

Think Tank Summary: Scaling Up: How Do We Design and Measure It?

Patricia Chamberlain, PhD
Gregory A. Aarons, PhD

Key Challenges

The integration of evidence-based interventions into existing service systems holds promise for improving quality of care for families and children. To date, though, we have insufficient knowledge of the processes by which innovations are implemented and sustained. We need system-level, theory-driven studies, which include data-driven measurement strategies, for more fully understanding the implementation process. The think tank addressed two key challenges to “scaling-up” evidence-based interventions: (1) Identifying effective, systematic design options for staging large scale implementation studies that result in a sustainable intervention; and (2) Assessment/measurement of implementation progress (i.e. “scale-up”) and success that may be universally applied across studies.

Scale-Up Models

To stimulate discussion with regard to the challenge of identifying implementation models/ strategies which may lead to large-scale system change, several ongoing implementation approaches were presented during the session. A “rolling cohorts” approach includes local training and oversight provided by a national training team and clinical support and fidelity monitoring contracted with a separate site partner. This approach has been referenced as a “learn as you go model,” where community leaders apply “lessons learned” to inform future implementation sites about ways in which to address and overcome barriers to implementation. Then, two unique “cascading” dissemination approaches (also referred to as staged approaches) were discussed. The first was a Cascading design) intended to first establish localized expertise to a particular EBP, and then to diminish the role of the developer during the scale-up process. In this design, an initial “cohort” is trained in the EBP by model developers, a step aimed at creating high competency to the model; then the developer group supervises the training of a second “cohort” of interventionists and switches to a maintenance function, upholding model fidelity with reduced cost and a focus on long-term sustainability. Next, a statewide implementation approach based on a randomized clinical trial was presented. Collaborative decision making (between state officials, agency directors, and researchers) acted in the implementation decision. In this case, a success during the initial implementation (half of the state), resulted in dissemination of the EBP to the second half of state. Finally, a fourth implementation strategy – an evidence-based, organizational change framework – was presented. Utilized by the VA to initiate its Quality Enhancement Research Initiative (QUERI), this four-phase implementation strategy focuses three interacting elements of organizational change: refinement of culture, capacity-building efforts, and a sustaining infrastructure. The phases include a single site pilot, followed by a small scale, multi-site implementation trial, then a large-scale multi-region implementation trial, and finally a system-wide rollout.

Each of the implementation strategies was presented as showing promise for scaling-up interventions; and, the audience was engaged with several questions with regard to large scale implementation study design:

- (1) What models or strategies (from your experiences) for scale-up do you believe to be effective and why?
- (2) If you could design the ultimate scale up approach...
 - a. What features of the health sector would be critical?
 - b. Who would be involved and how?
 - c. How would technology be used in your scale-up?
 - d. What would be the sequence of events in your scale-up timeline?

Scale-Up Barriers and Strategies

In response to these questions, the audience highlighted several barriers to large-scale implementation. The primary issue discussed was fidelity monitoring and maintenance. In specific, concerns were raised about the ability of local adaptations to the EBP model without model “drift,” about the importance of technical assistance for fidelity, and about the expense of monitoring. In addition, questions were raised as to the conceptualization of fidelity in an international context; for example, with regard to the tensions

of adaptation/fidelity between countries such as Indonesia and China. Several strategies were discussed as mechanisms to address these types of barriers. With regard to monitoring demands and costs, it was suggested that since clinical interventions always include a supervision component, local expertise could use supervision time for fidelity monitoring. In addition, monitoring could be addressed by maintaining some contact with the developers. Additionally, fidelity monitoring and technical assistance may be conducted electronically (to reduce cost and increase specificity), or fidelity monitoring could be included with existing paperwork demands (as opposed to being an additional time cost). Finally, one may consider how to use existing administrative data or incorporate client-report measures for monitoring fidelity.

