TCOM Report Suite:
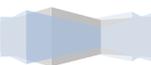
Minimum Standards for Vendors and Systems

Version 2.0

Table of Contents

Principles of Collaborative Reporting

Goal: To facilitate effective decision-making at every level of the system based on a shared understanding of the current needs and strengths of children, youth, and caregivers. This is aided by reporting child, youth, and caregiver needs and strengths to persons at all levels of the system, in metrics which are consistent across levels and meaningful to the tasks of the persons at that level.

1. Primary Design Consideration is Output, not Input

The value of a performance management system is in the feedback it provides. The time diverted from direct care, and the effort invested by staff at all levels for using the system must be an investment in meaningful feedback. Any time a performance feedback system fails to provide such feedback, it is a liability, rather than an asset, to a system. Because of this, the primary design consideration in any performance management system should center on what feedback (output) the system will produce, for whom, at what intervals.

Feedback is:

2. Relevant to Improving Key Intervention Decisions

Feedback in a performance management system must center on key intervention decisions. There is a nearly infinite series of data points which can be produced from clinical and billing records. Unless this information is distilled into actionable information at clinically relevant time points, it is a distraction to care, rather than an asset.

3. Replicated at All Levels of the System

Outcome data must form the core of all data feedback, at every level of the system. The system must have a clearly defined set of clinical, functional, and strength-based outcomes to achieve. All persons must receive feedback relevant to the decisions they make to improve those outcomes. Data feedback in a functioning performance management system primarily consists of outcome data aggregated to the level of responsibility of the stakeholder. In this way, the fidelity of the data to client experience and transformation is maximized. Stakeholders at every level are also able to see how the information they enter is used to inform decision-making at other levels, a consideration particularly important for persons on the front line of direct service.

4. Available in Real-Time

Intervention decisions are often made in real-time, meaning that there is little to no room for delay between when information is collected, summarized, and an action step then taken. These action steps could include (among others) deciding whether a person qualifies for specialty intervention services, at what level of support intensity care should be provided, what are the core targets of intervention, and what specific treatments should be employed to attain service goals. Failure to provide appropriate real-time feedback can result in more non-optimal or even harmful care decisions being made, undermining a core purpose of deploying a performance management system.

5. Modular in Design

Performance management systems must be responsive to the contexts which they seek to improve. As systems operate in contexts which are often unsettled by changing demands and contingencies, performance management must be adaptable to: one, changing operability demands and two, changing performance feedback needs.

The first concern is primarily focused on the technical capabilities of an electronic performance feedback system. In order to map onto the fact that many providers have their own electronic record systems, and that there is a not a single standard for the design and functioning of electronic record systems, any data system providing performance feedback must have flexible input and output capabilities. This means that all systems should have an operational ability to input data either directly into a database (typically via a web-based form), or via a data upload based on a set of published, standardized field and file parameters. Similarly, these data, once uploaded should also be able to be downloaded on-demand. Additionally, because many organizations are adopting or requiring the use of an Electronic Health Record (EHR), the performance management system should have the capability of being integrated into, and accessible from, the EHR. Specifically, this means that **any registered provider of TCOM-reporting must have Lightweight Directory Access Protocol (LDAP) and Single Sign On (SSO) capability, allowing for data entry and access to TCOM reports without requiring the provider to log into an additional electronic system.** These interoperability parameters allow for diverse stakeholders to be able to enter and use outcome information in ways which are specific to their organization's mission and goals, increasing its value.

5. *(cont.)* The second concern requires careful attention to the automated data feedback (reporting) structure. This structure must be capable of increasing the scope and usefulness of feedback over time. This often occurs as more data sources are linked to clinical data. For example, using clinical data in conjunction with billing and related service receipt data allows for the development of metrics for evaluating clinical cost-effectiveness. These data can be used to identify which providers produce the most health impact per service dollar allocated to their program. In order to take full advantage of these opportunities, an automated data feedback system should include both a core set of 'hard-coded' reports, and a data 'cube' which can integrate data points from data sources to provide 'value-added' reports which combine clinical and other data (such as fiscal data, treatment fidelity data, and caregiver and youth engagement data).

