SUBJECT EXAMINATION PROGRAM

COMPREHENSIVE BASIC SCIENCE EXAMINATION (CBSE)

SCORE INTERPRETATION GUIDE

NBME®

NBME® subject examinations provide medical schools with a tool for measuring examinees' understanding of the basic sciences. Although these examinations are designed to be broadly appropriate as part of overall examinee assessment, course objectives vary across schools, and the congruence between subject examination content and course objectives should be considered when interpreting test scores and determining grading standards. Specifically, subject examination scores should not be used alone, but rather in conjunction with other indicators of examinee performance in determination of grades.

Subject Examination Scores

Because CBSE and the United States Medical Licensing Examination® (USMLE®) Step 1 cover very similar content, CBSE performance can be used in conjunction with other information to assess readiness for Step 1. As of February 2022, overall performance on CBSE is reported as a total equated percent correct (EPC) score, representing the percentage of content mastered. It is calculated as the percentage of items in the total content domain that would be answered correctly based on an examinee's proficiency level.

EPC scores are statistically adjusted (equated) to account for slight variations in exam form difficulty, providing an accurate reflection of examinees' knowledge regardless of the CBSE form they took. EPC scores can be used to track school and examinee performance over time, making it possible to compare the scores of your examinees with those of nationally representative groups taking CBSE. To aid in the transition to the new EPC score scale, a conversion table is available in PDF and Excel format on the *MyNBME℠ Services Portal (MyNBME).* The table shows approximate score equivalents from the new total EPC score to the old CBSE 3-digit score scale.

Precision of Scores

The total EPC score is the best available estimate of an examinee's overall performance on CBSE, but all measures include some level of imprecision. If an examinee tested again without learning or forgetting anything, the total EPC score would fall within one standard error of the estimate (SEE) of the original score two-thirds of the time. The total EPC score SEE for this examination is 4 points, and the likely score range resulting from this SEE is reported on the Examinee Performance Report.

Score and Performance Feedback

Roster Report
The Roster Report provides a total EPC score for each examinee and is provided for every administration. Summary information about the examinees from your administration and number of items scored are shown on each page. If there were at least 2 examinees, descriptive statistics and a frequency distribution of the total EPC scores are included.

A downloadable text file ("Download Scores") provides total EPC scores and content area EPC scores for each examinee and is also provided for every administration.

Content Area Report
The Content Area Report shows the average content area EPC scores for the examinees from your administration and a Step 1 comparison group, based on the estimated performance of a recent national cohort of Step 1 first-takers from LCME-accredited medical schools on CBSE. This report is provided if there were at least 5 examinees in your administration.

Item Analysis Report
The Item Analysis Report displays the general content of each item, the percentage of examinees from your administration who answered the item correctly, and the percentage of examinees from the Step 1 comparison group who answered the item correctly. This report is provided if there were at least 5 examinees for a single form administration.

A downloadable text file ("Download IA Detail") provides the same information as the PDF report and is also provided if there were at least 5 examinees for a single form administration.

Examinee Performance Report

The Examinee Performance Report is provided for each examinee from your administration. This report provides a total EPC score, an estimated probability of passing Step 1 if testing within a week (i.e., with a similar level of knowledge), and a visual depiction of performance. For each content area, examinees receive their EPC score, the average estimated score of a recent cohort of Step 1 first-takers from LCME-accredited medical schools, an indicator of how their performance compared to that group (statistically lower, about the same, or higher), and the percentage of items in the content area. Since many factors (such as changing levels of knowledge) may impact performance on Step 1, the estimated probability shown on this report is not a guarantee of future Step 1 performance.

Examinee Question-Level Feedback Report

The Examinee Question-Level Feedback Report is provided for each examinee from your administration. This report shows the general content of each item, whether the examinee's answer was correct or incorrect, and a projected percentage of Step 1 examinees nationally who answered the item correctly. Items are sorted alphabetically by content description, the examinee's answer (correct or incorrect, with correct answers shown first), and the national percent correct value. Higher percentages indicate easier items.

A downloadable text file ("Questionlevelfeedback-all"), found in the "Examinee Question Level Feedback" zipped folder if there were at least 5 examinees for a single form administration, shows whether each examinee's answer to each item was correct or incorrect. This file also contains the general content of each item, the percentage of examinees from your administration who answered the item correctly, and the percentage of examinees from the Step 1 comparison group who answered the item correctly.

