effective UI

DaVita®

Evaluative Research Findings

OPC and Pathways

Conducted: January 24-26, 2017

FEBRUARY 7, 2017

Usability Testing Orders, VAM Concepts, Visual Design

WHAT WE TESTED

Orders Flows

— Aasdfa

VAM Concepts

— Vfadsfa

Visual Design

— Vfadsfa

Evaluative Research

ABOUT

Evaluative User Research

Usability testing is a type of evaluative user research that gives insight into how easy or difficult a product is to use by testing it with real or potential users. Users are asked to complete tasks while they are being observed by a researcher to see where they encounter problems and experience confusion.

How long did we spend with each participant?

- Two researchers spent 40-120 minutes with each test participant in a conference room
- Each prototype had at least 5 test participants

What did they see?

The test participants were asked to complete simple guided tasks using low fidelity InVision prototypes.

Evaluative Research

WHAT WE TESTED

- Order type labels on Orders List
- Use of Delete or Cancel as label to remove an appointment
- Use and placement of an Info Icon on a pathway barrier
- Expand/Collapse task lists by category
- Text character limit for note
- Preference for text layout

Evaluative Research

WHO WE TALKED TO

We conducted evaluative research with 11 teammates

— 3 RNs
— 1 RN/CC
— 1 LPN
— 3 PCTs
— 1 MSW
— 1 RD
— 1 AA

LEGEND FOR SCREEN

Participants were comfortable with the task or concept and able to move forward without help

Participants had some difficulty with the task or concept, but were able to recover and able to move forward on their own

Participants had difficulty with task or concept and were unable to recover without help

ORDERS

Task 1a

Order type label on orders list

Orders list label types

WHO WE TALKED TO

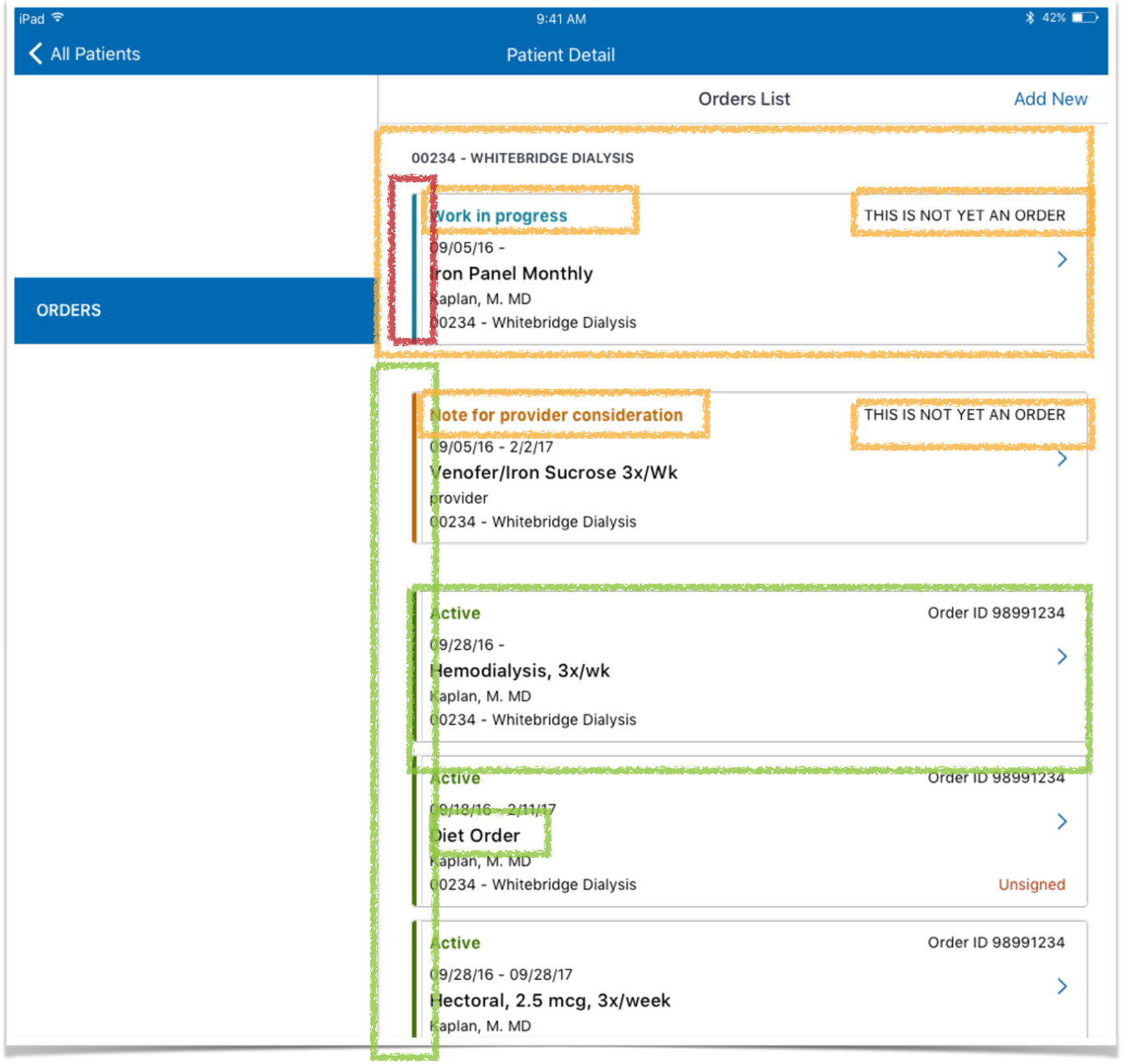
We conducted research for orders type label with

