

How to bridge the gap between hospital and home?*

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Many countries have separate organizations for delivering nursing care to patients in the hospital and to patients at home in the community. This separation creates extra difficulties in organizing continuous care for patients discharged from hospital who need nursing aftercare (in The Netherlands, at a rough estimate, 10% of all hospital patients). Special arrangements have to be made to prevent these patients missing out completely. By means of a questionnaire sent to all Dutch regional community nursing organizations, this study makes an inventory of the organizational measures that have been taken in this field in The Netherlands and analyses a model of the effects these measures (and also the effects on contextual factors) have on the number of problems reported by the community in respect of continuity of care. In The Netherlands, the initiative in arranging continuity of care is taken by the regional community nursing organizations or by their operational teams. In most cases, they have been able to make arrangements with the hospitals about the selection of aftercare patients and the transfer of information by transfer forms. Sometimes special continuity nurses are appointed by the community, among other things to organize regular consultation with the hospitals. An eight-item Likert scale was developed to measure the extent of continuity problems. Analysis of the effect of several factors in the model by a stepwise multiple regression analysis, revealed that the consistent use of transfer forms by hospitals was an important tool in reducing the problems. Furthermore, regional community nursing organizations themselves had fewer problems compared with the operational teams to whom arranging continuity is sometimes delegated. Increased personnel capacity within the community is also beneficial. The effect of these last two factors (organizational level and personnel capacity) is, however, overruled, by the negative effect of the size of the regional community nursing organization: the more inhabitants, the more problems there are.

INTRODUCTION

In the seventies and early eighties there was a large number of English-language publications which developed the concept of continuity of care (Rogers & Curtis 1980,

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Wall 1981, Bachrach 1981) The definitions given vary widely, depending on the point of view provider, patient, health care system In this article, we are concerned with continuity of care as an organizational problem within a health care system The definition given by Shortell (1976) fits best 'continuity of care is the extent to which services are received as part of a coordinated and uninterrupted succession of events consistent with the medical needs of the patients' As we are concerned here with nursing care instead of medical care, we shall use this description for nursing care

Further, we shall focus on a specific aspect of nursing care, i.e. the patient's transition from hospital nursing care to community nursing care Many hospital patients need ongoing professional nursing care after their discharge In The Netherlands, the assumption is that this is the case for 10% of all discharged hospital patients (Nationale Ziekenhuisraad, Nationale Kruisvereniging 1978) In respect of continuity of care, the change from in-patient to out-patient nursing needs special attention In The Netherlands, as in many countries, different organizations are in charge The activities of hospital nurses end formally at the hospital door Of course, it is their professional responsibility to see that the patient is being cared for at home But they do not actually see the consequences of a too hasty or badly prepared hospital discharge Theoretically, hospital nurses might receive some feedback on this point from hospital readmission rates, but in fact the causes of readmission are complex Smith *et al* (1988) in particular were unable to show a positive relation between an intensive post-discharge care programme and a lower rate of hospital readmission

Community nurses, on the other hand, are dependent on others for timely information about the impending discharge of a patient who needs aftercare They are responsible for the delivery of nursing care at home, but they need to know when an aftercare patient is to be discharged Waiting for a signal from the patient will often mean several days of delay, assuming that the patient can find his way to the community nursing organization at all

What must be done to enable us to offer discharged hospital patients continuous care? First, it is important that in hospital the right patients are selected for post-discharge aftercare and also that these patients and their families need to be informed about all the aspects of the impending discharge Second, the information about the selected patients must arrive on time at the regional community nursing organization, so that the needs of the patient can be anticipated Third, it is necessary that the regional community nursing organization actually starts with adequate nursing help at home on time These three

elements require structural arrangements with regard to aftercare to avoid continuity problems The fact that problems do arise in selecting patients and transferring information in the Dutch situation is discussed elsewhere (Drijver *et al* 1985, Verschuren 1987, Kersten 1988, Kersten 1988/1989) In the eyes of the community nurses, hospital nurses do not pay enough attention to psychosocial aspects of the need for aftercare And there are also complaints in the community about late notice of discharge Little is known in The Netherlands about the 'time gap' that occurs between hospital discharge and the start of the community nursing care

