Transcript: What Is Progress Monitoring?

Slide 1: Welcome to the webinar, "What Is Progress Monitoring?" This is one of 11 webinars developed by the National Center on Response to Intervention (NCRTI). This webinar provides an overview of the purpose of progress monitoring, and considerations for progress monitoring tools and implementing progress monitoring in a district or a school.

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Slide 2: NCRTI has developed a series of webinars to cover information that is important for RTI implementation. On this slide you can see the different webinars available in the series. While you can watch the webinars in any sequence, we recommend that you first watch the "What Is RTI?" webinar in order to ensure you have an understanding of how RTI is discussed in this series. Prior to watching this webinar it is also recommended that you watch the "Understanding Types of Assessment Within an RTI Framework" webinar so that you have a clear understanding of the different types of assessments. Following this webinar, learn more about how progress monitoring data can be used for decision making.

Slide 3: Today we're going to go over an overview of the purpose and focus of progress monitoring; an overview and examples of types of assessments; demonstration of the progress monitoring tools chart and information available; and an overview of the timeframe when progress monitoring typically occurs.

Slide 4: Our objectives today are to discuss the importance of progress monitoring, to understand different kinds of assessments and their uses, and to use the Progress Monitoring Tools Chart to learn about progress monitoring tools.

Slide 5: One helpful way to check your understanding throughout the webinar is to complete the accompanying vocabulary handout. The handout provides a table with a list of key terms on the left side with columns to the right side for you to track your understanding before and after viewing the webinar. Before viewing the webinar, you should make predictions of the meanings of each term. Then, throughout the webinar, you will complete the final meaning column, based on the definitions provided, along with the picture/sketch/example column, where you can add anything helpful for remembering what you have learned. You can see how in this example, I was able to clarify the meaning of "primary prevention level" after watching the webinar.

If you have not already made predictions for the key terms of this webinar, please go ahead and pause the webinar so that you can do so now. Press play when you are ready to continue.

Slide 6: The Center has developed this graphic to highlight the essential components of the RTI framework, screening, progress monitoring, and data-based decision-making.

Slide 7: This webinar focuses on the essential component of progress monitoring. Without progress monitoring, it is difficult to determine who should receive supplemental instruction and if interventions are effective or ineffective.

Slide 8: Progress monitoring research, specifically focused on curriculum-based measurement (CBM), a type of progress monitoring, has occurred for more than 30 years.

Research has demonstrated that when teachers use progress monitoring for instructional decision making, students learn more, teacher decision making improves, and students are more aware of their own performance (e.g., Fuchs, Deno, & Mirkin, 1984). CBM research has also shown CBMs can be reliable and valid (e.g., Deno, 1985; Germann & Tindal, 1985; Marston, 1988; Shinn, 1989).

Slide 9: The purpose of progress monitoring is to monitor students' responses to primary, secondary, and tertiary instruction. Progress monitoring data can be used to 1) estimate the rates of improvement, which allows for comparison to peers; 2) identify students who are not demonstrating or making adequate progress so that instructional changes can be made; and 3) compare the efficacy of different forms of instruction—in other words, which instructional approach or intervention led to the greatest growth among students.

It is not just for those students identified for supplemental instruction. The focus is on students who have been identified through screening as being at risk for poor learning outcomes. This could include students just above the cut score as well as those below the cut score.

Progress monitoring tools, just like screening tools, should be brief, valid, reliable, and evidence based. Common progress monitoring tools include general outcome measurements, including CBMs as well as mastery measurements. We'll talk more about those later in the webinar.

The timeframe for progress monitoring assessment is really dependent on the tools being used and the typical rate of growth for the student. Progress monitoring can be used anytime throughout the year. With progress monitoring, students are assessed at regular intervals (weekly, biweekly, monthly) to produce accurate and meaningful results that teachers can use to quantify short- and long-term student gains toward end-of-year goals. At a minimum, progress monitoring tools should be administered at least monthly. However, more frequent data collection is recommended given the amount of data needed for making decisions with confidence (6–9 data points for many tools). With progress monitoring, teachers establish long-term goals indicating the level of proficiency students should demonstrate by the end of the school year.

