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Under-recognition of measurement and management of serum ferritin among populations at high risk of iron deficiency - Authors' reply

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We agree with Tamohiko Sato and colleagues that a paucity of ferritin measurements to detect iron deficiency in high-income, middle-income, and low-income countries restricts how well research can quantify the magnitude of the disease burden and prevent and treat the disease. Following Sato and colleagues' suggestions, we reanalysed ferritin concentration data from the US National Health and Nutrition Examination Survey (NHANES) by age, body-mass index, and income and found no meaningful correlations. In our Article,¹ we proposed a method to derive physiologically based ferritin thresholds for iron deficiency among apparently healthy young children and non-pregnant women. We concluded that this approach needs validation in non-US populations before specific threshold values are adopted. Although Sato and colleagues highlight the scarcity of ferritin data for Japan, there is also a paucity of data in the USA for populations at high risk of iron deficiency, hindering surveillance and clinical practice. NHANES measures ferritin

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but does not collect blood among infants younger than 12 months. Ferritin is an acute phase protein and should be adjusted for inflammation, but NHANES does not measure inflammation in all age groups consistently. Sample sizes for pregnant women are small, requiring the combining of data from approximately 10 years for dependable estimates; after 2013, NHANES stopped recording the trimester of pregnancy. The US Public Health Task Force has also emphasised the paucity of prevalence data for iron deficiency anaemia among pregnant women.² Analysis of electronic health records for first-trimester pregnancies found that anaemia screening is virtually universal, but ferritin screening for iron deficiency is not,³ despite recommendations by the American College of Obstetrics and Gynecologists.⁴ We continue to search for suitable anonymised databases to examine the proposed method for deriving physiologically based thresholds for serum ferritin concentration for iron deficiency among apparently healthy individuals. Having found that some national datasets from other countries have prohibitive restrictions on their use, we welcome any suggestions of publicly available and representative ferritin data.

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