

Data Management and Evaluation Guide

San Antonio Kids BREATHE Asthma Program

Overview

The goal of this data management and evaluation guide is to assist the new San Antonio Kids BREATHE (SAKB) asthma program in its planning for and management of data as well as in its evaluation of the program's processes and outcomes. This document is both a guide and a template. GHHI encourages SAKB to utilize this as a living document as the program progresses—removing, adding, and editing content as necessary. This guide is not meant to be comprehensive, but rather a starting point for SAKB. The document is organized into three main sections: (1) Data Management, (2) Process Evaluation, and (3) Outcomes Evaluation. SAKB should simultaneously incorporate its goals for all three of these sections into its program planning, implementation, and refinement as opposed to doing each section in isolation. Additionally, SAKB should ensure the data management and evaluation plans are aligned with the program's logic model.

Contents

Overview	1
1. Data Management	2
Purpose	2
Data Sources and Uses	2
Data Systems	3
Compliance and Security	4
Outstanding Questions for SAKB Data Management	6
2. Process Evaluation	6
Purpose	6
Process Evaluation Questions	6
Key Performance Indicators	6
Reporting	8
Outstanding Questions for SAKB Process Evaluation	8
3. Outcomes Evaluation	8
Purpose	8
Intended Outcomes	8
Outcome Evaluation Questions	9
Recommended Evaluation Metrics for Asthma Programs	9
Broad Types of Evaluation	11
Outstanding Questions for SAKB Outcomes Evaluation	13

1. Data Management

Purpose

The purpose of this data management section is to organize current data processes as well as guide future collection and management of data for different program purposes while adhering to best practices and complying with all relevant regulations. Proper data management can allow for simpler and better analysis of program performance and outcomes. The data management plans are meant to guide SAKB’s use of data as the program grows from an early pilot stage initiative to a sophisticated program with a data system that collects data from various sources. This document is an iterative document which we intend for SAKB to amend, adjust and add on to as needed throughout the program’s development.

Data Sources and Uses

The table below is a breakdown of the data sources and uses for the SAKB asthma program.

SAKB: add and edit data sources and uses on this as the program develops further.

- *Source* = the location of the data prior to collection for SAKB
- *Methods* = how the data are currently collected
- *Formats* = the format(s) of the data when collected
- *Uses* = how the data are used after collected

Types of Data Uses

- **Program referrals (PR)** – contact information provided to enroll children into the program
- **Service delivery (SD)** – data that informs customized education and services provided in the program
- **Process evaluation (PE)** – data used to evaluate the program’s processes / operational performance
- **Outcomes evaluation (OE)** – data used to evaluate the program’s impact

<i>Source*</i>	<i>Methods</i>	<i>Formats</i>	<i>Uses</i>
MCOs	Email, fax	Excel	PR, PE, OE
Clinical providers	Phone, email, fax	Voice, text, Excel	PR, SD, PE, OE
Schools	Phone, fax	Voice, text	PR, SD, PE, OE
Target population	Phone, in-person survey	Voice, text	PR, SD, PE, OE
HASA (HIE)	[Database access? / Direct download?]	[Excel?]	PR, OE
...			

*see below for expanded list of data sources

Expanded list of data sources

SAKB: add specific organizations for these data sources as they are identified.

Managed Care Organizations

	<i>Current sources confirmed</i>	<i>Additional target sources to secure</i>
1	...	Community First Health Plans
2		Superior Health Plan

3		
---	--	--

Clinical providers

	<i>Current sources confirmed</i>	<i>Additional target sources to secure</i>
1	UT Health	...
2		
3		

Schools

	<i>Current sources confirmed</i>	<i>Additional target sources to secure</i>
1
2		
3		

Data Systems

This is a placeholder section for SAKB to document the details of data systems utilized for the asthma program, including access, capabilities, processes, interoperability, etc. SAKB does not currently have a data system outside of Microsoft Office and is exploring options. GHHI uses Efforts to Outcomes (ETO) for its Baltimore programs and helps partners around the country build out their ETO systems for project management and process evaluation. GHHI provided a demo of ETO to SAKB in October. Once a data system is in place, GHHI recommends SAKB document details related to system protocols, uses, staff access, and more in this section.

