



Insight



Digital  
Innovation

# UX Assessment - eReserve

Tenet Healthcare

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# Overview

# Execution Steps

## Week 1 Activities:

- Project Kick-off: 9/9
- Application Walk-Through: 9/9
- User Experience Assessment (UX Audit)
- Meetings:
  - Security
  - Compliance
- Source Code and Data Assessment
- Application Business Requirements Follow-up (if needed)

## Week 2 Activities:

- Access to Brand Guidelines
- User Interviews
- Conceptual Wireframes
- Updated User Flow
- Visual Comp of Web App Modernization
- Reference Architectures

# Project Deliverables

## **User experience assessment**

- Highlight usability opportunities for improvement during rewrite
- Provide set of recommendations to enhance web based eReserve experience
- Score each opportunity with a level of impact to the user (low, medium, high, critical)

## **Conceptual wireframes of updated user flows, if necessary**

### **Review of brand assets and single screen concept visual direction**

- Apply Tenet brand (logo, colors, imagery, type style) to a single screen for modern web based solution design
- Informs visual direction of eReserve application to be completed during Detail Design phase conducted in web based application rewrite project

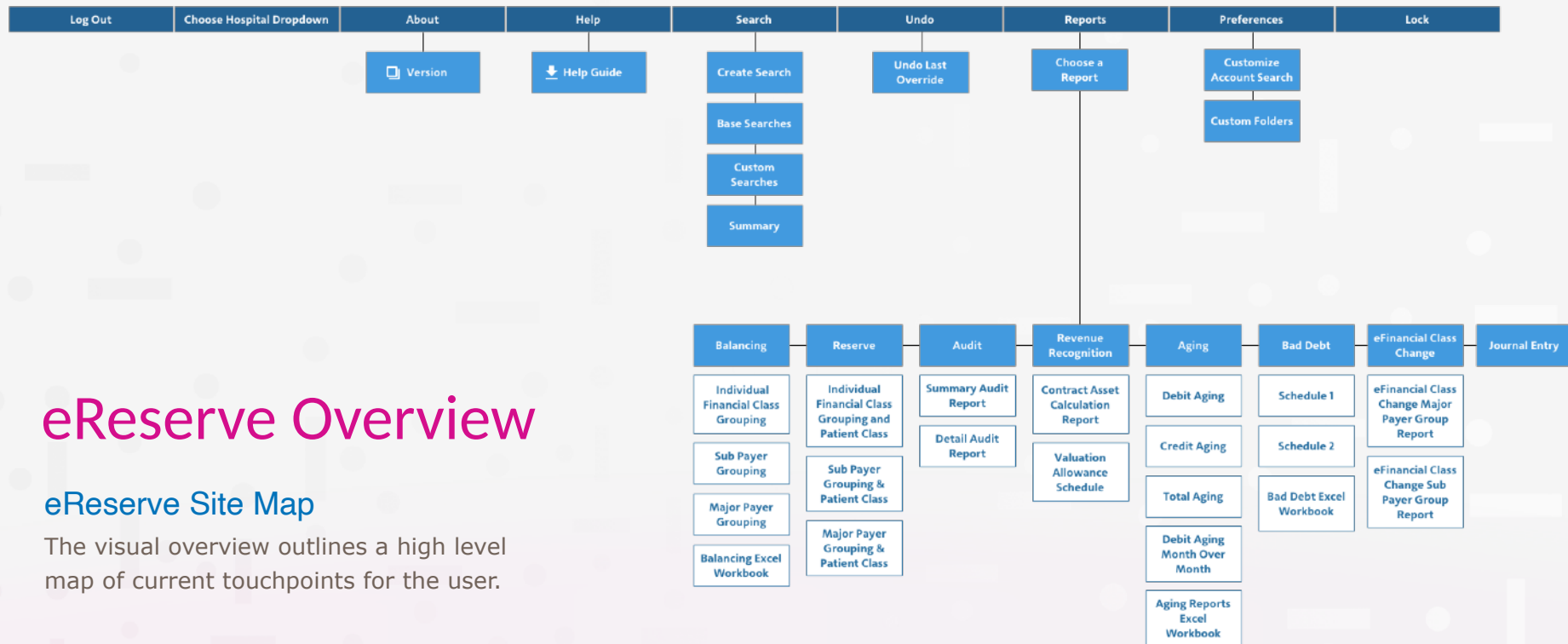
## **Reference architecture for proposed Azure environment**

## **Sprint plan for Design and Development**





# eReserve Overview



# eReserve Overview

## eReserve Site Map

The visual overview outlines a high level map of current touchpoints for the user.

