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CST3504

Project Proposal: Development of a Database for HIV and PrEP Patients

Business Description: The project will be executed in a community healthcare center that provides primary care services to people; in this case this project will be focus on those individuals who are at risk of or living with HIV. For those persons on risk of getting HIV there is a biotechnology knows a Pre-Exposure Prophylaxis (PrEP) services that can be provided. There is a need to improve the patient data management system to better serve patients and to comply with healthcare regulations.

Mission: The mission is to offer high-quality healthcare services to individuals who are at risk of or living with HIV, and to prevent new HIV infections through the provision of PrEP services. We are committed to using technology to improve patient outcomes, reduce healthcare costs, and increase operational efficiency.

Issues: In this healthcare facility they are still using some software that have problems to get the exact data for patients that are HIV positive, and those with a positive result for an STI. Those programs are EClinical Works, Eshare web portal from NYS DOH, others.

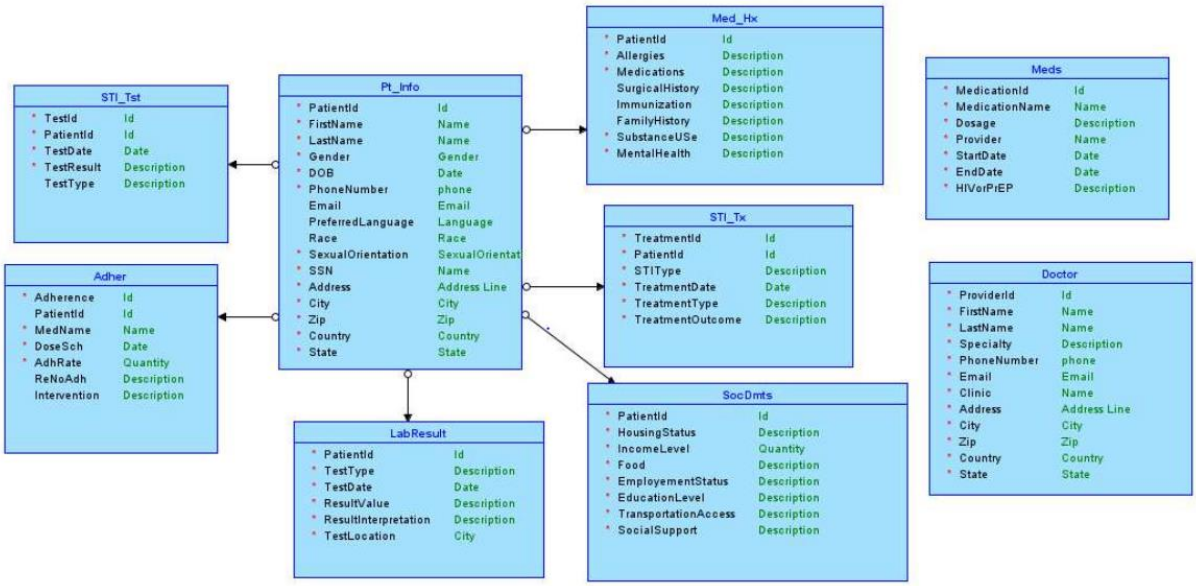
Information Systems Architecture: the proposed database will be based on client-server architecture, with the server hosting the database and the client accessing the database through a user interface. The database will be developed using a secure and scalable platform, such as Oracle. The user interface will be developed using a web-based platform, and the database will be hosted on a secure cloud-based platform to ensure high availability and disaster recovery.