Below are a few data systems commonly used by asthma programs SAKB may want to explore further.

Efforts to Outcomes (ETO) – “ETO is a comprehensive outcomes and case management tool for large nonprofits, government agencies, and community collaboratives. This powerful platform was built to handle multiple partners, high volumes of programs, advanced security protocols, and multifaceted reporting and analytics initiatives.” ETO carries an enterprise license cost. Learn more: <https://www.socialsolutions.com/software/eto/>

REDCap – Free “secure web application for building and managing online surveys and databases. While REDCap can be used to collect virtually any type of data (including 21 CFR Part 11, FISMA, and HIPAA-compliant environments), it is specifically geared to support online or offline data capture for research studies and operations.” REDCap is used by many organizations but has limited interoperability with other data systems. Learn more: <https://www.project-redcap.org/>

Salesforce – A dynamic cloud-based customer relationship management software that can be utilized for case management purposes. Salesforce carries a cost, but eligible nonprofits can receive 10 free subscriptions. Learn more: <https://www.salesforce.com/> and <https://www.salesforce.org/>

Wild Apricot – Affordable cloud-based “member management software for small associations and nonprofits to help manage membership, website, events and other activities.” Learn more: <https://www.wildapricot.com/>

Data Staff

Below is an overview of the primary personnel with roles and responsibilities related to SAKB’s data management.

SAKB: fill out staff names involved in data processes on this table.

<i>Name</i>	<i>Title</i>	<i>Data Responsibilities</i>
...	...	<ul style="list-style-type: none"> • ... •
...	...	<ul style="list-style-type: none"> • ... •
...	...	<ul style="list-style-type: none"> • ... •

Compliance and Security

Data Agreements

SAKB should ensure appropriate data agreements are executed as part of any data sharing relationship. Covered health care entities - such as health plans, hospitals and clinics providers often require additional data security forms to be completed by data partners. Clearing the data security hurdle with these referral partners can be a lengthy process—lasting over a year in some cases—so GHHI recommends starting it as early as possible. Typically, a partnership agreement such as a memorandum of agreement and understanding is executed to which a business associate agreement or data use agreement is amended. GHHI has provided templates and examples of these agreements to SAKB that the team can utilize for new partnerships as needed. Any data sharing agreement should include terms to ensure HIPAA compliance. Visit the website of the U.S. Department of Health and Human Services (HHS) for additional example contract language.ⁱ

HIPAA Compliance

Organizations or programs such as SAKB that receive sensitive health data and information from healthcare entities are required to comply with the Health Insurance Portability and Accountability Act of 1996 (HIPAA). The law applies to “covered entities”—health plans, health care clearinghouses, and health care providers—and “business associates” of these entities. Business associates are any partners of covered entities who help carry out health care functions that require the use of protected health information (PHI). PHI may not be transmitted to business associates for any other reason.

According to the HHS website, HIPAA “required the Secretary of the U.S. Department of Health and Human Services (HHS) to develop regulations protecting the privacy and security of certain health information. To fulfill this requirement, HHS published what are commonly known as the HIPAA Privacy Rule and the HIPAA Security Rule. The Privacy Rule, or Standards for Privacy of Individually Identifiable Health Information, establishes national standards for the protection of certain health information. The Security Standards for the Protection of Electronic Protected Health Information (the Security Rule) establish a national set of security standards for protecting certain health information that is held or transferred in electronic form. The Security Rule operationalizes the protections contained in the Privacy Rule by addressing the technical and non-technical safeguards that organizations called “covered entities” must put in place to secure individuals’ “electronic

protected health information” (e-PHI). Within HHS, the Office for Civil Rights (OCR) has responsibility for enforcing the Privacy and Security Rules with voluntary compliance activities and civil money penalties.”ⁱⁱ

