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Master thesis | Original study

Continuity of care in ambulatory surgery: what are the obstacles?

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Abstract

Background: **Over the last decennia an increasing number of patients is undergoing surgery on an ambulatory basis in a surgical day hospital. This evolution is financially beneficial and relieves the load on the hospitals, but the pressure on the primary care systems may increase. We undertook a survey to determine which problems primary care physicians encounter before and after their patients undergo surgery in the surgical day hospital, which factors affect the quality of communication between primary care physicians and hospitals, and to gather suggestions from primary care physicians to streamline the process of ambulatory surgery.**
Methods: **All identified primary care providers received a questionnaire by e-mail. The questions were formulated by experts in the field, based on their own experience and literature data. Answers where either categorized into categorical lists or where tabulated for the open questions. No formal statistical analysis was performed on the categorical results as this is a descriptive study.**
Results: **During the preoperative phase, primary care physicians indicate that they are often unaware or not timely informed when their patient will undergo ambulatory surgery. This leads to problems in organizing preoperative investigations and arrangements for postoperative care. Primary care physician's stress the importance of correct communication between them and the surgical day hospital including being timely alerted of patient discharge, receiving sufficient information about complications, interventions and postoperative advice. A number of improvements are suggested to address these issues.**
Conclusions: **This survey prompts reflection of our local practice but proved to be a useful tool in identifying problems in the continuity of ambulatory surgical care. Communication between hospital care givers and primary care physicians seems to be a major issue and needs to be addressed.**

Introduction

Over the last decennia an increasing number and diverse types of surgical interventions are being performed on an ambulatory basis in surgical day hospitals. Numbers vary from country to country and between hospitals[1]. This evolution may be financially beneficial[2] and may relieve the workload of hospitals, but pressure on the primary care system increases (https://docplayer.nl/127165455-Dit-document-is-een-verwezenlijking-van-de-werkgroep-zoroo-zorg-voor-opname-en-ontslag-van-de-sel-zorgregio-gent.html [accessed 29 March 2023]). As a result there is growing concern about the safety and quality of continuing care.

Most literature on the topic focuses on specific outcomes such as postoperative pain[3], nausea and vomiting[4], wound care and medication[5] issues or revisits[6]. Recent studies tend to use the approach of patient reported outcomes (PRO)[7,8]. Hardly any reports can be found about the role and the view of primary care physicians on the growing burden that day care surgery puts on their practice[9].

Therefor we undertook a single point in time survey among primary care workers in the Ghent region that was sent out by the end of 2019. The primary objective of this survey is to characterize what problems primary care providers encounter when taking care of patients who undergo surgery in a the surgical day hospital. Secondly we want to clarify how communication and information transfer takes place between primary care and surgical care. To that end our survey focuses on the problems of communication and patient care in two periods

- preoperatively (from the moment the surgery is planned) and postoperatively (after hospital discharge).

Methods

We conducted a survey amongst primary care physicians and will present this survey as an observational cross-sectional study in accordance with the STROBE guidelines. It is based on a questionnaire, with both open and closed questions.

The survey was conducted in the Ghent region, with a population of about 260.000 inhabitants. We identified 330 active primary care physicians in the region. The primary care physicians were contacted through their professional organization in Ghent, the HVG (huisartsenvereniging Gent), as well as through the local quality groups (LOK).

All identified primary care physicians received a single questionnaire by e-mail by the end of 2019. You can find the questionnaire as Appendix 1. The questions were formulated by several experts in the field, based on their own experience and guidelines in the literature[10]. Questions about communication relate to local practices in our center (Surgical Day Care Center, University Hospital Ghent). Some elements refer to the postoperative quality of recovery score[11]. Before the questionnaires were distributed, a pretest was carried out among experts in the work field to gauge the relevance of the questions, to weed out incorrect slang and questions that were unclear or implicative.

