NATIONAL HEALTHY START ASSOCIATION

HOW TO READ AND UNDERSTAND DATA REPORTING

NATIONAL HEALTHY START ASSOCIATION

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INTRODUCTION: THE VALUE OF DATA

The value of researching, compiling, and effectively communicating data is immeasurable. It is for this reason, we found it paramount to create this toolkit as a means to understand data in a way that is meaningful to your Healthy Start site and story.

This document includes information on data sources, indicators that are used in maternal and child health as metrics within Healthy Start, how to communicate effectively with key partners, how to present findings using visual formats, and how to utilize data to identify areas of improvement.

We hope that this serves you and your staff well! If you have any comments, questions, or feedback, please feel free to email us at info@nationalhealthystart.org.

“The skill of data storytelling is removing the noise and focusing people’s attention on the key insights.”

- Brent Dykes, data strategy consultant and author, "Effective Data Storytelling"

UNDERSTANDING DATA SOURCES

Maternal and child health data can be found from various sources, including governmental agencies, research institutions, academic institutions, foundations, and non-profit organizations.

The next few pages are some places where you can find maternal and child health data:

- Government Agencies
- Foundations and Academic Institutions
- Databases

In an effort to create ease of usage to these sites, we created direct links embedded into the document. Feel free to go directly to the site in the link category in the table.

GOVERNMENT AGENCIES

DATA SOURCE	ORGANIZATION	DESCRIPTION
Click Here: CDC Wonder (Wide-Ranging Online Data for Epidemiologic Reseach	Provides data on HIV and AIDS, births, cancer, underlying cause of death (includes infant deaths from linked birth/infant death records), tuberculosis, sexually transmitted diseases, and vaccinations.	Centers for Disease Control and Prevention
Click Here: Childstats.gov	Provides updates on 41 key indicators of child and Family well-being, including family and social environment, economic circumstances, health care, physical environment and safety, behavior, education, and health.	Federal Interagency Forum on Child & Family Statistics
Click Here: National Vital Statistics System	Includes birth, period-linked birth-infant death, mortality multiple cause, and fetal death data.	National Center for Health Statistics (NCHS), CDC
Click Here: National Survey of Children's Health (NCHS)	Provides national and state level data for key measures of child health and well-being. Topics include: • Child and family characteristics • Physical and mental health status, including current conditions and functional difficulties • Health insurance status, type, and adequacy • Access and use of health care services, including the impact of the coronavirus pandemic on access • Medical, dental, and specialty care needed and received • School readiness, school outcomes, & activities • Family nutrition, housing, health and activities • Impact of child's health on family • Neighborhood characteristic	Health Resources & Services Administration (HRSA)
Click Here: Pregnancy Risk Assessment Monitoring System (PRAMS)	Collects jurisdiction-specific, population-based data on maternal attitudes and experiences before, during, and after pregnancy. It covers 81% of all live births in the U.S.	Centers for Disease Control and Prevention (CDC)

GOVERNMENT AGENCIES

DATA SOURCE	ORGANIZATION	DESCRIPTION
Click Here: United States Censes Bureau	Provides data on the nation's people and economy. It provides information on the population, income and poverty, housing, economy, education, and many more.	Census Bureau
Click Here: Maternal and Infant Health Mapping Tool A Round-Up of Current Child Health Dashboards	Provides county-level information on maternal and infant health indicators such as low birth weight, prenatal care in the first trimester and preterm births.	Health Resources & Services Administration (HRSA)

FOUNDATIONS AND ACADEMIC INSTITUTIONS

DATA SOURCE	DESCRIPTION	ORGANIZATION
Click Here: County Health Rankings and Roadmaps	Measures the health of nearly every county in all 50 states. Counties are ranked based on their health outcomes (e.g., premature death, low birthweight) and health factors, including health behaviors (e.g., physical activity and exercise), clinical care (e.g., access to care), social and economic factors (e.g., education, community safety), and physical environment (e.g., housing and transit).	The University of Wisconsin Population Health Institute and Robert Wood Johnson Foundation
Click Here: The U.S. Maternal Vulnerability Index (MVI)	Provides county and national level data on where and why mothers in the United States are vulnerable to poor health outcomes. Six MVI themes reflect 43 indicators associated with maternal health outcomes: reproductive healthcare, physical health, mental health & substance use, general healthcare, socioeconomic determinants, and physical environment.	Surgo Ventures

DATABASES

DATA SOURCE	DESCRIPTION	ORGANIZATION
Click Here: PubMed	A free resource supporting the search and retrieval of biomedical and life sciences literature with the aim of improving health–both globally and personally. The PubMed database contains more than 36 million citations and abstracts of biomedical literature. It does not include full text journal articles; however, links to the full text are often present when available from other sources, such as the publisher's website	PubMed: maintained by the National Center for Biotechnology Information (NCBI), at the U.S. National Library of Medicine (NLM), located at the National Institutes of Health (NIH)
Click Here: JSTor	JSTOR is a digital library and online research platform that provides access to academic journals, books, and primary sources in various disciplines, including the humanities, social sciences, and natural sciences.	JSTor: part of ITHAKA, a non-profit organization

Please Note

When accessing data, it is important to verify whether it is reliable and relevant to your specific needs. Different organizations and sources may present data differently or focus on different aspects of maternal and child health. Therefore, it is important to consider multiple sources for a thorough understanding.

