region

resource_inventory
- inventoryid #
- facilityid
- resourcetype t
- quantity #
- minimumthreshold #
- lastrestocked d
- expirydate d
- notes t
- created_at d

healthcare_facility
- facilityid
- name t
- regionid
- facilitytype t
- bedcapacity #
- icucapacity #
- hasemergencyroom b
- specialtyunits t
- created_at d

disease_test
- testid #
- patientid
- diseaseid
- testdate d
- testtype t
- result t
- facilityid
- providerid
- notes t
- created_at d

patient
- patientid
- firstname t
- lastname t
- dateofbirth d
- gender t
- bloodtype t
- regionid
- contactnumber t
- emailaddress t
- medicalhistory t
- created_at d

healthcare_provider
- providerid
- firstname t
- lastname t
- specialty t
- licensenumber t
- facilityid
- contactinfo t
- created_at d

region
- regionid
- name t
- country t
- state t
- city t
- latitude #
- longitude #
- population #
- created_at d

disease_outbreak
- outbreakid #
- diseaseid
- regionid
- startdate d
- enddate d
- totalcases #
- status t
- containmentmeasures t
- notes t
- created_at d

disease

disease
- diseaseid
- name t
- classification t
- description t
- iscommunicable b
- symptoms t
- transmissionmethod t
- incubationperioddays #
- mortalityrate #
- created_at d

case_record
- caseid #
- patientid
- diseaseid
- variantid
- diagnosisdate d
- severity t
- symptoms t
- treatment t
- outcome t
- dischargedate d
- facilityid
- providerid
- created_at d

treatment_protocol
- protocolid #
- diseaseid
- name t
- description t
- medications t
- procedures t
- effectivedate d
- status t
- created_at d

disease_variant
- variantid
- diseaseid
- name t
- firstidentified d
- characteristics t
- transmissionrate #
- severity t
- dominantregion #
- created_at d

vw_dailytestsummary

vw_dailytestsummary
- testdate d
- totaltests #
- positivetests #
- avgtestcost #
- avgprocessingtime #

vw_facilityperformancemetrics
- facilitykey #
- facilityname t
- totaltests #
- avgprocessingtime #
- totalcosts #
- uniquepatients #

vw_diseasetrendanalysis
- testdate d
- diseasename t
- totaltests #
- positivetests #
- positiverate #

vw_patienttesthistory
- patientkey #
- patientname t
- diseasename t
- totaltests #
- testhistory t

Main Layout

Table case_record

Idx	Name	Data Type
* Pk	caseid	serial
	patientid	integer
Idx	diseaseid	integer
	variantid	integer
	diagnosisdate	date
	severity	varchar(50)
	symptoms	text
	treatment	text
	outcome	varchar(50)
	dischargedate	date
	facilityid	integer
	providerid	integer
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	case_record_pkey	caseid
	idx_case_disease	diseaseid

Foreign Keys

Type	Name	On
	case_record_providerid_fkey (providerid) ref healthcare_provider (providerid)	
	case_record_facilityid_fkey (facilityid) ref healthcare_facility (facilityid)	
	case_record_variantid_fkey (variantid) ref disease_variant (variantid)	
	case_record_diseaseid_fkey (diseaseid) ref disease (diseaseid)	
	case_record_patientid_fkey (patientid) ref patient (patientid)	

Table disease

Idx	Name	Data Type
* Pk	diseaseid	serial
* Idx	name	varchar(100)
	classification	varchar(100)
	description	text
	iscommunicable	boolean
	symptoms	text
	transmissionmethod	text
	incubationperioddays	integer
	mortalityrate	numeric(5,2)
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	disease_pkey	diseaseid
	idx_disease_name	name

Table disease_outbreak

Idx	Name	Data Type
* Pk	outbreakid	serial

Table disease_outbreak

Idx	diseaseid	integer
Idx	regionid	integer
	startdate	date
	enddate	date
	totalcases	integer
	status	varchar(50)
	containmentmeasures	text
	notes	text
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	disease_outbreak_pkey	outbreakid
	idx_outbreak_disease	diseaseid
	idx_outbreak_region	regionid

Foreign Keys

Type	Name	On
	disease_outbreak_regionid_fkey (regionid) ref region (regionid)	
	disease_outbreak_diseaseid_fkey (diseaseid) ref disease (diseaseid)	

Table disease_test

Idx	Name	Data Type
* Pk	testid	serial
Idx	patientid	integer
Idx	diseaseid	integer
*	testdate	date
	testtype	varchar(100)
	result	varchar(20)
	facilityid	integer
	providerid	integer
	notes	text
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	disease_test_pkey	testid
	idx_test_patient	patientid
	idx_test_disease	diseaseid

Foreign Keys

Type	Name	On
	disease_test_providerid_fkey (providerid) ref healthcare_provider (providerid)	
	disease_test_facilityid_fkey (facilityid) ref healthcare_facility (facilityid)	
	disease_test_diseaseid_fkey (diseaseid) ref disease (diseaseid)	
	disease_test_patientid_fkey (patientid) ref patient (patientid)	

Table disease_variant

Idx	Name	Data Type
* Pk	variantid	serial
	diseaseid	integer
*	name	varchar(100)

Table disease_variant

	firstidentified	date
	characteristics	text
	transmissionrate	numeric(4,2)
	severity	varchar(50)
	dominantregion	integer
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	disease_variant_pkey	variantid

Foreign Keys

Type	Name	On
	disease_variant_diseaseid_fkey (diseaseid) ref disease (diseaseid)	

Table healthcare_facility

Idx	Name	Data Type
* Pk	facilityid	serial
*	name	varchar(200)
Idx	regionid	integer
	facilitytype	varchar(50)
	bedcapacity	integer
	icucapacity	integer
	hasemergencyroom	boolean
	specialtyunits	text
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	healthcare_facility_pkey	facilityid
	idx_facility_region	regionid