The objectives of this project are to:

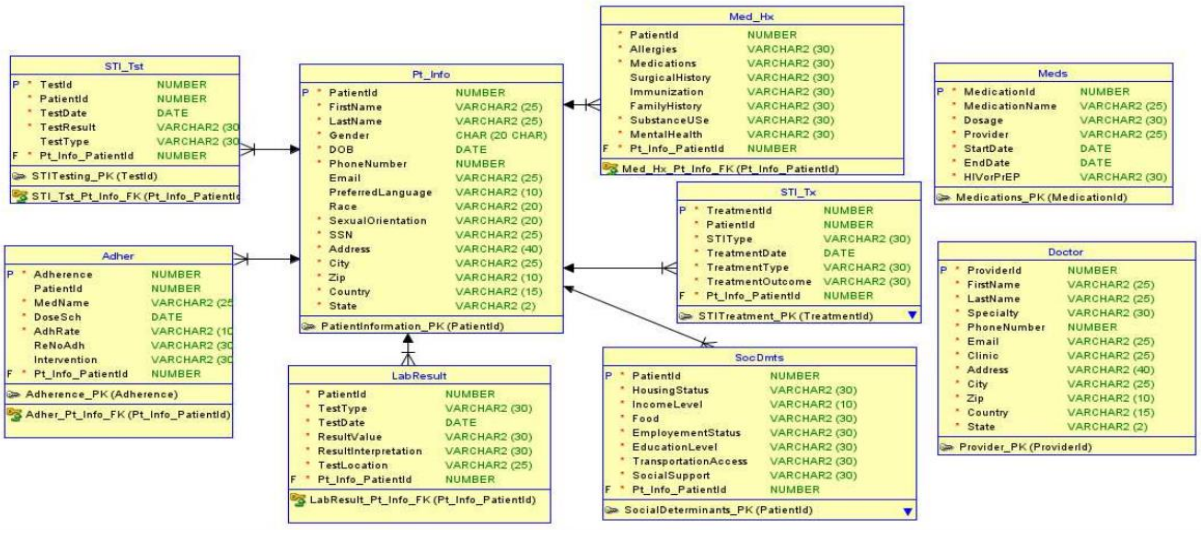
- Create a comprehensive database that tracks the medical histories and treatment plans for patients with HIV and those taking PrEP.
- Monitor patient adherence to medication and treatment plans to improve treatment outcomes.
- Facilitate patient referrals between healthcare providers.
- Identify and address social determinants of health that may impact patient health outcomes.
- Track patient STI testing and treatment history to inform treatment decisions and prevention strategies.
- Identify and track patient risk behaviors to develop targeted interventions to reduce the risk of STI and HIV transmission.

- Provide a user-friendly interface for healthcare providers to access and update patient information in a timely and efficient manner.
- Maintain patient privacy and security by implementing appropriate security measures and adhering to HIPAA regulations.

