

# REVIEW OF INDIVIDUAL STUDIES PROTOCOL

## VERSION 4.0 (May 2019)

### PURPOSE STATEMENT

What Works Clearinghouse™ (WWC) reviews are designed to provide education practitioners and policymakers with timely and objective assessments of the quality of research evidence. WWC reviews focus primarily on studies of the effectiveness of education or school-based interventions serving students in early childhood education through 12th grade, as well as students in postsecondary settings. However, in some instances, they might focus on studies of interventions serving other groups, such as teachers or other school leaders.

All WWC reviews are governed by a review protocol that describes the procedures that will be followed when conducting the review. When a study has been identified through a literature search defined by a WWC protocol, such as a topic area protocol for preparing WWC intervention reports or a protocol for preparing a WWC practice guide, the study review is guided by that protocol. However, the WWC also reviews studies that have been identified through other means and that may not fall under the umbrella of a more specific review protocol. This protocol guides those reviews of individual studies. This review-specific protocol is used in conjunction with the *WWC Procedures and Standards Handbooks* (version 4.0).

### ELIGIBILITY CRITERIA

#### Eligible Populations

To be eligible for review under this protocol, the study must examine the effectiveness of an intervention administered to:

- students and other learners in early childhood education through postsecondary education, including learners of any age from infancy through adulthood;
- teachers and related educators; or
- school leaders.

#### Eligible Interventions

The study must examine an educationally relevant or school-based intervention. The WWC defines the term “intervention” broadly, and this term can include education practices, products, programs, and policies. Therefore, the following types of interventions may be included:

- **Practices.** Education practices are discrete, clearly defined activities focused on improving student learning and related outcomes. Practices may be used with a wide range of participants to address a wide range of learning goals – or they may be targeted to address a specific learning goal, skill, or population.
- **Products.** Education products are “branded” or commercial interventions such as curricula or software. Products may be used as the primary instructional tool in the classroom or to supplement classroom material with differentiated instruction, remediation, or enrichment. Products may possess a trademark or copyright and may be

supported by a developer who provides technical assistance or sells or distributes the intervention.

- **Programs.** Education programs are combinations of practices or products that are intended to either directly or indirectly improve the outcomes of students. These can include, for example, after-school programs and mentoring programs.
- **Policies.** Education policies involve structural changes that are intended to either directly or indirectly improve the outcomes of students. Examples of education policies include modifying the academic calendar and changing the number of credits required for graduation.

### Eligible Research

The *WWC Standards Handbook (version 4.0)* lists and describes the types of research reviewed by the WWC. Under this protocol, the following additional parameters define the scope of research studies to be included:

- **Timeframe.** Studies must have been released or made public within the 20 years preceding the year of the review—for example, in 1999 or later for reviews occurring in 2019.
- **Language.** The study must be available in English to be included in the review.
- **Location.** The study must include students in the United States, in its territories or tribal entities, at U.S. military bases overseas, or in Organisation for Economic Co-operation and Development (OECD) member countries in which English is the primary or most commonly used language; that is, Australia, Canada, Ireland, New Zealand, and the United Kingdom.

### Eligible Outcomes

Using this protocol, the WWC reviews research findings that could be valuable to policy makers, administrators, practitioners, or parents who are deciding whether a specific intervention should be adopted or scaled up. Outcomes drawn from the table below are considered eligible outcomes for reviews conducted under this protocol.

**Exhibit 1—Outcome Domains**

| Domain   | Related Protocol                       | Description  |
|--|--|--|
| <b>Standardized Measures of Academic Readiness, Knowledge, or Skills</b> |  |  |
| Cognition  | Early Childhood Education, version 3.0 | Memory, problem solving, cognitive processing and flexibility, general knowledge, and IQ   |
| Communication/<br>language<br>competencies                               | Intellectual Disability, version 3.1   | Ability to communicate with other people; ability to engage in conversation, request help, or follow prompts or instructions. The use of communication devices is allowed for these competencies. Note that outcomes for English Learners are included in the “English language proficiency” domain. |

