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ABSTRACT

Objective: To report on the factors affecting the resolution of problems experienced by community care professionals and to refine a checklist of methodological issues for future cross-cultural comparative studies.

Design: A preliminary comparative study between Japan and the UK.

Subjects: 630 subjects in Nagasaki, Japan and 109 subjects in Southampton, UK who were physically disabled, aged over 40 years, living at home and currently using at least 1 of the community disability care services.

Methods: Community care professionals from a range of professions were asked about the backgrounds, physical disabilities and needs of their disabled subjects, and the difficulties experienced in providing them with care and rehabilitation services.

Results: The proportion of subjects for whom difficulties were experienced in providing services increased with increasing severity of disability in Southampton. By contrast, this trend was less pronounced in Nagasaki where difficulties were reported in approximately 95% of all cases. However, it proved much more difficult to enlist collaboration for this survey in Southampton than in Nagasaki and this led to selection bias in the Southampton sample. The professionals in Nagasaki were hampered by a lack of medical information about their subjects and by a lack of available resources for relieving family members from some of their burden of care. The nature and impact of multidisciplinary team meetings appeared to differ in the 2 countries.

Conclusion: It is suggested that the provision of medical information and advice to staff working in community care is a factor of fundamental importance in enabling them to define objectives and to help identify disabled people's care and rehabilitation needs. The means by which such information and advice is shared appeared to differ in the 2 countries. Attenuated resources for community care and poor linkage between care organizations impair the ability of professional staff to resolve problems once they have been identified. It is suggested that each country could learn something from the other in improving the efficiency and impact of multidisciplinary community-based teams. In order to avoid the methodological difficulties in study design and implementation that we experienced, a 7-point checklist has been constructed to assist others who may be planning further cross-cultural studies in this field.

Key words: adults, community health care, comparative study, cross-cultural study, elderly, physically disabled, multidisciplinary communication, pilot study, rehabilitation, rehabilitation medicine, social work.

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PART 1: MEDICAL AND SOCIAL BACKGROUND, DISABILITY AND PROBLEMS IN SUBJECTS IDENTIFIED BY COMMUNITY SERVICES

INTRODUCTION

The increasing population of elderly people in industrialized countries has led to considerable interest in their use of health and social services. In most countries the aim is to enable disabled and elderly people to live as normal a life as possible in their own homes rather than in institutions.

In the UK, the organization and funding of health and social services has been reformed over the last 2 decades, particularly since the *Community Care Act 1990* (1), in order to assist the combined services to meet the needs of clients more effectively and efficiently. However, there are continuing difficulties in determining which aspects of care should be provided by health services and which by social services. Concern has also been expressed that community services have disadvantaged some disabled people by focusing on care at the expense of rehabilitation, and problems still remain because of the lack of rehabilitation expertise in community services and a shortage of statutory funding for those who are too disabled to live at home.

Japan has been experimenting with numerous measures, such as a policy shift from hospital and institutional care to care at home since 1989 when the government announced the community care strategy for the next decade (2). Japan adopted the National Care Insurance System in April 2000. Although resources for community care have increased since the start of the system, there is still a relatively small number of community care services for elderly people (3). There are approximately 1,200,000 'bed-bound' people over the age of 65 years in Japan (4). Approximately 300,000 of these are currently living at home and 90% of these live with a spouse and/or their child who are carers (5). In practical terms, elderly people with severe disability cannot be guaranteed a right to continue living in their family home without care being provided by members of their family despite recent improvements in the state care system.

These differences are likely to present a range of challenges to professional staff that will differ between the 2 countries despite the fact that basic training given to professional staff is broadly similar. What do the problems experienced by professional staff tell us about the nature of these attempts to improve community rehabilitation and support in the 2 countries? Can useful lessons be learned about more effective ways of overcoming current difficulties?

This is the first of 2 papers describing a comparative pilot survey in the UK and Japan exploring the experiences of professional staff working in community care and rehabilitation services. The first paper describes a survey of professional staff conducted in Nagasaki, Japan and Southampton, UK, aiming to

explore the problems encountered by professionals in meeting the rehabilitation and care needs of disabled residents aged over 40 years. The second paper considers the differences in multi-disciplinary teamwork practices in the 2 countries and the possible impact that these differences may have upon the ability of professionals to deal with their clients' problems.

Background

Before describing the study in more detail, it is necessary to summarize some of the basic differences in the prevalence of disability and diseases, and systems of health and social care in the 2 countries.

Prevalence and causes of disability of people living at home

Accurate and comparable prevalence data for the principal disabling conditions in Nagasaki and Southampton are not available, but national surveys have been conducted in both countries. In the UK, comprehensive national data have been published by the Office of Population Censuses and Surveys (OPCS) (6). In that survey, for subjects aged 40 years and over, living in their own homes, the percentage of disabled people at each severity category decreased with increasing severity. The percentage of those with the mildest disability (severity categories 1–2) and the severest disability (severity categories 9–10) were 35.3% and 6.7%, respectively. The most common causes of severe disability were diseases of the musculo-skeletal system (notably arthritis) and nervous system (notably stroke, multiple sclerosis and Parkinson's disease) and ear and eye disorders.

In Japan, surveys of disability have been conducted using different methods and scales from the OPCS ones (7). Almost all of the surveys of the prevalence and causes of disability have focussed on the severest disability ('bed-bound') because of the large number of bed-bound people (4). However, it is probable that in Japan, as in the UK, the number and proportion of disabled people living at home decreases with increasing severity of disability. The percentage of people with the severest disability in Japan is 1.8% of those over 40 years of age (8).

Prevalence of diseases causing disability

In Japan, the most common causes of severe disability are stroke, physical weakness due to ageing and musculo-skeletal disorders (9, 10). The prevalence of stroke is approximately 2,710 per 100,000 (5), of multiple sclerosis 1–4 per 100,000 (depending upon latitude) (11) and Parkinson's disease approximately 50 per 100,000 (12). The prevalence of musculo-skeletal disorders is about 28,600 per 100,000 (5).

In the UK, the prevalence of stroke is about 770 per 100,000, of whom 430 will report a significant disability. The prevalence of multiple sclerosis is approximately 100–140 per 100,000 depending upon latitude and of Parkinson's disease is approximately 140 per 100,000. The prevalence of musculo-skeletal disorder is 22,750 per 100,000, of whom only 2,880 will report disablement (13).

In summary, multiple sclerosis and Parkinson's disease have a higher prevalence in the UK, and stroke has a higher prevalence in Japan. The prevalence of musculo-skeletal disorder is similar in the 2 countries.

Living environment

Japan. Japanese housing is difficult for disabled people to live in. Most people, and especially elderly people, prefer to sleep on the floor using special mattresses (futons) which are more difficult to rise from and transfer from than Western-style beds. Therefore it is often necessary to provide beds to enable disabled people to achieve basic independence in daily life.

In older houses, the toilet is generally of a 'Japanese' or 'Continental' style, in which the user adopts a squatting rather than a sitting position, but in newer houses conventional 'Western' style toilets are popular.

In a typical bathroom, there is a small space for washing next to the bath, which is deeper and smaller than 'Western' style ones. The bath may be set deep in the floor, in which case the top of the bath could be lie just above floor level. As people wash themselves outside the bath, special chairs outside the bath and/or a handrail to transfer to and from the bath are often needed.

As people never wear shoes inside the house in Japan, they are often reluctant to take an indoor wheelchair outside or vice versa. Even if they are willing to do this, additional adaptations are needed to the house because housing regulations require that the floor level must be at least 45 cm from the surface of the ground in order to provide ventilation and protect the structure of the house from the effects of humidity. It is difficult to install a stair lift or through-floor lift due to the structure of Japanese houses.

UK. In the UK, most people live in accommodation that involves the use of stairs. A common and traditional pattern of housing is on 2 stories with the toilet, bathroom and bedrooms on the upper floor with no sleeping areas on the ground floor.

Traditionally, the bathroom is small, with just enough room for a bath (which is raised, the bottom of the bath being at floor level), a wash hand basin and toilet. Showers are less frequently used and are often incorporated into the bath rather than being a separate facility.

The smaller houses cannot accommodate a through-floor lift and there are often difficulties with stair lifts because of right-angled corners on staircases. Because of the costs of excavation during building, it is common for the level of the ground floor to be 3 or 4 steps above ground level.

In both countries, newer houses tend to be smaller than older ones.

Health and social care systems

Japan. The Japanese government imposed mandatory health insurance and achieved universal health coverage by 1961. There is free access to hospitals and clinics wherever patients want to go. The majority of hospitals and clinics (71% and 84%, respectively) (14) are managed by the private sector. Lack of co-operation between hospitals and clinics has been reported because the areas of responsibility and function have not been clearly defined between public and private hospitals and clinics (2). Furthermore, a curriculum of primary health care has not been included in basic medical education, so that all doctors are in traditional system-based specialties. Thus there are neither general practitioners nor primary health care teams in Japan. Many doctors have difficulties in dealing with disabled and elderly patients who are not acutely ill, and have relatively little interest in community care. Additionally, medical care in hospital is completely separated from community health care as a system.

In the social care system, it had become a cardinal rule that no preparation for the provision of services should be started until clients or their family had requested it, irrespective of the extent of their knowledge of the available services. Decisions on service provision were made mainly by welfare officers of the social services who move to and from quite different sections of local authority work (for example, the engineering section) every 3 years or so.

A national care insurance system was started for the first time in April 2000 using care management procedures. Care professionals manage service provision based on the clients' needs as a care manager. They are usually nurses, social workers, physiotherapists, or occupational therapists, and are employed by private service providers. There are relatively few social workers or therapists within Japanese social services even after the start of the new care system.