Projects in The Netherlands

Since the sixties, in The Netherlands there have been several local projects designed to develop organizational solutions to continuity problems For instance, in Amsterdam, in 1960, an independent aftercare service was established to select patients for aftercare and to transfer the information from the hospital to the community nursing teams in different districts of the city This service operated in a more or less similar way to the 'hospital at home' scheme in Peterborough, England (Clarke 1984), which again was inspired by the French 'hospitalisation à domicile' (Assistance Publique, Hôpitaux de Paris 1986) The main difference is that accelerating the discharge of patients was not an explicit goal in Amsterdam, but the organizational approach was more or less the same The Amsterdam aftercare service was closely related to the community nursing organizations Specialist nurses went into the hospitals to select the aftercare patients and to arrange the transfer of information to the community It should be noted that this transfer of information is a particularly difficult problem in Amsterdam, because there are as many as 13 hospitals in the city, each accepting patients from all over the city and even from outside it Furthermore, every community nursing team works more or less independently in a particular district This makes getting the information to the right community nurse who is eventually going to take care of the patient a complicated business

At present, there is no aftercare service in Amsterdam The main reason for this is that the benefits of the special aftercare service were no longer obvious Nurses from the aftercare service were seen as additional stations to pass on the road between the hospital nurses and the community nursing service (Schmitz 1985) There seems to be a similar tendency in the UK (Jowett & Armitage 1988) Continuity of care in Amsterdam is now arranged by the hospital nursing teams and the community, using the infrastructure

of the mutual contacts that have been built up over the years

The project in Amsterdam, however, inspired many regional community nursing organizations in The Netherlands to start special continuity of care programmes. At first, aftercare services were initiated, but later on, less complex organizational solutions were started. Regional community nursing organizations have put special 'continuity nurses' in charge so that there is consultation with the relevant hospitals about continuity of care, and structured steady arrangements about the way information about aftercare patients is transferred to the community is also provided. In 1979, in particular, funds were raised to appoint several of these continuity nurses for periods of 2 years. After these initiatives, the regional community nursing organizations in The Netherlands each went more or less their own way in respect of continuity of care. Some found ways of continuing the appointment of continuity nurses, others made special efforts in order to provide organizational solutions for continuity problems without enlisting continuity nurses. In these cases, the work was mostly done by the regular head community nurses.

In this study, we are concerned with constructing an overview of the solutions the regional community nursing organizations have developed to overcome the continuity problems. In addition, we intend to analyse the effects of these solutions (and contextual factors) on the amount of problems that are experienced with regard to continuity of care in a specific area. In order to do this in a systematic way, an explanatory model was developed, presented in Figure 1.

In the model, a distinction is made between hospital-bound factors, community-bound factors and both hospital- and community-bound factors. Furthermore, a distinction is made between organizational factors that specifically have to do with the organization of the aftercare, and situational factors that have wider implications than exclusively the organization of aftercare. The category, both hospital- and community-bound factors, is restricted to organizational factors, because the situational factors can exclusively be grouped under the categories hospital bound and community bound.

We use the model in an explorative way. For the variables included, however, within a limited number of largely unambiguous steps in reasoning, it may be assumed that an effect can be hypothesized on the dependent variable. To keep it short, we will not detail all of the expected effects here. They are noted in the figure by pluses or minuses, clarifying the expected direction of the effect caused by the factor. So, for instance, we expect more continuity problems from a greater number of hospitals transferring after-

care patients to the EKO/basic unit and, in contrast, a reduction of problems from the appointment of a continuity nurse is expected. On some of the variables presented in the model the reader will need explanation. The comments are, however, to be found later on in the presentation of the descriptive results of this study.

