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Research paper

Care pathways to improve care co-ordination and quality between primary and hospital care for patients with radical prostatectomy: a quality improvement project

Sabine Van Houdt MSc
Researcher

Jan Heyrman MD PhD
Emeritus

Academic Centre for General Practice, Katholieke Universiteit Leuven, Belgium

Kris Vanhaecht PhD
Researcher

Walter Sermeus PhD
Full Professor

Centre for Health Services and Nursing Research, Katholieke Universiteit Leuven, Belgium

Jan De Lepeleire MD PhD
Professor

Academic Centre for General Practice, Katholieke Universiteit Leuven, Belgium

ABSTRACT

Background Care pathways are widely used in hospitals to improve quality. There is a growing interest in extending care pathways into primary care. There is little evidence on the relationship between care pathways across the primary–hospital care continuum and improvement in quality of care. Members of primary and hospital care services in the region of Bruges (Belgium) developed a care pathway for radical prostatectomy patients. An evaluation of this care pathway encountered some problems.

Aim To assess if a revision of the care pathway would improve quality of care enhancing patient outcomes.

Methods An exploratory trial was performed to test the feasibility of quality measurement, the possible intervention effect and recruitment. A pre–post-intervention postal survey was used. Quality of care was translated into process and outcome indicators. These indicators were measured in two groups receiving a postal questionnaire: one group before (pre-intervention) and another group after implementation (post-intervention). A Fisher's exact test was used to compare differences for dichotomous variables, and a Mann–Whitney *U*-test to compare ordinal and continuous variables.

Results Observed improvements in process and outcome indicators were not statistically significant after correcting for multiple testing: 95.1% of patients received the information pack during the pre-operative consultation (versus 81.0% in the pre-intervention), 86.0% of the patients consulted a physiotherapist who specialised in pelvic floor muscle exercise treatment (versus 56.0% in the pre-intervention) and no patients experienced pain (versus

13.6% in the pre-intervention). No changes were observed for communication and co-ordination between caregivers.
Conclusion Given the background of scarce evidence on the quality improvement effect of care pathways between primary and hospital care, this exploratory trial provides information about the quality measurement, the possible intervention effect and recruitment. The quality improvement process is continuing as the hospital takes further initiatives to improve well-being.

Keywords: care pathway, critical pathways (mesh), hospitals (mesh), primary health care (mesh), quality improvement

How this fits in with quality in primary care

What do we know?
Improving quality is a continuous process. Care pathways are widely used in hospitals to improve quality of care. There is a growing interest in extending care pathways into primary care. Little evidence exists on the relationship between care pathways across the primary–hospital care continuum and quality improvement.

What does this paper add?
This exploratory trial provided information about quality measurement, the possible intervention effect and recruitment. This information will be useful when developing an experimental trial to measure the effect of a care pathway across the primary–hospital care continuum. Structural mechanisms are needed to support the team in the quality improvement process.

Introduction

Care pathways are widely used in hospitals to improve quality of care.[1,2] The effect of a care pathway is most pronounced in hospital when these are used for high volume or complex treatments.[3] There is growing interest in extending care pathways into primary care.[4] There is little evidence on the relationship between care pathways across the primary–hospital care continuum and quality improvement.[5,6]

Patients treated with a radical prostatectomy need complex primary and hospital care, based on well organised co-ordination and communication.[7–10] It is very important to inform and involve patients in the care process.[11] As these patients tend to have symptoms of urinary incontinence,[12] pelvic floor muscle exercise (PFME) treatment should be considered as one of the key interventions for patients before and after surgery.[13]

In 2005, primary care and a hospital team in the Bruges region (Belgium) extended the care pathway that had already been developed in hospital for prostatectomy. An evaluation of the newly extended care pathway encountered the following problems: (1) caregivers considered the information pack consisting of agreements made about the care process, checklists, guidelines, standardised prescription forms and documents to facilitate communication between caregivers too comprehensive for daily use; (2) not all patients received the information pack or support developed at the time of diagnosis; and (3) many patients did not consult a specialist physiotherapist or only did this post-operatively.

