

Building Consensus on an Integrated Care Pathway in Geriatric Rehabilitation: A Modified Delphi Study Among Professional Experts

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Abstract

To improve continuity and coordination of care in geriatric rehabilitation, an integrated care pathway was developed in the south of the Netherlands. This study aims to reach nationwide consensus on the content and structure of this locally developed pathway using a two-round Delphi study with specialized elderly care physicians ($n = 37$) as experts. In the first round, experts indicated their level of agreement on 65 statements representing the pathway on a 5-point Likert-type scale. Statements that did not gain consensus (interquartile range > 1) were redistributed to participants in Round 2. Consensus was reached on 56 statements (86%) after Round 1 and on 60 statements (92%) after Round 2. In total, 53 statements were assessed as relevant, seven statements were considered irrelevant, and five statements did not reach consensus. We conclude that there is broad nationwide consensus on the pathway, which therefore has the potential to be disseminated and implemented on a wider scale.

Keywords

geriatric rehabilitation, integrated care pathway, interprofessional collaboration, subacute care, aged, Delphi approach

Introduction

Frail older people, who have been admitted to hospital due to complex health problems such as neurological, musculoskeletal, cardiovascular, or pulmonary diseases, are often unable to return home directly after discharge. These people may require treatment in a geriatric rehabilitation facility before returning to their home situation. In such geriatric rehabilitation facilities (which in the Netherlands are usually situated in a nursing home) they receive treatment to enhance functional status, independence, and self-care (Bachmann et al., 2010; Boston Working Group, 1997).

Patients who receive geriatric rehabilitation transfer from the hospital to the geriatric rehabilitation facility and then to the home situation, where they often receive primary care. As a consequence, patients are confronted with various organizations and professionals during this trajectory, which can threaten continuity of care (Arbaje et al., 2014; Coleman, 2003; Hesselink et al., 2012; Storm, Siemsen, Laugaland, Dyrstad, & Aase, 2014). This lack of continuity can be caused by several factors, such as inappropriate communication between professionals from different organizations and disciplines (Coleman, 2003; Hesselink et al., 2012), the absence of correct and timely medication discharge summaries (Coleman,

2003; Hesselink et al., 2012; Naylor, Kurtzman, & Pauly, 2009), and professionals neglecting to transfer individual care plans to the organization providing follow-up care (Coleman, 2003; Storm et al., 2014). Furthermore, patients and informal caregivers are not always adequately informed about what to expect in the next care setting (Coleman, 2003; Storm et al., 2014) or are not sufficiently prepared for the transition to the final home situation (Arbaje et al., 2014; Coleman, 2003). These examples of threats in continuity of care might lead to negative events, such as insufficient functional improvement, disease exacerbations, unnecessary hospital readmissions, additional costs, premature permanent placement in nursing homes, and even death (Coleman, 2003; Forster et al., 2004; Hesselink et al., 2012; Mesteig, Helbostad, Sletvold, Rosstad,

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& Saltvedt, 2010; Naylor et al., 2009). More specifically, Coleman (2003) found that 19% of all patients were readmitted to the hospital within 30 days. Furthermore, the study of Forster and colleagues (2004) showed that discontinuity of care caused adverse drug events, therapeutic errors, and nosocomial infections among 23% of discharged patients. This even caused permanent disability or death among 6% of these patients. Finally, Mesteig and colleagues (2010) reported unwanted incidents during transitional phases in 59% of the patients. To achieve optimal care throughout the trajectory of hospital admission, geriatric rehabilitation, and primary care, the challenges in continuity and coordination of care need to be tackled. A strategy that is increasingly being used to improve coordination of care is the integrated care pathway (Rosstad, Garasen, Steinsbekk, Sletvold, & Grimsmo, 2013). Integrated care pathways describe a sequence and timing of activities or interventions performed by care providers to obtain clinical goals. They comprise detailed information about which professional is responsible for these interventions and activities (Huttin, 1997). Patients in an urban region in the south of the Netherlands who followed the trajectory of hospital admission, geriatric rehabilitation, and discharge back to the community were facing the aforementioned problems. Therefore, an integrated care pathway (further referred to as the "pathway") was developed. This integrated care pathway intended to tackle the challenges in continuity and coordination of care. Three multidisciplinary workgroups of stakeholders in geriatric rehabilitation developed the pathway in the period 2012-2014. The first workgroup represented the three settings involved (hospital, geriatric rehabilitation, and primary care) and consisted of professionals directly involved in the care provision alongside the pathway such as nurses, physiotherapists, occupational therapists, general practitioners, and employees of homecare organizations. The second workgroup comprised representatives of national interest groups, such as delegates of the national organization for care providers, health insurers, and a representative from the informal care support center. The last workgroup represented patients and informal caregivers. The workgroups met 20 times in total and, based on current care delivery, desired care delivery, and barriers and facilitators in the development and implementation process, the integrated care pathway was developed. The development of the pathway is described in more detail elsewhere (Everink et al., 2015). The newly developed pathway focused on improving communication, triage, and transfers of frail older patients between the hospital, geriatric rehabilitation facility, and primary care organizations (Everink et al., 2015).

The five key components of the pathway were as follows: (a) the appointment of a care pathway coordinator who encourages communication and information exchange between the organizations involved, (b) the use of a newly developed triage instrument in the hospital that provides guidance and support in the decision whether patients are referred to geriatric rehabilitation or to another form of

rehabilitation, (c) the active involvement of patients and informal caregivers during important decisions during the rehabilitation trajectory, (d) the timeliness and high quality of all patient discharge summaries from the hospital to geriatric rehabilitation and from geriatric rehabilitation to primary care, and (e) the organization of regular meetings between care professionals from the hospital, the geriatric rehabilitation facility, and primary care to evaluate and improve collaboration between the organizations.