6. Paired with Expert Training and Coaching to Improve Stakeholder Competencies

Performance management systems can be used to identify areas of clinical expertise and areas for practice improvement. People using the performance management systems initially need to be trained to use the system to identify areas of more and less effective practice. But knowing where practices should be improved is never the same as actually improving them. Once areas of practice improvement are identified, training in more effective practices must commence. Supervisors must be trained to use and supervise on these new practices. Clinicians must be trained to use the new practices with clients. Program directors must be trained to implement fidelity tools to ensure that the practice is being used with fidelity, and that expected practice gains are happening. Administrators must be trained to put in place the appropriate support and problem-solving structures for practice change, given that new practices compete with existing clinical practices. Because of the complexity of practice change efforts, which are at the core of a useful performance management system, ongoing expert training and coaching are essential to developing the competencies needed to improve performance in a system.
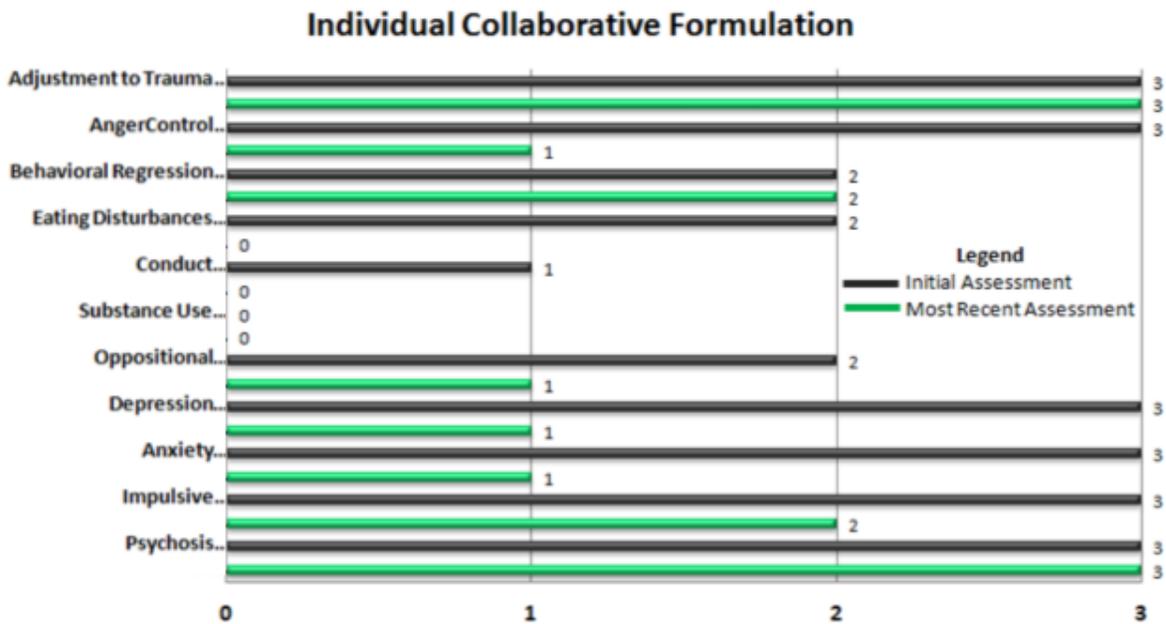
Standard Report Specifications

The reports included represent the *minimum set* of reports which must be included with any Praed-sanctioned report build. Each report described below begins with a description of the purpose and specifications of the report, follows with an example graph, and finishes with a listing of the ways in which the reports can be filtered to make sure they are relevant to multi-level stakeholders' decisions. Though many of the reports include examples from the Child and Adolescent Needs and Strengths information integration tool, the most widely used of all the TCOM tools, the logic of the reports applies to **all TCOM tools**. For assistance with any of these reports or their specifications relevant to your specific TCOM tool(s), please see page 15 for additional resources and direct assistance.
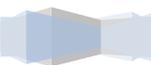
Individual Collaborative Formulation

This chart provides a bar graph representing the client's score on each need and strength item, by domain. Each bar within an item represents a particular assessment. The chart should display items from all domains relevant to service planning. This generally includes all items which repeat on the Initial and Reassessment or Closing assessments. Examples of included domains from the CANS Comprehensive are: Behavioral and Emotional Needs, Impact on Functioning, Risk Behaviors, Child Strengths, Acculturation, Caregiver Strengths and Needs, and Trauma Symptoms.

The graph should have room for multiple assessments to be represented for each item, beginning with the Initial Assessment. Clinicians should be able to select the time point(s) represented in the bars following the Initial Assessment bar.
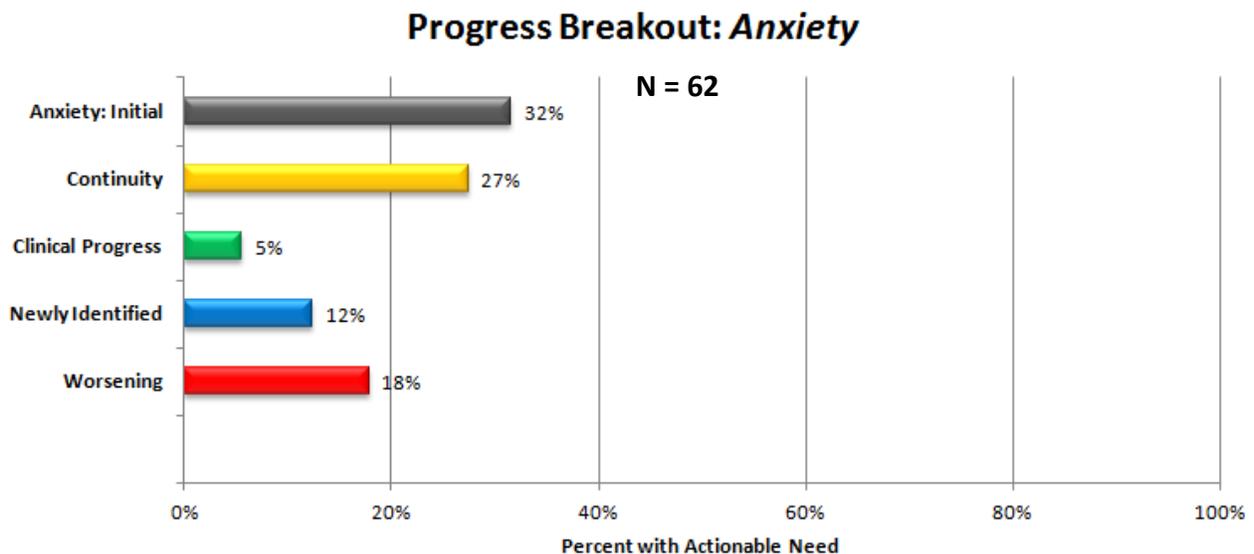
Individual Collaborative Formulation

