Israel Hodish, M.D., Ph.D.
Associate Professor of Internal Medicine

As the number of patients with diabetes rises worldwide, the need for effective tools to manage the disease and provide critical treatments has risen at a similar trajectory. More than a quarter of patients with diabetes require insulin therapy to manage their disease. While insulin therapy has been available for almost a century and is widely used, its clinical efficacy is disappointing. The majority of insulin users do not achieve their therapy goals while complications escalate.

Israel Hodish, M.D., Ph.D., an associate professor of internal medicine in the Medical School, has taken the challenge to improve diabetes care into his own hands. Specifically, he has put the control into patients’ hands by co-inventing and co-developing technology that makes it robustly more effective and safe for patients to self-adjust their insulin therapy. Working with Eran Bashan, Ph.D., a former graduate student from the U-M College of Engineering, together they co-founded Hygieia, Inc., in 2008.

Key to Hygieia’s portfolio is the d-Nav Insulin Guidance Service (DIGS), which comprises a handheld device, a nursing service and supporting software tools to help patients achieve proper insulin dosage, resulting in superior glycemic control. d-Nav automatically adjusts insulin dosage without increasing providers’ workload and without any behavioral changes from the user. This has resulted in better health for diabetes patients and less of a burden on the health care system.

Thanks to Hodish’s vision to automate the process of insulin titration, the ‘titration gap’ between patients not getting the support they need to use insulin successfully and the subsequent benefit from good glycemic control is closing. For this, Hodish is the recipient of this year’s Innovation and Commercialization Award.

Thriving in an environment that encourages exploration and discovery is one of the things Hodish says he most enjoys about his position in the Division of Metabolism Endocrinology and Diabetes. “I have enjoyed the combination of high-quality patient care and freedom to pursue methods to improve care,” he says.

His nominators point out that DIGS has been used commercially in Europe since 2012, resulting in unsurpassed patient outcomes, quality of life and satisfaction. More than 600 patients currently are using the service in Northern Ireland. In addition, Blue Cross Blue Shield of Michigan has entered into a partnership with Hygieia for a 1,000-patient large demonstration of the service.

As DIGS gains traction around the world, Hodish and his fellow researchers are amassing large amounts of data to further study diabetes and insulin therapy. Ultimately, the patients receive the most benefit. “This is an honorable recognition for years of hard work for the benefit of patients,” he says.

“In an unassuming way, it is clear he is passionate about making it better and easier to use for those living with diabetes.”
— R. Harper, M.D., consultant physician, South Eastern Health and Social Care Trust, Northern Ireland