Although care delivered through the pathway is now standard practice in the region where it was developed, the goal is to disseminate and implement this pathway nationwide. However, as regions and organizations differ in culture, resources, and networks, not all elements of the pathway might be feasible and acceptable for other organizations. Therefore, the objective of this study was to reach national consensus among experts in geriatric rehabilitation on the content and structure of the pathway using a Delphi panel. This will provide insight into elements of the pathway that appear not to be applicable or feasible in other regions and which should therefore be excluded from the pathway. Finally, we hope this results in an integrated care pathway in geriatric rehabilitation which is generically applicable and therefore appropriate for implementation on a nationwide level in the Netherlands and even abroad.

Method

Integrated Care Pathway

In the Netherlands, patients in geriatric rehabilitation have been classified into four main categories: (a) patients with stroke, (b) trauma orthopedic patients, (c) elective orthopedic patients, and (d) a residual group of patients, referred to as older patients with complex (geriatric) health problems. This pathway was specifically designed for patients with complex health problems. This particular group is suffering from multimorbidity, mostly involving cardiac problems, problems with the respiratory system, neurological problems, internal problems, and oncological problems. Such problems are all associated with considerable disabilities, care dependency, and polypharmacy. Because of the heterogeneity of this group, the pathway is not focused on the characteristics of the treatment but on the care process. As mentioned in the introduction, the key components of the integrated care pathway consist of the appointment of a care coordinator, the use of a triage instrument, the active involvement of patients and their informal caregivers, the timing and quality of patient discharge summaries, and regular evaluation meetings (at least once or twice per year) between organizations involved (Figure 1). Prior to implementation of the pathway, there was no care coordinator appointed and when assessing which patients could be referred toward the geriatric rehabilitation facility, nurses in the hospital did not use an official triage instrument. There were also no structural evaluation meetings

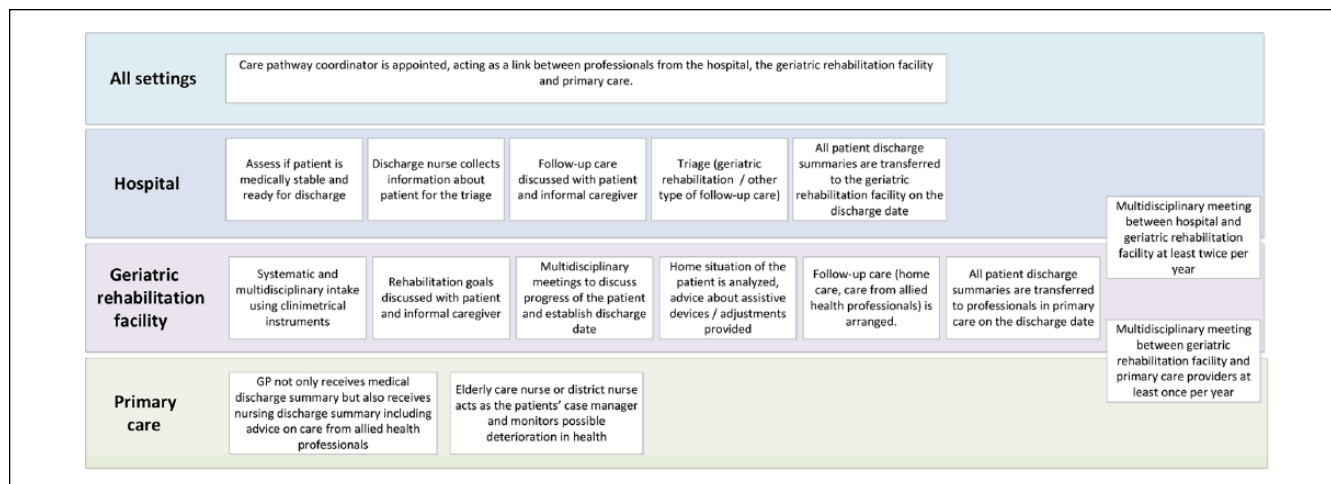


Figure 1. Integrated care pathway.

between the organizations involved. Furthermore, the active involvement of patients and informal caregivers and the timeliness and quality of patient discharge summaries were not officially listed in agreements or protocols.

Research Design

To assess the level of consensus on the pathway, we used a modified Delphi method. A Delphi method aims to reach consensus among experts through rounds of structured questionnaires (Jarrott, & Ogletree, 2016; Keeney, Hasson, & McKenna, 2011). The guiding principles of the pathway developed by the three multidisciplinary working groups served as the basis for the Delphi study and were presented to a panel of experts in the form of guiding principles.

Participants

The experts who were asked to participate in this Delphi study were Dutch elderly care physicians ($n = 82$) specializing in geriatric rehabilitation, with at least one year of working experience. The Dutch National Association of Elderly Care Physicians (“Verenso”) provided contact details for their network of elderly care physicians additionally educated in geriatric rehabilitation; these physicians were invited to participate in our study—elderly care physicians are focused on the care of frail older people with chronic, complex diseases. Contrary to hospital geriatricians, they work primarily in nursing homes and geriatric rehabilitation facilities and specialize in geriatric disorders and the particular appearances of diseases and disorders in elderly people (Samenwerkende Opleidingen tot specialist Ouderengeneeskunde Nederland, 2014). In the Netherlands, elderly care medicine (formerly nursing home medicine) is an official registered medical specialization. The professionals were chosen because of their wide experience with the total geriatric rehabilitation

trajectory, which starts in the hospital and finishes in primary care. They have to give approval on the triage decision in the hospital and have frequent contact with primary care providers. Therefore, we expected them to have a complete view of all settings.

