



Maryland High School Assessments

Maryland High School Assessment and  
Modified High School Assessment  
2015 Technical Report

Algebra/Data Analysis  
Biology  
English  
Government

Educational Testing Service  
January 2016

## **Foreword**

The technical information included in this report is intended for use by those who evaluate tests, interpret scores, or use test results in making educational decisions. It is assumed that the reader has some technical knowledge of test construction and measurement procedures, as stated in *Standards of Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 2014).

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# CHAPTER I: HIGH SCHOOL ASSESSMENTS

## Section 1. Introduction

The current Maryland High School Assessments (MD HSAs) consist of end-of-course tests in Algebra/Data Analysis, Biology, English, and Government. Prior to the Summer 2011 administration, the HSAs included a test in Government. From Summer 2011 to October 2012, the Government test was excluded from the MD HSAs. Starting in January 2013, the Government test was re-introduced into the MD HSAs. The MD HSAs are referred to as “end-of-course” tests because students take each test as they complete the appropriate coursework. In addition, results from the Algebra/Data Analysis, Biology, and English administrations are used in the Maryland State Department of Education (MSDE) Adequate Yearly Progress (AYP) reports, required under the No Child Left Behind (NCLB) Act for the 2015 school year.

With the reinstatement of Government tests in January 2013, students entering 9<sup>th</sup> grade in the 2012-2013 school year or in a prior year (including students who entered 9<sup>th</sup> grade in 2011-2012, 2010-2011, or 2009-2010) have the option of earning a combined score of 1602 on all four MD HSAs or a combined score of 1208 on three MD HSAs (excluding Government) to be granted a Maryland High School Diploma.<sup>1</sup> Students entering 9<sup>th</sup> grade in 2013-14 and beyond will be required to pass all four HSAs, including Government, or obtain a combined score of 1602 to fulfill the graduation requirement.

All MD HSAs contain selected-response (SR) items, which require students to choose between four short response options. In addition, Algebra/Data Analysis tests include items that require a student-produced response (SPR); students must grid in their responses on an answer document or key them in for the online version of the assessment. Starting in January 2014, Government tests include brief constructed-response (BCR) items which require students to write a short response. All MD HSA items are based on content outlined in Maryland’s Core Learning Goals (CLGs).<sup>2</sup> The SR and SPR items are machine-scored and the BCR items are scored by two raters (with resolution ratings as needed.) For BCR items, the higher rating was used for both calibration and scoring.. Since May 2009, the MD HSAs have been administered online as well as in paper-and-pencil format. Studies of the comparability of online and paper forms of the MD HSAs were conducted in 2009 and 2010. The 2009 report is provided in the 2009 HSA Technical Report in Appendix 1C. The 2010 results were provided to the MSDE (Educational Testing Service, October 29, 2010). Further mode comparability studies have not been conducted.

This report provides information about the October 2014 administration and the January, April, May, and Summer 2015 administrations. For the October 2014 administration, one form was

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<sup>1</sup> More information on the testing requirement for graduation is available on the Maryland State Department of Education website at [http://mdk12.org/assessments/high\\_school/index.html](http://mdk12.org/assessments/high_school/index.html).

<sup>2</sup> The HSA Core Learning Goals documents can be found on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

administered. For the January 2015 administration, three forms were administered: two forms for the primary administration, and one form for the makeup administration. For the April 2015 administration, one form was administered. For the May 2015 administration, seven test forms were administered: five for the primary testing window (each has the same core set with different field test sets) and two for each of two makeup testing windows. For the Summer 2015 administration, two primary forms were administered: one for the first week of testing and the other one for the second week of testing.

Each test form consisted of operational and field test items. The operational items were used to produce student scores. Field test items were scored along with the operational items, but test takers' scores on these items were not included in the computation of their total test scores. For the January and May administrations, performance on the field test items was analyzed, and all flagged items were reviewed. Field test items that were approved by ETS content specialists and calibrated were then marked as available for use in the item bank. Items that were deemed unacceptable were marked as "Unavailable" and may be revised and field tested again in the future. With the exception of items selected for public release, which are not reused, the operational items that are returned to the item bank must remain unused for at least one year to minimize item exposure.

The item response model used to calibrate the items on the MD HSAs is the three-parameter logistic (3PL) model for the selected response and student-produced response items (see Section 2 for an introduction to item types) and the generalized partial credit model (GPCM) for the brief constructed response items on the Government HSA. These models are used to generate both total test scores and subscores using item-pattern (IP) scoring. Total test results in the scale score metric are reported to students. Subscores are not reported to students but are aggregated at the classroom level to provide teachers and administrators with additional information about student performance in each of the subscore categories.

Pre-equated item parameters are used to generate student scores. When pre-equated item parameters are used, the parameters are not estimated following an administration; instead, existing bank parameters are used to produce student scores. Using this approach, scores can be calculated and assigned to students immediately after their answer documents have been processed. (Prior to 2004, students' scores were based on item parameters estimated after each administration.)

All technical support and analyses were carried out in accordance with both the *ETS Standards for Quality and Fairness* (2014) and the *Standards for Educational and Psychological Testing*, issued jointly by the American Educational Research Association [AERA], American Psychological Association [APA], and National Council on Measurement in Education [NCME] (2014).

The MD HSA chapter of this technical report consists of seven sections and two appendices.

- Section 1 provides an introduction to the MD HSA program.
- Section 2 describes the procedures used for test construction and administration.
- Section 3 discusses the validity of the MD HSAs.
- Section 4 delineates the scoring procedures and score types.

- Section 5 summarizes the results of the analyses of test reliability, decision consistency and decision accuracy.
- Section 6 provides summary statistics and descriptive information about student characteristics.
- Section 7 gives the results of the analysis of field test data, including classical item analysis, differential item functioning, and item calibration and scaling.
- Appendix 1A provides classical item statistics for each operational test item by form administered.
- Appendix 1B provides classical item statistics for each field test item administered.

## Section 2. Test Construction and Administration

### Test Development

#### *Planning*

Planning for the test development process began with the creation of item development plans for each content area. ETS content leaders collaborated with their content counterparts at MSDE to create these plans. The item bank was reviewed to determine how well the available item pool matched the test form requirements set forth in the test form blueprint as defined by the Core Learning Goals (CLGs) and the 2015 form construction templates provided by MSDE. Areas that contained low item counts were given priority when determining which indicators were to be addressed by the item writers. After these areas with critical need were defined and addressed, any remaining items to be developed (as determined by the requirements set forth in the RFP) were distributed among the indicators in a fashion that would best ensure sufficient numbers of items for use in the construction of forms for future administrations.

#### *Item Types*

As noted in Section 1, three item types were included on the 2015 MD HSA tests. These item types include the following:

- Selected response (SR)—questions in multiple-choice format with four answer options;
- Student-produced response (SPR)—an item type used in Algebra only, for which the student works the problem and records the solution in an answer grid;
- Brief constructed response (BCR)—an item type used in Government only, for which the students need to write a short response.

Table 2.1 shows how these item types and associated points were distributed by content area. Each SR and SPR item is worth one point, and each BCR is worth 4 points.

Table 2.1 Number of Operational Items by Item Type for Each MD HSA Content Area

Content Area	Operational Items by Item Type			
	SR	SPR	BCR	Total
Algebra	43	10	-	53
Biology	76	-	-	76
English	60	-	-	60
Government	62	-	5	67

### Test Specifications and Design

MSDE predetermined the basic test design and provided it to ETS in the form of the content-specific “Test Specifications—Test Form Matrix” document. This basic test design document provides information based on specified expectations and the distribution of the number of items by item type for each reporting category. How the specific items were placed throughout the forms was left to the collaborative efforts of ETS and MSDE content specialists. Construction of the forms was based on test blueprints approved by MSDE. Blueprints for each content area are presented in Tables 2.2 to 2.5.

Table 2.2 MD HSA Algebra Blueprint

	Number of Items		Total Points per Category
	SR (1 pt)	SPR (1 pt)	
Expectation 1.1 Analyzing Pattern and Functions	11	2	13
Expectation 1.2 Modeling Real-World Situations	13	4	17
Expectation 3.1 Collecting, Organizing and Analyzing Data	8	4	12
Expectation 3.2 Using Data to Make Predictions	11	0	11
Total	43	10	53

*Note.* Information on the referenced indicators can be found in the Maryland Core Learning Goals for Algebra, available on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 2.3 MD HSA Biology Blueprint

	Number of Items	Total Points per Category
Goal 1 Skills and Processes of Biology	16	16
Expectation 3.1 Structure and Function of Biological Molecules	12	12
Expectation 3.2 Structure and Function of Cells and Organisms	13	13
Expectation 3.3 Inheritance of Traits	13	13
Expectation 3.4 Mechanism of Evolutionary Change	9	9
Expectation 3.5 Interdependence of Organisms in the Biosphere	13	13
Total	76	76

*Note.* Information on the referenced indicators can be found in the Maryland Core Learning Goals for Biology, available on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 2.4 MD HSA English Blueprint

	Number of Items	Total Points per Category
1: Reading and Literature: Comprehension and Interpretation (RC) Includes indicators 1.1.1, 1.1.2, 1.1.3, 1.2.1, 1.3.3, 3.2.2	16	16
2: Reading and Literature: Making Connections and Evaluation (RE) Includes indicators 1.1.4, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.3.5, 4.2.1	14	14
3: Writing: Composing (WC) Includes indicators 2.2.1, 2.2.2, 2.2.3, 2.2.5, 2.3.1, 2.3.3, 4.3.1	16	16
4: Writing: Language Usage and Conventions (WL) Includes indicators 3.1.3, 3.1.4, 3.1.6, 3.1.8, 3.3.1, 3.3.2	14	14
Total	60	60

*Note.* Information on the referenced indicators can be found in the Maryland Core Learning Goals for English, available on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 2.5 MD HSA Government Blueprint

	Number of Items	Total Points per Category
Expectation 1.1 U.S. Government Structure, Functions and Principles	21	24
Expectation 1.2 Protecting Rights and Maintaining Order	17	20
Goal 2 Systems of Government and U.S. Foreign Policy	9	12
Goal 3 Impact of Geography on Governmental Policy	8	11
Goal 4 Economic Principles, Institutions and Processes	12	15
Total	67	82

*Note.* Information on the referenced indicators can be found in the Maryland Core Learning Goals for English, available on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.



### *Item Writing*

Item writers were employed to develop high-quality test items that were aligned with the Core Learning Goals. For each of the content areas, 100% of the item writers were Maryland educators. Only a small portion of the total number of items written was developed by ETS content specialists. Item writers were selected on the basis of their depth of content knowledge and familiarity with the MD HSA program. Many were experienced MD HSA item writers.

Item writers were trained on general item writing techniques as well as writing guidelines that are specific to the MD HSA program. Approximately one month after the initial item writer training, a follow-up training session was provided. The session was designed to evaluate how well the item writers' writing skills had developed to that point, to facilitate peer review of items, and to provide constructive feedback to guide the rest of their writing assignment.

Upon completion of their writing assignment, item writers submitted their items to ETS. Items that were accepted proceeded to the item review and revision process.

### *Item Review and Revision*

All items underwent a series of editorial reviews in accordance with the following procedures:

- Items were edited according to standard rules developed in conjunction with MSDE.
- Items were reviewed for accuracy, organization, comprehension, style, usage, consistency, and fairness/sensitivity.
- Item content was reviewed to establish whether the item measured the intended Goal-Expectation-Indicator-Assessment Limit, with the Goal being the broadest category and Assessment Limit being the narrowest parameter of content being assessed.
- Copyright and/or trademark permissions were verified for any materials requiring permissions, for both field test and operational material.
- Internal reviews were conducted and historical records were established for all version changes.

After ETS performed the required internal reviews, items were submitted to MSDE for review. If the MSDE content specialist requested an original version of the item as submitted by the item writer, a copy was provided. Any associated stimulus material, graphic, and/or art was provided as well as information regarding the Goal-Expectation-Indicator-Assessment Limit that each question addressed.

MSDE content specialists performed a review of the items and provided feedback to ETS content specialists. The edits suggested by the MSDE specialists were incorporated into the items. MSDE and ETS content specialists then met to conduct a side-by-side review of the items. Any further edits to the items were made. Finally, the items were prepared for review by the Content and Bias/Sensitivity Review Committees.

The Content and Bias/Sensitivity Review committees, selected by MSDE, were composed of diverse groups of Maryland educators. The committees reviewed each item to ensure that the content (a) accurately reflected what was taught in Maryland schools; (b) correctly matched the intended CLG indicator; and (c) did not unfairly favor or disadvantage an individual or group. Upon completion of this final round of reviews, MSDE and ETS content specialists conducted side-by-side meetings to evaluate the reviews and to reconcile the results of the various groups. ETS then applied the requested edits to the items and/or revisions to the accompanying graphics.

A total of 336 items were taken to the 2014 summer meetings for Biology and Government tests. All items were accepted by the Content and Bias/Sensitivity Review Committee, so the acceptance rate was 100%. The status for each accepted item was then set to field test ready and it is eligible for placement in the field test positions for future test forms. Please note for the 2014 review meetings, Algebra and English content areas did not take any items to the committee because these two tests were being replaced by PARCC (Partnership for Assessment of Readiness for College and Careers) tests.

### *Testing Accommodations*

A number of alternate test formats are available to MD HSA test takers, including large-print, braille, online audio, and Kurzweil versions of the MD HSA developed for each content area. All four alternate test formats are available at each administration. Data from these alternate formats are included in the psychometric analyses.

## **Test Specifications**

All 2015 test forms were constructed using items from the Maryland item bank. The pool of items available for use in the construction of the 2015 forms included all items that had been administered, calibrated, and linked to the operational scale. For Algebra, Biology, and Government, the MD HSA operational scale was defined in 2003 and included items administered in 2002 and 2003. For English, the scale was redefined in 2005 when the English test was updated to become an end-of-course assessment for English II. Items flagged for poor fit were excluded from the item pool. Items flagged for substantial differential item functioning (DIF) against any of the comparison groups are marked as such in the item bank and they are not used unless required to fulfill content specifications, and then, only after review and approval by MSDE. (See Section 7 for a more detailed account of these analyses and flagging criteria.)

Each test form was constructed to meet specific test blueprint specifications. Tables 2.2 through 2.5 indicate the distribution of items within each reporting category by item type and the number of score points associated with each item type.

## **Item Selection and Form Design**

To conserve the item pool, when multiple forms were included in an administration, each test form consisted of a common set of operational items shared across forms within an administration, as well as a unique set of items. Within these administrations (i.e., January, May, and Summer), approximately 60 percent of the operational items in each form were common across the test sections. The remaining items in the forms consisted of combinations of items that varied across forms. The guidelines used to construct the forms are provided in Tables 2.6 to 2.10. The exact composition of the forms varied slightly based on available items in the pool.

Table 2.6 Form Construction Specifications for the MD HSA October 2014 Administration

Primary Week Form R
Operational and Field Test items— Reuse of intact form from a prior administration

Table 2.7 Form Construction Specifications for the MD HSA January 2015 Administration

Primary Week Form A	Primary Week Form B	Makeup 1 Form C
Common set—60% Unique items—40%	Same as Form A Same as Form A	Common set—60% Unique items—40%
Field Test Section—Unique items	Field Test Section—Unique items	Field Test Section—Reuse of field test set from Form A or B, or a combination of both

Table 2.8 Form Construction Specifications for the MD HSA April 2015 Administration

Form S
Operational and Field Test items— Reuse of intact form from a prior administration

Table 2.9 Form Construction Specifications for the MD HSA May 2015 Administration

Primary Week Forms D–N	Makeup 1 Form X	Makeup 2 Form Y
Common Set—60%	Common Set—60%	Common Set—60%
Unique Items—40%	Half of items from primary week’s 40% unique items—20% Unique items—20%	Half of items from primary week’s 40% unique items—20% Unique items—20%
Field Test Section—Unique sets of items for Forms D–N	Field Test Section—Reuse of one or a combination of the field test sets used in forms D–N, with a preference for form D; however, the actual selection of field test items was determined by the constraints imposed by the operational items	Field Test Section—Reuse of one or a combination of the field test sets used in forms D–N, with a preference of using the same set used for form X; however, the actual selection of field test items was determined by the constraints imposed by the operational items

Table 2.10 Form Construction Specifications for the MD HSA Summer 2015 Administration

Primary Week 1 Form P	Primary Week 2 Form Q
Common Set—60%	Common Set—60%
Unique items—40%	Unique items—40%
Field Test Section—Reuse of prior administration field test set	Field Test Section— Reuse of prior administration field test set

In addition to the operational items, embedded field test items were included with each version of the test form, resulting in multiple versions of a test form containing different sets of field test items. The percentage of field test items per form varied by content area, as shown in Table 2.11.

Table 2.11 Number of Operational (OP) and Field Test (FT) Items by MD HSA Content Area

Content Area	OP Items	FT Items	% FT Items
Algebra	53	16	23%
Biology	76	23	23%
English	60	38	39%
Government	67	14	21%

Items being field tested were primarily newly written items, with a small number of previously administered items that had been revised due to content concerns or problematic item statistics. Items with problematic statistics were ones that were judged to be acceptable from a content perspective but had one or more of the following statistical characteristics:  $p$ -values less than 0.10 or greater than 0.90; item-total correlations of less than 0.15 (For CR items, divide the average item score by maximum score points to obtain the  $p$ -value) for both the dichotomous and polytomous items; very high omit rates (5% or more for SR items and 15% for CR items); or SR items with a positive point-biserial correlation for one or more distractors. For administrations in which there was more than one primary form available at the same time (January and May), the forms were spiraled at the student level. Spiraling at the student level means that multiple forms of the test were packaged in order (e.g., D, E, F) and distributed to students according to this order. Spiraling at the student level helps ensure that all forms are randomly distributed throughout the state.

Forms were constructed using the test construction software associated with the customer item bank. The goal was to match the test characteristic curves (TCCs) and the conditional standard error of measurement (CSEM) curves with the “target” form defined as the base form used to set the operational scale. For Algebra, Biology, and Government, the base forms were originally developed in 2003; for English the base form was originally developed in 2005. These base forms contained brief constructed response (BCR) items. Between summer 2009 and October 2013, BCR items were discontinued on the MD government HSAs and the target TCCs for the HSAs were revised so that they were no longer influenced by the characteristics of CR items. Refer to ETS memorandum: *Considerations for Setting New Target Test Characteristic Curves for the Maryland High School Assessments (HSAs)* (Educational Testing Service, 2009) for details on how new target TCCs were created. However, starting in January 2014, BCR items were re-introduced to Government HSAs so the government target TCCs have been revised back to include BCR items in the calculation of TCCs and CSEMs.

The following general steps were completed during the test construction process:

1. For each administration, all forms were constructed simultaneously in order to provide the best opportunity to construct parallel forms.
2. Items that matched the test blueprint were selected to match the target TCCs and CSEMs.

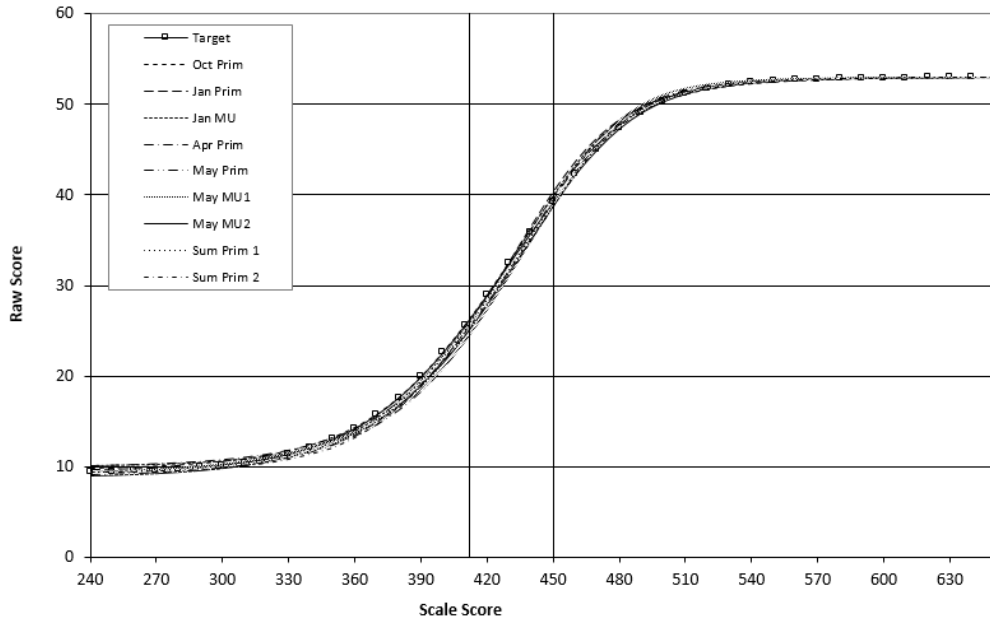
3. Test developers were careful to ensure that the item selections met all content specifications, including matching items to the test blueprint, distribution of keys, and avoidance of clueing<sup>3</sup> or clanging.<sup>4</sup>
4. After the operational items were selected for the test forms, the field test sets were constructed. Field test sets consisted of SR items in all content areas as well as SPR items for Algebra and BCR items for Government. While the field test sets were not constructed to meet any psychometric criteria, they were constructed to meet content criteria. For Algebra, Biology, and Government, the field test sets were estimated to be able to be completed by students in approximately 30-35 minutes. For English, the field test sets were estimated to be able to be completed by students in approximately 60 minutes due to the additional time required to read the passages and stimuli. The field test items were embedded in the test according to a variety of content and template criteria, including, but not limited to, coverage of the reporting categories and assessment limits, cognitive balance, key balance/distribution, and clueing/clanging within the field test set and among the surrounding operational items.

Figures 2.1 to 2.8 show the plots of the TCCs and CSEMs for the target form and forms developed for each content area. The vertical lines in the figures are the proficiency (Proficient and Advanced) cuts for each content area. Government has only one cut- Proficient. It is important to note that the TCCs and CSEMs shown in the plots are based on preequated item parameters and therefore are curves calculated prior to administration of the tests. In general, the TCCs and CSEMs were similar to the target curves. The TCC plots indicate that all forms for each content area were within or very close to the acceptable range of the target curve for the full range of scale score values. Where forms varied in difficulty, differences between forms were typically less than 5 percent of the total raw score across the score range, especially in the range of the cut scores. Where forms had differences slightly greater than 5 percent, these larger differences were typically seen at the very low end of the scale score range and at the high end of the scale. As expected, the CSEM plots indicate that the CSEMs for each content area were lowest in the middle range of scale scores, where the majority of student scores are located. (Please refer to Figures 6.1 to 6.4 for histograms of student performance.)

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<sup>3</sup> Clueing refers to information within a passage, stimulus, item, graphic, or other test component that allows respondents to select/construct the correct answer to one or more items in an assessment without the knowledge and/or skill targeted by the item.

<sup>4</sup> Clanging occurs when an identical or similar word(s) appears in both the item stem and one or more item distractors. Also, if two or more items that are near each other share common key words, even if the item content does not clue, the items are said to clang because the interpretation of the word in one item can affect the interpretation of another item.



Note: Maximum possible raw score is 53.

Figure 2.1 Test Characteristic Curves for the MD HSA 2015 Algebra Forms

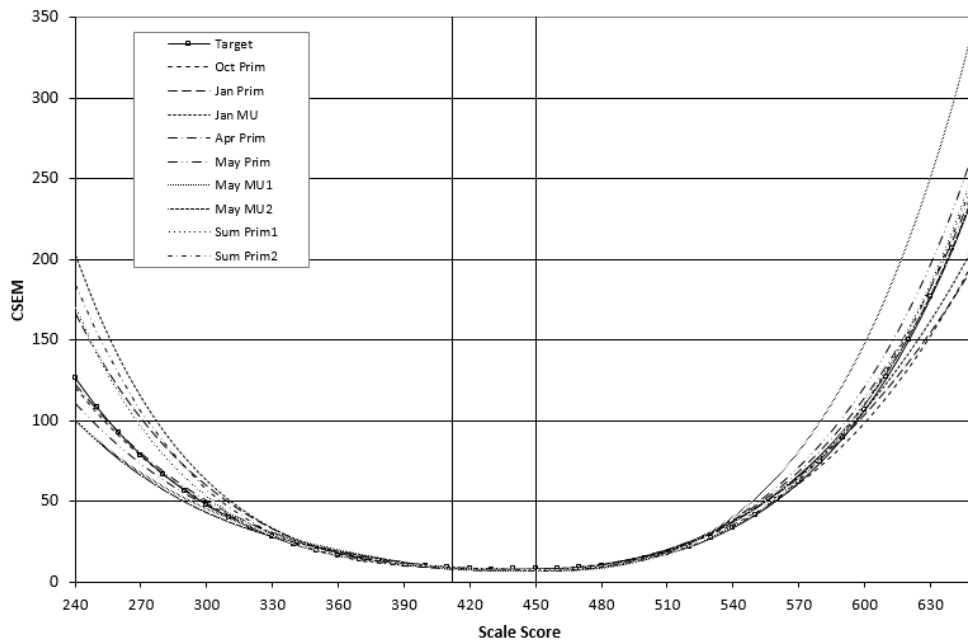
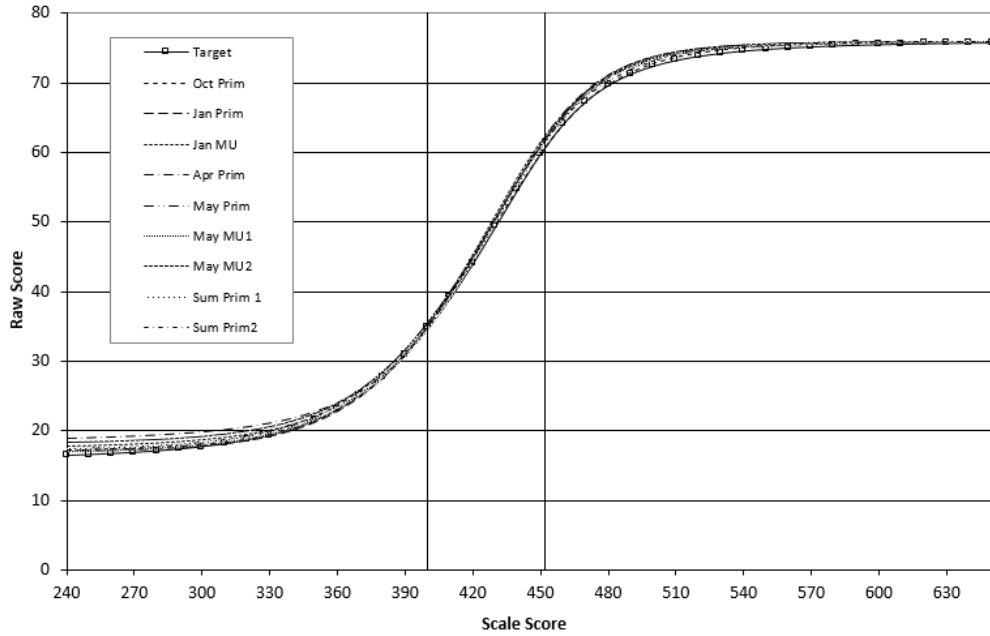


Figure 2.2 Conditional Standard Error of Measurement for the MD HSA 2015 Algebra Forms



Note: Maximum possible raw score is 76.

Figure 2.3 Test Characteristic Curves for the MD HSA 2015 Biology Forms

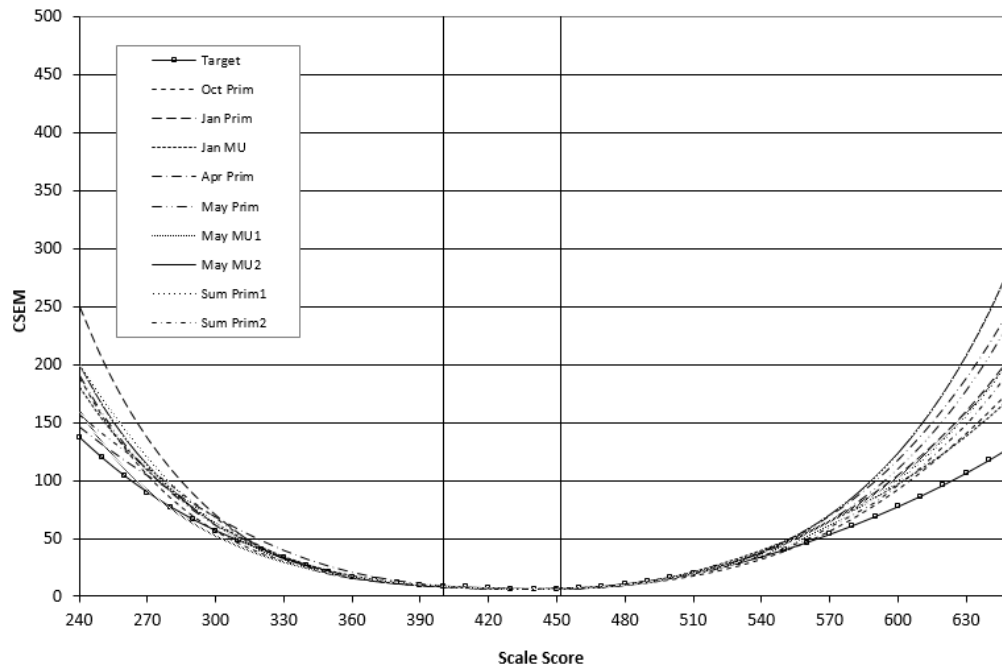
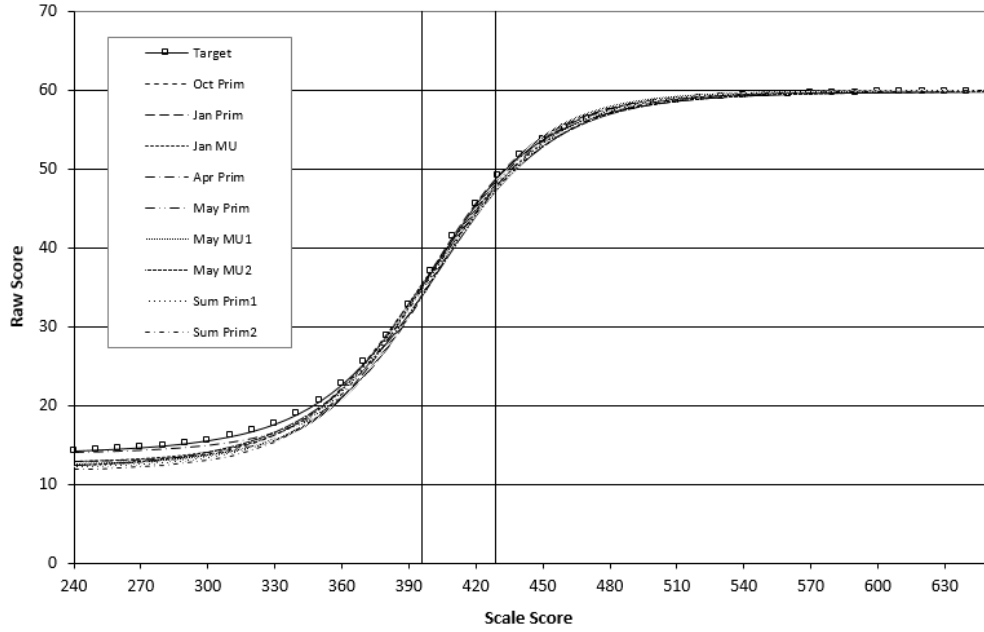


Figure 2.4 Conditional Standard Error Measurement for the MD HSA 2015 Biology Form





Note: Maximum possible raw score is 60.

Figure 2.5 Test Characteristic Curves for the MD HSA 2015 English Forms

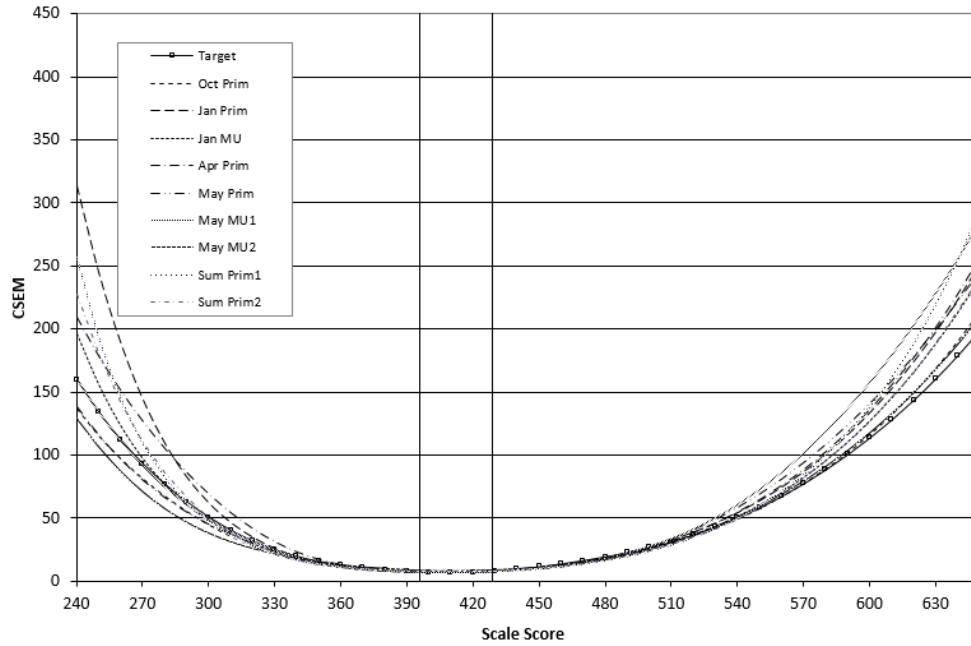
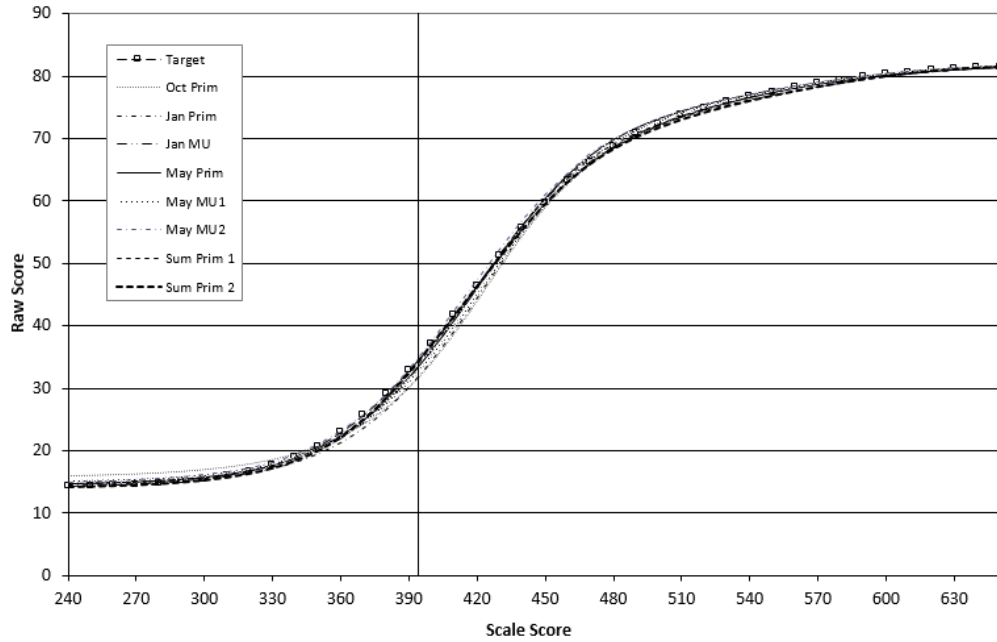


Figure 2.6 Conditional Standard Error of Measurement for the MD HSA 2015 English Forms



Note: Maximum possible raw score is 82.

Figure 2.7 Test Characteristic Curves for the MD HSA 2015 Government Forms

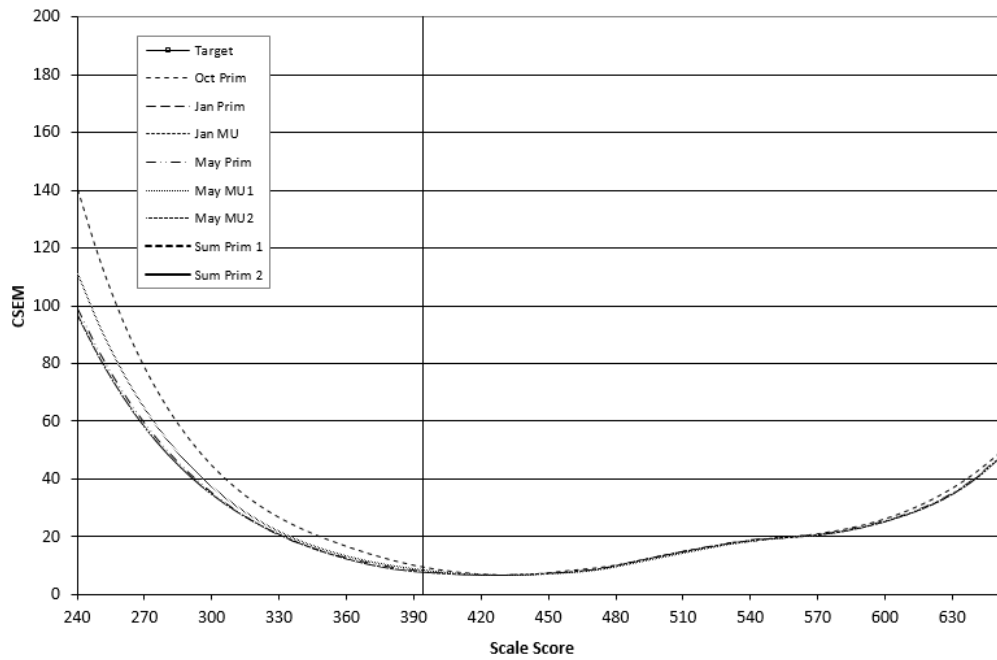


Figure 2.8 Conditional Standard Error of Measurement for the MD HSA 2015 Government Forms

## Test Administration

For all MD HSA tests administered in 2015, both paper-and-pencil and online versions were available.

For all administrations, paper-and-pencil primary forms were given during the first week of testing. For the January and May administrations, Makeup Form 1 was offered during the second week. For the May administration only, Makeup Form 2 was administered in the third week of testing.

For the online versions in all administrations, the primary and makeup forms were spiraled equally throughout the testing window. In October, only one form was administered. In January, the two primary forms and one makeup form were spiraled over the two-week testing window. In April, only one form was administered. In May, the five primary and two makeup forms were spiraled over the three-week testing window. In the Summer administration, the two primary forms were spiraled over the two-week testing window. All forms administered without extended time accommodations had timing limits indicated in Table 2.12.

Table 2.12 Test Timing Schedule in Minutes by MD HSA Content Area

Content Area	Session One	Break	Session Two	Break	Session Three
Algebra	50	5	50	5	50
Biology	45	5	45	5	45
English	50	5	55	5	50
Government	45	5	45	5	45

## **Section 3. Validity**

Validity is one of the most important attributes of assessment quality and is a fundamental consideration when tests are developed and evaluated (AERA, APA, & NCME, 2014; Messick, 1989). Validity refers to the degree to which logical, empirical, and judgmental evidence supports each proposed interpretation or use of a set of scores. Validity is not based on a single study or type of study but is an ongoing process of gathering evidence to support the interpretation or use of the resulting test scores. The process begins with the test design and continues throughout the entire assessment process, including content specifications, item development, psychometric quality, and inferences made from the test results.

Students' scores on an MD HSA are assumed to reflect students' level of knowledge and skills in a content area. The scores are used to classify students in terms of their level of proficiency using cut scores established by the state.

### **Evidence Based on Analyses of Test Content**

The MD HSAs are referred to as end-of-course tests because students take each test as they complete the appropriate coursework. Consequently, items are developed to measure the knowledge and skills expected of students following completion of coursework. As discussed in Section 2, the development of test content for each MD HSA is overseen by a content expert who has a depth of knowledge and teaching experience related to the course in which the MD HSA is to be administered. Appropriate content leads who have similar qualifications review the test development work of these individuals.

Evidence based on analyses of test content includes logical analyses that determine the degree to which the items in a test represent the content domain that the test is intended to measure (AERA, APA, & NCME, 2014, p. 14). The test development process for the MD HSAs provides numerous opportunities for the MSDE to review test content and make changes to ensure that the items measure the knowledge and skills of Maryland students according to course standards. Every item that is created is referenced to a particular instructional standard (i.e., goal, expectation, or indicator). During the internal ETS development process, the specific reference is confirmed or changed to reflect changes to the item. When the item is sent to a committee of Maryland educators for a content review, the members of the committee make independent judgments about the match of the item content to the standard it is intended to measure and evaluate the appropriateness for the age of students being tested. These judgments are tabulated and reviewed by the content experts, who use the information to decide which items will advance to the field test stage of development.

### **Evidence Based on Analyses of Internal Test Structure**

Analyses of the internal structure of a test typically involve studies of the relationship among test items and/or test components in the interest of establishing the degree to which the items or components appear to reflect the construct on which a test score interpretation is based (AERA, APA & NCME, 2014, p. 16). The term construct is used here to refer to the characteristic that a

test is intended to measure; in the case of the MD HSAs, the characteristic of interest is the knowledge and skills defined by the test blueprint for each content area.

These test blueprints are derived from Maryland's Core Learning Goals for each course. The test blueprints are presented in Section 2 (see Tables 2.2 to 2.5); the CLGs can be found on the MSDE website at [http://www.mdk12.org/assessments/high\\_school/index\\_a.html](http://www.mdk12.org/assessments/high_school/index_a.html).

High total group internal consistencies as well as similar reliabilities between subgroups with roughly the same sample size provide additional evidence of validity. High reliability over items within a test implies that the test items within a domain are measuring the intended construct. Cronbach's alpha results for each administration for the overall population, as well as for subgroups can be found in Section 6 of this report, in Tables 6.6 through 6.23.

Another way to assess the internal structure of the test is through the evaluation of Pearson correlation matrices between the individual MD HSA subscores. If subscores within a content area are strongly related to each other, this is another indicator of validity. Tables 3.1 and 3.2 highlight the Pearson correlations found between subscores within each content area of the MD May HSA tests since the May tests had the largest sample sizes of all the 2015 administrations. Results indicate that each subscore is positively correlated with the total Scale Score in all content areas, especially Government; however, correlations between individual subscores are substantially lower in Algebra and English, probably due to a much smaller and less representative sample as a result of PARCC testing in these two content areas. It is also noted that the Government subscore correlations are higher compared to those in Biology and this pattern was observed in 2014 as well.

Table 3.1 Correlations between Subscores by MD HSA Content Area – Algebra & Biology

	Algebra ( <i>N</i> = 8361)					Biology ( <i>N</i> = 58974)						
	SS	1	2	3	4	SS	1	2	3	4	5	6
Overall SS	1					1						
Subscore 1	.61	1				.78	1					
Subscore 2	.76	.40	1			.67	.52	1				
Subscore 3	.73	.35	.44	1		.71	.55	.55	1			
Subscore 4	.43	.22	.30	.31	1	.71	.55	.52	.54	1		
Subscore 5	-	-	-	-	-	.70	.54	.50	.51	.52	1	
Subscore 6	-	-	-	-	-	.72	.56	.51	.52	.51	.52	1

Table 3.2 Correlations between Subscores by MD HSA Content Area – English & Government

	English ( <i>N</i> = 4067)					Government ( <i>N</i> = 56096)					
	SS	1	2	3	4	SS	1	2	3	4	5
Overall SS	1					1					
Subscore 1	.73	1				.90	1				
Subscore 2	.59	.42	1			.88	.75	1			
Subscore 3	.68	.45	.38	1		.80	.70	.68	1		
Subscore 4	.68	.44	.34	.43	1	.85	.73	.71	.67	1	
Subscore 5	-	-	-	-	-	.82	.69	.68	.61	.67	1

Finally, the internal structure of the MD HSA tests can be assessed in relation to the degree to which these tests meet the requirements of the statistical models used to estimate item parameters and student scores. Confirmatory factor analyses (CFAs) for each test by content area can be conducted to examine the underlying domain structure of the MD HSA test. CFA is a useful statistical methodology as it can be used to evaluate whether performance on items in each test reflects a single underlying characteristic or a set of distinct characteristics defined by the reporting categories for each content area. The findings from this type of analysis are helpful as they can provide evidence as to whether the unidimensional model-based IRT used to calibrate the MD HSA items is appropriate.

#### *Confirmatory Factor Analyses of the May 2015 Administration Data*

To assess the dimensionality of the MD HSA tests, CFA's for each content area were conducted using test data from the primary forms of the May 2015 administration. The May administration was chosen for analysis because it is the largest and most representative administration of the MD HSAs. The May administration consisted of five primary forms; data from operational items were combined across forms within the content areas of Algebra, Biology, English, and Government.

Mplus (Muthén & Muthén, 2007) was used to calculate matrices consisting of polychoric correlations between the items included in each analysis. Mplus was also used to fit specified

factor models to the data. In the analysis, the input polychoric correlation matrix was used to estimate the factor loadings between the indicators (items).

Parameter estimation was accomplished using a weighted least-square method with mean and variance adjustment (Muthén, DuToit, & Spisic, 1997). This method leads to a consistent estimator of the model parameters, and provides standard errors that are robust under model misspecification. For ordinal data, weighted least squares estimation offers an alternative to full-information maximum likelihood techniques. The latter becomes computationally too demanding for models with more than a few dimensions. Model fit can be assessed through the use of a scaled chi-square statistic. However, the degrees of freedom for the reference distribution of this statistic cannot be computed in the standard way. The correct degrees of freedom are in part determined by the data, and hence different degrees of freedom may be obtained when applying the same model to different data (Muthén, 1998-2004, p. 19-20).

Overall model fit for each CFA model by content area was examined using the scaled chi-square ( $\chi^2$ ) test of model fit in combination with supplemental fit indices. The Tucker-Lewis Index (TLI) compares the chi-square for the hypothesized model with that of the null or “independence” model, in which all correlations or covariances are zero. TLI values range from zero to 1.0, and values greater than 0.94 signify good fit (Hu & Bentler, 1999). The comparative fit index (CFI) and root mean square error of approximation (RMSEA) index both are based on noncentrality parameters. The CFI compares the covariance matrix predicted by the model with the observed covariance matrix, and the covariance matrix of the null model with the observed covariance matrix. A CFI value greater than 0.90 indicates acceptable model fit (Hu & Bentler, 1999). The RMSEA assesses the error in the hypothesized model predictions; values less than or equal to 0.06 indicate good fit (Hu & Bentler, 1999).

Table 3.3 shows the results of the analyses. None of the  $\chi^2$  results indicated good fit, given the criterion of  $p > .05$ ; this was expected because sample sizes were very large. The TLI, CFI, and RMSEA fit statistics indicated that the one-factor solutions generally fit the data well in all content areas. These findings provide evidence that the tests for each content area measure a single dimension. This is a positive finding, given that IRT models assume unidimensionality.

Table 3.3 MD HSA Confirmatory Factor Analyses Fit Statistics

Content	Admin	Forms	# of Factors	# of Items	<i>N</i>	<i>df</i>	$\chi^2$ *	TLI	CFI	RMSEA
Algebra	May	D-H	1	52	6,215	1,274	3,525	0.91	<b>0.92</b>	<b>0.017</b>
Biology	May	D-H	1	76	46,876	2,774	47,722	<b>0.98</b>	<b>0.98</b>	<b>0.019</b>
English	May	D-H	1	58	3,049	1,595	2,954	0.93	<b>0.93</b>	<b>0.017</b>
Government	May	D-H	1	67	44,640	2,144	53,805	<b>0.98</b>	<b>0.98</b>	<b>0.023</b>

Note: Table entries that meet or exceed the criterion are in bold.

\* $p < .0005$  for all  $\chi^2$

### Speededness

If more than five percent of students omitted an SR or SPR item or more than 15 percent of students omitted a CR item, the item was flagged as having a high omit rate. Table 3.4 shows omit rates for each content area by administration and item type. As can be seen, several of the SPR items were flagged for having high omit rates, especially the Summer Algebra forms (11 items), probably due to very limited sample sizes ( $N = 145$  for primary1 and  $N = 25$  for primary2). Only one CR item was flagged for having high omit rate. This pattern is consistent with findings from previous test years. Note that in general, SPR items tend to have higher omit rates because students have to generate a response rather than choose one from the available answer choices. None of the SR items was flagged.

Table 3.4 Number of MD HSA Operational Items Flagged for High Omit Rate

Content	October			January			April		May			Summer		
	Item Types			Item Types			Item Types		Item Types			Item Types		
	SR	SPR	CR	SR	SPR	CR	SR	SPR	SR	SPR	CR	SR	SPR	CR
Algebra	0	3	--	0	5	--	0	0	0	1	--	0	11	--
Biology	0	--	--	0	--	--	0	--	0	--	--	0	--	--
English	0	--	--	0	--	--	0	--	0	--	--	0	--	--
Government	0	--	0	0	--	0	--	--	--	--	0	0	--	1

The percentage of students who respond to the last items in a test can also be used to assess the degree to which a test is speeded. When speededness occurs, a test is measuring not only students' knowledge and skills as defined by the construct of interest but also the speed at which the knowledge and skills are demonstrated, which is a second construct. In tests of achievement, it is desirable to find that speededness is not present in a test, which provides evidence that student scores on the test reflect only the intended construct. Evidence of speededness is provided by the finding that the omit rates at the end of a test are notably higher than those observed elsewhere in the test.

Appendix 1.A presents the percentages of students who omitted items on the MD HSA operational forms. Across all content areas and administrations, the percentage of students who did not respond to the last ten SR items of a test was less than 3 percent per item, with the exception of the Summer Algebra Primary Form 2 ( $N = 25$ ) and Summer English Primary Form 2 ( $N = 23$ ) where omit rates of the last ten SR was 4 percent for quite a few items, probably due to very limited sample sizes. The SPR items (Algebra only) had omit rates ranging from 2 percent to 6 percent when placed within the last ten items of a test form, with the exception of the Summer Primary Forms due to very limited sample sizes. The higher omission rates for the SPR items are typical for this item type because students are required to solve a problem and then record the answer in an answer grid, rather than choose from among four answer choices



presented by SR items. Omit rates for CR items on the Government tests were fairly low, ranging from 3 percent to 8 percent for the January and May administrations, and 11 percent for the October 2014 administration. The exception was the Summer 2015 administration, with the omit rates ranging from 12 percent to 17 percent, probably due to a very limited sample consisting of low performing students. For all item types the percentage of students who omitted items located within the last ten positions on an MD HSA test form was not greater than omit rates throughout the test.

In addition to the factor analyses and the information regarding speededness presented here and the validation documentation gathered and maintained by MSDE, other information in support of the uses and interpretations of MD HSA scores appears in the following sections:

- Section 4 provides detailed information concerning the scores that were reported for the MD HSAs and the cut scores for each content area.
- Section 5 provides information concerning the test characteristics based on classical test theory for the administrations of the MD HSAs.
- Section 6 presents information regarding student characteristics for the administrations of the MD HSAs.
- Section 7 includes documentation regarding the field test analyses. Descriptions of classical item analyses, differential item functioning, item response theory calibration, and scaling are included. In addition, summary tables of item  $p$ -value and item-total correlation distributions are provided.

## Section 4. Scoring Procedures

### Scale Scores

The MD HSA reporting scale ranges from 240 to 650. For Algebra, Biology, and Government, the scale was established in 2003 and defined so that the scale scores had a mean of 400 and a standard deviation 40. In 2005 a scale for English was established that had the same range, mean, and standard deviation.

These scores represent ability estimates obtained using Item Response Theory (IRT, Yen & Fitzpatrick, 2006). (See IRT Calibration and Scaling in Section 7 for details about the three-parameter logistic model [3PL] and generalized partial credit model - Government test only-used for the MD HSAs.) Students' total test scores and subscores are scale scores derived using the 3PL model and generalized partial credit model and item-pattern scoring procedures. There are essentially two ways of scoring a test: number-correct (NC) or item-pattern (IP) scoring. NC scoring considers how many test items a student answered correctly in determining that student's total raw score. In contrast, the IP scoring method is based on an IRT model. IP scoring takes into account not only a student's total raw score, but also *which* test items the student answered correctly, as well as the psychometric characteristics of these items.

Test items are not equal in their characteristics. For example, some items are better at discriminating between students that know the tested content and those who do not; some items are more difficult; and low-ability students are more likely to guess correctly on some test items than on others.

Two students with exactly the same total raw score will get the same test score in NC scoring. It is very possible; however, that even though they have the same total raw score, the actual items they answered correctly were different, and their different sets of correctly answered items could have different item characteristics. In such a case, the students will very likely get different reported test scores in IP scoring even though they have the same total raw score. With IP scoring, a student who correctly answers a number of more difficult items will get a higher score than one who answers the same number of easier items. This would be applicable to both total test scores and subscore category scores reported using IP scoring.

Item-pattern scoring has been found to produce smaller standard errors of measurement (SEM) than number-correct scoring. The smaller the SEM, the more confidence we have about the accuracy of the test results. In addition, test reliability is higher with IP scoring than with NC scoring (Yen & Candell, 1991), which means that fewer questions are needed in IP scoring than NC scoring for equivalent scoring accuracy. For these reasons, both the HSA total test scores and test subscores are reported using IP scoring.

### **Conditional Standard Errors of Measurement**

Corresponding conditional standard errors of measurement (CSEM) were produced and are equal to the inverse of the square root of the test information function. CSEMs are standard errors at individual score points, defined as

$$CSEM(\hat{\theta}) = \frac{1}{\sqrt{I(\hat{\theta})}}$$

where  $\hat{\theta}$  refers to the individual score point (location on the scale),  $CSEM(\hat{\theta})$  refers to the conditional standard error of measurement at the score point, and  $I(\hat{\theta})$  refers to the test information function value at that score point  $\hat{\theta}$ . The test information function is the sum of corresponding information functions of the test items when optimal item weights are used. Item information functions depend on the item difficulty, discrimination, guessing parameter, and conditional item score variance.

### **Lowest and Highest Obtainable Test Scores**

The maximum likelihood procedure under the 3PL model cannot produce reasonable scale score estimates for students with perfect scores or scores below the level expected by guessing. While maximum likelihood estimates are usually available for students with extreme scores other than zero or perfect, occasionally these estimates have very large CSEMs, and differences between these extreme values have little meaning. Therefore, scores were established for these students based on a rational procedure (refer to Appendix 3.C of the 2004 Technical Report). These values were called the lowest obtainable scale score (LOSS) and the highest obtainable scale score (HOSS).

## Cut Scores

MSDE established the cut scores associated with each of the performance levels in the content areas other than English in 2003.<sup>5</sup> The English cut scores were established during the standard-setting meeting held in October 2005 and one cut score was established for Biology and one was established for Government in 2005. Because Algebra and English results are used as the high school mathematics and English/language arts components of the Maryland accountability plan under NCLB, two cut scores were established for these content areas. To comply with NCLB requirements for secondary science, an Advanced cut score for Biology was established in 2008. These values are given in Table 4.1.

Table 4.1 MD HSA Cut Scores by Content Area

Content Area	Cut Score	
	Proficient	Advanced
Algebra	412	450
Biology	400	452
English	396	429
Government	394	

With the reinstatement of Government tests in January 2013, students entering 9<sup>th</sup> grade in the 2012-2013 school year or in a prior year (including students who entered 9<sup>th</sup> grade in 2011-2012, 2010-2011, or 2009-2010) have the option of earning a combined score of 1602 on all four MD HSAs or a combined score of 1208 on three MD HSAs (excluding Government) to be granted a Maryland High School Diploma.<sup>6</sup> Students entering 9<sup>th</sup> grade in 2013-14 and beyond will be required to pass all four HSAs, including Government, or obtain a combined score of 1602 to fulfill the graduation requirement.

## Year-to-Year Scale Maintenance

The MD HSAs for Algebra, Biology, and Government have been preequated since 2004; English has been preequated since 2005. In the preequated design, a pool of IRT-calibrated items expressed on the reporting scale exists for test form construction. The item parameter estimates for new forms are obtained from the bank and are used to build test forms that are parallel across administrations. Student scores are produced with the bank-obtained item parameter estimates, thereby linking scores from one administration to the other.

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<sup>5</sup> Technical documentation on the standard-setting method used to establish the MD HSA cut scores is available on the Maryland State Department of Education website at <http://www.marylandpublicschools.org/msde/divisions/planningresultstest/maryland+standard+setting+technical+reports.htm>.

<sup>6</sup> More information on the testing requirement for graduation is available on the Maryland State Department of Education website at [http://mdk12.org/assessments/high\\_school/index.html](http://mdk12.org/assessments/high_school/index.html).

To increase the item pool, the MD HSA embeds field test items in the operational test forms. The field test data for the January and May administration are calibrated with the operational items at that time. The calibrations are linked to the reporting scale using all operational items as anchors and the Stocking and Lord procedure (Stocking & Lord, 1983). Having all operational items serve as linking items ensures that the linking set is large enough to provide stable and reliable results. Item bank parameter estimates are established at the time of the field test and are not updated following each administration.

To ensure that items behave the same way across administrations, construction of new forms follows guidelines defined by Kolen and Brennan (2004, p.313). These guidelines are:

1. Items should appear in the same contexts and positions as when the item parameter estimates were established. Operational items are placed as close as possible to the same position they were in when parameters were estimated and within the same third of the total test form.
2. Operational items should appear in similar positions on the test. It may be problematic if an item is positioned in very different locations on the two forms, such as at the beginning of the test on one form and at the end of the test on another form. Operational items that appear in more than one form occupy consistent positions across forms; MSDE must approve any deviations.
3. The text is exactly the same in the old and new forms. Minor editorial changes and rearranging answer choices are discouraged; otherwise the items may function differently. All requests for minor editorial changes must undergo psychometric review to evaluate the implications for the response process.

## Section 5. Test Characteristics

This section provides a discussion of the results of analyses of test reliability and decision consistency and accuracy for all MD HSA test forms administered.

### Reliability

The general concept of reliability concerns the precision of a test score. Of interest is quantifying the degree to which a score will vary from an average result obtained over many testing occasions due to random factors (Haertel, 2006). A variety of theories and methods can be used to estimate reliability.

Classical test theory defines reliability as the proportion of total score variance that is true-score variance. Several different ways of estimating this proportion exist. One estimate of reliability that is commonly used is Cronbach's alpha (Cronbach, 1951), an internal consistency measure. It is derived from analysis of the consistency of performance over items within a test and provides a lower-bound estimate of a test's reliability. Cronbach's alpha can be expressed as:

$$\alpha = \frac{n}{n-1} \left[ 1 - \frac{\sum_{i=1}^n \sigma_i^2}{\sigma_x^2} \right],$$

where  $n$  is the number of items,  $\sigma_i^2$  is the variance of scores on the  $i$ -th item, and  $\sigma_x^2$  is the variance of the total score (sum of scores on the individual items). Sample estimates are substituted for the population variances in this formula to provide reliability estimates.

The results for the reliability analyses of the total test score are presented with the summary statistics in Tables 6.6 to 6.23. The tables show that the overall reliability of the MD HSAs administered during the January and May sessions ranged from 0.71 to 0.95 for the primary forms, and from 0.72 to 0.95 for the makeup forms. The overall reliability results for the October forms ranged from 0.74 to 0.81. The overall reliability results for the April forms ranged from 0.69 to 0.80. The overall reliability results for the Summer forms ranged from 0.75 to 0.92.

Lower reliability coefficients are sometimes seen for the smaller administrations typically taken by repeat test takers (October, April, and Summer). All forms are constructed to meet the same target specifications, one of which is to include only items that have point-biserials of at least 0.10. However, when items are administered to nonrepresentative samples of students, such as repeat test takers, the point-biserials of some items may be lower in those samples, which leads to lower reliability coefficients when calculated for those administrations.

## Decision Accuracy and Decision Consistency

The accuracy of decisions based on specified cut scores was assessed for reliability of classification using a computer program called *RELCLASS* (ETS proprietary software). *RELCLASS* provides two statistics that describe the reliability of classifications based on test scores (Livingston & Lewis, 1995). Specifically, information from an administration of one form is used to estimate the following:

**Decision accuracy**, or the extent to which test takers are classified in the same way as they would be on the basis of the average of all possible forms of a test. Decision accuracy addresses the question: How does the actual classification of test takers, based on their single-form scores, agree with the classification that would be made on the basis of their true scores, if their true scores were somehow known?

**Decision consistency**, or the extent to which test takers are classified in the same way as they would be on the basis of a single form of a test *other* than the one for which data are available. Decision consistency addresses the question: What is the agreement between the classifications based on two nonoverlapping, equally difficult forms of the test?

*RELCLASS* estimates decision accuracy using an estimated joint distribution of reported performance-level classifications on the current form of the exam and the performance-level classifications based on an all-forms average (true score). *RELCLASS* estimates decision consistency using an estimated joint distribution of reported performance-level classifications on the current form of the exam and performance-level classifications on the alternate (parallel) form. In each case, the proportion of performance-level classifications with exact agreement is the sum of the entries in the diagonal of the contingency table representing the joint distribution.

The results are provided in Tables 5.1 to 5.19 by content area for the October 2014, January, April, May, and Summer 2015 forms. The tables show that decision accuracy values, which estimate the agreement between classifications based on an observable variable (scores on one form of a test) and classifications based on an unobservable variable (the test takers' true scores), ranged from 0.81 to 0.89 across all performance levels and from 0.87 to 0.93 for the Proficient and Above classifications in Algebra, Biology, and English, excluding the Summer Algebra and English forms. Decision consistency values, which estimate the agreement between classifications based on two variables (scores on the form students have taken and a parallel form of the same test that is not administered to the students), ranged from 0.79 to 0.84 across all performance levels and from 0.82 to 0.91 for the Proficient and Above classifications in Algebra, Biology, and English, excluding the Summer Algebra and English forms. In Government (October, January, May, and Summer forms), decision accuracy and consistency were calculated across all performance levels; decision accuracy values ranged from 0.88 to 0.94, decision consistency values ranged from 0.88 to 0.91. Please note the sample sizes for the Summer Algebra ( $N = 25$  for Form Q) and English ( $N = 23$  for Form Q) forms were very small therefore the decision accuracy and consistency values were reported for information only.

Note that in all cases the decision accuracy indices are somewhat larger than the decision consistency indices. This is due to differences in the estimation procedures. The estimation procedure for decision accuracy includes a random component on one of the two variables, whereas in estimating decision consistency each variable includes a random component (Livingston & Lewis, 1995).

Table 5.1 Decision Accuracy and Consistency: MD HSA Algebra October 2014 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.01	.00	.00	.01
	412–449	.01	.09	.05	.14
	240–411	.02	.07	.77	.85
Estimated Proportion Correctly Classified*: Total = 0.86 , Proficient & Above = 0.87					
Decision Consistency	450–650	.01	.00	.00	.01
	412–449	.02	.07	.05	.14
	240–411	.02	.10	.73	.85
Estimated Proportion Consistently Classified*: Total = 0.80 , Proficient & Above = 0.82					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 5.2 Decision Accuracy and Consistency: MD HSA Algebra January 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
January Primary					
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.01	.06	.04	.11
	240–411	.02	.07	.80	.89
Estimated Proportion Correctly Classified: Total*: = 0.87, Proficient & Above = 0.88					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.02	.05	.04	.11
	240–411	.03	.09	.76	.89
Estimated Proportion Consistently Classified*: Total = 0.81 ; Proficient & Above = 0.84					
January Form C					
Decision Accuracy	450–650	.01	.00	.00	.01
	412–449	.01	.06	.04	.11
	240–411	.02	.07	.81	.89
Estimated Proportion Correctly Classified*: Total = 0.87 ; Proficient & Above = 0.88					
Decision Consistency	450–650	.01	.00	.00	.01
	412–449	.02	.05	.04	.11
	240–411	.03	.09	.77	.89
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.84					

\* Inconsistencies between cell entries and totals are due to rounding.



Table 5.3 Decision Accuracy and Consistency: MD HSA Algebra April 2015 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.04	.03	.07
	240–411	.02	.06	.84	.92
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.88					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.01	.02	.03	.07
	240–411	.04	.09	.80	.92
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.84					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 5.4 Decision Accuracy and Consistency: MD HSA Algebra May 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
May Primary					
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.01	.05	.04	.09
	240–411	.02	.06	.82	.90
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.88					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.02	.03	.04	.09
	240–411	.03	.09	.78	.90
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.84					
May Form X					
Decision Accuracy	450–650	.01	.00	.00	.01
	412–449	.01	.07	.05	.12
	240–411	.01	.06	.80	.87
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.89					
Decision Consistency	450–650	.01	.00	.00	.01
	412–449	.02	.05	.05	.12
	240–411	.02	.08	.76	.87
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.85					
May Form Y					
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.05	.03	.08
	240–411	.02	.07	.83	.92
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.88					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.01	.03	.03	.08
	240–411	.03	.10	.79	.92
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.84					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.5 Decision Accuracy and Consistency: MD HSA Algebra Summer 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>Summer Form P</b>					
	450–650	.00	.00	.00	.00
Decision	412–449	.00	.07	.04	.12
Accuracy	240–411	.01	.06	.82	.88
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.89					
	450–650	.00	.00	.00	.00
Decision	412–449	.01	.06	.05	.12
Consistency	240–411	.02	.09	.77	.88
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.84					
<b>Summer Form Q</b>					
	450–650	.00	.00	.00	.00
Decision	412–449	.00	.03	.01	.04
Accuracy	240–411	.01	.09	.86	.96
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.89					
	450–650	.00	.00	.00	.00
Decision	412–449	.00	.02	.02	.04
Consistency	240–411	.04	.11	.81	.96
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.83					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.6 Decision Accuracy and Consistency: MD HSA Biology October 2014 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	452–650	.00	.01	.00	.01
Decision	400–451	.00	.12	.04	.17
Accuracy	240–399	.01	.07	.75	.83
Estimated Proportion Consistently Classified*: Total = 0.87, Proficient & Above = 0.88					
	452–650	.00	.00	.00	.01
Decision	400–451	.00	.11	.06	.17
Consistency	240–399	.01	.11	.70	.83
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.82					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.7 Decision Accuracy and Consistency: MD HSA Biology January 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>January Primary</b>					
	452–650	.02	.07	.00	.09
Decision	400–451	.00	.28	.00	.28
Accuracy	240–399	.02	.10	.51	.62
Estimated Proportion Correctly Classified*: Total = 0.81, Proficient & Above = 0.88					
	452–650	.03	.05	.01	.09
Decision	400–451	.00	.28	.00	.28
Consistency	240–399	.03	.09	.50	.62
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.87					
<b>January Form C</b>					
	452–650	.11	.02	.00	.13
Decision	400–451	.02	.27	.04	.32
Accuracy	240–399	.00	.04	.51	.55
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.92					
	452–650	.10	.02	.00	.13
Decision	400–451	.03	.24	.05	.32
Consistency	240–399	.00	.06	.49	.55
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.89					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.8 Decision Accuracy and Consistency: MD HSA Biology April 2015 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	452–650	.01	.00	.00	.01
Decision	400–451	.01	.09	.04	.14
Accuracy	240–399	.01	.06	.78	.85
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.88					
	452–650	.01	.00	.00	.01
Decision	400–451	.02	.07	.05	.14
Consistency	240–399	.02	.09	.74	.85
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.84					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 5.9 Decision Accuracy and Consistency: MD HSA Biology May 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>May Primary</b>					
	452–650	.18	.02	.00	.20
Decision	400–451	.04	.40	.07	.51
Accuracy	240–399	.00	.00	.28	.29
	Estimated Proportion Correctly Classified*: Total = 0.86, Proficient & Above = 0.93				
	452–650	.17	.03	.00	.20
Decision	400–451	.06	.37	.08	.51
Consistency	240–399	.00	.02	.27	.29
	Estimated Proportion Consistently Classified*: Total = 0.81, Proficient & Above = 0.90				
<b>May Form X</b>					
	452–650	.16	.01	.00	.18
Decision	400–451	.07	.40	.03	.50
Accuracy	240–399	.00	.03	.29	.32
	Estimated Proportion Correctly Classified*: Total = 0.85, Proficient & Above = 0.93				
	452–650	.14	.03	.00	.18
Decision	400–451	.08	.37	.05	.50
Consistency	240–399	.00	.04	.28	.32
	Estimated Proportion Consistently Classified*: Total = 0.79, Proficient & Above = 0.91				
<b>May Form Y</b>					
	452–650	.17	.01	.00	.18
Decision	400–451	.07	.39	.04	.49
Accuracy	240–399	.00	.03	.30	.33
	Estimated Proportion Correctly Classified*: Total = 0.85, Proficient & Above = 0.93				
	452–650	.15	.03	.00	.18
Decision	400–451	.08	.36	.05	.49
Consistency	240–399	.00	.04	.29	.33
	Estimated Proportion Consistently Classified*: Total = 0.80, Proficient & Above = 0.91				

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.10 Decision Accuracy and Consistency: MD HSA Biology Summer 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>Summer Form P</b>					
	452–650	.01	.00	.00	.01
Decision	400–451	.02	.18	.06	.26
Accuracy	240–399	.00	.05	.68	.73
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.89					
	452–650	.01	.00	.00	.01
Decision	400–451	.03	.15	.08	.26
Consistency	240–399	.00	.08	.65	.73
Estimated Proportion Consistently Classified*: Total = 0.81, Proficient & Above = 0.84					
<b>Summer Form Q</b>					
	452–650	.06	.02	.00	.08
Decision	400–451	.01	.24	.04	.29
Accuracy	240–399	.01	.05	.57	.63
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.91					
	452–650	.06	.02	.00	.08
Decision	400–451	.02	.22	.05	.29
Consistency	240–399	.01	.07	.55	.63
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.87					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.11 Decision Accuracy and Consistency: MD HSA English October 2014 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.01	.00	.00	.01
Decision	396–428	.01	.10	.04	.15
Accuracy	240–395	.01	.06	.77	.84
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.89					
	429–650	.01	.00	.00	.01
Decision	396–428	.02	.08	.05	.15
Consistency	240–395	.02	.09	.73	.84
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.85					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.12 Decision Accuracy and Consistency: MD HSA English January 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>January Primary</b>					
	429–650	.01	.00	.00	.01
Decision	396–428	.01	.09	.03	.13
Accuracy	240–395	.01	.06	.79	.86
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.89					
	429–650	.01	.00	.00	.01
Decision	396–428	.02	.07	.04	.13
Consistency	240–395	.02	.08	.76	.86
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.86					
<b>January Form C</b>					
	429–650	.00	.00	.01	.00
Decision	396–428	.09	.03	.14	.09
Accuracy	240–395	.06	.78	.85	.06
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.89					
	429–650	.00	.00	.01	.00
Decision	396–428	.07	.04	.14	.07
Consistency	240–395	.09	.75	.85	.09
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.85					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.13 Decision Accuracy and Consistency: MD HSA English April 2015 Form

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.01	.00	.00	.01
Decision	396–428	.02	.06	.03	.11
Accuracy	240–395	.02	.06	.81	.88
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.89					
	429–650	.01	.00	.00	.01
Decision	396–428	.03	.04	.04	.11
Consistency	240–395	.03	.08	.78	.88
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.86					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 5.14 Decision Accuracy and Consistency: MD HSA English May 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>May Primary</b>					
	429–650	.01	.00	.00	.01
Decision	396–428	.01	.09	.03	.14
Accuracy	240–395	.02	.07	.77	.85
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.88					
	429–650	.01	.00	.00	.01
Decision	396–428	.03	.07	.04	.14
Consistency	240–395	.02	.09	.74	.85
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.84					
<b>May Form X</b>					
	429–650	.02	.00	.00	.02
	396–428	.01	.10	.03	.14
	240–395	.02	.07	.76	.85
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.89					
	429–650	.02	.00	.00	.02
Decision	396–428	.02	.08	.04	.14
Consistency	240–395	.02	.09	.73	.85
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.85					
<b>May Form Y</b>					
	429–650	.01	.00	.00	.01
Decision	396–428	.00	.07	.04	.12
Accuracy	240–395	.01	.06	.81	.88
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.89					
	429–650	.01	.00	.00	.01
Decision	396–428	.01	.06	.04	.12
Consistency	240–395	.02	.09	.77	.88
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.85					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.15 Decision Accuracy and Consistency: MD HSA English Summer 2015 Forms

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>Summer Form P</b>					
	429–650	.00	.00	.00	.00
Decision	396–428	.01	.11	.04	.17
Accuracy	240–395	.01	.05	.77	.83
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.90					
	429–650	.00	.00	.00	.00
Decision	396–428	.02	.10	.05	.17
Consistency	240–395	.01	.08	.74	.83
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.86					
<b>Summer Form Q</b>					
	429–650	.07	.02	.00	.09
Decision	396–428	.00	.10	.03	.13
Accuracy	240–395	.01	.04	.73	.78
Estimated Proportion Correctly Classified*: Total = 0.90, Proficient & Above = 0.92					
	429–650	.06	.02	.00	.09
Decision	396–428	.02	.08	.04	.13
Consistency	240–395	.01	.06	.71	.78
Estimated Proportion Consistently Classified*: Total = 0.85, Proficient & Above* = 0.89					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.16 Decision Accuracy and Consistency: MD HSA Government October 2014 Forms

	Placement Scores	Proficient	Basic	Category Total*
	394–650	.14	.06	.20
Decision	240–393	.06	.74	.80
Accuracy	Estimated Proportion Correctly Classified*: Total = 0.88			
	394–650	.13	.07	.20
Decision	240–393	.11	.70	.80
Consistency	Estimated Proportion Consistently Classified*: Total = 0.83			

\* Inconsistencies between cell entries and totals are due to rounding.



Table 5.17 Decision Accuracy and Consistency: MD HSA Government January 2015 Forms

	Placement Scores	Proficient	Basic	Category Total*
January Form A				
Decision Accuracy	394–650	.51	.05	.56
	240–393	.02	.42	.44
	Estimated Proportion Correctly Classified*: Total = 0.93			
Decision Consistency	394–650	.49	.07	.56
	240–393	.03	.41	.44
	Estimated Proportion Consistently Classified*: Total = 0.90			
January Form C				
Decision Accuracy	394–650	.57	.05	.62
	240–395	.02	.37	.38
	Estimated Proportion Correctly Classified*: Total = 0.93			
Decision Consistency	394–650	.55	.07	.62
	240–393	.03	.35	.38
	Estimated Proportion Consistently Classified*: Total = 0.90			

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.18 Decision Accuracy and Consistency: MD HSA Government May 2015 Forms

	Placement Scores	Proficient	Basic	Category Total*
May Form D				
Decision Accuracy	394–650	.72	.06	.78
	240–393	.00	.22	.22
	Estimated Proportion Correctly Classified*: Total = 0.94			
Decision Consistency	394–650	.71	.07	.78
	240–393	.01	.21	.22
	Estimated Proportion Consistently Classified*: Total = 0.91			
May Form X				
Decision Accuracy	394–650	.70	.07	.77
	240–395	.00	.23	.23
	Estimated Proportion Correctly Classified*: Total = 0.93			
Decision Consistency	394–650	.69	.08	.77
	240–393	.01	.22	.23
	Estimated Proportion Consistently Classified*: Total = 0.91			
May Form Y				
Decision Accuracy	394–650	.70	.06	.76
	240–393	.00	.24	.24
	Estimated Proportion Correctly Classified*: Total=0.94			
Decision Consistency	394–650	.68	.08	.76
	240–393	.01	.23	.24
	Estimated Proportion Consistently Classified*: Total=0.91			

\* Inconsistencies between cell entries and totals are due to rounding.

Table 5.19 Decision Accuracy and Consistency: MD HSA Government Summer 2015 Forms

	Placement Scores	Proficient	Basic	Category Total*
<b>Summer Form P</b>				
Decision Accuracy	394–650	.28	.07	.35
	240–393	.02	.63	.65
Estimated Proportion Correctly Classified*: Total = 0.91				
Decision Consistency	394–650	.27	.08	.35
	240–393	.04	.61	.65
Estimated Proportion Consistently Classified*: Total = 0.88				
<b>Summer Form Q</b>				
Decision Accuracy	394–650	.25	.04	.29
	240–395	.04	.67	.71
Estimated Proportion Correctly Classified*: Total = 0.92				
Decision Consistency	394–650	.24	.05	.29
	240–393	.06	.66	.71
Estimated Proportion Consistently Classified*: Total = 0.89				

\* Inconsistencies between cell entries and totals are due to rounding.

## Section 6. Student Characteristics

### Summary Statistics

The results presented in Tables 6.1 and 6.3 to 6.5 are based on the combined results for students who took the tests in October 2014 and January, April, May, and summer 2015. All results are based on the final Research files sent to MSDE. Scores in Table 6.1 are reported for all students and by grade. Table 6.2 reports the scores for all content areas by the October 2014, January, April, May, and Summer 2015 administrations.

Table 6.1 MD HSA Means and Standard Deviations for 2014-2015 Overall and by Grade

		<i>N</i>	Mean	<i>SD</i>
Algebra	Overall Grade	38,509	373.8	44.9
	7	8	*	*
	8	169	411.4	30.6
	9	6,897	379.1	45.0
	10	15,686	373.8	44.4
	11	10,060	371.7	45.0
	12	5,689	369.9	45.1
Biology	Overall Grade	82,288	407	47.1
	8	190	439.5	27.4
	9	27,086	428.7	43.1
	10	34,058	409.2	43.1
	11	14,177	378.4	40.4
	12	6,777	368.1	39.7
English	Overall Grade	26,805	367	35.9
	6	1	*	*
	8	1	*	*
	9	382	360.0	41.1
	10	2,983	362.6	38.1
	11	15,571	370.0	34.0
	12	7,867	363.1	37.7
Government	Overall Grade	66,576	412.2	43.2
	8	2	*	*
	9	23,717	413.4	42.3
	10	36,363	414.8	41.5
	11	5,263	398.6	50.4
	12	1,231	374.0	49.0

*Note.* Government data are based on October 2014, January, May, and Summer 2015 administrations only.

\* Statistics not reported for sample size less than 50 ( $N < 50$ ).

Table 6.2 MD HSA Mean Scale Scores by Administration

Content Area	October			January			April			May			Summer		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
Algebra	17,369	379.3	41.6	11,668	371.9	45.5	1,259	362.6	50.2	8,361	366.9	48.1	170	364.6	48.0
Biology	10,553	374.6	35.6	11,338	392.6	46.3	1,499	358.5	50.6	58,974	417.1	44.8	621	377.5	42.2
English	12,372	369.0	34.0	8,704	366.3	35.5	1,574	354.7	45.8	4,067	366.9	37.0	177	365.4	37.2
Government	4,156	365.6	39.8	6,833	399.9	46.1	-	-	-	56,110	417.4	40.5	304	370.5	49.1

The mean scale scores are presented for the years 2003 to 2015 by content area in Table 6.3. Table 6.4 presents the passing rates for these years.

