



## An Investigator-Blinded Randomised Controlled Trial for a Highly Immersive Serious Game in Paediatric Medical Education: PlayMed

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**Background:** We developed PlayMed, a highly immersive serious game, and evaluated the educational efficacy of PlayMed (PM) against two controls, (i) SmartSparrow, an online learning module (SS) or (ii) paper-based clinical guidelines (GL).

**Methods:** We performed an investigator-blinded randomised controlled trial on senior University of New South Wales medical students at Sydney Children's Hospital, Australia. Participants were block randomised and given 8 weeks access to one educational intervention teaching asthma and seizure management (PM, SS or GL). Clinical performance was evaluated through two objective structured clinical examinations (OSCE) (15 marks each). Participants also completed a Likert-style questionnaire. A p-value <0.05 was statistically significant.

**Results:** Ninety-six students were assessed (36 PM, 31 SS and 29 GL) and demographics were similar between groups (median (IQR) age 23 years (22-24), 45% male). The mean (SD) OSCE scores for PM, SS and GL were 20.8 (3.3), 19.8 (3.5) and 18.7 (3.8), with PM significantly higher than GL (p=0.02). Participants 'strongly agreed' that PM, SS and GL prepares them for real-life clinical scenarios (38.9%, 16.7% and 3.5%, respectively), with PM significantly higher than GL (p=0.0002).

**Conclusion:** Our findings demonstrate a positive attitude towards PlayMed and provide high-quality evidence of educational validity.