UK. In the UK, 97% of people are currently registered with general practitioners (GPs) (15) who are specialists in primary health care. GPs are often the first to know when a patient's situation or condition changes and continue to meet most of their basic health care needs (16). GPs usually act as gatekeepers by referring a patient to a specialist. They work in co-operation with community nurses, practice nurses and other non-medical staff as a primary health care team, and take charge of treatment, prevention and education to promote the health of patients and their family. For many disabled patients, it is likely that the primary health care team will be the only point of contact with any statutory agency (1). The UK government recognizes the key role of GPs in caring for people in the community and GPs are called upon to make a contribution to assessment procedures for community care (16). In practice, however, GPs currently have little or no training in rehabilitation medicine and attend to their patients' medical needs more effectively than to their rehabilitation needs (17).

Local social services authorities are responsible for meeting social care needs in their areas, arranging the provision of

residential, day and domiciliary care services and respite care (16). A case manager, who is often a social worker, decides upon the combination of services to meet the assessed needs of clients and their carers in collaboration (as necessary) with relevant care agencies, monitors the quality of care provided, and reviews client need. However, there is a tendency to close cases rapidly as soon as the presenting problem has been addressed, so that there is a lack of monitoring and continuity of personal contact across separate episodes of support. This is often inappropriate for people with complex disabilities that may be associated with intermittent needs, or with an unpredictable sequence of needs.

Cultural differences influence not only the living environment (18) but also the beliefs and behaviour of ill and disabled people and their family members (19) and affect their usage of community care (20–22). Differences between systems will affect the pattern of resources available and the way in which they are used.

Professional training for rehabilitation and care staff

Despite the above cultural and service differences, the undergraduate syllabus of the basic training in Japan and in the UK is similar in relation to medicine, nursing, physiotherapy, occupational therapy and social work.

Disabled elderly people are likely to have several problems (16) and their needs are likely to become more diverse and complex with increasing severity of their disability (2). Local professionals may experience difficulties in providing rehabilitation and care services to meet clients' needs, particularly for those with severe disability, because of the complexities of the subject's situation, difficulties in negotiating agreed solutions with the client and family, or restricted resources for statutory community care.

The present study

The opportunity for the present study arose following a survey of disabled people in Nagasaki by one of the authors (NM) following which he spent some time working in Southampton on a scientific exchange visit. It was clear that despite important differences in the situation of disabled people (especially elderly ones) in the 2 countries, professionals working in community settings in both countries were experiencing day-to-day problems in meeting the needs of their clients or patients. It was decided to undertake an initial assessment of the possibility that the successes in each of the 2 countries' systems might be adopted profitably by the other.

It is well known that cross-cultural studies raise many methodological issues. Prominent among these are the selection of reliable and valid instruments for measuring inputs and output, translation of questionnaires into different language versions, and the likelihood that technical terms will have subtly different meanings even when used by corresponding professionals (23, 24).

This study was therefore intended as an initial or pilot investigation that would help identify which of these difficulties were the most important when researching this field of activity,

while at the same time giving a provisional indication of the way ahead in terms of understanding the different experiences of disability in the 2 countries and in enhancing the ability of professionals in one country to profit from the experience of another. As expected, many methodological difficulties were encountered.

The aim of this first part is to report on the factors that appeared to be most prominent in affecting the solution of the problems experienced by care professionals helping disabled people in the 2 places, particularly in Nagasaki, and to refine a checklist of methodological issues that would help specifically in the planning of further comparative studies in this field between Japan and the UK. The results reported here should be regarded as a preliminary ones and we hope that they will assist in the planning of subsequent work.

SUBJECTS AND METHODS

Community care professionals of health and social services in Nagasaki and Southampton were contacted by post and asked to complete a questionnaire concerning a number of individual subjects for whom they were currently acting as 'key worker'. A key worker was defined as a professional who had the most contact with and knowledge of the disabled person and, in effect, acted as co-ordinator between various other helpers and organizations. The professionals identified as having this role in Southampton included district nurses, community physiotherapists, community occupational therapists and some speech and language therapists in the health service, and social workers and occupational therapists in social services. In Nagasaki, community nurses were identified as key workers in the health service, and home carers and carers in day centres in social services.

In Nagasaki, 11 out of 37 municipalities in which projects for promotion of community care had been carried out in the prefecture for 5 years or more were chosen randomly for this study (population approximately 120,000). The questionnaires were sent to 110 professionals who were all the community care and rehabilitation staff in 11 municipalities identified to the research team at the University of Nagasaki by the relevant community services managers.

In Southampton (population 420,000), service managers agreed to provide the names of all staff meeting the criteria for involvement in the survey to the University of Southampton's Rehabilitation Research Unit. There were 136 district nurses working at 25 primary care general practices in 4 regions in Southampton at the time of the survey. Three to 4 practices were selected randomly from each region because of time constraints, and then all district nurses (66 nurses) working at the practices selected (13 practices) were invited to participate in the study. No invitations were sent to health visitors or to midwives, since they do not usually contribute to the community rehabilitation and care services for disabled adults. Thus approximately half of the district nurses in the district were invited to participate in the study. Community-based physiotherapists (9

therapists) and speech and language therapists (2 therapists) employed by the health service were also contacted.

All the community occupational therapists (17 therapists) (but not unqualified helpers) and all the qualified social workers (55 workers) assigned to the support of disabled adults were contacted. Staff based in day centres and those employed by the District Care Attendant Scheme were not contacted. Thus, although additional community services were available to support the basic requirements relating to formal therapy or self-care in Southampton, only those most likely to be acting as key workers were contacted. In all, questionnaires were sent to 149 professionals. Table I shows the number of professionals identified in the 2 places.

Contacting the professionals

The professionals were contacted by post with a letter explaining the purpose of the survey and the fact that it had the support of their service manager. Five copies of the questionnaire were included and they were asked to make further copies if they wished to return more than 5 questionnaires. They were asked to select all the cases on their current case load who met the following criteria: they should be physically disabled, aged over 40 years, living at home, and currently using at least one of the community disability care services. The respondents were also asked to restrict their responses to cover only those clients whom they had met with personally as key worker during the 4 weeks immediately following receipt of our letter. They were asked to fill in a separate questionnaire in relation to each case, making additional photocopies of the questionnaire if necessary.

Questionnaire

The questionnaire was developed initially for the Nagasaki population. It explored the medical and social background of the subjects, their level of disability and the difficulties experienced by professionals in providing services to meet their assessed needs (25). It was translated into English and the translation was refined further by an English-speaking professional (DLMcL) in order to ensure that the language was appropriately idiomatic and avoided obvious ambiguities. This document was then refined further as a result of detailed face-to-face discussions about the questionnaire and its interpretation and application

between clinical and research staff associated with the 2 academic units in Nagasaki and Southampton, aiming to minimize discrepancies in the 2 versions. However, because of time constraints no formal 'back-translation' exercise was conducted. The topics covered by the questionnaire were as follows:

- Background of responding professionals
- Medical and social background of subjects
- Disability of subjects
- Community care and rehabilitation services used at the time of this survey
- Disciplines concerned with referrals to community care and rehabilitation services used
- Difficulties experienced by professionals in providing care and rehabilitation services to meet assessed needs of subjects
- Case conference or care management meeting involving professionals of different disciplines

Background of responding professionals. Care professionals were asked their profession and the location of their working base.

Medical and social background of subjects selected by care professionals. The professionals were asked to identify the principal disorder that had caused the current impairments and disabilities, together with the age, gender and family situation of their subject.

Severity of disability of the subjects. As the questionnaire had been developed initially for the Nagasaki population, the level of disability of the subject was assigned to one of 4 levels according to criteria adopted in Japan (7) for disabled elderly people, as shown in Table II.

Difficulties experienced by professionals in providing care and rehabilitation services to meet the assessed needs of subjects. The professionals were asked whether they had experienced difficulties in identifying, accessing or providing the services required to meet subject's needs, and then to select the appropriate categories of difficulty from the list shown in Table

Table I. *Number of care professionals identified and responding to the survey, and subjects reported*

	Number of staff identified by managers	Number of staff responding to survey	Number of subjects reported
Nagasaki (11 municipalities, population 120,000)			
Health service professionals	34	22	327
Social services professionals	76	26	303
Total	110	58	630
Southampton (population 420,000)			
Health service professionals	77	23	77
Social services professionals	72	13	32
Total	149	36	109

Table II. Criteria of classification of disability

<i>Independent</i>
Some disabilities, but independent in activities of daily life and able to go out alone.
<i>House-bound</i>
Confined to home, unable to go out alone.
Almost independent in activities of daily live inside the home.
<i>Chair-bound</i>
Confined to chair or bed, unable to move around in the house without help.
Unable to change clothing without help.
<i>Bed-bound</i>
Bed-bound all day, unable to feed or excrete independently.

III that had been identified by the initial study in Nagasaki and reviewed by the clinicians familiar with the community services in Southampton. The respondents were not asked to identify the nature of the subjects' needs in any detail.

It should be noted that the questionnaire did not attempt to record the independent views of disabled people or of their families.

Data analysis

Statistical analyses were carried out with SPSS version 10.0J for Windows (SPSS Inc, Illinois, USA). The tests used were chi-square (Chi) and the unpaired *t*-test. Spearman correlation coefficient (R) was also computed as measures of association to quantify the relationship between 2 variables in a cross-classification. A *p*-value of 0.05 was used as the level of statistical significance.

