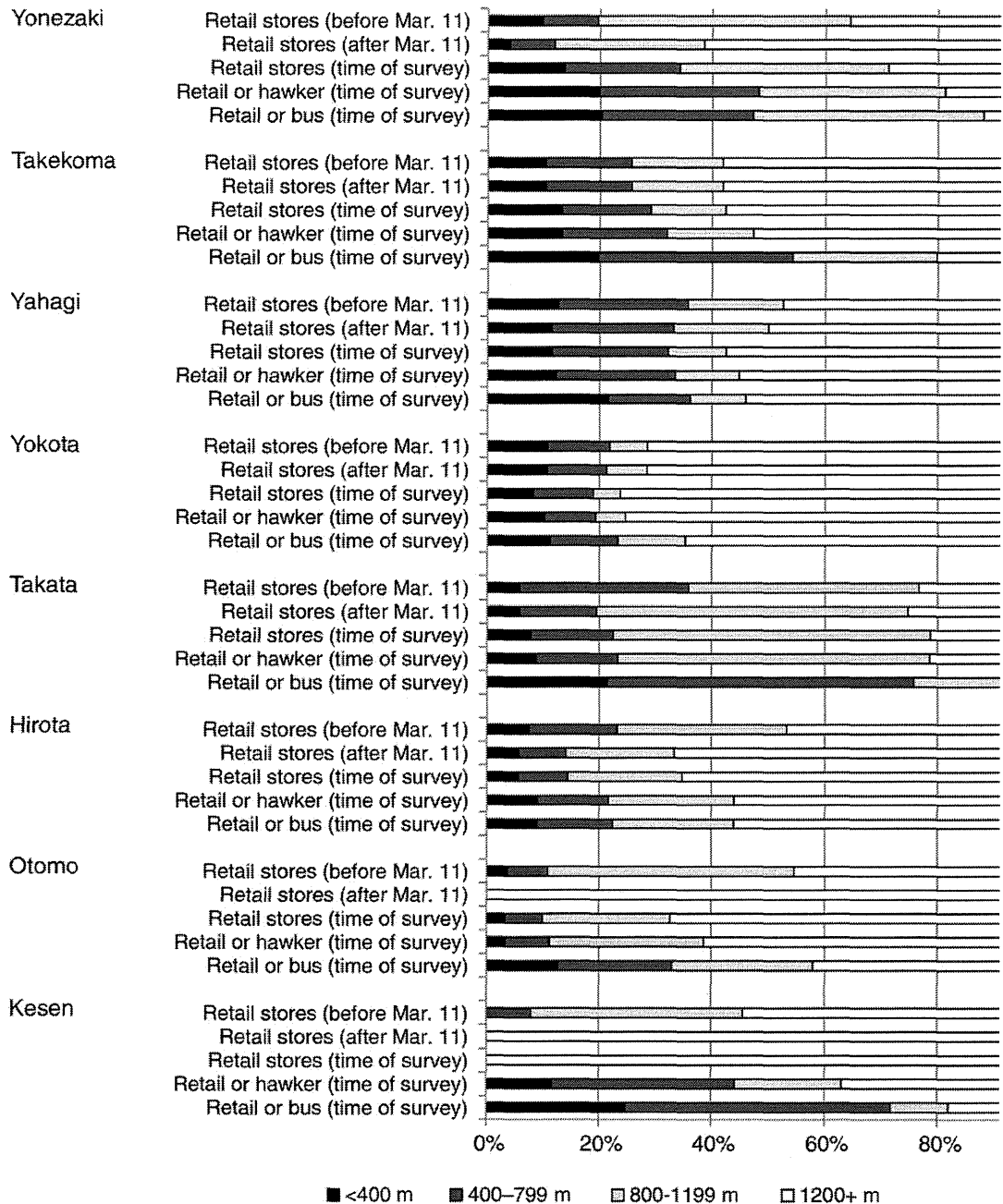


Figure 2. Population coverage by the road distances to retail stores, hawker sites and shopping bus stops by district and by period (before March 2011; just after March 2011 and time of survey started, August 2012).

retail store. In Otomo, however, the re-opening of a new shopping centre, previously located in a tsunami-affected coastal area, contributed to the increased coverage of areas that were less distant to retail stores (32.7% of residential addresses were within 1,200 m of the nearest retail store). In Kesen, although no retail stores opened afterward and the distance to the nearest retail store did not change, the distance to retail stores, hawkler sites or shopping bus stops largely decreased owing to newly introduced hawkler and shopping bus services.

Epidemiological analysis

Among the 2,327 participants, 1,027 (44.1%) were men and 1,300 were women (55.9%), with average ages of 75.5 and 77.2 years, respectively. Overall, the proportions of homebound people were 19.6% for men and 23.2% for women, with higher proportions in the older age groups. There was an over 3-fold regional difference across the eight districts—from 7.9% among women in Kesen to 34.8% among women in Yokota. Linking geographical information with survey data, we found that people residing at greater distance from retail stores, hawkler sites or bus stops were likely to be homebound (see Supplementary data, Appendix Table S2 available in *Age and Ageing* online).

Overall, the GEE–Poisson regression showed a positive association between road distances to retail stores or shopping bus stops and the risk of being homebound. For example, among men, the adjusted prevalence ratio (PR) for homebound status among those whose residential address was 1,200 m or more from the nearest retail store or hawkler site compared with <400 m was 1.40 (95% confidence interval [CI], 0.96–2.04); the adjusted PR was 1.78 (95% CI, 1.03–3.08) for those living 1,200 m or more from the nearest retail store or shopping bus stop. These associations were comparable

in all the models for women, though women rather showed narrower CIs and smaller *P* values (the *P* values for women in the >1,200 m category were <0.05 in all models) (see Supplementary data, Appendix Table S3 available in *Age and Ageing* online for full descriptions of those models; Table 1).

