

GASTROINTESTINAL SYMPTOMS

SCORING MANUAL

A brief guide to scoring the PROMIS® Gastrointestinal Symptom Scales:

ADULT
PROMIS Scale v1.0 – Gastrointestinal Belly Pain 5a
PROMIS Scale v1.0 – Gastrointestinal Bowel Incontinence 4a
PROMIS Scale v1.0 – Gastrointestinal Constipation 9a
PROMIS Scale v1.0 – Gastrointestinal Diarrhea 6a
PROMIS Scale v1.0 – Gastrointestinal Disrupted Swallowing 7a
PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a
PROMIS Scale v1.0 – Gastrointestinal Gas and Bloating 13a*
PROMIS Scale v1.0 – Gastrointestinal Nausea and Vomiting 4a
PROMIS Scale v1.0 – Gastrointestinal Reflux 13a

*Retired measure

SCORING THE INSTRUMENT

All PROMIS Gastrointestinal (GI) measures with the exception of Bowel Incontinence use T-scores, a type of scale score. Measures are scored using item-level calibrations. This means that the most accurate way to score a PROMIS measure is to use the HealthMeasures Scoring Service

(https://www.assessmentcenter.net/ac_scoringervice) or a data collection tool that automatically calculates scores (e.g., REDCap auto-score). This method of scoring uses responses to each item for each participant. We refer to this as “response pattern scoring.” **Because response pattern scoring is more accurate than the use of raw sum score/scale score look up tables included in this manual, it is preferred.** Response pattern scoring is especially useful when there is missing data (i.e., a respondent skipped an item without an instruction to skip), different groups of participants responded to different items, or you have created a new questionnaire using a subset of items from a PROMIS measure.

Given the skip patterns in these instruments, we strongly encourage you to score these instruments with response pattern scoring. However, if this is not an option for your data, you can use the tables in this manual as an alternative, provided there are no unusual patterns of missing data.

Instructions to Skip Items

Manual scoring involves a) identifying if there are missing responses, b) calculating a summed score, and c) using the tables in this manual. To begin, identify if a respondent provided complete data – that is, the respondent provided answers to all items. This is a little tricky as some PROMIS Gastrointestinal instruments utilize skip patterns. A respondent may not have answered an item because they were instructed to skip it. This is correct and you can utilize the scoring tables in these instances. However, if a respondent skipped an item when a response was expected, this is missing data and you should NOT use the scoring tables.

Six PROMIS GI scales feature screening questions which instruct participants to skip subsequent items that are not relevant to their experiences. For example, for the item “How often did you have belly pain?” participants are instructed, “If Never, go to #5.” The following table summarizes the number of screening questions by measure.

GI Measures' T-Scores, Skip Instructions, and Screening Items

Instrument Name	T-Score available (calibrated)	Instructions to skip items	Number of screening questions	Possible number of items that can be skipped correctly	Possible number of items answered by following skip logic
PROMIS Scale v1.0 – Gastrointestinal Belly Pain 5a	Yes	Yes	1	0, 3	5, 2
PROMIS Scale v1.0 – Gastrointestinal Bowel Incontinence 4a	No Use raw responses in analyses.	No	0	0	4
PROMIS Scale v1.0 – Gastrointestinal Constipation 9a	Yes	Yes	3	0, 1, 2, 3, 4	9, 8, 7, 6, 5
PROMIS Scale v1.0 – Gastrointestinal Diarrhea 6a	Yes	Yes	2	0, 2, 4	6, 4, 2
PROMIS Scale v1.0 – Gastrointestinal Disrupted Swallowing 7a	Yes	No	0	0	7
PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a	Yes	Yes	2	0, 3, 6, 9	13, 10, 7, 4
PROMIS Scale v1.0 – Gastrointestinal Nausea and Vomiting 4a	Yes	Yes	1	0, 1	4, 3
PROMIS Scale v1.0 – Gastrointestinal Reflux 13a	Yes	Yes	3	0, 1, 2, 3, 4, 5	13, 12, 11, 10, 9, 8

How to Score a Scale Manually When Items are Skipped Correctly

Before scoring these measures, it is important that you inspect the data to ensure that participants have followed the skipping logic. Provided participants have followed the skipping instructions as indicated (e.g., “If Never, go to #5”), please follow these steps to score your data:

1. Count the number of items skipped for each participant.
2. Sum the item scores of all items answered. That is, sum the numerical value assigned to each response of the participant’s answer. These values range from 1 to 5 (or 4) for each item. NOTE: the first item in Gas & Bloating is an unscored item (GISX94). Its response options are “A” and “B” and do not contribute to the summed score.
3. Find the correct look-up table in the Appendix. This is the table that matches the number of items a respondent correctly answered. NOTE: some scales will have complex patterns of missing responses. For example, for Gastrointestinal Reflux, a person could correctly skip 0, 1, 2, 3, or 4 of the 9 total items.

