

## **Message in a bottle: How evidence based medicine and program change model were used to improve asthma management in a low income Emergency Department, Papua New Guinea**

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### **Abstract**

**Objective:** To implement evidence based practice guidelines using a culturally sensitive change management approach and improve asthma management in a developing world setting. **Methods:** The setting is Emergency Department, Modilon Hospital, Madang, Papua New Guinea. Nearly 700,000 people live in Madang Province and Modilon Hospital (with 258 beds) is the only government hospital in the region. **Study Design:** 1) Asthma management analysis: A questionnaire was completed by Emergency Department staff during consultations with known asthma patients consisting of patient demographics, departmental and discharge management. Results were compared to international evidence based guidelines. 2) Action research with program change model: An action research approach using a 4 step model of program change (exposure, adoption, implementation and practice) was adopted with staff education and consultation to design and implement a new departmental asthma guideline. Culturally sensitivity and flexibility were maintained throughout. 3) Asthma management analysis: 3 months after the guideline implementation asthma management was re-analysed in the form of a questionnaire and results compared to original management. A 'post mortem' questionnaire was also conducted with staff to review progress and inform practice learnings. **Outcomes measured:** Treatment in line with evidenced-based asthma management guidelines, patient perception of treatment and frequency of Emergency department visits. Staff perceptions of treatment change outcomes and approach in managing the clinical changes. **Results:** Prior to intervention, asthma management involved frequent use of IV and oral antibiotics, IV steroids, paracetamol, simultaneous use of multiple short acting oral bronchodilators, limited use of oral steroids (of variable dose and duration) and no spacers, preventative steroid inhaled therapy, or asthma action plans. At 3 months staff felt the program improved asthma management. Data are still being collected. **Conclusion:** A 4 step model of program change was used to develop and implement asthma treatment guidelines.

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