Patient Global Impression (PGI)

Questionnaire Supplement to the Study Data Tabulation Model Implementation Guide for Human Clinical Trials

Version 1.0 (Final)

Prepared by the
Major Depressive Disorder (MDD) Standards Team and
CDISC Questionnaires, Ratings, and Scales (QRS) Subteam

Notes to Readers

This supplement is intended to be used with other CDISC User Guides for specific therapeutic/disease areas and follows the CDISC Study Data Tabulation Model Implementation Guide for Human Clinical Trials.

Revision History

Date	Version
2019-03-20	1.0 Final

1 Introduction

This document describes the CDISC implementation of the PGI instruments, which include the Patient Global Impression of Severity (PGI-S), the Patient Global Impression of Change (PGI-C), and the Patient Global Impression of Improvement (PGI-I). These instruments are commonly administered in clinical trials and clinical practices.

The PGI instruments were initially developed based on the original Clinical Global Impression (CGI) instrument described in the *ECDEU Assessment Manual for Psychopharmacology.* Please note, both (1) the exact wording used in the global item and (2) the values of both the text and numeric components of the response options historically have been generated by sponsors for each of the 3 PGI instruments as implemented in clinical trials or clinical practices. Therefore, no single, standard case report form (CRF) was developed by CDISC for any of the 3 PGI instruments.

The representation of data collected using the PGI instruments provided in this document is based on the Study Data Tabulation Model Implementation Guide (SDTMIG) QS domain table, which can be found at the CDISC website at: https://www.cdisc.org/standards/foundational/sdtmig.

The implementation details for this questionnaire (PGI-S, PGI-C, and PGI-I) are meant to be used in conjunction with the Study Data Tabulation Model Implementation Guide (SDTMIG) but are recorded separately because these instruments may be used in a variety of therapeutic areas. CDISC documentation for all questionnaires, ratings, and scales can be found on the CDISC website at: https://www.cdisc.org/foundational/qrs.

The CDISC Intellectual Property Policy can be found on the CDISC website at: https://www.cdisc.org/about/bylaws.

1.1 Representations and Warranties, Limitations of Liability, and Disclaimers

This document is a supplement to the SDTMIG for Human Clinical Trials and is covered under Appendix F of that document, which describes representations, warranties, limitations of liability, and disclaimers. Please see Appendix F of the SDTMIG for a complete version of this material.

CDISC specifies how to structure the data that has been collected in a database, not what should be collected nor how to conduct clinical assessments or protocols.

Although the United States Food and Drug Administration (FDA) has provided input with regard to this supplement, this input does not constitute FDA endorsement of any particular instrument.

2 Copyright Status

The PGI instruments are all in the public domain. Indeed, there may be many implementations of each PGI instrument in the public domain. CDISC has included the PGI instruments of severity, change, and improvement as part of CDISC data standards.

The CDISC documentation for the PGI instruments consists of: (1) standard values (controlled terminology) for QSTESTCD, QSTEST, and QSCAT; (2) a standardized database structure; and (3) some example response option values for each instrument. For the reasons discussed in Section 1**,** Introduction, CDISC has not developed a standard CRF for any of the 3 PGI instruments to annotate with the CDISC SDTMIG submission values.

Note: CDISC Controlled Terminology is maintained by National Cancer Institute's Enterprise Vocabulary Services (EVS). The most recent version should be accessed through the CDISC website (https://www.cdisc.org/standards/semantics/terminology).

Reference:

Guy W, *ECDEU Assessment Manual for Psychopharmacology*. Rockville, MD: U.S. Department of Health, Education, and Welfare;1976.

3 The QS Domain Model

3.1 Assumptions for QS Domain Model

All assumptions and business rules described in the SDTMIG QS domain are applicable to this supplement. Additional assumptions specific to the PGI follow.

The PGI is a multiple-choice, patient-reported questionnaire. The PGI consists of 3 separate items for severity, change, and improvement, each rated on a Likert scale based on the user's choice of responses to the items.

However, no single (e.g., standardized) version of the PGI-S, PGI-C, or PGI-I currently exists. This is because, for each of these 3 instruments, (1) the specific disease/condition, signs related to the disease/condition, function, and/or functional impact of interest is typically referenced in the wording of the global item; and (2) the response option values on these instruments have not been standardized to date. Indeed, it would be extremely difficult to develop standardized versions of these instruments. Therefore, the implementation described in this document is based on the precedent of (1) sponsors using the PGI-S, PGI-C, and PGI-I as distinct instruments; (2) the specific disease/condition, signs related to the disease/condition, function, and/or functional impact of interest typically being referenced in the wording of the global item; and (3) sponsors determining (a) the exact wording used in the global item and (b) the values of both the text and numeric components of the response options. Instead of creating a separate Questionnaire (QS) Supplement for each of the 3 PGI instruments, the approach taken here was to cover all 3 instruments within 1 QS Supplement entitled "Patient Global Impression."