RESEARCH QUESTION

The decentralized way in which solutions to continuity problems have developed obstructs an overview of the situation. On the one hand, there is no detailed overall picture of the way regional community nursing organizations attack the problems. On the other hand, there are no clear views on the results these solutions provide, in terms of the amount of problems experienced in the context of continuity of care.

The prime question here is how the regional community nursing organizations provide structural solutions for problems of continuity of care. Second, we study how different solutions affect the number of problems experienced in relation to continuity of care. In order to answer this question, we will use the model presented in Figure 1.

Method

All 185 regional community nursing organizations (EKO, the abbreviation for *Erkende Kruis Organisatie*) in The Netherlands were contacted. This action made clear that the EKO as a whole does not always organize aftercare after hospital discharge. 31 EKOs have passed over this responsibility to their executing teams, the basic units. As a rule, a basic unit contains a head community nurse, 12 district nurses and about four nursing auxiliaries.

In order to get the necessary information, a questionnaire was sent at the beginning of 1988 to 151 EKOs and 122 basic units (of 31 different EKOs), covering all The Netherlands, with the exception of three EKOs that did not want to participate in the study. 147 EKOs returned their questionnaire (response percentage 97%) and 87 basic units responded (71%). The questionnaires were filled in by community officers with a key role in continuity of care (head community nurse, continuity nurse, etc).

In addition to questions about the general circumstances of the EKO/basic unit (number of inhabitants in the working area, number of teaching and/or general hospitals that transfer patients for aftercare, etc) and the chosen solution for problems of continuity of care (appointing a continuity nurse, organizing regular consultation with the hospitals

