



PolicyWise
BUILD BETTER DATA

Data Lifecycle Resources:
Analyze

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PolicyWise for Children & Families



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Introduction & Starting Point

The Data Lifecycle is a tool to proactively plan an organization's data journey. It provides a bird's eye view of how data can evolve from inception to reporting and beyond. The intent of the Data Lifecycle is to build a foundational tool for non-profit organizations to use when collecting data to inform service delivery and organizational planning. Good data collection can look different depending on each service organization and their client base and can be reflected upon throughout the Data Lifecycle. It is important to understand how to collect data and then use the data consistently in decisions being made for your organization.¹

For non-profit organizations, the data lifecycle can be used as a way to inform the planning and implementation of services. The development of outcome measurements is important for the success of the organization and for the progression of clients.² Building appropriate processes in advance can also streamline the generation of reports and funding applications when that time comes. The clients are the primary drivers in guiding and generating desired outcomes.¹ It is important to recognize that non-profits are often responsive to community needs and are leaders for underrepresented or marginalized groups.²

Data lifecycles provide a structure to organize and think about the activities involved in managing and using data within a project or organization. The data lifecycle resources are organized into the following sections. Each of these topics can be explored in more detail within each section of the Data Lifecycle.

- Considerations & Lenses
- Plan
- Build
- Collect
- Prepare
- Analyze
- Inform



The Data Lifecycle addresses some of the main concerns around data collection, starting with the questions of why and how data is being collected. These sections explore how non-profit organizations can collect data in a manner that is sensitive to the realities of their clients and authentic to their mission. Furthermore, the Data Lifecycle discusses the importance of communication (both internal and external),

¹ Nonprofit hub & Everyaction. (n.d.). *The state of data in the non-profit sector*.
<https://nonprofithub.org/datareport/>

² Benjamin, L.M. & Campbell, D.C. (2015). *Nonprofit performance: Accounting for the agency of clients*. DOI: 10.1177/0899764014551987

minimizing data collection, accuracy, interoperability, and good governance. These aspects are engaged in greater detail in the various sections. For instance, Plan explores best practices of data collection and Collect describes how organizations can increase the impact of their data. The Data Lifecycle serves as an organized guide to the most important facets of data collection, providing a roadmap for non-profit organizations as they work with clients.

Where to start in your data journey? We encourage starting with two key questions:

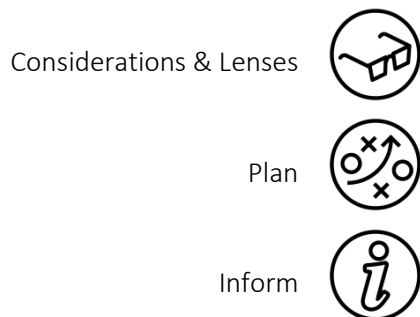
1. Why are you collecting data?

Data may seem disconnected from the overall mission of an organization. Most staff are dedicated to helping clients first and foremost. Collecting data may seem like additional work. Collecting and using data well can contribute greatly to an organization's mission. Effective data collection and use can help improve programming to be more efficient and impactful.³

Data fits within an organization by:

- Building trust
- Demonstrating how organizations achieve their missions
- Creating buy-in from staff
- Providing essential information for funders

For more information, go to the following sections of the Data Lifecycle:



2. How are you collecting data?

To support the needs of clients and provide effective services, data needs to be collected. Data is about people's journeys and stories. However, in the rush to get the needed information it is possible to compromise relationships with clients. By thoughtfully considering how you are engaging with your clients, you can foster a more positive relationship.

When collecting data from clients, consider:

³ Fruchterman, J. (2016). *Using data for action and impact*. Stanford Social Innovation Review. https://ssir.org/articles/entry/using_data_for_action_and_for_impact

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- Ways to build trust including engaging in conversation as an accessible way to collect data. For example, questions and response choices reflect their individual circumstances.
- The way in which questions are asked, which depends on the sensitivity of the information that could be provided (e.g., asking about immigration status, emergency contacts vs. services required, postal code) and in demonstrating transparency and authenticity. For example, clients need to know how the information they give will be used to benefit them.