— 3 RNs

— 1 RN/CC

— 1 LPN

Orders list with no labels



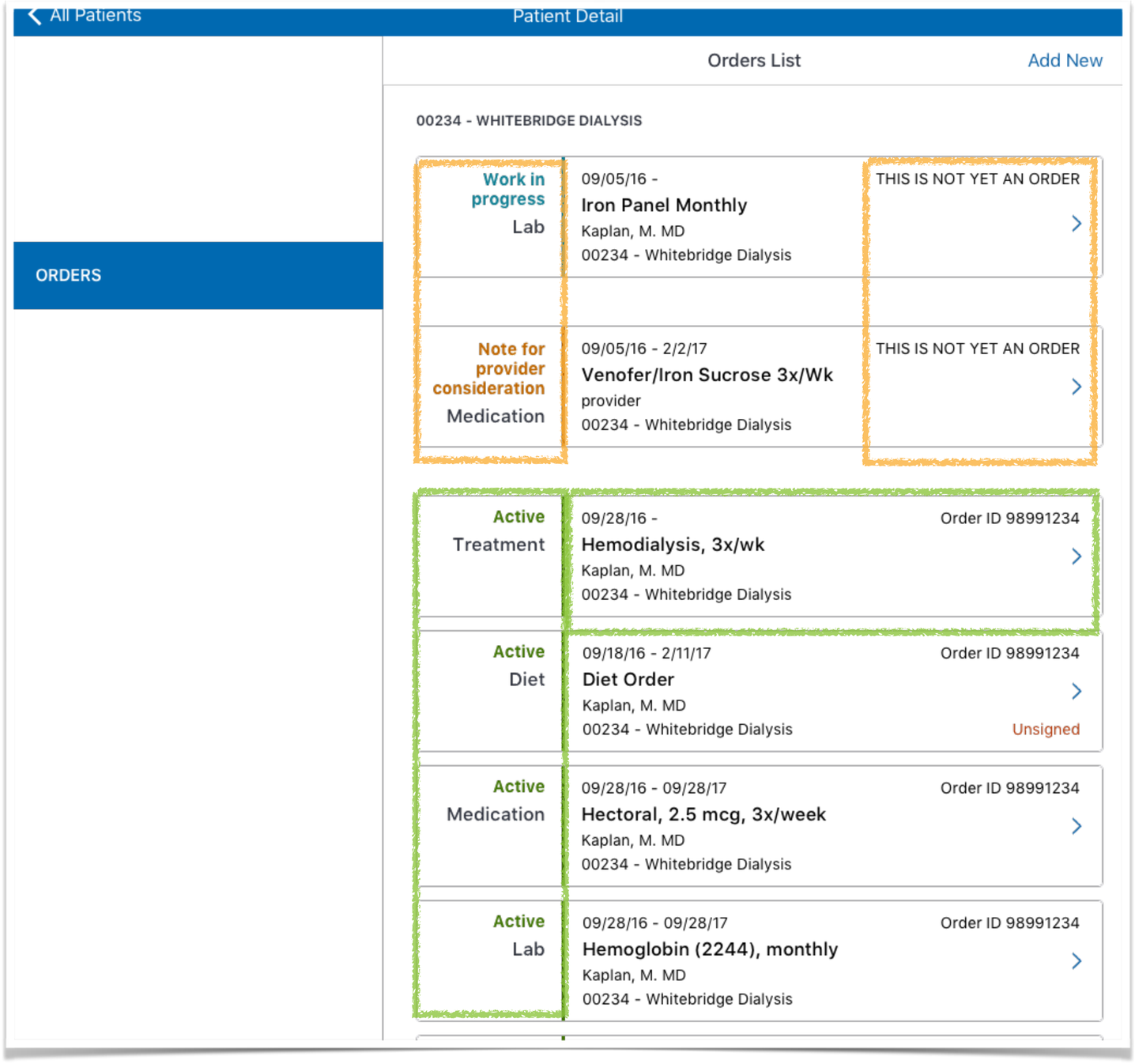
ORDERS LIST WITH NO LABELS

- 3 of 5 RNs stated they liked having all the orders in one list, not on separate lists, as long as they could filter to only one specific type if needed, for example see only the labs
- 2 of 5 RNs said that they had no preference if there was a label or not
- RNs easily understood the basic color coding (red, green, grey) on the orders list

- RNs were not familiar with the concept of Work In Progress or Note For Provider Consideration and therefore some did not grasp that they were not active orders

- 2 of the 4 RNs wondered “what does blue mean?” when looking at the color coding on the Work in Progress and Note for Provider Consideration

Orders list with labels



ORDERS LIST WITH LABELS

- 3 of 5 RNs said they wanted labels on the orders list as it helped them scan it more easily
- RNs easily understood the basic color coding (red, green, grey) on the orders list
    - Color coding was more apparent on the list with labels

- Some RNs did not notice the text “This is not yet an order” on the Work In Progress and Note For Provider Consideration orders

QUOTES

“I like having all the orders in one list. I wont have to flip back and forth” - RN/CC

“What does blue mean?” - RN

“The labels make it easier to scan for what I am looking for.” -RN

RECOMMENDATIONS

- Include labels on orders list as labels facilitate easy scanning of the list for order type

PATHWAYS

Task 2a 3/7 successful

Delete or cancel task action label

* Successful participants were comfortable with the task or concept and able to move forward without help

