DATA ANALYSIS

Diagnostics

Data analysis

Once you've collected the right data for your project, you'll need to work out the best way to analyse it. Data analysis will allow you to identify the extent and potentially the cause of the problem or issue, so you can make informed decisions based on evidence, instead of guesswork.

Diagnostics

The purpose of this phase is to gain a comprehensive understanding of the current state from different perspectives. Once you know the issues you can prioritise them and establish the root causes, so you develop the right solutions.

Key points

1. Fit for purpose

Start your analysis by ensuring the data you have collected are fit for purpose, relate directly to your problem and are extracted through reliable sources, such as the Health Information Exchange (HIE). Consider who owns the data and how they will be used, potential confidentiality issues and if they need to be de-identified. Follow the links below for NSW Health information on data.

2. Cleanse the data

If the data you use for your analysis have entry mistakes or other anomalies (you may hear this referred to as 'dirty data'), then your analysis will be affected and you may miss vital information for your report. Ensure the data is cleansed and free of mistakes before you use it. It is recommended to use validated sources like HIE if possible. Ask your organisations data analytics team for help if you are unsure.

3. Select tools

It's important to know which tool to apply to the dataset, as using the wrong one can significantly affect the analysis. Selecting a fit for purpose analysis tool is vital to inform good decision making. There are many IT programs that will analyse data for you; your local data analyst should be able to assist. Consider if you will you need a report format or graphs. How will the analysis be used? Improvement work predominantly uses descriptive statistics like means or median.

4. Validate your findings

It is good practice to validate your analysis findings with others. Peer group review can help check if your results are valid and align with the purpose of your project. This can identify any bias with the data findings and help test your hypothesis with others who may understand it differently. Your results should be repeatable, applicable to the whole group you are studying, and clearly relate the cause to the effect.

Considerations and tips

Your data analysis will be used to make important decisions and will support your case for change. Good analysis will help you understand the 'as is' with confidence and obtain stakeholder buy-in.

Existing information

Find out if this type of analysis has already been done in your organisation with the same or similar group. You can utilise the existing information or expertise to help with your analysis. Sharing documents or tools can ease your burden and help link to other work to support your own.

Data confidentiality

Consider who you will share your results with and how they will be shared. There are restrictions on sending data via unsecured email accounts and sharing platforms that are not approved by NSW Health. Sensitive findings can be damaging if taken out of context. Ensure you have governance over your reports and responsible means of sharing.

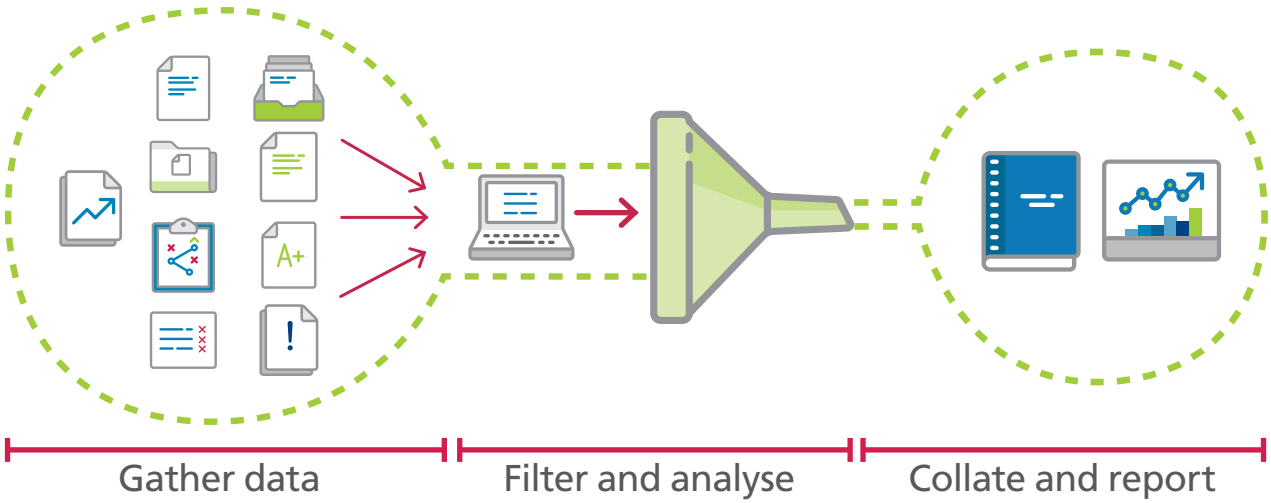
Don't over analyse

Complex data and statistics are not always necessary and can create confusion rather than clarity. Try to keep it as simple as possible and focus on data that inform your project and stakeholder needs

Comparing data

When comparing data, make sure you use similar timeframes and compare at least three different periods. If you compare 'apples with apples' it will help identify trends or anomalies/ outliers in your data and bring credibility to the analysis.

Data analysis



Further information

My Health Learning Log in Form – Redesign Diagnostics (202464432): Data Analysis

Analytics Assist, NSW Health – http://analyticsassist.health.nsw.gov.au/Pages/default.aspx

Next steps

Consider other specific analysis techniques like mapping, root cause or themes (see relevant factsheets). Once you have analysed the data you will need to think about how to present it to your stakeholders.

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