Determinants of researcher involvement in translational activities: The case of UIC

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INTRODUCTION

As part of the multiyear evaluation of the Center for Clinical and Translation Sciences (CCTS) at the University of Illinois at Chicago (UIC), we are interested in how to measure translational research and assess the impact of CCTS services on translational research and activities at UIC. In this first year of the study, we are using baseline survey data to address the following evaluation questions:

1. What translational activities are undertaken by individuals at UIC?
2. Are the translational activities undertaken by CCTS users and nonusers different?
3. What is the profile of individuals who conduct translational activities?
4. To what extent do individuals who conduct translational research also conduct translational activities, broadly defined?
5. What factors determine whether individuals conduct translational activities?

We use the following NIH definition of translational research: *Translational research includes two areas of translation. One is the process of applying discoveries generated during research in the laboratory, and in preclinical studies, to the development of trials and studies in humans. The second area of translation concerns research aimed at enhancing the adoption of best practices in the community.*

METHOD

Data come from a survey of users and nonusers of services available through the CCTS at UIC. Users were defined as persons who received services from one or more of the CCTS cores between January 2007 and August 2010. A random sample of UIC and affiliated faculty who were identified as nonusers of CCTS services also were included in the survey. Survey details include the following:

- The final sample consisted of 1,428 persons (929 users and 499 nonusers).
- The Web-based survey was launched on October 4, 2010, and will close on December 15, 2010. Results presented here include all respondents completing the questionnaire as of November 11, 2010.
- The average time required to complete the survey questionnaire was 21.3 minutes.

TRANSLATIONAL ACTIVITIES UNDERTAKEN BY ALL SURVEY RESPONDENTS

The annual survey asked respondents to indicate if they participate in nine different activities that translate science and research to communities of practice. Table 1 outlines the frequency with which respondents report engaging in each of the translational activities.

- The most common activity among respondents is presenting to a nonscientific audience (37%), followed by serving on a committee to develop guidelines or policy recommendations (25%).
- The least common activities are teaching a course for policy makers or professionals (12%), serving as an editor for (bio)medical or health research journals that target professionals and practitioners (12%), and developing clinical guidelines (12%).

These findings provide baseline data against which data collected in subsequent years can be compared.

Table 1 . Frequency of Translational Activities

	Yes	Mean	Std. Dev	n
Developed clinical guidelines	12%	1.88	0.327	256
Contributed to a policy report	16%	1.84	0.364	256
Published in a journal that is directed to policy makers or practitioners	22%	1.78	0.414	256
Contributed to a media report	23%	1.77	0.422	256
Presented to a non-scientific audience	37%	1.63	0.483	257
Taught a course for policy makers or professionals	12%	1.88	0.323	255
Served on a committee that is developing guidelines or policy recommendations	25%	1.75	0.436	256
Served on a review committee that awards funding for clinical or translational (bio)medical and health research	15%	1.85	0.356	256
Served as an editor for (bio)medical or health research journals that target professionals and practitioners	12%	1.88	0.323	255

COMPARING CCTS USERS & NONUSERS

The survey asked respondents to indicate whether they had used CCTS services or not. Approximately 48% indicated they had used one of the many CCTS services during the past year. Presenting to a nonscientific audience is the most common translational activity among both users and nonusers. Overall, the pattern of translational activity among CCTS users and nonusers appears to be similar.

A crosstabulation comparing translational activities between and across users and nonusers shows that there are some statistically significant differences (see Table 2).

