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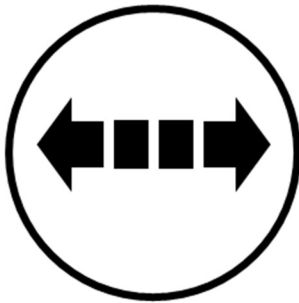
Assessing Implementation Stages

Dean L Fixsen, Karen A. Blase, Melissa Van Dyke

Active Implementation Research Network

Active Implementation benchmarks

Active Implementation benchmarks are used to assess stages. Exploration begins when the first meetings are held to discuss the possible use of an innovation to reach an aspirational goal or fulfill a need. Installation begins when individuals and groups are organized to secure required resources to support the use of a selected innovation. Initial Implementation begins when the first newly trained practitioner attempts to use the selected innovation for the first time in interactions with an intended recipient. Full Implementation begins when 50% of all practitioners in an organization meet the criteria for high fidelity use of the innovation. The Active Implementation Stages do not have end points since they tend to overlap and flow back and forth for many years as people change (back to Exploration as new people are onboarded), resources change (back to Installation to secure what is needed), and events upset the best laid plans (back to Initial Implementation with an exodus of high fidelity practitioners).



Implementation Stages

Stages of implementation completion

A more detailed and operationalized assessment of stages has been developed for the Treatment Foster Care Oregon (TFCO) program (formerly known as multidimensional treatment foster care; MTFC). The Stages of Implementation Completion (SIC) instrument (Brown et al., 2014; Chamberlain, Brown, & Saldana, 2011; Saldana & Chamberlain, 2012; Saldana, Chamberlain, Wang, & Brown, 2012) operationalizes the activities that organizations complete as they prepare for and begin to use TFCO. The SIC yields three scores including the proportion of tasks completed, the duration spent completing the implementation tasks, and the final implementation stage achieved. Although the SIC provides a sequential list of identified activities, scoring of the instrument takes into account the non-linear and recursive nature of activity completion. The SIC stage-related activities are listed in Table 1 and are organized by the Active Implementation Stages.

In studies using the SIC measure, there were 53 sites (organizations) enrolled in the study (Chamberlain et al., 2011; Saldana et al., 2012) and all had sufficient time to complete the SIC

stages 1-3. Of the 53 sites, 22 (42%) made it past Stage 3 and began to hire and train staff. The remaining sites did not complete Exploration and Installation activities and did not attempt to use TFCO.

Table 1. Stages of implementation completion (SIC) measure for Treatment Foster Care Oregon (TFCO). The categories and items from Chamberlain, Brown, & Saldana (2011) are organized in this table by Active Implementation Stages.

Active Implementation Stages
TFCO SIC Activities
<u>Exploration Stage</u>
1 Engagement
1.1 Date site is informed services/program available
1.2 Date of interest indicated
1.3 Date agreed to consider implementation
2 Consideration of Feasibility
2.1 Date of first contact for pre implementation planning
2.2 Date first in-person meeting/feasibility call
2.3 Date Feasibility Questionnaire is completed
<u>Installation Stage</u>
3 Readiness Planning
3.1 Date of cost/funding plan review
3.2 Date of staff sequence, timeline, hire plan review
3.3 Date of foster parent recruitment review
3.4 Date of referral criteria review
3.5 Date of communication plan review
3.6 Date of in-person meeting
3.7 Date written implementation plan complete
3.8 Date service provider selected
4 Staff Hired and Trained
4.1 Date agency checklist completed
4.2 Date first staff hired
4.3 Date Program Supervisor trained
4.4 Date clinical training held
4.5 Date foster parent training held
4.6 Date Site consultant assigned

5 Adherence Monitoring Processes in place

5.1 Date data tracking system training held

5.2 Date of first program administrator call

Initial Implementation Stage

6 Services and Consultation Begin

6.1 Date of first placement

6.2 Date of first consult call

6.3 Date of first clinical meeting video reviewed

6.4 Date of first foster parent meeting video reviewed

7 Ongoing Services, Consultation, Fidelity Monitoring and Feedback

7.1 Dates of site visits

7.2 Date of implementation review

7.3 Date of final program assessment

8 Competency

8.1 Date of certification application

8.2 Date certified (met fidelity criteria)

Full Implementation Stage

No items

The TFCO findings are similar to the results obtained by Panzano et al. (2004). At 9-month intervals Panzano and colleagues followed a group of 91 agencies that had committed to and were funded to use one of several evidence-based programs in a state mental health system. All 91 agencies engaged in Exploration and Installation activities but 44 never used a selected program (i.e. did not reach the Initial Implementation Stage). Within 24.2 months 12 of the 47 agencies that initially did use a selected program ended their use of the evidence-based program. This left 35 (38%) of the original 91 agencies that reached Initial Implementation and continued to use an evidence-based program for four years (Massatti, Sweeney, Panzano, & Roth, 2008), a ratio similar to the 42% found in the TFCO studies.

