BreathEasy
A smartphone PHR for patients with asthma

Stephen F. Rothemich, MD, MS
Virginia Ambulatory Care Outcomes Research Network
Virginia Commonwealth University

Barbara Massoudi, MPH, PhD
Center for the Advancement of Health Information Technology
RTI International

Patient enters their ODL data through BreathEasy app on Android Smartphone
Clinicians view the ODL data through BreathEasy Clinician Dashboard

BreathEasy Clinician Dashboard

Setting, participants, & procedures
Field testing preceded by user centered design process

Patients

- Thirty patients with moderate to severe asthma
- Predominantly black women
- 24 with household income of $30,000 or less
- 18 with high school degree or less educational attainment
- Entered ODL data at time of day of their choice
- Each given smartphone and 6 months phone/data service

Practices

- Two inner-city practices in Richmond, VA
- 13 family physicians
- 7 nurses
- Practice in doc/nurse teams
- Nurses used protocol to assess dashboard data and escalate to clinicians when appropriate
- Practices paid $500 to monitor each patient for 6 months
Example 1: Significant improvement after a controller medication was started without an office visit
(early 30's, smoker, no other significant health issues)

Example 2: Different diagnosis suspected, escalated to specialist care, immunotherapy planned
(early 50's with comorbid hypertension, depression, chronic pain, and lupus erythematosus)
Impact

* Patients:
  * Easy to use
  * Enjoyed collecting and viewing ODLs
  * Understood their asthma control and triggers better

* Clinicians:
  * Not overwhelming
  * Provided clinically useful information
    * Patient education opportunities
    * Therapy escalated
    * Diagnoses changed