Table 6.3 MD HSA Mean Scale Scores over Test Years

Content Area	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Algebra	408.3	411.9	409.5	421.5	421.2	420.5	414.3	408.1	410.9	408.7	409.5	402.6	373.8
Biology	400.8	406.2	404.7	415.0	414.5	414.7	409.0	408.7	406.9	410.7	409.2	409.5	407.0
English	--	--	--	393.0	412.0	404.3	399.7	398.2	396.8	398.3	395.0	395.8	366.9
Government	403.5	406.5	409.3	418.5	417.1	417.1	406.3	408.6	405.6	--	414.7	417.6	412.2

*Note.* The current English test was not administered prior to 2006. The Government test was not administered after the May 2011 administration. Starting in January 2013, Government was reintroduced into the HSAs.

Table 6.4 MD HSA Percentage Passing Rates (Proficient + Advanced) over Test Years

Content Area	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Algebra	53.1	59.3	54.5	66.6	63.3	62.0	53.3	46.6	49.1	50.3	49.4	44.5	12.5
Biology	54.3	62.0	58.4	67.8	70.1	68.4	60.0	59.1	57.9	60.9	60.0	61.4	58.2
English	--	--	--	60.1	70.6	61.0	55.3	54.8	54.0	55.0	53.8	54.8	15.2
Government	39.8	54.6	67.1	74.1	73.3	71.5	61.1	61.7	62.1	--	72.4	76.5	71.8

*Note.* The current English test was not administered prior to 2006. The Government test was not administered after the May 2011 administration. Starting in January 2013, Government was reintroduced into the HSAs.

The Algebra and English tests are used for the high school mathematics and English/language arts components of the MSDE Adequate Yearly Progress report as required under the NCLB Act. Beginning with the January 2008 administration, Biology has been used for the NCLB science component. Table 6.5 presents the percentages of Algebra, Biology, and English students classified as Basic, Proficient, and Advanced, and the percentages of students classified as Basic and Proficient for Government, in 2015.

Table 6.5 MD HSA Performance Classification Rates in 2014-2015 for Algebra, Biology, English, Government

Content Area	Basic	Proficient	Advanced
Algebra	87.5	12.1	0.5
Biology	41.8	42.6	15.6
English	84.8	14.2	1.0
Government	28.2	71.8	--

*Note.* Government data are based on October 2014, January, May, and Summer 2015 administrations only.

Summary statistics for all students and for subgroups based on gender, special education programs, ethnicity, and English language fluency are presented in Tables 6.6 through 6.24. The tables include the numbers of students tested for whom valid scores were available, mean scale scores, and standard deviations of scale scores. In addition, raw score reliabilities are provided for the overall group of test takers and for subgroups. Figures 6.1 through 6.4 show the distributions of total scale scores for each content area for the May 2015 administration.

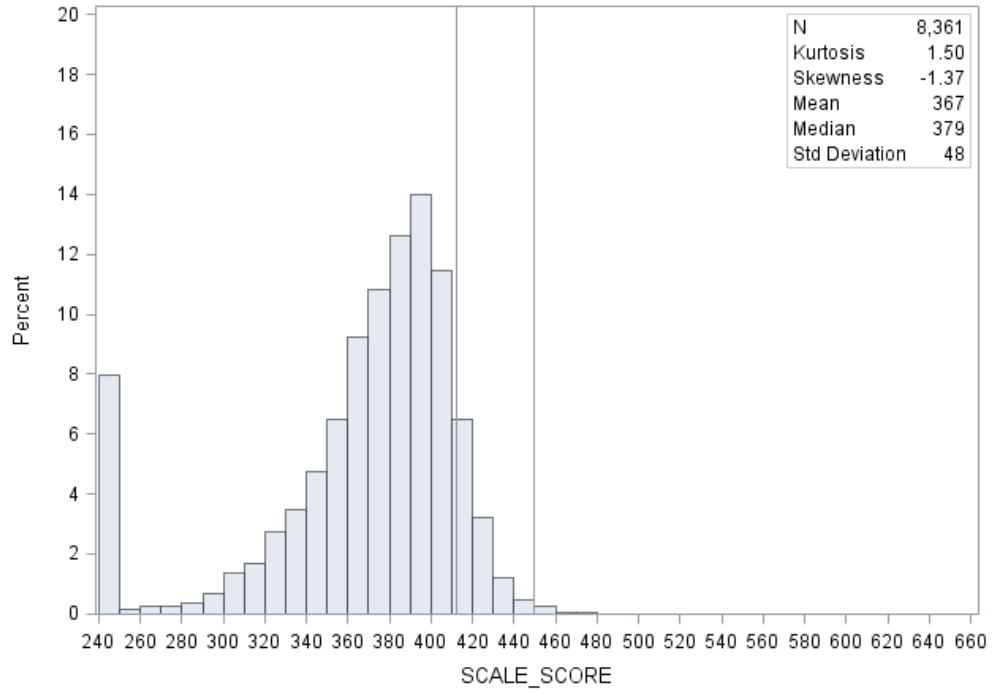


Figure 6.1 Histogram of Total Scale Scores for MD HSA May 2015 Algebra

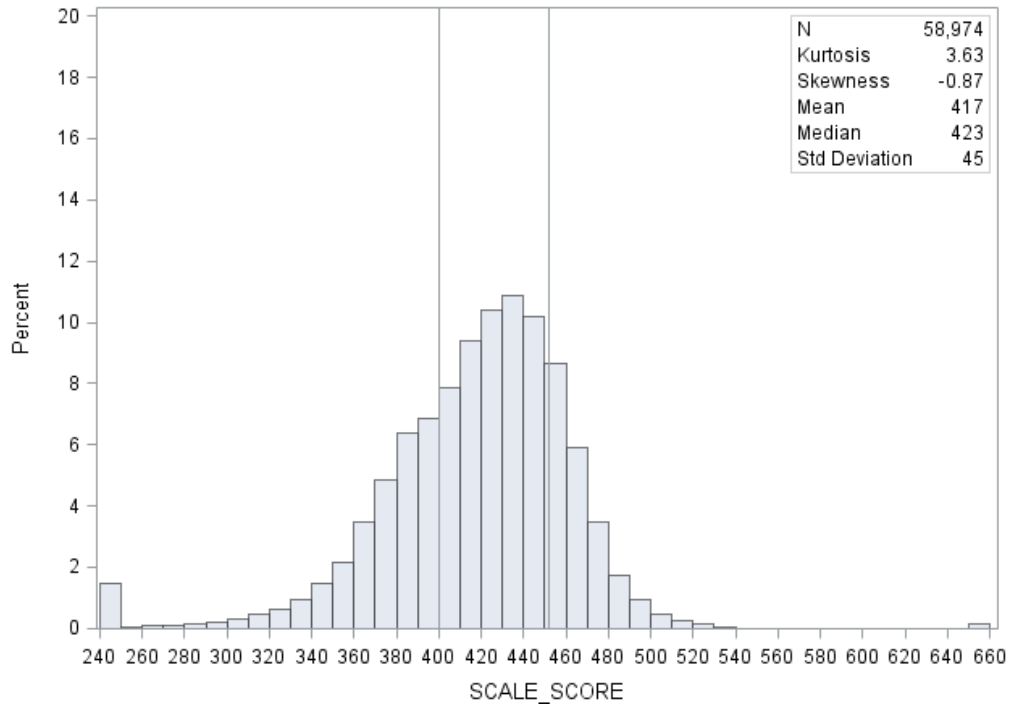


Figure 6.2 Histogram of Total Scale Scores for MD HSA May 2015 Biology

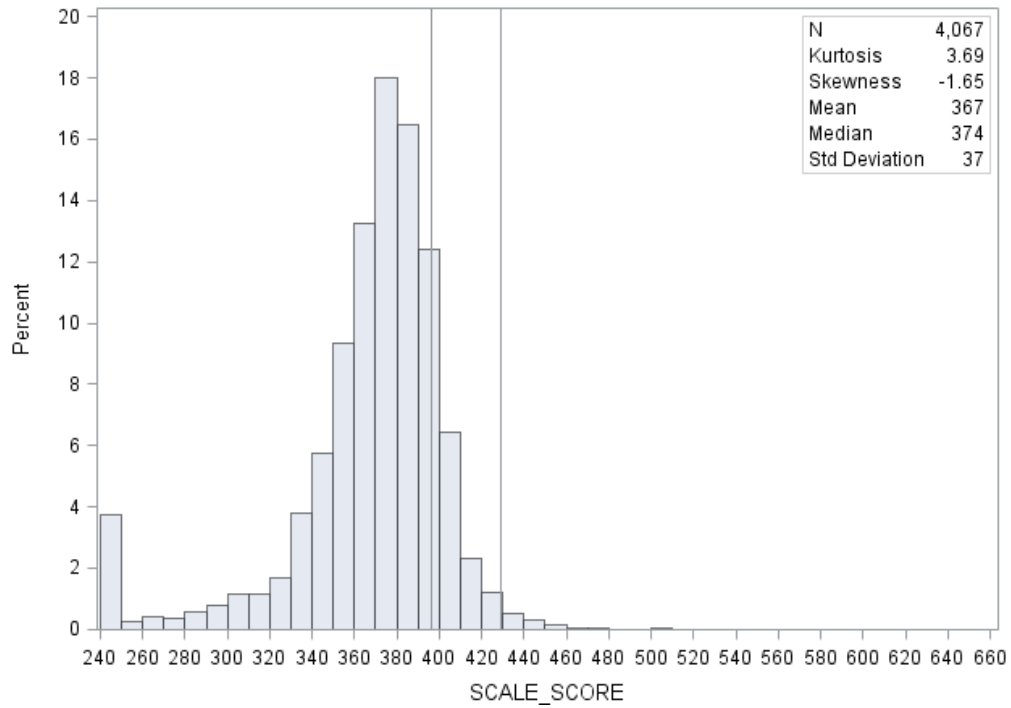


Figure 6.3 Histogram of Total Scale Scores for MD HSA May 2015 English

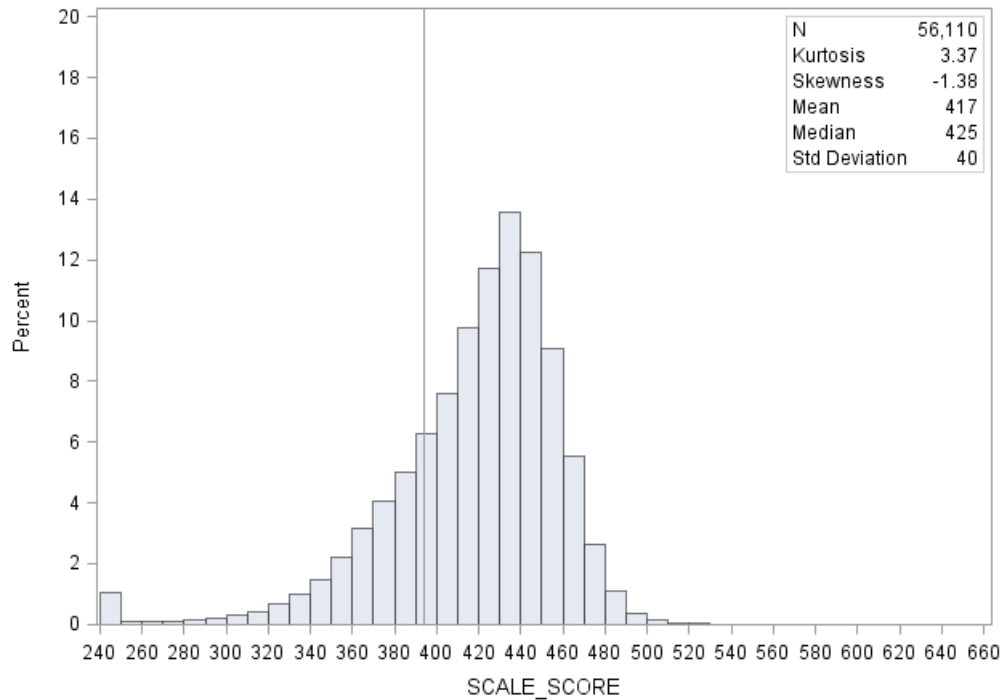


Figure 6.4 Histogram of Total Scale Scores for MD HSA May 2015 Government

Table 6.6 Summary Statistics for MD HSA Algebra: October 2014 Form

		Primary Form R				
		Mean	SD	N	%	Alpha
Overall		379.3	41.6	17,369	100.0	0.75
Gender	Male	377.4	44.2	9,065	52.2	0.77
	Female	381.4	38.5	8,251	47.5	0.72
	Missing	376.2	44.3	53	0.3	0.77
Grade	6	*	*	0	0.0	*
	7	*	*	2	0.0	*
	8	405.6	38.1	76	0.4	0.84
	9	384.0	42.9	3,118	18.0	0.80
	10	379.3	41.5	6,607	38.0	0.74
	11	377.5	41.7	4,250	24.5	0.73
	12	376.4	39.9	3,259	18.8	0.71
	Missing	384.6	41.4	57	0.3	0.85
Special Education	Yes	359.5	49.8	3,345	19.3	0.69
	No	384.2	37.9	13,262	76.4	0.75
	Exited	390.5	33.8	60	0.3	0.77
	Exited and placed in 504 <sup>a</sup>	*	*	14	0.1	*
	504	380.8	38.6	688	4.0	0.74
Ethnicity	American Indian	*	*	49	0.3	*
	Asian	391.9	39.9	393	2.3	0.83
	African American	376.0	41.7	10,347	59.6	0.72
	Hawaiian/ Pacific Islander	*	*	28	0.2	*
	White	387.9	39.0	3,627	20.9	0.79
	Hispanic	377.3	43.2	2,414	13.9	0.73
	Missing	385.7	39.5	511	2.9	0.77
	Limited English Proficient	Yes	364.5	48.1	1,098	6.3
No	380.1	41.1	16,052	92.4	0.75	
Exited <sup>b</sup>	393.4	22.7	219	1.3	0.65	

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 6.7 Summary Statistics for MD HSA Algebra: January 2015 Forms

		Primary Forms A-B					Makeup Form C				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		371.6	46.2	8,637	100.0	0.75	372.8	43.7	3,031	100.0	0.74
Gender	Male	367.8	48.3	4,686	54.3	0.75	371.1	44.3	1,606	53.0	0.76
	Female	376.3	42.9	3,927	45.5	0.74	374.7	42.9	1,425	47.0	0.70
	Missing	*	*	24	0.3	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	3	0.0	*	*	*	1	0.0	*
	8	*	*	31	0.4	*	*	*	9	0.3	*
	9	378.6	45.1	1,497	17.3	0.78	379.5	40.2	506	16.7	0.74
	10	372.2	45.1	3,338	38.6	0.73	372.1	44.1	1,233	40.7	0.72
	11	370.5	45.6	2,461	28.5	0.73	372.3	42.7	856	28.2	0.73
	12	363.5	49.1	1,270	14.7	0.73	367.4	46.8	425	14.0	0.77
	Missing	*	*	37	0.4	*	*	*	1	0.0	*
Special Education	Yes	355.6	51.6	1,832	21.2	0.70	360.4	48.2	451	14.9	0.73
	No	375.9	43.7	6,456	74.7	0.75	375.2	42.3	2,458	81.1	0.73
	Exited	*	*	27	0.3	*	*	*	12	0.4	*
	Exited and placed in 504 <sup>a</sup>	*	*	13	0.2	*	.	.	.	.	.
	504	376.3	42.9	309	3.6	0.78	372.6	42.6	110	3.6	0.70
Ethnicity	American Indian	*	*	21	0.2	*	*	*	7	0.2	*
	Asian	391.2	36.9	170	2.0	0.83	*	*	43	1.4	*
	African American	368.1	47.0	5,172	59.9	0.72	369.8	44.2	1,994	65.8	0.71
	Hawaiian/ Pacific Islander	*	*	14	0.2	*	*	*	5	0.2	*
	White	378.8	45.6	1,704	19.7	0.79	379.7	43.0	556	18.3	0.79
	Hispanic	371.8	43.5	1,324	15.3	0.72	376.9	40.0	380	12.5	0.72
	Missing	379.3	43.4	232	2.7	0.79	*	*	46	1.5	*
Limited English Proficient	Yes	364.2	45.0	697	8.1	0.68	363.3	45.1	160	5.3	0.71
	No	371.9	46.3	7,843	90.8	0.75	373.3	43.5	2,851	94.1	0.74
	Exited <sup>b</sup>	396.9	24.3	97	1.1	0.78	*	*	20	0.7	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.8 Summary Statistics for MD HSA Algebra: April 2015 Form

		Primary Form S				
		Mean	SD	N	%	Alpha
Overall		362.6	50.2	1,259	100.0	0.69
Gender	Male	361.2	52.8	669	53.1	0.70
	Female	364.1	47.1	589	46.8	0.67
	Missing	*	*	1	0.1	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	0	0.0	*
	9	378.7	41.7	115	9.1	0.68
	10	368.2	47.9	239	19.0	0.67
	11	374.7	44.9	220	17.5	0.68
	12	353.9	52.2	683	54.2	0.67
	Missing	*	*	2	0.2	*
Special Education	Yes	344.9	55.8	236	18.7	0.59
	No	366.5	47.8	973	77.3	0.69
	Exited	*	*	8	0.6	*
	Exited and placed in 504 <sup>a</sup>	*	*	2	0.2	*
	504	*	*	40	3.2	*
Ethnicity	American Indian	*	*	3	0.2	*
	Asian	*	*	16	1.3	*
	African American	363.3	49.7	818	65.0	0.68
	Hawaiian/ Pacific Islander	*	*	3	0.2	*
	White	370.2	47.7	153	12.2	0.62
	Hispanic	353.7	52.4	253	20.1	0.68
	Missing	*	*	13	1.0	*
Limited English Proficient	Yes	353.1	50.5	55	4.4	0.55
	No	362.9	50.2	1,199	95.2	0.69
	Exited <sup>b</sup>	*	*	5	0.4	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.9 Summary Statistics for MD HSA Algebra: May 2015 Forms

		Primary Forms D-H					Makeup 1 Form X					Makeup 2 Form Y				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		366.5	48.3	6,215	100.0	0.71	369.2	47.0	1,032	100.0	0.75	366.8	47.9	1,114	100.0	0.72
Gender	Male	364.5	50.8	3,202	51.5	0.73	368.1	49.6	538	52.1	0.79	364.0	51.7	580	52.1	0.76
	Female	368.4	45.4	2,833	45.6	0.70	370.4	44.2	494	47.9	0.70	368.3	43.8	500	44.9	0.66
	Missing	371.1	45.8	180	2.9	0.72	*	*	0	0.0	*	*	*	34	3.1	*
Grade	6	*	*	*	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	1	0.0	*	*	*	0	0.0	*	*	*	1	0.1	*
	8	*	*	45	0.7	*	*	*	3	0.3	*	*	*	3	0.3	*
	9	369.6	49.2	1,218	19.6	0.73	376.7	45.1	215	20.8	0.76	368.0	52.2	198	17.8	0.79
	10	367.2	47.0	3,103	49.9	0.70	369.4	47.2	526	51.0	0.74	366.9	45.4	595	53.4	0.68
	11	361.1	49.5	1,631	26.2	0.69	362.9	46.1	283	27.4	0.70	362.2	50.3	277	24.9	0.71
	12	*	*	33	0.5	*	*	*	5	0.5	*	*	*	5	0.4	*
	Missing	372.3	45.9	184	3.0	0.73	*	*	0	0.0	*	*	*	35	3.1	*
Special Education	Yes	345.2	54.6	1,347	21.7	0.65	349.0	51.0	177	17.2	0.63	340.3	55.2	163	14.6	0.64
	No	372.5	44.5	4,622	74.4	0.71	373.5	44.9	814	78.9	0.76	371.3	44.7	902	81.0	0.72
	Exited	*	*	44	0.7	*	*	*	11	1.1	*	*	*	7	0.6	*
	Exited and placed in 504 <sup>a</sup>	*	*	7	0.1	*	*	*	1	0.1	*	*	*	2	0.2	*
	504	371.3	44.9	195	3.1	0.71	*	*	29	2.8	*	*	*	40	3.6	*
Ethnicity	American Indian	*	*	17	0.3	*	*	*	1	0.1	*	*	*	1	0.1	*
	Asian	368.7	52.6	95	1.5	0.78	*	*	19	1.8	*	*	*	17	1.5	*
	African American	368.4	45.5	2,931	47.2	0.69	369.3	45.0	522	50.6	0.71	365.8	47.0	572	51.3	0.70
	Hawaiian/ Pacific Islander	*	*	8	0.1	*	*	*	3	0.3	*	*	*	2	0.2	*
	White	372.8	50.0	864	13.9	0.79	379.5	47.6	136	13.2	0.83	375.8	46.9	129	11.6	0.76
	Hispanic	359.3	51.0	1,935	31.1	0.68	363.1	48.1	321	31.1	0.70	360.8	50.3	338	30.3	0.71
	Missing	373.7	45.2	365	5.9	0.71	*	*	30	2.9	*	388.0	35.7	55	4.9	0.69
Limited English Proficient	Yes	347.5	51.2	486	7.8	0.60	347.1	54.6	96	9.3	0.67	346.2	51.6	89	8.0	0.72
	No	367.9	47.7	5,660	91.1	0.72	371.0	45.7	921	89.2	0.75	368.2	47.3	1,011	90.8	0.71
	Exited <sup>b</sup>	383.0	38.1	69	1.1	0.69	*	*	15	1.5	*	*	*	14	1.3	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.10 Summary Statistics for MD HSA Algebra: Summer 2015 Forms

		Primary 1 Form P					Primary 2 Form Q				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		367.8	44.5	145	100.0	0.75	*	*	25	100.0	*
Gender	Male	369.7	40.1	87	60.0	0.75	*	*	17	68.0	*
	Female	365.9	50.9	56	38.6	0.76	*	*	8	32.0	*
	Missing	*	*	2	1.4	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	2	1.4	*	*	*	0	0.0	*
	9	*	*	25	17.2	*	*	*	5	20.0	*
	10	*	*	39	26.9	*	*	*	6	24.0	*
	11	369.5	41.1	70	48.3	0.67	*	*	12	48.0	*
	12	*	*	8	5.5	*	*	*	1	4.0	*
	Missing	*	*	1	0.7	*	*	*	1	4.0	*
Special Education	Yes	*	*	27	18.6	*	*	*	9	36.0	*
	No	371.2	42.4	113	77.9	0.77	*	*	16	64.0	*
	Exited	*	*	5	3.4	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	27	18.6	*	*	*	0	0.0	*
	504	371.2	42.4	113	77.9	0.33	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	1	4.0	*
	Asian	*	*	1	0.7	*	*	*	0	0.0	*
	African American	363.5	46.7	93	64.1	0.74	*	*	16	64.0	*
	Hawaiian/ Pacific Islander	*	*	2	1.4	*	*	*	0	0.0	*
	White	*	*	26	17.9	*	*	*	7	28.0	*
	Hispanic	*	*	17	11.7	*	*	*	1	4.0	*
	Missing	*	*	6	4.1	*	*	*	0	0.0	*
Limited English Proficient	Yes	*	*	1	0.7	*	*	*	0	0.0	*
	No	367.3	44.7	142	97.9	0.76	*	*	25	100.0	*
	Exited <sup>b</sup>	*	*	2	1.4	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.11 Summary Statistics for MD HSA Biology: October 2014 Form

		Primary Form R				
		Mean	SD	N	%	Alpha
Overall		374.6	35.6	10,553	100.0	0.76
Gender	Male	372.1	39.4	5,314	50.4	0.78
	Female	377.2	31.1	5,210	49.4	0.73
	Missing	*	*	29	0.3	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	0	0.0	*
	9	365.5	42.7	234	2.2	0.79
	10	377.2	39.0	2,212	21.0	0.84
	11	375.1	34.2	4,514	42.8	0.72
	12	373.1	34.4	3,554	33.7	0.71
	Missing	*	*	39	0.4	*
Special Education	Yes	361.0	40.6	2,099	19.9	0.67
	No	378.0	33.4	8,054	76.3	0.76
	Exited	*	*	34	0.3	*
	Exited and placed in 504 <sup>a</sup>	*	*	7	0.1	*
	504	378.5	34.7	359	3.4	0.80
Ethnicity	American Indian	*	*	30	0.3	*
	Asian	377.5	43.9	242	2.3	0.89
	African American	371.8	35.0	6,763	64.1	0.68
	Hawaiian/ Pacific Islander	*	*	21	0.2	*
	White	384.5	34.7	1,868	17.7	0.85
	Hispanic	373.9	34.7	1,342	12.7	0.73
	Missing	377.3	40.2	287	2.7	0.81
Limited English Proficient	Yes	359.0	36.8	523	5.0	0.56
	No	375.3	35.5	9,896	93.8	0.76
	Exited <sup>b</sup>	383.5	25.8	134	1.3	0.67

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.12 Summary Statistics for MD HSA Biology: January 2015 Forms

		Primary Forms A-B					Makeup Form C				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		391.4	45.2	8,329	100.0	0.94	395.9	49.0	3,009	100.0	0.94
Gender	Male	389.9	46.5	4,387	52.7	0.94	394.1	52.2	1,541	51.2	0.95
	Female	393.1	43.7	3,916	47.0	0.94	397.8	45.3	1,465	48.7	0.94
	Missing	*	*	26	0.3	*	*	*	3	0.1	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	420.3	44.6	624	7.5	0.95	421.6	49.1	202	6.7	0.95
	10	410.2	45.9	3,258	39.1	0.95	419.1	46.5	1,245	41.4	0.95
	11	377.3	34.9	2,886	34.7	0.83	377.7	39.0	1,013	33.7	0.85
	12	366.3	37.5	1,535	18.4	0.73	367.3	40.8	546	18.1	0.74
	Missing	*	*	26	0.3	*	*	*	3	0.1	*
Special Education	Yes	368.2	41.0	1,347	16.2	0.83	367.1	45.5	326	10.8	0.84
	No	395.8	44.8	6,620	79.5	0.94	399.8	48.3	2,553	84.8	0.95
	Exited	*	*	41	0.5	*	*	*	16	0.5	*
	Exited and placed in 504 <sup>a</sup>	*	*	12	0.1	*	*	*	4	0.1	*
	504	395.0	43.6	309	3.7	0.93	389.7	49.0	110	3.7	0.93
Ethnicity	American Indian	*	*	18	0.2	*	*	*	8	0.3	*
	Asian	403.0	51.5	212	2.5	0.96	416.8	55.7	90	3.0	0.97
	African American	371.2	36.5	3,955	47.5	0.79	371.0	39.6	1,424	47.3	0.79
	Hawaiian/ Pacific Islander	*	*	11	0.1	*	*	*	2	0.1	*
	White	420.7	40.7	2,930	35.2	0.95	425.8	40.1	1,151	38.3	0.95
	Hispanic	381.0	39.2	976	11.7	0.89	391.3	48.6	256	8.5	0.93
	Missing	399.6	46.9	227	2.7	0.93	406.8	50.4	78	2.6	0.95
Limited English Proficient	Yes	362.6	36.8	415	5.0	0.69	362.1	40.7	109	3.6	0.60
	No	393.0	45.2	7,847	94.2	0.94	397.2	48.9	2,883	95.8	0.95
	Exited <sup>b</sup>	377.6	37.3	67	0.8	0.87	*	*	17	0.6	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.13 Summary Statistics for MD HSA Biology: April 2015 Form

		Primary Form S				
		Mean	SD	N	%	Alpha
Overall		358.5	50.6	1,499	100.0	0.77
Gender	Male	357.8	52.4	745	49.7	0.79
	Female	359.3	48.8	753	50.2	0.74
	Missing	*	*	1	0.1	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	0	0.0	*
	9	*	*	6	0.4	*
	10	373.7	41.4	112	7.5	0.71
	11	366.9	43.5	400	26.7	0.71
	12	353.4	53.5	975	65.0	0.79
	Missing	*	*	6	0.4	*
Special Education	Yes	347.9	51.8	261	17.4	0.68
	No	360.3	50.7	1,176	78.5	0.78
	Exited	*	*	8	0.5	*
	Exited and placed in 504 <sup>a</sup>	*	*	2	0.1	*
	504	366.3	38.2	52	3.5	0.65
Ethnicity	American Indian	*	*	5	0.3	*
	Asian	*	*	30	2.0	*
	African American	357.9	48.5	896	59.8	0.70
	Hawaiian/ Pacific Islander	*	*	5	0.3	*
	White	377.6	49.8	173	11.5	0.90
	Hispanic	350.7	53.8	367	24.5	0.73
	Missing	*	*	23	1.5	*
Limited English Proficient	Yes	344.0	58.2	126	8.4	0.64
	No	359.7	49.7	1,358	90.6	0.78
	Exited <sup>b</sup>	*	*	15	1.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.14 Summary Statistics for MD HSA Biology: May 2015 Forms

		Primary Forms D-H					Makeup 1 Form X					Makeup 2 Form Y				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		417.8	44.7	46,876	100.0	0.94	414.8	44.1	6,202	100.0	0.94	414.3	45.5	5,896	100.0	0.94
Gender	Male	415.6	47.0	23,485	50.1	0.95	413.8	46.8	3,053	49.2	0.95	412.7	47.6	2,895	49.1	0.94
	Female	420.0	42.0	22,944	48.9	0.94	416.4	41.4	3,064	49.4	0.94	416.6	42.8	2,932	49.7	0.94
	Missing	420.6	48.8	447	1.0	0.95	397.9	35.5	85	1.4	0.91	382.3	49.7	69	1.2	0.89
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	8	440.3	22.6	145	0.3	0.89	*	*	20	0.3	*	*	*	23	0.4	*
	9	430.1	42.0	20,925	44.6	0.94	428.3	42.9	2,544	41.0	0.95	428.4	45.3	2,410	40.9	0.95
	10	412.2	42.0	21,188	45.2	0.93	410.4	39.9	2,925	47.2	0.93	409.0	40.8	2,863	48.6	0.93
	11	383.5	47.5	4,057	8.7	0.92	382.8	47.3	614	9.9	0.91	381.9	44.2	520	8.8	0.90
	12	363.8	48.6	96	0.2	0.86	*	*	13	0.2	*	*	*	10	0.2	*
	Missing	420.2	48.4	465	1.0	0.95	397.6	36.7	86	1.4	0.91	383.6	50.4	70	1.2	0.90
Special Education	Yes	375.8	51.3	4,589	9.8	0.91	376.3	48.0	520	8.4	0.90	374.1	52.2	530	9.0	0.91
	No	422.7	41.2	40,252	85.9	0.94	418.8	41.9	5,384	86.8	0.94	418.7	42.8	5,100	86.5	0.94
	Exited	407.4	42.5	278	0.6	0.94	*	*	41	0.7	*	*	*	47	0.8	*
	Exited and placed in 504 <sup>a</sup>	415.0	39.9	87	0.2	0.93	*	*	10	0.2	*	*	*	9	0.2	*
	504	415.8	45.2	1,670	3.6	0.94	411.1	44.2	247	4.0	0.94	412.4	39.6	210	3.6	0.94
Ethnicity	American Indian	411.4	41.8	125	0.3	0.93	*	*	21	0.3	*	*	*	19	0.3	*
	Asian	444.0	36.9	3,085	6.6	0.94	443.7	36.6	333	5.4	0.94	444.7	43.8	313	5.3	0.94
	African American	401.1	43.4	13,956	29.8	0.92	399.6	41.5	1,951	31.5	0.92	398.7	43.9	1,878	31.9	0.92
	Hawaiian/ Pacific Islander	404.7	47.0	69	0.1	0.95	*	*	8	0.1	*	*	*	9	0.2	*
	White	434.1	37.2	18,244	38.9	0.93	433.0	37.1	2,256	36.4	0.94	432.7	36.7	2,091	35.5	0.93
	Hispanic	399.4	46.6	8,904	19.0	0.93	398.4	44.8	1,316	21.2	0.93	399.3	44.9	1,299	22.0	0.93
	Missing	425.4	41.1	2,493	5.3	0.94	416.5	45.6	317	5.1	0.94	417.3	50.8	287	4.9	0.95
Limited English Proficient	Yes	379.0	45.5	1,608	3.4	0.89	373.4	44.9	195	3.1	0.88	375.4	45.6	196	3.3	0.86
	No	419.2	44.2	44,721	95.4	0.94	416.2	43.5	5,951	96.0	0.94	415.6	44.9	5,640	95.7	0.94
	Exited <sup>b</sup>	418.5	30.1	547	1.2	0.90	415.3	42.2	56	0.9	0.93	415.9	38.8	60	1.0	0.93

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 6.15 Summary Statistics for MD HSA Biology: Summer 2015 Forms

		Primary 1 Form P					Primary 2 Form Q				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		374.9	41.2	508	100.0	0.84	388.9	44.9	113	100.0	0.92
Gender	Male	372.3	42.5	333	65.6	0.84	382.2	45.1	63	55.8	0.91
	Female	379.9	38.3	174	34.3	0.84	397.4	43.6	50	44.2	0.92
	Missing	*	*	1	0.2	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	1	0.2	*	*	*	1	0.9	*
	9	379.7	39.3	122	24.0	0.84	*	*	19	16.8	*
	10	374.1	43.2	203	40.0	0.84	387.3	43.1	52	46.0	0.89
	11	370.8	40.6	137	27.0	0.80	*	*	36	31.9	*
	12	*	*	44	8.7	*	*	*	4	3.5	*
	Missing	*	*	1	0.2	*	*	*	1	0.9	*
Special Education	Yes	357.3	47.0	87	17.1	0.67	*	*	21	18.6	*
	No	378.9	38.5	412	81.1	0.85	394.7	45.6	90	79.6	0.93
	Exited	*	*	1	0.2	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	8	1.6	*	*	*	2	1.8	*
Ethnicity	American Indian	*	*	3	0.6	*	*	*	1	0.9	*
	Asian	*	*	5	1.0	*	*	*	6	5.3	*
	African American	372.1	41.3	328	64.6	0.83	377.2	46.2	59	52.2	0.90
	Hawaiian/ Pacific Islander	*	*	1	0.2	*	*	*	0	0.0	*
	White	384.7	39.5	90	17.7	0.87	*	*	37	32.7	*
	Hispanic	381.2	37.0	69	13.6	0.81	*	*	6	5.3	*
	Missing	*	*	12	2.4	*	*	*	4	3.5	*
Limited English Proficient	Yes	*	*	4	0.8	*	*	*	0	0.0	*
	No	375.0	41.3	503	99.0	0.84	388.6	44.9	112	99.1	0.92
	Exited <sup>b</sup>	*	*	1	0.2	*	*	*	1	0.9	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.16 Summary Statistics for MD HSA English: October 2014 Form

		Primary Form R				
		Mean	SD	N	%	Alpha
Overall		369.0	34.0	12,372	100.0	0.81
Gender	Male	366.2	35.8	6,935	56.1	0.81
	Female	372.7	31.0	5,416	43.8	0.80
	Missing	*	*	21	0.2	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	1	0.0	*
	9	363.5	36.3	142	1.1	0.84
	10	364.1	35.4	1,248	10.1	0.81
	11	371.4	33.1	6,718	54.3	0.81
	12	366.9	34.3	4,226	34.2	0.80
	Missing	*	*	37	0.3	*
Special Education	Yes	355.6	37.3	2,374	19.2	0.76
	No	372.5	32.0	9,517	76.9	0.81
	Exited	*	*	45	0.4	*
	Exited and placed in 504 <sup>a</sup>	*	*	7	0.1	*
	504	368.7	37.5	429	3.5	0.83
Ethnicity	American Indian	*	*	29	0.2	*
	Asian	372.7	33.9	373	3.0	0.85
	African American	367.0	33.9	7,258	58.7	0.79
	Hawaiian/ Pacific Islander	*	*	31	0.3	*
	White	374.8	32.6	2,642	21.4	0.83
	Hispanic	367.5	34.5	1,716	13.9	0.81
	Missing	370.4	38.9	323	2.6	0.85
Limited English Proficient	Yes	352.0	33.0	680	5.5	0.69
	No	369.8	33.9	11,498	92.9	0.81
	Exited <sup>b</sup>	379.8	21.4	194	1.6	0.76

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.17 Summary Statistics for MD HSA English: January 2015 Forms

		Primary Forms A-B					Makeup Form C				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		365.9	35.7	6,465	100.0	0.82	367.2	34.8	2,239	100.0	0.82
Gender	Male	362.7	37.7	3,745	57.9	0.82	363.6	36.8	1,261	56.3	0.82
	Female	370.4	32.2	2,702	41.8	0.81	371.9	31.3	977	43.6	0.81
	Missing	*	*	18	0.3	*	*	*	1	0.0	*
Grade	6	*	*	0	0.0	*	*	*	1	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	354.4	47.8	77	1.2	0.87	*	*	35	1.6	*
	10	360.2	37.9	659	10.2	0.82	358.6	40.5	227	10.1	0.85
	11	368.9	34.3	3,869	59.8	0.82	370.4	32.4	1,330	59.4	0.81
	12	362.4	36.4	1,844	28.5	0.81	364.0	36.4	645	28.8	0.81
	Missing	*	*	16	0.2	*	*	*	1	0.0	*
Special Education	Yes	354.9	37.9	1,307	20.2	0.77	351.0	38.4	315	14.1	0.76
	No	368.6	34.5	4,922	76.1	0.82	370.0	33.4	1,841	82.2	0.81
	Exited	*	*	21	0.3	*	*	*	4	0.2	*
	Exited and placed in 504 <sup>a</sup>	*	*	7	0.1	*	*	*	0	0.0	*
	504	370.1	38.4	208	3.2	0.85	366.6	33.0	79	3.5	0.84
Ethnicity	American Indian	*	*	11	0.2	*	*	*	8	0.4	*
	Asian	366.4	40.0	177	2.7	0.86	*	*	47	2.1	*
	African American	364.2	36.0	4,017	62.1	0.81	366.0	34.2	1,470	65.7	0.80
	Hawaiian/ Pacific Islander	*	*	9	0.1	*	*	*	2	0.1	*
	White	371.8	34.7	1,174	18.2	0.84	370.3	36.9	398	17.8	0.85
	Hispanic	365.8	33.5	941	14.6	0.81	368.9	35.1	270	12.1	0.83
	Missing	366.6	41.3	136	2.1	0.84	*	*	44	2.0	*
Limited English Proficient	Yes	355.1	33.6	485	7.5	0.71	351.3	34.4	130	5.8	0.66
	No	366.6	35.9	5,885	91.0	0.82	368.1	34.7	2,086	93.2	0.82
	Exited <sup>b</sup>	377.9	25.3	95	1.5	0.78	*	*	23	1.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.18 Summary Statistics for MD HSA English: April 2015 Form

		Primary Form S				
		Mean	SD	N	%	Alpha
Overall		354.7	45.8	1,574	100.0	0.80
Gender	Male	352.0	47.6	895	56.9	0.81
	Female	358.4	43.2	677	43.0	0.79
	Missing	*	*	2	0.1	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	0	0.0	*
	9	*	*	10	0.6	*
	10	358.9	44.2	65	4.1	0.79
	11	365.6	39.7	468	29.7	0.79
	12	349.4	47.9	1,026	65.2	0.80
	Missing	*	*	5	0.3	*
Special Education	Yes	345.0	48.3	276	17.5	0.76
	No	357.2	44.6	1,243	79.0	0.81
	Exited	*	*	13	0.8	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	42	2.7	*
Ethnicity	American Indian	*	*	3	0.2	*
	Asian	*	*	40	2.5	*
	African American	356.2	44.5	915	58.1	0.79
	Hawaiian/ Pacific Islander	*	*	2	0.1	*
	White	361.9	46.1	217	13.8	0.85
	Hispanic	347.6	47.0	368	23.4	0.77
	Missing	*	*	29	1.8	*
Limited English Proficient	Yes	341.9	47.5	133	8.4	0.58
	No	355.8	45.6	1,423	90.4	0.81
	Exited <sup>b</sup>	*	*	18	1.1	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.19 Summary Statistics for MD HSA English: May 2015 Forms

		Primary Forms D-H					Makeup 1 Form X					Makeup 2 Form Y				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		367.0	37.6	3,049	100.0	0.81	368.7	35.9	484	100.0	0.82	364.6	34.1	534	100.0	0.78
Gender	Male	362.3	39.3	1,712	56.1	0.79	363.7	36.5	286	59.1	0.79	359.3	35.6	315	59.0	0.77
	Female	373.2	34.4	1,311	43.0	0.82	375.8	34.0	197	40.7	0.85	372.2	30.4	219	41.0	0.75
	Missing	*	*	26	0.9	*	*	*	1	0.2	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	9	357.7	46.8	76	2.5	0.84	*	*	18	3.7	*	*	*	16	3.0	*
	10	364.0	40.7	569	18.7	0.83	361.8	40.7	81	16.7	0.84	362.7	36.4	92	17.2	0.82
	11	368.8	35.7	2,296	75.3	0.80	370.8	34.4	375	77.5	0.81	367.2	31.1	410	76.8	0.74
	12	350.2	49.8	79	2.6	0.86	*	*	9	1.9	*	*	*	16	3.0	*
	Missing	*	*	29	1.0	*	*	*	1	0.2	*	*	*	0	0.0	*
Special Education	Yes	355.1	40.5	707	23.2	0.74	352.5	39.3	81	16.7	0.73	353.1	36.8	102	19.1	0.73
	No	370.7	36.0	2,235	73.3	0.81	373.1	33.6	383	79.1	0.83	367.3	33.0	411	77.0	0.78
	Exited	*	*	23	0.8	*	*	*	3	0.6	*	*	*	2	0.4	*
	Exited and placed in 504 <sup>a</sup>	*	*	1	0.0	*	*	*	0	0.0	*	*	*	1	0.2	*
	504	372.1	33.8	83	2.7	0.84	*	*	17	3.5	*	*	*	18	3.4	*
Ethnicity	American Indian	*	*	10	0.3	*	*	*	3	0.6	*	*	*	3	0.6	*
	Asian	379.3	31.7	69	2.3	0.88	*	*	16	3.3	*	*	*	9	1.7	*
	African American	368.3	34.9	1,419	46.5	0.78	370.5	35.2	236	48.8	0.83	365.3	33.8	263	49.3	0.76
	Hawaiian/Pacific Islander	*	*	5	0.2	*	*	*	1	0.2	*	*	*	0	0.0	*
	White	370.0	41.3	433	14.2	0.86	374.3	38.0	55	11.4	0.89	364.6	33.8	71	13.3	0.79
	Hispanic	362.8	39.8	1,040	34.1	0.80	362.5	36.6	167	34.5	0.75	362.7	34.2	184	34.5	0.79
	Missing	370.0	31.1	73	2.4	0.81	*	*	6	1.2	*	*	*	4	0.7	*
Limited English Proficient	Yes	350.5	42.2	198	6.5	0.73	*	*	38	7.9	*	*	*	41	7.7	*
	No	368.1	37.1	2,818	92.4	0.81	369.2	36.4	439	90.7	0.83	365.8	33.9	488	91.4	0.78
	Exited <sup>b</sup>	*	*	33	1.1	*	*	*	7	1.4	*	*	*	5	0.9	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

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<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.20 Summary Statistics for MD HSA English: Summer 2015 Forms

		Primary 1 Form P					Primary 2 Form Q				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		365.0	36.3	154	100.0	0.84	*	*	23	100.0	*
Gender	Male	365.1	35.9	100	64.9	0.83	*	*	15	65.2	*
	Female	364.7	37.2	54	35.1	0.86	*	*	8	34.8	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	*	*	7	4.5	*	*	*	1	4.3	*
	10	*	*	33	21.4	*	*	*	9	39.1	*
	11	362.8	33.9	96	62.3	0.83	*	*	9	39.1	*
	12	*	*	18	11.7	*	*	*	4	17.4	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Special Education	Yes	*	*	30	19.5	*	*	*	6	26.1	*
	No	369.1	34.8	118	76.6	0.84	*	*	16	69.6	*
	Exited	*	*	1	0.6	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	5	3.2	*	*	*	1	4.3	*
Ethnicity	American Indian	*	*	1	0.6	*	*	*	1	4.3	*
	Asian	*	*	5	3.2	*	*	*	1	4.3	*
	African American	364.1	35.5	109	70.8	0.82	*	*	16	69.6	*
	Hawaiian/ Pacific Islander	*	*	1	0.6	*	*	*	0	0.0	*
	White	*	*	23	14.9	*	*	*	5	21.7	*
	Hispanic	*	*	11	7.1	*	*	*	0	0.0	*
	Missing	*	*	4	2.6	*	*	*	0	0.0	*
Limited English Proficient	Yes	*	*	3	1.9	*	*	*	0	0.0	*
	No	365.5	36.6	149	96.8	0.84	*	*	23	100.0	*
	Exited <sup>b</sup>	*	*	2	1.3	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.21 Summary Statistics for MD HSA Government: October 2014 Forms

		Primary Form R			%	Alpha
		Mean	SD	N		
Overall		365.6	39.8	4,156	100.0	0.74
Gender	Male	361.4	42.9	2,223	53.5	0.76
	Female	370.8	34.8	1,908	45.9	0.72
	Missing	*	*	25	0.6	*
Grade	6	*	*	0	0.0	*
	7	*	*	0	0.0	*
	8	*	*	1	0.0	*
	9	347.7	48.1	294	7.1	0.67
	10	369.3	35.9	2,140	51.5	0.73
	11	363.3	41.1	1,016	24.4	0.72
	12	365.9	42.4	680	16.4	0.79
	Missing	*	*	25	0.6	*
Special Education	Yes	350.8	44.4	996	24.0	0.70
	No	370.3	37.2	2,981	71.7	0.74
	Exited	*	*	19	0.5	*
	Exited and placed in 504 <sup>a</sup>	*	*	2	0.0	*
	504	369.6	35.3	158	3.8	0.65
Ethnicity	American Indian	*	*	14	0.3	*
	Asian	368.2	48.4	73	1.8	0.86
	African American	364.4	39.2	2,460	59.2	0.72
	Hawaiian/ Pacific Islander	*	*	8	0.2	*
	White	369.4	40.8	958	23.1	0.79
	Hispanic	365.2	38.5	513	12.3	0.67
	Missing	363.3	41.0	130	3.1	0.73
	Limited English Proficient	Yes	347.0	44.3	168	4.0
No	366.3	39.4	3,957	95.2	0.74	
Exited <sup>b</sup>	*	*	31	0.8	*	

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.22 Summary Statistics for MD HSA Government: January 2015 Forms

		Primary Form A					Makeup Form C				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		398.1	46.5	4950	100.0	0.95	404.4	44.9	1,883	100.0	0.95
Gender	Male	395.4	49.0	2709	54.7	0.95	401.5	48.4	1,008	53.5	0.95
	Female	402.0	42.8	2220	44.8	0.94	408.0	39.8	873	46.4	0.95
	Missing	*	*	21	0.4	*	*	*	2	0.1	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	417.7	41.5	2024	40.9	0.94	423.4	38.1	919	48.8	0.94
	10	388.4	42.4	2192	44.3	0.93	388.1	41.2	709	37.7	0.93
	11	374.3	49.7	441	8.9	0.92	379.6	43.6	154	8.2	0.93
	12	373.6	51.5	274	5.5	0.93	386.9	51.8	98	5.2	0.95
	Missing	*	*	19	0.4	*	*	*	3	0.2	*
Special Education	Yes	365.4	43.8	858	17.3	0.87	369.9	42.0	191	10.1	0.90
	No	405.4	44.2	3817	77.1	0.95	408.6	43.9	1,580	83.9	0.95
	Exited	*	*	38	0.8	*	*	*	10	0.5	*
	Exited and placed in 504 <sup>a</sup>	*	*	12	0.2	*	*	*	10	0.5	*
	504	399.3	42.7	225	4.5	0.93	404.0	37.1	92	4.9	0.95
Ethnicity	American Indian	*	*	15	0.3	*	*	*	8	0.4	*
	Asian	412.4	54.8	124	2.5	0.96	427.5	43.1	68	3.6	0.96
	African American	371.9	40.4	1579	31.9	0.87	376.0	42.4	559	29.7	0.91
	Hawaiian/ Pacific Islander	*	*	4	0.1	*	*	*	3	0.2	*
	White	415.1	40.3	2639	53.3	0.94	419.9	36.7	1,030	54.7	0.94
	Hispanic	386.7	53.5	444	9.0	0.94	389.8	48.9	157	8.3	0.95
	Missing	396.9	41.9	145	2.9	0.94	415.9	40.4	58	3.1	0.95
	Limited English Proficient	Yes	349.6	46.0	140	2.8	0.72	*	*	41	2.2
No	399.6	45.8	4791	96.8	0.94	405.6	44.3	1,831	97.2	0.95	
Exited <sup>b</sup>	*	*	19	0.4	*	*	*	11	0.6	*	

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<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 6.23 Summary Statistics for MD HSA Government: May 2015 Forms

		Primary Form D					Makeup 1 Form X					Makeup 2 Form Y				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		417.8	40.3	44,654	100.0	0.94	416.0	41.1	5,918	100.0	0.94	415.4	40.9	5,538	100.0	0.94
Gender	Male	415.9	43.3	22,504	50.4	0.95	413.0	45.1	2,898	49.0	0.94	412.9	44.0	2,833	51.2	0.94
	Female	419.9	36.8	21,456	48.0	0.94	419.3	36.5	2,966	50.1	0.93	418.1	37.3	2,691	48.6	0.94
	Missing	416.8	37.9	694	1.6	0.94	395.9	37.8	54	0.9	0.91	*	*	14	0.3	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	1	0.0	*	*	*	0	0.0	*	*	*	0	0.0	*
	9	414.3	41.5	16,189	36.3	0.94	412.1	40.6	2,110	35.7	0.94	411.9	40.7	2,048	37.0	0.94
	10	421.0	38.3	24,825	55.6	0.94	419.1	40.2	3,303	55.8	0.94	418.2	40.4	3,074	55.5	0.94
	11	412.1	47.2	2,797	6.3	0.95	415.3	46.8	426	7.2	0.95	413.2	43.8	387	7.0	0.94
	12	402.0	57.8	133	0.3	0.96	*	*	22	0.4	*	*	*	15	0.3	*
	Missing	416.4	37.2	709	1.6	0.93	396.8	37.5	57	1.0	0.91	*	*	14	0.3	*
Special Education	Yes	374.5	47.7	4,107	9.2	0.92	376.1	50.5	459	7.8	0.92	375.5	49.4	436	7.9	0.92
	No	422.7	36.6	38,560	86.4	0.94	419.7	38.2	5,219	88.2	0.94	419.2	38.1	4,824	87.1	0.94
	Exited	405.0	38.3	264	0.6	0.93	*	*	38	0.6	*	*	*	36	0.7	*
	Exited and placed in 504 <sup>a</sup>	406.5	36.4	87	0.2	0.94	*	*	10	0.2	*	*	*	12	0.2	*
	504	414.9	39.1	1,636	3.7	0.94	410.9	42.3	192	3.2	0.94	415.1	40.6	230	4.2	0.94
Ethnicity	American Indian	414.6	38.7	115	0.3	0.94	*	*	22	0.4	*	*	*	10	0.2	*
	Asian	438.9	31.4	2,959	6.6	0.93	436.9	38.7	325	5.5	0.94	440.0	33.8	293	5.3	0.93
	African American	404.0	40.1	13,128	29.4	0.93	406.4	39.4	1,983	33.5	0.92	404.2	39.6	1,711	30.9	0.93
	Hawaiian/ Pacific Islander	414.7	35.3	66	0.1	0.94	*	*	11	0.2	*	*	*	4	0.1	*
	White	430.6	33.7	18,346	41.1	0.93	429.8	34.1	2,225	37.6	0.93	429.1	34.3	2,255	40.7	0.93
	Hispanic	400.8	45.2	7,356	16.5	0.94	398.6	46.2	1,107	18.7	0.93	396.6	44.4	1,067	19.3	0.93
	Missing	422.1	36.1	2,684	6.0	0.94	420.8	35.9	245	4.1	0.94	422.7	35.7	198	3.6	0.93
Limited English Proficient	Yes	370.4	47.7	1,056	2.4	0.89	360.5	51.6	130	2.2	0.90	364.5	49.2	131	2.4	0.90
	No	419.0	39.5	43,101	96.5	0.94	417.3	40.0	5,740	97.0	0.94	416.7	40.0	5,375	97.1	0.94
	Exited <sup>b</sup>	415.4	28.2	497	1.1	0.90	*	*	48	0.8	*	*	*	32	0.6	*

\*Statistics not reported for sample size less than 50 (N < 50).

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<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.24 Summary Statistics for MD HSA Government: Summer 2015 Forms

		Primary 1 Form P					Primary 2 Form Q				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		370.9	48.9	262	100.0	0.90	*	*	42	100.0	*
Gender	Male	369.1	51.2	189	72.1	0.91	*	*	25	59.5	*
	Female	375.5	42.3	73	27.9	0.90	*	*	17	40.5	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Grade	6	*	*	0	0.0	*	*	*	0	0.0	*
	7	*	*	0	0.0	*	*	*	0	0.0	*
	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	362.3	54.4	120	45.8	0.91	*	*	13	31.0	*
	10	377.3	43.8	95	36.3	0.90	*	*	25	59.5	*
	11	*	*	38	14.5	*	*	*	4	9.5	*
	12	*	*	9	3.4	*	*	*	0	0.0	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Special Education	Yes	342.1	56.3	72	27.5	0.85	*	*	12	28.6	*
	No	382.7	40.8	184	70.2	0.90	*	*	30	71.4	*
	Exited	*	*	0	0.0	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	6	2.3	*	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	0	0.0	*
	Asian	*	*	1	0.4	*	*	*	3	7.1	*
	African American	372.3	47.1	176	67.2	0.89	*	*	13	31.0	*
	Hawaiian/ Pacific Islander	*	*	0	0.0	*	*	*	0	0.0	*
	White	367.8	52.8	63	24.0	0.93	*	*	19	45.2	*
	Hispanic	*	*	18	6.9	*	*	*	5	11.9	*
	Missing	*	*	4	1.5	*	*	*	2	4.8	*
Limited English Proficient	Yes	*	*	5	1.9	*	*	*	2	4.8	*
	No	372.0	48.4	257	98.1	0.90	*	*	40	95.2	*
	Exited <sup>b</sup>	*	*	0	0.0	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

## **Demographic Characteristics**

Demographic characteristics of the students who took the October, January, April, May, and Summer MD HSAs are described in Tables 6.25 to 6.28. All demographic results are based on the final Research files delivered to MSDE.

The number of students participating in the May administration was greater than the number of students participating in the January administration. As a result, only two field test versions were included in the January administration to ensure sufficient sample sizes for the analyses of the field test items.

Due to the small numbers of students participating in the October, April, and Summer administrations, those forms did not contain new field test items. Instead, previously administered field test sections were embedded in these forms to ensure that the test length was comparable to the January and May test forms.

Table 6.25 Demographic Information for 2015 MD HSA Algebra

		October Form		January Primary Forms		January Makeup Form		April Form		May Primary Forms		May Makeup Forms		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		17,369	100.0	8,637	100.0	3,031	100.0	1,259	100.0	6,215	100.0	2,146	100.0	170	100.0
Gender	Male	9,065	52.2	4,686	54.3	1,606	53.0	669	53.1	3,202	51.5	1,118	52.1	104	61.2
	Female	8,251	47.5	3,927	45.5	1,425	47.0	589	46.8	2,833	45.6	994	46.3	64	37.6
	Missing	53	0.3	24	0.3			1	0.1	180	2.9	34	1.6	2	1.2
Special Education	Yes	3,345	19.3	1,832	21.2	451	14.9	236	18.7	1,347	21.7	340	15.8	36	21.2
	No	13,262	76.4	6,456	74.7	2,458	81.1	973	77.3	4,622	74.4	1,716	80.0	129	75.9
	Exited	60	0.3	27	0.3	12	0.4	8	0.6	44	0.7	18	0.8	0	0.0
	Exited and placed in 504 <sup>a</sup>	14	0.1	13	0.2	0	0.0	2	0.2	7	0.1	3	0.1	0	0.0
	504	688	4.0	309	3.6	110	3.6	40	3.2	195	3.1	69	3.2	5	2.9
Ethnicity	American Indian	49	0.3	21	0.2	7	0.2	3	0.2	17	0.3	2	0.1	1	0.6
	Asian	393	2.3	170	2.0	43	1.4	16	1.3	95	1.5	36	1.7	1	0.6
	African American	10,347	59.6	5,172	59.9	1,994	65.8	818	65.0	2,931	47.2	1,094	51.0	109	64.1
	Hawaiian/Pacific Islander	28	0.2	14	0.2	5	0.2	3	0.2	8	0.1	5	0.2	2	1.2
	White	3,627	20.9	1,704	19.7	556	18.3	153	12.2	864	13.9	265	12.3	33	19.4
	Hispanic	2,414	13.9	1,324	15.3	380	12.5	253	20.1	1,935	31.1	659	30.7	18	10.6
	Missing	511	2.9	232	2.7	46	1.5	13	1.0	365	5.9	85	4.0	6	3.5
Limited English Proficient	Yes	1,098	6.3	697	8.1	160	5.3	55	4.4	486	7.8	185	8.6	1	0.6
	No	16,052	92.4	7,843	90.8	2,851	94.1	1,199	95.2	5,660	91.1	1,932	90.0	167	98.2
	Exited <sup>b</sup>	219	1.3	97	1.1	20	0.7	5	0.4	69	1.1	29	1.4	2	1.2

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.26 Demographic Information for 2015 MD HSA Biology

		October Form		January Primary Forms		January Makeup Form		April Form		May Primary Forms		May Makeup Forms		Summer Forms	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Overall		10,553	100.0	8,329	100.0	3,009	100.0	1,499	100.0	46,876	100	12,098	100	621	100.0
Gender	Male	5,314	50.4	4,387	52.7	1,541	51.2	745	49.7	23,485	50.1	5,948	49.2	396	63.8
	Female	5,210	49.4	3,916	47.0	1,465	48.7	753	50.2	22,944	48.9	5,996	49.6	224	36.1
	Missing	29	0.3	26	0.3	3	0.1	1	0.1	447	1	154	1.3	1	0.2
Special Education	Yes	2,099	19.9	1,347	16.2	326	10.8	261	17.4	4,589	9.8	1,050	8.7	108	17.4
	No	8,054	76.3	6,620	79.5	2,553	84.8	1,176	78.5	40,252	85.9	10,484	86.7	502	80.8
	Exited	34	0.3	41	0.5	16	0.5	8	0.5	278	0.6	88	0.7	1	0.2
	Exited and placed in 504 <sup>a</sup>	7	0.1	12	0.1	4	0.1	2	0.1	87	0.2	19	0.2	0	0.0
	504	359	3.4	309	3.7	110	3.7	52	3.5	1,670	3.6	457	3.8	10	1.6
Ethnicity	American Indian	30	0.3	18	0.2	8	0.3	5	0.3	125	0.3	40	0.3	4	0.6
	Asian	242	2.3	212	2.5	90	3.0	30	2.0	3,085	6.6	646	5.3	11	1.8
	African American	6,763	64.1	3,955	47.5	1,424	47.3	896	59.8	13,956	29.8	3,829	31.6	387	62.3
	Hawaiian/ Pacific Islander	21	0.2	11	0.1	2	0.1	5	0.3	69	0.1	17	0.1	1	0.2
	White	1,868	17.7	2,930	35.2	1,151	38.3	173	11.5	18,244	38.9	4,347	35.9	127	20.5
	Hispanic	1,342	12.7	976	11.7	256	8.5	367	24.5	8,904	19	2,615	21.6	75	12.1
	Missing	287	2.7	227	2.7	78	2.6	23	1.5	2,493	5.3	604	5.0	16	2.6
Limited English Proficient	Yes	523	5.0	415	5.0	109	3.6	126	8.4	1,608	3.4	391	3.2	4	0.6
	No	9,896	93.8	7,847	94.2	2,883	95.8	1,358	90.6	44,721	95.4	11,591	95.8	615	99.0
	Exited <sup>b</sup>	134	1.3	67	0.8	17	0.6	15	1.0	547	1.2	116	1.0	2	0.3

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.27 Demographic Information for 2015 MD HSA English

		October Form		January Primary Forms		January Makeup Form		April Form		May Primary Forms		May Makeup Forms		Summer Forms	
		N	%	N	%	N	%	N	%	N	%	N	%	N	%
Overall		12,372	100.0	6,465	100.0	2,239	100.0	1,574	100.0	3,049	100	1,018	100	177	100.0
Gender	Male	6,935	56.1	3,745	57.9	1,261	56.3	895	56.9	1,712	56.1	601	59.0	115	65.0
	Female	5,416	43.8	2,702	41.8	977	43.6	677	43.0	1,311	43	416	40.9	62	35.0
	Missing	21	0.2	18	0.3	1	0.0	2	0.1	26	0.9	1	0.1	0	0.0
Special Education	Yes	2,374	19.2	1,307	20.2	315	14.1	276	17.5	707	23.2	183	18.0	36	20.3
	No	9,517	76.9	4,922	76.1	1,841	82.2	1,243	79.0	2,235	73.3	794	78.0	134	75.7
	Exited	45	0.4	21	0.3	4	0.2	13	0.8	23	0.8	5	0.5	1	0.6
	Exited and placed in 504 <sup>a</sup>	7	0.1	7	0.1	0	0.0	0	0.0	1	0	1	0.1	0	0.0
	504	429	3.5	208	3.2	79	3.5	42	2.7	83	2.7	35	3.4	6	3.4
Ethnicity	American Indian	29	0.2	11	0.2	8	0.4	3	0.2	10	0.3	6	0.6	2	1.1
	Asian	373	3.0	177	2.7	47	2.1	40	2.5	69	2.3	25	2.5	6	3.4
	African American	7,258	58.7	4,017	62.1	1,470	65.7	915	58.1	1,419	46.5	499	49.0	125	70.6
	Hawaiian/ Pacific Islander	31	0.3	9	0.1	2	0.1	2	0.1	5	0.2	1	0.1	1	0.6
	White	2,642	21.4	1,174	18.2	398	17.8	217	13.8	433	14.2	126	12.4	28	15.8
	Hispanic	1,716	13.9	941	14.6	270	12.1	368	23.4	1,040	34.1	351	34.5	11	6.2
	Missing	323	2.6	136	2.1	44	2.0	29	1.8	73	2.4	10	1.0	4	2.3
Limited English Proficient	Yes	680	5.5	485	7.5	130	5.8	133	8.4	198	6.5	79	7.8	3	1.7
	No	11,498	92.9	5,885	91.0	2,086	93.2	1,423	90.4	2,818	92.4	927	91.1	172	97.2
	Exited <sup>b</sup>	194	1.6	95	1.5	23	1.0	18	1.1	33	1.1	12	1.2	2	1.1

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 6.28 Demographic Information for 2015 MD HSA Government

		October Form		January Primary Forms		January Makeup Form		April Form		May Primary Forms		May Makeup Forms		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		4,156	100.0	4,950	100.0	1,883	100.0	-	-	44,654	100	11,456	100	304	100.0
Gender	Male	2,223	53.5	2,709	54.7	1,008	53.5	-	-	22,504	50.4	5,731	50.0	214	70.4
	Female	1,908	45.9	2,220	44.8	873	46.4	-	-	21,456	48	5,657	49.4	90	29.6
	Missing	25	0.6	21	0.4	2	0.1	-	-	694	1.6	68	0.6	0	0.0
Special Education	Yes	996	24.0	858	17.3	191	10.1	-	-	4,107	9.2	895	7.8	84	27.6
	No	2,981	71.7	3,817	77.1	1,580	83.9	-	-	38,560	86.4	10,043	87.7	214	70.4
	Exited	19	0.5	38	0.8	10	0.5	-	-	264	0.6	74	0.6	0	0.0
	Exited and placed in 504 <sup>a</sup>	2	0.0	12	0.2	10	0.5	-	-	87	0.2	22	0.2	0	0.0
	504	158	3.8	225	4.5	92	4.9	-	-	1,636	3.7	422	3.7	6	2.0
Ethnicity	American Indian	14	0.3	15	0.3	8	0.4	-	-	115	0.3	32	0.3	0	0.0
	Asian	73	1.8	124	2.5	68	3.6	-	-	2,959	6.6	618	5.4	4	1.3
	African American	2,460	59.2	1,579	31.9	559	29.7	-	-	13,128	29.4	3,694	32.2	189	62.2
	Hawaiian/ Pacific Islander	8	0.2	4	0.1	3	0.2	-	-	66	0.1	15	0.1	0	0.0
	White	958	23.1	2,639	53.3	1,030	54.7	-	-	18,346	41.1	4,480	39.1	82	27.0
	Hispanic	513	12.3	444	9.0	157	8.3	-	-	7,356	16.5	2,174	19.0	23	7.6
	Missing	130	3.1	145	2.9	58	3.1	-	-	2,684	6	443	3.9	6	2.0
Limited English Proficient	Yes	168	4.0	140	2.8	41	2.2	-	-	1,056	2.4	261	2.3	7	2.3
	No	3,957	95.2	4,791	96.8	1,831	97.2	-	-	43,101	96.5	11,115	97.0	297	97.7
	Exited <sup>b</sup>	31	0.7	19	0.4	11	0.6	-	-	497	1.1	80	0.7	0	0.0

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

## Section 7. Field Test Analyses

Following the receipt of the final score file from Pearson for the January and May administrations, the field test analyses for SR and SPR items were completed. Because the Algebra and English tests were being replaced by PARCC tests, field testing was not conducted in these two content areas in 2015. The analyses consisted of four components: classical item analyses, differential item functioning (DIF), item response theory (IRT) calibration, and scaling. All the analyses were completed using *GENASYS*, an ETS proprietary software program. The analysis procedures for each component are described in detail below. All valid records available were used as samples for the analyses, including English language learners, students with IEP or 504 plans, and students receiving accommodations. Only records invalidated by the test administrator and records with no item responses to the first five items were excluded from the analysis sample.

### Classical Item Analyses

Classical item analyses involve computing a set of statistics based on classical test theory for every item in each form. The statistics provide key information about the quality of the items from an empirical perspective. The statistics estimated for the MD HSA field test items, and associated criteria used to flag items for the content specialists' review, are described below.

***Classical item difficulty*** (“*p*-value”): This statistic indicates the mean item score expressed as a proportion of the maximum obtainable item score. For SR items, it is equivalent to the proportion of test takers in the sample that answered the item correctly. For CR items, divide the average item score by maximum score points to obtain the *p*-value. Desired *p*-values generally fall within the range of 0.25 to 0.90. Occasionally, items that fall outside this range can be justified for inclusion in an item bank based upon the quality and educational importance of the item content or the ability to measure students with very high or low achievement, especially if the students have not yet received instruction in the content.

***Item-total correlation of the correct response option*** for SR items or the CR item score with the total raw score: This statistic describes the relationship between performance on the specific item and performance on the total test, including the item under study. It is sometimes referred to as a discrimination index. For SR items, the item-total correlation is the point-biserial correlation. For CR items, the item-total correlation is the polyserial correlation. Values less than 0.20 are generally considered to have a weaker than desired relationship, therefore these items receive careful consideration by ETS staff and MSDE before including them on future forms. Items with negative correlations can indicate there are serious problems with the item content (e.g., multiple correct answers, unusually complex content), there is an incorrect key, or students have not been taught the content.



***Proportion of students choosing each response option (SR items):*** This statistic indicates the proportion of test takers selecting each answer choice, or option. Options not selected by any students or selected by a very low proportion of students indicate problems with plausibility of the option. Items that do not have all answer options functioning may be discarded or revised and field tested again.

***Point-biserial correlation of incorrect response option (SR items) with the total raw score:*** These statistics describe the relationship between selecting an incorrect response option for a specific item and performance on the total test, including the item under study. Typically, the correlation between an incorrect answer and total test performance is weak or negative. Values are typically compared and contrasted with the discrimination index. When the magnitude of a point-biserial correlation for an incorrect answer is strong relative to the correct answer, the item is carefully reviewed for content-related problems. Alternatively, positive point-biserial correlations on incorrect options may indicate that students have not had sufficient opportunity to learn the material.

***Percentage of students omitting an item:*** This statistic is useful for identifying problems with test features, such as testing time and item/test layout. Typically, it is assumed that if students have an adequate amount of testing time, at least 95 percent of them should attempt to answer each question. When a pattern of omit percentages exceeds 5 percent for a series of SR items or 15 percent for CR items at the end of a timed section, this may indicate that there was insufficient time for students to complete all items. For individual items, if the omit percentage is greater than 5 percent for a single SR item or 15 percent for a CR item, this could be an indication of an item/test layout problem. For example, students might accidentally skip an item that follows a lengthy stem.

***Frequency distribution of CR score points:*** Observation of the distribution of scores is useful to identify how well the item is functioning. If no students are assigned the top score point, this may indicate that the item is not functioning with respect to the scoring rubric, there are problems with the item content, or students have not been taught the content.

In addition, a series of flags was created to identify items with extreme values. Flagged items were subject to additional scrutiny prior to the inclusion of the items in the final calibrations. The following flagging criteria were applied to all items tested in the 2015 assessments:

- *Difficulty flag:*  $p$ -values less than 0.10 or greater than 0.90.
- *Discrimination flag:* Item-total correlation less than 0.10.
- *Distractor flag:* SR point-biserial correlation positive for incorrect option.
- *Omit flag:* Percentage omitted is greater than 5% for SR and SPR items.

- For CR items, divide the average item score by maximum score points to obtain the  $p$ -value. If this is less than 0.10 or greater than 0.90, manually flag the item.
- CR items with omit rates greater than 15% are flagged.

Distributions of  $p$ -values and item-total correlations for the field test items administered in January 2015 are shown in Tables 7.1 and 7.2, respectively. Corresponding results for the field test items administered in May 2015 are shown in Tables 7.3 and 7.4, respectively.

Following the classical item analyses, items with poor item statistics and items that were not scored as per MSDE’s instructions were removed from further analyses (see Table 7.5). These items have been identified for revision and possible additional field testing. Table 7.6 presents the number of items that were retained for further analyses and evaluation after being flagged for statistical reasons, including extreme  $p$ -values, low item-total correlations, and/or high omit rates. Calibration results indicated the items were estimated reasonably well; therefore they were not removed from scaling. Please note the percentages in the tables may not sum up to 100 due to rounding.

Table 7.1 Distribution of  $p$  -Values for the MD HSA January 2015 Field Test Items

$p$ -Value	Percentage and Number of Items			
	Biology		Government <sup>a</sup>	
	%	$N$	%	$N$
$p < 0.25$	0	0	11	3
$0.25 \leq p < 0.35$	13	6	18	5
$0.35 \leq p < 0.45$	30	14	18	5
$0.45 \leq p < 0.55$	30	14	18	5
$0.55 \leq p < 0.65$	13	6	14	4
$0.65 \leq p < 0.75$	9	4	18	5
$0.75 \leq p < 0.85$	4	2	4	1
$p \geq 0.85$	0	0	0	0
Descriptive Statistics				
No. Items	46		28	
Mean	0.48		0.47	
$SD$	0.12		0.18	
Min	0.29		0.13	
Max	0.79		0.78	

<sup>a</sup>CR items included.

Table 7.2 Distribution of Item-Total Correlations for the MD HSA January 2015 Field Test Items

Correlation	Percentage and Number of Items			
	Biology		Government <sup>a</sup>	
	%	<i>N</i>	%	<i>N</i>
$r < 0.15^c$	2	1	7	2
$0.15 \leq r < 0.25$	4	2	4	1
$0.25 \leq r < 0.35$	22	10	21	6
$0.35 \leq r < 0.45$	33	15	25	7
$0.45 \leq r < 0.55$	35	16	21	6
$0.55 \leq r < 0.65$	4	2	7	2
$0.65 \leq r < 0.75$	0	0	11	3
$r \geq 0.75$	0	0	4	1
Descriptive Statistics				
No. Items	46		28	
Mean	0.41		0.43	
<i>SD</i>	0.09		0.19	
Min	0.15		0.03	
Max	0.58		0.80	

<sup>a</sup>CR items included.; <sup>c</sup> $r < 0.10$ : 0 Biology, and 2 Government items.

Table 7.3 Distribution of *p* -Values for the MD HSA May 2015 Field Test Items

<i>p</i> -Value	Percentage and Number of Items			
	Biology		Government <sup>a</sup>	
	%	<i>N</i>	%	<i>N</i>
$p < 0.25$	1	1	7	5
$0.25 \leq p < 0.35$	3	4	14	10
$0.35 \leq p < 0.45$	8	9	10	7
$0.45 \leq p < 0.55$	11	13	19	13
$0.55 \leq p < 0.65$	33	38	19	13
$0.65 \leq p < 0.75$	28	32	17	12
$0.75 \leq p < 0.85$	11	13	11	8
$p \geq 0.85^b$	4	5	3	2
Descriptive Statistics				
No. Items	115		70	
Mean	0.61		0.53	
<i>SD</i>	0.13		0.19	
Min	0.19		0.18	
Max	0.88		0.88	

<sup>a</sup>CR items included.; <sup>b</sup> $p$  -value  $> 0.90$ : 0 Biology, 0 Government item.

Table 7.4 Distribution of Item-Total Correlations for the MD HSA 2015 Field Test Items

Correlation	Percentage and Number of Items			
	Biology		Government <sup>a</sup>	
	%	<i>N</i>	%	<i>N</i>
$r < 0.15$ <sup>c</sup>	3	3	4	3
$0.15 \leq r < 0.25$	3	4	11	8
$0.25 \leq r < 0.35$	15	17	23	16
$0.35 \leq r < 0.45$	37	42	26	18
$0.45 \leq r < 0.55$	38	44	19	13
$0.55 \leq r < 0.65$	4	5	4	3
$0.65 \leq r < 0.75$	0	0	13	9
$r \geq 0.75$	0	0	0	0
Descriptive Statistics				
No. Items	115		70	
Mean	0.41		0.40	
<i>SD</i>	0.10		0.16	
Min	0.06		0.04	
Max	0.57		0.73	

<sup>a</sup> CR items included.; <sup>c</sup>  $rbis < 0.10$ : 1 Biology, and 1 Government item.

Table 7.5 MD HSA Field Test Items Excluded from Calibration

Administration	Content	ItemID	Form	Sequence	Response Type	Reason
January	Government	79554	B	9	CR	no 4pt CR score
	Government	374503	B	39	SR	$rbis < 0.10$
	Government	60422	B	48	CR	no 4pt CR score
	Government	374463	B	66	SR	$rbis < 0.10$
May	Biology	445869	F	27	SR	$rbis < 0.10$
	Government	283287	E	6	SR	$rbis < 0.10$
	Government	108424	H	9	CR	no 4pt CR score

Table 7.6 MD HSA Field Test Items with Statistical Flags Retained in Calibration

January	<i>p</i> - Value < 0.10	<i>p</i> - Value > 0.90	R_ITT < 0.10	Distractor <i>r</i> bis > 0	Omit Rate >5% <sup>c</sup>	C- Level DIF	Missing Response <sup>a</sup>	Total Flags	No. Items <sup>b</sup>
Biology	0	0	0	2	0	0	0	2	2
Government	0	0	0	4	0	1	0	5	5

May	<i>p</i> - Value < 0.10	<i>p</i> - Value > 0.90	R_ITT < 0.10	Distractor <i>r</i> bis > 0	Omit Rate >5% <sup>c</sup>	C- Level DIF	Missing Response <sup>a</sup>	Total Flags	No. Items <sup>b</sup>
Biology	0	0	1	6	0	2	0	9	8
Government	0	0	0	7	0	2	0	9	9

<sup>a</sup> SR/CR option with 0 students; <sup>b</sup> Represents total number of unique items; <sup>c</sup> 15% for CR items on Government.

### Differential Item Functioning

Following the classical item analyses, differential item functioning (DIF) analyses were completed. One goal of test development is to assemble a set of items that provides an estimate of student ability that is as fair and accurate as possible for all groups within the population. DIF statistics are used to identify items in which focal groups (e.g., Females, African Americans, Hispanics) of students with the same underlying level of ability have different probabilities than reference groups (e.g., Males, Whites) of answering correctly. If the item is more difficult for an identifiable focal subgroup, the item may be measuring something different from the intended construct. However, it is important to recognize that DIF-flagged items might be related to actual differences in relevant knowledge or skill (item impact) or statistical Type I error. A subsequent review by MSDE and ETS content experts is conducted to investigate the source and meaning of evident differences.

ETS used two DIF detection methods: the Mantel-Haenszel and standardization approaches. As part of the Mantel-Haenszel procedure, the statistic described by Holland & Thayer (1988), known as MH D-DIF, was used.<sup>7</sup> This statistic is expressed as the

<sup>7</sup> The formula for the estimate of constant odds ratio is

$$\hat{\alpha}_{MH} = \frac{\left( \frac{\sum_m R_{fm} W_{fm}}{N_m} \right)}{\left( \frac{\sum_m R_{fm} W_{fm}}{N_m} \right)}$$

difference between the focal and reference group performance on an item after conditioning on total test score. Negative MH D-DIF statistics favor the reference group, and positive values favor the focal group. The classification logic used for flagging items is based on a combination of absolute differences and significance testing. Items that are not significantly different based on the MH D-DIF ( $p > 0.05$ ) are considered to have similar performance between the two studied groups and to be functioning appropriately. For items for which the statistical test indicates significant differences ( $p < 0.05$ ), the effect size is used to determine the direction and severity of the DIF. The male and white groups were treated as the reference groups for gender and ethnicity, respectively; the female and other race and ethnic groups were considered the focal groups.

Based on their DIF statistics, items are classified into one of three categories and assigned values of A, B, or C. Category A items contain negligible DIF, Category B items exhibit slight or moderate DIF, and Category C items have moderate to large DIF. Negative values imply that, conditional on the matching variable, the focal group has a lower mean item score than the reference group. In contrast, a positive value implies that, conditional on the matching variable, the reference group has a lower mean item score than the focal group.

For constructed response (CR) items, the MH D-DIF statistic is not calculated; instead the standardization procedure (Dorans & Kulick, 1986) is used in conjunction with the Mantel chi-square statistic. In the standardization method, the matching variable is the total score on all items and the differences in the item score between the two comparison groups are calculated for each item. The standardized mean difference for the item is the weighted average of these differences, where the relative frequency of the focal group at each CR score serves as the weighting function.

Analogous flagging rules have been developed that are used to classify the CR items into A, B, or C DIF categories. The flagging criteria for constructed response items are:

- A) If the Mantel Chi-square  $p$ -value  $> 0.05$  and/or the Mantel Chi-square  $p$ -value  $< 0.05$  and the Standardized Mean Difference  $|SMD/SD| \leq 0.17$ , the item is classified as A.
- B) If the Mantel Chi-square  $p$ -value  $< 0.05$  and  $|SMD/SD|$  is between 0.17 and 0.25 then the item is classified as B.

