

TITLE: CycleCare-A period tracker

Phase 1: Problem Understanding & Industry Analysis

1. Requirement Gathering

Purpose: Collect detailed requirements from potential users.

Steps:

1. Identify target users:
 - Patients (tracking cycle & appointments)
 - Gynecologists/doctors (appointment management, patient history)
 - Admins (monitoring overall app usage)
2. Gather functional needs:
 - Track cycle dates (start, end, irregularities)
 - Predict ovulation & fertile windows
 - Book doctor appointments & send reminders
 - Locate gynecologists nearby (integration with maps/doctor APIs)
 - Notifications for irregular cycles → suggest medical visits
3. Gather non-functional needs:
 - Mobile-first design
 - Secure handling of sensitive medical data
 - Simple and intuitive UI
 - Scalable for large user base

2. Stakeholder Analysis

Purpose: Understand **who benefits from the app** and what they need.

Stakeholder	Needs	Pain Points
Patients	Cycle tracking, reminders, ovulation prediction	Forgetting cycles, lack of medical awareness
Doctors	Appointment scheduling, patient history access	Time management, lack of patient info
Admins	Manage app usage, reports, compliance	Ensuring data security & accurate insights

3. Business Process Mapping

Purpose: Visualize workflows inside the app.

Example Processes for Cycle Care:

- **Cycle Tracking Flow:**
User logs cycle → System predicts ovulation → Sends reminders → Flags irregular cycles
- **Appointment Booking Flow:**
User searches doctor → Finds nearby gynecologist → Books slot → Doctor confirms → Reminder sent
- **Doctor Interaction Flow:**
Doctor logs in → Views appointments → Accesses patient cycle data → Suggests treatment

(Best represented in a flowchart or BPMN diagram – I can create one if you'd like 🙏).

4. Industry -Specific Use Case Analysis

Purpose: See what's already in the **FemTech (female health tech)** industry and tailor accordingly.

Common Features in Similar Apps:

- **Period Tracking Apps (Clue, Flo, Ovia):** AI-based predictions, symptom logging
- **Doctor Appointment Apps (Practo, Zocdoc):** Location-based search, teleconsultations
- **Wellness Apps (Fitbit, Apple Health):** Integration with wearables, lifestyle tracking

Insights for Cycle Care:

- Start simple (cycle tracking + doctor appointments).
- Later enhancements → wearable integration, AI predictions, telemedicine.

5. AppExchange Exploration

Purpose: Research what Salesforce already offers.

Steps:

1. Go to **AppExchange** → Search terms: *"Healthcare"*, *"Patient Management"*, *"Appointments"*, *"FemTech"*
2. Analyze existing apps:
 - Health Cloud (by Salesforce) → for patient records & care plans
 - Doctor Appointment Scheduler apps
 - Maps & Location services
3. Learn from them:
 - What features do they already provide?
 - What gaps can Cycle Care fill? (e.g., personalized female health focus)

Phase 2: Org Setup & Configuration

1. Salesforce Edition

- Used **Developer Edition**: free, full features, can test apps before bigger editions.

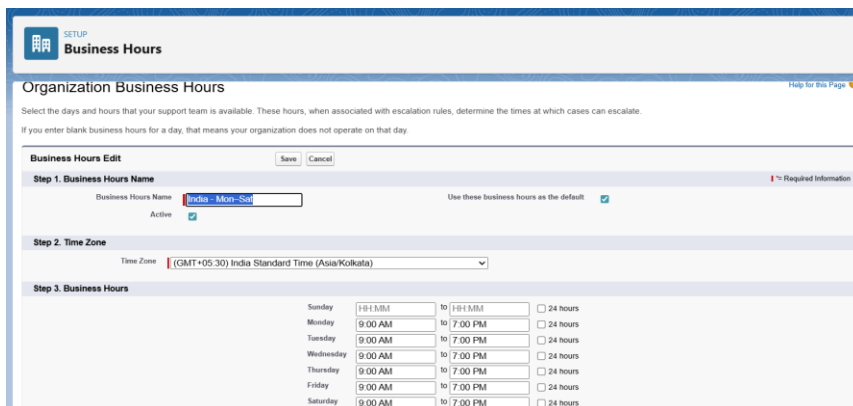
2. Company Profile

- **Settings:** India, currency INR, English.
- **Why:** Correct money calculations, accurate dates, compliance.