Slide 10: Progress monitoring data allows practitioners to estimate rates of improvement; identify students who are not demonstrating adequate progress; and compare the efficacy of different forms of instruction in order to design more effective, individualized instruction.

Slide 11: Here are two graphs showing the curriculum-based measurement scores of two different students. Each dot shows the number of words read correctly each week. The line shows the rate of improvement that the student is making. The graph on the left shows a student with sharply increasing CBM scores. The increasing scores may indicate the student is responding to his or her current instructional program.

The graph on the right shows a student with fairly flat CBM scores. The flatter scores may indicate that the student is not responding to his or her current instruction, and perhaps an instructional change for the student should occur. However, a visual inspection of the data points is not sufficient to tell us if the student is making adequate progress. To be sure, we can quantify a rate of improvement through a technique we will learn about later in the training. With this rate of improvement, we can compare this student's growth rate to his or her peers or to a local or national norm.

Slide 12: We can also see improvement by looking at trend lines in comparison to goal lines.

On the graph on the left, the trend line is steeper than the goal line. The student is showing increasing scores; therefore, the student is making adequate progress and the end-of-year goal may need to be adjusted to provide more of a challenge.

On the graph on the right, the trend line is flatter than the goal line. The student is not profiting from the instruction and, therefore, the teacher needs to make a change in the instructional program. Remember, you never lower the goal. Instead, the instructional program should be tailored to bring a student's scores up so the scores match or surpass the goal line.

An in-depth discussion on trend lines and goal lines and how to set appropriate goals is presented in the webinar "Using Progress Monitoring Data for Decision Making."

Slide 13: Comparing the average progress monitoring scores of students in different intervention groups allows practitioners to compare and contrast the efficacy of interventions. Continued use of ineffective interventions can be costly and harmful to students (increasing the learning gap). In this graph, intervention A appears to be more effective than B or C. Instead of providing three different interventions to address similar issues, it might be more efficient and effective to focus resources on implementing intervention A. This type of data can also provide information about what is a realistic growth rate for students in these interventions.

Slide 14: In summary, progress monitoring data can help answer these questions:

1. Are students making progress at an acceptable rate? It is not enough to make progress. The progress must be meaningful and sufficient to close the gap between the student's progress and that of his/her peers.

2. Are students meeting short-term goals, which will help them reach their long-term goals?

3. Does the instruction need to be adjusted or changed? Using pre-established data decision rules, progress monitoring allows you to determine if the instruction is working for the student and evaluate the effectiveness of changes.

Slide 15: Progress monitoring is also essential for providing data for specific learning disability (SLD) eligibility. Specifically, the regulations, regardless of the use of RTI, require documentation of repeated assessments of achievement at reasonable intervals, reflecting formal assessment of student progress during instruction, which have been provided to the child's parents.

Slide 16: The focus is on those students who have been identified through screening as at risk for poor learning outcomes. For those of you who have viewed the screening webinars, you will recall that some of the students identified through the screening may not actually be at risk; in other words, they were falsely identified as at risk when actually not at risk. Progress monitoring can help confirm or disconfirm the results. You can also choose to monitor the progress of students just above the cut score, not just those below the cut score, to identify potential students who were actually at risk but not identified.

Since screening tools tend to over-identify, the focus of progress monitoring just after screening is to verify the results of screening. This may include students who were flagged as at risk who are receiving all levels of instruction, not just secondary or tertiary.

Slide 17: Progress monitoring tools are brief assessments that are reliable, valid, and evidence based, and that use repeated measures that capture student ability. They should be measures of age-appropriate outcomes.

No one progress monitoring tool can monitor for all outcomes. Different tools may be necessary for different areas like reading and math.

Slide 18: For those of you who have already viewed the webinar "Understanding Types of Assessment Within an RTI Framework," these next few slides will be a review.

There are three types of assessments commonly used within an RTI framework: summative, diagnostic, and formative. Summative assessments occur after instruction and are assessments <u>of</u> learning. Diagnostic assessments occur before instruction and help to identify skill strengths and weakness. Formative assessments occur during instruction and are assessments <u>for</u> learning.

