

An Application of the Payback Framework to Evaluate the Outcomes of Pilot Projects Supported by the Georgia Clinical and Translational Science Alliance from 2007-2014: Preliminary Results

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BACKGROUND

- The Georgia Clinical and Translational Science Alliance (Georgia CTSA) aims to accelerate clinical and translational education, research, and community engagement to impact health in Georgia and beyond.
- The Pilot Translational and Clinical Studies Program is a catalyst within the Georgia CTSA that invests in new clinical and translational research paradigms to encourage faculty, especially early career investigators, to develop cutting-edge science.
- The program has been in existence since 2007 but the breadth and diversity of outcomes from this investment has not been studied.
- There were nearly 200 pilot projects funded by the Georgia CTSA from 2007-2014, 10 of which were sampled for the current study.

METHODS

- Used a case study approach and structured evaluation framework, the payback framework, to document the outcomes of 10 pilot projects.
- The case study approach included document review (e.g., investigator CVs, project reports), investigator interviews, and bibliometric analyses of publications associated with the pilot projects
- The Payback Framework included the following domains for outcome assessment: 1) knowledge production, 2) research targeting, capacity building, 3) Informing policy and product development, 4) health benefits, and 5) broader economic benefits.
- Pilot Projects (i.e., cases) were selected based on several factors including timeframe, amount of funding, type of researcher, multi-institutional collaboration, and T level. There were 183 pilot projects in our sampling frame.

RESULTS

| Pilot Project Award Characteristics | | Number of Sample Investigators (N=10) | Overall (N=183) |
|-------------------------------------|-----------------------------|--|--------------------|
| Year of Pilot Project Award | 2007-2009 | 3 | 56 |
| | 2010-2012 | 2 | 55 |
| | 2013-2014 | 5 | 60 |
| Amount of Pilot Project Award | \$25,000 | 2 | 11 |
| | \$30,000 | 5 | 73 |
| | \$50,000 | 1 | 28 |
| | \$70,000 | 1 | 7 |
| | \$100,000+ | 1 | 21 |
| Type of Pilot Project Researcher | Assistant Professor | 4 | 84 |
| | Associate Professor | 4 | 53 |
| | Professor | 1 | 36 |
| | Instructor | 1 | 6 |
| Multi-Institutional Project (Yes) | | 5 | 60 |
| Pilot Project Research T-level | T1-Basic Science | 7 | 130 |
| | T2-Clinical Research | 0 | 35 |
| | T3-Translation to Practice | 3 | 14 |
| | T4-Translation to Community | 0 | 4 |

RESULTS

| Payback Domains | Pilot Project Outcomes |
|---|--|
| Knowledge production | 42 publications with a total of 637 citations Published in 30 different journals 16 scientific presentations by pilot project investigators |
| Research training and capacity building | 4 investigators were promoted in their faculty positions Approximately 30 graduate students and fellows mentored by pilot project investigators |
| Informing policy and product development | Most studies are still on the way to translation and adoption 1 case indicated that they are working with over 40 medical centers globally |
| Health and health sector benefits | -Improve stroke survivor physical function while reducing caregiver negative outcomes -Improved outcomes in heart failure and diabetes -Examined community-associated methicillin resistant Staphylococcus aureus (CA-MRSA) carriage and infections and determine risk factors associated specifically with MRSA USA300 -Staphylococcus aureus colonization rates in pediatric health care workers from different types of outpatient settings were determined -Demonstrated diabetic neuropathy could be reversed by local transplantation of Endothelial progenitor cells -Improved and novel systems that can be valuable for cell therapy (e.g., for cardiovascular diseases, diabetes), regenerative medicine, and drug discovery including opening a new era of nonhuman primate modeling of human diseases -Developed innovations in medical imaging -Developed advances in limb replacement strategies -Comprehensive delineation of genetic, functional and phenotypic aspects of GRIN2B encephalopathy |
| Broader Economic Benefits | Unquantified costs savings due to reduced patient and disease burden; additional savings due to improved healthcare procedures |
| Number of grants | 19 |
| Median additional funding amount | \$1,608,579.00 |
| Mean Category Normalized Citation Impact (CNCI) Score | 1.74 (expected citation rate; over 1 is considered above average) |
| Mean Relative Citation Ratio (RCR) Score | 1.38 (scientific influence of one or more articles relative to the average NIH-funded paper) |

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CONCLUSIONS

- This study informs our understanding of the outcomes resulting from Georgia CTSA-supported pilot project research, and the value pilot projects provide to clinical and translational science and the broader community
- Future analyses will be completed to assess relationships between the characteristics of the pilot project awards and their effectiveness.
- This study aids in characterizing the returns resulting from this research funding and identifies its strengths and weaknesses. Additional qualitative data analyses will be completed to assess investigator feedback on strengths and areas of improvement.
- This study also demonstrates the effectiveness of using a case study approach and payback framework to evaluate pilot project outcomes.

