

# Diagnostic accuracy of wideband absorbance in identification of otitis media with effusion

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**Background:** Myringotomy is the gold standard for determination of otitis media with effusion (OME). Although wideband absorbance (WBA) is reported to hold promise in identification of OME, to date, there are no studies that have evaluated WBA under ambient and pressurised conditions against myringotomy as gold standard. **Aim:** The objective of this study was to compare diagnostic accuracy of WBA at ambient ear canal pressure (WBA) and pressurised conditions (WBT) in healthy ears with ears with OME as determined by myringotomy. **Method:** Using a prospective study design, WBA and WBT measures were obtained from 33 children (61 ears) scheduled for myringotomy and/or grommets. Presence or absence of OME was confirmed at the time of surgery. Control group consisted of 40 children (60 ears) with normal middle ear function. **Results:** Both WBA and WBT were significantly lower in the OME group than control group at most frequencies. Receiver operating characteristic analysis showed the highest diagnostic value for WBA at 1.5 kHz (0.92) and for WBA at 1.25 kHz (0.91). **Conclusions:** Both WBA and WBT are equally accurate in detecting OME. Further studies should include additional wideband absorbance immittance measures to further improve accuracy of identifying OME.

## Capacity to access healthcare

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**Background:** Economic evaluations typically take a health systems perspective and do not consider costs or benefits beyond the health care system. This presentation gives an overview of the indirect costs of chronic disease on employment and family finances, and the role out of pocket healthcare costs play in preventing access to healthcare. **Method:** Cross sectional analysis using 1) Health&WealthMOD a microsimulation model built from the Survey of Disability, Ageing and Cares and another microsimulation model STINMOD, which is used by the Treasury to model the impact of taxation changes; and 2) the Commonwealth Fund's International Health Policy Survey. **Results:** There are currently over 1 million people under the age of 65 who are permanently not working because of ill health, these people have significantly lower incomes (\$218 per week as opposed to \$1167 per week for those employed full-time). Males have median savings of only \$1,810 by the time they are 65. This is far lower than the median value of the expected savings of \$249,160 if they remained employed. People with mental health conditions had odds 7.65 times as high of skipping healthcare (95% CI: 4.13 – 14.20), and people with asthma, emphysema and COPD had odds 6.16 times as high of skipping healthcare (95% CI: 3.30 – 11.50) compared to people with no health condition. **Conclusions:** Given the crippling impact chronic disease can have on family finances, increasing attention should be paid in the economic evaluation of health care interventions to the affordability of new treatments to individuals. **Funding disclosure:** The development of Health&WealthMOD was funded by an ARC Linkage Grant, with Pfizer Australia the industry partner to this grant. Salary was also drawn from an NHMRC Early Career Fellowship.

## Sun protection provided by regulation school uniforms worn by primary school students in Queensland during summer

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**Background:** Ultraviolet radiation (UVR) exposure is associated with excessive pigmented mole formation in childhood and subsequent melanoma risk. School children receive most of their UVR at school. Body-sites protected by clothing develop fewer moles. School uniforms provide children with a physical barrier to UVR exposure, reducing subsequent melanoma risk. We evaluated the body surface area (BSA) covered by Queensland primary school regulation uniforms to determine if coverage varied by region, gender or school ownership. **Method:** Publicly available uniform images and guidelines were sought for all primary and combined schools in 10 Queensland regions in a cross-sectional study conducted 2009-2014. BSA of the regulation summer uniform (each gender) was determined for each body-site, excluding the head using an established method. **Results:** 672 schools [482 (71.7%) government and 190 (28.3%) private] were identified in the study regions. School uniform data were obtained for 667 (99.3%) of these schools. 604 (90.6%) schools were urban and 63 (9.4%) were regional. Overall, mean BSA by boys' uniforms (62.15% ±0.96) was greater than girls' (62.03% ±0.84),  $p < 0.005$ . Mean BSA covered by private school uniforms (62.40% ± 1.30) was higher than public schools (61.97% ± 0.49),  $p < 0.005$ ; a medium effect ( $d = 0.55$ ). Similarly, mean BSA covered by uniforms was higher in private schools when stratified by gender. **Conclusions:** Our data suggest that Queensland public summer primary school uniforms cover less BSA than private school uniforms (both genders). Alterations, such as lengthening hems can be made with little or no cost, thus making it affordable for all schools.