

Report user guide - HoNOSCA

Health of the nation outcomes scales child and adolescent

What is this guide used for?

This user guide will assist clinicians, managers, data analysts, service user leaders and family facilitators to understand and interpret their DHB and national outcome reports. The guide will help you interpret the PRIMHD summary reports provided to your district health board (DHB), with the aim that you will use the PRIMHD information to better understand and improve the mental health services you provide.

The PRIMHD HoNOSCA summary report summarises the PRIMHD outcomes data submitted by your DHB. It presents HoNOSCA data from services in which HoNOSCA is the primary measure used. The *exception* to this is graphs and tables 9 and 10, where all collections from all tools are used.

PRIMHD information is a starting point only and should provide you with more questions than answers. It gives important information about how your services work. Of greater value is the use of the information to guide your curiosity and ask more in-depth questions about our services and how we might improve them.

Data quality

To ensure the data collected is of good quality there are three elements which clinicians need to ensure:

1. That they use the appropriate glossary to complete the ratings
2. That they have been trained in the measure and
3. That they have had some practice in rating.

How is the PRIMHD summary report organised?

The PRIMHD summary report is organised into three main sections. They provide information about:

- **Outcomes-related information:** This provides an indication of what changes for service users from the time of entering the service until leaving the service.
- **Service-related information:** This provides information about the services, such as the overall acuity of service users and the focus of care of different services.
- **Collection completion and validity:** This tells you about the completeness and validity of the data set provided by your mental health service.

In many cases the data is presented graphically for the whole DHB. It is then presented in a table for the individual teams. This allows you to understand what the data looks like overall, and then 'drill down' to understand the data at the team level.

Outcomes – changes in service user status

Graph and Table 1: Average HoNOSCA total score (15 items¹) by collection type.

What this information shows: This graph and table shows the average HoNOSCA total score for different collection types. For community services, discharges to an inpatient setting are excluded.

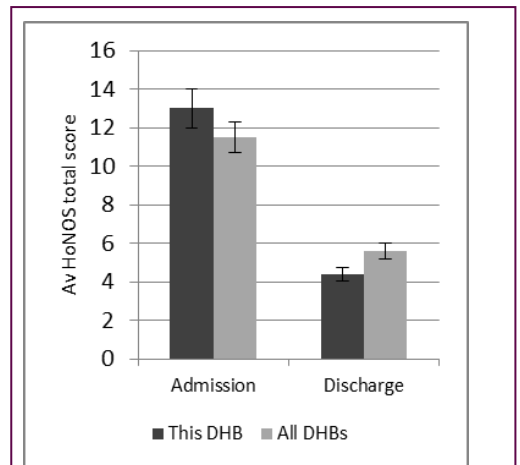
Interpretation: Higher HoNOSCA scores tend to indicate higher levels of symptoms, distress, and dysfunction associated with mental health difficulties. The greater the difference between the admission and discharge HoNOSCA total score, and the lower the discharge HoNOSCA total scores, the better the outcomes achieved by service users. For practical reasons, this report compares service users admitted in the current period with those discharged in the current period. Click [here](#) for further discussion about this approach.

Why is this useful? The total score of the HoNOSCA is a widely used measure of severity of mental health difficulties and the distress and disability it causes. The difference between the HoNOSCA scores at admission and discharge can be treated as an indication of the average outcome achieved by service users (given the assumptions discussed [here](#)).

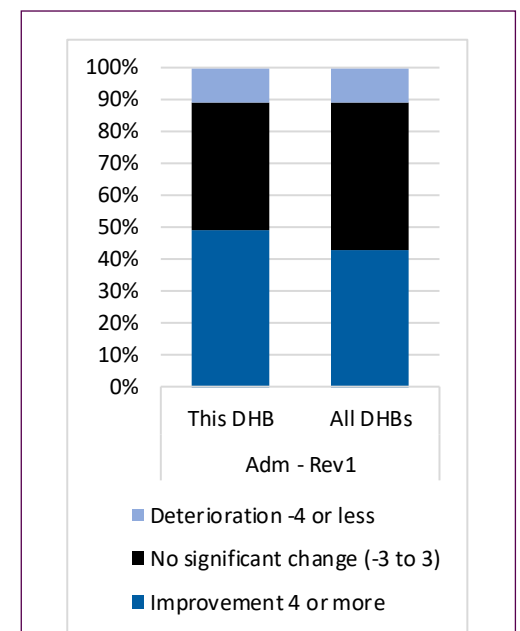
Graph and Table 2: Difference in HoNOSCA total score (15 items) for matched pairs by pair type and setting.

