# Practitioner Feedback on Lung Cancer Practice Guidelines in Ontario

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**Purpose:** Practitioner feedback (PF) surveys are sent to practitioners who care for lung cancer patients as each new practice guideline is completed. In this study, the PF was reviewed to assess the frequency of response to the surveys, the respondents' characteristics, the nature of the feedback, and the intention to adopt the guideline in practice.

**Methods:** Fourteen practice guidelines (PGs) were sent to Ontario practitioners treating lung cancer, and feedback on the PGs was obtained through either an eight- or 21-item survey.

**Results:** Between 1995 and 2002, 1198 surveys were sent to 223 practitioners. The overall response rate was 58.9% but varied by specialty (radiation and medical oncologists, 67%; thoracic surgeons, 46%; respirologists, 38%), by location of practice (cancer center, 65%; community-based practice, 55%), by geographic region of the province (highest, 72%; lowest, 42%), and by PG topic (chemotherapy, 60%; radiotherapy, 63%; combined modality therapy, 52%). The response rate to the PF surveys did not decline over time. Eighty-six percent of respondents agreed with the lung cancer guidelines and indicated that they were likely or very likely to use the PGs in their practice.

**Conclusion:** The results suggest that practitioners view the guideline development process as credible and useful to guide practice. Whether the stated intention to use the guidelines will actually translate into practice requires further study.

**Key Words:** Guidelines, Lung cancer, Survey, Practitioner feedback.

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Cancer Care Ontario (CCO) funds the Program in Evidence-Based Care (PEBC) to develop and maintain practice guidelines (PGs) that guide the practice of cancer care providers in the province of Ontario, Canada. The PEBC, sited at McMaster University, employs research coordinators who facilitate the work of guideline panels (Disease Site Groups [DSGs]) and working groups. Clinical practice guidelines are defined as systematically developed statements to assist provider and patient decisions about appropriate health care for specific clinical circumstances.[1] Their development through the PEBC follows the clinical practice guideline development cycle, as previously described by Browman et al.[2] For clinical questions developed by members of the DSGs, the research coordinators undertake systemic reviews of the clinical literature. Electronic databases including MEDLINE, CANCERLIT, the Cochrane Library and, more recently, EMBASE, are systematically searched, as are Web-based directories of existing guidelines, such as the National Guidelines Clearinghouse. Proceedings of major meetings are hand searched, as are reference lists of relevant articles and review articles. The evidence is gathered predominantly from English language peer-reviewed literature and summarized in a standardized format. This information is reviewed and thoroughly discussed by medical experts at DSG meetings. Through this process, a draft guideline report is created that incorporates the guideline question(s), the literature search strategy, a systematic review of the scientific evidence, the DSG consensus on the interpretation of the evidence, and draft guideline recommendations. This document and a standardized feedback survey are then sent out for external review to a wider group of physicians to whom the guideline topic may be of interest. This process is referred to as practitioner feedback (PF) and is the subject of this report.

The present study was undertaken to evaluate the responses of lung cancer care providers to the draft reports developed by the Lung Cancer DSG (LDSG) between 1996 and 2002 through the PF component of the practice guideline development cycle. Survey response rates were examined over time and assessed against respondent characteristics. Respondents' perceptions of the draft PGs and their intentions to use the guidelines were also examined.

## METHODS

The LDSG of the PEBC currently consists of 32 individuals, including thoracic surgeons, radiation oncologists,

medical oncologists, a medical sociologist, nurses, research coordinators, and a methodologist. The LDSG, chaired by one of the authors of this article (W.K.E.), has worked to develop practice guidelines since 1995. The methodology for developing practice guidelines through the PEBC has been described previously,[2] and this approach to guideline development has been followed by the LDSG for all PGs developed to date. Some of the lessons learned from the early years of practice guideline development by the LDSG have been described previously.[3]

Over an 8-year period (1995–2002), the 14 LDSG reports summarized in Table 1 underwent PF and are the subject of this report.[4–16] One PG sent out for PF was never published but was entirely rewritten after PF and became PG 7-7-1, the role of taxanes in first-line therapy of advanced non–small-cell lung cancer (NSCLC). The PF for this PG had not been completed at the time of the PF analysis for this article. Four additional documents have been published[17] or are submitted for publication and 12 are in preparation by the LDSG.