Delete or cancel action label

WHO WE TALKED TO

We conducted evaluative research with 7 teammates

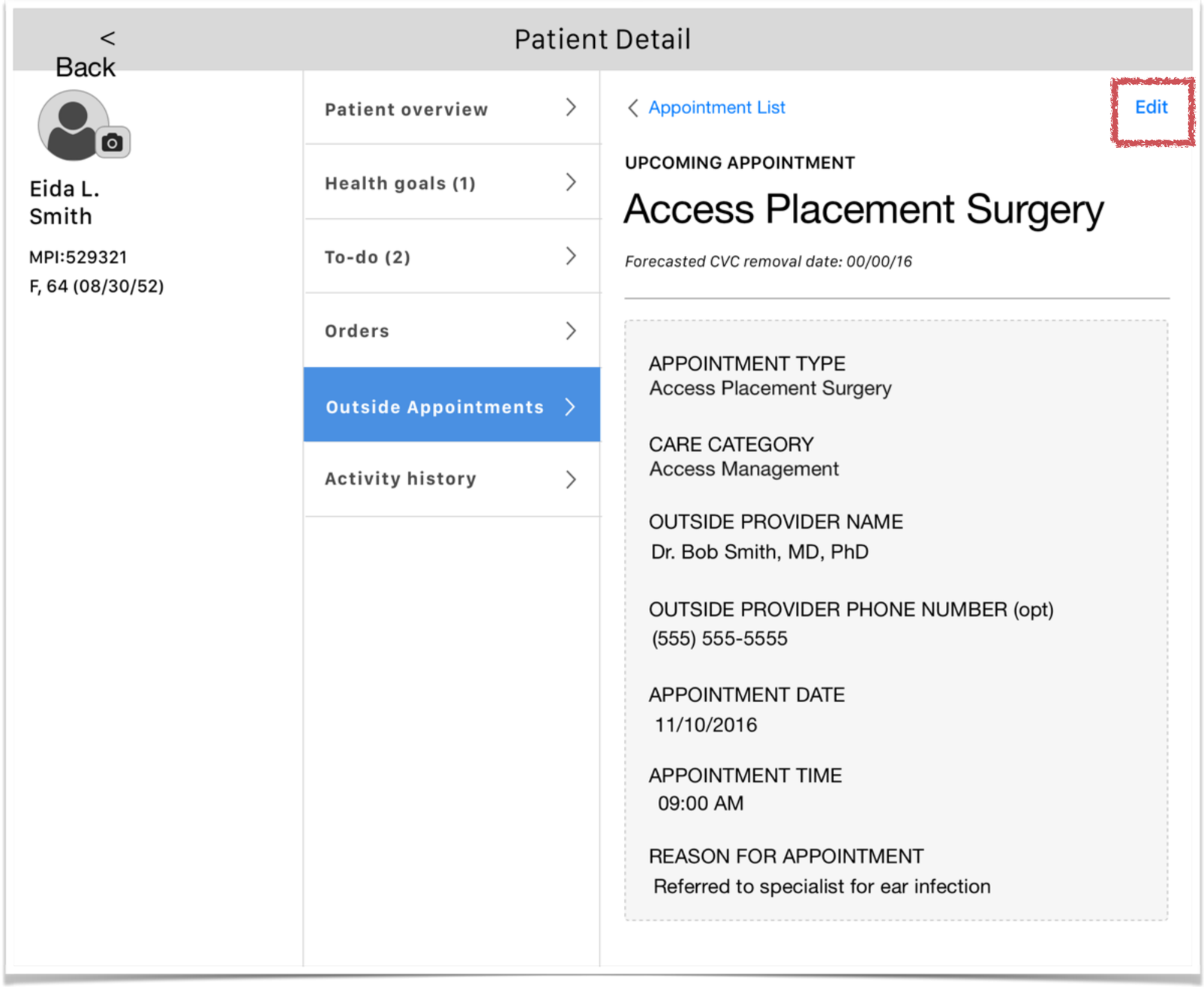
— 2 RNs

— 1 RN/CC

— 1 LPN

— 2 PCTs

— 1 MSW

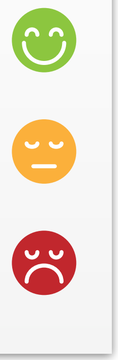

< Back
Patient Detail
Eida L. Smith
MPI:529321
F, 64 (08/30/52)
Patient overview
Health goals (1)
To-do (2)
Orders
Outside Appointments
Activity history
Appointment List
Edit
UPCOMING APPOINTMENT
Access Placement Surgery
Forecasted CVC removal date: 00/00/16
APPOINTMENT TYPE
Access Placement Surgery
CARE CATEGORY
Access Management
OUTSIDE PROVIDER NAME
Dr. Bob Smith, MD, PhD
OUTSIDE PROVIDER PHONE NUMBER (opt)
(555) 555-5555
APPOINTMENT DATE
11/10/2016
APPOINTMENT TIME
09:00 AM
REASON FOR APPOINTMENT
Referred to specialist for ear infection

APPOINTMENT OVERVIEW

- 3 of 7 participants needed to be directed to the Edit button to find the delete/cancel appointment functionality

“I am looking for a cancel button. I don’t want to edit anything” - PCT

“Maybe I would go back to the appointment list to look for somehow to delete it?” -RN/CC



Appointment List

Edit Upcoming Appointment

APPOINTMENT TYPE

Access Placement Surgery

CARE CATEGORY

Access management

OUTSIDE PROVIDER NAME

Dr. Bob Smith, MD, PhD

OUTSIDE PROVIDER PHONE NUMBER (optional)

555-555-5555

APPOINTMENT DATE

11/10/2016

35 days ago

Approximate date

APPOINTMENT TIME (optional)

09:00 AM

REASON FOR APPOINTMENT

Referred to specialist for ear infection

Done

Delete Appointment

Me (RN)

Appointment List

Edit Upcoming Appointment

APPOINTMENT TYPE

Access Placement Surgery

CARE CATEGORY

Access management

OUTSIDE PROVIDER NAME

Dr. Bob Smith, MD, PhD

OUTSIDE PROVIDER PHONE NUMBER (optional)

555-555-5555

APPOINTMENT DATE

11/10/2016

35 days ago

Approximate date

APPOINTMENT TIME (optional)

09:00 AM

REASON FOR APPOINTMENT

Referred to specialist for ear infection

Done

Cancel Appointment

Me (RN)

