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Johnson & Johnson projects aim to spot who'll get a disease

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Imagine being able to identify people likely to develop a particular disease—and then stop it before it starts. This isn't a science fiction tale. It's the ambitious goal of three research projects just launched by Johnson & Johnson's pharmaceutical research arm, Janssen Research & Development, that the company says are aimed at redefining health care.

The projects announced Thursday ultimately aim to prevent illnesses, particularly ones related to aging and lifestyle. That way, as people live longer, fewer of their "golden years" are plagued by poor health, disability and staggering medical bills.

"A hundred years from now, someone's going to look back on us and say, 'Can you believe they waited until you got a disease and then did something?'" Dr. William Hait, head of Janssen R&D, predicted in an exclusive interview with The Associated Press.

Instead, the world's biggest maker of health care products will try to find ways to prevent common, frightening and often deadly disorders, including Alzheimer's disease, cancer, heart disease, immune conditions and Type 1 diabetes, the first planned target. Janssen is partnering with the Juvenile Diabetes Research Foundation to find ways to prevent Type 1 diabetes, which is steadily becoming more prevalent.

Billions of research dollars will be needed to accomplish the goals, and it could easily take a generation, cautions analyst Steve Brozak, president of WBB Securities.

But Brozak said Johnson & Johnson is one of just a few organizations that have the resources—money and scientific talent—to succeed at what he called a shift to "true modern medicine" that's as revolutionary as Henry Ford creating the manufacturing assembly line.

"This is visionary stuff here," Brozak said. "Nobody's ever tried this."

Still, advances in the understanding of human genetics and diagnostic testing, and existing treatments that already help prevent widespread illnesses, have made Hait optimistic.

For example, blood testing and then use of cholesterol-lowering statin pills to prevent heart attacks and strokes in at-risk patients is widespread in developed countries. Ditto for colonoscopies and removal of any discovered polyps to prevent colon cancer, and Pap smears to spot cervical cell abnormalities that could turn into cancer.

Whatever medical approaches to prevention turn out to work, Johnson & Johnson, based in New Brunswick, New Jersey, is positioned to offer far more than a Band-Aid: It's a leading maker of diagnostic tests, vaccines, surgical equipment, prescription pills, injected biologic medicines and consumer health products. In addition, Janssen has nearly 10,000 scientists and other employees, Johnson & Johnson has "innovation centers" around the world that collaborate with university researchers, and the company made a $16 billion profit last year.

While the three new research programs Janssen's created share the goal of blocking illness, the approaches vary:

—The Janssen Prevention Center, which began operating at three locations on Jan. 1, will focus on preventing some conditions that most burden the elderly—and health care systems straining to pay for their care. Those include Alzheimer's, cancer and heart disease. The center,

based in Leiden, Holland, will build on J&J's expertise in vaccines, potentially a good strategy for conditions that strike so many people.

—The Janssen Human Microbiome Institute will study the microbiome, bacteria living in and on the body that have recently been found to have a key role in our health. Learning more about that role could help in creating treatments for autoimmune disorders such as rheumatoid arthritis, multiple sclerosis and inflammatory bowel disorders, many of which lack good treatments.

—The Disease Interception Accelerator, just beginning in Raritan, New Jersey, will explore genetic defects and other causes of diseases so they can be detected long before they are currently diagnosed. The goal would be to quickly intervene to prevent disease.

"We're sifting through opportunities where we think the need is great and the ability to diagnose (early) exists, and then we're seeding proposals," Hait said.

The first program targets Type 1 diabetes, a complex hormonal disorder that is very expensive to treat and often causes premature death, plus complications from blindness and amputations. It involves the immune system attacking and gradually destroying beta cells in the pancreas that produce insulin, which is needed to move sugar from the bloodstream into cells to provide energy.

The Juvenile Diabetes Research Foundation has worked for decades on ways to identify children at high risk, and blood tests for certain antibodies can now do so, even in newborns, years before they'll develop symptoms, said Chief Scientific Officer Dr. Richard Insel.

National screening programs in the U.S. and Germany are working to find those youngsters, and multiple patient studies are under way here to

try to "rebalance" overly aggressive immune systems to stop them from attacking beta cells, Insel said. One gives participants tiny doses of insulin by mouth, another is trying a rheumatoid arthritis drug to tamp down the immune system and a third is trying to reduce levels of certain harmful immune cells.

JDRF and Janssen now are planning specific research projects that can build on that work and other findings to prevent diabetes early on, which is important because Type 1 inexplicably is striking children in Europe at younger ages, Insel said.

"Decades ago, we never would have been thinking about prevention of this disease," he said. "We're in a very different position today, a fantastic position."