This is the Logical schema in the data modeler



Relational Diagram after engineering



DDL script generated by data modeler

```
-- Generated by Oracle SQL Developer Data Modeler 22.2.0.165.1149
--   at:        2023-05-23 15:36:10 EDT
```

```
--   site:      Oracle Database 11g
--   type:      Oracle Database 11g



-- predefined type, no DDL - MDSYS.SDO_GEOMETRY

-- predefined type, no DDL - XMLTYPE

ALTER SESSION SET NLS_DATE_FORMAT = 'MM-DD-YYYY';

CREATE TABLE adher (
    adherence         NUMBER NOT NULL,
    patientid         NUMBER,
    medname           VARCHAR2(25) NOT NULL,
    dosesch           DATE NOT NULL,
    adhrate           VARCHAR2(10) NOT NULL,
    renoadh           VARCHAR2(30),
    intervention      VARCHAR2(30),
    pt_info_patientid NUMBER NOT NULL
);

COMMENT ON COLUMN adher.adherence IS
    'AdherenceId';

ALTER TABLE adher ADD CONSTRAINT adherence_pk PRIMARY KEY ( adherence );

CREATE TABLE doctor (
    providerid  NUMBER NOT NULL,
    firstname   VARCHAR2(25) NOT NULL,
    lastname    VARCHAR2(25) NOT NULL,
    specialty   VARCHAR2(30) NOT NULL,
    phonenumber NUMBER NOT NULL,
    email       VARCHAR2(25) NOT NULL,
    clinic      VARCHAR2(25) NOT NULL,
    address     VARCHAR2(40) NOT NULL,
    city        VARCHAR2(25) NOT NULL,
    zip         VARCHAR2(10) NOT NULL,
    country     VARCHAR2(15) NOT NULL,
    state       VARCHAR2(2) NOT NULL
);

ALTER TABLE doctor ADD CONSTRAINT provider_pk PRIMARY KEY ( providerid );

CREATE TABLE labresult (
    patientid            NUMBER NOT NULL,
    testtype             VARCHAR2(30) NOT NULL,
    testdate             DATE NOT NULL,
    resultvalue          VARCHAR2(30) NOT NULL,
    resultinterpretation VARCHAR2(30) NOT NULL,
    testlocation         VARCHAR2(25) NOT NULL,
    pt_info_patientid    NUMBER NOT NULL
);

CREATE TABLE med_hx (
    patientid         NUMBER NOT NULL,
    allergies         VARCHAR2(30) NOT NULL,
    medications       VARCHAR2(30) NOT NULL,
    surgicalhistory   VARCHAR2(30),
    immunization      VARCHAR2(30),
    familyhistory     VARCHAR2(30),
    substanceuse      VARCHAR2(30) NOT NULL,
    mentalhealth      VARCHAR2(30) NOT NULL,
    pt_info_patientid NUMBER NOT NULL
);

CREATE TABLE meds (
    medicationid   NUMBER NOT NULL,
    medicationname VARCHAR2(25) NOT NULL,
    dosage         VARCHAR2(30) NOT NULL,
    provider       VARCHAR2(25) NOT NULL,
    startdate      DATE NOT NULL,
    enddate        DATE NOT NULL,
    hivorprep      VARCHAR2(30) NOT NULL
);

ALTER TABLE meds ADD CONSTRAINT medications_pk PRIMARY KEY ( medicationid );

CREATE TABLE pt_info (
    patientid         NUMBER NOT NULL,
    firstname         VARCHAR2(25) NOT NULL,
```

```
    lastname          VARCHAR2(25) NOT NULL,
    gender            CHAR(20 CHAR) NOT NULL,
    dob               DATE NOT NULL,
    phonenumber       NUMBER NOT NULL,
    email             VARCHAR2(25),
    preferredlanguage VARCHAR2(10),
    race              VARCHAR2(20),
    sexualorientation VARCHAR2(20) NOT NULL,
    ssn               VARCHAR2(25) NOT NULL,
    address           VARCHAR2(40) NOT NULL,
    city              VARCHAR2(25) NOT NULL,
    zip               VARCHAR2(10) NOT NULL,
    country           VARCHAR2(15) NOT NULL,
    state             VARCHAR2(2) NOT NULL
);

ALTER TABLE pt_info ADD CONSTRAINT patientinformation_pk PRIMARY KEY ( patientid );

CREATE TABLE socdmts (
    patientid            NUMBER NOT NULL,
    housingstatus        VARCHAR2(30) NOT NULL,
    incomelevel          VARCHAR2(10) NOT NULL,
    food                 VARCHAR2(30) NOT NULL,
    employementstatus    VARCHAR2(30) NOT NULL,
    educationlevel       VARCHAR2(30) NOT NULL,
    transportationaccess VARCHAR2(30) NOT NULL,
    socialsupport        VARCHAR2(30) NOT NULL,
    pt_info_patientid    NUMBER NOT NULL
);

ALTER TABLE socdmts ADD CONSTRAINT socialdeterminants_pk PRIMARY KEY ( patientid );

CREATE TABLE sti_tst (
    testid            NUMBER NOT NULL,
    patientid         NUMBER NOT NULL,
    testdate          DATE NOT NULL,
    testresult        VARCHAR2(30) NOT NULL,
    testtype          VARCHAR2(30),
    pt_info_patientid NUMBER NOT NULL
);

ALTER TABLE sti_tst ADD CONSTRAINT stitesting_pk PRIMARY KEY ( testid );

CREATE TABLE sti_tx (
    treatmentid       NUMBER NOT NULL,
    patientid         NUMBER NOT NULL,
    stitype           VARCHAR2(30) NOT NULL,
    treatmentdate     DATE NOT NULL,
    treatmenttype     VARCHAR2(30) NOT NULL,
    treatmentoutcome  VARCHAR2(30) NOT NULL,
    pt_info_patientid NUMBER NOT NULL
);

ALTER TABLE sti_tx ADD CONSTRAINT stitreatment_pk PRIMARY KEY ( treatmentid );

ALTER TABLE adher
    ADD CONSTRAINT adher_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );

ALTER TABLE labresult
    ADD CONSTRAINT labresult_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );

ALTER TABLE med_hx
    ADD CONSTRAINT med_hx_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );

ALTER TABLE socdmts
    ADD CONSTRAINT socdmts_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );

ALTER TABLE sti_tst
    ADD CONSTRAINT sti_tst_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );

ALTER TABLE sti_tx
    ADD CONSTRAINT sti_tx_pt_info_fk FOREIGN KEY ( pt_info_patientid )
        REFERENCES pt_info ( patientid );
```