Slide 19: Formative assessment is a form of evaluation used to plan instruction in a recursive way. Formative assessments tell us how well students are responding to instruction. With formative assessment, student progress is systematically assessed during instruction to provide continuous feedback to both the student and the teacher concerning learning successes and failures. Formative assessments are typically administered to all students during benchmarking and to some students for progress monitoring.

Formative assessments may be informal or formal. Informal assessments are not data driven but rather content and performance driven. Observations and teacher-made assessments are examples of informal formative assessments. Formal assessments have data that support the conclusions made from the test. These types of tests are usually referred to as standardized measures. These tests have been tried before on students and have statistics that support the conclusion (such as that the student is reading below average for his grade). The data are often mathematically computed and summarized. Scores such as percentiles, stanines, or standard scores are commonly received from this type of assessment. Examples include CBM, pre/post tests, benchmark assessments, and quizzes.

With formative assessment, teachers diagnose skill, ability, and knowledge gaps; measure progress; and evaluate instruction. Educational decisions can be made using formative assessments, including— identification of students who are nonresponsive to instruction or interventions (screening and progress monitoring); curriculum and instructional decisions; program evaluation; resource allocation (this is proactive, as this information is provided as the instruction is occurring); and comparison of instruction and intervention efficacy.

Formative assessments are not necessarily used for grading purposes.

Slide 20: There are two types of formative assessment, and they provide different information. Mastery measurement data indicate progress towards mastery of specific subskills (decoding short vowel sounds, for example), while general outcome measures (GOMs) indicate progress toward a broader outcome. The latter involve the application of all of the subskills learned over time.

One key difference between mastery measures and general outcome measures is comparability of data longitudinally. With GOMs you can compare the score a student received in May to a score they had in September. This cannot be done with mastery measures, because the skill you taught

in September is going to be different than the one you are working on in May, so they can't be compared.

On the mastery measurement graph, the line is horizontal. Mastery is always at 80% because students need to show that they have mastered each skill. On the GOM graph, the goal line is represented by a red horizontal line. In contrast with mastery measures, the goal line on a GOM graph is dynamic; it indicates the changing desired score indexed to the week in the school year. With this dynamic goal line, teachers always have an indicator of where the student is in relation to the goal for right now as well as the goal for the end of the year. It is always evident how the student's current levels compare to where you want them to be right now, considering where you want them to be at the end of the year, giving you an idea of the extent to which you need to *accelerate* progress to get on track, to stay on track, and to meet the goal. In other words, the GOM graph shows you immediately where the achievement gap is and how much progress needs to be made to close it.

Slide 21: Mastery measurement describes mastery of a series of short-term instructional objectives. To implement mastery measurement, the teacher determines a sensible instructional sequence for the school year and designs criterion-referenced testing procedures to match each step in that instructional sequence.

There are some advantages to using mastery measures. By focusing on a single skill, practitioners can assess whether a student can learn target skills in isolation. Teachers can use the information from the ongoing progress monitoring data to make decisions about changing target skill instruction. Until recently, the psychometric properties of most mastery measures were not valid and reliable. However, as you can see by the addition of mastery measures to the NCRTI Progress Monitoring Tools Chart, there is increasing research demonstrating the validity and reliability of some tools. Mastery measures are typically not valid screening measures, but they are often used for progress monitoring of students identified through screening measures.

There are also some problems associated with mastery measurement. Hierarchy of skills is logical, not empirical—meaning that while it may seem logical to teach addition first and then subtraction, there is no evidence-based research that says you have to do it that way. Another problem is that assessment does not reflect maintenance or generalization. You don't know after teaching subtraction with regrouping if the student remembers how to do addition with regrouping, because you're only testing individual skills. Also, the number of objectives mastered does not relate well to performance on criterion measures—meaning how a student does on these assessments does not necessarily indicate how he or she will do on standardized tests.

Finally, mastery measurement methods are often designed by teachers, with unknown reliability and validity.