The relationships between the level of disability of the subjects and their family situation, and between the level of

Table III. Difficulties experienced by professionals in providing care and rehabilitation services to meet the assessed needs of subjects. Respondents were asked to choose the appropriate categories of the difficulties

- I could not respond to subject's needs, as I was very busy with my other work.
- The professional whose help was needed was too busy to respond
- I felt uneasy at offering services, as I had very little medical information about the subject.
- I could not provide timely service(s) to the subject because of his/her rapidly progressive disability.
- I am a health serves professional (social serves professional), and could only deal with part of the subject's needs as he/she needed help from social services (health) as well as health (social services).
- The family did not understand the necessity for help from our service(s).
- The family member had many difficulties in taking care of the subject.
- The subject or his/her family rejected the service(s) offered although he/she had many difficulties in daily life.
- My input was limited as I had very little knowledge of technical aids and environmental adaptations.
- Other. Please specify:

disability and existence of difficulties experienced by them were also investigated.

RESULTS

Numbers of respondents and of questionnaires returned

Fifty-eight (53%) out of 110 professionals in Nagasaki and 36 (24%) out of 149 professionals in Southampton responded and reported on their experiences of 630 and 109 subjects, respectively (Table I). In short, each professional reported a mean of 11 subjects in Nagasaki but only 3 in Southampton.

Reports were made on 255 (40.5%) men and 375 women in Nagasaki, and 35 (32.1%) men and 74 women in Southampton (Chi = 2.73, *p* = 0.098). The mean age of the subjects in Nagasaki and Southampton was 71.8 ± 17.7 years (range 43–96 years) and 68.4 ± 15.2 (range 40–94 years) respectively (*t* = 1.89, *p* = 0.069). There were no statistically significant differences between these aspects of the samples reported from the 2 places (*p* > 0.05).

Medical and social background of the subjects selected by care professionals

In Nagasaki, the commonest association was with stroke (43.2%), followed by musculo-skeletal disorders (14.8%) and physical weakness due to ageing (13.7%). In Southampton, the main diseases of the subjects selected were progressive neurological disorders (i.e. multiple sclerosis, motor neurone disease and Parkinson's disease) (33.0%), stroke (13.8%) and musculo-skeletal disorders (11.0%).

With regard to the family situation of the subjects, 22.9% in Nagasaki and 29.4% in Southampton were living alone at home. Moreover, 27.5% of these in Nagasaki and 55.0% of these in Southampton were living with a spouse or partner. Subjects living in '2- or 3-generation households', that is, including sons, daughters or grandchildren of the disabled person, were much more frequently reported from Nagasaki than from Southampton (Chi = 55.49, *p* = 0.000) (Fig. 1).

Level of disability of the subjects selected by care professionals

In Nagasaki, the most frequent level of disability reported was

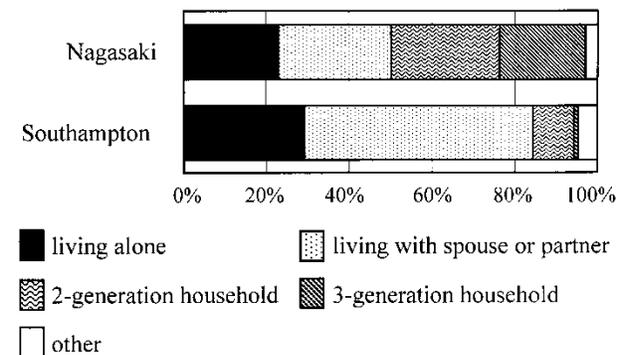


Fig. 1. Family situation of subjects.

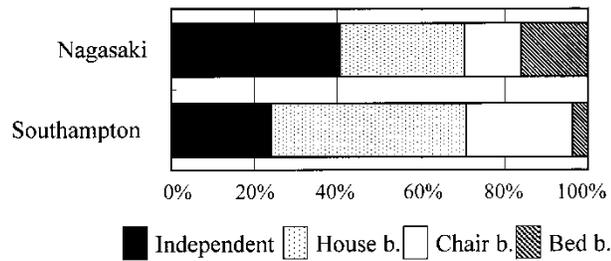


Fig. 2. Disabilities of subjects.

'independent' (40.5%) followed by 'house-bound' (29.8%), 'bed-bound' (16.0%) and 'chair-bound' (13.7%). In Southampton, the most frequently-reported category was 'house-bound' (46.8%) followed by 'chair-bound' (25.7%), 'independent' (23.9%) and 'bed-bound' (3.6%). These differences in the distribution of different severities of disability between the 2 groups was statistically significant ($\chi^2 = 33.73, p = 0.000$). In particular, the percentages of both 'independent' and 'bed-bound' cases reported were larger in the Nagasaki group than in the Southampton group. By contrast, the percentages of 'house-bound' and 'chair-bound' subjects were larger in Southampton than in Nagasaki (Fig. 2).

Relationship between the level of disability and family situation of the subjects

The relationship between the level of disability and family situation is shown in Fig. 3. In the Nagasaki group, the proportion of subjects who were living alone with mild disability was significantly larger than in Southampton. The proportion of subjects who had severe disability and who lived in 2- or 3-generation households was also significantly larger than in Southampton ($\chi^2 = 95.54, p = 0.000$).

In the Southampton group, increasing severity of disability was associated with an increased likelihood of living with a spouse or partner, but with a *decreased* likelihood of living in a 2- or 3-generation household ($\chi^2 = 21.50, p = 0.044$).

Difficulties experienced by professionals in providing care and rehabilitation services to meet the assessed needs of subjects

The professionals experienced one or more difficulties in providing care services in relation to 541 (85.9%) of 630 subjects reported from Nagasaki and in 57 (52.8%) of 109 subjects reported from Southampton; this difference was statistically significant ($\chi^2 = 65.69, p = 0.000$). In Southampton, such difficulties were reported in 42.3% of 'independent' subjects, 45.1% of 'house-bound' ones, 71.4% of 'chair-bound' ones and 100% of 'bed-bound' ones. The proportion of subjects increased significantly with increasing severity of disability ($R = 0.249, p = 0.009$) (Fig. 4).

On the other hand, in Nagasaki, the percentages of 'house-bound', 'chair-bound' and 'bed-bound' subjects in which the difficulties were reported by the professionals were 92.6%,



Fig. 3. Relationship between level of disability and family situation.

94.2% and 99.0%, respectively. Difficulties were experienced in similar percentages of cases in these 3 levels of disability (Fig. 4).

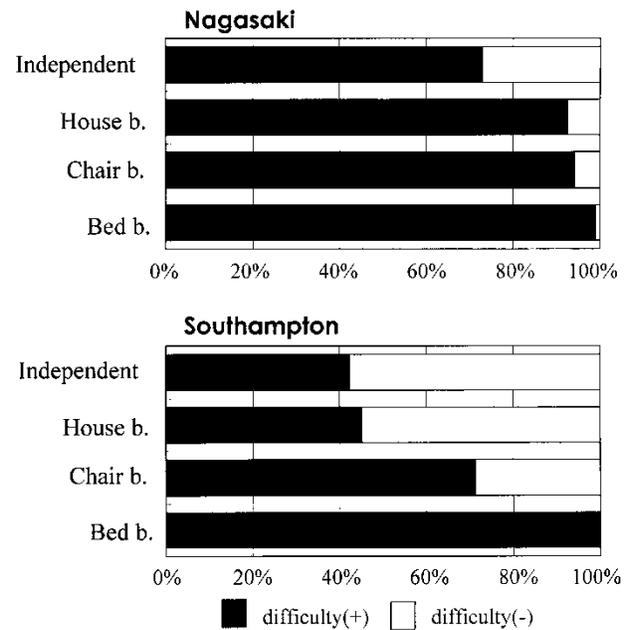


Fig. 4. Relationship between level of disability and amount of difficulty experienced by professionals.

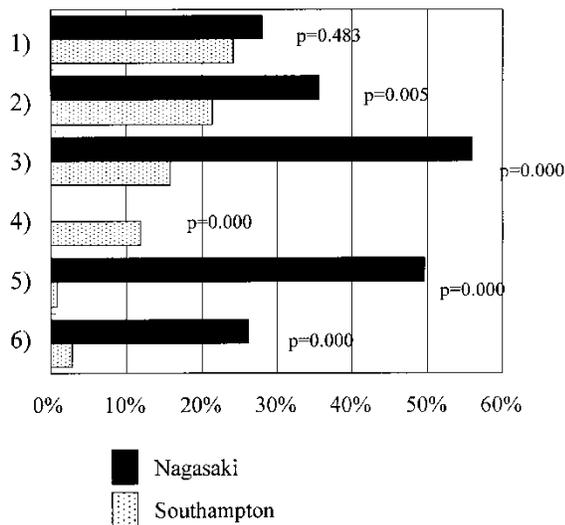


Fig. 5. Difficulties experienced by professionals in providing care services: (1) Rejection of the service(s) by a subject and/or family; (2) Difficulties of communication or linkage with the other branch of the services; (3) Difficulty in dissolving care burden facing family; (4) Difficulties in the timely provision of services to people with rapidly progressive disability; (5) Lack of medical information about the subject; (6) Pressure of work.

Nature of the difficulties experienced by professionals

The difficulties reported by the professionals are shown in Fig. 5. In Nagasaki, there were difficulty in relieving the burden of care upon other members of the family (56.0%), an inability to identify an appropriate solution because of a lack of medical information about the disabled subject (49.6%) and pressure of work (26.2%). All those percentages were significantly higher than in Southampton (Chi = 58.74, 88.62 and 28.29, $p = 0.000$, 0.000 and 0.000, respectively). Difficulties of communication or linkage with the other branches of community services were found in relation to 35.6% of subjects in Nagasaki, a figure which was also significantly higher than in Southampton (21.5%) (Chi = 8.01, $p = 0.005$).

