a posteriori internal inconsistencies. The aforementioned problems associated with the ECSC reference equations in particular should be a particular stimulus for gathering updated data on spirometry and on lung volume across the (expanded) European community.

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From the authors:

The summary equations published by the European Community for Steel and Coal (ECSC) and the European Respiratory Society (ERS) [1, 2] are an average of prediction equations published before 1983; arising from this they have serious deficiencies. All ECSC studies were paid for by levies on coal and steel, and thus lacked adequate studies in females. Since no appropriate data existed for females, and no funds were available for a new study, the working party used published prediction equations derived from healthy non-smokers to generate a new database, and then used this to derive a new equation. The limitations of this technique are quite obvious, some of these were discussed in the 1983 report [1]. Table XVIII of that report also summarises the inconsistencies that arise from deriving the forced expiratory volume in 1 s (FEV₁)/forced vital capacity (FVC) ratio from predicted FEV₁ and predicted FVC, compared with a predicted ratio, the latter being a more robust and appropriate approach.

As to the noted discrepancies with respect to functional residual capacity (FRC)/total lung capacity (TLC), the 1983 report noted: “For the FRC and FRC/TLC, the situation is unsatisfactory [...] there is wide variability in predicted FRC according to various authors, and therefore this index is not likely to be suitable for diagnostic purposes. The predicted FRC/TLC ratio is based on only three discrepant sources; at

the present time, the summary equation for this ratio cannot be recommended for routine use.” Despite these explicit warnings within the document, the ECSC equations and other outdated and inappropriate equations are readily available in lung function software and thus continue to be used in a blinkered fashion in both clinical and research settings.

Deriving new prediction equations should ideally be based on recent and representative data. New studies are, however, very costly because large numbers are required to obtain good population estimates [3]. Collation of available data, obtained with state-of-the-art techniques, is a valid and cheap alternative [4, 5]. Unfortunately, although equations for spirometry which span the 3–80 yrs age range in white subjects have been available for several years [5]; their availability in clinical practice has been limited because they have not been implemented widely by manufacturers. Use of the new equations [5], derived from good quality studies with state-of-the-art analytical techniques, should now be standard practice, and several key manufacturers have recently upgraded their software to facilitate this approach. Desktop software (Microsoft Windows) based on the work of STANOJEVIC *et al.* [5] is available for free from www.lungfunction.org/growinglungs/software.html.

Over the past decade, research groups and funding agencies have raised the importance of data sharing for scientific purposes. Arising from this, the Global Lungs Initiative (www.lungfunction.org), an ERS task force endorsed by the American Thoracic Society, the Australian and New Zealand Society of Respiratory Science, the Asian Pacific Society of Respiriology and the American Association of Chest Physicians, will this year issue new reference values for spirometry based on data from nearly 100,000 healthy subjects (age range 3–95 yrs) from 70 centres worldwide, encompassing a range of ethnic groups. Hopefully these will be adopted internationally, to overcome the problems that S. Verbanck and co-workers describe. Future initiatives from this task force will hopefully address remaining challenges with respect to lung volumes and diffusion capacity of the lung for carbon monoxide.

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