

August 2024

UI/UX Guidelines for EMR & Clinical Systems

**Users, Artifacts,
Environments, Relationships,
Ecosystems**



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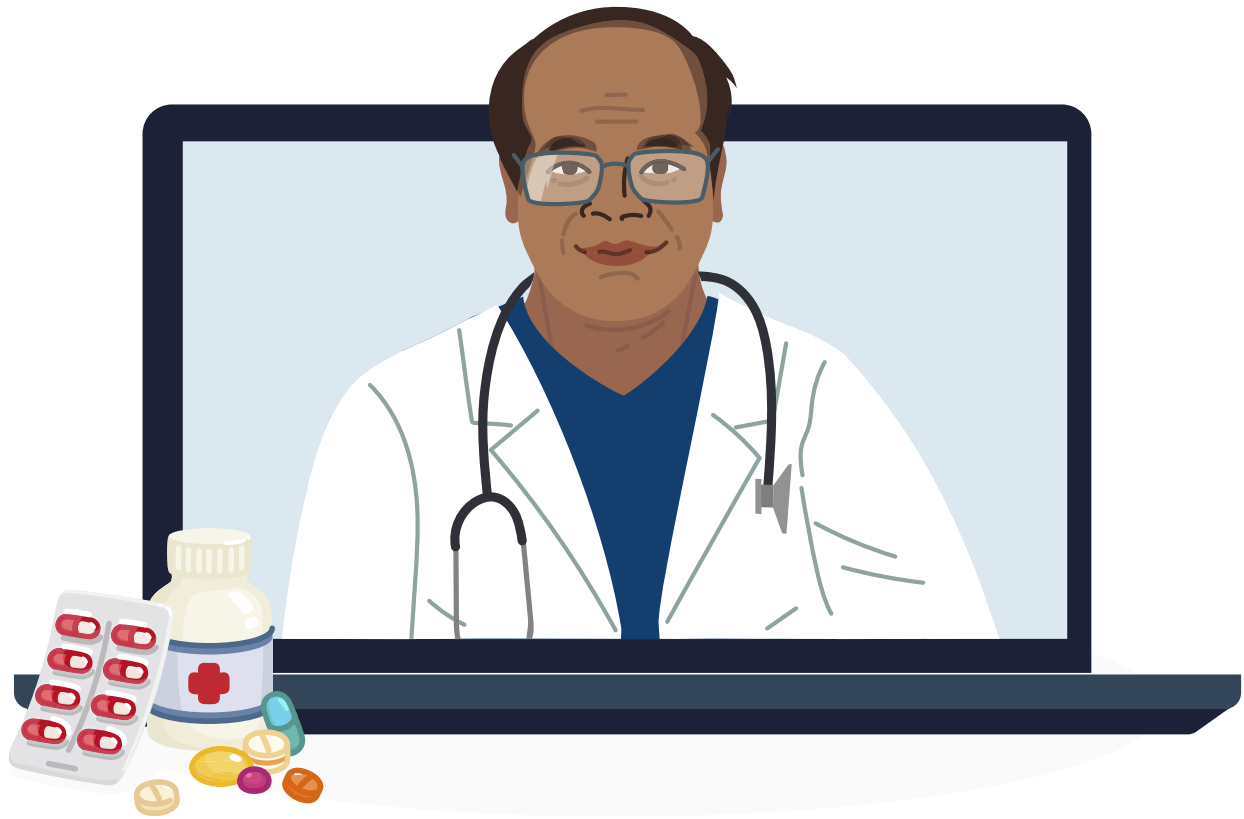
Opportunity to Improve Adoption of Digital Tools in Indian Healthcare

For a long time, India's medical infrastructure relied solely on paperwork and analogue records, highlighting the crucial need for digitization. Government initiatives aim to promote digitization, and private healthcare providers are investing in digital innovations. The emergence of healthcare IT companies in India provides a diverse array of hospital management solutions including Electronic Medical Records (EMR) and telemedicine.

Although the transition to digitizing the healthcare infrastructure in India is an ongoing effort, it also introduced new challenges, particularly regarding adoption of digital tools.

The World Health Organization reported in 2020 that the global average adoption rate of EMRs in hospitals is around 50%, but drops to 20% in low-income countries. The transition to EMRs, while beneficial, has resulted in longer times needed for updating records often due to usability issues. This reduces the time available for direct patient interactions, contradicting the intended purpose of digitization.

The project between the National Cancer Grid - Koita Centre for Digital Oncology (NCG-KCDO) and ZEUX Innovation focuses on improving the user experience of healthcare systems to help drive adoption. The project started with an audit of current systems, followed by the creation of detailed design guidelines to enhance overall usability.



The first step is to identify the User Experience (UX) challenges through a process known as a UX audit. The primary objective of this audit is to observe users, such as doctors, nurses and admin staff, in their working environments & their interaction with the digital tool in focus. Thus gaining insights into the nuanced challenges they face. To conduct this UX audit, we created a framework called SHIFT. The SHIFT framework can be applied to future audits, ensuring a standardized approach to identifying and addressing user challenges across various healthcare settings.

For developing new healthcare management systems, we adopt a user-centered approach and use our HEALING framework, ensuring the creation of intuitive and efficient solutions tailored for the healthcare ecosystem. This method fosters user adoption and satisfaction by prioritizing their needs and preferences. Combining these frameworks, we can streamline digital healthcare management, enhancing both existing and new systems to support better healthcare delivery and outcomes.

The SHIFT Framework

First part of this project involved conducting a UX audit of a Hospital Management Information System (HMIS) used by various government hospitals and small clinics in India. The first step involved field research and user interviews with doctors, nurses, and admin staff. Doctors face time constraints, system latency, device issues, confusing

A guide to assessing the UX of a Healthcare Management System

navigation, and non-matching forms. Nurses struggle with limited system access, glitches, dual desk responsibilities, redundant data entry, and lack of training. The Administrative staff encounter high workloads, slow systems, interdepartmental workflow issues, excessive manual data entry, and inadequate training.

This research lead to 11 key insights

1. The system is slow and unreliable, often timing out and requiring multiple logins throughout the day, sometimes even mid-task.
2. The system does not match the user's mental model; hence, doctors prefer using one text field for all relevant details.
3. The system requires manual input for data that should be auto-filled, like diagnoses, tests, and procedure details, impacting billing efficiency.
4. Tasks and data must be maintained offline, in registers as well as online, staff must input data in both formats.
5. It is hard to find information because staff use the father's name to cross-check patient information, which is hidden
6. Information is fragmented across different computers with no consolidated data view.
7. When a referred patient comes, the doctor cannot view previous details or scan and upload previous reports. For revisit patients, the previously prescribed medication list cannot be selected
8. Users create new records for existing patients when they lose their slip or lack a mobile number, leading to redundant information.
9. Optional fields are shown as mandatory, causing users to add placeholder text and skip mandatory fields to proceed.
10. Despite ward and bed vacancies, the system inaccurately shows no availability for a newly admitted patient.
11. Users find it difficult to type on tablets and prefer using their mobile devices instead.

As the next step, we leveraged this research to conduct a UX audit of their hospital management system. One of the key insights from audit was to leverage ‘Object-Oriented UX’. A design methodology that models digital interfaces similar to what our brains do in the real world.

It focuses on aligning user journeys around real-world process flows & interactions, making the user experience more intuitive. By aligning interface elements with users’ mental models, it simplifies navigation and tasks, enhancing usability and ensuring that systems are easier to learn and use effectively and ultimately boosting usability and adoption.

As the final step, the research and UX audit conducted so far, enabled us to evaluate and organize the findings within a structured framework called the ‘SHIFT Framework’.

