Using disease-specific mortality in discussions with patients

I applaud *Canadian Family Physician* on its planned series of articles on prevention in primary care, beginning with the "Better decision making in preventive health screening" article in the July issue.[1]

However, although I agree with most of the article, I disagree with the authors' claim that disease-specific mortality is an appropriate outcome measure to evaluate cancer screening.

I suggest that the core of the issue is this: disease-specific mortality's appropriateness is dependent on whether the reduction in disease-specific mortality is matched by the reduction in overall mortality. If overall and disease-specific mortalities are similarly reduced by the screening, then disease-specific mortality data are useful at the population level. However, if we are considering discussions with individual patients in daily practice, disease-specific mortality does not improve the data we bring to discussions with our patients about the likelihood of mortality.

More important, when disease-specific mortality for a cancer is reduced by screening but overall mortality is not, it means that we have simply traded death from that specific cancer for death from another illness. Further, it suggests that the screening and treatment process for the cancer with lower disease-specific mortality actually causes an increase in disease-specific mortality for other illnesses—something that we have suspected in prostate cancer.

Taking this to its logical conclusion, when considering interventions that reduce disease-specific mortality but do not also reduce overall mortality, we will find ourselves talking with patients about which disease they would prefer to die of. That is an unusually nuanced qualitative decision, one I have found that my patients are ill prepared to contemplate. My experience is that in such conversations patients fall prey to the cognitive error of "availability bias," whereby they are most influenced by what they have seen in their personal lives. And that means that our attempt to collaboratively discuss options deteriorates into the patient choosing anecdote over evidence. Although I am willing to attempt such conversations, I doubt that the overall well-being of anyone is improved by trying to pick a mortality-causing disease.

As such, I would urge the Canadian Task Force on Preventive Health Care to distinguish between using disease-specific mortality for the purpose of establishing population-level guidance and its suitability for use by front-line family physicians in discussions with patients.

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Competing interests
None declared

Reference

1. Bell NR, Grad R, Dickinson JA, Singh H, Moore AE, Kasperavicius D, et al. Better decision making in preventive health screening. Balancing benefits and harms. *Can Fam Physician* 2017;63:521-4 (Eng), 525-8 (Fr).

Response

Dr Dermer highlights a central issue in decision making on preventive cancer screening: How appropriate are overall mortality and disease-specific mortality as outcome measures?[1] This issue is important for family physicians because these measures provide the information needed for discussions with patients on the potential benefits associated with screening. The potential benefits need to be weighed against potential harms. Further, screening decisions occur in an environment where many patients and physicians overestimate the benefits of screening and there are strong messages from professional organizations and advocacy groups emphasizing the value of screening.

In his letter[1] regarding our article,[2] Dr Dermer adds to previous debate on the advantages and disadvantages of overall mortality and disease-specific mortality as outcome measures to inform decision making in preventive cancer screening.[3-6] In contrast to Dr Dermer, who questions the use of disease-specific mortality, we believe that both disease-specific mortality and overall mortality can inform decision making in preventive cancer screening when the quality of evidence and the limitations of each of these outcome measures is considered.

We agree that overall mortality is conceptually appealing as a benchmark outcome measure because it answers the crucial question of whether screening improves overall survival.[3,4,6] However, there are several important limitations to this particular outcome measure.[3,4,7] First, because of the very large number of potential causes of mortality, detecting the influence of any one factor