

Team Science Lessons Learned: Leveraging Multidisciplinary and Community Partnerships to Implement A School-based Asthma Program

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Background

- The Better Asthma Control for Kids (BACK) program has been implemented for 20 years in Denver, Colorado school districts, reducing pediatric asthma exacerbations.
 - Limited dissemination in other areas of Colorado due to varied priorities and resources.
- Conducted a 3-year planning phase (2020-23) to introduce BACK to five new Colorado regions with a hybrid implementation-effectiveness trial (2023-27).
- Objective:** To disseminate lessons learned on multidisciplinary team collaboration with insights from community partners.

Setting/Population

Trial phase is ongoing in **four regions** – current enrollment:

- 262 school-aged children** with uncontrolled asthma and their families
- 105 participating schools** in urban and rural settings

Methods

- Multidisciplinary team has expertise in community engagement, pediatric asthma, school and rural health, health equity, implementation science, trial design, qualitative methodology, biostatistics, and cost analysis.
- Partnered with regional Community Advisory Boards (CABs) and a State Advisory Board (SAB) representing community, family, health care, and school partners.
- Guided by the Pragmatic Robust Implementation Sustainability Model (PRISM), with:
 - regular CAB/SAB meetings,
 - assessments of local needs, priorities and resources, and
 - tailoring the BACK implementation plan to local context.
- Design input from the NHLBI Technical Advisory Panel (TAP).
- Scientific Advisory Committee (SAC) reviewed design and analysis plan.

BACK Team Personnel and Activities:

22 BACK members → Expertise includes:

- ✓ School-based Asthma care
- ✓ Pediatric care
- ✓ Project management - Research staff/students
- ✓ Methods: Implementation Science, Community Engagement
- ✓ Data methodologists/analysts: Biostatistics, Qualitative, Cost
- ✓ Fellows

School Planning & Intervention WG:

- ✓ Trains asthma navigators
- ✓ Facilitates Communities of Practice and Learning (COPL) with navigators/nurses

Implementation Blueprint WG:

- ✓ Ensures rigor of Implementation Science methods
- ✓ Guides and tracks adaptations

Qual/Quant/Mixed Methods WG:

- ✓ Ensures data quality
- ✓ Conducts data analysis and reports for internal and external reporting

Playbook WG:

- ✓ Develops "Playbook" Website with supportive materials to implement BACK

Results

Community Partners (SAB/CAB/SAC):

48 active members from 5 regions of Colorado:

- ✓ 23 Healthcare Providers
- ✓ 16 School Nurses
- ✓ 14 Community Leaders/Organizations
- ✓ 3 Parents/caregivers
- ✓ 3 Subject-Matter Experts/Faculties
- ✓ 1 Regional Coordinator



Figure 1: BACK Multidisciplinary Team Structure



Community partners:

- Goal:** elicit critical feedback on BACK study design and approaches
- Met quarterly to twice per year to engage the community partners.
- Leveraged CAB/SAB school nurse team members to inform recruiting and training staff
- Key deliverables:
 - Strategies for intervention arms
 - Priority Outcomes of Success
 - Social Determinants of Health Screener
 - Continuation Planning
 - Publications/Presentations

Conclusions

- Projects that include both planning and trial phases need multidisciplinary team members with broad methodological expertise.
- A strong, multidisciplinary team is critical for effective program design, implementation, and data analysis.
- Ongoing community engagement is necessary to: 1) align the project with the priorities of the community, 2) tailor project activities to local resources and community needs, and 3) maintain community partner coalitions.