### Legend

- Main Level
- 2nd Level
- 3rd Level

# Design Direction

**Our direction has been made based on the following criteria:**

**Lowest impact on development with highest return on user experience**

**Least amount of deviation in user and usability patterns**

**Maintain standardized report layout throughout designs**

**During the user experience assessment & recommendations we also addressed:**

Consistency in visual design & UI patterns





# Heuristic Evaluation

# eReserve Heuristic Evaluation Assessment

## ● Visibility Of System Status

- Visibility
- Inconsistent Placement
- Inconsistent Patterns

## ● Consistency & Standards

- Inconsistent Button Placement
- Inconsistent UI Patterns
- Inconsistent Page Layout

## ● Match Between System & Real

- World
- Consistent Standardized Report Layouts

## ● Error Prevention

- Confirmation Before Committing Actions
- Clear Error Messaging
- Inconsistent Validation & Placement

## ● User Control & Freedom

- User Exit Visibility
- Inconsistent Placement

### Legend

- Include in Redesign
- Future Design Iterations
- No Update Required

# eReserve Heuristic Evaluation Assessment Continued...

## ● Recognition Rather Than Recall

- Inconsistent Iconography
- Minimal Visual Aids
- Inconsistent Function Placement
- Multiple Entry Points For Same Content

## ● Flexibility & Efficiency Of Use

- Performance Impacting Workflow
- Inconsistent UI Patterns & Layout
- Accessibility

## ● Aesthetic & Minimalist Design

- Inconsistent Layout
- Content Visibility

## ● Help Users Recognize, Diagnose, & Recover From Errors

- Inconsistent Validation & Error Alerts
- Location Of Validation Is Inconsistent
- Improve Visibility
- Multiple Error & Validation UI Patterns

## ● Help & Documentation

- Full Help Guide Available

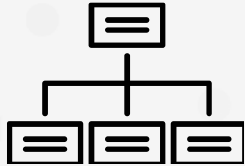
### Legend

- Include in Redesign
- Future Design Iterations
- No Update Required



# Usability Assessment

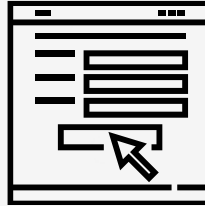
# Usability Assessment



## Navigation

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- Better Consistency
- Better Visibility
- Better User Flow
- Multiple Duplicative Entry Points



## Forms

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- Improve UI Patterns
- Improve Layout
- Consistent UI Patterns
- Utilize Visual Space



## Grids & Reports

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- Consistent Placement
- Consistent Patterns
- Increase Visibility