| <b>Domain</b>                              | <b>Related Protocol</b>            | <b>Description</b>   |
|--|------------------------------------|--|
| English language proficiency               | English Learners, version 4.0      | Vocabulary including receptive vocabulary, expressive vocabulary, and academic language; oral language including listening and speaking skills; listening comprehension; and grammar including syntax and morphology in spoken or written language. Note that this domain is for majority English Learner samples.   |
| Alphabetics                                | Adolescent Literacy, version 4.0   | Letter identification, phonemic awareness, phonics, phonological awareness, print awareness  |
| Comprehension                              | Adolescent Literacy, version 4.0   | Vocabulary development and reading comprehension. Note that the “English language proficiency” domain should be used for majority English Learner samples.   |
| Reading fluency                            | Adolescent Literacy, version 4.0   | Reading text accurately, automatically, and with expression  |
| Writing conventions                        | Adolescent Literacy, version 4.0   | Using rules of standard English language, such as word usage, sentence structure, or grammar   |
| Writing productivity                       | Adolescent Literacy, version 4.0   | Measures of writing quantity, such as counts of written words, sentences, or ideas   |
| Writing quality                            | Adolescent Literacy, version 4.0   | Writing effective, clear, well-organized text  |
| General literacy achievement               | Adolescent Literacy, version 4.0   | Content in two or more of the above literacy domains   |
| Algebra                                    | Secondary Mathematics, version 3.1 | Ability to solve, graph, or write equations, systems of equations, and inequalities, as well as functions, exponents, polynomials, factoring, and quadratic equations  |
| Data analysis, statistics, and probability | Primary Mathematics, version 4.0   | Collecting, organizing, and displaying data to answer questions, as well as statistical methods to analyze data, making inferences and predictions based on data, and probability  |
| Geometry and measurement                   | Primary Mathematics, version 4.0   | Two-dimensional and three-dimensional geometric shapes and understanding properties, composition, and geometric relationships, including visualization, spatial reasoning, and geometric modeling, as well as understanding the attributes, units, systems, and processes of measurement, and applying techniques, tools, and formulas to determine measurements |

| <b>Domain</b>                   | <b>Related Protocol</b>  | <b>Description</b>   |
|---------------------------------|--|--|
| Number and operations           | Primary Mathematics, version 4.0   | Understanding numbers and integers, such as subitizing, estimation, number order, number combinations, counting, comparisons, operations, computing fluently, representing fractions and ratios and understanding the base-ten number system and fractions   |
| Calculus                        | Secondary Mathematics, version 3.1                                       | Differential calculus (concerning rates of change and slopes of curves) or integral calculus (concerning accumulation of quantities and the areas under and between curves)  |
| Trigonometry/ precalculus       | Secondary Mathematics, version 3.1                                       | Trigonometry topics such as relationships involving lengths and angles of triangles, and/or precalculus topics such as functions, complex numbers, vectors, and matrices   |
| General mathematics achievement | Primary Mathematics, version 4.0, and Secondary Mathematics, version 3.1 | Content in two or more of the above mathematics domains, as well as tests of mathematical understanding, procedures, and problem solving designed to measure more than one content area  |
| Life sciences                   | Primary Science, version 4.0   | The structures and functions of living things at different scales; growth, development, and reproduction of organisms; information processing and behavior in organisms; matter and energy transfer in living things and ecosystems; inheritance of and variation in traits; natural selection and adaptation; evidence of common ancestry; biodiversity |
| Physical sciences               | Primary Science, version 4.0   | The properties of matter and changes in matter; force, motion, and interactions of forces; energy and energy transfer and conservation; relationship between energy and forces; properties of waves; electromagnetic radiation   |
| Earth/space sciences            | Primary Science, version 4.0   | The structures, properties and materials of Earth; tectonics; Earth's place in the solar system and the universe; changes in Earth over time; water, weather and climate; energy in Earth systems; biogeology  |
| General science achievement     | Primary Science, version 4.0   | Content in two or more of the above science domains, as well as knowledge of science practices, such as forming hypotheses and making predictions, control of variables, and planning and conducting experiments and observations  |

