Many educators are shifting their teaching strategies and approaches to include more emphasis on critical thinking skills, the communication of ideas, a variety of approaches to content emphasizing varied student learning styles, and the need to draw explicit connections among topics for retention of learning. Real-world assessment measures, then, are derived from observing actual performance or relatively high-fidelity simulations of actual performance. Alternative assessment is aimed at teaching students to think, to react to new situations, to review and revise work, to evaluate work, and to communicate results. Problems with current assessment methods are traced, and guidelines are presented for authentic assessment. Myths that exist about alternative assessment include the assumptions that it shortchanges the average student and that it consists of nothing more than "touchy, feely" activities. It is also incorrect to assume that alternative assessment does not provide clearly defined performance standards, or that it requires too much of the teacher's time. A second article in this Policy Brief reviews "Authentic Assessment in AEL's Region." Authentic assessment practices in the states of the Appalachia Educational Laboratory (AEL), Kentucky, Tennessee, Virginia, and West Virginia, are providing examples of educational innovation in assessment. Three tables summarize details about alternative assessment. (Contains 21 references.) (SLD)
ALTERNATIVE ASSESSMENT—CAN REAL-WORLD SKILLS BE TESTED?

Assessment, the process of collecting information for decisionmaking, serves a variety of purposes in today's classrooms. For the student, assessment aids learning and measures knowledge. For the teacher, it permits diagnosis of student learning and provides information for making instructional decisions. For the administrator and the public, it marks the effectiveness of a program and communicates overall achievement.

FORMS OF ASSESSMENT

Written tests, the most traditional example of assessment, are just one means of assessment. However, the use of paper-pencil tests currently dominates educational decisionmaking. Since 1989, every state has mandated some type of "standardized testing" (Mathematical Sciences Education Board, 1991). Such nationally normed, standardized tests provide limited information about what students know and are used primarily to compare groups of students. They tend to measure only routine procedural skills and recall of basic facts, not real-world applications of basic concepts. The exclusive use of traditional tests is one obstacle to effective education reform. Heavy reliance on test scores narrows curriculum, encourages tracking practices, and adds to "failure rates—all of which lead to concerns about equity in education (FairTest & NYPIRG, 1990).

Often, students and parents consider a teacher-developed or criterion-referenced test as an end product of learning. Once such a test has been administered, that unit or topic is completed. The student generally does not expect to be held accountable for using the material or concepts from a tested unit at a later date. Alternative modes of assessment can establish links between what has been taught previously and current units of instruction.

Many educators are shifting their teaching strategies and approaches to include more emphasis on critical thinking skills, the communication of ideas, the importance of a variety of approaches to content addressing varied student learning styles, and the need to draw explicit connections among topics for retention of learning.

"Current models of learning based on cognitive psychology contend that learners gain understanding when they construct their own knowledge and develop their own cognitive maps of the interconnections among concepts and facts.... To become adept at thinking and reasoning, students need practice in solving real problems" (Shepard, 1989, pp. 5-6).

Real-world assessment measures, then, are derived from observing actual performance or relatively high-fidelity simulations of an actual performance. Some examples are open-ended problems, essays, hands-on science labs, computer simulations, and portfolio collections. In contrast, paper-pencil, multiple-choice tests provide indicators of other, more discrete performances. As the emphasis in instruction changes, the assessment of what has been learned must change as well.

Alternative assessment is aimed at stimulating students to think, to react to new situations, to review and revise work, to evaluate their own and others' work, and to communicate results in verbal and visual ways. Instructional practices planned for this type of assessment can improve student participation in class and allow for their input in the evaluation process. To find out how students think or to diagnose learning difficulties—the main reasons for classroom testing—teachers must provide students with choices for expressing themselves (Archbald & Newmann, 1988) and examine how skills are used in natural contexts (Gardner, 1991). Performance-based or authentic assessment consists of tasks requiring students to apply knowledge in real-world situations, given specific performance criteria within a scoring rubric for the evaluation of the performance.

Some educators are using pedagogical techniques, such as cooperative-learning groups, to tackle real-world problem-solving and to develop the teamwork skills required by today's employers for...
successful employment. In problem-solving settings outside the classroom, students need skills to decide what tools to use, what information is pertinent, how the information should be organized, what parameters restrict the solution, and which ideas should be explored and which should be discarded. After processing information, students must be able to communicate results to others. By using alternative modes of assessment, teachers can guide students through the development of these critical skills.