Guiding Principles

Two researchers (authors I.H.J.E. and J.C.M.vH. who were closely involved in the development and implementation stage of the regionally developed pathway) developed the first draft of the guiding principles for the Delphi study. This list was intended to reflect the principles and practices of the integrated care pathway. The list was comprised of 34 guiding principles addressing the main components of the pathway. Furthermore, five professionals (three elderly care physicians, a nurse, and a project manager) from health care organizations offering geriatric rehabilitation were questioned about additional topics that the researchers believed were underrepresented in the list. These topics were (a) the use of screening and assessment instruments in the geriatric rehabilitation facility, (b) the active support of patient self-management in the geriatric rehabilitation facility, (c) managing patient expectations throughout the whole trajectory, (d) the appointment of a first responsible professional for the patient (e.g., the professional in geriatric rehabilitation acting as the patients’ case manager), and (e) deciding on the intensity of therapy and length of stay in the geriatric rehabilitation facility. These professionals were interviewed by telephone and based on their answers, nine additional guiding principles including subquestions (guiding principle number 5, 12, 13, 14, 23, and 31 in Table 2 and guiding principle number 1, 6, and 9 in Table 3) were developed and added to the list. Before disseminating the list of guiding principles to panelists, items were reviewed and amended by two experts in the field of geriatric rehabilitation for critical reflection. The feedback

provided by the experts on the revised list was discussed with the two researchers (authors I.H.J.E. and J.C.M.vH). Based on this feedback, the list was adjusted accordingly. The final list consisted of 65 guiding principles (including substatements). These 65 guiding principles were divided across eight different domains. These domains reflect the phases/domains of the pathway and are the following: (a) screening and triage in the hospital ($n = 8$ guiding principles), (b) transfer from hospital to geriatric rehabilitation facility ($n = 3$ guiding principles), (c) regular meetings between hospital, geriatric rehabilitation facility, and primary care ($n = 2$ guiding principles), (d) establishment of care and treatment plan in the geriatric rehabilitation facility ($n = 32$ guiding principles), (e) information provision and patient empowerment in the geriatric rehabilitation facility ($n = 3$ guiding principles), (f) transfer from the geriatric rehabilitation facility to primary care ($n = 14$ guiding principles), (g) care provision in primary care ($n = 2$ guiding principles), and (h) the care pathway coordinator ($n = 1$ guiding principles). The list with guiding principles was distributed using the online survey software Qualtrics (www.qualtrics.com).

Data Collection and Data Analysis

Delphi Round 1. The purpose of the first round in a modified Delphi study is to seek opinions and judgment of participants on a particular issue (Keeney et al., 2011). The aim of the first Delphi round in this study was to assess to what extent experts agreed on the content and structure of the pathway. The elderly care physicians specializing in geriatric rehabilitation received an email on the 31st of August 2015 in which they were invited to complete the online list of guiding principles within four weeks. The link to the list was provided in the email. In the list of guiding principles, the participants were asked to indicate their level of agreement on the principles on a 5-point Likert-type scale from *completely disagree* (1) to *completely agree* (5). It was also possible to give an explanation after each guiding principle. Nonrespondents were reminded after a period of three weeks.

Consensus. Consensus was computed using the interquartile range (IQR). The IQR calculates the difference in the scores between the 25th and the 75th percentile (Rayens & Hahn, 2000). Although there is no agreement in the literature on the value the IQR should have to ensure consensus, an IQR of ≤ 1 on a 5-point Likert-type scale is often used (Linstone & Turoff, 1975; Vestjens, Kempen, Crutzen, Kok, & Zijlstra, 2015; von der Gracht & Darkow, 2010) and was therefore adopted to assess consensus among the participants in this study as well. When the IQR of a guiding principle was ≤ 1 , it was considered that consensus on the item was reached and the item was removed from the second round list of guiding principles. If the IQR of a guiding principle was ≤ 1 and the median score on that principle was 4 or 5, we concluded that that this guiding principle was considered to be important and it was therefore

included in the final set of guiding principles of the pathway. When the IQR of a guiding principle was ≤ 1 and the median was 1 or 2, we concluded that participants considered that guiding principle to be unimportant and it was eliminated from the pathway. If the IQR of a guiding principle was ≤ 1 and the median score on that guiding principle was 3, participants appeared to be neutral about the importance of that guiding principle. In these situations, we decided to check the percentages: If the percentage of participants assessing this guiding principle with a 4 or 5 was higher than the percentage of participants who assessed it with a 1 or 2, we decided to include this guiding principle in the final set of guiding principles. If the percentage of participants assessing a guiding principle with a 1 or 2 was higher than the percentage assessing it with a 4 or 5, we excluded the guiding principle.

Delphi Round 2. The purpose of a second round in a Delphi study is to build consensus by inviting the panelists to consider other panelists' anonymous responses as these might influence them to reevaluate their initial rating of an item (Keeney et al., 2011). To have participants reconsider their initial answers, every guiding principle was accompanied by information about both their own response to that principle in Round 1, as well as the distribution of responses of the whole group to that guiding principle in Round 1. We assumed that information about the answers of the group as a whole might lead to a higher level of consensus (Rayens & Hahn, 2000). The aim of the second Delphi round in this study was to seek further consensus on the guiding principles of the pathway. Respondents' Round 1 ratings were used to calculate median and IQR scores for each of the 65 guiding principles. The second list of guiding principles included only the principles which did not reach consensus in the first round. Furthermore, participants received information about which guiding principles had gained consensus in the first round, hoping that this would stimulate participants to seek consensus on the other principles. This technique is also used to facilitate a high response rate as it keeps the participants interested (Keeney et al., 2011). Only the participants who completed Round 1 were invited to participate in Round 2. These participants received an email with a link to the second list of guiding principles on November 4, 2015. Nonrespondents were reminded after a period of three weeks.