Presentation of the results will follow the logic of obstacles identified by the GP (primary care physician – general practitioner) in:

- The preoperative period (period from planning procedure to day of hospitalisation)
- The postoperative period (after discharge from hospital)
- Communication problems between the GP and the day care hospital/specialist.

Results

Of the 330 primary care physicians, a total of 37 physicians filled out the questionnaire. One of the physicians failed to give informed consent, thus, our final number of analyzed questionnaires was 36. In Table I the demographic data of the physicians are presented.

Table II represents the responses concerning the preoperative phase. In the 'question' column we show the summarized versions of the question; to read the full question, we refer to Appendix 1.

Table III represents answers to questions concerning postoperative care. Estimated frequency of postoperative complications is given in Table IV. In Table V, answers to the questions concerning

Table I. — Demographic data of the physicians.

Characteristic		Number (percentage)
Sex		
	M	16 (44,4%)
	V	20 (55,6%)
Practice		
	Solo practice	5 (13,9%)
	Group practice	31 (86,1%)
Years of experience		
	0-5	7 (19,4%)
	6-15	9 (25,0%)
	16-30	13 (36,1%)
	>30	7 (19,4%)

Table II. — Answers of general practitioners to questions about preoperative communication and organisation.

Question	Yes	No	Blank
Is alerted in time about upcoming intervention through day clinic	18 (50%)	14 (38,9%)	4 (11,1%)
Preoperative investigations can be performed in time?	14 (38,9%)	19 (52,8%)	3 (8,3%)
Preoperative anamnesis can be performed in time?	11 (30,6%)	21 (58,3%)	4 (11,1%)
Technical investigations can be performed in time?	17 (47,2%)	14 (38,9%)	5 (13,9%)
Problems with creating a validated medication scheme?	13 (36,1%)	18 (50%)	5 (13,9%)
Problems with creating an electronic record through SUMEHR	13 (36,1%)	18 (50%)	5 (13,9%)
Problems in communication with other care providers	23 (63,9%)	7 (19,4%)	6 (16,7%)
Problems when making necessary adjustments in patient framework	25 (69,4%)	5 (13,9%)	6 (16,7%)

Table III. — Questions about communication and postoperative problems.

Questions	Characteristic	Number (%)
Manner of communication pre-and postoperatively	Electronic discharge letter	16 (44,4%)
	Electronic platform	8 (22,2%)
	Paper discharge letter	9 (25%)
	Blank	3 (8,3%)
Who do you contact with questions preoperatively?	Another general practicioner	8 (22,2%)
	Treating specialist	22 (61,1%)
	Other	2 (5,6%)
	Blank	4 (11,1%)
Accessibility of surgical day center for advice	Very poor	0 (0,0%)
	Poor	7 (19,4%)
	Average	11 (30,6%)
	Good	13 (36,1%)
	Very good	5 (13,9%)
	Blank	0 (0,0%)
Timely alert of patient discharge from surgical day center?	Never	0 (0,0%)
	Rarely	8 (22,2%)
	Sometimes	18 (50%)
	Always	4 (11,1%)
	Blank	6 (16,7%)
Informed about reason of hospitalisation?	Yes	8 (22,2%)
	No	28 (77,8%)
Receives patient discharge letter in time?	Never	0 (0,0%)
	Rarely	11 (30,6%)
	Sometimes	16 (44,4%)
	Always	5 (13,9%)
	Blank	4 (11,1%)
What is 'timely' in the context of above question?	At discharge	5 (13,9%)
	Within 24 hours of discharge	28 (77,8%)
	Within 1 week of discharge	2 (5,6%)
	Before the first consultation with GP	1 (2,8%)
Receives seperate report concerning complications, interventions and advice?	Rarely	11 (30,6%)
	Sometimes	18 (50%)
	Always	7 (19,4%)
Communication with surgical day center postoperatively?	Very poor	0 (0,0%)
	Poor	11 (30,6%)
	AVerage	14 (38,9%)
	Good	8 (22,2%)
	Very good	0 (0,0%)
	Blanco	3 (8,3%)
Need for additional advice?	Rarely	6 (16,7%)
	Sometimes	9 (25%)
	Often	12 (33,3%)
	Very often	5 (13,9%)
	Blank	4 (11,1%)
What problems require additional advice?	Wound care	26 (72,2%)
	Pain	17 (47,2%)
	Medication	21 (58,3%)