The screenshot displays the OrgFam web application. The top navigation bar includes a logo, 'Setup', 'Home', and 'Object Manager'. A search bar at the top right contains the text 'Search Setup'. On the left sidebar, under 'Company Settings', the 'Company Information' option is selected. The main content area shows the 'CycleCare Pvt. Ltd.' profile. It includes links for 'User Licenses', 'Participant Set Licenses', 'Feature Licenses', and 'Update-based Differences'. Below this is the 'Organization Detail' section with a grid of settings categorized by Organization Name, Primary Contact, Address, Fiscal Year, Activate Multiple Companies, Enable Data Synchronization, Admin Newsletter, Hide Notices About System Maintenance, Hide Notices About System Downtime, Local Formats, Phone, Fax, Default Locale, English (India), Default Language, English, Default Time Zone, (GMT+05:30) India (Standard Time aka(NorCST)), Currency Locale, English (India) - INR, Used Time Space, 354 241 (PVT) [24x24], Used File Space, 311 KB (2%) [24x24], API Requests, Limit 24 Hours, 0 (15,000 max), Streaming API Events, Limit 24 Hours, 0 (10,000 max), Restricted Logins, Current Month, 0 (0 max), Salesforce.com Organization ID, 000GJ000000000000, Organization Edition, Developer Edition, Instance, CANNIS.

3. Business Hours & Holidays

- **Work hours:** Mon–Sat, 9 AM – 7 PM



SETUP

Business Hours

[Help for this Page](#)

Organization Business Hours

Select the days and hours that your support team is available. These hours, when associated with escalation rules, determine the times at which cases can escalate.

If you enter blank business hours for a day, that means your organization does not operate on that day.

Business Hours Edit

Step 1. Business Hours Name

Business Hours Name

India - Mon-Sat

Active ☒

Use these business hours as the default ☒

Required Information

Step 2. Time Zone

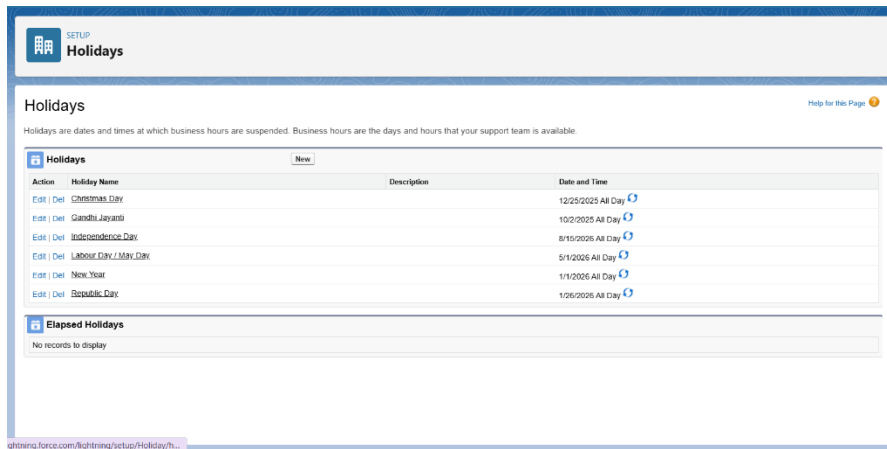
Time Zone

(GMT+05:30) India Standard Time (Asia/Kolkata)

Step 3. Business Hours

Sunday	8:00 AM	to	8:00 PM	<input type="checkbox"/> 24 hours
Monday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours
Tuesday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours
Wednesday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours
Thursday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours
Friday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours
Saturday	9:00 AM	to	7:00 PM	<input type="checkbox"/> 24 hours