4. Find the participant's raw summed score in the correct table and its corresponding T-score value. These T-scores are based on a general population sample who reported at least one GI symptom, where 50 is an estimate of the general population (who reported at least one GI symptom) mean and 10 is the standard deviation. For example, for Disrupted Swallowing, the sum of all response scores ranges from 7 to 35. A summed score of 21 equates to a T-score of 65.7 (SE = 2.4).

How to Score When Participants have NOT Followed the Skipping Instructions Correctly

If participants have not followed the skip logic correctly, it is still possible to assign T-scores to the data, but the circumstances are limited. Please consider these circumstances:

Inconsistency between Screener Answer and the Subsequent Answers

As noted above, some of these measures have "screener" questions which allow participants to skip items that are not applicable to them. If there is an inconsistency between the screener response and the subsequent items, the screener response should be interpreted as correct. For example, a participant answers "Never" to "How often did you have belly pain?" and, ignoring the skip rule, answers "a little bit" to "How much did belly pain interfere with your day-to-day activities?" In that case, we recommend excluding the answers in the to-be-skipped items as if they were in fact skipped and only summing the screener question when computing the summed score.

Items that are Incorrectly Skipped

If a participant skips an item(s) that may not be skipped according to the skip instructions, we do not recommend scoring these scales using this manual. Instead, we recommend using the [HealthMeasures Scoring Service](#) as it is able to handle missing data appropriately. The skip instructions permit substantial amounts of missing data; with additional or unusual patterns of missing data, the final scale scores are problematic.

SCORES

The PROMIS GI measures use a T-score centered on the U.S. General Population. This means that a score of 50 represents the average of the general population (and that 10 represents the standard deviation).

Important: *A higher PROMIS T-score represents more of the concept being measured.* For negatively-worded concepts like belly pain, bowel incontinence, constipation, diarrhea, disrupted swallowing, gas & bloating, nausea & vomiting, and reflux, a T-score of 60 is one SD worse than average. By comparison, a gastrointestinal symptom T-score of 40 is one SD better than average.

Standard Error (SE): A PROMIS score includes a T-score and a standard error (SE). The standard error is a measure of the variability for a given T-score across hypothetical repeated measurements. The standard error can be used to construct confidence intervals around a T-score. A 95% confidence interval is common. A 95% confidence interval means there is a 95% probability that the true T-score is within this range. The formula for a 95% confidence interval is $(T\text{-score} \pm (1.96 * SE))$. For example, if $T=52$ and $SE=2$, the lower boundary of the confidence interval is $(52 - (1.96 * 2)) = 48$ and the upper boundary is $(52 + (1.96 * 2)) = 56$.

COMPARING SCORES ACROSS VERSIONS

The PROMIS Gastrointestinal measures available at www.HealthMeasures.net and in the API (used by REDCap, Epic, and other 3rd party vendors) have slight modifications from the versions included in the Corrigendum in *The American Journal of Gastroenterology*. (Spiegel BMR, Hays RD, Bolus R, Melmed GY, Chang L, Whitman C, Khanna PP, Paz SH, Hays T, Reise S, Khanna D (2015). Corrigendum: Development of the NIH Patient-Reported

Outcomes Measurement Information System (PROMIS) gastrointestinal symptom scales. *American Journal of Gastroenterology*, 110: 608. Doi:10.1038/ajg.2015.62).

The AJG scoring tables are different from the HealthMeasures' versions in this manual. AJG published a single summed score to scale score look-up table for each scale. Using a single look-up table provides a convenient best estimate for summed scores. But respondents who answered 5, 6, 7, 8, and 9 items (as might happen with the Constipation measure) could have the same summed score, but by means of different patterns. Consequently, this HealthMeasures manual includes additional tables for when a respondent correctly skipped items. This approach, while less convenient, provides an improvement in the T-score estimate relative to a single table.

The AJG summed score to scale score look-up tables start with sums of 0. As the lowest response score for any item is 1, it is not possible to produce a sum of 0. The HealthMeasures versions of scoring tables match the summed response scores possible from the print-ready versions of measures.

