

HCR 3030 Metabolic Syndrome

Senate Human Service Committee, Senator Judy Lee, Chairman

Representative Marvin E. Nelson, District 9

HCR 3030 is a study of metabolic syndrome. What is metabolic syndrome? Fundamentally it is a group of health effects of elevated insulin. Often also called insulin resistance. Insulin is a master hormone affected pretty much every cell of our body in various ways and indeed even other hormones.

One in three United States adults meet the criteria for metabolic syndrome and a recent study found 88% have at least one of the markers. The exact definition varies a bit but the World Health Organization defines it as any two of high blood pressure, dyslipidemia, central obesity, or protein in the urine, plus insulin resistance.

Insulin resistance comes about mostly through spikes in blood sugar producing spikes in insulin and over time, as fat cells get larger, as the liver gets fatter, the body requires more and more insulin to do the same thing. It's much like tolerance to a drug. Stress and sleep disruption also contribute.

With type 2 diabetes, people go through years, even decades of elevated insulin as their blood sugars are still considered normal. Finally, the beta cells in the pancreas start to break down and their levels of insulin drop a bit, even though often still several times normal, but then the blood sugar rises and they are considered diabetic. To give you an idea in PERS there were 697 unique individuals who used insulin and 2634 who used other diabetic medications. Projections have been for 1 in 3 adults to have diabetes by 20150 and 1 in 2 of some minorities.

Diabetes is just one part of the pandemic of the modern diseases of civilization.

Non-communicable chronic diseases (NCD) consisting of type 2 diabetes, cardiovascular disease, fatty liver disease, stroke, cancer, and dementia, now account for about 75% of health care spending in the United States and about 72% of deaths. They continue to increase. In addition to direct health care costs there is the additional losses to morbidity.

I would note there are other conditions caused by elevated insulin like polycystic ovarian syndrome, the most common cause in the USA of infertility, neuropathic pain, sleep apnea and on and on that don't generally kill people, but they too are serious.

It should be noted that obesity is often referenced as if it is the cause, it is not. It is a sibling, not the parent. Meaning the root cause produces obesity as well as the other conditions. There are healthy obese people, there are many sick people of normal weight. Obesity is a marker. While about 65% of people in the US are overweight, about 88% are metabolically unhealthy with about 37% meeting the full criteria.

And it continues to increase. Diabetes, both type 1 and 2 are increasing about 4% yearly. Though I expect a small drop or stabilizing since sugar consumption shows a small drop the last few years.

Spending on NCD is causing spending on Medicaid, Medicare and private insurance to rise to unsustainable levels. The entire US economy has been projected to go to zero growth by 2032. Whatever the projection, the cost is high.

And then there are the new drugs. It is becoming common for patients to spend over \$1000 a month on medications. Yet, there is no medication which reverses metabolic syndrome. What is treated are symptoms and so people are left with chronic, progressive conditions which just get worse over time.

So, what causes this? While the jury is somewhat out on exactly how everything works, it fundamentally is processed foods. Most of the diet today really didn't exist at the time of the Civil War. Sugar consumption was a few lbs. a year, vegetable seed oils didn't exist, extremely finely ground flours didn't exist. The fear was of fat, especially saturated fat. A fear not founded on science.

We have good information. Dr. Eric Westman at Duke University has been doing this for 22 years. Dr. Jason Fung, a fasting proponent recently published a case study of three people on insulin for 20 years. By putting them on a ketogenic diet, with intermittent fasting on Monday, Wednesday and Friday, the fastest adapter was off insulin in 6 days, the slowest in 18 days, simply with diet. Virta Health, a healthcare company available remotely has a goal of reversing 100 million type 2 diabetics by 2025. Corporations and insurance companies are signing to use their services because it saves money over standard care and healthier employees are more productive. There is actually a group of companies in California that provide food because it is cheaper to feed people properly than pay for the drugs.

How do we in North Dakota reverse the trend? Are we going to just sit back and wait, are we going to make an informational and public health push? I believe we should look at this critical issue and come up with a program of action.