Additional remarks provided by participants were combined by author I.H.J.E. based on the matching content of the answers. In addition to the scores, these summarized remarks are provided to underline the results.

Results

Participants

Of the 82 elderly care physicians who were invited to participate in the first Delphi round, 37 (46%) evaluated the first list of guiding principles. Their demographics are displayed

Table 1. Background Characteristics of Delphi Participants.

<i>N</i> = 37	<i>n</i>	%
Gender		
Female	26	70
Age		
<45 years	10	27
≥45 years	27	73
Years' experience as elderly care physician		
<10 years	11	30
≥10 years	26	70
Size of geriatric rehabilitation facility		
<300 patients per year	20	54
≥300 patients per year	17	44
Involvement in triage for geriatric rehabilitation		
I do the triage myself	19	51
Someone else does the triage	18	49

in Table 1. Of the 37 participants who completed Round 1, 29 (78% of 37) also completed Round 2. Table 1 shows that the majority of participants were female (70%), over 45 years of age, and had more than 10 years of experience as an elderly care physician specializing in geriatric rehabilitation (70%).

Delphi Process

After Round 1, consensus was reached ($IQR \leq 1$) on 56 guiding principles (86%). Because the elderly care physicians did not reach consensus on nine guiding principles, these were reintroduced in Round 2. After Round 2, the experts came to consensus on four additional guiding principles, which means that finally consensus was reached for 60 principles (92%). Figure 2 shows the number of guiding principles in each domain that gained consensus after Round 1 and after Round 2.

Table 2 shows the final integrated care pathway. This table includes all principles where consensus about inclusion was reached, together with additional remarks that were provided by experts most frequently to explain their scores; the additional remarks are not part of the integrated care pathway. These guiding principles had an $IQR \leq 1$ and a median score of 4 or 5 (agree or completely agree), or a median of 3 (neutral), but more participants agreed with the principle (scoring a 4 of 5), in comparison with the number of participants who disagreed with the principle (scoring a 1 or 2).

Table 3 shows the guiding principles that were removed from the pathway. On these principles, consensus was reached about exclusion or no consensus was reached. The guiding principles where consensus was reached about exclusion ($IQR \geq 1$) had a median score of 1 or 2 (disagree or completely disagree) or a median score of 3 (neutral), but more participants disagreed with the principle (scoring a 1 or 2), in comparison with the number of participants

who agreed with the principle (scoring a 4 or 5). The guiding principles that did not reach consensus had an $IQR > 1$ after Round 2.

The seven guiding principles that did gain consensus about exclusion were excluded from the pathway. These principles concerned the need to retrieve patient information of primary care professionals when performing the triage in the hospital (guiding principle 3), the importance of using the "Care Dependency Scale (CDS)" and the "Mini Nutritional Assessment–Short Form (MNA-SF)" when examining patients at admission to the geriatric rehabilitation facility (guiding principles 4-a and 4-b), using physiotherapists and occupational therapists as the first responsible professional for the patient (guiding principles 5-a and 5-b), involving the patient and informal caregiver in the multidisciplinary meetings (guiding principle 6), and providing a verbal handover to the general practitioner, in addition to the written discharge summary (guiding principle 7). These guiding principles were all excluded from the pathway. With regard to excluding guiding principle 3, experts commented that contacting primary care professionals was not necessary because usually they had a complete picture of the patient. There was no additional information provided by experts with regard to excluding guiding principles 4-a, 4-b, 5-a, and 5-b. With regard to excluding guiding principle 6, experts commented that involving the patient and informal caregiver in the multidisciplinary meetings is not feasible and would lead to inefficiency and needless discussions. They preferred to inform the patient after the multidisciplinary meeting. With regard to excluding guiding principle 7, experts stated that duplication of work should be prevented and that providing a verbal handover is needed only when there are peculiarities.

The five guiding principles that did not gain consensus were also eliminated. These were the following: "The geriatric rehabilitation triage should always be performed by an elderly care physician" (guiding principle 1), and "The geriatric rehabilitation triage can also be performed by a professional who is responsible for arranging follow-up care after hospital discharge, presupposing the elderly care physician has the final responsibility" (guiding principle 2). Some elderly care physicians stated that care providers other than themselves did not have the clinical expertise to take this triage decision, whereas others argued that the criteria about eligibility for geriatric rehabilitation were clear enough for other care providers to make this decision.

Furthermore, no consensus was reached on the guiding principles "A social care worker is suitable as a first responsible professional for the patient" (guiding principle 5-c) and "All patients in the geriatric rehabilitation facility should be discussed at least every two weeks in a multidisciplinary meeting for professionals" (guiding principle 7). Some experts argued that every two weeks was too often, and some experts stated that patients should be discussed every week. Finally, the guiding principle "The home situation of the patient should always be visited by a physiotherapist or

Table 2. Included Guiding Principles in the Pathway and Additional Comments.