The LDSG has produced or is currently developing PGs for all stages of NSCLC,[4–9,11,12,15,16] small-cell lung cancer, [10,13,14] and mesothelioma, and on the use of particular modalities, such as high-dose-rate brachytherapy, photodynamic therapy,[17] and altered radiation fractionation schedules.[11] In addition, the pathology members of the LDSG developed a guideline on the handling and reporting of lung cancer specimens.[18]

## Survey Instruments

In 1995, an eight-item practitioner survey was developed to assess whether practitioners found the draft guidelines to be clear, relevant, and complete. The survey questions are listed in Table 2. In particular, the survey asked whether the literature search was complete and the summary of evidence acceptable. Importantly, it asked whether the recommendations should serve as a practice guideline and whether the practitioner would use the guideline in practice. Although useful in some respects, this survey was not grounded in any credible theoretical framework and the PEBC was not gathering data on issues now known to be important for knowledge transfer and application. Therefore, a new 21-item survey was developed.[19] The new survey is composed of items that are successful at predicting clinicians' endorsement of a draft guideline and their intentions to use the guideline in practice (Table 3).

In this study, data are presented from 387 surveys using the eight-item survey to elicit physicians' views of eight draft PGs and 212 surveys using the 21-item survey eliciting feedback on seven of the draft PGs. It must be noted that for one draft PG, 7-13-3, physicians were randomized to receive either the eight- or 21-item survey to investigate the impact of the longer instrument on response rates.

Most guidelines were sent to all Ontario lung cancer care providers in the database maintained by the PEBC, which includes medical and radiation oncologists, thoracic surgeons, and respirologists; however, in a few cases, the guideline was only sent to medical or radiation oncologists if the document was highly technical and likely to be of interest and relevance to only one group of specialists. Each guideline was sent with a covering letter and the survey instrument. In most cases, individual practitioners were sent more than one draft guideline and PF survey package over this time period.

**TABLE 1.** Guidelines Sent for Practitioner Feedback

| Guideline No. | Topic | Published | Posted on Web Site | PF Report Date |
|---|---|---|---|---|
| 7-2 | Chemotherapy for NSCLC | Yes | Yes | 1995 |
| 7-5 | Vinorelbine in NSCLC | Yes | Yes | 1995 |
| 7-3 | Unresected stage III NSCLC | Yes | Yes | 1996 |
| 7-1 | Postoperative XRT and/or chemotherapy in NSCLC | Yes | No* | 1997 |
| 7-4 | Preoperative chemotherapy ± XRT for stage IIIA NSCLC | Yes | Yes | 1997 |
| 7-8 | Gemcitabine in NSCLC | Yes | No† | 1997 |
| 7-13-3 | Thoracic XRT for SCLC | Yes | Yes | 1998 |
| 7-12 | Altered XRT fractionation for NSCLC | Yes | Yes | 1999 |
| 7-13-2 | PCI for SCLC | Yes | Yes | 1999 |
| 7-7 | Paclitaxel as first-line therapy for NSCLC | No | No‡ | 2000 |
| 7-7-2 | Docetaxel as second-line therapy in NSCLC | Yes | Yes | 2000 |
| 7-13-1 | Combination chemotherapy for limited SCLC | Yes | Yes | 2000 |
| 7-1-1 | Postoperative XRT in NSCLC | Yes | Yes | 2001 |
| 7-8 2002 | Gemcitabine as first-line therapy for NSCLC | Yes | Yes | 2002 |

*Replaced by guideline 7-1-1. †Replaced by guideline 7-8 2002. ‡After PF was obtained, this guideline was revised to include docetaxel and was repackaged as guideline 7-7-1. PF, practitioner feedback; XRT, radiotherapy; NSCLC, non–small-cell lung cancer; SCLC, small-cell lung cancer; PCI, prophylactic cranial irradiation.

 

**TABLE 2.** Initial Eight-Item Practitioner Survey, 1995–1999*

1. Is the recommendation relevant to your practice? (Yes or no. If yes, then continue with items 2–8.)
2. The rationale for developing this evidence-based recommendation, as stated in the "Choice of Topic" section of the report is clear.
3. A practice guideline on this topic will be useful to clinicians.
4. The literature search is relevant and complete (i.e., no key trials were missed nor any included that should not have been. The methods are adequately described).
5. The summary of the evidence is acceptable to me (i.e., data extraction is accurate. The results of the trials are interpreted according to my understanding of the data).
6. I agree with this evidence-based recommendation as stated.
7. In your opinion, this recommendation should serve as a practice guideline.
8. If this evidence-based recommendation were to become a practice guideline, would you use it in your own practice?

*For items 2 through 7, possible responses are as follows: "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." For item 8, possible responses are as follows: "yes," "no," or "unsure." For "no" or "unsure" responses, additional comments are requested.