Audit Framework		Audit Findings
S	Structural Blueprint	Incoherent structural blueprint
H	Harmony of Components	Lack of harmony in UI components
I	Interface Aesthetics & Interaction	Outdated interface aesthetics and confusing interaction
F	Form Design	Poor form design
T	Table Design	Table design violates best practice

The HEALING Framework

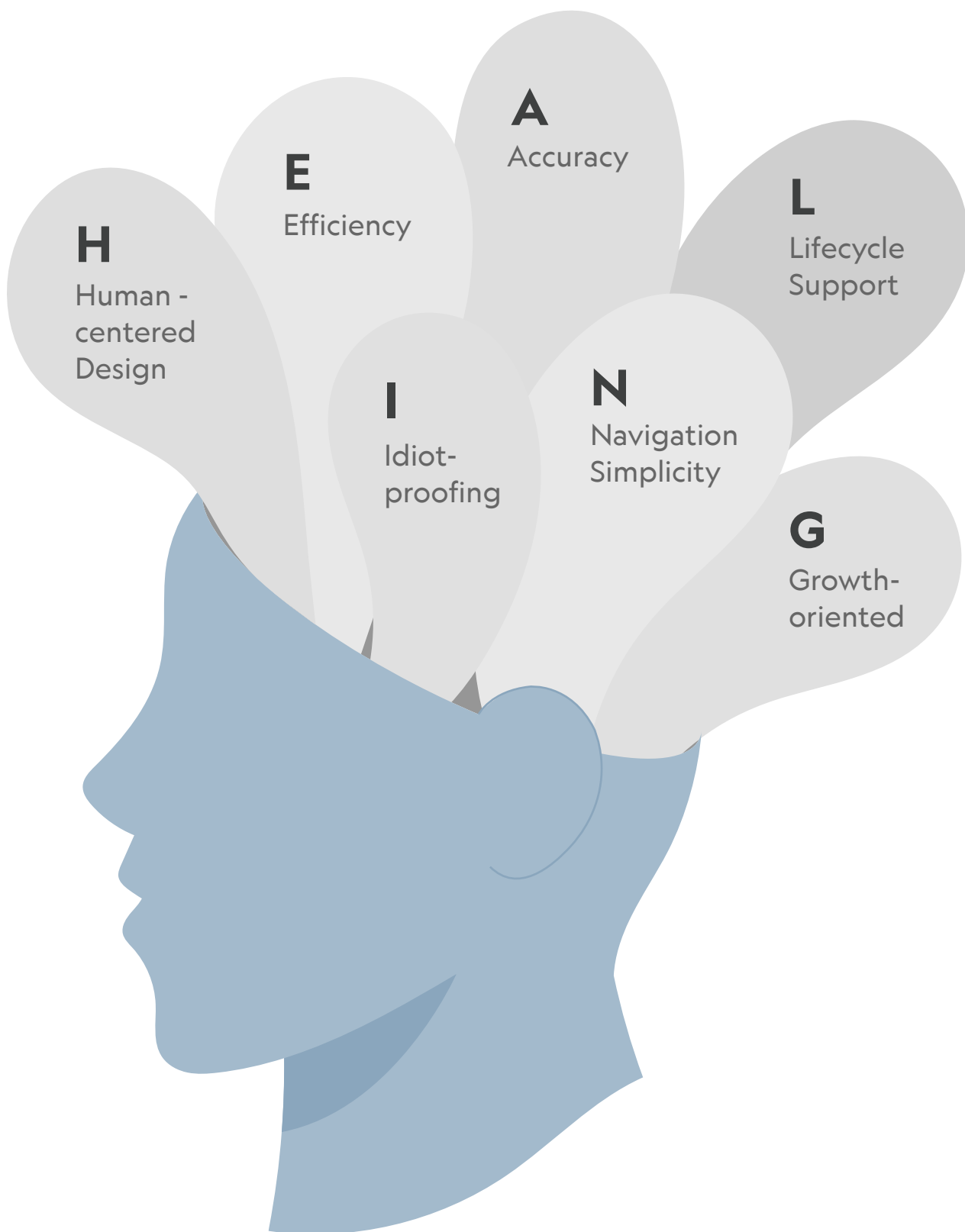
A guide to designing & developing new healthcare management systems

To design an effective electronic medical record (EMR) system, the requirements were thoroughly studied to understand the medical context. In order to analyse the UX landscape, we had multiple interactions with the users in their working environment to gain insights into their natural real-world workflow & to understand the areas of friction in the digital workflow.

Some of these findings were, doctors often lack a full picture of a patient's treatment plan and quick access to lab readings and historical data. They struggle with disorganized information and sometimes rely on WhatsApp for managing patient reports or prescribing drugs over the phone without proper records.

Nurses face challenges such as the absence of a portable system for bedside updates, managing multiple patients simultaneously, and the effort required for making handwritten notes.

*To view the detailed application of the design framework leveraging the HEALING framework, please refer to **the annexure***



7 Keys to Best-in-Class Treatment Mgmt. System

H

Human - centered Design

Prioritize the needs, preferences, and experiences of users, including healthcare professionals and patients, throughout the design process to create a system that is intuitive, empathetic, and supportive.

- Define your target audience
- Identify users' pain points
- Map the process & role players

E

Efficiency

Design workflows and interactions that optimize efficiency in chemotherapy management tasks, enabling users to accomplish their goals quickly and effectively.

- Land users in the right place
- Persistently display decision-aiding info
- Design for speed and ease of input

A

Accuracy

Ensure that the system provides accurate and reliable information, such as medication dosages, treatment schedules, and patient records to support safe and effective chemotherapy administration.

- Prioritize error prevention
- Visually represent key statuses
- Lock edits and discard outdated data



Lifecycle Support

Provide comprehensive support throughout the entire treatment lifecycle, from treatment planning and administration to monitoring, follow-up care and survivorship planning.

- Design end-to-end treatment management
- Seamlessly integrate with patient's EMR
- Make past data available



Idiot-proofing

Include features and fail-safes that simplify complex processes and ensure critical tasks are performed correctly. The goal is to ensure that systems are accessible and safe for users of all skill levels.

- Minimize the use of icons
- Provide reference information
- Include redundancies



Navigation Simplicity

Design intuitive navigation structures and user interfaces that simplify the user experience, making it easy for users to find information, complete tasks, and navigate the system effectively.

- Maintain flat menu structures
- Provide clear location cues
- Simplify switching patients & processes



Growth-oriented

Build the system with scalability and adaptability in mind, allowing it to grow and evolve alongside advancements in treatment, healthcare practices, and technological innovations.

- Reuse existing templates and components
- Design for scalable phases and processes
- Design for scalable actions

Paving the Way for Improved Digital Solutions

Cancer care is changing rapidly worldwide, and use of digital tools and technologies are playing a key role in driving this change – improving quality, access, and cost of care. Digital technologies are being used across the entire patient journey – screening, diagnostics, treatment, hospital care, home care and survivorship. It is imperative for India to have a strong focus on driving adoption of digital tools to improve cancer care.

The project between the National Cancer Grid - Koita Centre for Digital Oncology (NCG-KCDO) and ZEUX Innovation provides for an easy to use framework to improve design and adoption of digital tools in India's healthcare landscape.

The project underscores the importance of UX in digital healthcare systems to increase user satisfaction and enhance adoption . By prioritizing intuitive interfaces, healthcare systems become more user friendly and efficient, allowing medical professionals to focus on patient care while benefiting from the digital capture of critical medical information.



ZEUX Innovation

402, El Tara, Orchard Ave,
Hiranandani Gardens, Powai,
Mumbai, Maharashtra 400076

zeuxinnovation.com

ZEUX Innovation, based in Mumbai with over 8 years of experience, specializes in user centered design across sectors, including healthcare. Their expertise in crafting solutions tailored for India's unique challenges makes them a valuable partner.