Discussion

Our analysis found that, even after controlling for age, income status, mental and physical health status (morbidity) and social integration, the older men and women residing at great distance from shopping facilities were more likely to be homebound or not go out frequently; however, the association between distance and homebound status was not clear for those with a road distance of under 800 m. Although the distance to shopping facilities may be a risk of being homebound, the newly started shopping bus and hawkler services in Rikuzentakata may have provided more opportunities for going out.

Potential reasons for the positive association between distance to retail stores or shopping support services and going out infrequently are as follows. (i) The distance itself is a physical barrier to going out. (ii) The distance may also be a psychosocial barrier—giving rise to feelings of being neglected or excluded from society, which may in turn reduce the willingness for going out. (iii) It is also possible that some people who reside in distant areas from those shopping destinations may not need to go out, because they have sufficient instrumental support for obtaining daily necessities through, for example, their children or younger neighbours.

To our knowledge, this is the first study evaluating the association between distances to certain facilities in a built environment and the risk of homebound status of older adults. The strengths of this study were utilising the data of a

Table 1. Prevalence ratios for being homebound by road distance to nearest retail store, hawkler site or shopping bus stop after the Great East Japan Earthquake, 11 March 2011, in the city of Rikuzentakata, 2012–13

	Men			Women		
	<i>n</i>	PR (95% CI)	<i>P</i>	<i>n</i>	PR (95% CI)	<i>P</i>
Model 1: to retail store						
–399 m	92	1		104	1	
400–799 m	126	1.30 (0.71–2.37)	0.40	183	1.28 (0.75–2.18)	0.37
800–1,199 m	219	1.39 (0.80–2.42)	0.24	250	1.36 (0.82–2.25)	0.24
1,200+ m	590	1.39 (0.83–2.30)	0.21	763	1.54 (0.97–2.44)	0.07
Model 2: to retail store or hawkler site						
–399 m	124	1		138	1	
400–799 m	170	0.99 (0.63–1.55)	0.96	244	0.94 (0.64–1.37)	0.74
800–1,199 m	238	1.23 (0.79–1.89)	0.36	277	1.45 (1.02–2.05)	0.04
1,200+ m	495	1.40 (0.96–2.04)	0.07	641	1.45 (1.05–2.00)	0.02
Model 3: to retail store or shopping bus stop						
–399 m	176	1		205	1	
400–799 m	220	1.18 (0.59–2.35)	0.63	305	1.33 (0.75–2.36)	0.33
800–1,199 m	228	1.49 (0.81–2.74)	0.20	282	1.73 (1.02–2.95)	0.04
1,200+ m	403	1.78 (1.03–3.08)	0.04	508	1.85 (1.13–3.02)	0.01

All models were adjusted for age, sources of income, morbidity and available contacts/neighbours.

home-visit survey for all people who resided in their own or rented accommodation as well as detailed, objective geographical information. The accurate information on distances relating to road networks is another advantage. Nonetheless, a major limitation of this study is that we did not account for the means of transportation. Some people may use motor vehicles, potentially leading to the underestimation of the association between road distance and their inactiveness. This may explain the gender differences observed, with more precise estimates being obtained for women than men. In Japan, older women are less likely to drive a car and possess a licence; misclassification may thus be smaller among women. Another issue is the self-reported, limited information obtained from the survey: this raises the possibility of potential information biases and residual confounding. Inactivity may be influenced by unmeasured factors, including instrumental social support, educational attainments and neighbourhood environment [13–17]. Responses to the frequency of going out may be influenced by the lifestyles and perceptions of respondents. For example, some persons may regard going to a field next to their houses as going out, but others may not. We do not know whether this factor may have systematically caused a misclassification. Moreover, the generalisability of the results is limited, as the data did not include the residents of temporary housing and other earthquake-damaged areas.

Recent studies have reported the link between neighbourhood environment and physical activity of older adults, including the association with self-rated health [18, 19] and more objective health measures [20–23]. However, these studies used road or community information in the form of small-area data, such as census collection districts, not the geographical information of total road networks. Among the few exceptions was the study by Hanibuchi *et al.* [24], which evaluated road distances using total road network data and identified the positive association between road distances and physical activities, such as leisure-time sports activity. Our analysis represents an advance in terms of additionally accounting for the physical load due to road slopes; it provides more realistic calculations of road distances, which are particularly important when evaluating neighbourhood environments in mountainous areas.

This study has important implications for public health, especially in the setting of post-disaster community reconstruction. First, community diagnosis in a post-disaster setting should cover the built environment, including access to shopping facilities. Second, to prevent homebound status of older victims, it is clearly essential to provide access to the facilities that fulfil their daily needs. Given the findings of this study, such access could be increased by the private sector, suggesting the importance of public–private partnerships for post-disaster reconstruction. The results of this study may be used directly to design community recovery plans for Rikuzentakata. Because many rural municipalities affected by the 2011 earthquake and tsunami have similar backgrounds and challenges, the results of this study can be generalised to those other areas.

Key points

- The homebound status of older victims of the 2011 Great East Japan Earthquake is a matter of concern.
 - Geographical analysis indicated that distances to retail stores were associated with the risk of homebound status.
 - Hawker and shopping bus services contributed to improved access, providing more opportunities for going out.
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Conflicts of interest

None declared.

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Ethical approval

The protocol of this study was approved by the Ethics Board of The University of Tokyo Faculty of Medicine (No. 10197).

Authors' contributions

H.H. developed the ideas of this study, analysed the data and drafted. N.K. contributed to the management of research group, conceptualisation, data analysis and drafting. R.S., S.I., H.M., R.O. and K.S. contributed to data acquisition and intensively participated in improving analysis and manuscript.

Supplementary data

Supplementary data mentioned in the text are available to subscribers in *Age and Ageing* online.