MATERNAL & CHILD HEALTH INDICATORS AND DEFINITIONS

Maternal and child health indicators are metrics used to assess the health and well-being of mothers, infants, and children. Below is a list of common maternal and child health indicators that you would typically see in programs such as Healthy Start, along with brief definitions:

Caesarean Delivery Rate
Percentage of deliveries which take place via cesarean section (elective or emergency).

Exclusive Breastfeeding
Defined as an infant receiving only breast milk. No other liquids or solids are provided– not even water – with the exception of oral rehydration solution or drops/syrups of vitamins, minerals, or medicines.

Infant Mortality Rate (IMR)
Infant mortality is the death of an infant before his or her first birthday. The infant mortality rate is the number of infant deaths for every 1,000 live births.

Low Birth Weight (LBW)
It is defined as a newborn who is born weighing less than 2,500 grams (5 pounds, 8 ounces) at birth. Very low birthweight is defined as a newborn weighing less than 1500 grams or 3 1/3 pounds.

Maternal Mortality Rate (MMR)
The death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and the site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management, but not from accidental or incidental causes. The maternal mortality rate is the number of maternal deaths per 100,000 live births.

Neonatal Mortality Rate (NMR)
The number of deaths of infants within the first 28 days of life per 1,000 live births. Neonatal mortality is often subdivided into early neonatal mortality (deaths within the first week of life) and late neonatal mortality (deaths from 7 to 28 days).

Preterm Birth Rate
Preterm birth is a live birth before 37 weeks of gestation. Late preterm is between 34-36 weeks, moderately preterm is between 32-36 weeks, and very preterm is less than 32 weeks.

DATA INTERPRETATION IN THE CONTEXT OF HEALTHY START

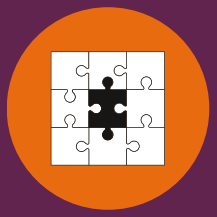
Understanding Data Limitations and Biases

Data Sources

Data on maternal and child health can come from various sources such as surveys, hospital/health facility records, population censuses, and demographic surveillance sites. Each source has its own limitations and biases. For example, data from surveys rely on self-reporting, which can be subject to recall bias or social desirability bias. Additionally, surveys may not always be conducted frequently enough to provide real-time insights. Additionally, hospital record data may not capture data for individuals who do not seek care at health facilities, leading to the underrepresentation of certain population groups, such as those in rural or underserved areas (Jones et al., 2022; Mayo-Wilson et al., 2018).

Data quality

Assess the quality of the data, including completeness, accuracy, and reliability. Understand how the data was collected, including any potential biases in sampling or reporting. Factors such as data collection methods, measurement instruments, and data processing techniques can influence the reliability of the data. Ensuring reliability involves using standardized procedures, validating data sources, and conducting quality checks (Witt, 2018).



Missing Data

Can lead to bias in study results, reduce statistical power, and lead to underreporting of health issues faced by communities. It can threaten the validity of findings and lead to inaccurate conclusions (Columbia University, 2024).

Bias

Potential biases in the data can include selection bias (when participants chosen for a study or analysis are not representative of the broader population from which they are drawn), recall bias (when participants in a study inaccurately recall or report past events, experiences, or exposures), and social desirability bias (when participants in a study respond in a manner they believe is socially acceptable or favorable, rather than providing accurate or truthful responses). It is important to take steps to mitigate these biases during analysis and interpretation (Althubaiti, 2016).

HOW TO EFFECTIVELY COMMUNICATE WITH KEY PARTNERS:

Identify key partners:

Understand who your key partners are in maternal and child health, including policymakers, healthcare providers, community leaders, community members, consumers, funders, and researchers/evaluators.

Tailor communication to the audience:

Adapt the communication style and level of detail to the goals and preferences of various key partners. For more information, visit communication-framework.pdf (who.int).

Make sure information is understandable:

Use clear and plain language. Avoid jargon and explain the meaning of any technical terms used when communicating with non-experts or others who are not in the same field.

According to the World Health Organization (WHO, 2017), effective communication is accessible, actionable, credible and trusted, relevant, timely, and understandable.

Provide context:

Help partners understand circumstances surrounding data collection, including any relevant social, cultural, and economic factors that may affect maternal and child health outcomes.

PRESENTING FINDINGS USING VISUAL FORMATS

Presenting Findings Using Visual Formats:

Select visual formats that effectively communicate the key findings and insights from the data. Bar charts, line graphs, histograms, pie charts, and maps serve as effective tools for visualizing your program outcomes.