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where

- $RB_{mB}$  = number in reference group at ability level  $m$  answering the item right,
- $WB_{fmB}$  = number in focal group at ability level  $m$  answering the item wrong,
- $RB_{fmB}$  = number in focal group at ability level  $m$  answering the item right,
- $WB_{mB}$  = number in reference group at ability level  $m$  answering the item wrong,
- $NB_{mB}$  = total group at ability level  $m$ .

This can then be used in the following formula (Holland & Thayer, 1988):

$$MHD-DIF = -2.35 \ln[\hat{\alpha}_{MH}].$$

- C) If the Mantel Chi-square  $p$ -value  $< 0.05$  and  $|SMD/SD| > 0.25$  then the item is classified as C.

Positive values favor the focal group and negative values favor the reference group.

Among the Biology and Government items field tested in January, none was flagged for C-level DIF. Among the items field tested in May, two Biology items were flagged for C-level DIF. None of the Government items was flagged for C-level DIF. Flagged items are reviewed by ETS and MSDE content specialists as well as by ETS senior staff to determine their availability for future use.

### **IRT Calibration and Scaling**

One purpose of item calibration and scaling is to create a common scale for expressing the difficulty estimates of all the items across all versions of a test. The resulting scale has a mean score of 0 and a standard deviation of 1. This scale is often referred to as the “theta” metric and is not used for reporting purposes because the values typically range from  $-3$  to  $+3$ , which may be difficult to interpret. Therefore, the scale is usually transformed to a reporting scale (also known as a scale score), which can be more meaningfully interpreted by students, teachers, and other stakeholders.

As noted previously, the IRT models used to calibrate the MD HSA test items are the 3-parameter logistic (3PL) model for SR items and the generalized partial credit model (GPCM) for CR items. Item response theory expresses the probability that a student will achieve a certain score on an item (such as correct or incorrect) as a function of the item’s statistical properties and the ability level (or proficiency level) of the student.

The 3PL model relates the probability that a person with ability  $\theta$  will respond correctly to item  $i$  as follows:

$$P_i(\theta) = c_i + \frac{1 - c_i}{1 + e^{-1.7a_i(\theta - b_i)}}$$

where

- $a_i$  is the slope parameter of item  $i$ , characterizing its discrimination;
- $b_i$  is the location parameter of item  $i$ , characterizing its difficulty; and
- $c_i$  is the lower asymptote parameter of item  $i$ , reflecting the chance that students with very low proficiency will select the correct answer, sometimes called the “pseudo-guessing” level.

The GPCM states that the probability that a person with ability  $\theta$  will obtain a score of  $k$  on an item  $i$  that has  $m$  score categories assigned score values ranging from 0 to  $m-1$  can be expressed as

$$P_{ik}(\theta) = \frac{e^{Z_{ik}}}{1 + \sum_{k=1}^{m-1} e^{Z_{ik}}},$$

where

$$Z_{ik}(\theta) = 1.7 \left\{ a_i \theta - \left( \sum_{v=0}^k b_i - d_{iv} \right) \right\} = 1.7 \left\{ a_i \theta - \sum_{v=0}^k b_{iv} \right\}$$

$$b_{i0} = 0,$$

$P_{ik}$  is the probability of obtaining a score of  $k$  on item  $i$ , and

$d_{ik}$  is the parameter characterizing the relative difficulty of obtaining score  $k$ .

A proprietary version of the *PARSCALE* computer program (Muraki & Bock, 1995) was used for all item calibration work. The resulting calibrations were then scaled to the bank estimates using Stocking and Lord's (1983) test characteristic curve (TCC) method and the operational items as the anchor set.

The calibration and equating process is outlined in the steps below.

1. For each test, all items were calibrated using a sparse matrix design that places all items on a common scale. Essentially, this means that the data were set up using the following format. In the diagram below, X's represent items and spaces indicate missing data. For example, items included on version 2 but not on version 1, 3, 4, or 5 were treated as "not administered" for the purposes of the analyses and are denoted as "missing" in the diagram below.

Common	Unique 1	Unique 2	Unique 3	Unique 4	Unique 5
XXXXXXXX	XXXXXXXX				
XXXXXXXX		XXXXXXXX			
XXXXXXXX			XXXXXXXX		
XXXXXXXX				XXXXXXXX	
XXXXXXXX					XXXXXXXX

2. Once the items were calibrated, results were reviewed to determine if any items failed to calibrate appropriately.
3. After the final calibration, parameter estimates were obtained. The items were then linked to the bank scale using the TCC method. Specifically, the banked parameter estimates of the primary form operational items were used to place the field test items onto the operational reporting scale. Once the items were calibrated and placed onto the operational scale, they were loaded into the item bank. Items that were not calibrated were listed as unavailable (see Table 7.5).



## CHAPTER II: MODIFIED HIGH SCHOOL ASSESSMENTS

### Section 8. Introduction

The Maryland Modified High School Assessments (MD Mod-HSAs) were introduced in May 2008. These assessments are a modified version of the MD HSAs designed for special education students with Individualized Education Programs (IEPs). Eligibility to take the MD Mod-HSAs is determined by a student's IEP and evidence of progress in learning course content.

The MD Mod-HSAs consist of end-of-course tests in Algebra/Data Analysis, Biology, English, and Government, and assess the same skills as the MD HSAs. From Summer 2011 to October 2012, the Government test was excluded from the MD Mod-HSAs. Starting in January 2013, the Government test was re-introduced into the MD Mod-HSAs. The MD Mod-HSAs may be taken in place of one or more of the MD HSAs.

With the reinstatement of Government tests in January 2013, students entering 9<sup>th</sup> grade in the 2012-2013 school year or in a prior year (including students who entered 9<sup>th</sup> grade in 2011-2012, 2010-2011, or 2009-2010) have the option of earning a combined score of 1602 on all four MD HSAs or a combined score of 1208 on three MD HSAs (excluding Government) to be granted a Maryland High School Diploma.<sup>8</sup> Students entering 9<sup>th</sup> grade in 2013-14 and beyond are required to pass all four HSAs, including Government, or obtain a combined score of 1602 to fulfill the graduation requirement.

Results from the Algebra, Biology, and English administrations are used in the Maryland State Department of Education (MSDE) Adequate Yearly Progress (AYP) reports, required under the No Child Left Behind (NCLB) Act. Information on the interpretation of scores is provided to students, parents, schools, and other stakeholders via the MSDE website.

MD Mod-HSA items were derived from banked MD HSA items, with the question format simplified. For example, the MD Mod-HSAs contain selected response (SR) items that have three answer options instead of four, and the items have a reduced reading load and simplified graphics. All items are based on content outlined in Maryland's Core Learning Goals (CLGs).<sup>9</sup>

MD Mod-HSA forms are administered both online and in paper format. The goal is eventually to have most students test online, with only the special braille, Kurzweil, and large-print forms administered on paper.

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<sup>8</sup> More information on the testing requirement for graduation is available on the Maryland State Department of Education website at [http://mdk12.org/assessments/high\\_school/index.html](http://mdk12.org/assessments/high_school/index.html).

<sup>9</sup> The MD HSA Core Learning Goals documents can be found on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Detailed information regarding the development of MD Mod-HSA forms as well as descriptions of the methods used to align them to the MD HSA reporting scale are provided in the Maryland Modified High School Assessment 2008 Technical Report.<sup>10</sup>

This chapter of the report provides information about the October 2014 administration and the January, April, May, and Summer (July/August) 2015 administrations of the MD Mod-HSAs.

The item response model used to calibrate the items in the MD Mod-HSAs was the three-parameter logistic (3PL) model. Currently, this model is used to estimate both total test scores and subscores. Both total test scores and subscores were estimated using item-pattern (IP) scoring. Total test results in the scale score metric are reported to students. Subscores are not reported to students but are aggregated at the classroom level to provide teachers and administrators with information about student performance in each of the subscore categories.

The MD Mod-HSA forms are constructed using preequated item parameter estimates. When preequated item parameter estimates are used, the parameters are not estimated following an administration; instead, existing Mod-HSA bank parameter estimates are used to produce student scores. Using this approach, scores can be calculated and assigned to students immediately after their answer documents have been processed.

All technical support and analyses were carried out in accordance with both the *ETS Standards for Quality and Fairness* (2014) and the *Standards for Educational and Psychological Testing*, issued jointly by the American Educational Research Association [AERA], American Psychological Association [APA], and National Council on Measurement in Education [NCME] (2014).

This chapter of the technical report consists of five other sections and one appendix. Section 9 describes the procedures used for test construction and administration. Section 10 discusses the validity of the MD Mod-HSAs. Section 11 describes the scoring procedures and score types. Section 12 summarizes the results of analyses of the test reliability, decision consistency and decision accuracy. Section 13 presents summary statistics and descriptive information about student characteristics. Appendix 2 provides classical item statistics for each operational form.

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<sup>10</sup> The report is available at <http://marylandpublicschools.org/MSDE/divisions/planningresultstest/HSA+Technical+Reports.html>.

## Section 9. Test Construction and Administration

### Test Development

#### *Planning*

Planning for the test development process began with the creation of the MD Mod-HSA blueprints and item modification/development plans for each content area. MSDE content specialists collaborated with Maryland educators, both special education and content area experts, to develop a plan for modifying and developing content for the modified assessments. The MD HSA item bank was reviewed to determine how well the available item pool could be modified to meet the item requirements of the MD Mod-HSAs and blueprint requirements as identified across the Core Learning Goals. Items, passages, and stimuli identified as modifiable were revised according to item plans, using such modifications as reducing the number of response options from four to three, simplifying language and graphics, grouping text within longer passages, and repeating critical passage text within an item. When deficits in the pool of modifiable items were identified, MSDE and its collaborative partners developed additional items.

#### *Test Specifications and Design*

MSDE defined the basic test design and provided it to Educational Testing Service (ETS). The blueprints for the 50-item test design are presented below in the section on test specifications. The basic test design defined the reporting categories and the number of items in each reporting category. Decisions about the distribution of items throughout the forms were left to the collaborative efforts of ETS and MSDE content specialists. Construction of the operational forms was based on test blueprints approved by MSDE.

#### *Item Type*

The MD Mod-HSAs consist of selected response items only. Each of the four content areas—Algebra, Biology, English, and Government—contained 50 operational items worth a total of 50 score points.

#### *Item Modification, Development, Review, and Revision*

MSDE oversaw the initial item modification and development. MSDE content and special education specialists worked with Maryland educators to modify existing MD HSA items and to develop new items written specifically for the MD Mod-HSA program. These items underwent review and revision at MSDE prior to their submission to ETS for inclusion in the MD Mod-HSA item bank.

Once received by ETS, all items were uploaded into the item bank and all graphics and stimulus materials were revised as requested. At this point, all items underwent a series of editorial reviews in accordance with the following procedures:

- Items were edited according to standard rules developed in conjunction with MSDE.
- Items were reviewed for accuracy, organization, comprehension, style, usage, consistency, and fairness/sensitivity.
- Item content was reviewed to establish whether the item measured the intended Goal-Expectation-Indicator-Assessment Limit.
- Verification was made that copyright and/or trademark permissions had been obtained for any materials requiring permissions.
- Internal reviews were conducted and historical records established for all version changes.

After ETS performed the required internal reviews, item revision recommendations were submitted to MSDE for their review. Any associated stimulus material, graphic, and/or art was provided as well as information regarding the Goal-Expectation-Indicator-Assessment Limit that each question addressed.

MSDE performed a final review of the items and provided feedback to ETS content specialists. Suggested edits were incorporated into the items. The items were then prepared for a final round of reviews by the Content Review and Bias/Sensitivity Review Committees.

These committees, selected by MSDE, were composed of diverse groups of Maryland educators. The committees reviewed each item to ensure that the content (a) accurately reflected what was taught in Maryland schools; (b) correctly matched the intended CLG indicator; and (c) did not unfairly favor or disadvantage an individual or group. A total of 699 items were reviewed across all content areas. Of these items 8 (0.01%) were rejected by the Bias/Sensitivity Review Committee, while 159 (22.7 %) items were accepted with edits. In total the two committees accepted a total of 532 (76.1%) items of the 699 MD Mod-HSA test items.

Upon completion of this final round of reviews, MSDE and ETS content specialists conducted another meeting to evaluate the reviews. The ETS content specialists then made any necessary final edits to the items and/or revisions to the accompanying graphics. The items that survived this process were then eligible for placement in the MD Mod-HSA forms.

### **Test Specifications**

Tables 9.1 through 9.4 identify each reporting category and the number of items in each category for the four content area MD Mod-HSA tests.

Table 9.1 MD Mod-HSA Algebra Blueprint

Reporting Category	Number of items
Expectation 1.1 Analyzing Pattern and Functions	13
Expectation 1.2 Modeling Real-World Situations	16
Expectation 3.1 Collecting, Organizing, and Analyzing Data	11
Expectation 3.2 Using Data to Make Predictions	10
<b>Total</b>	<b>50</b>

*Note:* Information about the referenced expectations can be found in the Maryland Core Learning Goals for Algebra on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 9.2 MD Mod-HSA Biology Blueprint

Reporting Category	Number of items
Goal 1 Skills and Processes of Biology	11
Expectation 3.1 Structure and Function of Biological Molecules	8
Expectation 3.2 Structure and Function of Cells and Organisms	9
Expectation 3.3 Inheritance of Traits	8
Expectation 3.4 Mechanism of Evolutionary Change	6
Expectation 3.5 Interdependence of Organisms in the Biosphere	8
<b>Total</b>	<b>50</b>

*Note:* Information about the referenced goal and expectations can be found in the Maryland Core Learning Goals for Biology on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 9.3 MD Mod-HSA English Blueprint

Reporting Category	Number of Items
1: Reading and Literature: Comprehension and Interpretation Includes indicators 1.1.1; 1.1.2; 1.1.3; 1.2.1; 1.3.3; 3.2.2.	13
2: Reading and Literature: Making Connections and Evaluation Includes indicators 1.1.4; 1.2.2; 1.2.3; 1.2.4; 1.2.5; 1.3.5; 4.2.1.	13
3: Writing—Composing Includes indicators 2.2.1; 2.2.2; 2.2.3; 2.2.5; 2.3.1; 2.3.3; 4.3.1.	13
4: Writing—Language Usage and Conventions Includes indicators 3.1.3; 3.1.4; 3.1.6; 3.1.8; 3.3.1; 3.3.2.	11
Total	50

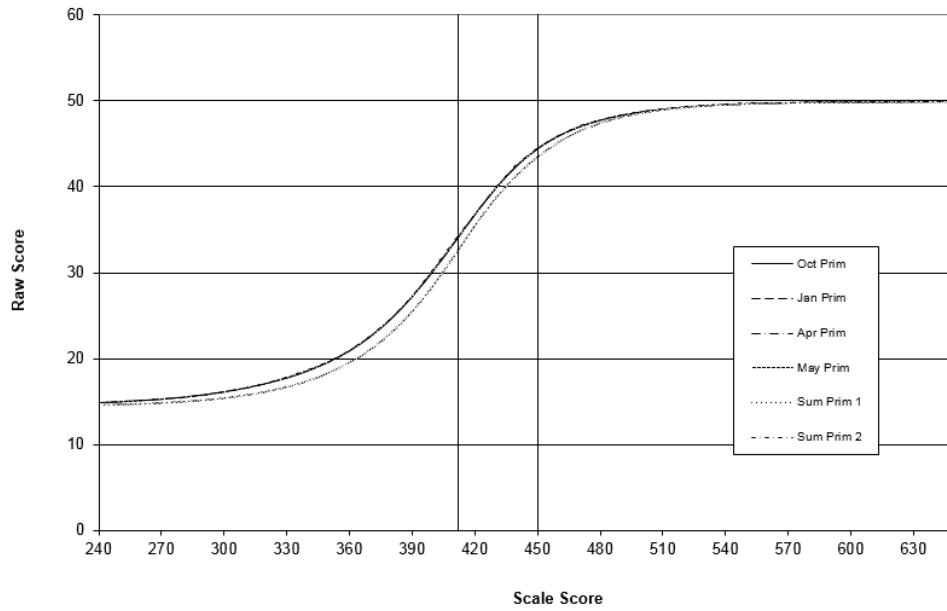
*Note:* Information about the referenced indicators can be found in the Maryland Core Learning Goals for English on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Table 9.4 MD Mod-HSA Government Blueprint

Reporting Category	Number of Items
Expectation 1.1 U.S. Government Structure, Functions, and Principles	14
Expectation 1.2 Protecting Rights and Maintaining Order	12
Goal 2 Systems of Government and U.S. Foreign Policy	8
Goal 3 Impact of Geography on Governmental Policy	7
Goal 4 Economic Principles, Institutions and Processes	9
Total	50

*Note.* Information about the referenced expectations and goals can be found in the Maryland Core Learning Goals for Government on the Maryland School Improvement website at <http://www.mdk12.org/assessments/standards/9-12.html>.

Figures 9.1 through 9.8 show the plots of the TCCs and CSEMs for the forms developed for each content area. It is important to note that the TCCs and CSEMs shown in the plots are based on preequated item parameter estimates and therefore are curves calculated prior to administration of the tests. As expected, the CSEM plots indicate that the CSEMs for each content area were lowest in the middle range of scale scores (approximately 360 to 480 for Algebra and Biology, 360 to 510 for English, and 360 to 480 for Government). The majority of students scored in the range where the CSEMs are smallest. (Refer to Section 13, figures 13.1 to 13.4 for histograms of student performance.)



Note: Maximum possible raw score is 50.

Figure 9.1 Test Characteristic Curves for the MD Mod-HSA 2015 Algebra Forms

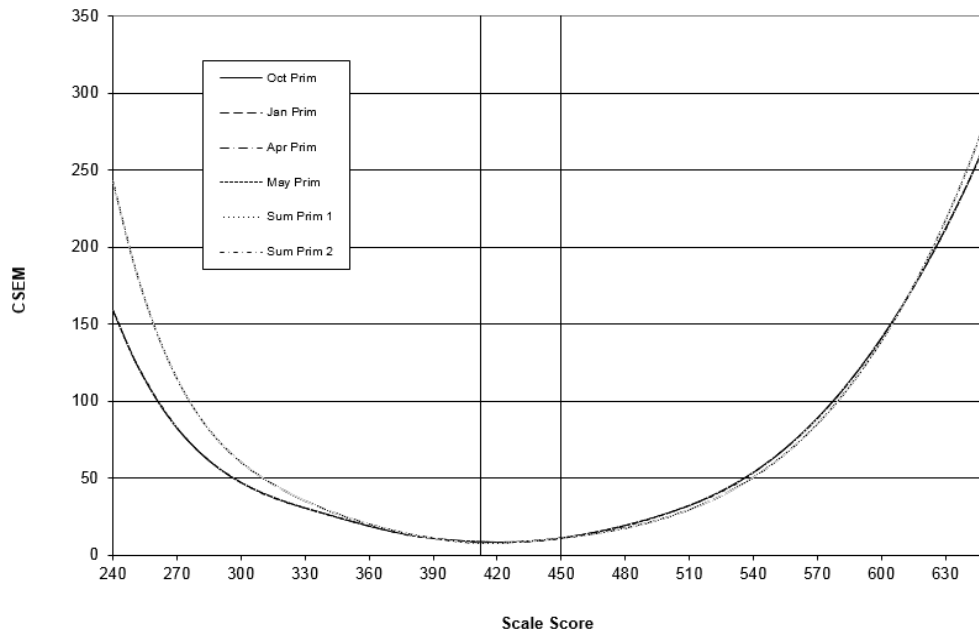
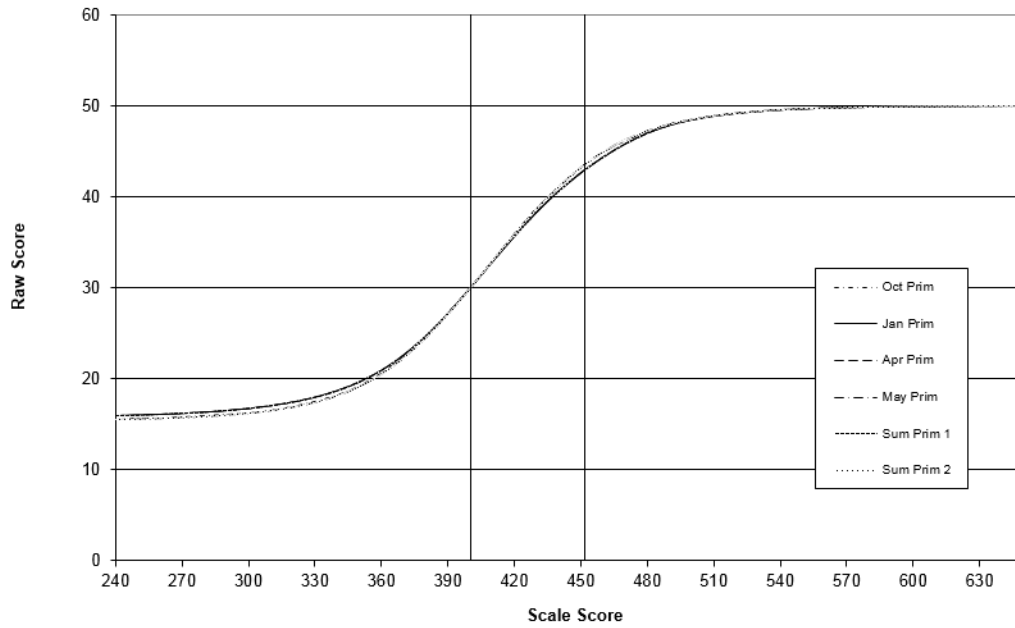


Figure 9.2 Conditional Standard Errors of Measurement for the MD Mod-HSA 2015 Algebra Forms



Note: Maximum possible raw score is 50.

Figure 9.3 Test Characteristic Curves for the MD Mod-HSA 2015 Biology Forms

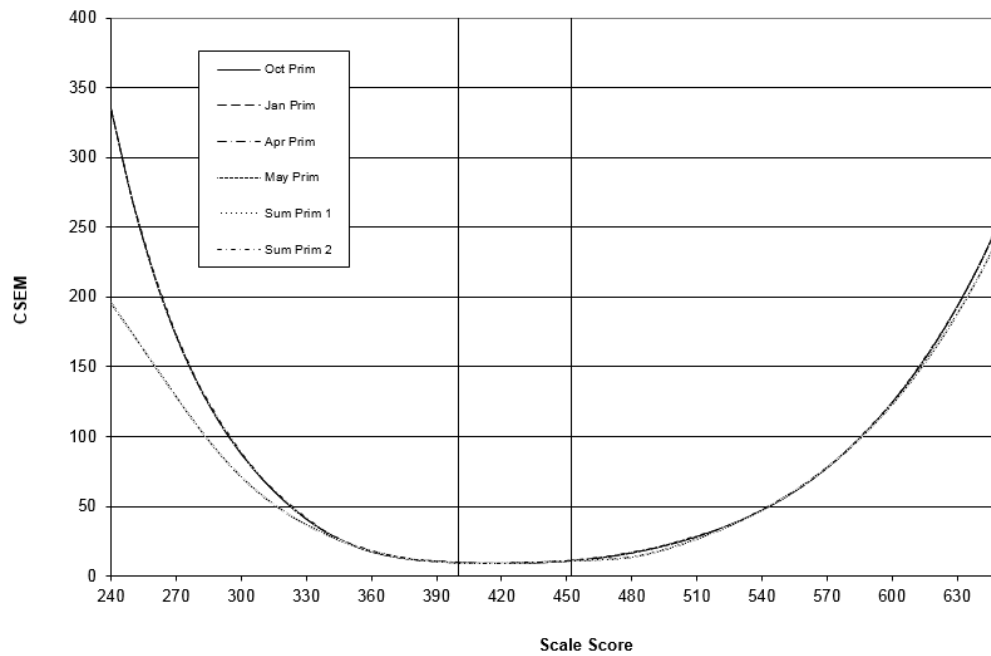
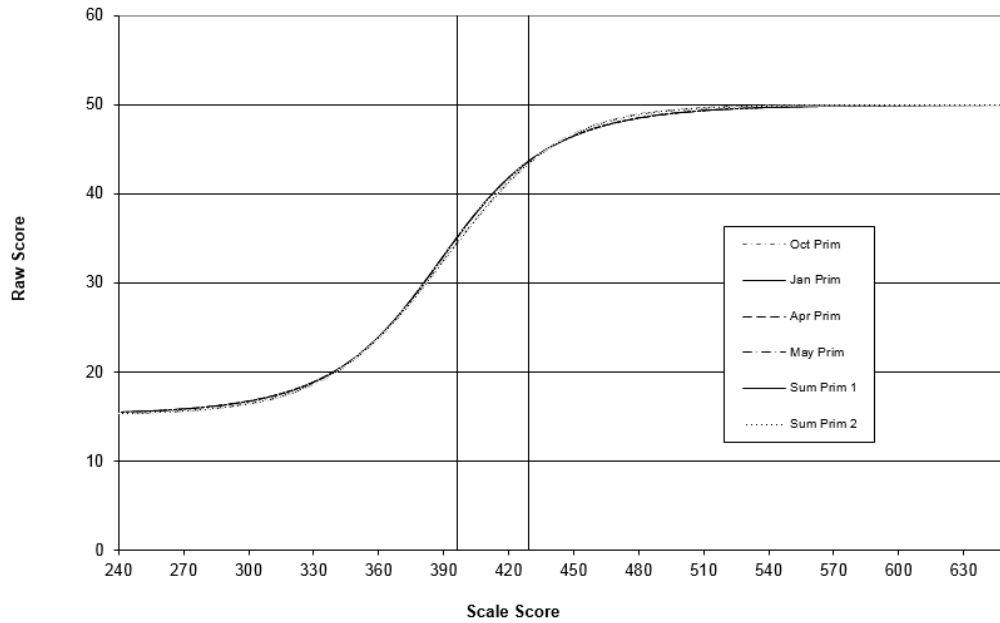


Figure 9.4 Conditional Standard Errors of Measurement for the MD Mod-HSA 2015 Biology Forms





Note: Maximum possible raw score is 50.

Figure 9.5 Test Characteristic Curves for the MD Mod-HSA 2015 English Forms

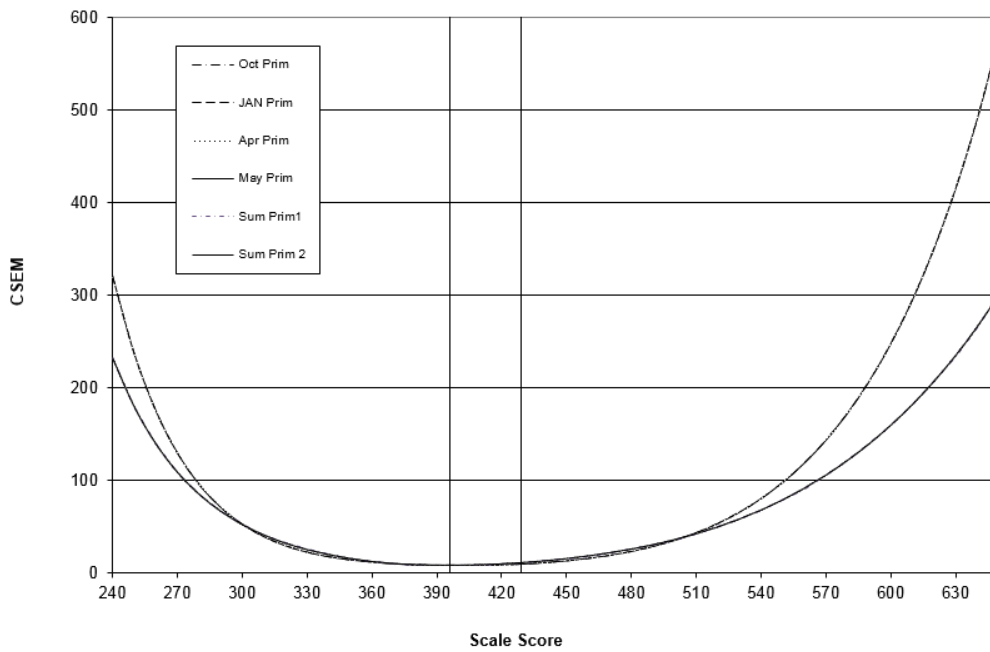
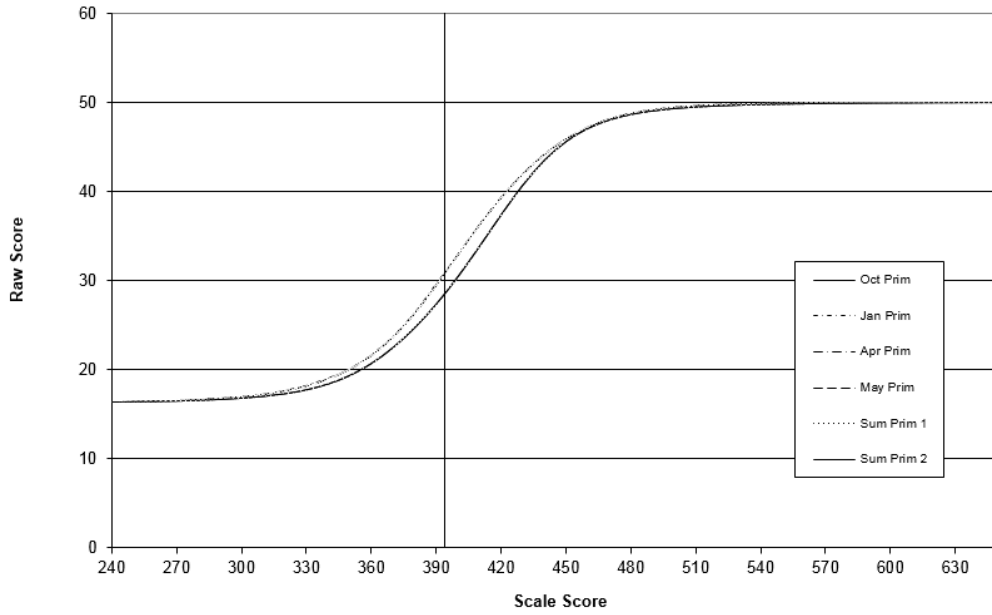


Figure 9.6 Conditional Standard Errors of Measurement for the MD Mod-HSA 2015 English Forms



Note: Maximum possible raw score is 50.

Figure 9.7 Test Characteristic Curves for the MD Mod-HSA 2015 Government Forms

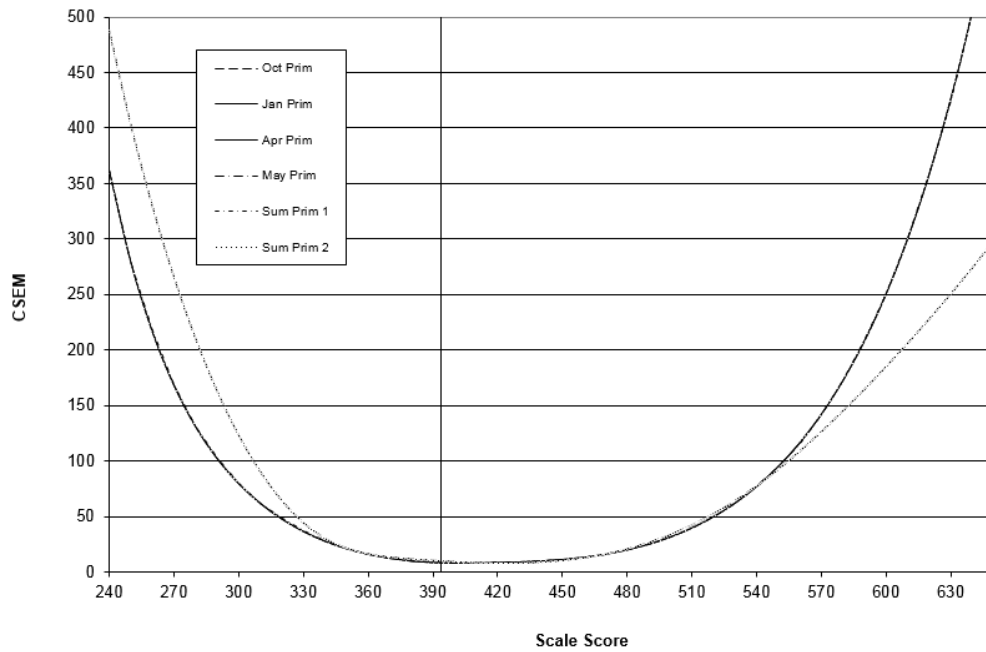


Figure 9.8 Conditional Standard Errors of Measurement for the MD Mod-HSA 2015 Government Forms

## Test Administration

The MD Mod-HSA tests were administered both online and on paper in October 2014 and January, April, May, and Summer 2015. One paper and one online MD Mod-HSA form per content area was administered during each administration, with the exception of Summer 2015, when two paper and two online forms were administered.

The forms for Algebra, Biology, English, and Government, consist of two sessions administered within a single sitting. Sessions are separated by a short break. All forms administered without accommodations have the timing limits shown in Table 9.5.

Table 9.5 MD Mod-HSA Testing Timing Schedule in Minutes by Content Area

Content Area	Session 1	Break	Session 2
Algebra	50	5	50
Biology	30	5	30
English	50	5	40
Government	30	5	30

## Section 10. Validity

Validity is one of the most important attributes of assessment quality. Validity refers to the degree to which logical, empirical, and judgmental evidence supports each proposed interpretation or use of a set of scores, and it is one of the most fundamental considerations in developing and evaluating tests (AERA, APA, & NCME, 2014; Messick, 1989). Validity is not based on a single study or type of study but is an ongoing process of gathering evidence supporting the interpretation or use of the resulting test scores. The process begins with the test design and continues throughout the entire assessment process, which includes but is not limited to the design, content specifications, item development, psychometric quality assessment, and making inferences from the test results.

Students' scores on the MD Mod-HSA are assumed to reflect students' level of knowledge and skills in a content area. The scores are used to classify students in terms of their level of proficiency, based on cut scores established by the state.

### **Evidence Based on Analyses of Test Content**

The Maryland Mod-HSAs are referred to as end-of-course tests because students take each test as they complete the appropriate coursework. Banked MD HSA items were selected and adapted for the MD Mod-HSAs to measure the knowledge and skills expected of students following completion of coursework.

The constructs measured by each MD Mod-HSA are described in detail in the Maryland high school curriculum standards, or Core Learning Goals. The ETS content staff working on item selection and development has been trained in the CLGs. The test blueprint documents presented in Section 9 (see Tables 9.1 to 9.4) were created in collaboration with committees of Maryland educators and were derived from the Maryland goals, expectations, and indicators.

The process of selecting and adapting banked MD HSA items for use as MD Mod-HSA items is summarized briefly in Section 9 and described in detail in the Maryland Modified High School Assessment 2008 Technical Report.<sup>11</sup> Banked items were referenced to a particular instructional standard (i.e., goal, expectation, or indicator). During the internal ETS development process, the specific reference was confirmed or changed to reflect changes to the item. When the item went to a committee of Maryland educators for content review, the members of the committee made independent judgments about the match of the item content to the standard it was intended to measure and evaluated the appropriateness for the age and cognitive ability of the students being tested.

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<sup>11</sup>Available at <http://marylandpublicschools.org/MSDE/divisions/planningresultstest/HSA+Technical+Reports.html>.

## Evidence Based on Analyses of Internal Test Structure

Analyses of the internal structure of a test typically involve studies of the relationship among test items and/or test components in the interest of establishing the degree to which the items or components appear to reflect the construct on which a test interpretation is based (AERA, APA & NCME, 2014, p. 16). The term construct is used here to refer to the characteristic that a test is intended to measure; in the case of the MD Mod-HSAs, the characteristic of interest is the knowledge and skills defined by the test blueprint for each content area.

These test blueprints are derived from Maryland’s Core Learning Goals for each course. The test blueprints are presented in Section 9 (see Tables 9.1 through 9.4); the CLGs can be found on the MSDE website at [http://www.mdk12.org/assessments/high\\_school/index\\_a.html](http://www.mdk12.org/assessments/high_school/index_a.html)

High internal consistency, as is discussed in Section 12, constitutes evidence of validity as high reliability over items within a test which implies that the test items within a domain are measuring a single construct. The internal structure of the test can also be assessed through the evaluation of correlations between individual MD Mod-HSA subscores. Subscores that are strongly related to each other are indicators of construct validity. Tables 10.1 and 10.2 contain the Pearson correlations found between subscores within each content area of the MD May Mod-HSA tests. Results indicate that each subscore is positively correlated with the total Scale Score as well as the individual subscores measured in each content area.

Table 10.1 Correlations between MD Mod-HSA Subscores by Content Area – Algebra & Biology

	Algebra ( <i>N</i> = 674)					Biology ( <i>N</i> = 907)						
	SS	1	2	3	4	SS	1	2	3	4	5	6
Overall SS	1					1						
Subscore 1	.72	1				.69	1					
Subscore 2	.61	.39	1			.46	.22	1				
Subscore 3	.74	.40	.35	1		.54	.34	.27	1			
Subscore 4	.31	.23	.16	.22	1	.53	.26	.18	.29	1		
Subscore 5	-	-	-	-	-	.36	.20	.20	.22	.19	1	
Subscore 6	-	-	-	-	-	.46	.22	.24	.30	.30	.17	1

*Note:* All correlations significant at the  $p < .001$  level.

Table 10.2 Correlations between MD Mod-HSA Subscores by Content Area – English & Government

	English (N = 415)					Government (N = 533)					
	SS	1	2	3	4	SS	1	2	3	4	5
Overall SS	1					1					
Subscore 1	.63	1				.62	1				
Subscore 2	.68	.40	1			.58	.32	1			
Subscore 3	.63	.30	.36	1		.46	.28	.17	1		
Subscore 4	.62	.34	.34	.34	1	.47	.27	.28	.23	1	
Subscore 5	-	-	-	-	-	.70	.39	.38	.26	.23	1

Note: All correlations significant at the  $p < .001$  level.

Evidence of the internal structure of an assessment also comes from evaluation of the dimensionality of the test — whether performance on items that compose each test reflects a single underlying characteristic or a set of distinct characteristics. Previous exploratory factor analytic (EFA) studies evaluating the dimensionality of the MD Mod-HSA operational forms have indicated a single underlying dimension.<sup>12</sup> To establish the validity of a single factor model over test content areas on the MD Mod-HSA, confirmatory factor analysis (CFA) can be used.

#### *Confirmatory Factor Analyses of the May 2015 MD Mod-HSA Administration Data*

To assess the dimensionality of the MD Mod-HSA tests, CFA's for each content area were conducted using test data from the primary form of the May 2015 administration. The May administration was chosen for analysis because it is the largest and most representative administration of the MD Mod-HSAs. The May administration consisted of one primary form; data from operational items were combined across forms within the content areas of Algebra, Biology, English, and Government.

Mplus (Muthén & Muthén, 2007) was used to calculate matrices consisting of polychoric correlations between the items included in each analysis. Mplus was also used to fit specified factor models to the data. In the analysis, the input polychoric correlation matrix was used to estimate the factor loadings between the indicators (items).

As item level data on the MD HSA tests are dichotomous, methods available in *Mplus* that take into account the categorical nature of the data were used (see Muthén, 1998-2004).

Model parameter estimation was accomplished using a weighted least-squares method with a mean and variance adjustment (*WLSMV*; Muthén, DuToit, & Spisic, 1997). This method leads to a consistent estimator of the model parameters and provides standard errors that are robust under model misspecification. For categorical data, this estimation

<sup>12</sup> When the Mod-HSA was created in 2008, EFA was conducted. Please refer to the Maryland Modified High School Assessment 2008 Technical Report for details.

method offers an alternative to the full-weighted least square (WLS) technique that generally becomes computationally too demanding for models with more than a few observed variables (items).

Overall model fit for each CFA model by content area was examined using the scaled chi-square ( $\chi^2$ ) test of model fit in combination with supplemental fit indices. The Tucker-Lewis Index (TLI) compares the chi-square for the hypothesized model with that of the null or “independence” model, in which all correlations or covariances are zero. TLI values range from zero to 1.0, and values around 0.94 signify good fit (Hu & Bentler, 1999). The comparative fit index (CFI) and root mean square error of approximation (RMSEA) index both are based on noncentrality parameters. The CFI compares the covariance matrix predicted by the model with the observed covariance matrix, and the covariance matrix of the null model with the observed covariance matrix. A CFI value greater than 0.90 indicates acceptable model fit (Hu & Bentler, 1999). The RMSEA assesses the error in the hypothesized model predictions; values less than or equal to 0.06 indicate good fit (Hu & Bentler, 1999).

Table 10.3 shows the results of the analyses. The TLI, CFI, and RMSEA fit statistics indicate that the one-factor solutions generally fit the data well in all subject areas. These findings provide evidence suggesting the tests for each content area measure a single underlying dimension. This is a positive finding, given that IRT models assume unidimensionality.

Table 10.3 MD Mod-HSA Confirmatory Factor Analyses Fit Statistics

Content	Forms	# of Factors	# of Items	<i>N</i>	<i>df</i>	$\chi^2$	TLI	CFI	RMSEA
Algebra	415	1	50	674	1,175	1,427	0.86	0.87	<b>0.018</b>
Biology	415	1	50	907	1,175	1,436	0.88	0.88	<b>0.016</b>
English	415	1	50	415	1,175	1,253	<b>0.94</b>	<b>0.93</b>	<b>0.013</b>
Government	415	1	50	533	1,175	1,332	0.88	0.88	<b>0.016</b>

*Note:* Table entries that meet or exceed the criterion are in bold.

### *Speededness*

The percentages of students who respond to the last items in a test can be used to assess the degree to which a test is speeded. When speededness occurs, a test is measuring not only students’ knowledge and skills as defined by the construct of interest but also the speed at which the knowledge and skills are demonstrated, which is a second construct. In tests of achievement, it is desirable to find that speededness is not present in a test, which provides evidence that student scores on the test reflect only the intended construct. Evidence of speededness is provided by the finding that the omit rates at the end of a test are notably higher than those observed elsewhere in the test.

Appendix 2A presents the percentages of students who omitted items on the MD Mod-HSA operational forms. The percentage of students who did not respond to the last ten items of a test was less than 2 percent for all content areas and sessions, with the exception of the summer forms. The Summer administration contained two primary forms for each of the subject tests and the sample size for each form was very small (less than 30) except the Biology Primary Form 1 ( $N = 54$ ), therefore, the statistics reported were less reliable and meaningful. With those exceptions, the item level omit rates for the last ten items are quite low and are comparable to the omit rates for all items. This provides evidence that students had sufficient time to complete the entire test.

Further, if more than 5 percent of students omit a selected response item at any point in the test, the item is flagged as having a high omit rate. No MD Mod-HSA items were flagged for high omit rate in any content area for any administration.

Other information in support of the uses and interpretations of the MD Mod-HSA scores appears in the following sections:

- Section 11 provides detailed information concerning the scores that were reported and the cut scores for each content area.
- Section 12 provides information concerning test characteristics based on classical test theory.
- Section 13 presents information regarding student characteristics for the MD Mod-HSA administrations.



## **Section 11. Scoring Procedures**

### **Scale Scores**

The MD Mod-HSA reporting scale ranges from 240 to 650. This scale was aligned to the MD HSA scale, which was established in 2003. Scale scores describing both total test and subscore performance on the MD Mod-HSA are maximum likelihood estimates obtained using item-pattern (IP) scoring and the estimated parameters for the items in each operational test form.

Total test results in the scale score metric were reported to students. Subscores were not reported to students but were aggregated at the classroom level to provide teachers and administrators with additional information about student performance in each of the subscore categories.

### **Lowest and Highest Obtainable Test Scores**

The maximum likelihood procedure under the 3PL model cannot produce reasonable scale score estimates for students with perfect scores or scores below the level expected by guessing. While maximum likelihood estimates are usually available for students with extreme scores other than zero or perfect, occasionally these estimates have very large conditional standard errors of measurement (CSEMs), and differences between these extreme values have little meaning. Therefore, scores were established for these students based on the procedure used for the MD HSA (refer to Appendix 3.C of the 2004 Technical Report). These values were called the lowest obtainable scale score (LOSS) and the highest obtainable scale score (HOSS). Starting with the summer 2005 administration of the MD HSA, MSDE decided that the LOSS and HOSS values would be 240 and 650, respectively, for all content areas. Since the MD Mod-HSA is on the same scale as the MD HSA, the same LOSS and HOSS values were used.

### **Cut Scores**

MSDE requested that the MD Mod-HSAs be aligned with the MD HSA scales so that the cut scores established for the MD HSAs could be applied to the MD Mod-HSAs. The MD HSA cut scores associated with each performance level in the non-English content areas were established by MSDE in 2003.<sup>13</sup> The MD HSA English cut scores were established during a standard setting held in October 2005.

Two cut scores were established for the Algebra and English tests, enabling students to be classified as Basic, Proficient, or Advanced. Two cut scores were needed because the

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<sup>13</sup> Technical documentation on the standard-setting method used to establish MD HSA cut scores is available on the Maryland State Department of Education website at <http://www.marylandpublicschools.org/divisions/planningresultstest/maryland+standard+setting+technical+reports.htm>.

results for these tests are used as the high school mathematics and English/language arts components of Maryland’s system of accountability under NCLB.<sup>14</sup> Prior to the 2007–2008 school year, Biology had only one cut score. In 2007 an Advanced cut score was set for Biology, and the results are now used as components of the MSDE accountability system. There is only one cut score for the Government test; it is used to classify students as Basic or Proficient

To verify that the cut scores established for the MD HSAs were appropriate for the MD Mod-HSAs, a standard setting was conducted in August 2008 using the MD Mod-HSA student results. The standard-setting panels, consisting of Maryland general and special educators, confirmed that the MD HSA cut scores were appropriate for the MD Mod-HSA.<sup>15</sup>

With the reinstatement of Government tests in January 2013, students entering 9<sup>th</sup> grade in the 2012-2013 school year or in a prior year (including students who entered 9<sup>th</sup> grade in 2011-2012, 2010-2011, or 2009-2010) have the option of earning a combined score of 1602 on all four MD HSAs or a combined score of 1208 on three MD HSAs (excluding Government) to be granted a Maryland High School Diploma.<sup>16</sup> Students entering 9<sup>th</sup> grade in 2013-14 and beyond are required to pass all four HSAs, including Government, or obtain a combined score of 1602 to fulfill the graduation requirement. The Proficient cut scores are used to determine Pass/Fail classifications. The cut scores by content area are given in Table 11.1.

Table 11.1 MD Mod-HSA Cut Scores by Content Area

Content Area	Cut Score	
	Proficient	Advanced
Algebra	412	450
Biology	400	452
English	396	429
Government	394	--

<sup>14</sup> Information regarding the system of accountability is available on the Maryland State Department of Education website at [http://www.marylandpublicschools.org/NR/rdonlyres/0146EDA2-5F91-47DD-9A84-16164BDEA25C/18082/Acct\\_workbook\\_final\\_w\\_table\\_appendices\\_r\\_93008.doc](http://www.marylandpublicschools.org/NR/rdonlyres/0146EDA2-5F91-47DD-9A84-16164BDEA25C/18082/Acct_workbook_final_w_table_appendices_r_93008.doc).

<sup>15</sup> Information regarding the standard-setting process for the MD Mod-HSA is available at the MSDE website at [http://www.marylandpublicschools.org/NR/rdonlyres/3253C1DD-CA2E-4E64-A066-D6F36EBADF9B/18003/ModHSA\\_SB\\_Final.ppt](http://www.marylandpublicschools.org/NR/rdonlyres/3253C1DD-CA2E-4E64-A066-D6F36EBADF9B/18003/ModHSA_SB_Final.ppt).

<sup>16</sup> More information on the testing requirement for graduation is available on the Maryland State Department of Education website at [http://mdk12.org/assessments/high\\_school/index.html](http://mdk12.org/assessments/high_school/index.html).

## Section 12. Test Characteristics

Provided in this section is a discussion of the results of analyses of test reliability and decision consistency and decision accuracy for all test forms administered.

### Reliability

The general concept of reliability concerns the precision of a test score. Of interest is quantifying the degree to which a score will vary from an average result obtained over many testing occasions due to random factors (Haertel, 2006). A variety of theories and methods can be used to estimate reliability.

Classical test theory defines reliability as the proportion of total score variance that is true-score variance. Several different ways of estimating this proportion exist. The estimate of reliability given in this report is Cronbach's alpha (Cronbach, 1951), an internal consistency measure. It is derived from analysis of the consistency of performance over items within a test and provides a lower-bound estimate of a test's reliability. Cronbach's alpha can be expressed as:

$$\alpha = \frac{n}{n-1} \left[ 1 - \frac{\sum_{i=1}^n \sigma_i^2}{\sigma_x^2} \right],$$

where  $n$  is the number of items,  $\sigma_i^2$  is the variance of scores on the  $i$ -th item, and  $\sigma_x^2$  is the variance of the total score (sum of scores on the individual items).

Values for Cronbach's alpha were calculated for each test form, each test group, and selected subgroups, using the sample variances in place of the variances in the above expression. The results for the reliability analyses are presented along with other summary statistics in Tables 13.6 to 13.24 of Section 13. The tables show that the overall reliability coefficients for the MD Mod-HSA ranged from 0.56 to 0.82.

### Decision Accuracy and Decision Consistency

The accuracy of decisions based on specified cut scores was assessed for reliability of classification using the ETS computer program *RELCLASS*, which provides two statistics that describe the reliability of classifications based on test scores (Livingston & Lewis, 1995). More specifically, information from an administration of one form is used to estimate the following:

**Decision accuracy** describes the extent to which test takers are classified in the same way as they would be on the basis of the average of all possible forms of a test. Decision accuracy addresses the question: How does the actual classification of test takers, based on their single-form scores, agree with the classification that

would be made on the basis of their true scores, if their true scores were somehow known?

**Decision consistency** describes the extent to which test takers are classified in the same way they would be on the basis of a single form of a test *other* than the one for which data are available. Decision consistency addresses the question: What is the agreement between the classifications based on two nonoverlapping, equally difficult forms of the test?

*RELCLASS* estimates decision accuracy using an estimated joint distribution of reported performance-level classifications on the current form of the test and the performance-level classifications based on an all-forms average (true score). *RELCLASS* estimates decision consistency using an estimated joint distribution of reported performance-level classifications on the current form of the test and performance-level classifications on an alternate (parallel) form. In each case, the proportion of performance-level classifications with exact agreement is the sum of the entries in the diagonal of the contingency table representing the joint distribution.

The results are provided in Tables 12.1 through 12.19 by content area for the October 2014, January, April, May, and Summer 2015 administrations. The tables show decision accuracy values, which estimate the agreement between classifications based on an observable variable (scores on one form of a test) and classifications based on an unobservable variable (the test takers' true scores).

Decision accuracy values ranged from 0.87 to 0.92 across all performance levels and content areas and from 0.86 to 0.93 for the Proficient and Advanced classifications in Algebra, Biology, and English, excluding the Summer Algebra and English forms, and Summer Biology Primary Form 2 for which the sample sizes were very small ( $N < 30$ ). In Government, decision accuracy values were calculated across all the performance levels only, and ranged from 0.89 to 0.93, excluding values from the two Summer forms ( $N < 30$ ).

Decision consistency values estimate the agreement between classifications based on two variables (scores on the form students have taken and a parallel form of the same test that is not administered to the students). Decision consistency values ranged from 0.80 to 0.89 across all performance levels and content areas and from 0.80 to 0.89 for the Proficient and Advanced classifications in Algebra, Biology, and English, excluding the summer forms in all three content areas for which the sample sizes were very small ( $N < 20$ ). In Government, decision consistency values were calculated across all performance levels only, and ranged from 0.84 to 0.86, excluding the Summer forms for which the sample sizes were very small ( $N < 30$ ).

Note that in all cases the decision accuracy indices are somewhat larger than the decision consistency indices. This is due to differences in the estimation procedures. The estimation procedure for decision accuracy includes a random component on one of the

two variables, whereas in estimating decision consistency each variable includes a random component (Livingston & Lewis, 1995).

Table 12.1 Decision Accuracy and Consistency: MD Mod-HSA Algebra October 2014

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.03	.03	.06
	240–411	.02	.05	.87	.94
Estimated Proportion Correctly Classified*: Total = 0.90, Proficient & Above = 0.90					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.01	.02	.03	.06
	240–411	.03	.08	.83	.94
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above = 0.87					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 12.2 Decision Accuracy and Consistency: MD Mod-HSA Algebra January 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.02	.02	.03
	240–411	.02	.06	.89	.96
Estimated Proportion Correctly Classified: Total*: = 0.91, Proficient & Above = 0.91					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.00	.01	.02	.03
	240–411	.03	.08	.85	.96
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above = 0.87					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.3 Decision Accuracy and Consistency: MD Mod-HSA Algebra April 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.00	.02	.02
	240–411	.00	.06	.91	.98
Estimated Proportion Correctly Classified*: Total = 0.92, Proficient & Above = 0.92					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.00	.01	.01	.02
	240–411	.03	.10	.86	.98
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above = 0.86					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 12.4 Decision Accuracy and Consistency: MD Mod-HSA Algebra May 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.02	.02	.05
	240–411	.01	.05	.89	.95
Estimated Proportion Correctly Classified*: Total = 0.91, Proficient & Above = 0.92					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.01	.02	.02	.05
	240–411	.03	.07	.86	.95
Estimated Proportion Consistently Classified*: Total = 0.87, Proficient & Above = 0.88					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.5 Decision Accuracy and Consistency: MD Mod-HSA Algebra Summer 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
<b>Primary 1</b>					
Decision Accuracy	450–650	.00	.00	.00	.00
	412–449	.00	.01	.03	.04
	240–411	.01	.04	.92	.96
Estimated Proportion Correctly Classified*: Total = 0.93, Proficient & Above = 0.93					
Decision Consistency	450–650	.00	.00	.00	.00
	412–449	.00	.01	.02	.04
	240–411	.02	.07	.88	.96
Estimated Proportion Consistently Classified*: Total = 0.89, Proficient & Above = 0.89					
<b>Primary 2**</b>					
Decision Accuracy	450–650	--	--	--	--
	412–449				
	240–411				
Estimated Proportion Correctly Classified*: Total = , Proficient & Above =					
Decision Consistency	450–650	--	--	--	--
	412–449				
	240–411				
Estimated Proportion Consistently Classified*: Total = , Proficient & Above =					

\* Inconsistencies between cell entries and totals are due to rounding. \*\*N = 13.

Table 12.6 Decision Accuracy and Consistency: MD Mod-HSA Biology October 2014

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	452–650	.00	.00	.00	.00
	400–451	.00	.02	.06	.08
	240–399	.00	.08	.85	.92
Estimated Proportion Consistently Classified*: Total = 0.87, Proficient & Above = 0.87					
Decision Consistency	452–650	.00	.00	.00	.00
	400–451	.00	.03	.05	.08
	240–399	.01	.15	.77	.92
Estimated Proportion Consistently Classified*: Total = 0.80, Proficient & Above = 0.80					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.7 Decision Accuracy and Consistency: MD Mod-HSA Biology January 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	452–650	.00	.00	.00	.00
	400–451	.00	.03	.03	.06
	240–399	.01	.08	.85	.94
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.88					
Decision Consistency	452–650	.00	.00	.00	.00
	400–451	.00	.03	.04	.06
	240–399	.03	.12	.79	.94
Estimated Proportion Consistently Classified*: Total = 0.82, Proficient & Above = 0.82					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.8 Decision Accuracy and Consistency: MD Mod-HSA Biology April 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	452–650	.00	.00	.00	.00
	400–451	.00	.02	.03	.05
	240–399	.00	.07	.87	.95
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.89					
Decision Consistency	452–650	.00	.00	.00	.00
	400–451	.00	.02	.03	.05
	240–399	.00	.13	.81	.95
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.84					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 12.9 Decision Accuracy and Consistency: MD Mod-HSA Biology May 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Decision Accuracy	452–650	.00	.00	.00	.00
	400–451	.00	.06	.05	.11
	240–399	.01	.06	.81	.89
Estimated Proportion Correctly Classified*: Total = 0.87, Proficient & Above = 0.87					
Decision Consistency	452–650	.00	.00	.00	.00
	400–451	.01	.05	.05	.11
	240–399	.02	.10	.76	.89
Estimated Proportion Consistently Classified*: Total = 0.81, Proficient & Above = 0.83					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.10 Decision Accuracy and Consistency: MD Mod-HSA Biology Summer 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Primary 1					
Decision Accuracy	452–650	.00	.00	.00	.00
	400–451	.00	.04	.05	.09
	240–399	.01	.05	.85	.91
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.89					
Decision Consistency	452–650	.00	.00	.00	.00
	400–451	.01	.03	.05	.09
	240–399	.02	.09	.80	.91
Estimated Proportion Consistently Classified*: Total = 0.83, Proficient & Above = 0.84					
Primary 2**					
Decision Accuracy	452–650	--	--	--	--
	400–451				
	240–399				
Estimated Proportion Correctly Classified*: Total = , Proficient & Above =					
Decision Consistency	452–650	--	--	--	--
	400–451				
	240–399				
Estimated Proportion Consistently Classified*: Total = , Proficient & Above =					

\* Inconsistencies between cell entries and totals are due to rounding. \*\*N = 13.



Table 12.11 Decision Accuracy and Consistency: MD Mod-HSA English October 2014

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.00	.00	.00	.00
Decision	396–428	.01	.04	.03	.08
Accuracy	240–395	.02	.06	.85	.92
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.90					
	429–650	.00	.00	.00	.00
Decision	396–428	.02	.03	.03	.08
Consistency	240–395	.03	.08	.81	.92
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.86					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.12 Decision Accuracy and Consistency: MD Mod-HSA English January 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.00	.00	.00	.00
Decision	396–428	.00	.04	.02	.07
Accuracy	240–395	.02	.06	.85	.93
Estimated Proportion Correctly Classified*: Total = 0.89, Proficient & Above = 0.90					
	429–650	.00	.00	.00	.00
Decision	396–428	.01	.03	.03	.07
Consistency	240–395	.03	.08	.82	.93
Estimated Proportion Consistently Classified*: Total = 0.85, Proficient & Above = 0.86					

\* Inconsistencies between cell entries and totals are due to rounding

Table 12.13 Decision Accuracy and Consistency: MD Mod-HSA English April 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.00	.00	.00	.00
Decision	396–428	.01	.05	.04	.10
Accuracy	240–395	.02	.05	.84	.90
Estimated Proportion Correctly Classified*: Total = 0.88, Proficient & Above = 0.90					
	429–650	.00	.00	.00	.00
Decision	396–428	.02	.04	.04	.10
Consistency	240–395	.03	.08	.80	.90
Estimated Proportion Consistently Classified*: Total = 0.84, Proficient & Above = 0.86					

\*Inconsistencies between cell entries and totals are due to rounding.

Table 12.14 Decision Accuracy and Consistency: MD Mod-HSA English May 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
	429–650	.00	.00	.00	.00
Decision	396–428	.00	.03	.02	.05
Accuracy	240–395	.02	.06	.87	.95
Estimated Proportion Correctly Classified*: Total = 0.90, Proficient & Above = 0.91					
	429–650	.00	.00	.00	.00
Decision	396–428	.01	.02	.02	.05
Consistency	240–395	.03	.08	.84	.95
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above = 0.87					

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.15 Decision Accuracy and Consistency: MD Mod-HSA English Summer 2015

	Placement Scores	Advanced	Proficient	Basic	Category Total*
Primary 1					
	429–650	.00	.00	.00	.00
Decision	396–428	.02	.03	.03	.08
Accuracy	240–395	.01	.04	.87	.92
Estimated Proportion Correctly Classified*: Total = 0.90, Proficient & Above = 0.92					
	429–650	.00	.00	.00	.00
Decision	396–428	.02	.02	.03	.08
Consistency	240–395	.02	.06	.84	.92
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above = 0.89					
Primary 2**					
	429–650	--	--	--	--
Decision	396–428				
Accuracy	240–395				
Estimated Proportion Correctly Classified*: Total = 0.90, Proficient & Above = 0.90					
	429–650	--	--	--	--
Decision	396–428				
Consistency	240–395				
Estimated Proportion Consistently Classified*: Total = 0.86, Proficient & Above* = 0.86					

\* Inconsistencies between cell entries and totals are due to rounding. \*\*N = 7.

Table 12.16 Decision Accuracy and Consistency: MD Mod-HSA Government October 2014

	Placement	Proficient	Basic	Category
	Scores			Total*
Decision Accuracy	394–650	.07	.03	.10
	240–393	.07	.83	.90
	Estimated Proportion Correctly Classified*: Total = 0.89			
Decision Consistency	394–650	.06	.04	.10
	240–393	.12	.78	.90
	Estimated Proportion Consistently Classified*: Total = 0.84			

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.17 Decision Accuracy and Consistency: MD Mod-HSA Government January 2015

	Placement	Proficient	Basic	Category
	Scores			Total*
Decision Accuracy	394–650	.04	.02	.06
	240–393	.07	.87	.94
	Estimated Proportion Correctly Classified*: Total = 0.91			
Decision Consistency	394–650	.04	.02	.06
	240–393	.11	.82	.94
	Estimated Proportion Consistently Classified*: Total = 0.86			

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.18 Decision Accuracy and Consistency: MD Mod-HSA Government May 2015

	Placement	Proficient	Basic	Category
	Scores			Total*
Decision Accuracy	394–650	.09	.04	.13
	240–393	.07	.81	.87
	Estimated Proportion Correctly Classified*: Total = 0.90			
Decision Consistency	394–650	.09	.04	.13
	240–393	.11	.76	.87
	Estimated Proportion Consistently Classified*: Total = 0.85			

\* Inconsistencies between cell entries and totals are due to rounding.

Table 12.19 Decision Accuracy and Consistency: MD Mod-HSA Government Summer 2015

	Placement Scores	Proficient	Basic	Category Total*
<b>Primary 1</b>				
Decision Accuracy	394–650	.03	.00	.04
	240–393	.07	.90	.96
	Estimated Proportion Correctly Classified*: Total = 0.93			
Decision Consistency	394–650	.03	.01	.04
	240–393	.10	.86	.96
	Estimated Proportion Consistently Classified*: Total = 0.89			
<b>Primary 2**</b>				
Decision Accuracy	394–650	--	--	--
	240–393			
	Estimated Proportion Correctly Classified*: Total =			
Decision Consistency	394–650	--	--	--
	240–393			
	Estimated Proportion Consistently Classified*: Total =			

\* Inconsistencies between cell entries and totals are due to rounding. \*\*N=11.

## Section 13. Student Characteristics

### Summary Statistics

The results presented in Tables 13.1 and 13.3 to 13.5 are based on the combined results for students who took the tests in October 2014 and January, April, May, and Summer 2015. Results from online and paper test takers were pooled for the analyses. All results are based on the final Research files sent to MSDE. Scores in Table 13.1 are reported for all students and by grade. Table 13.2 reports the scores for all content areas by the October 2014, January, April, May, and Summer 2015 administrations.

Table 13.1 MD Mod-HSA Means and Standard Deviations for 2014-2015 Overall and by Grade

		<i>N</i>	Mean	<i>SD</i>
Algebra	Overall	3,799	355.0	48.9
	Grade			
	5	1	371.0	-
	9	180	335.3	53.9
	10	1,172	353.5	49.7
	11	1,344	358.4	47.1
	12	1,102	355.5	48.4
Biology	Overall	3,071	355.8	46.5
	Grade			
	9	164	340.9	56.3
	10	661	354.1	50.0
	11	1,254	357.0	46.7
	12	992	358.1	41.6
English	Overall	2,842	351.6	42.4
	Grade			
	9	46	322.8	56.2
	10	270	334.3	50.5
	11	1,395	355.0	39.5
	12	1,131	352.7	41.7
Government	Overall	1,123	344.4	53.2
	Grade			
	9	208	332.7	57.5
	10	605	347.8	52.8
	11	216	346.3	51.1
	12	94	344.6	47.9

\*For this table, statistics are reported for  $N < 50$ .

Table 13.2 MD Mod-HSA Mean Scale Scores by Content Area and Test Administration

Content Area	October			January			April			May			Summer*		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
Algebra	1,669	357.3	48.5	1,263	354.3	48.9	195	349.1	51.2	674	351.5	48.8	40	350.3	48.8
Biology	1,071	359.0	42.4	895	354.4	46.6	171	361.7	36.7	907	353.0	51.9	67	350.8	47.6
English	1,260	353.3	41.3	965	352.5	41.6	196	352.9	42.3	415	345.3	45.6	33	339.4	50.2
Government	294	348.5	49.6	297	340.7	50.3	-	-	-	533	345.2	55.5	37	328.7	59.2

\*For this table, statistics are reported for  $N < 50$ .

The mean scale scores are presented for the years 2008 through 2015 by content area in Table 13.3. Table 13.4 presents the passing rates for these years.

Table 13.3 MD Mod-HSA Mean Scale Scores by Content Area and Test Year

Content Area	2008	2009	2010	2011	2012	2013	2014	2015
Algebra	360.1	363.2	360.5	362.3	362.3	363.0	359.6	354.8
Biology	360.2	365.0	366.0	362.3	363.2	361.5	360.5	355.8
English	353.2	360.2	359.6	359.2	362.2	358.6	353.7	351.7
Government*	357.2	359.2	355.9	354.8	-	353.3	355.2	344.4

\*Government HSA was discontinued from Summer 2011 to October 2012. Starting in January 2013, Government HSA was reintroduced into the MD HSAs.

Table 13.4 MD Mod-HSA Percentage Passing Rates (Proficient + Advanced) by Content Area and Test Year

Content Area	2008	2009	2010	2011	2012	2013	2014	2015
Algebra	9.8	9.2	8.8	9.4	8.1	8.4	6.0	4.8
Biology	16.1	14.5	13.8	13.2	13.3	12.6	11.2	8.4
English	10.4	12.2	12.6	12.0	13.9	10.8	9.1	7.3
Government*	19.9	20.3	17.1	17.2	-	19.8	17.1	10.2

\* Government HSA was discontinued from Summer 2011 to October 2012. Starting in January 2013, Government HSA was reintroduced into the MD HSAs.

The Algebra and English tests are used for the high school mathematics and English/language arts components of the MSDE Adequate Yearly Progress report as required under the NCLB Act. Beginning with the January 2008 administration, Biology was used for the NCLB science component. Table 13.5 presents the percentages of Algebra, English, and Biology students classified as Basic, Proficient, and Advanced in 2015. Figures 13.1 through 13.4 show the distribution of scale scores for the May 2015 administration for each content area.

Table 13.5 MD Mod-HSA Percentage of Students in Each Performance Category by Content Area

Content Area	Basic	Proficient	Advanced
Algebra	95.2	4.7	0.1
Biology	91.6	8.3	0.1
English	92.8	7.1	0.2
Government	89.8	10.2	-

Summary statistics for all students and for subgroups based on gender, special education programs, ethnicity, and English language fluency are presented in Tables 13.6 through 13.24. The tables include the numbers of students tested for whom valid scores were available, mean scale scores, and standard deviations of scale scores. In addition, raw score reliabilities are provided for the overall group of test takers and for subgroups.