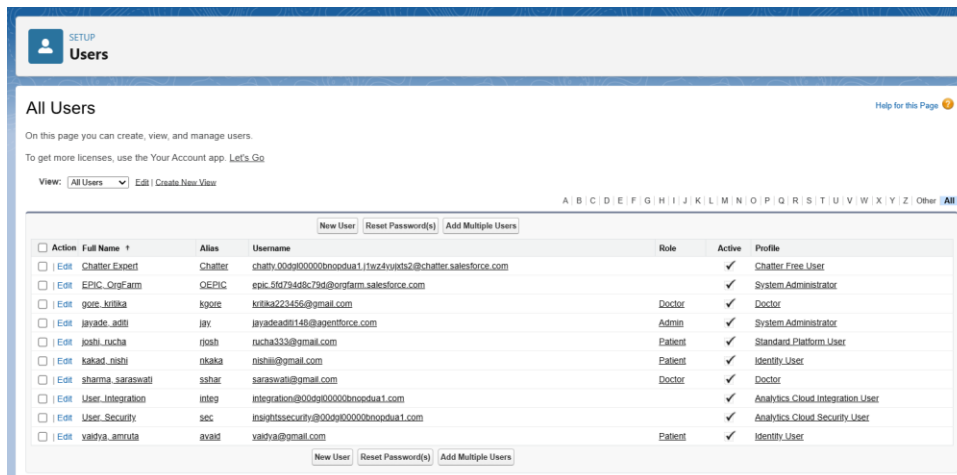
- **Holidays:** National holidays.



- **Why:** Service booking, case escalation, and SLAs depend on working hours.

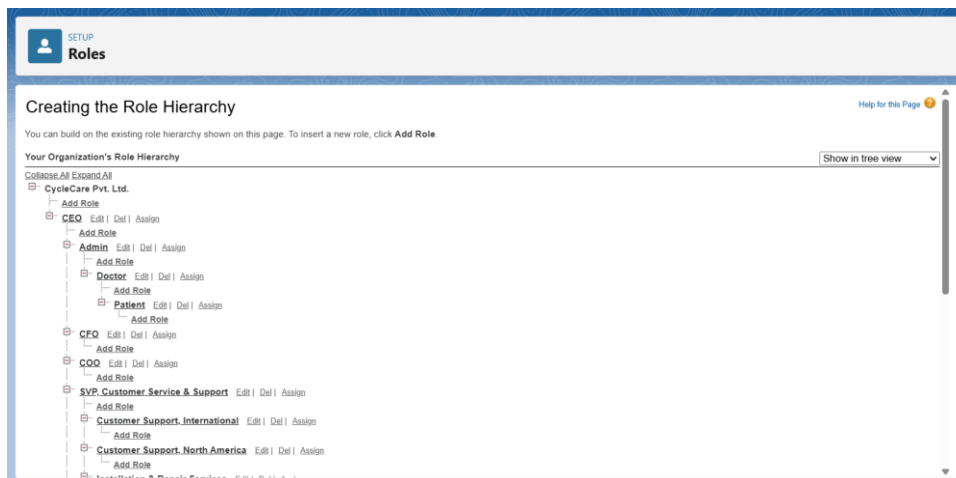
4. User Setup

- Users: Admin, Doctor, Patient.
- Assign proper licenses for access.