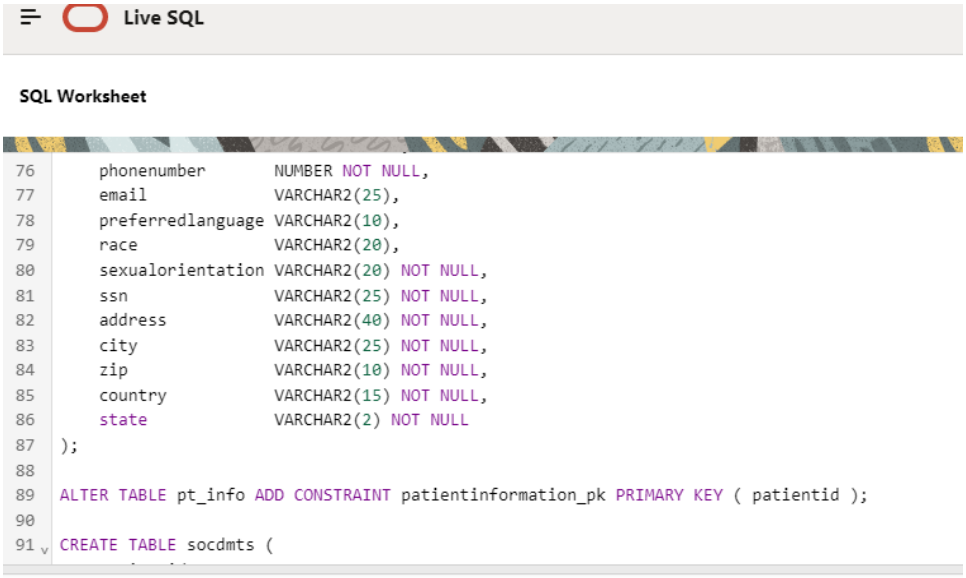
Then live oracle is used to create the tables and alter the Date format

Live SQL

SQL Worksheet

```
1  ALTER SESSION SET NLS_DATE_FORMAT = 'MM-DD-YYYY';
2
3  CREATE TABLE adher (
4      adherence          NUMBER NOT NULL,
5      patientid          NUMBER,
6      medname            VARCHAR2(25) NOT NULL,
7      dosesch            DATE NOT NULL,
8      adhrate            VARCHAR2(10) NOT NULL,
9      renoadh            VARCHAR2(30),
10     intervention       VARCHAR2(30),
11     pt_info_patientid NUMBER NOT NULL
12 );
13
14 COMMENT ON COLUMN adher.adherence IS
15     'AdherenceId';
16
17 ALTER TABLE adher ADD CONSTRAINT adherence_pk PRIMARY KEY ( adherence );
18
19 CREATE TABLE doctor (
20     providerid  NUMBER NOT NULL,
21     firstname   VARCHAR2(25) NOT NULL,
22     lastname    VARCHAR2(25) NOT NULL,
23     specialty   VARCHAR2(30) NOT NULL,
24     phonenumber NUMBER NOT NULL,
25     email       VARCHAR2(25) NOT NULL,
26     clinic      VARCHAR2(25) NOT NULL,
27     address     VARCHAR2(40) NOT NULL,
28     city        VARCHAR2(25) NOT NULL,
29     zip         VARCHAR2(10) NOT NULL,
30     country     VARCHAR2(15) NOT NULL,
```