For more information, go to the following sections of the Data Lifecycle:



Disclaimer – the information provided in the Data Lifecycle could evolve. If you have ideas or feedback please email info@policywise.com

⁴ Icons made by Freepik from www.flaticon.com.

Analyze



Analyze

In the analyze phase, it is important to answer the goals that were originally set out by the organization or project.

1. **Setup your data**, much of your final analysis is determined by previous steps
 - **Plan ahead:** what you can show from your data is determined by what data you collect. Consider planning for the analysis you'd like in the earliest stages of your project.
 - **Read:** use literature to create analyses that are based on previous literature, as you can have more confidence in findings that are theory driven and replicated.
 - **Clean:** remove clear artifacts in your data before you use it. Data cleaning is often a major step in data analysis.
 - Clean data tells a more reliable story
 - Data cleaning is a major step in most data analysis
 - How you clean data is determined by assumptions in your analysis
 - Preventing errors in data collection is best
 - Cleaning clear mistakes after is possible (i.e., not possible answers)
 - **Combine:** Consider grouping data to improve your story
 - Less information is easier to follow
 - Group those that logically fit together (children under 18; and adults 18+)
 - Consider how 'identifiable' people are if they aren't grouped together. It is easier to identify a person from 5 clients grouped together than 20.
2. **Analyze your data**, some simple descriptions of types of analysis are:
 - **Descriptive:** provides a snapshot of your client's characteristics and/or service use patterns (e.g., client age, gender, referral patterns, service use, etc.)
 - **Relational:** looks at the relationship between variables. This can be correlational, factor analysis, modelling, etc. Variables measured before an intervention can be used to 'predict' later outcomes, but should rule out alternative explanations
 - **Experimental:** understands if an intervention 'caused' a change in outcome. Strongest evidence includes random assignment to intervention and control group to compare without intervention, and rules out alternative explanations.
 - **Administrative:** links secondary data to your data to add to the story. Data can often be linked with things such as name and date of birth, and postal code. For example, health, education, geographic, and tax data can be linked to your data, with varying difficulty.
 - **Qualitative:** interviews, focus groups, observational data, etc. collected to provide a narrative understanding of clients, and is systematically analyzed
3. **Your journey is just beginning**
 - **Visualize it:** carefully consider simple, but not misleading, ways to represent your data visually to increase its impact.
 - **Improve:** use your findings to improve service delivery.
 - **Start with analysis:** consider starting your data life cycle with a simple round of analysis with existing data. This is easy, cheap, and can help show parties the potential impact of data before major change. In addition, it may help you think about what data you want.

Analyze

- **Don't force it:** Data often do not meet all of your questions. That's OK! Don't force a false story on the data. Data use is iterative; just collect what you need next time. It is natural that your ability to use data will increase over iterations of analysis.
- **Plan, plan, plan!** Remember, the more you plan for data collection and analysis upfront, the more you'll answer your questions!

Resources

- Data Orchard (September, 2019). *Data maturity framework for the not-for-profit sector*.
<https://static1.squarespace.com/static/5d514d1775e9c90001345670/t/5d9f402df0b6312eb6c55f69/1570717742668/Data+Orchard+Data+Maturity+Framework+NFP+Sector+2019.pdf>
- Cotgreave, A. (n.d.). *6 best practices for creating effective dashboards*.
http://www.umsl.edu/~sauterv/DSS/whitepaper_6bestpracticesforcreatingeffectivedashboards_eng_final.pdf

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Sharing Guidelines

It is the hope of all those who contributed to this project that these findings are shared and used to benefit others and inform policy and practice to improve child, family and community well-being. PolicyWise asks the intent and quality of the work be retained; therefore, PolicyWise for Children & Families should be acknowledged in the following ways:

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