



Recommendations for using outcome measures





Introduction

The use of outcome measures is one of the most powerful tools available to children’s mental health services. This guide provides information to help practitioners to choose and use outcome measures, and recommendations on best practice approaches.

This guide was written by the Child Outcomes Research Consortium (CORC). CORC’s vision is for all children and young people’s wellbeing support to be informed by real-world evidence so that every child thrives. To achieve that, CORC is committed to promoting the meaningful use of evidence to enable more effective, child-centred support, services and systems.

What are outcome measures?

Outcome measures are tools that can be used to measure a variety of aspects of an individual’s mental health and wellbeing. In a child mental health context, outcome measures often take the form of questionnaires about how an individual feels or functions. These would generally be filled in by a child or young person, or by a parent, peer, clinician, teacher or similar professional.

Where outcome measures have gone through a research process we can say something about their ‘psychometric properties’.

Two key properties are the extent to which a particular outcome measure is:

- ‘valid’ – whether it actually measures what it claims to measure
- ‘reliable’ – whether the measure would produce similar scores in the same conditions if used again.

Information about psychometric properties for different measures can be found in relevant research papers and on the developer or copyright holder’s website, and should be considered when you are deciding which measure to use. Other relevant considerations in choosing a measure will be how well the measure is able to pick up changes over time or between people, as well as whether it is suited to a particular age or group of young people (see ‘How do you choose an outcome measure?’ below).

Feedback measures are also often collected in child and youth mental health settings. These are tools that collect information from children and young people about how they found the support and can also be referred to as experience measures.

CORC RECOMMENDATION

It is useful for anyone who is using a measure to have a basic understanding of how measures are developed and what the research says about their validity and reliability.

Are outcome measures free to use?

Some measures are free to use but there is a charge to use others. Outcome measures are copyrighted documents and so, like a book or a photograph, there is someone who owns the right to use the measure and determines how much it will cost to do so. The copyright only applies to the specific wording (and in some cases the layout) of the measure, so it is possible to use something similar with new wording. However, all the testing to determine validity and reliability is done using the particular words and phrases in a questionnaire, so if they are changed there is no evidence to indicate whether the new wording measures the right thing or if it does so consistently.

CORC RECOMMENDATION

Always use the measure as it has been developed and check and follow the licensing conditions. If you are concerned about any items in a measure or how to administer it, consult CORC or the measure developer.

Why use outcome measures?

Outcome measures can be used for a range of purposes, including to:

- **Support individual practice:** This involves helping to make sure children and young people get the right support. Outcome measures may answer questions like ‘what’s the problem?’, ‘how are things going?’, or ‘have we done as much as we need to?’
- **Understand effectiveness:** This involves evaluating support and interventions to understand the impact they are having – and to help improve support in a responsive way.
- **Map need:** This involves understanding needs on aggregated basis by taking a ‘snapshot’ of a group’s wellbeing. For example, this might be done across a school year and would provide evidence for planning services or support.

Some of the benefits of using outcome measures that have been identified by research include: improving practitioners’ ability to detect worsening of symptoms (Lambert, 2010); providing information that may have otherwise been missed (Worthen & Lambert, 2007); and ensuring the voice of the service user is heard (Greenhalgh, 2009). A recent systematic review suggests

patient-reported outcome measures have a positive impact on outcomes in many instances, and in particular with not on track cases (Gondek et al., 2016). The research also looked at treatment duration but found no clear evidence that use of outcome measures reduces the number of sessions offered.

CORC RECOMMENDATION

Measures should be used to both aid clinical practice and to monitor the effectiveness of services. The choice of measures needs to reflect both purposes, so careful consideration needs to be given to which tools are chosen. CORC can help provide advice and support if you need more help with this.

How do you choose an outcome measure?

It is helpful to bear in mind that there is a balance to be struck in deciding how to use measures. Longer, more specialised measures are often better at a practice level – for example to support an assessment – whereas shorter, more general measures may be more practical for gathering evidence at a whole service or system level.

Therefore, you need to think carefully about what you want to find out and choose the best measures to achieve this. Some important considerations include:

- **Your purpose in using the outcome measure:** What do you want to understand?
- **How robust the measure is:** Does the research suggest it is a valid and reliable tool?
- **Whether it is right for your client group:** Is the language suited to those who will need to fill it out (e.g. the age, demographic or characteristics of children and young people you are working with)?
- **The cost and time of using it:** Is there any cost in using the measure, how long does it take to complete, how easy it is to score and interpret?
- **Whether others are using the measure:** Is there learning to be shared, will there be potential to get contextual information or benchmarks from others?
- **The perspectives you want:** Do you want just one perspective or several, such as from a young person, their parent and teacher?