Slide 22: This is an example of a mastery measure for multidigit addition with regrouping. While teaching multidigit addition with regrouping, the teacher may give assessments that look something like this. There are 10 problems, all dealing with multidigit addition with regrouping.

Slide 23: General outcome measures often address the problems associated with mastery measures.

A general outcome measure is program independent—GOMs reflect overall competence in the year-long curriculum as opposed to being dependent on a particular program. GOMs describe individual children's growth and development over time (both "current status" and "rate of development"). GOMs provide a decision-making model for designing and evaluating interventions. And they are used for individual children and for groups of children.

As a result, GOMs can serve as both screening and progress monitoring measures.

The focus of GOMs is on repeated measurement of performance. GOMs make no assumptions about instructional hierarchy for determining measurement. In other words, GOMs fit with any instructional approach. Also, GOMs incorporate automatic tests of retention and generalization. Therefore, the teacher is constantly able to assess whether the student is retaining what was taught earlier in the year.

The point here is not to say that practitioners should always use GOMs or mastery measures, but that it is important to think about which measure is better for each objective.

For screening purposes, GOMs should always be used, as they work better to fulfill the objective of a screener.

Slide 24: An example of a general outcome measure is a curriculum-based measure. Curriculum-based measurement (CBM) was initially developed more than 30 years ago at the University of Minnesota Institute for Research on Learning Disabilities to develop a reliable and valid measurement system for evaluating basic skills growth. These measures are GOMs of a student's performance in either basic academic skills or content knowledge.

Research began in the area of reading and has expanded to additional tools in basic skills and other core subject areas in grades K–8.

CBM tests, which are also called "probes," are relatively brief and easy to administer. The probes are administered the same way every time. Each probe is a different test, but the probes assess the same skills at the same difficulty level. The focus is on repeated measures of

performance; they make no assumptions about instructional hierarchy for determining measurement, they incorporate automatic tests of retention and generalization, and they are curriculum independent.

Slide 25: Here is an example of a CBM test for math. Rather than only assessing for the first objective that is being taught, as was done for the mastery measure, all objectives in the curriculum are assessed. Different types of problems are placed randomly throughout the page.

Slide 26: This is the student copy of a CBM passage reading fluency probe. This copy is placed in front of the student.

Students are provided standardized directions and asked to read aloud for one minute. The teacher scores the probes for words read correctly, marking only words read incorrectly. The total words read correctly in one minute is considered the score for that passage. To get an accurate score for the baseline, students read three one-minute passages, and the median score is recorded. Once the baseline is established, during progress monitoring, the passage is only read one time.

Slide 27: The Center has developed the Progress Monitoring Tools Chart that can be accessed through the NCRTI's website at www.rti4success.org. The columns on the tools chart are indictors of the technical rigor of the tools. You will notice in several of the columns circles that are filled in completely, partially, or not at all. Those are the rating indicators. The tools chart does not recommend tools, but provides users with a consumer report on available tools, similar to what you might find when searching for a car.

There are many progress monitoring tools available, and not all are listed on the Progress Monitoring Tools Chart. Only tools that have been submitted by the tool vendor appear on the chart. When selecting a tool, it is important to consider both the technical rigor of the tool as well as your needs and priorities.

The tools chart includes a large amount of information designed to assist you in selecting a tool that is most appropriate for use in your classroom, school, or district. The "best" tool is not going to be the same for every user and is not determined by any single element on the chart. Users of the chart should review all of the different elements of the chart when making a decision.

Slide 28: We suggest this process for using the tools chart:

1. First, gather a team;

2. Then, determine your needs;

3. Determine your priorities;

4. Familiarize yourself with the content and language of the chart;

5. Review the ratings and implementation data; and

6. Ask for more information.

For more information about the six recommended steps for using the Progress Monitoring Tools Chart and selecting a tool, check out the NCRTI Users Guide available for download on the NCRTI website, www.rti4success.org.

Slide 29: Often, decisions about appropriate progress monitoring tools will involve the input of multiple teachers and staff. When using the tools chart, a team of key constituents in your school and district should review the information together. In gathering this team, you should think about the following questions:

- Who should be involved in selecting a progress monitoring tool?

