

49-734 / 90-835: Designing Smart and Healthy Systems

List of hypotheses to test for HW#2

Last updated November 8, 2021

From Group 1:

1. **Background Family inherited Diabetes:** If a person's family has a history of diabetes, the person might know more about the side effects of diabetes and thus might engage more in the treatment.
2. **Weight and height:** If the ratio between weight/height is over a threshold, which means the person is obesity, then, the person might be less willing to participate in the engagement.
3. **Pathological personal history Diabetes Year:** If the person have got diabetes for years, then, the person might have more knowledge about diabetes and thus might engage more in the treatment.
4. **Patient consumes alcohol:** If a person consumes alcohol, then, this person might be less willing to participate in the engagement.
5. **Age:** Different group of age might constitute different conceptions toward the diabetes treatment and hence create different engagement level.
6. **Occupation:** Different occupations might impact the hours/available time to stay engaged with the treatment / patients higher-paying occupation might be more concerned about their health and they are more engaged than patients with lower income group.
7. **Sex:** Certain types of engagements might be more effective for women than for men or vice versa.
8. **Town, State:** Distance from clinic like city and state might be a barrier to keep staying high engagement with patients.
9. **Hospitalization and Re-admission:** Patients who have been re-admitted within certain duration may lose trust in program and that might affect engagement negatively. While patients who had been admitted and seen positive results may be more cautious and engage regularly to avoid hospitalization situation again.
10. **Prospect duration:** If the patient was on the prospective list before enrolling, they might have done more careful research before subscribing

From Group 2:

1. Commitment contract that mentions more family or loved ones will tend to have higher retention rates.
2. Patients who need more clinical attention (either more time in clinic or referral to specialists) are more likely to stay engaged.
3. Patients will be likely to have higher engagement if they live in same city as their clinic.
4. Patients with indicators of higher wealth (expensive neighborhoods, high paying jobs) will be more likely to engage and renew.
5. Patients under age 40 are more likely to have higher engagement than older patients.
6. Educated patients will be more likely to have higher engagement.

7. Patients with close family members who are engaged at that clinic will be more likely to have high engagement.
8. Patients who fill out their details correctly during initial assessment will be more likely to have higher engagement.
9. People with lower A1C drop out faster than people with Higher A1C.
10. People who are aware of their condition prior to coming to the clinic are less likely to drop out than those who are not.

From Group 3:

1. Patients who have blurred vision are more likely to have higher engagement in the clinic
2. Patients who age 60 and above are more likely to have higher engagement in the clinic
3. Patients who are first diagnosed with diabetes at a young age are more likely to have higher engagement in the clinic
4. Patients who received higher education are more likely to have higher engagement rates
5. Patients who have family histories of diabetes have higher engagement in the clinic
6. Patients who don't drink alcohol are more likely to have higher engagement in the clinic
7. Patients who don't have psychological complications are likely to have higher engagement in the clinic
8. Patients who have higher GC(Capillary blood glucose) are more likely to have higher engagement rates
9. Patients who have digestive disorders are more likely to have higher engagement rates
10. Patients who are hospitalized for more than 60 days have higher engagement rates

From Group 4:

Data Files: III Datos CMU (ENC), IV Datos CMU (BAL)

Hypothesis that can be deduced from the above mentioned data files:

S.No	Hypotheses	Fields to be used
1.	Likelihood of engagement increases for patient buying more products from clinic	CompraTienda
2.	Patients with a history of drug abuse are less likely to engage in the diabetic care system offered by CDA	atendioPsicologia, RespondioPacienteGM
3.	Patients with any previous cardiovascular diseases like arrhythmia, coronary heart disease, myocardial infarction, heart failure, angina pectoris, cancer, and vascular brain accidents are more likely to be engaged in the diabetic care system offered by CDA	AP, EC, IA, AR, IC, AC
4.	People with normal BMI and metabolism (yet) are less likely to engage in the diabetic care system offered by CDA.	Peso, Talla
5.	Patients who have felt improvement in the past three months are more likely to engage with the diabetic care system offered by CDA.	sienteMejoria
6.	Patients in certain branches are less likely to not engage with the diabetic care system offered by CDA, due to poor service.	IdConsultorio
7.	People with hypertension are more likely to be engaged with the diabetic care system offered by CDA as they tend to be more careful about their health.	HADiastolica , HASistolica
8.	The type of diabetes also determines the level of patient engagement with the diabetic care system offered by CDA.	TipoHipoglucemia, TipoDM, DM
9.	People diagnosed recently are less willing to engage in the diabetic care system offered by CDA. People who have been living with the disease for a long time engage more as they see more symptoms and are older.	AnioDM
10.	Patients who follow a healthy diet are more likely to engage better with the diabetic care system offered by CDA.	atendioNutricion, calificaNutricion

Hypothesis deduced from other datasets:

1. People diagnosed recently are more willing to engage in the diabetic care system offered by CDA. Conversely, people who have been living with the disease for a long time are lethargic about it.
2. Patients who are on medication (that require frequent consultation) for conditions other than diabetes are less likely to engage in the diabetic care system offered by CDA due to monetary, time, and stress issues.
3. Patients who have been successfully handling another illness are more likely to engage with the diabetic care system offered by CDA.
4. Patients with family members diagnosed with the same condition are more likely to engage with the diabetic care system offered by CDA.
5. The level of education determines the patient's willingness to engage with the diabetic care system offered by CDA.
6. Patients with more erratic A1C levels are more likely to engage in the diabetic care system offered by CDA.
7. Patients who have had secondary complications from diabetes like diabetic retinopathy, glaucoma, hypertension, renal failure, etc., are more likely to engage in the diabetic care system offered by CDA. - **AHFCA, APPER, APPGlaucoma, APPHA, APPRetinopatia**
8. The clinic's attention, indicated by the minutes spent with each patient, determines the level of patient engagement in the future. - **HoraEntrada, HoraSalida**
9. The more the patient spends on drugs, the less likely they are to engage with the diabetic care system offered by CDA. - **RespondioPacienteGM**
10. Patients who have inherited the condition from parents are less likely to engage in the diabetic care system offered by CDA, as they have learned makeshift ways to deal with it from them. - **AHFDM**
11. Patients who live further away from the clinic are less likely to engage with the diabetic care system offered by CDA. - **Usuario, Area**
12. Older patients are more likely to engage with the diabetic care system offered by CDA.