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Historical Changes in Home Care Service and Its Future Challenges*1

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Hisayuki MIURA¹

Introduction

The pressing changes to Japan's medical care delivery system as the population ages has been bringing attention to home care. As Japanese society ages, the elderly made up 23.1% of the population in 2010, the highest in the world, and this rate is expected to increase further. In these conditions, when we look at trends in the place of death in Japan, we find that the percentage of people who died at home was over 80% around 1950, while the percentage of hospital deaths was over 10%, but this trend has reversed since 1976, with 78.5% of deaths taking place in a hospital in 2011 and 12.5% at home.

The spread of medical technology previously only available in hospitals, such as artificial respirators, likely played a large part in this. This has resulted in a fact that very few people have the chance to experience a natural death in their own surroundings without using such an edging-cut device. At present, we rely on hospitals for end-of-life care and terminal care, but future estimates of terminal care locations suggests that even if the number of home deaths increases by about 1.5 times the current level, in 2030 about 470,000 people will not have a place for end-of-life care because of the limited capacity of the hospitals and nursing care facilities.

In a questionnaire asking respondents where they want to receive end-of-life care, about 60% said that they wanted to be treated at home for as long as possible, but many people also worried about burdening their families and about how sudden changes in their symptoms

would be handled.

Indeed, in a patient survey carried out in October 2011, 110,700 people nationwide are expected to receive home care from either hospitals or clinics (visiting care or home visits by a doctor), but of these, 67,200 received visiting care, which is not very high. In order to deliver stable home care, a home care delivery system provided through inter-professional collaboration must be developed in collaboration with the hospitals that will be taking in emergency patients.

Historical Changes in Home Care Service (Table 1)

Home care was institutionalized under the medical fee system in 1981 when self-injection of insulin became eligible for health insurance coverage. Subsequently, in 1986, the year after the community health care plan started under the first revised Medical Service Law, the Health and Medical Service Act for the Aged was revised, and visits to bedridden elderly people became eligible for insurance coverage. In 1992, the second revised Medical Service Law designated homes as a place for medical care delivery. In the 1994 Health Insurance Act, home care was made eligible for medical insurance coverage.

Home care, previously called "home visits," was often employed as an emergency measure for patients who were bedridden due to a serious illness and patients whose condition had suddenly worsened, but in recent years, home care has been provided to patients who are in

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¹ Department of Home Care Coordinators, National Center for Geriatrics and Gerontology, Aichi, Japan.

Table 1 Changes in systems and programs related to the promotion of home care

Year	Medical fee	Medical service law and long-term care insurance act	Related programs
1981	Establishment of guidance and management fees for home care (guidance and management of insulin self-injection at home made eligible for insurance coverage)		
1985		First revised Medical Service Law: community medical plans established	
1986	Concept of visiting care introduced		Revisions to Health and Medical Service Act for the Aged (health care facilities for the elderly set up)
1991			Revisions to Health and Medical Service Act for the Aged (visiting nurse stations for the elderly set up)
1992	Comprehensive home care for bed-ridden elderly covered under insurance	Second revised Medical Service Law: "Homes" designated as health service delivery point	
1994	Augmentation of assessment of end-of-life care at home (fees for medical management at home, end-of-life home care fees, terminal care made eligible for coverage)	Revised Health Insurance Act: Home care made eligible for insurance coverage; designated visiting nurse system set up	
1998	24-hour collaborative system for comprehensive home care for bed-ridden elderly added to coverage		
2000		Long-term Care Insurance Act goes into effect	
2004	Home care for seriously ill and terminal patients augmented		Program to promote visiting nurses
2006	Home care support clinics established	Fifth revised Medical Service Law: Aspects related to ensuring home care included in medical plans, revised Long-term Care Insurance Act	
2008	Home care support hospitals established		
2011			Home care collaborative base program
2012	Enhanced home care support clinics and hospitals established	Guidelines for development of home care system released	Home care collaborative base program

(Prepared by the author based on the Ministry of Health, Labour and Welfare: Fiscal 2012 materials 1. from briefing on home care collaborative base operations held on July 11, 2012.)

the convalescent stage after the completion of acute therapy as well as patients with chronic conditions requiring regular treatment.

Subsequently, when the medical fee program was revised in 1998, the 24-hour collaborative system for comprehensive home care for bed-ridden elderly was added to coverage. In 2006 and 2008, home care support clinics and home care support hospitals were established as systems eligible for insurance coverage.

Thirty years have passed since the national government took up home care as a policy issue. However, as we stated above, home care itself is still not being delivered to those who really need it. To address this, the Ministry of Health, Labour

and Welfare initiated many operations nationwide in 2012, designating it the year in which home care and nursing would be stabilized.¹ The Ministry put 2.3 billion yen (ca. 20 million US\$) into the establishment of bases serving as home care support centers (home care collaboration bases) and 109 million yen (ca. one million US\$) on training home care physicians.

The 2012 medical fee revisions added 150 billion yen (ca. 1.3 billion US\$) to strengthen affiliations between medical care and nursing care and to augment home care. In the nursing fee revisions, resources were allocated with an emphasis on comprehensive community care, starting with the establishment of a new menu