Foreign Keys

Type	Name	On
	healthcare_facility_regionid_fkey (regionid) ref region (regionid)	

Table healthcare_provider

Idx	Name	Data Type
* Pk	providerid	serial
*	firstname	varchar(50)
*	lastname	varchar(50)
	specialty	varchar(100)
Unq	licensenumber	varchar(50)
	facilityid	integer
	contactinfo	text
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	healthcare_provider_pkey	providerid
Unq	healthcare_provider_licensenumber_key	licensenumber

Foreign Keys

Type	Name	On

Table healthcare_provider

healthcare_provider_facilityid_fkey (facilityid) ref healthcare_facility (facilityid)

Table patient

Idx	Name	Data Type
* Pk	patientid	serial
*	firstname	varchar(50)
*	lastname	varchar(50)
*	dateofbirth	date
	gender	varchar(20)
	bloodtype	varchar(5)
Idx	regionid	integer
	contactnumber	varchar(20)
	emailaddress	varchar(100)
	medicalhistory	text
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	patient_pkey	patientid
	idx_patient_region	regionid

Foreign Keys

Type	Name	On
	patient_regionid_fkey (regionid) ref region (regionid)	

Table region

Idx	Name	Data Type
* Pk	regionid	serial
*	name	varchar(100)
*	country	varchar(100)
	state	varchar(100)
	city	varchar(100)
	latitude	numeric(10,6)
	longitude	numeric(10,6)
	population	integer
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	region_pkey	regionid

Table resource_inventory

Idx	Name	Data Type
* Pk	inventoryid	serial
	facilityid	integer
	resourcetype	varchar(100)
	quantity	integer
	minimumthreshold	integer
	lastrestocked	date
	expirydate	date
	notes	text

Table resource_inventory

	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	resource_inventory_pkey	inventoryid

Foreign Keys

Type	Name	On
	resource_inventory_facilityid_fkey (facilityid) ref healthcare_facility (facilityid)	

Table treatment_protocol

Idx	Name	Data Type
* Pk	protocolid	serial
	diseaseid	integer
	name	varchar(200)
	description	text
	medications	text
	procedures	text
	effectivedate	date
	status	varchar(50)
	created_at	timestamp DEFAULT CURRENT_TIMESTAMP

Indexes

Type	Name	On
Pk	treatment_protocol_pkey	protocolid

Foreign Keys

Type	Name	On
	treatment_protocol_diseaseid_fkey (diseaseid) ref disease (diseaseid)	

View vw_dailytestsummary

```
CREATE OR REPLACE VIEW vw_dailytestsummary AS SELECT ${view} AS testdate,
    count(*) AS totaltests,
    count(
        CASE
            WHEN ((ft.testresult)::text = 'Positive'::text) THEN 1
            ELSE NULL::integer
        END) AS positivetests,
    (avg(ft.testcost))::numeric(10,2) AS avgtestcost,
    (avg(ft.processingtimeminutes))::numeric(10,2) AS avgprocessingtime
   FROM (disease_dw.factpatienttests ft
     JOIN disease_dw.dimdate dd ON ((ft.datekey = dd.datekey)))
  GROUP BY ${view}
  ORDER BY ${view}
```

View vw_diseasetrendanalysis

```
CREATE OR REPLACE VIEW vw_diseasetrendanalysis AS SELECT ${view} AS testdate,
    ds.diseasename,
    count(*) AS totaltests,
    count(
        CASE
            WHEN ((ft.testresult)::text = 'Positive'::text) THEN 1
            ELSE NULL::integer
        END) AS positivetests,
    round((((count(
        CASE
            WHEN ((ft.testresult)::text = 'Positive'::text) THEN 1
            ELSE NULL::integer
        END))::numeric * 100.0) / (count(*))::numeric), 2) AS positiverate
   FROM ((disease_dw.factpatienttests ft
     JOIN disease_dw.dimdate dd ON ((ft.datekey = dd.datekey)))
     JOIN disease_dw.dimdisease ds ON ((ft.diseasekey = ds.diseasekey)))
  GROUP BY ${view}, ds.diseasename
  ORDER BY ${view}, ds.diseasename
```

View vw_facilityperformancemetrics

```
CREATE OR REPLACE VIEW vw_facilityperformancemetrics AS SELECT ${view},
    df.facilityname,
    count(*) AS totaltests,
    (avg(ft.processingtimeminutes))::numeric(10,2) AS avgprocessingtime,
    (sum(ft.testcost))::numeric(10,2) AS totalcosts,
    count(DISTINCT ft.patientkey) AS uniquepatients
   FROM (disease_dw.factpatienttests ft
     JOIN disease_dw.dimfacility df ON ((ft.facilitykey = ${view})))
  GROUP BY ${view}, df.facilityname
```

View vw_patienttesthistory

```
CREATE OR REPLACE VIEW vw_patienttesthistory AS SELECT ${view},
    (((dp.firstname)::text || ' '::text) || (dp.lastname)::text) AS patientname,
    dd.diseasename,
    count(*) AS totaltests,
    string_agg(((((ft.testresult)::text || ' ('::text) || dt.fulldate) || ')'::text), '; '::text) AS testhistory
   FROM (((disease_dw.factpatienttests ft
     JOIN disease_dw.dimpatient dp ON ((ft.patientkey = ${view})))
     JOIN disease_dw.dimdisease dd ON ((ft.diseasekey = dd.diseasekey)))
     JOIN disease_dw.dimdate dt ON ((ft.datekey = dt.datekey)))
  GROUP BY ${view}, dp.firstname, dp.lastname, dd.diseasename
```