**TABLE 3.** Twenty-One–Item Practitioner Survey, 1999 Onward*

1. Are you responsible for the care of patients for whom this practice-guideline-in-progress (PGIP) report is relevant? (Yes or no. If yes, please answer the questions below.)
2. The rationale for developing a CPG as stated in the "Choice of Topic" section of the report, is clear.
3. There is a need for a CPG on this topic.
4. The literature search is relevant and complete (i.e., no key trials were missed nor any included that should not have been) in this PGIP report.
5. I agree with the methodology used to summarize the evidence included in this PGIP report.
6. The results of the trials described in the PGIP report are interpreted according to my understanding of the data.
7. The DRs in this report are clear.
8. I agree with the DRs as stated.
9. The DRs are suitable for the patients for whom they are intended.
10. The DRs are too rigid to apply to individual patients.
11. When applied, the DRs will produce more benefits for patients than harms.
12. The PGIP report presents options that will be acceptable to patients.
13. To apply the DRs will require reorganization of services in my practice setting.
14. To apply the DRs will be technically challenging.
15. The DRs are too expensive to apply.
16. The DRs are likely to be supported by a majority of my colleagues.
17. If I follow the DRs, the expected effects on patient outcomes will be obvious.
18. The DRs reflect a more effective approach for improving patient outcomes than is current usual practice (if DRs are the same as usual practice, please tick NA).
19. When applied, the DRs will result in better use of resources than current usual practice (if DRs result in the same outcomes as usual practice, please tick NA).
20. This PGIP report should be approved as a practice guideline.
21. If the PGIP report were to become a practice guideline, how likely would you be to make use of it in your own practice?

*For items 2 through 20, possible responses are as follows: "strongly agree," "agree," "neither agree nor disagree," "disagree," or "strongly disagree." For item 21, possible responses are as follows: "not at all likely," "unlikely," "unsure," "likely," or "very likely." CPG, clinical practice guideline; DRs, draft recommendations; NA, not applicable.

The covering letter from the leadership of the PEBC indicated that the practitioner had been identified as someone for whom the guideline might be relevant and invited their participation in reviewing the guideline. In addition to responding to the survey questions, practitioners were given the opportunity to make comments and suggestions to improve the document.

For the purposes of this analysis, comparable questions from the two survey instruments were combined where appropriate. Descriptive data are presented and statistical analyses of the data have not been conducted because the number and types of practitioners surveyed with each PF varied. Also, surveys were applied to a variety of different types of guidelines including some that were focused exclusively on radiotherapy or systemic therapy topics, whereas others involved combined modality therapy.

## RESULTS

A total of 1198 PF surveys were sent to 223 practitioners between 1995 and 2002. Of these, 181 surveys from 18 individuals were excluded from the analysis because they were deemed ineligible (153 surveys were returned without being completed, as the topic of the guideline was not relevant to the physician's practice and another 28 surveys were returned by individuals who had retired, were on sabbatical, or had moved and had no forwarding address). When these ineligible surveys were excluded, 1017 surveys sent to 205 participants formed the basis of the analysis. The overall survey response rate was 58.9% (599 of 1017 surveys). Respondent characteristics and the PF response rates are summarized in Table 4 and described below.

### Specialty

Of the 205 practitioners surveyed, 38% (77 of 205) were medical oncologists (including hematologists), 18% (37 of 205) were radiation oncologists, 24% (49 of 205) were thoracic surgeons, 18% (37 of 205) were respirologists, and 2% (five of 205) did not indicate their specialization. The rate of response differed by the specialty of the respondent, with medical and radiation oncologists as a group having a higher response rate than surgeons and respirologists. Altogether, 67% of the surveys sent to medical (95% confidence interval [CI], 63–71%) and radiation oncologists (95% CI, 60–74%) were completed and returned (360 and 109 returned surveys, respectively). Forty-six percent (95% CI, 38–53%) of the surveys sent to thoracic surgeons, 38% (95% CI, 30–47%) of the surveys sent to respirologists, and 18% (95% CI, 0–38%) of the surveys sent to respondents of unknown specialization were completed and returned (72, 55, and three surveys returned, respectively). The mean response rates for the individuals in medical oncology/hematology, radiation oncology, thoracic surgery, and respirology were 58% (95% CI, 48–67%), 67% (95% CI, 55–80%), 43% (95% CI, 30–55%), and 37% (95% CI, 24–50%), respectively.

