Repurposing a Generic Tuberculosis Vaccine to Treat Type 1 Diabetes

In 2008, Cures Within Reach funded Dr. Denise Faustman at Massachusetts General Hospital / Harvard to support repurposing of the generic vaccine BCG to help patients with Type 1 Diabetes. CWR first funded a screening trial, then a Phase I clinical trial. In 2018, Faustman published long-term results from this Phase I clinical trial, showing that multi-dosing BCG in long-term Type 1 patients can result in stable and long-term correction of blood sugars with just two doses of BCG, without further intervention. Patients who had longstanding Type 1 Diabetes before the Phase I trial had lowered blood sugar levels nearing the normal range for 5 consecutive years, without changing their care routine (no new pumps or diabetes monitoring devices). CWR funds are also supporting the Phase II clinical trial with 150 longstanding type 1 diabetes, which is fully enrolled and ongoing. Faustman is planning additional human clinical trials, including pediatric trials and trials in a broader selection of adults with longstanding type 1 diabetes.

KEY FACTS
- CWR provided $110,000 to fund the animal trial and phase I / II human clinical trials repurposing the BCG vaccine for Type 1 Diabetes patients.

IMPACT
- Phase I study resulted in long-term restoration of blood sugars in Type 1 diabetic patients.
- Early CWR funding helped to leverage >$20 million in follow-on funding from the Iacocca Foundation needed for this FDA registration trial.
- Faustman has expanded this BCG research to other diseases, including MS, fibromyalgia, Sjogren’s syndrome and scleroderma.