# Perceptions of gender equity in departmental leadership, research opportunities, and clinical work attitudes: an international survey of 11781 anaesthesiologists 

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#### Abstract

Background Women make up an increasing proportion of the physician workforce in anaesthesia, but they are consistently under-represented in leadership and governance.


Methods
We performed an internet-based survey to investigate career opportunities in leadership and research amongst anaesthesiologists. We also explored gender bias attributable to workplace attitudes and economic factors. The survey instrument was piloted, translated into seven languages, and uploaded to the SurveyMonkey ${ }^{\circledR}$ platform. We aimed to collect between 7800 and 13700 responses from at least 100 countries. Participant consent and ethical approval were obtained. A quantitative analysis was done with $\chi^{2}$ and Cramer's $V$ as a measure of strength of associations. We used an inductive approach and a thematic content analysis for qualitative data on current barriers to leadership and research.

## Results

The 11746 respondents, $51.3 \%$ women and $48.7 \%$ men, represented 148 countries; 35 respondents identified their gender as non-binary. Women were less driven to achieve leadership positions ( $P<0.001$; Cramer's V: 0.11). Being a woman was reported as a disadvantage for leadership and research ( $P<0.001$
for both; Cramer's V: 0.47 and 0.34 , respectively). Women were also more likely to be mistreated in the workplace (odds ratio: 10.6; $95 \%$ confidence interval: $9.4-11.9 ; P<0.001$ ), most commonly by surgeons. Several personal, departmental, institutional, and societal barriers in leadership and research were identified, and strategies to overcome them were suggested. Lower-income countries were associated with a significantly smaller gender gap ( $P<0.001$ ).

Conclusions
Whilst certain trends suggest improvements in the workplace, barriers to promotion of women in key leadership and research positions continue within anaesthesiology internationally.