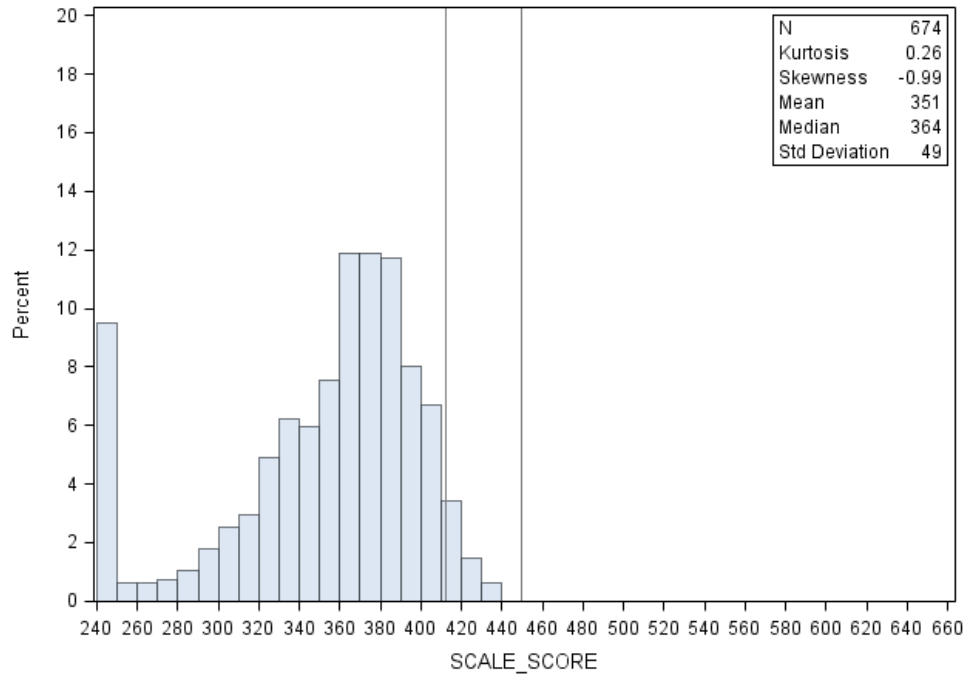


Figure 13.1 Histogram of Total Scale Scores for MD Mod-HSA May 2015 Algebra

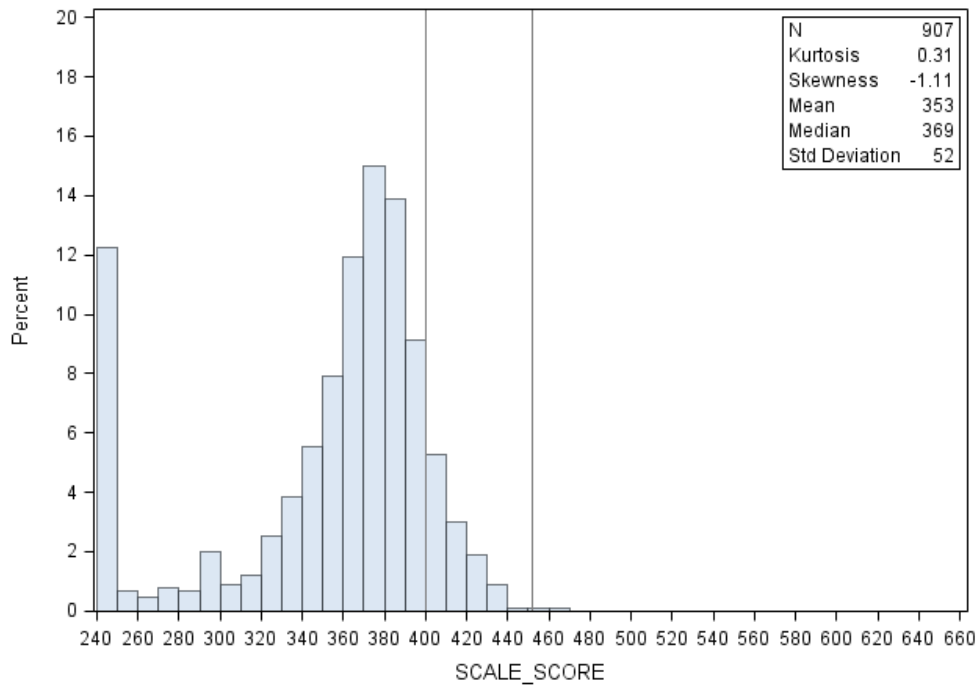


Figure 13.2 Histogram of Total Scale Scores for MD Mod-HSA May 2015 Biology



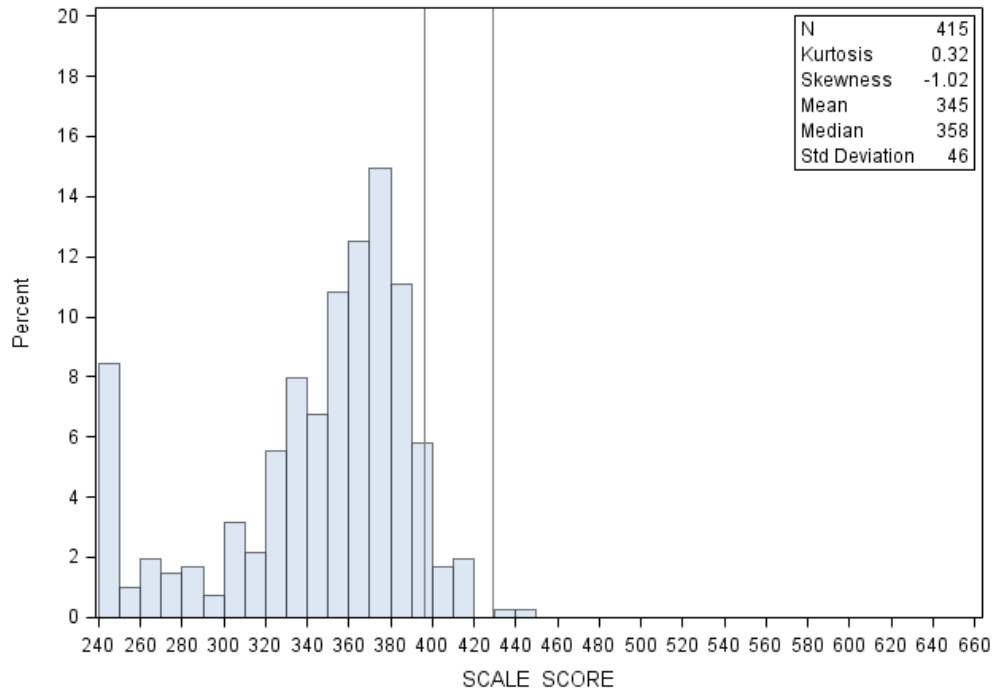


Figure 13.3 Histogram of Total Scale Scores for MD Mod-HSA May 2015 English

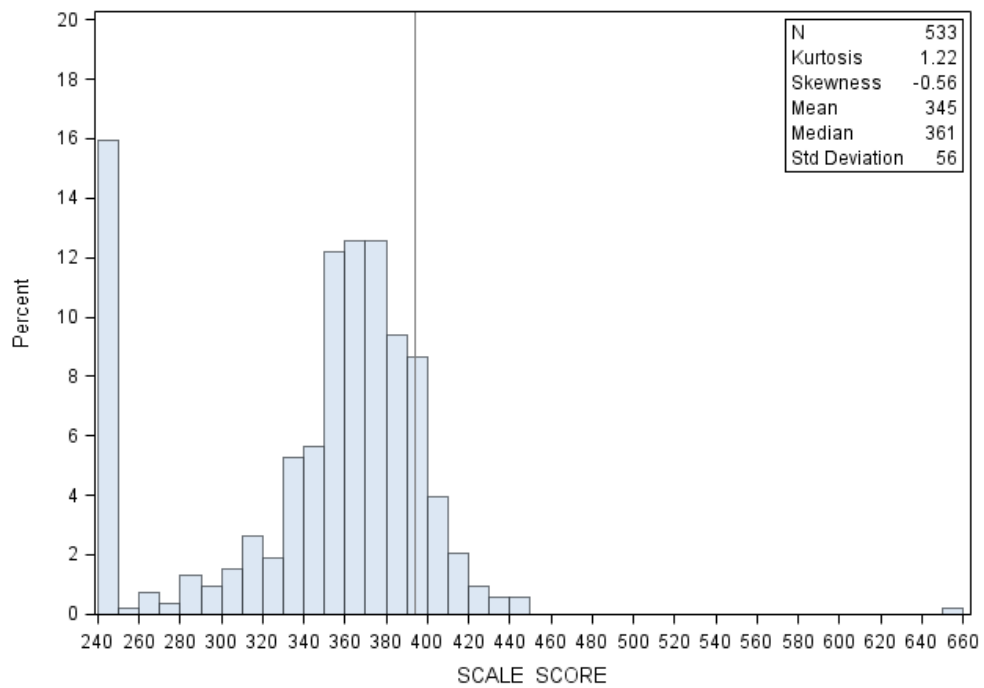


Figure 13.4 Histogram of Total Scale Scores for MD Mod-HSA May 2015 Government

Table 13.6 Summary Statistics for MD Mod-HSA Algebra: October 2014 Form

		Primary Form 115				
		Mean	SD	N	%	Alpha
Overall		357.3	48.5	1,669	100.0	0.72
Gender	Male	358.8	48.4	1,071	64.2	0.72
	Female	354.8	48.5	596	35.7	0.71
	Missing	*	*	2	0.1	*
Grade	8	*	*	0	0.0	*
	9	339.7	52.3	71	4.3	0.64
	10	355.2	50.3	477	28.6	0.75
	11	359.8	46.5	568	34.0	0.72
	12	359.1	47.9	551	33.0	0.69
	Missing	*	*	2	0.1	*
Special Education	Yes	357.1	48.5	1,510	90.5	0.71
	No	358.0	48.7	157	9.4	0.75
	Exited	*	*	2	0.1	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	6	0.4	*
	Asian	*	*	31	1.9	*
	African American	352.6	49.0	957	57.3	0.68
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	364.8	48.0	430	25.8	0.77
	Hispanic	363.3	45.3	201	12.0	0.67
	Missing	*	*	44	2.6	*
Limited English Proficient	Yes	*	*	32	1.9	*
	No	357.2	48.5	1,633	97.8	0.72
	Exited <sup>b</sup>	*	*	4	0.2	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.7 Summary Statistics for MD Mod-HSA Algebra: January 2015 Form

		Primary Form 215				
		Mean	SD	N	%	Alpha
Overall		354.3	48.9	1,263	100.0	0.69
Gender	Male	352.8	49.6	796	63.0	0.68
	Female	357.5	47.4	453	35.9	0.70
	Missing	*	*	14	1.1	*
Grade	5	*	*	1	0.1	*
	9	334.1	53.5	58	4.6	0.59
	10	354.6	50.4	370	29.3	0.71
	11	356.9	49.5	424	33.6	0.71
	12	355.0	45.1	395	31.3	0.65
	Missing	*	*	15	1.2	*
Special Education	Yes	354.8	48.2	1,144	90.6	0.67
	No	349.4	55.4	119	9.4	0.78
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	4	0.3	*
	Asian	*	*	18	1.4	*
	African American	349.9	48.5	755	59.8	0.65
	Hawaiian/Pacific Islander	*	*	1	0.1	*
	White	365.8	49.6	287	22.7	0.72
	Hispanic	357.1	44.3	151	12.0	0.68
	Missing	*	*	47	3.7	*
Limited English Proficient	Yes	*	*	30	2.4	*
	No	354.6	48.8	1,233	97.6	0.69
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.8 Summary Statistics for MD Mod-HSA Algebra: April 2015 Form

		Primary Form 315				
		Mean	SD	N	%	Alpha
Overall		349.1	51.2	195	100.0	0.66
Gender	Male	346.1	56.3	116	59.5	0.69
	Female	353.6	42.8	78	40.0	0.58
	Missing	*	*	1	0.5	*
Grade	8	*	*	0	0.0	*
	9	*	*	4	2.1	*
	10	*	*	29	14.9	*
	11	*	*	31	15.9	*
	12	343.4	54.2	130	66.7	0.64
	Missing	*	*	1	0.5	*
Special Education	Yes	352.1	48.7	165	84.6	0.64
	No	*	*	30	15.4	*
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	4	2.1	*
	African American	345.8	51.6	120	61.5	0.64
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	*	*	45	23.1	*
	Hispanic	*	*	19	9.7	*
	Missing	*	*	7	3.6	*
Limited English Proficient	Yes	*	*	2	1.0	*
	No	348.8	51.4	193	99.0	0.66
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.9 Summary Statistics for MD Mod-HSA Algebra: May 2015 Form

		Primary Form 415				
		Mean	SD	N	%	Alpha
Overall		351.4	48.8	674	100.0	0.70
Gender	Male	350.6	51.0	429	63.6	0.70
	Female	353.2	45.2	237	35.2	0.71
	Missing	*	*	8	1.2	*
Grade	8	*	*	0	0.0	
	9	*	*	45	6.7	*
	10	349.9	47.9	291	43.2	0.69
	11	356.6	46.2	309	45.8	0.69
	12	*	*	19	2.8	*
	Missing	*	*	10	1.5	*
Special Education	Yes	352.0	48.7	587	87.1	0.70
	No	347.5	49.9	87	12.9	0.71
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	13	1.9	*
	African American	347.9	48.6	440	65.3	0.66
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	355.6	52.6	106	15.7	0.75
	Hispanic	364.2	44.2	89	13.2	0.76
	Missing	*	*	26	3.9	*
Limited English Proficient	Yes	*	*	15	2.2	*
	No	351.6	48.4	659	97.8	0.70
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.10 Summary Statistics for MD Mod-HSA Algebra: Summer 2015 Forms

		Primary Form 515					Primary Form 615				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		*	*	27	100.0	*	*	*	13	100.0	*
Gender	Male	*	*	14	51.9	*	*	*	12	92.3	*
	Female	*	*	13	48.1	*	*	*	1	7.7	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Grade	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	*	*	2	7.4	*	*	*	2	15.4	*
	10	*	*	5	18.5	*	*	*	1	7.7	*
	11	*	*	12	44.4	*	*	*	8	61.5	*
	12	*	*	7	25.9	*	*	*	2	15.4	*
	Missing	*	*	1	3.7	*	*	*	0	0.0	*
Special Education	Yes	*	*	22	81.5	*	*	*	9	69.2	*
	No	*	*	5	18.5	*	*	*	4	30.8	*
	Exited	*	*	0	0.0	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	0	0.0	*	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	0	0.0	*
	Asian	*	*	3	11.1	*	*	*	0	0.0	*
	African American	*	*	16	59.3	*	*	*	7	53.8	*
	Hawaiian/ Pacific Islander	*	*	0	0.0	*	*	*	0	0.0	*
	White	*	*	6	22.2	*	*	*	5	38.5	*
	Hispanic	*	*	2	7.4	*	*	*	1	7.7	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
	Limited English Proficient	*	*	0	0.0	*	*	*	0	0.0	*
No		*	*	27	100.0	*	*	*	13	100.0	*
	Exited <sup>b</sup>	*	*	0	0.0	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.11 Summary Statistics for MD Mod-HSA Biology: October 2014 Form

		Primary Form 115				
		Mean	SD	N	%	Alpha
Overall		358.9	42.4	1,071	100.0	0.54
Gender	Male	359.4	43.7	677	63.2	0.56
	Female	358.1	40.3	392	36.6	0.52
	Missing	*	*	2	0.2	*
Grade	8	*	*	0	0.0	*
	9	*	*	24	2.2	*
	10	354.8	46.1	142	13.3	0.55
	11	357.6	45.6	425	39.7	0.58
	12	361.9	37.8	477	44.5	0.50
	Missing	*	*	3	0.3	*
Special Education	Yes	359.0	41.6	960	89.6	0.52
	No	358.1	49.1	111	10.4	0.66
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	1	0.1	*
	Asian	*	*	27	2.5	*
	African American	355.1	45.4	627	58.5	0.56
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	367.1	35.3	255	23.8	0.49
	Hispanic	362.2	38.4	134	12.5	0.55
	Missing	*	*	27	2.5	*
Limited English Proficient	Yes	*	*	16	1.5	*
	No	359.0	42.5	1,054	98.4	0.54
	Exited <sup>b</sup>	*	*	1	0.1	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.12 Summary Statistics for MD Mod-HSA Biology: January 2015 Form

		Primary Form 215				
		Mean	SD	N	%	Alpha
Overall		354.4	46.6	895	100.0	0.60
Gender	Male	354.3	47.8	557	62.2	0.63
	Female	354.7	44.3	327	36.5	0.56
	Missing	*	*	11	1.2	*
Grade	8	*	*	0	0.0	*
	9	*	*	24	2.7	*
	10	350.1	51.3	125	14.0	0.66
	11	358.7	44.0	373	41.7	0.62
	12	352.7	46.1	361	40.3	0.54
	Missing	*	*	12	1.3	*
Special Education	Yes	354.6	45.9	821	91.7	0.59
	No	351.8	54.2	74	8.3	0.74
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	1	0.1	*
	Asian	*	*	17	1.9	*
	African American	352.6	47.0	544	60.8	0.59
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	360.3	46.1	193	21.6	0.66
	Hispanic	350.6	44.0	108	12.1	0.46
	Missing	*	*	32	3.6	*
Limited English Proficient	Yes	*	*	17	1.9	*
	No	354.3	46.8	878	98.1	0.61
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 13.13 Summary Statistics for MD Mod-HSA Biology: April 2015 Form

		Primary Form 315				
		Mean	SD	N	%	Alpha
Overall		361.7	36.7	171	100.0	0.60
Gender	Male	363.1	36.1	108	63.2	0.56
	Female	359.1	38.0	62	36.3	0.67
	Missing	*	*	1	0.6	*
Grade	8	*	*	0	0.0	*
	9	*	*	0	0.0	*
	10	*	*	7	4.1	*
	11	*	*	41	24.0	*
	12	360.4	36.7	122	71.3	0.57
	Missing	*	*	1	0.6	*
Special Education	Yes	362.9	37.3	138	80.7	0.61
	No	*	*	33	19.3	*
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	6	3.5	*
	African American	356.2	41.3	100	58.5	0.66
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	*	*	39	22.8	*
	Hispanic	*	*	24	14.0	*
	Missing	*	*	2	1.2	*
Limited English Proficient	Yes	*	*	5	2.9	*
	No	362.1	36.4	166	97.1	0.61
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.14 Summary Statistics for MD Mod-HSA Biology: May 2015 Form

		Primary Form 415				
		Mean	SD	N	%	Alpha
Overall		353.0	51.9	907	100.0	0.69
Gender	Male	353.8	53.3	624	68.8	0.69
	Female	351.0	49.5	274	30.2	0.67
	Missing	*	*	9	1.0	*
Grade	8	*	*	0	0.0	*
	9	339.9	59.7	108	11.9	0.72
	10	355.4	51.1	372	41.0	0.71
	11	353.7	50.7	393	43.3	0.64
	12	*	*	23	2.5	*
	Missing	*	*	11	1.2	*
Special Education	Yes	352.7	51.5	767	84.6	0.67
	No	354.7	54.2	140	15.4	0.75
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	1	0.1	*
	Asian	*	*	19	2.1	*
	African American	346.1	55.5	529	58.3	0.67
	Hawaiian/ Pacific Islander	*	*	1	0.1	*
	White	366.8	44.4	187	20.6	0.72
	Hispanic	358.6	46.0	135	14.9	0.67
	Missing	*	*	35	3.9	*
	Limited English Proficient	Yes	*	*	22	2.4
No	353.3	51.8	884	97.5	0.69	
	Exited <sup>b</sup>	*	*	1	0.1	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.15 Summary Statistics for MD Mod-HSA Biology: Summer 2015 Forms

		Primary Form 515					Primary Form 615				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		345.9	50.0	54	100.0	0.61	*	*	13	100.0	*
Gender	Male	*	*	38	70.4	*	*	*	11	84.6	*
	Female	*	*	16	29.6	*	*	*	2	15.4	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Grade	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	*	*	8	14.8	*	*	*	0	0.0	*
	10	*	*	15	27.8	*	*	*	2	15.4	*
	11	*	*	22	40.7	*	*	*	8	61.5	*
	12	*	*	9	16.7	*	*	*	3	23.1	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Special Education	Yes	*	*	44	81.5	*	*	*	9	69.2	*
	No	*	*	10	18.5	*	*	*	4	30.8	*
	Exited	*	*	0	0.0	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	0	0.0	*	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	0	0.0	*
	Asian	*	*	2	3.7	*	*	*	0	0.0	*
	African American	*	*	34	63.0	*	*	*	4	30.8	*
	Hawaiian/ Pacific Islander	*	*	0	0.0	*	*	*	0	0.0	*
	White	*	*	16	29.6	*	*	*	8	61.5	*
	Hispanic	*	*	1	1.9	*	*	*	1	7.7	*
	Missing	*	*	1	1.9	*	*	*	0	0.0	*
Limited English Proficient	Yes	*	*	0	0.0	*	*	*	0	0.0	*
	No	345.9	50.0	54	100.0	0.61	*	*	13	100.0	*
	Exited <sup>b</sup>	*	*	0	0.0	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.16 Summary Statistics for MD Mod-HSA English: October 2014 Form

		Primary Form 115				
		Mean	SD	N	%	Alpha
Overall		353.3	41.3	1,260	100.0	0.73
Gender	Male	352.7	42.1	821	65.2	0.74
	Female	354.4	39.8	439	34.8	0.72
	Missing	*	*	0	0.0	*
Grade	8	*	*	0	0.0	*
	9	*	*	15	1.2	*
	10	332.3	51.7	116	9.2	0.75
	11	356.6	38.4	570	45.2	0.73
	12	355.2	39.7	557	44.2	0.72
	Missing	*	*	2	0.2	*
Special Education	Yes	352.8	41.4	1,139	90.4	0.73
	No	357.4	40.7	121	9.6	0.73
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	2	0.2	*
	Asian	*	*	25	2.0	*
	African American	351.6	41.8	721	57.2	0.73
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	356.2	40.7	323	25.6	0.73
	Hispanic	354.3	42.8	159	12.6	0.73
	Missing	*	*	30	2.4	*
Limited English Proficient	Yes	*	*	22	1.7	*
	No	353.4	41.3	1,237	98.2	0.73
	Exited <sup>b</sup>	*	*	1	0.1	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.17 Summary Statistics for MD Mod-HSA English: January 2015 Form

		Primary Form 215				
		Mean	SD	N	%	Alpha
Overall		352.4	41.6	965	100.0	0.74
Gender	Male	349.2	43.5	615	63.7	0.74
	Female	357.8	37.8	342	35.4	0.74
	Missing	*	*	8	0.8	*
Grade	8	*	*	0	0.0	*
	9	*	*	16	1.7	*
	10	337.6	49.0	78	8.1	0.75
	11	355.8	39.0	464	48.1	0.76
	12	351.4	42.5	399	41.3	0.72
	Missing	*	*	8	0.8	*
Special Education	Yes	352.3	41.5	885	91.7	0.74
	No	353.9	43.5	80	8.3	0.77
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	1	0.1	*
	Asian	*	*	16	1.7	*
	African American	349.1	43.5	584	60.5	0.75
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	358.6	39.7	213	22.1	0.77
	Hispanic	358.3	33.8	118	12.2	0.63
	Missing	*	*	33	3.4	*
Limited English Proficient	Yes	*	*	22	2.3	*
	No	352.6	41.5	943	97.7	0.75
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.18 Summary Statistics for MD Mod-HSA English: April 2015 Form

		Primary Form 315				
		Mean	SD	N	%	Alpha
Overall		352.9	42.3	196	100.0	0.75
Gender	Male	352.3	45.0	127	64.8	0.75
	Female	354.1	37.4	68	34.7	0.75
	Missing	*	*	1	0.5	*
Grade	8	*	*	0	0.0	*
	9	*	*	0	0.0	*
	10	*	*	5	2.6	*
	11	*	*	42	21.4	*
	12	348.4	44.5	148	75.5	0.73
	Missing	*	*	1	0.5	*
Special Education	Yes	354.5	40.9	164	83.7	0.74
	No	*	*	32	16.3	*
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	3	1.5	*
	African American	347.5	45.2	117	59.7	0.77
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	*	*	46	23.5	*
	Hispanic	*	*	23	11.7	*
	Missing	*	*	7	3.6	*
Limited English Proficient	Yes	*	*	4	2.0	*
	No	352.9	42.7	192	98.0	0.75
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.19 Summary Statistics for MD Mod-HSA English: May 2015 Form

		Primary Form 415				
		Mean	SD	N	%	Alpha
Overall		345.3	45.6	415	100.0	0.75
Gender	Male	339.3	48.0	276	66.5	0.75
	Female	356.6	38.6	130	31.3	0.74
	Missing	*	*	9	2.2	*
Grade	8	*	*	0	0.0	*
	9	*	*	12	2.9	*
	10	334.0	52.2	66	15.9	0.78
	11	349.1	42.6	311	74.9	0.74
	12	*	*	17	4.1	*
	Missing	*	*	9	2.2	*
Special Education	Yes	344.9	45.3	349	84.1	0.74
	No	346.7	47.6	66	15.9	0.80
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	5	1.2	*
	African American	342.8	44.6	256	61.7	0.75
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	348.4	48.4	69	16.6	0.79
	Hispanic	350.9	44.3	66	15.9	0.71
	Missing	*	*	19	4.6	*
Limited English Proficient	Yes	*	*	6	1.4	*
	No	345.1	45.8	409	98.5	0.75
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.20 Summary Statistics for MD Mod-HSA English: Summer 2015 Forms

		Primary Form 515					Primary Form 615				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		*	*	26	100.0	*	*	*	7	100.0	*
Gender	Male	*	*	13	50.0	*	*	*	7	100.0	*
	Female	*	*	12	46.1	*	*	*	0	0.0	*
	Missing	*	*	1	3.8	*	*	*	0	0.0	*
Grade	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	*	*	3	11.5	*	*	*	0	0.0	*
	10	*	*	5	19.2	*	*	*	0	0.0	*
	11	*	*	8	30.8	*	*	*	5	71.4	*
	12	*	*	10	38.5	*	*	*	2	28.6	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Special Education	Yes	*	*	21	80.8	*	*	*	4	57.1	*
	No	*	*	5	19.2	*	*	*	3	42.9	*
	Exited	*	*	0	0.0	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	0	0.0	*	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	0	0.0	*
	Asian	*	*	2	7.7	*	*	*	0	0.0	*
	African American	*	*	20	76.9	*	*	*	4	57.1	*
	Hawaiian/ Pacific Islander	*	*	0	0.0	*	*	*	0	0.0	*
	White	*	*	4	15.4	*	*	*	3	42.9	*
	Hispanic	*	*	0	0.0	*	*	*	0	0.0	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Limited English Proficient	Yes	*	*	0	0.0	*	*	*	0	0.0	*
	No	*	*	26	100.0	*	*	*	7	100.0	*
	Exited <sup>b</sup>	*	*	0	0.0	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 13.21 Summary Statistics for MD Mod-HSA Government: October 2014 Form

		Primary Form 115				
		Mean	SD	N	%	Alpha
Overall		348.5	49.6	294	100.0	0.67
Gender	Male	352.6	46.2	192	65.3	0.58
	Female	341.0	55.8	98	33.3	0.78
	Missing	*	*	4	1.4	*
Grade	8	*	*	0	0.0	*
	9	*	*	30	10.2	*
	10	351.1	47.0	140	47.6	0.65
	11	346.1	57.2	67	22.8	0.78
	12	349.9	47.7	53	18.0	0.58
	Missing	*	*	4	1.4	*
Special Education	Yes	347.8	49.6	255	86.7	0.66
	No	*	*	39	13.3	*
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	6	2.0	*
	African American	345.1	52.7	177	60.2	0.70
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	354.6	45.2	79	26.9	0.65
	Hispanic	*	*	23	7.8	*
	Missing	*	*	9	3.1	*
Limited English Proficient	Yes	*	*	3	1.0	*
	No	348.5	49.7	291	99.0	0.68
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.22 Summary Statistics for MD Mod-HSA Government: January 2015 Form

		Primary Form 215				
		Mean	SD	N	%	Alpha
Overall		340.6	50.3	297	100.0	0.66
Gender	Male	342.3	49.8	187	63.0	0.64
	Female	336.6	52.3	98	33.0	0.70
	Missing	*	*	12	4.0	*
Grade	8	*	*	0	0.0	*
	9	*	*	32	10.8	*
	10	345.9	49.3	148	49.8	0.65
	11	337.4	48.7	70	23.6	0.66
	12	*	*	35	11.8	*
	Missing	*	*	12	4.0	*
Special Education	Yes	340.0	50.3	264	88.9	0.66
	No	*	*	33	11.1	*
	Exited	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	5	1.7	*
	African American	338.2	49.3	153	51.5	0.61
	Hawaiian/ Pacific Islander	*	*	0	0.0	*
	White	341.8	55.9	91	30.6	0.76
	Hispanic	*	*	28	9.4	*
	Missing	*	*	20	6.7	*
Limited English Proficient	Yes	*	*	5	1.7	*
	No	340.9	50.0	292	98.3	0.66
	Exited <sup>b</sup>	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.23 Summary Statistics for MD Mod-HSA Government: May 2015 Form

		Primary Form 415				
		Mean	SD	N	%	Alpha
Overall		345.2	55.5	533	100.0	0.72
Gender	Male	345.9	57.4	354	66.4	0.75
	Female	343.5	52.4	169	31.7	0.66
	Missing	*	*	10	1.9	*
Grade	8	*	*	0	0.0	*
	9	333.8	58.2	130	24.4	0.65
	10	347.4	56.7	308	57.8	0.75
	11	354.3	47.0	79	14.8	0.73
	12	*	*	5	0.9	*
	Missing	*	*	11	2.1	*
Special Education	Yes	343.5	54.0	421	79.0	0.71
	No	351.3	60.7	111	20.8	0.76
	Exited	*	*	1	0.2	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*
	504	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*
	Asian	*	*	8	1.5	*
	African American	345.3	57.0	306	57.4	0.76
	Hawaiian/ Pacific Islander	*	*	1	0.2	*
	White	342.3	53.9	125	23.4	0.60
	Hispanic	345.1	55.3	63	11.8	0.72
	Missing	*	*	30	5.6	*
Limited English Proficient	Yes	*	*	11	2.1	*
	No	345.2	55.6	521	97.7	0.72
	Exited <sup>b</sup>	*	*	1	0.2	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.24 Summary Statistics for MD Mod-HSA Government: Summer 2015 Forms

		Primary Form 515					Primary Form 615				
		Mean	SD	N	%	Alpha	Mean	SD	N	%	Alpha
Overall		*	*	26	100.0	*	*	*	11	100.0	*
Gender	Male	*	*	15	57.7	*	*	*	10	90.9	*
	Female	*	*	11	42.3	*	*	*	1	9.1	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Grade	8	*	*	0	0.0	*	*	*	0	0.0	*
	9	*	*	16	61.5	*	*	*	1	9.1	*
	10	*	*	9	34.6	*	*	*	4	36.4	*
	11	*	*	0	0.0	*	*	*	6	54.5	*
	12	*	*	1	3.8	*	*	*	0	0.0	*
	Missing	*	*	0	0.0	*	*	*	0	0.0	*
Special Education	Yes	*	*	20	76.9	*	*	*	8	72.7	*
	No	*	*	6	23.1	*	*	*	3	27.3	*
	Exited	*	*	0	0.0	*	*	*	0	0.0	*
	Exited and placed in 504 <sup>a</sup>	*	*	0	0.0	*	*	*	0	0.0	*
	504	*	*	0	0.0	*	*	*	0	0.0	*
Ethnicity	American Indian	*	*	0	0.0	*	*	*	0	0.0	*
	Asian	*	*	1	3.8	*	*	*	0	0.0	*
	African American	*	*	11	42.3	*	*	*	4	36.4	*
	Hawaiian/ Pacific Islander	*	*	0	0.0	*	*	*	0	0.0	*
	White	*	*	13	50.0	*	*	*	5	45.5	*
	Hispanic	*	*	1	3.8	*	*	*	1	9.1	*
	Missing	*	*	0	0.0	*	*	*	1	9.1	*
Limited English Proficient	Yes	*	*	0	0.0	*	*	*	0	0.0	*
	No	*	*	26	100.0	*	*	*	11	100.0	*
	Exited <sup>b</sup>	*	*	0	0.0	*	*	*	0	0.0	*

\*Statistics not reported for sample size less than 50 ( $N < 50$ ).

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

## **Demographic Characteristics**

Summary statistics describing the demographic characteristics of the students who received scores on the MD Mod-HSAs are provided in Tables 13.25 through 13.28. Statistics are provided for the October 2014 and the January, April, May, and Summer 2015 administrations of Algebra, Biology, English, and Government. The results from online and paper test takers were pooled for the analyses. All demographic results are based on the final Research file sent to MSDE.

Table 13.25 Demographic Information for MD Mod-HSA Algebra

		October Form		January Form		April Form		May Form		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		1,669	100.0	1,263	100.0	195	100.0	674	100.0	40	100.0
Gender	Male	1,071	64.2	796	63.0	116	59.5	429	63.6	26	65.0
	Female	596	35.7	453	35.9	78	40.0	237	35.2	14	35.0
	Missing	2	0.1	14	1.1	1	0.5	8	1.2	0	0.0
Special Education	Yes	1,510	90.5	1,144	90.6	165	84.6	587	87.1	31	77.5
	No	157	9.4	119	9.4	30	15.4	87	12.9	9	22.5
	Exited	2	0.1	0	0.0	0	0.0	0	0.0	0	0.0
	Exited and placed in 504 <sup>a</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	504	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ethnicity	American Indian	6	0.4	4	0.3	0	0.0	0	0.0	0	0.0
	Asian	31	1.9	18	1.4	4	2.1	13	1.9	3	7.5
	African American	957	57.3	755	59.8	120	61.5	440	65.3	23	57.5
	Hawaiian/ Pacific Islander	0	0.0	1	0.1	0	0.0	0	0.0	0	0.0
	White	430	25.8	287	22.7	45	23.1	106	15.7	11	27.5
	Hispanic	201	12.0	151	12.0	19	9.7	89	13.2	3	7.5
	Missing	44	2.6	47	3.7	7	3.6	26	3.9	0	0.0
Limited English Proficient	Yes	32	1.9	30	2.4	2	1.0	15	2.2	0	0.0
	No	1,633	97.8	1,233	97.6	193	99.0	659	97.8	40	100.0
	Exited <sup>b</sup>	4	0.2	0	0.0	0	0.0	0	0.0	0	0.0

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.26 Demographic Information for MD Mod-HSA Biology

		October Form		January Form		April Form		May Form		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		1,071	100.0	895	100.0	171	100.0	907	100.0	67	100.0
Gender	Male	677	63.2	557	62.2	108	63.2	624	68.8	49	73.1
	Female	392	36.6	327	36.5	62	36.3	274	30.2	18	26.9
	Missing	2	0.2	11	1.2	1	0.6	9	1.0	0	0.0
Special Education	Yes	960	89.6	821	91.7	138	80.7	767	84.6	53	79.1
	No	111	10.4	74	8.3	33	19.3	140	15.4	14	20.9
	Exited	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Exited and placed in 504 <sup>a</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	504	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ethnicity	American Indian	1	0.1	1	0.1	0	0.0	1	0.1	0	0.0
	Asian	27	2.5	17	1.9	6	3.5	19	2.1	2	3.0
	African American	627	58.5	544	60.8	100	58.5	529	58.3	38	56.7
	Hawaiian/ Pacific Islander	0	0.0	0	0.0	0	0.0	1	0.1	0	0.0
	White	255	23.8	193	21.6	39	22.8	187	20.6	24	35.8
	Hispanic	134	12.5	108	12.1	24	14.0	135	14.9	2	3.0
	Missing	27	2.5	32	3.6	2	1.2	35	3.9	1	1.5
Limited English Proficient	Yes	16	1.5	17	1.9	5	2.9	22	2.4	0	0.0
	No	1,054	98.4	878	98.1	166	97.1	884	97.5	67	100.0
	Exited <sup>b</sup>	1	0.1	0	0.0	0	0.0	1	0.1	0	0.0

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

Table 13.27 Demographic Information for MD Mod-HSA English

		October Form		January Form		April Form		May Form		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		1,260	100.0	965	100.0	196	100.0	415	100.0	33	100.0
Gender	Male	821	65.2	615	63.7	127	64.8	276	66.5	20	60.6
	Female	439	34.8	342	35.4	68	34.7	130	31.3	12	36.4
	Missing	0	0.0	8	0.8	1	0.5	9	2.2	1	3.0
Special Education	Yes	1,139	90.4	885	91.7	164	83.7	349	84.1	25	75.8
	No	121	9.6	80	8.3	32	16.3	66	15.9	8	24.2
	Exited	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	Exited and placed in 504 <sup>a</sup>	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	504	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Ethnicity	American Indian	2	0.2	1	0.1	0	0.0	0	0.0	0	0.0
	Asian	25	2.0	16	1.7	3	1.5	5	1.2	2	6.1
	African American	721	57.2	584	60.5	117	59.7	256	61.7	24	72.7
	Hawaiian/ Pacific Islander	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
	White	323	25.6	213	22.1	46	23.5	69	16.6	7	21.2
	Hispanic	159	12.6	118	12.2	23	11.7	66	15.9	0	0.0
	Missing	30	2.4	33	3.4	7	3.6	19	4.6	0	0.0
Limited English Proficient	Yes	22	1.7	22	2.3	4	2.0	6	1.4	0	0.0
	No	1,237	98.2	943	97.7	192	98.0	409	98.6	33	100.0
	Exited <sup>b</sup>	1	0.1	0	0.0	0	0.0	0	0.0	0	0.0

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.



Table 13.28 Demographic Information for MD Mod-HSA Government

		October Form		January Form		April Form		May Form		Summer Forms	
		<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%	<i>N</i>	%
Overall		294	100.0	297	100.0	-	-	533	100.0	37	100.0
Gender	Male	192	65.3	187	63.0	-	-	354	66.4	25	67.6
	Female	98	33.3	98	33.0	-	-	169	31.7	12	32.4
	Missing	4	1.4	12	4.0	-	-	10	1.9	0	0.0
Special Education	Yes	255	86.7	264	88.9	-	-	421	79.0	28	75.7
	No	39	13.3	33	11.1	-	-	111	20.8	9	24.3
	Exited	0	0.0	0	0.0	-	-	1	0.2	0	0.0
	Exited and placed in 504 <sup>a</sup>	0	0.0	0	0.0	-	-	0	0.0	0	0.0
	504	0	0.0	0	0.0	-	-	0	0.0	0	0.0
Ethnicity	American Indian	0	0.0	0	0.0	-	-	0	0.0	0	0.0
	Asian	6	2.0	5	1.7	-	-	8	1.5	1	2.7
	African American	177	60.2	153	51.5	-	-	306	57.4	15	40.5
	Hawaiian/ Pacific Islander	0	0.0	0	0.0	-	-	1	0.2	0	0.0
	White	79	26.9	91	30.6	-	-	125	23.5	18	48.6
	Hispanic	23	7.8	28	9.4	-	-	63	11.8	2	5.4
	Missing	9	3.1	20	6.7	-	-	30	5.6	1	2.7
Limited English Proficient	Yes	3	1.0	5	1.7	-	-	11	2.1	37	100.0
	No	291	99.0	292	98.3	-	-	521	97.7	0	0.0
	Exited <sup>b</sup>	0	0.0	0	0.0	-	-	1	0.2	0	0.0

<sup>a</sup> A 504 plan is a legal document falling under the provisions of the Rehabilitation Act of 1973 that provides a program of instructional services to assist students with special needs who are in a regular education setting.

<sup>b</sup> LEP Exited indicates students who have exited English language acquisition services.

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**Appendix 1A. MD HSA Classical Item Statistics: Operational Forms**

Table 1.A1 Item Statistics, Operational Items: MD HSA Algebra—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
R	1	O	56632	SR	0.26	0.33	-0.06	-0.29	0.33	-0.04	0.0
R	2	O	257110	SR	0.58	0.29	-0.18	-0.18	0.29	-0.09	0.0
R	4	O	223238	SR	0.16	0.25	0.00	-0.16	-0.06	0.25	0.3
R	5	O	263294	SPR	0.02	0.16	0.16	-0.12			4.2
R	6	O	338644	SPR	0.04	0.22	0.22	-0.15			7.8
R	8	O	223241	SR	0.36	0.30	-0.03	0.30	-0.12	-0.18	0.2
R	9	O	51539	SR	0.37	0.06	-0.02	0.03	0.06	-0.10	0.5
R	11	O	79035	SR	0.31	0.18	0.18	-0.04	-0.09	-0.08	0.3
R	14	O	54735	SR	0.37	0.26	0.26	-0.11	-0.16	-0.04	0.4
R	15	O	211029	SR	0.42	0.25	-0.11	-0.10	0.25	-0.12	0.7
R	16	O	79026	SR	0.31	0.34	-0.04	-0.19	-0.15	0.34	0.6
R	17	O	263277	SR	0.31	0.17	-0.09	-0.06	0.17	-0.02	1.0
R	18	O	255076	SPR	0.12	0.36	0.36	-0.29			4.7
R	20	O	79059	SR	0.32	0.18	0.00	-0.11	0.18	-0.12	1.7
R	21	O	211049	SR	0.25	0.17	0.17	-0.02	-0.11	-0.04	1.9
R	22	O	282380	SR	0.45	0.28	-0.14	0.28	-0.11	-0.12	2.2
R	23	O	136694	SR	0.57	0.31	-0.09	-0.16	-0.20	0.31	2.3
R	24	O	54618	SR	0.61	0.34	-0.16	-0.17	0.34	-0.15	0.3
R	25	O	263279	SR	0.36	0.16	0.16	-0.08	-0.04	-0.06	0.8
R	26	O	79113	SR	0.50	0.13	-0.04	0.13	-0.06	-0.06	0.4
R	28	O	275448	SPR	0.04	0.14	0.14	-0.05			3.7
R	29	O	348331	SPR	0.08	0.32	0.32	-0.20			5.9
R	30	O	348444	SPR	0.03	0.20	0.20	-0.04			5.7
R	32	O	54696	SR	0.33	0.21	-0.14	-0.15	-0.01	0.21	0.4
R	33	O	282466	SR	0.47	0.33	-0.13	-0.16	0.33	-0.13	0.5
R	34	O	106654	SR	0.19	0.04	0.04	-0.17	0.18	-0.06	0.6
R	35	O	136693	SR	0.14	0.14	-0.01	-0.02	-0.07	0.14	0.8
R	36	O	223434	SR	0.47	0.15	-0.02	0.15	-0.10	-0.04	0.9
R	38	O	268673	SPR	0.73	0.43	0.43	-0.40			1.9
R	40	O	50379	SR	0.29	0.12	0.07	-0.12	0.12	-0.08	0.7
R	41	O	79076	SR	0.41	0.37	-0.15	-0.18	-0.16	0.37	0.6
R	42	O	215920	SR	0.62	0.38	-0.13	-0.24	0.38	-0.15	0.7
R	45	O	257130	SR	0.66	0.37	-0.18	0.37	-0.18	-0.15	0.8
R	46	O	54832	SR	0.43	0.43	-0.17	-0.20	-0.18	0.43	0.9
R	47	O	135124	SR	0.77	0.37	-0.21	-0.20	-0.16	0.37	0.5
R	48	O	54557	SR	0.57	0.40	0.40	-0.19	-0.21	-0.13	0.6
R	50	O	56453	SR	0.33	0.12	-0.06	0.12	-0.06	0.02	0.6
R	51	O	135114	SR	0.26	0.24	0.00	-0.17	-0.07	0.24	0.7
R	53	O	223437	SR	0.29	0.19	0.03	-0.13	-0.09	0.19	0.6
R	54	O	223240	SR	0.43	0.40	0.40	-0.13	-0.19	-0.15	0.6
R	56	O	64245	SPR	0.61	0.43	0.43	-0.38			2.2
R	57	O	260772	SR	0.41	0.31	0.31	-0.09	-0.19	-0.12	0.6
R	58	O	255111	SR	0.56	0.39	-0.22	-0.17	0.39	-0.12	0.7

Table 1.A1 Item Statistics, Operational Items: MD HSA Algebra—October Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
R	59	O	268656	SR	0.67	0.38	-0.19	0.38	-0.20	-0.15	0.7
R	61	O	51402	SR	0.51	0.27	-0.10	0.27	-0.17	-0.07	0.7
R	62	O	67455	SR	0.32	0.13	-0.04	-0.03	0.13	-0.07	1.0
R	63	O	52348	SR	0.51	0.32	-0.13	0.32	-0.14	-0.13	0.9
R	64	O	67481	SPR	0.51	0.44	0.44	-0.39			2.2
R	65	O	257118	SPR	0.31	0.40	0.40	-0.34			3.6
R	67	O	67423	SR	0.46	0.40	-0.11	-0.20	-0.18	0.40	0.8
R	68	O	67454	SR	0.39	0.24	-0.01	0.24	-0.16	-0.10	0.8
R	69	O	51447	SR	0.29	0.19	-0.11	0.19	-0.14	0.06	0.9
<b>Mean</b>					0.38	0.27	0.04	-0.07	-0.02	0.01	1.4
<b>SD</b>					0.18	0.11	0.20	0.20	0.19	0.18	1.6

Note: Anchor\_Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percentage of omitted responses

Table 1.A2 Item Statistics, Operational Items: MD HSA Biology—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
R	1	O	133052	SR	0.60	0.34	-0.17	-0.14	-0.18	0.34	0.0
R	2	O	392469	SR	0.78	0.27	-0.15	-0.17	-0.12	0.27	0.0
R	3	O	277325	SR	0.26	0.12	-0.06	-0.06	0.12	-0.01	0.1
R	5	O	323310	SR	0.31	0.12	0.12	-0.08	-0.01	-0.04	0.1
R	6	O	323312	SR	0.26	0.09	-0.02	0.09	-0.08	0.00	0.1
R	7	O	349086	SR	0.21	0.06	0.05	-0.13	0.06	0.02	0.1
R	8	O	253642	SR	0.48	0.28	0.28	-0.13	-0.15	-0.10	0.1
R	9	O	133431	SR	0.23	0.23	0.23	-0.14	-0.05	-0.02	0.0
R	13	O	192077	SR	0.20	0.22	0.03	-0.21	-0.06	0.22	0.1
R	14	O	192084	SR	0.36	0.18	-0.12	-0.01	-0.09	0.18	0.2
R	15	O	55124	SR	0.57	0.29	-0.11	0.29	-0.16	-0.13	0.2
R	16	O	79484	SR	0.28	0.11	-0.06	0.11	-0.12	0.06	0.2
R	19	O	271043	SR	0.33	0.21	-0.10	0.21	-0.06	-0.09	0.2
R	20	O	108596	SR	0.50	0.33	-0.21	-0.17	0.33	-0.05	0.2
R	21	O	108645	SR	0.16	0.15	-0.07	0.15	-0.05	0.00	0.4
R	22	O	108675	SR	0.29	0.08	0.08	-0.08	-0.01	0.02	0.3
R	23	O	108676	SR	0.40	0.33	0.33	-0.01	-0.20	-0.17	0.3
R	24	O	282423	SR	0.67	0.29	-0.17	-0.16	0.29	-0.11	0.3
R	25	O	393874	SR	0.56	0.23	0.23	-0.18	-0.06	-0.16	0.3
R	26	O	398161	SR	0.41	0.36	-0.12	-0.15	-0.17	0.36	0.5
R	27	O	398162	SR	0.13	0.16	0.16	0.01	-0.12	-0.02	0.4
R	29	O	392476	SR	0.30	0.23	-0.09	0.23	-0.08	-0.06	0.5
R	30	O	338731	SR	0.11	0.11	-0.09	0.05	-0.13	0.11	0.5
R	31	O	331291	SR	0.41	0.29	-0.09	-0.15	-0.12	0.29	0.7
R	32	O	331290	SR	0.40	0.26	0.26	-0.14	-0.16	-0.02	0.6
R	33	O	271027	SR	0.31	0.13	-0.08	0.13	-0.06	0.02	0.6
R	34	O	52754	SR	0.78	0.27	-0.15	0.27	-0.15	-0.08	0.3
R	35	O	323346	SR	0.23	0.19	0.19	-0.05	-0.10	-0.05	0.3
R	37	O	133012	SR	0.30	0.10	-0.08	-0.07	0.10	0.06	0.3
R	38	O	133013	SR	0.36	0.10	-0.14	-0.03	0.10	0.04	0.3
R	39	O	133024	SR	0.24	0.13	-0.07	-0.04	-0.01	0.13	0.3
R	40	O	133021	SR	0.49	0.31	-0.10	-0.15	-0.14	0.31	0.3
R	41	O	68192	SR	0.67	0.30	0.30	-0.19	-0.12	-0.13	0.3
R	42	O	364224	SR	0.38	0.22	-0.09	0.22	-0.15	-0.02	0.4
R	43	O	364226	SR	0.26	0.20	-0.09	-0.18	0.04	0.20	0.3
R	44	O	79520	SR	0.33	0.26	-0.08	-0.12	-0.08	0.26	0.3
R	48	O	279673	SR	0.46	0.21	-0.12	-0.20	0.21	0.04	0.4
R	49	O	279675	SR	0.17	0.11	0.11	-0.08	0.01	0.00	0.5
R	50	O	68133	SR	0.63	0.31	-0.19	-0.12	-0.15	0.31	0.4
R	52	O	392453	SR	0.32	0.21	-0.15	-0.11	0.21	0.06	0.4
R	53	O	392433	SR	0.44	0.26	-0.11	-0.07	0.26	-0.13	0.4
R	56	O	133030	SR	0.27	0.13	-0.02	0.13	-0.05	-0.05	0.4
R	57	O	133031	SR	0.38	0.18	-0.09	0.18	-0.11	0.00	0.4
R	58	O	68137	SR	0.30	0.15	-0.04	-0.07	-0.04	0.15	0.4

Table 1.A2 Item Statistics, Operational Items: MD HSA Biology—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
R	59	O	349094	SR	0.25	0.17	0.03	-0.04	-0.12	0.17	0.4
R	60	O	323297	SR	0.25	0.02	0.00	0.00	0.02	-0.01	0.5
R	61	O	323294	SR	0.53	0.27	-0.16	0.27	-0.10	-0.10	0.5
R	63	O	108562	SR	0.19	0.22	0.22	-0.10	-0.02	-0.05	0.4
R	64	O	256479	SR	0.57	0.33	-0.15	0.33	-0.16	-0.15	0.5
R	65	O	256481	SR	0.43	0.28	-0.10	-0.07	-0.17	0.28	0.5
R	66	O	279639	SR	0.12	0.17	0.03	-0.01	-0.14	0.17	0.7
R	67	O	407373	SR	0.69	0.30	0.30	-0.18	-0.18	-0.09	0.4
R	68	O	55013	SR	0.57	0.30	-0.14	0.30	-0.18	-0.10	0.3
R	70	O	256524	SR	0.37	0.20	-0.09	0.20	-0.12	-0.02	0.4
R	71	O	256525	SR	0.34	0.17	0.02	-0.11	0.17	-0.10	0.4
R	72	O	338718	SR	0.77	0.26	-0.13	0.26	-0.13	-0.12	0.4
R	73	O	338715	SR	0.65	0.24	-0.15	-0.19	0.24	-0.05	0.4
R	74	O	214534	SR	0.33	0.19	0.19	-0.07	-0.09	-0.03	0.5
R	75	O	392485	SR	0.53	0.41	0.41	-0.18	-0.22	-0.13	0.4
R	76	O	279657	SR	0.17	0.25	-0.01	-0.07	-0.13	0.25	0.4
R	80	O	53449	SR	0.36	0.22	-0.08	0.22	-0.19	-0.03	0.5
R	82	O	373138	SR	0.50	0.28	-0.10	0.28	-0.16	-0.09	0.5
R	83	O	373136	SR	0.55	0.35	-0.11	-0.18	0.35	-0.18	0.5
R	84	O	398023	SR	0.41	0.29	-0.06	0.29	-0.17	-0.11	0.5
R	85	O	398024	SR	0.33	0.22	-0.07	-0.13	0.22	-0.03	0.5
R	87	O	392443	SR	0.39	0.38	-0.09	-0.21	-0.15	0.38	0.5
R	88	O	369419	SR	0.25	0.12	-0.04	-0.09	0.12	0.03	0.5
R	89	O	137326	SR	0.31	0.34	0.34	-0.03	-0.17	-0.16	0.5
R	90	O	137328	SR	0.35	0.30	-0.06	0.30	-0.16	-0.10	0.5
R	93	O	349090	SR	0.29	0.24	-0.11	-0.07	-0.07	0.24	0.6
R	94	O	279578	SR	0.50	0.20	-0.07	-0.08	0.20	-0.09	0.5
R	95	O	393837	SR	0.32	0.25	-0.02	0.25	-0.16	-0.09	0.5
R	96	O	393833	SR	0.37	0.15	-0.04	-0.07	0.15	-0.05	0.5
R	97	O	282399	SR	0.36	0.32	0.32	-0.11	-0.16	-0.10	0.5
R	98	O	363174	SR	0.43	0.33	0.33	-0.12	-0.17	-0.11	0.6
R	99	O	53469	SR	0.70	0.27	-0.14	0.27	-0.14	-0.12	0.7
<b>Mean</b>					0.39	0.23	-0.01	-0.01	-0.05	0.02	0.4
<b>SD</b>					0.16	0.08	0.16	0.16	0.14	0.15	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT=item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses



Table 1.A3 Item Statistics, Operational Items: MD HSA English—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
R	1	O	96009	SR	0.53	0.31	-0.12	-0.18	0.31	-0.14	0.0
R	2	O	96010	SR	0.53	0.24	0.24	-0.05	-0.16	-0.15	0.0
R	3	O	96011	SR	0.63	0.38	-0.15	-0.19	-0.24	0.38	0.0
R	4	O	96012	SR	0.47	0.24	0.24	0.00	-0.19	-0.16	0.0
R	5	O	96013	SR	0.33	0.18	0.18	-0.10	-0.09	-0.03	0.1
R	6	O	96175	SR	0.73	0.33	-0.22	-0.26	-0.06	0.33	0.1
R	7	O	96176	SR	0.79	0.38	0.38	-0.19	-0.23	-0.20	0.1
R	8	O	96177	SR	0.64	0.28	-0.27	0.28	-0.22	-0.01	0.0
R	9	O	96178	SR	0.54	0.38	-0.18	0.38	-0.17	-0.23	0.0
R	10	O	96179	SR	0.51	0.35	-0.14	-0.27	-0.09	0.35	0.1
R	11	O	96180	SR	0.65	0.34	-0.16	-0.21	-0.18	0.34	0.1
R	12	O	251148	SR	0.31	0.24	-0.15	-0.17	0.24	0.02	0.1
R	13	O	251146	SR	0.32	0.17	0.17	-0.09	-0.08	-0.03	0.2
R	14	O	251144	SR	0.20	0.08	-0.08	0.08	0.04	-0.02	0.2
R	16	O	223371	SR	0.55	0.37	-0.14	-0.23	0.37	-0.16	0.3
R	17	O	223322	SR	0.30	0.24	-0.03	0.24	-0.16	-0.11	0.2
R	18	O	223323	SR	0.29	0.17	-0.12	0.03	-0.09	0.17	0.2
R	19	O	223325	SR	0.60	0.40	-0.22	-0.15	-0.21	0.40	0.3
R	25	O	95581	SR	0.66	0.38	-0.21	-0.17	0.38	-0.20	0.5
R	26	O	95582	SR	0.43	0.36	-0.23	-0.14	0.36	-0.09	0.4
R	27	O	95583	SR	0.55	0.46	-0.20	-0.25	-0.19	0.46	0.5
R	28	O	95584	SR	0.64	0.39	-0.21	0.39	-0.17	-0.18	0.5
R	29	O	95585	SR	0.36	0.24	0.06	-0.15	-0.20	0.24	0.7
R	30	O	95586	SR	0.51	0.34	0.34	-0.23	-0.24	0.00	0.7
R	31	O	95587	SR	0.46	0.25	-0.07	0.25	-0.11	-0.14	0.8
R	32	O	95588	SR	0.49	0.44	-0.12	-0.21	-0.27	0.44	0.9
R	33	O	130139	SR	0.45	0.20	0.01	-0.25	0.20	-0.07	0.2
R	34	O	130277	SR	0.44	0.29	-0.08	-0.15	-0.13	0.29	0.2
R	35	O	96045	SR	0.27	0.18	0.18	-0.07	-0.07	-0.04	0.2
R	47	O	281767	SR	0.35	0.13	-0.16	-0.07	0.13	0.03	0.3
R	48	O	281766	SR	0.59	0.21	0.21	-0.06	-0.12	-0.10	0.3
R	49	O	281765	SR	0.28	0.11	0.00	-0.12	0.11	0.01	0.3
R	61	O	130130	SR	0.27	0.29	0.29	-0.19	-0.24	0.08	0.6
R	62	O	130132	SR	0.51	0.34	0.34	-0.12	-0.20	-0.12	0.7
R	63	O	130136	SR	0.52	0.35	-0.16	-0.16	0.35	-0.15	0.7
R	64	O	130133	SR	0.37	0.25	-0.03	-0.09	-0.21	0.25	0.7
R	65	O	130294	SR	0.63	0.34	-0.16	-0.18	0.34	-0.15	0.8
R	66	O	130293	SR	0.57	0.39	-0.16	-0.24	0.39	-0.19	0.8
R	67	O	130135	SR	0.40	0.18	-0.03	-0.12	0.18	-0.13	0.8
R	68	O	256294	SR	0.66	0.35	-0.16	-0.25	0.35	-0.12	0.3
R	69	O	251223	SR	0.26	0.20	-0.01	-0.12	-0.06	0.20	0.4
R	70	O	251224	SR	0.33	0.20	-0.12	-0.07	0.20	-0.05	0.3
R	71	O	251225	SR	0.23	0.21	0.21	-0.05	-0.12	-0.02	0.3
R	72	O	251226	SR	0.33	0.22	0.01	-0.19	0.22	-0.08	0.4

Table 1.A3 Item Statistics, Operational Items: MD HSA English—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
R	73	O	251227	SR	0.47	0.34	-0.16	0.34	-0.20	-0.11	0.3
R	76	O	130977	SR	0.37	0.36	0.36	-0.09	-0.19	-0.14	0.4
R	77	O	130978	SR	0.56	0.33	-0.16	0.33	-0.20	-0.08	0.5
R	78	O	130979	SR	0.47	0.30	0.30	-0.07	-0.15	-0.17	0.4
R	79	O	130982	SR	0.60	0.43	-0.20	0.43	-0.25	-0.16	0.5
R	80	O	130984	SR	0.52	0.46	-0.18	-0.24	-0.19	0.46	0.4
R	81	O	130985	SR	0.53	0.43	-0.14	-0.23	0.43	-0.22	0.4
R	82	O	130965	SR	0.52	0.29	-0.15	0.29	-0.21	-0.03	0.4
R	83	O	130980	SR	0.35	0.21	-0.14	-0.13	0.21	0.02	0.5
R	84	O	130966	SR	0.29	0.28	0.04	-0.16	-0.18	0.28	0.5
R	85	O	130967	SR	0.37	0.18	-0.01	0.18	-0.15	-0.05	0.5
R	86	O	285599	SR	0.40	0.21	-0.12	0.21	-0.13	0.01	0.4
R	87	O	285600	SR	0.38	0.23	-0.15	-0.19	0.23	0.06	0.5
R	88	O	285601	SR	0.36	0.30	0.03	-0.14	-0.26	0.30	0.5
R	97	O	108720	SR	0.16	0.09	0.09	-0.12	0.13	-0.12	0.5
R	98	O	108721	SR	0.41	0.15	-0.03	0.00	-0.18	0.15	0.6
<b>Mean</b>					0.45	0.28	-0.03	-0.06	-0.03	0.02	0.4
<b>SD</b>					0.14	0.09	0.18	0.19	0.22	0.20	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A4 Item Statistics, Operational Items: MD HSA Government—October Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
R	1	O	68666	SR	0.59	0.33	-0.12	-0.18	-0.17	0.33	0.0
R	2	O	324719	SR	0.65	0.28	0.28	-0.13	-0.12	-0.16	0.1
R	3	O	324720	SR	0.51	0.17	-0.08	-0.05	0.17	-0.10	0.0
R	4	O	241959	SR	0.26	0.04	-0.14	-0.14	0.04	0.13	0.1
R	5	O	296477	SR	0.35	0.17	0.17	-0.16	-0.09	0.04	0.1
R	7	O	381667	SR	0.45	0.23	-0.12	0.23	-0.08	-0.12	0.3
R	8	O	279757	SR	0.30	0.24	-0.12	-0.09	0.24	-0.03	0.2
R	10	O	302872	SR	0.24	0.14	-0.12	0.14	-0.07	0.04	0.2
R	11	O	348494	SR	0.42	0.23	-0.17	-0.09	-0.07	0.23	0.2
R	12	O	331410	SR	0.58	0.19	-0.13	-0.13	0.19	-0.04	0.2
R	14	O	263979	SR	0.35	0.22	-0.01	-0.23	0.22	-0.03	0.3
R	15	O	261585	SR	0.46	0.26	-0.12	0.26	-0.10	-0.11	0.3
R	16	O	282262	SR	0.32	0.16	0.16	-0.08	-0.18	0.07	0.2
R	17	O	282274	SR	0.18	0.08	0.05	0.01	-0.13	0.08	0.3
R	18	O	79535	CR	0.10	0.48					13.3
R	20	O	279827	SR	0.59	0.26	-0.17	0.26	-0.17	-0.05	0.6
R	21	O	50874	SR	0.27	0.20	0.20	-0.01	-0.13	-0.12	0.6
R	22	O	271831	SR	0.41	0.27	0.27	-0.10	-0.08	-0.15	0.6
R	23	O	108470	SR	0.56	0.16	-0.15	0.16	-0.16	0.03	0.6
R	25	O	50891	SR	0.43	0.17	-0.16	0.17	-0.18	0.11	0.7
R	27	O	257172	SR	0.34	0.18	-0.09	-0.10	0.18	-0.02	0.8
R	28	O	58345	SR	0.37	0.18	-0.14	-0.07	0.18	-0.01	0.9
R	29	O	279837	SR	0.38	0.17	-0.16	0.03	0.17	-0.06	0.4
R	31	O	242074	SR	0.34	0.18	-0.07	0.18	-0.06	-0.06	0.4
R	32	O	339201	SR	0.60	0.34	0.34	-0.19	-0.19	-0.11	0.4
R	33	O	68695	SR	0.37	0.24	-0.06	-0.12	0.24	-0.09	0.5
R	34	O	348870	SR	0.36	0.25	-0.20	-0.18	-0.02	0.25	0.4
R	35	O	68583	CR	0.08	0.46					11.8
R	36	O	257017	SR	0.17	0.12	-0.07	-0.03	-0.01	0.12	0.4
R	37	O	108357	SR	0.41	0.23	-0.14	-0.09	0.23	-0.08	0.3
R	38	O	65181	SR	0.31	0.22	-0.06	-0.16	0.00	0.22	0.4
R	40	O	79549	SR	0.32	0.15	-0.04	0.02	-0.17	0.15	0.5
R	41	O	302855	SR	0.58	0.26	-0.12	-0.15	0.26	-0.08	0.5
R	42	O	108396	SR	0.37	0.29	-0.15	-0.11	-0.08	0.29	0.4
R	43	O	279833	SR	0.38	0.22	-0.07	0.22	-0.16	-0.01	0.5
R	44	O	108453	CR	0.21	0.52					8.8
R	45	O	331432	SR	0.12	0.05	-0.08	0.01	0.04	0.05	0.6
R	46	O	215813	SR	0.56	0.36	-0.24	-0.11	-0.16	0.36	0.6
R	47	O	108366	SR	0.31	0.17	-0.09	0.17	-0.14	0.05	0.7
R	49	O	214502	SR	0.61	0.32	-0.10	-0.17	-0.18	0.32	0.5
R	50	O	339048	SR	0.31	0.05	0.07	0.05	-0.16	0.01	0.6
R	51	O	368640	SR	0.35	0.28	0.28	-0.10	-0.08	-0.13	0.7
R	52	O	297432	SR	0.66	0.35	-0.17	0.35	-0.23	-0.09	0.8
R	53	O	296507	SR	0.50	0.26	-0.07	-0.12	0.26	-0.19	0.6

Table 1.A4 Item Statistics, Operational Items: MD HSA Government—October Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
R	54	O	64797	SR	0.33	0.20	0.20	-0.15	-0.14	0.08	0.4
R	55	O	331422	SR	0.43	0.25	-0.13	0.25	-0.18	-0.01	0.5
R	56	O	51018	CR	0.21	0.58					8.8
R	58	O	257023	SR	0.37	0.19	0.19	-0.04	-0.12	-0.05	0.6
R	60	O	108448	SR	0.32	0.16	0.00	0.16	-0.09	-0.07	0.5
R	61	O	283285	SR	0.29	0.21	-0.08	-0.03	-0.11	0.21	0.5
R	62	O	296510	SR	0.34	0.28	-0.10	-0.16	-0.03	0.28	0.5
R	63	O	364319	SR	0.42	0.20	0.00	0.20	-0.20	-0.04	0.6
R	64	O	339214	SR	0.40	0.29	-0.12	-0.08	0.29	-0.14	0.6
R	65	O	339215	SR	0.21	0.09	-0.02	0.09	-0.05	0.02	0.7
R	68	O	368619	SR	0.23	0.19	0.19	-0.10	-0.01	-0.07	0.6
R	69	O	257020	SR	0.24	0.11	0.12	-0.11	-0.13	0.11	0.7
R	70	O	370228	SR	0.39	0.29	-0.15	-0.15	0.29	-0.03	0.6
R	71	O	261599	SR	0.30	0.21	-0.07	-0.09	-0.05	0.21	0.6
R	72	O	271830	SR	0.32	0.31	-0.14	-0.13	-0.08	0.31	0.6
R	73	O	52238	CR	0.07	0.48					11.6
R	74	O	364275	SR	0.36	0.13	-0.04	0.13	-0.07	-0.03	0.6
R	75	O	353528	SR	0.33	0.16	0.16	-0.16	-0.13	0.09	0.6
R	76	O	279796	SR	0.37	0.27	-0.15	0.27	-0.01	-0.18	0.6
R	77	O	370274	SR	0.30	0.18	-0.05	-0.01	0.18	-0.12	0.6
R	78	O	324409	SR	0.31	0.20	-0.20	0.20	-0.10	0.08	0.6
R	80	O	368566	SR	0.29	0.18	0.18	-0.07	-0.11	0.03	0.8
R	81	O	108342	SR	0.31	0.13	0.13	-0.06	-0.08	0.02	0.8
<b>Mean</b>					0.36	0.23	-0.03	-0.01	-0.03	0.03	1.3
<b>SD</b>					0.13	0.11	0.14	0.15	0.15	0.14	2.8

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A5 Item Statistics, Operational Items: MD HSA Algebra—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	1	L	106628	SR	0.59	0.27	-0.14	0.27	-0.14	-0.13	0.1
A-B	2	O	106648	SR	0.44	0.23	-0.11	-0.13	0.23	-0.04	0.5
A-B	4	O	322003	SR	0.54	0.32	-0.08	0.32	-0.21	-0.15	0.2
A-B	5	L	338630	SR	0.30	0.27	0.27	-0.06	-0.18	-0.10	0.2
A-B	7	O	268686	SPR	0.07	0.32	0.32	-0.25			2.1
A-B	8	L	211044	SR	0.49	0.19	-0.13	-0.19	0.19	0.00	0.1
A-B	9	L	275456	SR	0.18	0.16	-0.08	-0.04	-0.02	0.16	0.5
A-B	11	L	51411	SR	0.50	0.27	-0.09	0.27	-0.13	-0.14	0.1
A-B	12	L	135106	SR	0.22	0.20	-0.11	0.05	-0.14	0.20	0.3
A-B	13	O	263280	SR	0.30	0.33	-0.12	-0.11	-0.12	0.33	0.4
A-B	15	L	54863	SR	0.48	0.39	0.39	-0.19	-0.16	-0.17	0.2
A-B	16	O	319409	SR	0.32	0.13	-0.05	0.13	-0.09	0.01	0.6
A-B	17	L	54864	SR	0.53	0.44	0.44	-0.25	-0.23	-0.11	0.4
A-B	18	L	215933	SPR	0.39	0.46	0.46	-0.42			3.5
A-B	19	O	263289	SPR	0.15	0.28	0.28	-0.22			5.1
A-B	21	O	260759	SR	0.14	0.28	-0.05	-0.18	0.01	0.28	1.4
A-B	22	L	106603	SR	0.17	0.08	0.08	0.01	-0.04	-0.05	1.7
A-B	23	O	51427	SR	0.46	0.36	0.36	-0.15	-0.17	-0.16	2.0
A-B	24	L	257133	SR	0.55	0.41	-0.24	-0.23	-0.12	0.41	0.3
A-B	26	L	319434	SR	0.53	0.39	-0.18	0.39	-0.22	-0.12	0.3
A-B	27	O	348358	SR	0.31	0.17	0.17	-0.18	-0.14	0.14	0.4
A-B	28	L	79053	SR	0.63	0.31	-0.10	-0.20	0.31	-0.13	0.4
A-B	29	O	322115	SPR	0.09	0.33	0.33	-0.25			2.8
A-B	31	L	215929	SPR	0.31	0.41	0.41	-0.36			3.1
A-B	32	L	328732	SR	0.31	0.13	0.01	-0.08	0.13	-0.05	0.4
A-B	33	L	319450	SR	0.28	0.09	-0.08	0.09	0.04	-0.09	0.5
A-B	35	O	54902	SR	0.29	0.28	-0.12	-0.03	-0.16	0.28	0.5
A-B	37	L	106576	SR	0.25	0.08	-0.01	0.08	-0.10	0.04	0.6
A-B	38	L	52342	SR	0.41	0.20	-0.04	0.20	-0.09	-0.13	0.5
A-B	40	L	348318	SR	0.65	0.36	-0.22	-0.17	0.36	-0.13	0.5
A-B	42	O	319448	SPR	0.06	0.27	0.27	-0.17			6.2
A-B	43	O	319437	SPR	0.26	0.41	0.41	-0.35			5.1
A-B	44	O	223334	SR	0.23	0.13	0.13	-0.01	-0.05	-0.06	0.9
A-B	45	O	328761	SR	0.38	0.14	-0.14	0.14	-0.02	-0.01	1.1
A-B	46	L	328778	SR	0.46	0.40	-0.16	-0.18	-0.16	0.40	1.2
A-B	47	O	348314	SR	0.59	0.27	-0.10	0.27	-0.22	-0.09	0.5
A-B	49	L	51401	SR	0.75	0.38	-0.17	-0.20	-0.19	0.38	0.5
A-B	50	O	268745	SR	0.43	0.31	0.31	-0.17	-0.13	-0.06	0.4
A-B	52	L	79109	SR	0.17	0.21	-0.03	-0.15	0.00	0.21	0.7
A-B	53	O	54772	SR	0.42	0.17	-0.08	-0.20	0.17	0.05	0.5
A-B	54	O	338679	SR	0.31	0.13	-0.05	0.13	-0.01	-0.07	0.5

Table 1.A5 Item Statistics, Operational Items: MD HSA Algebra—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
A-B	55	O	338663	SPR	0.04	0.28	0.28	-0.14			3.4
A-B	57	L	268744	SR	0.26	0.26	0.26	-0.10	0.03	-0.18	0.5
A-B	58	L	132825	SR	0.38	0.08	-0.01	0.00	0.08	-0.06	0.7
A-B	59	L	328762	SR	0.30	0.21	0.21	-0.07	-0.04	-0.12	0.8
A-B	60	L	54889	SR	0.17	0.30	-0.12	-0.05	-0.09	0.30	0.7
A-B	62	L	106642	SR	0.18	0.27	-0.13	-0.03	-0.05	0.27	0.7
A-B	64	L	319460	SPR	0.19	0.42	0.42	-0.33			4.8
A-B	65	O	268720	SPR	0.45	0.42	0.42	-0.38			3.5
A-B	66	O	348319	SR	0.45	0.32	0.32	-0.07	-0.20	-0.12	0.6
A-B	67	L	43218	SR	0.36	0.32	-0.10	-0.10	-0.16	0.32	0.7
A-B	68	L	328718	SR	0.25	0.11	-0.09	-0.01	0.11	0.00	0.8
A-B	69	L	338676	SR	0.40	0.19	-0.10	0.19	-0.06	-0.06	1.0
<b>Mean</b>					0.35	0.27	0.06	-0.07	-0.05	0.03	1.2
<b>SD</b>					0.16	0.11	0.22	0.19	0.14	0.18	1.5

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A6 Item Statistics, Operational Items: MD HSA Algebra—January Makeup

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
C	1	L	106628	SR	0.59	0.27	-0.14	0.27	-0.14	-0.13	0.1
C	2	O	133393	SR	0.45	0.27	-0.15	-0.11	0.27	-0.08	0.1
C	4	O	319410	SR	0.24	0.24	-0.05	0.24	-0.14	-0.03	0.1
C	5	L	338630	SR	0.30	0.27	0.27	-0.06	-0.18	-0.10	0.2
C	7	O	263286	SPR	0.07	0.27	0.27	-0.19			3.0
C	8	L	211044	SR	0.49	0.19	-0.13	-0.19	0.19	0.00	0.1
C	9	L	275456	SR	0.18	0.16	-0.08	-0.04	-0.02	0.16	0.5
C	11	L	51411	SR	0.50	0.27	-0.09	0.27	-0.13	-0.14	0.1
C	12	L	135106	SR	0.22	0.20	-0.11	0.05	-0.14	0.20	0.3
C	13	O	282378	SR	0.44	0.31	-0.09	-0.10	-0.20	0.31	0.3
C	15	L	54863	SR	0.48	0.39	0.39	-0.19	-0.16	-0.17	0.2
C	16	O	348336	SR	0.47	0.20	-0.10	0.20	-0.11	-0.03	0.2
C	17	L	54864	SR	0.53	0.44	0.44	-0.25	-0.23	-0.11	0.4
C	18	L	215933	SPR	0.39	0.46	0.46	-0.42			3.5
C	19	O	260752	SPR	0.39	0.49	0.49	-0.44			4.1
C	21	O	56440	SR	0.53	0.21	-0.14	0.21	-0.14	-0.01	1.0
C	22	L	106603	SR	0.17	0.08	0.08	0.01	-0.04	-0.05	1.7
C	23	O	348438	SR	0.50	0.28	-0.08	-0.19	0.28	-0.11	1.4
C	24	L	257133	SR	0.55	0.41	-0.24	-0.23	-0.12	0.41	0.3
C	26	L	319434	SR	0.53	0.39	-0.18	0.39	-0.22	-0.12	0.3
C	27	O	51414	SR	0.30	0.29	0.29	-0.08	-0.14	-0.09	0.6
C	28	L	79053	SR	0.63	0.31	-0.10	-0.20	0.31	-0.13	0.4
C	29	O	322117	SPR	0.03	0.24	0.24	-0.14			4.9
C	31	L	215929	SPR	0.31	0.41	0.41	-0.36			3.1
C	32	L	328732	SR	0.31	0.13	0.01	-0.08	0.13	-0.05	0.4
C	33	L	319450	SR	0.28	0.09	-0.08	0.09	0.04	-0.09	0.5
C	35	O	79032	SR	0.43	0.13	-0.06	0.13	-0.08	-0.01	0.6
C	37	L	106576	SR	0.25	0.08	-0.01	0.08	-0.10	0.04	0.6
C	38	L	52342	SR	0.41	0.20	-0.04	0.20	-0.09	-0.13	0.5
C	40	L	348318	SR	0.65	0.36	-0.22	-0.17	0.36	-0.13	0.5
C	42	O	338667	SPR	0.03	0.20	0.20	-0.07			6.4
C	43	O	106614	SPR	0.25	0.44	0.44	-0.37			3.6
C	44	O	106656	SR	0.38	0.26	-0.06	0.26	-0.16	-0.05	1.1
C	45	O	328708	SR	0.45	0.23	-0.04	-0.07	0.23	-0.17	1.0
C	46	L	328778	SR	0.46	0.40	-0.16	-0.18	-0.16	0.40	1.2
C	47	O	133413	SR	0.40	0.16	-0.08	-0.06	0.16	-0.04	0.6
C	49	L	51401	SR	0.75	0.38	-0.17	-0.20	-0.19	0.38	0.5
C	50	O	106552	SR	0.40	0.25	-0.07	-0.13	0.25	-0.11	0.4
C	52	L	79109	SR	0.17	0.21	-0.03	-0.15	0.00	0.21	0.7
C	53	O	338677	SR	0.38	0.21	-0.07	0.21	-0.11	-0.05	0.8
C	54	O	338658	SR	0.19	0.03	0.03	-0.01	0.04	-0.05	0.7
C	55	O	255080	SPR	0.20	0.31	0.31	-0.25			3.0
C	57	L	268744	SR	0.26	0.26	0.26	-0.10	0.03	-0.18	0.5

Table 1.A6 Item Statistics, Operational Items: MD HSA Algebra—January Makeup

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
C	58	L	132825	SR	0.38	0.08	-0.01	0.00	0.08	-0.06	0.7
C	59	L	328762	SR	0.30	0.21	0.21	-0.07	-0.04	-0.12	0.8
C	60	L	54889	SR	0.17	0.30	-0.12	-0.05	-0.09	0.30	0.7
C	62	L	106642	SR	0.18	0.27	-0.13	-0.03	-0.05	0.27	0.7
C	64	L	319460	SPR	0.19	0.42	0.42	-0.33			4.8
C	65	O	328724	SPR	0.04	0.25	0.25	-0.12			5.9
C	66	O	211019	SR	0.37	0.34	0.34	-0.17	-0.15	-0.05	0.9
C	67	L	43218	SR	0.36	0.32	-0.10	-0.10	-0.16	0.32	0.7
C	68	L	328718	SR	0.25	0.11	-0.09	-0.01	0.11	0.00	0.8
C	69	L	338676	SR	0.40	0.19	-0.10	0.19	-0.06	-0.06	1.0
<b>Mean</b>					0.35	0.26	0.05	-0.06	-0.02	0.01	1.3
<b>SD</b>					0.16	0.11	0.21	0.19	0.16	0.17	1.6

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A7 Item Statistics, Operational Items: MD HSA Biology—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	1	O	331370	SR	0.76	0.38	-0.15	-0.25	-0.19	0.38	0.0
A-B	2	L	55170	SR	0.64	0.43	-0.23	-0.25	0.43	-0.16	0.0
A-B	3	O	52493	SR	0.88	0.31	-0.18	-0.15	0.31	-0.19	0.0
A-B	4	L	395747	SR	0.21	0.43	-0.22	0.43	-0.05	-0.13	0.1
A-B	5	O	395744	SR	0.52	0.45	0.45	-0.27	-0.24	-0.09	0.1
A-B	8	O	57039	SR	0.53	0.33	-0.15	0.33	-0.13	-0.18	0.1
A-B	9	O	68213	SR	0.44	0.39	-0.20	0.39	-0.16	-0.13	0.1
A-B	10	O	373171	SR	0.61	0.39	0.39	-0.15	-0.21	-0.19	0.1
A-B	11	O	338776	SR	0.42	0.44	-0.19	0.44	-0.21	-0.14	0.1
A-B	12	O	263178	SR	0.29	0.39	0.08	-0.33	-0.23	0.39	0.2
A-B	13	L	263167	SR	0.38	0.51	-0.16	-0.22	0.51	-0.25	0.1
A-B	14	O	392483	SR	0.41	0.38	-0.16	0.38	-0.26	-0.05	0.2
A-B	16	L	279853	SR	0.32	0.39	-0.18	-0.11	0.39	-0.15	0.2
A-B	17	L	279590	SR	0.42	0.45	0.45	-0.26	-0.18	-0.11	0.2
A-B	21	L	108523	SR	0.79	0.42	-0.24	-0.21	0.42	-0.21	0.2
A-B	23	O	65078	SR	0.66	0.48	-0.29	-0.21	0.48	-0.22	0.2
A-B	24	O	136133	SR	0.48	0.40	-0.07	-0.23	-0.21	0.40	0.3
A-B	25	L	136135	SR	0.62	0.38	-0.18	-0.22	0.38	-0.17	0.2
A-B	26	O	223438	SR	0.41	0.28	0.28	-0.04	-0.21	-0.14	0.3
A-B	27	L	223444	SR	0.41	0.29	-0.22	-0.13	-0.02	0.29	0.3
A-B	28	O	67684	SR	0.46	0.49	-0.23	-0.22	0.49	-0.18	0.3
A-B	29	O	366613	SR	0.76	0.41	-0.23	0.41	-0.21	-0.21	0.3
A-B	30	L	332016	SR	0.24	0.35	-0.18	0.04	-0.21	0.35	0.3
A-B	31	L	332012	SR	0.46	0.43	0.43	-0.16	-0.23	-0.20	0.3
A-B	33	L	362989	SR	0.68	0.48	0.48	-0.28	-0.25	-0.19	0.4
A-B	34	O	79514	SR	0.45	0.34	-0.15	-0.25	0.34	0.00	0.2
A-B	35	O	108580	SR	0.42	0.32	-0.01	-0.18	-0.21	0.32	0.2
A-B	36	L	369399	SR	0.51	0.36	-0.07	0.36	-0.26	-0.19	0.2
A-B	37	O	369396	SR	0.36	0.48	-0.13	-0.23	-0.19	0.48	0.2
A-B	38	O	68287	SR	0.74	0.36	-0.16	0.36	-0.19	-0.19	0.2
A-B	40	L	271131	SR	0.47	0.46	-0.18	-0.20	0.46	-0.23	0.2
A-B	41	L	52413	SR	0.59	0.36	0.36	-0.18	-0.15	-0.19	0.2
A-B	42	L	52434	SR	0.42	0.48	0.48	-0.23	-0.22	-0.18	0.2
A-B	45	O	79474	SR	0.24	0.58	0.58	-0.21	-0.28	-0.12	0.3
A-B	46	O	55223	SR	0.29	0.53	-0.21	-0.08	-0.30	0.53	0.3
A-B	47	O	52765	SR	0.57	0.51	-0.17	-0.29	-0.26	0.51	0.3
A-B	50	L	395709	SR	0.45	0.46	-0.08	0.46	-0.28	-0.20	0.4
A-B	51	L	395711	SR	0.44	0.46	-0.23	-0.21	0.46	-0.14	0.3
A-B	52	L	260080	SR	0.36	0.45	-0.23	-0.13	-0.18	0.45	0.4
A-B	53	O	68148	SR	0.30	0.36	0.36	-0.03	-0.21	-0.13	0.3
A-B	55	L	373052	SR	0.46	0.29	-0.13	-0.13	0.29	-0.11	0.3
A-B	56	O	373055	SR	0.33	0.44	0.44	-0.23	-0.21	-0.04	0.4
A-B	57	L	393843	SR	0.39	0.55	-0.23	-0.24	-0.20	0.55	0.4
A-B	58	O	393844	SR	0.34	0.22	0.01	0.22	-0.12	-0.13	0.4

Table 1.A7 Item Statistics, Operational Items: MD HSA Biology—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	59	L	53479	SR	0.62	0.40	-0.14	0.40	-0.26	-0.19	0.4
A-B	61	L	361410	SR	0.39	0.53	0.53	-0.26	-0.29	-0.09	0.4
A-B	62	L	361411	SR	0.42	0.47	-0.18	-0.23	0.47	-0.18	0.4
A-B	63	L	395725	SR	0.46	0.37	-0.06	-0.26	0.37	-0.18	0.6
A-B	64	L	395724	SR	0.57	0.54	0.54	-0.25	-0.28	-0.21	0.4
A-B	65	O	136114	SR	0.54	0.44	-0.29	-0.07	-0.25	0.44	0.4
A-B	66	L	338748	SR	0.70	0.33	-0.07	-0.24	0.33	-0.19	0.5
A-B	67	L	214517	SR	0.57	0.46	-0.21	0.46	-0.24	-0.19	0.3
A-B	68	O	68242	SR	0.46	0.43	0.43	-0.16	-0.20	-0.23	0.3
A-B	69	O	52469	SR	0.44	0.46	-0.20	0.46	-0.23	-0.16	0.4
A-B	70	L	52470	SR	0.56	0.46	-0.21	0.46	-0.23	-0.19	0.3
A-B	74	O	65057	SR	0.39	0.25	-0.12	-0.14	0.25	-0.05	0.4
A-B	75	O	65084	SR	0.48	0.51	-0.21	-0.22	-0.23	0.51	0.3
A-B	76	L	394864	SR	0.69	0.50	0.50	-0.28	-0.24	-0.22	0.3
A-B	77	O	394861	SR	0.33	0.34	-0.08	-0.16	-0.13	0.34	0.4
A-B	78	O	331366	SR	0.29	0.47	-0.21	-0.16	-0.13	0.47	0.4
A-B	79	O	279644	SR	0.50	0.39	-0.14	0.39	-0.16	-0.21	0.4
A-B	82	O	395888	SR	0.50	0.47	-0.17	-0.17	0.47	-0.27	0.4
A-B	83	L	395774	SR	0.37	0.50	-0.05	0.50	-0.29	-0.23	0.4
A-B	84	O	133045	SR	0.37	0.39	-0.10	0.39	-0.20	-0.18	0.4
A-B	86	O	67596	SR	0.30	0.68	0.68	-0.28	-0.34	-0.09	0.3
A-B	87	L	57188	SR	0.52	0.54	0.54	-0.27	-0.23	-0.21	0.4
A-B	88	L	398037	SR	0.59	0.48	-0.22	-0.23	-0.23	0.48	0.4
A-B	89	L	398038	SR	0.42	0.42	-0.15	0.42	-0.22	-0.14	0.5
A-B	90	L	108497	SR	0.44	0.32	-0.10	-0.14	0.32	-0.16	0.4
A-B	91	L	108502	SR	0.51	0.53	0.53	-0.26	-0.23	-0.22	0.5
A-B	93	O	108540	SR	0.58	0.45	-0.20	-0.24	0.45	-0.18	0.5
A-B	94	O	279611	SR	0.45	0.29	0.01	-0.20	0.29	-0.18	0.4
A-B	96	L	398047	SR	0.18	0.16	0.05	-0.14	-0.04	0.16	0.4
A-B	97	O	398045	SR	0.49	0.48	0.48	-0.28	-0.17	-0.18	0.5
A-B	98	L	279638	SR	0.33	0.45	-0.06	-0.23	-0.24	0.45	0.4
A-B	99	L	271114	SR	0.59	0.43	-0.23	-0.21	0.43	-0.17	0.5
<b>Mean</b>					0.47	0.42	0.00	-0.06	-0.04	-0.03	0.3
<b>SD</b>					0.14	0.09	0.28	0.27	0.28	0.26	0.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A8 Item Statistics, Operational Items: MD HSA Biology—January Makeup

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
C	1	O	133432	SR	0.66	0.46	0.46	-0.20	-0.36	-0.10	0.0
C	2	L	55170	SR	0.64	0.43	-0.23	-0.25	0.43	-0.16	0.0
C	3	O	79458	SR	0.45	0.51	0.51	-0.19	-0.37	-0.05	0.0
C	4	L	395747	SR	0.21	0.43	-0.22	0.43	-0.05	-0.13	0.1
C	5	O	395746	SR	0.51	0.44	-0.09	-0.36	0.44	-0.11	0.1
C	8	O	57009	SR	0.28	0.42	0.42	-0.24	-0.09	-0.13	0.1
C	9	O	55118	SR	0.27	0.28	0.07	-0.23	-0.10	0.28	0.1
C	10	O	214545	SR	0.49	0.51	-0.21	-0.17	-0.29	0.51	0.0
C	11	O	260077	SR	0.39	0.48	-0.24	-0.26	0.48	-0.08	0.0
C	12	O	263179	SR	0.49	0.55	-0.22	-0.27	-0.27	0.55	0.1
C	13	L	263167	SR	0.38	0.51	-0.16	-0.22	0.51	-0.25	0.1
C	14	O	67662	SR	0.50	0.23	-0.13	-0.09	-0.09	0.23	0.1
C	16	L	279853	SR	0.32	0.39	-0.18	-0.11	0.39	-0.15	0.2
C	17	L	279590	SR	0.42	0.45	0.45	-0.26	-0.18	-0.11	0.2
C	21	L	108523	SR	0.79	0.42	-0.24	-0.21	0.42	-0.21	0.2
C	23	O	277331	SR	0.73	0.46	-0.22	-0.23	-0.27	0.46	0.0
C	24	O	136132	SR	0.53	0.54	0.54	-0.27	-0.32	-0.17	0.1
C	25	L	136135	SR	0.62	0.38	-0.18	-0.22	0.38	-0.17	0.2
C	26	O	223442	SR	0.24	0.29	0.29	-0.19	-0.03	-0.05	0.2
C	27	L	223444	SR	0.41	0.29	-0.22	-0.13	-0.02	0.29	0.3
C	28	O	68177	SR	0.48	0.39	-0.12	0.39	-0.26	-0.11	0.2
C	29	O	366590	SR	0.44	0.47	0.47	-0.27	-0.13	-0.21	0.2
C	30	L	332016	SR	0.24	0.35	-0.18	0.04	-0.21	0.35	0.3
C	31	L	332012	SR	0.46	0.43	0.43	-0.16	-0.23	-0.20	0.3
C	33	L	362989	SR	0.68	0.48	0.48	-0.28	-0.25	-0.19	0.4
C	34	O	366620	SR	0.73	0.40	-0.28	0.40	-0.22	-0.10	0.2
C	35	O	338745	SR	0.32	0.44	-0.02	-0.23	-0.29	0.44	0.2
C	36	L	369399	SR	0.51	0.36	-0.07	0.36	-0.26	-0.19	0.2
C	37	O	369400	SR	0.47	0.35	-0.10	-0.25	0.35	-0.12	0.2
C	38	O	79510	SR	0.67	0.37	-0.21	-0.10	0.37	-0.24	0.2
C	40	L	271131	SR	0.47	0.46	-0.18	-0.20	0.46	-0.23	0.2
C	41	L	52413	SR	0.59	0.36	0.36	-0.18	-0.15	-0.19	0.2
C	42	L	52434	SR	0.42	0.48	0.48	-0.23	-0.22	-0.18	0.2
C	45	O	133041	SR	0.42	0.57	-0.25	-0.29	-0.15	0.57	0.4
C	46	O	282461	SR	0.69	0.42	-0.17	0.42	-0.27	-0.20	0.3
C	47	O	68196	SR	0.62	0.50	-0.36	-0.14	-0.20	0.50	0.3
C	50	L	395709	SR	0.45	0.46	-0.08	0.46	-0.28	-0.20	0.4
C	51	L	395711	SR	0.44	0.46	-0.23	-0.21	0.46	-0.14	0.3
C	52	L	260080	SR	0.36	0.45	-0.23	-0.13	-0.18	0.45	0.4
C	53	O	270994	SR	0.47	0.18	-0.10	0.18	0.04	-0.17	0.3
C	55	L	373052	SR	0.46	0.29	-0.13	-0.13	0.29	-0.11	0.3
C	56	O	373051	SR	0.54	0.45	-0.23	0.45	-0.25	-0.13	0.3
C	57	L	393843	SR	0.39	0.55	-0.23	-0.24	-0.20	0.55	0.4