After running the code:



Inserting values in the tables

```
-- Inserting values into adher table
INSERT INTO adher (adherence, patientid, medname, dosesch, adhrate,
renoadh, intervention, pt_info_patientid)
VALUES (1, 101, 'Biktarvy', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 95, NULL,
'None', 101);

INSERT INTO adher (adherence, patientid, medname, dosesch, adhrate,
renoadh, intervention, pt_info_patientid)
VALUES (2, 102, 'Dovato', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 80, 'Forgot
to take', 'Reminder', 102);

INSERT INTO adher (adherence, patientid, medname, dosesch, adhrate,
renoadh, intervention, pt_info_patientid)
VALUES (3, 103, 'Symtuza', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 100,
'adherent', 'None', 103);


-- Inserting values into doctor table
INSERT INTO doctor (providerid, firstname, lastname, specialty,
phonenumber, email, clinic, address, city, zip, country, state)
```

```
VALUES (1001, 'John', 'Martz', 'Infectologist', '1234567890',
'jmartz@gmail.com', 'Clinic A', '123 Main St', 'Cityville', '12345',
'USA', 'CA');

INSERT INTO doctor (providerid, firstname, lastname, specialty,
phonenumber, email, clinic, address, city, zip, country, state)
VALUES (1002, 'Mary', 'Rogers', 'Family medicine', '9876543210',
'mrogers@live.com', 'Clinic B', '456 Elm St', 'Townville', '56789', 'USA',
'NY');

INSERT INTO doctor (providerid, firstname, lastname, specialty,
phonenumber, email, clinic, address, city, zip, country, state)
VALUES (1003, 'Samuel', 'Williams', 'Medicine Intern', '5678901234',
'SWilliams@yahoo.com', 'Clinic C', '789 Oak St', 'Villageville', '98765',
'USA', 'TX');


-- Inserting values into labresult table
INSERT INTO labresult (patientid, testtype, testdate, resultvalue,
resultinterpretation, testlocation, pt_info_patientid)
VALUES (101, 'Viral Load', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 20,
'undetectable', 'Lab A', 101);

INSERT INTO labresult (patientid, testtype, testdate, resultvalue,
resultinterpretation, testlocation, pt_info_patientid)
VALUES (102, 'CD4 count', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 550,
'Normal', 'Lab B', 102);

INSERT INTO labresult (patientid, testtype, testdate, resultvalue,
resultinterpretation, testlocation, pt_info_patientid)
VALUES (103, 'rapid Test', TO_DATE('04-18-2023', 'MM-DD-YYYY'),
'Negative', 'negative', 'Lab C', 103);


-- Inserting values into med_hx table
INSERT INTO med_hx (patientid, allergies, medications, surgicalhistory,
immunization, familyhistory, substanceuse, mentalhealth,
pt_info_patientid)
VALUES (101, 'Penicillin', 'Biktarvy', 'None', 'Update', 'None', 'No',
'Stable', 101);

INSERT INTO med_hx (patientid, allergies, medications, surgicalhistory,
immunization, familyhistory, substanceuse, mentalhealth,
pt_info_patientid)
VALUES (102, 'Sulfate', 'Dovato', 'Appendectomy', 'Update', 'Diabetes',
'Yes', 'Depression', 102);

INSERT INTO med_hx (patientid, allergies, medications, surgicalhistory,
immunization, familyhistory, substanceuse, mentalhealth,
pt_info_patientid)
VALUES (103, 'No', 'Descovy', 'Incomplete', 'None', 'No', 'Stable', 103);


-- Inserting values into meds table
```

```
INSERT INTO meds (medicationid, medicationname, dosage, provider,
startdate, enddate, hivorprep)
VALUES (10001, 'MultiVitamin', '500mg', 'Dr. Martz', TO_DATE('04-18-2023',
'MM-DD-YYYY'), TO_DATE('04-30-2023', 'MM-DD-YYYY'), 'HIV');

INSERT INTO meds (medicationid, medicationname, dosage, provider,
startdate, enddate, hivorprep)
VALUES (10002, 'ComplexB', '1000g', 'Dr. Williams', TO_DATE('04-18-2023',