**TABLE 4.** Respondent Characteristics and Practitioner Feedback Response Rates

| | No. of Unique Respondents | No. Responding to At Least One Survey | Proportion of Respondents Returning At Least One Survey | Mean Response Rate for Individuals in Category (95% CI) | No. of Surveys Sent | No. Returned | Response Rate for Group (95% CI) |
|---|---|---|---|---|---|---|---|
| Specialty | | | | | | | |
| Med onc/hem | 77 | 56 | 73 | 58(48–68) | 536 | 360 | 67(63–71) |
| Rad onc | 37 | 32 | 86 | 67(55–80) | 163 | 109 | 67(60–74) |
| Surgeon | 49 | 27 | 55 | 43(30–55) | 158 | 72 | 46(38–53) |
| Respirologist | 37 | 20 | 54 | 37(24–50) | 143 | 55 | 38(30–47) |
| Other | 5 | 1 | 20 | 20 (6–51) | 17 | 3 | 18 (0–38) |
| DSG membership* | | | | | | | |
| Yes | 21 | 17 | 77 | 59(41–77) | 113 | 69 | 61(52–70) |
| No | 183 | 119 | 65 | 50(44–57) | 904 | 530 | 59(55–62) |
| Practice setting† | | | | | | | |
| RCC or PMH | 82 | 64 | 78 | 61(52–71) | 400 | 259 | 65(60–69) |
| Community | 122 | 71 | 58 | 44(36–52) | 616 | 339 | 55(51–59) |
| Region‡ | | | | | | | |
| Windsor | 13 | 8 | 62 | 44(18–71) | 70 | 43 | 61(50–73) |
| London | 27 | 20 | 74 | 57(41–74) | 130 | 77 | 59(51–68) |
| Hamilton | 21 | 16 | 76 | 61(42–80) | 120 | 86 | 72(63–80) |
| Toronto | 57 | 42 | 74 | 58(46–69) | 326 | 224 | 69(64–74) |
| Kingston | 13 | 6 | 46 | 45(14–76) | 39 | 22 | 56(40–73) |
| Ottawa | 34 | 22 | 65 | 44(30–59) | 202 | 84 | 42(35–48) |
| Sudbury | 9 | 7 | 78 | 51(19–82) | 49 | 23 | 47(32–61) |
| Thunder Bay | 8 | 5 | 63 | 51(14–88) | 36 | 20 | 56(39–73) |
| Unknown | 23 | 10 | 43 | 38(18–58) | 45 | 20 | 44(29–60) |
| CPG type | | | | | | | |
| Chemotherapy | 122 | 75 | 61 | 54(45–62) | 384 | 230 | 60(55–65) |
| Radiation therapy | 162 | 105 | 65 | 53(46–60) | 382 | 239 | 63(58–67) |
| Combined Modality | 128 | 69 | 54 | 52(44–61) | 251 | 130 | 52(46–58) |

*One respondent indicated that he/she was a DSG member and a non-DSG member on different surveys. For the analysis, this person was classified as being a DSG member.†Three respondents indicated different locations on different surveys and for the analysis were classified as practicing at an RCC. One respondent did not indicate practice setting and was excluded from the analysis, making the total number for this variable 204. ‡5 respondents were practicing in two regions when surveyed and for the analysis were classified under the region reported on the first survey. Med onc, medical oncologist; hem, hematologist; rad onc, radiation oncologist; DSG, Disease Site Group; CPG, clinical practice guideline; CI, confidence internal; RCC, regional cancer center; PMH, Princes Margaret Hospital.

## DSG Membership

Membership on one of the CCO DSGs did not significantly affect the PF survey response rates, although non-DSG members did have a lower response rate as a group. Of the 205 respondents, 21 (10%) were DSG members, 183 (89%) were not, and one individual was a DSG member for part of the study period. Sixty-one percent (95% CI, 52–70%) of the surveys sent to DSG members were returned (69 returned surveys) compared with 59% (95% CI, 55–62%) of surveys sent to non-DSG members (530 returned surveys). The mean response rates were 59% (95% CI, 41–77%) for individuals who were DSG members ($n = 22$) and 50% (95% CI, 44–57%) for non-DSG members ($n = 183$). It is important to note that midway through the time period of this study, members of the LDSG were no longer eligible to serve as practitioner feedback participants, as they contributed to the creation of the document being evaluated.

## Location of Practice

There was significant variation in response rate by physicians' practice location. Of the 204 who indicated their practice location, 82 (40%) reported practicing exclusively in a regional cancer center (RCC) or Princess Margaret Hospital (PMH) and 122 (60%) reported practicing exclusively in the community. Sixty-five percent (95% CI, 60–69%) of the surveys sent to the physicians practicing at an RCC/PMH were returned ($n = 259$ completed surveys) compared with 55% (95% CI, 51–59%) of the surveys sent to physicians who practiced in the community ($n = 339$ completed surveys). The mean response rates of the individuals practicing at an RCC/PMH and in the community were 61% (95% CI, 52–71%) and 44% (95% CI, 36–52%), respectively.

