

A tale of two cities: comparing lung cancer outcomes in Teesside, UK and Varese, Italy

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The study and publication of health outcomes has become increasingly common over the past decade. Providers of health care want assurance that they get what they pay for. In an increasingly consumer driven society, patients want to receive the best health care they can and feel they should have the opportunity to compare the performance of physicians and hospitals for any given illness. This can lead to the publication in the lay press of sensational articles which, for example, reveal that the mortality for heart bypass surgery is twice as high in one hospital as in another. Predictably, this is followed by physician outrage as they believe that their patients are somehow different, older, sicker, and at higher risk for a poor outcome. In some institutions the result is that surgeons no longer perform difficult cases for fear that they will be labelled as having poorer results. This may have had the unintentional consequence of less choice for patients.

Lost in this debate are the benefits of measuring healthcare outcomes when it is done properly. Health outcomes research allows physicians and hospitals to assess their level of proficiency in providing medical services for a given disease. It can drive quality improvement initiatives and help plan for future service needs.

There are some principles that must be adhered to when evaluating healthcare outcomes. Firstly, patient level data must be protected and confidential. Secondly, data collection must be uniform across all sites. Thirdly, it is critical to severity adjust patient data so that one is comparing like with like. Finally, findings should be fed back to physicians and hospitals in such a way as to promote positive change rather than punish inferior outcomes.

It is in that context that we applaud the physicians in Teesside, UK and Varese,

Italy for comparing their outcomes in lung cancer.¹ If one were presented with unadjusted 3 year survival rates it would appear that English patients have a much poorer outcome than Italian patients (7% v 14%). However, because the data collection allows for some measure of severity adjustment, light is shed on the possible reasons for this difference. From their study we see that British patients with lung cancer presented when they were older, more symptomatic, had a poorer performance status at presentation, had more co-morbidities, were more likely to have smoked, and had higher occupational risks. This may have led to the lower surgical resection rates in England which was the strongest multivariate predictor of survival. Another important finding was that patients in England were half as likely to receive stage specific anticancer treatment as patients in Italy.

This study raises some serious questions. Why are patients in England presenting later? Is there something different about the biology of the cancer? Are the English more likely to ignore symptoms for longer before seeking medical care? This study provides no clear answers. Equally important, are there differences in how physicians manage this disease? Can the lower resection rates solely be related to co-morbidities such as COPD as suggested by this study, or are thoracic surgeons in Italy more aggressive than their British counterparts? Are British respirologists less aggressive in referring patients for surgical consideration than their Italian colleagues? The data collected in this study (presence or absence of COPD) are not sufficiently complete to allow us to answer these pivotal questions. More detailed comparisons of physiological data such as postoperative predicted forced expiratory volume in 1 second, carbon monoxide gas transfer factor, and exercise

capacity could help to differentiate between differences in physician practice and differences in the ability of patients to tolerate surgery.

Finally, why are patients half as likely to undergo specific anticancer treatment in the UK than those in Italy? Are co-morbidities again the culprit or are British physicians more nihilistic about the benefits of anticancer treatments such as chemotherapy or radiotherapy with curative intent? Further drilling down into a more comprehensive dataset would be necessary to take on this question.

While comparing lung cancer outcomes in these two cities is a start, the UK has a wonderful opportunity to answer these important questions and many more. An effort to systematically collect risk adjusted data nationwide on every patient with lung cancer is underway using a national audit programme known as the LUCADA (LUNG Cancer Data) project. At the time of writing this database has data on over 10 000 patients and the first national risk adjusted reports should be published by the end of 2006 (www.icsservices.nhs.uk/ncasp/pages/audit_topics/lungcancer). To our knowledge, this dataset is the first attempt worldwide to collect comprehensive data on lung cancer patients from the point of initial presentation onwards in a population based setting rather than in clinical trials. Comparing these data across the nation using the principles outlined above will allow us to identify differences in care, reveal best practices, and lead to improvement in outcomes for those suffering this disease. We hope all physicians caring for patients with lung cancer will participate.

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