Item	Value
Adjustment to Trauma..	3 / 3
AngerControl..	3 / 1
Behavioral Regression..	2 / 2
Eating Disturbances..	2 / 0
Conduct..	1 / 0
Substance Use..	0 / 0
Oppositional..	2 / 1
Depression..	3 / 1
Anxiety..	3 / 1
Impulsive..	3 / 2
Psychosis..	3 / 3

Legend
- ▬ Initial Assessment
- ▬ Most Recent Assessment

Formatting considerations: End users have indicated that when an item is rated a '0', it is important to be able to visually represent that rating. In the graph above, this is done by putting the score outside the end of the bar, even when it is a '0.' The '0' may also be represented by a 'nub' of a bar.

**Possible filters:** Client; Reassessment time point; Closing assessment.
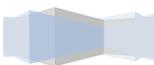
Item Breakouts

This report allows individuals at every level of the system to better understand treatment progress over time. This chart displays five metrics which can be applied to any item which has been assessed at two time points. The first metric is simply the percentage of clients which have this item identified as a treatment need (rated as a '2' or a '3'). The second metric, 'Clinical Progress,' displays the percentage of clients with this identified need who have shown at least a 1-point improvement over time. The third metric indicates the percentage of clients who previously had the item identified as a treatment need (rated as a '2' or a '3'), and for whom it continues to be a treatment need (rated as either a '2' or a '3'). The fourth metric, 'Newly Identified,' reflects the percentage of clients who currently have this item identified as a treatment need, but who did *not* initially have this item identified as a treatment need. The final metric, 'Worsening' reflects the percentage of clients who had at least a 1-point increase in the level of support need associated with the item. As with all summary statistics, the number of clients on which it is based is also provided (in this case, under the horizontal axis).

Progress Breakout: *Anxiety*

N = 62

| Metric	Value
Anxiety: Initial	32%
Continuity	27%
Clinical Progress	5%
Newly Identified	12%
Worsening	18%

Percent with Actionable Need

Possible filters: Clinician, Supervisor, Program, Agency, System; Reassessment or Closing assessment; Time point; Reassessment or Closing date range.
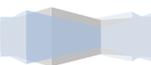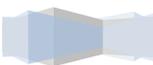
Multi-level Collaborative Formulation (over Time)

