

Increasing myopia post-COVID: evidence from child vision screening age 3.5-5.5 years in Scotland

Bruce JW Evans,¹ Lee Pentland,² David F Edgar,¹ Rakhee Shah,^{1,3} Benjamin EW Evans,¹ Miriam L Conway¹

¹City St George's, University of London, London; ²Ninewells Hospital, Dundee; ³Hoya Vision Care, Amsterdam

Bruce.Evans.1@city.ac.uk



Background

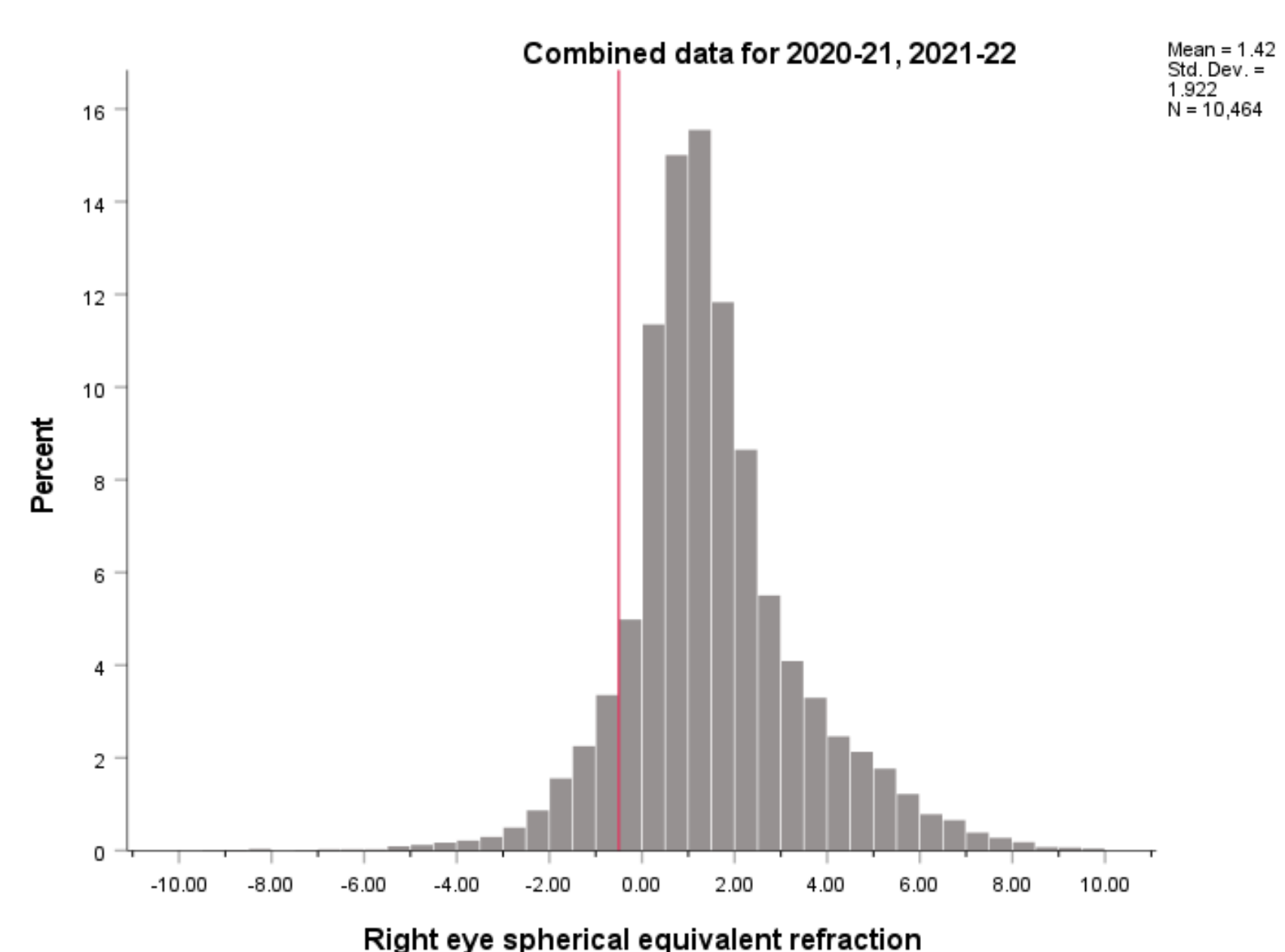
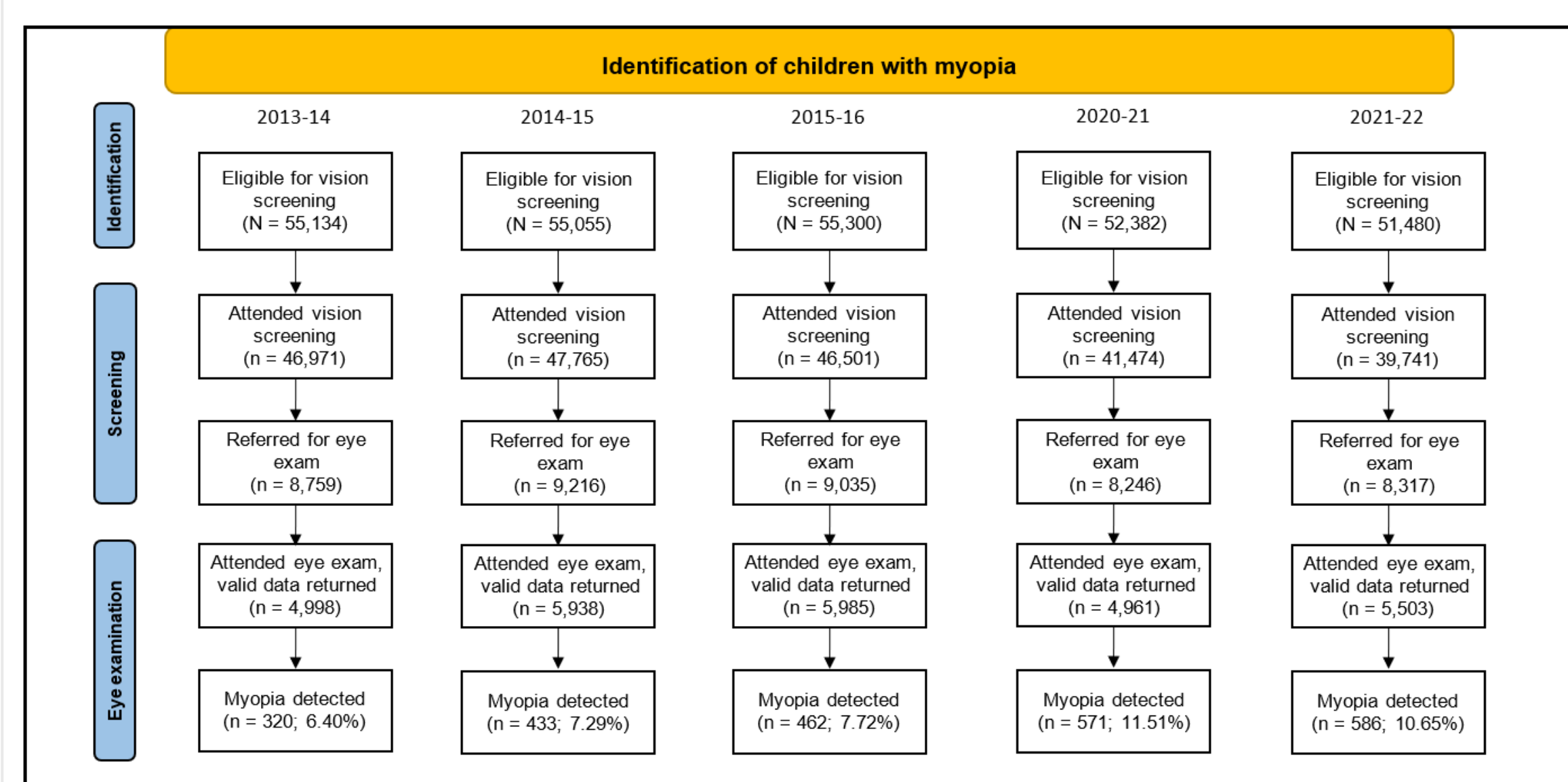
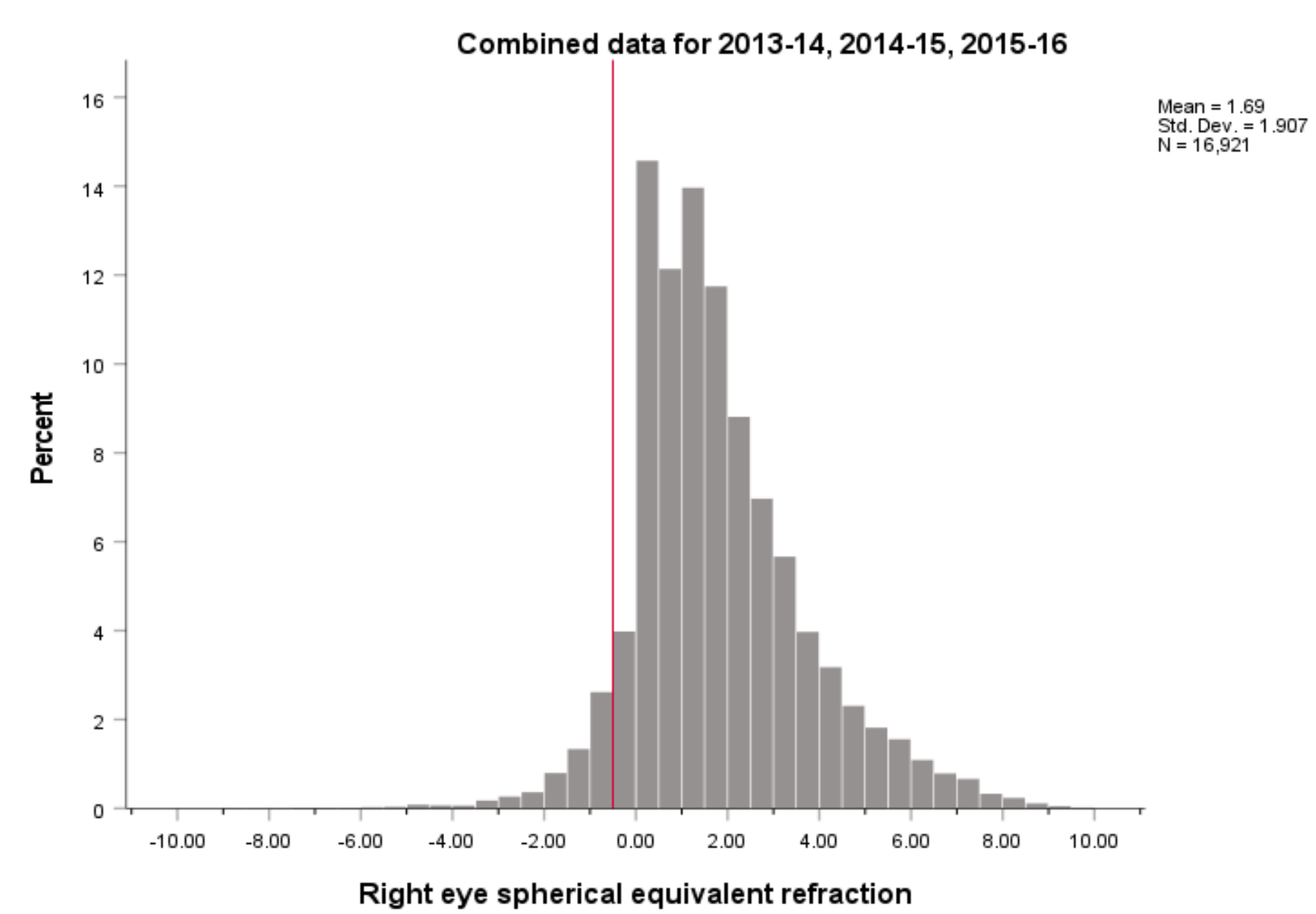
- Scotland has child vision screening at age 3.5-5.5 y, with ~85% participation (40,000-50,000 screening episodes annually). Orthoptists deliver the screening, including presenting vision, cover test, and other tests. Screening failures are referred for eye exams, including cycloplegic refraction.
- The study reports refractive error data from these eye exams (~5,000-6,000 annually) for 3 y pre- and 2 y post-pandemic and investigates correlations between myopia, socio-economic factors, & living environment.

