

BSCC Abstract Template

Lecture Title:	If it's not seen often, it's often not seen
Lecturer Name:	Andrew Evered
Lecturer Biography:	<p>With 23 years experience in cytology, my professional life is divided between the Welsh Cytology Training School (Manager), the cytology laboratory at Llandough University Hospital (Clinical Cytologist) and the University of Wales Institute Cardiff (Principal Lecturer and Researcher in Biomedical Science). I have a strong research interest in the factors affecting diagnostic performance in cellular pathology and I am currently working towards a PhD in this area.</p>
Abstract	<p>Sighted animals have evolved to use their eyes to search for common things, such as reliable food sources, attractive mates and common predators. In laboratory studies, psychologists have found an interesting effect of the frequency of these search targets. When targets are rare, humans are more likely to miss them, a phenomenon referred to as the "prevalence effect". Put simply, if you don't find what you're looking for fairly frequently then you often won't see it when it does occur, even when it is right before your eyes. This effect is not due to random attention lapses, boredom, lapses of vigilance or unfamiliarity with the target. If this occurs in cytologists then the implications for cervical screening programmes are potentially serious. A collaborative study between Cervical Screening Wales and the Visual Attention Laboratory at Harvard University began in 2008 to investigate the extent to which this phenomenon affects cytologists. With the help of experienced cytologists from Welsh laboratories and Massachusetts General Hospital, we measured the effect of target prevalence on error rates in the context of cervical screening. The results showed a clear prevalence effect, in which false negative rates increased as the percentage of slides containing abnormal cells decreased. Importantly, the effect could be reduced by exposing cytologists to high-prevalence bursts of abnormal cells. In the era of HPV vaccination, it may be important to consider the effects of declining disease prevalence on screening performance.</p> <p>The study was generously supported by grants from the BSCC, NAC and the Research Capacity Building Collaboration Wales.</p>
Take home message(s)	<p>In the era of HPV vaccination, it may be important to consider the effects of declining disease prevalence on screening performance.</p> <p>Introducing screeners to high-prevalence bursts of abnormal slides may help to offset the prevalence effect.</p> <p>As the prevalence of cervical disease declines it may be prudent to consider alternatives to cytology as the primary screening test.</p>

References	Wolfe JM, Horowitz TS, Kenner NM. Rare items often missed in visual searches. <i>Nature</i> 2005; 435 : 439-440
Declaration of interest	None