In Southampton, difficulties stemming from a lack of medical information were reported for only one client (0.9%) who had a mild level of disability. However, difficulties in the 'timely provision of services to people with rapidly progressive disability' were reported in 11.9% of the Southampton cases, while no difficulty of this nature was reported from Nagasaki. (Most of these reports related to people with motor neurone disease or multiple sclerosis).

Rejection of services by clients

In both places, a significant degree of rejection of the service(s) by a subject and/or family was found in approximately 25% of the subjects (Chi = 0.623, $p = 0.483$). It was of interest that in both countries, these same cases were often perceived by the professional to have many problems in all areas of daily life.

DISCUSSION

Staff response rate

The questionnaire was developed initially for the Nagasaki population. The English language version was discussed in detail with the English-speaking research and clinical staff in Southampton to assure its face validity. However, it was not refined by formal back-translation into Japanese (25). Some community staff in Southampton (but not in Nagasaki) appeared puzzled about the range of questions they were being asked, which were different from those they had previously been asked in other surveys and therefore led to feelings of uncertainty as to the assumptions and strategy behind the questions. A number of respondents expressed concern as to what interpretation was to be put upon the data, fearing that it might lead to a further attenuation in their services, which they perceived as already being vulnerable and greatly under pressure. Some district nurses openly expressed fears that if Southampton were seen to be less successful than Nagasaki, management in Southampton would use the information as an excuse to reduce the resources still further. They were reassured only when NM suggested that the initial publication of results would be in Japanese (as indeed it was (26)), which their managers would be unlikely to read.

Number of cases submitted by each staff member

We were particularly concerned about the much smaller number of cases submitted on average by each worker in Southampton compared with the responses from Nagasaki. This was not anticipated and there are likely to have been a number of reasons for it, some of which did, we suspect, introduce biases into the results.

Our impression was that staff in Nagasaki were much more positive in their approach to the survey than staff in Southampton. This could have reflected the fact that NM had been personally involved in the successful promotion of local service development in Nagasaki, and that the data from Nagasaki had been collected prior to the decision to conduct a similar comparative exercise in Southampton. In Southampton, by contrast, services (as in many parts of the UK) had been subjected to progressively severe financial restrictions and increasing pressure on staff to maintain service levels in the face of these restrictions. We were surprised at the apparent expectation of community staff that comparative failure to solve problems in Southampton would be met not by a review and possible enhancement of the less effective services, but by their further attenuation. We believe that these expectations were probably inaccurate, but probably reflected uncertainty and poor morale in community staff because of the low priority given to rehabilitation services in the National Health Service (NHS) at a time of increasingly rigorous enforcement of financial prioritization in meeting the rising costs of other hard-pressed NHS services.

As the second paper in this series will show, staff in Nagasaki were more often involved in multi-disciplinary team meetings that could have provided peer support and encouragement to

make full submissions to the survey. By contrast, staff in Southampton, perceiving themselves to be increasingly hard-pressed and in many cases not having ready access to photocopying facilities, may have decided to restrict their responses to a few 'representative' cases rather than reporting on all of their cases who fell within the study criteria. This could explain the higher proportion of cases of rapidly-deteriorating disability reported from Southampton, where many professionals would have been acutely aware of the negative impact of the systematic delays in service provision commonly employed at that time as a means of eking out their managers' hard-pressed budgets. There was also a relative lack of reports from Southampton in relation to milder levels of disability who were perceived perhaps, in these circumstances, as being of lower priority for assistance, or as holding less interest in relation to a comparative multinational survey.

Some of these problems might have been reduced by implementing the 2 surveys concurrently and encouraging the staff who were to be invited to participate to be involved also in the planning of the studies at a much earlier stage.

We suggest that the existence and implications of factors of this nature should be addressed specifically during the planning of similar comparative surveys in the future.

Influence of the severity and cause of disability

The prevalence of different levels of disability in the UK was identified by OPCS surveys (6) in which disabilities of disabled people were assessed in 10 main areas of function, including physical, intellectual and cognitive functions, and assigned to 1 of 10 levels of severity. In the present study, the disabilities of the subjects were categorized into only 4 levels, using the criteria adopted by the Japanese Ministry of Health and Welfare (7). The percentages of 'independent' and 'bed-bound' subjects were found to be greater in Nagasaki, but those of 'house-bound' and 'chair-bound' were greater in Southampton (Fig. 1). This may have reflected a larger number of 'bed-bound' subjects in Nagasaki and a tendency to under-report independent subjects from Southampton. As discussed above, however, it is unlikely that the disabilities reported in this study would closely reflect the prevalence of different levels of disability in each country because of the different patterns of case ascertainment from the 2 countries.

The two main disorders reported to have caused disabilities in Nagasaki were stroke (43.2%) and musculo-skeletal disorder (14.8%), and progressive neurological disease (33.0%) and stroke (13.8%) in Southampton. Multiple sclerosis and Parkinson's disease are more prevalent in the UK and stroke is more prevalent in Japan (5, 11–13). Each of these 3 conditions may cause complex patterns of disability in which physical and cognitive impairments may interact. The greater proportion of people in the Southampton sample with deteriorating conditions is probably best explained by selection bias, as suggested above.

Family situation

In Nagasaki, the proportion of subjects selected who were living

in 2- or 3-generation households was higher than in Southampton (Fig. 1). Furthermore, in Nagasaki, people with more severe levels of disability (and thus in all probability needing more day-to-day assistance) tended to live in such households (Fig. 3). As the resources for community care, in particular personnel, are fewer in Japan than in developed countries in Europe (2) it is difficult for clients with severe disability to continue living at home in Japan without active help from family members, even after the setting-up of the national care insurance system. The necessity for care to be provided by family members, particularly by adult children (or their spouses) is likely to increase with increasing severity of the disabled person's disability.

In the UK, the main sources of care have traditionally been relatives, but there is a changing pattern with an increased proportion of care provided by health and social services (27). According to Qureshi & Simons (28), the caring responsibility is usually seen within families as starting with the spouse, then daughter, daughter-in-law, son, other relatives and, finally, non-relatives. In Southampton, the proportion of the selected subjects who were living with a spouse or partner was significantly greater with increasing severity of disability (Fig. 3). Care professionals reported difficulties in providing adequate help with the burden of care facing family members in 16% of the subjects (Fig. 5). It is likely that these Southampton spouses or partners were shouldering a heavy burden of care.

In Nagasaki, a much higher proportion of disabled subjects than in Southampton were living with a child with 2 or more younger generations in the same household, implying a greater availability for immediate day-to-day help from family members than in Southampton. In Southampton, the proportion of households that included children decreased progressively with increasing levels of disability, so that none of the bed-bound subjects reported from Southampton were living with their children, compared with about 50% of those reported from Nagasaki (Fig. 3).

Difficulties experienced in providing care services to meet the assessed needs of subjects

Disabled elderly people are particularly likely to suffer from more than one disabling condition (16) and their needs will become diverse and complex with increasing severity of the disability (2). Therefore, we expected to find that the difficulty in meeting needs would increase as the severity of the subjects' disability increased.

This prediction was borne out particularly in Southampton, viz. the proportion of subjects in which difficulties were reported was smaller for mild disability and increased with increasing severity; difficulties were reported in all 'bed-bound' subjects (Fig. 4).

In Nagasaki, by contrast, difficulties were reported in approximately 95% of the subjects within each level of disability excluding 'independent', although there was a significant relationship between the existence of difficulties and the disability of the subjects (Fig. 4). This suggests the possibility

that the difficulties experienced in providing care and rehabilitation services that met the needs of the subjects were influenced by factors other than the level of disability, particularly in relation to the subjects from Nagasaki.

In this study, the professionals were not asked to comment on the *nature of the needs and problems of the subjects*. As identification of the needs and problems is dependent on the level of the professionals' awareness and cultural expectations, their perceived difficulties in problem-solving may be also affected by these factors, which were not assessed. The definition of 'need' upon which the study was based was, however, appropriate for both countries, viz. 'a service or resource that would confer a rehabilitation or care gain' (29, 30).

What kinds of factors might be considered?

Health-related information. Professionals in Nagasaki reported difficulty stemming from lack of medical information about approximately 50% of their subjects. In Southampton, by contrast, difficulties due to lack of medical information were reported in only 1 case (Fig. 5).

In the UK, the primary health care team is in a unique position to identify the needs of patients and their families because it is multi-disciplinary and has accurate information, including not only medical state but also social details, services provided and ability to undertake self-care tasks (31). It is probable that the primary health care team played an important role in community care in Southampton. On the other hand, in Japan, there are neither GPs nor primary health care teams.

In order to minimize disability, many disabled people are likely to need medical care as well as community care (17, 32, 33). It appears that rehabilitation and care professionals experience difficulties in providing services, even for the clients with mild disabilities, without accurate medical information about them relating in many cases to medical priorities, to the influence of co-existing medical problems and, especially, to prognosis.

Resources and linkage between services

The professionals in Nagasaki also reported difficulties in resolving the problem of the burden of care facing the family in a much higher proportion of cases than in Southampton (Fig. 5). Japanese statutory community care services inevitably depended heavily upon family care because of the combination of cultural expectations and relative lack of some resources for community care (34). With increasing severity of the disability, the necessity for family care is likely to increase. Although the resources for community care have been on the increase since the start of the national care insurance system, the situation of community care remains unchanged.

Furthermore, clients' needs will be also more complex with increasing severity of the disability (2). Consequently, they will need various services, and the professionals will need to co-ordinate the services to meet the clients' needs (29). Difficulties of poor linkage with the other services were found in a signi-

ficantly greater proportion of the subjects from Nagasaki than from Southampton (Fig. 5).

