Environmental Health Sciences Translational Research Framework

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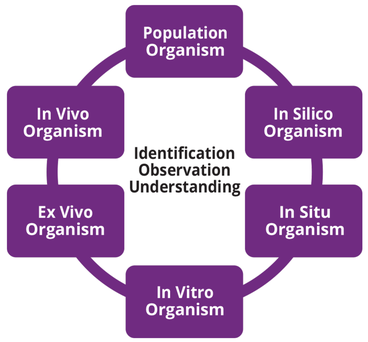
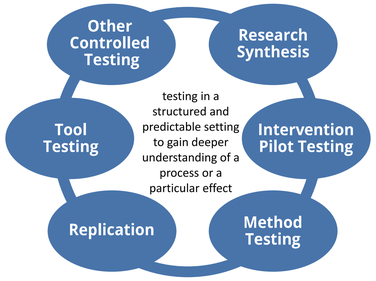
Translational Research Framework: Rings and Nodes

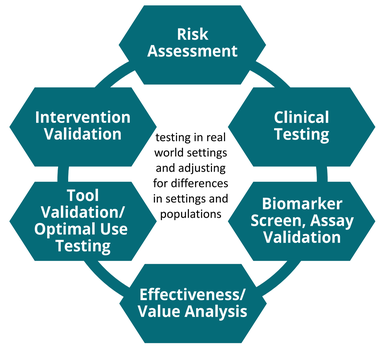
Fundamental Questions



Application & Synthesis

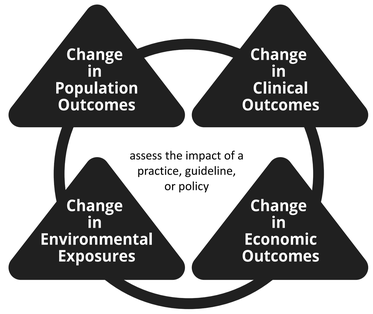


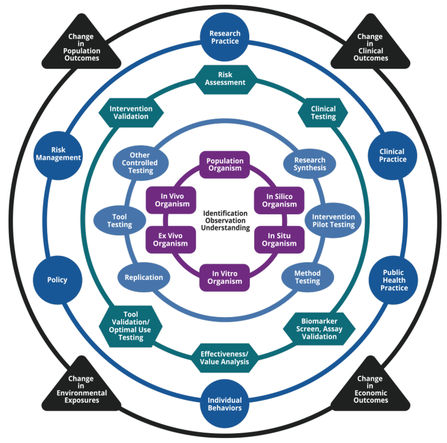
Implementation & Adjustment



Practice

Impact





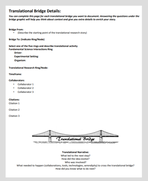
The NIEHS Translational Research Framework Enables Us To:

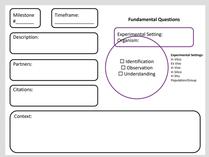
- Categorize research into rings and nodes
- Count translational bridges between nodes and across rings
- Capture a full translational narrative over many years
- Identify research gaps
- Communicate a concrete concept of translational research
- Actively manage bridging science
- Provide a path for researchers to see where research might go

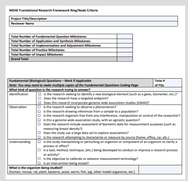
Translational Research Resources

- Downloadable graphics for you to edit
- Checklist to assess category criteria
- Case study writing protocol
- Sample translational research stories
- Articles related to translational research
- Translational story template

All resources available at www.niehs.nih.gov/translation



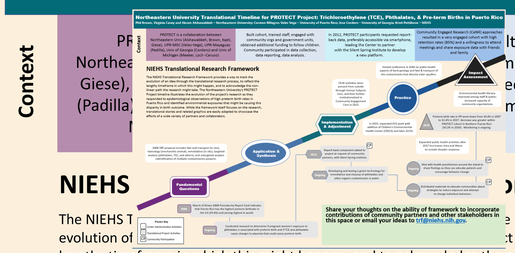




Translational Research Case Study with Community Involvement

Northeastern University Translational Timeline for PROTECT Project: Trichloroethylene (TCE), Phthalates, & Pre-term Births in Puerto Rico

