



Improving School and Medical Home Asthma Care Through Coordinated Training and Electronic Linkages

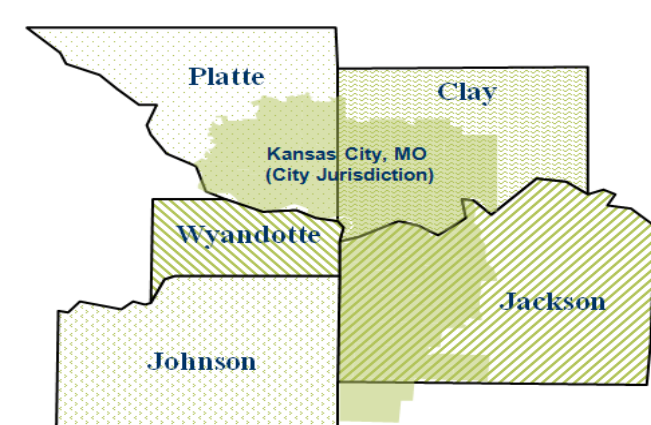
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BACKGROUND

Primary care providers lack capacity to monitor asthma and deliver education for self-care. In December 2012, Asthma Ready® Communities and Kansas City Quality Improvement Consortium combined efforts for a community project named Kansas City Teams Up for Asthma Control (KC TUAC) to deliver standardized asthma self-management education to students in three school districts in tandem with national asthma guideline training for health professionals in neighboring clinics, schools and hospitals with funding by Health Care Foundation of Greater Kansas City/Safety Net Grant.



Map of KC TUAC Community Project Area

AUDIENCE

KC TUAC is designed to improve asthma care by school nurses in participating urban school districts, as well as providers and staff at neighboring clinics and hospitals.

EDUCATIONAL DESIGN AND APPROACH

KC TUAC will track asthma assessment and administrative claims data to target special care, education and trigger abatement services to improve outcomes for children with asthma impairment and risk. Interventions include multimedia asthma literacy training at school, inhalation instructions with an In Check Dial™, identification of students' inhaler medications by color chart, a take-home activity workbook and multimedia program for families, and ICS Star Chart® to improve adherence. Assessments include a validated functional impairment scale, forced expiratory volume in one second, inhalation technique, student-reported passive smoke exposure and inhaled corticosteroid adherence. Children identified with uncontrolled asthma can be referred to local asthma trained providers, guiding them to a medical home. Asthma assessments and claims data will be analyzed to coordinate care between schools and clinics. The Asthma Control Monitor® is an expert system designed to guide provider asthma care decisions. Data exchange is supported by tablet and cloud technology to track improvement of asthma outcomes. With family permission, a provider can request the school nurse to do asthma assessments at school. Improved communication between school nurses and providers has the potential to improve care and management not only for asthma but other common pediatric conditions.

COORDINATED TRAINING

School Nurse Training

School nurses are trained by standardized modules and given essential resources and equipment to apply Expert Panel Report 3 guidelines (EPR3). "Teaming Up for Asthma Control" (TUAC) is designed to improve asthma outcomes for children in grades K to 6. TUAC is based on IMPACT Asthma Kids®.

Child and Family Asthma Literacy: Teaming Up for Asthma Control®

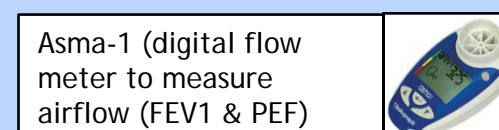
IMPACT Asthma Kids®, evidence-based (Krishna, S., Francisco, B.D., Balas, E.A., König, P., Graff, G.R., & Madsen, R.W. (2003). Internet-enabled interactive multimedia asthma education program: a randomized trial. *Pediatrics*, 111(3), 503-510. doi: 10.1542/peds.111.3.503)



KC TUAC School Nurses focus on 4 Key Asthma Messages:

- 1) Use a daily inhaled corticosteroid to control asthma.
- 2) Measure airflow to know how much asthma is limiting your breathing.
- 3) Practice with a coach to learn how to breathe medicines into the lungs.
- 4) Avoid triggers to keep asthma from getting worse.

