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Key Considerations for Data Systems that Support TQRIS

This resource was prepared in response to requests for information from several Race to the Top – Early Learning Challenge (RTT-ELC) States about specific issues they should consider related to data systems that support the critical management needs of Tiered Quality Rating and Improvement Systems (TQRIS).[1] This document includes information about why States should think about their data systems, who the stakeholders are for a TQRIS data system, and what the functional considerations are for a TQRIS data system. The document also provides profiles of data systems used in several States, and it highlights links to resources on data systems. States can use this brief to consider the range of options that are available to evaluate gaps in data collection or gaps in functionality within their current data systems and to make plans for modifying or replacing the data systems that support their TQRIS.

The Early Learning Challenge Technical Assistance (ELC TA) program based this brief on a review of TQRIS data systems in multiple States and reports published by the National Center on Child Care Quality Improvement, the Institute of Education Sciences (IES), and the Office of Planning, Research and Evaluation (OPRE).

Why Should States Think about Their TQRIS Data Systems?

A TQRIS and the ratings it produces are grounded in data about early learning programs, the early learning workforce, and the children served. A well-designed TQRIS data system can link with other data systems (such as a licensing data system or a workforce registry) to facilitate improved business processes and enable stakeholders to answer key policy questions related to children, families, programs, and the workforce. When planning for the implementation and enhancement of the data systems that support TQRIS, States should identify essential stakeholders and engage them in a deliberate planning process that identifies and defines:

- Key business and data needs of the TQRIS

- Essential reporting needs of the TQRIS

- Requirements for managing TQRIS data and documentation

- Interfaces with the data systems that share information with the TQRIS

- Infrastructure for training and supporting users of the TQRIS data system

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[1] For the RTT-ELC grant, a QRIS is referred to as a Tiered Quality Rating and Improvement System (TQRIS). This distinction highlights the importance of common standards and levels across all types of publicly funded early learning and development systems statewide and meaningful differences among the quality levels of a system.

The development of a TQRIS can be an impetus for a review of the quality of the data in existing data systems. However, if proper attention is not paid to the design of the TQRIS data system, the implementation of the TQRIS can be impeded and crucial policy questions can be left unanswered.

Who Are the Stakeholders for a TQRIS Data System?

The context for TQRIS will vary by State, but States have similar stakeholders who are interested in answering questions and using data from the data system.

- The State's **TQRIS administrator and the support staff** need access to a broad base of information to understand the overall performance of the TQRIS, to answer essential policy questions about the impact of the TQRIS, and to meet State and Federal reporting requirements, including those associated with the Quality Performance Reports required by the Child Care and Development Fund (CCDF).

- The **State or regional TQRIS grants managers** who are in charge of awarding and monitoring TQRIS grants benefit from data system functions that facilitate the processing of grant applications, automate TQRIS grant awards and financial incentives, and support the process of monitoring how providers have spent grant funds.

- **TQRIS rating specialists, technical assistance consultants, and classroom assessors** who have direct contact with the early learning programs that participate in the TQRIS need the data system to track their interactions with programs and the data they collect during those interactions.

- Finally, **early learning programs** that are participating in the TQRIS can use the data system to submit TQRIS applications, manage program profile information, submit TQRIS grant applications, and manage their quality improvement plans.

Functional Considerations for Building or Enhancing a TQRIS Data System

The section below is based on a review of multiple State TQRIS data systems and is not intended to be exhaustive. Instead, it serves as a point of reference that States can use as they weigh options for developing or enhancing a TQRIS data system. Each State will have specific business and data needs and unique operating constraints that will drive the development of its TQRIS data system.

Key Business Functions

The data system should be designed around the business needs of the key stakeholders who will use data from the system. These needs will vary by State, but the following are some of the key business functions that are supported by TQRIS data systems in the States that ELC TA reviewed:

- **Program Profile Management** – Supports the management of basic program demographic information for programs participating in the TQRIS. Ideally, demographic data will be pulled into the TQRIS data system from existing data systems and include both licensed and non-licensed programs.

- **Application Management** – Supports the process of submitting initial applications and applications for renewals. Ideally, a data system includes self-service features that allow programs to submit applications and supporting documentation online.

- **Rating Designation Management** – Supports the process of assigning TQRIS ratings, managing changes to ratings, and managing appeals to ratings determinations. A data system allows TQRIS rating specialists and other authorized staff to complete a ratings checklist (either from a desk review or on-site review of compliance with TQRIS standards) that automatically calculates the quality rating for a program. If site visits are made during the ratings process, the data system would ideally include functionality that would facilitate the process of scheduling site visits and managing workload assignments. Some data systems use mobile technology such as technology used for cellular communication to support this business function. A data system can also share ratings information with on-line search tools that families and others can use when searching for early learning programs.