Keep it simple:

Avoid clutter and present only important information, and avoid unnecessary features in graphical software, like three-dimensional bars, which may confuse readers. If the graph or chart becomes overly complex, it may fail to communicate the key points effectively (CDC, 2018). For more information on different kinds of charts and graphs, visit brief12.pdf (cdc.gov)

Provide clear titles and labels:

The title conveys the main message to the reader. Clearly define the units of measurement for the x- and y-axis. Examples of labels include years and number of children vaccinated. If there is too much information, consider using a legend. Utilize various colors or patterns to differentiate categories and enhance the reader's understanding of your graph or chart. Avoid using excessive or distracting colors (CDC, 2018).

UTILIZING DATA TO IDENTIFY AREAS OF IMPROVEMENT

Using data for program planning, and developing evidence-based interventions and strategies.

Data can help you learn about your program, pinpoint areas of improvement, and set goals and objectives. Data can offer insights about who you are serving, what the services provided entail, and how many people are receiving services. The information obtained can guide the development of strategies to enhance your program (Brennan et al., 2019).

Steps include the following:

1. Data Collection:

Begins with collecting relevant data related to the specific program or area of interest, such as participant demographics, service utilization, and health outcomes. Ensure data accuracy, consistency, and confidentiality. Provide training and ongoing support to staff members responsible for collecting data. This may involve training in proper data collection techniques and adherence to confidentiality guidelines.

2. Data Analysis and Interpretation:

Once the data is collected, it needs to be analyzed to identify patterns, trends, and potential areas of improvement. Statistical analysis techniques, qualitative analysis methods, and data visualization tools are often used to make sure the data makes sense.

3. Areas of Improvement:

Based on data analysis, areas of improvement are those where the program is not meeting its goals and objectives or is failing to meet the needs of participants. This could include low breastfeeding rates, low postpartum visit rates, low numbers of recruitment of participants, etc. Prioritize addressing the most important issues influencing your objectives and benchmarks and those with the greatest potential for positive outcomes. Factors to consider include feasibility, cost, and risk associated with implementing changes.

UTILIZING DATA TO IDENTIFY AREAS OF IMPROVEMENT

4. Program Planning:

Data-driven decision making is essential for successful program planning. By understanding the specific challenges and needs identified through data analysis, program planners can develop targeted strategies and interventions to address these issues. For example, if data shows that there is a high rate of maternal mortality in a particular region, interventions can be designed to improve access to prenatal care, emergency obstetric services, or maternal health education programs.

5. Intervention Strategies:

Evidence-based interventions are interventions that have been proven effective through rigorous research and evaluation. By using data to inform the selection of interventions, program planners can ensure that resources are allocated to strategies that are most likely to produce positive outcomes. It is recommended that you create a library of evidence-based interventions and strategies relevant to maternal and child health that you can quickly reference.

6. Monitoring and Evaluation:

Ongoing monitoring and evaluation are crucial to assess the impact of interventions and make adjustments as appropriate. By continuing to collect and analyze data throughout the implementation of the program, programs can track progress, identify unforeseen challenges, and make informed decisions to optimize effectiveness.

EXAMPLES

Example 1: Low Breastfeeding Rates

Analysis: Obtain breastfeeding initiation and continuation rates among mothers in your program. Analyze trends over time and compare rates with state, regional, and national levels to identify areas of improvement.

Identification of barriers: explore factors that contribute to low breastfeeding rates, such as lack of knowledge and support from healthcare providers and family members, stigma, and challenges related to breastfeeding difficulties, including latch, milk supply, etc.

Intervention Strategies: develop targeted interventions to address barriers and promote breastfeeding (e.g., offer breastfeeding classes, tailored breastfeeding materials and resources that are culturally appropriate, offer onsite lactation services, etc.)

Data monitoring and evaluation: continue monitoring trends and breastfeeding promotion efforts, track breastfeeding rates and whether you are meeting benchmarks, conduct surveys and interviews with participants to assess the effectiveness of breastfeeding support services, and identify areas for improvement.

Example 2: Low Postpartum Visit Rates

Analysis: examine postpartum visit rates among program participants and identify trends and disparities in attendance rates among different demographic groups.

Identification of Barriers: explore reasons why women may not attend postpartum visits (e.g., lack of awareness about the importance of postpartum care, childcare responsibilities, transportation issues, etc.).

Intervention Strategies: develop targeted interventions to improve postpartum visit rates (e.g., education during visits with participants to emphasize the importance of postpartum care and address common concerns and misconceptions; assist mothers with transportation or childcare to facilitate attendance at visits, etc.).

Data monitoring and Evaluation: continue monitoring trends and postpartum visit intervention efforts, track rates and whether you are meeting benchmarks, and conduct surveys and interviews with participants to assess the effectiveness of interventions.

CONCLUSION

Understanding data reporting is pivotal for informed decision-making in maternal and child health programs. Data from various sources like governmental agencies, foundations, and academic institutions provide insights into indicators such as maternal mortality rate, infant mortality rate, and low birth weight, essential for program planning and intervention.

However, interpreting data necessitates awareness of limitations, biases, and effective communication strategies to engage with key partners. Data allows programs to identify areas for improvement and to develop evidence-based interventions, thereby advancing the quality of maternal and child health service delivery. Moving forward, continued vigilance in data collection, analysis, and evaluation will be instrumental in addressing evolving maternal and child health challenges effectively.

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