ABSTRACT
Objective An increasing number of cancer patients place a significant workload on hospital outpatient clinics, and health authorities are considering alternative follow-up regimens. It has been suggested that follow-up of cancer patients could be provided by GPs. This study aimed to explore GPs’ experiences with the provision of follow-up care for cancer patients, and their views on assuming greater responsibility in the future.
Design Electronic questionnaire study.
Subjects GPs in seven regions in Norway.
Results A total of 317 GPs responded. Many GPs reported experience in providing follow-up care to cancer patients, during the years following initial diagnosis primarily in collaboration with hospital specialists. More than half of the GPs were satisfied with their collaboration. Most GPs preferred to be involved at an early stage in follow-up care and, generally, GPs felt confident in their skills to provide this type of service. Fewer than 10% were willing to assume responsibility for additional cancer patients, citing potentially increased workload as the main reason.
Conclusions GPs acknowledged the importance of providing follow-up care to cancer patients, and the majority felt confident in their own ability to provide such care. However, they were hesitant to assume greater responsibility primarily due to fears of increased workload.

KEY POINTS
- GPs reported broad experience in providing follow-up care to patients after active cancer treatment.
- GPs acknowledged the importance of follow-up care, and they felt confident in their own ability to provide such care.
- Fewer than 10% of GPs were willing to assume responsibility for additional cancer patients, citing potentially increased workload as the main reason.

Introduction
Following treatment completion, the majority of cancer patients are routinely followed up in secondary care. The value of this regimen is not evidence-based, and with a steady increase of cancer patients [1], alternative models for follow-up have been discussed [2–8]. It has been suggested that such follow-up could be performed by general practitioners (GPs) [2,3,6,7], or as a shared responsibility between hospital specialists and GPs [4,9–11]. When compared with the general population, studies have shown that cancer patients have higher primary healthcare use during the first year following the diagnosis of cancer [12,13]. Further, GPs perform follow-up consultations for chronic conditions like diabetes and hypertension, providing comprehensive patient care. However, their role in providing follow-up care for cancer patients is poorly defined. In some countries, including Norway, follow-up of cancer with a low risk of recurrence, such as breast and colorectal cancer, is already done in primary care [14,15]. Few randomized, controlled trials have compared cancer patient follow-up in primary versus in secondary care.
health care, and existing studies indicate no significant differences regarding detection of recurrence or quality of life [3,6,16]. Some studies have shown that GPs are willing to assume greater responsibility for the follow-up of cancer patients, given adequate information and good access to specialist advice [2,4]. However, other studies show that GPs are hesitant to increase their responsibility for this patient group, identifying barriers like poor communication and inadequate information exchange between GPs and hospital specialists, as well as limited time [9,13,17,18]. Another barrier might involve reluctance to provide follow-up for uncommon cancer types, or for certain types of cancer requiring special examination skills, like gynaecological cancer.

The Norwegian Directorate of Health has developed guidelines for cancer follow-up, proposing greater involvement of GPs [14,15]. However, prior to assigning additional responsibility for the follow-up of cancer patients to GPs, it is important to assess their views on assuming this responsibility. In this study, we aimed to investigate GPs’ experiences in the provision of follow-up care for cancer patients, with an emphasis on collaboration with secondary care. Furthermore, we explored GPs’ general attitudes toward the provision of cancer follow-up and, specifically, attitudes toward patients with gynaecological cancer.

Material and methods

An electronic, self-report questionnaire was designed and mailed to Norwegian GPs in January 2013. The questionnaire was sent electronically using distribution lists obtained from GPs who work as liaisons between hospitals and primary care. To ensure geographic representativeness, and both rural and urban areas, we contacted GPs in seven Norwegian regions: Agder, Rogaland, Vest-Oppland, Helgeland, Oslo, Sogn og Fjordane and Trøndelag. The initial e-mails were distributed to a total of 1456 e-mail addresses. We had no quality control of the accuracy of the e-mail addresses and, thus, the number of actual recipients is uncertain. In total, we received 317 responses.

