

Home as a Health Care Hub

All people can improve their health through medical technologies where they live.



Sean Gomez

◦ The image is a fictional representation based on input from people living with diabetes.



ABOUT ME

Diabetes Type: Type 2 diabetes mellitus

Age: 30 years

Gender: Male

Race: Hispanic

Household Income: \$20,000-\$49,000

“Dialysis makes it so I can still work full time. Home dialysis four times each week gives me the flexibility. It allows me to live my life and spend more time with my daughter.”

Sean is a 30-year-old single father who lives in the suburban town of Dearborn, Michigan. Diagnosed with Type 2 diabetes three years ago, he also finds it difficult to live with obesity. He co-parents his 7-year-old daughter, Isabel, with her mother. Sean works as a production worker in a local factory that requires long hours of physical labor and has working night shifts. His social interactions are limited because of his work hours and parenting responsibilities, and he often feels isolated and overwhelmed.

COMPETENCIES



NEEDS



WHERE I LIVE

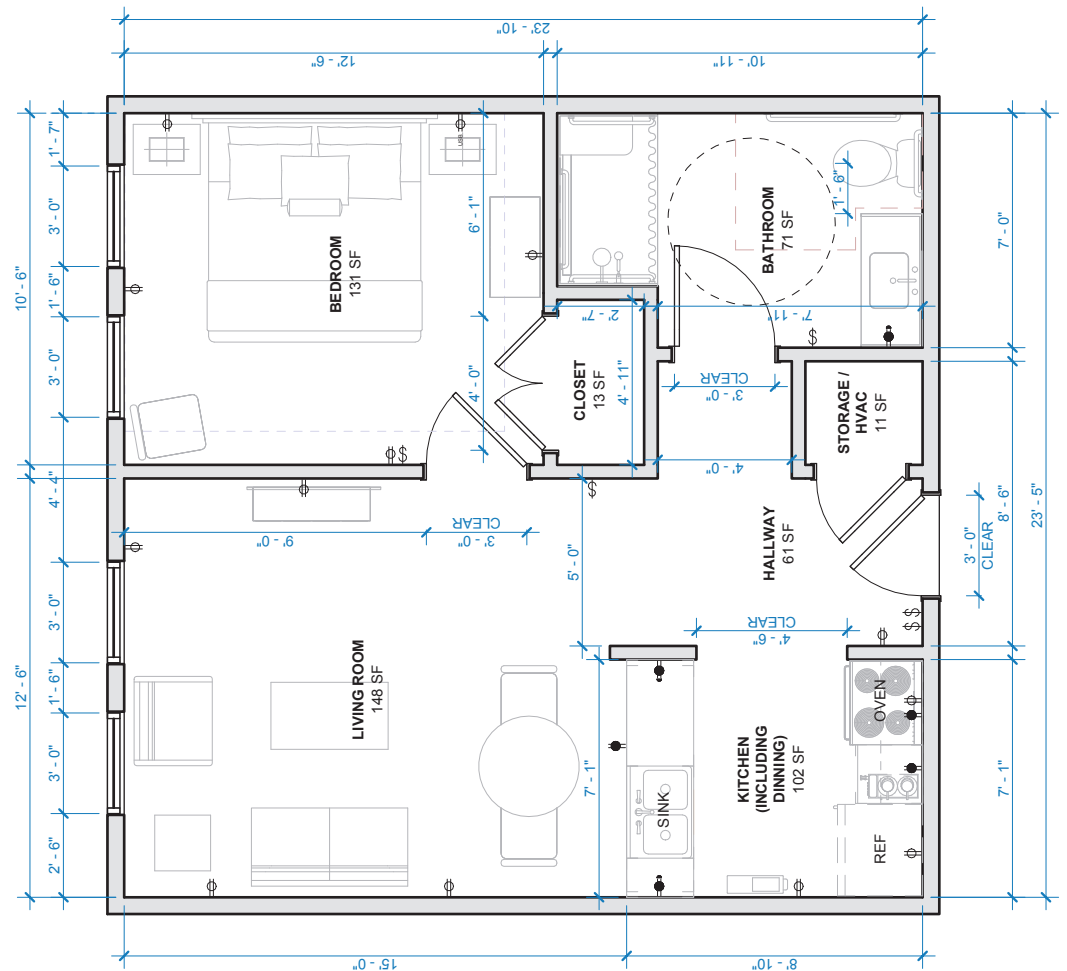
Location: Dearborn, MI 48120

Neighborhood: Suburban

Housing Type: 1 Bedroom Rental

Size: 750 sq. ft.

- Cramped space due to excessive clutter
- Narrow doorways and tight corners make moving around difficult
- Not enough storage room for supplies
- Moved his daughter's sleeping arrangements to the living room



MY EVERYDAY

Before I eat, I always check my blood glucose level using a **glucometer**, which shows the approximate amount of glucose in my blood. First, I insert a test strip into the device. Then with a special needle, I poke a clean fingertip to get a drop of blood. I then touch the test strip to the blood and wait for a blood glucose reading to appear on the screen. Based on that reading and what I plan to eat for dinner, I can give myself the right amount of insulin with a shot from my **insulin pen**, which contains insulin and must be stored in the fridge.



My diabetes supplies take up a lot of room in my kitchen and my diabetes management takes a lot of time as well, so I tend to eat takeout or other pre-prepared foods.



HOME DIALYSIS TREATMENT

Throughout the week, I require home hemodialysis treatments to manage my chronic kidney disease, a complication of my diabetes.

Diabetes can reduce how well kidneys filter waste. I rely on the device to remove waste and fluids from my blood, as my kidneys no longer work well enough to do the work on their own. Because the process tends to take a few hours, I have my dialysis machine set up in the living room next to a comfortable chair. Like other home electronics, it plugs into an electrical outlet and drains through the plumbing system. In this case, my kitchen sink.



In preparation for dialysis, I measure my sitting and standing blood pressure levels with a **blood pressure cuff**. Then I gather all my supplies – tubing, saline solution, antiseptics, gauze pads, gloves, wipes, sharps container for disposal, to name a few – from storage. Because of the way my insurance works, I receive monthly shipments of supplies. They take up quite a bit of space in my apartment. I make sure all the surfaces are decontaminated, wash my hands and put on the gloves, and power on the machine. I then self-cannulate, a fancy term for connecting myself to the machine using needles and a surgically placed dialysis access in my arm. I have to keep an eye on the device's readings for blood flow rate and any alarms. I monitor my vitals through FDA cleared devices and manually input vitals into the dialysis machine every thirty minutes. In between, I can watch TV or nap a little bit.

HOME DIALYSIS TREATMENT

I feel healthier and more empowered doing dialysis at home rather than traveling multiple times a week to a dialysis facility that's further away.

When the prescribed treatment is complete, I turn off and unplug the device, carefully removing the needle. I make sure all the surfaces and equipment are disinfected and take a final round of blood pressure and body temperature measurements. Finally, I retest my blood glucose levels with my glucometer to ensure they are stable after treatment. If my glucose levels are low, I'll grab something to eat.



When I get ready for bed, I go into the living room to gather my **test strips, glucometer, lancets, alcohol swabs, gauze, and blood pressure cuff** and collect them on my bedside table. I do a final glucose test and blood pressure reading. Last, I'll put on my **CPAP, or Continuous positive airway pressure (CPAP), machine**. I place the mask over my nose and mouth, and the machine delivers continuous pressurized air to keep my airways open while I sleep. The machine helps me maintain healthy blood sugar and blood pressure levels, as well as get a good night's sleep.