| <b>Domain</b>   | <b>Related Protocol</b>                       | <b>Description</b>  |
|---|---|---|
| General social studies achievement                                  | Teacher Excellence, version 4.0               | Outcomes in social studies disciplines, such as one or more of civics, economics, geography, history, and world cultures  |
| Primary school academic achievement <sup>1</sup>                    | Supportive Learning Environments, version 4.0 | Academic measures based on student test scores across multiple subjects, including at least two of literacy, mathematics, science, and social studies   |
| Secondary school academic achievement <sup>2</sup>                  | Transition to College, version 4.0            | Mastering academic content, as measured by standardized achievement tests such as the ACT and SAT and state-mandated tests, or by secondary school grade point averages (if the formula is specified). Note that individual course grades or exam scores from secondary school courses are not eligible under this domain.                    |
| College academic achievement  | Transition to College, version 4.0            | Mastering academic content, as measured by the final grade in a single college-level course, the final exam score in a single college-level course, grade point average in college-level courses (if the formula is specified), or scores on professional exams such as the GRE. Note that technical skills proficiency is a separate domain. |
| Technical skills proficiency  | Postsecondary CTE, version 4.0                | Technical skills at the occupation level, measured by assessments aligned with industry-recognized standards  |
| <b>Educational Attainment, Short-Term and Long-Term<sup>3</sup></b> |   |   |
| Completing high school  | Transition to College, version 4.0            | Whether the student has earned a high school diploma or a recognized equivalent, such as obtaining passing scores on a state-approved high school equivalency test  |
| College degree attainment   | Transition to College, version 4.0            | Completion of a postsecondary degree, certificate, or program. Note that industry-recognized certificates are in a separate domain.   |

<sup>1</sup> “Primary school academic achievement” pertains to students in grades K-5, or to learners ages 5 through 11. This domain should only be selected for test score measures that *do not* correspond with a more specific domain.

<sup>2</sup> “Secondary school academic achievement” pertains to students in grades 6-12, or to learners age 12 and above who have not yet completed a high school diploma or a recognized equivalent, or who have completed a high school diploma or a recognized equivalent, but either are English Learners or lack basic skills such as literacy. This domain should only be selected for test score measures that *do not* correspond with a more specific domain.

<sup>3</sup> If educational attainment is reported for multiple time periods, separate domains are distinguished for short-term educational attainment, measured closest to the end of the receipt of the intervention, and long-term attainment, measured at the longest follow-up after short-term attainment outcomes. Educational attainment outcomes at all other time points are considered supplementary findings.

| <b>Domain</b>   | <b>Related Protocol</b>                            | <b>Description</b>  |
|---|--|---|
| Industry-recognized credential, certificate, or license         | Postsecondary CTE, version 4.0                     | Completion of an industry-recognized credential, certificate, or license  |
| <b>School Attendance and Progress</b>                           |  |   |
| Secondary school <sup>4</sup> attendance                        | Transition to College, version 4.0                 | Attendance rates or absenteeism at school, such as the number or proportion of days in attendance, the proportion of students with excessive absences, or referrals for truancy   |
| Staying in secondary school <sup>4</sup>                        | Transition to College, version 4.0                 | Whether the student has dropped out of school or is still enrolled  |
| Progressing in secondary school <sup>4</sup> or adult education | Transition to College, version 4.0                 | Number of Carnegie units or credits the student has earned, whether the student was promoted to the next grade, or highest grade completed  |
| College readiness   | Transition to College, version 4.0                 | Student progress on preparedness to enter postsecondary education, such as meeting specific minimal coursework requirements for entry into postsecondary institutions <sup>5</sup> , completing other required key milestones such as applying for college or for student aid, and completing college requirements in high school |
| College enrollment  | Transition to College, version 4.0                 | Applying to, enrolling, and attending a postsecondary institution <sup>5</sup> , such as actual enrollment in college, number or selectivity of admitted institutions, enrollment by institution type, full-time vs. part-time enrollment, and immediate vs. delayed enrollment   |
| College attendance  | Transition to College, version 4.0                 | Attendance rates or absenteeism at a postsecondary institution <sup>5</sup> , such as the number or proportion of days in attendance, or the proportion of students with excessive absences   |
| Progressing in developmental education                          | Postsecondary Developmental Education, version 4.0 | Complete required development coursework, grades earned in developmental courses, or completed vs. did not complete the first college-level course in which remediation was needed  |

<sup>4</sup> For the school attendance and progress domains, “secondary school” pertains to students in grades 6-12, but not to students in adult education programs.