No.	Guiding principle	Decision	Comment
Domain 1: Screening and triage in the hospital			
1	To be able to adequately execute the geriatric rehabilitation triage, professionals in the hospital (specialists, allied health care professionals, or nurses) should always be asked for additional patient information	Consensus: Include	"Only if the information available in registration systems is insufficient"
2	The patient's wishes and possibilities should always explicitly be taken into account when giving advice about suitable follow-up care	Consensus: Include	"Patients should be motivated, but taking into account all preferences is not realistic"
3	The informal caregiver should be asked about his or her possibilities for providing informal care	Consensus: Include	"This is what we aim for but not something we can always take into account"
4	The person doing the triage for geriatric rehabilitation should always provide oral and written information about geriatric rehabilitation to the patient and informal caregiver	Consensus: Include	"Information should be provided but not necessarily by the person doing the triage"
5	A case manager should be appointed who follows the patients throughout the whole trajectory of hospital care, geriatric rehabilitation care, and primary care and who serves as the point of contact for both the patient and the informal caregiver	Consensus: Include	"Good idea but funding might be a problem" "Not required for all patients"
Domain 2: Transfer from hospital to geriatric rehabilitation facility			
6	If the triage shows that the patient is eligible for geriatric rehabilitation, the patient should have at least one day to prepare themselves for the transfer to the geriatric rehabilitation facility	Consensus: Include	"It is important to start with the rehabilitation trajectory as soon as possible"
7	On the day the patient is discharged from the hospital, an actual medication list, a medical and nursing discharge summary, and, if necessary, a discharge summary from allied health care professionals, should be available for the professionals in geriatric rehabilitation	Consensus: Include	"Preferably even earlier"
8	If the patient discharge summaries are not available on the day the patient is admitted in the geriatric rehabilitation unit, professionals from the geriatric rehabilitation facility should contact the hospital directly	Consensus: Include	"Agree, but this does involve placing the burden on the professionals from the geriatric rehabilitation facility"
Domain 3: Regular meetings between hospital, geriatric rehabilitation facility, and primary care			
9	At least twice per year a meeting is organized between professionals from the hospital and from geriatric rehabilitation who are involved in the triage process. The aim of this meeting is to evaluate whether or not the triage process, the handovers, and the transfer of patients between hospital and geriatric rehabilitation are satisfactory	Consensus: Include	"Very important and preferably even more often"
Domain 4: Establishment of care and treatment plan in geriatric rehabilitation facility			
10	It is essential that all patients with complex health problems admitted to the geriatric rehabilitation facility are systematically and multidisciplinary examined on admission	Consensus: Include	
11	The examination should be performed within two weeks after the patient is admitted to the geriatric rehabilitation facility	Consensus: Include	"Preferably even sooner than within 2 weeks"
12	How do you assess the importance of using the following instruments to examine patients with complex health problems on admission to the geriatric rehabilitation unit?		"The choice of instruments should be based on indication" "Not familiar with all instruments"
a ^a	Barthel Index (BI)	Consensus: Include	
b ^a	Groningen Activity Restriction Scale (GARS)	Consensus: Include	
c ^a	Timed Up & Go test (TUG)	Consensus: Include	
d ^a	Elderly Mobility Scale (EMS)	Consensus: Include	
e ^a	Modified Iowa Level of Assistance Scale (MILAS)	Consensus: Include	

(continued)

Table 2. (continued)

No.	Guiding principle	Decision	Comment
f ^a	Berg Balance Scale (BBS)	Consensus: Include	
g ^a	Utrecht Scale for Evaluation of Rehabilitation (USER)	Consensus: Include	
h ^a	Mini Mental State Examination (MMSE)	Consensus: Include	
i ^a	Neuropsychiatric Inventory (NPI)	Consensus: Include	
j ^a	Delirium Observation Screening (DOS)	Consensus: Include	
k ^a	Geriatric Depression Scale (GDS)	Consensus: Include	
l ^a	Braden Scale (pressure sores)	Consensus: Include	
m ^a	Short Nutritional Assessment Questionnaire (SNAQ)	Consensus: Include	
n ^a	Frailty Scales, such as the Groningen Frailty Indicator (GFI), Tilburg Frailty Indicator (TFI), or the Transmural Care Assessment Geriatrics (TRAZAG)	Consensus: Include	
13	Every patient with complex health problems should get a professional appointed who acts as a first responsible professional for the patient (such as a care professional, a nurse, or an allied health care professional)	Consensus: Include	
14	How do you assess the suitability of the following care professionals to act as a first responsible professional?		
a ^a	Health care helper Level 3	Consensus: Include	
b ^a	Health care worker Level 4	Consensus: Include	
c ^a	Bachelor-educated registered nurse	Consensus: Include	
15	A multidisciplinary meeting between professionals should be organized around a patient within two weeks after admission to the geriatric rehabilitation facility	Consensus: Include	“Preferably even earlier”
16	Prior to the first multidisciplinary meeting, the first responsible professional should have discussed wishes and possibilities concerning the care and treatment plan and rehabilitation goals with the patient and (if the patient desires) with the informal caregiver	Consensus: Include	“This enables us to incorporate the patient’s voice into the multidisciplinary meeting”
17	After each multidisciplinary meeting, the patient and (if applicable) the informal caregiver should always be informed about the issues discussed during the meeting	Consensus: Include	
18	When establishing a patient’s treatment program, attention should be paid to the examination of the patient at admission, their wishes, and (if applicable) the possibilities of the informal caregiver to provide informal care	Consensus: Include	“If possible, yes with an emphasis on possibilities rather than wishes”
19	Within two weeks after admission, the patient’s provisional discharge date should be discussed with the patient and (if applicable) the informal caregiver	Consensus: Include	“Sometimes more than 2 weeks are required to establish the discharge date”
Domain 5: Information provision and patient empowerment in geriatric rehabilitation			
20	The treatment intensity (the number of hours of treatment per week) should be modified if this is required by the patient’s progress	Consensus: Include	“Taking the funding possibilities into account”
21	The patient’s provisional discharge date should be adjusted if this is required by the patient’s progress	Consensus: Include	
22	In the geriatric rehabilitation facility, specific attention should be paid to patient self-management	Consensus: Include	