The National Cancer Grid

Tata Memorial Hospital,
Dr. E Borges Road, Parel,
Mumbai 400 012. India.

ncgindia.org

The National Cancer Grid (NCG) is a large network of cancer centres, research organizations and charitable institutes with over 340 members providing treatment to around two-thirds of all cancer cases in India and created with the primary mandate of ensuring uniform standards of cancer care across the nation in addition to capacity building and collaborative clinical research.



Koita Centre for Digital Oncology

Tata Memorial Hospital,
Dr. E Borges Road, Parel,
Mumbai 400 012. India.

kcdo.in

The Koita Centre for Digital Oncology (KCDO) is India's first organisation dedicated to transforming cancer care in India using digital technology and a joint initiative of the National Cancer Grid (an initiative of the Government of India and the Tata Memorial Centre) and the Koita Foundation (leading non-profit organisation focused on digital health adoption).

Annexure

The HEALING Framework >

Design Framework

H

Human-centered Design

E

Efficiency

A

Accuracy

L

Lifecycle Support

I

Idiot-proofing

N

Navigation Simplicity

G

Growth Oriented



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- **Define your target audience**
- **Identify users' pain points**
- **Map the process & role players**

Define your target audience

Human-centered Design

Who are your users?



Sr. Doctors



Jr. Doctors



Nurses



Patients



Others

Define your target audience

Human-centered Design

Who are your users?



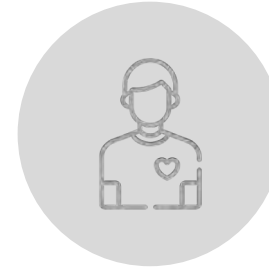
Sr. Doctors



Jr. Doctors



Nurses



Patients



Others

Understand user's objectives



Sr. Doctors

- Have an overview of patient & treatment plan
- Adjust drug dosages
- Recalibrate complete treatment plan
- Add/ view notes on the fly



Jr. Doctors

- Assess reports & scans before treatment begins
- Provide follow-up dates and advice
- Aid symptom management
- Add/ view notes on the fly



Nurses

- Check and update patient's vitals
- Administer drugs
- Record drug tolerance
- Add/ view notes on the fly

Identify users' pain points



Sr. Doctors

- No view of overall treatment response
- No quick access to lab readings & historical data
- Disorganized and fragmented information



Jr. Doctors

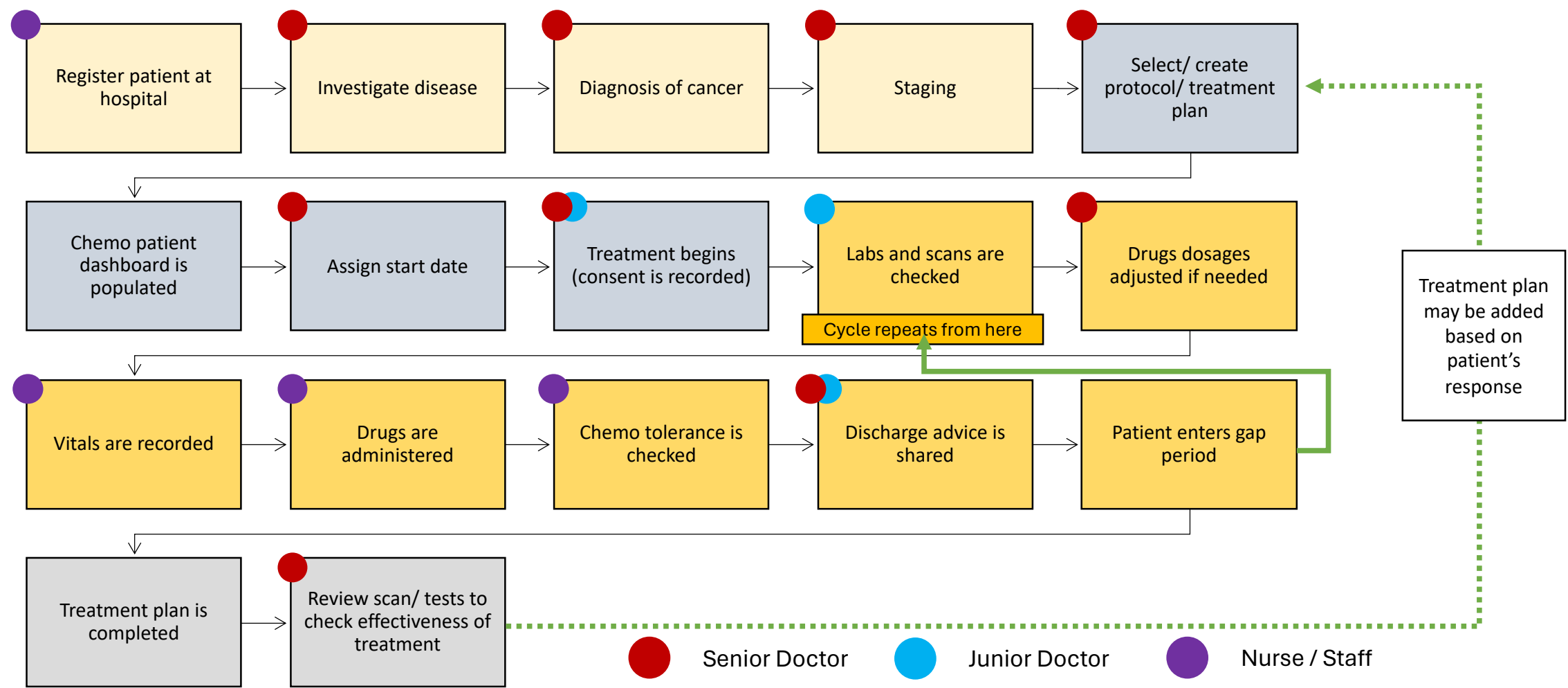
- Delay between authorization & administration of chemo
- Patient reports reside in their personal phone
- Drugs prescribed over the phone are not recorded



Nurses

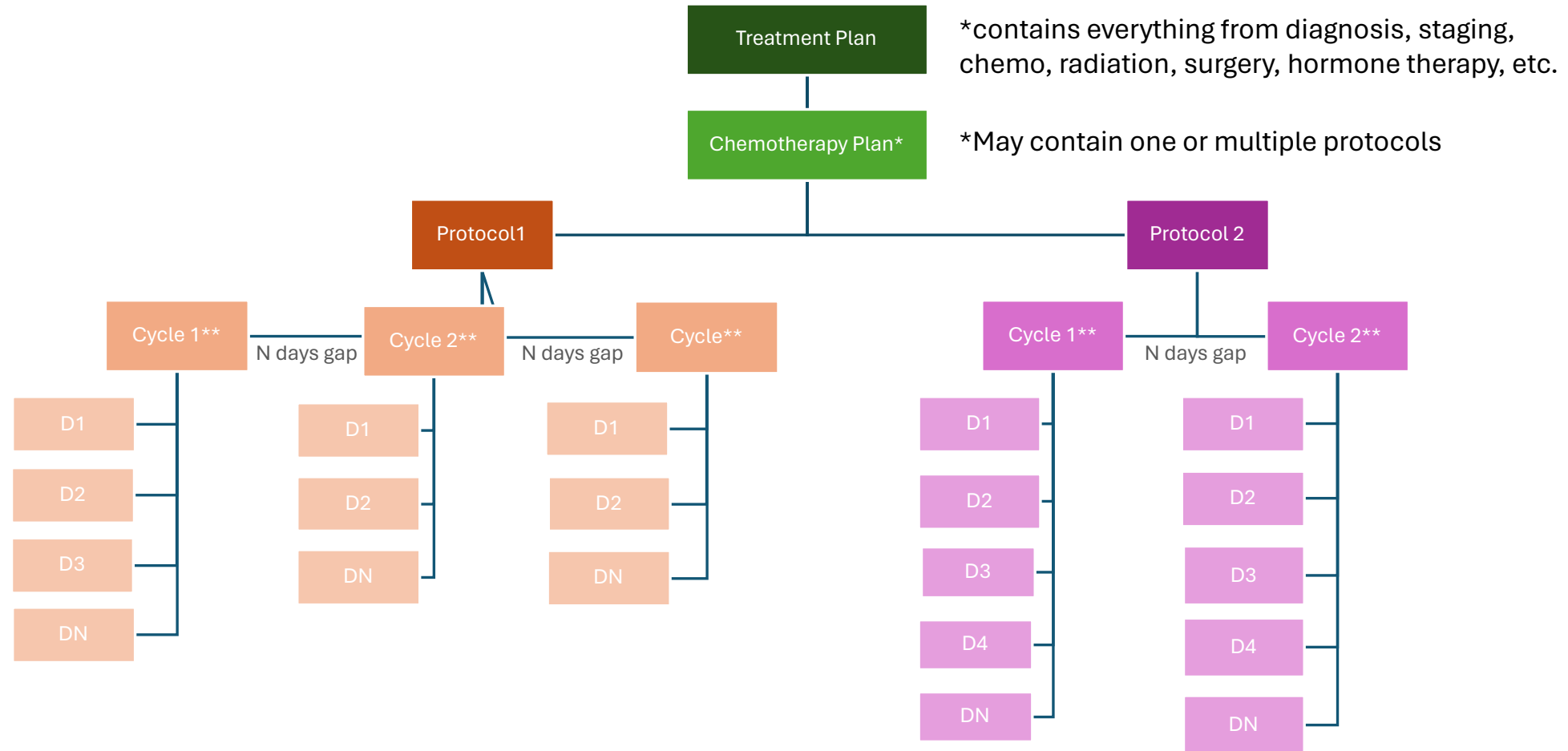
- No portable system to enable bed-side updates
- Handling multiple patients simultaneously
- Excessive handwritten note-taking