Table 2 . Crosstabulation . Translational Activities among CCTS Users & Non users

	Non user	CCTS User	Exact Sig. (1-sided)	Pearson Chi [2]
Developed clinical guidelines	6%	16%	0.014	5.672
Contributed to a policy report	14%	19%	0.218	0.920
Published in journal directed to policy makers or practitioners	18%	28%	0.048	3.332
Contributed to a media report	19%	29%	0.069	2.681
Presented to a non scientific audience	33%	42%	0.105	1.942
Taught a course for policy makers or professionals	8%	15%	0.089	2.425
Served on a committee that is developing guidelines or policy recommendations	20%	34%	0.014	5.444
Served on a review committee that awards funding for clinical or translational (bio)med & health research	14%	18%	0.273	0.618
Served as an editor for (bio)med / health research journals that target professionals & practitioners	10%	15%	0.139	1.661

- CCTS users are significantly more likely than nonusers to report developing clinical guidelines (Exact Sig. (1-sided) .014).
- CCTS users are significantly more likely than nonusers to report publishing in a journal that is directed to policy makers or practitioners and to report serving on a committee that is developing guidelines or policy recommendations.

In future years, we will be able to examine how use of CCTS services predicts translational outcomes. In this baseline year, these associations are unlikely to demonstrate translational outcomes.

WHO CONDUCTS TRANSLATIONAL ACTIVITIES?

Among all respondents (both CCTS users and nonsers), 35.6% reported having engaged in at least one translational activity in the previous year. To understand who conducts translational activities we examined the variation in translational activities by gender, job type (tenure track, clinical track), research type, age, and productivity. We find no significant differences in translational activities by gender, but do find that age (ANOVA F = 18.215; sig 0.000) and productivity (ANOVA F = 6.973; sig 0.009) are significantly positively related to doing translational activities.

Among the 163 individuals who indicated having conducted one or more translational activities in the previous year:

- One third are made up of tenured or tenure-track faculty; 16% are clinical-track faculty (see Figure 2). A crosstabulation shows that tenure-track (Pearson Chi2 Asymp. Sig. (2-sided) = 0.003) and clinical-track faculty (Pearson Chi² Asymp. Sig. (2-sided)=0.007) are significantly more likely to have conducted translational activity in the past year, as compared to non-tenure track and non-clinical track faculty, respectively.
- Just over half report that their work involves translational science and research (this difference is statistically significant: Pearson Chi² Asymp. Sig. (2-sided)=0.066). This finding may indicate a gap between how UIC faculty and researchers understand "translational science and research" and how it is measured in this evaluation.

Figure 1. Job type among those who engaged in translational activity in the previous year

Figure 2. Translational activities among researchers whose work involves translational science & research

TRANSLATIONAL ACTIVITIES UNDERTAKEN BY TRANSLATIONAL RESEARCHERS

This analysis further explores the relationship between self-reported translational activities and a self-reported indicator for conducting translational science and research. Figure 2 shows:

- The most common translational activity among those who conduct translational research is presenting to a nonscientific audience (40%), followed by serving on a committee that is developing guidelines or policy recommendations (31%) and contributing to a media report (30%).
- The least frequent translational activities identified by translational researchers are developing clinical guidelines and teaching a course for policy makers or professionals (both 14%).

Comparing translational activities conducted by self-identified translational researchers (Figure 2) with those conducted by all respondents (Table 1), we see similar overall patterns of activity; however, translational researchers report conducting translational activities at slightly higher rates. Over time, the relationship between translational research and translational activities may become stronger, depending upon how translational research is conceptualized, promoted, and rewarded at UIC.

KEY FINDINGS

- The most common translational activities conducted by survey respondents are "presentation to a nonscientific audience," "serving on a committee that is developing guidelines or policies," or "contributed to a media report."
- CCTS users are significantly more likely than nonusers to report developing clinical guidelines, publishing in a journal that is directed to policy makers or practitioners. and serving on a committee that is developing guidelines or policy recommendations.
- A little more than half of respondents who engage in a broad range of translational activities also conduct translational research. Working in translational research is significantly related to doing one or more types of translational activities.
- Four factors predict whether the respondent had conducted translational activity during the last year: health science research, practice-based research, tenure-track status, and clinical track status.