Belly Pain: The AJG version of the Belly Pain measure includes one item that is an image of a belly with lines mapping out 9 areas. The image is interactive; the respondent is to select all of the areas of the belly that have pain. The number of areas is summed. Item-level parameters are then assigned to that summed value. The item thus contributes to the final T-score for Belly Pain. The version of Belly Pain available from HealthMeasures does not include this item. This item was removed due to the significant technology demands for implementing this idiosyncratic administration and scoring protocol in multiple data collection platforms, browsers, and apps. Additionally, APIs used to access to HealthMeasures in 3rd party data collection systems cannot control the respondent's user interface. This means that the largest distributors of PROMIS measures – REDCap and Epic – will not support this item. Consequently, the item was removed. The remaining 5 items were recalibrated and made available as a 5-item scale.

Bowel Incontinence: The AJG version of Bowel Incontinence included an IRT-based T-score. The HealthMeasures version of the measure does not produce an IRT-based T-score. While the model fit was good, one of the items showed an extremely high discrimination parameter; for this reason, we are currently promoting simple summed scores for this measure. Further study to refine IRT-based scoring is welcome.

Gas and Bloating: In the AJG version of Gas and Bloating, a screener item (GISX94) has response scores of "1" and "2". These responses are not intended to be included in the summed score. To reduce the likelihood that users would add these responses in the summed score, they were modified to "A" and "B" in the versions distributed by HealthMeasures.net.

The HealthMeasures version of Gas and Bloating also has item 12 (GISX105) use "If Never, you are finished" and skip item 13. This skip logic is not included in the AJG version of the measure.

PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a replaced PROMIS Scale v1.0 – Gastrointestinal Gas and Bloating 13a. The v1.0 measure included an incorrect instruction with item GISX105 to skip the following question (GISX109) if a respondent selected "Never." This error was removed in v1.1.

Reflux: All versions use the same scoring.

FREQUENTLY ASKED QUESTIONS (FAQs)

Q: I am interested in learning more. Where can I do that?

Review the HealthMeasures website at www.healthmeasures.net.

Q: How do I handle multiple responses when administering a short form on paper?

Guidelines on how to deal with multiple responses have been established. Resolution depends on the responses noted by the research participant.

- If two or more responses are marked by the respondent, and they are next to one another, then a data entry specialist will be responsible for randomly selecting one of them to be entered and will write down on the form which answer was selected. Note: To randomly select one of two responses, the data entry specialist will flip a coin (heads - higher number will be entered; tails – lower number will be entered). To randomly select one of three (or more) responses, a table of random numbers should be used with a statistician's assistance.
- If two or more responses are marked, and they are NOT all next to one another, the response will be considered missing.

Q: What is the minimum change on a PROMIS instrument that represents a clinically meaningful difference?

To learn more about research on the meaning of a change in scores, we suggest conducting a literature review to identify the most current information. The HealthMeasures website (<http://www.healthmeasures.net/score-and-interpret/interpret-scores/promis>) has additional information on interpreting scores.

APPENDIX 1—SCORING TABLES

PROMIS Scale v1.0 – Gastrointestinal Belly Pain 5a (1 of 2 tables)

Respondent answered all items		
Raw Summed Score	T-Score	SE*
6	39.3	4.4
7	43.3	3.8
8	47.0	3.3
9	49.9	3.1
10	52.3	3.0
11	54.4	3.0
12	56.5	3.0
13	58.4	2.9
14	60.2	2.8
15	61.9	2.8
16	63.5	2.8
17	65.0	2.8
18	66.6	2.8
19	68.1	2.7
20	69.6	2.7
21	71.1	2.8
22	72.8	2.8
23	74.7	3.0
24	76.8	3.1
25	80.0	3.7
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Belly Pain 5a (2 of 2 tables)

Respondent skipped 3 items, answered 2 items		
Raw Summed Score	T-Score	SE*
2	33.9	6.2
3	42.2	5.9
4	48.3	5.6
5	54.0	5.5
6	58.6	5.3
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Bowel Incontinence 4a

This is a 4-item measure that is scored by summing the items (score range is 4 to 20). The scores are not based on item response theory models; therefore, there is no T-score.