(continued)

Table 2. (continued)

No.	Guiding principle	Decision	Comment
Domain 6: Transfer from the geriatric rehabilitation facility to primary care			
23	At the latest one week prior to discharge from the geriatric rehabilitation facility, the discharge conversation with the patient should be organized	Consensus: Include	"This depends on how complex the situation of the patient is: could be earlier or later"
24	Physiotherapist or occupational therapist should advise the patient prior to discharge from the geriatric rehabilitation facility about required adjustments to the home which must be undertaken to go home safely	Consensus: Include	
25	Prior to discharge from the geriatric rehabilitation facility, the professionals of the geriatric rehabilitation facility should arrange home care at the home care organization of the patient's preference	Consensus: Include	
26	If the complexity of the situation requires it, a home care professional should come to the geriatric rehabilitation facility for a patient intake	Consensus: Include	"Good informed home care is crucial for continuity of care"
27	If required by the patient, a home care professional should come to the geriatric rehabilitation facility for a patient intake	Consensus: Include	"Doing an intake at home might be more valuable"
28	The medical discharge summary and the actual medication list should be sent to the general practitioner no later than on the discharge day	Consensus: Include	"Not always necessary for the medical discharge summary: if the situation is not complex, 5 days is sufficient"
29	The prescription for medication should be sent to the pharmacy no later than on the discharge day	Consensus: Include	"Preferably even earlier"
30	The discharge summaries of allied health care professionals should always be given to the patient no later than on the discharge day	Consensus: Include	
31	During the discharge conversation, the medication list should always be meticulously discussed with the patient and family	Consensus: Include	"Not only when the patient is discharged but always when the medication changes"
32	The discharge summary to the general practitioner should always include information about the follow-up care advised	Consensus: Include	
33	The nursing discharge summary should be transferred to the organization providing follow-up care no later than on the discharge day	Consensus: Include	
34	If the patient discharge summaries are not available on the day of discharge from the geriatric rehabilitation facility, professionals in primary care (general practitioners and home care professionals) should contact the geriatric rehabilitation facility directly	Consensus: Include	"If the situation requires this"
Domain 3: Regular meetings between hospital, geriatric rehabilitation facility, and primary care			
35	At least twice per year a meeting should be organized between professionals from the geriatric rehabilitation facility and from primary care to evaluate the patient discharge summaries and patient transfer	Consensus: Include	"Good idea but difficult to organize with the large number of GPs and primary care organizations"
Domain 7: Care provision in primary care			
36	The general practitioner should always contact the patient within a week after returning home to safeguard the health status of the patient	Consensus: Include	"Depends on the complexity of the situation"
37	The GP-based nurse specialist or district nurse of the home care organization should act as the patient's case manager after discharge from the geriatric rehabilitation facility	Consensus: Include	"Depends on how frail the person is"
Domain 8: Care pathway coordinator			
38	A care pathway coordinator should be appointed, acting as a link between the health care professionals of the various organizations. This person also safeguards that the agreements in the care pathway are followed	Consensus: Include	"Improves quality but not always necessary"

*Element is included in the final integrated care pathway for geriatric rehabilitation.

occupational therapist well before discharge, to give advice about necessary adjustments" (guiding principle 8) did not reach consensus, as some experts highly agreed with this principle, while others argued that photos of the home

situation or information from the patient himself or herself is also sufficient to give advice about the essential adjustments. Accordingly, these guiding principles were also eliminated.

Table 3. Excluded Guiding Principles From the Pathway and Additional Comments.

No.	Guiding principle	Decision	Comment
Domain 1: Screening and triage in the hospital			
1	The geriatric rehabilitation triage should always be performed by an elderly care physician	No consensus: Exclude	“This could also be delegated”/“Decision should be taken by the elderly care physician”
2	The geriatric rehabilitation triage can also be performed by a professional who is responsible for arranging follow-up care after hospital discharge, presupposing the elderly care physician has the final responsibility	No consensus: Exclude	“No, other professionals lack sufficient knowledge”/“Only for the not so complex patients”
3	To be able to adequately execute the geriatric rehabilitation triage, the general practitioner or home care professionals in primary care should always be asked for additional patient information	Consensus: Exclude	“Depends on the situation but usually this is not necessary”
Domain 4: Establishment of care and treatment plan in geriatric rehabilitation facility			
4	How do you assess the importance of using the following instruments to examine patients with complex health problems on admission to the geriatric rehabilitation unit?		“The choice of instruments should be based on indication” “Not familiar with all instruments”
a	Care Dependency Scale (CDS)	Consensus: Exclude	
b	Mini Nutritional Assessment–Short Form (MNA-SF)	Consensus: Exclude	
5	How do you assess the suitability of the following care professionals to act as a first responsible professional?		
a	Physiotherapist	Consensus: Exclude	
b	Occupational therapist	Consensus: Exclude	
c	Social care worker	No consensus: Exclude	
6	The patient and (if the patient desires) the informal caregiver should always be present during the multidisciplinary meetings where rehabilitation progress is discussed	Consensus: Exclude	“Infeasible and inefficient”
7	All patients should be discussed at least every two weeks in a multidisciplinary meeting for professionals	No consensus: Exclude	“The frequency depends on the progress of individual patients”
Domain 6: Transfer from the geriatric rehabilitation facility to primary care			
8	The home situation of the patient should be visited by a physiotherapist or occupational therapist well before discharge, to give advice about necessary adjustments	No consensus: Exclude	“Home visit is not always needed”
9	In addition to the written discharge summary, the elderly care physician should always provide a verbal handover to the general practitioner	Consensus: Exclude	“This is unrealistic and leads to double work”

