

TO THE EDITOR:

New treatments to cure peptic ulcer disease (PUD) not related to nonsteroidal anti-inflammatory drugs (NSAIDs), which include eradicating *Helicobacter pylori*, are widely reported in the medical literature and discussed in the lay press. We have known since 1988 that eradicating *H. pylori* markedly reduced recurrence of duodenal ulcer.¹ In 1994, a National Institutes of Health Consensus Conference recommended that ulcer treatment include an antibiotic and antisecretory regimen for people with documented peptic ulcer and *H. pylori* infection.² A number of published decision analytic models demonstrated the clinical superiority of treatment of *H. pylori* infection when compared to a strategy that did not include eradication. However, all ask a question relevant only to a small subset of patients with newly diagnosed ulcer disease. The question each of these studies asks is "What are the clinical and economic consequences of alternative treatments for people with known non NSAID peptic ulcer?"³⁻⁵ The recent study by Rubin et al, published in this Journal presents a variation on this same theme.⁶

Although it is important to examine this usually specialist care perspective for a relatively small population, such results are of little help in estimating impacts on the much larger population with symptoms of dyspepsia suggestive of PUD or patients with ulcer diagnosed in the past. For the readers of *The American Journal of Managed Care*, the most salient question is, "How should primary care physicians treat people with ulcer-like dyspepsia?" The emphasis on the primary care physician and "symptom management" compels addressing this question first. To date, only the study by Fendrick et al, takes the broader patient, physician and system perspective, one most realistic in its evaluation and most relevant to managed care decision making.⁷

In addition to inadequacies of a narrow fundamental research question, there are also specific criticisms of method and analysis that reduce the usefulness most study in actual practice and disease management. For example, the studies by Rubin et al, and others, analyze outcomes for five to fifteen years. There are few if any data on health care resource use in peptic ulcer disease beyond two years. In particular, PUD patients visiting primary care physicians for dyspeptic symptoms other than ulcer occurrence (eg, gastroesophageal reflux disease) need to be tracked in parallel with PUD-related symptoms.

Second, most studies did not include the cost of initial diagnosis of peptic ulcer. Fendrick et al showed that the cost of endoscopy, a primary diagnostic tool, was among the most sensitive input cost variables.⁷ Thus, changing the cost of endoscopy could have profound effects on cost and cost-effectiveness of alternative strategies.

Third, why do additional diagnostic testing when the a priori assumption is that peptic ulcer status was already

known? Knowing *H. pylori* adds little after confirming the presence of an ulcer. There is substantial evidence that 90-95% of patients with non-NSAID duodenal ulcer will have *H. pylori* infection.¹ The prevalence of *H. pylori* infection and the operating characteristics of the available diagnostic tests suggest that a negative test result is equally likely to be either a true or false negative. It is most likely that in the small population with newly diagnosed PUD an antibiotic and antisecretory strategy of *H. pylori* eradication without testing would be most cost effective. This strategy was not tested by Rubin et al.

Encapsulated in the study by Rubin et al are many of the problems that afflict most of the recently published decision analytic models of peptic ulcer disease management. Such models must mimic closely clinical episodes of care; and, they must include costs of diagnosis and impact on symptoms as well as results of objective measures. Only when we researchers ask analyze relevant clinical and economic questions can we affect health care decision making.

