1. Background and overview

The QUAD scale was developed and validated at the Health Services and Population Research Department, Institute of Psychiatry, King's College London. This research was commissioned by the National Institute for Health Research (NIHR) under its Programme Grants for Applied Research scheme (RP-PG-0606-1053) (SAPPHIRE Programme on Stigma and Discrimination in Mental Health). The views expressed in this publication are those of the author(s) and not necessarily those of the NHS, the NIHR or the Department of Health.

The QUAD is designed to assess the extent to which people with mental health problems anticipate personally experiencing mental health-related discrimination. This 14 item scale can be considered as a comprehensive measure of anticipated discrimination which covers a broad range of contexts in which mental health discrimination may be anticipated. It is suitable for use with adults with mental health problems.

2. How to use

The QUAD is a self-complete scale and takes around three minutes to complete. The scale may also be used in an interview context. This scale should be used in accordance with Good Clinical Practice and IRB / ethical committee approval. Under no circumstances should any changes be made without the authors’ permission and its use is subject to the conditions set out in section 3.

3. Conditions of use

If you work or study in a university or health setting the scale is freely available for you subject to the conditions below. Otherwise please contact Professor Graham Thornicroft at graham.thornicroft@kcl.ac.uk.

Permission to use the scale is granted on condition that:

1) You email us (see contact details below) to let us know that you are using the scale so that we can keep a register of users.

2) No changes are made to the wording or format of the scale.

3) Translations into different languages are done using Back Translation (see section 4 below) and a copy of the translated version is sent to us (see contact section) to avoid unnecessary duplication of effort.

4) The copyright information in the footer of the scale is included.

5) The scale is not passed on to a third party.
4. Translating the QUAD

Please contact the authors before making any translations to the scale as we may already hold a version of the language in question. In this case we are able to forward the translated version to you together with the contact details of the group who made the translation. Translations into different languages should be done using Back Translation¹ and a copy of the translated version should be sent to the contact person (see details below) to avoid duplication.

Translation stage

Please arrange for the QUAD to be translated into your local language. Ensure that the translator has the local (target) language as his/her first language, and has English as his/her second language. If feasible it may be helpful to have two translators working together. Then discuss this translation within your study team to resolve any disputed items.

If feasible, it is helpful at this stage to have bi-lingual experts read through both versions checking for coherence and cultural applicability.

Back-translation stage

Next back-translate QUAD into English, using a different translator whose first language is English and whose second language is your local language. Your study team then meets to discuss this back-translated version and to compare it with the original English version, leading to any further revisions that are necessary, and a list of the remaining disputed items for discussion with the focus group.

You could contact the QUAD developers at this stage for any further advice on the intended meaning of the items.

Focus group stage

Ideally you should also carry out what is called ‘concept checking’ (which means validating the scale items with a group of people similar to those who will be interviewed), it is necessary for you to arrange one focus group. This should include 6-10 participants of the target group (e.g., with a clinical diagnosis of schizophrenia who meet with 2 coordinators from your study group. The coordinators need to control both the questions to be asked and the group dynamics. The coordinators need to introduce the QUAD and then to discuss each QUAD item in turn to ask for comments from the service users on the phrasing of the items and how far they are understandable. Tape-record the meeting and after the meeting prepare a summary outlining the most important ideas and conclusions. Then prepare your final local language version of QUAD, using the information you have gathered from all these stages.

References on translating scales

For more detailed guidance on this procedure please see:

5. Scoring the QUAD

The QUAD has response categories from 0 (strongly disagree) to 3 (strongly agree) with higher scores indicating greater anticipated discrimination. Although there is no ‘not applicable’ option, participants may give a ‘not applicable’ response to some items and it is suggested to code these items as -8, and missing data as -9.

A mean score is calculated for the QUAD in addition to a count score of the number of areas of life in which individuals expect anticipated discrimination.

(i) **Mean scores** - A mean score (range 0-3) is calculated by adding each item score (0, 1, 2 or 3) and dividing by the number non-missing items in the scale. No items are reverse coded.

The following SPSS syntax may be used to calculate the mean score for the QUAD. Variable names can be used as below or adapted to match your own.

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* First recode any not applicable items to zero to generate number of valid items (i.e., non-missing).
RECODE quad1 quad2 quad3 quad4 quad5 quad6 quad7 quad8 quad9 quad10 quad11 quad12 quad13 quad14 (-8=0) (1=1) (0=0) (2=2) (3=3) INTO quad1r quad2r quad3r quad4r quad5r quad6r quad7r quad8r quad9r quad10r quad11r quad12r quad13r quad14r.
EXECUTE.

*Calculate mean score. Using the MEAN command, will calculate a mean score for everyone regardless of missing values.
COMPUTE QUADmean = mean (quad1, quad2, quad3, quad4, quad5, quad6, quad7, quad8, quad9, quad10, quad11, quad12, quad13, quad14).
VARIABLE LABELS QUADmean 'QUAD mean items (regardless of missing values)'.
EXECUTE.

*Calculate a mean score only for those with at least 80% of items present. This provides the same figure as pro-rating (i.e., imputing the mean of the present items for the missing items, summing and then dividing by number of non-missing items).
COMPUTE QUADvalid = NVALID (quad1r, quad2r, quad3r, quad4r, quad5r, quad6r, quad7r, quad8r, quad9r, quad10r, quad11r, quad12r, quad13r, quad14r) .
EXECUTE .

IF(QUADvalid>=11) QUADmeanPR= mean (quad1, quad2, quad3, quad4, quad5, quad6, quad7, quad8, quad9, quad10, quad11, quad12, quad13, quad14).
VARIABLE LABELS QUADmeanPR 'QUAD valid mean items (those with 80% items)'.
EXECUTE .
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(ii) **Count score** – A count score is calculated by counting the number of items for which the participant scores 2 (agree) or 3 (strongly agree) within the 14 item scale. Items which are scored as 0 (strongly disagree), 1 (disagree), -8 (non applicable) or -9 (missing) are not included in this count. This will give the number of areas of life in which individuals expect anticipated discrimination.
COUNT score.
COUNT QUADdomains=quad1r, quad2r, quad3r, quad4r, quad5r, quad6r, quad7r, quad8r, quad9r, quad10r, quad11r, quad12r, quad13r, quad14r (2,3).
EXECUTE.
VARIABLE LABELS QUADdomains 'Number of positively endorsed QUAD domains'.
EXECUTE.

Treatment of missing items - (NB non applicable data is not considered missing. Missing data includes only items for which the participant has not provided a response). Scores may be imputed but only if the minimal number of missing values is 3.

6. Psychometric properties and references

A paper describing the development and psychometric properties of the QUAD scale is currently in submission. The QUAD was found to be a reliable, valid and acceptable measure of anticipated discrimination. The provisional reference for the paper is:

Gabbidon, J., Brohan, E., Clement, S., Henderson, C., Thornicroft, G. The development and validation of the Questionnaire on Anticipated Discrimination (QUAD).

7. Contacts

For queries about the QUAD or requests to collaborate, please contact Jheanell Gabbidon (jheanell.gabbidon@kcl.ac.uk) and / or Professor Graham Thornicroft (graham.thornicroft@kcl.ac.uk).