## Geographic Region of the Province of Ontario

Of the 205 participants, five reported different geographic regions of the province of Ontario on at least two surveys that they returned. For the purpose of this report, a region was identified by the name of the major city in which a cancer center was located. The respondents in a region represented the practitioners involved in the care of lung cancer patients from the cancer center, the adjacent hospital

 

facilities, and any community-based practitioners in the catchment area served by the cancer center. The response rate by geographic region varied from a low of 42% (95% CI, 35–48%) for the Ottawa region, to a high of 72% (95% CI, 63–80%) for the Hamilton region. The respondents for whom information on the region in which they practiced was unavailable also had a low response rate of 44% (95% CI, 29–60%). The mean response rate for the individuals identified by each region were as follows: Windsor, 44% (95% CI, 18–71%); London, 57% (95% CI, 41–74%); Hamilton, 61% (95% CI, 42–80%); Toronto, 58% (95% CI, 46–69%); Kingston, 45% (95% CI, 14–76%); Ottawa, 44% (95% CI, 30–59%); Sudbury, 51% (95% CI, 19–81%); Thunder Bay, 51% (95% CI, 14–88%); and region unknown, 38% (95% CI, 18–58%).

## Response Rates By Guideline Topic

When the response rate was examined by PG topic, there was a difference in response rates. The response rates were 60% (95% CI, 55–65%) for chemotherapy guidelines, 63% (95% CI, 58–67%) for radiation therapy guidelines, and 52% (95% CI, 46–58%) for combination therapy guidelines (Table 5). This difference was not present when we examined the mean response rate of individuals. An individual was equally likely to respond if they were sent a chemotherapy, radiation therapy, or combined modality therapy PG. The mean response rate for individuals receiving one or more chemotherapy guidelines was 54% (95% CI, 45–62%) compared with 53% for those receiving radiotherapy PGs (95% CI, 46–60%) and 52% (95% CI, 44–61%) for individuals who received combined modality PGs.

## Response Rates Over Time and Responder Fatigue

To examine whether responder fatigue occurred, we assessed the response rate for each guideline by the year in which it was released (Table 5). This demonstrated that, although the response to the PF surveys has varied over time, there has been no consistent trend. The response rates ranged from a low of 48% for a guideline on the role of gemcitabine in NSCLC (PG 7-8), which was written when the fully published evidence was limited, to a high of 81% for a practice guideline on the role of locoregional radiotherapy in the management of small-cell lung cancer (PG 7-13-3).

Individual practitioners received between one and 14 different draft guidelines and feedback survey packages, with an average of just over five draft guidelines per practitioner. Of the 205 individuals, 136 (66.3%) returned at least one survey they had been sent. Nearly 34% of participants (69 of 205) returned all PF surveys that they were sent; 8.4% (17 of 205) returned more than 75% of their surveys; 12% (25 of 205) returned between 50% and 75%; 12% (25 of 205) returned less than half, and 34% (69 of 205) did not return any of their surveys. The mean individual response rate per physician was 51%.

To examine the relationship between response rate and the number of surveys a participant was sent, we divided the 205 participants into quartiles on the basis of the number of surveys they had been sent. The mean response rates were 44% (range, 32–56%), for the 63 individuals who received one to two CPGs, 52% (range, 39–64%) for the 45 individuals who received three to four surveys, 40% (range, 28–51%) for the 48 individuals who received five to six surveys, and 72% (range, 62–81%) for the 49 individuals who received seven to 14 surveys. These data failed to reveal a direct inverse relationship between number of guidelines sent to an individual and their response rate and actually demonstrated that the response rate was highest for physicians receiving the most guidelines on which to provide PF.

## Changes in Physicians' Perceptions of the Draft PGs Over Time

An essential aspect of the PF process is to seek, in an ongoing fashion, individual practitioners' opinions on new

**TABLE 5.** Practitioner Response Rate by CPG Topic and Year CPG Completed

| CPG | Date of Release | Type of CPG | No. of Surveys Sent | No. Returned | Response Rate for Group (%) | 95% CI (%) |
|---|---|---|---|---|---|---|
| 7-2 | February of 1996 | Chemo | 96 | 55 | 57 | 47–67 |
| 7-5 | August of 1996 | Chemo | 89 | 52 | 58 | 48–69 |
| 7-3 | March of 1997 | Rad | 98 | 63 | 64 | 55–74 |
| 7-1 | September of 1997 | CMT | 126 | 67 | 53 | 44–62 |
| 7-4 | September of 1997 | CMT | 125 | 63 | 50 | 42–59 |
| 7-8 | October of 1998 | Chemo | 56 | 27 | 48 | 35–62 |
| 7-12 | October of 1999 | Rad | 70 | 40 | 57 | 45–69 |
| 7-13-3 | October of 1999 | Rad | 53 | 43 | 81 | 70–92 |
| 8-item survey | | | 26 | 20 | 77 | 60–94 |
| 21-item survey | | | 27 | 23 | 85 | 71–100 |
| 7-7 | February of 2000 | Chemo | 36 | 24 | 67 | 50–83 |
| 7-13-2 | March of 2000 | Rad | 72 | 46 | 64 | 53–75 |
| 7-7-2 | January of 2001 | Chemo | 36 | 27 | 75 | 60–90 |
| 7-13-1 | March of 2001 | Chemo | 36 | 24 | 67 | 50–83 |
| 7-8 2002 | September of 2002 | Chemo | 35 | 21 | 60 | 43–77 |
| 7-1-1 | September of 2002 | Rad | 89 | 47 | 53 | 42–63 |