PROMIS Scale v1.0 – Gastrointestinal Constipation 9a (1 of 5 tables)

Respondent answered all items		
Raw Summed Score	T-Score	SE*
12	44.4	3.4
13	46.1	3.1
14	47.7	2.8
15	49.0	2.6
16	50.2	2.5
17	51.3	2.4
18	52.3	2.4
19	53.3	2.3
20	54.3	2.3
21	55.2	2.3
22	56.2	2.3
23	57.1	2.3
24	57.9	2.2
25	58.8	2.2
26	59.6	2.2
27	60.4	2.2
28	61.3	2.2
29	62.1	2.2
30	62.9	2.2
31	63.7	2.3
32	64.6	2.3
33	65.4	2.3
34	66.3	2.4
35	67.2	2.5
36	68.2	2.6
37	69.2	2.7
38	70.3	2.8
39	71.4	3.0
40	72.6	3.2
41	73.9	3.4
42	75.3	3.6
43	76.9	3.9
44	78.7	4.1
45	80.8	4.2
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Constipation 9a (2 of 5 tables)

Respondent skipped 1 item, answered 8 items		
Raw Summed Score	T-Score	SE*
10	42.7	4.0
11	45.0	3.5
12	46.8	3.2
13	48.5	2.9
14	49.9	2.7
15	51.2	2.6
16	52.3	2.6
17	53.4	2.5
18	54.5	2.5
19	55.5	2.5
20	56.6	2.5
21	57.6	2.4
22	58.5	2.4
23	59.5	2.4
24	60.4	2.4
25	61.3	2.4
26	62.3	2.4
27	63.2	2.4
28	64.2	2.4
29	65.1	2.5
30	66.1	2.6
31	67.1	2.7
32	68.2	2.8
33	69.4	2.9
34	70.6	3.1
35	71.8	3.3
36	73.2	3.5
37	74.6	3.7
38	76.2	4.0
39	78.1	4.2
40	80.3	4.4
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Constipation 9a (3 of 5 tables)

Respondent skipped 2 items, answered 7 items		
Raw Summed Score	T-Score	SE*
8	40.6	4.5
9	43.2	4.2
10	45.6	3.7
11	47.6	3.5
12	49.4	3.2
13	50.9	3.0
14	52.3	2.9
15	53.6	2.9
16	54.9	2.9
17	56.1	2.8
18	57.3	2.8
19	58.4	2.8
20	59.6	2.8
21	60.6	2.8
22	61.8	2.8
23	62.9	2.8
24	63.9	2.8
25	65.1	2.9
26	66.3	2.9
27	67.5	3.1
28	68.7	3.2
29	70.0	3.3
30	71.4	3.5
31	72.9	3.7
32	74.4	3.8
33	76.0	4.1
34	77.9	4.3
35	80.2	4.5
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Constipation 9a (4 of 5 tables)

Respondent skipped 3 items, answered 6 items		
Raw Summed Score	T-Score	SE*
7	41.1	4.7
8	43.9	4.5
9	46.5	4.1
10	48.6	3.8
11	50.5	3.6
12	52.2	3.5
13	53.8	3.4
14	55.3	3.4
15	56.8	3.4
16	58.2	3.4
17	59.5	3.4
18	60.9	3.4
19	62.3	3.4
20	63.6	3.4
21	64.9	3.4
22	66.3	3.5
23	67.8	3.6
24	69.2	3.7
25	70.7	3.8
26	72.4	3.9
27	74.0	4.1
28	75.8	4.2
29	77.8	4.4
30	80.1	4.5
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Constipation 9a (5 of 5 tables)

Respondent skipped 4 items, answered 5 items		
Raw Summed Score	T-Score	SE*
5	36.6	6.0
6	41.8	4.9
7	44.9	4.7
8	47.6	4.3
9	49.9	4.1
10	52.1	4.0
11	54.0	3.9
12	55.8	3.8
13	57.5	3.8
14	59.2	3.8
15	60.8	3.8
16	62.4	3.9
17	64.1	3.9
18	65.7	4.0
19	67.4	4.0
20	69.1	4.1
21	70.9	4.2
22	72.7	4.3
23	74.7	4.5
24	76.8	4.6
25	79.3	4.8
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Diarrhea 6a (1 of 3 tables)

Respondent answered all items		
Raw Summed Score	T-Score	SE*
8	45.9	4.12
9	48.2	3.69
10	50.1	3.33
11	51.9	2.65
12	53.3	2.35
13	54.5	2.25
14	55.6	2.20
15	56.7	2.16
16	57.8	2.10
17	58.8	2.05
18	59.8	2.00
19	60.7	1.98
20	61.6	1.98
21	62.5	1.98
22	63.5	2.01
23	64.4	2.07
24	65.5	2.18
25	66.6	2.34
26	67.9	2.63
27	69.2	2.90
28	70.8	3.22
29	72.3	3.50
30	75.2	4.32
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Diarrhea 6a (2 of 3 tables)

