

564 Implementation Strategies for Adoption of Single Maintenance and Reliever Therapy among Primary Care Physicians



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RATIONALE: Single maintenance and reliever therapy (SMART) is the recommended management for patients ages 5+ for NHLBI step 3 and 4 asthma management. Despite known efficacy, few studies have explored real-world implementation in pediatric primary care.

METHODS: Potential SMART-eligible children 5-18 years with 2+ hospitalizations and/or emergency department (ED) visits for asthma in the preceding year were identified following hospitalization. Medication prescription data was abstracted from the electronic medical record (EMR). Primary care providers (PCPs) who conducted hospital or ED follow-up visits with these children were emailed a brief survey to elicit input on potential implementation strategies for SMART adoption.

RESULTS: Of the 49 children with frequent asthma exacerbations identified, 46 were included. 22 (48%) were initiated or continued on SMART, 7 of whom were initiated by a PCP. 58 PCPs in nine practices were sent a survey, of whom 30 responded (52% response rate). Responding PCPs supported several strategies to improve SMART adoption: enhanced support for family education (60%), EMR decision support to identify eligible patients (53%), support for prior authorization (53%), enhanced staff education (50%), and additional support managing medication for severe asthma (43%). Additional suggestions included: consistency in SMART prescribing and instructions, easier identification of patients on SMART, and tools that provide dosing and insurance coverage.

CONCLUSIONS: In this study, SMART was not consistently prescribed in the primary care network. The majority of PCPs supported the following strategies that can be implemented to improve SMART adoption: enhanced family education support, decision support to identify eligible patients, and prior authorization support.

565 Who Manages Asthma in Pregnancy? A Qualitative Study



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RATIONALE: Asthma is the most common chronic disease affecting pregnancy, and poor asthma control has significant adverse effects on pregnancy outcomes. Healthcare providers' comfort and knowledge providing asthma care to pregnant patients is currently unknown, and it is important to identify gaps where education may be beneficial.

METHODS: An anonymous survey was developed for health care providers (asthma, obstetric, and primary care physicians) to evaluate comfort level in providing asthma care during pregnancy. Questions regarding the safety of asthma medications in pregnancy, confidence in knowledge base, who should manage asthma in pregnancy, and ideas to improve asthma care in pregnant patients were included. The survey was distributed nationwide. Chi square tests of independence were performed to compare specialty responses.

RESULTS: There were a total of 172 responders. Allergists and obstetricians took the most ownership of managing asthma in pregnancy ($p = 0.08$, $p = 0.07$) though no specialty took sole responsibility. Providers lacked comfort and confidence in managing pregnant patients with asthma. Safety of medications, differentiation of symptoms, lack of monitoring guidance, and time constraints in clinic impacted comfort level in managing pregnant patients. Providers felt additional education, pregnancy-specific action plans, and institutional referral pathways would be helpful in providing care.

CONCLUSIONS: Providers from all specialties lack confidence in their abilities to manage asthma in pregnancy and are unsure who should primarily manage asthma in pregnancy. Novel educational strategies are needed in the care of pregnant patients with asthma.

566 A Pilot Study Testing Adherence to Multiple Digital Health Tools among Adolescents with Asthma



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RATIONALE: Asthma is the most common chronic condition among U.S. youth, affecting almost 10% of children under age 18. Digital health tools, including wearable devices, promise to improve health outcomes, but long term engagement with the devices is required for management of chronic conditions. In this pilot study, multiple digital health devices were employed in adolescents with poorly controlled asthma, and adherence to these devices was assessed over a 4-month period. This is a first step in optimizing wearable device experiences.

METHODS: Adolescents (14-18) with poorly controlled asthma were provided iPhone-linked digital health devices, including an electronic spirometer, and an app with asthma control questions. Subjects performed coached spirometry daily, answered asthma control questionnaires weekly, and attended monthly virtual interviews about asthma control and device experiences.

RESULTS: Four adolescents enrolled in the study, with two completing the full 16 weeks. One participant withdrew in week 2 by parental request, citing the adolescent was changing settings on the iPhone and asthma apps. Another withdrew after 5 weeks due to internet connectivity issues.

Daily spirometry adherence was 46%, 52%, 16% and 44%. Technical difficulties with the spirometer were cited as the major reason for poor adherence: the spirometer device did not consistently connect to the app, would freeze, and did not provide consistent coaching with the spirometry maneuvers. Questionnaire adherence was 100%, 100%, 60%, and 100%.

CONCLUSIONS: Software and hardware integration of digital health devices that require long-term use need to be optimized to promote adherence for monitoring of chronic medical conditions like asthma.