To be included on this graph, the client had to have both an Initial Assessment and a Reassessment/Closing. This allows us to determine what percentage of the *cohort* improved over time. Then, all items must be dichotomized. Items scored a '0' or '1' must be recoded as a '0.' Items scored a '2' or '3' must be recoded as a '1.' Items recoded as a '1' are treatment needs. For the item to be included, it has to be **one of the six most frequently endorsed treatment needs at entry from the Behavioral / Emotional Need or Risk Behavior Domains** (items in blue for Behavioral / Emotional needs; the item in red for Risk Behaviors) or **one of the four most frequently endorsed treatment needs from the Life Domain Functioning domain (items in grey)**. Bars are computed as the percentage of clients with a '1.' The denominator for this is the total number of clients in the cohort (with both an Initial Assessment and a Reassessment/Closing). The first bar represents the percentage of persons who had an item rated as a '2' or '3' at the initial assessment; the second bar shows the percentage of clients who had an item rated as a '2' or '3' on the Reassessment/Closing.
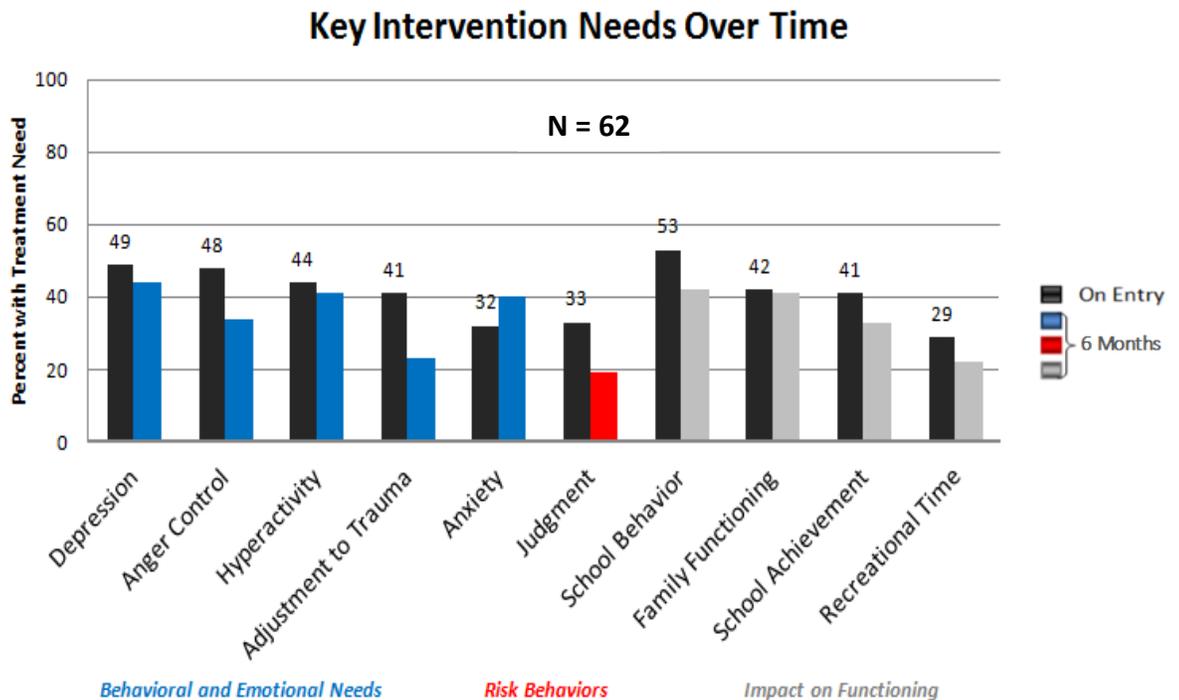
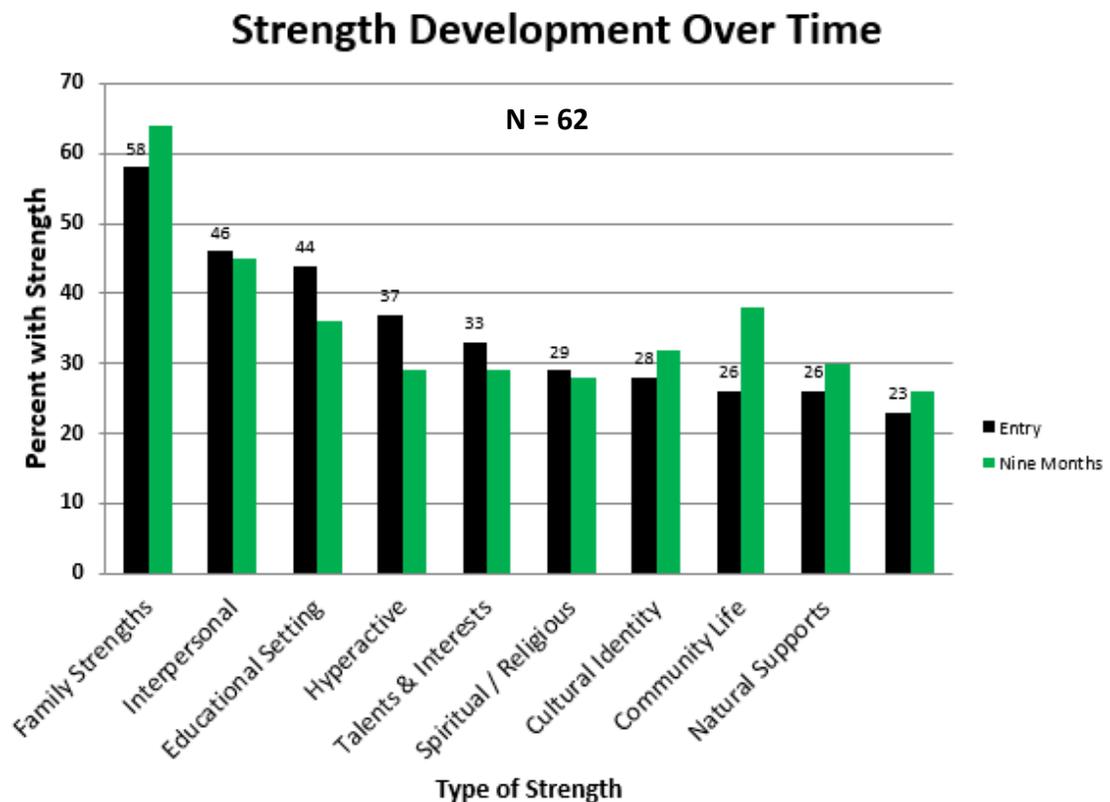Key Intervention Needs Over Time

Possible filters: Clinician, Supervisor, Program, Agency, System; Reassessment or Closing assessment; Time point; Reassessment or Closing date range.

Multi-Level Collaborative Formulation: Strengths Development

This graph builds on the last, but is specific to the Child / Youth Strengths domain. Again, to be included on this graph the client had to have both an Initial Assessment and a Reassessment/Closing. This allows us to determine what percentage of the *cohort* improved over time in the Child / Youth Strengths domain. Then, all items must be dichotomized. Items scored a '0' or '1' must be recoded as a '1.' Items scored a '2' or '3' must be recoded as a '0.' Items recoded as a '1' are developed / developing strengths. All items on the Child / youth Strength domain are included in the graph. Bars are computed as the percentage of clients with a '1.' The denominator for this is the total number of clients in the cohort (with both an Initial Assessment and a Reassessment/Closing). The first bar represents the percentage of persons who had an item rated as a '0' or '1' at the initial assessment; the second bar shows the percentage of clients who had an item rated as a '0' or '1' on the Reassessment/Closing.