Respondent skipped 2 items, answered 4 items		
Raw Summed Score	T-Score	SE*
5	44.1	4.9
6	47.2	4.6
7	50.0	4.3
8	52.2	4.0
9	54.3	3.5
10	56.1	3.2
11	57.7	3.1
12	59.4	3.0
13	61.0	2.9
14	62.5	3.0
15	64.0	3.0
16	65.7	3.2
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Diarrhea 6a (3 of 3 tables)

Respondent skipped 4 items, answered 2 items		
Raw Summed Score	T-Score	SE*
2	39.9	7.1
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Disrupted Swallowing 7a

Respondent answered all items		
Raw Summed Score	T-Score	SE*
7	40.3	6.5
8	46.0	5.0
9	49.0	4.5
10	51.6	3.8
11	53.5	3.5
12	55.3	2.9
13	56.7	2.7
14	58.0	2.6
15	59.2	2.5
16	60.4	2.5
17	61.5	2.4
18	62.6	2.4
19	63.6	2.4
20	64.6	2.4
21	65.7	2.4
22	66.7	2.4
23	67.7	2.4
24	68.8	2.4
25	69.8	2.4
26	70.8	2.4
27	71.9	2.4
28	73.0	2.4
29	74.1	2.5
30	75.3	2.5
31	76.6	2.6
32	78.0	2.8
33	79.6	3.0
34	81.4	3.2
35	84.1	3.8
*SE = Standard Error on T-score metric		

PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a (1 of 4 tables)

Respondent answered all items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
13	37.8	6.0	37	62.2	1.3
14	41.6	4.9	38	62.6	1.3
15	44.3	4.4	39	63.1	1.3
16	46.6	3.7	40	63.6	1.3
17	48.6	3.0	41	64.1	1.3
18	50.2	2.4	42	64.6	1.3
19	51.3	2.0	43	65.1	1.3
20	52.2	1.8	44	65.5	1.3
21	53.1	1.7	45	66.0	1.3
22	53.8	1.6	46	66.5	1.4
23	54.6	1.5	47	67.0	1.4
24	55.2	1.5	48	67.5	1.4
25	55.9	1.5	49	68.1	1.4
26	56.5	1.4	50	68.7	1.5
27	57.0	1.4	51	69.3	1.6
28	57.6	1.4	52	70.0	1.7
29	58.1	1.4	53	70.8	1.8
30	58.7	1.4	54	71.7	2.1
31	59.2	1.4	55	72.7	2.4
32	59.7	1.4	56	73.9	2.7
33	60.2	1.3	57	75.3	3.1
34	60.7	1.3	58	76.9	3.5
35	61.2	1.3	59	79.0	4.0
36	61.7	1.3			
*SE = Standard Error on T-score metric					

PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a (2 of 4 tables)

Respondent skipped 3 items, answered 10 items		
Raw Summed Score	T-Score	SE*
10	38.2	6.1
11	42.1	5.1
12	44.9	4.6
13	47.5	4.0
14	49.6	3.2
15	51.3	2.6
16	52.6	2.2
17	53.7	2.0
18	54.7	1.9
19	55.6	1.8
20	56.4	1.7
21	57.1	1.7
22	57.9	1.6
23	58.6	1.6
24	59.3	1.6
25	60.0	1.6
26	60.7	1.6
27	61.4	1.5
28	62.0	1.5
29	62.7	1.6
30	63.4	1.6
31	64.0	1.6
32	64.7	1.6
33	65.4	1.6
34	66.1	1.6
35	66.8	1.6
36	67.5	1.7
37	68.4	1.8
38	69.3	2.0
39	70.4	2.2
40	71.5	2.5
41	72.8	2.9
42	74.3	3.2
43	76.0	3.7
44	78.1	4.2
*SE = Standard Error on T-score metric		

PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a (3 of 4 tables)

Respondent skipped 6 items, answered 7 items		
Raw Summed Score	T-Score	SE*
6	34.3	7.1
7	38.3	6.2
8	42.3	5.2
9	45.4	4.8
10	48.2	4.2
11	50.7	3.6
12	52.7	3.1
13	54.3	2.9
14	55.8	2.7
15	57.2	2.6
16	58.5	2.6
17	59.7	2.5
18	60.9	2.5
19	62.1	2.4
20	63.2	2.4
21	64.4	2.4
22	65.5	2.4
23	66.7	2.5
24	68.0	2.6
25	69.5	2.8
26	71.1	3.2
27	73.0	3.5
28	75.0	3.8
29	77.2	4.3
*SE = Standard Error on T-score metric		