SAKB staff should familiarize themselves with the requirements of HIPAA. While HHS-published materials should be consulted for official guidance, GHFI provides some recommendations below for organizations partnering with healthcare entities to maintain HIPAA compliance:

Administrative Safeguards

- Hold trainings for all staff on HIPAA to ensure full understanding of regulations and best practices
- Establish a risk management policy
- Develop a contingency plan
- Retain documentation and records for all program-related activities for an extended period after termination of any contracts; consult legal counsel to determine appropriate length of time
- Ensure proper destruction of PHI and ePHI according to HIPAA requirements

Physical Safeguards

- Ensure proper physical and electronic protection of any data containing PHI and ePHI according to HIPAA requirements
- Implement facility access controls
- Establish policies and procedures for mobile devices
- Establish policies for the use/positioning of workstations

Technical Safeguards

- Implement a means of access control
- Introduce activity logs and audit controls
- Implement tools for encryption and decryption

Institutional Review Board Requirements

An Institutional Review Board (IRB) is a committee that reviews proposed research methods for a project to ensure compliance with standard research ethics when human subjects are involved. Generally, any project involving human subjects should use an IRB as requirements to use one can apply to projects beyond formal research studies. A project can be considered “Human Subjects Research” if it “obtains, uses, studies, analyzes, or generates identifiable private information” about living individuals.ⁱⁱⁱ

Note that one of the eight exemptions to federal law regarding human subject's research is a demonstration project (i.e. pilot program). Although pilots and demonstration projects may be exempt, a decision to obtain IRB approval depends on the type of interventions and length of the pilot/demonstration. If the pilot is truly a short-term pilot then obtaining an IRB may not be necessary, if deemed exempt.

The National Institutes of Health (NIH) Office of Extramural Research (OER) has developed a quick decision tool that should assist you with determining if your research involves human subjects, may be considered exempt from Federal regulations, or is not considered human subjects research. This tool should not be used as the sole determination of exemption but combined with consultation from experienced researchers. The NIH-OER Human subjects research decision tool can be found here:

<https://grants.nih.gov/policy/humansubjects/hs-decision.htm>

Outstanding Questions for SAKB Data Management

- What data system will SAKB use?
- What other specific MCOs, providers, or schools will SAKB target to establish more consistent referral streams? These sources, as opposed to self-referrals from families, will allow for more advanced program evaluation and potential funding down the road.
- What specific staff are involved in data processes and what are their responsibilities?
- Will SAKB need to use an IRB in the future?
- What are SAKB's processes and protocols to ensure all staff maintain proper HIPAA and data security compliance?

2. Process Evaluation

Purpose

The purpose of process evaluation is to perform an ongoing assessment of the asthma intervention's fidelity to program design and overall operational efficiency. This will allow for a clearer understanding of program implementation, which can inform timely troubleshooting and course corrections throughout the project as needed. In contrast to outcomes evaluation, process evaluation focuses on *how* outcomes are achieved and the resources used to achieve them.

Process Evaluation Questions

SAKB: document the specific questions the team is focusing on for its process evaluation in this section.

Following are potential questions SAKB could focus on for process evaluation purposes:

- Is actual referral volume aligning with projections and program capacity?
- Is SAKB effectively turning referrals into program enrollees?
- Are program enrollees receiving all the available asthma services they need and completing the program?
- At what points in the intervention process are enrollees dropping out?
- How efficiently are enrollees moving through the intervention process?
- How much time is SAKB staff spending on each step in the intervention process?
- What are the barriers to effective and efficient program implementation?
- What tweaks to program operations lead to improvements in efficiency, communications, enrollment, or retainment?

Key Performance Indicators

Key Performance Indicators (KPIs) are the critical metrics by which the asthma program can measure progress. They will provide a focus for making operational goals and understanding areas for improvement. Below is a categorized list of KPIs that GHHI recommends SAKB consider.