Norms

Total academic year norms are provided for three relevant national groups to aid in the interpretation of examinee performance. The two most recent sets of norms that have been developed for this examination are provided for your convenience and are reported on the EPC score scale. Norms can also be found on *MyNBME.*

Interpreting Academic Norms

- Norms are provided to aid in the interpretation of examinee performance.
- They make it possible to compare examinees' scores with the performance of a norm group.
- Norm group characteristics:
  - Group 1: Examinees from LCME-accredited medical schools who took a form of this examination with a test purpose code of 'end-of-course', 'end-of-year', or 'other' for the first time during the academic year from 7/1/2020 through 6/30/2021.
  - Group 2: Examinees from LCME-accredited medical schools with a graduation year of 2023 who took a form of this examination during the academic year from 7/1/2020 through 6/30/2021. If an examinee took CBSE multiple times for progress testing or other purposes, only the final attempt in the current academic year is included.
- Group 1 is the norm group that has previously been reported for CBSE. Group 2 is an alternative norm group that provides a comparison to examinees' final CBSE attempt during their second year of medical school. There is substantial overlap between Group 1 and Group 2, but Group 2 also includes examinees from medical schools that administer CBSE multiple times; examinees from these schools are excluded from Group 1.

Norm Group	Number of Schools	Number of Examinees	Mean	SD
Group 1	73	9,784	56.3	14.6
Group 2	94	11,570	61.8	13.5

Using the Table

- To use the table, locate an examinee's score in the column labeled "Equated Percent Correct Score" and note the entry in the adjacent column labeled "Percentile Ranks" for the examinee group of interest. This number indicates the percentage of examinees that scored at or below the examinee's equated percent correct score.

Equated Percent Correct Score	Group 1 Percentile Ranks	Group 2 Percentile Ranks	Equated Percent Correct Score	Group 1 Percentile Ranks	Group 2 Percentile Ranks
100	100	100	50	38	22
99	100	100	49	36	20
98	100	100	48	33	17
97	100	100	47	31	16
96	100	100	46	28	14
95	100	100	45	26	12
94	100	100	44	23	11
93	100	100	43	21	9
92	100	100	42	19	8
91	100	99	41	16	7
90	100	99	40	14	6
89	99	99	39	12	5
88	99	98	38	11	4
87	99	98	37	10	3
86	98	97	36	8	3
85	98	96	35	7	2
84	97	96	34	6	2
83	97	95	33	5	1
82	96	93	32	4	1
81	95	92	31	3	1
80	94	91	30	2	1
79	93	90	29	2	1
78	92	88	28	1	0
77	91	86	27	1	0
76	90	85	26	1	0
75	89	83	25	1	0
74	87	81	24	0	0
73	86	79	23	0	0
72	85	77	22	0	0
71	83	75	21	0	0
70	81	73	20	0	0
69	80	71	19	0	0
68	78	68	18	0	0
67	76	65	17	0	0
66	74	63	16	0	0
65	72	60	15	0	0
64	70	57	14	0	0
63	68	54	13	0	0
62	66	51	12	0	0
61	64	49	11	0	0
60	62	46	10	0	0
59	59	43	9	0	0
58	57	41	8	0	0
57	55	38	7	0	0
56	53	36	7	0	0
55	51	33	5	0	0
54	48	31	4	0	0
53	45	28	3	0	0
52	43	26	2	0	0
51	40	24	1 and below	0	0

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  - Examinees from LCME-accredited medical schools with a graduation year of 2024 who took a form of this examination during the academic year from 7/1/2020 through 6/30/2021. If an examinee took CBSE multiple times for progress testing or other purposes during the first year of medical school, only the final attempt in the current academic year is included.