Both school nurses and providers will measure airflow and assess inhalation technique with these tools:



In-Check® Dial to assess and coach inhalation technique



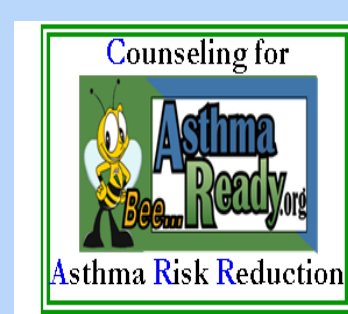
Provider Training

Providers are trained by attending Asthma Ready Clinic Training® (ARCT). This evidence based continuing education (CME) program, developed by the MU School of Medicine, is intended for physicians, nurse practitioners, and physician assistants who provide direct care to individuals who have asthma. ARCT Part 1 (2 hours) incorporates information from Physician Asthma Care Education (PACE) and is aimed at piquing interest in EPR3-compliant practices in primary care. Asthma Ready Clinic Training, Part 2® is a 4 hour CME event aimed at equipping local clinical teams to implement EPR3-compliant practices, for all clinic staff. Asthma assessment equipment and asthma care supplies are provided to clinic at completion of training.

After ARCT training, clinic staff are identified to deliver asthma education using Counseling for Asthma Risk Reduction® (CARR). CARR is a multimedia program developed by Asthma Ready® Communities to provide Missouri clinic staff with an outline for asthma education that qualifies for third party reimbursement (CPT codes 99402 and 99401). CARR utilizes clear, evidence-based approaches for improving asthma care based on *Guidelines for the Diagnosis and Management of Asthma: Expert Panel Report 3*. CARR incorporates IMPACT Asthma Kids®, an evidence-based, interactive, multimedia, self-management program for school-aged children and families.

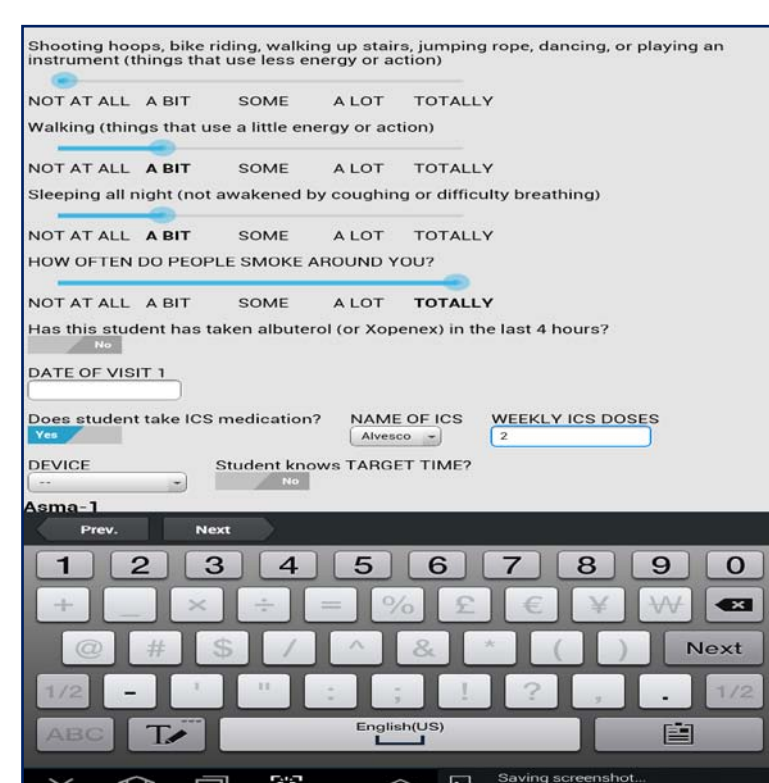
CARR Curriculum Focuses on 7 Key Asthma Messages

1. Know Asthma
2. Emergency Care
3. Inhaled Corticosteroid (ICS) Twice Daily
4. Inhalation Technique
5. Avoid Asthma Triggers - Including Smoke!
6. Nose Care & Other Health Topics
7. Recognizing and Checking Breathing