Table 1.A8 Item Statistics, Operational Items: MD HSA Biology—January Makeup

C	58	O	393845	SR	0.64	0.52	0.52	-0.27	-0.27	-0.21	0.4
C	59	L	53479	SR	0.62	0.40	-0.14	0.40	-0.26	-0.19	0.4
C	61	L	361410	SR	0.39	0.53	0.53	-0.26	-0.29	-0.09	0.4
C	62	L	361411	SR	0.42	0.47	-0.18	-0.23	0.47	-0.18	0.4
C	63	L	395725	SR	0.46	0.37	-0.06	-0.26	0.37	-0.18	0.6
C	64	L	395724	SR	0.57	0.54	0.54	-0.25	-0.28	-0.21	0.4
C	65	O	297096	SR	0.46	0.62	-0.20	-0.33	-0.27	0.62	0.4
C	66	L	338748	SR	0.70	0.33	-0.07	-0.24	0.33	-0.19	0.5
C	67	L	214517	SR	0.57	0.46	-0.21	0.46	-0.24	-0.19	0.3
C	68	O	65118	SR	0.64	0.46	0.46	-0.27	-0.23	-0.17	0.3
C	69	O	52468	SR	0.46	0.53	-0.21	0.53	-0.24	-0.23	0.2
C	70	L	52470	SR	0.56	0.46	-0.21	0.46	-0.23	-0.19	0.3
C	74	O	214523	SR	0.41	0.28	-0.10	0.28	-0.06	-0.23	0.2
C	75	O	79489	SR	0.40	0.55	-0.13	-0.23	-0.30	0.55	0.3
C	76	L	394864	SR	0.69	0.50	0.50	-0.28	-0.24	-0.22	0.3
C	77	O	394862	SR	0.35	0.29	-0.10	-0.20	0.29	-0.03	0.2
C	78	O	392431	SR	0.34	0.54	-0.21	-0.20	-0.20	0.54	0.3
C	79	O	286615	SR	0.45	0.45	-0.17	-0.19	0.45	-0.22	0.3
C	82	O	395889	SR	0.69	0.42	-0.21	-0.18	-0.24	0.42	0.2
C	83	L	395774	SR	0.37	0.50	-0.05	0.50	-0.29	-0.23	0.4
C	84	O	65128	SR	0.41	0.37	-0.03	0.37	-0.32	-0.10	0.2
C	86	O	331369	SR	0.62	0.50	-0.11	0.50	-0.35	-0.23	0.3
C	87	L	57188	SR	0.52	0.54	0.54	-0.27	-0.23	-0.21	0.4
C	88	L	398037	SR	0.59	0.48	-0.22	-0.23	-0.23	0.48	0.4
C	89	L	398038	SR	0.42	0.42	-0.15	0.42	-0.22	-0.14	0.5
C	90	L	108497	SR	0.44	0.32	-0.10	-0.14	0.32	-0.16	0.4
C	91	L	108502	SR	0.51	0.53	0.53	-0.26	-0.23	-0.22	0.5
C	93	O	282439	SR	0.62	0.48	-0.18	-0.20	-0.31	0.48	0.3
C	94	O	279609	SR	0.44	0.22	0.11	0.22	-0.22	-0.21	0.3
C	96	L	398047	SR	0.18	0.16	0.05	-0.14	-0.04	0.16	0.4
C	97	O	398044	SR	0.63	0.52	-0.24	-0.23	0.52	-0.29	0.3
C	98	L	279638	SR	0.33	0.45	-0.06	-0.23	-0.24	0.45	0.4
C	99	L	271114	SR	0.59	0.43	-0.23	-0.21	0.43	-0.17	0.5
<b>Mean</b>					0.49	0.43	-0.01	-0.07	-0.05	-0.01	0.3
<b>SD</b>					0.13	0.09	0.28	0.27	0.29	0.28	0.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A9 Item Statistics, Operational Items: MD HSA English—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	1	O	130066	SR	0.57	0.19	-0.06	0.19	-0.10	-0.12	0.0
A-B	2	O	130067	SR	0.23	0.20	-0.02	-0.20	0.20	-0.02	0.1
A-B	3	O	130069	SR	0.31	0.17	-0.02	-0.07	-0.11	0.17	0.2
A-B	4	O	130074	SR	0.43	0.23	-0.12	0.23	-0.20	0.00	0.1
A-B	5	O	256286	SR	0.56	0.26	-0.10	-0.14	0.26	-0.13	0.2
A-B	6	O	130199	SR	0.68	0.37	0.37	-0.22	-0.21	-0.13	0.1
A-B	12	O	96027	SR	0.32	0.19	-0.15	-0.17	0.03	0.19	0.2
A-B	13	O	96028	SR	0.42	0.30	0.30	-0.13	-0.14	-0.11	0.3
A-B	14	O	96029	SR	0.25	0.16	0.16	-0.07	-0.10	0.02	0.4
A-B	24	O	256303	SR	0.57	0.39	-0.18	-0.19	0.39	-0.17	0.6
A-B	25	L	256416	SR	0.53	0.36	-0.21	0.36	-0.17	-0.11	0.5
A-B	26	L	272879	SR	0.43	0.36	0.36	-0.16	-0.12	-0.16	0.6
A-B	27	O	285489	SR	0.39	0.34	0.34	-0.12	-0.11	-0.18	0.8
A-B	28	O	285488	SR	0.52	0.39	-0.24	0.39	-0.13	-0.16	0.9
A-B	29	O	285491	SR	0.28	0.27	0.27	-0.11	-0.16	-0.01	1.0
A-B	30	O	285494	SR	0.25	0.23	-0.19	0.23	-0.17	0.06	1.0
A-B	31	O	285612	SR	0.36	0.29	-0.13	-0.12	0.29	-0.13	1.0
A-B	32	O	285492	SR	0.43	0.34	-0.19	-0.05	-0.20	0.34	1.3
A-B	33	O	349416	SR	0.57	0.32	-0.16	-0.22	0.32	-0.06	0.4
A-B	35	O	130048	SR	0.46	0.28	-0.10	-0.17	0.28	-0.07	0.5
A-B	37	L	108806	SR	0.52	0.39	-0.20	-0.14	-0.19	0.39	0.4
A-B	38	L	108808	SR	0.49	0.15	-0.03	0.15	-0.04	-0.18	0.3
A-B	39	L	108779	SR	0.58	0.39	-0.15	-0.25	0.39	-0.13	0.4
A-B	40	L	108809	SR	0.29	0.16	-0.17	-0.03	0.16	-0.01	0.4
A-B	41	L	108805	SR	0.46	0.35	0.35	-0.22	-0.16	-0.05	0.4
A-B	42	L	130246	SR	0.31	0.30	-0.02	-0.19	-0.10	0.30	0.4
A-B	43	L	108810	SR	0.52	0.26	-0.13	-0.18	0.26	-0.05	0.4
A-B	44	L	109093	SR	0.35	0.12	-0.01	0.12	-0.10	-0.01	0.4
A-B	45	L	109094	SR	0.45	0.34	-0.12	-0.08	-0.24	0.34	0.5
A-B	46	L	109732	SR	0.37	0.21	-0.16	0.21	0.04	-0.16	0.5
A-B	47	L	109095	SR	0.32	0.19	0.04	0.19	-0.09	-0.19	0.5
A-B	48	L	109096	SR	0.33	0.25	-0.15	-0.14	-0.01	0.25	0.6
A-B	49	L	175704	SR	0.55	0.38	-0.12	-0.25	0.38	-0.14	0.5
A-B	50	L	175705	SR	0.21	0.18	0.18	-0.07	0.04	-0.15	0.6
A-B	51	L	175707	SR	0.30	0.19	0.11	-0.23	-0.22	0.19	0.4
A-B	52	L	175708	SR	0.62	0.32	-0.19	-0.24	0.32	-0.06	0.6
A-B	56	L	130142	SR	0.51	0.28	-0.10	-0.14	0.28	-0.13	0.7
A-B	57	L	130143	SR	0.51	0.30	-0.09	-0.19	0.30	-0.11	0.6
A-B	58	L	130144	SR	0.50	0.43	-0.20	-0.22	-0.15	0.43	0.5
A-B	59	L	130145	SR	0.30	0.23	-0.04	-0.17	-0.02	0.23	0.6
A-B	60	L	130146	SR	0.60	0.46	-0.21	-0.22	-0.24	0.46	0.6
A-B	61	L	130147	SR	0.46	0.45	0.45	-0.20	-0.19	-0.18	0.6
A-B	62	L	130148	SR	0.44	0.29	0.29	-0.07	-0.18	-0.11	0.6

Table 1.A9 Item Statistics, Operational Items: MD HSA English—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
A-B	63	L	130150	SR	0.65	0.50	-0.21	-0.25	-0.26	0.50	0.6
A-B	64	L	130151	SR	0.31	0.18	0.18	0.08	-0.21	-0.12	0.7
A-B	65	L	130152	SR	0.20	0.23	-0.12	0.04	-0.12	0.23	0.8
A-B	66	O	264652	SR	0.38	0.30	-0.09	-0.23	0.30	0.00	0.6
A-B	67	O	264653	SR	0.41	0.36	0.36	-0.10	-0.23	-0.11	0.6
A-B	68	O	355150	SR	0.67	0.46	-0.24	-0.25	-0.18	0.46	0.6
A-B	69	L	130173	SR	0.59	0.32	0.32	-0.20	-0.16	-0.08	0.5
A-B	70	L	130174	SR	0.38	0.32	-0.10	0.32	-0.10	-0.18	0.5
A-B	71	L	130280	SR	0.43	0.32	0.32	-0.24	-0.09	-0.12	0.5
A-B	72	L	135492	SR	0.34	0.19	0.19	-0.09	-0.06	-0.04	0.5
A-B	73	L	130175	SR	0.53	0.39	-0.18	0.39	-0.20	-0.15	0.5
A-B	74	L	130176	SR	0.55	0.44	0.44	-0.19	-0.22	-0.19	0.5
A-B	75	L	130177	SR	0.55	0.37	-0.20	-0.21	0.37	-0.10	0.5
A-B	76	L	130178	SR	0.50	0.36	0.36	-0.17	-0.13	-0.18	0.5
A-B	97	O	256979	SR	0.30	0.13	-0.04	-0.03	0.13	-0.04	0.9
A-B	98	O	256980	SR	0.17	0.05	0.05	-0.12	-0.14	0.20	1.0
<b>Mean</b>					0.43	0.29	0.01	-0.08	-0.02	0.00	0.5
<b>SD</b>					0.13	0.10	0.21	0.18	0.21	0.20	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A10 Item Statistics, Operational Items: MD HSA English—January Makeup

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
C	1	O	130230	SR	0.28	0.17	-0.02	0.17	-0.02	-0.16	0.0
C	2	O	130231	SR	0.68	0.30	-0.16	-0.19	-0.12	0.30	0.0
C	3	O	130233	SR	0.25	0.08	-0.09	-0.18	0.08	0.08	0.0
C	4	O	130232	SR	0.51	0.29	0.29	-0.14	-0.20	-0.06	0.0
C	5	O	130234	SR	0.68	0.33	0.33	-0.17	-0.19	-0.14	0.0
C	6	O	256283	SR	0.56	0.28	-0.08	-0.10	-0.21	0.28	0.0
C	12	O	130109	SR	0.35	0.29	0.29	-0.12	-0.14	-0.07	0.2
C	13	O	130110	SR	0.29	0.30	0.30	-0.20	-0.09	-0.04	0.3
C	14	O	130111	SR	0.34	0.16	-0.04	0.02	-0.19	0.16	0.1
C	24	O	251143	SR	0.48	0.37	0.37	-0.18	-0.21	-0.11	0.4
C	25	L	256416	SR	0.53	0.36	-0.21	0.36	-0.17	-0.11	0.5
C	26	L	272879	SR	0.43	0.36	0.36	-0.16	-0.12	-0.16	0.6
C	27	O	321008	SR	0.33	0.21	0.21	-0.17	0.03	-0.13	0.8
C	28	O	320968	SR	0.58	0.27	-0.16	0.27	-0.09	-0.12	0.7
C	29	O	321007	SR	0.17	-0.03	0.21	-0.03	-0.11	-0.10	0.8
C	30	O	321005	SR	0.51	0.35	0.35	-0.27	-0.09	-0.12	0.9
C	31	O	320970	SR	0.34	0.25	-0.16	0.25	-0.07	-0.09	0.8
C	32	O	321006	SR	0.53	0.34	-0.13	-0.16	0.34	-0.17	1.0
C	33	O	209815	SR	0.63	0.40	-0.18	-0.26	0.40	-0.13	0.3
C	34	O	209822	SR	0.63	0.28	-0.19	0.28	-0.23	-0.06	0.2
C	35	O	130050	SR	0.54	0.37	-0.14	0.37	-0.18	-0.19	0.2
C	37	L	108806	SR	0.52	0.39	-0.20	-0.14	-0.19	0.39	0.4
C	38	L	108808	SR	0.49	0.15	-0.03	0.15	-0.04	-0.18	0.3
C	39	L	108779	SR	0.58	0.39	-0.15	-0.25	0.39	-0.13	0.4
C	40	L	108809	SR	0.29	0.16	-0.17	-0.03	0.16	-0.01	0.4
C	41	L	108805	SR	0.46	0.35	0.35	-0.22	-0.16	-0.05	0.4
C	42	L	130246	SR	0.31	0.30	-0.02	-0.19	-0.10	0.30	0.4
C	43	L	108810	SR	0.52	0.26	-0.13	-0.18	0.26	-0.05	0.4
C	44	L	109093	SR	0.35	0.12	-0.01	0.12	-0.10	-0.01	0.4
C	45	L	109094	SR	0.45	0.34	-0.12	-0.08	-0.24	0.34	0.5
C	46	L	109732	SR	0.37	0.21	-0.16	0.21	0.04	-0.16	0.5
C	47	L	109095	SR	0.32	0.19	0.04	0.19	-0.09	-0.19	0.5
C	48	L	109096	SR	0.33	0.25	-0.15	-0.14	-0.01	0.25	0.6
C	49	L	175704	SR	0.55	0.38	-0.12	-0.25	0.38	-0.14	0.5
C	50	L	175705	SR	0.21	0.18	0.18	-0.07	0.04	-0.15	0.6
C	51	L	175707	SR	0.30	0.19	0.11	-0.23	-0.22	0.19	0.4
C	52	L	175708	SR	0.62	0.32	-0.19	-0.24	0.32	-0.06	0.6
C	56	L	130142	SR	0.51	0.28	-0.10	-0.14	0.28	-0.13	0.7
C	57	L	130143	SR	0.51	0.30	-0.09	-0.19	0.30	-0.11	0.6
C	58	L	130144	SR	0.50	0.43	-0.20	-0.22	-0.15	0.43	0.5
C	59	L	130145	SR	0.30	0.23	-0.04	-0.17	-0.02	0.23	0.6

Table 1.A10 Item Statistics, Operational Items: MD HSA English—January Makeup

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
C	60	L	130146	SR	0.60	0.46	-0.21	-0.22	-0.24	0.46	0.6
C	61	L	130147	SR	0.46	0.45	0.45	-0.20	-0.19	-0.18	0.6
C	62	L	130148	SR	0.44	0.29	0.29	-0.07	-0.18	-0.11	0.6
C	63	L	130150	SR	0.65	0.50	-0.21	-0.25	-0.26	0.50	0.6
C	64	L	130151	SR	0.31	0.18	0.18	0.08	-0.21	-0.12	0.7
C	65	L	130152	SR	0.20	0.23	-0.12	0.04	-0.12	0.23	0.8
C	66	O	285602	SR	0.68	0.40	-0.20	-0.23	0.40	-0.16	0.4
C	67	O	285604	SR	0.49	0.35	0.35	-0.22	-0.18	-0.06	0.3
C	68	O	355157	SR	0.34	0.22	0.22	-0.08	-0.11	-0.05	0.3
C	69	L	130173	SR	0.59	0.32	0.32	-0.20	-0.16	-0.08	0.5
C	70	L	130174	SR	0.38	0.32	-0.10	0.32	-0.10	-0.18	0.5
C	71	L	130280	SR	0.43	0.32	0.32	-0.24	-0.09	-0.12	0.5
C	72	L	135492	SR	0.34	0.19	0.19	-0.09	-0.06	-0.04	0.5
C	73	L	130175	SR	0.53	0.39	-0.18	0.39	-0.20	-0.15	0.5
C	74	L	130176	SR	0.55	0.44	0.44	-0.19	-0.22	-0.19	0.5
C	75	L	130177	SR	0.55	0.37	-0.20	-0.21	0.37	-0.10	0.5
C	76	L	130178	SR	0.50	0.36	0.36	-0.17	-0.13	-0.18	0.5
C	97	O	214670	SR	0.31	0.18	0.05	0.18	-0.11	-0.12	0.8
C	98	O	214811	SR	0.31	0.23	0.23	0.03	-0.18	-0.14	0.7
<b>Mean</b>					0.45	0.29	0.04	-0.07	-0.05	-0.02	0.5
<b>SD</b>					0.13	0.10	0.22	0.19	0.19	0.19	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A11 Item Statistics, Operational Items: MD HSA Government—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	1	L	279790	SR	0.81	0.48	0.48	-0.32	-0.27	-0.15	0.0
A-B	2	L	339057	SR	0.50	0.41	-0.03	-0.25	0.41	-0.26	0.0
A-B	3	O	51786	SR	0.48	0.46	-0.19	0.46	-0.24	-0.18	0.0
A-B	4	L	68746	SR	0.56	0.59	0.59	-0.29	-0.28	-0.25	0.1
A-B	5	O	79591	SR	0.41	0.48	0.00	-0.09	0.48	-0.43	0.0
A-B	7	L	68681	SR	0.70	0.41	0.41	-0.24	-0.20	-0.21	0.0
A-B	8	L	51058	SR	0.47	0.57	-0.12	-0.35	-0.27	0.57	0.1
A-B	10	O	353533	SR	0.25	0.32	0.10	-0.09	0.32	-0.29	0.1
A-B	11	O	282270	SR	0.42	0.50	0.50	-0.27	-0.26	-0.15	0.1
A-B	12	L	68038	SR	0.39	0.31	-0.14	-0.09	0.31	-0.17	0.1
A-B	14	L	283110	SR	0.76	0.42	-0.24	0.42	-0.24	-0.19	0.1
A-B	15	L	296490	SR	0.50	0.49	0.49	-0.09	-0.37	-0.24	0.2
A-B	16	L	296491	SR	0.64	0.45	0.45	-0.26	-0.21	-0.19	0.2
A-B	17	O	50924	SR	0.85	0.36	-0.15	0.36	-0.20	-0.22	0.2
A-B	18	L	51127	CR	0.29	0.78					5.1
A-B	20	L	79541	SR	0.54	0.50	0.50	-0.25	-0.33	-0.09	0.2
A-B	21	L	339053	SR	0.50	0.47	0.47	-0.17	-0.28	-0.20	0.3
A-B	22	O	52265	SR	0.70	0.52	-0.25	0.52	-0.29	-0.25	0.3
A-B	23	O	348866	SR	0.64	0.55	-0.24	-0.26	0.55	-0.31	0.2
A-B	25	L	324433	SR	0.55	0.38	-0.23	0.38	-0.10	-0.23	0.2
A-B	27	L	296506	SR	0.41	0.42	-0.14	-0.23	0.42	-0.14	0.4
A-B	28	L	363264	SR	0.60	0.45	-0.19	-0.26	0.45	-0.20	0.5
A-B	29	O	68043	SR	0.75	0.32	-0.21	-0.23	-0.09	0.32	0.2
A-B	31	L	331403	SR	0.34	0.23	-0.24	0.23	0.07	-0.23	0.2
A-B	32	O	368571	SR	0.48	0.35	-0.08	-0.22	-0.28	0.35	0.2
A-B	33	O	108409	SR	0.59	0.26	0.26	-0.26	-0.27	0.03	0.3
A-B	34	L	271842	SR	0.53	0.39	-0.10	-0.16	-0.25	0.39	0.3
A-B	35	L	68775	CR	0.37	0.75					4.2
A-B	36	L	68559	SR	0.49	0.51	-0.20	0.51	-0.28	-0.18	0.2
A-B	37	O	68584	SR	0.59	0.44	-0.14	-0.29	0.44	-0.19	0.2
A-B	38	O	363242	SR	0.36	0.34	-0.09	0.34	-0.29	-0.10	0.2
A-B	40	L	348468	SR	0.42	0.52	-0.33	0.52	-0.15	-0.16	0.3
A-B	41	L	297123	SR	0.69	0.44	-0.22	0.44	-0.25	-0.18	0.3
A-B	42	L	256994	SR	0.56	0.49	-0.24	-0.26	0.49	-0.19	0.4
A-B	43	O	348473	SR	0.52	0.44	-0.22	-0.23	0.44	-0.19	0.3
A-B	44	L	55662	CR	0.08	0.77					10.7
A-B	45	L	331434	SR	0.50	0.42	-0.20	-0.27	-0.13	0.42	0.3
A-B	46	L	64801	SR	0.64	0.48	-0.16	0.48	-0.31	-0.21	0.4
A-B	47	L	339058	SR	0.50	0.54	-0.28	-0.35	0.54	-0.13	0.4
A-B	49	L	52266	SR	0.67	0.50	-0.27	-0.22	0.50	-0.25	0.4
A-B	50	O	51726	SR	0.47	0.21	0.00	-0.11	-0.19	0.21	0.4

Table 1.A11 Item Statistics, Operational Items: MD HSA Government—January Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A-B	51	L	279754	SR	0.61	0.49	0.49	-0.24	-0.26	-0.20	0.4
A-B	52	L	321095	SR	0.51	0.47	-0.13	-0.28	-0.22	0.47	0.4
A-B	53	O	51191	SR	0.45	0.32	-0.12	-0.07	-0.21	0.32	0.6
A-B	54	O	363208	SR	0.66	0.39	-0.14	0.39	-0.24	-0.23	0.1
A-B	55	L	368574	SR	0.41	0.23	0.23	-0.12	0.00	-0.19	0.3
A-B	56	L	60419	CR	0.28	0.80					6.6
A-B	58	O	339067	SR	0.65	0.52	-0.23	-0.28	-0.27	0.52	0.2
A-B	60	O	331385	SR	0.44	0.56	0.56	-0.29	-0.27	-0.14	0.3
A-B	61	O	65204	SR	0.46	0.34	-0.04	-0.19	-0.28	0.34	0.3
A-B	62	O	79624	SR	0.65	0.58	-0.26	-0.28	-0.31	0.58	0.3
A-B	63	L	339371	SR	0.67	0.51	0.51	-0.29	-0.25	-0.22	0.4
A-B	64	L	339194	SR	0.42	0.58	-0.24	-0.25	-0.25	0.58	0.4
A-B	65	O	58229	SR	0.57	0.51	0.51	-0.33	-0.19	-0.19	0.2
A-B	68	O	348538	SR	0.37	0.37	-0.22	0.37	-0.21	-0.02	0.3
A-B	69	L	51196	SR	0.42	0.12	-0.20	0.14	-0.19	0.12	0.3
A-B	70	L	364301	SR	0.64	0.52	-0.20	-0.29	-0.27	0.52	0.4
A-B	71	L	364302	SR	0.43	0.36	0.36	-0.11	-0.25	-0.08	0.4
A-B	72	O	331435	SR	0.51	0.56	0.56	-0.25	-0.32	-0.18	0.3
A-B	73	L	52236	CR	0.21	0.81					8.8
A-B	74	O	364348	SR	0.48	0.45	-0.15	-0.26	0.45	-0.18	0.3
A-B	75	L	52199	SR	0.46	0.30	-0.23	-0.22	0.30	-0.01	0.4
A-B	76	O	368618	SR	0.35	0.26	0.26	-0.04	-0.16	-0.12	0.4
A-B	77	O	348566	SR	0.54	0.57	-0.36	0.57	-0.19	-0.21	0.4
A-B	78	L	374550	SR	0.42	0.36	-0.05	-0.24	-0.18	0.36	0.4
A-B	80	L	51755	SR	0.49	0.37	-0.17	0.37	-0.21	-0.09	0.4
A-B	81	L	52264	SR	0.64	0.38	-0.09	-0.23	0.38	-0.24	0.5
<b>Mean</b>					0.51	0.45	0.00	-0.06	-0.07	-0.04	0.8
<b>SD</b>					0.14	0.14	0.29	0.29	0.30	0.27	1.9

Note: Tabled item position number is based on Form A and varies somewhat on Form B.

Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A12 Item Statistics, Operational Items: MD HSA Government—January Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
C	1	L	279790	SR	0.81	0.48	0.48	-0.32	-0.27	-0.15	0.0
C	2	L	339057	SR	0.50	0.41	-0.03	-0.25	0.41	-0.26	0.0
C	3	O	79608	SR	0.53	0.42	0.42	-0.13	-0.29	-0.19	0.0
C	4	L	68746	SR	0.56	0.59	0.59	-0.29	-0.28	-0.25	0.1
C	5	O	261602	SR	0.59	0.48	-0.31	-0.23	-0.17	0.48	0.0
C	7	L	68681	SR	0.70	0.41	0.41	-0.24	-0.20	-0.21	0.0
C	8	L	51058	SR	0.47	0.57	-0.12	-0.35	-0.27	0.57	0.1
C	10	O	324705	SR	0.32	0.29	-0.01	-0.23	-0.11	0.29	0.1
C	11	O	68748	SR	0.57	0.58	-0.27	0.58	-0.26	-0.31	0.1
C	12	L	68038	SR	0.39	0.31	-0.14	-0.09	0.31	-0.17	0.1
C	14	L	283110	SR	0.76	0.42	-0.24	0.42	-0.24	-0.19	0.1
C	15	L	296490	SR	0.50	0.49	0.49	-0.09	-0.37	-0.24	0.2
C	16	L	296491	SR	0.64	0.45	0.45	-0.26	-0.21	-0.19	0.2
C	17	O	348504	SR	0.54	0.47	-0.17	-0.18	-0.30	0.47	0.2
C	18	L	51127	CR	0.29	0.78					5.1
C	20	L	79541	SR	0.54	0.50	0.50	-0.25	-0.33	-0.09	0.2
C	21	L	339053	SR	0.50	0.47	0.47	-0.17	-0.28	-0.20	0.3
C	22	O	302871	SR	0.63	0.55	-0.35	-0.23	-0.21	0.55	0.4
C	23	O	79747	SR	0.37	0.28	-0.16	0.28	-0.15	0.00	0.4
C	25	L	324433	SR	0.55	0.38	-0.23	0.38	-0.10	-0.23	0.2
C	27	L	296506	SR	0.41	0.42	-0.14	-0.23	0.42	-0.14	0.4
C	28	L	363264	SR	0.60	0.45	-0.19	-0.26	0.45	-0.20	0.5
C	29	O	64973	SR	0.78	0.49	-0.28	-0.30	0.49	-0.18	0.3
C	31	L	331403	SR	0.34	0.23	-0.24	0.23	0.07	-0.23	0.2
C	32	O	79659	SR	0.64	0.49	-0.21	-0.29	0.49	-0.23	0.3
C	33	O	51152	SR	0.78	0.52	-0.25	-0.28	-0.30	0.52	0.3
C	34	L	271842	SR	0.53	0.39	-0.10	-0.16	-0.25	0.39	0.3
C	35	L	68775	CR	0.37	0.75					4.2
C	36	L	68559	SR	0.49	0.51	-0.20	0.51	-0.28	-0.18	0.2
C	37	O	68643	SR	0.71	0.47	-0.26	-0.19	-0.29	0.47	0.3
C	38	O	256998	SR	0.54	0.57	-0.21	-0.34	0.57	-0.24	0.3
C	40	L	348468	SR	0.42	0.52	-0.33	0.52	-0.15	-0.16	0.3
C	41	L	297123	SR	0.69	0.44	-0.22	0.44	-0.25	-0.18	0.3
C	42	L	256994	SR	0.56	0.49	-0.24	-0.26	0.49	-0.19	0.4
C	43	O	68527	SR	0.42	0.37	-0.12	0.37	-0.19	-0.12	0.5
C	44	L	55662	CR	0.08	0.77					10.7
C	45	L	331434	SR	0.50	0.42	-0.20	-0.27	-0.13	0.42	0.3
C	46	L	64801	SR	0.64	0.48	-0.16	0.48	-0.31	-0.21	0.4
C	47	L	339058	SR	0.50	0.54	-0.28	-0.35	0.54	-0.13	0.4
C	49	L	52266	SR	0.67	0.50	-0.27	-0.22	0.50	-0.25	0.4

Table 1.A12 Item Statistics, Operational Items: MD HSA Government—January Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
C	50	O	79577	SR	0.70	0.51	-0.21	-0.23	-0.32	0.51	0.5
C	51	L	279754	SR	0.61	0.49	0.49	-0.24	-0.26	-0.20	0.4
C	52	L	321095	SR	0.51	0.47	-0.13	-0.28	-0.22	0.47	0.4
C	53	O	283362	SR	0.51	0.57	-0.19	0.57	-0.30	-0.27	0.4
C	54	O	271832	SR	0.70	0.56	0.56	-0.33	-0.31	-0.18	0.4
C	55	L	368574	SR	0.41	0.23	0.23	-0.12	0.00	-0.19	0.3
C	56	L	60419	CR	0.28	0.80					6.6
C	58	O	65225	SR	0.59	0.55	0.55	-0.24	-0.26	-0.27	0.4
C	60	O	348554	SR	0.73	0.55	-0.24	0.55	-0.34	-0.25	0.5
C	61	O	52267	SR	0.62	0.46	-0.14	-0.25	0.46	-0.29	0.5
C	62	O	387358	SR	0.67	0.63	-0.31	-0.29	-0.33	0.63	0.5
C	63	L	339371	SR	0.67	0.51	0.51	-0.29	-0.25	-0.22	0.4
C	64	L	339194	SR	0.42	0.58	-0.24	-0.25	-0.25	0.58	0.4
C	65	O	60427	SR	0.52	0.33	-0.14	-0.09	0.33	-0.25	0.7
C	68	O	368630	SR	0.45	0.34	0.34	-0.19	-0.08	-0.15	0.7
C	69	L	51196	SR	0.42	0.12	-0.20	0.14	-0.19	0.12	0.3
C	70	L	364301	SR	0.64	0.52	-0.20	-0.29	-0.27	0.52	0.4
C	71	L	364302	SR	0.43	0.36	0.36	-0.11	-0.25	-0.08	0.4
C	72	O	65197	SR	0.80	0.54	0.54	-0.30	-0.29	-0.25	0.5
C	73	L	52236	CR	0.21	0.81					8.8
C	74	O	79596	SR	0.56	0.50	-0.18	0.50	-0.32	-0.19	0.5
C	75	L	52199	SR	0.46	0.30	-0.23	-0.22	0.30	-0.01	0.4
C	76	O	324436	SR	0.62	0.49	-0.21	0.49	-0.24	-0.25	0.6
C	77	O	348536	SR	0.60	0.44	-0.17	-0.23	0.44	-0.22	0.5
C	78	L	374550	SR	0.42	0.36	-0.05	-0.24	-0.18	0.36	0.4
C	80	L	51755	SR	0.49	0.37	-0.17	0.37	-0.21	-0.09	0.4
C	81	L	52264	SR	0.64	0.38	-0.09	-0.23	0.38	-0.24	0.5
<b>Mean</b>					0.54	0.48	-0.03	-0.07	-0.07	-0.03	0.8
<b>SD</b>					0.14	0.13	0.30	0.30	0.30	0.30	1.9

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A13 Item Statistics, Operational Items: MD HSA Algebra—April Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
S	1	L	392350	SR	0.52	0.34	0.34	-0.17	-0.18	-0.11	0.2
S	2	L	369141	SR	0.73	0.43	-0.20	-0.18	-0.27	0.43	0.1
S	3	L	395570	SR	0.12	0.01	0.01	-0.03	-0.06	0.08	0.1
S	5	L	322004	SR	0.45	0.23	-0.08	-0.23	0.23	-0.08	0.1
S	6	O	395599	SR	0.30	0.20	0.20	-0.08	-0.03	-0.12	0.1
S	7	O	223233	SPR	0.64	0.33	0.33	-0.33			0.3
S	8	O	106637	SPR	0.34	0.40	0.40	-0.38			1.1
S	10	L	106628	SR	0.55	0.29	-0.16	0.29	-0.13	-0.14	0.1
S	11	L	268751	SR	0.52	0.31	0.31	-0.21	-0.14	-0.09	0.2
S	13	O	54758	SR	0.37	0.23	-0.05	0.23	-0.19	-0.02	0.3
S	15	L	366212	SR	0.26	0.31	0.31	-0.11	-0.24	0.00	0.1
S	16	O	268726	SPR	0.08	0.23	0.23	-0.19			2.0
S	17	O	275460	SPR	0.33	0.45	0.45	-0.42			1.5
S	19	O	268692	SR	0.45	0.13	0.00	0.13	-0.10	-0.05	0.8
S	20	L	394837	SR	0.14	0.07	0.07	0.10	-0.13	-0.03	0.8
S	22	O	393694	SR	0.41	0.39	-0.11	-0.22	-0.15	0.39	0.8
S	23	L	257117	SR	0.31	0.27	-0.06	0.27	-0.20	-0.03	1.0
S	24	L	322003	SR	0.44	0.33	-0.11	0.33	-0.19	-0.11	0.5
S	25	L	394813	SR	0.42	0.36	0.36	-0.15	-0.22	-0.11	0.6
S	26	L	51462	SR	0.41	0.22	-0.10	0.22	-0.10	-0.06	0.3
S	27	O	348345	SR	0.15	0.10	0.10	0.09	-0.13	-0.11	0.5
S	29	L	338647	SPR	0.03	0.23	0.23	-0.12			2.1
S	31	O	394827	SPR	0.57	0.47	0.47	-0.43			2.1
S	32	O	369147	SR	0.54	0.28	-0.19	-0.20	0.28	-0.06	0.4
S	33	L	67532	SR	0.34	0.13	-0.06	-0.09	0.13	0.00	0.7
S	34	O	268748	SR	0.13	0.22	-0.14	0.03	-0.08	0.22	0.3
S	36	L	50379	SR	0.28	0.03	0.14	-0.12	0.03	-0.06	0.6
S	37	L	371771	SR	0.31	0.14	-0.09	0.14	-0.09	0.06	0.6
S	38	L	393682	SR	0.21	0.16	0.16	0.10	-0.11	-0.10	1.0
S	39	L	362345	SPR	0.17	0.41	0.41	-0.36			2.6
S	41	L	392356	SR	0.29	0.23	-0.10	-0.12	-0.04	0.23	0.8
S	42	L	362282	SR	0.37	0.05	-0.13	0.05	0.06	0.03	0.9
S	43	L	211006	SR	0.13	0.18	-0.21	-0.05	0.09	0.18	1.0
S	44	L	43155	SR	0.47	0.28	-0.08	0.28	-0.17	-0.10	0.9
S	46	O	319430	SR	0.32	0.30	0.30	-0.12	-0.09	-0.11	1.2
S	47	L	394811	SR	0.42	0.30	-0.06	-0.13	-0.17	0.30	0.7
S	48	O	52342	SR	0.37	0.22	-0.02	0.22	-0.11	-0.13	0.6
S	49	L	393649	SR	0.28	0.09	-0.04	0.09	0.00	-0.04	0.7
S	50	L	338624	SR	0.18	0.17	0.17	-0.03	-0.05	-0.05	0.6
S	52	O	366253	SR	0.12	0.18	0.07	-0.01	-0.16	0.18	0.6
S	53	O	319440	SR	0.40	0.23	-0.06	-0.12	0.23	-0.07	0.6
S	54	O	366218	SPR	0.05	0.38	0.38	-0.24			3.7

Table 1.A13 Item Statistics, Operational Items: MD HSA Algebra—April Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
S	56	L	371778	SR	0.21	0.05	0.03	-0.12	0.05	0.05	0.6
S	57	O	260762	SR	0.31	0.32	-0.10	-0.15	-0.08	0.32	0.6
S	58	O	132825	SR	0.37	0.07	0.00	-0.02	0.07	-0.04	0.7
S	60	L	394838	SR	0.50	0.18	-0.09	0.18	-0.07	-0.07	0.8
S	61	L	260743	SR	0.22	0.27	-0.06	-0.04	-0.13	0.27	1.0
S	62	O	64695	SR	0.42	0.30	-0.08	-0.11	0.30	-0.18	1.0
S	63	O	395591	SPR	0.14	0.30	0.30	-0.22			3.6
S	65	O	268669	SPR	0.36	0.47	0.47	-0.43			3.3
S	66	L	397905	SR	0.39	0.19	-0.08	-0.11	0.19	0.00	0.9
S	68	L	56693	SR	0.32	0.04	-0.01	0.06	0.04	-0.09	1.3
S	69	L	338654	SR	0.29	0.19	-0.09	0.19	-0.01	-0.11	1.4
<b>Mean</b>					0.33	0.24	0.07	-0.06	-0.05	0.01	0.9
<b>SD</b>					0.15	0.12	0.20	0.20	0.14	0.15	0.8

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A14 Item Statistics, Operational Items: MD HSA Biology—April Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
S	1	O	108519	SR	0.60	0.23	-0.08	0.23	-0.14	-0.11	0.0
S	2	L	133059	SR	0.38	0.23	-0.09	0.23	-0.15	-0.03	0.1
S	3	O	133419	SR	0.34	0.31	0.31	-0.12	-0.15	-0.07	0.0
S	4	L	133445	SR	0.30	0.22	-0.04	-0.11	-0.13	0.22	0.2
S	5	O	68216	SR	0.47	0.31	0.31	-0.19	-0.09	-0.14	0.1
S	6	L	349118	SR	0.34	0.25	-0.03	0.25	-0.13	-0.12	0.1
S	9	L	52593	SR	0.45	0.30	0.30	-0.20	-0.14	-0.04	0.2
S	10	L	52594	SR	0.39	0.22	-0.15	-0.11	0.22	0.02	0.2
S	11	O	323349	SR	0.39	0.26	-0.07	-0.14	-0.14	0.26	0.2
S	12	O	395769	SR	0.28	0.19	0.19	0.03	-0.16	-0.11	0.3
S	13	L	338790	SR	0.53	0.28	-0.13	0.28	-0.14	-0.12	0.3
S	14	L	338796	SR	0.52	0.32	-0.14	-0.11	-0.18	0.32	0.5
S	16	L	54995	SR	0.34	0.19	-0.07	0.19	-0.08	-0.06	0.3
S	17	L	57018	SR	0.34	0.20	-0.16	0.20	-0.07	-0.01	0.2
S	18	L	363006	SR	0.27	0.13	-0.08	-0.02	0.13	-0.03	0.5
S	19	L	133015	SR	0.32	0.23	-0.01	-0.09	-0.17	0.23	0.6
S	20	L	133016	SR	0.24	0.21	-0.07	-0.10	-0.04	0.21	0.5
S	23	O	398165	SR	0.15	0.13	-0.07	-0.01	-0.02	0.13	0.8
S	24	L	398166	SR	0.52	0.27	-0.10	-0.12	0.27	-0.12	0.3
S	27	O	392471	SR	0.32	0.20	0.20	-0.14	-0.10	0.01	0.5
S	28	O	214535	SR	0.29	0.12	-0.03	-0.14	0.12	0.01	0.6
S	29	O	331336	SR	0.27	0.33	0.33	-0.16	-0.08	-0.10	0.6
S	30	L	331338	SR	0.18	0.16	-0.02	-0.02	-0.10	0.16	0.9
S	31	O	395754	SR	0.32	0.03	0.02	0.03	-0.07	0.03	0.7
S	32	L	395752	SR	0.56	0.28	0.28	-0.17	-0.13	-0.09	0.7
S	33	O	67672	SR	0.37	0.30	0.30	-0.12	-0.13	-0.11	0.9
S	34	L	108599	SR	0.38	0.24	-0.06	-0.18	0.24	-0.04	0.3
S	35	L	79418	SR	0.51	0.33	0.33	-0.14	-0.18	-0.13	0.4
S	36	O	108637	SR	0.37	0.20	-0.04	0.20	-0.11	-0.08	0.3
S	37	L	108630	SR	0.33	0.24	-0.11	-0.18	-0.01	0.24	0.3
S	38	L	271097	SR	0.35	0.26	0.01	-0.10	-0.18	0.26	0.3
S	39	O	271143	SR	0.37	0.19	-0.06	-0.12	0.19	-0.02	0.3
S	43	O	67660	SR	0.38	0.30	-0.11	-0.05	-0.19	0.30	0.4
S	45	L	214533	SR	0.29	0.29	-0.11	-0.13	-0.06	0.29	0.5
S	46	L	52683	SR	0.33	0.11	-0.11	0.11	-0.14	0.09	0.5
S	47	L	52684	SR	0.24	0.21	-0.08	-0.04	-0.06	0.21	0.7
S	48	L	94193	SR	0.28	0.14	-0.04	-0.04	0.14	-0.07	0.3
S	50	O	79429	SR	0.25	0.16	0.16	-0.11	-0.08	0.04	0.5
S	51	O	52687	SR	0.23	0.20	-0.04	0.20	-0.11	-0.04	0.4
S	52	L	55066	SR	0.30	0.20	0.04	-0.13	-0.13	0.20	0.3
S	53	L	296119	SR	0.30	0.35	0.35	-0.09	-0.21	-0.05	0.6
S	54	L	296120	SR	0.47	0.27	-0.07	0.27	-0.15	-0.11	0.6
S	55	L	279652	SR	0.41	0.16	-0.02	0.16	-0.08	-0.08	0.6
S	57	L	286698	SR	0.23	0.04	0.01	-0.08	0.04	0.05	0.5

Table 1.A14 Item Statistics, Operational Items: MD HSA Biology—April Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
S	58	L	286699	SR	0.20	0.24	0.24	0.02	-0.19	-0.11	0.6
S	59	L	369425	SR	0.37	0.28	0.28	-0.13	-0.19	0.01	0.5
S	60	O	338761	SR	0.29	0.33	-0.03	-0.19	-0.13	0.33	0.6
S	63	O	64987	SR	0.20	0.20	-0.08	-0.04	-0.05	0.20	0.6
S	64	O	57123	SR	0.51	0.17	-0.07	-0.13	0.17	-0.01	0.7
S	65	L	398053	SR	0.26	0.29	0.29	-0.12	-0.10	-0.08	1.0
S	66	L	398077	SR	0.38	0.37	0.37	-0.15	-0.19	-0.08	1.3
S	67	O	363170	SR	0.42	0.28	-0.10	-0.20	0.28	-0.05	0.4
S	68	O	68247	SR	0.60	0.26	0.26	-0.19	-0.11	-0.05	0.3
S	69	O	256517	SR	0.57	0.30	-0.08	0.30	-0.17	-0.15	0.3
S	70	L	256515	SR	0.25	0.24	-0.03	-0.04	-0.16	0.24	0.3
S	72	O	322198	SR	0.58	0.23	-0.12	0.23	-0.18	-0.05	0.3
S	73	O	394751	SR	0.27	0.27	0.27	-0.16	-0.15	0.05	0.3
S	74	L	394754	SR	0.38	0.19	-0.03	-0.10	0.19	-0.07	0.3
S	76	L	323338	SR	0.34	0.21	0.01	-0.19	0.21	-0.05	0.6
S	77	O	65063	SR	0.33	0.30	0.30	-0.09	-0.11	-0.12	0.4
S	78	L	322143	SR	0.33	0.29	-0.01	-0.14	-0.15	0.29	0.4
S	79	L	322141	SR	0.33	0.20	-0.02	0.20	-0.11	-0.08	0.4
S	80	O	392661	SR	0.35	0.26	0.26	-0.12	-0.12	-0.03	0.6
S	81	L	64992	SR	0.23	0.21	0.02	-0.09	0.21	-0.14	0.5
S	85	L	373090	SR	0.28	0.04	0.03	-0.06	0.04	-0.01	0.5
S	86	L	373088	SR	0.18	0.13	0.03	-0.10	-0.04	0.13	0.6
S	87	L	395761	SR	0.39	0.20	-0.09	-0.08	0.20	-0.06	0.5
S	88	O	395893	SR	0.41	0.33	-0.13	-0.15	-0.12	0.33	0.6
S	89	O	57113	SR	0.39	0.24	0.24	-0.14	-0.11	-0.02	0.5
S	90	O	338782	SR	0.51	0.30	0.30	-0.06	-0.21	-0.14	0.5
S	92	O	392436	SR	0.33	0.18	-0.01	0.18	-0.11	-0.06	0.5
S	95	L	263129	SR	0.34	0.30	-0.06	-0.11	-0.15	0.30	0.3
S	96	L	263130	SR	0.27	0.11	0.07	0.11	-0.10	-0.07	0.5
S	97	L	349142	SR	0.57	0.33	-0.14	-0.18	0.33	-0.12	0.4
S	98	L	394903	SR	0.59	0.31	-0.08	0.31	-0.19	-0.13	0.7
S	99	L	223404	SR	0.66	0.28	-0.12	-0.18	0.28	-0.11	0.6
<b>Mean</b>					0.36	0.23	0.04	-0.04	-0.05	0.02	0.5
<b>SD</b>					0.12	0.07	0.16	0.15	0.14	0.15	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A15 Item Statistics, Operational Items: MD HSA English—April Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
S	1	L	130066	SR	0.56	0.16	-0.04	0.16	-0.13	-0.08	0.0
S	2	L	130067	SR	0.24	0.24	-0.07	-0.20	0.24	0.00	0.1
S	3	L	130069	SR	0.28	0.15	-0.02	-0.06	-0.10	0.15	0.0
S	4	L	130074	SR	0.42	0.24	-0.17	0.24	-0.21	0.04	0.1
S	5	L	130199	SR	0.64	0.35	0.35	-0.17	-0.25	-0.11	0.1
S	6	L	256286	SR	0.54	0.24	-0.08	-0.15	0.24	-0.11	0.1
S	7	L	321008	SR	0.36	0.20	0.20	-0.17	0.00	-0.11	0.1
S	8	L	320968	SR	0.61	0.27	-0.16	0.27	-0.11	-0.12	0.1
S	9	L	321007	SR	0.16	0.01	0.21	0.01	-0.15	-0.12	0.1
S	10	L	321005	SR	0.55	0.29	0.29	-0.25	-0.04	-0.14	0.2
S	11	L	320970	SR	0.36	0.27	-0.16	0.27	-0.11	-0.08	0.1
S	12	L	321006	SR	0.55	0.35	-0.11	-0.17	0.35	-0.21	0.3
S	18	O	96027	SR	0.29	0.20	-0.16	-0.14	0.02	0.20	0.2
S	19	O	96028	SR	0.36	0.39	0.39	-0.17	-0.16	-0.14	0.2
S	20	O	96029	SR	0.25	0.16	0.16	-0.10	-0.09	0.03	0.3
S	29	O	251143	SR	0.46	0.43	0.43	-0.22	-0.25	-0.10	0.9
S	30	O	256416	SR	0.52	0.37	-0.20	0.37	-0.15	-0.17	0.9
S	32	O	285622	SR	0.40	0.26	-0.08	-0.15	-0.08	0.26	1.4
S	33	O	130102	SR	0.38	0.42	0.42	-0.18	-0.25	-0.09	0.3
S	34	O	130103	SR	0.42	0.35	-0.17	-0.20	0.35	-0.08	0.1
S	35	O	130104	SR	0.42	0.44	-0.17	-0.23	-0.16	0.44	0.1
S	36	O	130105	SR	0.61	0.37	-0.14	-0.17	0.37	-0.22	0.1
S	40	O	130213	SR	0.48	0.37	0.37	-0.19	-0.25	-0.07	0.1
S	41	O	349416	SR	0.55	0.36	-0.16	-0.24	0.36	-0.10	0.1
S	43	L	96104	SR	0.54	0.44	-0.25	-0.18	0.44	-0.20	0.1
S	44	O	349700	SR	0.30	0.14	-0.04	0.00	0.14	-0.11	0.3
S	45	O	349276	SR	0.47	0.40	0.40	-0.22	-0.21	-0.12	0.2
S	46	O	349278	SR	0.48	0.40	-0.10	-0.25	-0.19	0.40	0.3
S	47	O	349277	SR	0.25	0.25	0.07	-0.15	-0.20	0.25	0.3
S	48	O	349275	SR	0.49	0.37	0.37	-0.18	-0.18	-0.13	0.3
S	49	O	349280	SR	0.38	0.39	0.39	-0.12	-0.20	-0.16	0.3
S	50	O	349279	SR	0.30	0.04	-0.08	0.04	0.04	0.00	0.5
S	51	L	320978	SR	0.35	0.09	-0.04	0.09	0.00	-0.06	0.2
S	52	L	320979	SR	0.37	0.28	-0.15	-0.14	-0.07	0.28	0.4
S	53	L	320981	SR	0.41	0.27	-0.03	-0.17	0.27	-0.11	0.3
S	54	L	320983	SR	0.37	0.26	-0.16	-0.02	0.26	-0.14	0.3
S	55	L	320980	SR	0.19	0.22	-0.15	-0.22	0.14	0.22	0.3
S	56	L	130977	SR	0.29	0.42	0.42	-0.05	-0.17	-0.22	0.3
S	57	L	130978	SR	0.47	0.34	-0.13	0.34	-0.19	-0.12	0.8
S	58	L	130979	SR	0.43	0.32	0.32	-0.07	-0.17	-0.16	0.5
S	59	L	130982	SR	0.50	0.42	-0.18	0.42	-0.20	-0.18	0.5
S	60	L	130984	SR	0.38	0.48	-0.19	-0.20	-0.18	0.48	0.7
S	61	L	130985	SR	0.47	0.33	-0.06	-0.15	0.33	-0.20	0.6
S	62	L	130965	SR	0.47	0.27	-0.12	0.27	-0.23	-0.01	0.6

Table 1.A15 Item Statistics, Operational Items: MD HSA English—April Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
S	63	L	130980	SR	0.35	0.16	-0.06	-0.09	0.16	-0.03	0.6
S	64	L	130966	SR	0.24	0.25	0.08	-0.12	-0.20	0.25	0.7
S	65	L	130967	SR	0.35	0.21	-0.04	0.21	-0.15	-0.06	0.8
S	66	O	108711	SR	0.43	0.32	-0.07	-0.20	0.32	-0.13	0.2
S	67	O	108710	SR	0.41	0.36	0.36	-0.07	-0.19	-0.19	0.1
S	85	L	364058	SR	0.36	0.16	-0.02	0.16	-0.02	-0.17	0.4
S	86	L	364066	SR	0.50	0.36	-0.17	0.36	-0.16	-0.16	0.4
S	87	L	364062	SR	0.36	0.14	0.05	-0.09	0.14	-0.15	0.3
S	88	L	364064	SR	0.36	0.26	-0.06	0.26	-0.15	-0.09	0.3
S	89	L	364063	SR	0.32	0.21	-0.15	0.21	-0.12	0.02	0.4
S	90	L	364070	SR	0.36	0.30	0.30	-0.13	-0.15	-0.07	0.6
S	91	L	364071	SR	0.31	0.03	0.03	-0.15	0.14	0.00	0.6
S	92	L	364069	SR	0.16	0.12	0.12	-0.07	-0.12	0.09	0.5
S	96	O	285597	SR	0.38	0.30	0.30	-0.06	-0.17	-0.13	0.5
S	97	O	285596	SR	0.34	0.28	-0.10	-0.03	-0.21	0.28	0.6
S	98	O	285598	SR	0.34	0.16	0.16	-0.18	-0.01	0.00	0.7
<b>Mean</b>					0.40	0.28	0.03	-0.05	-0.03	-0.03	0.4
<b>SD</b>					0.11	0.11	0.21	0.19	0.20	0.17	0.3

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A16 Item Statistics, Operational Items: MD HSA Algebra—May Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D-H	1	L	51407	SR	0.62	0.28	-0.11	0.28	-0.15	-0.16	0.0
D-H	2	O	79138	SR	0.38	0.26	0.26	-0.16	-0.09	-0.06	0.2
D-H	4	O	54729	SR	0.54	0.27	-0.06	0.27	-0.12	-0.18	0.2
D-H	6	L	54788	SPR	0.25	0.34	0.34	-0.31			1.8
D-H	7	O	54877	SR	0.42	0.22	-0.04	-0.18	0.22	-0.06	0.2
D-H	8	L	319406	SR	0.35	0.26	-0.01	-0.10	-0.18	0.26	0.3
D-H	9	L	328735	SR	0.28	0.08	-0.12	0.08	-0.13	0.11	0.4
D-H	11	L	348337	SR	0.30	0.08	0.10	-0.12	0.08	-0.07	0.4
D-H	13	O	328747	SR	0.16	0.16	0.04	-0.09	-0.07	0.16	0.8
D-H	14	L	338680	SR	0.31	0.18	-0.14	-0.02	0.18	-0.02	0.5
D-H	15	L	132836	SR	0.58	0.26	-0.17	-0.06	0.26	-0.13	0.5
D-H	16	L	328776	SR	0.46	0.36	-0.07	0.36	-0.18	-0.20	0.5
D-H	17	L	223233	SPR	0.58	0.32	0.32	-0.30			1.4
D-H	19	O	268756	SPR	0.19	0.44	0.44	-0.38			2.6
D-H	20	O	268717	SR	0.21	0.17	0.17	0.00	-0.03	-0.12	1.0
D-H	21	O	275457	SR	0.25	0.31	-0.10	-0.11	-0.09	0.31	1.2
D-H	23	L	322119	SR	0.66	0.31	-0.18	-0.15	0.31	-0.13	1.3
D-H	24	O	79090	SR	0.28	0.11	-0.14	0.11	-0.17	0.13	0.4
D-H	25	L	348345	SR	0.14	0.10	0.10	0.09	-0.13	-0.10	0.5
D-H	26	L	56770	SR	0.22	0.39	-0.15	-0.13	-0.09	0.39	0.4
D-H	28	L	52339	SR	0.32	0.30	0.30	-0.11	-0.11	-0.10	0.4
D-H	29	O	211057	SR	0.06	0.03	-0.09	-0.14	0.15	0.03	0.3
D-H	31	O	255070	SPR	0.23	0.38	0.38	-0.31			3.5
D-H	32	L	106622	SPR	0.50	0.41	0.41	-0.37			2.3
D-H	33	L	56675	SR	0.37	0.36	0.36	-0.14	-0.18	-0.10	0.4
D-H	35	O	338653	SR	0.33	0.23	-0.03	-0.16	0.23	-0.08	0.5
D-H	36	O	260770	SR	0.25	0.26	0.26	-0.04	-0.07	-0.13	0.5
D-H	37	L	319417	SR	0.32	0.35	-0.21	-0.06	-0.10	0.35	0.6
D-H	39	O	338655	SR	0.47	0.33	0.33	-0.22	-0.15	-0.03	0.8
D-H	40	O	328719	SPR	0.13	0.31	0.31	-0.23			4.4
D-H	42	L	215935	SPR	0.03	0.21	0.21	-0.07			4.8
D-H	43	O	223246	SR	0.26	0.16	0.16	-0.19	-0.19	0.11	1.0
D-H	45	L	106562	SR	0.40	0.22	-0.06	0.22	-0.13	-0.06	1.2
D-H	46	L	328716	SR	0.21	0.11	0.08	0.11	-0.07	-0.09	1.4
D-H	47	L	54749	SR	0.73	0.39	-0.14	-0.19	-0.24	0.39	0.5
D-H	48	L	338624	SR	0.20	0.16	0.16	-0.06	-0.09	0.00	0.6
D-H	50	L	79017	SR	0.19	0.12	-0.09	0.02	0.12	-0.05	0.7
D-H	51	O	319471	SR	0.45	0.36	-0.14	-0.14	-0.15	0.36	0.6
D-H	53	O	255071	SPR	0.20	0.42	0.42	-0.34			3.8
D-H	54	O	322011	SR	0.24	0.11	-0.01	-0.02	0.11	-0.06	0.8
D-H	55	L	319453	SR	0.23	0.07	-0.04	0.07	0.00	-0.02	0.7
D-H	56	L	319433	SR	0.28	0.25	-0.07	-0.08	0.25	-0.11	0.6
D-H	58	L	321991	SR	0.18	0.24	0.00	-0.09	-0.10	0.24	0.9
D-H	59	O	64685	SR	0.35	0.33	-0.14	0.33	-0.12	-0.17	0.6

Table 1.A16 Item Statistics, Operational Items: MD HSA Algebra—May Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
D-H	61	L	67427	SR	0.42	0.38	-0.11	0.38	-0.21	-0.13	0.7
D-H	62	O	275461	SR	0.20	0.04	0.02	0.04	-0.06	0.03	0.9
D-H	63	L	338649	SPR	0.52	0.44	0.44	-0.39			3.2
D-H	64	O	348332	SPR	0.15	0.32	0.32	-0.24			5.4
D-H	66	L	328707	SR	0.14	0.03	-0.02	-0.11	0.11	0.03	0.9
D-H	67	O	319442	SR	0.31	0.19	-0.11	-0.04	0.19	-0.04	1.1
D-H	68	L	338625	SR	0.38	0.26	-0.14	0.26	-0.10	-0.07	0.9
D-H	69	L	64690	SR	0.52	0.32	-0.19	-0.15	0.32	-0.09	1.0
<b>Mean</b>					0.32	0.25	0.06	-0.07	-0.02	0.01	1.2
<b>SD</b>					0.16	0.11	0.20	0.19	0.16	0.17	1.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A17 Item Statistics, Operational Items: MD HSA Algebra—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
X	1	L	51407	SR	0.62	0.28	-0.11	0.28	-0.15	-0.16	0.0
X	2	O	319407	SR	0.37	0.31	-0.11	-0.11	-0.18	0.31	0.2
X	4	O	54729	SR	0.54	0.27	-0.06	0.27	-0.12	-0.18	0.2
X	6	L	54788	SPR	0.25	0.34	0.34	-0.31			1.8
X	7	O	56614	SR	0.66	0.27	-0.19	0.27	-0.11	-0.10	0.1
X	8	L	319406	SR	0.35	0.26	-0.01	-0.10	-0.18	0.26	0.3
X	9	L	328735	SR	0.28	0.08	-0.12	0.08	-0.13	0.11	0.4
X	11	L	348337	SR	0.30	0.08	0.10	-0.12	0.08	-0.07	0.4
X	13	O	257124	SR	0.27	0.39	0.39	-0.15	-0.11	-0.14	0.5
X	14	L	338680	SR	0.31	0.18	-0.14	-0.02	0.18	-0.02	0.5
X	15	L	132836	SR	0.58	0.26	-0.17	-0.06	0.26	-0.13	0.5
X	16	L	328776	SR	0.46	0.36	-0.07	0.36	-0.18	-0.20	0.5
X	17	L	223233	SPR	0.58	0.32	0.32	-0.30			1.4
X	19	O	268756	SPR	0.19	0.44	0.44	-0.38			2.6
X	20	O	268717	SR	0.21	0.17	0.17	0.00	-0.03	-0.12	1.0
X	21	O	275457	SR	0.25	0.31	-0.10	-0.11	-0.09	0.31	1.2
X	23	L	322119	SR	0.66	0.31	-0.18	-0.15	0.31	-0.13	1.3
X	24	O	79114	SR	0.60	0.27	-0.06	-0.22	0.27	-0.04	0.6
X	25	L	348345	SR	0.14	0.10	0.10	0.09	-0.13	-0.10	0.5
X	26	L	56770	SR	0.22	0.39	-0.15	-0.13	-0.09	0.39	0.4
X	28	L	52339	SR	0.32	0.30	0.30	-0.11	-0.11	-0.10	0.4
X	29	O	106629	SR	0.20	0.12	0.06	-0.10	0.12	-0.04	0.6
X	31	O	255070	SPR	0.23	0.38	0.38	-0.31			3.5
X	32	L	106622	SPR	0.50	0.41	0.41	-0.37			2.3
X	33	L	56675	SR	0.37	0.36	0.36	-0.14	-0.18	-0.10	0.4
X	35	O	319430	SR	0.46	0.43	0.43	-0.17	-0.19	-0.18	0.7
X	36	O	51477	SR	0.28	0.20	-0.09	-0.05	0.20	-0.09	0.7
X	37	L	319417	SR	0.32	0.35	-0.21	-0.06	-0.10	0.35	0.6
X	39	O	338655	SR	0.47	0.33	0.33	-0.22	-0.15	-0.03	0.8
X	40	O	328719	SPR	0.13	0.31	0.31	-0.23			4.4
X	42	L	215935	SPR	0.03	0.21	0.21	-0.07			4.8
X	43	O	215913	SR	0.12	0.22	0.22	-0.06	-0.09	0.02	1.3
X	45	L	106562	SR	0.40	0.22	-0.06	0.22	-0.13	-0.06	1.2
X	46	L	328716	SR	0.21	0.11	0.08	0.11	-0.07	-0.09	1.4
X	47	L	54749	SR	0.73	0.39	-0.14	-0.19	-0.24	0.39	0.5
X	48	L	338624	SR	0.20	0.16	0.16	-0.06	-0.09	0.00	0.6
X	50	L	79017	SR	0.19	0.12	-0.09	0.02	0.12	-0.05	0.7
X	51	O	319471	SR	0.45	0.36	-0.14	-0.14	-0.15	0.36	0.6
X	53	O	106550	SPR	0.04	0.39	0.39	-0.18			3.0
X	54	O	322011	SR	0.24	0.11	-0.01	-0.02	0.11	-0.06	0.8
X	55	L	319453	SR	0.23	0.07	-0.04	0.07	0.00	-0.02	0.7
X	56	L	319433	SR	0.28	0.25	-0.07	-0.08	0.25	-0.11	0.6
X	58	L	321991	SR	0.18	0.24	0.00	-0.09	-0.10	0.24	0.9

Table 1.A17 Item Statistics, Operational Items: MD HSA Algebra—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
X	59	O	54586	SR	0.22	0.19	0.19	-0.07	-0.07	0.00	1.2
X	61	L	67427	SR	0.42	0.38	-0.11	0.38	-0.21	-0.13	0.7
X	62	O	275461	SR	0.20	0.04	0.02	0.04	-0.06	0.03	0.9
X	63	L	338649	SPR	0.52	0.44	0.44	-0.39			3.2
X	64	O	263287	SPR	0.06	0.27	0.27	-0.14			4.0
X	66	L	328707	SR	0.14	0.03	-0.02	-0.11	0.11	0.03	0.9
X	67	O	319442	SR	0.31	0.19	-0.11	-0.04	0.19	-0.04	1.1
X	68	L	338625	SR	0.38	0.26	-0.14	0.26	-0.10	-0.07	0.9
X	69	L	64690	SR	0.52	0.32	-0.19	-0.15	0.32	-0.09	1.0
<b>Mean</b>					0.33	0.26	0.07	-0.06	-0.02	0.00	1.1
<b>SD</b>					0.17	0.11	0.21	0.18	0.16	0.17	1.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A18 Item Statistics, Operational Items: MD HSA Algebra—May Makeup 2

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
Y	1	L	51407	SR	0.62	0.28	-0.11	0.28	-0.15	-0.16	0.0
Y	2	O	79138	SR	0.38	0.26	0.26	-0.16	-0.09	-0.06	0.2
Y	4	O	260748	SR	0.35	0.10	-0.06	-0.03	0.10	-0.04	0.0
Y	6	L	54788	SPR	0.25	0.34	0.34	-0.31			1.8
Y	7	O	54877	SR	0.42	0.22	-0.04	-0.18	0.22	-0.06	0.2
Y	8	L	319406	SR	0.35	0.26	-0.01	-0.10	-0.18	0.26	0.3
Y	9	L	328735	SR	0.28	0.08	-0.12	0.08	-0.13	0.11	0.4
Y	11	L	348337	SR	0.30	0.08	0.10	-0.12	0.08	-0.07	0.4
Y	13	O	328747	SR	0.16	0.16	0.04	-0.09	-0.07	0.16	0.8
Y	14	L	338680	SR	0.31	0.18	-0.14	-0.02	0.18	-0.02	0.5
Y	15	L	132836	SR	0.58	0.26	-0.17	-0.06	0.26	-0.13	0.5
Y	16	L	328776	SR	0.46	0.36	-0.07	0.36	-0.18	-0.20	0.5
Y	17	L	223233	SPR	0.58	0.32	0.32	-0.30			1.4
Y	19	O	275473	SPR	0.50	0.43	0.43	-0.40			2.9
Y	20	O	106630	SR	0.38	0.19	-0.12	0.02	0.19	-0.14	1.1
Y	21	O	319473	SR	0.18	0.27	-0.10	-0.10	-0.04	0.27	1.0
Y	23	L	322119	SR	0.66	0.31	-0.18	-0.15	0.31	-0.13	1.3
Y	24	O	79090	SR	0.28	0.11	-0.14	0.11	-0.17	0.13	0.4
Y	25	L	348345	SR	0.14	0.10	0.10	0.09	-0.13	-0.10	0.5
Y	26	L	56770	SR	0.22	0.39	-0.15	-0.13	-0.09	0.39	0.4
Y	28	L	52339	SR	0.32	0.30	0.30	-0.11	-0.11	-0.10	0.4
Y	29	O	211057	SR	0.06	0.03	-0.09	-0.14	0.15	0.03	0.3
Y	31	O	255086	SPR	0.11	0.21	0.21	-0.16			4.8
Y	32	L	106622	SPR	0.50	0.41	0.41	-0.37			2.3
Y	33	L	56675	SR	0.37	0.36	0.36	-0.14	-0.18	-0.10	0.4
Y	35	O	338653	SR	0.33	0.23	-0.03	-0.16	0.23	-0.08	0.5
Y	36	O	260770	SR	0.25	0.26	0.26	-0.04	-0.07	-0.13	0.5
Y	37	L	319417	SR	0.32	0.35	-0.21	-0.06	-0.10	0.35	0.6
Y	39	O	79116	SR	0.48	0.21	-0.06	0.21	-0.15	-0.06	0.5
Y	40	O	328749	SPR	0.27	0.40	0.40	-0.36			3.9
Y	42	L	215935	SPR	0.03	0.21	0.21	-0.07			4.8
Y	43	O	223246	SR	0.26	0.16	0.16	-0.19	-0.19	0.11	1.0
Y	45	L	106562	SR	0.40	0.22	-0.06	0.22	-0.13	-0.06	1.2
Y	46	L	328716	SR	0.21	0.11	0.08	0.11	-0.07	-0.09	1.4
Y	47	L	54749	SR	0.73	0.39	-0.14	-0.19	-0.24	0.39	0.5
Y	48	L	338624	SR	0.20	0.16	0.16	-0.06	-0.09	0.00	0.6
Y	50	L	79017	SR	0.19	0.12	-0.09	0.02	0.12	-0.05	0.7
Y	51	O	51484	SR	0.20	0.23	-0.05	-0.15	0.01	0.23	0.4
Y	53	O	255071	SPR	0.20	0.42	0.42	-0.34			3.8
Y	54	O	51482	SR	0.33	0.37	0.37	-0.17	-0.13	-0.11	0.4
Y	55	L	319453	SR	0.23	0.07	-0.04	0.07	0.00	-0.02	0.7
Y	56	L	319433	SR	0.28	0.25	-0.07	-0.08	0.25	-0.11	0.6
Y	58	L	321991	SR	0.18	0.24	0.00	-0.09	-0.10	0.24	0.9

Table 1.A18 Item Statistics, Operational Items: MD HSA Algebra—May Makeup 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Y	59	O	64685	SR	0.35	0.33	-0.14	0.33	-0.12	-0.17	0.6
Y	61	L	67427	SR	0.42	0.38	-0.11	0.38	-0.21	-0.13	0.7
Y	62	O	348347	SR	0.32	0.35	0.35	-0.11	-0.12	-0.17	0.4
Y	63	L	338649	SPR	0.52	0.44	0.44	-0.39			3.2
Y	64	O	348332	SPR	0.15	0.32	0.32	-0.24			5.4
Y	66	L	328707	SR	0.14	0.03	-0.02	-0.11	0.11	0.03	0.9
Y	67	O	56757	SR	0.18	0.14	0.10	-0.11	0.14	-0.11	0.4
Y	68	L	338625	SR	0.38	0.26	-0.14	0.26	-0.10	-0.07	0.9
Y	69	L	64690	SR	0.52	0.32	-0.19	-0.15	0.32	-0.09	1.0
<b>Mean</b>					0.32	0.25	0.06	-0.07	-0.02	0.00	1.1
<b>SD</b>					0.16	0.11	0.21	0.19	0.16	0.16	1.3

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A19 Item Statistics, Operational Items: MD HSA Biology—May Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D-H	1	L	68264	SR	0.83	0.42	-0.21	-0.25	-0.23	0.42	0.0
D-H	2	O	322175	SR	0.67	0.52	0.52	-0.36	-0.24	-0.15	0.0
D-H	3	O	133437	SR	0.66	0.34	-0.11	-0.24	-0.17	0.34	0.0
D-H	4	O	322201	SR	0.69	0.36	-0.22	-0.18	0.36	-0.16	0.0
D-H	5	L	394740	SR	0.68	0.52	-0.24	0.52	-0.36	-0.17	0.0
D-H	6	L	394741	SR	0.53	0.40	-0.23	-0.27	0.40	-0.06	0.0
D-H	9	O	55253	SR	0.58	0.54	0.54	-0.37	-0.29	-0.09	0.1
D-H	10	O	108590	SR	0.41	0.20	-0.23	0.20	0.02	-0.19	0.0
D-H	11	L	271014	SR	0.81	0.41	-0.26	-0.27	0.41	-0.13	0.0
D-H	12	L	271013	SR	0.61	0.54	-0.39	-0.21	-0.17	0.54	0.1
D-H	13	L	108649	SR	0.82	0.51	0.51	-0.27	-0.35	-0.20	0.1
D-H	14	L	108653	SR	0.91	0.42	0.42	-0.21	-0.27	-0.20	0.1
D-H	15	O	79494	SR	0.57	0.36	-0.13	-0.21	0.36	-0.20	0.1
D-H	17	L	251269	SR	0.66	0.37	-0.27	-0.17	0.37	-0.14	0.1
D-H	18	L	251268	SR	0.47	0.23	0.23	-0.04	-0.20	-0.22	0.1
D-H	19	O	279536	SR	0.68	0.53	0.53	-0.23	-0.34	-0.22	0.1
D-H	20	L	279539	SR	0.59	0.53	-0.23	0.53	-0.30	-0.23	0.1
D-H	22	O	65150	SR	0.59	0.45	-0.28	-0.16	0.45	-0.20	0.1
D-H	23	O	52735	SR	0.51	0.43	-0.25	-0.23	-0.10	0.43	0.1
D-H	24	L	214541	SR	0.46	0.37	-0.18	-0.26	0.37	-0.12	0.2
D-H	28	O	400659	SR	0.72	0.44	-0.21	-0.27	0.44	-0.19	0.3
D-H	29	L	400656	SR	0.68	0.39	-0.15	0.39	-0.30	-0.19	0.3
D-H	31	O	349095	SR	0.60	0.59	-0.34	-0.24	0.59	-0.27	0.2
D-H	32	O	55004	SR	0.71	0.51	-0.30	0.51	-0.24	-0.23	0.2
D-H	33	L	52598	SR	0.48	0.42	-0.07	-0.30	-0.26	0.42	0.4
D-H	34	O	297527	SR	0.83	0.36	-0.14	-0.21	0.36	-0.24	0.1
D-H	36	L	79419	SR	0.84	0.41	-0.14	0.41	-0.30	-0.19	0.1
D-H	37	O	279602	SR	0.70	0.44	-0.27	0.44	-0.21	-0.21	0.1
D-H	38	L	279603	SR	0.72	0.47	-0.19	-0.30	-0.27	0.47	0.1
D-H	42	O	297092	SR	0.59	0.39	-0.15	-0.21	0.39	-0.20	0.1
D-H	43	L	394886	SR	0.55	0.43	-0.32	0.43	-0.32	-0.03	0.1
D-H	44	L	394888	SR	0.35	0.25	0.25	-0.15	-0.16	0.06	0.1
D-H	45	L	133484	SR	0.55	0.50	-0.26	-0.24	0.50	-0.22	0.2
D-H	46	L	133449	SR	0.54	0.38	-0.17	0.38	-0.21	-0.15	0.1
D-H	47	O	79511	SR	0.55	0.46	-0.18	-0.30	-0.20	0.46	0.2
D-H	48	O	223431	SR	0.52	0.36	0.36	-0.14	-0.21	-0.19	0.1
D-H	49	O	214525	SR	0.45	0.46	0.46	-0.27	-0.31	-0.08	0.1
D-H	50	L	322163	SR	0.51	0.52	-0.13	-0.30	-0.31	0.52	0.2
D-H	51	O	322164	SR	0.50	0.37	-0.16	0.37	-0.19	-0.16	0.2
D-H	54	L	279631	SR	0.71	0.39	-0.20	-0.19	-0.23	0.39	0.2
D-H	55	O	64705	SR	0.55	0.54	-0.21	0.54	-0.20	-0.33	0.2
D-H	56	O	79479	SR	0.68	0.34	0.34	-0.26	-0.14	-0.17	0.2
D-H	57	O	65077	SR	0.49	0.45	-0.15	0.45	-0.31	-0.15	0.2
D-H	58	O	79461	SR	0.46	0.34	0.34	-0.13	-0.25	-0.19	0.2

Table 1.A19 Item Statistics, Operational Items: MD HSA Biology—May Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
D-H	59	O	414800	SR	0.64	0.49	-0.25	-0.24	0.49	-0.25	0.2
D-H	60	L	414803	SR	0.63	0.47	-0.16	-0.32	-0.20	0.47	0.2
D-H	61	O	279560	SR	0.57	0.49	-0.24	0.49	-0.29	-0.21	0.2
D-H	62	L	279561	SR	0.49	0.57	-0.26	-0.19	-0.31	0.57	0.2
D-H	64	L	64716	SR	0.84	0.26	-0.16	0.26	-0.17	-0.11	0.2
D-H	65	L	55221	SR	0.72	0.58	-0.17	0.58	-0.32	-0.37	0.3
D-H	66	O	55220	SR	0.75	0.56	0.56	-0.29	-0.33	-0.26	0.3
D-H	67	O	271070	SR	0.65	0.49	0.49	-0.29	-0.24	-0.22	0.2
D-H	68	O	65055	SR	0.51	0.36	-0.11	-0.28	0.36	-0.09	0.2
D-H	69	L	394868	SR	0.50	0.50	-0.24	0.50	-0.27	-0.18	0.2
D-H	70	O	394869	SR	0.41	0.52	-0.28	-0.17	-0.33	0.52	0.2
D-H	71	L	214567	SR	0.65	0.29	-0.15	-0.11	0.29	-0.20	0.2
D-H	72	L	214568	SR	0.57	0.50	0.50	-0.15	-0.34	-0.27	0.2
D-H	74	L	279647	SR	0.69	0.51	-0.24	-0.30	-0.22	0.51	0.2
D-H	78	O	64748	SR	0.67	0.50	0.50	-0.22	-0.30	-0.20	0.3
D-H	79	L	79414	SR	0.69	0.47	-0.15	-0.30	-0.29	0.47	0.3
D-H	80	O	57184	SR	0.47	0.52	-0.05	0.52	-0.27	-0.35	0.2
D-H	81	L	223446	SR	0.62	0.53	-0.23	-0.26	-0.31	0.53	0.3
D-H	82	L	223445	SR	0.70	0.55	-0.26	0.55	-0.34	-0.23	0.2
D-H	84	O	338777	SR	0.60	0.34	-0.12	0.34	-0.13	-0.25	0.3
D-H	85	L	68157	SR	0.38	0.38	-0.13	-0.18	-0.17	0.38	0.3
D-H	86	O	68153	SR	0.84	0.46	0.46	-0.27	-0.26	-0.22	0.2
D-H	89	O	214526	SR	0.40	0.38	0.38	-0.28	-0.05	-0.20	0.3
D-H	90	O	369423	SR	0.44	0.34	-0.10	-0.15	-0.19	0.34	0.3
D-H	91	L	286617	SR	0.48	0.35	-0.25	0.35	-0.09	-0.12	0.3
D-H	92	L	288373	SR	0.27	0.38	0.04	-0.21	-0.28	0.38	0.3
D-H	94	O	332084	SR	0.52	0.46	-0.27	0.46	-0.23	-0.11	0.3
D-H	95	O	52586	SR	0.61	0.33	0.33	-0.25	-0.06	-0.19	0.3
D-H	96	L	394879	SR	0.60	0.51	-0.22	-0.22	-0.29	0.51	0.3
D-H	97	L	394876	SR	0.64	0.51	0.51	-0.26	-0.32	-0.18	0.3
D-H	98	L	349116	SR	0.70	0.39	-0.22	-0.23	0.39	-0.18	0.3
D-H	99	O	133433	SR	0.64	0.57	-0.20	-0.32	-0.33	0.57	0.3
<b>Mean</b>					0.60	0.44	-0.04	-0.05	-0.11	-0.02	0.2
<b>SD</b>					0.13	0.09	0.29	0.31	0.28	0.30	0.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A20 Item Statistics, Operational Items: MD HSA Biology—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
X	1	L	68264	SR	0.83	0.42	-0.21	-0.25	-0.23	0.42	0.0
X	2	O	214551	SR	0.67	0.36	0.36	-0.18	-0.20	-0.17	0.0
X	3	O	133458	SR	0.67	0.51	-0.20	-0.25	-0.33	0.51	0.0
X	4	O	322201	SR	0.69	0.36	-0.22	-0.18	0.36	-0.16	0.0
X	5	L	394740	SR	0.68	0.52	-0.24	0.52	-0.36	-0.17	0.0
X	6	L	394741	SR	0.53	0.40	-0.23	-0.27	0.40	-0.06	0.0
X	9	O	55253	SR	0.58	0.54	0.54	-0.37	-0.29	-0.09	0.1
X	10	O	271100	SR	0.69	0.36	-0.13	-0.30	0.36	-0.10	0.0
X	11	L	271014	SR	0.81	0.41	-0.26	-0.27	0.41	-0.13	0.0
X	12	L	271013	SR	0.61	0.54	-0.39	-0.21	-0.17	0.54	0.1
X	13	L	108649	SR	0.82	0.51	0.51	-0.27	-0.35	-0.20	0.1
X	14	L	108653	SR	0.91	0.42	0.42	-0.21	-0.27	-0.20	0.1
X	15	O	79505	SR	0.57	0.52	-0.23	-0.36	0.52	-0.12	0.1
X	17	L	251269	SR	0.66	0.37	-0.27	-0.17	0.37	-0.14	0.1
X	18	L	251268	SR	0.47	0.23	0.23	-0.04	-0.20	-0.22	0.1
X	19	O	279536	SR	0.68	0.53	0.53	-0.23	-0.34	-0.22	0.1
X	20	L	279539	SR	0.59	0.53	-0.23	0.53	-0.30	-0.23	0.1
X	22	O	65150	SR	0.59	0.45	-0.28	-0.16	0.45	-0.20	0.1
X	23	O	363162	SR	0.53	0.30	-0.09	0.30	-0.19	-0.19	0.1
X	24	L	214541	SR	0.46	0.37	-0.18	-0.26	0.37	-0.12	0.2
X	28	O	400659	SR	0.72	0.44	-0.21	-0.27	0.44	-0.19	0.3
X	29	L	400656	SR	0.68	0.39	-0.15	0.39	-0.30	-0.19	0.3
X	31	O	349095	SR	0.60	0.59	-0.34	-0.24	0.59	-0.27	0.2
X	32	O	55004	SR	0.71	0.51	-0.30	0.51	-0.24	-0.23	0.2
X	33	L	52598	SR	0.48	0.42	-0.07	-0.30	-0.26	0.42	0.4
X	34	O	55078	SR	0.87	0.37	-0.15	-0.21	-0.25	0.37	0.1
X	36	L	79419	SR	0.84	0.41	-0.14	0.41	-0.30	-0.19	0.1
X	37	O	279602	SR	0.70	0.44	-0.27	0.44	-0.21	-0.21	0.1
X	38	L	279603	SR	0.72	0.47	-0.19	-0.30	-0.27	0.47	0.1
X	42	O	297092	SR	0.59	0.39	-0.15	-0.21	0.39	-0.20	0.1
X	43	L	394886	SR	0.55	0.43	-0.32	0.43	-0.32	-0.03	0.1
X	44	L	394888	SR	0.35	0.25	0.25	-0.15	-0.16	0.06	0.1
X	45	L	133484	SR	0.55	0.50	-0.26	-0.24	0.50	-0.22	0.2
X	46	L	133449	SR	0.54	0.38	-0.17	0.38	-0.21	-0.15	0.1
X	47	O	79511	SR	0.55	0.46	-0.18	-0.30	-0.20	0.46	0.2
X	48	O	55137	SR	0.47	0.67	0.67	-0.31	-0.38	-0.17	0.2
X	49	O	214525	SR	0.45	0.46	0.46	-0.27	-0.31	-0.08	0.1
X	50	L	322163	SR	0.51	0.52	-0.13	-0.30	-0.31	0.52	0.2
X	51	O	322164	SR	0.50	0.37	-0.16	0.37	-0.19	-0.16	0.2
X	54	L	279631	SR	0.71	0.39	-0.20	-0.19	-0.23	0.39	0.2
X	55	O	338746	SR	0.66	0.43	-0.27	-0.20	-0.21	0.43	0.1
X	56	O	79479	SR	0.68	0.34	0.34	-0.26	-0.14	-0.17	0.2
X	57	O	67636	SR	0.56	0.51	-0.20	0.51	-0.29	-0.24	0.1
X	58	O	79461	SR	0.46	0.34	0.34	-0.13	-0.25	-0.19	0.2