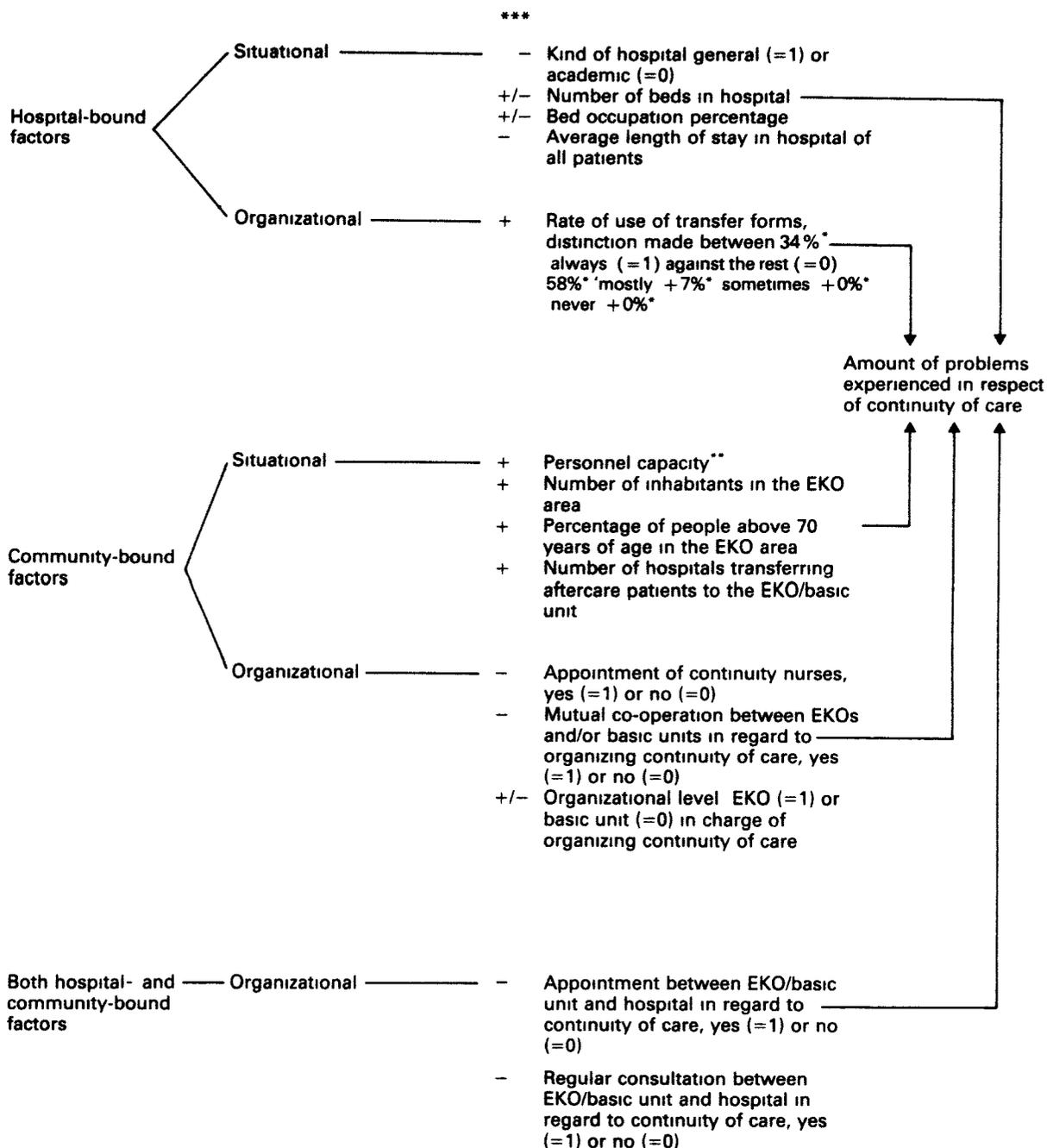


Figure 1 Model to analyse the effects of organizational solutions in regard to continuity of care and also contextual effects on the amount of problems experienced *The distribution for EKO's plus basic units for that specific hospital which transfers the biggest number of aftercare patients **Number of full-time community nurses and nursing auxiliaries per 1000 inhabitants of 1-4 years of age and inhabitants above 60 years, this is proved to be the target population of the community nursing organization (Hoeksma 1986) ***Expected direction of the effect by the factor + = more problems, - = less problems, ± = ambiguous

involved, etc), 10 statements (Likert items) were submitted to make an inventory of the problems experienced with continuity of care. In addition to the literature, items were derived from open interviews with 15 hospital and community officers who have a key role in organizing continuity

of care after hospital discharge Further information on the research method is to be found in an extensive study report (Zijlmans & Kersten 1989) Detailed information about the statistical techniques used can be found in Snedecor & Cochran (1980) and Carmes & Zeller (1985)

Figure 2 Overview of the working areas of all 185 EKO's under study, with number of academic and general hospitals within the EKO borders ● = 1 hospital, ● = 2 hospitals, ● = 3 hospitals, ● = 5-6 hospitals, ■ = 10-13 hospitals



RESULTS

General circumstances

We will introduce our results with a map of the working areas of all EKO's in The Netherlands (Figure 2). The map shows first that there is an important (historically based) variation in the size of the EKO's. This is valid both for the size of the areas and the number of inhabitants. There is a policy to bring groups of small EKO's together into one bigger EKO so that the total will decrease to about 60 (Nationale Kruisvereniging 1989).

Second, the map shows that some EKO's have to deal with a lot of hospitals. The hospitals are concentrated in the bigger cities. In most cases, one EKO receives aftercare patients from two, three or even more hospitals. This is important because the community, in principal, has to make arrangements about transferring aftercare patients with every single relevant hospital. Table 1 shows the actual

distribution based on the information from the 133 EKO's responding to this specific question and from the 87 basic units.

As can be seen in Table 1 most EKO's and basic units receive aftercare patients from more than one hospital. The average number of hospitals is 4.1 (standard deviation = 2.0) for the EKO's and 4.6 (standard deviation = 1.8) for basic units. So, although the working area of a basic unit in general will be smaller when compared with a total EKO, we see that basic units even have to deal with a somewhat larger number of hospitals. The reason is that the basic unit-based structure is found especially in more urban areas with a lot of hospitals.