An analysis of a larger SIC data set was conducted for 42 new TFCO sites that successfully completed competency items 8.1 and 8.2 (Saldana & Schaper, personal communication, October 1, 2018). Note that this retrospective analysis looks at the history of the select sample of sites that reached SIC stage 8. The select sample excludes from the larger SIC data set all discontinued and in-progress sites and all the “expansion sites” that already were using TFCO in their organization. For the 42 sites that reached SIC stage 8, the median time to reach stage 8

(Competency; at least one practitioner met fidelity criteria) was 1,533 days (50.4 months; 4.2 years).

The time frame from the SIC analysis is a good fit with the 2 to 4 years that is typical for organizations to move from Exploration to Full Implementation (Fixsen, Naoom, Blase, Friedman, & Wallace, 2005). At a micro level, the specific SIC items align with the Active Implementation stages of implementation as shown in Table 1. The SIC measure is useful and helps to operationalize key activities that mark progress toward Full Implementation for the few organizations that make it that far. While it was developed specifically for TFCO, the SIC items are adaptable for inclusion of key activities for other innovations.

Implementation Quotient for Organizations

The benchmark for Full Implementation is to have 50% of all the practitioners in an organization providing services that meet fidelity criteria. While this is a difficult criterion to meet, it also means that half of the practitioners are functioning at less than fidelity standards. Thus, overall, the recipient outcomes for the organization will be vastly improved at the 50% mark but still fall short of what could be achieved if all practitioners were functioning at high fidelity. Having 100% of the practitioners meeting fidelity standards is not likely to be achieved in interaction-based human services. Yet, provider organizations and systems should work to approximate 100% fidelity to maximize benefits to recipients.

The Implementation Quotient measure was developed to provide an organization level assessment of fidelity that takes practitioner competency development and turnover into consideration (Fixsen & Blase, 2009).

Determine the number of practitioner positions allocated to the eventual use of the innovation in the organization (Allocated Position N = ____).

At a point in time:

Assign a score to each allocated practitioner position:	<u>Score</u>
Practitioner position vacant	= 0
Practitioner in position, untrained	= 1
Practitioner completed initial training	= 2
Practitioner trained + receives weekly coaching	= 3
Practitioner met fidelity criteria: as of this month	= 4
Practitioner met fidelity criteria: 10 of past 12 months	= 5

Sum the scores for all practitioner positions (Practitioner Position Sum = ____).

Divide the Practitioner Position Sum by the Allocated Position N.

The resulting ratio is the “Implementation Quotient” for that innovation in that organization.

At a given point in time (on June 30 and December 31 each year in the example data in Figure 1 below), an Implementation Quotient on that day is calculated using the formula noted above. In the calculations, note that the focus is on the practitioner *positions* and the current occupant of each position. This requires a statement at the beginning of the process about the intentions of an organization regarding the use of an innovation. In the example below, there were 41 group homes being managed by the organization. In another example (not shown), there were 48 clinical positions in an organization and the plan was to have them begin to use the innovation sequentially, with 12 in a cohort. Full Implementation (6 of the 12 or 50% meet fidelity) had to be achieved with one cohort before the organization began training and coaching for the next cohort. In that case, 48 was the Allocated Position N for the organization since the intention was to have all 48 positions occupied by practitioners using the innovation in the organization.

Figure 1 shows the use of the Implementation Quotient for 10 years to track implementation progress in one organization. In this example, the organization consisted of 41 group homes and the intention was to use the innovation (the Teaching-Family Model) in each group home. Thus, 41 is the “Allocated Position N” at every point in time in Figure 3. The use of the innovation was supported by a competent Implementation Team that began working with two group homes in the organization in November 1975 and used that experience to inform a range of changes in the organization to eventually support all 41 group homes. The data in Figure 1 begin in December 1975, just after implementation of the Teaching-Family Model homes began in two group homes in the organization.

As shown in Figure 1, the Implementation Quotient improved from an organization-wide average of about 1 (practitioner in position, untrained) at baseline to a score of 4.5 (practitioner met fidelity criteria: as of this month) after about 8 years. The score of 4.5 was sustained for 18 months at the end of the 10-year period data collection period shown in Figure 1.