**Problems with Current Assessment Practices**

Grant Wiggins (1988), a strong proponent of alternative assessment, says:

For most teachers, grading is a private affair. This is because teaching is a private affair, a habit that is rationalized as part of our autonomy. We have traditionally not shared our ideas and values on grading. I think this is because we fear—correctly—revealing the possible inadequacies in our own grades and the messiness and disagreements that may result if we make our criteria public. Crushing student loads and time constraints in testing and reporting schedules provide little possibility or incentive for teachers to design more authentic, labor-intensive forms of assessment. (p. 22)

A review of the literature on assessment and grading indicates that a number of educators agree with Wiggins. If the grades teachers give were true indicators of student achievement, few educators would be clamoring for change. “Current assessments are not producing answers to the questions most often asked...by parents, by concerned citizens, and by educators” (Alexander, 1987, p. 3). Have students mastered critical outcomes? Can they apply learning for success in our society? Are they prepared to be problem-solvers, critical thinkers, effective communicators, and cooperative workers in the 21st century? Administrators and teachers in many schools also are concerned that the explosive growth of standardized testing is driving the curriculum and stealing time from instruction on critical outcomes.

**Guidelines for Authentic Assessment**

In 1988, the National Council of Teachers of Mathematics led the way in curriculum reform by publishing *Curriculum and Evaluation Standards for School Mathematics*. Table 1 shows aspects of evaluation from the standards, which are offered for consideration to be implemented in any classroom. Although written for teachers of mathematics, they can be adapted to other curricular areas. To facilitate the reform of assessment, the emphasis in schools should be shifted from practices listed in the right column to practices listed in the left column.

Kentucky teachers, in response

<table>
<thead>
<tr>
<th>Increased Attention</th>
<th>Decreased Attention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessing what students know and how they think about mathematics</td>
<td>Assessing what students do not know</td>
</tr>
<tr>
<td>Having assessment be an integral part of teaching</td>
<td>Having assessment be simply counting correct answers on tests for the sole purpose of assigning grades</td>
</tr>
<tr>
<td>Focusing on a broad range of mathematical tasks and taking a holistic view of mathematics</td>
<td>Focusing on a large number of specific and isolated skills organized by content-behavior matrix</td>
</tr>
<tr>
<td>Developing problem situations that require the applications of a number of mathematical ideas</td>
<td>Using exercises or word problems requiring only one or two skills</td>
</tr>
<tr>
<td>Using multiple assessment techniques, including written, oral, and demonstration formats</td>
<td>Using only written tests</td>
</tr>
<tr>
<td>Using calculators, computers, and manipulatives in assessment</td>
<td>Excluding calculators, computers, and manipulatives from the assessment process</td>
</tr>
<tr>
<td>Evaluating the program by systematically collecting information on outcomes, curriculum, and instruction</td>
<td>Evaluating the program only on the basis of test scores</td>
</tr>
<tr>
<td>Using standardized achievement tests as only one of many indicators of program outcomes</td>
<td>Using standardized achievement tests as the only indicator of program outcomes</td>
</tr>
</tbody>
</table>

*National Council of Teachers of Mathematics, 1988, p. 199*
TABLE 2
ASPECTS OF INSTRUCTION FOR EDUCATION REFORM AND PERFORMANCE ASSESSMENT