Table 1.A20 Item Statistics, Operational Items: MD HSA Biology—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
X	59	O	414800	SR	0.64	0.49	-0.25	-0.24	0.49	-0.25	0.2
X	60	L	414803	SR	0.63	0.47	-0.16	-0.32	-0.20	0.47	0.2
X	61	O	279560	SR	0.57	0.49	-0.24	0.49	-0.29	-0.21	0.2
X	62	L	279561	SR	0.49	0.57	-0.26	-0.19	-0.31	0.57	0.2
X	64	L	64716	SR	0.84	0.26	-0.16	0.26	-0.17	-0.11	0.2
X	65	L	55221	SR	0.72	0.58	-0.17	0.58	-0.32	-0.37	0.3
X	66	O	55222	SR	0.62	0.52	-0.24	-0.34	0.52	-0.17	0.3
X	67	O	52654	SR	0.70	0.45	0.45	-0.32	-0.27	-0.06	0.2
X	68	O	108550	SR	0.73	0.24	-0.12	-0.15	0.24	-0.10	0.2
X	69	L	394868	SR	0.50	0.50	-0.24	0.50	-0.27	-0.18	0.2
X	70	O	394869	SR	0.41	0.52	-0.28	-0.17	-0.33	0.52	0.2
X	71	L	214567	SR	0.65	0.29	-0.15	-0.11	0.29	-0.20	0.2
X	72	L	214568	SR	0.57	0.50	0.50	-0.15	-0.34	-0.27	0.2
X	74	L	279647	SR	0.69	0.51	-0.24	-0.30	-0.22	0.51	0.2
X	78	O	349091	SR	0.37	0.26	0.26	0.04	-0.20	-0.22	0.3
X	79	L	79414	SR	0.69	0.47	-0.15	-0.30	-0.29	0.47	0.3
X	80	O	260075	SR	0.48	0.37	-0.07	0.37	-0.29	-0.15	0.3
X	81	L	223446	SR	0.62	0.53	-0.23	-0.26	-0.31	0.53	0.3
X	82	L	223445	SR	0.70	0.55	-0.26	0.55	-0.34	-0.23	0.2
X	84	O	271030	SR	0.51	0.50	-0.26	-0.37	0.50	-0.06	0.3
X	85	L	68157	SR	0.38	0.38	-0.13	-0.18	-0.17	0.38	0.3
X	86	O	68154	SR	0.49	0.33	-0.24	0.33	-0.21	0.01	0.3
X	89	O	338741	SR	0.38	0.48	-0.23	-0.30	0.48	-0.14	0.3
X	90	O	373148	SR	0.48	0.28	0.28	-0.29	-0.15	0.04	0.4
X	91	L	286617	SR	0.48	0.35	-0.25	0.35	-0.09	-0.12	0.3
X	92	L	288373	SR	0.27	0.38	0.04	-0.21	-0.28	0.38	0.3
X	94	O	332084	SR	0.52	0.46	-0.27	0.46	-0.23	-0.11	0.3
X	95	O	68106	SR	0.70	0.49	0.49	-0.23	-0.29	-0.23	0.3
X	96	L	394879	SR	0.60	0.51	-0.22	-0.22	-0.29	0.51	0.3
X	97	L	394876	SR	0.64	0.51	0.51	-0.26	-0.32	-0.18	0.3
X	98	L	349116	SR	0.70	0.39	-0.22	-0.23	0.39	-0.18	0.3
X	99	O	133433	SR	0.64	0.57	-0.20	-0.32	-0.33	0.57	0.3
<b>Mean</b>					0.60	0.44	-0.07	-0.06	-0.09	0.00	0.2
<b>SD</b>					0.13	0.09	0.28	0.31	0.31	0.29	0.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A21 Item Statistics, Operational Items: MD HSA Biology—May Makeup 2

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
Y	1	L	68264	SR	0.83	0.42	-0.21	-0.25	-0.23	0.42	0.0
Y	2	O	322175	SR	0.67	0.52	0.52	-0.36	-0.24	-0.15	0.0
Y	3	O	133437	SR	0.66	0.34	-0.11	-0.24	-0.17	0.34	0.0
Y	4	O	322200	SR	0.86	0.34	-0.15	0.34	-0.27	-0.12	0.0
Y	5	L	394740	SR	0.68	0.52	-0.24	0.52	-0.36	-0.17	0.0
Y	6	L	394741	SR	0.53	0.40	-0.23	-0.27	0.40	-0.06	0.0
Y	9	O	354960	SR	0.60	0.44	0.44	-0.35	-0.15	-0.13	0.1
Y	10	O	108590	SR	0.41	0.20	-0.23	0.20	0.02	-0.19	0.0
Y	11	L	271014	SR	0.81	0.41	-0.26	-0.27	0.41	-0.13	0.0
Y	12	L	271013	SR	0.61	0.54	-0.39	-0.21	-0.17	0.54	0.1
Y	13	L	108649	SR	0.82	0.51	0.51	-0.27	-0.35	-0.20	0.1
Y	14	L	108653	SR	0.91	0.42	0.42	-0.21	-0.27	-0.20	0.1
Y	15	O	79494	SR	0.57	0.36	-0.13	-0.21	0.36	-0.20	0.1
Y	17	L	251269	SR	0.66	0.37	-0.27	-0.17	0.37	-0.14	0.1
Y	18	L	251268	SR	0.47	0.23	0.23	-0.04	-0.20	-0.22	0.1
Y	19	O	279534	SR	0.43	0.41	-0.11	-0.17	-0.23	0.41	0.2
Y	20	L	279539	SR	0.59	0.53	-0.23	0.53	-0.30	-0.23	0.1
Y	22	O	52742	SR	0.55	0.55	-0.21	-0.24	0.55	-0.32	0.2
Y	23	O	52735	SR	0.51	0.43	-0.25	-0.23	-0.10	0.43	0.1
Y	24	L	214541	SR	0.46	0.37	-0.18	-0.26	0.37	-0.12	0.2
Y	28	O	400657	SR	0.49	0.39	0.39	-0.18	-0.17	-0.18	0.3
Y	29	L	400656	SR	0.68	0.39	-0.15	0.39	-0.30	-0.19	0.3
Y	31	O	223422	SR	0.70	0.38	-0.22	-0.24	0.38	-0.10	0.3
Y	32	O	108650	SR	0.80	0.45	-0.20	0.45	-0.23	-0.30	0.3
Y	33	L	52598	SR	0.48	0.42	-0.07	-0.30	-0.26	0.42	0.4
Y	34	O	297527	SR	0.83	0.36	-0.14	-0.21	0.36	-0.24	0.1
Y	36	L	79419	SR	0.84	0.41	-0.14	0.41	-0.30	-0.19	0.1
Y	37	O	279607	SR	0.69	0.48	-0.22	-0.29	-0.21	0.48	0.2
Y	38	L	279603	SR	0.72	0.47	-0.19	-0.30	-0.27	0.47	0.1
Y	42	O	338786	SR	0.65	0.47	-0.24	-0.29	0.47	-0.16	0.2
Y	43	L	394886	SR	0.55	0.43	-0.32	0.43	-0.32	-0.03	0.1
Y	44	L	394888	SR	0.35	0.25	0.25	-0.15	-0.16	0.06	0.1
Y	45	L	133484	SR	0.55	0.50	-0.26	-0.24	0.50	-0.22	0.2
Y	46	L	133449	SR	0.54	0.38	-0.17	0.38	-0.21	-0.15	0.1
Y	47	O	56957	SR	0.46	0.55	-0.21	0.55	-0.31	-0.21	0.3
Y	48	O	223431	SR	0.52	0.36	0.36	-0.14	-0.21	-0.19	0.1
Y	49	O	68251	SR	0.52	0.48	-0.23	-0.29	0.48	-0.13	0.2
Y	50	L	322163	SR	0.51	0.52	-0.13	-0.30	-0.31	0.52	0.2
Y	51	O	322165	SR	0.46	0.39	0.39	-0.12	-0.25	-0.19	0.3
Y	54	L	279631	SR	0.71	0.39	-0.20	-0.19	-0.23	0.39	0.2
Y	55	O	64705	SR	0.55	0.54	-0.21	0.54	-0.20	-0.33	0.2
Y	56	O	373183	SR	0.65	0.56	-0.27	-0.37	-0.16	0.56	0.3
Y	57	O	65077	SR	0.49	0.45	-0.15	0.45	-0.31	-0.15	0.2
Y	58	O	60543	SR	0.48	0.32	-0.22	-0.16	0.32	-0.06	0.3

Table 1.A21 Item Statistics, Operational Items: MD HSA Biology—May Makeup 2

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Y	59	O	414799	SR	0.53	0.39	-0.13	-0.22	-0.17	0.39	0.4
Y	60	L	414803	SR	0.63	0.47	-0.16	-0.32	-0.20	0.47	0.2
Y	61	O	279684	SR	0.39	0.48	0.48	-0.31	-0.14	-0.12	0.2
Y	62	L	279561	SR	0.49	0.57	-0.26	-0.19	-0.31	0.57	0.2
Y	64	L	64716	SR	0.84	0.26	-0.16	0.26	-0.17	-0.11	0.2
Y	65	L	55221	SR	0.72	0.58	-0.17	0.58	-0.32	-0.37	0.3
Y	66	O	55220	SR	0.75	0.56	0.56	-0.29	-0.33	-0.26	0.3
Y	67	O	271070	SR	0.65	0.49	0.49	-0.29	-0.24	-0.22	0.2
Y	68	O	65055	SR	0.51	0.36	-0.11	-0.28	0.36	-0.09	0.2
Y	69	L	394868	SR	0.50	0.50	-0.24	0.50	-0.27	-0.18	0.2
Y	70	O	394870	SR	0.74	0.52	-0.24	0.52	-0.30	-0.26	0.3
Y	71	L	214567	SR	0.65	0.29	-0.15	-0.11	0.29	-0.20	0.2
Y	72	L	214568	SR	0.57	0.50	0.50	-0.15	-0.34	-0.27	0.2
Y	74	L	279647	SR	0.69	0.51	-0.24	-0.30	-0.22	0.51	0.2
Y	78	O	64748	SR	0.67	0.50	0.50	-0.22	-0.30	-0.20	0.3
Y	79	L	79414	SR	0.69	0.47	-0.15	-0.30	-0.29	0.47	0.3
Y	80	O	57184	SR	0.47	0.52	-0.05	0.52	-0.27	-0.35	0.2
Y	81	L	223446	SR	0.62	0.53	-0.23	-0.26	-0.31	0.53	0.3
Y	82	L	223445	SR	0.70	0.55	-0.26	0.55	-0.34	-0.23	0.2
Y	84	O	338777	SR	0.60	0.34	-0.12	0.34	-0.13	-0.25	0.3
Y	85	L	68157	SR	0.38	0.38	-0.13	-0.18	-0.17	0.38	0.3
Y	86	O	68153	SR	0.84	0.46	0.46	-0.27	-0.26	-0.22	0.2
Y	89	O	214526	SR	0.40	0.38	0.38	-0.28	-0.05	-0.20	0.3
Y	90	O	369423	SR	0.44	0.34	-0.10	-0.15	-0.19	0.34	0.3
Y	91	L	286617	SR	0.48	0.35	-0.25	0.35	-0.09	-0.12	0.3
Y	92	L	288373	SR	0.27	0.38	0.04	-0.21	-0.28	0.38	0.3
Y	94	O	65137	SR	0.42	0.46	0.46	-0.20	-0.16	-0.23	0.4
Y	95	O	52586	SR	0.61	0.33	0.33	-0.25	-0.06	-0.19	0.3
Y	96	L	394879	SR	0.60	0.51	-0.22	-0.22	-0.29	0.51	0.3
Y	97	L	394876	SR	0.64	0.51	0.51	-0.26	-0.32	-0.18	0.3
Y	98	L	349116	SR	0.70	0.39	-0.22	-0.23	0.39	-0.18	0.3
Y	99	O	79462	SR	0.78	0.45	-0.16	-0.32	0.45	-0.21	0.5
<b>Mean</b>					0.60	0.43	-0.04	-0.06	-0.10	-0.01	0.2
<b>SD</b>					0.14	0.09	0.28	0.31	0.27	0.30	0.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A22 Item Statistics, Operational Items: MD HSA English—May Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D-H	1	O	190853	SR	0.54	0.36	-0.08	-0.21	-0.21	0.36	0.0
D-H	2	O	190854	SR	0.31	0.27	0.27	-0.08	-0.13	-0.11	0.1
D-H	3	O	190855	SR	0.82	0.33	-0.14	-0.17	-0.22	0.33	0.1
D-H	4	O	190856	SR	0.72	0.37	-0.18	0.37	-0.21	-0.18	0.2
D-H	5	O	190858	SR	0.36	0.28	-0.05	-0.18	-0.19	0.28	0.2
D-H	6	O	190857	SR	0.53	0.34	-0.07	-0.22	0.34	-0.17	0.2
D-H	12	L	349288	SR	0.45	0.25	-0.14	0.25	-0.06	-0.11	0.4
D-H	13	L	349291	SR	0.38	0.24	-0.02	0.24	-0.08	-0.16	0.7
D-H	14	L	349294	SR	0.31	0.34	-0.13	-0.07	-0.18	0.34	0.7
D-H	15	L	349289	SR	0.66	0.37	0.37	-0.17	-0.18	-0.17	0.5
D-H	16	L	349296	SR	0.49	0.31	-0.11	-0.17	0.31	-0.11	0.6
D-H	17	L	349297	SR	0.32	0.33	0.33	-0.20	-0.09	-0.07	0.5
D-H	18	O	331884	SR	0.31	0.24	-0.16	0.24	-0.05	-0.07	0.5
D-H	19	O	331885	SR	0.49	0.38	0.38	-0.17	-0.25	-0.08	0.6
D-H	20	O	331883	SR	0.45	0.34	0.34	-0.10	-0.21	-0.12	0.8
D-H	30	L	251151	SR	0.48	0.32	-0.12	0.32	-0.14	-0.14	1.1
D-H	31	L	256308	SR	0.32	0.25	0.25	0.02	-0.18	-0.09	1.3
D-H	32	L	285546	SR	0.39	0.31	-0.09	-0.07	-0.20	0.31	1.4
D-H	33	L	108912	SR	0.51	0.32	-0.05	-0.22	-0.16	0.32	0.6
D-H	34	L	108914	SR	0.40	0.28	-0.08	-0.08	-0.16	0.28	0.6
D-H	35	L	108913	SR	0.25	0.20	-0.02	-0.05	0.20	-0.16	0.6
D-H	36	L	130216	SR	0.32	0.21	0.21	-0.21	-0.05	0.06	0.5
D-H	38	O	251171	SR	0.42	0.33	-0.10	0.33	-0.16	-0.12	0.5
D-H	39	O	96220	SR	0.30	0.26	0.26	-0.10	-0.13	-0.03	0.4
D-H	40	O	130240	SR	0.54	0.40	-0.19	0.40	-0.19	-0.15	0.4
D-H	41	O	96031	SR	0.36	0.21	-0.12	0.21	-0.05	-0.06	0.6
D-H	42	O	96032	SR	0.39	0.39	0.39	-0.16	-0.18	-0.11	0.6
D-H	43	O	96034	SR	0.75	0.38	-0.21	0.38	-0.23	-0.10	0.6
D-H	44	O	96035	SR	0.57	0.32	0.32	-0.13	-0.24	-0.09	0.7
D-H	45	O	96036	SR	0.60	0.40	0.40	-0.16	-0.24	-0.18	0.6
D-H	46	O	96037	SR	0.40	0.27	-0.13	-0.13	0.27	-0.05	0.8
D-H	51	L	130185	SR	0.47	0.35	-0.06	0.35	-0.25	-0.16	0.8
D-H	53	L	130187	SR	0.32	0.16	-0.08	0.16	0.06	-0.22	0.8
D-H	54	L	130188	SR	0.52	0.41	-0.12	0.41	-0.26	-0.16	0.7
D-H	55	L	130286	SR	0.27	0.28	-0.05	-0.17	0.28	-0.08	0.7
D-H	56	L	130189	SR	0.41	0.24	-0.07	-0.11	0.24	-0.08	0.9
D-H	57	L	130190	SR	0.36	0.22	-0.08	-0.13	0.22	-0.01	0.9
D-H	58	L	130181	SR	0.20	0.15	0.15	-0.01	-0.03	-0.07	0.9
D-H	59	L	130182	SR	0.49	0.41	-0.10	-0.19	-0.22	0.41	0.9
D-H	60	L	130183	SR	0.35	0.17	-0.12	0.17	-0.04	0.00	0.8
D-H	61	L	96106	SR	0.37	0.15	-0.09	-0.04	0.15	-0.03	0.7
D-H	62	L	96107	SR	0.63	0.34	0.34	-0.15	-0.17	-0.13	0.8
D-H	63	L	96108	SR	0.41	0.23	-0.13	0.23	-0.09	-0.02	0.9
D-H	64	L	96109	SR	0.41	0.41	0.41	-0.16	-0.20	-0.12	1.0

Table 1.A22 Item Statistics, Operational Items: MD HSA English—May Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
D-H	65	L	96110	SR	0.64	0.44	-0.18	0.44	-0.23	-0.19	1.0
D-H	66	O	332122	SR	0.59	0.32	-0.19	0.32	-0.14	-0.10	0.9
D-H	67	O	332123	SR	0.30	0.22	-0.04	-0.04	0.22	-0.16	0.9
D-H	68	O	332125	SR	0.31	0.30	-0.15	-0.08	0.30	-0.09	0.8
D-H	86	L	285470	SR	0.37	0.33	-0.08	-0.13	-0.13	0.33	1.0
D-H	87	L	285467	SR	0.22	0.17	-0.03	-0.14	0.04	0.17	1.0
D-H	88	L	285471	SR	0.25	0.10	0.12	0.10	-0.07	-0.16	1.2
D-H	89	L	285466	SR	0.40	0.27	-0.09	-0.14	0.27	-0.06	1.0
D-H	90	L	285473	SR	0.26	0.07	-0.10	0.07	0.08	-0.04	0.9
D-H	91	L	285469	SR	0.31	0.24	-0.01	-0.17	-0.05	0.24	1.2
D-H	92	L	285472	SR	0.29	0.12	-0.06	-0.08	0.12	0.04	1.1
D-H	93	L	285475	SR	0.38	0.28	0.28	-0.13	-0.09	-0.06	1.1
D-H	97	O	109088	SR	0.58	0.39	0.39	-0.18	-0.22	-0.13	1.2
D-H	98	O	109087	SR	0.48	0.32	-0.13	-0.10	0.32	-0.15	1.4
<b>Mean</b>					0.43	0.29	0.02	0.00	-0.05	-0.02	0.7
<b>SD</b>					0.14	0.09	0.20	0.20	0.18	0.17	0.3

Note: Tabled item position number is based on Form D and varies somewhat on Forms E-N.

Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A23 Item Statistics, Operational Items: MD HSA English—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
X	1	O	190853	SR	0.54	0.36	-0.08	-0.21	-0.21	0.36	0.0
X	2	O	190854	SR	0.31	0.27	0.27	-0.08	-0.13	-0.11	0.1
X	3	O	190855	SR	0.82	0.33	-0.14	-0.17	-0.22	0.33	0.1
X	4	O	190856	SR	0.72	0.37	-0.18	0.37	-0.21	-0.18	0.2
X	5	O	190858	SR	0.36	0.28	-0.05	-0.18	-0.19	0.28	0.2
X	6	O	190857	SR	0.53	0.34	-0.07	-0.22	0.34	-0.17	0.2
X	12	L	349288	SR	0.45	0.25	-0.14	0.25	-0.06	-0.11	0.4
X	13	L	349291	SR	0.38	0.24	-0.02	0.24	-0.08	-0.16	0.7
X	14	L	349294	SR	0.31	0.34	-0.13	-0.07	-0.18	0.34	0.7
X	15	L	349289	SR	0.66	0.37	0.37	-0.17	-0.18	-0.17	0.5
X	16	L	349296	SR	0.49	0.31	-0.11	-0.17	0.31	-0.11	0.6
X	17	L	349297	SR	0.32	0.33	0.33	-0.20	-0.09	-0.07	0.5
X	18	O	331884	SR	0.31	0.24	-0.16	0.24	-0.05	-0.07	0.5
X	19	O	331885	SR	0.49	0.38	0.38	-0.17	-0.25	-0.08	0.6
X	20	O	331883	SR	0.45	0.34	0.34	-0.10	-0.21	-0.12	0.8
X	30	L	251151	SR	0.48	0.32	-0.12	0.32	-0.14	-0.14	1.1
X	31	L	256308	SR	0.32	0.25	0.25	0.02	-0.18	-0.09	1.3
X	32	L	285546	SR	0.39	0.31	-0.09	-0.07	-0.20	0.31	1.4
X	33	L	108912	SR	0.51	0.32	-0.05	-0.22	-0.16	0.32	0.6
X	34	L	108914	SR	0.40	0.28	-0.08	-0.08	-0.16	0.28	0.6
X	35	L	108913	SR	0.25	0.20	-0.02	-0.05	0.20	-0.16	0.6
X	36	L	130216	SR	0.32	0.21	0.21	-0.21	-0.05	0.06	0.5
X	38	O	251171	SR	0.42	0.33	-0.10	0.33	-0.16	-0.12	0.5
X	39	O	96220	SR	0.30	0.26	0.26	-0.10	-0.13	-0.03	0.4
X	40	O	130240	SR	0.54	0.40	-0.19	0.40	-0.19	-0.15	0.4
X	41	O	130155	SR	0.61	0.40	-0.18	-0.20	0.40	-0.20	0.4
X	42	O	130158	SR	0.50	0.36	-0.24	-0.20	0.36	-0.07	0.2
X	43	O	130159	SR	0.58	0.36	-0.17	-0.17	0.36	-0.21	0.2
X	44	O	130259	SR	0.64	0.38	-0.21	0.38	-0.21	-0.14	0.2
X	45	O	130156	SR	0.61	0.50	-0.23	-0.23	-0.26	0.50	0.2
X	46	O	130157	SR	0.34	0.24	-0.18	-0.24	0.04	0.24	0.2
X	47	O	130160	SR	0.60	0.39	-0.31	0.39	-0.16	-0.11	0.4
X	51	L	130185	SR	0.47	0.35	-0.06	0.35	-0.25	-0.16	0.8
X	53	L	130187	SR	0.32	0.16	-0.08	0.16	0.06	-0.22	0.8
X	54	L	130188	SR	0.52	0.41	-0.12	0.41	-0.26	-0.16	0.7
X	55	L	130286	SR	0.27	0.28	-0.05	-0.17	0.28	-0.08	0.7
X	56	L	130189	SR	0.41	0.24	-0.07	-0.11	0.24	-0.08	0.9
X	57	L	130190	SR	0.36	0.22	-0.08	-0.13	0.22	-0.01	0.9
X	58	L	130181	SR	0.20	0.15	0.15	-0.01	-0.03	-0.07	0.9
X	59	L	130182	SR	0.49	0.41	-0.10	-0.19	-0.22	0.41	0.9
X	60	L	130183	SR	0.35	0.17	-0.12	0.17	-0.04	0.00	0.8
X	61	L	96106	SR	0.37	0.15	-0.09	-0.04	0.15	-0.03	0.7
X	62	L	96107	SR	0.63	0.34	0.34	-0.15	-0.17	-0.13	0.8
X	63	L	96108	SR	0.41	0.23	-0.13	0.23	-0.09	-0.02	0.9

Table 1.A23 Item Statistics, Operational Items: MD HSA English—May Makeup 1

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
X	64	L	96109	SR	0.41	0.41	0.41	-0.16	-0.20	-0.12	1.0
X	65	L	96110	SR	0.64	0.44	-0.18	0.44	-0.23	-0.19	1.0
X	66	O	285606	SR	0.43	0.34	-0.16	-0.17	-0.08	0.34	0.2
X	67	O	285605	SR	0.39	0.31	-0.09	0.31	-0.20	-0.08	0.2
X	68	O	285607	SR	0.32	0.22	0.22	-0.13	-0.06	-0.04	0.2
X	86	L	285470	SR	0.37	0.33	-0.08	-0.13	-0.13	0.33	1.0
X	87	L	285467	SR	0.22	0.17	-0.03	-0.14	0.04	0.17	1.0
X	88	L	285471	SR	0.25	0.10	0.12	0.10	-0.07	-0.16	1.2
X	89	L	285466	SR	0.40	0.27	-0.09	-0.14	0.27	-0.06	1.0
X	90	L	285473	SR	0.26	0.07	-0.10	0.07	0.08	-0.04	0.9
X	91	L	285469	SR	0.31	0.24	-0.01	-0.17	-0.05	0.24	1.2
X	92	L	285472	SR	0.29	0.12	-0.06	-0.08	0.12	0.04	1.1
X	93	L	285475	SR	0.38	0.28	0.28	-0.13	-0.09	-0.06	1.1
X	97	O	109106	SR	0.50	0.41	-0.17	-0.18	0.41	-0.18	0.6
X	98	O	109107	SR	0.34	0.23	-0.10	0.23	-0.10	-0.05	1.0
<b>Mean</b>					0.43	0.29	-0.02	-0.01	-0.04	0.00	0.6
<b>SD</b>					0.13	0.09	0.18	0.22	0.19	0.19	0.3

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A24 Item Statistics, Operational Items: MD HSA English—May Makeup 2

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
Y	1	O	130295	SR	0.65	0.31	-0.15	-0.18	-0.13	0.31	0.0
Y	2	O	130299	SR	0.23	0.10	0.10	-0.09	-0.16	0.10	0.0
Y	3	O	130300	SR	0.78	0.33	-0.11	0.33	-0.21	-0.20	0.0
Y	4	O	130254	SR	0.39	0.19	-0.10	-0.06	0.19	-0.05	0.4
Y	5	O	130301	SR	0.29	0.24	-0.14	0.24	-0.08	-0.05	0.4
Y	6	O	256280	SR	0.35	0.10	0.10	0.02	-0.04	-0.12	0.2
Y	12	L	349288	SR	0.45	0.25	-0.14	0.25	-0.06	-0.11	0.4
Y	13	L	349291	SR	0.38	0.24	-0.02	0.24	-0.08	-0.16	0.7
Y	14	L	349294	SR	0.31	0.34	-0.13	-0.07	-0.18	0.34	0.7
Y	15	L	349289	SR	0.66	0.37	0.37	-0.17	-0.18	-0.17	0.5
Y	16	L	349296	SR	0.49	0.31	-0.11	-0.17	0.31	-0.11	0.6
Y	17	L	349297	SR	0.32	0.33	0.33	-0.20	-0.09	-0.07	0.5
Y	18	O	96251	SR	0.28	0.23	0.23	0.00	-0.11	-0.09	1.1
Y	19	O	96252	SR	0.77	0.46	0.46	-0.28	-0.14	-0.22	0.7
Y	20	O	96253	SR	0.37	0.23	0.03	0.23	-0.19	-0.04	0.9
Y	30	L	251151	SR	0.48	0.32	-0.12	0.32	-0.14	-0.14	1.1
Y	31	L	256308	SR	0.32	0.25	0.25	0.02	-0.18	-0.09	1.3
Y	32	L	285546	SR	0.39	0.31	-0.09	-0.07	-0.20	0.31	1.4
Y	33	L	108912	SR	0.51	0.32	-0.05	-0.22	-0.16	0.32	0.6
Y	34	L	108914	SR	0.40	0.28	-0.08	-0.08	-0.16	0.28	0.6
Y	35	L	108913	SR	0.25	0.20	-0.02	-0.05	0.20	-0.16	0.6
Y	36	L	130216	SR	0.32	0.21	0.21	-0.21	-0.05	0.06	0.5
Y	38	O	96044	SR	0.52	0.41	-0.04	0.41	-0.30	-0.18	0.7
Y	39	O	349424	SR	0.46	0.40	0.40	-0.21	-0.15	-0.11	0.7
Y	40	O	209821	SR	0.41	0.20	0.06	0.20	-0.15	-0.12	0.7
Y	41	O	96031	SR	0.36	0.21	-0.12	0.21	-0.05	-0.06	0.6
Y	42	O	96032	SR	0.39	0.39	0.39	-0.16	-0.18	-0.11	0.6
Y	43	O	96034	SR	0.75	0.38	-0.21	0.38	-0.23	-0.10	0.6
Y	44	O	96035	SR	0.57	0.32	0.32	-0.13	-0.24	-0.09	0.7
Y	45	O	96036	SR	0.60	0.40	0.40	-0.16	-0.24	-0.18	0.6
Y	46	O	96037	SR	0.40	0.27	-0.13	-0.13	0.27	-0.05	0.8
Y	51	L	130185	SR	0.47	0.35	-0.06	0.35	-0.25	-0.16	0.8
Y	53	L	130187	SR	0.32	0.16	-0.08	0.16	0.06	-0.22	0.8
Y	54	L	130188	SR	0.52	0.41	-0.12	0.41	-0.26	-0.16	0.7
Y	55	L	130286	SR	0.27	0.28	-0.05	-0.17	0.28	-0.08	0.7
Y	56	L	130189	SR	0.41	0.24	-0.07	-0.11	0.24	-0.08	0.9
Y	57	L	130190	SR	0.36	0.22	-0.08	-0.13	0.22	-0.01	0.9
Y	58	L	130181	SR	0.20	0.15	0.15	-0.01	-0.03	-0.07	0.9
Y	59	L	130182	SR	0.49	0.41	-0.10	-0.19	-0.22	0.41	0.9
Y	60	L	130183	SR	0.35	0.17	-0.12	0.17	-0.04	0.00	0.8
Y	61	L	96106	SR	0.37	0.15	-0.09	-0.04	0.15	-0.03	0.7
Y	62	L	96107	SR	0.63	0.34	0.34	-0.15	-0.17	-0.13	0.8
Y	63	L	96108	SR	0.41	0.23	-0.13	0.23	-0.09	-0.02	0.9
Y	64	L	96109	SR	0.41	0.41	0.41	-0.16	-0.20	-0.12	1.0

Table 1.A24 Item Statistics, Operational Items: MD HSA English—May Makeup 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Y	65	L	96110	SR	0.64	0.44	-0.18	0.44	-0.23	-0.19	1.0
Y	66	O	332122	SR	0.59	0.32	-0.19	0.32	-0.14	-0.10	0.9
Y	67	O	332123	SR	0.30	0.22	-0.04	-0.04	0.22	-0.16	0.9
Y	68	O	332125	SR	0.31	0.30	-0.15	-0.08	0.30	-0.09	0.8
Y	86	L	285470	SR	0.37	0.33	-0.08	-0.13	-0.13	0.33	1.0
Y	87	L	285467	SR	0.22	0.17	-0.03	-0.14	0.04	0.17	1.0
Y	88	L	285471	SR	0.25	0.10	0.12	0.10	-0.07	-0.16	1.2
Y	89	L	285466	SR	0.40	0.27	-0.09	-0.14	0.27	-0.06	1.0
Y	90	L	285473	SR	0.26	0.07	-0.10	0.07	0.08	-0.04	0.9
Y	91	L	285469	SR	0.31	0.24	-0.01	-0.17	-0.05	0.24	1.2
Y	92	L	285472	SR	0.29	0.12	-0.06	-0.08	0.12	0.04	1.1
Y	93	L	285475	SR	0.38	0.28	0.28	-0.13	-0.09	-0.06	1.1
Y	97	O	109088	SR	0.58	0.39	0.39	-0.18	-0.22	-0.13	1.2
Y	98	O	109087	SR	0.48	0.32	-0.13	-0.10	0.32	-0.15	1.4
<b>Mean</b>					0.42	0.28	0.03	0.01	-0.05	-0.04	0.8
<b>SD</b>					0.14	0.10	0.19	0.20	0.18	0.16	0.3

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A25 Item Statistics, Operational Items: MD HSA Government—May Primary

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D	1	O	261575	SR	0.73	0.43	-0.22	0.43	-0.31	-0.15	0.0
D	2	O	79663	SR	0.53	0.37	-0.09	0.37	-0.25	-0.31	0.1
D	3	L	324408	SR	0.62	0.28	-0.08	-0.23	0.28	-0.10	0.1
D	4	O	68040	SR	0.67	0.57	-0.21	-0.30	0.57	-0.34	0.1
D	5	L	331443	SR	0.80	0.34	-0.21	0.34	-0.15	-0.21	0.0
D	7	L	339055	SR	0.66	0.58	-0.29	-0.23	-0.35	0.58	0.1
D	8	L	279841	SR	0.69	0.47	-0.16	-0.29	-0.26	0.47	0.1
D	10	O	256989	SR	0.53	0.32	-0.19	0.32	-0.12	-0.15	0.2
D	11	L	51224	SR	0.78	0.51	-0.25	-0.29	0.51	-0.26	0.1
D	12	L	51225	SR	0.66	0.55	-0.27	-0.37	0.55	-0.20	0.1
D	14	L	55558	SR	0.88	0.39	-0.16	0.39	-0.26	-0.21	0.1
D	15	O	79539	SR	0.64	0.57	0.57	-0.36	-0.26	-0.20	0.2
D	16	L	283102	SR	0.60	0.35	0.35	-0.16	-0.23	-0.12	0.3
D	17	O	256406	SR	0.89	0.42	-0.23	-0.21	-0.25	0.42	0.2
D	18	L	55550	CR	0.40	0.77					3.2
D	20	O	348898	SR	0.85	0.51	0.51	-0.30	-0.32	-0.20	0.5
D	21	O	55504	SR	0.75	0.47	0.47	-0.26	-0.24	-0.23	0.6
D	22	O	331400	SR	0.50	0.37	-0.20	-0.15	0.37	-0.16	0.7
D	23	L	68091	SR	0.68	0.39	0.39	-0.24	-0.28	-0.10	0.6
D	25	O	321090	SR	0.45	0.39	0.39	-0.06	-0.31	-0.24	0.8
D	27	O	279797	SR	0.47	0.24	0.24	-0.24	-0.27	-0.04	0.9
D	28	O	339038	SR	0.65	0.57	-0.24	-0.27	-0.32	0.57	1.1
D	29	L	79655	SR	0.76	0.35	-0.16	0.35	-0.24	-0.17	0.2
D	31	L	58304	SR	0.75	0.61	-0.23	-0.37	-0.33	0.61	0.2
D	32	L	279822	SR	0.42	0.19	0.19	-0.18	-0.01	-0.18	0.2
D	33	L	370257	SR	0.82	0.53	0.53	-0.31	-0.28	-0.27	0.2
D	34	L	68771	SR	0.81	0.51	-0.28	0.51	-0.26	-0.30	0.2
D	35	L	55576	CR	0.38	0.71					3.6
D	36	L	271819	SR	0.61	0.44	-0.18	-0.30	0.44	-0.15	0.2
D	37	O	51010	SR	0.78	0.36	0.36	-0.12	-0.29	-0.21	0.2
D	38	O	324426	SR	0.48	0.36	-0.19	-0.10	0.36	-0.19	0.3
D	40	L	363222	SR	0.50	0.17	-0.20	0.17	-0.16	0.09	0.3
D	41	L	363223	SR	0.42	0.35	0.35	-0.30	-0.18	0.10	0.3
D	42	O	339081	SR	0.55	0.28	-0.19	0.28	-0.26	-0.06	0.4
D	43	O	65175	SR	0.70	0.50	-0.24	0.50	-0.29	-0.23	0.3
D	44	L	108466	CR	0.42	0.71					3.1
D	45	O	324400	SR	0.61	0.54	0.54	-0.34	-0.24	-0.17	0.5
D	46	L	368676	SR	0.73	0.34	-0.17	-0.18	0.34	-0.17	0.4
D	47	O	331381	SR	0.47	0.36	-0.17	-0.18	0.36	-0.14	0.5
D	49	L	348548	SR	0.42	0.36	-0.18	-0.29	0.36	0.00	0.5
D	50	L	363185	SR	0.37	0.33	0.04	0.33	-0.28	-0.18	0.5
D	51	L	256374	SR	0.58	0.49	0.49	-0.29	-0.26	-0.13	0.6
D	52	L	283091	SR	0.61	0.51	-0.33	-0.24	0.51	-0.16	0.6
D	53	L	331387	SR	0.66	0.41	-0.18	-0.23	-0.20	0.41	0.7

Table 1.A25 Item Statistics, Operational Items: MD HSA Government—May Primary

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
D	54	L	108344	SR	0.79	0.52	-0.29	-0.30	0.52	-0.23	0.3
D	55	L	257166	SR	0.24	0.20	0.09	-0.10	-0.19	0.20	0.4
D	56	L	68786	CR	0.40	0.71					3.8
D	58	O	257002	SR	0.52	0.42	-0.21	-0.07	0.42	-0.33	0.3
D	60	L	256370	SR	0.47	0.30	-0.29	-0.16	0.00	0.30	0.3
D	61	L	363178	SR	0.40	0.44	-0.22	-0.17	-0.16	0.44	0.3
D	62	L	363250	SR	0.71	0.46	-0.16	-0.31	-0.23	0.46	0.3
D	63	O	368622	SR	0.65	0.41	0.41	-0.29	-0.20	-0.16	0.4
D	64	O	52192	SR	0.83	0.59	-0.38	-0.30	0.59	-0.25	0.3
D	65	L	331413	SR	0.80	0.49	-0.26	-0.27	0.49	-0.23	0.3
D	68	O	51759	SR	0.70	0.49	-0.26	-0.27	0.49	-0.23	0.3
D	69	L	297439	SR	0.54	0.36	-0.21	-0.24	0.36	-0.04	0.4
D	70	L	296480	SR	0.67	0.53	0.53	-0.25	-0.38	-0.19	0.3
D	71	L	296479	SR	0.85	0.52	-0.29	0.52	-0.28	-0.27	0.4
D	72	L	60453	CR	0.34	0.82					6.5
D	73	O	348525	SR	0.83	0.50	-0.25	-0.24	-0.30	0.50	0.3
D	74	O	79594	SR	0.79	0.55	-0.29	-0.28	-0.30	0.55	0.4
D	75	L	257012	SR	0.42	0.34	0.34	-0.03	-0.20	-0.19	0.4
D	76	O	331428	SR	0.51	0.39	-0.17	-0.13	-0.30	0.39	0.4
D	77	L	279758	SR	0.37	0.39	-0.28	-0.05	-0.22	0.39	0.4
D	78	L	283118	SR	0.29	0.22	0.10	0.22	-0.27	-0.12	0.4
D	80	L	279782	SR	0.58	0.58	0.58	-0.36	-0.27	-0.20	0.4
D	81	O	261595	SR	0.60	0.45	-0.32	-0.24	-0.10	0.45	0.5
<b>Mean</b>					0.61	0.45	-0.03	-0.11	-0.05	-0.02	0.6
<b>SD</b>					0.16	0.13	0.30	0.26	0.32	0.29	1.1

Note: Tabled item position number is based on Form D and varies somewhat on Forms E-N.

Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A26 Item Statistics, Operational Items: MD HSA Government—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
X	1	O	261575	SR	0.73	0.43	-0.22	0.43	-0.31	-0.15	0.0
X	2	O	60463	SR	0.31	0.26	-0.01	-0.22	0.26	-0.23	0.1
X	3	L	324408	SR	0.62	0.28	-0.08	-0.23	0.28	-0.10	0.1
X	4	O	348489	SR	0.50	0.44	0.44	-0.32	-0.10	-0.15	0.2
X	5	L	331443	SR	0.80	0.34	-0.21	0.34	-0.15	-0.21	0.0
X	7	L	339055	SR	0.66	0.58	-0.29	-0.23	-0.35	0.58	0.1
X	8	L	279841	SR	0.69	0.47	-0.16	-0.29	-0.26	0.47	0.1
X	10	O	256989	SR	0.53	0.32	-0.19	0.32	-0.12	-0.15	0.2
X	11	L	51224	SR	0.78	0.51	-0.25	-0.29	0.51	-0.26	0.1
X	12	L	51225	SR	0.66	0.55	-0.27	-0.37	0.55	-0.20	0.1
X	14	L	55558	SR	0.88	0.39	-0.16	0.39	-0.26	-0.21	0.1
X	15	O	257022	SR	0.61	0.48	-0.21	-0.26	-0.24	0.48	0.2
X	16	L	283102	SR	0.60	0.35	0.35	-0.16	-0.23	-0.12	0.3
X	17	O	256406	SR	0.89	0.42	-0.23	-0.21	-0.25	0.42	0.2
X	18	L	55550	CR	0.40	0.77					3.2
X	20	O	348898	SR	0.85	0.51	0.51	-0.30	-0.32	-0.20	0.5
X	21	O	55504	SR	0.75	0.47	0.47	-0.26	-0.24	-0.23	0.6
X	22	O	368564	SR	0.70	0.48	-0.21	-0.29	0.48	-0.23	0.4
X	23	L	68091	SR	0.68	0.39	0.39	-0.24	-0.28	-0.10	0.6
X	25	O	283088	SR	0.67	0.37	-0.24	-0.21	0.37	-0.13	0.6
X	27	O	302873	SR	0.48	0.34	0.34	-0.11	-0.22	-0.12	0.8
X	28	O	339038	SR	0.65	0.57	-0.24	-0.27	-0.32	0.57	1.1
X	29	L	79655	SR	0.76	0.35	-0.16	0.35	-0.24	-0.17	0.2
X	31	L	58304	SR	0.75	0.61	-0.23	-0.37	-0.33	0.61	0.2
X	32	L	279822	SR	0.42	0.19	0.19	-0.18	-0.01	-0.18	0.2
X	33	L	370257	SR	0.82	0.53	0.53	-0.31	-0.28	-0.27	0.2
X	34	L	68771	SR	0.81	0.51	-0.28	0.51	-0.26	-0.30	0.2
X	35	L	55576	CR	0.38	0.71					3.6
X	36	L	271819	SR	0.61	0.44	-0.18	-0.30	0.44	-0.15	0.2
X	37	O	132965	SR	0.85	0.53	-0.20	-0.34	-0.31	0.53	0.1
X	38	O	324426	SR	0.48	0.36	-0.19	-0.10	0.36	-0.19	0.3
X	40	L	363222	SR	0.50	0.17	-0.20	0.17	-0.16	0.09	0.3
X	41	L	363223	SR	0.42	0.35	0.35	-0.30	-0.18	0.10	0.3
X	42	O	339081	SR	0.55	0.28	-0.19	0.28	-0.26	-0.06	0.4
X	43	O	65175	SR	0.70	0.50	-0.24	0.50	-0.29	-0.23	0.3
X	44	L	108466	CR	0.42	0.71					3.1
X	45	O	324400	SR	0.61	0.54	0.54	-0.34	-0.24	-0.17	0.5
X	46	L	368676	SR	0.73	0.34	-0.17	-0.18	0.34	-0.17	0.4
X	47	O	135584	SR	0.25	0.26	0.26	-0.09	-0.20	0.05	0.2
X	49	L	348548	SR	0.42	0.36	-0.18	-0.29	0.36	0.00	0.5
X	50	L	363185	SR	0.37	0.33	0.04	0.33	-0.28	-0.18	0.5
X	51	L	256374	SR	0.58	0.49	0.49	-0.29	-0.26	-0.13	0.6
X	52	L	283091	SR	0.61	0.51	-0.33	-0.24	0.51	-0.16	0.6
X	53	L	331387	SR	0.66	0.41	-0.18	-0.23	-0.20	0.41	0.7

Table 1.A26 Item Statistics, Operational Items: MD HSA Government—May Makeup 1

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
X	54	L	108344	SR	0.79	0.52	-0.29	-0.30	0.52	-0.23	0.3
X	55	L	257166	SR	0.24	0.20	0.09	-0.10	-0.19	0.20	0.4
X	56	L	68786	CR	0.40	0.71					3.8
X	58	O	257002	SR	0.52	0.42	-0.21	-0.07	0.42	-0.33	0.3
X	60	L	256370	SR	0.47	0.30	-0.29	-0.16	0.00	0.30	0.3
X	61	L	363178	SR	0.40	0.44	-0.22	-0.17	-0.16	0.44	0.3
X	62	L	363250	SR	0.71	0.46	-0.16	-0.31	-0.23	0.46	0.3
X	63	O	368622	SR	0.65	0.41	0.41	-0.29	-0.20	-0.16	0.4
X	64	O	370259	SR	0.66	0.55	-0.27	-0.33	0.55	-0.22	0.2
X	65	L	331413	SR	0.80	0.49	-0.26	-0.27	0.49	-0.23	0.3
X	68	O	331388	SR	0.76	0.53	0.53	-0.30	-0.37	-0.16	0.3
X	69	L	297439	SR	0.54	0.36	-0.21	-0.24	0.36	-0.04	0.4
X	70	L	296480	SR	0.67	0.53	0.53	-0.25	-0.38	-0.19	0.3
X	71	L	296479	SR	0.85	0.52	-0.29	0.52	-0.28	-0.27	0.4
X	72	L	60453	CR	0.34	0.82					6.5
X	73	O	331414	SR	0.73	0.52	-0.28	-0.32	-0.25	0.52	0.2
X	74	O	271806	SR	0.37	0.18	-0.29	0.18	-0.25	0.15	0.3
X	75	L	257012	SR	0.42	0.34	0.34	-0.03	-0.20	-0.19	0.4
X	76	O	331428	SR	0.51	0.39	-0.17	-0.13	-0.30	0.39	0.4
X	77	L	279758	SR	0.37	0.39	-0.28	-0.05	-0.22	0.39	0.4
X	78	L	283118	SR	0.29	0.22	0.10	0.22	-0.27	-0.12	0.4
X	80	L	279782	SR	0.58	0.58	0.58	-0.36	-0.27	-0.20	0.4
X	81	O	133473	SR	0.57	0.54	-0.22	-0.30	-0.22	0.54	0.3
<b>Mean</b>					0.59	0.44	-0.03	-0.12	-0.07	0.00	0.6
<b>SD</b>					0.17	0.14	0.30	0.26	0.30	0.29	1.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A27 Item Statistics, Operational Items: MD HSA Government—May Makeup 2

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Y	1	O	331386	SR	0.73	0.33	-0.25	0.33	-0.16	-0.08	0.0
Y	2	O	79663	SR	0.53	0.37	-0.09	0.37	-0.25	-0.31	0.1
Y	3	L	324408	SR	0.62	0.28	-0.08	-0.23	0.28	-0.10	0.1
Y	4	O	68040	SR	0.67	0.57	-0.21	-0.30	0.57	-0.34	0.1
Y	5	L	331443	SR	0.80	0.34	-0.21	0.34	-0.15	-0.21	0.0
Y	7	L	339055	SR	0.66	0.58	-0.29	-0.23	-0.35	0.58	0.1
Y	8	L	279841	SR	0.69	0.47	-0.16	-0.29	-0.26	0.47	0.1
Y	10	O	302868	SR	0.81	0.45	-0.28	0.45	-0.26	-0.21	0.1
Y	11	L	51224	SR	0.78	0.51	-0.25	-0.29	0.51	-0.26	0.1
Y	12	L	51225	SR	0.66	0.55	-0.27	-0.37	0.55	-0.20	0.1
Y	14	L	55558	SR	0.88	0.39	-0.16	0.39	-0.26	-0.21	0.1
Y	15	O	79539	SR	0.64	0.57	0.57	-0.36	-0.26	-0.20	0.2
Y	16	L	283102	SR	0.60	0.35	0.35	-0.16	-0.23	-0.12	0.3
Y	17	O	348493	SR	0.56	0.45	-0.29	-0.24	0.45	-0.08	0.2
Y	18	L	55550	CR	0.40	0.77					3.2
Y	20	O	302870	SR	0.54	0.22	-0.13	-0.09	0.22	-0.09	0.3
Y	21	O	348455	SR	0.79	0.53	0.53	-0.36	-0.26	-0.21	0.3
Y	22	O	331400	SR	0.50	0.37	-0.20	-0.15	0.37	-0.16	0.7
Y	23	L	68091	SR	0.68	0.39	0.39	-0.24	-0.28	-0.10	0.6
Y	25	O	321090	SR	0.45	0.39	0.39	-0.06	-0.31	-0.24	0.8
Y	27	O	279797	SR	0.47	0.24	0.24	-0.24	-0.27	-0.04	0.9
Y	28	O	68516	SR	0.86	0.51	-0.28	0.51	-0.31	-0.24	0.7
Y	29	L	79655	SR	0.76	0.35	-0.16	0.35	-0.24	-0.17	0.2
Y	31	L	58304	SR	0.75	0.61	-0.23	-0.37	-0.33	0.61	0.2
Y	32	L	279822	SR	0.42	0.19	0.19	-0.18	-0.01	-0.18	0.2
Y	33	L	370257	SR	0.82	0.53	0.53	-0.31	-0.28	-0.27	0.2
Y	34	L	68771	SR	0.81	0.51	-0.28	0.51	-0.26	-0.30	0.2
Y	35	L	55576	CR	0.38	0.71					3.6
Y	36	L	271819	SR	0.61	0.44	-0.18	-0.30	0.44	-0.15	0.2
Y	37	O	51010	SR	0.78	0.36	0.36	-0.12	-0.29	-0.21	0.2
Y	38	O	68665	SR	0.80	0.53	-0.20	-0.33	-0.31	0.53	0.2
Y	40	L	363222	SR	0.50	0.17	-0.20	0.17	-0.16	0.09	0.3
Y	41	L	363223	SR	0.42	0.35	0.35	-0.30	-0.18	0.10	0.3
Y	42	O	261576	SR	0.46	0.24	-0.20	-0.10	-0.01	0.24	0.4
Y	43	O	79647	SR	0.54	0.37	0.37	-0.23	-0.26	-0.07	0.3
Y	44	L	108466	CR	0.42	0.71					3.1
Y	45	O	58269	SR	0.80	0.37	-0.23	-0.25	-0.19	0.37	0.4
Y	46	L	368676	SR	0.73	0.34	-0.17	-0.18	0.34	-0.17	0.4
Y	47	O	331381	SR	0.47	0.36	-0.17	-0.18	0.36	-0.14	0.5
Y	49	L	348548	SR	0.42	0.36	-0.18	-0.29	0.36	0.00	0.5
Y	50	L	363185	SR	0.37	0.33	0.04	0.33	-0.28	-0.18	0.5
Y	51	L	256374	SR	0.58	0.49	0.49	-0.29	-0.26	-0.13	0.6
Y	52	L	283091	SR	0.61	0.51	-0.33	-0.24	0.51	-0.16	0.6
Y	53	L	331387	SR	0.66	0.41	-0.18	-0.23	-0.20	0.41	0.7

Table 1.A27 Item Statistics, Operational Items: MD HSA Government—May Makeup 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Y	54	L	108344	SR	0.79	0.52	-0.29	-0.30	0.52	-0.23	0.3
Y	55	L	257166	SR	0.24	0.20	0.09	-0.10	-0.19	0.20	0.4
Y	56	L	68786	CR	0.40	0.71					3.8
Y	58	O	214486	SR	0.77	0.39	-0.22	0.39	-0.29	-0.12	0.2
Y	60	L	256370	SR	0.47	0.30	-0.29	-0.16	0.00	0.30	0.3
Y	61	L	363178	SR	0.40	0.44	-0.22	-0.17	-0.16	0.44	0.3
Y	62	L	363250	SR	0.71	0.46	-0.16	-0.31	-0.23	0.46	0.3
Y	63	O	79565	SR	0.64	0.31	-0.16	0.31	-0.23	-0.06	0.3
Y	64	O	52192	SR	0.83	0.59	-0.38	-0.30	0.59	-0.25	0.3
Y	65	L	331413	SR	0.80	0.49	-0.26	-0.27	0.49	-0.23	0.3
Y	68	O	51759	SR	0.70	0.49	-0.26	-0.27	0.49	-0.23	0.3
Y	69	L	297439	SR	0.54	0.36	-0.21	-0.24	0.36	-0.04	0.4
Y	70	L	296480	SR	0.67	0.53	0.53	-0.25	-0.38	-0.19	0.3
Y	71	L	296479	SR	0.85	0.52	-0.29	0.52	-0.28	-0.27	0.4
Y	72	L	60453	CR	0.34	0.82					6.5
Y	73	O	348525	SR	0.83	0.50	-0.25	-0.24	-0.30	0.50	0.3
Y	74	O	79594	SR	0.79	0.55	-0.29	-0.28	-0.30	0.55	0.4
Y	75	L	257012	SR	0.42	0.34	0.34	-0.03	-0.20	-0.19	0.4
Y	76	O	50837	SR	0.52	0.55	-0.18	-0.34	0.55	-0.22	0.3
Y	77	L	279758	SR	0.37	0.39	-0.28	-0.05	-0.22	0.39	0.4
Y	78	L	283118	SR	0.29	0.22	0.10	0.22	-0.27	-0.12	0.4
Y	80	L	279782	SR	0.58	0.58	0.58	-0.36	-0.27	-0.20	0.4
Y	81	O	261595	SR	0.60	0.45	-0.32	-0.24	-0.10	0.45	0.5
<b>Mean</b>					0.61	0.44	-0.06	-0.10	-0.04	-0.02	0.6
<b>SD</b>					0.17	0.14	0.29	0.27	0.32	0.28	1.1

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A28 Item Statistics, Operational Items: MD HSA Algebra—Summer Primary 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
P	1	O	56611	SR	0.51	0.17	-0.15	0.00	-0.13	0.17	0.0
P	2	L	328773	SR	0.42	0.33	-0.02	0.33	-0.16	-0.21	0.0
P	4	O	51534	SR	0.37	0.24	-0.13	-0.10	-0.04	0.24	0.7
P	5	L	328711	SR	0.39	-0.01	-0.14	-0.01	-0.03	0.17	0.0
P	7	L	319427	SPR	0.32	0.42	0.42	-0.36			2.9
P	8	L	268737	SR	0.36	0.35	-0.02	0.35	-0.35	0.02	0.0
P	9	L	319432	SR	0.12	0.03	0.03	-0.08	0.00	0.06	0.0
P	11	L	56734	SR	0.45	0.37	-0.22	0.37	-0.07	-0.25	0.6
P	12	O	348333	SR	0.32	0.35	-0.15	-0.26	0.02	0.35	0.0
P	13	O	132819	SR	0.11	-0.10	-0.10	0.06	0.07	-0.09	0.7
P	15	L	52338	SR	0.54	0.42	-0.14	-0.28	0.42	-0.15	0.0
P	16	O	348352	SR	0.33	0.16	0.16	-0.07	0.05	-0.22	0.0
P	17	L	338684	SR	0.33	0.19	-0.09	0.19	-0.18	0.06	0.6
P	18	L	255072	SPR	0.29	0.48	0.48	-0.41			5.3
P	19	O	260754	SPR	0.19	0.28	0.28	-0.20			3.4
P	21	O	51452	SR	0.59	0.30	-0.22	0.30	-0.01	-0.21	0.7
P	22	L	275469	SR	0.11	-0.08	0.31	-0.21	-0.07	-0.08	0.6
P	23	O	54803	SR	0.80	0.36	-0.27	-0.15	0.36	-0.15	0.7
P	24	O	322114	SR	0.74	0.38	-0.16	-0.22	-0.22	0.38	0.0
P	26	O	106650	SR	0.14	0.08	0.08	0.02	-0.07	-0.02	0.0
P	27	O	211025	SR	0.31	0.22	-0.18	0.22	0.06	-0.11	0.0
P	28	L	348321	SR	0.34	0.15	0.02	0.15	-0.17	0.01	1.2
P	29	O	67496	SPR	0.35	0.57	0.57	-0.52			5.5
P	30	O	275481	SPR	0.23	0.46	0.46	-0.39			4.8
P	32	L	79093	SR	0.17	0.22	-0.07	-0.04	-0.05	0.22	0.6
P	33	O	79042	SR	0.32	0.09	0.09	0.10	-0.10	-0.13	0.7
P	35	L	132839	SR	0.31	0.00	-0.05	0.11	0.00	-0.03	1.2
P	37	L	328710	SR	0.42	0.37	0.37	-0.09	-0.16	-0.17	1.8
P	38	L	338678	SR	0.14	0.11	-0.09	-0.06	0.08	0.11	1.2
P	40	O	136691	SR	0.37	0.30	-0.06	-0.16	0.30	-0.18	0.0
P	42	L	268729	SPR	0.31	0.50	0.50	-0.37			8.2
P	43	O	67460	SPR	0.08	0.27	0.27	-0.16			7.6
P	44	L	132832	SR	0.17	0.01	0.01	0.05	0.02	-0.07	0.6
P	45	L	106568	SR	0.27	0.24	0.24	-0.15	-0.02	-0.05	0.6
P	46	L	43195	SR	0.47	0.44	-0.25	-0.23	0.44	-0.05	0.6
P	47	L	319465	SR	0.39	0.48	-0.30	-0.14	-0.17	0.48	1.2
P	49	O	67414	SR	0.26	0.27	-0.17	-0.18	0.27	0.06	0.7
P	50	L	79136	SR	0.23	-0.03	0.01	-0.03	-0.12	0.17	1.2
P	52	O	268735	SR	0.28	-0.02	-0.03	-0.11	0.13	-0.02	0.7
P	53	L	319449	SR	0.48	0.30	-0.09	-0.12	0.30	-0.16	1.8
P	54	L	282319	SR	0.19	-0.04	-0.09	0.02	-0.04	0.14	1.2
P	55	L	67471	SPR	0.44	0.54	0.54	-0.42			8.8
P	57	O	282376	SR	0.18	0.03	0.01	0.11	-0.13	0.03	0.7

Table 1.A28 Item Statistics, Operational Items: MD HSA Algebra—Summer Primary 1

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
P	58	O	322120	SR	0.39	0.45	-0.23	-0.17	-0.17	0.45	0.7
P	59	L	319455	SR	0.32	0.17	0.03	-0.05	0.17	-0.16	1.2
P	60	L	67478	SR	0.46	0.37	-0.12	0.37	-0.15	-0.20	1.2
P	62	O	56752	SR	0.45	0.42	-0.12	-0.29	0.42	-0.11	0.7
P	64	L	132834	SPR	0.18	0.56	0.56	-0.40			8.2
P	65	L	322014	SPR	0.30	0.57	0.57	-0.37			11.2
P	66	L	51578	SR	0.25	0.04	0.15	-0.12	-0.04	0.04	1.8
P	67	O	67438	SR	0.47	0.17	-0.12	-0.09	0.17	-0.02	0.7
P	68	L	50369	SR	0.26	-0.01	-0.02	-0.01	-0.05	0.12	1.2
P	69	L	54677	SR	0.48	0.44	-0.20	-0.18	0.44	-0.20	1.2
<b>Mean</b>					0.33	0.25	0.04	-0.08	0.02	0.01	1.8
<b>SD</b>					0.15	0.19	0.25	0.22	0.20	0.19	2.6

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A29 Item Statistics, Operational Items: MD HSA Algebra—Summer Primary 2

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
Q	1	O	223236	SR	0.44	0.44	-0.09	-0.22	-0.25	0.44	0.0
Q	2	L	328773	SR	0.42	0.33	-0.02	0.33	-0.16	-0.21	0.0
Q	4	O	136689	SR	0.40	0.45	0.45	-0.11	-0.38	-0.32	0.0
Q	5	L	328711	SR	0.39	-0.01	-0.14	-0.01	-0.03	0.17	0.0
Q	7	L	319427	SPR	0.32	0.42	0.42	-0.36			2.9
Q	8	L	268737	SR	0.36	0.35	-0.02	0.35	-0.35	0.02	0.0
Q	9	L	319432	SR	0.12	0.03	0.03	-0.08	0.00	0.06	0.0
Q	11	L	56734	SR	0.45	0.37	-0.22	0.37	-0.07	-0.25	0.6
Q	12	O	51542	SR	0.16	0.37	0.37	0.23	-0.57		4.0
Q	13	O	268762	SR	0.32	0.17	0.06	-0.42	0.17	0.14	0.0
Q	15	L	52338	SR	0.54	0.42	-0.14	-0.28	0.42	-0.15	0.0
Q	16	O	54684	SR	0.48	0.37	0.37	-0.16	-0.22	-0.15	0.0
Q	17	L	338684	SR	0.33	0.19	-0.09	0.19	-0.18	0.06	0.6
Q	18	L	255072	SPR	0.29	0.48	0.48	-0.41			5.3
Q	19	O	319462	SPR	0.00			0.35			12.0
Q	21	O	79150	SR	0.12	0.54	-0.27	-0.13	0.02	0.54	0.0
Q	22	L	275469	SR	0.11	-0.08	0.31	-0.21	-0.07	-0.08	0.6
Q	23	O	54869	SR	0.48	0.32	-0.22	0.32	-0.17	-0.06	0.0
Q	24	O	67536	SR	0.72	0.25		-0.19	0.06	0.25	4.0
Q	26	O	79532	SR	0.20	0.24	0.24	0.06	-0.14	0.05	4.0
Q	27	O	54755	SR	0.40	0.53	-0.07	0.53	-0.29	-0.19	4.0
Q	28	L	348321	SR	0.34	0.15	0.02	0.15	-0.17	0.01	1.2
Q	29	O	328755	SPR	0.16	0.49	0.49	-0.06			12.0
Q	30	O	56540	SPR	0.36	0.57	0.57	-0.15			16.0
Q	32	L	79093	SR	0.17	0.22	-0.07	-0.04	-0.05	0.22	0.6
Q	33	O	328714	SR	0.16	-0.11	0.35	-0.09	-0.11	0.15	4.0
Q	35	L	132839	SR	0.31	0.00	-0.05	0.11	0.00	-0.03	1.2
Q	37	L	328710	SR	0.42	0.37	0.37	-0.09	-0.16	-0.17	1.8
Q	38	L	338678	SR	0.14	0.11	-0.09	-0.06	0.08	0.11	1.2
Q	40	O	348322	SR	0.12	0.11	0.54	-0.16	0.11	-0.24	4.0
Q	42	L	268729	SPR	0.31	0.50	0.50	-0.37			8.2
Q	43	O	338664	SPR	0.08	0.54	0.54	-0.02			28.0
Q	44	L	132832	SR	0.17	0.01	0.01	0.05	0.02	-0.07	0.6
Q	45	L	106568	SR	0.27	0.24	0.24	-0.15	-0.02	-0.05	0.6
Q	46	L	43195	SR	0.47	0.44	-0.25	-0.23	0.44	-0.05	0.6
Q	47	L	319465	SR	0.39	0.48	-0.30	-0.14	-0.17	0.48	1.2
Q	49	O	67555	SR	0.04	-0.03	-0.03	0.08	0.02	0.13	4.0
Q	50	L	79136	SR	0.23	-0.03	0.01	-0.03	-0.12	0.17	1.2
Q	52	O	106652	SR	0.20	-0.12	-0.12	-0.05	0.04	0.34	4.0
Q	53	L	319449	SR	0.48	0.30	-0.09	-0.12	0.30	-0.16	1.8
Q	54	L	282319	SR	0.19	-0.04	-0.09	0.02	-0.04	0.14	1.2
Q	55	L	67471	SPR	0.44	0.54	0.54	-0.42			8.8
Q	57	O	67443	SR	0.24	0.04	-0.18	0.04	0.03	0.23	4.0

Table 1.A29 Item Statistics, Operational Items: MD HSA Algebra—Summer Primary 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	58	O	260762	SR	0.20	0.47	-0.12	0.05	-0.19	0.47	4.0
Q	59	L	319455	SR	0.32	0.17	0.03	-0.05	0.17	-0.16	1.2
Q	60	L	67478	SR	0.46	0.37	-0.12	0.37	-0.15	-0.20	1.2
Q	62	O	67475	SR	0.36	0.18	0.18	-0.10	0.08	0.00	4.0
Q	64	L	132834	SPR	0.18	0.56	0.56	-0.40			8.2
Q	65	L	322014	SPR	0.30	0.57	0.57	-0.37			11.2
Q	66	L	51578	SR	0.25	0.04	0.15	-0.12	-0.04	0.04	1.8
Q	67	O	56685	SR	0.60	0.61	-0.19	-0.10	-0.37	0.61	4.0
Q	68	L	50369	SR	0.26	-0.01	-0.02	-0.01	-0.05	0.12	1.2
Q	69	L	54677	SR	0.48	0.44	-0.20	-0.18	0.44	-0.20	1.2
<b>Mean</b>					0.30	0.28	0.10	-0.05	-0.05	0.05	3.4
<b>SD</b>					0.15	0.22	0.27	0.23	0.21	0.23	5.0

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A30 Item Statistics, Operational Items: MD HSA Biology—Summer Primary 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
P	1	L	133425	SR	0.63	0.31	-0.08	-0.14	-0.25	0.31	0.2
P	2	O	108537	SR	0.43	0.19	0.02	-0.20	0.19	-0.15	0.2
P	3	L	398059	SR	0.52	0.38	-0.12	-0.19	-0.20	0.38	0.0
P	4	L	398061	SR	0.29	0.35	-0.05	0.35	-0.12	-0.19	0.0
P	7	L	53708	SR	0.44	0.36	-0.18	-0.16	-0.15	0.36	0.2
P	8	L	53709	SR	0.31	0.25	-0.07	0.25	-0.09	-0.14	0.0
P	9	L	52419	SR	0.33	0.22	0.22	-0.15	-0.15	0.06	0.2
P	10	O	352588	SR	0.68	0.36	-0.15	-0.18	-0.21	0.36	0.2
P	11	O	322196	SR	0.55	0.20	-0.08	-0.02	-0.17	0.20	0.2
P	13	L	322139	SR	0.64	0.27	-0.11	-0.14	0.27	-0.15	0.3
P	14	O	322137	SR	0.39	0.24	-0.01	0.24	-0.17	-0.17	0.4
P	15	O	279586	SR	0.33	0.27	-0.17	-0.11	-0.04	0.27	0.0
P	16	L	52481	SR	0.34	0.16	-0.06	-0.02	0.16	-0.13	0.3
P	17	O	108549	SR	0.42	0.25	-0.07	-0.24	0.25	-0.03	0.2
P	21	L	417643	SR	0.37	0.28	0.28	-0.10	-0.18	-0.04	0.3
P	22	O	417642	SR	0.53	0.32	-0.13	-0.21	0.32	-0.11	0.4
P	24	O	108671	SR	0.56	0.29	-0.10	0.29	-0.13	-0.17	0.2
P	25	L	256522	SR	0.36	0.13	-0.18	0.00	0.13	0.00	0.2
P	26	O	256523	SR	0.41	0.26	-0.16	-0.03	0.26	-0.13	0.6
P	27	O	79437	SR	0.43	0.36	0.36	-0.20	-0.21	-0.07	0.8
P	28	O	394902	SR	0.68	0.36	-0.19	-0.14	-0.24	0.36	0.4
P	30	L	332077	SR	0.23	0.17	-0.03	-0.03	-0.10	0.17	0.6
P	31	L	332073	SR	0.36	0.34	0.34	-0.13	-0.20	-0.11	0.5
P	32	O	363013	SR	0.43	0.28	0.28	-0.11	-0.11	-0.14	0.4
P	33	L	52663	SR	0.36	0.35	-0.14	0.35	-0.12	-0.17	0.5
P	34	L	394893	SR	0.59	0.29	-0.18	-0.24	0.29	-0.01	0.0
P	35	L	394894	SR	0.52	0.30	-0.14	-0.12	-0.16	0.30	0.0
P	36	L	133062	SR	0.32	0.39	-0.12	-0.18	-0.15	0.39	0.2
P	38	O	277329	SR	0.42	0.41	0.41	-0.12	-0.20	-0.18	0.0
P	39	O	68122	SR	0.51	0.34	-0.18	0.34	-0.17	-0.11	0.0
P	40	L	55195	SR	0.16	0.17	0.10	-0.11	-0.15	0.17	0.0
P	41	L	55196	SR	0.42	0.31	0.31	-0.21	-0.17	-0.08	0.0
P	42	L	362991	SR	0.50	0.45	0.45	-0.26	-0.21	-0.12	0.3
P	46	L	279698	SR	0.39	0.35	-0.19	-0.18	-0.07	0.35	0.2
P	47	L	279697	SR	0.34	0.29	0.29	-0.14	-0.15	-0.05	0.2
P	48	O	338783	SR	0.38	0.30	0.30	-0.03	-0.22	-0.17	0.2
P	49	O	279637	SR	0.28	0.18	-0.14	0.18	-0.18	0.04	0.6
P	50	L	369470	SR	0.33	0.40	-0.09	-0.19	-0.17	0.40	0.2
P	51	O	369471	SR	0.44	0.36	-0.14	-0.18	0.36	-0.14	0.0
P	52	O	108510	SR	0.71	0.30	-0.18	-0.18	0.30	-0.08	0.2
P	53	O	55200	SR	0.28	0.31	-0.16	-0.21	-0.02	0.31	0.0
P	55	L	271080	SR	0.38	0.22	-0.10	0.22	-0.02	-0.17	0.2
P	56	L	271078	SR	0.30	0.31	-0.02	0.31	-0.18	-0.13	0.5
P	59	O	323336	SR	0.40	0.21	-0.07	-0.06	0.21	-0.16	1.0

Table 1.A30 Item Statistics, Operational Items: MD HSA Biology—Summer Primary 1

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
P	60	O	64706	SR	0.53	0.25	-0.09	-0.13	0.25	-0.16	0.4
P	61	O	395749	SR	0.23	0.12	0.12	0.05	-0.13	-0.06	0.6
P	62	L	395750	SR	0.34	0.29	-0.05	-0.12	-0.17	0.29	0.5
P	63	O	52457	SR	0.46	0.30	-0.09	-0.20	0.30	-0.13	0.2
P	64	O	64991	SR	0.31	0.32	-0.15	-0.07	-0.16	0.32	0.2
P	65	L	256538	SR	0.39	0.16	-0.07	-0.17	0.16	0.04	0.3
P	66	O	256539	SR	0.18	0.12	0.04	0.12	-0.03	-0.14	0.6
P	67	O	55099	SR	0.72	0.34	-0.23	0.34	-0.17	-0.13	0.0
P	68	O	271028	SR	0.41	0.36	0.36	-0.07	-0.25	-0.11	0.2
P	69	O	338762	SR	0.40	0.21	-0.09	0.21	-0.02	-0.19	0.0
P	70	O	263110	SR	0.61	0.39	-0.26	0.39	-0.17	-0.12	0.0
P	74	O	369462	SR	0.37	0.28	0.01	0.28	-0.14	-0.18	0.2
P	75	L	369465	SR	0.20	0.20	0.20	-0.06	-0.14	0.02	0.2
P	76	L	68149	SR	0.27	0.11	-0.04	-0.01	0.11	-0.08	0.0
P	77	O	271042	SR	0.26	0.36	-0.07	-0.17	-0.15	0.36	0.0
P	78	O	271029	SR	0.30	0.38	-0.20	-0.14	0.38	-0.09	0.4
P	79	O	349082	SR	0.66	0.43	-0.18	-0.23	-0.23	0.43	0.2
P	82	L	263149	SR	0.44	0.37	-0.19	-0.17	0.37	-0.11	0.2
P	83	L	263150	SR	0.35	0.39	0.39	-0.12	-0.15	-0.21	0.2
P	84	L	60547	SR	0.19	0.15	0.15	-0.03	-0.13	-0.09	0.0
P	86	L	398048	SR	0.21	0.30	0.30	-0.12	-0.13	-0.02	0.2
P	87	O	398050	SR	0.32	0.39	-0.16	-0.15	0.39	-0.12	0.0
P	88	L	369363	SR	0.27	0.08	-0.07	0.08	0.00	0.00	0.5
P	89	L	369364	SR	0.29	0.32	0.32	-0.01	-0.15	-0.22	0.2
P	90	O	108651	SR	0.26	0.30	-0.10	-0.13	-0.07	0.30	0.4
P	91	O	282422	SR	0.51	0.40	0.40	-0.24	-0.14	-0.17	0.2
P	93	L	395762	SR	0.26	0.21	0.03	-0.11	0.21	-0.14	0.0
P	94	L	395886	SR	0.25	0.16	0.16	-0.13	0.00	-0.05	0.0
P	96	O	369416	SR	0.45	0.30	-0.07	0.30	-0.19	-0.13	0.0
P	97	O	279582	SR	0.45	0.32	-0.21	0.32	-0.17	-0.03	0.0
P	98	L	398150	SR	0.33	0.27	-0.04	-0.12	-0.14	0.27	0.5
P	99	L	398152	SR	0.68	0.45	-0.25	-0.23	0.45	-0.20	0.3
<b>Mean</b>					0.40	0.29	-0.01	-0.04	-0.04	0.00	0.2
<b>SD</b>					0.14	0.09	0.19	0.18	0.20	0.20	0.2

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A31 Item Statistics, Operational Items: MD HSA Biology—Summer Primary 2

Form	Pos No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	1	L	133425	SR	0.63	0.31	-0.08	-0.14	-0.25	0.31	0.2
Q	2	O	349097	SR	0.50	0.50	0.50	-0.08	-0.13	-0.42	0.0
Q	3	L	398059	SR	0.52	0.38	-0.12	-0.19	-0.20	0.38	0.0
Q	4	L	398061	SR	0.29	0.35	-0.05	0.35	-0.12	-0.19	0.0
Q	7	L	53708	SR	0.44	0.36	-0.18	-0.16	-0.15	0.36	0.2
Q	8	L	53709	SR	0.31	0.25	-0.07	0.25	-0.09	-0.14	0.0
Q	9	L	52419	SR	0.33	0.22	0.22	-0.15	-0.15	0.06	0.2
Q	10	O	392470	SR	0.52	0.56	-0.26	-0.23	-0.30	0.56	0.9
Q	11	O	68121	SR	0.55	0.36	0.36	-0.26	-0.19	-0.08	0.9
Q	13	L	322139	SR	0.64	0.27	-0.11	-0.14	0.27	-0.15	0.3
Q	14	O	322135	SR	0.53	0.39	-0.23	-0.27	-0.03	0.39	0.9
Q	15	O	369414	SR	0.39	0.52	-0.33	0.52	-0.19	-0.08	0.9
Q	16	L	52481	SR	0.34	0.16	-0.06	-0.02	0.16	-0.13	0.3
Q	17	O	68124	SR	0.65	0.44	-0.18	-0.25	0.44	-0.24	0.0
Q	21	L	417643	SR	0.37	0.28	0.28	-0.10	-0.18	-0.04	0.3
Q	22	O	417646	SR	0.40	0.39	-0.24	0.39	-0.17	-0.05	1.8
Q	24	O	67645	SR	0.65	0.46	-0.14	0.46	-0.28	-0.25	0.0
Q	25	L	256522	SR	0.36	0.13	-0.18	0.00	0.13	0.00	0.2
Q	26	O	256551	SR	0.43	0.28	0.02	0.28	-0.11	-0.26	0.0
Q	27	O	364210	SR	0.74	0.43	-0.07	-0.32	0.43	-0.24	0.9
Q	28	O	338739	SR	0.39	0.36	-0.11	-0.28	0.36	-0.13	0.9
Q	30	L	332077	SR	0.23	0.17	-0.03	-0.03	-0.10	0.17	0.6
Q	31	L	332073	SR	0.36	0.34	0.34	-0.13	-0.20	-0.11	0.5
Q	32	O	52625	SR	0.49	0.21	-0.14	0.21	0.02	-0.18	0.9
Q	33	L	52663	SR	0.36	0.35	-0.14	0.35	-0.12	-0.17	0.5
Q	34	L	394893	SR	0.59	0.29	-0.18	-0.24	0.29	-0.01	0.0
Q	35	L	394894	SR	0.52	0.30	-0.14	-0.12	-0.16	0.30	0.0
Q	36	L	133062	SR	0.32	0.39	-0.12	-0.18	-0.15	0.39	0.2
Q	38	O	192083	SR	0.55	0.25	-0.12	-0.28	0.04	0.25	0.0
Q	39	O	52466	SR	0.67	0.39	-0.18	-0.21	-0.23	0.39	0.0
Q	40	L	55195	SR	0.16	0.17	0.10	-0.11	-0.15	0.17	0.0
Q	41	L	55196	SR	0.42	0.31	0.31	-0.21	-0.17	-0.08	0.0
Q	42	L	362991	SR	0.50	0.45	0.45	-0.26	-0.21	-0.12	0.3
Q	46	L	279698	SR	0.39	0.35	-0.19	-0.18	-0.07	0.35	0.2
Q	47	L	279697	SR	0.34	0.29	0.29	-0.14	-0.15	-0.05	0.2
Q	48	O	108560	SR	0.38	0.42	-0.15	0.42	-0.26	-0.11	0.0
Q	49	O	79430	SR	0.66	0.45	0.45	-0.28	-0.17	-0.22	0.0
Q	50	L	369470	SR	0.33	0.40	-0.09	-0.19	-0.17	0.40	0.2
Q	51	O	369472	SR	0.50	0.42	-0.09	0.42	-0.36	-0.07	0.0
Q	52	O	263112	SR	0.48	0.41	-0.20	0.41	-0.26	-0.09	0.0
Q	53	O	392477	SR	0.74	0.36	-0.19	0.36	-0.15	-0.23	0.0
Q	55	L	271080	SR	0.38	0.22	-0.10	0.22	-0.02	-0.17	0.2
Q	56	L	271078	SR	0.30	0.31	-0.02	0.31	-0.18	-0.13	0.5
Q	59	O	79291	SR	0.23	0.28	0.28	0.10	-0.20	-0.18	0.0