To develop the questionnaire, we reviewed relevant surveys from the literature [2,7,8,18–20]. In addition to items designed specifically for the purpose of our study, we included a few relevant items originally developed by Del Giudice et al. (2009) [2]. Our questionnaire was piloted by GPs and gynaecologists, and the final version was adjusted according to their feedback. In total, the questionnaire included 13 items and was divided into the following sections: demographic data, experience in the provision of cancer follow-up, reasons for providing follow-up care, experience in working collaboratively with hospital specialists, general attitudes toward the provision of cancer follow-up, and attitudes toward follow-up of gynaecological cancer. Gynaecological cancer was selected to represent a less common type of cancer. Additionally, its follow-up requires specific skills in gynaecological examination, which might be viewed as a barrier to service provision. One of the study authors is a gynaecologist, which also influenced this choice. An open space for comments was provided at the bottom of the questionnaire. An estimated 3–4 minutes was required to complete the questionnaire. The survey was managed technically by Oslo University Centre for Information Technology (USIT) and anonymous data were stored in an electronic database. The software QUESTBACK (http://www.questback.com) was used for questionnaire distribution.

Statistics and ethics

Due to the exploratory nature of this study, no power analyses were performed. Crude differences between pairs of categorical variables were assessed with chi-square tests. P-values of < 0.05 were considered statistically significant and all tests were two-sided. Data were analysed using SPSS v19 (SPSS Inc., Chicago, IL, USA). Ethical approval was not necessary, as the survey was not directed towards patients.

Results

Demographic data for the 317 respondents are provided in Table 1. According to data from the Norwegian Medical Association (NMA) [21], the study sample was statistically comparable to Norwegian GPs for gender distribution and age. However, our sample had a greater proportion of specialists than the average reported by NMA and the majority of participants practised in urban settings (Table 1).

GPs’ experiences in providing follow-up care to cancer patients

Table 2 summarizes the GPs’ experiences in providing follow-up care to cancer patients. The GPs reported providing follow-up care for all of the cancer types listed. Within the first five years following active treatment, follow-up care was mostly provided in collaboration with hospital specialists. However, this pattern of findings varied according to cancer type. For example, approximately 40% of GPs provided exclusive care to patients with prostate cancer within the initial five years after treatment. Only 7% of GPs
provided exclusive care to gynaecological cancer patients during this same time frame. During the initial five years following active treatment, a greater proportion of GPs with a practice located more than one hour’s drive from a hospital reported being responsible for follow-up than GPs located closer to the hospital. The proportion of GPs who provided follow-up care increased after five years since cancer treatment, including GPs with exclusive follow-up cancer care (see Table 2).

The proportion of GPs reporting that they often provided follow-up care to cancer patients did not differ significantly between specialists and non-specialists (data not shown). Generally, there were no significant gender differences in follow-up care, with the exception that 69% of male GPs versus 32% of female GPs reported they often provided follow-up care for prostate cancer patients. More than half of the GPs stated they were satisfied or very satisfied with their collaboration with hospital specialists. When asked to identify one or more challenges of collaboration, “unclear guidelines” (70%) and “unclear responsibilities” (63%) were rated as the most important (Figure 1).

GPs’ attitudes toward follow-up care for cancer patients

The GPs were asked their opinions on the main reasons for conducting a follow-up visit for cancer patients (Figure 2). About half of the respondents rated “checking for recurrence” as the most important reason, while approximately one-quarter rated “providing psychosocial support” as the main reason for follow-up. GPs were also asked to indicate their level of agreement with various statements regarding follow-up care of cancer patients (Table 3). Three-quarters of the GPs agreed or partly agreed that follow-up care provided by a hospital specialist is important because it ensures that patients remain within the hospital system should a recurrence develop. A majority also reported that specialists are more effective at detecting recurrences of cancer. Nine of 10 GPs believed that GPs are better suited at providing psychosocial support to cancer patients. A total of 78% agreed or partly agreed that GPs have the necessary knowledge and skills to provide follow-up cancer care. Most of the respondents agreed (35%) or partly agreed (48%) that GPs should