<table>
<thead>
<tr>
<th>TO INSTRUCTION THAT:</th>
<th>AWAY FROM INSTRUCTION THAT:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sees students as active creators of meaning and learning</td>
<td>Views students as passive recipients of knowledge and skill</td>
</tr>
<tr>
<td>Involves high expectations for ALL</td>
<td>Involves high expectations for SOME</td>
</tr>
<tr>
<td>Is focused on critical outcomes</td>
<td>Based upon an assortment of objectives</td>
</tr>
<tr>
<td>Encourages students to become proficient at using reading, writing, mathematics, and the other basic skills in all areas of the curriculum</td>
<td>Views basic communication and math skills as the sole responsibility of the language arts, English, or mathematics teacher</td>
</tr>
<tr>
<td>Is focused on the ability to apply what has been learned to real-life problems</td>
<td>Is focused on recall of facts and rote learning</td>
</tr>
<tr>
<td>Encourages student inquiry and exploration</td>
<td>Relies on the teacher as the sole source of all answers</td>
</tr>
<tr>
<td>Involves students in hands-on investigations and interpretive discussions</td>
<td>Limits students to reading textbooks and answering low-level questions</td>
</tr>
<tr>
<td>Groups students flexibly based on interests, work habits, learning needs, or the nature of the task</td>
<td>Groups students based on skill ability</td>
</tr>
<tr>
<td>Is focused on concepts, important skills in authentic contexts, processes, and attitudes</td>
<td>Is focused on isolated skills in a rigid sequence</td>
</tr>
<tr>
<td>Integrates or correlates content areas when appropriate</td>
<td>Is focused on narrow content area</td>
</tr>
<tr>
<td>Involves students in collaborative learning</td>
<td>Isolates students or places them in competition with one another</td>
</tr>
</tbody>
</table>


to requirements of the 1990 Kentucky Education Reform Act, are making an important shift to more effective instruction that will align with statewide performance assessments. They, as well as teachers in other states who are involved in education reform and school improvement, are moving away from the ineffective instructional practices listed in Table 2 in the right column and toward those described in the left.

In the classroom, the assessment modes selected should reflect the outcome goals for students of that class. A range of activities (e.g., experiments to be conducted, types of problems to be solved, reports to be presented) can be determined in advance, and assessment tasks and standards can then be created for the critical objectives of the goal (Baker & Herman, 1983). Assessment becomes part of the instructional process, and vice versa, as planning evolves based on student progress toward goals, thus increasing the validity of such measures. Assessment should be an integral part of curriculum and instruction that provides meaningful information to teachers and students.

Implementing an alternative assessment program requires substantial teacher training. The positive impact on curriculum and instruction is worth the investment as teachers use varied assessment approaches to improve instruction. School faculties who have completed intensive training report improved morale and increased incentive to take instructional risks. Creative solutions to the cost of staff development and the time required to administer alternative assessments in the classroom are needed. Additional funding available through grants, flexible scheduling, professional scoring services, and remote computer scoring may address these needs (Aschbacher, 1991). Before implementation begins, misconceptions should be addressed so that all participants may benefit from the use of alternative forms of assessment.

MYTHS ABOUT ALTERNATIVE ASSESSMENT

Several myths about alternative assessment exist. A discussion of findings of related literature may be helpful in dispelling fears and hesitation to try more authentic assessment activities.

Myth 1: Alternative assessment shortchanges the above-average student. The term standard is often equated with focused attention to excellence and quality. A classroom or school has high standards when it has realistic, rigorous, clear, and consistent expectations of all learners. High standards are demonstrated by student attention to self-discipline, dedica-
tion, responsibility, and craftsman-
ship. Alternative assessments set
the specific standards and measures
for judging the quality of a student's
performance. When high standards
are in place, concrete benchmarks
are established for evaluating stu-
dent work at essential tasks and
holding students accountable for
meeting and even exceeding the tar-
get. Higher order processes are em-
phasized, including evaluation and
synthesis, and are expected of all
students. Assessment standards are
met by rigorous evaluation of nec-
essarily varied student products and
performances against those stan-

Alternative assessment tasks
may be conducted within the con-
text of cooperative groups. Stu-
dents of mixed ability levels work
toward a common learning goal and
share the responsibility for mastery
of the objective by everyone in the
group. One highly effective method
of learning is to teach others. Ad-
vanced students can be peer tutors,
broadening and improving their
own understanding of a concept in
the process.

Myth 2: Alternative assess-
ment consists of nothing more than
"touchy, feely" activities. Assess-
ment in general may be used for
several purposes: (a) diagnosing
needs of individual students, (b)
diagnosing group needs, (c) assign-
grades, (d) identifying students
for special services, (e) controlling
or motivating student behaviors, (f)
evaluating instruction, (g) commu-
nicating achievement expectations,
and (h) as a teaching strategy
(Stiggins & Conklin, 1992). In order
to fulfill these purposes, assessments
should involve students in realistic
activities where skills are applied to
situations that illustrate the ability
to understand and use those skills.
The direct assessment of complex
performances in alternative assess-
ment does just that (Linn, Baker, &
Dunbar, 1991). Teachers are able to
observe the application of skills in
new situations as a means of diag-
nosing student needs, evaluating
progress, assigning grades, and
evaluating the need to adjust in-
struction. Achievement expecta-
tions are communicated through
the rubrics and benchmarks stated
for alternative assessment tasks.
The tasks themselves become teach-
ing and learning opportunities
when students peer evaluate, as is
often done in alternative assess-
ments.