Map the process & role-players



Map the process & role-players

Clarify jargons and nuances



**May span across one or more days, includes the ensuing gap period


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


- **Land users in the right place**
- **Persistently display decision-aiding information**
- **Design for speed and ease of input**


Efficiency

Efficiency



NATIONAL
CANCER
GRID
COLLABORATION FOR CANCER CARE



Ritakumari Balsekar/ 46/ F
MR No. 3790132
[Switch Patient](#)

Breast Cancer_Stage IV
[Progressive Disease 23.02.24](#)
[Update/ View History](#)

Administration route
[PICC](#)
[Change](#)

Allergies
[Sulphur](#) [Penicillin](#) [View all](#)
[Update](#)

[Add/ View All Notes](#)
[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
[Complete](#) Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
[Complete](#) Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
[Ongoing](#) Tolerance: 2

Basis: Progression

Cycle 1 01.05.24
ACQ21
[Planned](#)

Cycle 2 16.05.24
ACQ21
[Planned](#)

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB 8.2 PLT 1,20,000 WBC 10,000 ANC 3000 BR 1.2 ALB 2.8 SGOT 7.0 SGPT 5.0 Cr 1.1 **Vitals** 97°F 102 bpm 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs


Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY + Add Drug								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24 + Add Drug								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

[Generate Prescription](#) [Authorise Chemo Administration](#)




Bring users to the current cycle/ phase instead of making them find it.


Efficiency

Efficiency



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Ritakumari Balsekar/ 46/ F

MR No. 3790132

[Switch Patient](#)

Breast Cancer_Stage IV

[Progressive Disease/ 23.02.24](#)

[Update/ View History](#)

Administration route

[PICC](#)

[Change](#)

Allergies

[Sulphur](#) [Penicillin](#) [View all](#)

[Update](#)

[Add/ View All Notes](#)

[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24

BR PACL1 + TRAS... WEEKLY(21d)

[Complete](#) Tolerance: 2

Cycle 2 01.04.24

BR PACL1 + TRAS... WEEKLY(21d)

[Complete](#) Tolerance: 3

Cycle 3 16.04.24

BR PACL1 + TRAS... WEEKLY(21d)

[Ongoing](#) Tolerance: 2

Basis: Progression

Cycle 1 01.05.24

ACQ21

[Planned](#)

Cycle 2 16.05.24

ACQ21

[Planned](#)

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) [Ongoing](#)

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB **8.2** PLT **1,20,000** WBC 10,000 ANC 3000 BR 1.2 ALB **2.8** SGOT **7.0** SGPT **5.0** Cr **1.1** **Vitals** 97°F **102 bpm** 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs

Day	Time	Drug	Route	Dose	Frequency	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20	Day 21
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--


[Generate Prescription](#)

[Authorise Chemo Administration](#)

Automatically scroll tables to the current day instead of making the user scroll to locate it.

Persistently display decision-aiding info

Efficiency



Ritakumari Balsekar/ 46/ F

MR No. 3790132

[Switch Patient](#)

Breast Cancer_Stage IV

Progressive Disease | 23.02.24

[Update/ View History](#)

Administration route

PICC

[Change](#)

Allergies

Sulphur Penicillin

[View all](#)

[Update](#)

Add/ View All Notes

More Actions

Basis: Routine

Cycle 1 16.03.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete

Tolerance: 2

Cycle 2 01.04.24

BR PACL1 + TRAS... WEEKLY(21d)

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Tolerance: 3

Cycle 3 16.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Ongoing

Tolerance: 2

Basis: Progression

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ACQ21

Planned

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Cycle 3 01.06.24

Labs

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Vitals

97°F 102 bpm 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned

Chemo Administration

Chemo Tolerance

Discharge Advice

Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
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
Generate Prescription

Authorise Chemo Administration

Maintain key patient information that affects the treatment plan as the central object.




Efficiency


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165 cm | 56kg | 2.1 m²

Patient Condition

Asymptomatic

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D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

Generate Prescription

Authorise Chemo Administration

Always keep key information regarding the selected cycle visible regardless of the process.

Efficiency

Efficiency

NATIONAL
CANCER
GRID
GOVERNMENT OF INDIA

Ritakumari Balsekar/ 46/ F
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[Switch Patient](#)

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Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB 8.2 PLT 1,20,000 WBC 10,000 ANC 3000 | BR 1.2 ALB 2.8 SGOT 7.0 SGPT 5.0 Cr 1.1 **Vitals** 97°F 102 bpm 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY + Add Drug								
D1	Pre	Atropin Sulphate	Intravenous central line	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	75	75	--	<input type="text" value="Enter reason"/>
D1	Chemo	Flouroracil	once as bolus	m2	100	m2	--	--
Day 2 17.04.24 + Add Drug								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

[Generate Prescription](#) [Authorise Chemo Administration](#)

Allow in-line edits for tables when it is critical to see all other info and no additional fields are required.

Design for speed & ease of input

Efficiency

The screenshot displays a medical software interface for a patient named Ritakumari Balsekar, 46/F, with Breast Cancer Stage IV. The interface includes a patient profile section, a treatment plan section, and a chemo drugs planner. A modal titled "Edit Drug Dosage" is open, allowing the user to select cycles for applying dosage changes. The modal contains a text input field showing "D1 - 16.04.24 Pre-chemo Aprepitant 75 mg" and three radio button options: "This cycle only" (selected), "Select cycles", and "All future cycles". The modal also has "Cancel" and "Save" buttons. The background shows a list of cycles and a table of drugs with their dosages and administration routes.

Edit Drug Dosage

D1 - 16.04.24 Pre-chemo Aprepitant 75 mg

Select cycles within this protocol to which you want to apply the modified dosage of the drug.

☒ This cycle only ☐ Select cycles ☐ All future cycles

Cancel Save


Allow user to apply changes to multiple cycles/ phases at one time thereby reducing repeated inputs.

Efficiency



Auto-populate the current date and time and allow user to change this where retrospective data input is permitted.