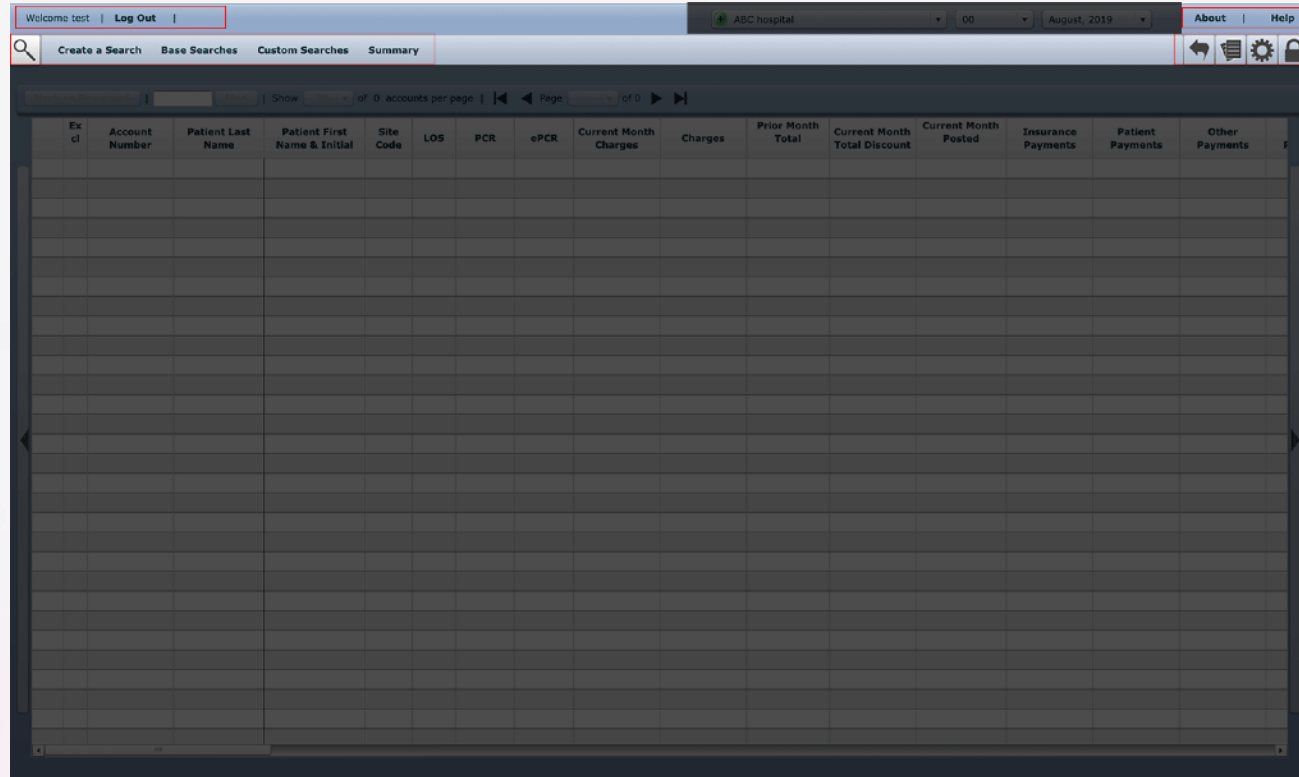
# Usability Assessment

## Navigation

Create better consistency, visibility, & placement, while getting rid of redundant entry points.

### Areas for Design Exploration

- Better Consistency
- Better Visibility
- Better User Flow
- Streamline Entry Points



The screenshot displays a web application interface with a navigation bar at the top. The navigation bar includes a search icon, a search input field, and several menu items: "Create a Search", "Base Searches", "Custom Searches", and "Summary". The "Summary" menu item is highlighted. To the right of the navigation bar, there is a user profile section with "Welcome text" and a "Log Out" button. Further right, there is a header area with "ABC hospital", a dropdown menu showing "00", and a date selector showing "August, 2019". On the far right, there are links for "About" and "Help", along with icons for navigation and settings.

Below the navigation bar, there is a table with the following columns: "Ex cl", "Account Number", "Patient Last Name", "Patient First Name & Initial", "Site Code", "LOS", "PCR", "ePCR", "Current Month Charges", "Charges", "Prior Month Total", "Current Month Total Discount", "Current Month Posted", "Insurance Payments", "Patient Payments", and "Other Payments". The table is currently empty, showing only the header row.



# Usability Assessment

## Forms

Improve & create consistent UI patterns, visibility, & utilization of visual space.

### Areas for Design Exploration

- Consistent UI Patterns
- Improve UI Patterns
- Maximize Utilization of Visual Space

The screenshot displays a web application interface for searching accounts. The top navigation bar includes 'Welcome text | Log Out |', a search icon, and tabs for 'Create a Search', 'Base Searches', 'Custom Searches', and 'Summary'. The main header shows 'GHI hospital', '00', 'August, 2019', and 'About | Help'.

The left sidebar, titled 'Historical Searches (100)', lists various search criteria. The selected search is '08 05\_eMgCare Bill IP Dis NPER'. Below the list is a 'Reset colors' button.

The main content area, titled '08 05\_eMgCare Bill IP Dis NPER', shows search criteria for accounts from 'GHI hospital' during 'August, 2019'. The criteria are as follows:

- Bill Mail Date is **After** 01/01/1900
- Balance is **Greater than** 0
- Current Month Total Discount is **Not equal to** 0
- Total Charges is **Greater than** 0
- PER is **Equal to** 0
- eCalculated Reserve is **Not equal to** 0
- Patient Class **Includes** 1

The 'Includes' section shows a table with columns 'E' and 'O':

E	O
1	0

Below this, the 'Reopen Flag' is set to **FALSE**, and 'eMajor Payer' **Includes** 'Managed Care, UNKNOWN'.

The second 'Includes' section shows a table with columns 'Charity' and 'Commercial/Other':

Charity	Commercial/Other
Managed Care	Managed Exchange
Managed MCD	Managed MCR
Medicaid	Medicare

At the bottom right, there are buttons for 'Modify', 'Save', 'Add', 'Rename', 'Delete', 'Clear', 'Close', and 'Execute'.