Chemo, chemotherapy; Rad, radiation therapy; CMT, combined modality therapy.

draft guidelines. Although it is recognized that specific individual practitioners may tend to generally like or dislike certain types of recommendations across guidelines, it is believed that each individual guideline is sufficiently unique to allow for the examination of all PF data combined. Because of this, a general pooling of attitudes across and between guidelines was felt to be sufficient although, strictly speaking, a mixed-effects statistical model of explanation would be the most appropriate way to take individual preferences into account. The remainder of this report does not specifically take practitioner-level variance into account.

Over the study period, five items were used to assess respondents' perceptions of the characteristics of the draft guidelines in both versions of the PF questionnaires. In some cases, the wording of the items differed slightly between the eight- and 21-item survey and the alternative wording is noted in brackets below. Overall, 87% of respondents agreed or strongly agreed that the draft guideline would be useful to clinicians (guideline needed on the topic), 96% considered the rationale for developing the evidence-based recommendations to be clear, 91% considered the literature search relevant and complete, 94% considered the summary of the evidence acceptable (agreed with the methodology used to summarize the evidence), and 86% agreed with the evidence-based recommendation (agreed with the draft recommendation as stated).

As shown in Figure 1, the proportion of respondents indicating that they agreed or strongly agreed that the rationale for developing the evidence-based recommendations was clear, the literature search relevant and complete, and the summary of the evidence acceptable has differed little over time. However, there has been a downward trend in the proportion of respondents agreeing that there was a need for a specific CPG and an upward trend in those agreeing with the recommendations.

Practitioners frequently provided written comments on issues of guideline clarity or suggested changes to the wording of the guideline recommendations. Occasionally, they brought evidence to light that had not been identified through the literature search process. Rarely, an alternative interpretation of the data was presented. Concerns about the cost or logistics of implementing a guideline recommendation were common, particularly when the recommendation involved new and expensive drugs. The feedback improved the quality of the documents and, on occasion, led to a substantive change. For example, the draft PG 7-1-1 recommended against postoperative radiotherapy for stage II or IIIA NSCLC; however, after PF, separate recommendations were developed for each disease stage.[15] All substantive comments received were described in the final version of the guideline, and an explicit statement was made as to how each of the issues raised was addressed in the final document.

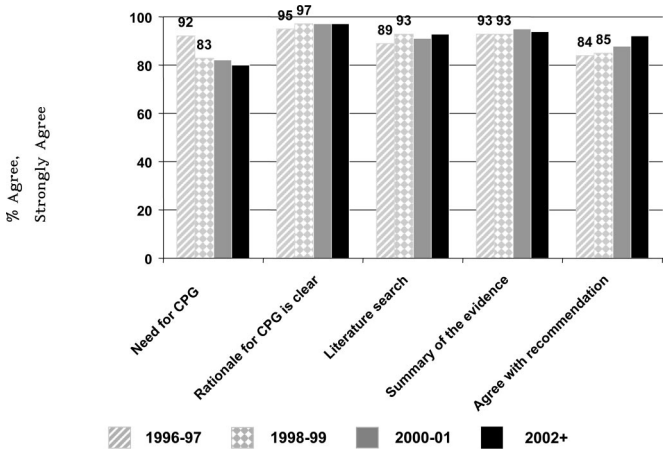


**FIGURE 1.** Practitioners' perceptions of guideline characteristics over time.

## Intentions to Use the PGs

Between 1995 and 1999, the eight-item practitioner survey specifically asked whether the practitioner would use the practice guideline in their practice (question 8 of the survey; response categories: yes, no, and unsure). Since October of 1999, the 21-item practitioner survey asked respondents how likely they were to make use of the guideline in their practice if the draft PG report were to become a practice guideline (question 21; response categories: not at all likely, unlikely, unsure, likely, and very likely). To examine possible changes in intentions to use guidelines over time, we considered a yes to question 8 of the eight-item survey and a response of either likely or very likely to question 21 of the 21-item survey as an indication of intention to use the guideline. During the study period, 81% of all respondents indicated that they intended to use the lung PGs in their practices.

Over the study period, respondents' intentions to use the guidelines ranged from 65% (range, 50–80%) (PG 7-2) to 95% (range, 89–100%) (PG 7-13-2), with medical oncologists and surgeons more frequently indicating an intention to use the guidelines in their practice than radiation oncologists (Figure 2).