Efficiency

Efficiency



Laxmi Kumar / F / 66 [Switch Patient >](#)
MR46779879909 | Breast Cancer_Stage III



Sulphur dioxide

Peanuts

Update Allergies >

< Cycle 2 | ACq_21

Ongoing ▾

 >

▽

Vitals

Last updated on 12 Mar 24 | 3:00 AM

Chemo Administration


Last updated on 12 Mar 24 | 5:00 AM



Chemo Tolerance

Last updated on 12 Mar 24 | 5:30 AM

Notes

3 new



Laxmi Kumar / F / 66 Switch Patient >

MR46779879909 | Breast Cancer_Stage III


Sulphur dioxide
Paincuts
Update Allergies >

< Cycle 2 | ACq_21 Ongoing ▾ >

▾

< Chemo administration History

D1	12 Mar 2024	^
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Pre</div> <div style="background-color: #007bff; color: white; padding: 2px 5px; border: 1px solid #000;">Chemo</div> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Post</div> </div> <div> Atropin Sulphate 0.25 mg Intravenous central line once as bolus </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> Given Not Given </div>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Pre</div> <div style="background-color: #007bff; color: white; padding: 2px 5px; border: 1px solid #000;">During</div> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Post</div> </div> <div> Fluorouracil 1100 mg Intravenous central line in 1000ml, once of normal saline, over 24 hrs as infusion. </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> Given Not Given </div>		
<div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Pre</div> <div style="background-color: #007bff; color: white; padding: 2px 5px; border: 1px solid #000;">During</div> <div style="background-color: #ccc; padding: 2px 5px; border: 1px solid #000;">Post</div> </div> <div> Dexamethosone 4 mg Per oral before food </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> Given Not Given Explained </div>		



Laxmi Kumar / F / 66
[Switch Patient](#)

MR46779879909 | Breast Cancer_Stage III

Sulphur dioxide

Peanuts

Update Allergies

<
Cycle 2 | ACq_21
Ongoing
>

▼

<
Vitals
History

Pre-chemo

During chemo

Post-chemo

Temperature

100.01

°f

Blood Pressure

110

70

mmHg

Respiratory Rate

76

bpm

Pulse

80

bpm

SPO₂

98

%

Date

12 Mar 2024

📅

Time

10:25

AM

PM

Save

Enable on-the-go usage by designing responsive screens for mobile



Accuracy

Ensure that the system provides accurate and reliable information, such as medication dosages, treatment schedules, and patient records to support safe and effective chemotherapy administration.

- **Prioritize error prevention**
- **Visually represent key statuses**
- **Lock edits and discard outdated data**