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1. Marshall BJ, et al. Prospective double-blind trial of duodenal ulcer relapse after eradication of *Campylobacter pylori*. *Lancet* 1988;2:1437-1442.
2. NIH Consensus Conference. *Helicobacter pylori* in peptic ulcer disease. NIH Consensus Development Panel on *Helicobacter pylori* in Peptic Ulcer Disease. *JAMA* 1994;272:65-69.
3. Sonnenberg A, Townsend WF. Costs of duodenal ulcer with antibiotics. *Arch Intern Med* 1995;155:922-928.
4. O'Brien B, et al. Cost-effectiveness of *Helicobacter pylori* eradication for the long-term management of duodenal ulcer in Canada. *Arch Intern Med* 1995;155:1958-1964.
5. Unge P. The cost-effectiveness of *Helicobacter pylori* eradication versus maintenance and episodic treatment in duodenal ulcer patients in Sweden. *PharmacoEconomics* 1995;8:410-427.
6. Rubin RJ, et al. Diagnosis and eradication of *Helicobacter pylori* in the management of peptic ulcer disease: A decision analysis model. *Am J Man Care* 1996;2:375-383.
7. Fendrick AM, et al. Alternative management strategies for patients with suspected peptic ulcer disease. *Ann Intern Med* 1995;123:260-268.

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AUTHOR'S REPLY:

While we agree that researchers should "ask and analyze relevant clinical and economic questions," we find little insight and a number of inaccuracies in the balance of the letter from Bloom, Chernew, Hirth and Fendrick.

First, we maintain that there is more than just one single question of clinical interest to primary care physicians. As indicated in our paper, the question addressed in our decision analysis model was "When a patient is diagnosed with peptic ulcer disease, what is the most cost-effective management option available to the physician?" Careful readers will also understand that our model differs in many respects from the prior studies, as discussed in our paper.

Second, while we agree that other clinical questions such as "how should physicians diagnose and treat patients who present with dyspepsia?" are of interest, we are not as convinced that Fendrick and colleagues¹ present a definitive or compelling answer. We invite your readers to assess our analysis of this question (including a comparison to Fendrick's results), which is contained in the present edition of the Journal.

Third, we find the comments about the five-year timeframe in our study puzzling. Peptic ulcer disease is a chronic condition, so longer episodes should represent a more accurate reflection of costs and outcomes. Much of the literature cited in our study is reported over a five-year period, and published clinical trial studies indicate that patients on maintenance antisecretory therapy experience a recurrence of symptoms over five years.^{2,3}

Fourth, the letter incorrectly states that we did not test the strategy of administering antibiotic and antisecretory therapy without testing for the presence of *H. pylori*. This strategy is discussed explicitly in our study. As mentioned in our paper, empiric antisecretory/antimicrobial therapy is

the strategy associated with the lowest measured costs, but it is difficult to fully assess this approach because of the potential for increasing the prevalence of antibiotic resistance.

Despite the growing consensus in the literature regarding the cost-effectiveness of eradicating *H. pylori* in the treatment of PUD, this message has not fully saturated the managed care community. We hope that both of our papers will help to reinforce this message.

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1. Fendrick AM, Chernew ME, Hirth RA, Bloom BS. Alternative management strategies for patients with suspected peptic ulcer disease. *Ann Intern Med* 1995;123:260-268.
2. Penston JG, Wormsley KG. Review article: Maintenance treatment with H₂-receptor antagonists for peptic ulcer disease. *Aliment Pharmacol Ther* 1992;6:3-29.
3. Penston JG, Wormsley KG. Long-term maintenance treatment of gastric ulcers with ranitidine. *Aliment Pharmacol Ther* 1990;4:339-355.

TO THE EDITOR:

In our IPA model HMO in Louisiana serving 118,000 members, we recently completed an assessment of the medical necessity of Computed Tomography scans of the head obtained in emergency departments over a one year period. Despite the fact that medical necessity criteria had been previously widely distributed, of 264 cranial CT scans reviewed, 79 percent failed to meet medical necessity criteria.

In many instances, the CT scans were obtained for reasons such as syncope, vertigo, tension headaches or

trivial head trauma, conditions in which CT scanning is of extremely low yield. These medically unnecessary studies represent over \$150,000 in lost revenue to hospitals since studies failing medical necessity were not reimbursed.

We are concerned about this apparent overutilization of diagnostic testing and wonder if other managed care entities have encountered similar issues?

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See page 745 for information on submitting letters to the Editor of AJMC.