<sup>5</sup> “Postsecondary institution” includes universities, colleges, community colleges, and trade schools.

| <b>Domain</b>                                 | <b>Related Protocol</b>                       | <b>Description</b>  |
|---|---|---|
| Progressing in college                        | Transition to College, version 4.0            | Progress toward the completion of a postsecondary degree, certificate, or program, such as number of college-level credits earned, number of terms of continuous enrollment, enrolled vs. did not enroll the next semester, or completed a course that was the focus of the intervention. Note that non-college level credits, such as developmental credits, are not eligible under this domain. |
| <b>Social-Emotional Learning and Behavior</b> |   |   |
| Independent living skills                     | Intellectual Disability, version 3.1          | Ability to independently perform daily activities in the home, community, or vocational/ occupational settings, such as cooking, dressing, eating, using the toilet, cleaning, organizing office supplies, using office equipment, crossing the street, using a bank, and purchasing items. Note that this domain includes financial literacy, health literacy, and computer literacy.            |
| Self-determination                            | Intellectual Disability, version 3.1          | Abilities that help learners set goals and take actions to achieve goals, such as goal setting, problem solving, decision making, self-advocacy, and choice making  |
| Student social interaction                    | Supportive Learning Environments, version 4.0 | Student behaviors that primarily involve interactions with others, such as students or teachers, or reflect attempts at social interactions   |
| Observed individual behavior                  | Supportive Learning Environments, version 4.0 | Includes observed or recordable student behaviors that primarily reflect individual choices and have individual consequences for the student, sometimes referred to as externalizing behaviors; outcomes in this domain do not require interactions with others   |
| Student emotional status                      | Supportive Learning Environments, version 4.0 | Includes student behaviors and self-ratings that are primarily focused inward and reflect a student's emotional state, sometimes referred to as emotional or internalizing behaviors; measures may be based on a diagnosis or classification, student self-report, teacher observation, or results from an assessment scale   |
| Student engagement in school                  | Supportive Learning Environments, version 4.0 | Behaviors that are typically only observed during school and often reflect school connectedness, such as school suspensions, disrupting class, following school rules, coming to class prepared, staying on task, and participating in school activities  |
| <b>School Environment Outcomes</b>            |   |   |

| <b>Domain</b>  | <b>Related Protocol</b>                       | <b>Description</b>  |
|--|---|---|
| School climate   | Supportive Learning Environments, version 4.0 | Observations or assessments of the school environment, the quality of interpersonal relationships within the school, and other factors that describe the character of a school  |
| School equity  | Supportive Learning Environments, version 4.0 | Measures of the degree of equity or assessments of equity within classrooms or schools, such as disproportionality assessments or student or staff surveys of their perceptions of equity   |
| <b>Labor Market Outcomes, Short-Term and Long-Term<sup>6</sup></b> |   |   |
| Employment   | Postsecondary CTE, version 4.0                | Indicator of any paid employment, number of months or quarters employed, or number of hours worked in an average week. Note that these outcomes must be defined over a specific period, for example, for the previous quarter.  |
| Earnings   | Postsecondary CTE, version 4.0                | Income received from work over a specific period. Note that earnings must be defined for those not employed as well those employed.   |
| <b>Teacher Outcomes</b>  |   |   |
| Educator discipline practice                                       | Supportive Learning Environments, version 4.0 | Attempts to influence problematic student behavior by responding to students' actions with consequences or rewards, such as office discipline referrals or discipline practices measured by teacher self-reports, classroom observations, or student surveys  |
| Instructional practice   | Teacher Excellence, version 4.0               | Quality of instruction provided by teachers and their application of content knowledge or pedagogical content knowledge as demonstrated by their actions in the classroom, based on rubrics assessed by school principals, supervisors, or trained evaluators, or based on surveys administered to students |
| Teacher attendance   | Teacher Excellence, version 4.0               | Includes outcomes that indicate the number or percentage of eligible work days for which the teacher is present   |
| Teacher retention at the school                                    | Teacher Excellence, version 4.0               | Includes outcomes that measure the percentage of teachers who return to work as a teacher in the same school from year to year  |

<sup>6</sup> If labor market outcomes are reported for multiple time periods, separate domains are distinguished for short-term labor market outcomes, measured closest to the end of the receipt of the intervention, and long-term labor market outcomes, measured at the longest follow-up after short-term labor market outcomes. Labor market outcomes at all other time points are considered supplementary findings.