Table 1.A31 Item Statistics, Operational Items: MD HSA Biology—Summer Primary 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	60	O	53446	SR	0.36	0.32	0.32	-0.17	-0.03	-0.21	0.0
Q	61	O	395748	SR	0.35	0.42	-0.09	-0.13	-0.25	0.42	0.0
Q	62	L	395750	SR	0.34	0.29	-0.05	-0.12	-0.17	0.29	0.5
Q	63	O	57145	SR	0.67	0.46	-0.25	0.46	-0.26	-0.18	0.0
Q	64	O	338780	SR	0.40	0.44	-0.11	0.44	-0.20	-0.23	0.0
Q	65	L	256538	SR	0.39	0.16	-0.07	-0.17	0.16	0.04	0.3
Q	66	O	256537	SR	0.35	0.32	0.32	-0.26	-0.15	0.00	0.0
Q	67	O	52463	SR	0.66	0.48	0.48	-0.17	-0.28	-0.27	0.0
Q	68	O	349081	SR	0.64	0.38	-0.19	0.38	-0.28	-0.11	0.0
Q	69	O	108577	SR	0.35	0.38	-0.23	0.38	-0.15	-0.09	0.0
Q	70	O	363014	SR	0.51	0.23	-0.06	-0.17	0.23	-0.07	0.0
Q	74	O	369449	SR	0.32	0.44	0.00	-0.22	-0.27	0.44	0.0
Q	75	L	369465	SR	0.20	0.20	0.20	-0.06	-0.14	0.02	0.2
Q	76	L	68149	SR	0.27	0.11	-0.04	-0.01	0.11	-0.08	0.0
Q	77	O	65070	SR	0.39	0.44	-0.16	-0.24	-0.14	0.44	0.0
Q	78	O	349113	SR	0.58	0.49	-0.30	-0.21	0.49	-0.18	0.0
Q	79	O	108579	SR	0.81	0.41	-0.25	-0.27	0.41	-0.11	0.0
Q	82	L	263149	SR	0.44	0.37	-0.19	-0.17	0.37	-0.11	0.2
Q	83	L	263150	SR	0.35	0.39	0.39	-0.12	-0.15	-0.21	0.2
Q	84	L	60547	SR	0.19	0.15	0.15	-0.03	-0.13	-0.09	0.0
Q	86	L	398048	SR	0.21	0.30	0.30	-0.12	-0.13	-0.02	0.2
Q	87	O	398049	SR	0.51	0.35	-0.11	0.35	-0.23	-0.15	0.0
Q	88	L	369363	SR	0.27	0.08	-0.07	0.08	0.00	0.00	0.5
Q	89	L	369364	SR	0.29	0.32	0.32	-0.01	-0.15	-0.22	0.2
Q	90	O	65146	SR	0.38	0.55	-0.19	-0.31	0.55	-0.17	0.0
Q	91	O	108571	SR	0.67	0.41	-0.15	-0.24	0.41	-0.22	0.0
Q	93	L	395762	SR	0.26	0.21	0.03	-0.11	0.21	-0.14	0.0
Q	94	L	395886	SR	0.25	0.16	0.16	-0.13	0.00	-0.05	0.0
Q	96	O	223412	SR	0.36	0.37	-0.15	-0.15	-0.14	0.37	0.9
Q	97	O	271071	SR	0.44	0.37	-0.22	-0.17	0.37	-0.08	0.0
Q	98	L	398150	SR	0.33	0.27	-0.04	-0.12	-0.14	0.27	0.5
Q	99	L	398152	SR	0.68	0.45	-0.25	-0.23	0.45	-0.20	0.3
<b>Mean</b>					0.44	0.34	-0.02	-0.03	-0.05	-0.01	0.2
<b>SD</b>					0.15	0.11	0.22	0.25	0.23	0.23	0.3

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A32 Item Statistics, Operational Items: MD HSA English–Summer Primary 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
P	1	L	273031	SR	0.62	0.30	0.30	-0.17	-0.24	-0.03	0.0
P	2	L	273034	SR	0.55	0.33	-0.23	-0.17	-0.13	0.33	0.0
P	3	L	273032	SR	0.15	0.12	-0.07	0.00	-0.03	0.12	0.0
P	4	L	273035	SR	0.27	0.21	0.21	-0.03	-0.15	-0.04	0.6
P	5	L	273036	SR	0.27	0.15	0.15	-0.10	0.07	-0.16	0.6
P	6	L	273037	SR	0.45	0.32	-0.10	-0.12	0.32	-0.23	0.6
P	12	L	108722	SR	0.32	0.33	0.33	-0.15	-0.22	0.00	0.0
P	13	L	108723	SR	0.54	0.38	0.38	-0.28	-0.08	-0.14	0.0
P	14	L	108724	SR	0.51	0.38	-0.11	0.38	-0.27	-0.13	0.0
P	24	O	272943	SR	0.42	0.26	-0.05	0.26	-0.27	-0.03	0.0
P	25	L	272871	SR	0.45	0.19	-0.07	0.19	-0.10	-0.07	1.1
P	26	O	285619	SR	0.55	0.49	-0.21	-0.29	0.49	-0.19	0.6
P	27	O	108901	SR	0.60	0.47	-0.19	-0.16	0.47	-0.32	1.3
P	28	O	108902	SR	0.40	0.33	-0.16	-0.10	0.33	-0.16	1.3
P	29	O	108903	SR	0.68	0.45	0.45	-0.34	-0.23	-0.11	1.3
P	30	O	108904	SR	0.55	0.21	0.21	-0.13	-0.12	-0.04	1.3
P	31	O	108905	SR	0.14	0.16	-0.11	0.13	-0.16	0.16	1.3
P	32	O	108906	SR	0.55	0.35	-0.17	-0.15	-0.16	0.35	1.9
P	33	O	349431	SR	0.68	0.33	-0.12	-0.29	0.33	0.01	0.6
P	34	O	130987	SR	0.46	0.48	-0.11	-0.11	-0.39	0.48	0.6
P	35	O	349435	SR	0.59	0.42	-0.18	0.42	-0.19	-0.19	0.6
P	37	L	95963	SR	0.49	0.53	0.53	-0.28	-0.21	-0.20	0.6
P	38	L	95964	SR	0.44	0.41	-0.20	-0.23	-0.04	0.41	0.6
P	39	L	95965	SR	0.39	0.26	0.26	-0.20	-0.07	-0.03	0.6
P	40	L	95966	SR	0.56	0.45	0.45	-0.18	-0.29	-0.12	0.6
P	41	L	95991	SR	0.45	0.29	-0.10	0.29	-0.13	-0.12	0.6
P	42	L	95992	SR	0.40	0.35	-0.28	-0.22	0.00	0.35	1.1
P	43	L	95993	SR	0.60	0.27	0.27	-0.03	-0.23	-0.22	1.1
P	44	L	95994	SR	0.47	0.30	0.30	-0.14	-0.20	0.00	1.1
P	45	L	95995	SR	0.54	0.31	-0.19	0.31	-0.06	-0.21	0.6
P	46	L	108820	SR	0.60	0.35	-0.16	0.35	-0.21	-0.08	1.7
P	47	L	109744	SR	0.49	0.40	-0.19	-0.09	-0.24	0.40	1.7
P	48	L	108822	SR	0.25	0.28	-0.25	0.14	-0.23	0.28	0.6
P	49	L	108823	SR	0.45	0.30	-0.19	-0.09	0.30	-0.06	0.6
P	50	L	108827	SR	0.62	0.48	-0.30	0.48	-0.20	-0.14	0.6
P	51	L	108824	SR	0.46	0.47	-0.26	-0.03	-0.30	0.47	0.6
P	52	L	108826	SR	0.19	-0.12	-0.12	0.20	0.01	-0.11	0.6
P	56	L	130955	SR	0.45	0.43	0.43	-0.11	-0.21	-0.24	0.6
P	57	L	132497	SR	0.50	0.39	-0.15	-0.13	0.39	-0.22	1.7
P	58	L	130956	SR	0.19	0.09	0.09	-0.22	0.05	0.13	1.1
P	59	L	130971	SR	0.37	0.44	-0.14	-0.19	-0.15	0.44	2.3
P	60	L	130972	SR	0.42	0.41	-0.18	-0.15	-0.13	0.41	1.1
P	61	L	130973	SR	0.20	0.10	-0.15	0.10	0.14	-0.07	1.1
P	62	L	132496	SR	0.45	0.21	0.21	-0.08	-0.12	-0.01	1.1

Table 1.A32 Item Statistics, Operational Items: MD HSA English–Summer Primary 1

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
P	63	L	130200	SR	0.36	0.29	0.29	0.07	-0.22	-0.22	2.3
P	64	L	130974	SR	0.54	0.41	0.41	-0.24	-0.14	-0.12	1.1
P	65	L	130975	SR	0.30	0.18	-0.10	0.18	-0.04	0.02	1.1
P	66	O	264649	SR	0.60	0.37	-0.16	0.37	-0.21	-0.04	1.9
P	67	O	264650	SR	0.73	0.36	-0.10	-0.14	-0.20	0.36	1.9
P	68	O	264651	SR	0.46	0.48	0.48	-0.22	-0.22	-0.09	1.9
P	69	O	285499	SR	0.53	0.20	-0.17	-0.12	0.20	0.12	1.9
P	70	O	285501	SR	0.44	0.39	-0.26	-0.05	-0.13	0.39	1.9
P	71	O	285502	SR	0.51	0.30	-0.12	-0.13	0.30	-0.08	2.6
P	72	O	285506	SR	0.22	0.19	0.00	0.06	-0.18	0.19	1.9
P	73	O	285507	SR	0.27	0.22	0.22	-0.15	-0.09	0.11	1.9
P	74	O	285508	SR	0.20	0.20	0.08	0.20	-0.25	0.03	1.9
P	75	O	285509	SR	0.15	0.26	-0.12	0.03	-0.07	0.26	2.6
P	76	O	285510	SR	0.38	0.36	0.36	-0.03	-0.20	-0.14	2.6
P	97	O	130248	SR	0.44	0.41	-0.14	0.41	-0.20	-0.09	1.9
P	98	O	130249	SR	0.21	0.06	0.04	0.06	0.00	-0.01	1.9
<b>Mean</b>					0.43	0.31	0.01	-0.02	-0.08	0.02	1.1
<b>SD</b>					0.15	0.13	0.24	0.21	0.21	0.22	0.7

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A33 Item Statistics, Operational Items: MD HSA English–Summer Primary 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	1	L	273031	SR	0.62	0.30	0.30	-0.17	-0.24	-0.03	0.0
Q	2	L	273034	SR	0.55	0.33	-0.23	-0.17	-0.13	0.33	0.0
Q	3	L	273032	SR	0.15	0.12	-0.07	0.00	-0.03	0.12	0.0
Q	4	L	273035	SR	0.27	0.21	0.21	-0.03	-0.15	-0.04	0.6
Q	5	L	273036	SR	0.27	0.15	0.15	-0.10	0.07	-0.16	0.6
Q	6	L	273037	SR	0.45	0.32	-0.10	-0.12	0.32	-0.23	0.6
Q	12	L	108722	SR	0.32	0.33	0.33	-0.15	-0.22	0.00	0.0
Q	13	L	108723	SR	0.54	0.38	0.38	-0.28	-0.08	-0.14	0.0
Q	14	L	108724	SR	0.51	0.38	-0.11	0.38	-0.27	-0.13	0.0
Q	24	O	256301	SR	0.39	0.48	0.48	-0.04	-0.29	-0.26	0.0
Q	25	L	272871	SR	0.45	0.19	-0.07	0.19	-0.10	-0.07	1.1
Q	26	O	256298	SR	0.52	0.51	-0.14	-0.34	0.51	-0.31	0.0
Q	27	O	223369	SR	0.30	0.57	0.57	-0.08	-0.33	-0.24	4.3
Q	28	O	223303	SR	0.61	0.29	-0.12	-0.14	0.29	-0.26	4.3
Q	29	O	223304	SR	0.26	0.26	-0.07	0.26	0.04	-0.27	4.3
Q	30	O	223305	SR	0.22	0.22	-0.01	-0.07	0.22	-0.16	4.3
Q	31	O	223306	SR	0.39	-0.10	0.28		-0.11	-0.10	4.3
Q	32	O	223307	SR	0.43	0.52	-0.09	-0.42	-0.23	0.52	4.3
Q	33	O	95665	SR	0.61	0.61	-0.41	-0.33	0.61		0.0
Q	34	O	96104	SR	0.43	0.59	-0.42	-0.37	0.59	0.00	0.0
Q	35	O	130256	SR	0.48	0.57	-0.20	0.57	-0.21	-0.37	0.0
Q	37	L	95963	SR	0.49	0.53	0.53	-0.28	-0.21	-0.20	0.6
Q	38	L	95964	SR	0.44	0.41	-0.20	-0.23	-0.04	0.41	0.6
Q	39	L	95965	SR	0.39	0.26	0.26	-0.20	-0.07	-0.03	0.6
Q	40	L	95966	SR	0.56	0.45	0.45	-0.18	-0.29	-0.12	0.6
Q	41	L	95991	SR	0.45	0.29	-0.10	0.29	-0.13	-0.12	0.6
Q	42	L	95992	SR	0.40	0.35	-0.28	-0.22	0.00	0.35	1.1
Q	43	L	95993	SR	0.60	0.27	0.27	-0.03	-0.23	-0.22	1.1
Q	44	L	95994	SR	0.47	0.30	0.30	-0.14	-0.20	0.00	1.1
Q	45	L	95995	SR	0.54	0.31	-0.19	0.31	-0.06	-0.21	0.6
Q	46	L	108820	SR	0.60	0.35	-0.16	0.35	-0.21	-0.08	1.7
Q	47	L	109744	SR	0.49	0.40	-0.19	-0.09	-0.24	0.40	1.7
Q	48	L	108822	SR	0.25	0.28	-0.25	0.14	-0.23	0.28	0.6
Q	49	L	108823	SR	0.45	0.30	-0.19	-0.09	0.30	-0.06	0.6
Q	50	L	108827	SR	0.62	0.48	-0.30	0.48	-0.20	-0.14	0.6
Q	51	L	108824	SR	0.46	0.47	-0.26	-0.03	-0.30	0.47	0.6
Q	52	L	108826	SR	0.19	-0.12	-0.12	0.20	0.01	-0.11	0.6
Q	56	L	130955	SR	0.45	0.43	0.43	-0.11	-0.21	-0.24	0.6
Q	57	L	132497	SR	0.50	0.39	-0.15	-0.13	0.39	-0.22	1.7
Q	58	L	130956	SR	0.19	0.09	0.09	-0.22	0.05	0.13	1.1
Q	59	L	130971	SR	0.37	0.44	-0.14	-0.19	-0.15	0.44	2.3
Q	60	L	130972	SR	0.42	0.41	-0.18	-0.15	-0.13	0.41	1.1
Q	61	L	130973	SR	0.20	0.10	-0.15	0.10	0.14	-0.07	1.1
Q	62	L	132496	SR	0.45	0.21	0.21	-0.08	-0.12	-0.01	1.1

Table 1.A33 Item Statistics, Operational Items: MD HSA English–Summer Primary 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	63	L	130200	SR	0.36	0.29	0.29	0.07	-0.22	-0.22	2.3
Q	64	L	130974	SR	0.54	0.41	0.41	-0.24	-0.14	-0.12	1.1
Q	65	L	130975	SR	0.30	0.18	-0.10	0.18	-0.04	0.02	1.1
Q	66	O	256419	SR	0.61	0.53	-0.26	-0.31	0.53	-0.22	0.0
Q	67	O	256420	SR	0.57	0.60	-0.12	-0.54	-0.07	0.60	4.3
Q	68	O	256421	SR	0.52	0.54	-0.29	0.54	-0.12	-0.27	4.3
Q	69	O	109142	SR	0.17	0.30	-0.05	0.30	0.07	-0.23	4.3
Q	70	O	109144	SR	0.39	0.08	0.09	0.03	0.08	-0.16	4.3
Q	71	O	109148	SR	0.48	0.54	-0.22	0.54	-0.27	-0.20	4.3
Q	72	O	109145	SR	0.43	0.30	-0.10	0.05	-0.29	0.30	4.3
Q	73	O	109146	SR	0.39	0.20	-0.25	-0.22	0.20	0.30	4.3
Q	74	O	109150	SR	0.48	0.40	-0.15	-0.12	0.40	-0.21	4.3
Q	75	O	109147	SR	0.57	0.47	-0.23	-0.10	-0.29	0.47	4.3
Q	76	O	109149	SR	0.17	0.12	0.14	-0.07	0.12	-0.03	4.3
Q	97	O	256977	SR	0.74	0.10	0.09	-0.27	0.10	0.15	4.3
Q	98	O	256978	SR	0.22	0.55	-0.37	0.55	-0.14	0.01	4.3
<b>Mean</b>					0.43	0.34	-0.01	-0.03	-0.03	-0.01	1.8
<b>SD</b>					0.14	0.17	0.26	0.26	0.24	0.25	1.8

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.A34 Item Statistics, Operational Items: MD HSA Government–Summer Primary 1

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
P	1	L	263983	SR	0.47	0.26	0.26	-0.23	-0.09	0.02	0.0
P	2	L	348453	SR	0.35	0.24	0.24	-0.02	-0.21	-0.11	0.0
P	3	O	50881	SR	0.41	0.51	-0.27	-0.25	-0.11	0.51	0.0
P	4	L	296484	SR	0.40	0.39	0.39	-0.10	-0.28	-0.17	0.0
P	5	L	296485	SR	0.52	0.37	0.37	-0.13	-0.14	-0.23	0.3
P	7	L	283092	SR	0.50	0.24	-0.19	-0.05	0.24	-0.18	0.0
P	8	O	348512	SR	0.40	0.37	-0.11	-0.14	-0.20	0.37	0.0
P	10	O	283123	SR	0.44	0.32	-0.22	-0.09	0.32	-0.14	0.0
P	11	O	68673	SR	0.57	0.49	-0.21	-0.24	-0.26	0.49	0.0
P	12	O	271794	SR	0.52	0.28	-0.19	-0.18	0.00	0.28	0.0
P	14	L	214511	SR	0.40	0.22	-0.20	0.22	-0.08	-0.02	0.3
P	15	L	137306	SR	0.45	0.36	-0.26	-0.25	0.36	0.04	0.7
P	16	L	79745	SR	0.32	0.12	0.21	0.12	-0.17	-0.22	0.3
P	17	L	132984	SR	0.35	0.25	-0.07	-0.04	-0.19	0.25	0.0
P	18	L	68621	CR	0.21	0.68					7.6
P	20	L	79692	SR	0.29	0.27	0.27	-0.21	-0.04	-0.07	0.0
P	21	O	321100	SR	0.35	0.37	-0.09	-0.15	-0.18	0.37	0.0
P	22	L	361457	SR	0.43	0.44	-0.14	-0.24	0.44	-0.17	0.3
P	23	L	361491	SR	0.65	0.53	-0.22	0.53	-0.33	-0.23	0.3
P	25	O	65215	SR	0.47	0.47	0.47	-0.17	-0.24	-0.17	1.9
P	27	L	50993	SR	0.48	0.35	0.35	-0.04	-0.25	-0.16	2.3
P	28	O	60558	SR	0.54	0.36	-0.21	-0.14	0.36	-0.08	2.7
P	29	O	363190	SR	0.23	0.22	0.01	-0.13	-0.13	0.22	0.8
P	31	L	108439	SR	0.51	0.39	0.39	-0.11	-0.25	-0.15	0.7
P	32	L	339208	SR	0.43	0.47	-0.08	-0.23	-0.28	0.47	0.3
P	33	O	279732	SR	0.53	0.40	-0.14	-0.19	0.40	-0.20	0.4
P	34	L	79685	SR	0.31	0.28	-0.02	0.28	-0.16	-0.11	0.3
P	35	L	79552	CR	0.15	0.62					13.2
P	36	O	108457	SR	0.40	0.28	-0.13	0.28	-0.04	-0.21	0.4
P	37	O	361443	SR	0.49	0.22	0.22	-0.17	-0.13	-0.01	0.4
P	38	L	368671	SR	0.38	0.13	-0.06	0.13	-0.03	-0.07	0.7
P	40	L	368609	SR	0.38	0.36	-0.03	0.36	-0.19	-0.22	0.3
P	41	O	68020	SR	0.30	0.20	0.20	-0.17	0.03	-0.09	0.4
P	42	L	79585	SR	0.58	0.50	-0.08	0.50	-0.32	-0.26	0.3
P	43	O	263965	SR	0.44	0.24	-0.12	0.24	-0.14	-0.03	0.4
P	44	L	68519	CR	0.07	0.63					14.8
-P	45	L	363182	SR	0.64	0.49	-0.28	-0.19	0.49	-0.24	0.7
P	46	O	374674	SR	0.44	0.35	-0.24	-0.13	0.35	-0.02	1.1
P	47	L	339217	SR	0.38	0.25	-0.03	-0.11	0.25	-0.15	1.6
P	49	O	339078	SR	0.53	0.34	0.34	-0.13	-0.19	-0.13	0.8
P	50	O	279826	SR	0.46	0.31	-0.18	0.31	-0.12	-0.10	1.1
P	51	L	65203	SR	0.24	0.34	-0.14	-0.13	-0.06	0.34	0.7
P	52	L	297127	SR	0.34	0.29	-0.27	0.02	0.29	-0.12	0.7
P	53	L	297128	SR	0.39	0.28	-0.13	-0.20	0.00	0.28	0.7

Table 1.A34 Item Statistics, Operational Items: MD HSA Government–Summer Primary 1

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
P	54	O	132964	SR	0.46	0.34	-0.12	0.34	-0.26	-0.08	0.4
P	55	L	108346	SR	0.52	0.45	-0.20	0.45	-0.21	-0.19	0.3
P	56	L	55525	CR	0.20	0.70					12.2
P	58	L	58357	SR	0.49	0.51	0.51	-0.27	-0.28	-0.12	0.7
P	60	L	79687	SR	0.46	0.43	-0.17	0.43	-0.18	-0.20	0.3
P	61	O	279838	SR	0.46	0.23	-0.13	-0.21	0.23	0.08	0.8
P	62	L	279784	SR	0.42	0.35	-0.08	-0.25	-0.08	0.35	0.7
P	63	O	68599	SR	0.45	0.48	-0.26	0.48	-0.22	-0.14	0.4
P	64	L	324438	SR	0.37	0.40	-0.02	-0.21	0.40	-0.25	1.0
P	65	O	370265	SR	0.47	0.36	-0.18	-0.12	0.36	-0.15	0.8
P	68	L	68791	SR	0.44	0.31	-0.02	-0.21	-0.16	0.31	1.3
P	69	L	302858	SR	0.54	0.41	-0.17	0.41	-0.20	-0.17	1.3
P	70	L	65186	SR	0.57	0.44	-0.30	-0.17	0.44	-0.14	1.3
P	71	O	68088	SR	0.65	0.55	0.55	-0.23	-0.33	-0.22	1.5
P	72	O	264006	SR	0.37	0.24	0.04	0.24	-0.15	-0.16	1.1
P	73	L	65157	CR	0.20	0.61					17.1
P	74	L	51744	SR	0.60	0.51	0.51	-0.26	-0.28	-0.17	2.3
P	75	O	364285	SR	0.43	0.23	0.23	0.04	-0.16	-0.17	2.3
P	76	L	257003	SR	0.37	0.34	-0.01	-0.20	-0.20	0.34	1.6
P	77	O	374519	SR	0.22	0.24	0.24	0.05	-0.26	-0.05	1.9
P	78	O	65173	SR	0.62	0.55	-0.25	-0.28	0.55	-0.25	1.9
P	80	L	364279	SR	0.17	0.08	0.13	0.07	-0.29	0.08	1.6
P	81	L	364280	SR	0.39	0.14	-0.01	-0.07	0.14	-0.07	1.6
<b>Mean</b>					0.42	0.36	0.00	-0.02	-0.04	-0.03	1.7
<b>SD</b>					0.12	0.14	0.24	0.23	0.25	0.21	3.4

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.



Table 1.A35 Item Statistics, Operational Items: MD HSA Government–Summer Primary 2

Form	Pos No	Anchor Status	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
Q	1	L	263983	SR	0.47	0.26	0.26	-0.23	-0.09	0.02	0.0
Q	2	L	348453	SR	0.35	0.24	0.24	-0.02	-0.21	-0.11	0.0
Q	3	O	58142	SR	0.62	0.27	-0.18	0.27	-0.06	-0.17	0.0
Q	4	L	296484	SR	0.40	0.39	0.39	-0.10	-0.28	-0.17	0.0
Q	5	L	296485	SR	0.52	0.37	0.37	-0.13	-0.14	-0.23	0.3
Q	7	L	283092	SR	0.50	0.24	-0.19	-0.05	0.24	-0.18	0.0
Q	8	O	279759	SR	0.26	0.32	0.32	-0.03	-0.23	-0.19	0.0
Q	10	O	339082	SR	0.43	0.28	-0.18	0.28	-0.11	-0.05	0.0
Q	11	O	51132	SR	0.26	0.23	0.00	-0.02	-0.19	0.23	0.0
Q	12	O	55658	SR	0.38	0.24	0.24	-0.21	0.24	-0.31	2.4
Q	14	L	214511	SR	0.40	0.22	-0.20	0.22	-0.08	-0.02	0.3
Q	15	L	137306	SR	0.45	0.36	-0.26	-0.25	0.36	0.04	0.7
Q	16	L	79745	SR	0.32	0.12	0.21	0.12	-0.17	-0.22	0.3
Q	17	L	132984	SR	0.35	0.25	-0.07	-0.04	-0.19	0.25	0.0
Q	18	L	68621	CR	0.21	0.68					7.6
Q	20	L	79692	SR	0.29	0.27	0.27	-0.21	-0.04	-0.07	0.0
Q	21	O	279746	SR	0.43	0.53	-0.13	0.53	-0.35	-0.16	2.4
Q	22	L	361457	SR	0.43	0.44	-0.14	-0.24	0.44	-0.17	0.3
Q	23	L	361491	SR	0.65	0.53	-0.22	0.53	-0.33	-0.23	0.3
Q	25	O	51001	SR	0.62	0.53	-0.37	0.53	-0.14	-0.26	0.0
Q	27	L	50993	SR	0.48	0.35	0.35	-0.04	-0.25	-0.16	2.3
Q	28	O	55703	SR	0.36	0.24	-0.18	0.24	-0.28	0.07	0.0
Q	29	O	279854	SR	0.29	-0.11	-0.11	0.01	-0.17	0.26	0.0
Q	31	L	108439	SR	0.51	0.39	0.39	-0.11	-0.25	-0.15	0.7
Q	32	L	339208	SR	0.43	0.47	-0.08	-0.23	-0.28	0.47	0.3
Q	33	O	79628	SR	0.74	0.45	-0.25	-0.26	0.45	-0.17	0.0
Q	34	L	79685	SR	0.31	0.28	-0.02	0.28	-0.16	-0.11	0.3
Q	35	L	79552	CR	0.15	0.62					13.2
Q	36	O	68762	SR	0.26	0.44	-0.09	-0.21	-0.16	0.44	0.0
Q	37	O	79561	SR	0.26	-0.20	-0.34	0.46	-0.20	0.06	0.0
Q	38	L	368671	SR	0.38	0.13	-0.06	0.13	-0.03	-0.07	0.7
Q	40	L	368609	SR	0.38	0.36	-0.03	0.36	-0.19	-0.22	0.3
Q	41	O	363260	SR	0.48	0.30	-0.21	0.07	0.30	-0.39	0.0
Q	42	L	79585	SR	0.58	0.50	-0.08	0.50	-0.32	-0.26	0.3
Q	43	O	55509	SR	0.57	0.53	-0.26	-0.41	0.06	0.53	0.0
Q	44	L	68519	CR	0.07	0.63					14.8
Q	45	L	363182	SR	0.64	0.49	-0.28	-0.19	0.49	-0.24	0.7
Q	46	O	339050	SR	0.29	0.34	-0.21	0.08	-0.34	0.34	0.0
Q	47	L	339217	SR	0.38	0.25	-0.03	-0.11	0.25	-0.15	1.6
Q	49	O	51084	SR	0.50	0.41	0.41	-0.09	-0.33	-0.25	2.4
Q	50	O	348518	SR	0.52	0.30	-0.07	-0.17	0.30	-0.19	0.0
Q	51	L	65203	SR	0.24	0.34	-0.14	-0.13	-0.06	0.34	0.7
Q	52	L	297127	SR	0.34	0.29	-0.27	0.02	0.29	-0.12	0.7
Q	53	L	297128	SR	0.39	0.28	-0.13	-0.20	0.00	0.28	0.7

Table 1.A35 Item Statistics, Operational Items: MD HSA Government–Summer Primary 2

Form	Pos_No	Anchor Status	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
Q	54	O	68715	SR	0.29	0.25	0.25	-0.07	-0.16	-0.07	0.0
Q	55	L	108346	SR	0.52	0.45	-0.20	0.45	-0.21	-0.19	0.3
Q	56	L	55525	CR	0.20	0.70					12.2
Q	58	L	58357	SR	0.49	0.51	0.51	-0.27	-0.28	-0.12	0.7
Q	60	L	79687	SR	0.46	0.43	-0.17	0.43	-0.18	-0.20	0.3
Q	61	O	348490	SR	0.52	0.60	-0.39	0.60	-0.31	-0.06	0.0
Q	62	L	279784	SR	0.42	0.35	-0.08	-0.25	-0.08	0.35	0.7
Q	63	O	264024	SR	0.50	0.62	-0.19	-0.42	0.62	-0.23	0.0
Q	64	L	324438	SR	0.37	0.40	-0.02	-0.21	0.40	-0.25	1.0
Q	65	O	64788	SR	0.62	0.45	0.45	-0.14	-0.36	-0.13	2.4
Q	68	L	68791	SR	0.44	0.31	-0.02	-0.21	-0.16	0.31	1.3
Q	69	L	302858	SR	0.54	0.41	-0.17	0.41	-0.20	-0.17	1.3
Q	70	L	65186	SR	0.57	0.44	-0.30	-0.17	0.44	-0.14	1.3
Q	71	O	283119	SR	0.48	0.52	-0.25	0.52	-0.30	-0.12	2.4
Q	72	O	279752	SR	0.64	0.51	-0.37	-0.19	0.51	-0.20	2.4
Q	73	L	65157	CR	0.20	0.61					17.1
Q	74	L	51744	SR	0.60	0.51	0.51	-0.26	-0.28	-0.17	2.3
Q	75	O	55527	SR	0.29	0.18	0.18	-0.02	-0.38	0.24	0.0
Q	76	L	257003	SR	0.37	0.34	-0.01	-0.20	-0.20	0.34	1.6
Q	77	O	58359	SR	0.48	0.46	-0.21	-0.20	-0.23	0.46	0.0
Q	78	O	321114	SR	0.43	0.27	0.27	-0.19	-0.25	-0.01	0.0
Q	80	L	364279	SR	0.17	0.08	0.13	0.07	-0.29	0.08	1.6
Q	81	L	364280	SR	0.39	0.14	-0.01	-0.07	0.14	-0.07	1.6
<b>Mean</b>					0.42	0.36	-0.02	0.01	-0.06	-0.03	1.6
<b>SD</b>					0.14	0.17	0.25	0.27	0.27	0.23	3.5

Note: Anchor Status: L= item is common across all forms in this administration, O = item is in 1 or more but not all forms in this administration; P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

## **Appendix 1B. MD HSA Classical Item Statistics: Field Test Items**

Table 1.B1 Item Statistics, Field Test Items: MDHSA Biology—January Forms

Form	N	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
A	7471	455095	SR	0.79	0.39	-0.19	-0.18	-0.25	0.39	0.1
A	7471	455098	SR	0.47	0.43	0.43	-0.22	-0.18	-0.16	0.1
A	7471	423695	SR	0.68	0.37	0.37	-0.17	-0.20	-0.20	0.1
A	7471	445877	SR	0.46	0.48	-0.18	0.48	-0.27	-0.17	0.3
A	7471	445879	SR	0.35	0.31	0.31	-0.24	-0.13	0.00	0.3
A	7471	445878	SR	0.44	0.29	-0.08	-0.22	0.29	-0.07	0.2
A	7471	423689	SR	0.58	0.45	-0.17	0.45	-0.28	-0.18	0.2
A	7471	416429	SR	0.56	0.46	-0.22	0.46	-0.19	-0.22	0.4
A	7471	455946	SR	0.71	0.35	0.35	-0.15	-0.25	-0.12	0.2
A	7471	364175	SR	0.75	0.40	-0.16	0.40	-0.26	-0.18	0.2
A	7471	364173	SR	0.46	0.32	0.32	-0.12	-0.20	-0.10	0.2
A	7471	447856	SR	0.49	0.34	-0.13	0.34	-0.15	-0.17	0.3
A	7471	447857	SR	0.34	0.37	0.37	-0.08	-0.21	-0.11	0.3
A	7471	414818	SR	0.32	0.34	-0.16	-0.11	0.34	-0.10	0.3
A	7471	447130	SR	0.44	0.48	0.48	-0.24	-0.17	-0.22	0.4
A	7471	455076	SR	0.60	0.51	-0.18	-0.24	-0.30	0.51	0.4
A	7471	455077	SR	0.52	0.38	0.38	-0.15	-0.20	-0.17	0.3
A	7471	455078	SR	0.49	0.51	-0.15	-0.27	-0.24	0.51	0.3
A	7471	455100	SR	0.43	0.34	-0.17	-0.10	0.34	-0.19	0.5
A	7471	455099	SR	0.38	0.47	-0.16	-0.23	-0.17	0.47	0.4
A	7471	449674	SR	0.41	0.25	-0.18	-0.02	0.25	-0.12	0.4
A	7471	455955	SR	0.65	0.48	-0.23	0.48	-0.27	-0.21	0.5
A	7471	423692	SR	0.38	0.55	-0.09	-0.20	-0.34	0.55	0.4
B	3865	416455	SR	0.56	0.46	0.46	-0.21	-0.22	-0.25	0.0
B	3865	416454	SR	0.65	0.44	-0.18	-0.21	-0.27	0.44	0.0
B	3865	455104	SR	0.42	0.49	-0.20	-0.17	-0.26	0.49	0.2
B	3865	445812	SR	0.44	0.50	-0.20	-0.18	-0.27	0.50	0.1
B	3865	455936	SR	0.49	0.36	0.36	-0.11	-0.22	-0.19	0.0
B	3865	445813	SR	0.50	0.49	0.49	-0.21	-0.23	-0.24	0.1
B	3865	455133	SR	0.62	0.42	-0.23	0.42	-0.24	-0.16	0.1
B	3865	414819	SR	0.36	0.30	-0.15	-0.14	0.30	-0.05	0.3
B	3865	455118	SR	0.63	0.43	-0.21	-0.16	0.43	-0.26	0.2
B	3865	373105	SR	0.31	0.23	-0.11	-0.04	-0.09	0.23	0.3
B	3865	373104	SR	0.47	0.46	0.46	-0.25	-0.15	-0.19	0.3
B	3865	373110	SR	0.29	0.24	<b>0.08</b>	-0.18	0.24	-0.17	0.4
B	3865	373111	SR	0.52	0.50	-0.22	0.50	-0.22	-0.24	0.4
B	3865	455120	SR	0.44	0.41	-0.13	-0.24	0.41	-0.14	0.4
B	3865	416425	SR	0.40	0.50	-0.23	-0.28	-0.15	0.50	0.4
B	3865	449658	SR	0.51	0.43	-0.18	-0.26	0.43	-0.13	0.3
B	3865	449664	SR	0.36	0.34	-0.09	0.34	-0.21	-0.12	0.4
B	3865	449661	SR	0.54	0.44	-0.21	-0.23	0.44	-0.16	0.4
B	3865	455101	SR	0.47	0.46	-0.18	-0.27	0.46	-0.14	0.5
B	3865	455103	SR	0.52	0.41	-0.06	0.41	-0.29	-0.21	0.4
B	3865	455105	SR	0.40	0.58	-0.16	-0.28	-0.27	0.58	0.4

Table 1.B1 Item Statistics, Field Test Items: MDHSA Biology—January Forms

Form	<i>N</i>	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
B	3865	431177	SR	0.34	0.15	-0.13	0.15	<b>0.03</b>	-0.10	0.4
B	3865	447135	SR	0.33	0.43	-0.03	0.43	-0.24	-0.22	0.3
Mean				0.48	0.41	-0.01	-0.03	-0.08	-0.01	0.3
<i>SD</i>				0.12	0.09	0.25	0.27	0.26	0.28	0.1

Note: Values in bold are outside of the accepted range. Statistics for items on multiple forms are listed under the first form on which the item appeared. P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.B2 Item Statistics, Field Test Items: MDHSA Government—January Forms

Form	N	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
A	4550	257005	SR	0.33	0.43	-0.05	-0.29	0.43	-0.16	0.0
A	4550	52285	CR	0.13	0.74					6.7
A	4550	378402	SR	0.53	0.33	-0.23	-0.14	-0.10	0.33	0.1
A	4550	348543	SR	0.40	0.31	-0.09	-0.18	0.31	-0.10	0.2
A	4550	374536	SR	0.39	0.55	-0.23	-0.32	-0.15	0.55	0.3
A	4550	370287	SR	0.73	0.49	0.49	-0.28	-0.26	-0.22	0.2
A	4550	374439	SR	0.47	0.33	-0.24	-0.03	-0.26	0.33	0.2
A	4550	271807	SR	0.58	0.53	-0.22	-0.29	0.53	-0.25	0.3
A	4550	52184	CR	0.32	0.72					6.0
A	4550	378398	SR	0.78	0.44	-0.25	0.44	-0.25	-0.19	0.3
A	4550	394685	SR	0.41	0.39	-0.13	0.39	-0.28	-0.08	0.4
A	4550	395874	SR	0.59	0.48	-0.22	0.48	-0.27	-0.18	0.4
A	4550	374595	SR	0.67	0.53	0.53	-0.29	-0.29	-0.19	0.4
A	4550	385502	SR	0.56	0.56	0.56	-0.24	-0.28	-0.25	0.4
B	2281	374464	SR	0.40	0.17	<b>0.06</b>	0.17	-0.21	-0.09	0.0
B	2281	79554	CR	0.26	0.80					5.2
B	2281	353653	SR	0.64	0.41	0.41	-0.31	-0.25	-0.05	0.3
B	2281	395833	SR	0.54	0.60	-0.21	-0.33	-0.28	0.60	0.3
B	2281	283267	SR	0.46	0.38	0.38	-0.26	-0.23	<b>0.00</b>	0.5
B	2281	364287	SR	0.70	0.38	-0.18	0.38	-0.28	-0.16	0.4
B	2281	339065	SR	0.66	0.50	-0.15	-0.34	-0.22	0.50	0.3
B	2281	374503	SR	0.36	<b>0.07</b>	0.07	-0.08	<b>0.03</b>	-0.03	0.2
B	2281	60422	CR	0.13	0.72					7.4
B	2281	368626	SR	0.24	0.27	-0.05	0.27	-0.06	-0.17	0.3
B	2281	374597	SR	0.67	0.36	-0.09	-0.24	0.36	-0.21	0.2
B	2281	374463	SR	0.31	<b>0.03</b>	<b>0.05</b>	0.03	-0.18	<b>0.08</b>	0.2
B	2281	374474	SR	0.46	0.29	<b>0.02</b>	-0.15	-0.26	0.29	0.3
B	2281	378363	SR	0.32	0.26	0.26	-0.13	-0.23	<b>0.06</b>	0.4
<b>Mean</b>				0.47	0.43	0.02	-0.07	-0.11	0.02	1.1
<b>SD</b>				0.18	0.19	0.27	0.28	0.25	0.27	2.2

Note: Values in bold are outside of the accepted range. Statistics for items on multiple forms are listed under the first form on which the item appeared. P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.B3 Item Statistics, Field Test Items: MDHSA Biology—May Forms

Form	N	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D	23101	421490	SR	0.70	0.42	-0.19	-0.25	0.42	-0.20	0.0
D	23101	421491	SR	0.29	0.30	-0.17	-0.04	-0.15	0.30	0.0
D	23101	363160	SR	0.87	0.43	-0.21	-0.25	-0.25	0.43	0.1
D	23101	460761	SR	0.60	0.51	0.51	-0.25	-0.29	-0.19	0.1
D	23101	414813	SR	0.38	0.34	-0.24	-0.28	<b>0.07</b>	0.34	0.3
D	23101	414814	SR	0.33	0.25	0.25	-0.05	-0.06	-0.22	0.3
D	23101	414815	SR	0.66	0.49	-0.20	-0.28	0.49	-0.26	0.2
D	23101	417627	SR	0.57	0.48	-0.27	-0.23	0.48	-0.17	0.3
D	23101	456769	SR	0.65	0.40	0.40	-0.23	-0.19	-0.23	0.1
D	23101	453166	SR	0.76	0.54	-0.23	-0.29	-0.32	0.54	0.2
D	23101	455949	SR	0.39	0.34	0.34	-0.12	-0.25	-0.05	0.1
D	23101	455110	SR	0.56	0.46	-0.29	-0.22	0.46	-0.10	0.2
D	23101	453173	SR	0.59	0.57	0.57	-0.29	-0.29	-0.22	0.2
D	23101	453171	SR	0.73	0.26	-0.10	0.26	-0.17	-0.12	0.2
D	23101	455134	SR	0.58	0.57	-0.33	-0.30	0.57	-0.20	0.2
D	23101	456767	SR	0.44	0.42	-0.14	-0.27	-0.20	0.42	0.2
D	23101	423641	SR	0.70	0.41	-0.21	0.41	-0.20	-0.22	0.3
D	23101	423644	SR	0.70	0.55	-0.22	-0.29	-0.33	0.55	0.3
D	23101	423643	SR	0.69	0.48	-0.22	-0.29	0.48	-0.23	0.3
D	23101	432431	SR	0.61	0.50	-0.25	-0.34	0.50	-0.10	0.3
D	23101	449656	SR	0.61	0.46	-0.25	0.46	-0.28	-0.16	0.3
D	23101	449653	SR	0.79	0.50	0.50	-0.32	-0.22	-0.24	0.3
D	23101	415076	SR	0.64	0.35	-0.04	-0.34	0.35	-0.18	0.3
E	9009	417690	SR	0.65	0.53	0.53	-0.26	-0.32	-0.22	0.1
E	9009	417660	SR	0.61	0.31	-0.26	0.31	-0.05	-0.21	0.0
E	9009	431176	SR	0.60	0.44	-0.20	0.44	-0.21	-0.22	0.1
E	9009	455142	SR	0.67	0.37	-0.15	-0.29	-0.11	0.37	0.1
E	9009	414908	SR	0.63	0.46	0.46	-0.25	-0.26	-0.18	0.2
E	9009	414909	SR	0.69	0.46	-0.21	-0.25	-0.23	0.46	0.2
E	9009	414911	SR	0.62	0.53	-0.15	0.53	-0.28	-0.34	0.2
E	9009	455131	SR	0.68	0.54	0.54	-0.30	-0.32	-0.18	0.1
E	9009	455130	SR	0.79	0.42	0.42	-0.23	-0.24	-0.22	0.1
E	9009	417649	SR	0.87	0.41	-0.18	-0.27	0.41	-0.20	0.1
E	9009	417702	SR	0.78	0.52	-0.25	-0.27	-0.31	0.52	0.1
E	9009	449677	SR	0.58	0.51	-0.33	-0.26	0.51	-0.19	0.1
E	9009	421542	SR	0.71	0.48	-0.20	-0.27	-0.27	0.48	0.2
E	9009	421541	SR	0.75	0.52	0.52	-0.30	-0.26	-0.23	0.2
E	9009	455137	SR	0.61	0.52	-0.25	0.52	-0.29	-0.19	0.3
E	9009	455112	SR	0.58	0.49	-0.27	0.49	-0.22	-0.19	0.2
E	9009	453153	SR	0.59	0.46	-0.29	-0.21	0.46	-0.17	0.2
E	9009	453154	SR	0.63	0.38	-0.15	-0.26	-0.13	0.38	0.2
E	9009	453156	SR	0.48	<b>0.08</b>	<b>0.08</b>	-0.10	0.08	-0.08	0.2
E	9009	455111	SR	0.58	0.36	-0.19	-0.35	-0.03	0.36	0.3
E	9009	449654	SR	0.67	0.39	0.39	-0.24	-0.13	-0.19	0.3

Table 1.B3 Item Statistics, Field Test Items: MDHSA Biology—May Forms

Form	N	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
E	9009	449655	SR	0.49	0.28	-0.03	-0.24	-0.14	0.28	0.3
E	9009	455128	SR	0.39	0.40	-0.13	-0.20	0.40	-0.15	0.3
F	9045	417636	SR	0.19	0.27	-0.21	0.00	-0.03	0.27	0.1
F	9045	417691	SR	0.60	0.39	-0.06	-0.10	0.39	-0.35	0.1
F	9045	322185	SR	0.85	0.45	-0.18	-0.28	0.45	-0.27	0.0
F	9045	455109	SR	0.62	0.45	0.45	-0.24	-0.25	-0.17	0.1
F	9045	445874	SR	0.64	0.49	-0.26	-0.24	-0.25	0.49	0.2
F	9045	445871	SR	0.75	0.42	-0.15	-0.27	0.42	-0.24	0.2
F	9045	445869	SR	0.31	<b>0.06</b>	0.06	-0.20	<b>0.02</b>	<b>0.03</b>	0.2
F	9045	414915	SR	0.55	0.37	-0.14	-0.18	-0.24	0.37	0.2
F	9045	392467	SR	0.54	0.42	-0.19	-0.20	-0.21	0.42	0.0
F	9045	417699	SR	0.50	0.40	-0.19	-0.22	-0.13	0.40	0.1
F	9045	417701	SR	0.71	0.52	0.52	-0.27	-0.31	-0.23	0.0
F	9045	455126	SR	0.62	0.42	-0.25	0.42	-0.18	-0.19	0.1
F	9045	447213	SR	0.78	0.54	-0.23	-0.29	-0.33	0.54	0.1
F	9045	455068	SR	0.54	0.27	0.27	-0.31	-0.26	-0.02	0.1
F	9045	415104	SR	0.46	0.23	-0.09	-0.09	0.23	-0.15	0.1
F	9045	455123	SR	0.66	0.33	-0.22	0.33	-0.22	-0.09	0.1
F	9045	453155	SR	0.51	0.38	-0.16	0.38	-0.29	-0.06	0.1
F	9045	453157	SR	0.77	0.40	0.40	-0.22	-0.23	-0.18	0.2
F	9045	456754	SR	0.66	0.22	-0.04	-0.16	0.22	-0.11	0.1
F	9045	417629	SR	0.68	0.56	-0.26	-0.35	-0.24	0.56	0.2
F	9045	422523	SR	0.60	0.39	0.39	-0.13	-0.29	-0.17	0.2
F	9045	422521	SR	0.60	0.35	-0.19	-0.17	0.35	-0.20	0.2
F	9045	455143	SR	0.46	0.45	-0.28	0.45	-0.22	-0.11	0.2
G	9008	453163	SR	0.45	0.40	-0.02	-0.28	-0.26	0.40	0.1
G	9008	455950	SR	0.61	0.34	-0.24	0.34	-0.22	-0.06	0.1
G	9008	417622	SR	0.49	0.51	-0.26	-0.21	-0.24	0.51	0.1
G	9008	455135	SR	0.88	0.40	0.40	-0.21	-0.23	-0.23	0.1
G	9008	445875	SR	0.67	0.37	-0.18	0.37	-0.27	-0.10	0.2
G	9008	445872	SR	0.76	0.33	0.33	-0.24	-0.24	-0.08	0.1
G	9008	445876	SR	0.63	0.47	-0.14	-0.25	-0.30	0.47	0.1
G	9008	455954	SR	0.42	0.38	0.38	-0.10	-0.18	-0.20	0.2
G	9008	423812	SR	0.75	0.45	0.45	-0.28	-0.24	-0.19	0.1
G	9008	417678	SR	0.68	0.43	-0.14	0.43	-0.28	-0.21	0.1
G	9008	417676	SR	0.72	0.48	0.48	-0.27	-0.28	-0.20	0.1
G	9008	421548	SR	0.74	0.51	-0.26	-0.22	0.51	-0.32	0.0
G	9008	453097	SR	0.57	0.35	-0.15	-0.20	0.35	-0.15	0.1
G	9008	453096	SR	0.59	0.44	-0.19	-0.23	-0.20	0.44	0.2
G	9008	423697	SR	0.51	0.42	-0.14	0.42	-0.27	-0.18	0.2
G	9008	415077	SR	0.67	0.46	-0.21	0.46	-0.29	-0.19	0.3
G	9008	453123	SR	0.56	0.39	0.39	-0.15	-0.20	-0.18	0.3
G	9008	453125	SR	0.56	0.54	-0.17	-0.28	-0.29	0.54	0.3
G	9008	453151	SR	0.41	0.15	0.15	-0.11	<b>0.05</b>	-0.22	0.3



Table 1.B3 Item Statistics, Field Test Items: MDHSA Biology—May Forms

Form	N	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
G	9008	455129	SR	0.49	0.56	-0.34	-0.22	-0.16	0.56	0.3
G	9008	422519	SR	0.57	0.43	-0.16	0.43	-0.34	-0.10	0.4
G	9008	422524	SR	0.63	0.31	-0.01	-0.29	0.31	-0.19	0.4
G	9008	415103	SR	0.72	0.53	-0.22	-0.27	0.53	-0.31	0.3
H	8799	453161	SR	0.80	0.40	-0.26	-0.22	0.40	-0.14	0.0
H	8799	453162	SR	0.77	0.43	0.43	-0.18	-0.26	-0.25	0.0
H	8799	453174	SR	0.67	0.40	-0.26	-0.11	-0.21	0.40	0.1
H	8799	423693	SR	0.38	0.24	0.24	<b>0.03</b>	-0.22	-0.24	0.1
H	8799	414913	SR	0.53	0.45	-0.22	-0.25	-0.18	0.45	0.2
H	8799	414912	SR	0.59	0.39	-0.26	0.39	-0.14	-0.16	0.2
H	8799	414914	SR	0.65	0.46	-0.20	-0.27	0.46	-0.23	0.2
H	8799	373168	SR	0.67	0.47	0.47	-0.19	-0.33	-0.22	0.2
H	8799	423690	SR	0.56	0.40	-0.20	0.40	-0.20	-0.17	0.1
H	8799	417675	SR	0.30	0.31	<b>0.07</b>	-0.28	0.31	-0.17	0.1
H	8799	417677	SR	0.69	0.54	-0.24	-0.32	-0.26	0.54	0.1
H	8799	455136	SR	0.56	0.26	-0.17	0.26	-0.24	-0.06	0.1
H	8799	453098	SR	0.58	0.48	-0.19	-0.24	-0.26	0.48	0.2
H	8799	453095	SR	0.69	0.47	0.47	-0.24	-0.30	-0.17	0.2
H	8799	410082	SR	0.74	0.46	-0.25	-0.27	0.46	-0.22	0.2
H	8799	431173	SR	0.87	0.46	0.46	-0.26	-0.21	-0.27	0.1
H	8799	447844	SR	0.70	0.33	0.33	-0.14	-0.28	-0.21	0.2
H	8799	447842	SR	0.44	0.12	-0.25	-0.26	0.12	<b>0.22</b>	0.2
H	8799	447840	SR	0.42	0.37	-0.25	-0.24	-0.05	0.37	0.2
H	8799	455107	SR	0.72	0.37	-0.19	0.37	-0.25	-0.08	0.2
H	8799	416474	SR	0.75	0.41	-0.23	0.41	-0.21	-0.20	0.3
H	8799	416477	SR	0.73	0.56	-0.27	-0.30	-0.29	0.56	0.3
H	8799	423694	SR	0.64	0.44	-0.24	-0.22	0.44	-0.18	0.2
<b>Mean</b>				0.61	0.41	-0.03	-0.10	-0.06	0.00	0.2
<b>SD</b>				0.13	0.10	0.28	0.26	0.29	0.29	0.1

Note: Values in bold are outside of the accepted range. Statistics for items on multiple forms are listed under the first form on which the item appeared. P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

Table 1.B4 Item Statistics, Field Test Items: MDHSA Government—May Forms

Form	N	ItemID	Item Type	P Val	R ITT	P BIS1	P BIS2	P BIS3	P BIS4	%Omits
D	10380	374466	SR	0.56	0.42	0.42	-0.18	-0.33	-0.12	0.1
D	10380	52187	CR	0.19	0.73					2.1
D	10380	394668	SR	0.81	0.45	-0.22	-0.25	0.45	-0.26	0.1
D	10380	348510	SR	0.54	0.18	-0.18	-0.08	0.18	0.00	0.6
D	10380	348873	SR	0.29	<b>0.07</b>	-0.12	0.07	<b>0.14</b>	-0.23	0.8
D	10380	353543	SR	0.30	0.18	-0.19	<b>0.04</b>	-0.05	0.18	0.9
D	10380	370264	SR	0.24	0.30	-0.02	0.30	-0.30	-0.01	0.3
D	10380	394637	SR	0.28	0.10	-0.19	<b>0.11</b>	0.10	-0.10	0.2
D	10380	79643	CR	0.27	0.73					4.9
D	10380	395869	SR	0.70	0.48	-0.29	0.48	-0.27	-0.12	0.3
D	10380	395864	SR	0.62	0.37	-0.17	-0.20	0.37	-0.18	0.4
D	10380	363226	SR	0.75	0.58	0.58	-0.31	-0.35	-0.23	0.4
D	10380	363227	SR	0.28	0.19	0.19	-0.15	-0.27	<b>0.13</b>	0.4
D	10380	394658	SR	0.64	0.50	-0.15	-0.34	0.50	-0.22	0.5
E	8633	283287	SR	0.24	<b>0.04</b>	0.04	-0.08	<b>0.04</b>	-0.03	0.2
E	8633	60425	CR	0.28	0.71					3.0
E	8633	374596	SR	0.38	0.31	-0.18	0.31	-0.16	-0.02	0.2
E	8633	374537	SR	0.52	0.27	-0.04	-0.22	0.27	-0.09	0.5
E	8633	353538	SR	0.83	0.51	-0.22	-0.32	-0.26	0.51	0.8
E	8633	349149	SR	0.41	0.30	-0.06	-0.17	0.30	-0.16	0.9
E	8633	368684	SR	0.62	0.35	0.35	-0.09	-0.34	-0.09	0.4
E	8633	393922	SR	0.36	0.19	0.19	-0.01	-0.10	-0.14	0.4
E	8633	79693	CR	0.28	0.71					<b>5.1</b>
E	8633	378377	SR	0.60	0.42	-0.18	0.42	-0.30	-0.10	0.4
E	8633	394695	SR	0.46	0.32	0.32	-0.11	-0.27	-0.06	0.4
E	8633	374567	SR	0.69	0.46	-0.22	0.46	-0.27	-0.20	0.5
E	8633	374578	SR	0.70	0.29	0.29	-0.17	-0.10	-0.20	0.4
E	8633	394713	SR	0.65	0.46	-0.23	-0.28	0.46	-0.15	0.5
F	8621	374599	SR	0.62	0.38	0.38	-0.26	-0.19	-0.13	0.0
F	8621	108352	CR	0.35	0.66					2.0
F	8621	393969	SR	0.55	0.39	-0.15	-0.22	-0.17	0.39	0.2
F	8621	374569	SR	0.48	0.20	<b>0.03</b>	-0.17	0.20	-0.10	0.5
F	8621	381673	SR	0.60	0.18	-0.25	<b>0.00</b>	-0.12	0.18	0.6
F	8621	374581	SR	0.84	0.44	-0.22	-0.29	0.44	-0.19	0.8
F	8621	395878	SR	0.67	0.48	-0.26	0.48	-0.28	-0.22	0.2
F	8621	374561	SR	0.74	0.32	0.32	-0.20	-0.15	-0.17	0.2
F	8621	79644	CR	0.23	0.71					7.8
F	8621	395808	SR	0.54	0.35	-0.14	0.35	-0.26	-0.08	0.4
F	8621	370240	SR	0.40	0.24	0.24	-0.17	-0.23	<b>0.07</b>	0.4
F	8621	374577	SR	0.88	0.50	-0.28	-0.29	-0.23	0.50	0.3
F	8621	374568	SR	0.42	0.46	-0.05	-0.18	0.46	-0.34	0.3
F	8621	394725	SR	0.53	0.26	-0.23	-0.02	0.26	-0.11	0.5
G	8440	370254	SR	0.65	0.32	0.32	-0.17	-0.12	-0.21	0.1
G	8440	52181	CR	0.35	0.65					1.4

Table 1.B4 Item Statistics, Field Test Items: MDHSA Government—May Forms

Form	N	ItemID	Item Type	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	P_BIS4	%Omits
G	8440	374534	SR	0.52	0.34	-0.12	-0.12	-0.23	0.34	0.3
G	8440	374507	SR	0.80	0.28	-0.24	0.28	-0.21	-0.01	0.4
G	8440	361468	SR	0.76	0.30	-0.25	0.30	-0.20	-0.05	0.6
G	8440	361494	SR	0.62	0.41	-0.31	-0.15	0.41	-0.10	0.8
G	8440	339079	SR	0.78	0.50	-0.24	-0.32	0.50	-0.22	0.2
G	8440	279816	SR	0.50	0.35	-0.28	-0.22	-0.04	0.35	0.2
G	8440	108434	CR	0.27	0.66					3.3
G	8440	331405	SR	0.50	0.30	-0.25	0.30	-0.03	-0.17	0.2
G	8440	394632	SR	0.45	0.23	-0.13	0.23	-0.20	<b>0.02</b>	0.2
G	8440	363197	SR	0.87	0.46	-0.22	0.46	-0.29	-0.23	0.2
G	8440	363198	SR	0.58	0.42	0.42	-0.24	-0.15	-0.21	0.3
G	8440	363179	SR	0.79	0.46	-0.28	-0.25	0.46	-0.18	0.3
H	20022	374562	SR	0.67	0.44	0.44	-0.23	-0.22	-0.21	0.1
H	20022	108424	CR	0.18	0.71					2.5
H	20022	392387	SR	0.67	0.45	-0.21	-0.23	-0.26	0.45	0.1
H	20022	370255	SR	0.45	0.34	-0.06	0.34	-0.24	-0.11	0.5
H	20022	361454	SR	0.73	0.43	-0.29	-0.27	-0.17	0.43	0.7
H	20022	348532	SR	0.66	0.49	-0.30	-0.23	0.49	-0.19	0.8
H	20022	361470	SR	0.56	0.45	-0.20	-0.27	0.45	-0.15	0.3
H	20022	394669	SR	0.72	0.38	-0.13	0.38	-0.29	-0.17	0.2
H	20022	108353	CR	0.28	0.62					7.1
H	20022	374607	SR	0.54	0.39	-0.10	-0.26	0.39	-0.19	0.3
H	20022	348544	SR	0.61	0.33	0.33	-0.10	-0.20	-0.15	0.3
H	20022	348880	SR	0.38	0.38	0.38	-0.19	-0.11	-0.19	0.3
H	20022	348883	SR	0.57	0.41	-0.18	-0.23	0.41	-0.22	0.3
H	20022	387529	SR	0.52	0.56	-0.20	-0.28	-0.27	0.56	0.4
<b>Mean</b>				0.53	0.40	-0.05	-0.05	-0.02	-0.05	0.9
<b>SD</b>				0.19	0.16	0.25	0.25	0.29	0.22	1.5

Note: Values in bold are outside of the accepted range. Statistics for items on multiple forms are listed under the first form on which the item appeared. P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1—P\_BIS4 = option-total correlation, %Omits = percent of omitted responses.

## **Appendix 2A. MD Mod-HSA Classical Item Statistics: Operational Forms**

Table 2.A1 Item Statistics: MD Mod-HSA Algebra—October

Form	Pos No	ItemID	P Val	R ITT	P BIS1	P BIS2	P BIS3	%Omits
115	1	258090	0.54	0.33	-0.20	-0.19	0.33	0.1
	2	258095	0.71	0.37	0.37	-0.24	-0.23	0.1
	3	258166	0.72	0.33	-0.27	0.33	-0.15	0.1
	4	258312	0.48	0.29	0.29	-0.16	-0.20	0.2
	5	258173	0.53	0.32	-0.18	0.32	-0.19	0.1
	6	258115	0.41	0.31	0.31	-0.19	-0.15	0.1
	7	258223	0.28	0.02	-0.10	0.02	0.06	0.1
	8	258230	0.49	0.22	0.22	-0.25	-0.03	0.2
	9	258147	0.45	0.27	0.27	-0.10	-0.22	0.1
	10	261560	0.66	0.34	-0.21	0.34	-0.21	0.1
	11	258227	0.63	0.31	0.31	-0.16	-0.23	0.1
	12	258308	0.43	0.24	0.24	-0.09	-0.16	0.2
	13	258101	0.50	0.26	-0.19	0.26	-0.12	0.5
	14	258210	0.78	0.32	-0.24	0.32	-0.19	0.1
	15	258116	0.43	0.17	0.17	-0.17	-0.07	0.1
	16	258089	0.23	0.10	-0.04	0.10	-0.04	0.2
	17	261556	0.42	0.23	0.23	-0.19	-0.06	0.1
	18	258309	0.81	0.40	-0.25	-0.27	0.40	0.3
	19	258098	0.57	0.35	-0.22	-0.21	0.35	0.4
	20	258208	0.40	0.08	0.03	-0.12	0.08	0.5
	21	258161	0.54	0.46	0.46	-0.37	-0.14	0.5
	22	258159	0.39	0.27	-0.08	-0.19	0.27	0.5
	23	258184	0.48	0.31	-0.08	0.31	-0.25	0.7
	24	258136	0.51	0.28	-0.15	0.28	-0.17	0.4
	25	258102	0.46	0.28	-0.16	0.28	-0.14	0.8
	26	258226	0.41	0.22	-0.12	-0.10	0.22	0.6
	27	258188	0.66	0.27	-0.11	0.27	-0.20	0.7
	28	258174	0.46	0.21	-0.06	-0.15	0.21	0.7
	29	258209	0.63	0.25	-0.10	-0.20	0.25	0.7
	30	258154	0.38	0.45	-0.29	-0.16	0.45	0.7
	31	258113	0.52	0.32	-0.22	0.32	-0.12	0.6
	32	258198	0.34	0.21	-0.11	-0.08	0.21	0.7
	33	258120	0.42	0.33	-0.16	-0.18	0.33	0.7
	34	258169	0.42	0.20	-0.06	-0.13	0.20	0.7
	35	258119	0.45	0.33	0.33	-0.12	-0.25	0.7
	36	258160	0.43	0.24	0.24	-0.14	-0.10	0.7
	37	258241	0.55	0.32	-0.16	0.32	-0.20	0.8
	38	258130	0.49	0.27	0.27	-0.15	-0.14	1.0
	39	258131	0.25	0.05	0.05	0.08	-0.12	0.8
	40	258128	0.61	0.37	-0.21	0.37	-0.22	0.8
	41	258509	0.33	0.21	0.21	-0.17	-0.03	0.9

Table 2.A1 Item Statistics: MD Mod-HSA Algebra—October

Form	Pos No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	42	258231	0.56	0.44	-0.23	-0.26	0.44	1.0
	43	258111	0.58	0.35	-0.20	0.35	-0.22	0.7
	44	258096	0.28	0.02	0.02	0.14	-0.17	1.0
	45	258125	0.37	0.09	-0.11	0.09	0.03	1.0
	46	258144	0.32	0.16	0.16	0.00	-0.14	0.8
	47	261558	0.38	0.22	-0.08	0.22	-0.12	1.0
	48	261562	0.40	0.21	0.21	-0.15	-0.04	0.9
	49	258220	0.33	0.14	-0.06	-0.05	0.14	1.0
	50	258135	0.53	0.19	-0.10	0.19	-0.09	1.0
<b>Mean</b>			0.48	0.26	-0.01	0.00	-0.02	0.5
<b>SD</b>			0.13	0.10	0.21	0.22	0.21	0.3

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A2 Item Statistics: MD Mod-HSA Biology—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	1	258636	0.62	0.33	-0.22	0.33	-0.19	0.0
	2	258653	0.35	0.21	0.21	-0.03	-0.19	0.0
	3	258690	0.41	0.20	-0.02	-0.18	0.20	0.0
	4	258702	0.54	0.35	-0.27	0.35	-0.14	0.1
	5	258662	0.34	0.23	-0.11	-0.13	0.23	0.1
	6	258659	0.30	0.05	0.05	-0.10	0.06	0.1
	7	258673	0.61	0.19	-0.07	-0.18	0.19	0.0
	8	258701	0.42	0.21	-0.18	0.21	-0.06	0.1
	9	258628	0.63	0.22	0.22	-0.13	-0.14	0.0
	10	258685	0.29	0.19	0.19	-0.11	-0.11	0.0
	11	261611	0.13	-0.01	-0.01	0.02	-0.01	0.0
	12	258615	0.44	0.15	-0.09	0.15	-0.08	0.1
	13	258683	0.65	0.34	-0.23	0.34	-0.19	0.2
	14	258641	0.44	0.17	-0.09	0.17	-0.10	0.1
	15	258676	0.40	0.11	-0.07	0.11	-0.04	0.2
	16	258607	0.61	0.27	-0.13	0.27	-0.22	0.0
	17	258645	0.49	0.37	-0.16	-0.26	0.37	0.3
	18	258666	0.57	0.15	-0.05	0.15	-0.15	0.3
	19	258675	0.46	0.13	-0.12	0.13	-0.04	0.2
	20	261609	0.60	0.20	-0.10	-0.17	0.20	0.0
	21	258665	0.24	0.11	0.11	-0.06	-0.03	0.4
	22	258682	0.45	0.21	-0.14	0.21	-0.09	0.2
	23	258648	0.39	0.22	-0.16	0.22	-0.10	0.2
	24	258614	0.39	0.26	-0.14	-0.14	0.26	0.0
	25	258680	0.42	0.27	-0.12	-0.18	0.27	0.1
	26	258681	0.42	0.10	-0.06	-0.04	0.10	0.2
	27	258642	0.54	0.14	-0.09	0.14	-0.08	0.0
	28	261623	0.66	0.22	-0.11	-0.20	0.22	0.0
	29	258649	0.28	0.10	0.10	-0.24	0.11	0.2
	30	258687	0.43	0.16	-0.11	0.16	-0.07	0.0
	31	258646	0.36	0.23	0.23	-0.22	-0.03	0.1
	32	261626	0.63	0.24	-0.20	-0.12	0.24	0.1
	33	258707	0.46	0.26	0.26	-0.25	-0.04	0.0
	34	258643	0.57	0.22	0.22	-0.15	-0.12	0.1
	35	258698	0.30	0.08	-0.09	0.02	0.08	0.1
	36	258728	0.27	0.15	-0.11	-0.08	0.15	0.1
	37	258734	0.50	0.29	-0.13	-0.21	0.29	0.0
	38	258735	0.45	0.18	-0.15	0.18	-0.06	0.1
	39	258704	0.52	0.23	-0.12	0.23	-0.16	0.1
	40	258624	0.60	0.28	0.28	-0.19	-0.14	0.3
	41	258697	0.38	0.18	0.18	-0.11	-0.08	0.3
	42	258616	0.25	0.04	-0.02	0.04	-0.02	0.3
	43	258617	0.43	0.11	0.11	-0.13	0.01	0.4

Table 2.A2 Item Statistics: MD Mod-HSA Biology—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	44	258688	0.38	0.13	-0.06	-0.06	0.13	0.2
	45	258669	0.61	0.32	-0.22	-0.16	0.32	0.2
	46	261621	0.66	0.35	0.35	-0.24	-0.22	0.2
	47	258703	0.42	0.22	-0.09	0.22	-0.15	0.3
	48	258692	0.49	0.22	-0.14	-0.11	0.22	0.3
	49	258635	0.51	0.35	-0.24	-0.17	0.35	0.3
	50	261616	0.50	0.28	-0.16	-0.16	0.28	0.4
<b>Mean</b>			0.46	0.20	-0.04	-0.02	0.02	0.1
<b>SD</b>			0.13	0.09	0.16	0.18	0.17	0.1

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A3 Item Statistics: MD Mod-HSA English—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	1	259429	0.44	0.24	0.24	-0.21	-0.04	0.1
	2	259426	0.65	0.30	0.30	-0.20	-0.17	0.0
	3	259349	0.60	0.30	-0.17	0.30	-0.20	0.0
	4	259427	0.44	0.22	-0.10	0.22	-0.14	0.0
	5	259312	0.61	0.37	0.37	-0.25	-0.20	0.0
	6	259368	0.36	0.20	0.20	-0.14	-0.07	0.0
	7	259371	0.69	0.39	-0.26	-0.23	0.39	0.0
	8	259367	0.63	0.31	-0.21	0.31	-0.19	0.1
	9	259370	0.49	0.16	-0.16	0.16	-0.03	0.1
	10	259432	0.57	0.30	0.30	-0.16	-0.19	0.1
	11	259433	0.52	0.27	0.27	-0.13	-0.21	0.1
	12	259354	0.43	0.18	-0.12	-0.07	0.18	0.2
	13	259407	0.20	-0.04	-0.08	-0.04	0.12	0.3
	14	259335	0.38	0.19	-0.18	-0.05	0.19	0.4
	15	259410	0.69	0.34	-0.24	0.34	-0.15	1.9
	16	259413	0.52	0.18	-0.06	0.18	-0.17	0.2
	17	259411	0.47	0.23	-0.13	-0.11	0.23	0.5
	18	259414	0.41	0.23	-0.13	-0.11	0.23	0.3
	19	259338	0.39	0.18	0.18	-0.06	-0.12	0.5
	20	259339	0.64	0.35	-0.22	0.35	-0.21	0.5
	21	259340	0.72	0.39	-0.24	-0.24	0.39	0.5
	22	259362	0.60	0.40	0.40	-0.29	-0.17	0.7
	23	259436	0.30	0.10	0.10	0.04	-0.14	0.7
	24	259347	0.41	0.24	0.24	-0.13	-0.11	0.6
	25	259424	0.55	0.34	-0.13	-0.26	0.34	0.7
	26	259423	0.43	0.20	-0.09	-0.10	0.20	0.9
	27	259425	0.46	0.21	-0.10	0.21	-0.11	0.8
	28	259422	0.41	0.17	-0.06	0.17	-0.10	0.9
	29	259445	0.64	0.29	-0.24	0.29	-0.10	0.2
	30	259374	0.43	0.33	-0.16	-0.22	0.33	0.2
	31	259450	0.40	0.24	-0.17	-0.08	0.24	0.2
	32	259376	0.64	0.38	-0.22	-0.26	0.38	0.2
	33	259310	0.59	0.33	-0.18	0.33	-0.21	0.2
	34	259365	0.59	0.33	-0.18	0.33	-0.20	0.3
	35	259449	0.64	0.29	0.29	-0.17	-0.16	0.6
	36	259441	0.31	0.26	0.26	-0.19	-0.05	0.3
	37	259443	0.54	0.27	-0.17	0.27	-0.13	0.3
	38	259437	0.42	0.19	0.19	-0.04	-0.17	0.3
	39	259457	0.47	0.29	0.29	-0.21	-0.09	0.4
	40	259330	0.71	0.33	-0.13	0.33	-0.27	0.6
	41	259458	0.37	0.18	0.18	-0.19	0.01	0.6

Table 2.A3 Item Statistics: MD Mod-HSA English—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	42	259466	0.64	0.44	-0.21	-0.32	0.44	0.6
	43	259395	0.46	0.26	0.00	0.26	-0.27	0.4
	44	259459	0.46	0.33	-0.16	-0.20	0.33	0.4
	45	259396	0.34	0.23	-0.13	-0.08	0.23	0.8
	46	259460	0.62	0.31	0.31	-0.28	-0.08	0.4
	47	259398	0.56	0.36	-0.18	0.36	-0.23	0.6
	48	259397	0.41	0.25	-0.15	-0.10	0.25	0.6
	49	259360	0.47	0.31	0.31	-0.20	-0.13	0.6
	50	259435	0.25	0.15	-0.04	-0.10	0.15	0.7
<b>Mean</b>			0.50	0.27	-0.01	-0.02	0.00	0.4
<b>SD</b>			0.13	0.09	0.21	0.22	0.21	0.3

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A4 Item Statistics: MD Mod-HSA Government—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	1	258363	0.36	0.35	-0.17	-0.21	0.35	0.0
	2	258500	0.24	0.09	0.09	-0.01	-0.08	0.0
	3	258327	0.43	0.30	0.30	-0.12	-0.21	0.3
	4	258338	0.38	0.20	-0.04	0.20	-0.15	0.3
	5	258408	0.37	0.28	0.28	-0.23	-0.03	0.3
	6	258463	0.37	0.20	0.20	-0.14	-0.06	0.3
	7	258458	0.40	0.35	0.35	-0.12	-0.22	0.3
	8	258506	0.55	0.26	-0.15	-0.13	0.26	0.7
	9	258505	0.40	0.15	0.15	-0.11	-0.02	0.3
	10	258349	0.50	0.34	0.34	-0.29	-0.07	0.3
	11	258429	0.46	0.19	-0.06	-0.14	0.19	0.3
	12	258353	0.30	0.21	-0.03	0.21	-0.15	0.7
	13	258396	0.50	0.26	0.26	-0.14	-0.13	0.3
	14	258410	0.46	0.26	-0.10	-0.16	0.26	0.3
	15	258386	0.36	0.40	0.40	-0.22	-0.16	0.3
	16	258350	0.28	0.08	0.08	-0.05	0.00	0.7
	17	258378	0.45	0.06	0.10	-0.15	0.06	0.3
	18	258503	0.31	0.23	-0.05	-0.15	0.23	0.3
	19	258440	0.59	0.30	-0.20	0.30	-0.14	1.0
	20	258400	0.45	0.24	-0.12	-0.13	0.24	0.3
	21	258421	0.25	0.11	0.11	-0.01	-0.09	0.7
	22	258446	0.36	0.11	-0.11	0.11	0.02	0.7
	23	258344	0.33	0.31	0.31	-0.17	-0.12	0.3
	24	258432	0.51	0.27	-0.12	-0.15	0.27	0.7
	25	258428	0.46	0.24	-0.11	-0.13	0.24	0.7
	26	258360	0.40	0.23	-0.12	0.23	-0.10	0.3
	27	258343	0.53	0.28	-0.12	0.28	-0.18	0.3
	28	258438	0.54	0.43	0.43	-0.21	-0.28	0.3
	29	258718	0.67	0.40	0.40	-0.18	-0.28	0.3
	30	258424	0.36	0.02	0.12	0.02	-0.13	0.3
	31	258323	0.34	0.19	0.03	0.19	-0.21	0.3
	32	258324	0.58	0.41	-0.16	-0.31	0.41	0.3
	33	258437	0.40	0.22	-0.07	-0.14	0.22	0.3
	34	258319	0.38	0.10	-0.12	0.10	0.06	0.3
	35	258389	0.55	0.25	-0.07	0.25	-0.21	0.3
	36	258379	0.55	0.28	-0.08	-0.21	0.28	0.3
	37	258413	0.42	0.27	-0.18	0.27	-0.08	0.3
	38	258448	0.43	0.41	0.41	-0.22	-0.21	0.7
	39	258721	0.30	0.09	0.09	0.00	-0.06	0.3
	40	258439	0.45	0.30	-0.20	0.30	-0.12	0.3
	41	258368	0.42	0.16	0.16	-0.06	-0.10	1.0

Table 2.A4 Item Statistics: MD Mod-HSA Government—October

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
115	42	258320	0.29	0.00	0.09	0.00	-0.05	0.3
	43	258436	0.55	0.38	0.38	-0.32	-0.08	0.3
	44	258384	0.56	0.28	-0.19	0.28	-0.12	0.3
	45	258486	0.46	0.28	-0.14	0.28	-0.15	0.3
	46	258411	0.36	0.21	-0.11	-0.08	0.21	0.3
	47	258313	0.57	0.25	-0.13	0.25	-0.15	0.3
	48	258716	0.48	0.25	0.25	-0.17	-0.09	0.3
	49	258335	0.48	0.31	-0.15	-0.17	0.31	0.3
	50	258377	0.60	0.31	0.31	-0.11	-0.23	0.7
<b>Mean</b>			0.43	0.24	0.05	-0.04	-0.02	0.4
<b>SD</b>			0.10	0.10	0.20	0.19	0.19	0.2

