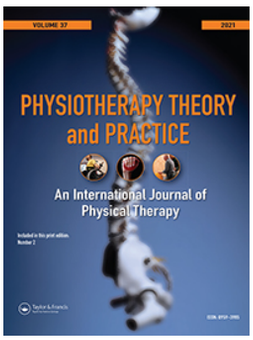

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Perspectives of patients and health-care professionals on physical activity of hospitalized patients

Kirsten De Klein, MSc[a], Karin Valkenet, PT, PhD[b], and Cindy Veenhof, PT, PhD [b,c]

[a]Department of Social Sciences, Wageningen University and Research, Wageningen, The Netherlands; [b]Department of Rehabilitation, Physiotherapy Science and Sport, University Medical Center Utrecht, Utrecht University, Utrecht, Netherlands; [c]Expertise Center Innovation of Care, Research Group Innovation of Mobility Care, University of Applied Sciences Utrecht, Utrecht, Netherlands

ABSTRACT

Background: A lack of physical activity during hospitalization can lead to adverse outcomes like complications and loss of physical function. More insight into factors that influence physical activity during a hospital stay is needed to develop strategies to change the mobility culture in hospitals.

Objective: To give an overview of factors that influence physical activity of patients by exploring the perspectives of both patients and health-care professionals regarding physical activity during hospital stay.

Method: Semi-structured interviews with patients and health-care professionals were conducted at a university hospital in the Netherlands. Patients were interviewed about their daily activities during their hospital stay and the factors that were of influence. Health-care professionals were asked about their perceptions regarding their responsibilities in promoting physical activity during hospitalization.

Results: In total eight patients and nine health-care professionals participated. Patients and health-care professionals stated that low physical activity levels were mostly caused by a poor physical status, patients' expectations to lie in bed during hospitalization, and the lack of knowledge on the importance of physical activity. Lack of time was the main barrier for health-care professionals to promote physical activity.

Conclusion: Physical activity is not yet seen as a structural part of hospital care by both patients and health-care professionals, and does not have priority within current daily routines. To increase physical activity levels of hospitalized patients, more knowledge and tools should be available for both patients and health-care professionals.

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Hospitalization; physical activity; behavior; health care professionals; inpatients; activities of daily living

Introduction

Yearly around 1,700,000 people are admitted to a hospital in the Netherlands (Central Bureau of Statistics, 2014). Although hospitalization is primarily aimed at improving a patient's health status, it is often associated with adverse outcomes due to functional decline (Brown et al, 2007; Cattanach, Sheedy, Gill, and Hughes, 2014; Pierluissi, Francis, and Covinsky, 2014). This functional decline may occur as a result of frequent and often preventable bed rest episodes which are associated with adverse effects on the cardiovascular, respiratory and musculoskeletal systems (Bernhardt, Dewwy, Thrift, and Donnan, 2004; Cattanach, Sheedy, Gill, and Hughes, 2014).

Functional decline due to hospitalization is called Hospitalization Associated Disability (HAD). HAD is an addition to the illness that caused the individual to be admitted to the hospital and it serves as an inhibiting factor for recovery for many patients (Pierluissi, Francis, and Covinsky, 2014). Patients are less able to individually perform basic activities of daily living like self-care and eating or walking small distances (Brown, Friedkin, and Inouye, 2004; Covinsky, Pierluissi, and Johnston, 2011). An HAD can result in prolonged length of stay and increased health-care costs (Brown, Friedkin, and Inouye, 2004).

Increasing the amount of physical activity during a hospital admission can prevent HADs (Sourdet et al, 2015). Nevertheless, patients spent between 50% and 83% of their time in bed, and less than 6% of their time on performing physical activities (Bodilsen et al, 2013; Brown, Redden, Flood, and Allman, 2009; Pedersen et al, 2013; van de Port, Valkenet, Schuurmans, and Visser-Meily, 2012). Health-care professionals (HCPs) are able and willing to encourage patients to be more physically active, but do not see it as a priority (Brown et al, 2007; Doherty-King et al, 2014).