In this study, the difficulties experienced in providing care and rehabilitation services to meet the needs of the subjects were reported in approximately 95% of cases from Nagasaki at more severe levels of disability. Such results might be caused by relative lack of resources for community care and poor linkage between care and rehabilitation services. The possibility of greater selection bias in Southampton (discussed above) could at least partly explain this finding.

In the current study, some of the factors that appeared to create difficulties for professionals reflected differences in cultural aspects of community life and family involvement in the support of disabled people, while others reflected different systems of service provision and co-ordination. Further differences could have been caused by difference in the skills and knowledge of individual respondents, since the ability of the professionals to overcome difficulties will inevitably be influenced by their skills and knowledge. These factors should be assessed explicitly in any future studies in this field.

Reluctance of the subjects or family to accept professional input

In both places, approximately 25% of subjects and/or their families refused the services offered in spite of many obvious difficulties in their daily lives (Fig. 5). The reasons given for the rejection of services were different in the 2 places and would reflect cultural characteristics (20–22). However, it remains unclear of course whether the rejection of advice was well-founded (because the advice was inappropriate) or whether it resulted from misinformation, confusion or denial in the minds of disabled subjects and family members. Such a high rejection rate is a considerable cause for concern because of the likelihood that subjects could as a result suffer from hardships that might have been alleviated if the resources available had been deployed more effectively. It also suggests the possibility that current professional services are working to a model of service provision that is at least partly in conflict with what is wanted by the host population. This would be consistent with the often-repeated calls from disabled people and family members in both countries for more effective provision of information and advice tailored specifically to the individual circumstances of the subject (35, 36).

This finding of restricted acceptance of services further emphasizes the importance, in future surveys, of ensuring that the views of disabled respondents and family members are formally assessed. Disabled people and their families should also formally be invited to contribute to the design and planning of future surveys.

Implications for future comparative surveys

With increasing opportunities for cultural and professional exchanges between different countries and cultures, there is an opportunity to learn from each other and to adapt the successes achieved by different countries to the benefit of all. Surveys, such as used in this study, are potentially of great value, but they

are far from easy to undertake as we have found—especially when the differences in culture and language are as great as between Japan and the UK. Nevertheless our experience has convinced us that the similarities between the problems experienced by professionals working in the community in the 2 countries are (perhaps surprisingly) much greater than the differences and further work of this nature is likely to be very helpful.

This study has confirmed the importance of careful planning in order to minimize the impact of these technical difficulties. They are likely to be experienced by others involved in similar work, and will need to be overcome in order to make optimal use of this approach. We suggest the following *7-point checklist* as a summary of what we have learned in this regard:

1. Ensure that all key workers are accurately identified and take full account of difficulties they, disabled people and family members are likely to encounter in co-operating with the survey. Involve them in the planning stages and ensure that they understand the main concepts that are behind the survey.
2. Ensure that professional managers fully support the survey and will give active help and encouragement to their staff to help them in their contribution.
3. Formally capture the experiences and opinions of disabled people and their carers even where the main focus on the study is a 'professional' focus. They too should be involved at the project planning stage.
4. Plan all 'arms' of the survey concurrently and adopt the same instruments for measuring inputs and outputs.
5. Agree definitions of all key terms at the outset.
6. Employ formal back-translation techniques to ensure that different language versions of protocol and questionnaires

are congruent. This must be done in close collaboration with professionals in the rehabilitation and care professions, since some important technical terms and assumptions will not necessarily be familiar to translators.

7. Collect qualitative as well as quantitative data in order to ensure that beliefs and attitudes (which powerfully affect the behaviour of disabled people and professionals) can be taken into account.

CONCLUSION

It is emphasized that this was an exploratory pilot study to identify salient themes and problems and to facilitate the planning of a larger prospective comparative study. It is suggested that the lack of medical information about the clients was an important factor impeding provision of the services in Nagasaki, and this contribution of doctors to community care appears to be one of the factors of fundamental importance. The attenuated resources for community care and poor linkage between care organizations also appear to affect the ability of professional staff. The importance of collaborative working between different branches of community care services to improve the effective and efficient use of the services for disabled people has been repeatedly emphasized (2, 16, 37). In Southampton and, especially, in Nagasaki, care professionals had difficulty because of poor linkage with the other branches of the service. Other factors could include the nature of the skills and knowledge of individual professionals working in areas that are being compared.

PART 2: PATTERNS OF PROFESSIONAL INPUT AND TEAMWORK

INTRODUCTION

Community care professionals in many countries face difficulties in solving the problems of their clients because they are working in an environment of limited resources.

In the first part, we described the perceptions of experienced rehabilitation and care staff in Nagasaki, Japan, and Southampton, UK surveyed in pilot study, drawing attention to differences in the population, culture and service pattern.

Disabled people often have both health and social care needs that have to be met in order for them to live independently in the community. It is important that relationships between agencies and collaboration between various professionals are well established both for clients and carers because services from a single agency will be unlikely to meet the needs of both, especially in cases of more severe and complex disabilities (2, 16). Client referrals are essential before co-ordinated case management can be attempted. Co-ordination of services depends upon appropriate referrals (16, 29, 38). In this process, multi-disciplinary meetings will sometimes be needed to solve the problems of the clients and their carers (29).

Holding multi-disciplinary meetings

In Japan, it has been recommended that multi-disciplinary meetings should be held regularly (25, 30, 39) and involve as many different disciplines as possible (25, 39). Approximately 10 clients were usually considered at each meeting, 2 or 3 of these being considered in depth (47). Such meetings have ordinarily been held in the absence of clients.

Matsusaka et al. (40) reported that such meetings were more effective in obtaining information about the clients to assess their needs, in identifying their health and social care needs and in co-ordinating care services compared with uni-disciplinary meeting or performance by single professionals. The superiority of the multi-disciplinary meetings has led to the adoption of multi-disciplinary meetings as a standard procedure by community rehabilitation agencies in many municipalities.

Japan adopted a National Care Insurance System in April 2000. The number of clients using community care services approximately doubled as a result (41, 42). The proportion of municipalities in which regular multi-disciplinary meetings had been held decreased remarkably 6 months after the introduction of the new system in the Nagasaki Prefecture (41, 42) and many care professionals complained about difficulties in continuing to hold meetings, not only in Nagasaki Prefecture but also in many other districts of Japan (41–43).

In the UK, official documents issued by the government and by statutory authorities have repeatedly emphasized that the assessment process should be as simple, speedy and informal as

possible. In the opinion of many of the organizations representing the views of disabled people, however, these ideals are rarely met in practice and multiple assessments by different groups of professionals who have not communicated effectively with each other are commonplace (35). All the professional contributors involved in a case do not always attend multi-disciplinary meetings (16, 29). It is not clear whether this is by choice, because of time and workload problems, or because of a lack of commitment to attendance at multi-professional meetings by managers of uni-professional services in the organization. Meetings held in order formally to review the progress of a client are usually held with the client and close family member present. Officially, all users and carers are encouraged to participate in a whole process of care management.

Thus, in both countries, the importance of effective multi-disciplinary teamwork has been emphasized as essential in order to assess and meet clients' needs. Britain has been attempting to develop this model for longer than Japan and therefore has had more experience in the practicalities of implementing it. To what extent would it be appropriate to introduce directly the British style of the multi-disciplinary working into the current Japanese rehabilitation and care system?

Decision-making

In general, Japanese people tend to assign more importance to a group than to an individual (44). That is to say, individual members of a group prefer to make decisions jointly in a meeting attended by many members of other disciplines rather than to make them as individuals acting independently. By contrast, British people have evolved a more individualistic tradition of decision-making, represented by the often-expressed view that 'The fewer the people involved, the clearer and more effective decision-making is likely to be'.

The purpose of this paper is to describe and compare the styles of professional input and teamwork in the 2 countries, and to review certain issues concerning Japanese multi-disciplinary working under the recently introduced national care insurance system.

SUBJECTS AND METHODS

The survey upon which this paper is based was described in detail in the previous paper and will therefore be summarized only briefly here. Community care professionals working in health and social services in Nagasaki, Japan, and in Southampton, UK, were contacted by post and asked to complete a questionnaire regarding clients for whom they were currently acting as 'key worker'. A key worker was defined as a professional who had the most personal contact with and

knowledge of the disabled person. In Southampton, the professionals comprised district nurses, physiotherapists, occupational therapists and speech and language therapists in the health service, and social workers and occupational therapists in social services. In Nagasaki, they comprised community nurses in the health service, and home carers and carers in day centres in social services.

The professionals were asked to report in detail upon their clients who were disabled, over 40 years old, living at home and currently using at least one of the community care services. They were asked to fill in a questionnaire for each of their clients meeting these criteria whom they had met personally as key worker during the 4 weeks immediately following receipt of the questionnaire. The numbers of professionals to whom the questionnaires were sent and who responded to the survey and details of the clients reported upon are set out in the first paper of this series.

The questionnaire used in this study explored a number of topics, of which the following will be considered in this paper, in order to explore differences in teamwork practices between Japan and the UK:

- Background of responding professionals
- Rehabilitation and care services used at the time of this survey
- Difficulties experienced by professionals in providing care services
- Case conference or care management meeting involving professionals of different disciplines.

Rehabilitation and care services used at the time of the survey and disciplines concerned with referral to the services

Rehabilitation and care professionals were asked to record the services used by the client, which were divided into 3 groups: hospital-based, community-based health, and social services. Services available in the 2 communities at the time of survey are shown in Table IV. Combinations of the 3 different services were investigated. The relationship between severity of subjects' disability and utilization of the services were also compared. Furthermore, the disciplines concerned with referrals to community health and social services used were examined.