Strength Development Over Time

N = 62

| Type of Strength	Entry	Nine Months
Family Strengths	58	64
Interpersonal	46	45
Educational Setting	44	36
Hyperactive	37	29
Talents & Interests	33	29
Spiritual / Religious	29	28
Cultural Identity	28	32
Community Life	26	38
Natural Supports	26	30
	23	26

Possible filters: Clinician, Supervisor, Program, Agency, System; Reassessment or Closing assessment; Time point; Reassessment or Closing date range.
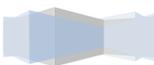
Supervision: Caseload Progress Report

This report is designed to let Supervisors and clinicians quickly assess client progress over time. It is designed to display the total number of actionable needs across **all** entered assessments: Initials, Reassessments and Closing. Again, all items included in this report are dichotomized for action, as in the previous report. The number of actionable items across three domains (Behavioral and Emotional Needs, Functioning, and Risk Behaviors) is totaled. The graph is designed to display these results for all clients of a given clinician (filter by clinician).
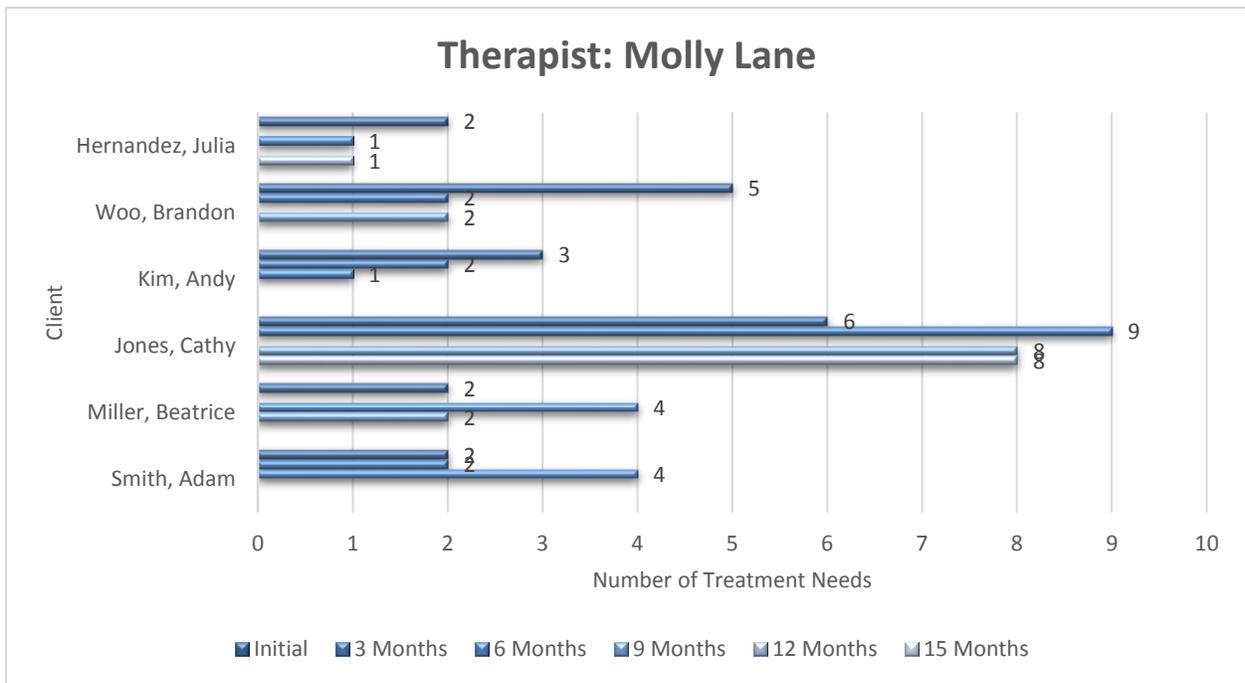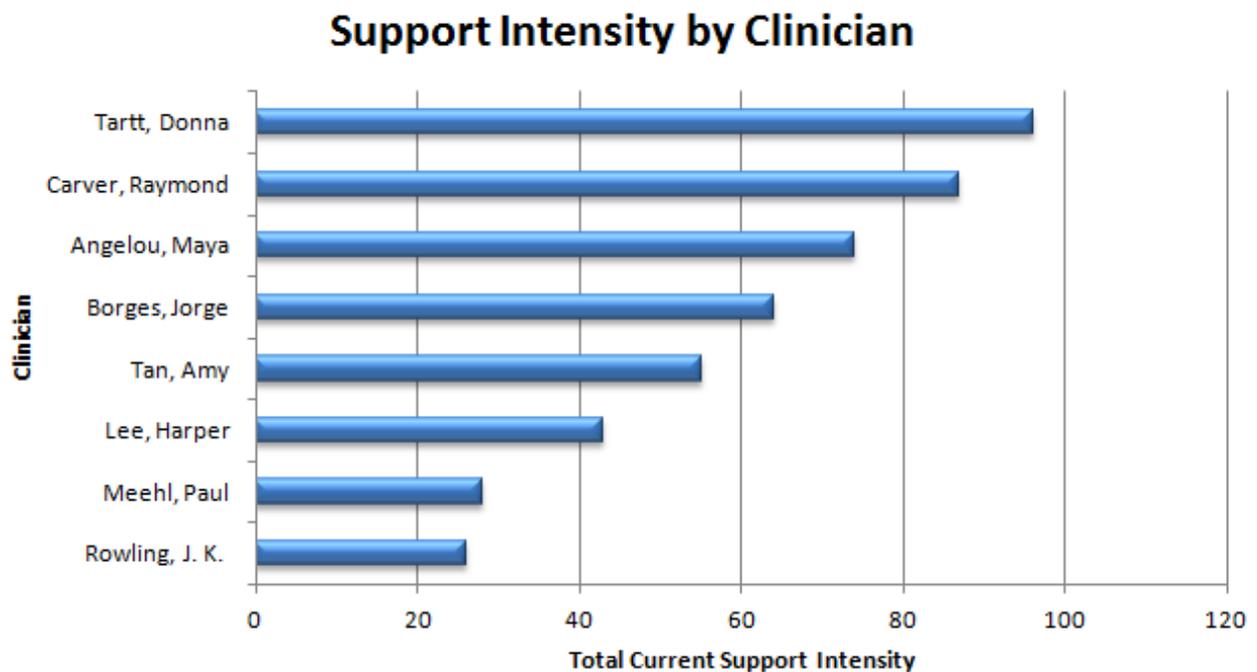

