

NUTORC- Implementing a Transdisciplinary Scientific Collaboration to Advance Transplantation Outcomes Research



NORTHWESTERN UNIVERSITY

Northwestern University
Transplant Outcomes Research Collaborative
 Patient Safety • Quality of Life • Informed Consent & Disparities
 Access & Allocation • Risk Prediction & Economics • Health Informatics

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OBJECTIVE

The Northwestern University Transplant Outcomes Research Collaborative (NUTORC) was created in June 2008 to build upon the existing clinical strengths of a large multi-organ transplant program & the expertise across Northwestern University by implementing a collaborative initiative with focus on health services outcomes research in transplantation.

METHODS

Organizational Structure: Cooperative research workgroups were formed around identified key clinical questions related to all aspects of organ transplantation. Presently, NUTORC includes 7 workgroups with the following topical areas: patient safety, quality of life, informed consent & disparities, access & allocation, risk prediction & economics, & health informatics.



Collaboration: In 28 months, NUTORC successfully developed multi-departmental collaborations, engaging over 40 faculty, 5 non-physician transplant clinical staff, & 8 research support staff members.

- Transplant clinicians pose relevant, hard-to-answer research questions
- Experienced health services & outcomes researchers help frame these questions
- Experts in various fields apply state-of-the art research methodologies to answer them
- Together, they collaboratively develop & execute a research plan

Partners include the Feinberg School of Medicine (clinicians from transplant-related disciplines, bioinformatics, & social scientists), the McCormick School of Engineering (professors engaged in cutting edge modeling & optimization techniques) the Kellogg School of Management (faculty investigating operations management & queuing systems) & the Heller School of Policy at Brandeis University (health policy experts)

PRINCIPAL FINDINGS

NUTORC embodies each of the key attributes of a transdisciplinary scientific team:¹

Key Attributes	Transdisciplinary Scientific Teams & Centers	NUTORC
Major Goals	Production of innovative intellectual products such as new theories, empirical findings, & training programs.	Explicit goal of creating an intersection of knowledge between otherwise seemingly unrelated disciplines to achieve high impact innovation
Circumstances that facilitate collaboration	Members strong commitment to achieving transdisciplinary goals & outcomes	Faculty members have been recruited for cross disciplinary positions with the purpose of conducting transdisciplinary research
	Interpersonal skills of team leaders	NUTORC founders, Drs. Abecassis, Holl, & Cella are leaders in their departments, at Northwestern University & nationally recognized experts. Additionally, Director Dr. Ladner was recruited to Northwestern based on her unique combination of surgical, research & interpersonal skills
	History of prior collaboration among team members	Over half of NUTORC members had experience working together on projects, grants, and/or publications
	Spatial proximity of team members offices & laboratories	Surgical staff offices are typically in the Division of Transplantation. However, NUTORC Director, Dr. Ladner, a transplant surgeon, holds an office in the Institute for Healthcare Studies where the majority of NUTORC non-clinical faculty are based to ensure there is a bridge between these groups
	Schedule frequent face-to-face meetings for brain-storming of ideas	All NUTORC workgroup leaders meet weekly for presentations from NUTORC members, outside guests, & potential new collaborators to advise each other & continually foster new ideas
	Establish electronic linkages among participants	The NUTORC website, www.nutorc.org , has a password protected <i>Member Section</i> containing meeting notes, NUTORC tools & templates, & works in progress
	Foster institutional supports for transdisciplinary collaboration	NUTORC faculty has received intermural funding from Northwestern University. The Feinberg School of Medicine has been extremely supportive both organizationally & financially

RESULTS

Funding: NUTORC has received over \$7 million through 6 intramural (4 under review), 2 foundation/pharmaceutical (5 under review), & 4 federal NIH/NSF grants (5 under review)

Research Dissemination: 87 oral & poster presentations at national conferences, & 26 published manuscripts

CONCLUSIONS

The NUTORC transdisciplinary scientific team leverages multi-disciplinary expertise to address outcomes significant to advancing research and answering essential questions in organ transplantation research.