PROMIS Scale v1.1 – Gastrointestinal Gas and Bloating 13a (4 of 4 tables)

Respondent skipped 9 items, answered 4 items		
Raw Summed Score	T-Score	SE*
3	34.7	7.4
4	39.1	6.6
5	43.8	5.9
6	47.7	5.7
7	51.3	5.4
8	54.6	5.2
9	57.6	5.0
10	60.4	5.0
11	63.4	5.1
12	66.6	5.3
13	69.9	5.4
14	73.3	5.5
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Nausea and Vomiting 4a (1 of 2 tables)

Respondent answered all items		
Raw Summed Score	T-Score	SE*
5	45.0	6.3
6	49.3	5.8
7	52.9	5.3
8	55.9	4.8
9	58.7	4.0
10	60.9	3.8
11	62.8	3.7
12	64.6	3.6
13	66.4	3.6
14	68.1	3.6
15	69.8	3.6
16	71.6	3.7
17	73.5	3.8
18	75.6	3.9
19	77.9	4.1
20	80.1	4.1
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Nausea and Vomiting 4a (2 of 2 tables)

Respondent skipped 1 item, answered 3 items		
Raw Summed Score	T-Score	SE*
3	40.6	7.3
4	45.6	6.6
5	50.4	6.3
6	54.2	5.9
7	57.5	5.5
8	60.7	4.9
9	63.5	4.6
10	65.9	4.6
11	68.2	4.6
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (1 of 6 tables)

Respondent answered all items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
16	38.7	5.1	41	65.1	2.8
17	40.8	4.7	42	65.9	2.8
18	42.7	4.4	43	66.6	2.8
19	44.4	4.1	44	67.3	2.8
20	46.0	3.9	45	68.1	2.8
21	47.4	3.7	46	68.8	2.8
22	48.7	3.5	47	69.6	2.8
23	49.9	3.4	48	70.3	2.8
24	51.1	3.2	49	71.1	2.8
25	52.1	3.1	50	71.9	2.8
26	53.1	3.0	51	72.7	2.8
27	54.1	3.0	52	73.5	2.9
28	55.0	2.9	53	74.3	2.9
29	55.8	2.9	54	75.2	3.0
30	56.7	2.9	55	76.1	3.1
31	57.5	2.8	56	77.0	3.1
32	58.3	2.8	57	78.0	3.2
33	59.1	2.8	58	79.1	3.3
34	59.9	2.8	59	80.1	3.4
35	60.7	2.8	60	81.2	3.4
36	61.4	2.8	61	82.4	3.4
37	62.2	2.8	62	83.4	3.3
38	62.9	2.8	63	84.4	3.2
39	63.7	2.8	64	85.3	3.0
40	64.4	2.8			
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (2 of 6 tables)

Respondent skipped 1 item, answered 12 items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
14	36.8	5.5	36	63.6	2.9
15	39.2	5.2	37	64.4	2.9
16	41.3	4.8	38	65.1	2.9
17	43.3	4.5	39	65.9	2.9
18	45.0	4.2	40	66.7	2.9
19	46.6	4.0	41	67.5	2.9
20	48.1	3.8	42	68.3	2.9
21	49.5	3.6	43	69.1	2.9
22	50.7	3.5	44	70.0	2.9
23	51.9	3.3	45	70.8	2.9
24	53.0	3.2	46	71.7	2.9
25	54.0	3.1	47	72.5	3.0
26	55.0	3.1	48	73.4	3.0
27	55.9	3.0	49	74.3	3.1
28	56.8	3.0	50	75.2	3.2
29	57.7	3.0	51	76.2	3.2
30	58.6	3.0	52	77.2	3.3
31	59.4	2.9	53	78.3	3.4
32	60.3	2.9	54	79.5	3.5
33	61.1	2.9	55	80.6	3.5
34	61.9	2.9	56	81.8	3.5
35	62.8	2.9			
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (3 of 6 tables)

