Doctors who shun guidelines get worse results

Alex Mathieson

An unhelpful straightjacket or an essential tool for optimal treatment? Some physicians still trust their own skill and judgement above all else, but new evidence shows that patients do best when their doctors follow consensus guidelines.

Compliance with consensus guidelines has been a thorny issue in oncology for some years now. At one pole is an increasingly large body of clinicians who value guidelines as indispensable tools in helping them design, deliver and evaluate treatment interventions. At the other is a more sceptical group who regard guidelines as an unwarranted intrusion into their right to treat patients in the way their knowledge and experience dictate.

And in the middle is a morass of ethical, clinical, cultural and financial issues that complicate further an already complex picture.

Debate on the rights and wrongs of guideline implementation seems set to gather pace in the wake of a recently published study on breast cancer guideline implementation from Canada. Reporting their findings in the *Journal of Clinical Oncology* (22: 18, 3685-93), Nicole Hébert-Croteau of the Institut National de Santé Publique du Québec, and colleagues, suggest that treatment according to consensus guidelines is associated with improved survival in women with breast cancer in the community.

Nicole Hébert-Croteau: The results of our study should help to increase levels of compliance with consensus guidelines

Isabelle Ray-Coquard: Findings accord with previous research, but with 1000 patients this study provides the strongest evidence yet

The study

Hébert-Croteau and her team started from the premise that, although previous work had shown 'reasonable compliance' with consensus recommendations for treatment of women with breast cancer, the impact of compliance on survival was unclear. They reviewed a cohort of women they had previously monitored for evidence of guidelines-based treatment in the 1980s and early 1990s to ascertain whether compliance with guidelines for systemic adjuvant therapy had improved survival.

Patients had been randomly selected from all new cases of node-negative breast cancer reported to the Québec tumour registry in 1988-89 and 1991–92, and to the province hospital

RISK CATEGORIES

RECURRENCE RISK CATEGORY DEFINITIONS
(ST GALLEN GUIDELINES)

Women at minimal risk of recurrence:
- Incidentally discovered small invasive tumours
- Colloid, tubular or papillary histology
- Invasive tumours measuring ≤1 cm with grade 1, 2 or unknown

Moderate risk:
- ER-positive, grade 1 or 2 invasive tumours >1 cm but ≤2 cm

High risk:
- ER-negative invasive tumours ≥1 cm (except incidentally discovered tumours of 1 cm)
- ER-positive tumours >2 cm
- Grade 3 tumours

discharge database in 1993–94. The dates were significant, as they represented the years before and after the introduction of guidelines from the National Institutes of Health (in 1990) and the St Gallen consensus conference (1992). The St Gallen guidelines were used as the set standard of care in the new study.

Data were collected from chart reviews and other sources such as radiotherapy and oncology records, pharmacy databases and interviews with attending physicians. Initial (phase 1) data collection was conducted during 1995–96 to record the disease state at diagnosis and treatment of the primary tumour, with phase 2 collection carried out in 2001–02 to gather information on recurrences and deaths. Patients were assigned a risk category for recurrence using the 1992 St Gallen criteria, which focus on tumour size, invasiveness, grade, histology, estrogen-receptor (ER) status, and mode of discovery. Risk category definitions and the treatments the authors consider to be consistent with guidelines for each risk category are set out in the boxes.

The cohort included 1,541 women. Risk of recurrence was found to be minimal in 24%, moderate in 13%, and high in 51%. Sixty-five percent of the women had received treatment consistent with the guidelines (including 98.4% of those at minimal risk) and 24.7% had not (10.3% were unknown).

It is the identified relationship between compliance with treatment guidelines and survival that gives the study such topical interest. Hébert-Croteau and her team found that survival was better in the women treated according to the guidelines, particularly among the moderate-risk category. Adjusted health ratios of death were 1.0 for women at moderate risk treated according to guidelines, and 2.3 for those who were not. For those at high risk, the ratios were 2.0 and 2.7 respectively.

The study found that not only was risk category an independent significant predictor of survival, but compliance with treatment guidelines was as well. It concludes that treatment according to guidelines is "associated with improved survival of women with breast cancer in the community", and that adoption of guidelines for treatment is "an effective strategy for disease control".

TREATMENT GUIDELINES

SYSTEMATIC ADJUVANT TREATMENTS CONSIDERED CONSISTENT WITH GUIDELINES
(ST GALLEN GUIDELINES)

Women at minimal risk:
- No treatment, or tamoxifen alone

Moderate risk:
- Tamoxifen alone

High risk:
- Chemotherapy with or without tamoxifen (women <50 years)
- Chemotherapy with or without tamoxifen (women aged 50–69 years with ER-negative tumours)
- Tamoxifen with or without chemotherapy (women aged 50–69 years with ER-positive tumours)
- Tamoxifen and/or chemotherapy (women aged 50–69 years with unknown ER tumour status)
- Tamoxifen with or without chemotherapy (women >70 years)

Patients treated within an experimental protocol were considered to have been treated according to guidelines.