1. There currently exist both patient and clinician versions of the global impression instruments (PGI and CGI, respectively). Patient and clinician assessments of severity, change, and improvement are to be kept separate with respect to how these data are captured in clinical trials and then submitted to the FDA or other regulatory authority for review. A separate supplement exists for the CGI instruments of severity, change, and improvement.
2. The PGI and CGI instruments are sometimes referred to by other names:
    a. The PGI instruments are sometimes referred to as the "Patient Global Assessment" or "PGA" instruments.
    b. The CGI instruments are sometimes referred to as the "Clinical Global Assessment" or "CGA" instruments.
3. CDISC standards will not be developed for synonymous instruments (e.g., for the PGA or CGA instruments) because these instruments do not substantially differ from the analogous PGI and CGI instruments. Individuals wishing to use the PGA instruments, CGA instruments, or some other synonymous instruments are directed to CDISC standards developed for the PGI and CGI instruments.
4. The 3 PGI instruments (e.g., PGI-S, PGI-C, PGI-I) are mutually distinct measures, even when evaluating the same disease/condition within the same clinical study.
5. Assessments made based on *a single point in time* should be done using the PGI-S. Assessments made *in comparison to earlier time points* should be done using either the PGI-C or PGI-I.
6. Given (a) the use of the PGI instruments in a wide variety of therapeutic areas and (b) that the wording of the global item is often disease/condition-specific, this supplement aims to define data standards that are perhaps more general or broader than usual and can be used to report data generated by any version of the PGI instruments implemented in clinical studies. Specifically:
    a. QSSCAT (Subcategory for Question) will be used to capture the specific disease/condition and signs related to the disease/condition, function, and/or functional impact of interest being measured.
    b. Although general conventions exist for both the numeric and text components of the response options of all 3 PGI instruments, the actual values of the response options for each of these instruments may vary and are to be determined by the sponsor. However, regardless of the exact values of the response options:
        i. Response option text is to be stored in QSORRES (Finding in Original Units).

ii. The numeric component of a response option is to be stored in QSSTRESC (Character Result/Finding in Standard Format) and QSSTRESN (Numeric Finding in Standard Units) as character and numeric values, respectively. Example response option values for QSSCAT, QSORRES, QSSTRESC, and QSSTRESN are provided in Section 4, SDTM Mapping Strategy. Please note that the examples provided in this document are not in any way intended to be prescriptive but rather are provided for illustrative purposes.

c. Note that an instrument is sometimes referred to as the "Patient Global Impression of Improvement," or PGI-I, when in fact the instrument is assessing *change in either direction* and is therefore actually an implementation of the "Patient Global Impression of Change," or PGI-C. In true implementations of the PGI-I, the response options only allow patients to report either no change or improvement in the disease/condition, functions, functional impacts, or other aspects of the patient's experience of the disease/condition.

7. In the final dataset submitted to the FDA or other regulatory authority for review, records are to be provided for each study subject, at each assessment time point, for each PGI instrument administered. Within each record, the following variables are expected to be populated: QSCAT, QSTESTCD, QSTEST, QSORRES, QSSTRESC, and QSSTRESN. Records for both missing and non-missing data (assessments) should be included.

8. The CDISC variable QSMETHOD will be used to capture scale type (e.g., Likert scale, verbal rating scales).

   a. Note that other instruments using the visual analog scale (VAS) and numeric rating scale (NRS) may appear similar to the PGI instruments described in this supplement; however, instruments using either the VAS or the NRS are not the same as the PGI instruments described in this supplement.

9. The time period of evaluation for the PGI is populated in the QSEVLINT field in ISO 8601 format (or QSEVINTX, as appropriate) when the evaluation interval can be precisely described as duration. The evaluation interval for the PGI is determined based on the sponsor's stated evaluation interval.

10. Terminology

    a. QSCAT, QSTESTCD, and QSTEST values are included in CDISC controlled terminology.

    b. An example list of response value sets for QSORRES, QSSTRESC, and QSSTRESN fields are provided in Section 4, Mapping Strategy.

3.2 Example for the PGI QS Domain Model

This PGI example shows the terminology used to implement the instrument in the QS domain. The example shows the data for 1 subject collected at visits 1 and 2 for 3 PGI instruments and uses CDISC Controlled Terminology for QSTESTCD, QSTEST, and QSCAT. All original responses are represented with preferred terminology in QSORRES. This result is then transformed into the standard numeric score in QSSTRESN and a character representation of the standard numeric score in QSSTRESC.