Phil Brown, Virginia Casey and Akram Alshawabkeh – Northeastern University; Carmen Milagros Velez Vega – University of Puerto Rico; Jose Cordero – University of Georgia; Kristi Pettibone – NIEHS



The NIEHS T… evolution of … the lengthy timeframe in which this might happen, and to acknowledge the non-linear path the research might take. The Northeastern University's PROTECT Project timeline illustrates the evolution of the project's research as they responded to epidemiological observations of high preterm birth rates in Puerto Rico and identified environmental exposures that might be causing this disparity in birth outcome. While the framework itself focuses on the research, translational stories and related graphics are easily adapted to showcase the efforts of a wide variety of partners and collaborators.

Context

PR… Northea… Giese), … (Padilla) …

…lt cohort, trained staff, engaged with …mmunity orgs and government units, …ed additional funding to follow children. …munity participated in data collection, data reporting, data analysis.

In 2012, PROTECT participants requested report-back data, preferably accessible via smartphone, leading the Center to partner with the Silent Spring Institute to develop a new platform.

Community Engaged Research (CeNR) approaches resulted in a very engaged cohort with high retention rates (85%) and a willingness to attend meetings and share exposure data with friends and family.

NIEHS …**ork**

Share your thoughts on the ability of framework to incorporate contributions of community partners and other stakeholders in this space or email your ideas to trf@niehs.nih.gov.

Impact Assessment

Hosted conference in 2016 on public health aspects of karst geology and fate & transport of the contaminants that directly enter aquifers.

CEnR activities were present from outside through Human Subjects Core, and then further institutionalized in Community Engagement Core in 2012

Practice

Environmental health literacy improved among staff & public; increased capacity of community organizations

Implementation & Adjustment

In 2015, expanded EHS work with addition of Children's Environmental Health Center (CRECE) and later, ECHO.

2018 — Preterm birth rate in PR went down from 19.4% in 2007 to 11.4% in 2017- decrease was greater within PROTECT cohort in Northern Puerto Rico (10.2% in 2019). Monitoring is ongoing.

Expanded public health activities after 2017 hurricanes Irma and Maria to include disaster response.

Application & Synthesis

2008 SRP proposal includes fate and transport (in situ), toxicology (mechanistic animal), remediation (in situ), targeted analysis (phthalates, TCE, and others), and untargeted analysis (identification of multiple contaminants) projects.

2012 — Report-back component added to project at request of community partners, with Silent Spring Institute. CP

Ongoing — Developing and testing a green technology for remediation and cleanup of phthalates and other organic contaminants in water

Ongoing — Met with health practitioners around the island to share findings so they can educate patients and encourage behavior change. CP

Ongoing — Distributed materials to educate communities about strategies to reduce exposure and attempt to change individual behaviors. CP

Fundamental Questions

2008 — March of Dimes 2008 Prematurity Report Card indicates that Puerto Rico has the highest preterm birthrate in the US (19.4%) and among highest in world.

Ongoing — Conducted research to determine if pregnant women's exposure to phthalates is associated with preterm birth and if TCE and phthalates cause changes to placenta that could cause preterm birth.

Poster Key
- Center Administrative Activities
- Translational Project Activities
- CP Community Participation

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If you have comments, please email trf@niehs.nih.gov & visit www.niehs.nih.gov/trf for more information

Acknowledgements
- NIEHS, DERT Translational Research Framework Workgroup: David Balshaw, Caroline Dilworth, Christie Drew, Michelle Heacock, Alfonso Latoni, Kimberly McAllister, Liam O'Fallon, Kristi Pettibone, Claudia Thompson, Demia Wright
- The Environmental Health Sciences Core Centers and the Evaluation Advisory Subcommittee for the 2015 Core Centers Evaluation;
- NIEHS and NIH colleagues, grantees and members of the public who provided comments and suggestions on the framework