## DISCUSSION

When the LDSG first convened to consider the development of practice guidelines, the views expressed by the oncologists invited to be members of the DSG were not unlike the views of the respondents to the 1996 survey of Taylor et al.[20] Oncologists expressed concern that the guidelines represented "cookbook medicine," and that they were not relevant to all patients and were a potential straightjacket applied to practitioners to curb costs. They also expressed concern about whether such documents could be kept current and were, in fact, useful.[3]

It is, therefore, encouraging to find that in the period since 1995, practitioners providing feedback on draft PGs not only acknowledged the need for a practice guideline on the various topics in 87% of cases but found the summarized evidence acceptable (94%) and agreed with the guideline recommendations (86%). Furthermore, 81% of respondents indicated that they were likely or very likely to use the lung cancer PGs in their practice.

Practitioner feedback has been built into the PG cycle for a number of reasons:

 

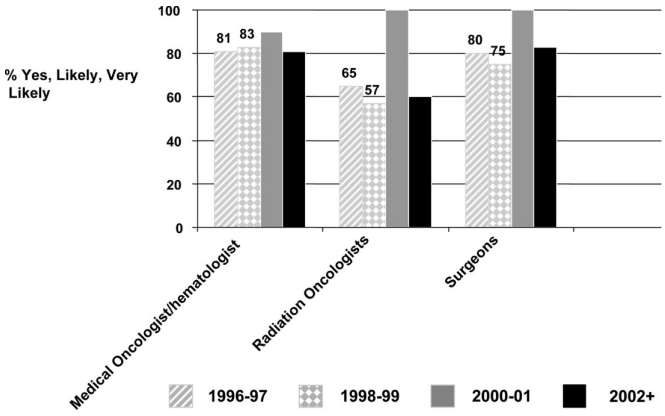


**FIGURE 2.** Practitioners' intentions to use CPGs by specialty over time.

1. The draft PG provides practitioners with a systematic summary of the available information on a topic in an organized and concentrated fashion with draft recommendations for review. With the large and growing number of publications and meetings, this knowledge synthesis fulfils a valuable educational function, particularly for busy practitioners who have difficulty finding time to keep up with the literature. Rather than simply providing the information as an educational resource, which might not be used, PF actively solicits the opinion of the clinician on the document's content, completeness, and accuracy. By requesting PF, physicians have to take the time to review the information in the document to be able to comment on it.
2. This review function helps to ensure that the document is indeed complete, as practitioners access different journals and travel to different meetings and may identify sources of information and perspectives on the data not identified through the systematic review. It also stimulates learning, and the time expended can be applied toward continuing education credits.
3. The PF also serves a consultative function and gives practitioners the opportunity to suggest changes to the user group. Recommendations for changes to the document are explicitly described in the final version of the document so that those who have made suggestions for change can see how their suggestions have been addressed. By providing an opportunity to non-DSG members and members from other DSG groups to review the evidence and the clinical recommendations, a wider group of practitioners can be engaged in shaping the final PG. It is rare that PF has changed the main recommendations arising from the evidence. In contrast, practitioners have identified issues of accuracy and clarity and have found inconsistencies between the recommendations and the evidence itself. Indeed, in an overall evaluation of the PF process across all DSGs of the PEBC, it was found that despite a rigorous evidence-based process for PG development, practicing oncologists contributed to the final recommendations included in 19 of the 43 PGs reviewed (44%).[21] Of the 40 changes made, 28 were considered to be substantive (70%), affecting the *content* (18 changes) or *tone* (10 changes) of the guideline recommendations. In addition, eight changes related to improvements in *clarity* and four changes were *editorial* in nature.[21] The PF solicits potential user's views on the potential use of the guideline and identifies issues that might reduce the uptake of the guideline.
4. Finally, the PF component of the practice guideline cycle contributes to the dissemination of the guideline, as it serves to give advance notice that a guideline is about to be finalized. By providing the practitioner with up-to-date evidence in support of a particular treatment approach, the guideline has the potential to shape the thinking of practitioners in the field on what constitutes appropriate care, including the use of new drugs. A guideline related to a new drug, for instance, alerts practitioners to the fact that the drug will be recommended to government for approval and funding. Practitioner feedback is just one component of a multifaceted implementation strategy. Other implementation strategies include publishing the PGs in peer-reviewed journals, posting the PGs on CCO's Web site, academic detailing, and the conduct of best-practice workshops.

