be important, and rigorous comparative designs using well-validated metrics are needed to best determine which interventions are truly effective.

Colin P. West, MD, PhD
Liselotte N. Dyrbye, MD, MHPE
Tait D. Shanafelt, MD

Author Affiliations: Mayo Clinic, Rochester, Minnesota.

Corresponding Author: Colin P. West, MD, PhD, Divisions of General Internal Medicine and Biomedical Statistics and Informatics, Departments of Medicine and Health Sciences Research, Mayo Clinic, 200 First St SW, Rochester, MN 55905 (west.colin@mayo.edu).

Conflict of Interest Disclosures: None reported.

1. Shanafelt TD, Sloan JA, Habermann TM. The well-being of physicians. *Am J Med*. 2003;114(6):513-519.

2. Krasner MS, Epstein RM, Beckman H, et al. Association of an educational program in mindful communication with burnout, empathy, and attitudes among primary care physicians. *JAMA*. 2009;302(12):1284-1293.

3. Linzer M, Manwell LB, Williams ES, et al; MEMO (Minimizing Error, Maximizing Outcome) Investigators. Working conditions in primary care: physician reactions and care quality. *Ann Intern Med*. 2009;151(1):28-36.

Sex-Specific Chest Pain Characteristics

To the Editor Rubini Gimenez et al[1] studied sex-specific chest pain characteristics (CPCs) with the objective of improving the management of women with suspected acute myocardial infarction (AMI). They collected an impressive number of baseline and chest pain characteristics in a large sample of patients with chest pain.

Unfortunately, the prevalence of CPCs in women was only compared with the prevalence of CPCs in men. Whether the prevalence of CPCs in women with AMI differed from women without AMI (and men with and without AMI) was not evaluated, while such an analysis would demonstrate which symptoms are related to AMI in women and which in men.

The knowledge that certain CPCs are more prevalent in women than in men is not that useful for a medical physician. In clinical practice either a man or a woman present themselves with certain symptoms, and therefore it is important to know which symptoms are predictive for a AMI in women and which in men.

The choice to use likelihood ratio as statistical test is unfortunate because it only evaluates 1 symptom at a time, while the diagnosis of AMI is a multivariable process. Moreover, the likelihood ratio does not provide the diagnostic value of the combination of CPCs in women and men. The diagnostic value, expressed as the area under the curve or C statistic, shows in how many women and men an AMI can be diagnosed based on the CPCs present. This quantification combines the CPCs in 1 person as is done in clinical practice. In addition, it allows a direct comparison between sexes.

Possibly the authors could still carry out these analyses and report their findings, as this will definitely contribute to the current knowledge about this topic.

Manon G. van der Meer, MD
Hendrik M. Nathoe, MD, PhD
Yolande Appelman, MD, PhD

Author Affiliations: Department of Cardiology, University Medical Center Utrecht, Utrecht, the Netherlands (van der Meer, Nathoe); Department of Cardiology, VU University Medical Center Amsterdam, Amsterdam, the Netherlands (Appelman).

Corresponding Author: Hendrik Nathoe, MD, PhD, Department of Cardiology, University Medical Center Utrecht, IHP E O3.511, PO Box 85500, 3508 GA Utrecht, the Netherlands (H.M.Nathoe@umcutrecht.nl).

Conflict of Interest Disclosures: None reported.

1. Rubini Gimenez M, Reiter M, Twerenbold R, et al. Sex-specific chest pain characteristics in the early diagnosis of acute myocardial infarction. *JAMA Intern Med*. 2014;174(2):241-249.

In Reply We wish to thank van der Meer and colleagues for their interest in our work.[1] We fully agree that a comparison of the prevalence of chest pain characteristics (CPCs) in women with that in men would not be of major help to clinicians. Therefore, one of the most important novel findings of our analysis was the comparison of the prevalence of CPCs in women with acute myocardial infarction (AMI) with the prevalence of CPCs in women with a final diagnosis other than AMI. As also stated by van der Meer and colleagues, that is the question asked by clinicians. The answer to that question is provided by displaying the likelihood ratios for each CPC individually for women and men in Figure 1 and Table 3 in our article.[1] In addition, to determine if some CPCs help to better differentiate women with AMI from women with other final diagnosis as they do in men, Figure 1 and Table 3 in our article[1] display the *P* value for interaction to show whether some of the CPCs provide sex-specific diagnostic information for the detection of AMI.

We also fully agree that the diagnosis of AMI is a multivariable process and that the area under the curve or C statistic could be used for further analyses. This, however, is useful only for continuous variables, not dichotomous variables such as CPCs. Therefore, we are currently developing a clinical score combining data from patient history including CPC and electrocardiographic findings into a quantitative score that can then be evaluated and validated by using the area under the curve or C statistic.

Maria Rubini Gimenez, MD
Raphael Twerenbold, MD
Christian Mueller, MD

Author Affiliations: Department of Cardiology, University Hospital Basel, Basel, Switzerland.

Corresponding Author: Christian Mueller, MD, Department of Cardiology, University Hospital Basel, Petersgraben 4, CH-4031 Basel, Switzerland (Christian.Mueller@usb.ch).

Conflict of Interest Disclosures: Dr Mueller has received research grants from the Swiss National Science Foundation and the Swiss Heart Foundation, the Cardiovascular Research Foundation Basel, 8sense, Abbott, ALERE, Brahms, Critical Diagnostics, Nanosphere, Roche, Siemens, and the University Hospital Basel, as well as speaker honoraria from Abbott, ALERE, Brahms, Novartis, Roche, and Siemens. No other disclosures are reported.

1. Rubini Gimenez M, Reiter M, Twerenbold R, et al. Sex-specific chest pain characteristics in the early diagnosis of acute myocardial infarction. *JAMA Intern Med*. 2014;174(2):241-249.

Effect of Wine Consumption on Mortality

To the Editor In their study of the effect of resveratrol on mortality, Semba and colleagues[1] found that the alcohol intake of