'MM-DD-YYYY'), TO_DATE('05-18-2023', 'MM-DD-YYYY'), 'HIV');

INSERT INTO meds (medicationid, medicationname, dosage, provider,
startdate, enddate, hivorprep)
VALUES (10003, 'Vitamin C', '250mg', 'Dr. Rogers', TO_DATE('04-18-2023',
'MM-DD-YYYY'), TO_DATE('04-25-2023', 'MM-DD-YYYY'), 'PrEP');


-- Inserting values into pt_info table
INSERT INTO pt_info (patientid, firstname, lastname, gender, dob,
phonenumber, email, preferredlanguage, race, sexualorientation, ssn,
address, city, zip, country, state)
VALUES (101, 'John', 'Smith', 'Male', TO_DATE('01-01-1990', 'MM-DD-YYYY'),
'1234567890', 'johnsmith@example.com', 'English', 'Caucasian', 'MSM',
'123-45-6789', '123 Main St', 'Cityville', '12345', 'USA', 'CA');

INSERT INTO pt_info (patientid, firstname, lastname, gender, dob,
phonenumber, email, preferredlanguage, race, sexualorientation, ssn,
address, city, zip, country, state)
VALUES (102, 'Jane', 'Doe', 'Female', TO_DATE('02-02-1995', 'MM-DD-YYYY'),
'9876543210', 'janedoe@example.com', 'English', 'African American',
'Straight', '987-65-4321', '456 Elm St', 'Townville', '56789', 'USA',
'NY');

INSERT INTO pt_info (patientid, firstname, lastname, gender, dob,
phonenumber, email, preferredlanguage, race, sexualorientation, ssn,
address, city, zip, country, state)
VALUES (103, 'David', 'Johnson', 'Male', TO_DATE('03-03-1985', 'MM-DD-
YYYY'), '5678901234', 'davidjohnson@example.com', 'English', 'Asian',
'MSM', '567-89-0123', '789 Oak St', 'Villageville', '98765', 'USA', 'TX');


-- Inserting values into socdmts table
INSERT INTO socdmts (patientid, housingstatus, incomelevel, food,
employementstatus, educationlevel, transportationaccess, socialsupport,
pt_info_patientid)
VALUES (101, 'Renting', 'Medium', 'Sufficient', 'Employed', 'Bachelor',
'Good', 'Family', 101);

INSERT INTO socdmts (patientid, housingstatus, incomelevel, food,
employementstatus, educationlevel, transportationaccess, socialsupport,
pt_info_patientid)
VALUES (102, 'Own', 'High', 'Insufficient', 'Unemployed', 'High School',
'Poor', 'Friends', 102);
```

```
INSERT INTO socdmts (patientid, housingstatus, incomelevel, food,
employementstatus, educationlevel, transportationaccess, socialsupport,
pt_info_patientid)
VALUES (103, 'Renting', 'Low', 'Sufficient', 'Employed', 'Master', 'Good',
'None', 103);


-- Inserting values into sti_tst table
INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype,
pt_info_patientid)
VALUES (1001, 101, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Positive', 'STD',
101);

INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype,
pt_info_patientid)
VALUES (1002, 102, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Negative', 'HIV',
102);

INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype,
pt_info_patientid)
VALUES (1003, 103, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Negative', 'STD',
103);


-- Inserting values into sti_tx table
INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate,
treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2001, 101, 'Chlamydia', TO_DATE('04-18-2023', 'MM-DD-YYYY'),
'Antibiotics', 'Cured', 101);

INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate,
treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2002, 102, 'Gonorrhea', TO_DATE('04-18-2023', 'MM-DD-YYYY'),
'Antibiotics', 'Improved', 102);

INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate,
treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2003, 103, 'Syphilis', TO_DATE('04-18-2023', 'MM-DD-YYYY'),
'Antibiotics', 'Cured', 103);
```