Difficulties experienced by professionals in providing rehabilitation and care services

The professionals were asked whether they had difficulties in providing the services for the subject, and what kind of difficulties they had experienced. The relationship between level of disability of the subjects and the difficulties experienced was examined.

Case conference or care management meeting involving professionals of different disciplines

The professionals were asked whether they had attended one or

more multi-disciplinary case conference or care management meeting with other disciplines in relation to the subject. If so, they were asked about frequency of the meetings held for the subject, the identity of the disciplines attending the meeting, and of the contribution made by the disciplines who did attend in providing information and/or publicly expressing an opinion about the subject during the meeting. The latter disciplines were defined as those 'contributing' to the meeting. Doctors attending and/or contributed to the meetings were also defined as those whom the subjects consulted about their main disorder causing the current impairments and disabilities.

The relationships between level of disability and frequency of the meetings, and between level of disability and the number of different disciplines attending the meetings, were investigated.

Furthermore, percentage scores were developed to indicate the relative frequency of attendance at multi-disciplinary meetings and of active contribution to the meetings that were attended:

- Attendance of the discipline at meetings ('Overall attendance' = Number of subjects in which the discipline attended the meeting/Number of all the reported subjects for whom meetings had been held (%))
- Contribution made by attendance at meetings ('Overall active contribution' = Number of the subjects in which the discipline had contributed to the meeting/Number of all the subjects for whom meetings had been were held (%))

Data analysis

Statistical analyses were carried out with SPSS version 10.0J for Windows (SPSS Inc, Illinois, USA). The test used was chi-square (Chi). As measures of association to quantify the relationship between 2 variables in a cross-classification, the Spearman correlation coefficient (R) was also computed. $p < 0.05$ was considered statistically significant.

Table IV. Services available in the 2 communities at the time of survey

Nagasaki	Southampton
<i>Hospital based services</i>	
Physiotherapy (out-patient)	Day hospital
Occupational therapy (out-patient)	Physiotherapy (out-patient)
Home visit by PT or OT	Occupational therapy (out-patient)
Home visit by a nurse	Home visit by PT or OT
<i>Community health services</i>	
Day care for the disabled adults	Home visit by a nurse
Home visit by community nurse	Care attendant scheme
<i>Social services</i>	
Day care in day centre	Home visit by district nurse
Home help	Day care in day centre
	Home help
	Social work

PT = physiotherapist, OT = occupational therapist.

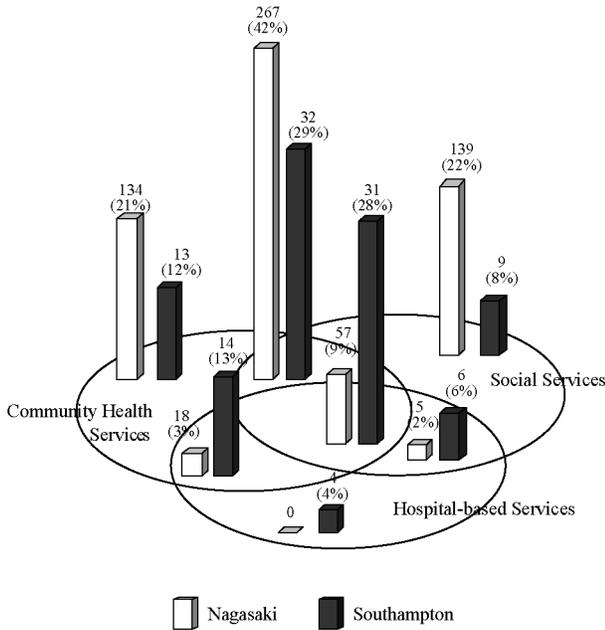


Fig. 6. Combination of community care services used.

RESULTS

Utilization of community care services

In the 3 different branches of hospital-based, community health, and social services, the services utilized are shown in Fig. 6. In order to demonstrate linkage between the different services, the combinations of hospital-based, community health and social services were compared. The proportion of subjects using hospital-based services combined with community health and/or social services was significantly greater in Southampton than in Nagasaki ($\chi^2 = 60.37, p = 0.000$).

The relationship between the severity of the subjects' disability and utilization of the services is shown in Fig. 7. Both in Southampton and Nagasaki, the proportions of subjects reported as using services provided by all branches significantly increased with increasing severity of the disability; the proportions of subjects using services provided by only 1 of the 3 different branches significantly decreased with increased level of disability ($R = 0.168$ and $0.309, p = 0.048$ and 0.000 , respectively).

Disciplines concerned with referrals to community services

The distribution of the disciplines concerned with referrals to community services used is shown in Fig. 8.

Referral to community health services

The subjects using community health services were 476 (75.5%) of 630 subjects in Nagasaki and 90 (82.6%) of 109 subjects in Southampton.

In Nagasaki, community health service personnel were involved in making referrals in 51.1% of 476 subjects, a significantly greater percentage than in Southampton (28.9%)

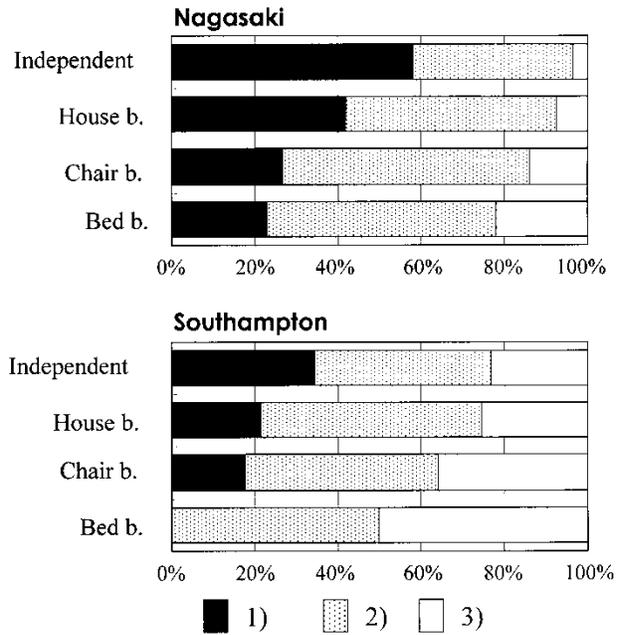


Fig. 7. Relationship between level of disability and utilization of services: (1) Utilization of service(s) provided by any 1 of the branches of hospital-based, community health and social services; (2) Utilization of service(s) provided by 2 of the branches; (3) Utilization of service(s) provided by all 3 branches.

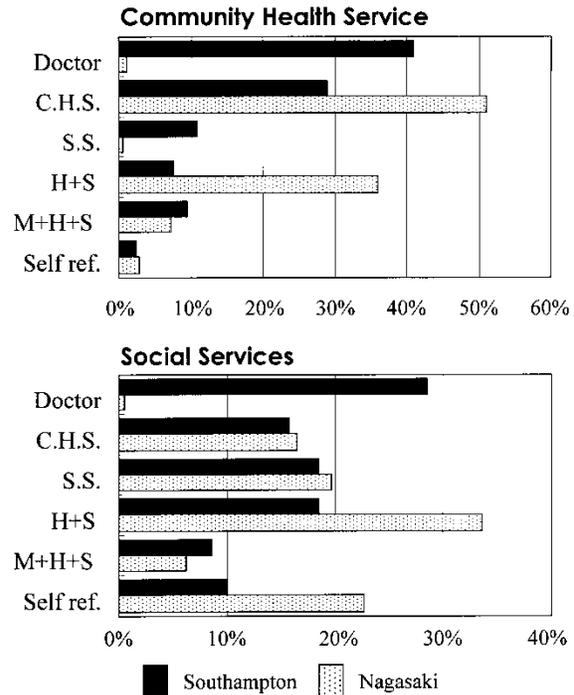


Fig. 8. Disciplines concerned with referrals to community care services. CHS = conference within community health service; SS = Conference within social services; H + S = conference with both health and social services personnel; M + H + S = conference with doctor, health and social services personnel; Self ref. = Self referral by clients and/or family.

(Chi = 10.12, $p = 0.005$). Furthermore, there was a significantly greater proportion of referrals as a result of conference between professionals in both community health and social services (36.0%) than in Southampton (7.6%) (Chi = 26.81, $p = 0.000$). Doctors were involved in referral in only 1.1% of 476 subjects.

In Southampton, by contrast, doctors were involved in making referrals in 41% of 90 subjects. This percentage was much higher than in Nagasaki and this difference was statistically significant (Chi = 159.0, $p = 0.000$) (Fig. 8).

Referral to social services

The subjects using social services were 478 (75.9%) of 630 subjects in Nagasaki and 78 (71.6%) of 109 subjects in Southampton.

In Nagasaki, significantly greater proportions of the referrals occurred either as a result of conference between community health and social service professionals (33.6%) or through self-referral (22.7%) (Chi = 6.34 and 5.84, $p = 0.012$ and 0.017, respectively). Doctors were involved in referral in only 0.5% of 478 subjects.

In Southampton, referral was from doctors in 28.6% of 78 subjects, which was a statistically significantly greater proportion than in Nagasaki (Chi = 114.9, $p = 0.000$). There were similar proportions of referrals from social services professionals (approximately 19%) and from community health service professionals (approximately 16%) in the 2 places.

Relationship between level of disability and difficulties experienced by professionals in providing rehabilitation and care services

The professionals experienced one or more difficulties in providing care services in 541 (85.9%) of 630 subjects in Nagasaki and in 57 (52.8%) of 109 subjects in Southampton, a difference that was statistically significant (Chi = 65.69, $p = 0.000$).

