

What's Behind a Successful CTSA Outcome? Use of the Success Case Study Method (SCM) to Explore Factors Leading To More Clinical and Translational Scientists

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INTRODUCTION

The SCM proposed by Brinkerhoff (2002) may be one of several best for CTSA evaluators to understand what it is about CTSA services that help to create a successful Clinical and Translational Scientist (CTS). SCM is similar to other evaluation methods in that it uses surveys, interviews and other familiar tools. **It is unique in that its purpose is to help stakeholders understand what worked, what did not, what important results have been achieved and what can be done to improve program delivery and outcomes**, but does not claim to be a comprehensive evaluation. We use examples from our evaluation reports on KL2 awardees.

FOCUSING AND PLANNING THE SCM

Several Success Case Studies (SCS) are planned and in progress. A few...

- How do **KL2s** become successful CTSS?
- Of the CCTS users with the **most publications and the most awarded NIH grants** that they attribute to CCTS, how does CCTS facilitate this success?
- *Planning participants:* Evaluation Team, CCTS Leadership and Core Directors.

CREATING AN IMPACT MODEL

- Defines what success should look like.
- The logic model for the KL2s fits this criterion (*see below*).
- Edited as needed based on findings.

SURVEYING FOR BEST AND WORST CASES

Inclusion and exclusion criteria

- Determined by:
 - Evaluation question
 - Successful cases (SC): based on outcome criteria of the programs.
 - Unsuccessful cases (UC): participated in CCTS services, but did not result in desired outcomes. Approached as all cases are by saying we want to talk to them about their experience with CCTS.
 - Sample size
- Ex: "Of the **CCTS users who use the most services**, how did their research programs become more CTS focused?"
 - *Inclusion:* Top 20 CCTS users who have used the most services.
 - *Exclusion:* Seminar attendance is not included in the service count.
- Ex: "How do **KL2s** become successful CTS?"
 - *Inclusion:* KL2s – All of the 8 KL2s 2008-2011 were invited to be interviewed, due to the small sample size.
- Brinkerhoff recommends creating surveys to find relevant cases
- The existing CCTS User data base is queried to identify cases, so additional surveys unnecessary

INTERVIEWING & DOCUMENTING SUCCESS CASES

Interviews: Brinkerhoff's Main Questions to Address

1. What's really happening?
2. What results, if any is the program helping to produce?
3. What is the monetary value of the results? (Our leadership did not request information about this, however, will be important in next reapplication cycle.)
4. How can the initiative be improved?

Interviews: Application of these questions to CCTS KL2 programs. See Figure 1.

- *Scholar Feedback Excerpts:* Semi-structured interviews were conducted with 4 of the 8 scholars who participated in 2007 through early 2012. Documents from 2 other scholars that included information pertinent to the interview questions were included in the analysis.

Interview Analyses

- Triangulation of data sources and methods
 - Participant observation, semi-structured interviews document review, CCTS user data base
- Cross case analysis to highlight key findings using Atlas.ti software

Documenting Cases: Brinkerhoff's Impact Profile

- Documenting Case Impact Profile Example:
 - Impact at a Glance (a brief summary of the overall impact and immediate outcomes). See Figure 2.
 - Impact Story: Background and setting. See Figure 3.
 - Impact Story: Immediate outcomes. See Figure 2. Look for "Outputs"
 - Impact Story: Organizational impact. See Figure 2. Find "Short term outcomes, Long term outcomes and responses to Evaluation Questions"
 - Impact Story: What helped and what did not. See Figure 4.

COMMUNICATING FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Brinkerhoff says that Impact Profiles are often adequate in themselves as reports. In most cases, we found this to be true. Here is an exception where we added recommendations to the core and KL2 program directors based on the interviews. See Figure 5.

KL2 SUCCESS CASE CONCLUSION

Factors leading to increased CTS grant submission and funding of CCTS KL2 users

In addition to the funding, mentors, and protected time, which scholars found essential, they also noted **the opportunity to create pilot data** to include in their grant applications was linked to success.

Current KL2 scholars noted that taking the **grant writing course, while they wrote their grant applications was very helpful**. They have resubmitted their applications but the outcomes are not known at this time.

LESSONS LEARNED

We found that incorporating the SCM with cross-case study analysis methods of Yin (2008) and Stake (1995) added to our overall understanding of program success.

REFERENCES

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Yin, Robert K. *Case Study Research: Design and Methods*. 4th ed. Sage Publications, Inc, 2008.