Live SQL

SQL Worksheet

```
INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype, pt_info_patientid)
VALUES (1001, 101, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Positive', 'STD', 101);

INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype, pt_info_patientid)
VALUES (1002, 102, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Negative', 'HIV', 102);

INSERT INTO sti_tst (testid, patientid, testdate, testresult, testtype, pt_info_patientid)
VALUES (1003, 103, TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Negative', 'STD', 103);


-- Inserting values into sti_tx table
INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate, treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2001, 101, 'Chlamydia', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Antibiotics', 'Cured', 101);

INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate, treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2002, 102, 'Gonorrhea', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Antibiotics', 'Improved', 102);

INSERT INTO sti_tx (treatmentid, patientid, stitype, treatmentdate, treatmenttype, treatmentoutcome, pt_info_patientid)
VALUES (2003, 103, 'Syphilis', TO_DATE('04-18-2023', 'MM-DD-YYYY'), 'Antibiotics', 'Cured', 103);


```

```
1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.

1 row(s) inserted.
```

Showing data in tables

```
SELECT * FROM ADHER;
```

ADHERENCE	PATIENTID	MEDNAME	DOSESCH	ADHRATE	RENOADH	INTERVENTION	PT_INFO_PATIENTID
1	101	Biktarvy	04-18-2023	95	-	None	101
2	102	Dovato	04-18-2023	80	Forgot to take	Reminder	102
3	103	Symtuza	04-18-2023	100	adherent	None	103

Download CSV

3 rows selected.

```
SELECT * FROM DOCTOR;
```

PROVIDERID	FIRSTNAME	LASTNAME	SPECIALTY	PHONENUMBER	EMAIL	CLINIC	ADDRESS	CITY	ZIP	COUNTRY	STATE
1001	John	Hartz	Infectologist	1234567890	jhartz@gmail.com	Clinic A	123 Main St	Cityville	12345	USA	CA
1002	Mary	Rogers	Family medicine	9876543210	mrogers@live.com	Clinic B	456 Elm St	Townville	56789	USA	NY
1003	Samuel	Williams	Medicine Intern	5678901234	SWilliams@yahoo.com	Clinic C	789 Oak St	Villageville	98765	USA	TX

Download CSV

3 rows selected.

```
SELECT * FROM PT_INFO;
```

PATIENTID	FIRSTNAME	LASTNAME	GENDER	DOB	PHONENUMBER	EMAIL	PREFERREDLANGUAGE	RACE	SEXUALORIENTATION	SSN	ADDRESS	CITY	ZIP	COUNTRY	STATE
101	John	Smith	Male	01-01-1990	1234567890	JohnSmith@example.com	English	Caucasian	MSM	123-45-6789	123 Main St	Cityville	12345	USA	CA
102	Jane	Doe	Female	02-02-1995	9876543210	janedoe@example.com	English	African American	Straight	987-65-4321	456 Elm St	Townville	56789	USA	NY
103	David	Johnson	Male	03-03-1985	5678901234	davidjohnson@example.com	English	Asian	MSM	567-89-0123	789 Oak St	Villageville	98765	USA	TX

