Diabetes must be addressed because there is no cure. However, the prevalence is extremely high. There are 29.1 million people in the United States with this disease and some people aren’t aware that they have it. Diabetes is a disease the body encounters. It is a problem that causes blood glucose or sugar levels to rise higher than usual. Glucose is produced from food intake. With the help of insulin, blood sugar levels can be maintained.

Insulin is a hormone that the pancreas makes. It also helps the body to make glucose from food and use it as energy or store the glucose for later use. When insulin keeps the blood glucose levels from getting too high, the process is called hyperglycemia. When insulin keeps the blood glucose levels from getting too low, the process is called hypoglycemia.

Type one and type two diabetes are the most common types of diabetes. Type one diabetes is when a persons pancreas makes hardly any or no insulin because their immune system is overactive. In type one diabetes the immune system attacks cells that produce insulin. These cells are called beta cells. It is believed that this disease is triggered by genetic factors or environmental factors. People who have type one diabetes cannot get rid of it. There is also no way to prevent this disease.

It is a daily challenge living with type one diabetes. A person diagnosed with this disease has to constantly check and measure their blood glucose levels. This is done by pricking their finger several times a day before and after meals. Along with that, the person also has to watch their exercise and what they eat. Exercising too much and eating too much or too little food can be very dangerous. That is why they prick their fingers to get their blood glucose level and then they will see whether it is too high or too low. Afterwards, they will know the exact amount of insulin needed to regulate their blood glucose levels.

Statistics show that there are 1.25 million Americans living with type one diabetes. This includes 200,000 youth. 40,000 people are diagnosed every year. By 2050, it is expected that 5 million people will have type one diabetes. This disease is very expensive. It is an annual $14 billion healthcare cost in the United States. Less than one third of the people diagnosed are reaching and maintaining the target blood glucose level. Type one diabetes is associated with a loss of life expectancy up to 13 years. Warning signs are extreme thirst, frequent urination, drowsiness, increased appetite, sudden weight loss, vision changed, sugar in the urine, fruity odor on breath, heavy breathing, and unconsciousness. Type two diabetes is a lot different, but still deal with blood glucose.

 Type two diabetes is when a person has insulin resistance. People with type two diabetes make insulin, however, their bodies don't distribute it and use the insulin as it should be. When having type two diabetes, the pancreas makes insulin in order to get sugar to the bodies cells. Over time, the sugar amounts build up because the pancreas can't keep track. This then causes a sugar build up in the person’s blood.

Type two diabetes can have several causes. Mutations in your DNA can affect the how your body produces insulin. Obesity can also cause insulin resistance. This is what can affect children because childhood obesity can cause type two diabetes. A person with type two diabetes usually has high blood pressure, high cholesterol, and triglycerides. This certain diabetes can also be caused when a person gets too much glucose from their liver. When this happens, their blood glucose is very low and their liver then makes glucose and distributes it to cells. Usually when you eat , a persons blood sugar goes up and the liver will store the glucose. Some people's liver won't store the glucose for future need. This disease can also be cause by bad communication when it comes to cells. Cells can sometimes send the wrong signal or read a signal wrong, leaving cells make more glucose than needed or not storing it. A person with diabetes has to keep a watch on their blood glucose levels.

Pre-diabetics can have symptoms, such as, being thirsty, peeing a lot, blurred vision, numbness of limbs, in healed wounds, and continuous yeast infections. If a person has any of these symptoms, they can cut their risk down. People can lose weight and be active. All it takes is a 30-minute walk and they should eat right. High carbs and sugary drinks should be avoided. If the person is a smoker, he or she should stop.

There are six different classes of medicines that are available for a diabetic to take in the United States. When a person can't make the necessary lifestyle changes or the changes aren't enough, these drugs will control their blood glucose levels. Metformin is a very popular drug that has to be used. Metformin is an oral drug that improves a persons glucose level that has type two diabetes only. Along with metformin, other medicines can be taken with it. One medicine is canagliflozin. Then Dapagliflozin is taken by itself. The two medicines have the same results.

Canagliflozin is a treatment medicine that helps lower blood sugar. It targets the kidneys to help a person lower their sugar levels through urination. It will also help lose weight. Kidneys allows sugar to be returned to the body, but this treatment will reduce the sugar allowed back in. Canagliflozin can be improved with the help of exercise.

Dapagliflozin is also a treatment medicine for diabetics. This medicine is a SGLT2 inhibitor. It also works in the kidneys and helps the body release sugar through urination. Dapagliflozin inhibits the SGLT2 transporter, which will allow the sugar to be filtered from the blood, and released through urine.