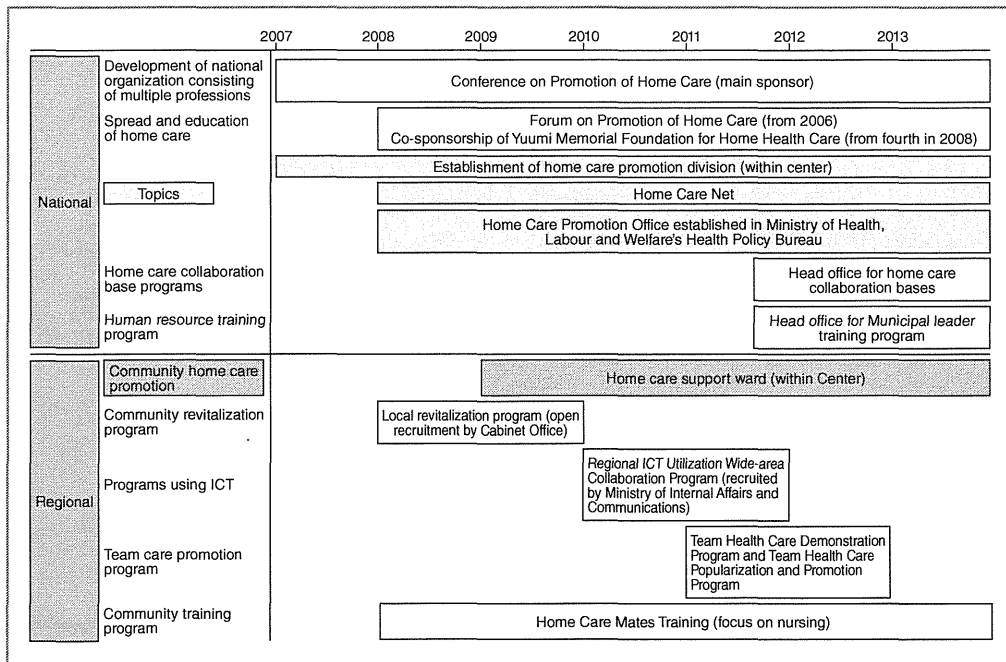


Fig. 1 Main home care-related programs run by National Center for Geriatrics and Gerontology

that included visiting nurses for 24-hour regular house rounds and on-demand visits.

When the medical plan was revised in 2012, home care was designated as a pillar alongside the “five diseases and five medical systems” for major challenges, with the establishment of the “Guidelines for Developing a Home Care System.”

Initiatives to Promote Home Care at National Center for Geriatrics and Gerontology

Figure 1 shows the initiatives taken thus far by the National Center for Geriatrics and Gerontology to promote home care. The National Center invited members of groups, research organizations and academic societies related to home care in Japan to establish the Home Care Promotion Conference. Since 2007, conferences have been held to take opinions of stakeholders on policies to promote home care through end-of-life in Japan.

One of the activities of the Home Care Promotion Conference was to form a working committee to review national studies on home care and policies on staff training. As part of this, in 2008 the Home Care Net was set up, and symposiums such as forums to promote home care were held in the respective regions. In the same year, the Home Care Promotion Office was established to actively promote home care as a national policy.

In these conditions, a model hospital ward intended to form seamless affiliations with home care physicians were set up in April 2009 (home care support hospital wards) and carried out specific activities aimed at revitalizing community home care services. It has been reported that with the active involvement of hospitals in home care support as a community base, the reversion rate from hospital to home and the rate of end-of-life care at home increased, and that the involvement of hospitals in promoting home care is important.

Future Approach to Home Care

Expansion of home care collaboration bases programs

Home care collaboration bases programs were initiated throughout Japan, primarily in 2012, the year designated for stabilizing home care and nursing.

There were 10 programs nationwide in fiscal 2011, but 105 in fiscal 2012. In these programs, the institutions offering home care services were served as centers to build a support system for home care through inter-professional collaboration. And they carried out activities aimed at providing comprehensive and ongoing home care in communities in collaboration between medical care and nursing. The bases work to overcome obstacles at the municipal level, and ultimately must promote collaboration between governments, medical associations, home care support clinics and hospitals, visiting nurse stations and nursing organizations so that the program is deployed from single points to the greater population.

This operation is expected to contribute to the development of the comprehensive community care system currently promoted following revisions to the Nursing Insurance Act. Since fiscal 2013, it has been sustained as an official prefectural project with emergency grants for the revitalization of community health care, and more than 500 bases were set up nationwide. This is equivalent to almost one-third of the approximately 1,700 local municipal governments nationwide, thus bringing bases for home care close to most residents.

Contributions to the comprehensive community care system by medical and nursing collaborations

According to the Comprehensive Community Care Research Society (Fiscal 2008 Health Services and Health Promotion Services for the Elderly)² the definition of community care is “a community system which enables the appropriate delivery of services that support daily life in a variety of ways, including medical and nursing services, as well as welfare services, within their daily sphere to ensure safe, secure and healthy lives with the basic assumption being that homes should be provided based on needs.” The comprehensive community care sphere is defined as,

ideally an area that could be covered within 30 minutes—specifically, this would be equivalent to the boundaries for junior high-school district.

In providing comprehensive community care in the regions, the comprehensive community support center plays the leading role on the nursing side, but forming collaborations with physicians were difficult because of a sense of awkwardness about working with physicians. The health care collaboration bases are important as, within their activities, physicians approach the nursing side and build collaborations.

Conclusion

Comprehensive community care systems based on residences and lifestyle support services will continue to be promoted. This concept is called “Aging in Place,”³ which is the same concept as the program promoted overseas enabling the elderly to live in their customary community.

Japan will experience a super-aging society unprecedented in the world, and we will be judged for our success in creating communities that are gentle on the elderly and preserve interaction between the generations throughout Japan.

We believe that home care collaboration bases, together with comprehensive community support centers, will play an important role as bases to promote collaboration with community home care and nursing. In addition, training physicians and nurses who understand both hospital and home care, seamless collaboration between hospitals and home care facilities and collaboration between clinics and facilities, establishing information and communication technology (ICT) for use in inter-professional collaboration and intervention tailored to community’s actual conditions to couple the actual work of comprehensive community care (social inclusion) to community development in anticipation of an ultra-aged society are necessary.