The ultimate goal of practice guideline development is to transfer knowledge, packaged in the form of a guideline, into clinical practice. The most efficient way(s) to accomplish this transfer of knowledge is currently unknown. Grimshaw and Eccles undertook a systematic review of guideline dissemination and implementation strategies and noted that the majority of interventions produced only modest to moderate improvements in care.[22] For example, analyses of cluster randomized trials showed a median absolute improvement in care varying between 6.0% for multifaceted educational outreach interventions (13 trials) and 14.1% for reminder interventions (14 trials). Improvements of 8.1% and 7.0% were observed for dissemination of educational materials (four trials) and use of audit and feedback (five trials).[22] From this review, the logical conclusion is that there are no magic bullets for improving the uptake of guidelines. Surveying the directors of 265 Canadian health and economic research organizations, Lavis et al. found that knowledge transfer is most effective when researchers develop credible and actionable messages, develop the knowledge-uptake capacity among audiences, fine-tune their own knowledge transfer skills, and undertake interactive evaluative measures to determine whether the knowledge is being used.[23] As suggested by Lavis et al., it is likely that moving beyond a passive "producer-push" approach to include more interactive exchange with users adds to the success of knowledge transfer.[23] The PEBC guideline implementation strategy attempts to accomplish this, in part, through its efforts to actively engage practitioners in the field through this feedback component of the practice guideline development cycle.

Of significance, this review identified a relevant practitioner population that is not being reached through the PF process. We identified that the number of respirologists in the database used for PF was small relative to the number of

 

respirologists in the province of Ontario. Respirologists are important gatekeepers who influence whether patients receive treatment following an initial diagnosis of lung cancer. It is important that this group of internal medicine specialists be knowledgeable of the current guideline recommendations for the care of lung cancer patients so that they refer patients appropriately for care. The PEBC will review the PF database and augment the database with the names of respirologists and ensure that specialists in lung cancer systemic therapy, radiotherapy, and thoracic surgery are included.

The results of this review of PF on 14 documents developed by the LDSG indicate that the attitudes among the practitioners responding to lung cancer PGs in Ontario are positive toward practice guidelines. This is consistent with the results of a national survey of Canadian oncologists conducted by Graham et al.[24] This survey found that over 80% of respondents felt that clinical PGs were good educational tools and convenient sources of advice and were intended to improve care. Over 40% agreed that they were unbiased syntheses of expert opinion and only 42%, 26%, 20%, and 16% felt they were intended to cut costs, were oversimplified cookbook medicine, were too rigid to apply to individual patients, and were a challenge to physicians' authority, respectively. Interestingly, in this survey, positive attitudes to PGs were associated with receiving medical school training abroad and with being a radiation oncologist. In Ontario, guidelines related to new and expensive drugs have been linked to funding policies in the province[25,26] and enabled practitioners to gain access to therapies that might otherwise have been denied to their patients if they were dependent on local institutional decisions and pharmacy budgets. This linkage between guidelines and funding policy may contribute to the generally positive attitude toward PGs in the Ontario setting, as PGs facilitate access to new drugs.

There are, however, limitations to our study of PF. In the first place, the data on potential use of the guidelines in practice is self-reported and may not reflect actual use of the guideline. CCO has begun to produce Clinical Monographs on practice in Ontario but is limited to describing practice in its RCCs, as administrative databases outside of CCO do not have the necessary information on tumor stage and treatment regimens to assess consistency of practice with guideline recommendations. Within CCO centers, practice variation has been noted and is particularly evident in the chemotherapeutic management of stage IV NSCLC (www.cancercare.on.ca). However, it is challenging to interpret these data. Even if the practitioner intended to use a guideline in practice, there may be specific barriers to its implementation that are not captured from data sets including information about resource availability and patient willingness to accept care.

Our interpretation of the attitudes of practitioners toward LDSG guidelines may also be subject to nonresponse bias. In this study, the overall survey response rate was almost 60%. It is possible that those practitioners who did not respond or who responded only occasionally had a more negative view toward guidelines and chose not to respond for this reason. In contrast, it is also possible that practitioners who did not respond were simply busy practitioners who were grateful to receive the guidance documents but too busy to take the time to carefully review the documents and respond to the surveys.

The lower group response rate of community practitioners to the questionnaire surveys (55%) compared with the group response rate of RCC/PMH practitioners (65%) suggests that the PEBC may not yet be engaging the community practitioners in an optimal fashion. These practitioners may also wish to have a greater degree of independence in their practice and may see the development of practice guidelines as a threat to their practice autonomy. In contrast, as suggested above, they may be too busy in practice to respond to surveys.

The difference in response rates between different geographic areas of the province is of interest. The highest group rate of response was from the Hamilton area (72%), where the PEBC is located. This may reflect the well-developed culture of evidence-based practice associated with the cancer center in Hamilton and at McMaster University. In contrast, the lowest group rate of response was from Ottawa (42%), where there is a strong culture of new drug development and the early adoption of new therapies. Overall, however, it is gratifying to see that the guidelines being developed by the LDSG have a high degree of acceptability with practitioners who respond to the surveys and that a substantial proportion of these practitioners indicate that the PGs will form the basis for the care of patients in their practice.

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