One of the most difficult issues in starting to use measures are the logistics of collecting and storing data. In particular, it is important to think about when you use it – for example when is ‘the beginning’ and ‘the end’ of the support you are providing; how will you ask for consent to collect and use this information; how you will ensure data is recorded accurately. The more people involved in using measures, the more complex these logistical issues become.

CORC RECOMMENDATION

There is a good argument for using a combination of a measure related to the goals of the child or young person, a measure of symptoms or problems, and a measure that records service users’ experiences. The choice of measures will, however, depend on your particular context and the purpose for which you are collecting data.

In terms of when to use measures, it is important to balance the usefulness of receiving regular data against creating too much burden for the practitioner or young person. Nevertheless, it is a good idea to use measures at the start, at a number of defined review points and at the end of the intervention.

How do you introduce an outcome measure?

Most people who work with children and young people have the skills to introduce outcome measures in an appropriate way. The skills are similar to those needed to talk about many other issues that occur in situations where children are being supported with mental health issues. One of the barriers to introducing measures is that practitioners think young people don’t want to be bothered with forms. However, when they are introduced sensitively, feedback has shown that young people are positive about using outcome measures. They say they help create a shared understanding of the issues they are facing, help them feel there is a point to the therapy and that they can make progress, and gives them a greater sense of control and partnership (Stasiak et al., 2012).

The following advice might be useful for using and introducing measures:

- The practitioner should be clear about why they are using a measure and what they are going to do with the data, and this should be explained to the young person.
- The young person should be asked for their consent, and the practitioner needs to be as sure as possible that it is informed consent.
- The welfare of service users is always a practitioner’s first concern, and so in rare instances it may not be appropriate to ask a service user to complete a measure.
- Practitioners need to be aware that measures are only one source of information and data should always be considered alongside information from other sources.

In practical terms, it is a good idea to familiarise yourself with the measure or measures you are using so you can answer any questions about them. You should also have the measures ready to hand, plan how you are going to introduce them and how you will give feedback to the young person (for example, looking at their answers in the session or waiting to generate a score and then discussing it). You should also think about how you respond if the measure highlights particular risks (such as questions about self-harm or suicide ideation).

CORC RECOMMENDATION

Most practitioners have the skills needed to introduce outcome measures, but receiving training can help boost confidence and refine skills. CORC provides training on choosing and introducing outcomes measures, which can be booked via its website, www.corc.uk.net.





How do you analyse outcome data?

Different ways of analysing change provide different kinds of information that will influence how the data is interpreted. The best method of analysis will vary based on:

- What information is needed from the data
- Which measurement tools have been used
- How much data is present.

Some common methods of analysing change are outlined below.

Raw Scores

‘Raw score’ refers to the actual score obtained from the outcome measure. Looking at how the raw score has changed over time can provide information on whether a child or young person has made progress.

This can be looked at on an individual level, or for a group. On the group level, scores can be displayed as a mean (the average score across a group) or as a distribution of change score (plotting the amount that scores changed by over time).

Pros - Raw Scores	Cons - Raw Scores
Easy to calculate	Does not provide information about what the change means in practice
Showing the distribution of change score of a group can provide information about the range of progress	Average scores can be skewed by extreme cases (especially for small samples)
Can be used for any outcome measure	Does not account for factors like measurement error

Recovery

Data on the range and distribution of scores that occur in a given population have been gathered for some measures. These are often called the measure *norms*.

Norms can be used to identify individuals scoring outside the expected range, which may indicate they are experiencing significant difficulties in a particular area.

This can be done in several different ways:

Single population distribution: A child or young person's score is compared against the range of scores found in one particular population. If the child scores in the top percentile (e.g. they scored higher than 90% of children in the population), they are likely to be experiencing significant difficulties.

Multiple population distributions: The range and distribution of scores is assessed for two different populations, usually a community population and a clinical population. A child or young person is categorised by which group they are more likely to fall in based on their score. For example, if they have a score that is quite common in the clinical population, but quite uncommon in the community population, they are more likely to be experiencing significant difficulties.

Comparing to a reference measure: The target outcome measure and a standardised diagnostic tool, or clinical assessment, are completed by children and young people. Children's scores on the outcome measure are assessed against the presence of a clinical diagnosis (as determined by the diagnostic tool or clinical assessment). This is used to determine the score on the outcome

measure above which a child is likely to have a clinical diagnosis.

The criteria used to identify scores that fall outside the norms are often referred to as 'cut-offs' or 'thresholds'. A young person scoring above the threshold is often referred to as in the 'clinical' range, though there are a range of views about whether it is helpful to categorise young people in that way. Both the conceptual basis of diagnosing mental health conditions and the ability of outcome measures to identify those conditions are questioned.