CONTACT Kirsten de Klein kirstenmoniquedeklein@gmail.com Department of Social Sciences, Wageningen University and Research

A study by Brown et al. (2007) identified multiple barriers involved in the mobility of hospitalized older patients. Perspectives of both patients and nurses regarding the amount of physical activity of patients were identified. The perspectives of other health-care professionals (HCPs) like physiotherapists and physicians on promoting physical activity of inpatients were not investigated while they also play an important role in the daily care of patients. However, studies regarding the perspectives of both patients and multiple types of HCPs have not been done before. Furthermore, perspectives may vary between settings and countries. To improve physical activity levels of hospitalized patients, more insight into the current barriers and facilitators experienced by patients and different HCPs, is necessary. Therefore, this study aims to answer the following research question: What are the perspectives of both patients and health-care professionals on the amount of physical activity of hospitalized patients and what factors may promote the daily physical activity of patients?

Method

Study setting

This qualitative study was performed at a large Dutch university hospital offering clinical care to 1,000 patients daily and handling 30,000 yearly clinical admissions (University Medical Center Utrecht, 2018). Patients and HCPs of two departments were interviewed, namely: geriatrics and gastroenterology. Both departments were participating in a pilot of a hospital-wide project aiming to increase inpatient mobility. The two departments differ greatly in disease symptoms and age groups, which was expected to result in different perspectives regarding physical activity. Patients were eligible for inclusion if they were hospitalized for at least three days, had a good understanding of the Dutch language and were 18 years or older. HCPs were eligible for selection if they worked at one of the included departments. To ensure a variety of job-related perspectives, nurses, physiotherapists, and physicians were approached for participation. The project leader of the hospital-wide project approached nurses on both departments. These nurses shared the names of eligible patients, and additional HCPs for participating in the study. The interviewer/researcher contacted the departments weekly to discuss whether there were newly admitted patients eligible to participate. These patients were subsequently approached by the researcher. This study was approved by the (blinded) medical ethics committee of the University Medical Center Utrecht (no. 16–112). Written informed consent was obtained from all participants. No identifying information was included in the audio tapes and the transcripts.

Data collection

Individual semi-structured interviews were conducted. Interviews were held inpatient- and in staff-rooms, all by one researcher. The interviews varied in duration between 30 and 60 min. The interviews started with an open-ended question to increase comfort and to gain insight into in the basic attitude towards physical activity during a hospital stay. Patients were asked if they could share how a -random day during their hospital stay looked like for them. HCPs were asked if they could describe how they were involved in the patient's care. To guide the interviews, a topic list was used which was based on the I-Change Model (Table A1) (De Vries et al, 2003). The I-Change Model is often used in research investigating behavioral change promotion, mostly in The Netherlands, but also internationally (Rhodes and Yao, 2015; Van Stralen et al, 2008). The factors within the I-Change Model were translated to the context of physical activity behavior of hospitalized patients. This led to the following topics that guided the interviews: perceived physical activity levels prior to hospital admission, current physical status, current physical activity level, feelings regarding physical activity and the promotion of and assistance during physical activity by HCPs.

The interviews with HCPs involved the discussion of several tasks, namely: informing; advising; and assisting patients with physical activity and collaboration with other HCPs regarding the promotion of physical activity. These tasks, together with the perceived responsibility of HCPs and possible factors that would increase patients' physical activity, were the topics that guided the interviews with HCPs. All participants were recruited and interviewed over a period of three months. All interviews were audio-recorded and transcribed verbatim.

Data analysis

Data analysis was a combination between deductive and inductive coding (Boeije, 2009). Based on the framework of the I-Change Model, initial codes were made, and subsequently during data analysis, inductive codes were made. The analyses of patients and HCPs were done separately by the researcher. Data were analyzed with assistance of the software program ATLAS.ti – version 7.5.11.

Results

Between March and June 2016, 11 patients and 10 HCPs were approached for participation. In total, eight patients participated (mean age 51, 6 males). Two patients were willing to participate but did not meet the inclusion criteria, one patient declined participation. Patient characteristics are displayed in Table 1. The overall health of the interviewed patients was poor. MDL patients were mostly suffering from fevers and liver or pancreas problems. Problems related to diabetes and lack of insulin injections were also present among these patients. Almost every patient suffered from nausea. Geriatric patients were mostly suffering from fall accidents and bacterial infections. Age-related problems, such as poor vision and incontinence were frequently observed. One HCP declined participation due to lack of time. Therefore, nine HCPs participated (mean age 31, 3 males) (Table 2). Work experience at the hospital varied between three months and 20 years. The results will be described per topic.