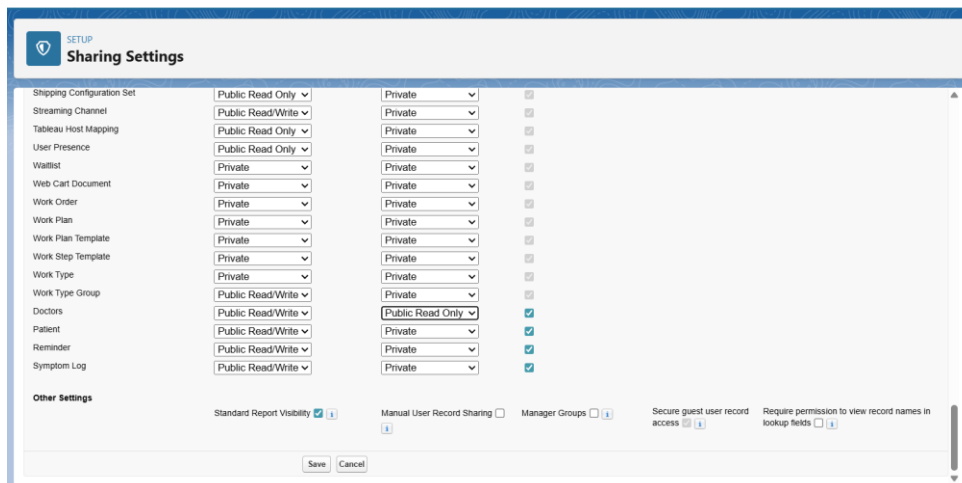
5. Profiles & Roles

- **Profiles:** Control what each user can do.
 - I have basically made three profiles and they are: Admin ,Doctor and Patient
- **Roles:** Show hierarchy (Admin → Doctor →Patient)



6. OWD & Sharing Rules

- **OWD:** Private for service records.
- **Sharing:** Doctor sees all, customer sees own records.



Phase 3: Data Modeling & Relationships

1. Custom Objects

- Doctor, Patient, Appointment, Cycle Record, Symptom logs

The image displays five screenshots of a database management interface, likely for a healthcare system. Each screenshot shows a 'Details' view for a specific custom object: Doctor, Patient, Appointment, Cycle Record, and Symptom Log. The interface is organized into a sidebar with a tree view on the left and a main content area on the right. The tree view lists various fields and relationships for each object. The main content area displays the details for the selected object, including fields like Description, Name, Email, and various status indicators. The interface is designed to be user-friendly and intuitive, with clear labels and a consistent layout across all object views.

Doctor

Patient

Appointment

Cycle Record

Symptom Log

2. Fields

- **Doctor:** Clinic Address, Doctors Name, Email, Number of Patients, phone no, Specialty, User.
- **Patient:** age, avg cycle length, consent accepted, Consent date, Cycle count, DOB, Email, Full Name, Gender, Medical Notes, Patients ID, Phone, Primary Doctor, Total Cycle Days.
- **Appointment:** Appointment Date/Time, Appointments Name, Doctors, Meeting Link, Mode, Notes, Patient, Status.
- **Cycle_record:** Cycle Records Name, End Date, Flow Intensity, Length, Notes, Pain Level, Patient, Start Date.
- **Symptom logs:** Cycle Record, Date, Notes, Patient, Severity, Symptom Logs Name, Symptoms.

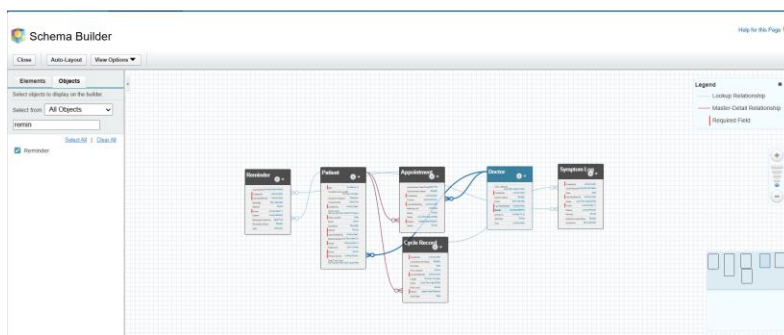
[illegible]

- Arrangement of fields, sections, related lists.

[illegible]

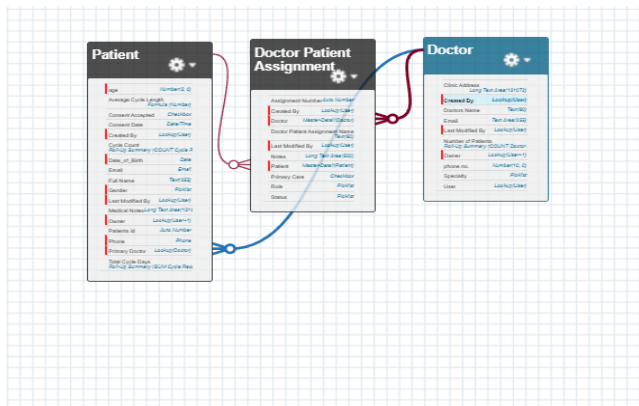
4. Schema Builder (ERD)