Measures to solve continuity problems

The first measure we shall discuss is the option of appointing a continuity nurse. In 64% of the EKO's and no more

Table 1 Proportional distribution of EKO's (regional community nursing organizations) and basic units to the number of hospitals from which they receive aftercare patients

Number of hospitals	EKO's (<i>n</i> = 133) %	Basic units (<i>n</i> = 87) %
1	7	1
2	20	10
3	17	19
4	17	21
5	15	23
6	13	10
7-10	11	16
	100	100

than 18% of the basic units, continuity nurses work part-time. Together there are about 15 full-time posts. The nurses' role is, in all cases, more or less the same: promoting arrangements between hospitals and community on continuity of care (especially regarding the selection of aftercare patients and the transfer of information), co-ordinating regular consultations between community and hospitals, representing the community in these consultations, and promoting continuity of care within the community. Almost none of the continuity nurses visit the hospitals to actually select aftercare patients themselves and to transfer the information. So the position the continuity nurse had in the old aftercare service has virtually disappeared.

Most probably in order to overcome the problems of the complex relation between hospitals and EKO's/basic units, most of the EKO's and basic units (83% and 60% respectively) have decided to co-operate with each other in respect of continuity of care. Generally, a group of EKO's (53% of all EKO's) co-operates with the same continuity nurse; basic units, generally (46% of all basic units), work together without having a joint continuity nurse. They are mostly gearing their activities in the direction of the hospitals by regular consultation. If there is a joint continuity nurse, she keeps in touch with the hospitals that are relevant for this group and tries to make similar arrangements about patient selection and information transfer with all of them, for all of the EKO's/basic units involved.

Second, in order to evaluate and sometimes correct a situation, there must be regular consultation between both parties, i.e. hospitals and community. 68% of all EKO's and 45% of all basic units have this kind of consultation with the hospitals which transfer aftercare patients to them. These

consultations are held five times a year on average. From the community, the head community nurses are generally present at the meetings, as are the continuity nurses (if there is one working for the EKO). The hospitals are most often represented by heads of the hospital departments or by a representative of the nursing division of the hospital.

Third, it is important that, as a result of (former) consultations, there are regular arrangements about the selection of patients and the transfer of information. 89% of the EKO's and 47% of the basic units report they have made these arrangements with the hospitals that are relevant to them. Obviously, as far as EKO's are concerned, such arrangements are not always regularly evaluated in consultation meetings (compare 68% of the EKO's that have regular consultations with 'their' hospitals with 89% of the EKO's that report regular arrangements with 'their' hospitals). Arrangements are almost always for a complete hospital, not for single departments and, on the community side, they are mostly concerned with a group of EKO's and/or basic units.

Finally, in order to have all the necessary information about aftercare patients, it is important that specially designed 'transfer forms' are used to transfer the information about aftercare patients from the hospital to the community. The results show that 90% of the EKO's and 85% of the basic units generally (as they report 'always' or 'mostly') receive the necessary information by means of the special transfer forms.

Classification of the relationships between community and hospitals

We have used the information presented above about the way EKO's/basic units solve problems of continuity of care after hospital discharge to make a classification of the relationships between hospitals and community. The most distinct characteristics of such relationships are

- 1 there is or there is not a continuity nurse working within the relationship, and
- 2 there is either regular consultation or no regular consultation between both parties in the relationship (which also reveals something about the willingness of the hospital to co-operate).

The other characteristics mentioned above hold in the same way for most hospital-community relationships — at least as far as EKO's are concerned. The resulting classification is shown in Table 2.

Statistical analysis of the figures in Table 2 reveals a significant difference between the cells (χ^2 square = 29.8, *d.f.* = 1, *P* < 0.01). Regular consultation is found most when

Table 2 Classification of community-hospital relations on the basis of the presence of a continuity nurse on the one hand and regular consultation on the other (total number of community-hospital relations under study is 664)

	Continuity nurse present		Totals
	Yes	No	
Regular consultation			
Yes	32%	27%	59%
No	14%	27%	41%
Totals	46%	54%	100%

there is a continuity nurse active (32%). Complementing this, we see that only 14% of the relations show no regular consultation where a continuity nurse is active. So, at first sight the continuity nurse's activities seem beneficial to regular consultation.