# Usability Assessment

## Grids & Reports

Consolidate & Improve UI patterns, while creating consistency for user actions.

### Areas for Design Exploration

- Consolidate UI Patterns
- Improve User Action Placement Consistency
- Improve Visual Design

The screenshot displays a web-based financial reporting application. At the top, there is a navigation bar with 'Welcome test | Log Out |' and a search bar. Below this is a header for the report: 'Base Search : eMcare OP-Discharged'. The main area contains a data grid with columns for 'Excl Ovr', 'Account Number', 'Patient Last Name', 'Patient First Name & Initial', 'Site Code', 'LOS', 'PCR', 'ePCR', 'Current Month Charges', 'Charges', 'Prior Month Total', 'Current Month Total Discount', 'Current Month Posted', 'Insurance Payments', 'Patient Payments', and 'Oti Payn'. A dropdown menu is open over the grid, listing various override options such as 'Balance Override', 'Comment Only', 'eCalculated Reserve Manual Override', etc. Below the grid, there is a form for overriding a specific account. The 'Type' dropdown is set to 'PER Incorrect'. The 'Reason' dropdown is set to 'PER Incorrect'. The 'Account No.' is '047150471' and the 'Last Name' is 'aaGg'. There are 'Cancel' and 'Override' buttons at the bottom of the form.

Excl Ovr	Account Number	Patient Last Name	Patient First Name & Initial	Site Code	LOS	PCR	ePCR	Current Month Charges	Charges	Prior Month Total	Current Month Total Discount	Current Month Posted	Insurance Payments	Patient Payments	Oti Payn
	047150471	aaGg	CHRzqTzHb	00	1	4.95%	4.95%	\$19,823.16	\$19,823.16		(\$18,842.31)	(\$18,842.31)	\$0.00	\$0.00	
	058340583	aaHTkN	LzNhz	00	1	7.32%	7.32%	\$5,749.33	\$5,749.33		(\$5,328.31)	(\$5,328.31)	\$0.00	\$0.00	
	053990539	aaKgR	zRTHR	00	1	16.04%	16.04%	\$1,469.09	\$1,469.09		(\$1,233.40)	(\$1,233.40)	\$0.00	\$0.00	
	065690656	aaMjKkN	hzNzb	00	1	6.82%	6.82%	\$2,359.37	\$2,359.37		\$0.00	\$0.00	\$0.00	\$0.00	
	061120611	aaNChgZ	MzKb	00	1	6.82%	6.82%	\$947.81	\$947.81		\$0.00	\$0.00	\$0.00	\$0.00	
	044210442	aaNChgZ	IRzNK	00	1	5.05%	5.05%	\$86.46	\$86.46		(\$82.09)	(\$82.09)	\$0.00	\$0.00	
	058110581	aaNTJaGk	hzNzobL	00	1	6.17%	6.17%	\$12,305.18	\$12,305.18		(\$11,546.03)	(\$11,546.03)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	6.46%	6.46%	\$11,955.19	\$11,955.19		(\$11,182.72)	(\$11,182.72)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	4.57%	4.57%	\$9,211.75	\$9,211.75		(\$8,790.73)	(\$8,790.73)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	7.94%	7.94%	\$3,279.76	\$3,279.76		(\$3,019.24)	(\$3,019.24)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	2.30%	2.30%	\$39,170.78	\$39,170.78		(\$30,104.98)	(\$30,104.98)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	4.23%	4.23%	\$16,237.88	\$16,237.88		(\$15,551.38)	(\$15,551.38)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	3.83%	3.83%	\$6,796.74	\$6,796.74		(\$6,540.39)	(\$6,540.39)	(\$204.25)	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	4.91%	4.91%	\$23,093.60	\$23,093.60		(\$21,958.82)	(\$21,958.82)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	3.53%	3.53%	\$19,578.28	\$19,578.28		(\$18,887.90)	(\$18,887.90)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	6.82%	6.82%	\$391.15	\$391.15		\$0.00	\$0.00	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	6.82%	6.82%	\$10,012.57	\$10,012.57		\$0.00	\$0.00	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	11.02%	11.02%	\$354.33	\$354.33		(\$315.29)	(\$315.29)	\$0.00	\$0.00	
	047150471	aaGg	CHRzqTzHb	00	1	6.82%	6.82%	\$5,640.75	\$5,640.75		\$0.00	\$0.00	\$0.00	\$0.00	