Our hypothesis was that a revision of the care pathway would improve quality of care, enhancing patient outcomes. The aim of this study was to assess the patient-perceived quality improvement after revising the care pathway between primary and hospital care.

Methods

Setting

Primary care in Belgium is characterised by a network of many healthcare professionals, mainly working independently. Before this quality improvement initiative, there was no structural link between primary care and the hospital involved. The hospital, AZ Sint-Jan, treats almost 200 patients with radical prostatectomy each year.

Target group

All patients treated with a radical prostatectomy from the region of Bruges were included in the care pathway.

Developing the care pathway

Developing, implementing and evaluating the care pathway was guided by an existing 30-step scenario.[14] The changes introduced are presented in Figure 1.

A multidisciplinary group was formed consisting of representatives of primary and hospital care to assist in the care pathway process. An ad-hoc working group met regularly to evaluate the care pathway and prepare for meetings of the multidisciplinary group.

Design

Care pathways are complex interventions.[1] Given the background of little evidence about the quality improvement effect of care pathways between primary and hospital care, an exploratory trial was performed to test the feasibility of quality measurement, the possible intervention effect and the recruitment.[15] A pre–post-intervention postal survey was used.

Monitoring the effect of the care pathway

Quality of care was translated into patient-perceived quality indicators.[16,17] These were measured via a questionnaire. Two groups of patients received this postal questionnaire after the post-surgical consultation: one group before (pre-intervention) and another group after (post-intervention) implementation.

The questionnaire was developed based on: (1) experiences of patients with prostate cancer;[18,19] (2) relevant parts of a similar existing questionnaire;[20] and (3) the 'Patient Perceived Coordination Index'.[21] The content validity ratio (CVR) was calculated.[22] The Distress Thermometer to measure well-being was integrated.[23] Face and content validity were achieved.

Data were analysed using SAS V9.2. A Fisher's exact test was used to compare differences for dichotomous variables, and a Mann–Whitney *U*-test for ordinal and continuous variables.

Results

About 70% (46/67) of the patients in the pre-intervention group and 42% (46/109) of the patients in the post-intervention group were asked and consented to participate. All patients who consented to participate returned the completed questionnaire. The pre-intervention and post-intervention groups were comparable in terms of age and certain general practitioner (GP) characteristics (Table 1).

Communication and co-ordination between caregivers

The scores for patient-perceived communication and co-ordination between caregivers were high both in the pre- and the post-intervention. No differences were found (Table 2).

Information towards patients

More patients in the post-intervention group received the information pack during the pre-operative consultation: 95.1% versus 81.0%. This difference was not significant after correcting for multiple testing.

Consultation of specialist physiotherapist

Post-intervention, 86% of the patients consulted a physiotherapist specialising in PFME pre-operatively compared with 56% of the patients pre-intervention. This effect was not significant after correcting for multiple testing.

Patient outcomes

No patients in the post-intervention group experienced pain. There was no effect after correcting for multiple testing. No other effects were found.

Discussion

Given the scant evidence available on the effect of care pathways between primary and hospital care, this exploratory trial provides information about quality measurement, the possible intervention effect and the recruitment.

Quality measurement

Because patient-centred care is becoming more important, greater efforts are being made to gather patients' own quality assessments. Rather than measuring satisfaction, quality of care was translated into patient-perceived quality. Experience measures are less subjective and yield more detailed information for quality improvement than satisfaction measures.[24]

Intervention effect

Quality was already perceived to be high before the care pathway was implemented. Teams performing at a lower quality level will benefit more, but are probably