In 27% of the relations between hospitals and community, there is regular consultation without the presence of a continuity nurse. These consultations will be organized by the regular head community nurses. Finally, in 27% of the relations, there is neither regular consultation nor a continuity nurse. Several interpretations of this result are possible, but the most likely seems to be that continuity of care is organized on the basis of appointments made in the past and/or that there is a rather weak organizational structure.

Problems with continuity of care in relation to different solutions and different context

As we indicated before, 10 five-point Likert items were submitted to the respondents to list the problems experienced with continuity of care. Table 3 summarizes the answers given.

The first five items in Table 3 concern continuity problems on the hospital side. The respondents were able to give their opinion on the items for each hospital transferring aftercare patients to the EKO (or basic unit) separately. The Table shows the opinion about the most important hospital, that is to say, the hospital that sends in the greatest number of patients. Additionally, items 6 to 10 go into the problems on the community side.

As we can see in Table 3, some problems are felt more than others. On the hospital side, the motivation of the nursing staff to consult with the community about the transfer of aftercare patients (item 2) is seen as a (greater or

smaller) problem by only 12% of the respondents. The other items represent a problem for 33% to 47% of the respondents. On the community side, the lack of public relations from the EKO/basic unit (item 7) and keeping up the necessary routine experience with complicated nursing activities (item 9) are felt to be the major problems (by 46% and 52% respectively).

In order to obtain an overall indication of the continuity problems experienced by each EKO/basic unit, a reliability analysis was made on the 10 items in Table 3. This revealed that items 1 to 8 constitute a scale with a standardized reliability coefficient, Cronbach's alpha, of 0.70. A sum score was therefore made by adding the individual scores on item 1 to 8 (mean score = 26.0, standard deviation = 5.56, $n = 182$), which is considered to measure the amount of problems experienced in the field of continuity of care, with a higher score meaning fewer problems.

We now analyse the explanatory model in Figure 1. This is done by a stepwise multiple regression analysis (MRA), testing the degree each of the factors in the model (while controlling for the effect of other factors) can explain differences in the amount of problems experienced with regard to continuity of care. Note that the model will be analysed for EKOs and basic units together because, despite the obvious differences, they are comparable with regard to organizing continuity of care. Furthermore, we are interested in possible differences between both organizational levels. So the organizational level (EKO or basic units) is also included as an independent variable in the model. As 'organizational level' is a dichotomous variable, it is scored in the 1 (= EKO) against 0 (= basic unit) way. It is the same for the other dichotomous variables in the model (compare Figure 1).

In preparing the MRA, possible multicollinearity between the independent variables was checked by inspecting the Pearson correlation coefficients. The highest coefficient found was 0.58. That is below the critical 0.70 value, so all the independent variables were included in the MRA. The completed MRA revealed that two factors in the model were included in the final equation, as is shown in Table 4.

A constant use of transfer forms is beneficial in reducing the amount of problems with regard to continuity of care (a low sum score means a lot of problems). That is to say, if the respondent has reported in the questionnaire that a hospital 'always' uses transfer forms, significantly fewer problems are met, compared with the situation in hospitals that use transfer forms 'mostly' or 'sometimes'. The elasticity of the rate of use of transfer forms is +0.29, which can be interpreted as follows: when hospitals always use transfer forms the amount of problems with regard

Table 3 Percentual distribution of the reactions to Likert items, representing problems experienced in relation to continuity of care (*n* respondents EKO/basic units = 210)