- Visual representation of objects and their relationships.
 - Appointment → Lookup → Doctor
 - Appointment → MDR → Patient
 - Patient → Lookup → Doctor
 - Reminder → Lookup → Patient
 - Reminder → Lookup → Appointment
 - Cycle_Record → MDR → Patient
 - Symptom Log → Lookup → Patient
 - Symptom Log → Lookup → Cycle_Record
- **Why:** Proper relationships help reporting and automation.

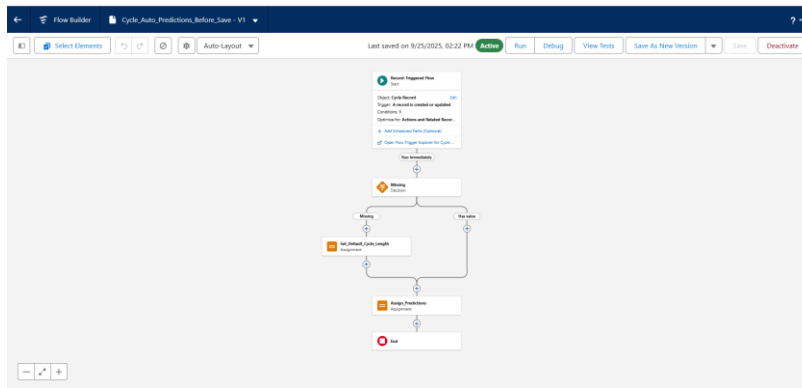


5. Junction Objects

- Handle **many-to-many relationships**.
 - Doctor Patient Assignment → MDR → Doctor
 - Doctor Patient Assignment → MDR → Patient



- Cycle_Auto_Predictions_Before_Save



- Automate simple tasks like sending reminders.

custom notification

Phase 5: Apex Programming

1. Apex Triggers (after insert / after update)

```
trigger MenstrualCycleTrigger on Menstrual_Cycle__c (after insert, after update) {  
  
    if (Trigger.isAfter && (Trigger.isInsert || Trigger.isUpdate)) {  
  
        MenstrualCycleTriggerHandler.afterUpsert(Trigger.new);  
  
    }  
  
}
```

2. Trigger Design Pattern — handler class

```
public class MenstrualCycleTriggerHandler {  
  
    public static void afterUpsert(List<Menstrual_Cycle__c> newList) {  
  
        Set<Id> contactIds = new Set<Id>();  
  
        for (Menstrual_Cycle__c m : newList) {  
  
            if (m.Contact__c != null) contactIds.add(m.Contact__c);  
  
        }  
  
        if (contactIds.isEmpty()) return;  
  
        // enqueue queueable job for async prediction (bulk safe)  
  
        System.enqueueJob(new CyclePredictionQueueable(contactIds));  
  
    }  
  
}
```

3. Queueable Apex

```
public class CyclePredictionQueueable implements Queueable {  
  
    private Set<Id> contactIds;
```

```

public CyclePredictionQueueable(Set<Id> contactIds) {

    this.contactIds = contactIds;

}

public void execute(QueueableContext ctx) {

    CyclePredictor.predictForUsers(contactIds);

}

}

```

4.Future Methods

```

public class NotificationService {

    @future

    public static void sendReminder(List<Id> contactIds) {

        // placeholder for notification logic (callout not allowed unless future(callout=true))

    }

}

```

5.Exception Handling

```

try {

    update updates;

} catch (Exception e) {

    System.debug('CyclePredictor.update error: ' + e.getMessage());

}

```

6.Test Classes

```

@isTest

private class CycleCareTests {

    @isTest static void testTriggerAndPredictor() {