SAKB: adjust these KPIs as the team establishes and refines specific goals for process evaluation.

<i>Category</i>	<i>Key Performance Indicator</i>	<i>Description</i>
Enrollment and throughput	Referrals received	Number of members referred to SAKB
	Baseline home visits	Number of baseline home visits completed
	Enrollment rate	Number of consent-to-participate forms signed
	Second home visits	Number of second home visits completed
	3-month follow-up calls	Number of 3-month follow-up calls completed
	6-month follow-up calls	Number of 6-month follow-up calls completed
	9-month follow-up calls	Number of 9-month follow-up calls completed
	Completion rate	Number of cases completed / closed out
	Loss to follow-up	Number of enrolled members that did not complete the intervention for any reason.
Enrollment breakdown	Age breakdown	Number of enrollees across age groups (e.g. <18; 19-64)
	Geographic breakdown	Number of enrollees by zip code
	Referral source breakdown	Number of referrals by referral source
	Referral eligibility breakdown	Number of referrals by specific eligibility criterion
	Enrollee eligibility breakdown	Number of enrollees by specific eligibility criterion
	Warm handoffs	Number of referrals with warm handoffs
Timeline	Avg. # days between process steps	Notification > outreach > baseline home visit > HV #2 > HV #3 > 3mo follow-up > 6mo follow-up > 9mo follow-up (completion)
Program Costs	Average cost per enrollee	Total costs ÷ total enrollees
	Total budget to actual	Estimated budget vs. total funds expended to date
	Budget breakdown by activity	Time/costs spent for outreach vs. home visits vs. follow-up calls vs. admin vs. management vs. supplies
...

KPI Targets

SAKB: choose specific KPIs for which the team wants to establish goals to measure against and document them below.

These target parameters should be adjusted based on ongoing process evaluation and determination of feasibility.

<i>KPI</i>	<i>Target</i>
Timeframe from enrollment to completion	...
Referral volume	...
Enrollment rate	...
Completion rate	...
...	...

Reporting

SAKB: document the reporting goals and processes for the program in this section.

E.g. “Through [data system], SAKB will produce [monthly] performance reports that include progress updates on KPIs. These reports will be provided to [.....] before the [10th] of the subsequent month. Below is a list of reports and the specific KPIs that will be included.”

Outstanding Questions for SAKB Process Evaluation

- What specific questions does SAKB want to focus on for its process evaluation?
- What specific KPIs does SAKB evaluate during implementation and what are the team’s goals for them?
- What are the reporting goals and processes for SAKB?
- What partners or stakeholders does SAKB report to?

3. Outcomes Evaluation

Purpose

The purpose of outcomes evaluation is to measure the direct and indirect effects of the asthma program on specific outcomes for the beneficiaries, their families, and local stakeholders. Intended outcomes essentially answer the question *what meaningful changes do you want the asthma program to produce?* One important note is that outcomes differ from outputs, which are meant to be measured in the process evaluation. An example of an output is the number of children served, while an outcome would be the change in utilization among children served. One of the first questions a program should consider is *what is the purpose of the outcome evaluation?* In addition to producing evidence for the specific program, an evaluation could also have the purpose of securing reimbursement or a new partnership, for example. If the goal is to secure reimbursement from a managed care organization (MCO), it would be worth the effort to try and access administrative data that links with state quality measures that MCOs are evaluated (and paid) on—ideally the data would come from the MCO itself. Showing the impact of the asthma program on outcomes an MCO prioritizes, especially financial-related ones such as quality measures, significantly strengthens the case for reimbursement.

Intended Outcomes

SAKB: document below the intended outcomes the team wishes to produce from the program and in what timeframe.

SAKB intends to produce the following outcomes:

- Average reduction in asthma-related emergency department visits of [%] for target population [12 months] after being enrolled.
- Average reduction in asthma-related hospitalizations of [%] for target population [12 months] after being enrolled.
- Average reduction in asthma-related school absences of [%] for target population [12 months] after being enrolled.

