

## Specialization and cancer: words with too many meanings should be handled with care

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In this issue (page 183) Ruhee Chaudhry and colleagues<sup>1</sup> describe a study exploring the impact of specialization on care for cancer patients. In this study, specialization was defined in terms of a hospital's academic status. Women with tumours less than or equal to 2 cm in diameter who were treated in teaching hospitals had a 53% reduction in rates of death from breast cancer compared with those for women who were treated at non-teaching hospitals (risk ratio 0.47, 95% confidence interval 0.23–0.96). However, what is important about this study is not just the estimate of the effect, rather, it is the fact that this is just the latest of a number of papers exploring the impact of specialization on care for cancer patients in general, and for breast cancer patients in particular. What is worth noting is that, overall, the results of these studies are consistent, concluding that being cared for by specialists (or at specialized centres) is associated with better survival.<sup>2</sup>

Therefore, it looks as if we are in the fortunate position that the available evidence is coherent with and supportive of our a priori assumptions (assuming that we all believe that being “specialized” implies being “better,” whatever that may mean). So, it is worth asking ourselves whether this is the time to draw some strong, conclusive recommendations from the large body of literature concerning specialization in order to inform health policy.

One of the problems we have to face is that studies like the one by Chaudhry and coworkers<sup>1</sup> are looked at with some degree of suspicion because of their observational design. However, randomized clinical trials are hardly applicable to this type of research question, both for reasons of feasibility and acceptability to patients or professionals and, therefore, we have to rely on observational studies.<sup>3</sup> The extent to which the comparison between specialists and nonspecialists is adjusted for patient characteristics is probably the key methodological issue in this type of study,<sup>4</sup> and in this respect Chaudhry and colleagues did a good job, producing a high-quality nonexperimental study.

But methodologists are not the only ones to look at these findings with scepticism, and problems of study design are not the main reason for being cautious about inter-

preting these results. Policy-makers also tend to be far from ready to accept them easily in light of their major implications. If specialized care is associated with such an important benefit in terms of survival, then we should promote increased regionalization of cancer care and restructure the relationships between tertiary care and other levels of care, with increased referral of patients to institutions or centres where care is likely to be more “high tech” and more expensive.

It is no wonder that people are cautious about applying these findings and want to know more. And this is the key issue. Do we know enough about the concept of specialization to inform health policy adequately? The answer, I am afraid, is still No. The concept of specialization has been addressed variably enough in the literature (defined by an institution's academic status — “teaching hospitals” as in this study — or by the case volume of centres or specialists, or by specialized centres such as “cancer centres”)<sup>2,5,6</sup> to leave us wondering whether specialization refers to better training of individual clinicians, or to better equipment and technology, or to better expertise acquired through seeing a high volume of patients, or to some other factor.

A further issue is whether specialization is equally important for the different aspects of cancer care or whether its relevance changes according to the amount and type of resources or skills required by the management of a specific clinical circumstance. It is worth noting that the only randomized clinical trials that, according to my knowledge, have compared different models of organization of care for cancer patients (a study of breast cancer follow-up performed by staff at specialized clinics in hospitals versus general practitioners) did not show any difference in terms of quality and quantity of life.<sup>7</sup> These findings suggest that at least some clinical problems can be equally well handled by nonspecialists, when they are provided with the necessary resources and support.

The word “specialization” has several possible meanings and lends itself to different possible interpretations, each one leading to different, and sometimes alternative, policy options. If specialization has to do with better knowledge, the same results could be achieved through proper educa-

tion of health professionals operating in community hospitals. This is an area where practice guidelines, if properly implemented, could have a major role.<sup>8</sup> If it is a matter of higher case volume leading to improved knowledge and skills, then the problem is the trade-off between the potential benefit gained through increased regionalization and maintaining accessibility of services. But specialization may also mean the presence of specific organizational models, in which relationships among professionals are structured in such a way as to assure integration and coordination of skills and competence.

The need for specialized services for the care of breast cancer patients has sometimes been explicitly expressed by the organization of multidisciplinary teams of health professionals.<sup>9</sup> However, the only evidence supporting the view that a multidisciplinary clinical environment has a positive impact comes from a single study of ovarian cancer<sup>10</sup> and, overall, in the literature on the impact of specialization any attempt at disentangling the different components of specialization (i.e., resources, skills, organizational models of care) is missing.

These final remarks have at least 2 implications. The first is that it is probably time to move from research that is essentially aimed at quantifying the effects of specialization to more qualitative approaches aimed at understanding more deeply what this concept means in terms of working relationships among health professionals and their skills and expertise.

The second is that, while we are waiting for further research to provide a better understanding of how specialization produces its effect, the limited evidence available has to be interpreted cautiously. Opinions, beliefs and even vested interests are inevitably going to take the place of the evidence that is lacking. It is important that the interpretation of the concept of "specialization" is as balanced as possible and takes into account the characteristics of the systems in which it has to be applied. The process through which this research information is interpreted has, therefore, to be rigorous in appraising the empirical evidence and in relying on the contribution of representatives from all the stakeholders, including patients, who may legiti-

mately have a say in how health services should be better organized. The ongoing projects in the United Kingdom that are aimed at providing guidance on the organization of services for cancer patients<sup>11-13</sup> are a good example of how research information can be integrated with the views of health professionals and patients, interpreting the concept of specialization in the way that seems most suitable to meet patients' needs and expectations.

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