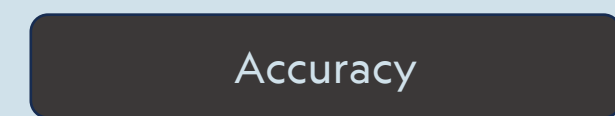
Accuracy

Accuracy

Accuracy

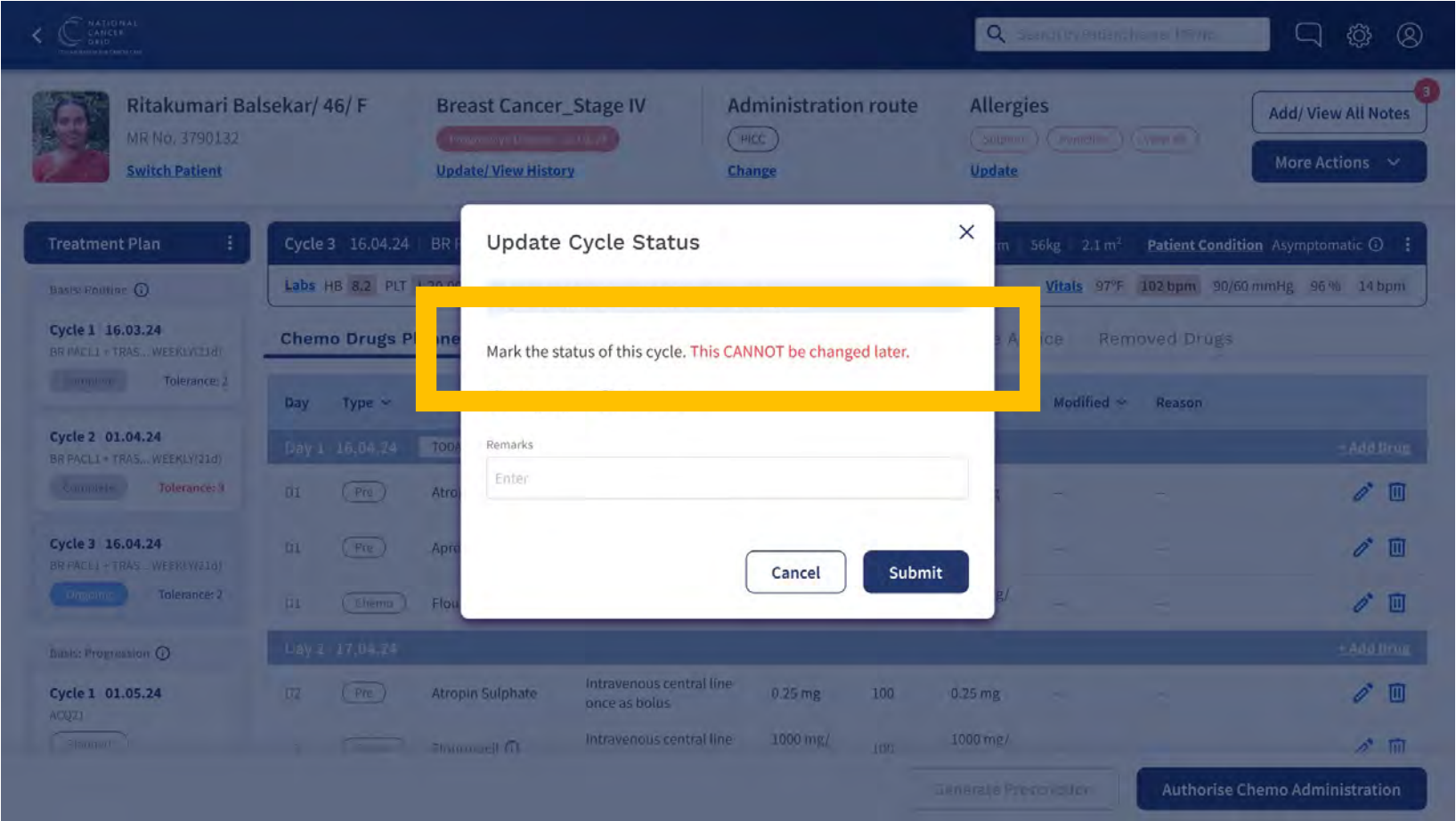
Accuracy

Accuracy



Prioritize error prevention

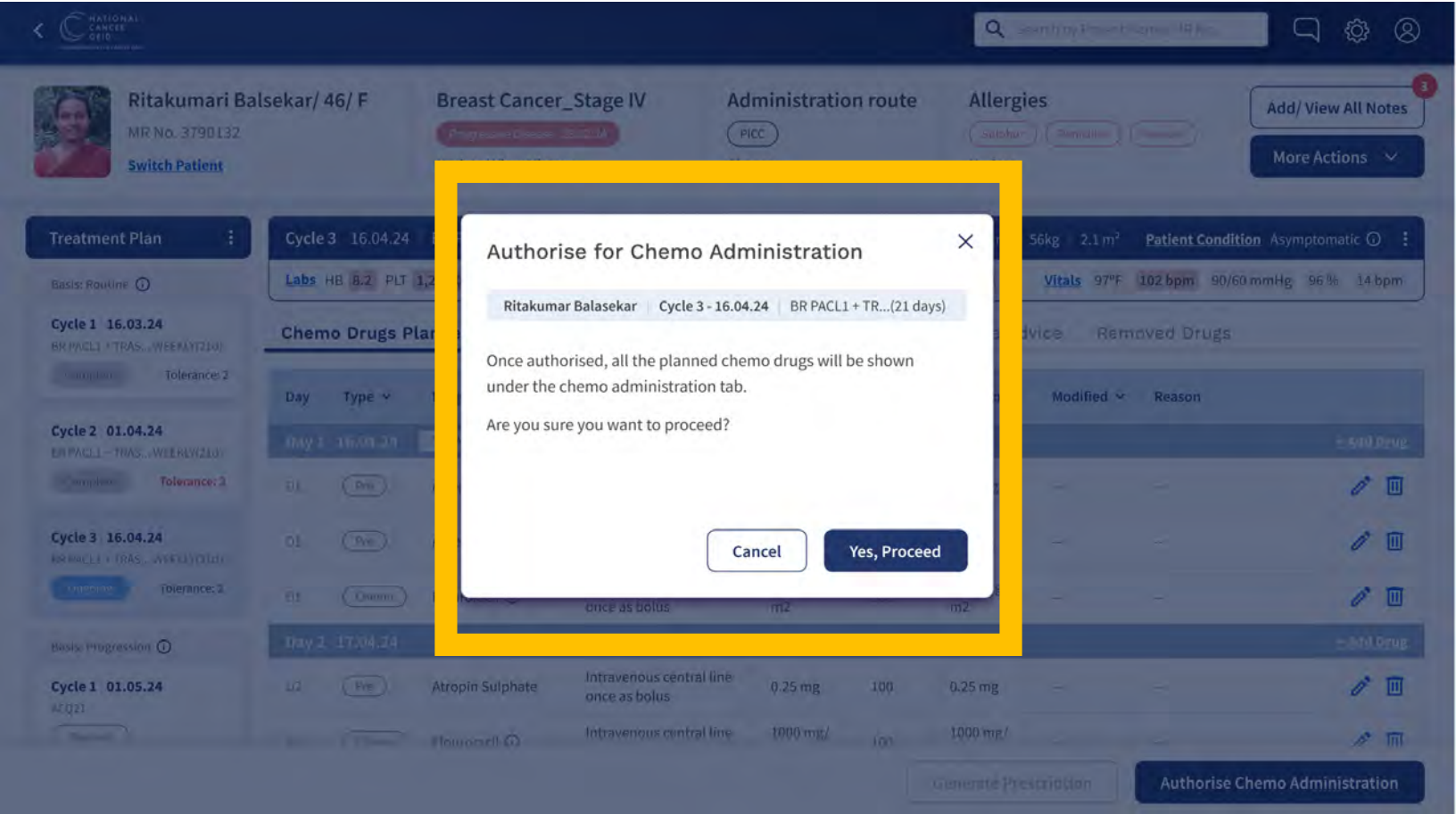
Accuracy



Alert the users about destructive actions.

Prioritize error prevention

Accuracy



Ask confirmation questions for critical action such as drug administration, editing dosages etc.

Accuracy

Accuracy

Visually represent key statuses to alert the users at a glance.

Accuracy

Accuracy

Visually represent key statuses to alert the users at a glance.

Lock edits & discard outdated data

Accuracy

The screenshot displays a medical data management application for a patient named Ritakumari Balsekar. The interface includes a search bar, patient profile, treatment plan, and a table of medical events. A modal dialog titled "Data is locked for editing" is overlaid on the screen, indicating that changes are only allowed within a 24-hour window. The modal contains a text input for a reason, a date and time selector, and radio buttons for "Given", "Not Given", and "Explained".

Data is locked for editing

Changes are only allowed within a 24-hour window. Please add a note to indicate any updates if needed.

D1 - 16.04.24 Chemo | Flouracil | 1000 mg/ m2

☐ Given ☒ Not Given ☐ Explained

Reason


Patient Unwell

Date: 12 Mar 2024 Time: 10:25 AM PM




Disable editing of data after a stipulated period to account for human error but disallow data tampering later.

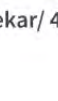
Accuracy

Accuracy



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COLLABORATION FOR CANCER CARE



Ritakumari Balsekar/ 46/ F

MR No. 3790132

[Switch Patient](#)

Breast Cancer_Stage IV

Progressive Disease 23.02.24

[Update/ View History](#)

Administration route

PICC

[Change](#)

Allergies

Sulphur Penicillin View all

[Update](#)

[Add/ View All Notes](#)

[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Ongoing Tolerance: 2

Basis: Progression

Cycle 1 01.05.24
ACQ21
Planned

Cycle 2 16.05.24
ACQ21
Planned

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs Pending **Vitals** Pending

Chemo Drug Planned	Chemo Administration	Chemo Tolerance	Discharge Advice	Removed Drugs																																																																																										
<table> <thead> <tr> <th>Day</th> <th>Type</th> <th>Drug Name</th> <th>Route/ Instructions</th> <th>Dosage</th> <th>%</th> <th>Total dose</th> <th>Modified</th> <th>Reason</th> </tr> </thead> <tbody> <tr> <td colspan="9">Day 1 16.04.24 TODAY</td> </tr> <tr> <td>D1</td> <td>Pre</td> <td>Atropin Sulphate</td> <td>Intravenous central line once as bolus</td> <td>0.25 mg</td> <td>100</td> <td>0.25 mg</td> <td>--</td> <td>--</td> </tr> <tr> <td>D1</td> <td>Pre</td> <td>Aprepitant</td> <td>Per oral once</td> <td>100 mg</td> <td>100</td> <td>100 mg</td> <td>--</td> <td>--</td> </tr> <tr> <td>D1</td> <td>Chemo</td> <td>Flouroracil</td> <td>Intravenous central line once as bolus</td> <td>1000 mg/ m2</td> <td>100</td> <td>1000 mg/ m2</td> <td>--</td> <td>--</td> </tr> <tr> <td colspan="9">Day 2 17.04.24</td> </tr> <tr> <td>D2</td> <td>Pre</td> <td>Atropin Sulphate</td> <td>Intravenous central line once as bolus</td> <td>0.25 mg</td> <td>100</td> <td>0.25 mg</td> <td>--</td> <td>--</td> </tr> <tr> <td>D2</td> <td>Chemo</td> <td>Flouroracil</td> <td>Intravenous central line once as bolus</td> <td>1000 mg/ m2</td> <td>100</td> <td>1000 mg/ m2</td> <td>--</td> <td>--</td> </tr> <tr> <td>D2</td> <td>Post</td> <td>Flouroracil</td> <td>Subcutaneous once as bolus 24 Hrs after completion o...more</td> <td>0.3 mg</td> <td>100</td> <td>0.3 mg</td> <td>--</td> <td>--</td> </tr> <tr> <td>D2</td> <td>Post</td> <td>Dexamethosone</td> <td>Per oral after food</td> <td>10 mg</td> <td>100</td> <td>10 mg</td> <td>--</td> <td>--</td> </tr> </tbody> </table>					Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason	Day 1 16.04.24 TODAY									D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--	D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--	D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--	Day 2 17.04.24									D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--	D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--	D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--	D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--
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D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--																																																																																						

[Generate Prescription](#)

[Authorise Chemo Administration](#)

Discard data which is time sensitive and alert the user that it is pending for updation.



Lifecycle Support

Provide comprehensive support throughout the entire treatment lifecycle, from treatment planning and administration to monitoring, follow-up care and survivorship planning.