- Average reduction in asthma-related caregiver work absences of [%] for target population [12 months] after being enrolled.
- ...

Outcome Evaluation Questions

SAKB: document the specific questions the team is focusing on for its outcome evaluation in this section.

Following are example potential research questions SAKB could focus on for formal or non-formal evaluation purposes:

- By how much does the intervention impact asthma-related medical utilization and associated costs?
- What is the impact on health plans' total cost of care for enrollees? What is the overall cost-benefit of the program from a health plan's perspective?
- How does the program impact families' quality of life?
- What is the program's impact on school and work attendance?
- What is the impact of the program on enrollees' and caregivers' understanding and management of asthma?

Recommended Evaluation Metrics for Asthma Programs

With support from the Environmental Protection Agency's Office of Radiation and Indoor Air, GHHI convened the Environmental Management & Health Outcomes Metrics for Evaluation (EMHOME) work group in 2018-2019. Comprised of 18 experts from across sectors, the work group compiled a set of standard metrics programs can use to track and demonstrate outcomes to potential funders, including health plans. GHHI published results from the work group in October 2019.^{iv} GHHI recommends providers, health systems, managed care organizations, public health departments, community-based organizations, and others utilize these metrics to evaluate in-home asthma programs with environmental management services. The more standardized and frequently evaluated metrics for asthma programs are, the more likely it is that they will demonstrate outcomes and catalyze reimbursement of these services across the country. SAKB should have the goal of evaluating metrics through administrative data from the State, MCOs, or providers when possible. If the program has not obtained access to these sources, then self-reported survey data from beneficiaries will allow for evaluation of some of these metrics.

In addition to general *Outcomes* and *Care Coordination*, the metrics are organized according to the groupings in the National Asthma Education and Prevention Program guidelines: *Assessment and Monitoring of Asthma Severity and Control*; *Control of Environmental Factors and Co-morbid Conditions that Affect Asthma*; *Education for a Partnership in Care/Patient Self-Management Education*; and *Medication Adherence*.^v

The recommended metrics are also categorized into *core*, *supplemental*, and *emerging* categories:

Core metrics: A set of measures for asthma home visiting programs that are validated, standardized, and should be included for evaluation purposes when possible.

Supplemental metrics: A set of measures for “which standard definitions can or have been developed, methods for measurement can be specified, and validity has been proved but whose inclusion in funded clinical asthma research will be optional.”

Emerging metrics: Asthma outcomes and other measures that have “the potential to (1) expand and/or improve current aspects of disease monitoring and (2) improve translation of ... asthma research into

clinical research. Emerging outcomes may be new or may have been previously used in asthma clinical research, but they are not yet standardized and require further development and validation.”

CORE METRICS

Domain	Metric
Outcomes	
Healthcare Utilization	Reduce hospitalizations for asthma; asthma hospitalization rate
	Reduce emergency department (ED) visits for asthma; asthma emergency department (ED) visits
Quality Improvement	Asthma Medication Ratio (AMR)
	Medication Management for Asthma (MMA)
Assessment and Monitoring of Asthma Severity and Control	
Composite Measures	Asthma Control
	Asthma Severity
Control of Environmental Factors and Co-morbid Conditions that Affect Asthma	
Tobacco Use	Reduce the proportion of nonsmokers exposed to secondhand smoke
	Increase the proportion of smoke-free homes
Education for a Partnership in Care/Patient Self-Management Education	
Healthcare Quality	Increase the proportion of persons with current asthma who receive formal patient education
	Asthma Action Plan
Medication Adherence	
Medication Utilization	Increase the proportion of persons with current asthma with prescribed inhalers who receive instruction on their use
	Increase the proportion of persons with current asthma who do not use more than one canister of short-acting inhaled beta agonist per month
Care Coordination	
Primary Care Connection	Increase the proportion of persons with current asthma who have had at least one routine follow-up visit in the past 12 months
	Primary Care Connection after Emergency Department Visit