Pre-admission physical activity levels

The physical activity levels prior to admission differed between patients. Some patients (n = 4) stated that they often went hiking or cycling prior to hospitalization, whereas others (n = 4) said they did not consider themselves as active persons. All patients considered themselves physically inactive during their hospital admission, especially compared to their pre-admission activity levels. All patients reported that their pre-admission activity level did not influence their current activity level.

Physical status

Patients often stated that their health status was, according to themselves, the main barrier for being physically active. One HCP stated that around 80% of the patients need assistance during walking. Additionally, the presence of medical devices was also cited as a barrier for physical activity. All HCPs mentioned that patients are able to walk individually spend more time out of bed than functionally dependent patients. Furthermore, the level of physical functioning influenced patients' attitudes regarding physical activity. This especially applied to the older patients and was confirmed by HCPs:

> *''Geriatric patients sometimes say: 'I am 80, getting more physically active? Not me anymore, I think it is fine this way.' Well, who are we to force them?" (GF1)*

Patients mentioned that, although they were able to sit in a chair, they prefer to stay in bed since they consider the bed as more comfortable. Several HCPs (n = 4) acknowledged that they understand patients who do not want to get out of bed when they are feeling too ill.

Patients' expectations

Another frequently mentioned reason for the lack of physical activity was the patient's expectation of a hospital admission. Patients said they expected to be

Table 1. Demographics of patients.

Patient participants	Department	Sex	Age	Reason admission	Hospitalization at time of interview
GP1	Geriatrics	M	84	Back/hip/leg problems	12 days
GP2	Geriatrics	F	87	Rehabilitation of hip injury	7 days
GP3	Geriatrics	F	85	Fall injury	6 days
GP4	Geriatrics	M	71	Fragile	5 days
MP1	Gastroenterology	M	52	Kidney dialysis + consequences of diabetics type 1	5 weeks
MP2	Gastroenterology	M	69	Bowel disease, diabetes	3 days
MP3	Gastroenterology	M	61	Pancreas problems, excess of liquid and abscesses	4 days
MP4	Gastroenterology	M	49	Fever and liver problems	6 days

Table 2. Demographics of health-care professionals.

HCP Participant	Department	Sex	Age	Occupation	Work experience (months/years)
MF1	Gastroenterology	M	39	Physiotherapist	16 years
GF1	Geriatrics	F	24	Physiotherapist	3–4 years
GN1	Geriatrics	F	27	Nurse *(senior nurse)*	5 years
GN2	Geriatrics	M	60	Nurse	20 years
MN1	Gastroenterology	F	30	Nurse *(replacing unit head)*	6 years
GD1	Geriatrics	M	34	Doctor	6 months
GD2	Geriatrics	F	31	Doctor *(AIOS[1])*	3 months
MD1	Gastroenterology	F	35	Doctor *(AIOS[1])*	7 months
MN2	Gastroenterology	F	29	Nurse	8 years

AIOS = doctor in training to become a specialist.

in bed all day wearing a pajama. They did not associate a hospital stay with being physically active. Some patients entered the hospital in pajamas, even if they only had to stay one night for observation.

> *I think that is why patients do not want to be active: 'Yeah right, I am in the hospital'. (MN1)*

HCPs confirmed that patients who wear their pajamas during the day are in bed more, regardless of their health status. Pajamas hinders physical activity. One HCP found it striking that patients find it completely normal to eat in bed in a hospital, since they would never do this at home. However, other HCPs stated that these expectations are enforced by HCPs themselves, since they tell patients unintentionally how comfortable the bed is:

> *Then a new patient arrives and the HCP asks: 'Would you like to take place on the chair or do you prefer the bed?' The tone of voice that is used there, sends the patient towards the bed. (GF1)*

One patient acknowledged the importance of being physically active, but also reported that it became harder the longer he was in the hospital:

> *The longer you stay in bed, the less you get motivated to do something. It becomes a bit of a rut. You just fall asleep and wait until another day has passed. (MP1)*

On the other hand, patients who have been admitted to the hospital more than once said they deliberately avoid the bed and eat at the table, due to previous experience with the negative consequences of long bed rest episodes.