What this information shows: When two outcome collections for the same tangata whai ora and setting are matched together to make a pair which ends in the period.

For admission to first review and review to review the pair has a criteria between 60 and 120 days. For admission to discharge it can be of any length though there must be two days between admission and discharge for inpatient and 14 days for community. The result shows the difference for a matched pair between the start and end total score. It is grouped into three groups: improvement = change of total score of 4 or more, no significant change = change of total score -3 to 3 and deterioration = change of total score -4 or less. The change of 4



In this graph the top of the bar marks the average score. The lines above and below the scores mark the **confidence intervals**, which are used to explore whether apparent differences between averages are likely to be statistically significant.



These graphs are a stacked bar chart looking at the distribution of matched pairs for each pair type. The three categories add to 100%.

¹ Please note the terms 'Scale' and 'Item' are used interchangeably.

was chosen as it would be statistically significant change for community (using an effect size calculation). The value of 4 was used for inpatient for consistency.

Interpretation: Dark blue band indicates percentage improvement within the given time period, while black band indicates no significant change and light blue deterioration. The aim of care is to improve tangata whai ora outcomes. The matched pairs of community admission to discharge no further care and inpatient admission to discharge should show more improvement. For the other matched pair types we would not always expect as much improvement, though improvement is positive.

Why is this useful? If the improvement in your DHB is better than the national average it could show you are doing something right.

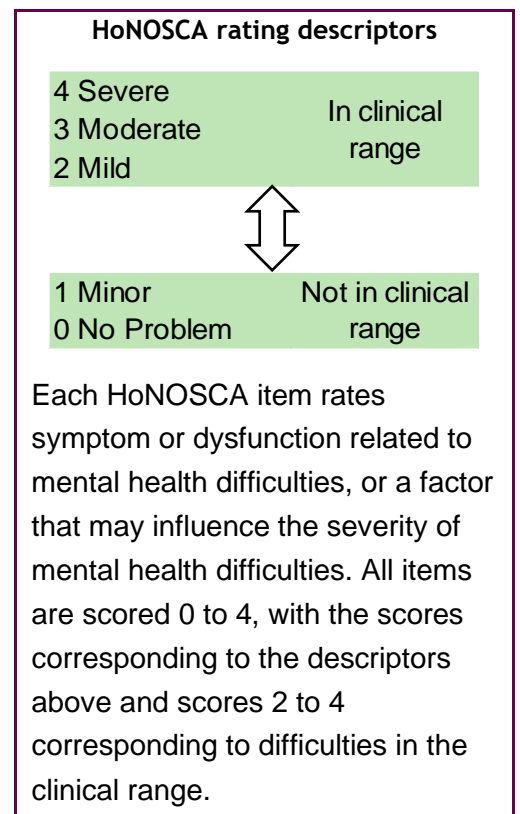
Graph and Table 3: Average number of clinically significant HoNOSCA items by collection type.

What this information shows: This graph and table show the average number of items per service user that were in the clinical range (explained right) at admission and discharge. It also shows the average for all DHBs.

Note that this variable only indicates changes between the clinical and non-clinical range and doesn't reflect changes within the clinical range, for instance, from severe (score 4) to mild (score 2). This may also be very relevant.

Interpretation: A larger number of items in the clinical range tend to indicate higher levels of symptoms, distress and dysfunction associated with mental health difficulties. The greater the difference between the admission and discharge, and the lower the discharge value, the better the outcomes achieved by the service user.

Why is this useful? This provides another way (like the HoNOSCA total score) of exploring the outcomes achieved by service users. No one measure will capture all aspects of outcomes, but this one is quite useful as the transition of HoNOSCA ratings from the clinical to the non-clinical range tends to indicate clinically significant change, so the use of this variable may be particularly clinically meaningful.



Graph 4: Average number of clinically significant HoNOSCA items at admission, discharge by ethnic group.

What this information shows: This graph focuses on the outcome achieved by service users from different ethnic groups.

Interpretation: A larger difference between admission and discharge, and a smaller average at discharge suggests better outcome. Confidence intervals can be used to assess if differences between average ratings for different ethnicities are significantly different. See further discussion [here](#).

Why is this useful? This can help to identify ethnic groups for who improved approaches or additional resources would be particularly helpful to assist with achieving equitable outcomes, and to identify services that achieve good outcomes with particular ethnic groups so their approach can be studied and transferred.