SUPPLEMENTAL METRICS

Domain	Metric
Outcomes	
Healthcare Costs	Asthma-specific cost of care
	Total Cost of Care
Quality of Life – Productivity Loss	Reduce the proportion of persons with asthma who miss school or work days; missed school/work days due to asthma
Quality of Life – Composite	Quality of Life – Patient
	Quality of Life - Caregiver
Assessment & Monitoring of Severity & Control	
Composite Measures	Optimal Asthma Control
Care Coordination	
Maternal, Infant, and Child Health	Increase in the proportion of children with special health care needs who receive care in family-centered, comprehensive, and coordinated systems

EMERGING METRICS

Domain	Metric
Control of Environmental Factors and Co-morbid Conditions that Affect Asthma	

Environmental Health	Environmental remediation (minor vs. moderate/major)
	Environmental health assessment
	Environmental control supplies
Composite Measure	Environmental Scoring System
Education for a Partnership in Care/Patient Self-Management Education	
Self-Management Strategies	Environmental health education in the home setting
	Duration of environmental health education
	Proportion of home visits completed by type of educator (nurse, respiratory therapist, community health worker. Etc)

Broad Types of Evaluation

As the SAKB program matures and builds capacity for evaluating outcomes, it is beneficial to plan early and strategically for *how* specifically it will evaluate outcomes. Below is a basic overview of evaluation considerations and types of evaluation designs, from simple methods to more complex ones, that SAKB should explore as it progresses.

Initial evaluation considerations:

- Beyond understanding the program's impact, are there additional goals for the evaluation once completed? Will it be used to advocate for future funding and from what sources? If so, consider the target audience and their priorities to inform evaluation design.
- How have other similar programs been evaluated and what are some lessons learned?
- Is it worth contracting with an experience third-party evaluator to perform the evaluation?
- Do you have access to the necessary data to perform the evaluation?
- How reliable is the data in the evaluation? Administrative data from a payer or provider is more reliable than self-reported survey data.
- What degree of certainty will the evaluation design provide with its results? Are there other factors besides the asthma intervention that could explain the results? Is the sample size large enough for the results to be meaningful?

Non-experimental Designs

Non-experimental evaluation designs are typically the simplest and most common designs for new asthma programs that can often be resource-constrained. While these designs can paint a broad picture of the program's potential impact on outcomes, they have low certainty. The main reason for this is that non-experimental designs do little to isolate the program as the causal factor leading to the outcomes. No control or comparison group is formed or assessed, making it difficult to attribute outcomes to the program versus to other factors. Examples of non-experimental designs include pre/post analysis, case studies, and benchmarking. Non-experimental designs can still show progress toward objectives and may be sufficient for a potential payer to make a decision on funding the program.

<i>Pros</i>	<i>Cons</i>
<ul style="list-style-type: none"> ➤ Simple ➤ Cost-effective ➤ Easier to have large sample size 	<ul style="list-style-type: none"> ➤ Low certainty / scientific validity ➤ Only show correspondence, not causation

Design examples

- Pre/post studies
- Case studies
- Benchmarking

Quasi-Experimental Designs

Quasi-experimental designs are typically more rigorous and valid than non-experimental designs because they may involve a group that did not receive the intervention to compare outcomes against. They lack the randomization element that experimental evaluation designs have, however, so are considered less scientifically valid than those. This design is useful when trying to prove a causal relationship without having the ability to influence each factor that may alter the outcome.^{vi} Quasi-experimental designs often use statistical methods to approximate the rigor of or mimic an experimental design.