Discussion

Through a two-round Delphi procedure involving elderly care physicians specializing in geriatric rehabilitation, this study identified a set of consensus-based guiding principles which should be incorporated in an integrated care pathway for geriatric rehabilitation. The results showed that consensus was gained for 60 out of 65 guiding principles (92%). Of these 60 principles, the experts assessed the content of 53 guiding principles as relevant for inclusion in the pathway. Seven of the other guiding principles were considered insufficiently relevant to be incorporated in the pathway, and no consensus was reached on five principles. These results imply that there is broad consensus on the content and structure of the pathway and that it has the potential to be disseminated and implemented on a wider scale. With

this we try to achieve a more structured way of working and higher quality of care on a national level in geriatric rehabilitation.

The starting point of this modified Delphi procedure was the pathway developed in the southern part of the Netherlands by professionals involved in the provision of care within the pathway and by representatives of patients and informal caregivers. The content of the pathway was therefore already well adjusted to current practice in geriatric rehabilitation. Furthermore, the pathway includes transitional care agreements between various settings (hospital, geriatric rehabilitation, and primary care). This is in line with current developments in integrated care, where the emphasis is on making services, providers, and organizations work together and improving continuity for the client (Toscan, Mairs, Hinton, & Stolee, 2012).

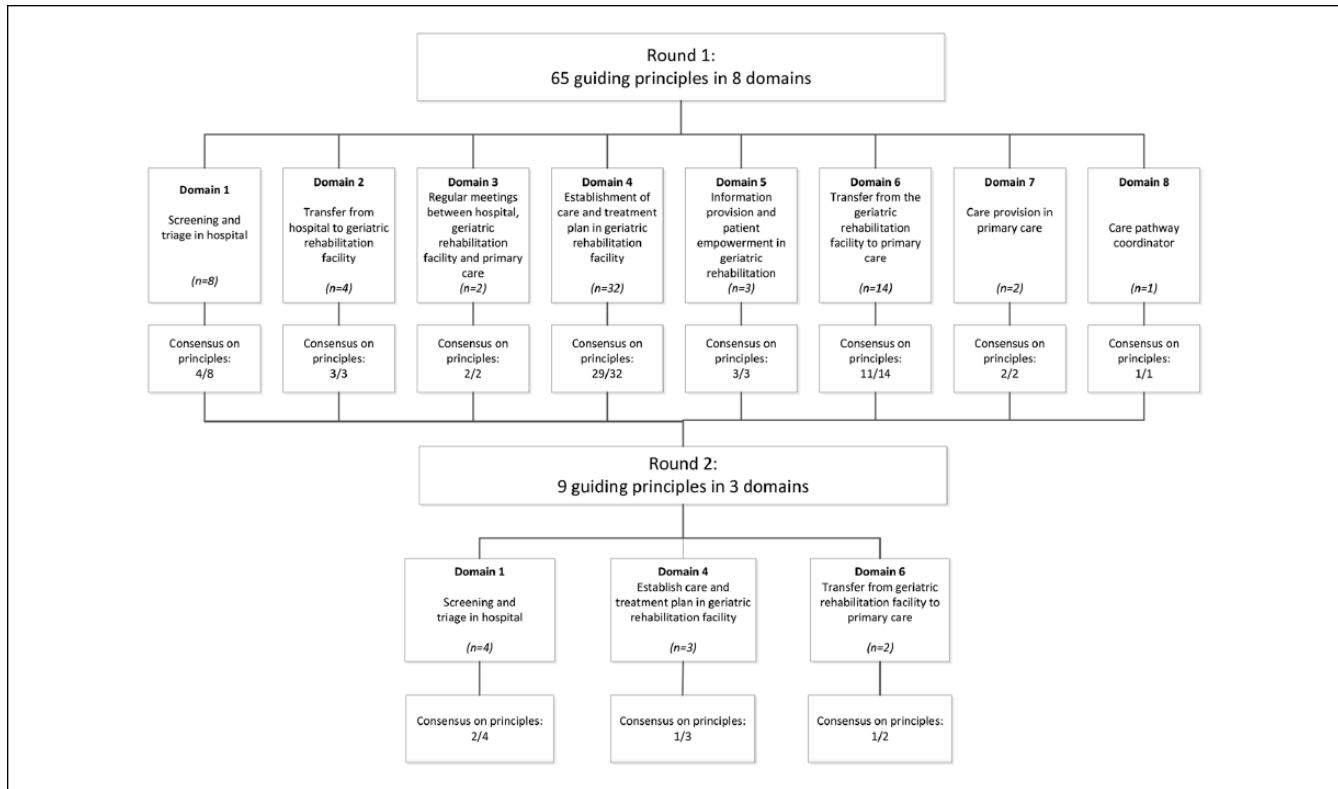


Figure 2. Number of guiding principles in each domain for which consensus was gained after Round 1 and after Round 2.

To our knowledge, no other study has used a Delphi method to reach consensus on the content of an integrated care pathway in geriatric rehabilitation. Although some studies have made use of an expert panel to create a care pathway, these pathways are focused on one specific disorder and only on hospital care (Keller et al., 2015; Lodewijckx et al., 2012). Therefore, this study makes a unique contribution that advances the field.