Knowledge of patients and HCPS

All HCPs said that patients know it is better to get out of bed, but they do not think patients are aware of the actual effects of long bed rest episodes. A nurse said that it might scare patients when patients are informed about the detailed consequences. It was stated by another nurse that the main reason for patients to get out of bed is boredom or because they cannot sit still, not because they completely understand why it is important. Both patients and HCPs expressed that too little information about the role of physical activity during hospital admission is given to patients. HCPs said they feel responsible for informing and motivating patients to be more physically active, but that the lack of their own knowledge was seen as a barrier in doing so:

> *I tell them they should get out of bed. But not like, 'walk the stairs' or something. I don't know what to advise them. I leave that to the physiotherapist. (MD1)*

Lack of time

HCPs reported that they rarely have time to assist patients in physical activities like walking, and to motivate patients to be more physically active. Lack of time was sometimes seen as an excuse; it is more a priority issue. Nurses said they give more priority to providing proper medication and information regarding patients' surgeries and treatments, than they do regarding physical activity. Patients indicated that they would like to be more informed regarding, and assisted during, physical activities. There is no standardized procedure for promoting physical activity (e.g. making patients aware of the importance of physical activity) and HCPs acknowledged it to be one of the first things they stop doing when they are busy. Several HCPs mentioned that the current multidisciplinary collaboration between HCPs goes quite well for medical issues, but that they need to work on a standardized approach in stimulating the patient to be more physically active and on discussing patients' physical activity levels.

Mindset

Re-emerging in the interviews with HCPs was that the entire hospital needs a change of mindset and culture, in order to structurally increase patients' physical activity levels. The primary change of mindset according to multiple HCPs would be that physical activity is considered as one of the most important conditions for patients' recovery, next to medication. Then it will be incorporated more easily in the daily structure.

A change of mindset for patients as well as the patient's family was also mentioned. HCPs said they should inform patients and their family more frequently and more detailed about the importance of physical activity to alter the expectations. Multiple HCPs state that providing the right information from day one, will influence the expectations that patients, and their family have of a hospital admission. The right information will not only entail providing information about the importance, but also giving the patients guidance and assistance during hospital admission. Some HCPs struggled with getting patients to be physically active:

> *Well, I think: yeah right, I am not a cop. If someone really does not want to get out of bed because he feels to sick or does not want to. Well, at some point it is just the responsibility of the patient. (MN1)*

Aside from assistance and motivation provided by HCPs, HCPs, and patients feel that physical activity can be made more attractive by adjustments in the hospital environment and providing a daily activity program. For example by giving daily exercise programs to patients, creating interactive trails throughout the hospital, incorporating e-health in the daily care and by offering group therapy for patients.

Responsibilities of HCPS

All HCPs had the opinion that the entire medical team is responsible for stimulating patients' physical activity, but that nurses are the key figures in doing so. This is mainly because nurses see patients the most.

> *Well, it is more a general thing that we think of as something that should be done. Whereby I think we assume that nurses take care of that. (GD1)*

One nurse said that any intervention is doomed when the entire responsibility would lie with the nurses, since they do not have time to take full responsibility. Although nurses were seen as most responsible, physiotherapists and doctors did acknowledge that nurses already have a busy job with many different tasks:

> *It is really a problem that doctors attribute towards nurses. I wonder if this is not something that should be more attributed towards the doctors. (GD1)*

Discussion

The goal of this study was to identify factors that influence hospitalized patients' physical activity. This study extends the scope of previous studies as this study incorporated the perspectives of both patients and different types of HCPs (Brown et al, 2007; Lafrenière et al, 2017; So and Pierluissi, 2012).