Alternative assessments require
hands-on, concrete applications of
learning in many instances. Learn-
ing theory has always advocated
the use of manipulatives and hands-
on applications for students as ef-
fектив methods for addressing all
learning styles, while ensuring eq-
ity of opportunity for learning, as
well as the retention of learning.
However, also included in alterna-
tive assessment tasks are open-
ended problems requiring higher
level thinking, essays, computer
simulations, and portfolios or col-
lections of student work over time.
These activities, as well as hands-
on problems, are called authentic
measures of learning because they
consist of the performance of tasks
that are valued in their own right

Myth 3: Alternative assess-
ment does not provide clearly de-
defined performance standards, so
all students get A's. "When used
in the singular to describe human
accomplishment, a standard is an
exemplary performance serving as
19). Alternative assessment stan-
dards provide models and criteria
against which students can mea-
sure their own learning. Even
though the observation of student
performance by a teacher may be
overly subjective, the use of clear
rubrics with distinct criteria, along
with students' prior knowledge of
benchmarks, reduces this risk. Per-
formance competition in sports has
always used specific scoring crite-
ria accepted worldwide, as wit-
nessed at any Olympics where
judges find a very high level of agree-
ment (Maeroff, 1991).

One approach to standardizing
performance levels and emphasizing
the developmental nature of
learning is shown in the Kentucky
performance level definitions for alter-
native assessment (Winograd,
1992). (See Table 3.) Certainly, not
every student will initially perform
at the "distinguished" level. How-
ever, the desired outcome is that all
students perform to their maximum
level of ability and ultimately mas-
ter appropriate knowledge and
skills. This becomes possible when
the student has a clearly defined
target at which to aim and for which
to strive. The search for higher stan-
dards begins with identifying those
that deal with what students should
know and be able to do.

Myth 4: The teacher cannot cover
everything else and do alternative
assessment, too. Some forms of al-
ternative assessment are time con-
suming. Performance-based tasks
may not lend themselves to time-
efficient scoring. However, they do
test what the education system is
supposedly responsible for teaching—
the prerequisites for performing
well in life (Bowers, 1989).

The debate continues over
whether students benefit more from
"covering" material or from "learn-
ing" concepts and skills in-depth for
life-long learning. Should we teach
everything briefly or concentrate on
an manageable number of critical con-
cepts? Most school districts have
already begun the process of refoc-
cusing the ever-expanding curricu-
lum toward essential learning out-
comes. Is alternative assessment
worth the time and effort required?
Proponents believe so.

Low cost and speed of scoring
allowed norm-referenced testing to
rule education for a long time. Al-
ternative assessment tends to be la-
bror intensive and time consuming,
but advocates of alternative assess-
ment...
TABLE 3
KENTUCKY STATEWIDE ASSESSMENT PROGRAM PERFORMANCE LEVELS

<table>
<thead>
<tr>
<th>PERFORMANCE LEVEL</th>
<th>DEFINITION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinguished</td>
<td>The student completes all important components of the task and communicates ideas clearly. The student demonstrates in-depth understanding of the relevant concepts and/or process. Where appropriate, the student offers insightful interpretations or extensions (generalizations, applications, and analogies).</td>
</tr>
<tr>
<td>Proficient</td>
<td>The student completes most important components of the task and communicates clearly. The student demonstrates understanding of major concepts even though she/he overlooks some less important ideas or details.</td>
</tr>
<tr>
<td>Apprentice</td>
<td>The student completes some important components of the task and communicates those clearly. The student demonstrates that there are gaps in his/her conceptual understanding.</td>
</tr>
<tr>
<td>Novice</td>
<td>The student shows minimal understanding. The student is unable to generate strategy; answers may display only recall effect, lack clear communication and/or be totally incorrect or irrelevant.</td>
</tr>
</tbody>
</table>


ment are intent on creating an assessment system imbedded in instruction and based on desired outcomes. An approach that shows student progress over time—a grade-period-long videotape versus a single snapshot of student work—best serves that purpose (Maeroff, 1991). Time is a valuable commodity in the classroom, and its use may be conserved by employing collaborative group activities and peer assessments in which students become more responsible for certain aspects of their own evaluation. It is possible to evaluate a variety of processing skills and student growth through interaction with other students, as well as with the teacher. As students are allowed to make choices and defend those choices, participation and enthusiasm in classroom discussions and activities increase.

