

TERPS WELLNESS CENTRE

Terps Wellness Center is working closely with QuestM to provide COVID testing for all students. QuestM has worked to send kits to students before arrival, process those kits, and report the test results to the university and the individual. Random testing continues throughout the semester to monitor COVID levels on campus. In addition, QuestM provides diagnostics for students who report exposure or illness symptoms. Diagnostics in these cases may include other kinds of tests such as blood analysis, strep, and any number of other doctor-prescribed tests. QuestM has also offered to provide distribution of flu vaccines and, when available, COVID vaccines.

- Terps Wellness Center issues the tests and takes full responsibility for making payment. University of Maryland will, however, also submit to insurance companies the cost of all tests and vaccines for employees and students. The insurance could be a university health plan or any other health insurance.

MISSION STATEMENTS:

- Maintain a robust and accurate database, including all the information of Students, their vaccinations and medical tests, and the corresponding payment details for the same.
- Store historical data for all vaccinations and testing carried out by the wellness centre.

MISSION OBJECTIVES:

- Details of students who have taken Covid-19 vaccines and tested negative in COVID test.
- Details of all the students who have taken COVID-19 vaccine.
- Employee ID(s) of employees who have administered most number of vaccines.
- Types of vaccines administered and their quantity in decreasing order.

BUSINESS DESCRIPTION:

- 1.) Each student is described by Student ID, First and Last Name, E-mail ID, their gender, registered course, insurance type and date of birth.
- 2.) Each employee is described by their Employee ID, First and Last Name, their gender, insurance type and date of birth.
- 3.) Each testing record is described by the Test ID, the type of the test, corresponding result and the cost to perform the test.
- 4.) Each vaccination record is described by the Vaccination ID, the type of vaccination, date, status and the cost to take the vaccine.
- 5.) Each payment is recorded with the Payment ID and the date of payment.

ER Schema:

Entities, Attributes and Primary Keys

Student (**stuid**, stuFullName, -stuFirstName, -stuLastName, stuLocation, stuEmail, stuGender, stuCourse, stuInsurance, stuDOB)

Employee (**empId**, empFullName, -empFirstName, -empLastName, empGender, empType, empInsurance)

Testing (**tstId**, tstDate, tstType, tstResult, tstCost)

Vaccination (**vacId**, vacType, vacDate, vacStatus, vacCost)

Payment(**pmtId**, pmtDate)