Rolf Stahel: Guidelines are an option and a benchmark – we are not trying to take responsibility away from physicians

Håkan Mellstedt: Medicine is much more complicated than it used to be. We need multidisciplinary, consensus-based approaches

Study impacts

Hébert-Croteau is pleased, but not surprised, by the outcomes of the study. "I think you expect to see that treatment based on experimental research will have a positive result, but for many reasons that does not always happen," she says. "Our study shows that treatments following evidence-based guidelines can improve outcomes. It's expected, but it's nice nevertheless when you see it happen."

This is a view shared by Isabelle Ray-Coquard, who works in oncological guidelines evaluation at the Centre Léon Bérard in Lyon, France.

"I'm not surprised," she says. "There is some research on the impact of clinical guidelines on the general population, and it all suggests the same – that compliance with consensus guidelines is associated with improved survival.

"The interesting thing about the Hébert-Croteau study is the number of patients reviewed," she continues. "You can demonstrate more effectively the impact of guidelines with over 1,000 patients than you can in studies involving around 200, as has been the case with work we have done looking at the impact of guidelines adoption on patients with sarcoma and colon and breast cancer."

Guideline development

There is certainly a vibrant guidelines industry developing throughout the world. In Europe, for instance, a variety of methods have been used by different organisations to develop, disseminate and evaluate guidelines, and to try to steer clinicians away from developing their own ad hoc products (which may replicate or even contradict efforts going on elsewhere) towards a more consensual approach.

The SOR (Standards, Options, Recommendations) method of the Fédération Nationale des Centres de Lutte Contre le Cancer (FNCLCC) adopts a programmatic approach to guideline development, and has been producing clinical practice guidelines in cancer since 1993. Its main characteristic is that the guidelines are developed by a multidisciplinary expert group who engage in thorough literature searches to produce evidence-based recommendations for practice. Each guideline focuses on all aspects of patient management, from diagnosis to supportive care. The programmatic approach encourages the process of guideline adoption, where the guideline can be endorsed for local use through the setting of local criteria. A strong 'aftercare' ethos exists, in which guideline dissemination, implementation, evaluation, reporting and updating come to the fore.

The European Society for Medical Oncology (ESMO) has also thrown its considerable weight behind cancer guideline development. It set up a guidelines task force in 1998 in response to demands from its national representatives throughout Europe,

Women at moderate or high risk had a better chance of survival if the guidelines were followed

ESMO GUIDELINES

Minimum Clinical Recommendations are available on:

Acute myeloblastic leukaemia in adult patients
Advanced colorectal cancer
Cancers of unknown primary site
Chemotherapy-induced nausea and vomiting
Chronic lymphocytic leukaemia
Chronic myelogenous leukaemia
Colon cancer
Cutaneous malignant melanoma
Oesophageal cancer
Ewing's sarcoma of bone
Gastric cancer
Haematopoietic growth factors
Hodgkin's disease
Invasive bladder cancer
Metastatic breast cancer, or locally recurrent MBC
Mixed or non-seminomatous germ cell tumours
Multiple myeloma
Newly diagnosed follicular lymphoma
Newly diagnosed large cell non-Hodgkin's lymphoma
Non-small-cell lung cancer
Osteosarcoma
Ovarian cancer
Pancreatic cancer
Primary breast cancer
Prostate cancer
Rectal cancer
Relapsed large cell non-Hodgkin's lymphoma
Small-cell lung cancer
Soft tissue sarcomas
Squamous cell carcinoma of the head and neck
Testicular seminoma

particularly from eastern and central regions, for guidelines to assist medical oncologists in their day-to-day decisions and set common standards of care and treatment throughout the continent.

The task force endorsed the principles set out in programmes such as SOR of guidelines being patient centred and evidence based, but, due to the considerable time and costs involved in developing a comprehensive clinical guideline, it opted for an approach that produces minimal clinical recommendations (MCR) for practice.

A topic for MCR development will be selected by the task force, and an authoritative author ('co-ordinator') asked to prepare a draft. The task force will review and revise the draft before forwarding it to the appropriate ESMO faculty for comment. Further revisions will be made by the task force prior to publication and dissemination. The MCR will then be updated yearly, following the same process. It's quick and straightforward, but also robust.