Respondent skipped 2 items, answered 11 items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
12	34.5	5.9	30	60.7	3.0
13	37.3	5.6	31	61.6	3.0
14	39.6	5.2	32	62.5	3.0
15	41.8	4.9	33	63.4	3.0
16	43.8	4.5	34	64.2	3.0
17	45.6	4.3	35	65.1	3.0
18	47.3	4.0	36	66.0	3.0
19	48.8	3.8	37	66.8	3.0
20	50.2	3.6	38	67.7	3.0
21	51.5	3.5	39	68.6	3.0
22	52.8	3.3	40	69.5	3.0
23	53.9	3.2	41	70.4	3.0
24	55.0	3.2	42	71.3	3.0
25	56.0	3.1	43	72.3	3.1
26	57.0	3.1	44	73.2	3.1
27	57.9	3.1	45	74.2	3.2
28	58.9	3.0	46	75.3	3.3
29	59.8	3.0	47	76.4	3.3
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (4 of 6 tables)

Respondent skipped 3 items, answered 10 items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
12	38.5	5.6	29	62.3	3.1
13	40.9	5.3	30	63.2	3.1
14	43.2	4.9	31	64.2	3.1
15	45.2	4.5	32	65.1	3.1
16	47.1	4.2	33	66.0	3.1
17	48.7	4.0	34	66.9	3.1
18	50.3	3.8	35	67.9	3.1
19	51.7	3.6	36	68.8	3.1
20	53.0	3.5	37	69.8	3.1
21	54.2	3.4	38	70.8	3.1
22	55.3	3.3	39	71.8	3.2
23	56.4	3.3	40	72.8	3.2
24	57.4	3.2	41	73.9	3.3
25	58.4	3.2	42	75.0	3.4
26	59.4	3.2	43	76.2	3.5
27	60.4	3.1	44	77.4	3.6
28	61.4	3.1	45	78.7	3.7
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (5 of 6 tables)

Respondent skipped 4 items, answered 9 items		
Raw Summed Score	T-Score	SE*
10	36.5	6.1
11	39.1	5.7
12	41.5	5.4
13	43.9	5.0
14	46.0	4.6
15	47.9	4.4
16	49.7	4.1
17	51.3	3.9
18	52.8	3.7
19	54.1	3.6
20	55.3	3.5
21	56.5	3.4
22	57.7	3.4
23	58.8	3.4
24	59.9	3.3
25	60.9	3.3
26	62.0	3.3
27	63.0	3.3
28	64.1	3.3
29	65.1	3.3
30	66.1	3.3
31	67.1	3.3
32	68.2	3.3
33	69.3	3.3
34	70.4	3.3
35	71.5	3.4
36	72.6	3.4
37	73.8	3.5
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 – Gastrointestinal Reflux 13a (6 of 6 tables)

Respondent skipped 5 items, answered 8 items		
Raw Summed Score	T-Score	SE*
8	33.8	6.7
9	37.1	6.2
10	39.8	5.8
11	42.2	5.5
12	44.6	5.1
13	46.9	4.7
14	48.9	4.4
15	50.8	4.2
16	52.4	3.9
17	53.9	3.8
18	55.4	3.6
19	56.7	3.6
20	58.0	3.5
21	59.2	3.5
22	60.4	3.4
23	61.6	3.4
24	62.7	3.4
25	63.9	3.4
26	65.1	3.4
27	66.2	3.4
28	67.4	3.4
*SE = Standard Error on T-score metric		

APPENDIX 2—RETIRED MEASURES

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (1 of 8 tables)

Respondent answered all items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
13	37.8	6.0	37	62.2	1.3
14	41.6	4.9	38	62.6	1.3
15	44.3	4.4	39	63.1	1.3
16	46.6	3.7	40	63.6	1.3
17	48.6	3.0	41	64.1	1.3
18	50.2	2.4	42	64.6	1.3
19	51.3	2.0	43	65.1	1.3
20	52.2	1.8	44	65.5	1.3
21	53.1	1.7	45	66.0	1.3
22	53.8	1.6	46	66.5	1.4
23	54.6	1.5	47	67.0	1.4
24	55.2	1.5	48	67.5	1.4
25	55.9	1.5	49	68.1	1.4
26	56.5	1.4	50	68.7	1.5
27	57.0	1.4	51	69.3	1.6
28	57.6	1.4	52	70.0	1.7
29	58.1	1.4	53	70.8	1.8
30	58.7	1.4	54	71.7	2.1
31	59.2	1.4	55	72.7	2.4
32	59.7	1.4	56	73.9	2.7
33	60.2	1.3	57	75.3	3.1
34	60.7	1.3	58	76.9	3.5
35	61.2	1.3	59	79.0	4.0
36	61.7	1.3			
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (2 of 8 tables)

