



## 2026 IMPACT CIRCLE

**Project Title:** Designing the First FDA Trial of a Gerotherapeutic Drug

**Investigators:** John Newman, MD, PhD, and Brianna Stubbs, PhD

**Unmet Need/Primary Question:**

The Buck Institute is determined to lead the first clinical trial that results in an FDA indication for a gerotherapeutic. How to design a successful FDA gerotherapeutic trial is still not obvious, despite more than a decade of thought and planning by experts around the world. Successfully achieving an FDA indication for a gerotherapeutic is the most important step to unlocking the potential of the geroscience field.

**Background:** Across the institute, we are steadily, deliberately, and creatively building the complex expertise and infrastructure that is needed to accomplish this groundbreaking advance. The creation of the Clinical Research Unit, the growth of complex data science, experience with distributed clinical trials and community partners, and, most recently, our leading role in the ARPA-H PROSPR program to develop sensitive surrogate outcomes and regulatory pathways for gerotherapeutic drug trials are all essential pieces. Gerotherapeutics likely already exist among widely prescribed medications, but there are no active plans we are aware of for launching the first FDA trial for a gerotherapeutic. This provides an opportunity for Buck to lead.

**Novel Hypothesis/Background:**

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**Project Proposal:**

We propose to use Impact Circle support to convene and lead a series of structured design workgroups, hosted by Buck, to design the first FDA trial of a gerotherapeutic. The workgroups would bring together a task force of world experts to systematically consider key aspects of study design and arrive at a moderated consensus backed by evidence. Representatives of the

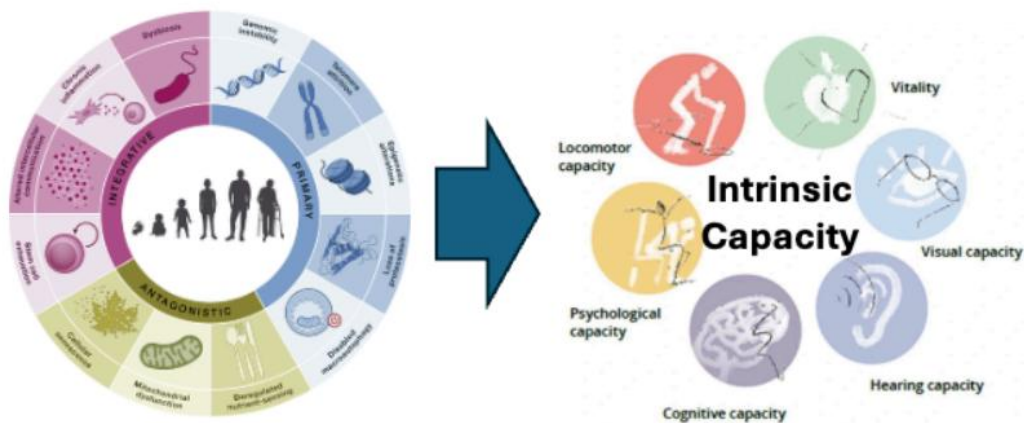
Impact Circle will be invited to participate. Dr. Newman has been deeply involved in gerotherapeutic trial design efforts since 2014, part of a national network of colleagues and experts in geroscience clinical trials. In 2024, he and Dr. Stubbs together began mining this network to develop innovative new ideas for gerotherapeutic trials - faster, leaner, and more efficient than TAME. Those efforts resulted in a well-developed proposal for Buck to lead a national consortium to run a decentralized gerotherapeutic trial under the ARPA-H PROSPR program. While Buck was instead selected for a different component of PROSPR, those efforts demonstrated our capability to lead. The first successful gerotherapeutic will likely target Intrinsic Capacity as its FDA indication - which we are leading development of via PROSPR. It must be cost-effective, ideally home-based and virtual - capabilities we are also developing now. It needs a clear regulatory pathway grounded in hard health outcomes, yet be preventative - we are developing a research network among senior living communities that could use time-in-independent-living as a feasible hard outcome. One drug may not fit all, so it may need to be adaptive or personalized - Buck is developing a variety of clocks and AI tools for optimizing and personalizing drug selection.

**Description of Potential Impact:**

The resulting consensus trial design will be shared widely, and carrying it out will become a flagship endeavor of the Buck Institute. Together this will cement Buck as the global thought leader in gerotherapeutics. The TAME design was remarkably influential despite never being run. The goal of developing this Buck protocol is to not only influence the next decade of gerotherapeutic study design, but to successfully deliver the first FDA-approved gerotherapeutic.

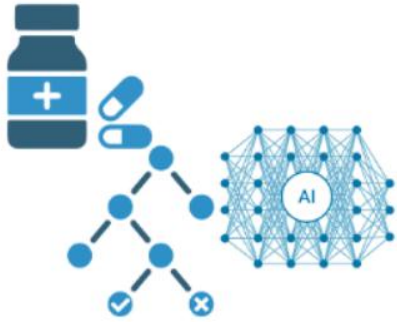
**Figure: Key innovations for new gerotherapeutic FDA trial designs to be discussed at structured design workgroups hosted by the Buck Institute**

**Gerotherapeutic Indication:**  
**Aging-related decline in Intrinsic Capacity (IC)**  
 Diagnostic code MG2A in ICD-11  
 Reimbursement CPT codes being developed





Scalable, home-based designs  
At-home assessments and biomarkers  
Remote trial support  
Online national recruitment



AI tools for personalization  
AI-optimized drug selection  
Repurposed low-cost drugs  
Senior Living Community partners  
Multiomic IC biomarkers