To what degree do these patients cause stress?	Very little	4 (11,1%)
	Little	12 (33,3%)
	Average	12 (33,3%)
	Much	1 (2,8%)
	Very much	0 (0,0%)
	Blank	8 (22,2%)
Complications in the elderly population (65+)	Very little	2 (5,6%)
	Little	5 (13,9%)
	Average	8 (22,2%)
	Much	12 (33,3%)
	Very much	6 (16,7%)
	Blank	3 (8,3%)
Complications in children	Very little	10 (27,8%)
	Little	5 (13,9%)
	Average	12 (33,3%)
	Much	5 (13,9%)
	Very much	0 (0,0%)
	Blank	4 (11,1%)
Complications in patients with comorbidity	Very little	0 (0,0%)
	Little	6 (16,7%)
	Average	12 (33,3%)
	Much	14 (38,9%)
	Very much	4 (11,1%)
	Blank	0 (0,0%)

communication can be found. Appendix 2, shows the highlights of the remarks the GP's made in the open parts of the questionnaire.

When GP's did not answer a question, the answer was registered as 'Blank'. The number of blanks may vary for each question, which makes numeric comparison difficult; these missing answers are shown in the relevant table.

Discussion

Because of several setbacks, one of which was the COVID pandemic, no more than 37 questionnaires were returned. This is significantly less than expected. The demographics do represent a reasonable cross-section of the population of primary care physicians in and around Ghent (https://overlegorganen.gezondheid.belgie.be/nl/documenten/hwf-artsen-op-de-arbeidsmarkt-2004-2016: PlanKad Huisartsen 2004-2016).

Looking at the different issues shown in the results tables, problems can be identified in the different time periods or concerning different topics such as communication or complications.

As for the preoperative period (Table II), primary care physicians mainly encounter problems in preparing for the patient to return to his home environment. Two thirds of the GP's indicate that they are unable to make the necessary adjustments for patient support (69,4%) or for contacting other care providers (63.9%). Figure 1 illustrates this as a major problem.

In line with this, problems in the postoperative period (Table III and IV) are most frequent around social problems and pain. Wound problems and medication rate high in the list of problems that require additional advice. In general GP's indicate that the care for these patients gives little extra stress and complications are mostly seen in patients with comorbidities, which is in line with in-hospital patients and the literature[12].

Communication (Table V) seems to be a key issue. Most practices (66%) rely on electronic communication. Still there seems to be a problem of timeliness of communication both preoperatively and postoperatively. Only 50% of GP's are alerted in time of the planned procedure; this at least partly explains the problems they encounter in the preoperative preparation of the patient. In the postoperative period GP's expect a discharge letter within 24 hrs. (91,7%). Only 13,9% of the respondents indicate that the hospital systematically meets this criterium.

Furthermore, there seems to be a problem with the content of the information received. 77,8% of respondents receive insufficient information about

Table IV. — Questions postoperative problems.

Questions	Characteristic	Number(%)
Need for additional advice?	Rarely	6 (16,7%)
	Sometimes	9 (25%)
	Often	12 (33,3%)
	Very often	5 (13,9%)
	Blank	4 (11,1%)
What problems require additional advice?	Wound care	26 (72,2%)
	Pain	17 (47,2%)
	Medication	21 (58,3%)
To what degree do these patients cause stress?	Very little	4 (11,1%)
	Little	12 (33,3%)
	Average	12 (33,3%)
	Much	1 (2,8%)
	Very much	0 (0,0%)
	Blank	8 (22,2%)
Complications in the elderly population (65+)	Very little	2 (5,6%)
	Little	5 (13,9%)
	Average	8 (22,2%)
	Much	12 (33,3%)
	Very much	6 (16,7%)
	Blank	3 (8,3%)
Complications in children	Very little	10 (27,8%)
	Little	5 (13,9%)
	Average	12 (33,3%)
	Much	5 (13,9%)
	Very much	0 (0,0%)
	Blank	4 (11,1%)
Complications in patients with comorbidity	Very little	0 (0,0%)
	Little	6 (16,7%)
	Average	12 (33,3%)
	Much	14 (38,9%)
	Very much	4 (11,1%)
	Blank	0 (0,0%)