```

```

// prepare parent data

Account acc = new Account(Name='Test Acc');

insert acc;

Contact c = new Contact(FirstName='T', LastName='User', AccountId = acc.Id);

insert c;


// create 4 cycles spaced 28 days apart (most recent equals today)

Date baseDate = Date.today().addDays(-84); // 12 weeks ago

List<Menstrual_Cycle__c> cycles = new List<Menstrual_Cycle__c>();

for (Integer i = 0; i < 4; i++) {

    cycles.add(new Menstrual_Cycle__c(

        Contact__c = c.Id,

        Start_Date__c = baseDate.addDays(28 * i)

    ));

}


Test.startTest();

    insert cycles; // trigger will enqueue Queueable; stopTest runs async jobs

Test.stopTest();


// query most recent cycle and assert predictions

Menstrual_Cycle__c recent = [SELECT Id, Start_Date__c, Predicted_Next_Period__c,

    Predicted_Ovulation__c, Fertile_Window_Start__c

    FROM Menstrual_Cycle__c

```

```
WHERE Contact__c = :c.Id  
  
ORDER BY Start_Date__c DESC  
  
LIMIT 1];
```

```
Date expectedNext = recent.Start_Date__c.addDays(28); // expected avg cycle 28  
  
System.assertEquals(expectedNext, recent.Predicted_Next_Period__c);  
  
System.assertEquals(expectedNext.addDays(-14), recent.Predicted_Ovulation__c);  
  
System.assertEquals(expectedNext.addDays(-14).addDays(-5), recent.Fertile_Window_Start__c);  
  
}  
  
}
```

- Assembles app pages with standard and custom components.
- Provide structured navigation.

Phase 7: Data Management & Deployment

1. Data Import Wizard

- Import data of Doctor and Patient

Edit Field Mapping: Doctors

Edit	Mapped Salesforce Object	CSV Header	Example	Example	Example
Change	Clinic Address	Clinic Address	123 Health St, G	45 Wellness Ave	7 Care Road, Metropolis
Change	Doctors Name	Doctors Name	Dr. A. Kumar	Dr. S. Rao	Dr. L. Mehra
Change	Email	Email	akumar@example.com	srao@example.com	lmehra@example.com
Map	Unmapped	Number of Patients	120	85	200
Map	Unmapped	phone.no	+91 98765 4321	+91 91234 5678	+91 9876 54321
Change	Specialty	Specialty	Fertility	Gynecology	Endocrinology

Edit Field Mapping: Patients

Edit	Mapped Salesforce Object	CSV Header	Example	Example	Example
Change	Age	age	33	40	28
Map	Unmapped	Average Cycle Length	28	30	26
Change	Consent Accepted	Consent Accepted	TRUE	TRUE	FALSE
Change	Consent Date	Consent Date	11/15/2025	11/20/2024	
Map	Unmapped	Cycle Count	2	5	0
Change	Date of Birth	Date of Birth	5/12/1992	2/20/1985	7/3/1996
Change	Email	Email	pam.doe@example.com	rita.patel@example.com	anita.shah@example.com

2. Duplicate Rules

- Prevents duplicate patient or doctor records.
- Doctor and patient duplicate rules

Duplicate Rule Detail

Rule Name: Patient_Duplicate_Rule

Description: Patient Duplicate Rule - Patient_Duplicate_Rule - Salesforce - Developer Edition

Object: Patient

Record-Level Security: Enforce sharing rules

Action On Create: Allow

Operations On Create: Alert, Report

Action On Edit: Allow

Operations On Edit: Alert, Report

Alert Text: Use one of these records?

Active: ☒

Matching Rule: Patient_Duplicate_Rule.matching.rule

Matching Criteria: (F1.L1.L1: Email EXACT MatchBlank = FALSE) AND (F1.L1.L1: Phone EXACT MatchBlank = FALSE)