Rolf Stahel is chair of the ESMO guidelines task force. He believes the MCR approach is the right one to promote high standards throughout Europe. "ESMO's approach is very different from that needed to produce extensive clinical guidelines," he says. "Our aim is to produce short guidelines stating what is needed minimally to ensure good diagnosis and access to care and treatment as a means of defining the basics that should be available to patients throughout Europe," he says. "They don't preclude individual clinicians or institutions doing more. Nor are we trying to push them down people's throats – they are there as an option and a benchmark, not to take responsibility away from physicians."

Håkan Mellstedt, chair of ESMO, has been a proponent of guidelines for many years in his native Sweden, and feels they are likely to become even more important as time progresses.

"As a physician, I feel competent in diagnosis, treatment and after-care," he says. "But sometimes I ask: do I, at this moment, know the optimal treatment for this patient? That's when I can reach for the guideline, look at it, and decide. For me, guidelines are an essential support for my daily management.

"Medicine is changing so much," he continues. "Previously, it was a one-man show. The doctor took all the decisions. You could do that 30–40 years ago, because it was not so complicated. Now, everything is very complicated. You have to use multidisciplinary, consensus-based approaches – no-one has the monopoly of wisdom."

ESMO has opted for providing 'minimal clinical recommendations'

Compliance is influenced by local opinion leaders, but some still resist evidence-based approaches

Barriers to compliance

Why, then, are guidelines not adopted more widely? Hébert-Croteau believes there may be a number of reasons why clinicians are wary.

"They might be afraid of toxic side-effects, for instance, or there might be other contraindications and medical conditions that make them more cautious," she says. "We know, for example, that older women are generally treated for breast cancer less aggressively than younger women. They have other health conditions that may make them less tolerant to very aggressive treatment. The choice of the patient is also important – some women might feel very optimistic about the outcome of their disease and don't want to be treated so aggressively."

She feels these are much more likely reasons for non-compliance than the more commonly suggested one – that clinicians are, at best, not aware of guidelines' existence or, at worst, ignoring them.

"That might have been true 10 years ago, but not now," she says. "In Canada, there have been national initiatives on diseases like breast cancer that raise awareness of clinicians and patients. National guidelines have been produced, widely disseminated and updated at regular intervals. Physicians are aware of them, and the pervasiveness of the evidence-based medicine movement makes it less likely that the message will not get through. Non-compliance might be more about physicians making individual decisions based on case by case assessments."

Ray-Coquard believes that the weakness of supporting evidence in some guidelines may act as a disincentive for physicians. "Some guidelines are not evidence based, because there are no scientific data to support them," she says. "The guideline for gastrointestinal stromal tumours (GIST), for instance, is based on expert opinion, not hard evidence, because the evidence is not there. But guidelines such as this are still very important for physicians who treat the disease."

Ray-Coquard also believes that local opinion leaders have a great influence on guideline adoption. "The more you can involve the local opinion leader in the implementation of the guideline, the better the chance of it being adopted," she says. "Research has proved that medical decisions are clearly linked to the local opinion leader – if his or her views are not in accordance with the guideline, it will not be used. And there is very good evidence to suggest that some opinion leaders are not accustomed to evidence-based approaches."

The question of whether guidelines give physicians everything they need to initiate appropriate treatment has also arisen. In an editorial in the *Journal of Clinical Oncology,* commenting on Hébert-Croteau's study, Rebecca Silliman, of the Boston University Medical Center, suggests that although evidence-based guidelines are a necessary beginning, and disseminating them can influence physicians' knowledge and awareness, they are not in themselves sufficient to change practice. "What is required is a much more comprehensive approach that incorporates not only knowledge, but also builds skills and affects attitudes," she wrote.

Mellstedt agrees with this. "Today, oncology demands a multidisciplinary approach to the patient – before you take a decision on how to treat the patient, you should consult with colleagues," he says. "But as a basis, you should have guidelines, with the multidisciplinary consensus on top. The approaches are therefore complementary."

While the debate continues, Hébert-Croteau can see encouraging signs that guideline uptake is on the rise, and believes her study puts forward a strong message to clinicians to recognise the value of guidelines and use them.

"We are beginning to understand what promotes the adoption of guidelines, and what makes clinicians more receptive to them," she says. "The more prestigious the sponsoring organisation, and the more leaders in the field supporting the guideline, the better the prospects of adoption.

"There have not been many studies that have evaluated guidelines, even though they have become very popular in the last 10 or 15 years," she continues. "For whatever reason, guidelines tend to be slow to pass into practice, but if you show that they make a difference to survival, it is likely to increase the chances of compliance."