the reason for the hospitalization and only 19,4% indicate that they systematically receive information or advice about postoperative complications.

Literature focusing on the experiences of the primary care staff is sparse. A systematic search strategy within several databases such as Pubmed/ Clearinghouse/Dynamed/CINAHL/Google scholar with search terms: ambulatory surgery OR one day clinic OR one day surgery OR outpatient surgery AND primary care OR general practitioners OR home nurse, gave many results, but no studies applicable to our research focus. Emphasis often lies on problems that arise in the perioperative part of the process of one-day surgery. On the topic of patients who are considered for one-day surgery, ambulatory surgery or minimally invasive procedures, we mainly find information about risk assessment, indications, anesthesia-related problems, and the avoidance of unplanned hospitalizations and emergency contacts. Much less information can be found about problems during the preoperative phase, and the period after discharge.

Many studies illustrate the need for improvement in the communication between surgical day care hospitals and primary care physicians[13,14,15]. This issue is probably not limited to day care surgery, is well documented in the literature[16] and may affect patient care adversely[17].There is evidence that delayed access to a physician in the postoperative phase can have a negative impact on patient recovery[18].

In this observational cross sectional study, we tried to capture the experiences of primary care physicians with the care of patients who undergo surgery on an ambulatory basis in Flanders, Belgium.

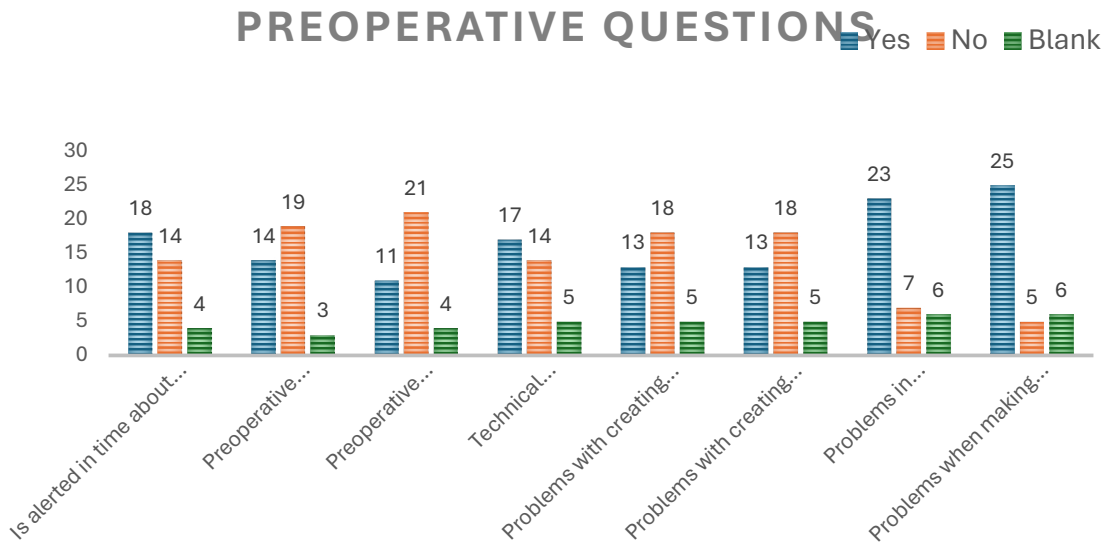

Fig. 3 — Preoperative questions.

