Translational Science Benefits Model

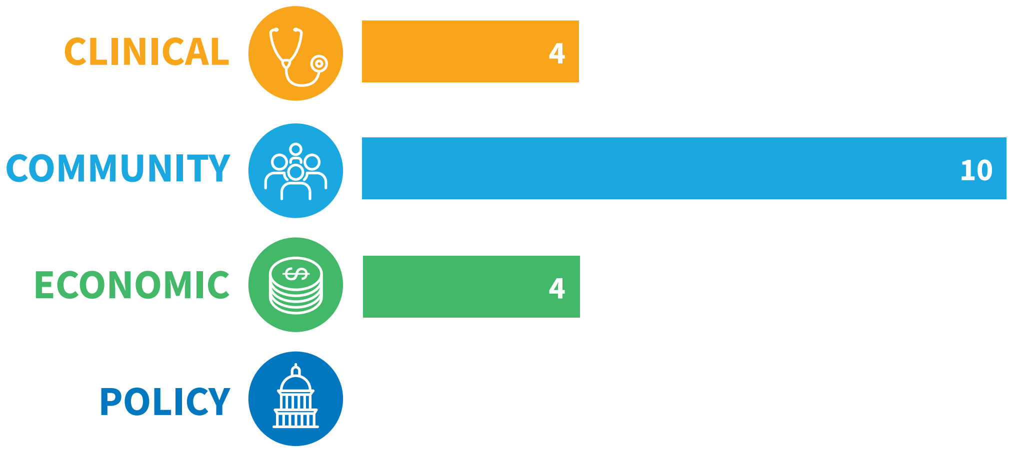
KL2 Impact Highlights 2024

A set of 4 case studies developed with the **Translational Science Benefits Model** framework

Institute of Clinical and Translational Sciences

In spring 2024, the TSBM project team partnered with the KL2 Career Development Program at the Institute of Clinical and Translational Sciences (ICTS) to develop four impact case studies. These studies demonstrate how clinical and translational research can improve individual and community health outcomes, showcase the impact of KL2 scholars' work, and highlight the impact of ICTS as a hub for clinical and translational science.

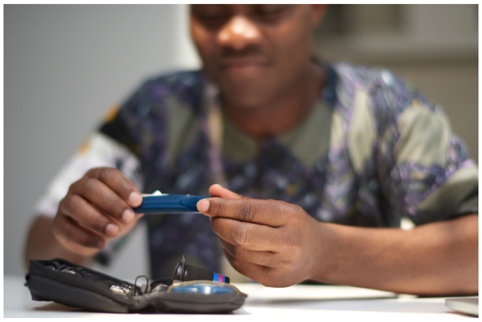
Together, the KL2 projects identified **18 TSBM benefits**. The TSBM identifies 30 specific, observable, and potentially measurable benefits of clinical and translational research in four domains: Clinical, Community, Economic, and Policy. View all benefits. Each of these benefits are *potential*, or expected to be realized in the future.



Identifying and Addressing Challenges to Diabetes Care in Real-Time in Youth from Disadvantaged Communities

PI: Mary Katherine Ray, PhD

Type 1 Diabetes is a common chronic medical condition in children. Many young people, especially those from marginalized social groups, face challenges in managing their diabetes. Dr. Ray's research aims to understand the specific difficulties experienced by youth with Type 1 Diabetes and how these challenges impact their ability to manage the condition. Dr. Ray and her team will use smartphone technology to ask 9- to 12-year-olds about their barriers to diabetes care multiple times per day, while also continuously measuring their glucose levels. This research will be used to develop personalized treatments to help young people overcome these barriers and effectively manage their diabetes. Read the case study on our website.



Comparing the Metabolic Effects of Different Weight Loss Diets

PI: Max Petersen, MD, PhD

Dietary modification is the primary therapy for reducing the risk of diabetes and improving metabolic health in individuals with obesity. Several diets are prescribed for this purpose. However, it is unknown whether certain diets can enhance or impair the metabolic benefits of weight loss. Dr. Petersen and his team are conducting a randomized controlled trial to better understand the metabolic effects of three common weight loss diets: the very-low-carbohydrate ketogenic diet, the plant-based low-fat diet, and the Mediterranean diet. Insights from this research could lead to more accessible and effective weight loss therapies for people with obesity and prediabetes. Read the case study on our website.

Addressing Social Needs in Underserved Parents Through Parents as Teachers

PI: Sarah Farabi, PhD, RN

Unmet social needs are associated with an increased risk of pregnancy complications. People of color and low socioeconomic status experience disproportionately high rates of both pregnancy complications and unmet social needs. Unfortunately, current interventions to address social needs during pregnancy fail to meet the full range of needs in these populations. Dr. Farabi and her team are partnering with Parents as Teachers to develop a Pregnancy Social Needs Module to better understand the social needs of pregnant people in vulnerable populations. This research has the potential to reduce unmet social needs and associated health complications, ultimately improving health outcomes. Read the case study on our website.

Preventing and Treating Invasive Fungal Sinusitis

PI: Lauren Roland, MD, MSCI

Invasive fungal sinusitis is a rare but deadly diagnosis, primarily affecting immunocompromised individuals. Understanding how this condition develops in the body and the specific factors that make some individuals more susceptible to it than others is critical for determining how to prevent and treat the disease in at-risk populations. Dr. Roland and her team are using blood and tissue samples to identify immune system deficits and alterations in epithelial barrier proteins in invasive fungal sinusitis patients. This work will contribute to the development of prevention and treatment options. Read the case study on our website.