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日本居家醫療的變遷及現況

文 / 全聯會國際事務工作小組 譯

前言

人口高齡化來臨，日本醫療體制被迫進行改革，此為近年來「居家醫療」逐漸受重視之主因；2010年日本老年人口比例為23.1%，躍身世界第一高齡國家，今後高齡化情形將更趨嚴重。依「臨終場所意願之轉換」統計：1950年代，自宅臨終者占80%以上、醫院者約10%強；1976年後，情況漸漸轉變，2011年統計：醫院者78.5%，自宅者12.5%。

當時人工呼吸器等醫療設備尚未普及，必須至醫院者方能使用，能夠親身體會於自宅自然身故人數相當稀少；現今多數醫院提供臨終照護，預估自宅臨終者數將增加1.5倍，2030年人數將達47萬人。

根據「臨終療養意願場所意願」統計：約六成受

訪者傾向於自宅渡過臨終療養期，但憂心將「增加家庭支出」及「緊急狀況能否獲得適當治療」等不安。2011年10月調查：醫院及診所提供居家醫療照護病患數已達11萬700人，其中定期訪視醫療病患約6萬7200人。今後為能夠提供更安定無虞的居家醫療服務及建構完備的制度為前題，推動有能力接納急救病患之醫院及相關職業團體等進行合作及分工是必要的。

1. 居家醫療的變遷（表1）

日本在1981年將注射胰島素納入「居家醫療自我注射指導管理收費標準」，是為居家醫療診斷收費制度化之始。第1次醫療法修訂後「地域醫療計畫」啟動；隔年(1986)修訂老人保健法增設「訪視臥床老人收費標準」；1992年第2次醫療法修訂將「在宅（居家）」定位為「提供醫療之場所」；1994年修訂健康

表1 推動居家醫療相關制度・業務等之變遷。

年度	診斷收費	醫療法・介護保險法	相關業務
1981	居家醫療自我注射指導管理收費標準 (首創居家注射胰島素指導管理收費)		
1985		第1次醫療法修訂:「地域醫療計畫」啟動	
1986	導入「訪視診療」概念		老人保健法修訂:「設立老人保健設施」
1991			老人保健法修訂:「設立老人訪視看護站」
1992	增設「臥床老人之居家綜合診療收費標準」	第2次醫療法修訂:「定位居家可當成提供醫療之場所」	
1994	加強及提高居家生命末期綜合診療收費及臨終照護收費	健康保險法修訂:在宅醫療(居家醫療)定位為「療養給付」 設立「指定訪視看護制度」	
1998	增設24小時臥床老人居家綜合診療收費標準		
2000		介護保險法上路	
2004	加強重症・生命末期病患之居家醫療		推動訪視看護業務
2006	設立居家醫療支援診所	第5次醫療法修訂:修訂介護保險法,俾確立居家醫療相關事項於醫療計畫中之定位。	
2008	設立居家醫療支援醫院		
2011			設立居家醫療合作據點業務
2012	設立加強型之居家醫療支援診所及醫院	提出建構居家醫療體制指導方針	廣設居家醫療合作據點業務

(厚生勞動省:筆者根據2012年度在宅医療連携拠点事業説明会-資料1.製作)

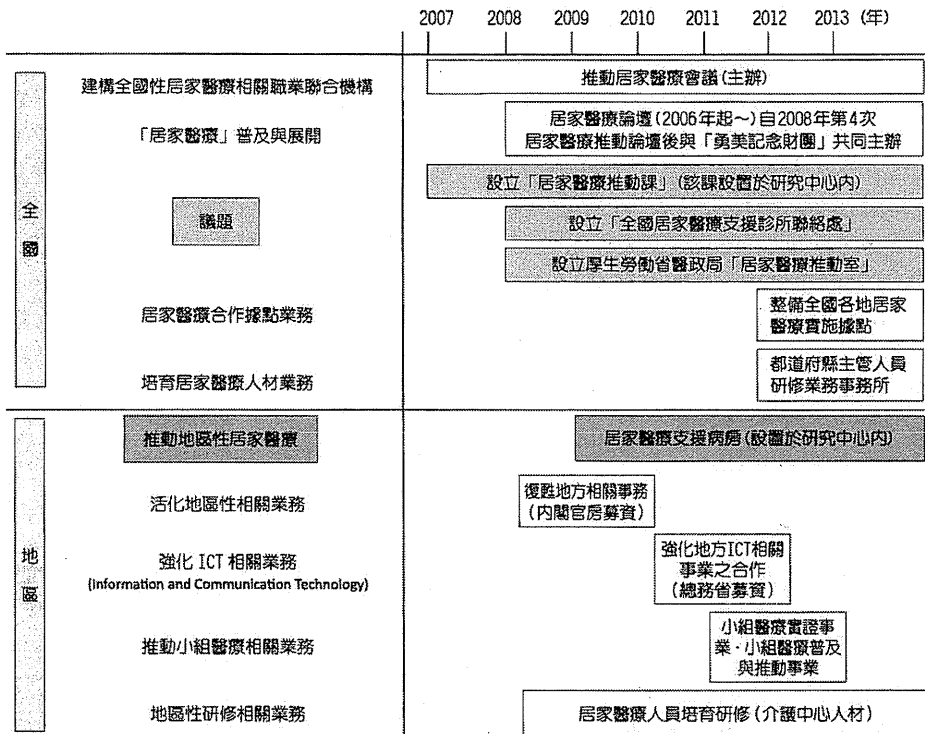


圖1 國立長壽醫療研究中心之居家醫療相關業務內容。

保險法將「在宅醫療(居家醫療)」定位為「療養給付」。

從前,「醫師至病患家中看診(往診)」稱之為居家醫療,對象多為臥床重症病患或病情惡化需要施以急救病患為主要;近年來,則以急救治療完畢之復健病患或需接受定期治療慢性疾病病患為主要對象。