Table 1. Demographics of study participants (n = 317).

|                | Study participants, n (%) | Norwegian GPs % |
|----------------|---------------------------|------------------|
| Sex            |                           |                  |
| Female         | 126 (40)                  | 41               |
| Male           | 186 (60)                  | 59               |
| Age, years     |                           |                  |
| <40            | 85 (27)                   | 34               |
| 41–60          | 162 (51)                  | 48               |
| >60            | 68 (22)                   | 18               |
| Specialist     |                           |                  |
| Yes            | 228 (73)                  | 52               |
| No             | 86 (27)                   | 48               |
| Time to travel to cancer centre from GP office, hours |                  |
| <1             | 275 (87)                  | N/A              |
| 1–2            | 35 (11)                   |                  |
| >2             | 7 (2)                     |                  |

Notes: GP = general practitioner, N/A = not available.

Table 2. General practitioners’ (n = 317) experiences with and attitudes toward providing follow-up care after cancer treatment.

| Cancer type | Never/seldom | Often | Collaboration* | Could have more | Never/seldom | Often | Collaboration* | Could have more |
|-------------|--------------|-------|----------------|-----------------|--------------|-------|----------------|-----------------|
| Gynaecology | 168 (53)     | 23 (7) | 126 (40)       | 12 (4)          | 125 (39)     | 127 (40) | 65 (21)        | 10 (3)          |
| Breast      | 120 (38)     | 55 (17)| 142 (45)       | 15 (5)          | 67 (21)      | 195 (62) | 55 (17)        | 17 (5)          |
| Colorectal  | 95 (30)      | 63 (20)| 159 (50)       | 13 (4)          | 84 (27)      | 181 (57) | 52 (16)        | 12 (4)          |
| Prostate    | 55 (17)      | 129 (41)| 133 (42)       | 16 (5)          | 58 (18)      | 212 (67) | 47 (15)        | 13 (4)          |
| Lymphatic   | 203 (64)     | 12 (4) | 102 (32)       | 8 (3)           | 190 (60)     | 68 (22) | 59 (19)        | 8 (3)           |
| Other       | 126 (40)     | 50 (16)| 141 (45)       | 11 (4)          | 118 (37)     | 122 (39) | 77 (24)        | 10 (3)          |

Note: *Collaboration between general practitioners and hospital doctors.

Figure 1. Challenges of collaboration between GPs and hospital specialists.
be involved at an earlier stage in providing cancer follow-up care.

In contrast to the above statements, less than 10% of the GPs were willing to assume responsibility for providing follow-up to additional cancer patients. This applied to follow-up less than and after five years following active cancer treatment (see Table 2). Most GPs (81%) stated that increased cancer follow-up would increase their workload.

GPs’ attitudes toward follow-up care of gynaecological cancer patients

GPs were asked how soon after active treatment they would be willing to provide exclusive follow-up care to patients with gynaecological cancer. Some 42% of the respondents were willing to assume exclusive responsibility within three years after active treatment, yet approximately 10% reported “never”. Forty-four of the 64 (69%) GPs who responded “never” argued that it was safer if a gynaecologist assumed responsibility for providing follow-up care to this patient group. Eleven GPs commented specifically that they did not perform ultrasound investigations in their practice, and as such they were unwilling to provide follow-up care for gynaecological cancer. The GPs responded that an individualized, patient-specific letter from the specialist and expedited routes of re-referral were important conditions to help them provide follow-up care to this patient group. Fewer GPs rated continuing education or an informational website with the opportunity for questions as useful modalities.

Discussion

This study found that Norwegian GPs have broad experience in the provision of follow-up care to cancer patients. The GPs reported providing follow-up care to patients with all cancer types, both within and after five years following active cancer treatment. More than half of the GPs indicated satisfaction in their collaboration with hospital specialists regarding these patients. GPs generally agreed that they should be involved at an earlier stage in follow-up care, and the majority agreed or partly agreed they had the necessary knowledge and skills to provide this service. However, less than 10% were willing to assume responsibility for more cancer patients than they already had. Potentially increased workload appeared to be the main reason for this unwillingness.