- **Assessor Management** – Supports the process of conducting and managing any classroom assessments that are required by the TQRIS such as Environmental Rating Scales (ERS) and the Classroom Assessment Scoring System (CLASS). While proprietary data systems are generally used to manage these assessments, some States have developed functionality to support monitoring inter-rater reliability, managing assessor workload assignments, tracking assessor qualifications, and managing payments to assessors. Some States have also developed interfaces with proprietary assessment systems to import assessment scores into the TQRIS data system. Some States use mobile technology to support this business function.

- **Technical Assistance Management** – Supports the process of managing the technical assistance or coaching that can be associated with a TQRIS. A data system can enable TQRIS technical assistance specialists and other authorized staff to have on-line access to relevant program and facility information, develop quality improvement plans aligned with TQRIS standards, monitor the progress and outcomes associated with the plans, manage requests for assistance in an intake or contact log, manage workload assignments to technical assistance specialists, and enter technical assistance notes. Some States use mobile technology to support this business function.

- **Grants and Incentive Management** – Supports the process of creating and managing the key grants and financial incentives that are available to programs participating in the TQRIS. A data system can enable data to be pulled into the TQRIS data system to automate grant or incentive calculations that can be based on variables such as TQRIS level, program type, and number of children receiving subsidies. Ideally, a data system would include self-service features that would allow programs to submit grant applications and supporting documentation on-line.

Key Reporting Functions

The data system should be designed around the specific reporting requirements needed to support existing or planned business processes of each State. The following are some of the key web-based reporting features that are supported by TQRIS systems in the States that ELC TA reviewed:

- **Reports That Support Grants and Incentives Administration** – Data systems can enable State TQRIS administrators and other authorized data system users to monitor and track the amount of grant funding distributed through the various grant programs associated with the QRIS and to detail how grant funds are used by programs to support quality improvement.

- **Reports Support TQRIS Ratings Administration** – Such reports would allow TQRIS rating specialists, State TQRIS administrators, and other authorized data system users to track and monitor new TQRIS applications, summarize contacts and interactions with TQRIS specialists, highlight expiring ratings, monitor the timeliness of rating designations, monitor movement between TQRIS levels, and monitor participation in TQRIS by program type and region. Reports can also supply information for Federal data reporting requirements, such as the TQRIS data needed to complete the Quality Performance Reports required by CCDF.

- **Reports Support Technical Assistance** – Data systems can include reporting functionality that enables technical assistance specialists, State TQRIS administrators, and other data system users to monitor and track the status of requests for technical assistance, monitor interactions between programs and technical assistance specialists, analyze the dosage of technical assistance provided, and monitor the outcomes of technical assistance provided.

Document Management

TQRIS data systems can use electronic document management functionality to organize and store electronic documents and images associated with various TQRIS processes. This feature can lead to more efficient use of resources and more convenient processes for staff and programs, especially for processes that would otherwise be paper-intensive such as initial TQRIS application and documentation, grant applications and documentation, and requests for changes to ratings.

Key Data System Interfaces

A TQRIS and the ratings it produces are grounded in data about program facilities, the early childhood workforce, and the children served. These data can be housed and maintained by different State and local agencies. In planning for the development or enhancement of a TQRIS data system, it is important to consider how existing data systems can be leveraged to make TQRIS implementation more cost efficient and ensure consistency in data across systems. Creating interfaces to allow a TQRIS data system to exchange data with multiple systems – such as licensing data systems or a professional qualifications registry – can produce more streamlined processes, more efficient use of resources, and expand the ability to answer critical management, policy, and research questions. Typical interfaces for a TQRIS data system include:

- **Licensing Data Systems** – A TQRIS data system can both send data to and receive data from a State child care licensing data system. A data system can receive information electronically about licensing status, program type, and program capacity that enables the data system to automatically validate that a program meets the licensing requirements for participation in TQRIS. If needed, it can generate an alert to TQRIS staff that a program's license is no longer in good standing. The TQRIS data system can also send data to the licensing data system to inform licensing specialists that a program participates in TQRIS.

- **Workforce Registries** – A TQRIS data system can receive data from an early childhood workforce registry that enables the data system to automatically validate that program staff meet certain TQRIS standards related to education, credentials, and professional development.

- **Subsidy Data Systems** – A TQRIS data system can send information to a child care subsidy data system to automate the calculation of tiered reimbursement rates that are determined by TQRIS rating level. In turn, the TQRIS data system can receive data from the subsidy data system to automate the calculation of TQRIS grant awards, if they vary based on the density of children who are receiving child care subsidies.