1998年修訂診斷收費標準增設「24小時臥床老人居家綜合診斷收費標準」、2006年及2008年分別調整「居家醫療支援診所」及「居家醫療支援醫院」之診斷收費。

「居家醫療」納入日本國家醫療政策已有30多年歷史,但體制尚未完善。2012年厚生勞動省提出「在宅醫療·介護安心2012」⁽¹⁾政策後,相關業務陸續於日本全國各地展開;為整備日本全國各地居家醫療實施據點(在宅医療連携拠点事業)方面,提撥23億日

元、培育居家醫療人材方面則投入1億900萬日元。

加強醫療介護合作、充實居家醫療為目的,2012年再度修訂診斷收費標準增加1500億日元經費;同時進行介護收費標準內容修訂,首次將重點伸入地區性照護體制,增設24小時定期巡迴·機動型訪視介護看護等。2012年修訂醫療計畫,增訂「建構居家醫療體制指導方針」,將「5疾病·5業務」明列居家醫療兩大支柱。

2. 日本國立長壽醫療研究中心之推動居家醫療架構(圖1)

日本國立長壽醫療研究中心(2013年3月前原名:國立長壽醫療中心)推動居家醫療主要業務內容大綱如圖1。為配合政府制定推動居家醫療政策,2007年共邀國內從事居家醫療相關團體、研究會及學會等共組「居家醫療推動會議」廣納建言。

設立「作業部門」專司「居家醫療推動會議」活動時，進行全國性居家醫療調查及人材培育政策等之探討；2008年成立「全國居家醫療支援診所聯絡處」主辦全國各地區居家醫療專題演講；同年，日本政府為積極推廣運作，厚生勞動省醫政局成立「居家醫療推動辦公室」。

2009年4月為達成無縫醫療目標，於日本國立長壽醫療研究中心內設立「居家醫療支援病房」，積極開辦地區性各種活動帶動氛圍，期盼提高病患出院率及自家看診率。各項報告顯示：與醫院良好的互動是推動居家醫療最重要的。

3. 今後日本居家醫療的型態

(1) 居家醫療合作據點業務的展開

如前所述，為落實「在宅醫療·介護安心2012」政策，日本全國性「居家醫療合作據點業務」已陸續展開，2011年據點共計10處，2012年達105處。合作據點主要業務內容：設置全國性居家醫療相關職業聯合機構據點、建構相關職業之互動支援制度，以期達成醫療與介護之密切合作、持續開辦地區性居家醫療活動。以市區町村為單位設置據點，對窒礙難行之處進行調解、推動地區行政單位、醫師會、診所、醫院、訪視照護站及介護機關等之合作，即由「點」推廣至「面」。

根據介護保險法修訂後建構之「地區性綜合照護系統」成效超乎預期，2013年後將持續以縣為單位編列「地域醫療再生臨時特別基金」，以市區町村為單位設立據點已達500餘處，約占全國行政單位總數的三分之一（總計約1700處），居家醫療據點雛型儼然形成。

(2) 醫療·介護合作

地域綜合照護研究會2008年度老人保健健康增進業務報告書⁽²⁾將“地區性綜合照護系統”定義為：「提供符合基本需求住宅外，適時提供醫療、介護及完善福祉服務，以確保擁有安全·安心·健康居住環境之體制。」並將30分鐘內可到達區域稱為理想的地域性綜合照護系統範圍，是以中等學校學區劃分為基礎。

為落實地區性綜合照護系統，現階段地區性綜合支援中心僅負責介護方面業務，因醫療方面“門檻過高”無法順利進行合作，今後如何推動實質之醫療·介護合作將是最重要課題。

結語

居家醫療、生活支援服務將成為今後推動「地區性綜合照護系統」的主要目標，主要概念源自「在地老化」(Aging in Place)⁽³⁾，與近年來國外鼓吹「於居住熟悉地終老」觀念類似。日本即將面對全球史無前例的超高齡社會來臨，如何提供全國高齡者優質的生活及無障礙的世代溝通環境將是今後追求的目標。

居家醫療合作據點將與地區性綜合支援中心合作，共同擔任地區性醫療·介護合作之重要推手、身兼居家醫療與醫院醫療之溝通橋樑，俾順利推動居家醫療業務、配合地區實情需要培育醫師、護理師專業人材、推動無縫診斷·診所合作、診所·相關設施合作、相關專業之資通訊系統 (information and communication technology) 確立及地區綜合照護 (包含社會面) 之實際運作。

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此文內容轉載自日本醫師會雜誌第142卷第7號 (1511頁~1514頁)，並獲作者三浦久幸先生授權翻譯。

地域包括ケア構築に向けての多職種研修と 病院スタッフ向け教育の重要性について

国立研究開発法人 国立長寿医療研究センター 在宅連携医療部
三浦久幸

【背景・課題】 当センターは2012年度を中心に、全国の在宅医療連携に関わるトップダウン事業としての人材育成事業や地域をボトムアップで支える「在宅医療連携拠点事業」の事務局として、全国の連携活動に関わってきた。この活動の中で見えてきたものの一つとして、在宅医療の充実が喫緊の課題であり、地域医療、さらには地域そのものの維持に在宅医療が不可欠であることは明らかであるが、一方で、依然、近い将来の事態についての認識が低い地域も少なくない事である。これらの地域ではあたかも、それまで慣習的に行われてきた地域医療の構造や、さらには地域での生活形態がそのまま未来永劫続くというイメージを持ち続けている。この原因はひとえに将来の人口構成の変化にともなう医療・介護ニーズや地域医療・介護資源の変化について、地域のステークホルダー間でビジョンの共有ができていないことがこの背景にある。地域の在宅医療の充実については、2060年に全国的に到来する、生産年齢人口の減少を特徴とする、近「限界」社会の医療を考えると（郡部では現在すでにそのような地域も多いが）、在宅医療の基盤整備や文化の構築がなければ、病院医療そのものが破綻してしまう地域が増えてくる可能性がある（夕張市をイメージいただきたい）。このように在宅医療の充実や文化の醸成は、地域医療そのものを維持するために不可欠であり、これをきちんと伝えることができ、医療・介護の専門職のみでなく、行政も含めてステークホルダーをコーディネートできる人材を各地域で育てることが急務である。