One limitation of this study involves the design of the questionnaire. The closed-ended nature of the questions necessarily restricted the response alternatives, affecting the level of detail obtained. However, as shorter questionnaires are more likely to be returned than longer ones, we had to make a compromise between the value of additional questions versus a potentially lower response and smaller sample. Another limitation is that we are unable to establish a true response rate, as the exact number of recipients who received the invitation via email is unknown. The sample size is relatively small, which might have reduced the generalizability of the study. According to national data from the Norwegian Medical Association (NMA) [21], however, the study sample was statistically comparable to Norwegian GPs for gender distribution and age. As we did not find an existing validated questionnaire suitable for our

Table 3. General practitioners’ (GPs) views regarding cancer survivor follow-up care (n = 317).

| GP View                                                                 | Agree (%) | Partly Agree (%) | Disagree (%) |
|------------------------------------------------------------------------|-----------|------------------|--------------|
| Specialist follow-up is important because it ensures that patients are in the system should a recurrence develop | 33        | 41               | 26           |
| Follow-up of patients by a specialist is more efficient in detecting recurrences than follow-up by GPs | 19        | 59               | 22           |
| GPs are better positioned to provide psycho-social support than doctors in cancer specialist clinics | 55        | 36               | 9            |
| GPs have the skills necessary to provide follow-up for patients with cancer | 14        | 64               | 22           |
| GPs should be involved at an earlier stage in the follow-up of patients with cancer | 35        | 48               | 16           |
| The follow-up of cancer patients will increase the workload for GPs | 44        | 37               | 14           |
| Specialist clinics are overcrowded because patients who have completed treatment still have follow-up visits there | 44        | 45               | 11           |
| Follow-up in specialist clinics is a problem because patients rarely see the same doctor | 41        | 47               | 12           |
purposes, we developed our own questionnaire based on several items originally designed by Del Giudice [2]. This approach might have affected the validity of the survey, but the questionnaire was piloted by GPs and gynaecologists for comments and then modified according to their feedback.

In our study, we opted to use the term “cancer patients”, which was defined as patients seen in a follow-up setting after the completion of active cancer treatment. Current literature often uses the term “cancer survivor” [2,11,19] when patients are followed up after treatment. Specifically, “cancer survivor” usually expresses the transition from patient to survivor when the primary treatment is completed [22]. We opted not to use this term in our survey, as it is not commonly used by Norwegian GPs and therefore could have been misinterpreted.

A strength of the study involves the broad geographical representativeness of the sample, which represented both urban and rural settings. Further, our study sample is statistically comparable to national data on GPs according to the Norwegian Medical Association (NMA) [21]. One exception is the comparatively higher number of GP specialists in this study, which might indicate that our respondents had more experience in providing cancer patient follow-up than the average GP. The relatively low overall proportion of rural GPs among the respondents could be explained by the relatively few GPs practising in rural settings in Norway, as 75% of GPs in Norway are located in close proximity to a hospital [23].

Few studies have explored GPs’ experiences with cancer patient follow-up care. Del Giudice et al. (2009) found that many GPs in Canada provide exclusive care to patients with several cancer types, especially beyond five years after diagnosis [2]. This is comparable to our study. In both countries, around 60% of the GPs reported providing follow-up care for patients with breast cancer more than five years after diagnosis, while some differences existed between the studies regarding follow-up of other cancer types. A total of 67% of Norwegian GPs reported often providing follow-up for prostate cancer, with a higher proportion of male GPs than female GPs. This might be due to treatment-seeking preferences in the patient population (i.e. elderly male patients seek out male GPs) or this finding may reflect gender-specific physician preferences (i.e. male physicians might be more willing to follow-up this patient group). Another explanation could be that male GPs have a greater awareness of the importance of screening for prostate disease. This issue should be further investigated, and if GPs allow gender to influence decision-making or procedures, then greater emphasis and education regarding this issue is warranted.