Table V. — Frequency of postoperative complications according to the general practicioner.

Complication	Very rare	Rare	Average	Often	Very often	Blank
Nausea of vomiting	9 (25%)	13 (36,1%)	5 (13,9%)	1 (2,8%)	0 (0%)	8 (22,2%)
Stool problems	12 (33,3%)	9 (25%)	4 (11,1%)	3 (8,3%)	0 (0%)	8 (22,2%)
Pain	1 (2,8%)	3 (8,3%)	9 (25%)	11 (30,6%)	4 (11,1%)	8 (22,2%)
Sleep disorders	1 (2,8%)	12 (33,3%)	7 (19,4%)	2 (5,6%)	6 (16,7%)	8 (22,2%)
Tiredness	9 (25%)	6 (16,7%)	10 (27,8%)	3 (8,3%)	0 (0%)	8 (22,2%)
Social problems	1 (2,8%)	5 (13,9%)	6 (16,7%)	13 (36,1%)	3 (8,3%)	8 (22,2%)
Urinary problems	10 (27,8%)	9 (25%)	7 (19,4%)	2 (5,6%)	0 (0%)	8 (22,2%)
Mobility	2 (5,6%)	8 (22,2%)	7 (19,4%)	10 (27,8%)	1 (2,8%)	8 (22,2%)
Wound care	1 (2,8%)	0 (0%)	13 (36,1%)	9 (25%)	5 (13,9%)	8 (22,2%)

The care path of patients who are treated in a surgical ambulatory setting, can be categorized as 'transitional care': from primary care to specialist care and back to the primary setting. Specialists may be worried about adequate follow-up of patients in the home setting, and therefore they are sometimes inclined to hospitalize patients for interventions that could be done in an ambulatory setting[16]. According to our findings, primary care providers experience little stress and complication rate does not seem worrying.

There seems however to be a problem with communication between hospital and primary care physicians concerning the procedure and the postoperative care that is needed. This becomes especially apparent in the answers to the open questions, and it sometimes leads to frustration. After all, for primary care physicians this communication is of vital importance. During the postoperative phase, there is often need for additional advice concerning pain management, wound care, medication and addressing other patient concerns. Usually, when there is a problem, non-physician primary care providers will contact the primary care physician. This underlines the importance of fluent communication between the surgical day hospital and the primary care physician, with timely notification of discharge and access to a full discharge letter. Communication and information in all directions are the fundamentals for cooperation and coordination of care[17,18].

This study has many limitations. The method chosen was meant to give a first exploration of the problem. It is a point in time survey asking questions about the general experience of the primary physician in patients after day care surgery. Therefor the answers can only be seen as an indicator of what really happens at every single patient contact. Because of the burden of the COVID-pandemic, the number of returned questionnaires from primary care physicians was low; moreover, many respondents left some questions unanswered. This weakens the support for both the results and the conclusions.

We did not ask questions as to the overall satisfaction of the GP with the surgical day care activity in general and relevant categories of the categorical questions vary between questions, which makes grouping difficult. This prohibits calculating

statistical correlation with the problems that are surfacing in this survey. The study was limited to the primary care zone of Ghent, Flanders, Belgium in a specific hospital based surgical day care unit.

All of these factors imply that this should be seen as an orienting study with a limited applicability.

The statements of several primary care providers often give evidence of a certain annoyance which they experience not only at discharge from a surgical day hospital, but more generally at discharge of any patient from a hospital.

Social problems, "health literacy", patient responsibility and self-sustainability are important items in this setting. We only asked 1 question about these topics, but these problems often show up in the open comments.

To gather more reliable data about these problems, a prospective study is needed. Questions around communication and patient involvement will need to be addressed.

Specifically, we identified a need for better communication between all caretakers with

1. time for preoperative optimization, including technical investigations.

2. postoperative feedback and advice concerning pain and wound care between hospital and primary care giver.

Research identifying which interventions are useful in resolving these issues is necessary.

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