Many educators are creating time for the construction of alternative assessments and the evaluation of student performance by reorganizing the school schedule and by using team teaching. Through grants and other funding sources, schools are financing additional staffing and the use of substitute teachers, professional scoring services, and remote computer scoring. Alternative assessments can be implemented gradually and integrated with more traditional forms of classroom assessment. The benefits seem to outweigh the costs.

In summary, alternative assessment can involve students in their own learning, stimulate critical thought and input, improve attitude, and increase interest. Alternative assessment can be easily incorporated into cooperative learning activities that are designed to improve students’ communication and social skills. If the goals of education include developing higher level thinking and reasoning skills and creative problem-solving, then assessments should seek to evaluate those processes.

References


KIRIS assesses how well students apply classroom-learned knowledge and skills to solving real-life problems. The Kentucky Instructional Results Information System (KIRIS) measures student progress toward Kentucky’s Learner Outcomes, which were established by the 1990 Kentucky Education Reform Act. KIRIS assesses how well students apply classroom-learned knowledge and skills to solving real-life problems.

KIRIS measures student performance in three ways. First, all students maintain a portfolio of their best work in mathematics and writing throughout the year. The quality of this work is reviewed by auditors from outside the district.

Second, students apply knowledge and skills to solve real-life problems in performance-based events. This assessment covers traditional content areas as well as other domains defined in the Learner Outcomes, such as vocational studies, practical living, and arts and humanities.

Third, students are tested with an instrument patterned after the National Assessment of Educational Progress (NAEP); results can be compared to national student performance data. Questions are mainly multiple-choice and open-ended, but include some performance tasks. Kentucky is the first state in the nation to compare state results to NAEP data.

KIRIS results are reported on four levels: distinguished, proficient, apprentice, and novice. Students do not receive numerical or percentile scores, but districts do receive state data for comparison with local school performance.

Students in grades 4, 8, and 12 must participate annually in the three-part assessment as a component of the state’s accountability process. Districts may choose to assess students in the other grades annually to monitor progress toward goals for education improvement.

TENNESSEE

The statewide Tennessee Writing Assessment for grades 4, 8, and 11 is presently optional but is mandated beginning in 1995. Students write to prompts provided by the National Writing Consortium and field-tested in the state. Papers are scored holistically on a scale of 1 to 6 by professional scorers. A score of 6 indicates that the paper addresses the topic; is focused, coherent, and organized; backs general statements with specific examples; has a sense of audience; uses age-appropriate and varied language; and contains few grammatical errors. Fourth graders write in a descriptive mode, eighth graders in an expository mode, and eleventh graders in a persuasive mode.

Results of the Writing Assessment are reported at four levels: students receive individual reports of their performance, teachers receive classroom summaries of their students’ scores, and schools receive both school and statewide summaries. Teachers and schools can use results to modify instruction and to document the need for remedial summer writing programs, which are funded by the state department of education.

The 11th-grade assessment is tied to the Academic Assessment Place-
ment Program, which the Educational Testing Service (ETS) developed for the Tennessee Board of Regents to use in determining college placement. Writing scores on this assessment help students and counselors evaluate college readiness in time to schedule corrective high school writing courses, if needed.

The state department of education foresees a move toward increased authentic assessment in the future. Staff are presently investigating technical aspects of performance testing, and plan to develop a pilot performance assessment in mathematics this summer.

**Virginia**

The Virginia System of Educational Assessment is designed to support World Class Education, the state's systemic reform initiative. The system will be phased in as restructuring of the state's schools becomes uniform statewide. The first assessment point in the process will occur in 1996-97, when statewide assessments will be administered covering the Early Childhood block, roughly ages 4-8. The statewide system will specifically address outcomes and standards adopted for the Common Core of Learning.