Several studies investigating the follow-up of cancer patients identify poor communication and information transfer as barriers between GPs and hospital specialists [9,13,17,18]. This is in line with our study, in which 70% of GPs identified “unclear guidelines” and 63% identified “unclear responsibilities” as the main challenges in the collaboration between primary and secondary care (see Figure 1). Despite these findings, more than half of the GPs in the present study were satisfied with their collaboration with hospital specialists.

It has been argued that GPs should assume greater responsibility for cancer patients owing to their up-to-date knowledge regarding the patient’s total morbidity and social situation [4]. Johansen et al. (2010) showed that GPs view their role in cancer care as being close to the patient, in both practical and personal issues [24]. These prior studies were qualitative in design, and participants were not required to select among different reasons for providing follow-up care. Our study, in contrast, asked GPs to rate the importance of specific reasons for assuming responsibility, and this response format might have forced the GPs into choosing a “main” reason. Our data show that GPs rated clinically relevant reasons as more important reasons for providing follow-up care than supportive reasons. Specifically, more than half of our participants rated “checking for recurrence” as the most important goal of follow-up care provision, whereas “providing psychosocial support” was rated lower. Similar findings were reported by two prior studies [19,20]. Respectively, these studies identified “monitoring for early complications after treatment” [19] and “detection of recurrences” as the most important reasons for follow-up [20]. Attitudes toward follow-up care may influence the follow-up visit. It is therefore interesting to explore GPs’ opinions regarding follow-up, also in comparison with hospital specialists and patients.

Despite confidence in their knowledge and skills, GPs reported that hospital specialists were more effective in detecting recurrences. On the other hand, as many as 91% of the GPs agreed or partly agreed that they could better provide psychosocial support to their patients than hospital specialists. This is in line with the findings of Del Giudice et al. (2009), in which 80% of the GPs felt they were better skilled to provide psychosocial support [2]. In an American study, GPs reported generally low levels of confidence in cancer patient follow-up care, but the authors did not ask specifically for skills in providing psychosocial support [25].

Of particular interest, although more than 80% of the GPs in our study agreed or partly agreed that GPs should be involved at an earlier stage in follow-up care, less than 10% were willing to assume additional responsibility for more cancer patients. This paradox is also
shown in a Canadian study, in which the majority of GPs believed that they were better skilled than oncologists to perform breast and colorectal cancer follow-up, but only a minority (32%) were willing to assume primary responsibility [11]. The reason for such reluctance might be explained by fears of increased workload, which was acknowledged as a concern by a majority (83%) of our participants. This finding is consistent with a prior study demonstrating that 77% of GPs reported “too many other demands on their time” [19]. Collectively, these concerns have been expressed as “the full bucket”, which describes the effect in which a high workload for GPs leads to an overload, with reduced quality of health services as a consequence [26].

Despite a general reluctance to assume responsibility for additional cancer patients, 90% of the respondents were willing to provide exclusive follow-up care to patients with gynaecological cancer, given certain conditions. Specifically, an individualized, patient-specific letter from the specialist and expedited routes of referral were rated as the most useful modalities to help them provide this follow-up. Similar modalities have been rated as highly important in previous cancer follow-up studies [2,10,25]. Anvik et al. suggested that the specialist initiate a meeting between the patient, the family, and the GP prior to hospital discharge to share information and define roles in future follow-up care [4].

Little doubt exists regarding the importance of seeking alternative models of cancer patient follow-up in light of ever-increasing number of cancer survivors. Primary care already plays an important role across the cancer continuum, from prevention through diagnosis and post-treatment care, as many cancer patients belong to an ageing population with several comorbidities treated by their GP. This study shows that GPs have broad experience in the provision of follow-up care to cancer patients, and they trust their own skills to assume this role. Health authorities should take into account GPs’ attitudes to cancer patient follow-up before implementing new guidelines, and policy-makers should ensure guidelines are easily accessible and well known to both GPs and hospital specialists in order to optimize collaboration.

Acknowledgements

The authors thank Per Jacobsen, the University of Oslo, for technical assistance with the electronic survey.

Declaration of interest

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of the paper.