Possible filters: Clinician, Supervisor, Program, Initial or Closing dates.
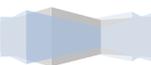
Supervision: Clinician's Support Intensity Report

This report provides a total intensity of current *treatment* needs for all clients a clinician is currently responsible for serving. This report allows supervisors to make client assignment/matching decisions while taking into account a clinician's current treatment workload. This metric is computed by adding together all 2s and 3s from all treatment-related domains of each client's most recent assessment.

This report can be filtered based on a person's responsibilities / permissions. It is recommended that a version of the report be available at each level of the system. A version for a supervisor supervising eight clinicians is provided below.

Support Intensity by Clinician

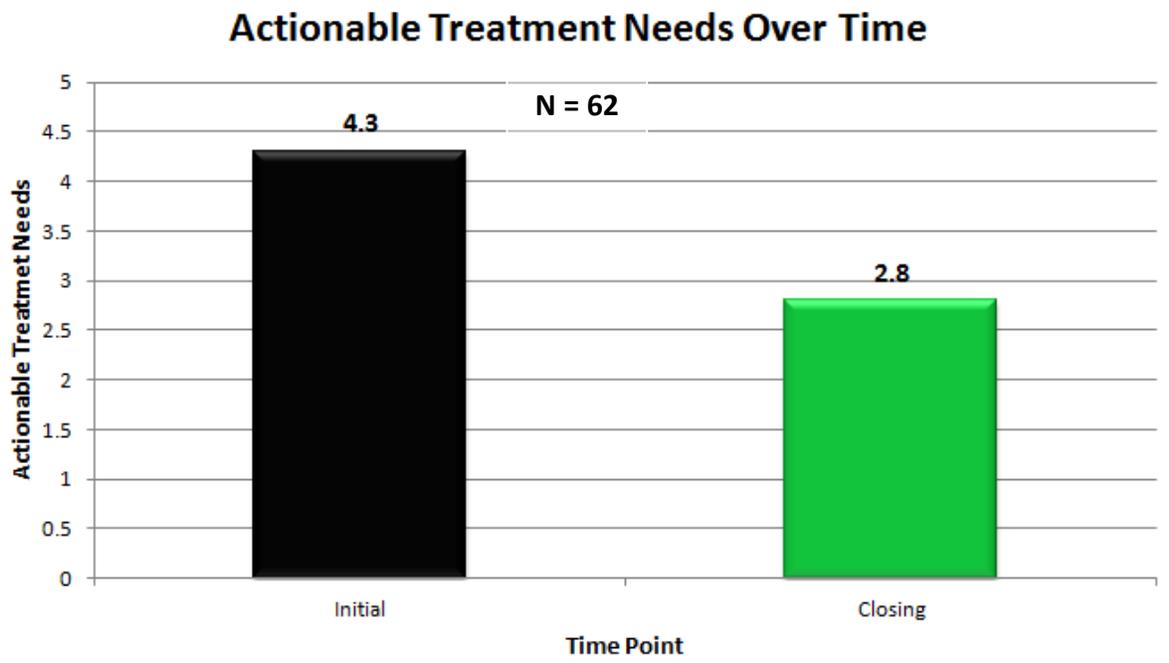| Clinician	Total Current Support Intensity
Tartt, Donna	~95
Carver, Raymond	~86
Angelou, Maya	~74
Borges, Jorge	~64
Tan, Amy	~55
Lee, Harper	~43
Meehl, Paul	~28
Rowling, J. K.	~26

**Possible filters:** Clinician, Supervisor, Program, Agency, System.

Average Impact Report

This report also uses the total number of (dichotomized) items rated as actionable. This graph represents a cohort of clients (those for whom both an Initial Assessment and a Reassessment or Closing assessment is available, within a given time period). For each cohort, the average number of actionable items at entry and a defined end point (e.g., 6 months, 9 months, 12 months, Closing) is computed across all treatment domains. The average number of actionable items at the two time points is graphed.

Actionable Treatment Needs Over Time

N = 62

	Initial	Closing
Actionable Treatment Needs	4.3	2.8

Time Point

Possible filters: Clinician, Supervisor, Program, Agency, System; Reassessment or Closing assessment; Time point; Reassessment or Closing date range.
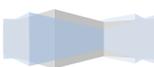
Summary

Performance feedback is designed to help evolve practice. These reports are designed to help stakeholders at each level of the system better understand a child, youth, or family's progress towards meeting the health and wellness goals they value. As stakeholders become familiar with using these data to manage systems and understand performance, they are better able to identify ways in which the system can improve the dissemination and use of effective practices.