Academic Years	Number of Schools	Number of Examinees	Mean	SD
2020-2021	24	2,616	43.2	9.4

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Equated Percent Correct Score	Percentile Ranks	Equated Percent Correct Score	Percentile Ranks
100	100	50	81
99	100	49	77
98	100	48	74
97	100	47	70
96	100	46	67
95	100	45	61
94	100	44	56
93	100	43	52
92	100	42	48
91	100	41	43
90	100	40	38
89	100	39	34
88	100	38	31
87	100	37	26
86	100	36	22
85	100	35	19
84	100	34	16
83	100	33	14
82	100	32	12
81	100	31	9
80	100	30	7
79	100	29	6
78	100	28	5
77	100	27	5
76	100	26	4
75	100	25	3
74	100	24	2
73	99	23	2
72	99	22	1
71	99	21	1
70	99	20	1
69	99	19	0
68	99	18	0
67	99	17	0
66	99	16	0
65	98	15	0
64	98	14	0
63	98	13	0
62	97	12	0
61	97	11	0
60	96	10	0
59	95	9	0
58	94	8	0
57	93	7	0
56	92	7	0
55	91	5	0
54	89	4	0
53	88	3	0
52	85	2	0
51	83	1 and below	0

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  - Group 2: Examinees from LCME-accredited medical schools with a graduation year of 2022 who took a form of this examination during the academic year from 7/1/2019 through 6/30/2020. If an examinee took CBSE multiple times for progress testing or other purposes, only the final attempt in the current academic year is included.
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Norm Group	Number of Schools	Number of Examinees	Mean	SD
Group 1	67	7,837	56.2	14.3
Group 2	101	11,628	59.7	13.3

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Equated Percent Correct Score	Group 1 Percentile Ranks	Group 2 Percentile Ranks	Equated Percent Correct Score	Group 1 Percentile Ranks	Group 2 Percentile Ranks
100	100	100	50	37	27
99	100	100	49	35	25
98	100	100	48	32	22
97	100	100	47	30	20
96	100	100	46	27	18
95	100	100	45	25	16
94	100	100	44	23	14
93	100	100	43	20	12
92	100	100	42	19	10
91	100	100	41	17	9
90	100	100	40	15	8
89	99	99	39	13	6
88	99	99	38	11	5
87	99	99	37	10	4
86	98	98	36	9	3
85	98	98	35	7	3
84	98	97	34	6	2
83	97	96	33	5	2
82	96	95	32	4	1
81	96	95	31	3	1
80	95	94	30	2	1
79	94	92	29	2	0
78	93	91	28	1	0
77	92	89	27	1	0
76	91	88	26	0	0
75	90	87	25	0	0
74	88	85	24	0	0
73	87	84	23	0	0
72	86	82	22	0	0
71	84	80	21	0	0
70	83	78	20	0	0
69	81	76	19	0	0
68	79	73	18	0	0
67	77	70	17	0	0
66	75	68	16	0	0
65	73	66	15	0	0
64	71	63	14	0	0
63	69	61	13	0	0
62	67	58	12	0	0
61	64	55	11	0	0
60	62	52	10	0	0
59	60	50	9	0	0
58	57	47	8	0	0
57	55	45	7	0	0
56	52	42	7	0	0
55	50	40	5	0	0
54	47	36	4	0	0
53	44	34	3	0	0
52	42	32	2	0	0
51	39	29	1 and below	0	0

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Academic Years	Number of Schools	Number of Examinees	Mean	SD
2019-2020	22	1,772	38.0	11.2

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Equated Percent Correct Score	Percentile Ranks	Equated Percent Correct Score	Percentile Ranks
100	100	50	88
99	100	49	87
98	100	48	84
97	100	47	83
96	100	46	82
95	100	45	80
94	100	44	78
93	100	43	74
92	100	42	72
91	100	41	69
90	100	40	66
89	100	39	62
88	100	38	57
87	100	37	53
86	100	36	49
85	100	35	45
84	100	34	40
83	100	33	36
82	100	32	33
81	100	31	29
80	100	30	25
79	99	29	22
78	99	28	18
77	99	27	15
76	99	26	12
75	99	25	10
74	99	24	8
73	99	23	7
72	99	22	5
71	99	21	4
70	98	20	3
69	98	19	2
68	98	18	1
67	98	17	1
66	98	16	1
65	98	15	0
64	97	14	0
63	97	13	0
62	97	12	0
61	97	11	0
60	96	10	0
59	96	9	0
58	95	8	0
57	94	7	0
56	94	7	0
55	93	5	0
54	92	4	0
53	91	3	0
52	90	2	0
51	89	1 and below	0