- **Design end-to-end treatment management**
- **Seamlessly integrate with patient's EMR**
- **Make past data available**

Accuracy

Accuracy

Accuracy

Accuracy

Accuracy

Ritakumari Balsekar/ 46/ F

MR No. 3790132

Switch Patient

Breast Cancer_Stage IV

Progressive Disease | 23.02.24

Update/ View History

Administration route

PICC

Change

Allergies

Sulphur

Penicillin

View all

Update

Add/ View All Notes

More Actions

View Patient Profile

Treatment Plan

Basis: Routine

Cycle 1 16.03.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete

Tolerance: 2

Cycle 2 01.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete

Tolerance: 3

Cycle 3 16.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Ongoing

Tolerance: 2

Basis: Progression

Cycle 1 01.05.24

ACQ21

Planned

Cycle 2 16.05.24

ACQ21

Planned

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² Patient Condition

Labs

HB 8.2

PLT 1,20,000

WBC 10,000

ANC 3000

BR 1.2

ALB 2.8

SGOT 7.0

SGPT 5.0

Cr 1.1

Vitals 97°F

102 bpm

90/60 mmHg

96 %

14 bpm

Chemo Drugs Planned

Chemo Administration

Chemo Tolerance

Discharge Advice

Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY + Add Drug								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24 + Add Drug								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

Generate Prescription

Authorise Chemo Administration

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Accuracy

Accuracy

Allow user to access all historical data related to the patient.

Accuracy

Provide access to edit logs which will contain date, time, author of key changes made.

Accuracy

Accuracy

Allow user to access all past notes related to the patient.




Idiot-proofing




Include features and fail-safes that simplify complex processes and ensure critical tasks are performed correctly. The goal is to ensure that systems are accessible and safe for users of all skill levels.


- **Minimize the use of icons**
- **Provide reference information**
- **Include redundancies**

Idiot-proofing



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Ritakumari Balsekar/ 46/ F
MR No. 3790132

Breast Cancer_Stage IV
Progressive Disease - 73.02.24

Administration route
PICC

Allergies
Sulphur, Penicillin, View all

Add/ View All Notes

Switch Patient

Update/ View History

Change

Update

More Actions

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Ongoing Tolerance: 2

Basis: Progression

Cycle 1 01.05.24
ACQ21
Planned

Cycle 2 16.05.24
ACQ21
Planned

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB 8.2 | PLT 1,20,000 | WBC 10,000 | ANC 3000 | BR 1.2 | ALB 2.8 | SGOT 7.0 | SGPT 5.0 | Cr 1.1 **Vitals** 97°F | 102 bpm | 90/60 mmHg | 96 % | 14 bpm

Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

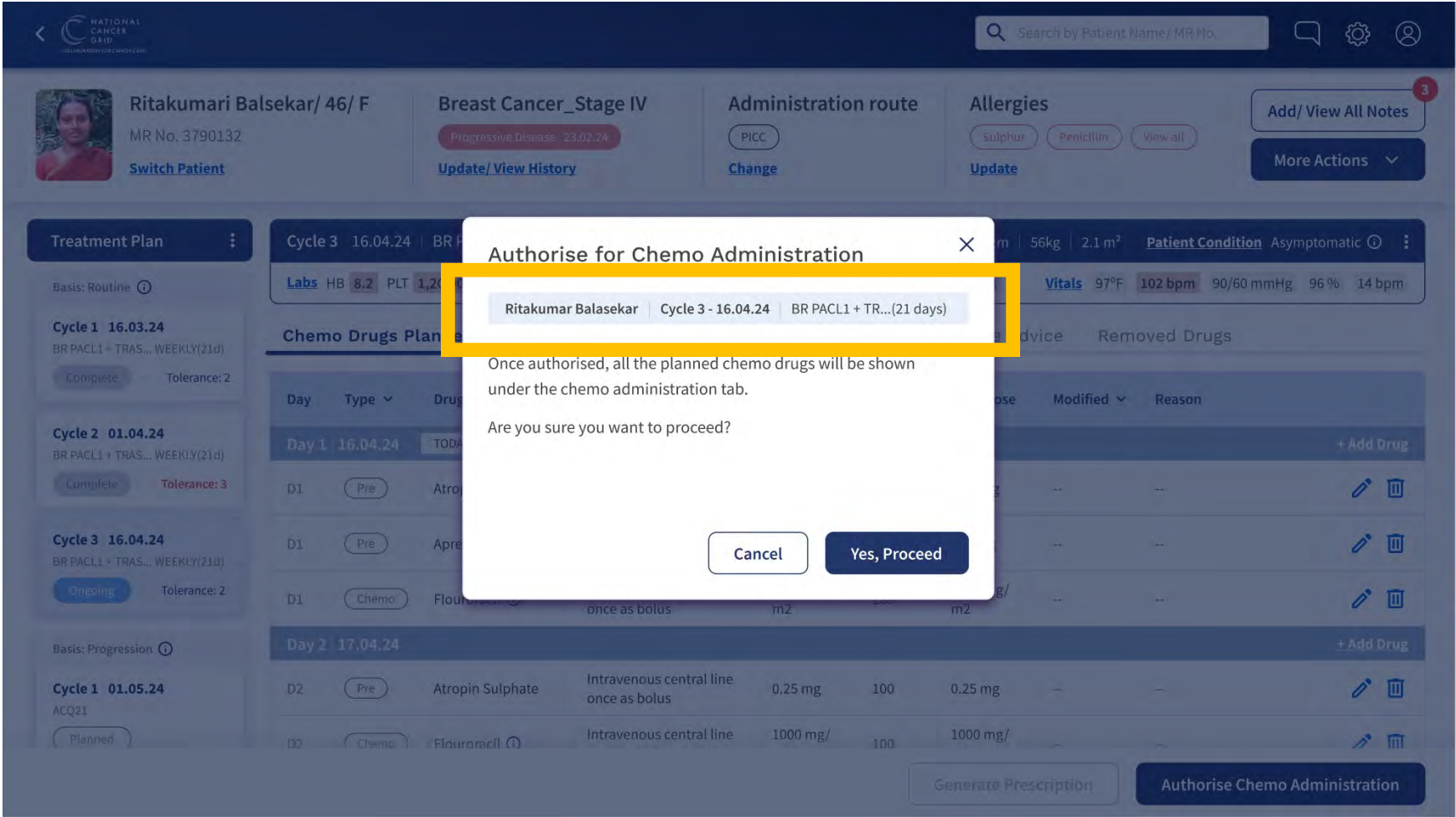
Generate Prescription

Authorise Chemo Administration

Use icons only for universally recognizable actions such as edit, delete, search, etc.

Provide reference information


Idiot-proofing



Provide reference information on popups to give the user context.

Provide reference information

Idiot-proofing



Ritakumari Balsekar/ 46/ F

MR No. 3790132

[Switch Patient](#)

Breast Cancer_Stage IV

Progressive Disease | 23.02.24

[Update/ View History](#)

Administration route

PICC

[Change](#)

Allergies

Sulphur Penicillin

[View all](#)

[Update](#)

Add/ View All Notes

More Actions

Treatment Plan

Basis: Routine

Cycle 1 16.03.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete Tolerance: 2

Cycle 2 01.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete Tolerance: 3

Cycle 3 16.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Ongoing Tolerance: 2

Basis: Progression

Cycle 1 01.05.24

ACQ21

Planned

Cycle 2 16.05.24

ACQ21

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m²

Patient Condition Asymptomatic

Labs HB 8.2 PLT 1,20,000 WBC 10,000 ANC 3000 BR 1.2 ALB 2.8 SGOT 7.0 SGPT 5.0 Cr 1.1 Vitals 97°F 102 bpm 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned

Chemo Administration

Chemo Tolerance

Discharge Advice

Removed Drugs

Day	Toxicity observed	Adverse Events	Grade	Remarks
Day 1 16.04.24 TODAY				
D1	Pending	--	--	--
Day 2 17.04.24				
D2	Pending	--	--	--
Day 3 18.04.24				
D3	Pending	--	--	--

Grades

1 Expected reaction

2 Expected reaction

3 Symptomatic bronchospasm with or without urticaria, parenteral intervention indicated, hypertension, edema/ angioedema


4 Life threatening consequence, urgent intervention indicated

5 Death




Provide guidelines for information that is critical.