Although patients and HCPs were aware of the lack of physical activity and the long bed rest episodes, this awareness did not lead to more stimulation of physical activity. Both patients and HCPs stated that the patient's poor physical status is one of the most important reasons for the low amount of physical activity during hospital stay. HCPs mentioned that patients stay in bed because they are afraid that performing physical activities is too intense and harmful for their physical condition. HCPs acknowledge that they understand this perspective of patients resulting in the maintenance of physical inactivity. Additionally, this study showed that physical activity is not yet seen as part of usual hospital care by HCPs. Furthermore, lifestyle before hospitalization does not seem to be of influence on the amount of physical activity during hospital admission showing that physical inactivity seems inherent to a hospital admission.

Based on this research, it may be concluded that patients are likely to overestimate the intensity of physical activities, causing them to refrain from physical activity. An explanation for this could be that patients who are inactive in daily life have more difficulty with estimating the intensity of physical activity during hospitalization (Giles-Corti and Donovan, 2002). However, our research shows that patients' pre-admission physical activity levels do not seem to be related to the amount of physical activity during hospitalization. A patient's perception on his or her own physical status might, therefore, be a better precursor for physical inactivity and should be taken into account when stimulating a patient to be more active.

The belief that physical status is one of the main reasons for the lack of physical activity is supported by findings of Brown et al. (2007) and So and Pierluissi (2012). The statements that physical activity is not yet part of hospital care are in line with earlier research (Doherty-King and Bowers, 2013; Doherty-King et al, 2014; Kalisch, 2006).

HCPs said that they feel responsible for promoting physical activity, but miss the knowledge, tools and time. This results in the absence of providing a patient with the necessary information and in a lack of knowledge among patients regarding the negative consequences of bed rest. Increasing a patient's knowledge about the benefits of staying physically active during a hospital stay is important since it may affect his or her expectations of the hospital admission. Patients who have been admitted before said they were more aware of the importance of physical activity due to personal experiences regarding the down-side of bed rest. As a result, they were more motivated to be physically active during their admission, which was also supported by research of Lafrenière et al. (2017) and So and Pierluissi (2012). A lack of physical activity is therefore not merely a matter of not wanting to be physically active but also a matter of patients' knowledge and expectations of a hospital admission.

When patients were asked about their knowledge of physical activity during hospital admission, they indicated that they would like to be better informed regarding, and assisted during, performing physical activities. Informing patients more about the importance of physical activity is a perception shared by many HCPS in this research. These results show that increasing knowledge is necessary to create the first step in behavioral change.

Nevertheless, since knowledge itself will not create a sustainable behavioral change, other perspectives and

facilitators need to be identified (Former, 2013). Patients said they expect to be more physically active when they get stimulated more to do so. Therefore, encouragement, assistance, and guidance of patients are also important facilitators to change behavior and increase physical activity (De Vries, 1993).

Stimulating physical activity among patients is however one of the seven nursing-tasks most neglected (Douglas et al, 2006; Kalisch, 2006; Lafrenière et al, 2017). This low priority is caused by the fact that providing medication is still seen as the major, and sometimes even the only, cure for patients. Stimulating physical activity is not yet seen as '*real*' medical care (Kalisch, 2006; Lafrenière et al, 2017). Therefore it is not only important to create more awareness and understanding among patients, but also among HCPs. When HCPs have the ability and opportunity to inform, advise and assist patients about/with physical activity, they can be of great influence on increasing patients' physical activity.

Lack of time was often mentioned by HCPs as an additional reason for a lack of promotion of physical activity during hospital stay. This is supported by Douglas et al. (2006) Hébert, Caughy, and Shuval (2012), Kneafsey, Clifford, and Greenfield (2013), and Lafrenière et al. (2017) research. Due to this lack of time nurses are forced to perform their medical tasks in a time efficient way. There is not enough time to look at the abilities of the patients and focus on what can patients do themselves despite their sickness. The frequent referral to the lack of time by HCP indicates that HCPs often think 'walking with a patient' is their main role in promoting physical activity, while promoting physical activity also entails that patients do as much on their own as possible. The busy schedules of nurses also affect the patients as some patients indicated they tend to avoid bothering nurses by asking them to help them out of bed or to join them during a walk.