By July 1977, the Decision Support Data System was established and stable in the organization (Fixsen, Collins, Phillips, & Thomas, 1982). An outcome measure was derived from the Decision Support Data System and included a mix of youth behavior in the community and school grades and attendance. Outcomes for individual measures were transformed to a 7-point scale where a score of 7 indicates zero occurrence of problem behaviors (e.g. runaway, police contact) or outcomes in the top quintile for all 41 group homes for positive behavior in the community and at school. The results for each group home were summed and averaged across the 41 group homes at each time period. Implementation and outcome scores were calculated every 6 months on the last day of the month from 1977 through the end of data collection in

1985. A Spearman rank correlation of 0.95 was found between the Implementation Quotient and the summary outcome scores for youths calculated over 15 six-month blocks.

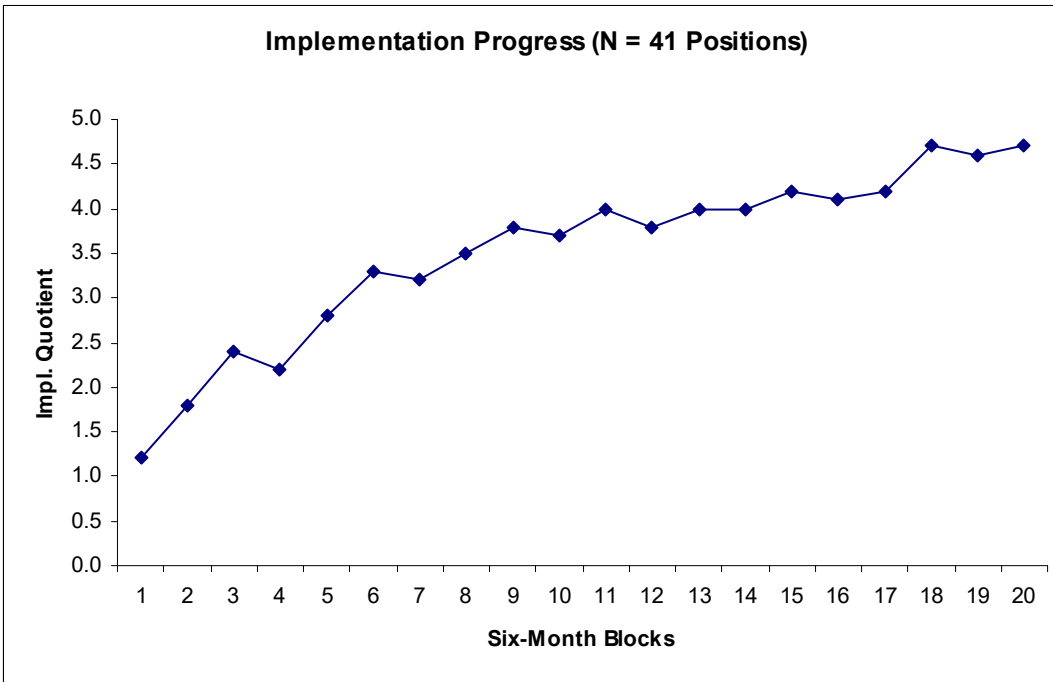


Figure 1. Implementation quotient for 10 years in one organization.

In early 1980, about four years after beginning to use the innovation in the organization, over 50% of the practitioners (22 out of 41) met fidelity criteria in a given month (the definition of Full Implementation). At that time the average Implementation Quotient score for all 41 group homes was a 3 (practitioner trained and receives weekly coaching).

The value of the Implementation Quotient is that it is a reminder that the work is not done even when Full Implementation is reached. At the point where 50% of the practitioners meet fidelity criteria, the remaining 50% do not meet criteria and outcomes for the organization are still not what they could be. For example, in the 41 group homes the score for youth outcomes did not reach 6 on the 7-point scale until 1984, at the point when the Implementation Quotient score exceeded 4.

A total of 152 Teaching-Parent couples staffed the 41 Teaching-Family group homes over the 7.5 years where Implementation Quotient and youth outcome scores were available. An accurate count of youths is not available, but an estimate is over 2,000 different youths resided with the 152 Teaching-Parent couples who staffed the 41 group homes during the 7.5 years. Outcomes for a whole population are difficult to improve when the practitioners and recipients come and go with regularity. The value of the Implementation Drivers is made apparent as constant

adjustments are made to reduce the impact of transitions. The goal is to maintain treatment and outcomes in the midst of “starting over” with each transition of staff or recipients. The Implementation Quotient is a reminder of implementation outcomes in service to realizing innovation outcomes.

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