The proportions of subjects in which the difficulties were reported increased with increasing severity of disability both in Nagasaki and in Southampton ($R = 0.300$ and 0.249 , $p = 0.000$ and 0.009 , respectively). However, difficulties were reported in approximately 95% of the subjects from Nagasaki at more severe levels of disability in the categories 'house-bound', 'chair-bound' and 'bed-bound' (Fig. 4).

Multi-disciplinary meetings involving professionals of different disciplines

Frequency of meetings. In Nagasaki, meetings had been held for 75% (470) of 630 subjects; meetings had been held more than 5 times per subject in 49% of these. In Southampton, meetings were not considered to be needed for 51 (47%) of 109 clients, and had been held for 43 (39%).

Overall, subjects had been considered at a multi-disciplinary meeting significantly more frequently in Nagasaki than in Southampton (Chi = 17.16, $p = 0.002$).

Relationship between level of disability and pattern of meetings

The relationship between the severity of subjects' disability and the pattern of meetings held is shown in Fig. 9. In Nagasaki, meetings were held in relation to an increasing percentage of subjects at progressively greater levels of disability (and in approximately 70–80% overall). In Southampton, the percentage of cases in which meetings had been held also increased with increasing severity of disability; thus the percentage of subjects for whom meetings were considered not necessary at all decreased with increasing severity of disability ($R = -0.269$, $p = 0.005$).

The relationship between the severity of disability and the number of different disciplines attending meetings is shown in Fig. 10. In Nagasaki, the percentage of meetings attended by over 5 disciplines was approximately 60% in relation to all levels of disability. In particular, the percentages of 'independent' and 'house-bound' people considered at such large meetings were significantly higher than in Southampton (Chi = 3.44 and 7.66, $p = 0.049$ and 0.006).

In Southampton, the proportion of meetings at which over 5 disciplines attended increased with increasing severity of the disability ($R = 0.316$, $p = 0.036$).

In summary, in Nagasaki, meetings considered individual subjects more often, and involved more disciplines than in Southampton irrespective of the subjects' level of disability. In Southampton, people with more severe disability were more likely than those with milder disabilities to be discussed at a large multi-disciplinary meeting.

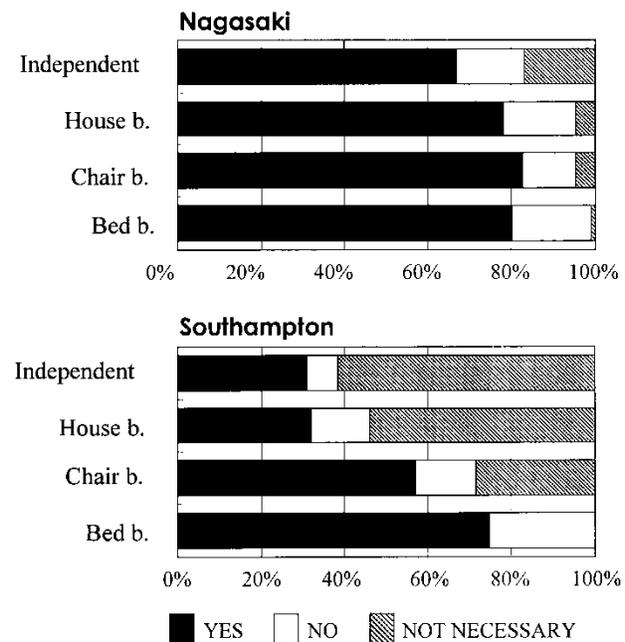


Fig. 9. Relationship between level of disability and pattern of meetings held. Yes = meeting was held. No = meeting was desired but could not be held. Not necessary = meeting was not necessary.

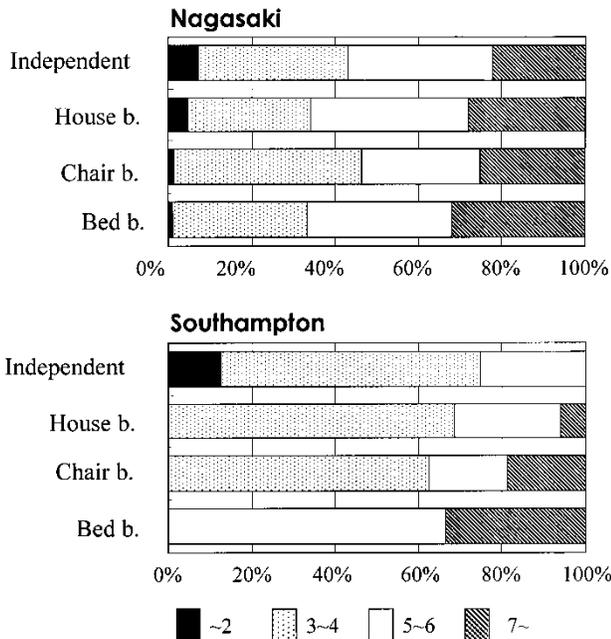


Fig. 10. Relationship between level of disability and number of different disciplines attending meetings.

Disciplines involved in meetings: attendance and contribution

The ratios of attendance at meetings and the contribution made personally during the formal sessions of the meetings by each discipline are shown in Fig. 11. In Nagasaki, the disciplines who attended most frequently were community nurses (95%) and home carers (89%). Welfare officers (59%) attended less

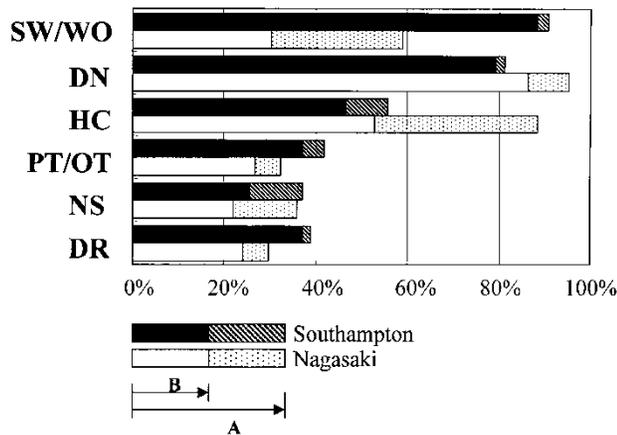


Fig. 11. Percentage of meetings at which different disciplines attended, showing the relative extent of active participants in the discussion. SW/WO = social worker (Southampton) or welfare officer (Nagasaki); DN = district nurse; HC = home carer; PT/OT = physiotherapist or occupational therapist; NS = nurse; DR = doctor. A = percentage of meetings at which the disciplines attended; B = percentage of meetings to which the disciplines contributed.

frequently. Of the disciplines that actually contributed to what took place at the meeting, community nurses were most prominent (86%). Welfare officers made a personal contribution to only 30% of meetings.

In Southampton, social workers (91%) and district nurses (81%) attended meetings much more frequently than any other disciplines and both disciplines had also contributed frequently to the meeting (88% and 79%, respectively).

Doctors, both in Southampton and in Nagasaki, had attended (30% and 39%, respectively) and contributed (24% and 37%, respectively) to meetings much less frequently than other community care staff.

DISCUSSION

This survey was a preliminary, exploratory exercise and for various reasons selection bias was probably an important factor in relation to Southampton data, as explained in the previous paper. Southampton staff each reported on a smaller number of their subjects than staff from Nagasaki, possibly selecting those subjects whose cases were most interesting or challenging. This could of course have influenced their apparent behaviour at team meetings when compared with data submitted by their colleagues in Nagasaki. Thus the results reported here need to be interpreted with caution, being an indication of possible trends and also of the technical difficulties likely to be encountered in work of this nature, requiring further investigation.

The need to hold meetings

In general, the more severe the disabilities of clients are, the more complex their needs and those of their families may be (2)—an unremarkable assumption that should, however, be formally tested. Care professionals will need to have a multi-disciplinary meeting to discuss the nature of the problems, to agree the best solution and to seek appropriately co-ordinated services for the client.

Furthermore, in the process of care management, it is important to determine the appropriate level of assessment of the clients' needs identified from an initial review in order to make best use of limited personnel for assessing more complex needs (29).

In Southampton, the difficulties experienced by professionals in meeting clients' needs increased with increasing severity of disability (Fig. 4). The demands for a wider range of professional input were also likely to have increased, as shown by the fact that the number of all hospital-based, community health and social services staff needed for each client significantly increased with increasing severity (Fig. 7). But multi-disciplinary meetings were not considered to be necessary for about half of the subjects reported. The proportion of subjects for whom meetings were considered unnecessary decreased with increasing severity of disability (Fig. 9). Meetings that involved 5 or more disciplines were significantly more likely to be held at more severe levels of disability (Fig. 10).

By contrast, in Nagasaki such meetings were held in relation

to a much higher percentage (approximately 75%) of subjects, irrespective of the severity of their disability (Fig. 9) although the *demands of professional input* from all hospital-based, community health and social services and the *difficulties reported by professionals* had significantly increased with increasing severity (Figs 7 and 4). In addition, meetings that were attended by 5 or more different disciplines took place more frequently in Nagasaki than in Southampton at all levels of disability (Fig. 10).

What took place at multidisciplinary meetings?

There were great differences in the use to which meetings were put in the 2 places. In Nagasaki, most cases were routinely discussed at meetings. There appeared to be little attempt to triage the caseload into different levels of complexity so that professionals' time could be apportioned to cases on the basis of their complexity or on the *need* to involve the whole team. In Southampton by contrast, problems that were perceived as simpler were not considered to justify discussion by a multidisciplinary team but instead were addressed by individual professionals acting singly or sequentially. While this might at first glance suggest that Southampton staff could use their time to greater effect, it is also clear that they would have acquired less experience of participation in multidisciplinary meetings than their colleagues in Nagasaki and that this could have adversely affected their performance as team members in the meetings they *did* attend.