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A5 Item Statistics: MD Mod-HSA Algebra—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	1	258190	0.32	0.27	-0.09	-0.18	0.27	0.1
	2	258164	0.42	0.23	-0.14	-0.11	0.23	0.1
	3	258224	0.34	0.21	0.00	0.21	-0.21	0.1
	4	258107	0.26	0.06	-0.02	-0.04	0.06	0.2
	5	258126	0.50	0.25	0.25	-0.16	-0.13	0.0
	6	258239	0.33	0.12	-0.01	0.12	-0.13	0.0
	7	258123	0.54	0.33	0.33	-0.24	-0.16	0.0
	8	258124	0.26	0.25	-0.11	-0.11	0.25	0.2
	9	258141	0.40	0.32	0.32	-0.18	-0.17	0.1
	10	258200	0.29	0.17	0.17	-0.01	-0.15	0.2
	11	258179	0.38	0.20	-0.08	-0.12	0.20	0.1
	12	258235	0.55	0.32	-0.22	0.32	-0.15	0.2
	13	258105	0.33	0.16	0.16	-0.21	0.04	0.4
	14	258236	0.46	0.24	-0.19	0.24	-0.09	0.2
	15	261559	0.34	0.17	0.17	-0.14	-0.04	0.3
	16	258211	0.53	0.41	-0.33	0.41	-0.14	0.2
	17	258209	0.60	0.22	-0.12	-0.15	0.22	0.3
	18	258182	0.60	0.37	-0.21	-0.23	0.37	0.5
	19	258238	0.23	0.27	-0.13	-0.10	0.27	0.6
	20	261561	0.44	0.32	0.32	-0.16	-0.18	0.4
	21	258132	0.45	0.23	-0.13	0.23	-0.12	0.6
	22	258158	0.47	0.30	-0.16	-0.17	0.30	0.6
	23	258145	0.54	0.25	-0.19	0.25	-0.10	0.8
	24	261563	0.32	0.18	-0.01	-0.14	0.18	0.9
	25	258229	0.64	0.27	-0.21	0.27	-0.11	0.8
	26	258197	0.55	0.28	-0.21	0.28	-0.09	0.7
	27	258097	0.24	0.30	0.30	-0.08	-0.19	0.7
	28	258310	0.67	0.37	-0.15	-0.28	0.37	0.5
	29	258109	0.43	0.28	0.28	-0.10	-0.19	0.6
	30	258110	0.39	0.16	0.01	0.16	-0.16	0.6
	31	258103	0.29	0.17	0.17	-0.15	0.03	0.6
	32	258108	0.46	0.11	-0.02	0.11	-0.08	0.5
	33	258196	0.56	0.21	-0.07	0.21	-0.16	0.6
	34	261564	0.46	0.31	0.31	-0.15	-0.18	0.7
	35	258153	0.38	0.22	0.22	-0.09	-0.12	0.5
	36	258122	0.78	0.33	-0.25	0.33	-0.15	0.6
	37	258240	0.63	0.25	-0.12	0.25	-0.17	0.6
	38	258157	0.19	0.12	0.12	-0.02	-0.05	0.6
	39	258091	0.25	0.10	-0.04	0.10	-0.02	0.6
	40	258118	0.46	0.31	0.31	-0.13	-0.22	0.8
	41	258225	0.51	0.29	-0.17	0.29	-0.14	0.6

Table 2.A5 Item Statistics: MD Mod-HSA Algebra—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	42	261557	0.36	0.26	0.26	-0.18	-0.06	0.7
	43	258152	0.41	0.16	0.16	-0.07	-0.07	0.6
	44	258133	0.35	0.24	0.24	-0.18	-0.03	0.6
	45	258214	0.32	0.23	0.23	-0.05	-0.16	0.6
	46	258178	0.66	0.35	-0.17	-0.24	0.35	0.6
	47	258100	0.55	0.26	-0.20	0.26	-0.08	0.6
	48	258171	0.44	0.31	-0.14	0.31	-0.19	0.7
	49	258142	0.42	0.34	-0.17	-0.20	0.34	0.6
	50	258150	0.38	0.21	0.21	-0.06	-0.14	0.8
<b>Mean</b>			0.43	0.25	0.01	0.00	-0.02	0.5
<b>SD</b>			0.13	0.08	0.20	0.20	0.18	0.3

Note: P\_Val =  $p$ -value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A6 Item Statistics: MD Mod-HSA Biology—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	1	258627	0.77	0.23	-0.15	0.23	-0.15	0.0
	2	258733	0.56	0.12	0.12	-0.07	-0.09	0.0
	3	258684	0.46	0.18	-0.05	-0.15	0.18	0.0
	4	258644	0.29	0.20	0.20	-0.14	-0.05	0.1
	5	258634	0.44	0.22	-0.16	0.22	-0.08	0.1
	6	261644	0.71	0.30	0.30	-0.17	-0.23	0.0
	7	261645	0.32	0.22	-0.04	-0.18	0.22	0.3
	8	258619	0.34	0.24	0.24	-0.12	-0.11	0.2
	9	258700	0.52	0.28	-0.16	-0.18	0.28	0.2
	10	258618	0.30	0.22	-0.13	-0.08	0.22	0.3
	11	261627	0.61	0.22	-0.08	0.22	-0.18	0.1
	12	258639	0.39	0.27	0.27	-0.15	-0.11	0.4
	13	258732	0.52	0.23	0.23	-0.15	-0.10	0.6
	14	258727	0.47	0.23	-0.16	0.23	-0.10	0.3
	15	258622	0.53	0.30	0.30	-0.21	-0.13	0.4
	16	258695	0.43	0.17	-0.07	0.17	-0.10	0.8
	17	258631	0.78	0.30	0.30	-0.19	-0.18	0.7
	18	258699	0.26	0.07	-0.10	0.07	0.05	0.7
	19	261607	0.66	0.20	-0.10	0.20	-0.12	0.8
	20	261624	0.41	0.37	-0.14	-0.24	0.37	0.8
	21	258612	0.59	0.22	-0.21	0.22	-0.03	0.9
	22	261610	0.40	0.24	-0.08	-0.14	0.24	1.0
	23	258714	0.27	0.27	0.27	-0.10	-0.12	1.1
	24	258725	0.57	0.25	-0.13	0.25	-0.15	1.0
	25	258664	0.55	0.29	-0.12	0.29	-0.19	1.3
	26	258638	0.31	0.17	-0.04	-0.12	0.17	0.2
	27	258650	0.38	0.28	-0.15	-0.13	0.28	0.2
	28	261614	0.58	0.28	0.28	-0.20	-0.14	0.2
	29	261622	0.81	0.30	-0.22	0.30	-0.16	0.2
	30	258705	0.26	0.14	-0.10	0.00	0.14	0.3
	31	258678	0.62	0.29	-0.15	0.29	-0.20	0.2
	32	261642	0.38	0.23	0.23	-0.20	-0.01	0.2
	33	258654	0.59	0.25	-0.19	-0.11	0.25	0.2
	34	258670	0.36	0.02	0.03	-0.03	0.02	0.3
	35	258660	0.38	0.25	-0.13	-0.12	0.25	0.2
	36	258637	0.49	0.27	-0.18	0.27	-0.11	0.2
	37	258640	0.60	0.16	-0.04	0.16	-0.16	0.7
	38	258674	0.43	0.09	-0.02	-0.07	0.09	0.3
	39	258697	0.38	0.24	0.24	-0.14	-0.09	0.4
	40	258616	0.25	0.05	-0.05	0.05	0.03	0.3

Table 2.A6 Item Statistics: MD Mod-HSA Biology—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	41	258630	0.24	0.19	-0.05	-0.10	0.19	0.6
	42	261617	0.36	0.15	0.15	0.00	-0.19	0.3
	43	258726	0.39	0.26	0.26	-0.14	-0.11	0.3
	44	258730	0.41	0.21	0.21	-0.08	-0.13	0.4
	45	258657	0.20	0.03	-0.02	0.01	0.03	0.3
	46	258651	0.43	0.36	0.36	-0.23	-0.15	0.3
	47	258712	0.41	0.25	-0.16	-0.10	0.25	0.3
	48	258731	0.29	0.13	-0.05	-0.05	0.13	0.4
	49	261608	0.53	0.30	-0.08	-0.25	0.30	0.6
	50	258693	0.35	0.26	0.26	-0.16	-0.09	0.3
<b>Mean</b>			0.45	0.22	0.01	-0.03	0.00	0.4
<b>SD</b>			0.15	0.08	0.18	0.17	0.17	0.3

Note: P\_Val =  $p$ -value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A7 Item Statistics: MD Mod-HSA English—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	1	259343	0.55	0.41	-0.20	-0.28	0.41	0.0
	2	259415	0.62	0.30	0.30	-0.26	-0.12	0.0
	3	259417	0.50	0.18	0.18	-0.10	-0.13	0.0
	4	259416	0.73	0.35	-0.16	0.35	-0.29	0.0
	5	259323	0.43	0.26	0.26	-0.17	-0.12	0.0
	6	259453	0.43	0.16	0.02	-0.24	0.16	0.0
	7	259382	0.60	0.22	-0.18	0.22	-0.10	0.0
	8	259452	0.38	0.16	-0.15	0.16	-0.04	0.1
	9	259465	0.36	0.20	0.20	-0.14	-0.06	0.1
	10	259351	0.42	0.14	-0.15	0.14	-0.02	0.1
	11	259430	0.78	0.17	-0.20	0.17	-0.03	0.1
	12	259431	0.60	0.34	0.34	-0.19	-0.21	0.1
	13	259318	0.58	0.37	0.37	-0.25	-0.19	0.3
	14	259319	0.36	0.12	0.03	-0.17	0.12	0.2
	15	259320	0.70	0.35	-0.18	0.35	-0.26	0.2
	16	259419	0.57	0.23	-0.14	0.23	-0.15	0.3
	17	259421	0.53	0.24	0.24	-0.16	-0.11	0.1
	18	259463	0.34	0.17	0.17	-0.14	-0.02	0.2
	19	259345	0.46	0.29	-0.15	-0.17	0.29	0.3
	20	259325	0.53	0.30	-0.11	0.30	-0.25	0.1
	21	259385	0.52	0.32	-0.16	-0.20	0.32	0.2
	22	259390	0.56	0.30	-0.12	-0.23	0.30	0.1
	23	259383	0.49	0.28	-0.21	0.28	-0.10	0.4
	24	259386	0.40	0.29	-0.15	-0.15	0.29	0.4
	25	259388	0.47	0.26	0.26	-0.03	-0.25	0.3
	26	259389	0.35	0.16	-0.09	0.16	-0.05	0.6
	27	259438	0.44	0.21	-0.12	0.21	-0.08	0.8
	28	259439	0.54	0.25	-0.22	0.25	-0.05	0.7
	29	259437	0.43	0.22	0.22	-0.03	-0.19	0.7
	30	259332	0.64	0.25	-0.13	0.25	-0.14	0.7
	31	259403	0.36	0.26	-0.08	-0.17	0.26	0.8
	32	259401	0.40	0.24	0.24	-0.11	-0.12	0.7
	33	259402	0.36	0.31	-0.23	-0.05	0.31	0.7
	34	259399	0.71	0.37	-0.20	-0.24	0.37	0.7
	35	259400	0.48	0.30	-0.11	-0.25	0.30	0.8
	36	259404	0.55	0.27	0.27	-0.16	-0.14	0.7
	37	259461	0.64	0.40	-0.25	-0.21	0.40	0.7
	38	259446	0.51	0.33	-0.15	-0.21	0.33	1.1
	39	259447	0.50	0.28	-0.17	0.28	-0.13	0.7
	40	259448	0.54	0.31	-0.15	-0.18	0.31	0.9

Table 2.A7 Item Statistics: MD Mod-HSA English—January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	41	259358	0.47	0.30	-0.12	-0.19	0.30	0.8
	42	259434	0.40	0.07	0.03	0.07	-0.12	0.8
	43	259391	0.53	0.35	-0.15	0.35	-0.24	0.9
	44	259454	0.32	0.20	0.20	-0.11	-0.04	2.3
	45	259455	0.47	0.39	-0.26	-0.14	0.39	0.8
	46	259392	0.40	0.38	-0.18	-0.19	0.38	1.1
	47	259394	0.64	0.41	0.41	-0.22	-0.26	0.8
	48	259393	0.43	0.34	0.34	-0.19	-0.15	0.7
	49	259444	0.62	0.26	-0.16	0.26	-0.13	0.8
	50	259356	0.52	0.32	-0.20	-0.15	0.32	0.8
<b>Mean</b>			0.50	0.27	-0.02	-0.03	0.03	0.5
<b>SD</b>			0.11	0.08	0.20	0.21	0.23	0.4

Note: P\_Val =  $p$ -value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A8 Item Statistics: MD Mod-HSA Government —January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	1	258401	0.49	0.36	-0.15	-0.26	0.36	0.0
	2	258459	0.66	0.29	-0.17	0.29	-0.20	0.0
	3	258402	0.45	0.14	-0.10	-0.07	0.14	0.0
	4	258406	0.66	0.30	-0.18	0.30	-0.21	0.0
	5	258347	0.51	0.26	0.26	-0.26	-0.08	0.0
	6	258328	0.49	0.34	0.34	-0.28	-0.11	0.0
	7	258422	0.40	0.18	-0.13	-0.07	0.18	0.0
	8	258357	0.27	0.25	-0.11	0.25	-0.14	0.0
	9	258452	0.36	0.30	0.30	-0.08	-0.29	0.0
	10	258330	0.45	0.26	0.26	-0.21	-0.08	0.0
	11	258454	0.36	0.28	-0.22	-0.10	0.28	0.0
	12	258364	0.63	0.34	-0.21	0.34	-0.21	0.3
	13	258361	0.47	0.24	0.24	-0.19	-0.08	0.0
	14	258336	0.42	0.01	0.02	-0.04	0.01	0.7
	15	258376	0.41	0.21	0.21	-0.24	0.02	0.3
	16	258419	0.26	0.06	0.11	0.06	-0.16	0.3
	17	258425	0.55	0.27	-0.14	0.27	-0.18	0.3
	18	258715	0.70	0.28	-0.22	0.28	-0.12	0.3
	19	258473	0.42	0.16	-0.04	-0.13	0.16	0.3
	20	258478	0.30	0.09	0.08	0.09	-0.14	0.3
	21	258501	0.51	0.24	-0.08	-0.17	0.24	0.7
	22	258450	0.44	0.33	0.33	-0.19	-0.15	0.7
	23	258498	0.39	0.31	0.31	-0.13	-0.19	1.0
	24	258388	0.27	0.20	-0.12	0.20	-0.04	0.7
	25	258351	0.31	0.33	0.33	-0.24	-0.05	0.7
	26	258488	0.63	0.37	0.37	-0.29	-0.16	0.0
	27	258479	0.45	0.22	-0.07	0.22	-0.17	0.0
	28	258375	0.47	0.42	0.42	-0.27	-0.20	0.3
	29	258414	0.39	0.22	-0.15	0.22	-0.08	0.3
	30	258495	0.20	0.18	0.18	-0.11	-0.04	0.0
	31	258321	0.47	0.24	0.24	-0.17	-0.10	0.0
	32	258426	0.21	0.20	0.20	-0.13	-0.04	0.0
	33	258722	0.52	0.27	-0.11	0.27	-0.22	0.0
	34	258407	0.30	0.05	0.05	0.03	-0.08	0.0
	35	258412	0.45	0.28	0.28	-0.12	-0.20	0.0
	36	258369	0.45	0.20	-0.11	-0.10	0.20	0.0
	37	258483	0.35	0.18	0.18	-0.14	-0.06	0.0
	38	258719	0.56	0.32	0.32	-0.27	-0.11	0.0
	39	258345	0.25	0.14	-0.06	0.14	-0.08	0.0
	40	258390	0.54	0.32	-0.20	0.32	-0.18	0.0

Table 2.A8 Item Statistics: MD Mod-HSA Government —January

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
215	41	258329	0.31	0.14	0.14	0.06	-0.22	0.0
	42	258409	0.62	0.09	0.04	0.09	-0.16	0.0
	43	258434	0.36	0.17	-0.08	-0.10	0.17	0.3
	44	258391	0.54	0.33	0.33	-0.23	-0.16	0.0
	45	258316	0.37	0.24	-0.11	0.24	-0.12	0.7
	46	258404	0.40	0.39	0.39	-0.17	-0.24	0.7
	47	258468	0.51	0.26	0.26	-0.19	-0.09	0.7
	48	258491	0.32	0.08	0.11	0.08	-0.16	1.0
	49	258341	0.44	0.25	0.25	-0.15	-0.11	0.7
	50	258502	0.28	0.25	0.25	-0.09	-0.13	1.0
<b>Mean</b>			0.43	0.24	0.08	-0.03	-0.08	0.2
<b>SD</b>			0.12	0.09	0.20	0.20	0.15	0.3

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A9 Item Statistics: MD Mod-HSA Algebra—April

Form	Pos No	ItemID	P Val	R ITT	P BIS1	P BIS2	P BIS3	%Omits
315	1	258190	0.33	0.20	-0.04	-0.16	0.20	0.0
	2	258164	0.32	0.18	-0.16	-0.02	0.18	0.0
	3	258224	0.27	0.18	-0.07	0.18	-0.10	0.0
	4	258107	0.31	-0.01	-0.01	0.01	-0.01	0.0
	5	258126	0.41	0.30	0.30	-0.34	0.03	0.0
	6	258239	0.28	0.08	0.09	0.08	-0.14	0.5
	7	258123	0.54	0.37	0.37	-0.28	-0.11	0.5
	8	258124	0.24	0.11	-0.10	0.03	0.11	0.5
	9	258141	0.35	0.34	0.34	-0.17	-0.14	0.5
	10	258200	0.26	0.19	0.19	0.03	-0.16	1.0
	11	258179	0.36	0.17	-0.12	-0.02	0.17	1.0
	12	258235	0.48	0.35	-0.10	0.35	-0.26	0.5
	13	258105	0.37	0.21	0.21	-0.14	-0.05	1.0
	14	258236	0.48	0.36	-0.31	0.36	-0.10	0.5
	15	261559	0.26	0.09	0.09	-0.12	0.06	0.5
	16	258211	0.54	0.42	-0.31	0.42	-0.14	1.0
	17	258209	0.64	0.11	0.08	-0.18	0.11	0.5
	18	258182	0.62	0.42	-0.11	-0.34	0.42	1.0
	19	258238	0.21	0.29	-0.09	-0.12	0.29	0.5
	20	261561	0.49	0.13	0.13	-0.11	0.00	0.5
	21	258132	0.44	0.32	-0.14	0.32	-0.18	0.5
	22	258158	0.46	0.22	0.01	-0.21	0.22	0.5
	23	258145	0.59	0.35	-0.15	0.35	-0.24	0.5
	24	261563	0.32	0.23	-0.06	-0.14	0.23	1.0
	25	258229	0.68	0.41	-0.26	0.41	-0.23	1.5
	26	258197	0.56	0.27	-0.19	0.27	-0.10	0.5
	27	258097	0.28	0.34	0.34	-0.02	-0.28	0.5
	28	258310	0.58	0.40	-0.24	-0.26	0.40	0.5
	29	258109	0.46	0.24	0.24	0.03	-0.25	1.0
	30	258110	0.37	0.06	-0.05	0.06	0.02	0.5
	31	258103	0.30	0.18	0.18	-0.20	0.07	0.5
	32	258108	0.41	0.12	0.09	0.12	-0.18	0.5
	33	258196	0.58	0.25	-0.08	0.25	-0.21	0.5
	34	261564	0.45	0.36	0.36	-0.23	-0.13	0.5
	35	258153	0.38	0.15	0.15	0.02	-0.15	0.5
	36	258122	0.76	0.42	-0.32	0.42	-0.18	0.5
	37	258240	0.56	0.34	-0.18	0.34	-0.19	0.5
	38	258157	0.18	0.02	0.02	0.03	-0.01	0.5
	39	258091	0.26	-0.08	0.00	-0.08	0.10	0.5
	40	258118	0.39	0.25	0.25	-0.12	-0.12	0.5
	41	258225	0.46	0.26	-0.11	0.26	-0.15	1.5
	42	261557	0.36	0.26	0.26	-0.11	-0.13	0.5

Table 2.A9 Item Statistics: MD Mod-HSA Algebra—April

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
	43	258152	0.41	0.12	0.12	-0.12	0.04	0.5
315	44	258133	0.34	0.24	0.24	-0.19	-0.01	0.5
	45	258214	0.29	0.17	0.17	0.02	-0.15	0.5
	46	258178	0.62	0.32	-0.09	-0.26	0.32	0.5
	47	258100	0.53	0.26	-0.28	0.26	0.02	0.5
	48	258171	0.40	0.18	-0.01	0.18	-0.14	0.5
	49	258142	0.45	0.31	-0.13	-0.20	0.31	0.5
	50	258150	0.34	0.27	0.27	-0.07	-0.17	0.5
<b>Mean</b>			0.42	0.23	0.02	0.01	-0.02	0.6
<b>SD</b>			0.13	0.12	0.19	0.22	0.18	0.3

Note: P\_Val =  $p$ -value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A10 Item Statistics: MD Mod-HSA Biology—April

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
315	1	258627	0.78	0.20	-0.15	0.20	-0.12	0.0
	2	258733	0.60	0.12	0.12	0.01	-0.19	0.0
	3	258684	0.49	0.15	0.04	-0.21	0.15	0.0
	4	258644	0.30	0.40	0.40	-0.20	-0.19	0.0
	5	258634	0.47	0.19	-0.17	0.19	-0.05	0.0
	6	261644	0.76	0.19	0.19	-0.12	-0.13	0.0
	7	261645	0.33	0.23	0.03	-0.22	0.23	0.6
	8	258619	0.36	0.18	0.18	-0.12	-0.02	0.6
	9	258700	0.50	0.32	-0.17	-0.15	0.32	0.6
	10	258618	0.28	0.05	-0.09	0.08	0.05	0.6
	11	261627	0.69	0.19	-0.05	0.19	-0.13	0.6
	12	258639	0.36	0.23	0.23	0.01	-0.20	0.6
	13	258732	0.50	0.07	0.07	-0.11	0.08	0.6
	14	258727	0.48	0.22	-0.14	0.22	-0.07	0.6
	15	258622	0.49	0.36	0.36	-0.33	0.00	0.6
	16	258695	0.40	0.14	-0.03	0.14	-0.07	0.6
	17	258631	0.80	0.35	0.35	-0.24	-0.14	0.6
	18	258699	0.29	-0.02	-0.12	-0.02	0.19	0.6
	19	261607	0.61	0.24	-0.18	0.24	-0.07	0.6
	20	261624	0.44	0.27	-0.05	-0.20	0.27	0.6
	21	258612	0.56	0.10	0.01	0.10	-0.07	0.6
	22	261610	0.43	0.32	-0.18	-0.13	0.32	0.6
	23	258714	0.21	0.28	0.28	-0.07	-0.12	0.6
	24	258725	0.60	0.28	-0.27	0.28	-0.05	1.2
	25	258664	0.58	0.21	-0.04	0.21	-0.15	2.3
	26	258638	0.33	0.21	-0.07	-0.11	0.21	0.6
	27	258650	0.33	0.23	-0.05	-0.14	0.23	0.6
	28	261614	0.57	0.32	0.32	-0.22	-0.13	0.6
	29	261622	0.84	0.23	-0.15	0.23	-0.07	0.6
	30	258705	0.25	0.12	-0.15	0.09	0.12	0.6
	31	258678	0.67	0.21	-0.11	0.21	-0.10	0.6
	32	261642	0.36	0.33	0.33	-0.25	-0.02	0.6
	33	258654	0.61	0.31	-0.30	-0.04	0.31	0.6
	34	258670	0.30	0.12	0.08	-0.14	0.12	0.6
	35	258660	0.40	0.20	-0.11	-0.06	0.20	0.6
	36	258637	0.49	0.30	-0.05	0.30	-0.24	0.6
	37	258640	0.63	0.18	-0.14	0.18	-0.01	0.6
	38	258674	0.49	0.09	-0.02	-0.04	0.09	0.6
	39	258697	0.49	0.26	0.26	-0.18	-0.06	0.6
	40	258616	0.25	0.05	0.01	0.05	0.00	1.2
	41	258630	0.16	0.13	-0.03	-0.02	0.13	1.2
	42	261617	0.35	0.21	0.21	-0.10	-0.09	1.2
	43	258726	0.35	0.25	0.25	-0.11	-0.10	0.6

Table 2.A10 Item Statistics: MD Mod-HSA Biology—April

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
315	44	258730	0.41	0.21	0.21	-0.03	-0.16	0.6
	45	258657	0.17	0.28	-0.02	-0.15	0.28	1.2
	46	258651	0.42	0.49	0.49	-0.26	-0.22	1.2
	47	258712	0.46	0.23	-0.20	-0.02	0.23	1.2
	48	258731	0.31	0.29	-0.14	-0.10	0.29	1.2
	49	261608	0.51	0.23	-0.14	-0.07	0.23	1.2
	50	258693	0.32	0.32	0.32	-0.12	-0.16	2.3
<b>Mean</b>			0.46	0.22	0.03	-0.03	0.02	0.7
<b>SD</b>			0.16	0.10	0.20	0.16	0.17	0.5

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A11 Item Statistics: MD Mod-HSA English—April

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
315	1	259343	0.55	0.30	0.02	-0.37	0.30	0.0
	2	259415	0.62	0.31	0.31	-0.24	-0.16	0.0
	3	259417	0.54	0.19	0.19	-0.17	-0.03	0.0
	4	259416	0.72	0.38	-0.09	0.38	-0.37	0.0
	5	259323	0.44	0.37	0.37	-0.25	-0.16	0.0
	6	259453	0.41	0.14	0.00	-0.25	0.14	0.0
	7	259382	0.59	0.32	-0.31	0.32	-0.08	0.0
	8	259452	0.42	0.13	-0.09	0.13	-0.07	0.0
	9	259465	0.36	0.16	0.16	-0.18	0.00	0.0
	10	259351	0.42	0.10	-0.20	0.10	0.05	0.0
	11	259430	0.77	0.20	-0.15	0.20	-0.11	0.0
	12	259431	0.57	0.31	0.31	-0.16	-0.21	0.0
	13	259318	0.62	0.41	0.41	-0.22	-0.28	0.5
	14	259319	0.35	0.04	0.10	-0.17	0.04	0.0
	15	259320	0.76	0.35	-0.20	0.35	-0.26	0.0
	16	259419	0.56	0.17	-0.08	0.17	-0.14	0.0
	17	259421	0.53	0.26	0.26	-0.22	-0.07	0.5
	18	259463	0.36	0.22	0.22	-0.08	-0.15	0.5
	19	259345	0.49	0.40	-0.21	-0.25	0.40	0.0
	20	259325	0.54	0.26	-0.15	0.26	-0.15	0.0
	21	259385	0.56	0.24	-0.09	-0.19	0.24	0.0
	22	259390	0.51	0.37	-0.22	-0.22	0.37	0.0
	23	259383	0.43	0.22	-0.16	0.22	-0.08	0.5
	24	259386	0.43	0.20	-0.01	-0.21	0.20	0.0
	25	259388	0.48	0.33	0.33	-0.16	-0.22	0.0
	26	259389	0.37	0.15	-0.12	0.15	-0.04	0.0
	27	259438	0.51	0.22	-0.06	0.22	-0.17	1.0
	28	259439	0.60	0.21	-0.14	0.21	-0.13	0.0
	29	259437	0.43	0.17	0.17	-0.03	-0.15	0.5
	30	259332	0.56	0.33	-0.24	0.33	-0.15	0.5
	31	259403	0.39	0.23	0.04	-0.30	0.23	0.0
	32	259401	0.34	0.29	0.29	0.00	-0.33	0.0
	33	259402	0.36	0.39	-0.38	-0.01	0.39	0.0
	34	259399	0.68	0.43	-0.21	-0.33	0.43	0.0
	35	259400	0.51	0.32	-0.04	-0.41	0.32	0.0
	36	259404	0.57	0.32	0.32	-0.21	-0.19	0.0
	37	259461	0.62	0.46	-0.26	-0.33	0.46	0.5
	38	259446	0.54	0.15	-0.08	-0.10	0.15	0.5
	39	259447	0.49	0.20	-0.04	0.20	-0.22	0.5
	40	259448	0.60	0.23	-0.12	-0.17	0.23	1.0
	41	259358	0.44	0.28	-0.07	-0.23	0.28	0.5
	42	259434	0.43	0.12	-0.01	0.12	-0.20	0.0

Table 2.A11 Item Statistics: MD Mod-HSA English—April

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
315	43	259391	0.51	0.24	-0.13	0.24	-0.16	0.0
	44	259454	0.31	0.16	0.16	-0.09	-0.06	0.5
	45	259455	0.50	0.36	-0.21	-0.20	0.36	0.0
	46	259392	0.43	0.41	-0.20	-0.25	0.41	0.0
	47	259394	0.64	0.58	0.58	-0.41	-0.31	0.0
	48	259393	0.40	0.40	0.40	-0.26	-0.17	1.5
	49	259444	0.61	0.38	-0.23	0.38	-0.24	0.0
	50	259356	0.49	0.28	-0.11	-0.21	0.28	0.0
<b>Mean</b>			0.51	0.27	0.00	-0.06	0.00	0.2
<b>SD</b>			0.11	0.11	0.22	0.23	0.24	0.3

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A12 Item Statistics: MD Mod-HSA Algebra—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	1	258090	0.52	0.33	-0.20	-0.19	0.33	0.0
	2	258095	0.71	0.31	0.31	-0.20	-0.20	0.0
	3	258166	0.68	0.34	-0.24	0.34	-0.20	0.0
	4	258312	0.38	0.33	0.33	-0.16	-0.20	0.3
	5	258173	0.54	0.32	-0.17	0.32	-0.19	0.3
	6	258115	0.36	0.29	0.29	-0.15	-0.13	0.6
	7	258223	0.32	0.02	-0.09	0.02	0.07	0.4
	8	258230	0.48	0.24	0.24	-0.28	0.00	0.6
	9	258147	0.45	0.32	0.32	-0.13	-0.24	0.4
	10	261560	0.62	0.30	-0.20	0.30	-0.16	0.3
	11	258227	0.63	0.31	0.31	-0.18	-0.20	0.3
	12	258308	0.41	0.28	0.28	-0.21	-0.08	0.4
	13	258101	0.48	0.23	-0.17	0.23	-0.06	0.7
	14	258210	0.74	0.32	-0.18	0.32	-0.23	0.6
	15	258116	0.41	0.18	0.18	-0.23	-0.01	0.4
	16	258089	0.22	0.10	-0.06	0.10	0.00	0.6
	17	261556	0.43	0.22	0.22	-0.26	0.04	0.4
	18	258309	0.81	0.32	-0.16	-0.22	0.32	0.4
	19	258098	0.51	0.38	-0.25	-0.21	0.38	0.9
	20	258208	0.38	0.05	0.06	-0.10	0.05	0.6
	21	258161	0.48	0.47	0.47	-0.36	-0.15	0.4
	22	258159	0.35	0.25	-0.07	-0.15	0.25	0.6
	23	258184	0.45	0.32	-0.08	0.32	-0.23	1.0
	24	258136	0.53	0.31	-0.14	0.31	-0.20	0.4
	25	258102	0.43	0.22	-0.10	0.22	-0.11	0.7
	26	258226	0.38	0.23	-0.12	-0.10	0.23	0.4
	27	258188	0.61	0.25	-0.09	0.25	-0.20	0.4
	28	258174	0.40	0.21	-0.02	-0.17	0.21	0.6
	29	258209	0.59	0.26	-0.11	-0.19	0.26	0.3
	30	258154	0.35	0.41	-0.31	-0.09	0.41	0.3
	31	258113	0.49	0.31	-0.20	0.31	-0.15	0.4
	32	258198	0.35	0.26	-0.11	-0.13	0.26	0.6
	33	258120	0.36	0.36	-0.15	-0.22	0.36	0.4
	34	258169	0.42	0.23	-0.09	-0.14	0.23	0.6
	35	258119	0.39	0.26	0.26	-0.07	-0.21	0.6
	36	258160	0.40	0.24	0.24	-0.13	-0.11	0.4
	37	258241	0.50	0.34	-0.17	0.34	-0.22	0.9
	38	258130	0.47	0.15	0.15	-0.08	-0.09	1.0
	39	258131	0.24	-0.01	-0.01	0.13	-0.11	0.7
	40	258128	0.61	0.39	-0.22	0.39	-0.24	0.4
	41	258509	0.29	0.19	0.19	-0.16	0.01	0.7
	42	258231	0.51	0.37	-0.15	-0.23	0.37	0.9

Table 2.A12 Item Statistics: MD Mod-HSA Algebra—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	43	258111	0.55	0.29	-0.21	0.29	-0.12	0.3
	44	258096	0.25	0.11	0.11	0.09	-0.21	0.7
	45	258125	0.41	0.13	-0.14	0.13	-0.01	0.4
	46	258144	0.32	0.12	0.12	0.03	-0.13	0.4
	47	261558	0.38	0.24	-0.12	0.24	-0.11	0.4
	48	261562	0.36	0.26	0.26	-0.18	-0.05	0.4
	49	258220	0.34	0.03	0.02	-0.02	0.03	0.7
	50	258135	0.52	0.24	-0.12	0.24	-0.15	0.4
<b>Mean</b>			0.46	0.25	0.00	0.00	-0.02	0.5
<b>SD</b>			0.13	0.10	0.20	0.22	0.20	0.2

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A13 Item Statistics: MD Mod-HSA Biology—May

Form	Pos No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	1	258636	0.65	0.36	-0.25	0.36	-0.21	0.0
	2	258653	0.35	0.24	0.24	-0.02	-0.23	0.0
	3	258690	0.44	0.23	-0.01	-0.23	0.23	0.0
	4	258702	0.51	0.37	-0.32	0.37	-0.11	0.1
	5	258662	0.38	0.27	-0.15	-0.14	0.27	0.2
	6	258659	0.28	0.13	0.13	-0.18	0.08	0.0
	7	258673	0.57	0.18	-0.04	-0.19	0.18	0.0
	8	258701	0.43	0.27	-0.21	0.27	-0.09	0.1
	9	258628	0.61	0.25	0.25	-0.22	-0.09	0.1
	10	258685	0.30	0.23	0.23	-0.18	-0.10	0.1
	11	261611	0.15	0.09	0.01	-0.06	0.09	0.3
	12	258615	0.41	0.21	-0.11	0.21	-0.12	0.2
	13	258683	0.65	0.40	-0.25	0.40	-0.25	0.1
	14	258641	0.47	0.18	-0.05	0.18	-0.15	0.4
	15	258676	0.43	0.16	-0.11	0.16	-0.06	0.4
	16	258607	0.60	0.33	-0.17	0.33	-0.25	0.2
	17	258645	0.50	0.40	-0.20	-0.25	0.40	0.6
	18	258666	0.53	0.17	-0.06	0.17	-0.16	0.3
	19	258675	0.46	0.21	-0.15	0.21	-0.09	0.7
	20	261609	0.62	0.24	-0.11	-0.21	0.24	0.3
	21	258665	0.25	0.16	0.16	-0.06	-0.07	0.3
	22	258682	0.48	0.22	-0.13	0.22	-0.10	0.6
	23	258648	0.42	0.31	-0.15	0.31	-0.18	0.8
	24	258614	0.40	0.33	-0.12	-0.23	0.33	0.9
	25	258680	0.42	0.35	-0.19	-0.19	0.35	0.9
	26	258681	0.41	0.06	-0.04	-0.02	0.06	1.1
	27	258642	0.57	0.17	-0.09	0.17	-0.11	0.2
	28	261623	0.61	0.28	-0.10	-0.27	0.28	0.2
	29	258649	0.30	0.18	0.18	-0.31	0.10	0.3
	30	258687	0.41	0.14	-0.15	0.14	-0.02	0.3
	31	258646	0.39	0.21	0.21	-0.26	0.03	0.3
	32	261626	0.58	0.33	-0.25	-0.17	0.33	0.2
	33	258707	0.48	0.37	0.37	-0.29	-0.13	0.2
	34	258643	0.55	0.31	0.31	-0.21	-0.16	0.2
	35	258698	0.32	0.15	-0.15	0.00	0.15	0.4
	36	258728	0.26	0.11	-0.12	-0.03	0.11	0.3
	37	258734	0.54	0.34	-0.12	-0.28	0.34	0.2
	38	258735	0.44	0.24	-0.22	0.24	-0.07	0.2
	39	258704	0.53	0.29	-0.17	0.29	-0.17	0.4
	40	258624	0.53	0.33	0.33	-0.22	-0.16	0.4
	41	258697	0.41	0.14	0.14	-0.09	-0.06	0.4
	42	258616	0.25	0.03	-0.11	0.03	0.08	0.2
	43	258617	0.43	0.16	0.16	-0.14	-0.03	0.3

Table 2.A13 Item Statistics: MD Mod-HSA Biology—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	44	258688	0.45	0.17	-0.04	-0.15	0.17	0.2
	45	258669	0.62	0.37	-0.20	-0.24	0.37	0.2
	46	261621	0.61	0.36	0.36	-0.22	-0.23	0.2
	47	258703	0.41	0.29	-0.12	0.29	-0.19	0.3
	48	258692	0.49	0.22	-0.11	-0.14	0.22	0.4
	49	258635	0.50	0.35	-0.25	-0.16	0.35	0.4
	50	261616	0.52	0.35	-0.22	-0.18	0.35	0.7
<b>Mean</b>			0.46	0.24	-0.04	-0.02	0.03	0.3
<b>SD</b>			0.12	0.09	0.18	0.22	0.20	0.2

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A14 Item Statistics: MD Mod-HSA English—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	1	259429	0.41	0.21	0.21	-0.12	-0.11	0.0
	2	259426	0.62	0.36	0.36	-0.24	-0.20	0.0
	3	259349	0.60	0.32	-0.19	0.32	-0.20	0.0
	4	259427	0.44	0.23	-0.10	0.23	-0.16	0.0
	5	259312	0.58	0.43	0.43	-0.37	-0.16	0.0
	6	259368	0.38	0.20	0.20	-0.19	-0.03	0.0
	7	259371	0.63	0.39	-0.28	-0.21	0.39	0.0
	8	259367	0.63	0.33	-0.22	0.33	-0.21	0.2
	9	259370	0.49	0.20	-0.14	0.20	-0.10	0.0
	10	259432	0.55	0.21	0.21	-0.08	-0.17	0.0
	11	259433	0.50	0.34	0.34	-0.19	-0.21	0.0
	12	259354	0.40	0.25	-0.10	-0.17	0.25	0.0
	13	259407	0.20	-0.05	-0.14	-0.05	0.19	0.5
	14	259335	0.38	0.24	-0.17	-0.09	0.24	0.5
	15	259410	0.61	0.39	-0.32	0.39	-0.12	1.2
	16	259413	0.49	0.24	-0.06	0.24	-0.25	0.5
	17	259411	0.46	0.30	-0.18	-0.16	0.30	0.5
	18	259414	0.34	0.28	-0.18	-0.07	0.28	1.2
	19	259338	0.31	0.20	0.20	-0.10	-0.08	0.5
	20	259339	0.57	0.39	-0.22	0.39	-0.26	0.5
	21	259340	0.64	0.38	-0.21	-0.25	0.38	0.5
	22	259362	0.55	0.45	0.45	-0.26	-0.26	0.7
	23	259436	0.25	0.20	0.20	-0.06	-0.12	0.7
	24	259347	0.38	0.26	0.26	-0.18	-0.07	1.4
	25	259424	0.50	0.35	-0.07	-0.32	0.35	1.0
	26	259423	0.39	0.16	-0.08	-0.05	0.16	1.2
	27	259425	0.45	0.18	-0.06	0.18	-0.13	1.2
	28	259422	0.38	0.21	-0.13	0.21	-0.06	0.7
	29	259445	0.65	0.28	-0.20	0.28	-0.14	0.0
	30	259374	0.39	0.32	-0.15	-0.23	0.32	0.2
	31	259450	0.36	0.34	-0.22	-0.14	0.34	0.0
	32	259376	0.62	0.33	-0.11	-0.32	0.33	0.0
	33	259310	0.54	0.37	-0.17	0.37	-0.27	0.0
	34	259365	0.62	0.34	-0.17	0.34	-0.26	0.0
	35	259449	0.62	0.30	0.30	-0.21	-0.18	0.5
	36	259441	0.27	0.27	0.27	-0.27	0.02	0.5
	37	259443	0.52	0.22	-0.18	0.22	-0.07	0.2
	38	259437	0.41	0.24	0.24	-0.02	-0.24	0.2
	39	259457	0.47	0.33	0.33	-0.22	-0.13	0.7
	40	259330	0.66	0.35	-0.10	0.35	-0.31	0.5
	41	259458	0.32	0.23	0.23	-0.25	0.03	0.2

Table 2.A14 Item Statistics: MD Mod-HSA English—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	42	259466	0.57	0.43	-0.27	-0.26	0.43	0.2
	43	259395	0.47	0.23	0.06	0.23	-0.30	0.2
	44	259459	0.41	0.27	-0.09	-0.20	0.27	1.0
	45	259396	0.34	0.07	-0.11	0.06	0.07	0.5
	46	259460	0.63	0.29	0.29	-0.25	-0.09	0.7
	47	259398	0.56	0.29	-0.17	0.29	-0.17	0.2
	48	259397	0.34	0.14	-0.14	0.01	0.14	0.2
	49	259360	0.49	0.30	0.30	-0.21	-0.13	0.2
	50	259435	0.23	0.09	0.05	-0.17	0.09	0.7
<b>Mean</b>			0.47	0.27	0.00	-0.03	-0.01	0.4
<b>SD</b>			0.12	0.10	0.22	0.23	0.22	0.4

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A15 Item Statistics: MD Mod-HSA Government—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	1	258363	0.38	0.37	-0.27	-0.12	0.37	0.0
	2	258500	0.21	0.20	0.20	0.03	-0.21	0.0
	3	258327	0.41	0.23	0.23	-0.08	-0.18	0.0
	4	258338	0.38	0.31	-0.14	0.31	-0.20	0.2
	5	258408	0.40	0.28	0.28	-0.19	-0.11	0.2
	6	258463	0.35	0.21	0.21	-0.12	-0.10	0.0
	7	258458	0.44	0.29	0.29	-0.13	-0.18	0.0
	8	258506	0.57	0.31	-0.13	-0.25	0.31	0.2
	9	258505	0.46	0.16	0.16	-0.06	-0.13	0.0
	10	258349	0.50	0.34	0.34	-0.26	-0.11	0.2
	11	258429	0.41	0.17	-0.06	-0.11	0.17	0.4
	12	258353	0.26	0.08	0.02	0.08	-0.07	0.6
	13	258396	0.47	0.27	0.27	-0.08	-0.21	0.4
	14	258410	0.48	0.32	-0.21	-0.14	0.32	0.9
	15	258386	0.38	0.41	0.41	-0.20	-0.22	1.1
	16	258350	0.34	0.18	0.18	-0.04	-0.13	1.1
	17	258378	0.44	0.20	-0.08	-0.13	0.20	0.8
	18	258503	0.34	0.12	-0.04	-0.06	0.12	0.8
	19	258440	0.57	0.31	-0.14	0.31	-0.22	0.9
	20	258400	0.41	0.33	-0.25	-0.10	0.33	0.9
	21	258421	0.31	0.27	0.27	-0.15	-0.09	0.9
	22	258446	0.30	0.24	-0.17	0.24	-0.03	1.3
	23	258344	0.32	0.19	0.19	-0.05	-0.12	0.8
	24	258432	0.50	0.26	-0.14	-0.14	0.26	1.1
	25	258428	0.47	0.21	-0.04	-0.17	0.21	1.1
	26	258360	0.41	0.14	-0.02	0.14	-0.13	0.4
	27	258343	0.47	0.28	-0.14	0.28	-0.16	0.2
	28	258438	0.52	0.39	0.39	-0.22	-0.23	0.2
	29	258718	0.64	0.44	0.44	-0.32	-0.23	0.4
	30	258424	0.36	0.20	-0.07	0.20	-0.14	0.2
	31	258323	0.34	0.26	-0.07	0.26	-0.19	0.2
	32	258324	0.60	0.41	-0.24	-0.26	0.41	0.2
	33	258437	0.42	0.19	-0.05	-0.14	0.19	0.2
	34	258319	0.35	0.15	-0.09	0.15	-0.05	0.2
	35	258389	0.56	0.24	-0.12	0.24	-0.17	0.2
	36	258379	0.54	0.26	-0.06	-0.23	0.26	0.6
	37	258413	0.40	0.27	-0.14	0.27	-0.14	0.9
	38	258448	0.43	0.33	0.33	-0.15	-0.20	0.9
	39	258721	0.35	0.14	0.14	-0.08	-0.06	0.8
	40	258439	0.44	0.30	-0.03	0.30	-0.27	0.2
	41	258368	0.38	0.21	0.21	-0.25	0.06	1.1

Table 2.A15 Item Statistics: MD Mod-HSA Government—May

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
415	42	258320	0.31	0.28	-0.07	0.28	-0.19	0.4
	43	258436	0.55	0.39	0.39	-0.30	-0.15	0.2
	44	258384	0.56	0.21	-0.07	0.21	-0.17	0.2
	45	258486	0.44	0.21	-0.02	0.21	-0.19	0.4
	46	258411	0.35	0.14	-0.14	0.01	0.14	0.9
	47	258313	0.56	0.32	-0.20	0.32	-0.15	0.8
	48	258716	0.44	0.37	0.37	-0.14	-0.25	0.9
	49	258335	0.52	0.37	-0.17	-0.24	0.37	1.1
	50	258377	0.61	0.33	0.33	-0.13	-0.24	0.9
<b>Mean</b>			0.43	0.26	0.05	-0.02	-0.04	0.5
<b>SD</b>			0.10	0.09	0.21	0.20	0.20	0.4

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A16 Item Statistics: MD Mod-HSA Algebra—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	1	258190	0.33	0.47	-0.23	-0.25	0.47	0.0
	2	258164	0.48	0.47	-0.21	-0.33	0.47	0.0
	3	258224	0.59	0.02	0.29	0.02	-0.22	0.0
	4	258107	0.41	0.29	-0.20	-0.15	0.29	0.0
	5	258126	0.44	0.17	0.17	-0.21	0.03	0.0
	6	258239	0.48	0.39	-0.19	0.39	-0.27	0.0
	7	258123	0.52	0.28	0.28	-0.41	0.12	0.0
	8	258124	0.44	0.15	-0.29	0.14	0.15	0.0
	9	258141	0.26	0.46	0.46	-0.07	-0.34	0.0
	10	258200	0.30	0.05	0.05	-0.28	0.23	0.0
	11	258179	0.30	-0.12	-0.19	0.29	-0.12	0.0
	12	258235	0.59	0.21	0.04	0.21	-0.31	0.0
	13	258105	0.37	0.03	0.03	-0.33	0.27	0.0
	14	258236	0.48	0.09	0.01	0.09	-0.11	0.0
	15	261559	0.33	0.17	0.17	0.01	-0.18	0.0
	16	258211	0.41	0.21	-0.14	0.21	-0.12	0.0
	17	258209	0.65	0.13	-0.20	0.08	0.13	0.0
	18	258182	0.52	0.44	-0.20	-0.32	0.44	0.0
	19	258238	0.33	0.45	-0.13	-0.32	0.45	0.0
	20	261561	0.48	0.22	0.22	-0.31	0.04	0.0
	21	258132	0.56	0.05	-0.15	0.05	0.09	0.0
	22	258158	0.37	0.34	-0.05	-0.31	0.34	0.0
	23	258145	0.37	-0.06	-0.05	-0.06	0.09	0.0
	24	261563	0.19	0.10	0.30	-0.40	0.10	0.0
	25	258229	0.48	0.06	-0.11	0.06	0.01	0.0
	26	258197	0.59	0.30	-0.11	0.30	-0.32	0.0
	27	258097	0.30	0.24	0.24	0.02	-0.29	0.0
	28	258310	0.56	0.39	-0.22	-0.24	0.39	0.0
	29	258109	0.30	0.34	0.34	-0.07	-0.27	0.0
	30	258110	0.37	0.08	-0.12	0.08	0.05	0.0
	31	258103	0.26	-0.09	-0.09	0.14	-0.07	0.0
	32	258108	0.52	0.07	0.13	0.07	-0.24	0.0
	33	258196	0.63	0.51	-0.45	0.51	-0.28	0.0
	34	261564	0.44	0.40	0.40	-0.25	-0.19	0.0
	35	258153	0.30	0.24	0.24	0.16	-0.39	0.0
	36	258122	0.78	0.29	-0.05	0.29	-0.34	0.0
	37	258240	0.52	0.30	-0.21	0.30	-0.15	0.0
	38	258157	0.41	0.11	0.11	-0.14	0.02	0.0
	39	258091	0.52	0.08	0.27	0.08	-0.29	0.0
	40	258118	0.56	0.41	0.41	0.03	-0.50	0.0
	41	258225	0.70	0.18	-0.16	0.18	-0.05	0.0
	42	261557	0.19	0.26	0.26	-0.05	-0.15	0.0
	43	258152	0.33	-0.14	-0.14	0.04	0.10	0.0

Table 2.A16 Item Statistics: MD Mod-HSA Algebra—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	44	258133	0.44	0.31	0.31	-0.23	-0.10	0.0
	45	258214	0.22	0.38	0.38	0.25	-0.56	0.0
	46	258178	0.33	0.44	-0.07	-0.36	0.44	0.0
	47	258100	0.37	0.41	-0.36	0.41	-0.09	3.7
	48	258171	0.44	0.39	-0.24	0.39	-0.19	0.0
	49	258142	0.33	0.31	-0.10	-0.21	0.31	0.0
	50	258150	0.33	0.13	0.13	-0.22	0.10	0.0
<b>Mean</b>			0.43	0.23	0.01	-0.01	-0.02	0.1
<b>SD</b>			0.13	0.17	0.23	0.25	0.27	0.5

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A17 Item Statistics: MD Mod-HSA Algebra—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	1	258090	0.77	0.54	-0.76	0.18	0.54	0.0
	2	258095	0.77	0.61	0.61	-0.36	-0.45	0.0
	3	258166	0.77	0.46	-0.76	0.46	0.30	0.0
	4	258312	0.31	0.42	0.42	-0.03	-0.67	0.0
	5	258173	0.69	0.63		0.63	-0.63	0.0
	6	258115	0.31	0.35	0.35	0.03	-0.42	0.0
	7	258223	0.46	0.23		0.23	-0.23	0.0
	8	258230	0.54	0.55	0.55	-0.36	-0.36	0.0
	9	258147	0.62	-0.10	-0.10	0.03	0.12	0.0
	10	261560	0.62	0.40	0.13	0.40	-0.57	0.0
	11	258227	0.38	0.46	0.46	0.03	-0.67	0.0
	12	258308	0.31	0.42	0.42	0.22	-0.55	0.0
	13	258101	0.46	-0.06	0.42	-0.06	-0.38	0.0
	14	258210	0.85	0.45	0.06	0.45	-0.67	0.0
	15	258116	0.31	0.10	0.10	0.24	-0.23	0.0
	16	258089	0.23	0.42	0.03	0.42	-0.39	0.0
	17	261556	0.31	0.17	0.17	-0.06	-0.13	0.0
	18	258309	0.85	0.76	-0.76		0.76	0.0
	19	258098	0.69	0.21	0.00	-0.23	0.21	0.0
	20	258208	0.54	-0.23	0.00	0.27	-0.23	0.0
	21	258161	0.54	0.74	0.74	-0.45	-0.45	0.0
	22	258159	0.38	0.07	0.20	-0.31	0.07	0.0
	23	258184	0.31	0.21	0.27	0.21	-0.49	0.0
	24	258136	0.31	0.52	0.31	0.52	-0.71	0.0
	25	258102	0.38	0.33	0.18	0.33	-0.45	0.0
	26	258226	0.38	0.00	0.08	-0.07	0.00	0.0
	27	258188	0.46	0.10	0.17	0.10	-0.31	0.0
	28	258174	0.38	-0.27	0.13	0.16	-0.27	0.0
	29	258209	0.65	0.13	-0.20	0.08	0.13	0.0
	30	258154	0.23	0.46	-0.16	-0.24	0.46	0.0
	31	258113	0.38	0.53	-0.10	0.53	-0.45	0.0
	32	258198	0.38	0.07	0.13	-0.16	0.07	0.0
	33	258120	0.54	0.16	-0.34	0.15	0.16	0.0
	34	258169	0.54	-0.10	0.04	0.07	-0.10	0.0
	35	258119	0.31	0.42	0.42	0.29	-0.80	0.0
	36	258160	0.23	-0.08	-0.08	0.20	-0.13	0.0
	37	258241	0.62	0.30	0.11	0.30	-0.54	0.0
	38	258130	0.31	0.28	0.28	-0.27	0.00	0.0
	39	258131	0.38	0.10	0.10	0.52	-0.63	0.0
	40	258128	0.62	0.20	0.42	0.20	-0.45	0.0
	41	258509	0.23	0.31	0.31	-0.10	-0.17	0.0
	42	258231	0.77	-0.23	0.13	0.18	-0.23	0.0
	43	258111	0.62	0.30	0.07	0.30	-0.67	0.0

Table 2.A17 Item Statistics: MD Mod-HSA Algebra—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	44	258096	0.15	-0.31	-0.31	0.45	-0.24	0.0
	45	258125	0.31	0.00	0.38	0.00	-0.36	0.0
	46	258144	0.31	0.10	0.10	0.30	-0.42	0.0
	47	261558	0.15	0.27	0.00	0.27	-0.21	0.0
	48	261562	0.46	0.36	0.36	0.03	-0.67	7.7
	49	258220	0.38	-0.60	0.18	0.49	-0.60	0.0
	50	258135	0.46	0.03	-0.07	0.03	0.04	0.0
<b>Mean</b>			0.46	0.22	0.11	0.13	-0.26	0.2
<b>SD</b>			0.19	0.29	0.32	0.26	0.35	1.1

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A18 Item Statistics: MD Mod-HSA Biology—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	1	258627	0.81	0.09	-0.14	0.09	0.05	0.0
	2	258733	0.59	0.13	0.13	0.00	-0.16	0.0
	3	258684	0.52	0.16	-0.20	0.03	0.16	0.0
	4	258644	0.24	0.07	0.07	-0.06	-0.01	0.0
	5	258634	0.26	0.03	0.15	0.03	-0.19	0.0
	6	261644	0.69	0.18	0.18	-0.18	-0.02	0.0
	7	261645	0.20	0.35	-0.06	-0.23	0.35	0.0
	8	258619	0.33	0.32	0.32	0.02	-0.34	0.0
	9	258700	0.46	0.30	-0.23	-0.13	0.30	0.0
	10	258618	0.24	0.05	0.15	-0.19	0.05	0.0
	11	261627	0.48	0.15	-0.07	0.15	-0.11	0.0
	12	258639	0.39	0.19	0.19	-0.10	-0.07	1.9
	13	258732	0.54	0.04	0.04	-0.24	0.24	0.0
	14	258727	0.54	0.42	-0.18	0.42	-0.32	0.0
	15	258622	0.48	0.42	0.42	-0.46	-0.02	0.0
	16	258695	0.35	-0.11	0.11	-0.11	0.04	0.0
	17	258631	0.70	0.35	0.35	-0.28	-0.16	0.0
	18	258699	0.31	-0.13	0.06	-0.13	0.07	0.0
	19	261607	0.61	0.23	-0.30	0.23	-0.02	1.9
	20	261624	0.30	-0.12	0.39	-0.22	-0.12	1.9
	21	258612	0.48	0.33	-0.18	0.33	-0.16	1.9
	22	261610	0.33	0.37	-0.35	-0.03	0.37	1.9
	23	258714	0.22	0.42	0.42	-0.28	-0.04	1.9
	24	258725	0.67	0.38	-0.35	0.38	-0.13	1.9
	25	258664	0.59	0.38	-0.20	0.38	-0.22	1.9
	26	258638	0.22	0.31	0.00	-0.28	0.31	0.0
	27	258650	0.44	0.25	0.00	-0.26	0.25	1.9
	28	261614	0.56	0.44	0.44	-0.27	-0.23	1.9
	29	261622	0.67	0.37	-0.22	0.37	-0.25	0.0
	30	258705	0.30	0.00	-0.17	0.19	0.00	0.0
	31	258678	0.48	0.34	-0.17	0.34	-0.22	0.0
	32	261642	0.43	0.42	0.42	-0.28	-0.18	1.9
	33	258654	0.54	0.39	-0.41	-0.01	0.39	1.9
	34	258670	0.41	0.29	-0.11	-0.16	0.29	1.9
	35	258660	0.39	0.05	-0.11	0.07	0.05	1.9
	36	258637	0.50	0.37	-0.18	0.37	-0.24	0.0
	37	258640	0.46	0.28	-0.19	0.28	-0.09	1.9
	38	258674	0.52	0.12	-0.10	-0.04	0.12	0.0
	39	258697	0.40	0.08	0.08	-0.06	-0.03	0.0
	40	258616	0.30	0.02	0.28	0.02	-0.30	0.0
	41	258630	0.30	0.23	0.10	-0.31	0.23	0.0
	42	261617	0.35	-0.05	-0.05	0.23	-0.27	0.0
	43	258726	0.31	0.36	0.36	-0.16	-0.17	1.9

Table 2.A18 Item Statistics: MD Mod-HSA Biology—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	44	258730	0.48	0.52	0.52	-0.25	-0.33	1.9
	45	258657	0.20	0.01	0.12	-0.10	0.01	0.0
	46	258651	0.37	0.52	0.52	-0.12	-0.38	1.9
	47	258712	0.56	0.23	-0.18	-0.11	0.23	0.0
	48	258731	0.26	-0.14	-0.07	0.20	-0.14	0.0
	49	261608	0.52	0.21	-0.14	-0.11	0.21	0.0
	50	258693	0.26	0.24	0.24	0.07	-0.32	0.0
<b>Mean</b>			0.43	0.22	0.03	-0.02	-0.03	0.7
<b>SD</b>			0.15	0.18	0.25	0.22	0.21	0.9

Note: P\_Val =  $p$ -value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A19 Item Statistics: MD Mod-HSA Biology—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	1	258636	0.54	0.32	-0.17	0.32	-0.22	0.0
	2	258653	0.54	0.21	0.21	-0.12	-0.12	0.0
	3	258690	0.46	0.37	0.00	-0.40	0.37	0.0
	4	258702	0.46	0.11	-0.25	0.11	0.11	0.0
	5	258662	0.31	0.29	-0.13	-0.16	0.29	0.0
	6	258659	0.23	-0.12	-0.12	0.03	0.09	0.0
	7	258673	0.46	0.40	-0.29	-0.20	0.40	0.0
	8	258701	0.69	0.26	-0.29	0.26	-0.04	0.0
	9	258628	0.77	0.34	0.34	-0.34		0.0
	10	258685	0.31	0.31	0.31	-0.30	-0.14	0.0
	11	261611	0.00		0.14	-0.14		0.0
	12	258615	0.23	0.09	0.33	0.09	-0.32	0.0
	13	258683	0.46	0.58	-0.25	0.58	-0.40	0.0
	14	258641	0.38	0.14	0.20	0.14	-0.24	0.0
	15	258676	0.38	0.65	-0.44	0.65	-0.27	0.0
	16	258607	0.77	0.53		0.53	-0.53	0.0
	17	258645	0.62	0.49	-0.40	-0.20	0.49	0.0
	18	258666	0.62	0.22	-0.06	0.22	-0.30	0.0
	19	258675	0.46	0.32	-0.30	0.32	-0.16	0.0
	20	261609	0.77	-0.41	0.41		-0.41	0.0
	21	258665	0.31	0.17	0.17	-0.33	0.08	0.0
	22	258682	0.31	0.43	-0.45	0.43	0.06	0.0
	23	258648	0.46	0.37		0.37	-0.37	0.0
	24	258614	0.46	0.29	-0.14	-0.19	0.29	0.0
	25	258680	0.54	-0.11	0.00	0.12	-0.11	0.0
	26	258681	0.54	0.11	0.41	-0.53	0.11	0.0
	27	258642	0.54	0.34		0.34	-0.34	0.0
	28	261623	0.62	0.62	-0.48	-0.30	0.62	0.0
	29	258649	0.23	0.53	0.53	-0.30	-0.31	0.0
	30	258687	0.23	0.37	0.03	0.37	-0.34	0.0
	31	258646	0.31	0.34	0.34	0.22	-0.50	0.0
	32	261626	0.77	-0.25		0.25	-0.25	0.0
	33	258707	0.62	0.46	0.46	-0.33	-0.25	0.0
	34	258643	0.46	0.48	0.48	-0.48		0.0
	35	258698	0.38	0.16	0.09	-0.26	0.16	0.0
	36	258728	0.46	0.53	-0.40	-0.32	0.53	0.0
	37	258734	0.62	0.22	0.07	-0.31	0.22	0.0
	38	258735	0.38	0.57	0.00	0.57	-0.55	0.0
	39	258704	0.31	0.29	-0.08	0.29	-0.22	0.0
	40	258624	0.69	0.03	0.03	-0.20	0.09	0.0
	41	258697	0.40	0.08	0.08	-0.06	-0.03	0.0
	42	258616	0.30	0.02	0.28	0.02	-0.30	0.0
	43	258617	0.38	-0.27	-0.27		0.27	0.0

Table 2.A19 Item Statistics: MD Mod-HSA Biology—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	44	258688	0.54	-0.03	-0.34	0.37	-0.03	0.0
	45	258669	0.69	-0.06	-0.15	0.16	-0.06	0.0
	46	261621	0.77	0.62	0.62	-0.30	-0.51	0.0
	47	258703	0.31	0.83	-0.56	0.83	-0.29	0.0
	48	258692	0.38	0.08	-0.16	0.11	0.08	0.0
	49	258635	0.77	0.28	-0.28		0.28	0.0
	50	261616	0.69	0.20	-0.03	-0.30	0.20	0.0
<b>Mean</b>			0.48	0.26	-0.01	0.04	-0.06	0.0
<b>SD</b>			0.18	0.26	0.30	0.34	0.30	0.0

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A20 Item Statistics: MD Mod-HSA English—Summer Primary 1

Form	Pos No	ItemID	P Val	R ITT	P BIS1	P BIS2	P BIS3	%Omits
515	1	259343	0.42	0.35	-0.09	-0.28	0.35	0.0
	2	259415	0.50	0.44	0.44	-0.21	-0.30	0.0
	3	259417	0.46	0.55	0.55	-0.38	-0.25	0.0
	4	259416	0.58	0.52	-0.22	0.52	-0.41	0.0
	5	259323	0.50	-0.06	-0.06	-0.06	0.16	0.0
	6	259453	0.42	-0.05	0.12	-0.07	-0.05	0.0
	7	259382	0.69	0.39	-0.19	0.39	-0.32	0.0
	8	259452	0.38	0.23	-0.30	0.23	-0.03	0.0
	9	259465	0.35	0.16	0.16	-0.29	0.08	0.0
	10	259351	0.27	-0.03	-0.14	-0.03	0.18	0.0
	11	259430	0.62	0.44	-0.40	0.44	-0.11	0.0
	12	259431	0.35	0.48	0.48	-0.19	-0.30	0.0
	13	259318	0.58	0.16	0.16	-0.12	-0.07	0.0
	14	259319	0.42	0.14	0.22	-0.41	0.14	0.0
	15	259320	0.58	0.35	-0.20	0.35	-0.24	0.0
	16	259419	0.38	0.41	-0.29	0.41	-0.14	0.0
	17	259421	0.42	0.51	0.51	-0.31	-0.24	0.0
	18	259463	0.38	0.43	0.43	-0.14	-0.31	0.0
	19	259345	0.46	0.50	-0.24	-0.34	0.50	0.0
	20	259325	0.62	0.51	-0.33	0.51	-0.31	0.0
	21	259385	0.50	0.60	-0.37	-0.32	0.60	0.0
	22	259390	0.73	0.34	-0.27	-0.20	0.34	0.0
	23	259383	0.54	0.09	-0.11	0.09	0.01	0.0
	24	259386	0.50	0.02	0.03	-0.06	0.02	0.0
	25	259388	0.50	0.42	0.42	-0.09	-0.37	0.0
	26	259389	0.27	0.08	0.15	0.08	-0.27	0.0
	27	259438	0.42	-0.08	0.04	-0.08	0.06	0.0
	28	259439	0.58	0.30	-0.33	0.30	-0.01	0.0
	29	259437	0.52	0.35	0.35	-0.14	-0.26	0.0
	30	259332	0.58	0.03	0.15	0.03	-0.22	0.0
	31	259403	0.27	0.37	0.19	-0.54	0.37	0.0
	32	259401	0.50	0.39	0.39	0.00	-0.45	0.0
	33	259402	0.31	0.21	-0.14	-0.06	0.21	0.0
	34	259399	0.73	0.45	0.04	-0.49	0.45	0.0
	35	259400	0.46	0.54	-0.15	-0.47	0.54	0.0
	36	259404	0.46	0.30	0.30	-0.20	-0.13	0.0
	37	259461	0.46	0.62	-0.49	-0.23	0.62	0.0
	38	259446	0.50	0.27	-0.09	-0.25	0.27	0.0
	39	259447	0.31	-0.21	0.22	-0.21	-0.02	0.0
	40	259448	0.58	0.25	0.04	-0.30	0.25	0.0
	41	259358	0.50	0.27	-0.11	-0.21	0.27	0.0
	42	259434	0.35	0.03	0.15	0.03	-0.33	0.0

Table 2.A20 Item Statistics: MD Mod-HSA English—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	43	259391	0.50	0.36	0.28	0.36	-0.47	0.0
	44	259454	0.23	0.29	0.29	-0.33	0.18	3.8
	45	259455	0.46	-0.01	0.18	-0.21	-0.01	0.0
	46	259392	0.42	0.08	0.00	-0.08	0.08	0.0
	47	259394	0.54	0.38	0.38	0.13	-0.48	0.0
	48	259393	0.38	-0.04	-0.04	-0.28	0.37	0.0
	49	259444	0.58	0.42	-0.20	0.42	-0.32	0.0
	50	259356	0.58	0.26	-0.09	-0.21	0.26	0.0
<b>Mean</b>			0.47	0.28	0.04	-0.07	0.00	0.1
<b>SD</b>			0.12	0.21	0.27	0.28	0.30	0.5

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A21 Item Statistics: MD Mod-HSA English—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	1	259429	0.29	0.40	0.40	-0.57	0.22	0.0
	2	259426	1.00					0.0
	3	259349	0.71	0.56	-0.08	0.56	-0.64	0.0
	4	259427	0.29	-0.21	0.33	-0.21	-0.19	0.0
	5	259312	0.57	0.65	0.65	-0.19	-0.56	0.0
	6	259368	0.57	0.77	0.77		-0.77	0.0
	7	259371	0.57	0.33	-0.21	-0.19	0.33	0.0
	8	259367	0.86	0.08		0.08	-0.08	0.0
	9	259370	0.00		-0.34		0.34	0.0
	10	259432	0.71	0.69	0.69	-0.69		0.0
	11	259433	0.57	0.57	0.57	-0.69	0.09	0.0
	12	259354	0.57	0.77	-0.69	-0.19	0.77	0.0
	13	259407	0.14	-0.64	0.31	-0.64	0.15	0.0
	14	259335	0.57	-0.19	-0.19	0.36	-0.19	0.0
	15	259410	0.71	0.43		0.43	-0.43	0.0
	16	259413	0.86	-0.71	0.71	-0.71		0.0
	17	259411	0.57	0.13	-0.69	0.71	0.13	0.0
	18	259414	0.29	-0.12	0.37	-0.15	-0.12	0.0
	19	259338	0.14	0.71	0.71	-0.43	-0.08	0.0
	20	259339	0.57	0.77	-0.77	0.77		0.0
	21	259340	0.86	0.19		-0.19	0.19	0.0
	22	259362	0.71	0.08	0.08		-0.08	0.0
	23	259436	0.43	0.63	0.63	0.09	-0.69	0.0
	24	259347	0.29	0.36	0.36	0.27	-0.65	0.0
	25	259424	0.71	0.65	-0.65		0.65	0.0
	26	259423	0.29	0.14	-0.63	0.71	0.14	0.0
	27	259425	0.57	0.53		0.53	-0.53	0.0
	28	259422	0.29	0.40	0.36	0.40	-0.69	0.0
	29	259445	0.57	0.69	-0.25	0.69	-0.56	0.0
	30	259374	0.29	-0.08	0.13	-0.08	-0.08	0.0
	31	259450	0.43	-0.05	-0.45	0.71	-0.05	0.0
	32	259376	0.71	0.56	-0.08	-0.64	0.56	0.0
	33	259310	0.57	0.17	-0.25	0.17	0.01	0.0
	34	259365	0.29	0.62	-0.11	0.62	-0.64	0.0
	35	259449	0.71	0.21	0.21	-0.08	-0.19	0.0
	36	259441	0.29	0.49	0.49	-0.57	0.14	0.0
	37	259443	0.29	0.40	-0.63	0.40	0.37	0.0
	38	259437	0.52	0.35	0.35	-0.14	-0.26	0.0
	39	259457	0.43	0.51	0.51	-0.34	-0.21	0.0
	40	259330	0.57	0.25	0.09	0.25	-0.34	0.0
	41	259458	0.71	0.21	0.21	0.37	-0.64	0.0
	42	259466	0.86	-0.09		0.09	-0.09	0.0
	43	259395	0.00		0.19		-0.19	0.0

Table 2.A21 Item Statistics: MD Mod-HSA English—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	44	259459	0.43	0.71	-0.43	-0.34	0.71	0.0
	45	259396	0.14	0.09	0.09	-0.15	0.09	0.0
	46	259460	0.71	0.65	0.65	-0.19	-0.64	0.0
	47	259398	0.57	0.65	-0.19	0.65	-0.56	0.0
	48	259397	0.29	-0.21	0.39	-0.21	-0.21	0.0
	49	259360	0.29	0.62	0.62	0.22	-0.77	0.0
	50	259435	0.14	0.71	0.15	-0.65	0.71	0.0
<b>Mean</b>			0.49	0.33	0.10	0.02	-0.12	0.0
<b>SD</b>			0.24	0.36	0.45	0.46	0.43	0.0

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.

Table 2.A22 Item Statistics: MD Mod-HSA Government—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	1	258401	0.46	0.37	-0.32	-0.10	0.37	0.0
	2	258459	0.54	0.60	-0.31	0.60	-0.40	0.0
	3	258402	0.35	0.23	0.04	-0.31	0.23	0.0
	4	258406	0.69	0.24	-0.24	0.24	-0.05	0.0
	5	258347	0.19	0.17	0.17	-0.10	-0.04	0.0
	6	258328	0.38	0.21	0.21	-0.05	-0.18	0.0
	7	258422	0.50	0.24	-0.19	-0.10	0.24	0.0
	8	258357	0.23	-0.43	0.12	-0.43	0.25	0.0
	9	258452	0.27	0.50	0.50	0.02	-0.55	0.0
	10	258330	0.35	0.20	0.20	-0.18	-0.04	0.0
	11	258454	0.42	0.13	-0.12	-0.05	0.13	0.0
	12	258364	0.58	0.39	-0.28	0.39	-0.21	0.0
	13	258361	0.42	0.37	0.37	-0.34	-0.04	0.0
	14	258336	0.58	0.27	0.03	-0.34	0.27	0.0
	15	258376	0.35	0.50	0.50	-0.13	-0.37	0.0
	16	258419	0.31	0.00	0.13	0.00	-0.16	0.0
	17	258425	0.58	0.14	0.07	0.14	-0.23	0.0
	18	258715	0.65	0.57	-0.42	0.57	-0.31	0.0
	19	258473	0.62	0.45	-0.34	-0.21	0.45	0.0
	20	258478	0.12	0.09	0.08	0.09	-0.14	0.0
	21	258501	0.46	0.62	-0.37	-0.34	0.62	0.0
	22	258450	0.35	0.08	0.08	0.23	-0.32	0.0
	23	258498	0.35	0.55	0.55	-0.30	-0.28	0.0
	24	258388	0.19	-0.09	-0.16	-0.09	0.25	0.0
	25	258351	0.42	-0.11	-0.11	-0.05	0.19	0.0
	26	258488	0.50	0.46	0.46	-0.57	0.12	0.0
	27	258479	0.27	0.19	-0.26	0.19	-0.03	0.0
	28	258375	0.50	0.83	0.83	-0.63	-0.33	0.0
	29	258414	0.27	0.34	-0.14	0.34	-0.18	0.0
	30	258495	0.15	-0.38	-0.38	0.19	0.12	0.0
	31	258321	0.23	0.33	0.33	-0.05	-0.24	0.0
	32	258426	0.15	-0.01	-0.01	0.18	-0.20	0.0
	33	258722	0.46	0.07	-0.20	0.07	0.17	0.0
	34	258407	0.38	-0.08	-0.08	0.25	-0.27	0.0
	35	258412	0.46	0.30	0.30	-0.05	-0.35	0.0
	36	258369	0.50	0.46	-0.35	-0.17	0.46	0.0
	37	258483	0.42	0.47	0.47	-0.13	-0.38	0.0
	38	258719	0.50	0.37	0.37	-0.44	0.03	0.0
	39	258345	0.08	0.32	-0.01	0.32	-0.25	0.0
	40	258390	0.46	0.37	-0.24	0.37	-0.20	0.0
	41	258329	0.23	0.21	0.21	0.28	-0.45	0.0
	42	258409	0.50	0.28	-0.15	0.28	-0.17	0.0
	43	258434	0.31	0.26	-0.31	0.04	0.26	0.0

Table 2.A22 Item Statistics: MD Mod-HSA Government—Summer Primary 1

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
515	44	258391	0.62	0.05	0.05	-0.03	-0.04	0.0
	45	258316	0.38	0.05	0.00	0.05	-0.06	0.0
	46	258404	0.50	0.43	0.43	-0.19	-0.31	0.0
	47	258468	0.50	0.46	0.46	-0.36	-0.15	0.0
	48	258491	0.35	0.07	-0.25	0.07	0.20	0.0
	49	258341	0.35	0.35	0.35	-0.43	-0.11	0.0
	50	258502	0.46	-0.06	-0.06	-0.09	0.16	0.0
<b>Mean</b>			0.40	0.25	0.04	-0.03	-0.05	0.0
<b>SD</b>			0.14	0.25	0.30	0.28	0.27	0.0

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.



Table 2.A23 Item Statistics: MD Mod-HSA Government—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	1	258363	0.36	0.35	-0.06	-0.32	0.35	0.0
	2	258500	0.27	0.52	0.52	0.21	-0.70	0.0
	3	258327	0.45	0.28	0.28	-0.03	-0.28	0.0
	4	258338	0.27	0.27	0.37	0.27	-0.57	0.0
	5	258408	0.45	0.47	0.47	-0.25	-0.28	0.0
	6	258463	0.55	-0.01	-0.01	0.05	-0.03	0.0
	7	258458	0.55	0.60	0.60	-0.20	-0.50	0.0
	8	258506	0.55	-0.28	0.42	-0.22	-0.28	0.0
	9	258505	0.36	0.48	0.48	-0.25	-0.26	0.0
	10	258349	0.36	0.48	0.48	0.08	-0.56	0.0
	11	258429	0.64	-0.21	0.21		-0.21	0.0
	12	258353	0.18	0.30	-0.41	0.30	0.09	0.0
	13	258396	0.45	0.08	0.08	0.27	-0.35	0.0
	14	258410	0.55	0.05	0.29	-0.22	0.05	0.0
	15	258386	0.45	0.70	0.70	0.09	-0.80	0.0
	16	258350	0.36	-0.19	-0.19	0.30	-0.09	0.0
	17	258378	0.55	-0.37	0.38	0.01	-0.37	0.0
	18	258503	0.18	-0.29	0.01	0.21	-0.29	0.0
	19	258440	0.45	0.44	0.05	0.44	-0.54	0.0
	20	258400	0.45	0.21	0.22	-0.39	0.21	0.0
	21	258421	0.09	-0.22	-0.22	0.65	-0.58	0.0
	22	258446	0.36	0.05	0.44	0.05	-0.62	0.0
	23	258344	0.27	0.30	0.30	0.16	-0.41	0.0
	24	258432	0.64	0.12	0.12	-0.21	0.12	0.0
	25	258428	0.55	0.41	-0.16	-0.32	0.41	0.0
	26	258360	0.64	0.39		0.39	-0.39	0.0
	27	258343	0.45	0.37	0.01	0.37	-0.39	0.0
	28	258438	0.45	0.28	0.28	0.05	-0.35	0.0
	29	258718	0.73	0.68	0.68		-0.68	0.0
	30	258424	0.36	0.05	0.30	0.05	-0.28	0.0
	31	258323	0.36	0.69	-0.14	0.69	-0.56	0.0
	32	258324	0.55	0.41	-0.26	-0.28	0.41	0.0
	33	258437	0.73	-0.05	0.30	-0.33	-0.05	0.0
	34	258319	0.36	0.15	0.52	0.15	-0.63	0.0
	35	258389	0.55	0.54	-0.14	0.54	-0.54	0.0
	36	258379	0.64	-0.01	-0.20	0.22	-0.01	0.0
	37	258413	0.36	-0.22	0.05	-0.22	0.18	0.0
	38	258448	0.64	0.56	0.56	-0.12	-0.58	0.0
	39	258721	0.45	0.15	0.15	0.23	-0.39	0.0
	40	258439	0.36	0.45	-0.28	0.45	-0.28	0.0
	41	258368	0.27	0.05	0.05	0.15	-0.24	0.0
	42	258320	0.09	-0.33	0.08	-0.33	0.12	0.0
	43	258436	0.45	0.60	0.60	-0.12	-0.62	0.0

Table 2.A23 Item Statistics: MD Mod-HSA Government—Summer Primary 2

Form	Pos_No	ItemID	P_Val	R_ITT	P_BIS1	P_BIS2	P_BIS3	%Omits
615	44	258384	0.64	0.26		0.26	-0.26	0.0
	45	258486	0.36	0.25	0.05	0.25	-0.37	0.0
	46	258411	0.36	-0.22	0.28	-0.08	-0.22	0.0
	47	258313	0.55	0.47	0.22	0.47	-0.72	0.0
	48	258716	0.45	0.44	0.44	-0.16	-0.37	0.0
	49	258335	0.36	0.35	-0.19	-0.17	0.35	0.0
	50	258377	0.36	0.52	0.52	0.09	-0.57	0.0
<b>Mean</b>			0.44	0.23	0.19	0.07	-0.28	0.0
<b>SD</b>			0.15	0.30	0.29	0.28	0.32	0.0

Note: P\_Val = *p*-value, R\_ITT = item-total correlation, P\_BIS1 to P\_BIS3 = option-total correlation, %Omits = percent of omitted responses.