# Modern Web App Design

## ← Base Search | eMcare OP-Discharged




 All Columns

Show: 20 of 724    Page: 1 of 11

	Excl Ovr	Account Number	Patient Last Name	Patient First Name & Initial	Site Code	LOS	PCR	ePCR
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Brendon	Arika S.	00	1	10.3%	10.3%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Augustine	Charles C.	00	1	6.5%	6.5%
	<input type="checkbox"/>	047190471	Colton	Cynthia G.	00	1	6.3%	6.3%
	<input type="checkbox"/>	047190471	Josephina	Christeen R.	00	1	3.1%	3.1%
	<input type="checkbox"/>	047190471	Berniece	Arleen G.	00	1	4.2%	4.2%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Isaura	Delcie C.	00	1	9.5%	9.5%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Octavio	Deana C.	00	1	5.1%	5.1%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Treva	Argentina Q.	00	1	3.3%	3.3%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Daina	Charis M.	00	1	8.8%	8.8%
	<input type="checkbox"/>	047190471	Hosea	Juana G.	00	1	2.1%	2.1%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Minnie	Shaunna H.	00	1	6.1%	6.1%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	King	Eleonore A.	00	1	7.5%	7.5%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Leeann	Georgeann F.	00	1	2.6%	2.6%
	<input type="checkbox"/>	047190471	Kelsi	Jesica M.	00	1	8.5%	8.5%
	<input type="checkbox"/>	047190471	Adelina	Amalia A.	00	1	5.3%	5.3%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Lynn	Nidia H.	00	1	3.3%	3.3%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Branda	Yahaira R.	00	1	9.4%	9.4%
	<input type="checkbox"/>	047190471	Rhea	Marcos F.	00	1	4.5%	4.5%
	<input type="checkbox"/>	047190471	Fabiola	Karyn V.	00	1	8.3%	8.3%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Esperanza	Willene G.	00	1	4.4%	4.4%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Berry	Mazie M.	00	1	8.6%	8.6%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Magda	Yessenia A.	00	1	6.9%	6.9%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Farrah	Karena A.	00	1	5.1%	5.1%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Antwan	Keesha B.	00	1	5.6%	5.6%
<input checked="" type="checkbox"/>	<input type="checkbox"/>	047190471	Landon	Landon R.	00	1	2.4%	1.6%

 Override ✕

 Type  


 Reason  


- 
- Override each account separately
- 
- 
- Override accounts with common value
- 
- 
- Override entire search with these values

✕ Account No. - 047910471    Comment

Last Name - Register

Value - 79,000

✕ Account No. - 047910471    Comment

Last Name - Register

Value - 79,000




✕ Account No. - 047910471    Comment

Last Name - Register

Value - 79,000


✕ Account No. - 047910471    Comment

















Wireframe  
Report Override



GHI Hospital ▼
12345 ▼
September 2019 ▼
SEARCH
REPORTS
UNDO
LOCK




Base Searches

Create a Search
**Base Searches**
Custom Searches
Summary



 **Historical Searches**


-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  **08 05\_eMgCare Bill IP Dis NPER**
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
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-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All
-  03 13\_eMajor Payer Comm - All



 Medicare Searches

 Medicare Searches



08 05\_eMgCare Bill IP Dis NPER | GHI hospital | August 2019



  Bill Mail Date

After ▼
01/12/2019




  Balance

Greater than ▼
\$407,900



  Current Month Total Discount: Not equal to: \$7,900

  Total Charges


Greater than ▼
\$1,900,800.65

  PER



Equal to ▼
\$1,900,800.65

  eMajor Payer

Includes  Does Not Include

Charity
Managed Care
Commercial/Other
Managed Exchange
...
5


	Managed Care		
Charity			Managed Exchange
		Commercial/Other	

  Patient Class

Includes  Does Not Include

I

Reset Colors
Execute
Save
Modify
Add
Rename
Clear
Delete
Close

Wireframe

Base Search

← Base Search | eMcare OP-Discharged
Search Mark as Reviewed Override Export to Excel All Columns Show: 20 of 724 Page: 1 of 11