| <b>Domain</b>                                  | <b>Related Protocol</b>         | <b>Description</b>   |
|--|---------------------------------|--|
| Teacher retention in the school district       | Teacher Excellence, version 4.0 | Includes outcomes that measure the percentage of teachers who return to work as a teacher in the same school district from year to year  |
| Teacher retention in the state                 | Teacher Excellence, version 4.0 | Includes outcomes that measure the percentage of teachers who return to work as a teacher in the same state from year to year, or who return teach in certain kinds of settings, such as in special education or in economically disadvantaged districts |
| Teacher retention in the profession            | Teacher Excellence, version 4.0 | Includes outcomes that measure the percentage of teachers who return to work as a teacher from year to year, regardless of location  |
| <b>School Leader Outcomes</b>                  |                                 |  |
| Leadership practice                            | School Leaders, version 4.0     | Includes outcomes that measure the quality of leadership ability demonstrated by the school leader, as measured from rubrics assessed by supervisor or from surveys of school staff, parents, or students  |
| School leader retention at the school          | School Leaders, version 4.0     | Includes outcomes that measure the percentage of school leaders who return to work as a school leader in the same school from year to year   |
| School leader retention in the school district | School Leaders, version 4.0     | Includes outcomes that measure the percentage of school leaders who return to work as a school leader in the same school district from year to year  |
| School leader retention in the state           | School Leaders, version 4.0     | Includes outcomes that measure the percentage of school leaders who return to work as a school leader in the same state from year to year, or who return to lead schools in certain kinds of settings, such as in economically disadvantaged districts   |
| School leader retention in the profession      | School Leaders, version 4.0     | Includes outcomes that measure the percentage of school leaders who return to work as a school leader from year to year, regardless of location  |

The *WWC Standards Handbook (version 4.0)* discusses the types of outcomes, criteria the outcome must meet, and how outcomes are reported. See Section IV: Non-Design Components.

### **Findings to Review**

**Exhibit 2—Distinguishing Main Findings and Supplementary Findings**

|                          | <b>Main Findings</b>   | <b>Supplementary Findings</b> |
|--------------------------|--|-------------------------------|
| <b>Research question</b> | Confirmatory   | Exploratory                   |
| <b>Sample</b>            | Full sample  | Subgroups                     |
| <b>Measure</b>           | Composite  | Subtests, Subscales           |
| <b>Time period</b>       | Measurement closest to the end of intervention <sup>7</sup> , except educational attainment and labor market outcomes are also reported in separate domains at the longest follow-up | Other time points             |
| <b>Analytic methods</b>  | Benchmark analyses   | Sensitivity analyses          |

A study’s rating will be determined by the highest rating achieved across all findings eligible for review, although the *WWC Procedures Handbook (version 4.0)*, p. 18, articulates an exception for situations in which separate subscales of the same measure meet standards but the composite measure does not. Using Exhibits 1 and 2, review team leadership may apply restrictions on eligible *supplementary* findings to narrow the focus of reviews for a given effort. For example, when conducting reviews for a grant competition, review team leadership can indicate that no supplementary findings should be examined, or only a subset of them.

**DESIGN STANDARDS**

Eligible studies are assessed, as applicable, against WWC group design standards, regression discontinuity design standards, or pilot single-case design standards, as described in the *WWC Standards Handbook (version 4.0)*; see Section II, Section III, and Appendix A. In addition, the *WWC Standards Handbook (version 4.0)* requires additional input on sample attrition, baseline equivalence, statistical adjustments for baseline equivalence, risk of bias for cluster-level assignment studies, and baseline equivalence for cluster-level assignment studies.

**Sample Attrition**

The default attrition boundary for a study reviewed under this protocol is the *optimistic* boundary. This boundary was selected because it is the most common boundary used across WWC review protocols, suggesting that in typical education studies, attrition is not thought to be strongly related to intervention status. The lead methodologist, in consultation with a content expert, may choose the cautious boundary if it is justified for a particular review, as in the case of a study with suspected endogenous attrition. If this decision is made, the rationale for it will be documented in the study review guide.

**Baseline Equivalence**

For student outcomes, baseline equivalence of the intervention and comparison groups in the analytic sample should be demonstrated on a direct pretest in the same domain as the outcome. If a pretest in the same domain as the outcome was not given, or does not exist for

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<sup>7</sup> If the intervention had not ended when study data were collected, the time period closest to the end of the intervention is defined as the most recent time period reported in the study.

certain outcomes, then the baseline equivalence of the intervention and comparison groups in the analytic sample should be demonstrated on at least two of the following:

- (a) a standardized measure of academic readiness, knowledge, or skills;
- (b) student GPA (grades 6-12 or at the postsecondary or adult education level only); and
- (c) socio-economic status; for example, student free- and reduced-price lunch status, family income, or parent's education.