Realizing the benefit of this new way of operating often means stakeholders will need to act in new ways. Creating new treatment routines requires making a series of decisions. These include decisions about how to interact with children and caregivers (clients) in new ways, how to support these new ways of interacting via treatment protocols and supervision, how to utilize expert training and coaching to successively improve new practices, and how to integrate new practices into performance expectations and business operations. Successful implementation of such supports has been demonstrated to improve the cost-effectiveness of implementing new practices, and to dramatically improve outcomes for children and youth. Implementation also requires the allocation of new expertise and problem-solving authority in order to achieve its promise.

Inevitably in human systems there will be some disagreement on how to proceed, and how personnel and other fiscal resources can be used to facilitate such progress. For these reasons, a performance feedback system must include a clear delineation of both a) what performance improvement decisions can be made autonomously by stakeholders at each level of the system and b) what the protocol is when decision-makers at a certain level get 'stuck' and need a decision to be made or enforced by a higher-level authority. Clarifying this human dimension of utilizing data can facilitate collaboration and help all stakeholders reach their potential. Our hope is that the specification of these core reports is the first step in an ongoing process of collaboratively assisting children, youth, families, treatment providers and administrators in meeting the goal of improving the health and wellness of the whole population.
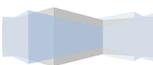
ADDENDUM:

Creating Meaningful Longitudinal Communimetric Reports

The majority of the reports specified in this document involve understanding how children and youth change over time. In order to understand change among a given population, it is important to be able to consistently and accurately define that population. This typically means being able to specify well-defined and reproducible groups of children and youth whose (clinical, functional, contextual) progress can be benchmarked and tracked over time. Such groups are typically referred to as *cohorts*.

How to think about building longitudinal CANS reports:

1. Our goal is to create **cohort-based** reports.
2. To create cohorts within *any* report you have to be able to do two things:
   a. Define the two assessments being compared
   b. Define the time period in which either the first or last assessment being compared occurs

   Let's take each of these two requirements in turn:

I. **Defining the two assessments being compared.** In most instances, the first assessment being compared is the initial assessment. The only variation to this is when the *two most recent assessments* are being compared; in this case the first assessment in the comparison may or may not be the Initial assessment.

The second assessment being compared is typically chosen based on it falling within a certain time duration from entry to the system – 3 months, 6 months, 9 months, etc.

Typically systems allow users to select which clients to include in the cohort by providing a drop-down menu with the following choices for the second of the two assessments:

> A reassessment at a specific time point (3 month, 6 month, 9 month…..), typically through 36 months.
>
> The most recent reassessment
>
> The two most recent reassessments

The resulting drop-down menu looks like this:

Reassessment
03 Month
06 Month
09 Month
12 Month
15 Month
18 Month
21 Month
24 Month
27 Month
30 Month
33 Month
36 Month
>36 Months
Most recent reassessment
Two most recent reassessments

Clients are **only** included in the report if they have **both** the reassessment selected by the user and an initial assessment appropriately predating the reassessment.

The other critical consideration is how to treat *discharge* assessments. Understanding outcomes at Discharge may be the sole aim of the analysis, a part of the aim of the analysis, or contrary to the aim of the analysis. In order to accommodate these very different purposes, a filter needs to be provided which allows the user to include discharge assessments in the analysis, exclude discharge assessments from the analysis, or include **only** discharge assessments (exclude reassessments) in the analysis.

The drop-down menu for this option would look like this:

Discharge
Exclude Discharge Summaries
Include Discharge Summaries
Only Use Discharge Summaries

II. **Defining the time period in which the initial or reassessment (or discharge) occurs.**

To create a cohort, one must select the date range in which either the initial or reassessment occurs. Typically, systems allow users to choose the dates of the initial assessment, because they want to follow a cohort who *enters the system at a given time*. This allows for the generation and testing of effects among different cohorts as policy and systems changes are enacted.

Some systems reverse this, and allow persons to define the time period in which the reassessment occurs. While there are some legitimate reasons why one may choose to define the time period of interest based on the reassessments (this is typically done to define exit, not entry, cohorts), it is done less frequently. For most builds, it is sufficient to focus on defining the date range of the entry cohort.

To define the entry range of the entry cohort, a date range option must be provided to be applied to the Initial Assessment. This option will look like this in the filter options:

Initial Assessment Start Date:	*MM/DD/YYYY*
Initial Assessment End Date:	*MM/DD/YYYY*

Both the start and end date of the cohort need to be entered for the report to run.

Cohort Specification Summary

For these longitudinal reports to be meaningful, they have to reflect and report on a well-defined cohort. This cohort has to be able to be defined based on **three simultaneously employed parameters**: the particular reassessment of interest, the inclusion or exclusion of discharge summaries, and the window of time in which the cohort entered the system (initial assessment start and end dates). The use of these three parameters provides a standardized and replicable process for understanding the progress of groups of clients over time.

Episodes:

Structure, Function, Management

The building block of understanding a client's care is being able to assign a client to an Episode of Care – a discrete unit by which a set of actions and interventions can be compared. An Episode is essentially a 'container' or set of parameters which define when a series of actions are *expected to take place* and when *interventions have ceased*. Similarly, nearly all reports are based on expectations for, and the execution of, specific treatment-related activities (with the hope that they lead to particular client outcomes).