Excl Ovr	Account Number	Patient Last Name	Patient First Name & Initial	Site Code	LOS	PCR	ePCR	Current Month Charges	Charges	Prior Month Total
<input type="checkbox"/>	047190471	Brendon	Anika S.	00	1	10.3%	10.3%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Augustine	Charles C.	00	1	6.5%	6.5%	\$0.00	\$0.00	\$0.00
<input type="checkbox"/>	047190471	Colton	Cynthia G.	00	1	6.3%	6.3%	\$100,000.00	\$100,000.00	\$0.00
<input type="checkbox"/>	047190471	Josephina	Christeen R.	00	1	3.1%	3.1%	\$100.00	\$100.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Berniece	Arleen G.	00	1	4.2%	4.2%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Isaura	Delcie C.	00	1	9.5%	9.5%	\$0.00	\$0.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Octavio	Deana C.	00	1	5.1%	5.1%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Treva	Argentina Q.	00	1	3.3%	3.3%	\$100.00	\$100.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Daina	Charis M.	00	1	8.8%	8.8%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Hosea	Juana G.	00	1	2.1%	2.1%	\$0.00	\$0.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Minnie	Shaunna H.	00	1	6.1%	6.1%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	King	Eleonore A.	00	1	7.5%	7.5%	\$100.00	\$100.00	\$0.00
<input type="checkbox"/>	047190471	Leeann	Georgeann F.	00	1	2.6%	2.6%	\$100,000.00	\$100,000.00	\$0.00
<input type="checkbox"/>	047190471	Kelsi	Jesica M.	00	1	8.5%	8.5%	\$0.00	\$0.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Adelina	Amalia A.	00	1	5.3%	5.3%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Lynn	Nidia H.	00	1	3.3%	3.3%	\$100.00	\$100.00	\$0.00
<input type="checkbox"/>	047190471	Brandia	Yahaira R.	00	1	9.4%	9.4%	\$100,000.00	\$100,000.00	\$0.00
<input type="checkbox"/>	047190471	Rhea	Marcos F.	00	1	4.5%	4.5%	\$0.00	\$0.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Fabiola	Karyn V.	00	1	8.3%	8.3%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Esperanza	Willena G.	00	1	4.4%	4.4%	\$100.00	\$100.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Berry	Mazie M.	00	1	8.6%	8.6%	\$100,000.00	\$100,000.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Magda	Yessenia A.	00	1	6.9%	6.9%	\$0.00	\$0.00	\$0.00
<input checked="" type="checkbox"/>	047190471	Farrah	Karena A.	00	1	5.1%	5.1%	\$100,000.00	\$100,000.00	\$0.00

### Override ✕

Type: eCalculated Balance Manual Override

Reason: PER Incorrect

Override each account separately

Override accounts with common value

Override entire search with these values

Account No.: 047910471 ✕

Last Name: Register

Value:

Comment:

Account No.: 047910471 ✕

Last Name: Register

Value:

Comment:

Override Cancel

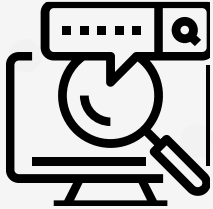
Visual Design  
Report Override





Looking Forward

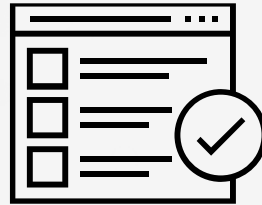
# Usability Assessment



## Search

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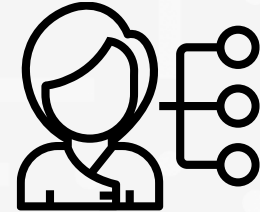
Consistent Placement  
Consistent Patterns  
Increase Visibility



## Errors & Validation

---

Inconsistent Patterns  
Multiple Patterns  
Better Visibility  
Validation Location Inconsistent

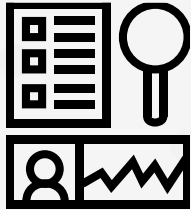


## Workflow & Userflow

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Inconsistent Workflows  
Hindering Performance

# How We Get There



## Discovery

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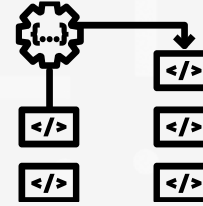
A way to illuminate what we don't know and better understand what people need, through different research activities.



## Iterative Design

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A design methodology based on a cyclic process of prototyping, testing, analyzing, and refining a product or process.



## Incremental Delivery

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A way of breaking down the software development of a large application into smaller chunks.

A photograph of four business professionals (two men and two women) sitting around a conference table in a meeting room, smiling and engaged in conversation. The image is overlaid with a semi-transparent purple filter.

# Thank You

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