The table below illustrates implementation of the PGI instrument dataset qs.xpt. It represents a given subject's responses to the global questions posed in the 3 PGI instruments at 2 visits. QSSCAT is populated with the specific underlying construct (e.g., "BACK PAIN") being evaluated. The values of QSORRES, QSSTRESC, and QSSTRESN are determined by the sponsor and are therefore represented here with values of "X". Note that for a given construct (e.g., "BACK PAIN"), it is neither required nor typical for all 3 PGI instruments to be administered within the same clinical study. All 3 PGI instruments have been included in the example below for illustrative purposes only. QSMETHOD is used to store the type of scale used.

Rows 1-2: Represent the severity test evaluated by the clinician at visits 1 and 2.

Rows 3-4: Represent the change and improvement tests evaluated by the clinician in comparison to the subject at visit 1.

Row	STUDYID	DOMAIN	USUBJID	QSSEQ	QSTESTCD	QSTEST	QSCAT	QSSCAT	QSORRES	QSSTRESC	QSSTRESN	QSLOBXFL	QSMETHOD	VISITNUM	QSDTC
1	STUDYX	QS	2324-P0001	1	PGI0101	PGI01-Severity	PGI	BACK PAIN	XXX	X	X	Y	LIKERT SCALE 7-POINT	1	2015-06-15
2	STUDYX	QS	2324-P0001	2	PGI0101	PGI01-Severity	PGI	BACK PAIN	XXX	X	X		LIKERT SCALE 7-POINT	2	2015-06-22
3	STUDYX	QS	2324-P0001	3	PGI0102	PGI01-Change	PGI	BACK PAIN	XXX	X	X		LIKERT SCALE 7-POINT	2	2015-06-22
4	STUDYX	QS	2324-P0001	4	PGI0103	PGI01-Improvement	PGI	BACK PAIN	XXX	X	X		LIKERT SCALE 7-POINT	2	2015-06-22

4 SDTM Mapping Strategy

This section provides some examples of commonly utilized response option values for each of the 3 PGI instruments (i.e., PGI-S, PGI-C, PGI-I). Please note that these examples are not intended to be prescriptive; they are provided to help clarify some of the concepts and mapping strategies covered in Section 3, The QS Domain Model. The text of the response option selected by a given study subject at a given assessment time point is stored in the SDTM variable QSORRES, and the corresponding numeric score for the selected response option is stored as a numeric value in the SDTM variable QSSTRESN and as a character value in the SDTM variable QSSTRESC. ***The values of QSORRES, QSSTRESN, and QSSTRESC provided in this section are to be considered as examples only; the actual values of these variables depend on the specific instrument(s) implemented within a given clinical study.***

PGI QSTESTCD and QSTEST Controlled Terminology

Instrument	CDISC Controlled Terminology		
	QSCAT	QSTESTCD	QSTEST
PGI-S	PGI	PGI0101	PGI01-Severity
PGI-C	PGI	PGI0102	PGI01-Change
PGI-I	PGI	PGI0103	PGI01-Improvement

QSMETHOD
VERBAL RATING SCALE 4-POINT
VERBAL RATING SCALE 7-POINT
LIKERT SCALE 4-POINT
LIKERT SCALE 7-POINT

QSTESTCD=PGI0101 QSTEST=PGI01-Severity QSMETHOD=LIKERT SCALE 7-POINT

QSORRES	QSSTRESC	QSSTRESN
Normal	1	1
Borderline	2	2
Mild	3	3
Moderate	4	4
Marked	5	5
Severe	6	6
Extreme	7	7

QSTESTCD=PGI0101 QSTEST=PGI01-Severity QSMETHOD=LIKERT SCALE 4-POINT

QSORRES	QSSTRESC	QSSTRESN
Normal	1	1
Mild	2	2
Moderate	3	3
Severe	4	4

QSTESTCD=PGI0102 QSTEST=PGI01-Change QSMETHOD=LIKERT SCALE 7-POINT

QSORRES	QSSTRESC	QSSTRESN
Very much improved	1	1
Much improved	2	2
Minimally improved	3	3
No change	4	4
Minimally worse	5	5
Much worse	6	6
Very much worse	7	7

QSTESTCD=PGI0102 QSTEST=PGI01-Change QSMETHOD=LIKERT SCALE 7-POINT

QSORRES	QSSTRESC	QSSTRESN
Much worse	-3	-3
Moderately worse	-2	-2
A little worse	-1	-1
No change	0	0
A little better	1	1
Moderately better	2	2
Much better	3	3

QSTESTCD=PGI0103 QSTEST=PGI01-Improvement QSMETHOD=LIKERT SCALE 7-POINT

QSORRES	QSSTRESC	QSSTRESN
No change	1	1
Almost the same	2	2
A little better	3	3
Somewhat better	4	4
Moderately better	5	5
Much better	6	6
A great deal better	7	7