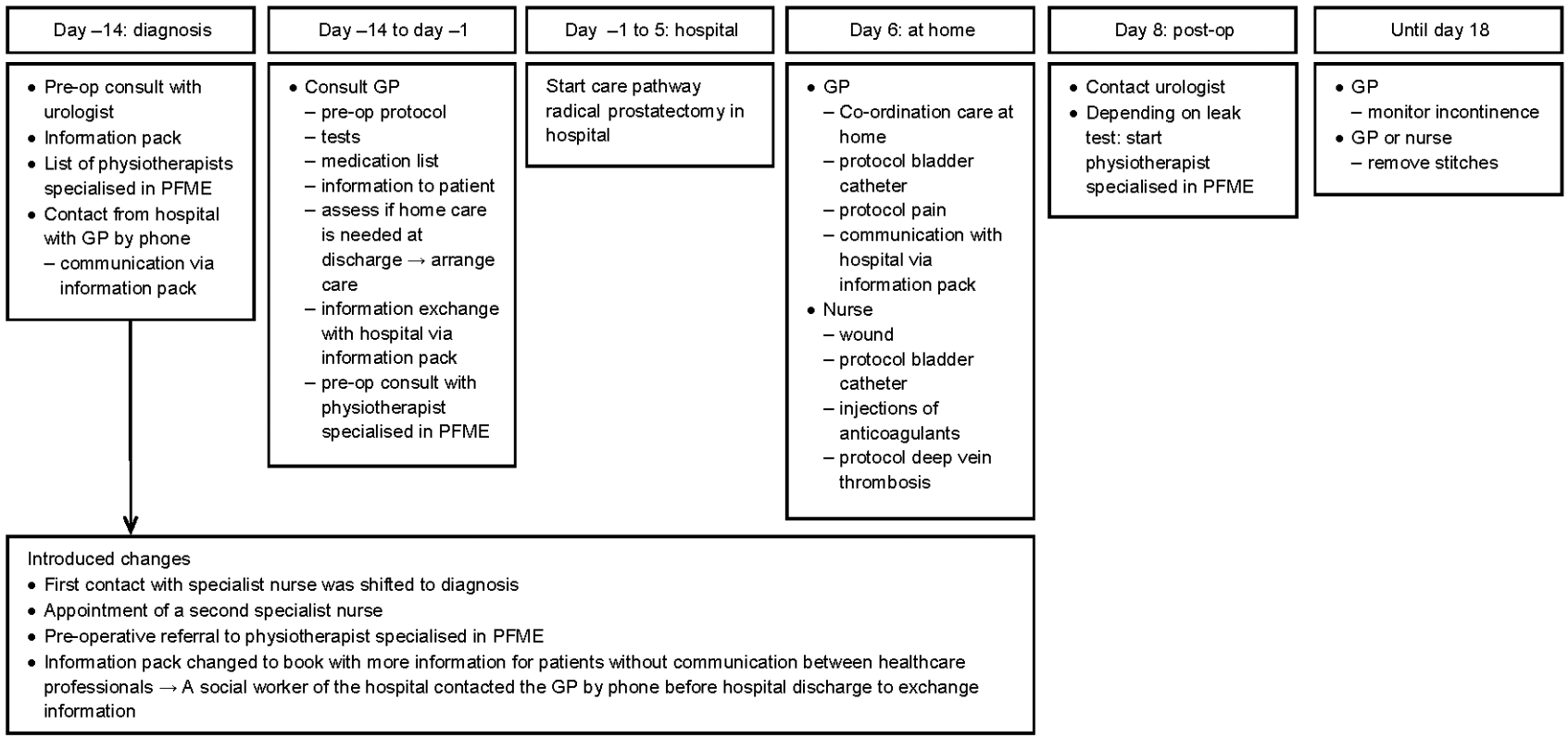

Figure 1 Care pathway 'Radical prostatectomy across the continuum of primary and hospital care'

Table 1 Overview of patient characteristics

Patient characteristics	Pre	Post	*P*
Age (mean)	63.24	62.63	0.913
You have your own GP	97.83%	100%	1
Length of relationship with GP (years)			0.6601
< 1	4.44%	4.35%	
1–2	4.44%	6.25%	
2–5	4.44%	2.17%	
5–10	15.56%	10.87%	
> 10	71.11%	76.09%	
Patient registered on a GP list	95.45%	97.83%	0.612