NUTORC embodies the goals expressed by the National Institutes for Health² in their:

- Funding opportunities for Collaborative Interdisciplinary Team Science
- The Multiple Principal Investigator Model
- The aim to move beyond subcontracts to separate but corresponding linked awards

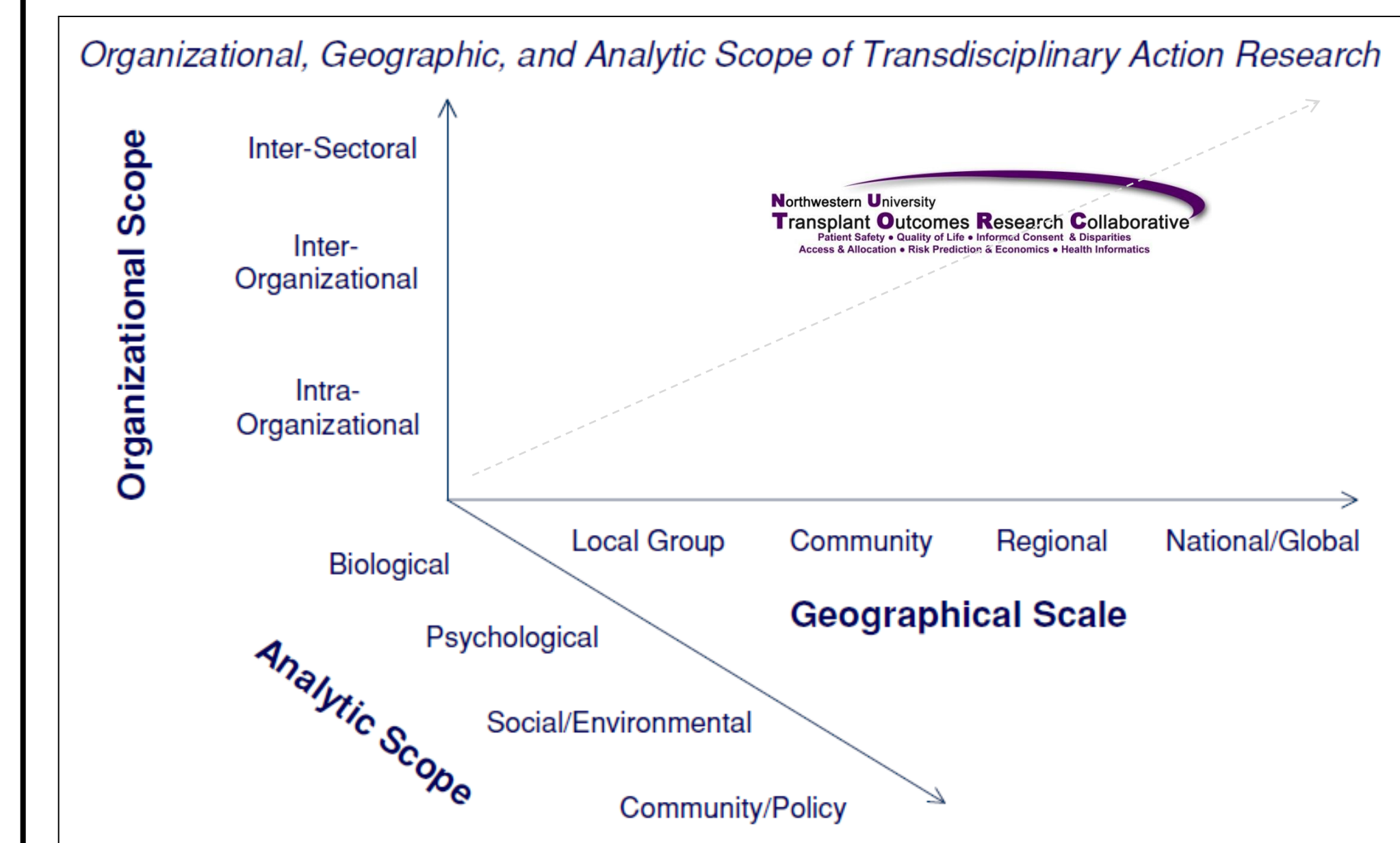


Figure reproduced from "Toward a Science of Transdisciplinary Action Research"¹

NUTORC's continued trajectory will include:

- Further in depth investigations of key transplant issues at the national & global level
- The translation of empirical research to improvements in the delivery of care
- Providing guidance on adjustments to clinical policies, & evaluation of the impact of revised policies on societal & clinical outcomes

REFERENCES

- 1) Stokols, D. (2006). "Toward a Science of Transdisciplinary Action Research." *American Journal of Community Psychology* 38(1): 63-77
- 2) "Multiple Principal Investigators." (Updated 2009) Retrieved 3/15/11 from http://grants.nih.gov/grants/multi_pi/index.htm.

For more information about the **Northwestern University Transplantation Outcomes Research Collaborative (NUTORC)** please visit www.nutorc.org

Disclosure: The authors have no financial relationships to disclose within the past 12 months relevant to this research.