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Idiot-proofing



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COLLABORATION FOR CANCER CARE



Ritakumari Balsekar/ 46/ F
MR No. 3790132
[Switch Patient](#)

Breast Cancer_Stage IV
Progressive Disease | 23.02.24
[Update/ View History](#)

Administration route
PICC
[Change](#)

Allergies
Sulphur Penicillin View all
[Update](#)

[Add/ View All Notes](#)
[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Ongoing Tolerance: 2

Basis: Progression

Cycle 1 01.05.24
ACQ21
Planned

Cycle 2 16.05.24
ACQ21
Planned

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB 8.2 | PLT 1,20,000 | WBC 10,000 | ANC 3000 | BR 1.2 | ALB 2.8 | SGOT 7.0 | SGPT 5.0 | Cr 1.1 **Vitals** 97°F | 102 bpm | 90/60 mmHg | 96 % | 14 bpm

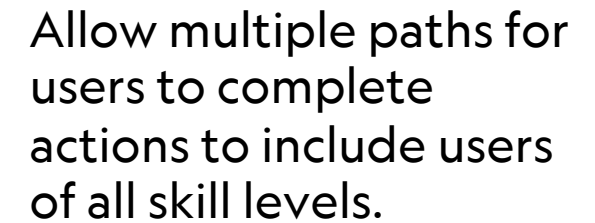
Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY + Add Drug								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24 + Add Drug								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

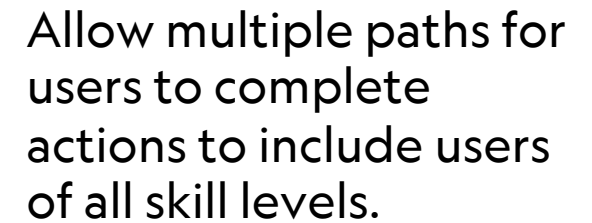
[Generate Prescription](#) [Authorise Chemo Administration](#)

51

Idiot-proofing



Idiot-proofing





Navigation Simplicity

Design intuitive navigation structures and user interfaces that simplify the user experience, making it easy for users to find information, complete tasks, and navigate the system effectively.

- **Maintain flat menu structures**
- **Provide clear location cues**
- **Simplify switching patients, phases and processes.**

Navigation Simplicity

Reduce complexity by avoiding deep multi-level nested menus, and limiting menu levels to 2-3 max.

Navigation Simplicity

Always indicate where the user is by providing clear location cues.

Navigation Simplicity

Make it easy for the user to toggle between patients, phases and processes while remaining on the same page.




Growth-oriented

Build the system with scalability and adaptability in mind, allowing it to grow and evolve alongside advancements in treatment, healthcare practices, and technological innovations.

- **Reuse existing templates and components**
- **Design for scalable phases and processes**
- **Design for scalable actions**

Growth-oriented



Laxmi Kumar / F / 66

MR46779879909 | Breast Cancer_Stage III

Switch Patient >

Update Allergies >

<

Cycle 2 | ACq_21

Ongoing

>

>

>

>

Vitals

Last updated on 12 Mar 24 | 3:00 AM

Chemo Administration

Last updated on 12 Mar 24 | 5:00 AM

Chemo Tolerance


Last updated on 12 Mar 24 | 5:30 AM

Notes




3 New


Growth-oriented

Growth-oriented



NATIONAL
CANCER
GRID
COOPERATION FOR CANCER CARE



Ritakumari Balsekar/ 46/ F
MR No. 3790132
[Switch Patient](#)

Breast Cancer - Stage IV
[Update/ View History](#)

Administration route
[Change](#)

Allergies
[Update](#)

[Add/ View All Notes](#)
[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
[Complete](#) Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
[Complete](#) Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
[Complete](#) Tolerance: 2

Cycle 1 01.05.24
ACQ21
[Planned](#)

Cycle 2 16.05.24
ACQ21
[Planned](#)

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) | [Ongoing](#)

Body Metrics 165 cm | 56kg | 2.1 m² | **Patient Condition** Asymptomatic

Labs HB 8.2 | PLT 1,20,000 | WBC 10,000 | ANC 3000 | BR 1.2 | ALB 2.8 | SGOT 7.0 | SGPT 5.0 | Cr 1.1 | **Vitals** 97°F | 102 bpm | 90/60 mmHg | 96 % | 14 bpm

Chemo Drugs Planned | Chemo Administration | Chemo Tolerance | Discharge Advice | Removed Drugs

Day	Type	Drug Name	Route/ Instructions	Dosage	%	Total dose	Modified	Reason
Day 1 16.04.24 TODAY + Add Drug								
D1	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D1	Pre	Aprepitant	Per oral once	100 mg	100	100 mg	--	--
D1	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
Day 2 17.04.24 + Add Drug								
D2	Pre	Atropin Sulphate	Intravenous central line once as bolus	0.25 mg	100	0.25 mg	--	--
D2	Chemo	Flouroracil	Intravenous central line once as bolus	1000 mg/ m2	100	1000 mg/ m2	--	--
D2	Post	Flouroracil	Subcutaneous once as bolus 24 Hrs after completion o...more	0.3 mg	100	0.3 mg	--	--
D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

[Generate Prescription](#) | [Authorise Chemo Administration](#)

Cards

Cycle 2 | 01.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Complete

Tolerance: 3

Cycle 3 | 16.04.24

BR PACL1 + TRAS... WEEKLY(21d)

Ongoing

Tolerance: 2

Buttons

More Actions ▾

Cancel

Save

Submit

Text fields

Remarks

Enter


Drug name

Select ▾

Drug name

Select ▾

Date

12 Mar 2024 

Time

10:25

AM

PM


Checkboxes and Radio Buttons

☒ ☐




☒ ☐


Growth-oriented

Growth-oriented



NATIONAL
CANCER
GRID
COLLABORATION FOR CANCER CARE



Ritakumari Balsekar/ 46/ F
MR No. 3790132
[Switch Patient](#)

Breast Cancer_Stage IV
Progressive Disease 23.02.24
[Update/ View History](#)

Administration route
PICC
[Change](#)

Allergies
Sulphur Penicillin View all
[Update](#)

[Add/ View All Notes](#)
[More Actions](#)

Treatment Plan

Basis: Routine

Cycle 1 16.03.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 2

Cycle 2 01.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Complete Tolerance: 3

Cycle 3 16.04.24
BR PACL1 + TRAS... WEEKLY(21d)
Ongoing Tolerance: 2

Basis: Progression

Cycle 1 01.05.24
ACQ21
Planned

Cycle 2 16.05.24
ACQ21
Planned

Cycle 3 01.06.24

Cycle 3 16.04.24 | BR PACL1 + TRAS... (21 days) Ongoing

Body Metrics 165 cm | 56kg | 2.1 m² **Patient Condition** Asymptomatic

Labs HB 8.2 PLT 1,20,000 WBC 10,000 ANC 3000 BR 1.2 ALB 2.8 SGOT 7.0 SGPT 5.0 Cr 1.1 **Vitals** 97°F 102 bpm 90/60 mmHg 96 % 14 bpm

Chemo Drugs Planned Chemo Administration Chemo Tolerance Discharge Advice Removed Drugs

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D2	Post	Dexamethosone	Per oral after food	10 mg	100	10 mg	--	--

[Generate Prescription](#) [Authorise Chemo Administration](#)

Vertically stack cycles/
phases to ensure that the
design can
accommodate n number
of them.

Growth-oriented

Horizontally arrange processes with a 'More' tab in the end to ensure that the design can accommodate n number of processes within the treatment.

Growth-oriented

Use multi-action buttons to allow for several actions from one place.

Growth-oriented

Use kebab menus to accommodate secondary actions.

Design Framework

H

Human-centered Design

E

Efficiency

A

Accuracy

L

Lifecycle Support

I

Idiot-proofing

N

Navigation Simplicity

G

Growth Oriented

Thank You