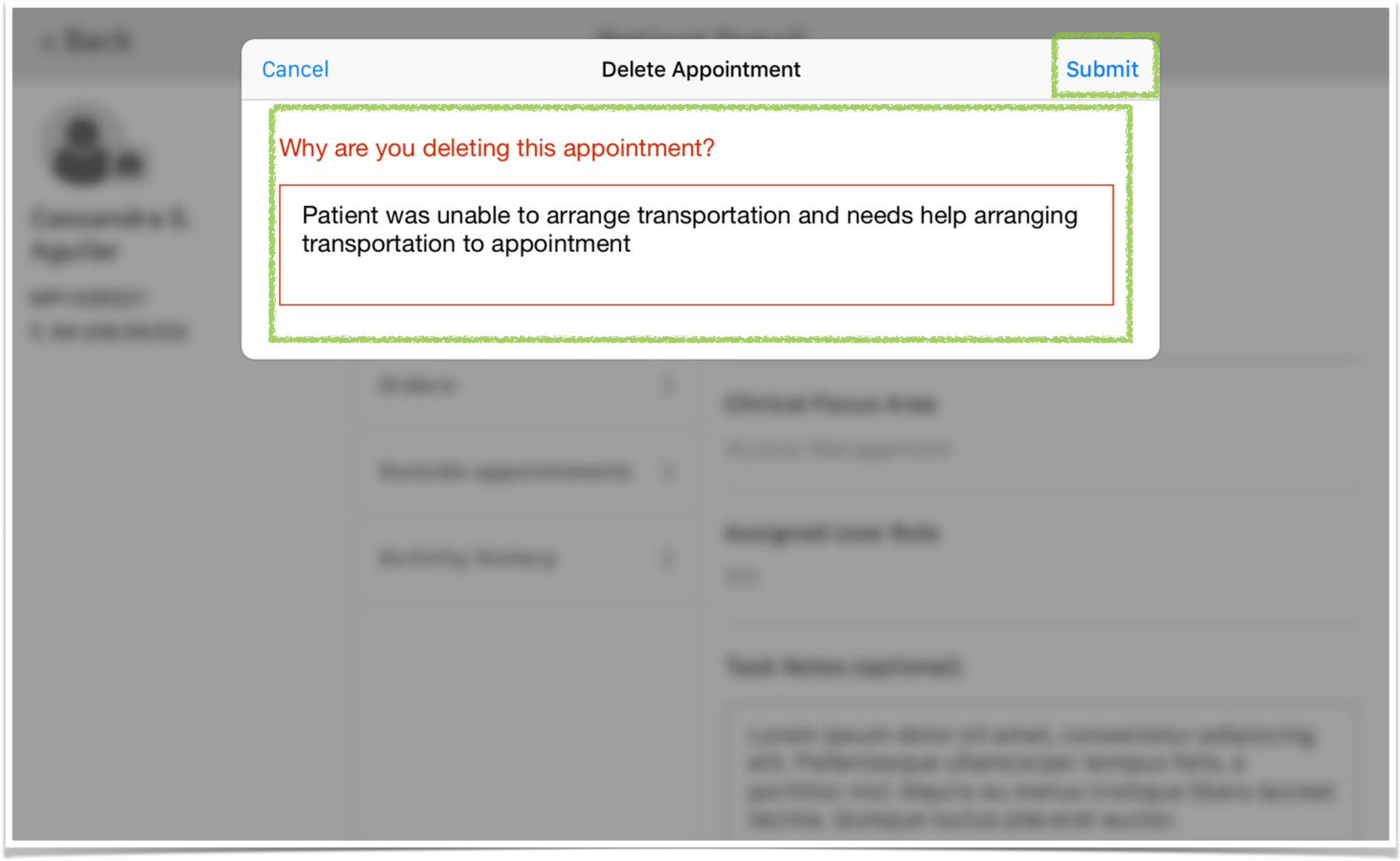
DELETE OR CANCEL LABEL

- 6 of 7 TMs thought that *Cancel* was a better label than *Delete*
- TMs stated *Delete* made them think no record of the appointment would be kept in the system
- *Cancel* made them think they could comment on why it was canceled and the data would be retained

- 4 of 7 teammates did not scroll to find the delete/cancel action and attempted to edit the date of the appointment
- They had to be directed to scroll to the delete/cancel action label