These findings raise the possibility that Japanese care professionals need to improve their skills to determine the appropriate level of assessment needed by individual clients in a care management process, and that UK professionals would benefit from acquiring more of the teamwork skills traditionally engendered in Japan. These possibilities will be discussed further below.

Contribution made to meetings by professionals

The contribution that each discipline made to the meeting was evaluated (Fig. 11). Care managers take responsibility for assessment of care needs, planning and securing the delivery of care, monitoring the quality of care provided and review of client needs (16). Therefore, they need to co-ordinate services and negotiate with different disciplines and so on (16, 29). It is said that the professionals in most regular contact with clients, such as social workers, home care organizers or community nurses may be particularly suitable, although a range of backgrounds might be possible (16). It is not essential that the same professional should undertake all these tasks (16, 29, 45). At multi-disciplinary meetings, knowledge and information about medical and health care, as well as social care will be needed to achieve holistic care management. Once the care management meetings have been held to assess complex needs and seek appropriately co-ordinated services for the clients, one professional should assume the role of co-ordinator depending on the clients' needs (40).

In Southampton, social workers and district nurses attended

and contributed to meetings in most cases, but doctors did not attend and contribute to meetings as frequently as community care staff. District nurses regularly work with the general practitioners who continue to meet most of the patients' basic health care needs. Information about medical and health care is exchanged between the general practitioners and the other members such as the district nurses in the primary health care team. Consequently, it is possible that both the health and the social care needs of the client could be identified by meetings that involve the 2 disciplines, but these could be informal and not reported on as being 'a meeting'. Community care staff in Southampton barely reported any difficulty due to lack of medical information, as shown in Part 1, despite the fact that the clients' general medical practitioners rarely attended and contributed to the meetings. The medical information needed to make decisions must either have been gleaned from the medical case records, or acquired through personal contact (informal meetings) between medical and other staff.

A recent study of the multi-disciplinary teamwork of community care staff in Japan (40) has reported that co-ordination by 1 or 2 disciplines, as for example social workers and physiotherapists, or occupational therapists and community nurses, produced better results in the care management process. The findings reported here from Southampton are consistent with the results of the Japanese study.

By contrast, in Nagasaki, community nurses contributed to meetings in most cases, but the contribution of welfare officers in social services, and especially of doctors, was infrequent. It is clear that the absence of general medical practitioners in Japan influences the extremely low percentage of referrals to community services by doctors (approximately 1%) (Fig. 8). Since there are no primary health care teams, community nurses cannot bring comprehensive, up-to-date and accurate health care information into the assessment procedure unless the doctors whom the clients consult about their main disorder attend the meetings. Community care staff in Nagasaki had reported difficulty stemming from lack of medical information in approximately a half of their clients, as shown in Part 1. The infrequent contribution of welfare officers who managed resources for social care services could equally be hampering the appropriate application of the services.

With the introduction of the national care insurance system in Japan, doctors are now requested to give basic information about medical and health care of their patients to care managers through the social services authority. Doctors, especially those who work in a clinic, tend to become gradually more interested in community care. It has been reported that care professionals now have fewer problems caused by lack of medical information about their clients than before the system started, but that they are still hampered by doctors' reluctance to attend the meetings, because the medical and healthcare information available through other routes is still insufficient to enable a complete assessment of clients' needs (46). Medical staff, particularly those working in the private sector, are under pressure to examine as many patients as possible in order to be allowed to

keep their facilities because of the Japanese 'piecemeal' system of paying medical staff (2). In relation to approximately 20% of their clients, other care professionals experience difficulty even in contacting them for essential medical and healthcare information (46).

It has been reported that, in Japan, the community health care sector can work in closer co-operation both with care service organizations and with hospitals or clinics (39). Community nurses are expected to act as case co-ordinator in the care management process (40) and they are considered to have an important role in liaising between doctors and other care service professionals.

In this study, as we did not ask what part each discipline had played at the meetings, the roles that each had played are unclear. We cannot identify with certainty the routes by which medical information was being transmitted in either country. Rehabilitation medicine is a recognized medical specialty in both countries, but even in the UK only a minority of cases living in the community will be regularly followed up by a specialist. However, those with the most pressing needs will tend to be among those who *are* followed up and it may be that the selection bias in the Southampton sample (described in our first paper) led to selection of those cases who were being followed up in local rehabilitation medicine clinics where after each attendance, medical information would tend to be transmitted either personally or by letter to the other healthcare professionals involved in the case. If doctors are expected simply to provide such information as their only contribution to the solution of care and rehabilitation problems, they would not necessarily need to attend the team meetings and many doctors who have not been trained in rehabilitation medicine probably adopt this approach. In such cases, other professionals should be designated to obtain the appropriate information from the doctors beforehand, much as district nurses obtain it from general medical practitioners in the UK. Adopting this system in Japan would require both doctors and community staff to alter their current practices; additional support from management would probably be needed in order to bring this about.

The decision-making process

Traditionally, Japanese people tend to assign importance to a group rather than to an individual (44). Individual members of a team or service feel a close allegiance to the team and do not feel comfortable about making a decision on their own, not because they cannot identify a solution, but because of a feeling that it is inappropriate for work representing the responsibility of a team to be directed on the basis of decisions made unilaterally by only one of its members. Therefore, it is probable that multi-disciplinary meetings were being held frequently in Japan, partly in the hope of finding appropriate services to meet the clients' needs, but also because of the cultural importance of meetings in professional decision-making.

Since the setting up of the national care insurance system in Japan, the number of care service users has approximately doubled (42, 47). Care professionals have tried to hold multi-

disciplinary meetings in the same way as before (42) but have had difficulty in doing so (41–43). It has therefore become a priority to determine the appropriate level of assessment of clients' needs in Nagasaki so as to use limited personnel effectively for assessing more complex needs without damaging their training, assessment and decision-making skills, or morale. Should the care management process be changed to employ more informal procedures, in order to save time under the new national care insurance system?

Value of multi-disciplinary meetings

Were all these meetings strictly necessary? Team meetings are necessarily time-consuming; they could be justified either by the difficulty of the problems being discussed or by some other requirement of team members, as discussed below.

In Nagasaki, the meetings tended to involve more people and to take up more time overall, but more cases were considered at each meeting. Hamamura & Matsusaka (25) reported that in Japan multi-disciplinary meetings were held in relation to 95% of 155 subjects in the municipalities where co-operation between agencies was good, but in relation to only 56% of 159 subjects living in municipalities where there were problems in co-operation between different service sectors. It has been emphasized in Japan that the multi-disciplinary meetings should be held regularly in order to achieve an appropriate care management process (30, 39). Matsusaka et al. (40) reported that regular meetings brought better results in assessment of clients' needs and in the co-ordination of care services needed for them than could be achieved by a single professional or by meetings between members of only one discipline.

Multi-disciplinary meetings to discuss individual clients' problems appear to have featured more prominently in the decision-making process of the Nagasaki system than in Southampton. Team meetings are likely to improve interdisciplinary understanding and respect, to provide peer support and also to provide in-service training for the less experienced team members. These functions could be promoted by discussion of simpler cases as well as by discussion of the more difficult ones. The poor morale thought to have impaired the participation of professionals in Southampton in the study (reported in the first paper in this series) might perhaps have been less in evidence if multi-disciplinary meetings had been held more frequently in Southampton.

Currently, there are relatively fewer resources overall for community care in Japan than in the UK. This is likely to contribute to the fact that Japanese care professionals experience greater difficulty both in co-ordinating services and in meeting the needs of their clients using existing resources (2, 25, 30, 39, 40). Similar problems have been described by head injury case managers in the UK who were unable to solve many problems because there were so few elements of head injury services to co-ordinate (50). Approximately one-third of subjects were referred to community health or social services as a result of a conference between professionals from the 2 services (Fig. 8).

CONCLUSION

Styles of multi-disciplinary working are likely to reflect the skills and experiences of the healthcare professionals involved in relation to care and rehabilitation management. Japanese professionals may need to improve their skills to determine the appropriate level of assessment needed by individual clients in a care management process. This is becoming urgent because of the increasing number of clients referred since the system was introduced.

However, cultural factors are also likely to influence the styles of multi-disciplinary working. Given the practical and cultural importance of the meetings in both countries, could professionals make better use of them in the case management process? Further study is needed in Japan to establish whether any economies could be made in the number and range of professional staff attending such meetings, taking care to monitor the effectiveness of teamwork processes and the morale of team members so as to avoid some of the possible pitfalls inherent in the British approach. In the UK, further studies are needed to explore the decision-making process that occurs in multidisciplinary meetings and the extent to which the expertise and morale of team members is positively affected by current patterns of multidisciplinary team-working.

These 2 papers have provided useful background information and have highlighted both the potential interest and the technical difficulties of cross-cultural studies of rehabilitation. We believe that such studies have considerable potential for improving both

the understanding and the effectiveness of rehabilitation as an activity, because they allow the influence of environment, behaviour and culture to be separated from the effects of impairment or disability *per se*. They are thus able to illuminate with particular effect some crucial mechanisms of disablement and of rehabilitation. However, important methodological problems need to be solved when comparing countries whose environment, customs and language differ so greatly and we offer our 7-point checklist (see page 14) in order to assist those planning future work in this area.

It is suggested that further prospective studies using client groups matched for age, impairment and social participation should address more specifically the nature of the problems and needs identified by both disabled people and by service providers in the 2 countries. A combination of qualitative and quantitative methods should be employed to explore the objectives and priorities of disabled people, the significance of the physical and cultural environment, and the sequence of events by which problems come to be solved.

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