Download CSV

3 rows selected.

```
226  SELECT * FROM STI_TX;
```

TREATMENTID	PATIENTID	STITYPE	TREATMENTDATE	TREATMENTTYPE	TREATMENTOUTCOME	PT_INFO_PATIENTID
2001	101	Chlamydia	04-18-2023	Antibiotics	Cured	101
2002	102	Gonorrhea	04-18-2023	Antibiotics	Improved	102
2003	103	Syphilis	04-18-2023	Antibiotics	Cured	103

Download CSV

3 rows selected.

```
226  SELECT * FROM LABRESULT;
```

PATIENTID	TESTTYPE	TESTDATE	RESULTVALUE	RESULTINTERPRETATION	TESTLOCATION	PT_INFO_PATIENTID
101	Viral Load	04-18-2023	20	undetectable	Lab A	101
102	CD4 count	04-18-2023	550	Normal	Lab B	102
103	rapid Test	04-18-2023	Negative	negative	Lab C	103

Download CSV

3 rows selected.

Testing the code by using queries

```
--To see what patients are low and medium income
SELECT pt_info.patientid, pt_info.firstname, pt_info.lastname
FROM pt_info
WHERE pt_info.patientid IN (
    SELECT socdmts.patientid
    FROM socdmts
    WHERE socdmts.incomelevel IN ('Low', 'Medium')
);
```

```
228  --To see what patients are low and medium income
229  SELECT pt_info.patientid, pt_info.firstname, pt_info.lastname
230  FROM pt_info
231  WHERE pt_info.patientid IN (
232      SELECT socdmts.patientid
233      FROM socdmts
234      WHERE socdmts.incomelevel IN ('Low', 'Medium')
235  );
236
```

PATIENTID	FIRSTNAME	LASTNAME
101	John	Smith
103	David	Johnson

Download CSV

2 rows selected.

```
SELECT pt_info.patientid, pt_info.firstname, pt_info.lastname
FROM pt_info
JOIN labresult ON pt_info.patientid = labresult.pt_info_patientid
WHERE labresult.resultinterpretation = 'undetectable';
```

```
237  -- Which patients are undetectable
238  SELECT pt_info.patientid, pt_info.firstname, pt_info.lastname
239  FROM pt_info
240  JOIN labresult ON pt_info.patientid = labresult.pt_info_patientid
241  WHERE labresult.resultinterpretation = 'undetectable';
242
```

PATIENTID	FIRSTNAME	LASTNAME
101	John	Smith

Download CSV

```
SELECT pt_info.firstname, pt_info.lastname
FROM pt_info
WHERE pt_info.state = 'NY';
```

```
243  --What patiens live in NY state
244  SELECT pt_info.firstname, pt_info.lastname
245  FROM pt_info
246  WHERE pt_info.state = 'NY';
247
```

FIRSTNAME	LASTNAME
Jane	Doe

Download CSV

```
SELECT pt_info.firstname, pt_info.lastname, sti_tx.stitype
FROM pt_info
JOIN sti_tx ON pt_info.patientid = sti_tx.patientid
WHERE sti_tx.treatmentoutcome = 'Cured';
```

```
247
248 --Which patients were cured for an STI
249 SELECT pt_info.firstname, pt_info.lastname, sti_tx.stitype
250 FROM pt_info
251 JOIN sti_tx ON pt_info.patientid = sti_tx.patientid
252 WHERE sti_tx.treatmentoutcome = 'Cured';
```

FIRSTNAME	LASTNAME	STITYPE
John	Smith	Chlamydia
David	Johnson	Syphilis

Download CSV

2 rows selected.

Conclusion

The database for HIV and PrEP patients will improve our patient data management system, enable us to provide better care for the patients, and help us comply with healthcare regulations. The use of technology in healthcare is crucial in improving patient outcomes and reducing healthcare costs, and we are committed to leveraging it to achieve our mission of providing high-quality healthcare services to individuals at risk of or living with HIV. We look forward to implementing this database and working with care team members to ensure its success.