- What types of expertise and what perspectives should be involved in selecting a tool?

Slide 30: The most appropriate progress monitoring tool for you will depend on your specific needs. In determining your needs, you should think about the following questions:

- For what skills or set of skills do you need a progress monitoring tool?

- What population will you progress monitor (what grades? what subgroups?)?

- When and how frequently will progress monitoring occur?

- Who will conduct the progress monitoring and what is their knowledge and skill level?

- What kind of training do staff need, and who will provide it?

- What materials will you need (computer, paper and pencil)?

- How much funding will you need?

Slide 31: In addition to determining your needs for a progress monitoring tool, your team should also consider its priorities. Although you may want a tool that meets all of these criteria, such a tool may not exist. You will need to weigh your priorities carefully when making your selection. In determining your priorities, you should think about the following questions. For example, if cost is a priority ask, "Is it a tool that can be purchased for a reasonable cost?" Other priorities may be administration time ("Is it a tool that does not take long to administer and score?"), training required ("Is it a tool that offers ready access to training and technical support for

staff?"), or standards of technical rigor or demonstrated effectiveness ("Is it a tool that meets the highest standards for technical rigor?").

Slide 32: The Progress Monitoring Tools Chart includes information about two types of progress monitoring tools, which we have discussed—general outcome measures and mastery measures. When you visit www.rti4sucess.org and click on the Progress Monitoring Tools Chart tab you will see the General Outcome Measures Tools Chart. To view the Mastery Measures Tools Chart, click the link that appears above the tools chart. Once you are on the mastery measure chart, you can return to the general outcome measures chart by clicking the link. For each tool, the chart provides information about technical rigor and implementation requirements.

Click the links or the circles to see more information like implementation requirements (e.g., cost, training needs), and data (like reliability and validity data).

Slide 33: Some new features that have recently been added to the tools charts are the ability to sort tools and programs by the subject (math and reading) and grade (like elementary and secondary) to narrow down the tools to those that fit your needs. To use these features, select the appropriate subject or grade level and press the filter button. If you want to return to all the tools, simply press reset.

Slide 34: Another new feature is the ability to limit the number of tools to compare. To select certain tools to compare, simply check the box in the last column of the chart. You can select as many tools as you would like.

Slide 35: Press the Compare button and the chart will appear with the tools you select. This allows you to compare tools of interest side by side.

Slide 36: Across the top you can see the technical rigor standards listed for general outcome measures.

Slide 37: For general outcome measures, the Technical Review Committee (TRC) has established nine standards for technical rigor of progress monitoring tools. These are—

- Reliability of the performance level score: The extent to which the score (or average/median of two or three scores) is accurate and consistent.

- Reliability of the slope: The indicator of how well individual differences in growth trajectories can be detected using a particular measure.

- Validity of the performance level score: The extent to which the score represents the underlying construct. In other words, does the score actually represent the student's

performance level on the skill (for example, decoding or reading fluency) or domain (like in general reading or math) that we are interested in?

- Predictive validity of the slope of improvement: The extent to which the slope of improvement corresponds with end-level performance on highly valued outcomes.

- Alternate forms: Parallel versions of the measure of comparable difficulty (or with Item Response Theory based or with item or ability invariance) within a grade level.

- Sensitive to student improvement: The extent to which a measure reveals improvement over time, when improvement actually occurs.

- End-of-year benchmarks: The level of performance expected at the end of the grade, by grade level.

- Rates of improvement specified: Indicates the expected slopes of improvement or average weekly increases, based on a line of best fit through the student's scores.

- Norms disaggregated for diverse populations: Indicates if there are norms that are calculated and reported separately for diverse populations.

- Disaggregated reliability and validity data: Indicates whether there are scores that are calculated and reported separately for specific subgroups (e.g., race, economic status, special education status, etc.).

Slide 38: Across the top you can see the technical rigor standards for mastery measures.

Slide 39: For mastery measures, the TRC has established six standards for technical rigor. These are—

- Skill sequence: The series of objectives corresponds to the instructional hierarchy through which mastery is assessed.

- Sensitivity to student improvement: The extent to which a measure reveals improvement over time, when improvement actually occurs.