CONCLUSIONS & NEXT STEPS

- This analysis of the first-year data provides a baseline for understanding changes in translational activities undertaken by CCTS users in future years.
- The study also provides early indication of substantial variation between three general ways of understanding translational activity at UIC: provision and use of CCTS services, self-identification as conducting translational science and research, and self-reports of having conducted translational activities of a broad range. We expect that over time, the relationship between the three will merge as the norms of translational science are more generally understood at UIC.
- Additionally, it may be important to identify outcome measures that reliably reflect the multiple dimensions of translational activity that include both research and broader societal perspectives. For the near future, there are two general ways of thinking about the next steps of the evaluation and of this research in general:
  - Further analysis of the data will explore variation in the conceptualization of translation among individuals at UIC.
  - Further exploration of the literature on translation and identification of alternative measures used by other CTSA institutions.
- Finally, at this early stage of the project, there is a need for clear articulation of what translational research encompasses so as to begin building a shared understanding of the concept at UIC and elsewhere.

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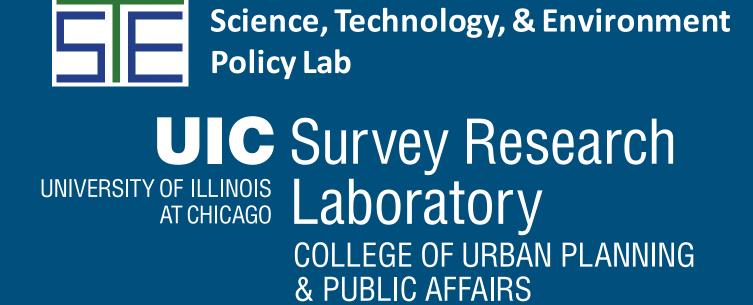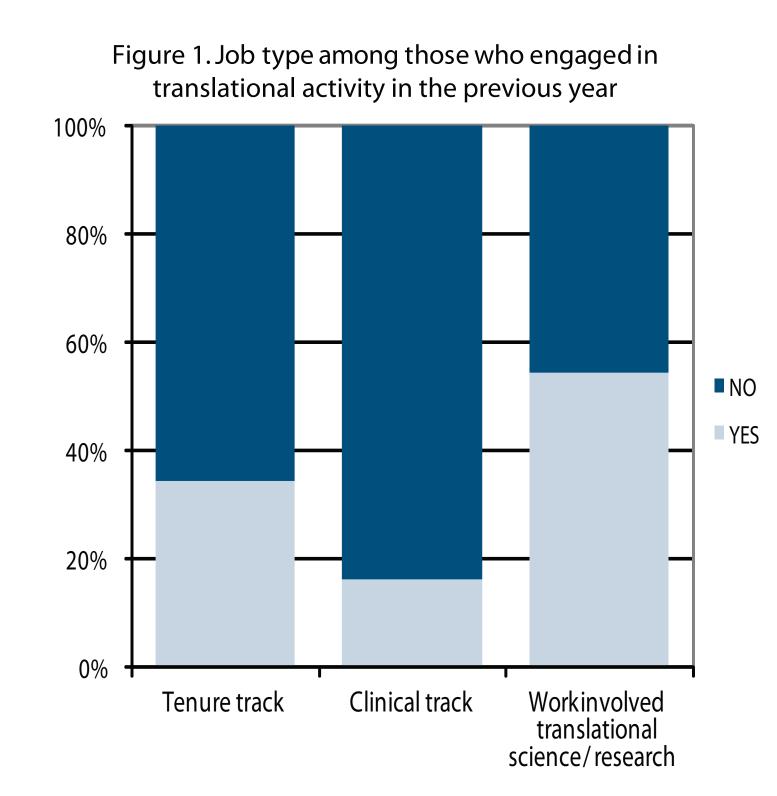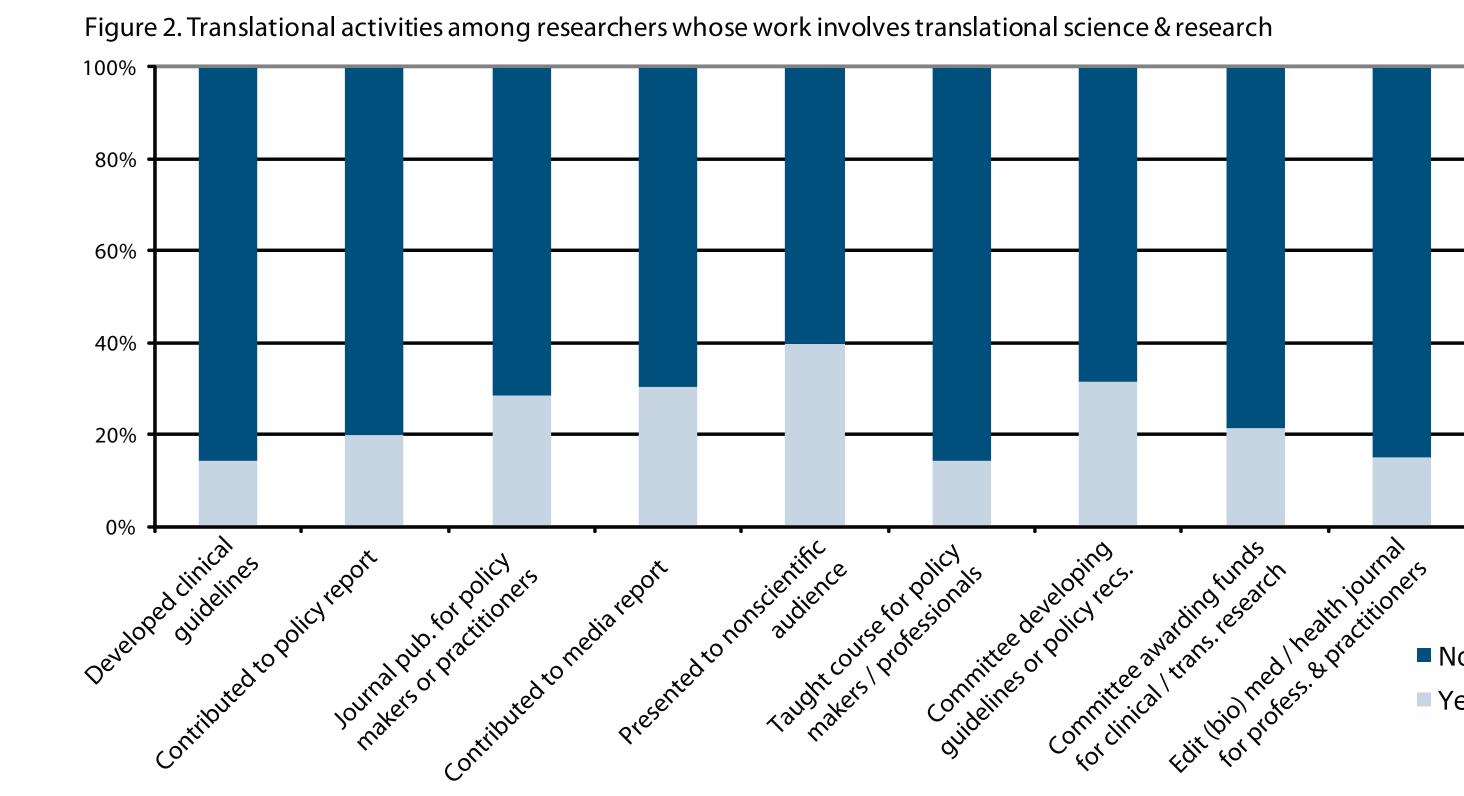[3] Senior Evaluation Specialist, CCTS Evaluation & Tracking Program, UIC; nbates@uic.edu
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