This study highlights the most important perceptions of patients and HCPs on inpatient physical activity. A limitation of this study is that only two departments of the hospital were involved in this study. Although the answers of patients were seen as more dependent on personal characteristics than on the department where the patient was admitted, inclusion of more departments may have given greater variety in perspectives. Finding eligible patients able to participate in the interviews was challenging due to the poor health status and availability of patients. Eventually, every patient who was eligible for inclusion and wanted to participate, did participate. No new information was obtained in the last set of interviews for both groups of participants.

In conclusion, to increase physical activity during hospital admission, it is important to alter patients' expectations of a hospital admission by increasing the knowledge of both patients and HCPs about the benefits of physical activity. By providing patients and HCPs with concrete solutions it is more likely that physical activity is adopted as a structural part of a hospital admission. While developing these concrete solutions, the different levels of physical status of patients should be taken into account.

Declaration of Interest

The authors report no conflicts of interest.

ORCID

Cindy Veenhof http://orcid.org/0000-0003-0970-2896

References

Bernhardt J, Dewwy H, Thrift A, Donnan G 2004 Inactive and alone physical activity within the first 14 days of acute stroke unit care. Stroke 35:1005–1009.

Bodilsen AC, Pedersen MM, Petersen J, Beyer N, Andersen O, Smith LL, Kehlet H, Bandholm T 2013 Acute hospitalization of the older patient: Changes in muscle strength and functional performance during hospitalization and 30 days after discharge. American Journal of Physical Medicine and Rehabilitation 92:789–796.

Boeije HR 2009 Analysis in QUALITATIVE Research London: SAGE Publications Ltd.

Brown CJ, Friedkin RJ, Inouye SK 2004 Prevalence and outcomes of low mobility in hospitalized older patients. Journal of American Geriatris Society 52:1263–1270.

Brown CJ, Redden DT, Flood KL, Allman RM 2009 The under recognized epidemic of low mobility during hospitalization of older adults. Journal of the American Geriatrics Society 57:1660–1665.

Brown CJ, Williams BR, Woodby LL, Davis LL, Allman RM 2007 Barriers to mobility during hospitalization from the perspectives of older patients and their nurses and physicians. Journal of Hospital Medicine 2:305–313.

Cattanach N, Sheedy R, Gill S, Hughes A 2014 Physical activity levels and patients' expectations of physical activity during acute general medical admission. Internal Medicine Journal 44:501–504.

Central Bureau of Statistics 2014 Statline. Hospital Admissions Dutch Population. https://www.cbs.nl/en-gb.

Covinsky KE, Pierluissi E, Johnston CB 2011 Hospitalization-Associated Disability: "She was probably able to ambulate, but I'm not sure". Jama 306:1782–1793.

De Vries H, 1993 Determinanten van gedrag. In: Damoiseaux V, Molen VH, Kok GJ (Eds) Gezondheidsvoorlichting en Gedragsverandering. pp. 109–131. AssenVan Gorcum: Assen.

De Vries H, Mudde A, Leijs I, Charlton A, Vartianen E, Buis G, Clemente MP, Storm H, González Navarro A, Nebot M, et al. 2003 The European Smoking prevention Framework Approach (EFSA): An example of integral prevention. Health Education Research 18:611–626.

Doherty-King B, Bowers BJ 2013 Attributing the responsibility for ambulating patients: A qualitative study. International Journal of Nursing Studies 50:1240–1246.

Doherty-King B, Yoon JY, Pecanac K, Brown R, Mahoney J 2014 Frequency and duration of nursing care related to older patient mobility. Journal of Nursing Scholarship 46:20–27.

Douglas F, Torrance N, Teijlingen E, Meloni S, Kerr A 2006 Primary care staff's views and experiences related to routinely advising patients about physical activity. A Questionnaire Survey. BMC Public Health 6:138.

Former M 2013 Informatorium Voeding en Diëtetiek-Voedingsleer. Houten: Bohn Stafleu van Loghum.

Giles-Corti B, Donovan RJ 2002 The relative influence of individual, social and physical environment determinants of physical activity. Social Science and Medicine 54:1793–1812.

Hébert ET, Caughy MO, Shuval K 2012 Primary care providers' perceptions of physical activity counselling in a clinical setting: A systematic review. British Journal of Sport Medicine 46:625–631.