Method

- Right eye data from eight Scottish Health Boards (HB) are reported for spherical equivalent refraction (SER) for the years 2013-14, 2014-15, 2015-16, 2020-21, 2021-22.
- Associations were investigated between the proportion of the sample in each HB with myopia and proportion of the population in each HB with different levels of deprivation index, dwelling type, and classification on a rural/urban continuum.

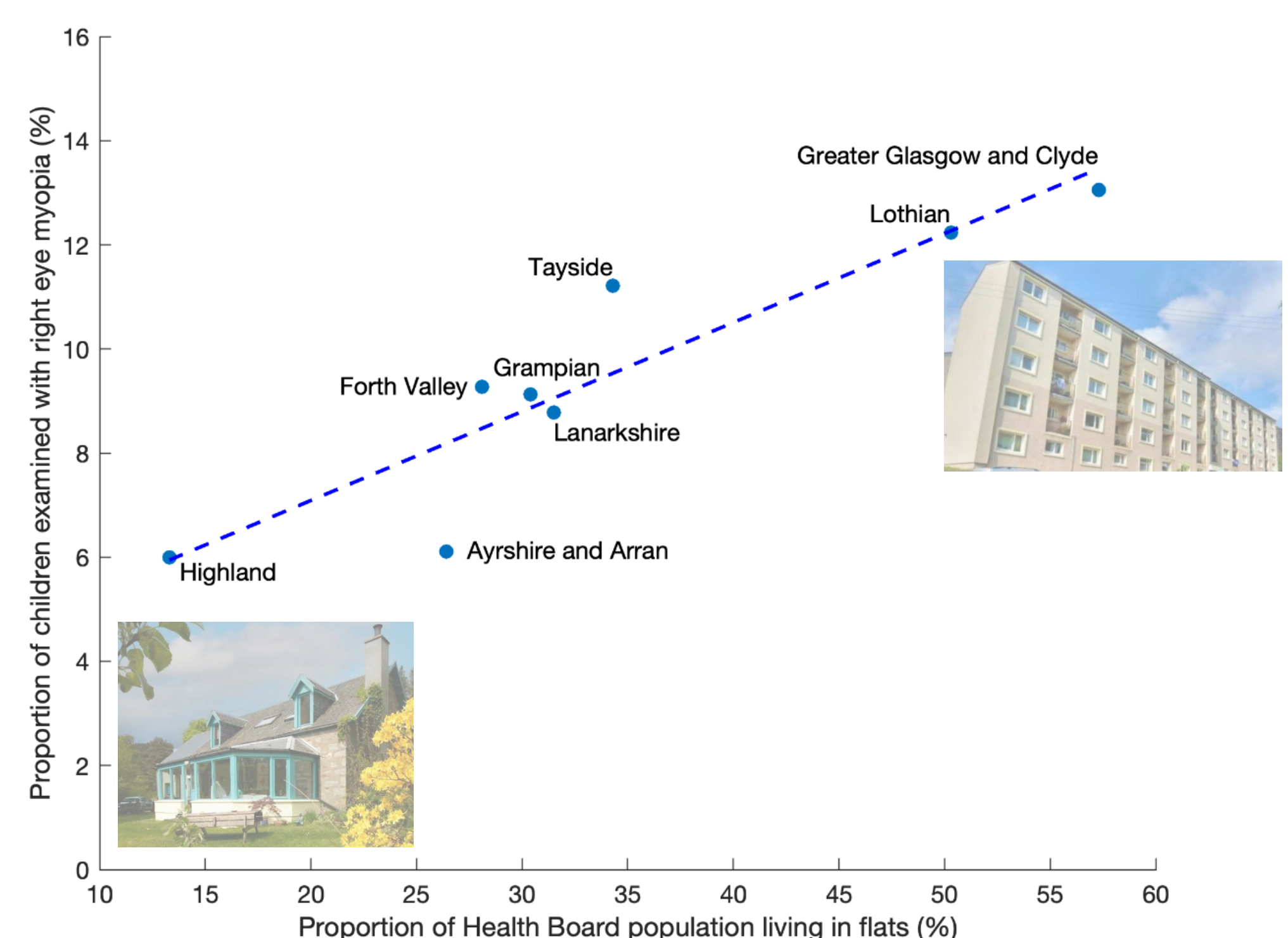
Results

- The increase in myopia was statistically significant in each of the last two years compared with each of the first three ($p < 0.0005$).
- Proportion of myopes ($\leq -0.50D$) increased from $< 7.8\%$ 2013-16 to 11.51% in 2020-21, 10.65% in 2021-22 ($r^2 = 0.94$, $p = 0.006$).
- Associations between myopia and: deprivation index low ($r^2 < 0.07$; $p > 0.5$), flats/apartments high ($r^2 = 0.83$, $p = 0.002$); most urban environment high ($r^2 = 0.79$; $p = 0.003$).



Conclusions

- In children aged 3.5-5.5 y, myopia has become more common since the COVID pandemic in Scotland, UK.
- The increasing myopia raises questions about whether eye vision screening should be repeated regularly during the school years.
- Myopia is associated with living in flats/apartments & highly urbanised settings, but not with deprivation.



Acknowledgements & Disclosure

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