Graph and Table 5a, 5b: Percentage of collections in clinical range on each HoNOSCA item.

What this information shows: These graphs and tables show the percentage of service users who score in the clinical range (ie scores of 2 to 4) for each of the HoNOSCA items. Graph and Table 5a present data at admission and discharge by team, so it can be used to explore service outcomes. Graph and Table 5b present data at review by team, so it can be used to explore service outcomes.

Interpretation: The longer the bar on the graph, the larger the proportion of service users who are in the clinical range on the particular HoNOSCA item. These graphs and tables can be used to explore several important issues, including:

- 1. The difficulties faced by service users:** The larger the percentage, the greater the number of service users facing the kind of difficulty reflected by the item. Therefore, the data gives you a profile of the types of difficulties faced by service users and consequently is as a form of needs assessment (Graph and Table 5a & 5b).
- 2. The outcomes that service users achieve:** The difference in percentage (or length of the bar on the graphs) between admission and discharge indicates how much change has occurred for service users. The greater the reduction between admission and discharge, and the smaller the percentage at discharge, the better the outcome (Graph and Table 5a).

How this is useful? This information can assist decision making about several important issues, including:

- 1. Identifying high needs:** Items that have a higher percentage in the clinical range indicate areas of common difficulty for service users. This information may be useful for informing decisions about the kinds of resources and the kinds of activities needed to address the difficulties that service user's face.
- 2. Identifying what improves and what doesn't improve:** Items that show a substantial decrease in percentage from admission to discharge suggest the service is effective in helping people to change that difficulty. Items that show little change, or an increase in percentage, suggest that the service is not successful in assisting with that difficulty. This information may be useful for informing decisions about the areas for which initiatives are most needed to improve the outcomes for service users.
- 3. Variation between services:** Comparing the outcomes of service users in different services can assist services to learn from each other. Variations between services are due to at least two kinds of factors:
 - (a) variations due to differences in the 'mix' of service users of the different services

(b) variations due to differences in what the services do.

This means that a service showing better outcomes may not necessarily be operating better. However, if we can get beyond the defensiveness that assumes that different outcomes are due to service user differences, we can explore variations in what the services do that may explain better outcomes and provide a vehicle to share helpful practice insights.

Graph 6: Index of severity ratings by collection type.

What this information shows: The index of severity is a measure of outcome in which different levels of acuity are defined by the items in the clinical range for the first 13 HoNOSCA items (definition shown right). These data are presented as a stacked bar graph, showing the percentage of service users at each level. Data for all DHBs is also presented in the graph.

Interpretation: Darker bars indicate higher overall level of severity. More positive outcome is shown by larger decrease in darker sections of bar between admission and discharge.

Why is this useful? This provides another way of exploring the outcomes achieved by service users and can be helpful in comparing the acuity of the caseloads of different teams, etc.

Index of severity categories (first 13 items)

Sub-clinical	All items with score of 0 or 1
Mild	At least one item with a score of 2
Moderate	One item with a score of 3 or 4
Severe	At least two items with a score of 3 or 4

Other measures of service activity

Graph and Table 7: Index of severity by team.

What this information shows: This graph and table shows the percentage of service users in each index of severity category (see Graph 6 for description) for each service.

Interpretation: The longer and darker the line is the higher the overall acuity of the service users in that service. The acuity of the caseload for different teams will vary depending on the types of service users served by different teams, but similar teams could be expected to have similar acuity levels.

How is this helpful? This graph and table provides a general measure of the overall acuity of the caseload of different services.

Graph and Table 8: Collections with no HoNOSCA items in clinical range

What this information shows: This graph and table shows the proportion of collections undertaken for which no items were scored in the clinical range (no items scoring >1).

Interpretation: Teams that have a higher proportion of these service users (longer and darker bar) may be retaining more service users for whom a mental health service may no longer be the optimal service.

How is this helpful? There may be good reasons why a service user who does not score in the clinical range in any items, in a particular HoNOSCA collection, should continue to access that service. However, it may also be an indication that a mental health service is no longer optimal for them. This data may assist with exploring whether any of these service users could be discharged or transferred to other services.

Collection completion and validity

Graph and Table 9: Percentage of service users with at least one collection during period.

Graph and Table 10: Percentage of admission and discharge collections completed.

What this information shows: These graphs and tables indicate the percentage of service users who data is available for. Data for your DHB in the last time period is compared with the previous time period, with the average for all other DHBs, and with minimum targets that have been set by the Ministry of Health.