For instance, in one state, there is an expectation that after a referral for screening, a screening is completed within 10 days. Reports are built on that expectation. After the screening is completed, a referral for a particular type of care is made. Then the expectation is that a full assessment will be completed, and appropriate care will be provided. When care is provided, treatments are expected to address specific targets which are objective, measurable, and amenable to change. Re-assessments and updated treatment plans provide evidence as to whether the specific targets are being addressed as intended. Discharge is expected to occur when treatment targets are achieved, or a different type of care is more appropriate (see Figure 1). All of these expectations are *linked to each other*. Each action and subsequent state creates the expectation of the following action, from referral to discharge. Any interruption in this causal chain has to be dealt with in a systematic way in order to understand and manage care in a system.

Figure 1. Practices in an Episode of Care

Refer → Screen → Assess → Re-Assess → Discharge

Episodes provide a 'unit' to all of these coordinated, interdependent actions. Episode-based tools are required to insure that this organizational unit has consistent meaning, and that exceptions are handled in ways which are justifiable to regulatory and funding bodies (particularly Medicaid) as well as end users. Episodes become especially important in complex healthcare systems, and for clients receiving care which is coordinated across multiple persons or providers. The more complex the care or organizational context in which care is delivered, the more important it is to be able to understand precisely what has been delivered, by whom, per which expectations, and leading to what outcomes.

Without the ability to disentangle these actions and their providers we lose the ability to manage and meet expectations.

Because persons receiving care, persons providing care, and system requirements are all subject to change, both the episode structure and tools for managing episodes are required. Tools for managing episodes include both the routine assignation of opening and closure to an episode, assignation of reasons for opening and closure of an episode, as well as functionality designed to address clerical errors or record-keeping anomalies. The most frequently used tool in this series is an episode opening or closing function.

Episode opening is typically automatically triggered in a system once a specific authorizing action has occurred. Increasingly in systems across the country, a referral for service eligibility is that triggering event. Episode closing also must meet specific criteria. Because there can be numerous reasons for closing an episode of care, the triggers for episode closure often take one of two forms. In the first form, the treatment provider recognizes that a client's episode of care has ended and closes the episode of care. Most systems require that this closure be assigned a specific reason from a pre-defined list of acceptable reasons for episode closure. In the second form the practitioner does not close the episode of care, rather the system's internal monitoring procedures are used to detect that the episode of care is no longer open. For instance, a system may monitor care provision and flag episodes for closure when it has been more than six months since the last service was provided to the client. This flagged episode may either be closed by a system administrator, or an alert sent to the practitioner to close the episode.

Failure to follow procedure at the practitioner level may be intentional or unintentional, but leads to the need for administrative tools to be able to manage non-compliant episode structures. Administrative closure of an episode is one example of an instance in which administrative tools may be routinely used to manage non-compliance. Practitioners may also engage in behaviors knowingly or unknowingly which created invalid episodes. For instances, double-entering the same client's screening or assessment results may open up two episodes of care simultaneously when only one episode of care is being provided. Tools for deletion of such duplication are necessary to keep the episode structure consistent and allow for meaningful comparison of practices and outcomes across episodes. Additionally, there may be instances in which information about or within an episode needs to be preserved for record-keeping, but violates rules needed for use in reporting across episodes of care. For instance, a regulatory body may require that a partially-completed assessment is retained in the electronic record, when a practitioner who begins the assessment leaves the organization without completing it. Yet such an
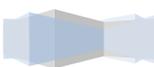
incomplete document may need to be suppressed when reports are run, as it is not appropriate for use in comparisons.

In summary, use of an episode is necessary to make sense of whether expected service activities are occurring with a client, and what effect those activities are having. A consistent episode structure is necessary to insure that comparisons made are equivalent ('apples-to-apples') comparisons. Because changing personnel and system demands result in some episodes not being able to be closed in the expected manner, specific tools to address these episodes can be used to insure that comparisons across episodes remain meaningful for informing policy and practice. Contingencies likely to arise with children and youth served in human service systems, and the desired functions (tools) for addressing those contingencies, are outlined in the table below (Table 1).

Table 1. Contingencies to Address in Episode Structure and Reporting

Care Process	Contingency	Desired Function
Referral	1) May be left open (without a screening being started)	
Screening	1) May never be started	
	2) May be left incomplete indefinitely	
	3) May be double-entered	
Assessment	1) May never be started	
	2) May be left incomplete indefinitely	
	3) May be double-entered	
	4) May be done by different Practitioner or Location than at Screening	
Re-Assessment	1) May never be started	
	2) May be left incomplete indefinitely	
	3) May be double-entered	
	4) May be done by different Practitioner or Location than at Assessment / Previous re-Assessment	
Discharge	1) May never be started	
	2) May be left incomplete indefinitely	
	3) May be double-entered	
	4) May be done by different Practitioner or Location than at Assessment / Re-Assessment	
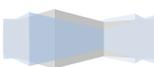
Additional Supports

For direct assistance in specifying or using these reports, please contact John Lyons (jlyons@chapinhall.org) or Nate Israel (nisrael@chapinhall.org).

The Praed Foundation has a list of approved IT vendors for TCOM products. Vendors not on this list must seek written approval from the Praed Foundation before offering products based on TCOM tools. Contact John Lyons or Nate Israel to get a current list of approved vendors.