Kalisch BJ 2006 Missed nursing care: A qualitative study. Journal of Nursing Care Quality 21:306–313.

Kneafsey R, Clifford C, Greenfield S 2013 What is the nursing team involvement in maintaining and promoting the mobility of older adults in hospital? A grounded theory study. International Journal of Nursing Studies 50:1617–1629.

Lafrenière S, Folch N, Dubois S, Bédard L, Ducharme F 2017 Strategies used by older patients to prevent functional decline during hospitalization. Clinical Nursing Research 26:6–26.

Pedersen MM, Bodilsen AC, Petersen J, Beyer N, Andersen O, Lawson-Smith L, Bandholm T 2013 Twenty-four-hour mobility during acute hospitalization in older medical patients. Journals of Gerontology Series A: Biomedical Sciences and Medical Sciences 68:331–337.

Pierluissi E, Francis DC, Covinsky KE 2014 Patient and hospital factors that lead to adverse outcomes in hospitalized elders. In: Acute care for elders 21–47. New York, NY: Humana Press.

Rhodes R, Yao C 2015 Models accounting for intention-behavior discordance in the physical activity domain: A user's guide, content overview, and review of current evidence. International Journal of Behavioral Nutrition and Physical Activity 12:9.

So C, Pierluissi E 2012 Attitudes and expectations regarding exercise in the hospital of hospitalized older adults: A qualitative study. Journal of the American Geriatrics Society 60:713–718.

Sourdet S, Lafont C, Rolland Y, Nourhashemi F, Andrieu S, Vellas B 2015 Preventable iatrogenic disability in elderly patients during hospitalization. Journal of the American Medical Directors Association 16:674–681.

University Medical Center Utrecht 2018 Jaardocument 2017 www.umcutrecht.nl.

van de Port IG, Valkenet K, Schuurmans M, Visser-Meily J 2012 How to increase activity level in the acute phase after stroke. Journal of Clinical Nursing 21:3574–3578.

Van Stralen M, Kok G, de Vries H, Mudde A, Bolman C, Lechner L 2008 The active plus protocol: Systematic development of two theory-and evidence-based tailored physical activity interventions for the over-fifties. BMC Public Health 8:399.

Table A1. Interview Guideline.

Interview patients	
Demographics	
Sex	
Age	
Length	
Weight	
Hospital department	
Reason for hospital admission	
First date of hospital admission	
Care-dependent before hospital admission?	
Currently care-dependent?	
Needs material? assistance during walking?	
Participant number:	**Check**
Informed consent	
Opening question: *Can you describe a random day during your hospital stay?*	
Topics	
• Perception own physical activity prior to admission	
○ *Activities prio to admission / expectation admission*	
• Attitude regarding physical activity	
○ *Experience / feelings towards*	
• Activity regarding recovery	
○ *Intention / benefits / barriers / feelings*	
• Self-efficacy	
○ *Trust / barriers and facilitators*	
○ *Perceived control*	
○ *Coping with admission / coping with illness*	
○ *Stress*	
• Obtained advice or information / support HCP	
○ *Need for support – gained support / feelings towards support / perceived tasks of HCPs regarding assistance*	
• Intervention	
○ *Current possibilities to be active / ideas that would help patients / what do they wish?*	
Interview health care professionals	
Demographics	
Sex	
Age	
Hospital department	
Occupation	
Time of employment	
Participant number:	Check
Informed consent	
Opening question:	
Can you describe in what way you are involved in patients' care?	
Topics	
• Physical activity patients	
○ *Amount / reasons patients*	
• Attitude physical activity in hospitals	
Perceptions about possibile roles for HCPs	
• Informing	
○ *Providing knowledge to patient about PA*	
• Advising	
○ *Tips and tricks / movements / exercise / motivating*	
• Assisting	
○ *Walking with patients / motivating*	
• Collaborating	
○ *Working with multiple HCPs*	
• Responsibilies regarding patients PA	
○ *Who responsible?*	
○ *Family?*	
• Barriers and facilitators	
• Intervention	
○ *What is needed?*	
○ *How to motivate HCPs*	
○ *How to deal with lack of time / knowledge?*	
• Intervention possibilities	
○ *Assistence / eHealth / games / hospital environment*	