

AMERICAN DIABETES ASSOCIATION 82ND SCIENTIFIC SESSIONS | HYBRID | NEW ORLEANS | JUNE 3-7, 2022

# Where to watch

🔚 WebsEdge Medicine

@WebsEdge\_Med @ADA\_DiabetesPro #ADA2022

Hilton New Orleans Riverside	Channel 47
Hyatt Place New Orleans Convention Center	Channel 99
New Orleans Marriott	Channel 42
<b>New Orleans Marriott Warehouse Arts District</b>	Channel 44
Omni Riverfront	Channel 51
Westin New Orleans	Channel 50

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# Film highlights

# Australia's Targeted Translation Research Accelerator for Diabetes & Cardiovascular Disease (delivered by MTPConnect for the Medical Research Future Fund)

The TTRA's \$20M Research Centre objective focuses on building a culture of collaboration and signalling a new approach to boosting the translation and commercialisation of Australian research – to do more to help people with cardiovascular disease and diabetes.

In January 2021, 2 TTRA Research Centres were established – Australian Centre for Accelerating Diabetes Innovations (ACADI) and Australian Stroke & Heart Research Accelerator (ASHRA) – which are designed to accelerate therapies towards clinical practice for the prevention, diagnosis, treatment and management of prioritised diabetes and cardiovascular disease complications.

Truly patient-focused, the Research Centres will deliver better health outcomes and reduce the burden of disease and health inequities in Australia, particularly for Aboriginal and Torres Strait Islander people, rural and remote communities and other under-served populations. Each Research Centre's work is targeted for maximum patient impact, with research priorities aligning with the outcomes of a national, sector-wide needs assessment process. Australia's Targeted Translation Research Accelerator for Diabetes & Cardiovascular Disease (delivered by MTPConnect for the Medical Research Future Fund)

# Saving limbs and lives, one patient at a time

Every 1.2 seconds, someone develops a diabetic foot ulcer (DFU), half become infected, leading to an amputation every 20 seconds. AOTI is a company on a mission to slow this ticking clock, help address health inequities, save the limbs, and extend the lives of these patients.

AOTI have developed Topical Wound

Oxygen (TWO2), a unique multimodality homecare therapy that uses a higher cyclical-pressure oxygen approach combined with non-contact compression and humidification. TWO2 has shown unprecedented clinical outcomes proven in the realworld by the highest-level scientific studies.

AOTI offers a patient engagement at home approach alongside evidencebased outcomes – providing a path to address health disparities at the same time as reducing spending for one of the highest cost populations in healthcare.

Advanced Oxygen Therapy Inc. (AOTI)

# M♥THer: Digital technology improves the lives of women with gestational diabetes

Gestational diabetes mellitus (GDM) is a disease that affects pregnant women. Women with GDM often experience a high rate of burden through pen and paper recording of their diet and blood sugar levels. This burden is stressful and time consuming.

M♥THer is a smartphone- and Internet-based interactive system developed to support women, with a diagnosis of GDM, throughout diagnosis to childbirth. It also enables multidisciplinary care co-ordination by providing shared access of the women's clinical information to all healthcare professionals involved in their care. The smartphone app allows the capture of blood glucose levels and other measures such as weight, exercise, stress, sleep, and symptoms throughout the day. It delivers notifications from clinicians and provides educational content such as information on medication and links to materials regarding diet and exercise in GDM. A secure web-based clinical portal enables healthcare practitioners from different specialised disciplines to assess the women's progress and to provide early care intervention dependent on the review Australian e-Health Research Centre, Commonwealth Scientific and

Industrial Research Organisation (CSIRO)

#### A Better Way

Better Therapeutics is committed to helping individuals address the root causes of cardiometabolic diseases like type 2 diabetes, hypertension, fatty liver disease and more. The company is doing this by developing prescription digital therapeutics: FDA-regulated software that uses the principles of cognitive behavioral therapy (CBT) to affect the underlying behaviors linked to cardiometabolic diseases around diet and activity level.

While CBT is not a new concept or even newly applied to these conditions, the digitial delivery mechanism means it's scalable to the broad population of individuals living with cardiometabolic conditions and adaptive to their needs, preferences and behavior patterns. Better Therapeutics first product, BT-001 is in the midst of a pivotal clinical trial that's demonstrating early evidence of improvements in glycemic control. Better Therapeutics

#### We Aim To Cure

Biomea Fusion is a clinical stage biopharmaceutical company focused on the discovery and development of covalent small molecules to treat patients with genetically defined cancers and metabolic diseases. A covalent small molecule is a synthetic compound that forms a permanent bond to its target protein and offers a number of potential advantages over conventional non-covalent drugs, including greater target selectivity, lower drug exposure, and the ability to drive a deeper, more durable response. **Biomea Fusion** 

#### **Hypertension Precision Care**

Many patients with hypertension have a treatable cause: primary aldosteronism. Primary aldosteronism leads to hypertension, and also increases risk of cardiovascular and kidney disease. However, less than 1% of patients are tested and treated. · Changi General Hospital aims to improve care for patients with primary aldosteronism, and all patients with hypertension.