Interpretation: The longer the dark bars, the higher the percentage of service users that data is available for.

How is this useful? These graphs and tables show how complete, therefore representative of your service, the available data is. To be accurate, and of the most use to your service, collections should be available for as many service users as possible. If completion rates are low then analyses of the data must be regarded as more tentative and potentially unreliable.

Target: The higher the percentage of service users with at least one collection, the better. The current targets for completion are shown on both the graph and table. These targets ensure the information can be as valid and useful as possible. For further information on compliance please see www.tepou.co.nz/outcomes-and-information/achieving-collection-compliance/115

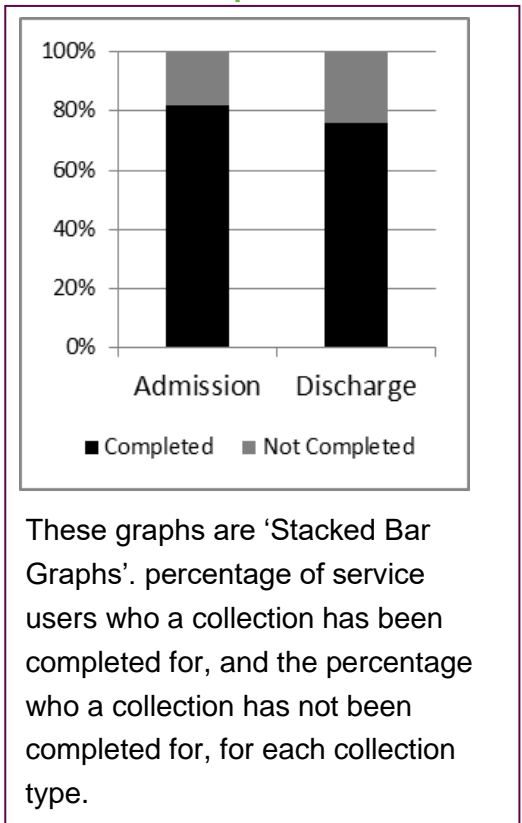
Graph and Table 11: Percentage of invalid collections.

What this information shows: A HoNOSCA is considered valid if 13 or more of the 15 items have been rated. These graphs and tables indicate the percentage of HoNOSCA collections for which 10 or more items were rated. A minimum target for valid collections is shown on the graph and table.

Interpretation: The longer the dark bars, the higher the percentage of collection with enough completed items to be considered valid.

How is this useful? These data also help to indicate how complete the data set is. More valid collections mean you will have data on a larger proportion of your service users and so your data will more accurately represent your service users and services. However, this doesn't guarantee that individual ratings have been completed accurately but it is an important first step in indicating the validity and representativeness of the data.

Target: The higher the percentage of valid collections, the better. Current targets for valid completion are shown on the graph.



Other important considerations

Cross-sectional outcomes: As mentioned previously, the data presented in the PRIMHD summary report for HoNOSCA is different from most outcome evaluations. This is because rather than comparing the same people at the beginning and end of their contact with the service, it compares the cohort admitted and the cohort leaving the service at the same time. This is done so that the maximum amount of data collected can be used. In most cases, the nature of referrals over the average length of stay will change little, so this provides a reasonable indication of the outcomes achieved. Where client mix changes significantly this approach may not be valid. It may eventually be possible to use matched pairs (compare admission and discharge data for the same person) but the PRIMHD data set is currently not sufficiently consistently collected for such analysis.

Minimum sample size for inclusion: Any data point that is made from less than 20 cases will not be presented either on graphs or in the tables. This is because when the numbers of cases making up a data point becomes small, the data becomes unreliable and is likely to be misleading.

Confidence intervals: There is a degree of uncertainty about all data which means we don't know how well the average of the sample we have collected approximates the 'true' average value. However, we are able to calculate the range of values in which the 'true' value is most likely to be. The error bars (small lines above and below the average) on the graphs mark the confidence interval which indicates the range in which the true value is likely to be (95% probability). The range of scores covered by the confidence interval is also listed in some tables.

To avoid over-interpreting data (in particular, thinking two things are different when they really aren't) the convention is to only regard them as actually different if their confidence intervals don't overlap. If their confidence intervals do overlap, we normally assume there is no real difference between them, even if the difference looks interesting. If confidence intervals don't overlap, we can assume that the points are statistically significantly different.

This is quite a conservative test, and may not always be correct, but is a fairly safe way of preventing over-interpreting the data.