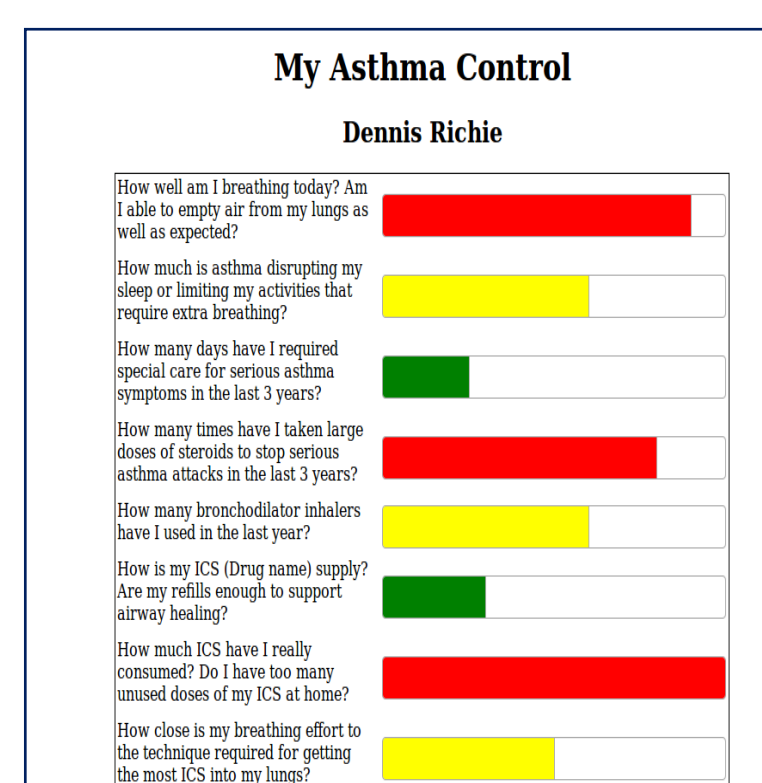


ELECTRONIC LINKAGES

KC TUAC will be collecting asthma assessment data by tablet through a secure cloud application and HIPAA compliant unit. These data will be transferred through a virtual personal network tunnel to a secure University of Missouri server. The University of Missouri server will merge claims data with these assessment data to produce two reports: "My Asthma Control®" and "Asthma Control Monitor®". The "My Asthma Control®" report will be available to the school nurse for working with students and families to improve asthma self-care. The "Asthma Control Monitor®" will give providers a clearer picture of asthma impairment and risk by illustrating administrative claims and assessment data.



School Nurse Tablet Assessment View
(School nurses will collect and enter assessment data for participating students)



My Asthma Control®
(Designed to help school nurses guide the child and family to improve asthma self-care and treatment decisions)

Indicator/Measure	Well Controlled	Not Well Controlled	Not Well Controlled
FEV1	> 80% of personal best or % predicted	60-80%	< 60%
PEF/PVC	Normal	reduced by 8%-15%	reduced by > 15%
Measurement Score	None	Some	1-20
Short-Acting Beta Agonist (SABA)	< 2 puffs/week	3-6 puffs/week	> 6 puffs/week
Distance walked (m)	< 200m	200-300m	> 300m
Acute Care Days (ACD)	< 2 days/year	2-4 days/year	> 4 days/year
Inhaled Corticosteroid (ICS)	Low/Medium	High	Sub-therapeutic
Antibiotics	< 2 times	3-4 times	> 4 times
High Priority	< 2	3-4	> 4
Influenza Vaccine	< 1 year	1-2 years	> 2 years
Inhalation Technique (IT)	Good	Intermediate	Poor
Cost Effect Care	< 100%	100%-200%	> 200%
Environmental Risk	< 10	10-60	> 60

Asthma Control Monitor®
(Designed to inform provider care decisions by illustrating asthma impairment and risk)

KC TUAC Participant Early Feedback*



"Now that I am in the asthma program, I can have more fun at school. I understand my asthma better and don't worry about it as much," said Talia Powell. Powell, with the support of her mother, Taneise Jones, participated in Kansas City Teams Up for Asthma Control (KC TUAC), at her school that helps her better understand her disease.

School nurses who were asked to complete a survey and provide feedback on how students benefited from KC TUAC indicated:

- "The education provided in the video really helped my students have a better understanding of their asthma and the proper management."
- "Some of the parents appear to be taking meds and the condition more seriously."
- "I was able to work closely with a student who otherwise would have no intervention, significantly improved his understanding of asthma, improved his inhaler technique, and fostered independence and ownership of his asthma."

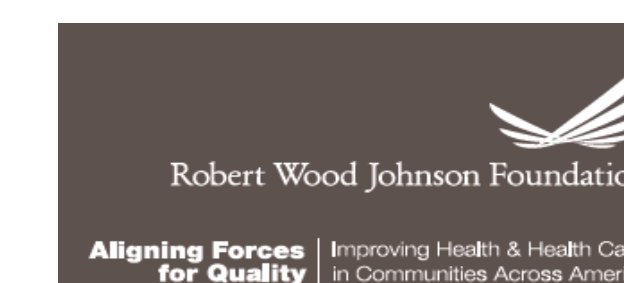
*Aligning Forces for Quality, Robert Wood Johnson Foundation. (2013). *Kansas City, MO: On the front lines of asthma treatment*. Retrieved from <http://forces4quality.org/kansas-city-mo-front-lines-asthma-treatment>

ACKNOWLEDGEMENTS

Kansas City Teams Up for Asthma Control was made possible through a partnership with: Missouri Asthma Prevention and Control Program, Missouri Department of Health & Senior Services, and Missouri School Boards' Association.

Funding and support were provided by the following:

- Asthma Ready® Communities
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Supported in part by cooperative agreement #5U59EH000510-04 from the U.S. Centers for Disease Control and Prevention. Content is the sole responsibility of the authors.