Shimadzu-Changi Clinomics Centre

(SC3) is a state-of-the-art lab that can measure aldosterone with high precision, to detect this. SC3 will also measure adherence to medications, which is a common cause of uncontrolled hypertension. Half of all patients with primary aldosteronism have disease in only one adrenal gland, and can be cured of hypertension. A major limitation in diagnosing these patients is reliance on an invasive, and technically-challenging procedure, adrenal vein sampling. At CGH, they have improved their sampling rates with Dr Ng Keng Sin. In Singapore, CGH are the first in Asia to use PET-CT, instead of venous sampling to diagnose these patients with curable hypertension PET-CT is non-invasive, and directly translatable to clinical practice. This will revolutionise management of hypertension.

#### Changi General Hospital

#### **Diabetes Free South Carolina**

Diabetes Free SC (DFSC) is a bold, long-term commitment designed to reduce health care disparities in South Carolina by drastically reducing the incidence of diabetes and its complications. The initiative has three strategic directions:

- 1. To improve pregnancy outcomes and the health of women with or at risk for diabetes
- 2. To reduce lifelong risk of diabetes in children
- To prevent diabetes and its complications in adults
  Diabetes Free South Carolina

# Can the BCG Vaccine Reverse Type 1 Diabetes in Children?

Under the direction of Denise Faustman,

MD, PhD, the Immunobiology Laboratory at the Massachusetts General Hospital (MGH) has

advanced the understanding of the role the human immune system plays in autoimmune diseases, cancer and transplantation. From basic research into turning the immune system on to fight cancer to a Phase II clinical trial to reverse type 1 diabetes, the lab conducts and then translates basic research in applications that help patients. Immunobiology Laboratory,

Massachusetts General Hospital

### Rina and Avner Schneur Center for Diabetes Research: Engineered muscle for type 2 diabetes treatment

Levenberg lab is a core unit of the

Rina & Avner Schneur Diabetes research center at the Technion's Faculty of Biomedical Engineering. The labs focuses on stem cell-based tissue engineering for various disease modelling and treatment.

Type 2 diabetes is one of the most prevalent diseases worldwide causing over 1 million deaths per year. One of the main issues in type 2 diabetes is skeletal muscle insulin resistance characterized by reduced muscle glucose uptake. Based on our extensive experience in skeletal muscle engineering we have created a metabolically active implantable muscle construct capable of enhanced glucose uptake. The team's preclinical study in diabetic mice has shown that replacing even a small portion of skeletal muscle with the upgraded engineered tissue results in a systemic and long-term reduction of blood glucose levels. In the next stage of this research, the aim is to focus on developing skeletal muscle constructs suitable for minimally invasive delivery which would allow multiple site muscle tissue repair for maximized treatment effect with a minimum discomfort for patients. Moreover the therapeutic tool has a potential to restore insulin sensitivity at pre-diabetic and advanced diabetic patients and maintain healthy blood glucose levels over a long period of time.

Rina and Avner Schneur Center for Diabetes Research

# The Rising T1DE Alliance: A Diabetes Rapid Learning Environment for All

The Rising T1DE Alliance was launched in 2020 to rapidly scale quality improvement efforts and innovation in Type 1 diabetes care. The goal of the Rising T1DE Alliance is simple: get in front of problems by predicting clinically important outcomes, evaluating and curating new interventional strategies to encourage individuals with diabetes toward better health, and creating a platform to drive rapid-cycle testing of novel behavioral, digital and care delivery interventions using implementation science.

Rising T1DE Alliance, Children's Mercy Hospital

## The Fraternal Order of Eagles Diabetes Research Center at the University of Iowa

The Fraternal Order of Eagles Diabetes Research Center at the University of Iowa is a premier research institute that is focused on advancing knowledge of the pathophysiology of diabetes and its complications through cutting edge research. This ambitious vision has several goals:

We have built upon the solid foundation laid by Dr. Daryl Granner, Founding Director Emeritus and the vision of Dr. John Stokes, to strengthen, support and expand the diabetes research infrastructure at the University of Iowa.

We continue to actively recruit and support the brightest and most creative diabetes researchers in the country, to achieve our goal of being on the forefront of innovative diabetes research and to push the boundaries of what is already known.

We leverage the world-class research space in the Pappajohn Biomedical Research Building, where the Fraternal Order of Eagles Diabetes Research Center is housed to realize paradigmshifting discoveries that are significantly impacting possibilities for diabetes care and prevention.

We play a pivotal role in institutional efforts to drive translational initiatives that impact diabetes care and increase public awareness of the importance of the current diabetes epidemic. University of Iowa

#### Vigilant Health - No one is out of reach

Vigilant Health is a provider organization who has reformatted healthcare delivery, tech/ informatics, and payment structure to deliver predictable long-term outcomes, substantial cost savings, and high patient engagement in every demographic, every payer group, and every market, including Medicaid, the most challenging diabetics and chronic disease patients, and in under-served communities in the deep south.

#### **Big Ideas:**

- Long-term confirmation of the impact and definition of the value of diabetes care.
- **2.** Healthcare redesign is necessary to realize this. Here's how...
- Egalitarianism in outcomes and success in the most difficult conditions is a result.

# Vigilant Health

# Podocyte Lipotoxicity, a Cause of Diabetic Kidney Disease and Its Progression

At the University of Miami, scientists have been making new discoveries related to lipotoxicity and its role in kidney disease and its progression. Even more, preclinical data indicate that 2-hydroxypropylbeta-cyclodextrin can mediate renal cholesterol efflux, reducing damaging cholesterol accumulation, and slow disease progression. That research has led to a partnership with ZyVersa Therapeutics, who is preparing to initiate studies with 2-hydroxypropylbeta-cyclodextrin in patients with chronic kidney disease. ZyVersa Therapeutics Inc

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