

Step 5: Analyse data and report findings

To measure if the intended outcomes have been met for service users, NCSS recommends using the reliable change index (RCI). The RCI is a type of significance testing, hence it is able to separate actual change from a change that could have occurred due to chance (in statistical terms, we refer to these as "errors").

In essence, using the RCI allows us to say with greater confidence if the intervention has indeed resulted in the improvement of a service user's outcomes, as well as the extent of such improvements. Please see Table 4 below for examples of how we may interpret whether outcomes have been met using the RCI.

For more information about the RCI, please contact NCSS at research@ncss.gov.sg and we are happy to

get in touch. SSAs may refer to the [Annex](#) for the broad technical steps involved in the calculation of the RCI.

Benchmarks will also be consolidated by NCSS across programmes using the same outcome metric. SSAs may make comparisons against these benchmarks to gain a better understanding of how your service users fare compared to the rest of the population.

NCSS will provide support to SSAs in conducting such analyses. Outcome metrics will also be reported in a format that is aligned with the Enhanced Programme Evaluation System (EPES) for SSAs that are required to complete it. SSAs may use the findings to craft an outcome evaluation report which can be disseminated internally.

Table 4: Examples of how outcome scores may be interpreted using the RCI

Service user	Score difference <i>from pre to post</i>	RCI	Outcome	Interpretation
Anna Lee	4	3	Improved significantly	Anna saw a 4-pt increase in score from pre- to post-intervention. The 4-pt has exceeded the RCI, suggesting that Anna has improved significantly for this outcome.
Brandon Ng	2	3	No significant change	Brandon saw a 2-pt increase in score from pre- to post-intervention. However, the 2-pt is within the RCI, hence we cannot be confident that Brandon has improved in this outcome.
Carol Lim	-5	3	Deteriorated significantly	Carol saw a 5-pt decrease in score from pre- to post intervention. This 5-pt decrease has exceeded the RCI, this suggests that Carol faced a significant deterioration in this outcome. It is important that the caseworker follows up with Carol as there may be external factors that have caused the deterioration, and she may require additional support.



After conducting the analyses, SSAs may compile the findings into a report. Below is a non-exhaustive list of what should be included in the report:

- Details about the programme and data collection (i.e., programme objective, sample size, survey timepoints, etc.)
- Percentage who showed significant improvement in outcomes
- Percentage who showed significant deterioration in outcomes
- Percentage who showed no significant change in outcomes
- Comparison against benchmarks
- Whether certain profiles were more or less likely to show significant changes
- Qualitative data collected from interviews, focus groups or observations
- Key insights and takeaways
- Recommendations to improve the programme
- Challenges faced in conducting the outcome evaluation
- Recommendations to improve the outcome evaluation process

Checkpoints (for Step 5):

Are there differences between what caseworkers observed/understood about a service user's progress compared to the data from the outcome evaluation?

- Caseworkers' observations of service users' progress may differ from the service users' survey data. It is important to take both into account, and understand why the discrepancy exists in order to give a holistic view of service users' progress.

Is there a study conducted locally on the relevant population (e.g., persons with disabilities, caregivers, etc.) that you can refer to for the standard deviation and reliability index for calculation of the RCI?

- If you are not able to find a relevant study conducted locally, you can consider referring to the official manual from the metric's developer.
- Please contact us at research@ncss.gov.sg and we are happy to provide further advice and assistance.

Step 6: Consolidate feedback and refine programme

Using the evaluation report, SSAs should organise internal reviews with the different staff and stakeholders involved to ensure that all relevant parties are aware of how the programme has performed. The evaluation report should be used to provide insights into whether the programme has addressed the problem statement. This will inform decisions about the allocation of resources and

identification of the programme direction following the evaluation.

It is crucial that SSAs use the findings to refine the programme's TOC to ensure that the programme remains relevant to the continuously evolving needs of the communities being served. SSAs may also revise or supplement the programme's TOC using updated knowledge in the sector if applicable.



Checkpoints:

Have all relevant stakeholders had a chance to review the report before the discussion session?

- It would be helpful if the report is disseminated to stakeholders before the discussion session. The discussion can then focus on interpreting the findings and brainstorming how the programme can be improved.