- **Classroom Assessment Systems** – A TQRIS data system can receive data from proprietary data systems that collect and manage data on classroom assessments such as the ERS or CLASS assessments. The score information can be used to automatically inform the calculation of TQRIS ratings, based on the TQRIS standards.

- **On-Line Search Systems** – A TQRIS data system can send data to the data system(s) that support on-line program search tools to provide information on the rating level for each program participating in the TQRIS. This information allows parents and other stakeholders to view the rating level when they conduct program searches or to filter results by rating level.

In addition, individual States can also have unique business needs that call for interfaces with additional data systems. Conducting an accurate inventory of existing data systems, their accessibility, accuracy, and reliability is helpful to States in determining their TQRIS system design. The INQUIRE Data Toolkit, the INQUIRE webinar series, and the QRIS Resource Guide provide a good introduction to key research and management questions that a TQRIS data system can answer and to the data elements required to answer them. These resources and the addition resources cited at the end of this document also provide information about data management and governance.

Infrastructure for Training and Supporting TQRIS Data System Stakeholders

Assuring the quality of data in any data system requires protocols that promote consistent and complete data entry. It also requires training and ongoing support for those who enter, manage, and use data. The following are key practices for training and supporting stakeholders:

- Involve key stakeholders in the development of business processes and data system requirements.

- Involve key stakeholders in formal user-acceptance testing procedures to ensure that new data systems or data systems enhancements function as planned.

- Conduct on-going TQRIS system stakeholder meetings or webinars to provide a forum for prioritizing data system "bugs;" communicate forthcoming data system enhancements; solicit feedback on existing data system performance; and provide additional training and support.

- Provide on-line training webinars for major new data system releases that are recorded, archived, and made easily accessible to relevant data system users.

- Provide on-line training materials with embedded interactive simulations.

- Develop formal procedures for communicating with stakeholders about forthcoming data systems changes and guidance on how to manage data system "bugs."

- Embed "help" buttons or menus within the TQRIS data system application.

Spotlight on Features of TQRIS Data Systems in Other States

Indiana's Paths to QUALITY leverages data from multiple data systems. The Paths to Quality data system uses a live, interactive database that draws facility and practitioner information from the State regulatory data system. Mentors from the Child Care Resource and Referral (CCR&R) agencies and advisors from the Indiana Association for the Education of Young Children help develop facility quality improvement plans that are submitted, along with contact notes, into this Web-based data system. Paths to QUALITY raters can also enter their data directly. TCC Software Solutions developed the database.

Maine's QRIS links professional development and technical assistance. The QRIS in Maine, Quality for ME, is a partnership with the State's professional development project, called Maine Roads to Quality. The QRIS automated data system includes shared data linkages that populate forms with data from the professional development registry, the State licensing database, and National Association of Child Care Resources & Referral Agency's software. These automated data links minimize the amount of data entry required of an applicant. Since an applicant must confirm the information, the process results in more accurate data across these State data systems. Maine is developing an automated technical assistance tracking data system that will be linked to the professional development registry and will enable individual programs to note on their transcript that they are receiving technical assistance on particular topics.

Michigan uses an online platform. STARS is Michigan's Great Start to Quality QRIS on-line platform. Licensed and registered programs interact with the platform to complete their Self-Assessment Survey, upload evidence documents, develop a quality improvement plan, and access resources. Administrative users validate Self-Assessment Surveys and complete observations, log technical assistance efforts, and perform monitoring functions. STARS also offers administrative users reporting capabilities such as, 'at-a-glance' summary information, click-button reports, and export reports. Housing all functions on one platform supports Great Start to Quality to streamline each component of the QRIS. Mosaic, Inc. developed the on-line platform.

Nevada has adopted an Integrated data system. Nevada's Silver State Stars has adopted an integrated Q-Star data system that allows various QRIS stakeholders to communicate and track progress. This includes the administration and quality rating team that manages the project and assigns star ratings, the assessment team, the coaching team that uses the data system to track their activities and build quality improvement plans based on the assessments conducted, and the research and evaluation team that will use the data gathered by the data system to analyze the efficacy of services delivered and quality improvement over time. The Q-Star data system links to an ERS Data System for mobile assessment used to conduct Environment Rating Scales assessments and to EasyFolio, which serves as a portal for program applicants to manage applications. The Q-Star data system was developed for Nevada by the Branagh Information Group (BIG).

Pennsylvania's QRIS data system is integrated with other early learning systems. Multiple users log on to Pennsylvania's Keys to Quality data system to administer the Keystone STARS program. The data system is part of Pennsylvania's Enterprise to Link Information for Children Across Networks (PELICAN), which combines the State's early learning programs under a single management information system. Functionality for the Keys to Quality data system includes program management, STARS designation management, grants management, fiscal allocation, and technical assistance management. The data system has limited interfaces with other systems, including interfaces with the Child Care Works subsidy data systems to send information for calculating subsidy reimbursement rates (which vary by STAR level) and program demographic information that is received from the PELICAN Certification data system. The data system also sends and receives information to the State's workforce registry. The Keys to Quality and other PELICAN systems were custom-built by Deloitte Consulting.