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FIGURES

Figure 1. KL2 Selected Questions from the Interview Guide for Program Participants

1. What are your career goals? How will the program help you get there?
2. In what ways is the program meeting your goals/needs? (Probe beyond financial support, mentoring)
2. In what ways is the program meeting your goals/needs? (Probe beyond financial support, mentoring)
4. In what ways is the program not meeting your goals/needs?
5. How are you using the training in your work? (Probe: If not, why? Plans to use?)
6. What challenges do you face in balancing your time with the program?
7. What else would make the program more useful?
8. Is there anything else that would be important for me to know?

Figure 2. Documenting Case Example: Impact at a Glance

Logic Model: REACH
Activity: Develop/Implement a KL2 post-doctoral program with a Clinical and Translational emphasis.

Outputs: # scholars admitted/graduated, Amount of protected time for scholars, Resources available to post docs, Student/faculty feedback/evaluation

scholars admitted = 10 Are you reaching the audience you intended to reach? Yes
scholars completed = 7 Attrition: None
Supplemental Professional Development Award Scholars admitted = 3, no graduates
Scholars supported by programs: Currently - Full support=3, Partial support=3
Amount of protected time for scholars: 75%
Resources available to post docs: Partial salary, protected time for research, experienced mentors, and free to substantially reduced CCTS resources as needed.

Short Term Outcomes: Established mentored post-doctoral (KL2) training program: Evidence indicates that this is strongly established and continues to be developed.

Long Term Outcomes: Increased # of successful CTS researchers:

Promotion and tenure: At least two scholars were promoted to associate professor with tenure, crediting CCTS with this success.

Submitted grants: 14 grants were submitted by 7 scholars. Grants awarded: 9 grants were funded to 6 people.

Evaluation Question(s):

How many KL2 scholars have been involved in other REACH programs (pipeline)? 3
What are K awardee's perceptions about the program? They are very happy with what they have learned, the progress they have made and mentoring they have received.

How has it influenced their consideration of a career in clinical and translational science? The scholars were already committed to a research a career in clinical and translational science.

Figure 3: Impact Story: Background and Setting

Program Description: This mentored post-doctoral (KL2) consists of...

Program Director: Phillip Marucha...

Target group: Fellows and junior faculty planning... As of July 2012, the KL2 Training program has admitted ten scholars and seven have completed the program... (See Table).
Reach: Are you reaching the people you intended to reach? All meet the eligibility criteria.
Attrition: None dropped out. Two left the program because of subsequent research awards.

Figure 4: Impact Story: What Helped and What Did Not

In What Ways Is The Program Meeting Your Goals? All the KL2s interviewed were very happy with the program and grateful for its support. Some specific examples include:

- **The opportunity to create pilot data** for use in their independent K applications.
- **Finding out about resources in the School of Public Health.**

In What Ways Is the Program NOT Meeting Your Goals? Some recommendations were made, but all with the caveat that they were very happy with the program.

- **Lack of familiarity with CCTS services.** Scholars frequently reported initial reluctance to use CCTS services because they were unclear on Center offerings and were unsure if they needed help. As a result, research steps such as preparing IRB applications took much longer than necessary. They recommended that as soon as the awardees are notified of their acceptance, guide them to set up meetings with each of the cores to review their research plan and discuss how the cores can assist them. Currently they have been told: "Okay, you have these services offered to you. You can go out and use them if you want."

- **Course recommendation process was not very useful.**

- *Scholars are told to take courses to fill any gaps, but not systematically assessed and recommended courses to address CTS competencies.* This process assumes that the scholars, who are inexperienced researchers, will know what minimum courses they need to take to become fully trained in research.
- *Exception: Grant writing course taught by Marian Fitzgibbon. Dr. Fitzgibbon is Professor of Medicine... They were very pleased with the... And liked the extensive feedback they received to make the grant successfully ready for submission.*

Figure 5: Impact Story: Conclusions/Recommendations

❖ **Develop standardized procedures for the review process.** These should have explicit review criteria so that there is less bias in scholar selection.

❖ **Consider using an independent review committee.** Again, this might reduce relationship bias in reviewing the candidates. Some other CTSA's ask other CTSA's to review their candidates.

❖ **Implement the approved mentoring evaluation form for TL1s and KL2s to evaluate the mentoring relationships.** The instructions to this form states "that may be useful in initially discussing expectations with your mentor/mentee, as well as when evaluating the quality of the mentor/mentee relationship". However, it is not required as a systematic evaluation tool, as it was intended.