【現状】 '12&'13年度に厚生労働省の事業として「多職種協働による在宅チーム医療を担う人材育成事業」が行われたが、その後は各県の地域医療再生基金等を用いた事業として、いわば県行政に丸投げとなったため、地域リーダー養成事業の県格差が顕著となっている。これについては本学会など医療専門職が、つねに見張り番となりながら行政の活動推進を図る必要がある。

【対応・考察】 当センターでは、2009年から病院内に「在宅医療支援病棟」を作り、地域在宅医療を病

院として支える活動を行ってきた。「病院医師は在宅医療をなにも知らない」といわれて久しいが、全国的にはあまり改善が見られていない。特に急性期病院の多くは在宅医療のイメージが乏しく、退院支援もスムーズにいかない現状について、どのように打開していくかが課題であるが、当センターはこの解決策の一つとして、急性期病院への「出前講座」を開始し、病院を中心として、地域在宅医療関係者が集まり、地域課題を検討する試みを始めた。この会を通じて、はじめて、地域医療の重要性を認識できたという、若いドクターの発言も引き出せ、臓器別医療一辺倒であった、急性期病院スタッフの意識への影響も少なからずあるように考えられた。地域包括ケア構築に寄与する在宅医療従事者の養成のためには、医師、看護師等の同職種教育、在宅スタッフ間の多職種研修のみでなく、今後は病院スタッフを含めた多職種研修が必要と考えられる。

臨床現場で役立つ最新の治療

CURRENT THERAPY

[カレントセラピー]

監修：高久史磨 猿田享男
編集：北村 聖

MOÇAMBIQUE



Albert Schweitzer
(1875-1965)
Hospital em Lambaréné,
Gabão

46.00 MT
2013

治し支える医療としての
在宅医療の現状と展望

独立行政法人
国立長寿医療研究センター総長

鳥羽研二

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在宅医療推進に向けた 人材育成・リーダー研修

後藤友子*1・三浦久幸*2

abstract

日本は平成19年に超高齢社会に突入したが、今後更なる高齢化の進展と人口減少が見込まれている。住民が地域のなかでいつまでも暮らせる選択肢を得られるようなまちづくりを進めるためには、在宅医療の充実と効率的で質の高い各地域での医療提供体制の構築が強く求められる。当センターは平成24年度に都道府県リーダー研修、平成25年度には在宅医療・介護連携推進事業研修会を開催し、全国の在宅医療推進にかかわる関係者と在宅医療推進に向けた問題意識や課題の共有を行ったことを踏まえ、今後は在宅医療推進と充実に向け、地域を包括的に支えるための人材育成の必要性を感じている。具体的には、連携づくりのための人材、医療と介護を調整するための人材、在宅医療を推進する人材と、必要な役割において特化した能力をもつ人材を全国各地で育成することが必要であると考え、また、育成した人材がその地域で継続的に学びながら活躍できる支援についても同時に検討し、整備していく必要がある。

I はじめに

老年学・老年医学を専門とするナショナルセンターとして在宅医療推進に取り組むなかで、各地域で面的に進められる在宅医療推進に向けた人材育成活動から得られた知見を基に、人材育成と研修についてここにまとめる。

在宅医療における人材育成とは、大きく4種類の育成が存在する。

一つ目は在宅医療のリソースとなる人材を育成する取り組みである。これは学生対象の教育のように、基盤を構築するための人材育成と、すでに各専門職能や職業等の経験者に対し在宅医療に関する再教育を行う場合である（パターンⅠ）。

二つ目は他職種と協働をすることを目的に在宅医

療についての理解を促す教育であり、これらは介護や福祉分野、急性期等の医療機関に属する関係者などに対して行う人材育成である（パターンⅡ）。

三つ目は、在宅医療の多職種との調整にかかる教育であり、職種に限定せず広く在宅療養患者や地域医療全体が地域の実情に応じて円滑に展開できるための調整能力をもつ人材を育成する（パターンⅢ）。

四つ目は先のⅠ～Ⅲとは階層が異なり、在宅医療を推進するリーダーの人材育成である。

これから、超高齢社会をさらに突き進むわが国においては4つの視点を踏まえた在宅医療推進のための人材を育成する必要があると言える（パターンⅣ）。

*1 独立行政法人国立長寿医療研究センター在宅連携医療部 研究員

*2 独立行政法人国立長寿医療研究センター在宅連携医療部 部長

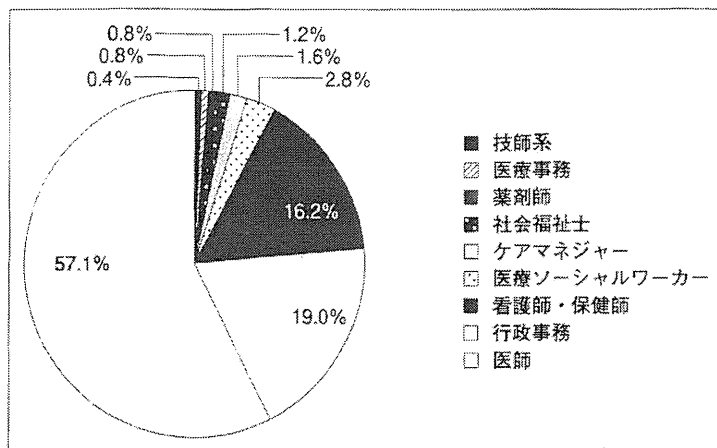


図1 都道府県リーダー研修 受講者背景 (職種別)