Conditions: Created By: admin@org.com, 9/26/2025, 11:35 AM

Modified By: admin@org.com, 9/26/2025, 11:37 AM

SETUP

Duplicate Rules

Doctor Duplicate Rule

Doctor_Duplicate_Rule

Help for this Page

Duplicate Rule Detail

EditDeleteCloneDeactivate

Order1 of 1 (Records)1

Rule Name	Doctor_Duplicate_Rule
Description	Prevents duplicate doctor records based on email or phone.
Object	Doctor
Record Level Security	Entire sharing rules
Action On Create	Allow
Action On Edit	Allow
Alert Text	Use one of these records?
Active	<input checked="" type="checkbox"/>
Matching Rule	<input checked="" type="checkbox"/> Doctor_Duplicate_Rule matching rule <input checked="" type="checkbox"/> Mapped
Matching Criteria	(Doctor: Email EXACT MatchBlank = FALSE) AND (Doctor: phone EXACT MatchBlank = FALSE)
Conditions	
Created By	adil iyade 9/26/2025, 11:30 AM
Modified By	adil iyade 9/26/2025, 11:37 AM

EditDeleteCloneDeactivate

3. Data Export & Backup

- Safeguards against data loss.

SETUP

Data Export

Monthly Export Service

Help for this Page

Data Export lets you prepare a copy of all your data in salesforce.com. From this page you can start the export process manually or schedule it to run automatically. When an export is ready for download you will receive an email containing a link that allows you to download the file(s). The export files are also available on this page for 48 hours, after which time they are deleted.

Next scheduled export.

A data export is currently in progress for your organization.

Export NowSchedule Export

Your export has been queued. You will receive an email notification when it is completed.

Scheduled Byadil iyade

Schedule Date9/26/2025

Export File EncodingISO-8859-1 (General US & Western European, ISO-LATIN-1)

Phase 8: Reporting & Dashboards

1. Reports

- Generate tabular, summary, matrix, and joined reports for tracking cycles, appointments, and irregularities.

Report: Patients with Cycle Records

Patients Cycle Relation

Enable Field Editing

Q

Add Chart

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Total Records: 12

Total Total Cycle Days: 55.00

Patient: Patients Id	Full Name	Cycle Record: Cycle Records Name	Total Cycle Days	Start Date	End Date	Pain Level	Flow Intensity
<input type="checkbox"/> PAT-0001 (4)	nishi kulkarni (4)	September Cycle 2025	24.00	9/1/2025	9/7/2025	2 (Moderate)	3 (Severe)
		August Cycle 2025	24.00	8/1/2025	8/7/2025	0 (No pain at all)	2 (Moderate)
		June Cycle 2025	24.00	7/5/2025	7/11/2025	1 (Mild)	2 (Moderate)
		July Cycle 2025	24.00	7/5/2025	7/12/2025	0 (No pain at all)	2 (Moderate)
		Subtotal	24.00				
Subtotal			24.00				
<input type="checkbox"/> PAT-0002 (4)	renuka shinde (4)	September Cycle 2025	20.00	9/3/2025	9/9/2025	3 (Severe)	2 (Moderate)
		June Cycle 2025	20.00	6/4/2025	6/9/2025	3 (Severe)	1 (Mild)
		July Cycle 2025	20.00	7/5/2025	7/10/2025	2 (Moderate)	2 (Moderate)
		August Cycle 2025	20.00	8/5/2025	8/10/2025	1 (Mild)	1 (Mild)
		Subtotal	20.00				
Subtotal			20.00				
<input type="checkbox"/> PAT-0003 (4)	jaya awanbar (4)	September Cycle 2025	11.00	9/2/2025	9/5/2025	2 (Moderate)	2 (Moderate)
Row Counts			<input checked="" type="checkbox"/>	Detail Rows	<input checked="" type="checkbox"/>	Subtotals	<input checked="" type="checkbox"/>
Grand Total			<input checked="" type="checkbox"/>				