Looking at how children and young people moved across these thresholds can provide information on the severity of their difficulties during their contact with a service. This can be looked at on a group, or individual level. Moving from above the threshold to below it is commonly described as 'recovery', though again there are debates about the validity and usefulness of analysing outcomes data in this way.



Pros - 'Recovery'	Cons - 'Recovery'
Adds meaning to the scores which can aid interpretation	Does not account for the magnitude of the change (e.g. a child may have crossed a cut-off by changing 1 point)
Can be aggregated for groups, or calculated for individuals	Care should be taken when considering the population the norms were drawn from, and how similar that population is to your target sample, as well as how the cut-offs were derived
Can be calculated for any measure with available norms data	Can be complex to aggregate if norms vary by age or by gender

Reliable change

Reliable change is the amount of change needed to be confident that what is being measured has actually changed, and there is not simply a random change due to, for example, someone answering differently on a different day. The reliable change index (Jacobson & Truax) uses the concepts of reliability and standard deviation to try to

adjust for measurement error when assessing change over time. It is used to calculate a 'reliable change threshold'; if a child or young person has changed by enough points to be over this threshold, it is likely this reflects a true change in score, rather than random change.

Pros - Reliable Change	Cons - Reliable Change
Provides a degree of certainty of the validity of the observed change	A change smaller than the amount needed to be classed as 'reliable change' could still have been experienced as significant by the child or young person
Can be calculated for any measure with psychometric properties	Does not provide information on the actual measure score

Reliable recovery

Reliable recovery combines the use of cut-offs and reliable change to provide information on whether a child or young person has truly changed, and if this change is clinically meaningful. The calculation of reliable 'recovery' focuses on those children and young people who are above the cut-off for an outcome measure (indicating they are experiencing significant difficulties) when they first begin contact with a service.

Children and young people who have been categorised as 'recovered' and who have improved by enough points to be outside the reliable change threshold are said to have 'reliably recovered', as it is likely the severity of their difficulties has substantially decreased, and this change is unlikely to be due to random causes.

Pros - Reliable 'Recovery'	Cons - Reliable 'Recovery'
Provides some certainty of validity of observed change	Excludes all children and young people not above a cut-off at time 1
Provides some certainty of meaningfulness of observed change	Care should be taken when considering how the cut-offs used to define 'recovery' were derived, as well as the population they were derived from, and how similar this is to your target sample
Can be calculated for any measure with psychometric properties and available norms	Does not provide detailed information on the range of measure scores present

CORC RECOMMENDATION

There is no one approach to analysing data that is the best in all circumstances. In terms of getting a sense of how well a service or system is operating, it is useful to look at a combination

of data from goal setting, how people experience the service and change in terms of individuals' symptoms.

References

Gondek, D., Edbrooke-Childs, J., Fink, E., Deighton, J., & Wolpert, M. (2016). Feedback from outcome measures and treatment effectiveness, treatment efficiency, and collaborative practice: A systematic review. *Administration and Policy in Mental Health and Mental Health Services Research*, 43(3), 325-343.

Greenhalgh J. (2009). The application of PROMs in clinical practice: What are they, do they work and why? *Quality of Life Research*. 18:115-123. doi: 10.1007/s11136-008-9430-6.

Jacobson, N. & Truax, P. (1991). Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology*, 59(1), 12-19.

Lambert, M. (2010). *Prevention of Treatment Failure: The Use of Measuring, Monitoring and Feedback in Clinical Practice*. Washington, DC: American Psychological Association.

Stasiak, K., Parkin, A., Seymour, F., Lambie, I., Crengle, S., Pasene-Mizziebo, E. & Merry, S. (2012). Measuring outcome in child and adolescent mental health services: Consumers' views of measures. *Clinical Child Psychology and Psychiatry*, 18, 519-535. doi:10.1177/1359104512460860.

Worthen, V. & Lambert, M. (2007). Outcome oriented supervision: Advantages of adding systematic client tracking to supportive consultations. *Counselling and Psychotherapy Research*, 7 doi: 10.1080/14733140601140873.



The Child Outcomes Research Consortium (CORC) is the UK's leading membership organisation that collects and uses evidence to improve children and young people's mental health and wellbeing.

Founded in 2002 by a group of mental health professionals determined to understand the impact of their work, today our members include mental health service providers, schools, professional bodies and research institutions from across Europe and beyond.

We analyse and interpret data relating to mental health and wellbeing outcomes of more than 400,000 children and young people in the UK, representing the largest data set of this kind worldwide.