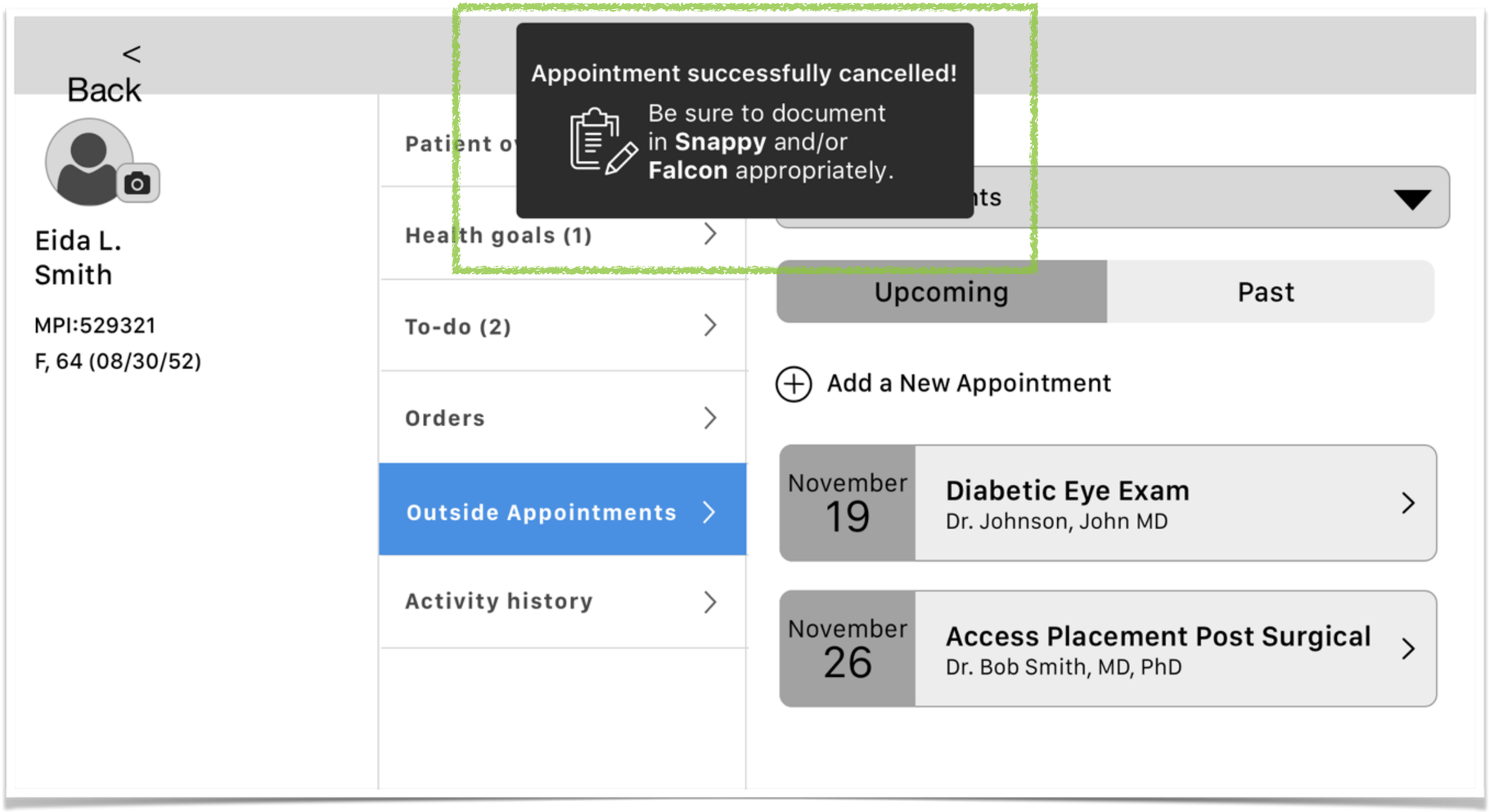
RECOMMENDATIONS

- Label the action cancel to align with teammate mental models


Cancel
Delete Appointment
Submit
Why are you deleting this appointment?
Patient was unable to arrange transportation and needs help arranging transportation to appointment

COMMENTS BOX

- The RNs and MSW wanted to be able to document on the reason for canceling the appointment
- The TMs all selected the submit button in the upper right hand corner to move forward in the task


< Back
Eida L. Smith
MPI:529321
F, 64 (08/30/52)
Patient o
Health goals (1)
To-do (2)
Orders
Outside Appointments
Activity history
Appointment successfully cancelled!
Be sure to document in Snappy and/or Falcon appropriately.
nts
Upcoming
Past
Add a New Appointment
November 19
Diabetic Eye Exam
Dr. Johnson, John MD
November 26
Access Placement Post Surgical
Dr. Bob Smith, MD, PhD

SUCCESS TOAST

- After canceling an appointment TMs expected to be returned to the appointments list
- TMs expected to have a success message for cancelation and the canceled appointment be removed from the list