Tennessee's assessment data system supports technical assistance – The University of Tennessee Social Work Office of Research and Public Service (SWORPS) created an automated data system to maintain statewide data on early childhood program assessments. When SWORPS receives the completed observation score sheets from Department of Human Services' assessors, the assessment data are entered into the Star-Quality Child Care Program database along with supplemental data (teacher and classroom/family child care home characteristics). The data system generates a program profile sheet that contains assessment information, including item, subscale, and observation scores) and an overall program assessment score. The data system also generates a "Strengths Page" for the program that details the indicators that the assessor scored positively. The program receives a copy of the profile sheet, the Strengths Page, and the assessor's notes. Copies of these documents are also mailed to the relevant licensing unit for completion of Report Card scoring and entry into the Regulated Adult and Child Care System (RACCS). A duplicate copy of the assessment results are mailed to the relevant CCR&R site. The Stars database generates monthly, quarterly, yearly, and ad hoc reports and analyzes the data in a multitude of ways.

Washington's web-based data system includes self-service features. The Washington Early Learning System (WELS) is a web-based early learning data system that is used by Early Achievers (Washington's TQRIS) partners including Washington Department of Early Learning, the local United

Way, Child Care Aware of Washington, and local lead agencies to track and maintain data including facility participation, evaluation information, and quality improvement progress. Facilities will use the WELS "Provider Portal" to view their QIP, track their progress, and access resources to support their goals.

Miami uses automation to help manage its QRIS. Early childhood leaders in Miami, FL, report that their Web-Based Early Learning System (WELS), which is also used by the State of Washington, makes the Quality Counts QRIS stronger because the data system offers real-time feedback on participation, classroom profiles and assessments, professional development, technical assistance, coaching and mentoring, and other essential data for a wide range of purposes. Data are available in the aggregate, as well as for a particular program. This information makes it possible for planners to have the data they need and for program managers to receive alerts when a program they are working with is not making timely progress.

Additional Resources Related to TQRIS Data Systems

Answering Key Questions with an Early Childhood Data System - This brief supports States working to create or evaluate their current early childhood policy questions. It examines examples of policy questions from States and outlines why those questions are needed, how to create them, and who should be involved in the process. The brief from the Institute of Education Sciences (IES) was a product of a series of conversations sponsored by the Statewide Longitudinal Data Systems (SLDS) program.

Assessor Management Systems - This 2014 ELC TA webinar summary provides an overview of assessor management/inter-rater reliability systems used in QRIS. It includes information about approaches used in Arizona, Georgia, and Pennsylvania.

Best Practices in Ensuring Data Quality in QRIS – This 2014 report provides specific strategies that QRIS stakeholders can use to improve upon the collection, management, and dissemination of QRIS data. The brief is structured around the five stages of the data lifecycle: planning, collection, processing, management, and distribution. It was produced by the Office of Planning, Research and Evaluation, U.S. Department of Health and Human Services.

The INQUIRE Data Toolkit - The Data Toolkit provides tools to support effective data collection and the use of data to answer important policy and reporting questions through the use of common data elements. The Toolkit contains two components: a Linkages Guide and a Dictionary of Common Data Elements. The Toolkit provides step-by-step guidance on identifying key policy questions, identifying the data elements required and performing analysis on the data. The toolkit was developed in 2013 by the Quality Initiatives Research and Evaluation Consortium (INQUIRE).

Using Data to Strengthen Technical Assistance - This document was written in response to a request for information from an RTT-ELC State about using data to strengthen technical assistance (TA) provided to programs in their Tiered Quality Rating and Improvement System (TQRIS). It summarizes the value of TA data, explains how data from multiple systems can be linked to answer essential

questions, identifies important data elements to consider, highlights promising practices and lessons learned, and provides key considerations for strengthening data practices.

Quality Rating and Improvement Systems and Early Childhood Integrated Data Systems – This 2014 webinar summary describes the goals and purposes of a QRIS and an Early Childhood Integrated Data System (ECIDS) as well as how States can approach coordinating work on both systems. The publication is a product of IES and derived from a SLDS Grant Program topical webinar.

QRIS Resource Guide: Data Collection and Evaluation – This resource provides States with key considerations for QRIS data collection and evaluation. It includes information relevant to the "Initial Design Process" and "Approaches to Implementation" of a TQRIS. The document was prepared by the National Center on Child Care Quality Improvement.