<i>Pros</i>	<i>Cons</i>
<ul style="list-style-type: none"> ➤ Use of comparison group can illustrate a semi-likely counterfactual – i.e. what might have happened if intervention not provided ➤ Can control for some variables/differences between groups, but not all ➤ More feasible in public health context than experimental design 	<ul style="list-style-type: none"> ➤ More time intensive to design - can require advanced statistical skills ➤ Not a “true” experiment - no random assignment of participants to treatment ➤ Prone to biases or systematic differences between treatment and control groups

Design examples

- Matched comparison group
- Difference-in-differences
- Paired testing
- Regression discontinuity
- Interrupted time series analysis

Experimental Designs

Experimental evaluation designs are considered to have the highest scientific validity because they typically contain a control and randomization. They are, however, the most time- and cost-intensive to plan and implement. When randomized, these designs randomly assign participants to either a treatment group or a control group—meaning every participant has an equal chance of being assigned to either group. The goal is to have two groups that are essentially the same on all factors except the receipt of the intervention, thereby isolating that as a causal factor for whatever differences in outcomes the evaluation shows between the two groups. The control group can continue receiving existing services without an added treatment or receive no services at all.

<i>Pros</i>	<i>Cons</i>
<ul style="list-style-type: none"> ➤ “Gold standard” of evaluation designs ➤ High scientific validity (internal validity) ➤ Can eliminate biases ➤ Strong evidence for causation 	<ul style="list-style-type: none"> ➤ High cost ➤ Complex ➤ Can limit size of target population ➤ Can present ethical concerns in a public health context ➤ May have low external validity (results not comparable/replicable in other contexts)

Design examples

- Randomized controlled trials (RCTs)
- Pragmatic clinical trials (PCTs)
- Crossover studies
- Delayed-start studies

Evaluation Resources for Further Study

- CDC – A Framework for Program Evaluation. <https://www.cdc.gov/eval/framework/index.htm>
- University of Kansas Work Group for Community Health and Development - The Community Tool Box: Ch. 36, Sec. 1 A Framework for Program Evaluation: A Gateway to Tools. <https://ctb.ku.edu/en/table-of-contents/evaluate/evaluation/framework-for-evaluation/main>
- SAMHSA – Non-Researcher’s Guide to Evidence-Based Program Evaluation. http://www.ebleprograms.org/docs/pdfs/NREPP_Non-researchers_guide_to_eval.pdf
- W.K. Kellogg Foundation – The Step-by-Step Guide to Evaluation: How to Become Savvy Evaluation Consumers. <http://evaluationguide.wkkf.org/>
- Thompson, C. B., & Panacek, E. A. (2006). Research study designs: experimental and quasi-experimental. Air medical journal, 25(6), 242-246. [https://www.airmedicaljournal.com/article/S1067-991X\(06\)00286-0/pdf](https://www.airmedicaljournal.com/article/S1067-991X(06)00286-0/pdf)

Outstanding Questions for SAKB Outcomes Evaluation

- What are SAKB’s goals for evaluation?
- What outcomes will SAKB evaluate for its program? How? When?
- What capacity and resources does SAKB have for program evaluation?
- What type of evaluation will SAKB perform now and what type will it work towards performing in the future?
- Is there a local partner that may be interested and have resources for performing an evaluation of SAKB?

i www.hhs.gov/hipaa/for-professionals/privacy/guidance/business-associates/index.html

ii www.hhs.gov/hipaa/for-professionals/security/laws-regulations/index.html

iii <https://grants.nih.gov/policy/humansubjects/research.htm>

iv <https://www.greenandhealthyhomes.org/publication/recommendations-for-evaluation-metrics-for-asthma-home-visiting-programs/>

v <https://www.nhlbi.nih.gov/health-pro/resources/lung/naci/asthma-info/asthma-guidelines.htm>

vi Velengtas, P., Mohr, P., & Messner, D. A. (2012). Making informed decisions: Assessing the strengths and weaknesses of study designs and analytic methods for comparative effectiveness research. *Washington, DC: National Pharmaceutical Council*. Retrieved from <https://pdfs.semanticscholar.org/619f/dc5670acd04ec88dc8e3c2a7d36318e13ee0.pdf>