New computer model addresses inequity in selecting clinical trial participants

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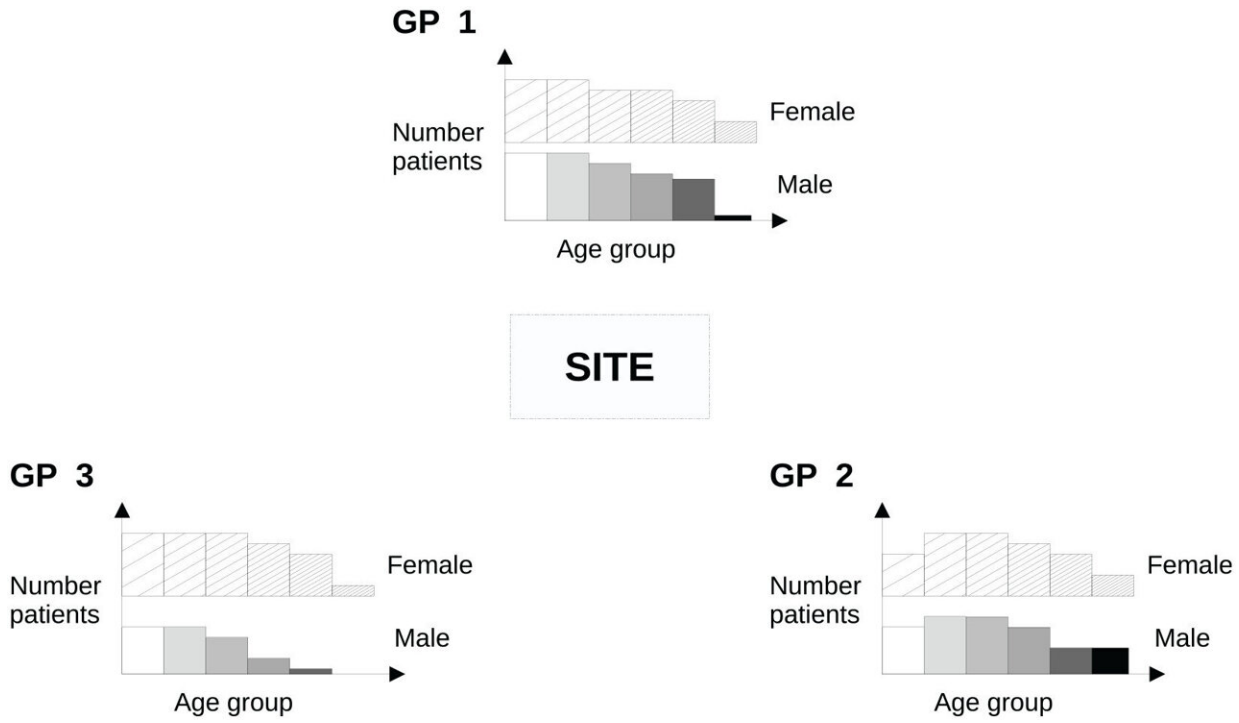

Schematic of the invitation model in an example where (for simplicity) the site is served by three GP practices (clusters). There is an age/sex distribution of people to potentially invite within each cluster. This is illustrated using a histogram, where the solid blocks represent the male population and the hatched blocks the female population, with increasing age from left to right and from lighter to darker shades. The problem is to determine the number to invite to attend appointments at the site from each age/sex band (group) and GP (cluster). Credit: *Clinical Trials* (2023). DOI: 10.1177/17407745231167369

People who enroll in health research studies, such as cancer screening trials, usually have better health than the target population (the "healthy volunteer" effect).

A new paper led by Dr. Adam Brentnall, Senior Lecturer in Biostatistics at Queen Mary's Wolfson Institute of Population Health, in collaboration with colleagues from King's College London, describes a computer algorithm developed to help target trial invitations to achieve more equitable representation. The work is published in the journal *Clinical Trials*.

The new model tilts clinical trial participation invitations towards groups less likely to join, to ensure that enough people are included in the trial from all major societal and ethnic groups.

The model was tested in practice in recruitment to the NHS-Gallieri multi-cancer screening trial. Over 11 months ≈1.5 million invitations were sent to recruit 140,000 people, making it likely to be the fastest recruiting trial of this size ever. This method of inviting participants for clinical trials addresses the "healthy volunteer" effects and inequity that exist in many health research studies, and can be adapted for use in other trials or research studies.

More information: Adam R Brentnall et al, Dynamic data-enabled stratified sampling for trial invitations with application in NHS-Galleri, *Clinical Trials* (2023). DOI: 10.1177/17407745231167369

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