Logic Model for Research Education and Careers in Health Core: KL2 Program

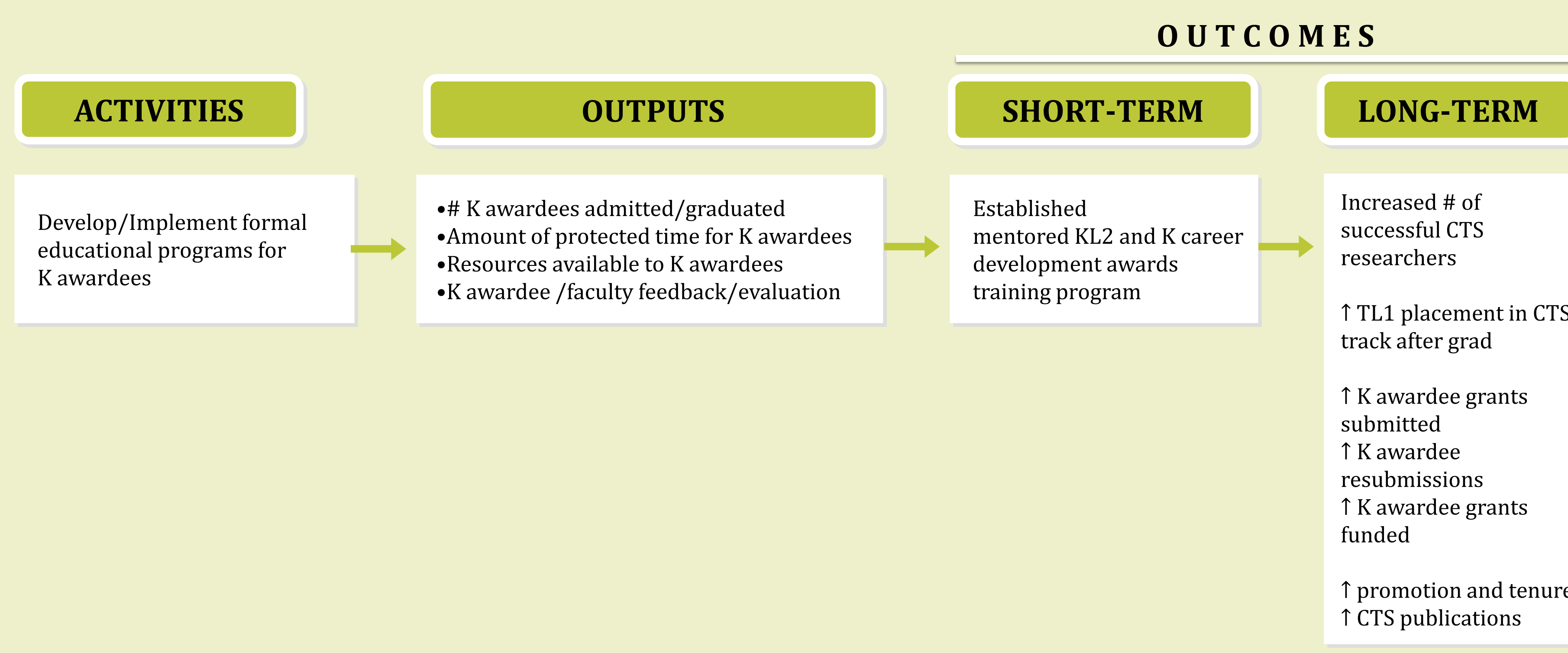


Table: K Scholars by award type, years, college/department and grant submission outcomes (Selected cases only)

Name	CCTS Award	Award Years	College/Department	Status of Grant Applications Submitted
Shane Phillips	KL2 pre-CCTS	2007-09	CAHS/Physical Therapy	K23 and R01 awarded
Sharmilee Nyenhuis	Past KL2	2010-12	COM/Pulmonary, Critical Care, Sleep and Allergy	K23 resubmitting October 2012
Claudia Lora	KL2	2010-12	COM/Nephrology	K23 awarded
Ankit Desai	KL2	2012-14	COM/Cardiology	-
David Gavin	Prof Dev Award	2012-14	COM/Psychiatry - CS	Awarded (begin 10-12) VA Career Development NARSAD* Young Investigator

Data Source: REACH program data

¹ NARSAD is an acronym for National Alliance for Research on Schizophrenia and Depression, the former name of the Brain & Behavior Research Foundation