Relationships, Attributes, Degrees, Participating Entities and Constraints

Perform: ternary relationship

- 1 Student and 1 Employee to 1 or more Testing

- 1 Student and 1 Testing to 1 Employee

- 1 Testing and 1 Employee to 1 Student

Record: ternary relationship

- 1 Student and 1 Employee to 1 or more Vaccination

- 1 Student and 1 Vaccination to 1 Employee

- 1 Vaccination and 1 Employee to 1 Student

Transaction: binary relationship

- 1 Testing to 1 Payment

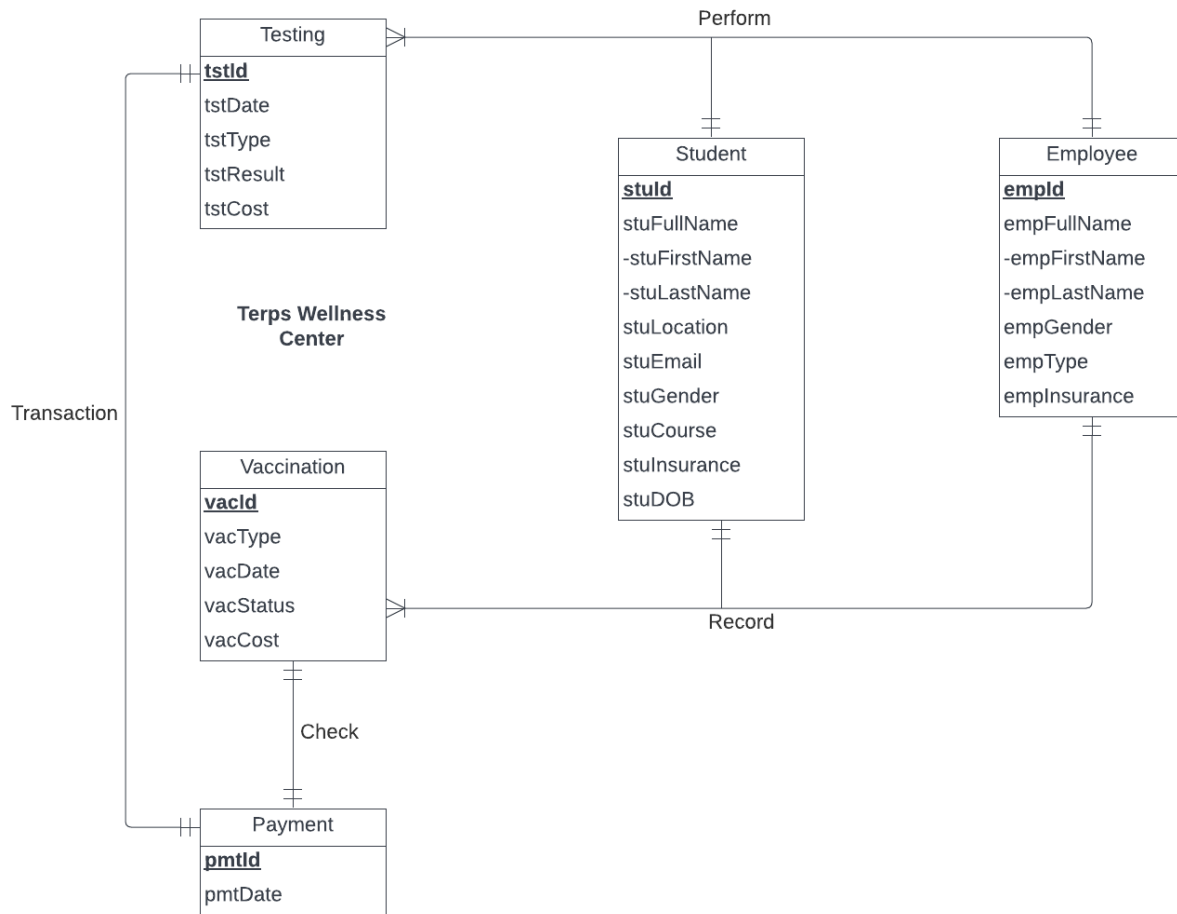
- 1 Payment to 1 Testing

Check: binary relationship

- 1 Vaccination to 1 Payment

- 1 Payment to 1 Vaccination

ER Diagram



Relations

Employee (empId, empFirstName, empLastName, empGender, empType, empInsurance)

Student (stId, stuFirstName, stuLastName, stuLocation, stuEmail, stuGender, stuCourse, stuInsurance, stuDOB)

Vaccination (vacId, vacType, vacDate, vacStatus, vacCost)

Testing (tstId, tstDate, tstType, tstResult, tstCost)

Payment (pmtId, pmtDate, *vacId*, *tstId*)

Perform (tstId, *stId*, *empId*)

Record (vacId, *stId*, *empId*)

Business Rules

- [R1] When a Student information is deleted, there should be no change the corresponding Student row in the Record relation.
- [R2] When a Student information is updated, there should be no change the corresponding Student row in the Record relation
- [R3] When an Employee information is deleted, there should be no change the corresponding Employee row in the Record relation
- [R4] When an Employee information is updated, there should be no change the corresponding Employee row in the Record relation
- [R5] When a Vaccination information is deleted, the corresponding Vaccination row in the Record relation should be deleted.
- [R6] When a Vaccination information is updated, the value of the corresponding Vaccination in the Record relation should be updated accordingly.
- [R7] When a Vaccination information is deleted, there should be no change in the corresponding Vaccination row in the Payment relation.
- [R8] When a Vaccination information is updated, the value of the corresponding Vaccination in the Payment relation should be updated accordingly.
- [R9] When a Testing information is deleted, there should be no change in the corresponding Testing row in the Payment relation.
- [R10] When a Testing information is updated, the value of the corresponding Testing in the Payment relation should be updated accordingly.
- [R11] When a Student information is deleted, there should be no change in the corresponding Student row in the Perform relation.
- [R12] When a Student information is updated, there should be no change in the corresponding Student row in the Perform relation.
- [R13] When an Employee information is deleted, there should be no change in the corresponding Employee row in the Perform relation.
- [R14] When an Employee information is updated, there should be no change in the corresponding Employee row in the Perform relation.
- [R15] When a Testing information is deleted, the corresponding Testing row in the Perform relation should be deleted.
- [R16] When a Testing information is updated, the value of the corresponding Testing in the Perform relation should be updated accordingly.

Referential Integrity

Relation	Foreign Key	Base Relation	Primary Key	Business Rule	ON DELETE	Business Rule	ON UPDATE
Record	stuld	Student	stuld	R1	NO ACTION	R2	NO ACTION
Record	empld	Employee	empld	R3	NO ACTION	R4	NO ACTION
Record	vacld	Vaccination	vacld	R5	CASCADE	R6	CASCADE
Payment	vacld	Vaccination	vacld	R7	NO ACTION	R8	CASCADE
Payment	tstld	Testing	tstld	R9	NO ACTION	R10	CASCADE
Perform	stuld	Student	stuld	R11	NO ACTION	R12	NO ACTION
Perform	empld	Employee	empld	R13	NO ACTION	R14	NO ACTION
Perform	tstld	Testing	tstld	R15	CASCADE	R16	CASCADE

Describe sample data for every relation

- Student: (S119252109)**stuld**, (Zehao) stuFirstName, (Lin)stuLastName, (On Campus)stuLocation, (zlin1013@umd.edu) stuEmail, (M)stuGender, (Online)stuCourse, (School)stuInsurance, (1999-06-29)stuDOB
- Employee: (E296)**empld**, (Jeremy)empFirstName, (Lamb)empLastName, (M)empGender, (Staff)empType, (jlamb@umd.edu)empEmail, (School)empInsurance
- Vaccination: (V123)**vacld**, (Covid-19 Vaccine)vacType, (2021-08-29)vacDate, (Completed)vacStatus, (15)vacCost

- Testing: (T232)**tstId**, (2021-09-29)tstDate, (Covid Test)tstType, (Negative)tstResult, (15)tstCost
- Payment: (P345)**pmtId**, (2021-10-13)pmtDate, (V123)*vacId*, (T232)*tstId*
- Perform: (T232)**tstId**, (S119252109)*stulId*, (E293)*emplId*
- Record: (V123)**vacId**, (S119252109)*stulId*, (E293)*emplId*