Item	Totally agree (= 1)/agree	Neither agree nor disagree	Totally disagree (= 5)/disagree	Mean score	Standard deviation
1 The nurses in this hospital do not notice the fact that some patients may need psychosocial aftercare	33	36	31	2.9	1.14
2 The nursing staff in this hospital are little motivated to consult with the community about the transfer of aftercare patients	12	15	73	3.9	1.12
3 The nursing staff in this hospital tend to organize aftercare for specific groups of patients (for instance with heart diseases) themselves, instead of transferring these patients to the community	32	28	40	3.1	1.33
4 This hospital is not inclined to transfer aftercare patients who have had day surgery	47	22	31	2.8	1.35
5 The nurses in this hospital do not know enough about the help community nurses are able to give	43	26	31	2.8	1.18
6 There are problems in having nursing aids (objects) available for aftercare patients in time	19	27	54	3.5	1.10
7 Your EKO/basic unit could do more to inform the hospital nurses about the nursing possibilities in the community	46	24	30	2.8	1.30
8 Community nurses and nursing auxiliaries in your EKO/basic unit are hard to contact by telephone, if hospital nurses want to consult them about aftercare patients	17	18	65	3.8	1.28
9 For the community nurses in your EKO/basic unit, it is difficult to keep up the necessary routine experience with regard to complicated nursing activities	52	21	27	2.6	1.37
10 Aftercare patients that are transferred to your EKO/basic unit often need more nursing care than can be delivered	10	17	74	4.0	1.08

Table 4 Stepwise multiple regression analysis showing the significant effects ($P < 0.005$) of the factors in Figure 1 on the amount of problems experienced in relation to aftercare (*n* EKO's/basic units = 177)

Step	Factor	β (elasticity)	R (explained variance)
1	Rate of use of transfer forms	+0.29	0.08
2	Number of inhabitants in the EKO/basic unit area	-0.26	0.15

to continuity of care declines by 29% ($= 0.29 \times 100\%$), compared to hospitals that use transfer forms less

Furthermore, the MRA reveals that the higher the number of inhabitants in the EKO (the bigger the EKO), the more problems are experienced in regard to continuity of care. The elasticity of the number of inhabitants is -0.26 , implying that an increase of, for instance, 20% in the number of inhabitants leads to a rise in the amount of problems with regard to continuity of care of 5.2% ($= 0.26 \times 20\%$). Together, 'rate of use of transfer forms' and 'number of inhabitants' explain 15% of the variance in the dependent variable.

Note that other factors in the model do not contribute significantly to the amount of explained variance, after the effect of the factors in the first two steps is determined. This also applies to the 'organizational level' factor (EKO versus basic unit) and the factor 'personnel capacity'. The results of the MRA are, however, somewhat complicated in relation to these factors. After the first step in the MRA, both these factors do indeed have a significant effect ($P < 0.05$). The effects are to be interpreted in the sense that a higher personnel capacity leads to fewer problems and, on the other hand, that an organization on EKO level leads to fewer problems. These effects are, however, overruled in the second step, where the number of inhabitants of the EKO happens to be the factor that has the major effect. The bivariate Pearson correlations can explain this. The 'personnel capacity' appears rather strongly negatively related to the 'number of inhabitants of the EKO' (Pearson $r = -0.54$, $P < 0.0001$) the bigger the EKO, the lower the personnel capacity. It is the same for the organizational level, in that an organization on the basic unit level is found relatively more often in the bigger EKOs (Pearson $r = -0.44$, $P < 0.0001$). So it will be clear that the effect of the 'number of inhabitants' on the one hand and the effects of 'personnel capacity' and 'organizational level' on the other hand operate on the dependent variable in opposite ways. And because the effect of the 'number of inhabitants' is the strongest in the second step of the MRA, the effects of the other two factors are overruled. Their impact, however, is important in the view of policy making.

DISCUSSION

The results presented above give a description of the way the community nursing organization in The Netherlands has created an organizational structure intended to deliver continuous nursing care after hospital discharge to patients. Aftercare following hospital discharge is organized on a regional level by the regional community nursing organization (EKO) or by its executing teams (basic units). Despite

the complex context, arising from the fact that one EKO/basic unit in general has to deal with several hospitals (on average more than four hospitals) and vice versa, there seem to be basic conditions favouring continuity of care in most instances. The solutions are based on a joint responsibility for continuity on both hospital and community nurses. Hospital nurses select the patients for aftercare, prepare them for discharge, and transfer the necessary information to the community. The EKOs — or in the case of 31 of the total number of 185 EKOs, the basic units — are, however, taking the initiative in making the necessary arrangements with the hospital staff regarding patient selection.