Table 2 Patient perceived quality indicators

Patient perceived quality indicators	Pre (%)	Post (%)	*P*
Communication and co-ordination between caregivers			
Specialist was familiar with your most recent medical history	93.48	100	0.242
GP was familiar with your most recent medical history	92.31	100	0.241
GP was aware of the result of your surgery	100	100	
GP was aware of recommended treatment	100	100	
GP had all information needed to make decisions about your treatment	94.74	100	0.494
You received all the information you wanted about your medical condition and treatment	100	100	
You received contradictory information in hospital	4.44	8.70	0.677
You received contradictory information from your caregivers at home	2.38	2.17	1
You received contradictory information between caregivers in hospital and at home	4.65	4.35	1
You knew who to ask if you were anxious or worried	97.83	100	1
You knew who to contact if you experienced problems	97.83	97.83	1
You received a clear and understandable response to your questions	97.73	97.83	1
You knew what the next step in your care would be	97.83	100	1
Home care staff worked well together	90	97.62	0.196
Home care staff made good agreements	90	97.44	0.359
Caregivers were aware of any special conditions or needs you had	87.80	97.50	0.201
Information towards patients			
Patient receives information pack:			0.0497*
During pre-op consultation	80.95	95.12	
At the time of admission to hospital	14.29	4.88	
While in hospital	2.38	0	
At discharge	2.38	0	
Consultation of specialist physiotherapist			
Pre-op consultation with specialist physiotherapist	55.56	86.49	0.003*
Post-op consultation with specialist physiotherapist	83.61	89.13	0.551

Table 2 Continued

Patient perceived quality indicators	Pre (%)	Post (%)	*P*
Patient outcomes			
Patient had one or more complications	26.09	23.91	1
Patient experienced problems with the wound	11.63	9.76	1
Patient experienced problems with medication	4.65	2.63	1
Patient experienced problems with the bladder catheter	19.05	13.95	0.571
Patient experienced problems with incontinence	9.30	0	0.116
General experienced health			0.2581
Bad	2.17	0	
Moderate	8.70	4.44	
Good	54.35	51.11	
Very good	30.43	40	
Excellent	4.35	4.44	
Distress	11.11	19.05	0.367
Pain	13.64	0	0.011*
Fatigue	20.45	13.04	0.405
Sexual problems	50	50	1
Sadness	4.55	10.87	0.435

* Not significant after Bonferroni correction; the adjusted *P*-value was 0.002.

less likely to participate.[25] This intervention effect can be used for sample size calculations.

The effect of the care pathway was also influenced by contextual factors.[26,27] The factors that contributed to the success of this care pathway were: representation of all healthcare professionals involved, commitment of the ad-hoc working group, support available and the perceived need to change the current care processes among healthcare professionals involved (a bottom-up approach). Changes in key individuals in the ad-hoc working group, the major time investment, the need for information technology to support the care pathway and lack of physician leadership impeded implementation of this care pathway.

Recruitment

Patients were recruited by the specialist nurse. Not all patients were asked to participate, leading to a possible bias. All patients who consented to participate returned the completed questionnaire. The response rate will probably be lower in an experimental trial.

Quality improvement is a continuous process. This quality improvement project is currently at a critical crossroads.[28] The danger of worsening care exists at this point, because there is no longer management support or (structured) contact between primary and hospital care. However, the improvement is still continuing as the hospital collaborates with a patient association to organise meetings to improve patients' well-being. More than 80 patients participated in the first meeting. Meanwhile, other hospitals in the region have expressed interest in taking part in these meetings. The hospital is also exploring whether and how GPs could be involved postoperatively. In this way the quality improvement process is continuing.

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ETHICAL APPROVAL

This study was approved by the Ethics Committee of the hospital involved. All patients signed an informed consent form.

PEER REVIEW

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CONFLICTS OF INTEREST

None.

ADDRESS FOR CORRESPONDENCE

Sabine Van Houdt
Department of General Practice
Katholieke Universiteit Leuven
Kapucijnenvoer 33 blok J box 7001
3000 Leuven
Belgium
Email: sabine.vanhoudt@med.kuleuven.be

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