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## Radiologic Classification of Black Lung: Time for a New Gold Standard?


To the Editor:

As experienced B-readers, we read with interest the publication by Friedman and colleagues (1). The authors identified a strong association between radiograph classification and history of payment by employer or claimant. The analysis is impressive and interesting, and at first glance, the discordance between readers is quite concerning. However, the following points are notable.

1. According to Table E1, 23,689 (62%) of 37,530 miners had only one reading, and a further 6,057 (16%) had multiple readings with complete agreement on classification. Thus, the system seems to have worked appropriately in almost 80% of black lung applicants. The remaining 7,784 (21%) had multiple readings with disagreement. These miners had a total of 25,315 readings or an average of 3.3 readings per miner (compared with 2.4 readings per miner in those with concordant readings). This difference in the number of readings will magnify the discordance between readers.
2. Because these discordant cases were presumably contested, it is possible that some concordant reads that did not fit the

desired narrative would not have been included in the claim and would not have been part of the record when searched.

3. About 50% of the B-readers were nonradiologists and perhaps less experienced with digital imaging and postprocessing, which may have led to over- or under-reading of abnormality.
4. Two separate tasks are inherent in radiographic interpretation for pneumoconiosis: perception of the abnormality and determination of whether the perceived abnormality is consistent with pneumoconiosis. There are no clear guidelines for the latter subjective decision. The 2020 revised version of the classification form (2) may remove some of this ambiguity by asking whether there are any classifiable parenchymal abnormalities. However, this change makes it more important to identify alternate causes from the clinical history.
5. The discussion indicates that “when looking only at B-readers who read almost exclusively in one direction (99% of cases), there were three times more B-readers providing eight times more classifications among those affiliated with employers compared with those affiliated with miners.” This likely reflects the greater resources of employers to request and pay for multiple B-readings from physicians, an asymmetry that is likely to increase the number of discordant reads.
6. Most importantly, there is no gold standard for diagnostic truth. In place of the current unhelpful adversarial competition between positive and negative readings, it would probably be less costly and more efficient to acquire a volumetric high-resolution computed tomography (HRCT) for contested cases, interpreted by an approved panel of readers who follow the standards set by the International

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## Classification of HRCT for Occupational and Respiratory Diseases (3). ■

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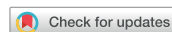
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## Reply: Radiologic Classification of Black Lung: Time for a New Gold Standard?

*From the Authors:*

We thank Lynch and colleagues for their response to our study (1). Although the authors do not address the key findings of the study regarding the role of financial conflicts of interest among physicians involved in the Federal Black Lung Program, they do reiterate some of the concerns we discussed in the manuscript. We address each of their points sequentially below:

1. They note that there was disagreement on 20.7% of the claims but do not mention that thousands of these claims involved substantial disagreement in which one B-reader reported an absence of pneumoconiosis whereas a second indicated high-profusion simple pneumoconiosis (2/1 to 3/+ ) or progressive massive fibrosis. This indicates that one of the physicians misses or fails to indicate the presence of any classifiable parenchymal abnormalities. It is possible that the revised International Labor Office (ILO) classification guidelines will reduce this type of discordance.
2. The authors note a concern we raised in the manuscript that if a classification “did not fit the desired narrative, [it] would not have been included in the claim.” The U.S. Department of Labor (USDOL) noted that legal teams, in particular those hired by employers, may withhold classifications deemed unfavorable to their legal case. To address this, USDOL passed a rule requiring disclosure of all solicited classifications to uncover suppression of medical evidence.
3. The authors assert that radiologists are more qualified with digital imaging and post-processing than other physicians. All

currently practicing B-readers use digital imaging in their practices and must pass the same examination and recertification process, which involves a digital syllabus and examination. Regardless, the distribution of radiologists and other specialties was consistent across major categories of financial affiliations (Table 1) and controlling for specialty in the models did not impact the conflict of interest odds ratios.

4. There are guidelines that have been instituted to improve uniformity in classification of radiographs through the National Institute for Occupational Safety and Health B-reader training program, certification examination, and use of ILO standard images. These processes are designed to reduce discordant reads. However, B-reading training and ILO guidance clearly state that if a miner has a known history of significant exposure to coal dust and has opacities consistent with pneumoconiosis, then the radiograph should be classified as coal workers' pneumoconiosis, unless there is a clear alternative explanation.
5. It is commendable that they raise the issue that employers have significantly greater financial resources to contest claims. Although it is legal for employers to pay for the best defense possible, the system is not equitable, and employers have a clear advantage.
6. High-resolution computed tomographic imaging proposed by the authors currently does not have validated standard images or a system of testing and training that is analogous to the ILO classification system. The authors assert that this new technology, together with a panel, would potentially resolve discordant medical opinions. However, panels frequently experience political pressures, gridlock caused by split decisions, and recurring vacancies that impact the minimum quorum needed and can be intentionally understaffed by the administration in power.

What does concern us is the failure by the authors of this letter to acknowledge the core findings relating to the strong association between the direction of ILO classifications and the financial

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