Report: Cycle Record History

Cycle Record Report

Enable Field Editing

Q

Add Chart

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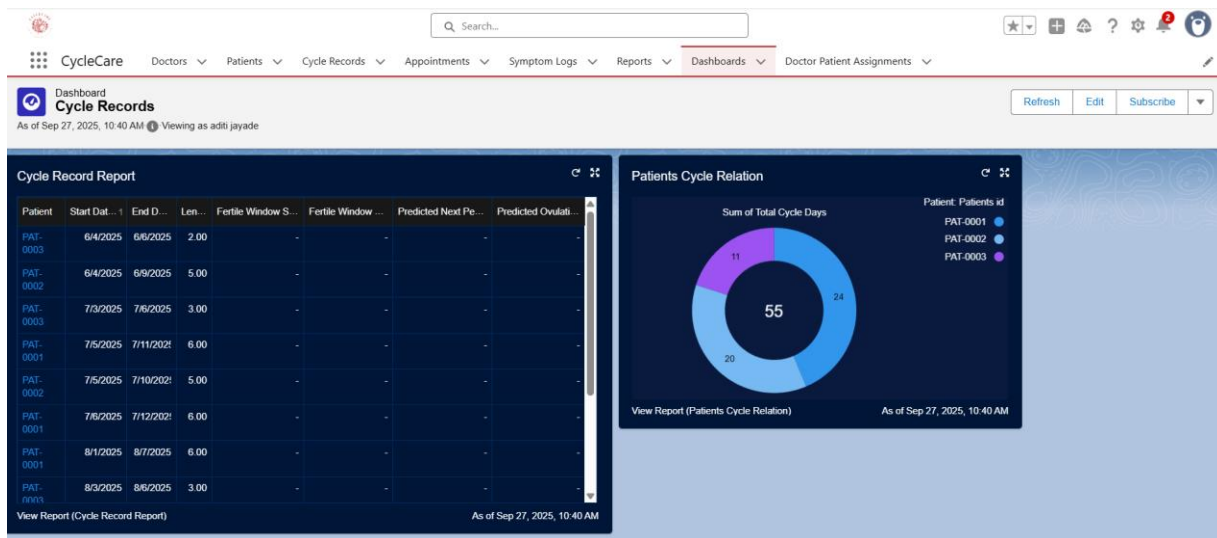
✎

▼

Total Records: 12

Total Length: 55.00

Patient	Start Date	End Date	Length	Fertile Window Start	Fertile Window End	Predicted Next Period	Predicted Ovulation
<input type="checkbox"/> PAT-0001 (4)	9/1/2025	9/7/2025	6.00	-	-	-	-
	8/1/2025	8/7/2025	6.00	-	-	-	-
	7/5/2025	7/11/2025	6.00	-	-	-	-
	7/5/2025	7/12/2025	6.00	-	-	-	-
	Subtotal		24.00				
<input type="checkbox"/> PAT-0002 (4)	9/3/2025	9/9/2025	5.00	-	-	-	-
	6/4/2025	6/9/2025	5.00	-	-	-	-
	7/5/2025	7/10/2025	5.00	-	-	-	-
	8/5/2025	8/10/2025	5.00	-	-	-	-
	Subtotal		20.00				
<input type="checkbox"/> PAT-0003 (4)	9/2/2025	9/5/2025	3.00	-	-	-	-
	6/4/2025	6/6/2025	3.00	-	-	-	-
	7/3/2025	7/6/2025	3.00	-	-	-	-
Row Counts			<input checked="" type="checkbox"/>	Detail Rows	<input checked="" type="checkbox"/>	Subtotals	<input checked="" type="checkbox"/>
Grand Total			<input checked="" type="checkbox"/>				



3. Sharing Settings

- Define record-level access.

The screenshot shows the Sharing Settings configuration page. It includes a table for setting permissions for various data sources and a section for other settings.

Configuration Set	Public Read Only	Private	Secure
Shipping Configuration Set	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Streaming Channel	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tableau Host Mapping	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
User Presence	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Waitlist	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Web Cart Document	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Order	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Plan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Plan Template	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Step Template	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Type	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Work Type Group	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Doctor	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Patient	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Reminder	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Symptom Log	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Other Settings

Standard Report Visibility ☒ Manual User Record Sharing ☐ Manager Groups ☐ Secure guest user record access ☐ Require permission to view record names in lookup fields ☐

Save Cancel

4. Field Level Security

- Protect sensitive medical details.

5. Session Settings & Login IP Ranges

- Strengthen login security.