For teacher outcomes, baseline equivalence should be established based on Exhibit 4 from the *Teacher Excellence* protocol, version 4.0. For school leader outcomes, baseline equivalence should be established based on Exhibit 5 from the *School Leadership* protocol, version 4.0.

### **Statistical Adjustment for Baseline Equivalence**

If a pretest is available for an outcome and the difference between conditions is shown to be within the range that requires statistical adjustment, the adjustment is needed only for that outcome. For outcomes that do not have a pretest, an adjustment is necessary only for required covariates, such as measures of academic achievement and socio-economic status, that are shown to be within the range that requires statistical adjustment.

### **Risk of Bias for Cluster-Level Assignment Studies**

The *WWC Standards Handbook (version 4.0)* requires that review team leadership make judgments about two aspects of studies that are unique to cluster-level assignment studies: (a) the risk of bias due to individuals who entered the clusters after random assignment and who were included in the analytic sample, and (b) the risk of bias due to non-response of individuals in the reference sample.

The WWC defines a *joiner* as any student who enters a cluster after the results of random assignment are known to any individual who could plausibly influence a student's placement into a cluster, such as parents, students, teachers, principals, or other school staff. For this review protocol, we will consider a student to be an *early joiner* if they enter a cluster in the six weeks after the results of random assignment are known, or, in cases where this is unclear or random assignment occurred during the summer, six weeks after the start of the school year. *Late joiners* are those that enter clusters after the end of the early period. This review protocol specifies that, as a rule, for cluster RCTs where the unit of assignment is *smaller* than a school—such as groups of classrooms or small groups of students within classrooms—*both early joiners and late joiners in the analytic sample pose a risk of bias*. For cluster RCTs of interventions where the unit of assignment is a school or larger unit, *whether early joiners or late joiners in the analytic sample pose a risk of bias depends on the judgment of review team leadership informed by available details about the intervention*, such as whether the intervention is expected to influence school enrollment or placement decisions.

When an intervention and unit of assignment in a cluster RCT do not fall into a category described above, review team leadership has discretion to decide which joiners pose a risk of bias, and whether there is a risk of bias due to non-response of individuals in the reference

sample. Review teams should use the guidance on pp. 23-31 of the *WWC Standards Handbook (version 4.0)* to inform these judgments and should document their reasoning in the review.

### **Baseline Equivalence for Cluster-Level Assignment Studies**

In general, considerations for satisfying baseline equivalence of individuals also apply to satisfying baseline equivalence of clusters. In particular, baseline equivalence of clusters in the intervention and comparison groups must be satisfied by one of the same baseline measures listed above for assessing baseline equivalence of individuals and the same statistical adjustment requirements apply.

Under this review protocol, any of the following three samples can be used to satisfy the baseline equivalence requirement for the analytic sample of clusters, provided the review team leadership determines that the baseline data are representative of the individuals who were in the clusters at the time the follow-up data were collected, consistent with the *WWC Standards Handbook (version 4.0)*:

- (a) The analytic sample of individuals from any pre-intervention time period.
- (b) Individuals from the same cohort as the individuals in the analytic sample, within the same clusters at the time that clusters were assigned to conditions or up to one year prior to when clusters were assigned to conditions.
- (c) Individuals from the previous cohort and in the same grade as individuals in the analytic sample, within the same clusters.

If authors provide baseline information at multiple time periods, a reviewer should assess baseline equivalence using the information collected at the latest period before the start of the intervention. If authors provide baseline information for multiple samples, a reviewer should assess baseline equivalence using the sample listed first in the list above—that is, (a) should be used if available, then (b), and then (c). If authors provide baseline information for multiple samples across multiple time periods, the reviewer should consult review team leadership to determine which information to prioritize.

When a study examines the effectiveness of an intervention in multiple time periods, the sample used to satisfy baseline equivalence of clusters in the initial time period also satisfies baseline equivalence of clusters in the later time periods, so long as the outcome data are representative of the individuals in the clusters.

### **WWC ADJUSTMENTS**

The *WWC Procedures Handbook (version 4.0)* discusses the types of adjustments made by the WWC in Section VI: Reporting on Findings (pp. 15-19). For characterizing the statistical significance of findings from a study that meets WWC standards, the WWC will conduct the multiple comparison correction separately for main findings within the same outcome domain, but not across domains or for any supplementary findings.