A key factor in the successful implementation of care pathways is the flexibility of adapting the pathway to local settings (Vanhaecht, Panella, van Zelm, & Sermeus, 2010). This is confirmed by feedback from the experts in the present study: Although consensus was reached on most of the guiding principles of the pathway, experts provided additional remarks such as “This depends on the situation” or “Not strictly always.” This indicates that there is a need for flexibility and local adaptation.

Although this Delphi study was performed to reach consensus on the content and structure of the integrated care pathway in the Netherlands, it is likely that many elements of this care pathway are useful for other countries and health care systems as well. As a growing number of frail older adults receive care from multiple providers and move across health care settings, more research focuses on how adverse events can be avoided in light of these care transitions (Laugaland, Aase, & Barach, 2012). Therefore, the specific

parts of the pathway that focus on the safe transition of patients between care settings (not necessarily geriatric rehabilitation) can be used as a draft format in other countries when developing their own regional pathways in geriatric rehabilitation. In addition, patient-focused care is a main objective of health care organizations across the world, and this pathway includes the organization and coordination of care around patients' needs, rather than around professionals or organizations. This is demonstrated in that the settings through which patients transit are all represented in the pathway, as well as the fact that various elements of this pathway specifically focus on the provision of information and patient empowerment. This pathway may therefore help organizations internationally in realizing patient-focused care and in providing integrated care by bringing services, professionals, and organizations together. As noted, it is important that organizations use this pathway only as a draft format and adapt it to their needs and circumstances in their region. This can be done by first performing an analysis of the current care provision, then critically discussing where the current care provision deviates from the preferred care provision. A next step is to meticulously review the integrated care pathway and see which items of the pathway can be used to close the gap between current care provision and preferred care provision in the region. The pathway items can be adjusted to the needs in the region. When adapting the care pathway, a

key to successful implementation is involving patients and various professionals who work with the care pathway during the stage of adaptation (Boivin et al., 2010).

Although integrated care is patient-centered, considers the patient as a real partner, and empowers the patient (Walker et al., 2013), the experts agreed to exclude guiding principle 21, "The patient and (if the patient desires so) the informal caregiver should always be present during the multidisciplinary meetings where rehabilitation progress is discussed." It is therefore important to explore whether this patient-centeredness is now sufficiently considered in the multidisciplinary meetings.

One of the concerns expressed by the experts was about the feasibility of some guiding principles that are included in the final pathway. These concerns were mainly based on expected financial constraints. Examples of these guiding principles are appointing a case manager who follows the patient throughout the whole trajectory of hospital care, geriatric rehabilitation care, and primary care (guiding principle 8) and changing the treatment intensity if this is required by the patient's progress (guiding principle 25). Experts argued that they are skeptical whether this will actually be accomplished. Second, the experts acknowledged that they were not familiar with all screening instruments they had to assess (guiding principle 15). Therefore, there is still some uncertainty as to which screening instruments should be used when examining patients at admission, and which screening instruments may be redundant.

A strength of this study is that the design assured the experts' anonymity to one another, avoiding group conformity. Furthermore, the majority (70%) of the experts participating in the Delphi panel had more than 10 years of working experience in geriatric rehabilitation, that enabled them to make a competent assessment of the importance of the guiding principles.

Three limitations should also be mentioned. First, in a Delphi study, panelists do not meet, which prevents the possibility of interaction as a source of creating new ideas (Graham, Regehr, & Wright, 2003). Second, the response rate was only 46%. Although a systematic review by Boulkedid and colleagues (Boulkedid, Abdoul, Loustau, Sibony, & Alberti, 2011) showed that only 39% of the Delphi studies on health care quality indicators report on response rate, the median response rate among these studies is 90% in the first round. Therefore, the possibility of selection bias should be taken into account. Furthermore, the expert panel was a rather homogeneous group; they all worked in the geriatric rehabilitation facility. Professionals from hospitals and primary care were not represented in this panel. This was a considered decision as we reasoned that elderly care physicians have wide knowledge about and experience with the different settings in the whole rehabilitation trajectory, whereas representatives from the hospital or primary care might not have a complete view of all settings. Still, this choice might have affected the external validity of our results. However, because

the integrated care pathway was developed by three multidisciplinary workgroups with a wide variety of professionals involved, we believe the multidisciplinary character of the pathway has been sufficiently accounted for. In the future, opinions of other involved professionals (nurses, allied health professionals, home care workers, and general practitioners) about the content of the integrated pathway in geriatric rehabilitation will also be explored.

Conclusion

To conclude, a set of 53 out of 65 elements was found to be appropriate for inclusion in the integrated care pathway for geriatric rehabilitation. This indicates there is broad national consensus on the content and structure of the pathway. There is a need to further explore experts' ideas on guiding principles that did not gain consensus and to examine if they could be incorporated in the pathway in a modified form. As there is a growing interest in improving care transitions among older adults and avoiding adverse events in light of these transitions both nationally and internationally, the pathway has the potential to be disseminated and implemented on a wider scale. This study did show that although there is broad consensus on the content and structure of the pathway, it is important that the pathway is flexible enough to adapt it to local settings. Furthermore, future research should focus on the feasibility of the integrated care pathway in daily practice. This can be done by pilot testing these elements of the pathway. If it appears that these elements are not feasible in practice, the pathway should be adjusted accordingly. The process evaluation of this study already proved feasibility of the key elements of the pathway (Everink, Haastregt, Maessen, Schols, & Kempen, 2017). Finally, the utility of the pathway in regular care was evaluated using an effectiveness and cost-effectiveness evaluation. Results of the cost-effectiveness evaluations show fewer costs and more effects, making it a cost-effective intervention (Everink, Haastregt, Evers, Kempen, & Schols, 2018). Results of the effectiveness evaluation will be published elsewhere.

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