Looking at the measures taken by the community, we see that in 64% of the EKOs, continuity nurses work part-time. For the basic units in charge of organizing aftercare, this is no more than 18%. The most probable reason seems to be that the choice of delegating the organization to basic units is part of a general policy to make the nurses in the community and the hospital on an executive level directly responsible for organizing aftercare. Go-betweens like continuity nurses do not fit in well with this approach. Probably the direct responsibility of the nurses on an executive level is also the reason that we see less regular consultation between basic units and 'their' hospitals (45%) compared to EKOs and their hospitals (60%). As a result, we find more often regular arrangements with hospitals about the selection of information and transfer of aftercare patients, when EKOs are responsible (89% for EKOs and 47% for basic units). In both the EKO hospital relations (hospital and the basic unit), transfer forms are generally used (90% and 85% respectively) to transfer the necessary information from hospital to community.

A chi-square analysis shows that the appointment of a continuity nurse does have a beneficial effect on the presence of regular consultation between EKO/basic unit and hospital about organizing aftercare. It seems plausible to interpret this result in a causal way: organizing regular consultation is the explicit task of the continuity nurse, so where there is such a nurse, we see this consultation more often. We have to be careful, however, because both the presence of the continuity nurse and the consultation may be explained by the general favourable climate in the hospitals and EKOs towards continuity of care.

Continuity of care

The results on the measured problems experienced in organizing continuity of care are very interesting. We were able to make an eight-item scale to measure the amount of problems experienced within an EKO or basic unit. The

scores on this scale were, in the first place, influenced by the rate of use of transfer forms. Constant use decreases the amount of problems. The rate of use of transfer forms is probably an expression of the extent to which the attitude in the hospital is favourable to continuity of care.

We also saw that the more central approach of organizing continuity at the EKO level diminishes the amount of problems. This speaks against delegating too much to the executive level. The background to the result is most likely that some involvement on a management level in the organization is necessary and, of course, this will be more easily achieved by an EKO, because there is more senior personnel.

The bigger personnel capacity of EKO's was also beneficial in the avoidance of continuity problems. This may be in itself a rather trivial result, but in combination with the fact that bigger EKO's proved to have a relatively lower personnel capacity, it underlines the importance of a true balance in the distribution of the personnel.

As we saw, both the effect of the organizational level and the personnel capacity are overruled by the effect of the number of EKO inhabitants. Bigger EKO's have more problems and this cannot be explained by the greater number of hospitals they have to deal with. This factor has been included in the model and showed no significant effect. The result is a signal that the policy makers perhaps should be prudent in increasing the scale of the EKO areas, although this decision will be, of course, influenced by aspects other than continuity of care too.

Finally, it is particularly striking that the MRA shows no effect from the appointment of a continuity nurse and from the regular consultation between hospitals and community on the amount of continuity problems. Obviously, these factors are presently less important than would be expected, as far as can be assessed by this study. It is the same for the number of hospitals that transfer aftercare patients to one and the same EKO or basic unit. The hypothesized hampering effect of a greater number could not be shown.

Further research

The current study was meant to make an inventory of the solutions to problems regarding continuity of care and to evaluate these solutions on the basis of the amount of problems experienced on the community side. The rate of use of transfer forms, the level on which continuity of care is organized in the community, the personnel capacity of the regional community organizations and the size of these organizations proved to be important factors that need

special attention in policy making. Further research could be aimed at the development of other measures for assessing continuity of care between hospital and community that take into account the patient's view. Perhaps these studies would throw more light on the effectiveness of the appointment of continuity nurses which could not be shown in this study.

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