Beyond fidelity, several participants suggested that the need for partnerships to get an EBP “off the ground” is a challenge to large-scale implementation. In particular, without policies and procedures in place to drive the implementation process, transition points will not work effectively between partners. A collaborative care model may be used to ensure partners are unified during implementation. In addition, the challenge of implementing to those partners who are “less willing” was presented (and discussed in the second half of the think tank). Finally, a commitment from leadership (e.g. policy-makers, funders, decisions-makers) was seen as critical to the scale-up process. No additional implementation models or specific strategies were suggested by the audience during the discussion

Measuring Scale-Up

The second half of the think tank turned to a discussion of measuring scale-up. There is a critical lack of data-driven strategies for the systematic measurement of variables that describe the implementation process (how it progresses, stalls, or fails). Think tank participants were presented with the challenge of contemplating and suggesting measures that are potentially universal (i.e. not intervention specific). Initial work on the development of measures on the implementation process was presented from a statewide implementation of Multidimensional Treatment Foster Care (MTFC.) where 40 non-early adopting counties are randomized to two implementation conditions. This is a mixed methods study that identified eight stages of implementation completion (SIC) as essential to the successful adoption, implementation, and sustainability of MTFC. The stages were operationalized and sequential: (1) engagement; (2) considering feasibility; (3) planning/readiness; (4) staff hired and trained; (5) fidelity monitoring process in place; (6) services and consultation begin (child/family); (7) fidelity, competence, & adherence; and (8) sustainability (certification).

However, the real world implementation demonstrated that the process was not linear as designed; rather, while some counties proceeded systematically through the stages others skipped stages (or parts of stages), some deferred participation, and some activities were discontinued during the process. This example set the stage for several discussion questions: What are strategies for measuring scale-up? What are the key scale-up elements and processes that should be assessed? What methods of assessment would most efficiently capture scale-up processes and milestones? And, what are common scale-up metrics across implementation approaches?

Measurement Barriers and Strategies

A primary concern that emerged during this second half discussion was the issue of “time” it takes to implement and the importance of collecting time to event data. Discussion was focused on “non-early-adopters,” and how best to study them so as to “get them on board” for implementation. The group had mixed responses as to whether focusing on the “coalition of the willing” and also the “non-adopters” would provide better insight into the “fence-sitters” (i.e. participants who are stalling, or are otherwise convinced of participation) or whether the research conducted with those very populations would be most representative of what happens in implementation (i.e. stalling, extra time and cost, eventually on board). The presenters suggest that there actually seem to be several different trajectories for time it takes for implementation partners to fully implement; but, that the “fence-sitters” appear to use social networks to aid in implementation decision, as opposed to the early adopters (immediate ‘yes’) and the non-adopters (immediate ‘no’).

Discussion then turned to how to effectively use mixed-methods research to examine large-scale implementation. Concerns focused on the viability of the quantitative data (e.g. small sample sizes,

missing data) and on how ethnographic data can complement the quantitative data to understand the implementation process. It was further suggested that with large-scale demonstration projects, a struggle with qualitative data is how it may be best used to make decisions to inform implementation and to determine the target audience. Also, for assessment, the group generally agreed that capitalizing on existing relationships and including community partners will improve ability to appraise the implementation process. Overall, the second half of the think tank resulted in a discussion more focused on questions of implementation outcomes (e.g. sustainability, community resources) and (again) fidelity than on how to measure/assess those outcomes.

Overview and Remaining Questions

General reflections on the think tank suggest that the topic of “scale-up” is a developing issue and additional research is needed in the area. When pushed, the audience was rarely forthcoming with independent scale-up experiences or suggestions for effective models for large-scale implementation (though engagement in the models presented was high). Based on this, researchers should engage creative thinking and testing of models that incorporate strategies suggested to address barriers, as well as creative ways in which to assess the implementation process and success. Several questions remain for future discussion and collaboration: What features of implementation models are essential to scale-up (universalized)? How to capitalize on collaborative/interactive process throughout scale-up? To what extent can technical assistance and fidelity monitoring be conducted via technology, thereby reducing cost and extending reach? What about sustainability (i.e. is this the most important implementation outcome)? What are common scale-up metrics across implementation approaches?