The Common Core of Learning and adopted standards will outline the knowledge, skills, and attitudes expected of Virginia's students. The assessment system will develop assessments for statewide administration at approximately grades 3, 7, and 10. Grade 3 assessments will focus on a central core of student outcomes for which information will be available on all students. Additional outcomes will be sampled on a school-by-school basis.

At grade 7, a similar statewide assessment will be administered. Scores may affect further instruction. At grade 7, as at grade 3, a broader sample of school information will be available. The grade 7 assessments will not begin until 2000-01, and will replace the current Literacy Passport Program.

The Literacy Passport Program, given to all sixth graders, assesses fundamental skills in reading, writing, and mathematics. Students not passing the test receive remedial instruction and are retested to begin accruing credits for graduation. Reading is assessed by a form of the Degrees of Reading Power prepared especially for Virginia by Touchstone Applied Science Associates, Inc. The Writing Assessment portion is designed by the Virginia Department of Education. Students respond to prompts that may require fictional or nonfictional narratives, directions, explanations, ideas, or opinions. The test is not timed and papers are scored holistically. The mathematics test, also designed by the state department of education, is a multiple-choice test of basic skills in mathematics.

At grade 10, the statewide assessment will focus upon the culmination of outcomes outlined for students in the Common Core of Learning. The Virginia Assessment for Critical Knowledge and Skills (VACKS) will focus upon student readiness for further education/work preparation. VACKS is not scheduled for implementation until 2003-04.

The system will also include nationally referenced measures at grades 4 and 8 in the years immediately following implementation of the new statewide assessments in grades 3 and 7.

Staff development materials will be disseminated to schools for use in developing teacher assessment skills beginning in 1993-94. These materials will be developed by local divisions through competitive grants. The materials will be delivered as part of a regional staff development system currently under development for the entire state.

**West Virginia**

Two components of West Virginia's statewide testing program employ authentic, or performance-based, activities: the West Virginia Writing Assessment and the West Virginia Statewide Testing of Educational Progress (WVSTEP).

The Writing Assessment is administered each spring to all students in grades 4, 8, and 10. The test measures students' ability to write essays in response to a prompt. The test is low stakes—no rewards or sanctions are attached to student performance. Fourth graders are given time to write rough drafts, revise, and rewrite a final copy, while eighth and tenth graders have a 60-minute time limit for the entire process. The writing prompts are authored and field-tested by the state's language arts teachers before being used statewide.

Approximately 175 language arts teachers from across the state convene each summer for five days to score about 75,000 papers. Teachers are trained to score at the beginning of the session according to standards set by the training team, and must demonstrate reliability in scoring before being approved to participate.

Student papers are scored holistically on a 1 to 4 scale for content, organization, coherence, support for ideas, sentence structure, diction, and grammar. To each paper's numerical score, teachers add analytical comments defining the student's strengths and weaknesses.

Despite its low profile, the Writing Assessment is credited with improving writing across the state because of its role in professional development. As teachers participate in summer scoring sessions, they become more aware of what makes good writing and are more able to elicit such writing from their students.
WV STEP matches state learning objectives in mathematics and reading. It is primarily a criterion-referenced, multiple-choice test with some open-ended items and performance tasks. Approximately 15 to 20 percent of the items in the mathematics section involve manipulatives and performance tasks.

The test is presently administered statewide each spring in grades 1-6, and will be extended to cover grades 1-8 over the next two years. It has a minimal cutoff score. Students scoring below the minimum receive remedial instruction and are retested a few weeks later.

As with the Writing Assessment, items are written and field-tested by state teachers.

State Board of Education Policy 2000: Improving Educational Opportunities is currently being formulated. Using an outcomes-based approach, Policy 2000 will establish a framework for authentic assessment by defining what students should know and be able to demonstrate. A statewide system of assessment will measure student competencies, thinking skills, and attributes that are determined to contribute to success in school and in life.

This issue of Policy Briefs was written by Karen Simon of AEL’s Classroom Instruction program and Soleil Gregg of AEL’s State Policy program. The text first appeared in The Link (Vol. 12, No. 2), the Summer 1993 issue of AEL’s quarterly newsletter.

State Contacts for Authentic Assessment:
- Kentucky: Cheryl Tibbals, 502/564-4394
- Tennessee: Angelia Golden, 615/741-0720
- Virginia: Cameron Harris, 804/225-2099
- West Virginia: Karen Nicholsen, 304/558-2546

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