Leveraging the Clinical Translational Science Award Network to Advance Family Medicine Research

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Family medicine is uniquely positioned to lead translational research that improves the health of individuals and communities. The Clinical and Translational Science Awards (CTSA) and Clinical and Translational Research Awards (CTRA) programs offer rich infrastructure and funding to support this goal. Below are seven strategic opportunities for family medicine to expand its research capacity and impact.

1. **Community Engagement**

   Why it matters: CTSA/CTRA funding announcements acknowledge that translational research requires teams with a wide range of expertise and perspectives relevant to a given area, from researchers and clinicians, to patients, community members and other partners. They also include an explicit commitment to addressing conditions that disproportionately affect rural, minority and other populations under study. This can contribute to delivering the benefits of all.

   Opportunity: CTSA/CTRA programs require engagement of patients, community members, and clinicians throughout the research lifecycle. Family medicine's strong presence in rural and underserved areas makes it a natural partner for this work.

   Action:
   - Partner with CTSA/CTRA-supported community engagement cores.Involve patients and clinicians as research advisors and team members for your CTSA/CTRA.
   - Apply for funding from CTSA hubs to support translational science projects that examine inclusive recruitment and retention strategies.

2. **Strengthen Practice-Based Research Networks (PBRNs)**

   Why it matters: PBRNs are the bridge between academic research and real-world clinical practice. Primary care PBRNs generate valuable insights into treatment effectiveness, preventive measures, and health care policies in everyday clinical scenarios. This research can inform evidence-based decision making, enhance the quality of care, and tailor medical practices to the unique needs of their communities. Further, primary care PBRNs foster a culture of continuous learning among health care professionals, encouraging them to adapt and adopt the latest innovations, ultimately contributing to the overall well-being of patients and medical knowledge advancement.

Opportunity: CTSAs and CTRAs are increasingly requiring or expecting partnerships with PBRNs, enabling community clinics to participate in cutting-edge research. Over 100 family medicine-affiliated PBRNs already exist. Primary care PBRNs present opportunities for CTSAs and IDeA CTR Network programs alike. By leveraging PBRNs, CTSAs can enhance translational research efforts, facilitating the rapid translation of scientific discoveries into clinical practice.

Action:
- Collaborate with CTSA institutions to enhance your PBRN infrastructure.
- Align with CTSA-supported outreach strategies.
- Use PBRNs to identify and address local health priorities through research.

3. **Research Training and Workforce Development**

Why it matters: Without access to training programs and protected time to conduct research, clinician-researchers struggle to thrive and are missing out on key opportunities.

Opportunity: CTSA/CTRA-holding institutions offer advanced research funding, infrastructure, resources, and expertise. Family Medicine-based researchers with research skills ranging from modest to expert can immediately benefit from such resources. CTSA/CTRAs also offer training programs for all levels of medical professionals. Faculty within CTSA/CTRA-holding institutions have direct access to such training. For those without a CTSA/CTRA, it offers a model from which to develop key elements of structured, actively mentored research training.

Action:
- Identify fellowships or training programs for faculty, residents, and students.
    - Leverage CTSA/CTRA opportunities or platforms like DIAMOND, or the National Research Mentoring Network (NRMN) for accessible, curated research training.
    - Fellowships can leverage training to improve research capabilities, covering areas such as study design, data analysis, research methodology, regulatory compliance and research ethics.
- Create protected time structures to emulate CTSA programs.
    - A faculty member who does a modest amount of clinical work (20 to 40% FTE), especially if hired at a clinical instructor level, can pay for, or substantially offset, the cost of research/career development protected time (60 to 80% FTE).

4. **Research Services and Pilot Funding**

Why it matters: Many family medicine departments lack the infrastructure and financial means to conduct independent research.

Opportunity: CTSA/CTRA programs offer services to assist at many stages of the research conduct process, ranging from consultation on design, implementation of community-engaged and clinical trial studies, analysis, and dissemination. Services may be free or purchased depending on each hub's institutional arrangements. Often these are available on a fee-for-service basis to those outside a specific institution.

Action:

- Build partnerships with CTSA service cores (e.g., informatics, IRB navigation, recruitment).
- Help faculty apply for CTSA pilot funds with internal grant-writing support and mock reviews.
- Use CTSA services to reduce departmental costs and avoid duplicating infrastructure.

5. **Alignment for Health Informatics Adoption and Integration**

Why it matters: Health informatics has become a key component of translational research and is a rapidly expanding part of the CTSA programs. Yet, many existing informatics advancements have been developed for specialty care, and it has been challenging for family practitioners and investigators to access and integrate health informatics for primary care research and clinical practice. As a result, despite overall efforts in advancing health informatics over the past decades, we are just beginning to understand the role of health informatics for primary care-related applications.

Opportunity: The CTSA's research ecosystem, rich in technical and regulatory expertise, and data security protections, could assist primary care clinicians with accessing and securely "processing" the EHR and population health data necessary for quality improvement and scientific discovery endeavors. Such technical assistance would help primary care clinicians effectively access and use big data toward improvements in continuity care and care coordination, the hallmark features of primary care.

Action:

- CTSAs could help engage relevant partners to develop a comprehensive roadmap and resources to both support research and decision processing in clinical care, and include necessary infrastructure updates and training opportunities.
- Train clinicians in AI, predictive analytics, and real-world data analysis.
- The CTSA's support can be essential for ensuring appropriate analysis of big data and result interpretation to reduce the risk of data and algorithmic biases

6. **Clinical and Translational Science Research Programs**

Why it matters: Despite advances in research, many evidence-based interventions fail to reach the patients who need them most, limiting their real-world impact and contributing to ongoing health disparities.

Opportunity: CTSAs are now required to include dissemination and implementation (D&I) science, which focuses on moving proven interventions into real-world settings. Therefore, an opportunity exists for larger scale funding from CTSAs to examine solutions to barriers to disseminating evidence-based interventions. Departments have an opportunity to proactively collaborate with CTSAs in these endeavors, thereby enhancing both their research missions and the quality of clinical care that is provided.

Action:
- Hire or collaborate with D&I researchers through your CTSA.
- Evaluate implementation capacity and readiness in clinics and co-develop tailored strategies.
- Measure and report outcomes tied to quality improvement, equity, and sustainability.

7. **Apply for a new CTSA or CTRA**

Why it matters: Family medicine deserves a national platform to lead translational science.

Opportunity: With rising interest in primary care research and the emergence of new medical schools with community-focused missions, the time may be right to pursue a CTSA tailored to primary care. Such a demonstration project could help establish best practices for the discipline and leverage these translational networks while simultaneously advancing the field of primary care research.

Action:
- Explore partnerships between academic departments and primary care–focused medical schools.
- Lead a new CTSA application that centers family medicine as a driver of translational science.
- Model best practices in community-partnered research.

Conclusion

The goals of family medicine and, in general, primary care, are well-aligned with the mission and vision of the NIH supported CTSA/CTRA programs. Departments can leverage the resources provided and thereby support and grow their research endeavor; this in turn advances translational science and the application of its discoveries toward effective dissemination and improved human and public health.