II 当センターの在宅医療推進に向けた人材育成の取り組み

当センターでは、平成22年より認知症サポート医研修を行っており、平成26年度第2回目（平成26年10月4日、5日開催）終了までで、3,412名の医師が受講している。地域において、今後認知症患者を支える地域全体での支援体制の構築は喫緊の課題であり、在宅医療を含む地域医療とは密接な関係を呈している。

在宅医療については、厚生労働省の多職種協働による在宅チーム医療を担う人材育成事業において、在宅医療推進の都道府県リーダーを育成する研修会の開催と、その後、それらリーダーにより各都道府県で行われる在宅医療推進の地域リーダー研修、多職種研修の進捗管理を担った。

平成24年に行われた都道府県リーダー研修においては、推進役として求められるリーダー論や更なる人材を育成するための教育技術論、在宅医療の技術から理論に至る知識、在宅医療においては多職種協働が大前提であることから、多職種協働における知識と連携推進の知識を骨子としてプログラムを構築した。

そして、日本の医療提供体制は医師の業務と役割が医療の軸となっているため、在宅医療推進のリーダーとして可能な限り医師の参加を呼びかけた。

厚生労働省や日本医師会の協力の下、都道府県医

師会の担当理事である医師、都道府県自治体の在宅医療を所管する担当官、そして平成24年度在宅医療連携拠点事業所として採択を受けた事業所から医師やケアマネジャー資格をもつ看護師が主に参加した。

結果、受講者252名のうち、57%が医師であり、全体の70%以上が医療者の受講となった（図1）。

都道府県リーダー研修のプログラム骨子は、4本柱で構成されている（図2）。

リーダーとしての資質を育成するリーダー論、在宅医療においては必要不可欠である多職種協働を支えるチームマネジメント論、地域全体の情報を集約し分析し課題を抽出するアセスメント論、そして、在宅医療の臨床技術論である。

平成25年度には、在宅医療・介護連携推進事業研修会を開催した。

この研修会は都道府県で行われた地域リーダー研修の後方支援として、行政や関係多職種に向けた全国規模の研修会であることから、受講者については、都道府県にその選択を一任した。

同年度内には、第5期地域医療再生基金による在宅医療推進事業を都道府県主導にて展開することが決定しており、都道府県が主体的に在宅医療推進に向けた人材を育成や支援することを担う形をとった。結果、受講者334名であり、事務職が全体の約40%を占めた（図3）。

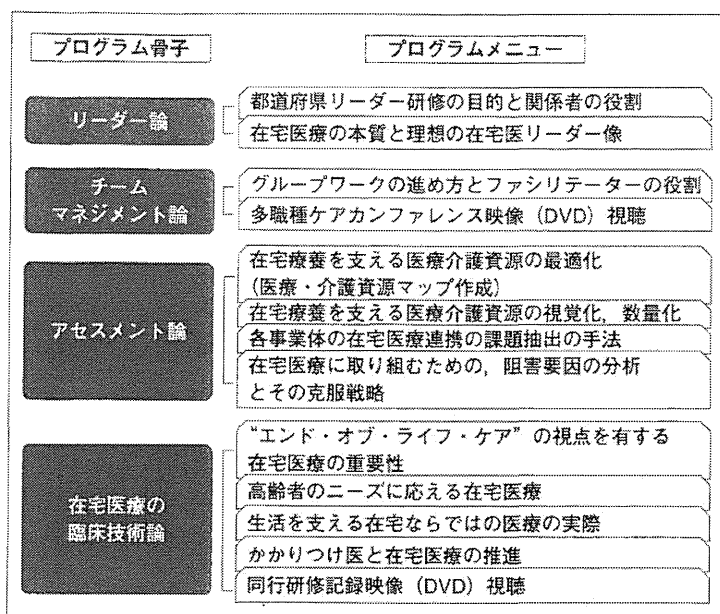


図2 都道府県リーダー研修 プログラム骨子とメニュー一覧

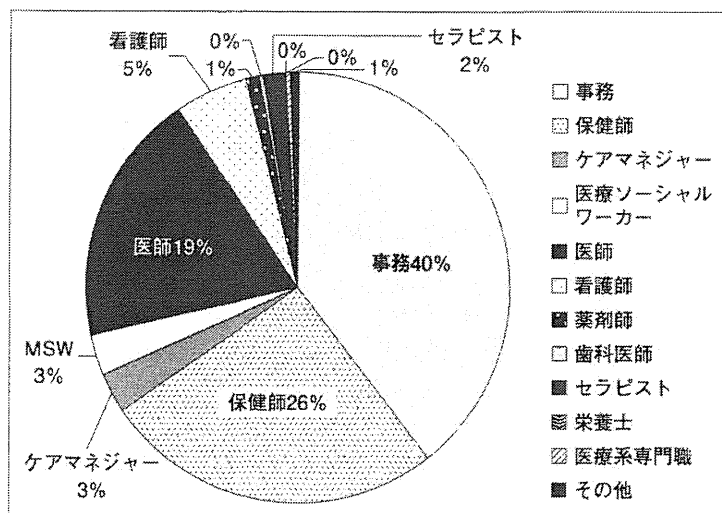


図3 在宅医療・介護連携推進事業研修会 受講者背景 (職種別)

Ⅲ 在宅医療推進に向けた人材育成の取り組み

上記パターンⅠ、Ⅳについては、都道府県や2次医療圏などの広域的範囲で資金や時間をかけて、多くの承認を得たうえでコンテンツが構築され進められる必要がある。

パターンⅡ、Ⅲについては、都道府県や2次医療

圏等の広域にとらわれず地域の実情に応じて柔軟に育成することが求められる取り組みである。

各都道府県主導で平成24、25年度に実施された、多職種協働による在宅チーム医療を担う人材育成事業において、全国各地の取り組み状況の把握を、都道府県担当部局を通じて行った。

その結果、平成24年度においては都道府県主催によって36都道府県にて在宅医療推進にかかる研修会