The study was funded by the General Practice Research Fund (AMFF) hosted by the Norwegian Medical Association.

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Appendix 1
Questionnaire

1. Gender
   ○ Female
   ○ Male

2. Age
   ○ < 40 yrs
   ○ 41–60 yrs
   ○ > 60 yrs

3. Are you a specialist in general medicine?
   ○ Yes
   ○ No

4. How long does it take to travel from your office to the hospital?
   ○ < 1 hour
   ○ 1–2 hours
   ○ > 2 hours

5. Have you been responsible for the follow-up care of patients with the following types of cancer LESS than 5 years after they completed treatment? (More than one answer is possible for each line)

   | Cancer Type                  | Never | Rarely | Infrequently | Often | More |
   |------------------------------|-------|--------|--------------|-------|------|
   | Gynaecological cancer        |       |        |              |       |      |
6. Have you been responsible for the follow-up care of patients with the following types of cancer MORE than 5 years after they completed treatment? (More than one answer is possible for each line)

| Cancer Type                      | Never | Rarely | In cooperation | Often | Could have more |
|----------------------------------|-------|--------|----------------|-------|-----------------|
| Breast cancer                    |       |        |                |       |                 |
| Colon cancer                     |       |        |                |       |                 |
| Prostate cancer                  |       |        |                |       |                 |
| Lymphoma                         |       |        |                |       |                 |
| Other types of cancer            |       |        |                |       |                 |

7. In your opinion, what is the most important reason for routine follow-up visits of cancer patients generally? (Rank order the response alternatives from 1 to 6, with 1 being the most important)

- To provide information about possible late effects of treatment
- To discuss how the patient is doing
- To detect possible recurrences
- To help with any health problems the patient has experienced following treatment
- To reassure the patient that symptoms are not a recurrence
- To give advice and help patient achieve better health
8. Regarding the provision of follow-up to cancer patients, what is your opinion of the coordination of care with hospital specialists?

- Excellent
- Good
- Average
- Poor
- Very poor

9. What are the greatest challenges in the coordination of care with hospital specialists regarding the provision of follow-up care to cancer patients? (More than one response is possible)

- Poor discharge summary/medical record
- Delayed receipt of medical record
- Unclear guidelines for follow-up care
- Unclear allocation of responsibility for providing follow-up care
- Difficult to reach hospital specialist when discussion is needed
- Difficult to get a hospital appointment quickly when needed

10. When would you feel confident taking over responsibility for the follow-up care of gynaecological cancer patients?

- Immediately following treatment
- 1–3 years following treatment
- 3–5 years following treatment
- More than 5 years following treatment
- Never

11. If never, why?

- I am not interested
- I don’t feel professionally qualified
- I cannot take on additional responsibilities due to an already busy work situation
- I think it is safest if the patient receives follow-up care from a gynaecologist
- Other_______________________________

12. If you were to follow-up gynaecological cancer patients after they have completed treatment, which of the following condition(s) should be present? (More than one response is possible)

- Discharge letter from hospital with guidelines for each individual patient
- General written guidelines for follow-up care for the relevant cancer type
13. Please comment on the general statements below regarding follow-up visits for cancer patients:

| Partly Agree | agree | Disagree |
|--------------|-------|----------|
| Follow-up visits at the hospital outpatient clinic are important to ensure the patient stays in the system in case of relapse |   |   |
| Hospital outpatient clinics should not be overloaded by patients who have completed treatment |   |   |
| Follow-up visits with hospital specialists are more effective in detecting recurrences than check-ups at GP |   |   |
| Follow-up visits at hospital outpatient clinics are problematic because patients rarely see the same doctor |   |   |
| GPs are better at providing psychosocial support to the patients than hospital specialists |   |   |
| GPs should be involved in providing follow-up care to cancer patients at an earlier stage following treatment |   |   |
| GPs have sufficient knowledge to follow-up cancer patients |   |   |
| Follow-up visits of patients who have completed treatment will lead to increased workload for GPs |   |   |

We would appreciate your comments about this questionnaire below. Thank you.