- Reliability: The extent to which scores are accurate and consistent.

- Validity: The extent to which scores represent the underlying construct.

- Pass/fail decision: The metric in which mastery measurement scores are reported.

- Disaggregated reliability and validity data: Scores that are calculated and reported separately for specific subgroups (e.g., race, economic status, special education status, etc.).

Slide 40: For each of these standards, the TRC reviewed data submitted by developers of the tools and gave a rating of "convincing," "partially convincing," "unconvincing," or "no evidence." Click on the name of the standard in the column heads of the chart to view a definition of the standard and a rubric describing the specific criteria used by the TRC to rate tools on that standard.

The tools chart offers an "implementation table" for each tool. The implementation table can be accessed by clicking on the name of the tool.

Slide 41: The implementation table includes the following information:

- The cost of the tool;

- Training required to implement the tool;

- Level of staff expertise required to administer the tool;

- Where to go for training and technical support; and

- How scores are reported.

Slide 42: The tools chart also includes detail about the actual data that were submitted to the TRC for review. These data can be viewed by clicking on any of the rating bubbles in the cells in the chart.

The Center recommends that you look for tools that conducted studies with outcome measures and samples similar to your population and outcome of interest. By clicking on the rating bubble, you will obtain more information about which tool(s) is (are) most appropriate for which populations of students.

It is also recommended that someone on the team be familiar with data and able to explain the ratings.

Using the results of your needs and priority assessments, identify tools on the chart that could potentially be appropriate for you. For example, if you are interested in a tool that measures progress in oral reading for use in Grades 4–6, use the filter button and implementation tables to identify which tools meet those criteria.

Next, use the compare feature to narrow your search. Then review the technical ratings for the subset of tools in which you interested. If you have questions, work with a technical expert, such as your school psychologist or local university faculty member, to understand how each standard is relevant to your needs and the relative importance of a "convincing" rating for each standard.

Slide 43: For example, reliability and validity of the performance score are foundational psychometric standards. Therefore, you may be interested in a tool that excels in these two areas. Reliability of the slope and predictive validity of the slope of improvement, which also measure key aspects of psychometric quality, may not be as important to you as the reliability and validity standards.

Alternatively, you may have a stronger interest in tools that specify clearly the rates of improvement and/or end-of-year benchmarks than you do in tools that have high ratings for reliability and validity. When selecting a tool, you should carefully consider the unique and specific needs of your situation.

Slide 44: You may find that the tools chart does not provide you with all the information you need. For example, what if a tool in which you are interested in does not have disaggregated data for a particular subgroup that is important to you? Ask the vendor or developer. Developers who have chosen to submit their tools for review and publish them on the chart are interested in meeting the needs of their customers. As a result, they are interested in doing more research to provide the data that you need.

Similarly, if a tool that you currently use or are interested in learning about is not on the chart, call the developer of that tool. Let them know about the TRC review process and the tools chart, and ask them to consider submitting the tool for review.

The tools chart provides publisher contact information in the pop-ups found in the second column.

Slide 45: For more information about the six recommended steps for using the Progress Monitoring Tools Chart and selecting a tool, check out the NCRTI Progress Monitoring Tools Chart Users Guide.

Slide 46: Progress monitoring is used to monitor student progress across the entire year. Students are given standardized probes at regular intervals (weekly, biweekly, monthly) to produce accurate and meaningful results that teachers can use to quantify short- and long-term gains toward end-of-year goals.

At a minimum, progress monitoring tools should be administered monthly. However, more frequent data collection is recommended given the amount of data needed for making decisions

with confidence. Research suggests that there needs to be six to nine data points to accurately make instructional decisions. As the number of data points increases, the effect of measurement error on the trend line decreases. The frequency with which a tool can be used for progress monitoring depends on the tool. Some tools are more sensitive than others, so they can be used more frequently.

Slide 47: Thank you for taking the time to listen to "What Is Progress Monitoring?" To find more resources on this topic or to view other webinars in the implementer series, visit www.rti4success.org. You can also find more information from the RTI Action Network and IDEA Partnership sites.