Earlier diagnosis: the importance of cancer symptoms

People diagnosed earlier with cancer are not only more likely to survive, but importantly also to have better experiences of care, lower treatment morbidity, and improved quality of life compared with those diagnosed late.[1] Efforts to improve earlier diagnosis of cancer are complex and multifaceted and have been at the forefront of international policy and charity (eg, Cancer Research UK) initiatives. Two distinct patient behaviours can help with earlier cancer diagnosis. These are attending cancer screening, which aims to detect cancer before it is symptomatic (eg, mammography for breast cancer) and presenting promptly to primary care with potential cancer symptoms.

The fact that, in England, more than 90% of cancers are detected outside the three national screening programmes[2] (for cervical, breast, and bowel cancers) highlights the importance of presenting promptly to primary care with potential cancer symptoms. The importance of symptomatic presentation is emphasised by the growing enthusiasm for campaigns aimed at improving public awareness of the early signs of cancer. In England, these campaigns come under the umbrella of Be Clear on Cancer; however, they are emulated across the world, including more recently in low-income and middle-income countries such as India, Malaysia, and South Africa. One challenge, which so far has remained largely unanswered, is whether these campaigns truly capture people with early-stage disease and thus provide a meaningful contribution to the early diagnosis effort. Accumulating evidence shows that they increase public awareness, and the likelihood of visiting a doctor, being referred for investigations, and being diagnosed at an earlier stage of the disease.[3,4] However, others have argued that the cancers detected are mainly advanced,[5] which would make awareness campaigns less worthy of the attention and investment they draw.

In their Article in *The Lancet Oncology*, Monica Koo and colleagues[6] present novel epidemiological evidence that tackles this issue head on. They used population-level data from the English National Cancer Diagnosis Audit (2014) and looked at 20 common presenting symptoms in nearly 8000 patients and their association with stage of diagnosis. The data showed that the proportion of patients diagnosed with advanced disease (ie, stage IV) varied substantially by
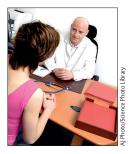
presenting symptom. For example, a neck lump was associated with greater odds of advanced disease, while symptoms including abnormal mole, breast lump, post-menopausal bleeding, and rectal bleeding (common symptoms that have already featured in public awareness campaigns) were associated with lower odds of advanced disease. Looking more broadly, for 19 of the 20 symptoms studied, more than a third of patients were diagnosed in earlier stages than stage IV. Even for symptoms typically associated with advanced disease, such as weight loss, more than half of cancers were diagnosed in stages other than stage IV. These findings provide support for the emphasis on factors that are important pre-presentation (eg, knowledge of warning signs) because understanding and responding to cancer symptoms can help to identify cancer before it has spread.

Koo and colleagues' contribution is an essential jigsaw piece in the early diagnosis puzzle, although several questions remain. For example, what symptoms should be featured? Who should the campaigns be targeted at? What barriers (other than poor knowledge of warning signs) should they address? How should the campaigns be evaluated? It is also crucial to ensure campaigns do not serve to escalate persistent inequalities in cancer survival,[7] so understanding how barriers vary by sociodemographic characteristics including age, socioeconomic status, and ethnicity will be key. Behavioural science has much to add here, in terms of identifying important barriers to symptomatic presentation such as worry about wasting a doctor's time, fatalism, and fear, as well as designing appropriately tailored interventions or campaigns to address these barriers.[8]

Their findings also have important implications for health-care professionals because prompt referral and investigation of potential cancer symptoms post-presentation is another step in ensuring timely diagnosis. Research shows that international variation exists in the readiness to investigate or refer to secondary care for suspected cancer symptoms, and countries where health-care professionals demonstrate greater readiness observe the highest cancer survival rates.[9] Finally—a message for policy makers—advocating more people going to the doctor, more referrals,

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and more investigations means it is imperative that health-care systems have a well equipped and well funded workforce to deal with this core and essential activity.

Although answers to many of these challenges will require an ongoing multidisciplinary and international effort, early diagnosis is likely to remain the holy grail of cancer care. With this in mind, it is reassuring and bolstering to see that global approaches to cancer control are on the right track.

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