Respondent skipped 1 item, answered 12 items					
Raw Summed Score	T-Score	SE*	Raw Summed Score	T-Score	SE*
12	39.7	5.7	32	61.3	1.3
13	44.5	4.4	33	61.7	1.3
14	46.8	3.9	34	62.2	1.3
15	49.4	2.4	35	62.7	1.3
16	50.7	2.0	36	63.2	1.3
17	51.8	1.7	37	63.7	1.3
18	52.7	1.6	38	64.2	1.3
19	53.5	1.5	39	64.7	1.3
20	54.3	1.5	40	65.2	1.3
21	55.0	1.4	41	65.7	1.3
22	55.7	1.4	42	66.2	1.3
23	56.3	1.4	43	66.7	1.3
24	56.9	1.4	44	67.3	1.3
25	57.5	1.4	45	67.8	1.4
26	58.1	1.3	46	68.4	1.4
27	58.6	1.3	47	69.0	1.5
28	59.2	1.3	48	69.7	1.6
29	59.7	1.3	49	70.5	1.7
30	60.2	1.3	50	71.4	1.9
31	60.8	1.3	51	72.5	2.2
*SE = Standard Error on T-score metric					

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (3 of 8 tables)

Respondent skipped 3 items, answered 10 items		
Raw Summed Score	T-Score	SE*
11	42.1	5.1
12	44.9	4.6
13	47.5	4.0
14	49.6	3.2
15	51.3	2.6
16	52.6	2.2
17	53.7	2.0
18	54.7	1.9
19	55.6	1.8
20	56.4	1.7
21	57.1	1.7
22	57.9	1.6
23	58.6	1.6
24	59.3	1.6
25	60.0	1.6
26	60.7	1.6
27	61.4	1.5
28	62.0	1.5
29	62.7	1.6
30	63.4	1.6
31	64.0	1.6
32	64.7	1.6
33	65.4	1.6
34	66.1	1.6
35	66.8	1.6
36	67.5	1.7
37	68.4	1.8
38	69.3	2.0
39	70.4	2.2
40	71.5	2.5
41	72.8	2.9
42	74.3	3.2
43	76.0	3.7
44	78.1	4.2
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (4 of 8 tables)

Respondent skipped 4 items, answered 9 items		
Raw Summed Score	T-Score	SE*
10	45.3	4.6
11	47.8	4.1
12	50.5	2.5
13	52.0	2.1
14	53.2	1.9
15	54.3	1.8
16	55.3	1.7
17	56.2	1.6
18	57.0	1.6
19	57.8	1.6
20	58.5	1.5
21	59.3	1.5
22	60.0	1.5
23	60.8	1.5
24	61.5	1.5
25	62.1	1.5
26	62.8	1.5
27	63.5	1.5
28	64.2	1.5
29	65.0	1.5
30	65.7	1.5
31	66.4	1.5
32	67.1	1.6
33	67.9	1.6
34	68.9	1.8
35	70.0	2.0
36	71.2	2.3
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (5 of 8 tables)

Respondent skipped 6 items, answered 7 items		
Raw Summed Score	T-Score	SE*
7	38.3	6.2
8	42.3	5.2
9	45.4	4.8
10	48.2	4.2
11	50.7	3.6
12	52.7	3.1
13	54.3	2.9
14	55.8	2.7
15	57.2	2.6
16	58.5	2.6
17	59.7	2.5
18	60.9	2.5
19	62.1	2.4
20	63.2	2.4
21	64.4	2.4
22	65.5	2.4
23	66.7	2.5
24	68.0	2.6
25	69.5	2.8
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (6 of 8 tables)

Respondent skipped 7 items, answered 6 items		
Raw Summed Score	T-Score	SE*
5	36.7	7.1
6	40.4	5.9
7	45.9	4.7
8	48.7	4.3
9	51.8	3.0
10	53.7	2.7
11	55.4	2.6
12	56.9	2.5
13	58.4	2.5
14	59.7	2.4
15	61.1	2.4
16	62.3	2.4
17	63.6	2.3
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (7 of 8 tables)

Respondent skipped 9 items, answered 4 items		
Raw Summed Score	T-Score	SE*
3	34.7	7.4
4	39.1	6.6
5	43.8	5.9
6	47.7	5.7
7	51.3	5.4
8	54.6	5.2
9	57.6	5.0
10	60.4	5.0
*SE = Standard Error on T-score metric		

PROMIS Scale v1.0 (retired) – Gastrointestinal Gas and Bloating 13a (8 of 8 tables)

Respondent skipped 10 items, answered 3 items		
Raw Summed Score	T-Score	SE*
2	37.6	7.6
*SE = Standard Error on T-score metric		