Task 2b

Info icon use and placement

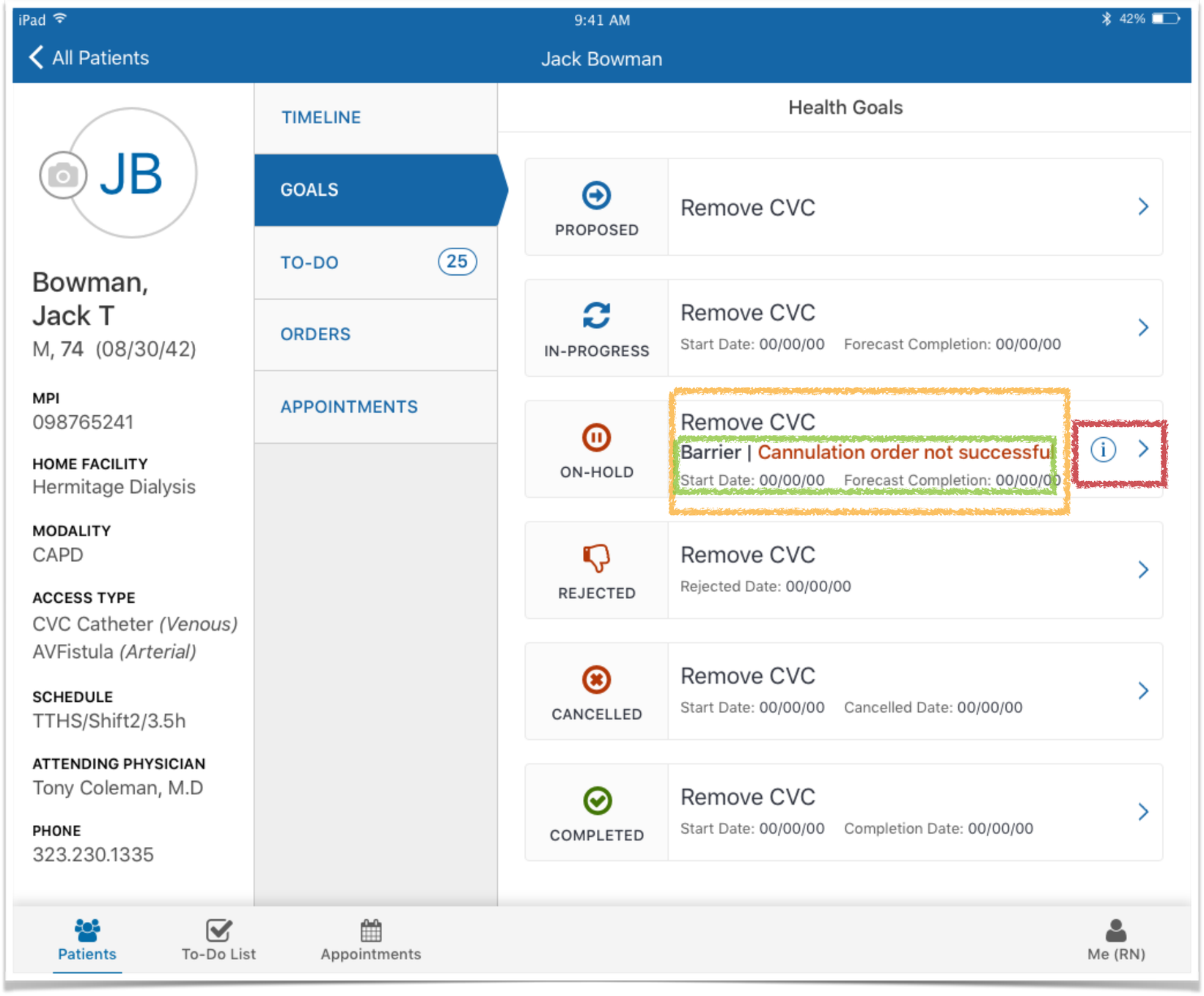
Info Icon use and placement

WHO WE TALKED TO

We conducted research with 6 teammates

— 3 RNs

— 3 PCTs

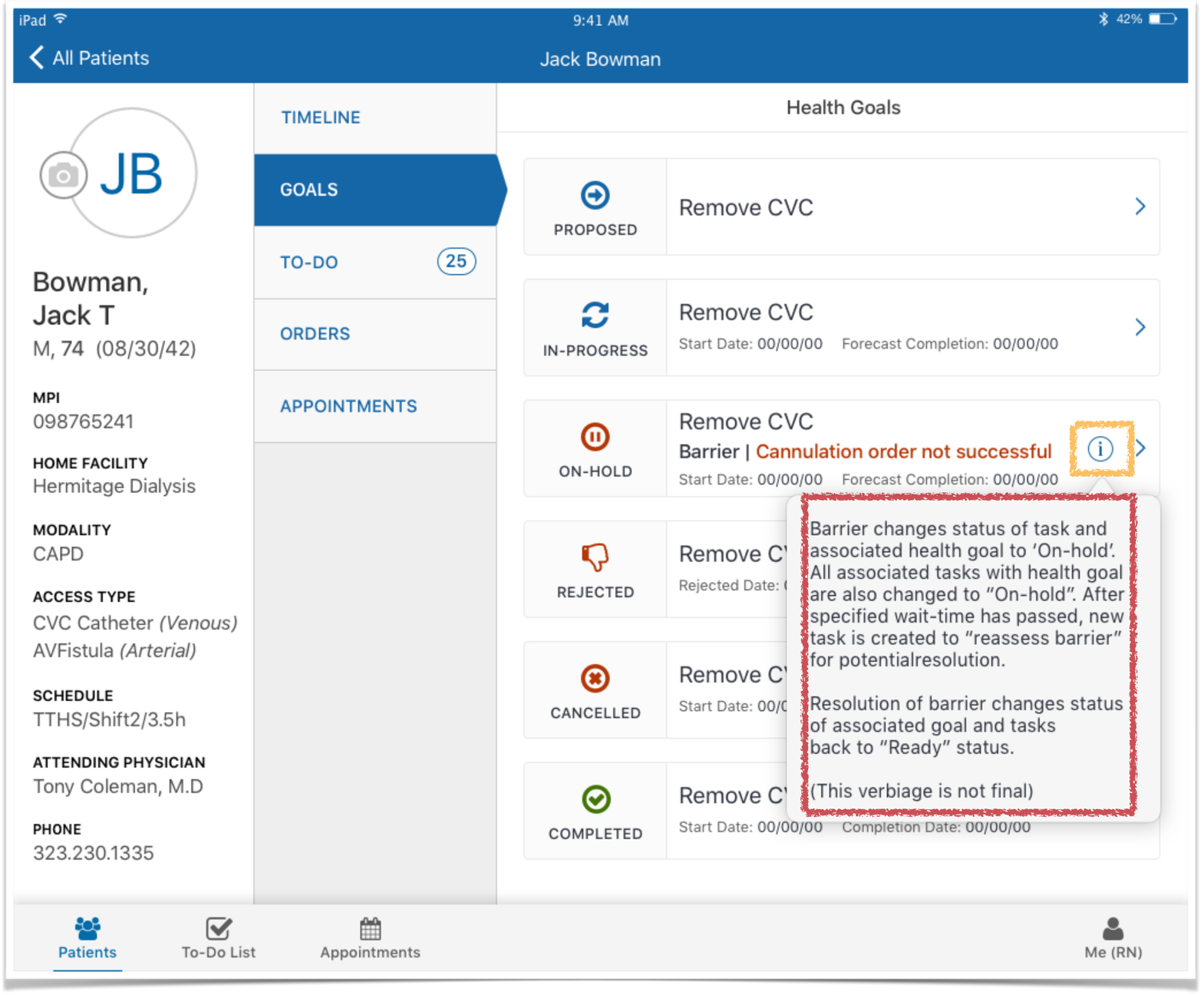

iPad
9:41 AM
42%
All Patients
Jack Bowman
JB
Bowman,
Jack T
M, 74 (08/30/42)
MPI
098765241
HOME FACILITY
Hermitage Dialysis
MODALITY
CAPD
ACCESS TYPE
CVC Catheter (Venous)
AVFistula (Arterial)
SCHEDULE
TTHS/Shift2/3.5h
ATTENDING PHYSICIAN
Tony Coleman, M.D
PHONE
323.230.1335
TIMELINE
GOALS
TO-DO 25
ORDERS
APPOINTMENTS
Health Goals
PROPOSED
Remove CVC
IN-PROGRESS
Remove CVC
Start Date: 00/00/00 Forecast Completion: 00/00/00
ON-HOLD
Remove CVC
Barrier | Cannulation order not successfu
Start Date: 00/00/00 Forecast Completion: 00/00/00
REJECTED
Remove CVC
Rejected Date: 00/00/00
CANCELLED
Remove CVC
Start Date: 00/00/00 Cancelled Date: 00/00/00
COMPLETED
Remove CVC
Start Date: 00/00/00 Completion Date: 00/00/00
Patients
To-Do List
Appointments
Me (RN)

INFO ICON NEXT TO

- TMs thought the info icon meant there was more information about why the goal was blocked
- TMs liked having the barrier surfaced on the list

- TMs thought they could tap the text of the goal to see the details, many did not notice the carrot

- TMs had difficult navigating the small space between the info icon and the carrot - many saw one, but not the other
- Some TMs thought they would get more information on the detail screen if they tapped in
- For TMs who were less computer savvy, the info icon had no meaning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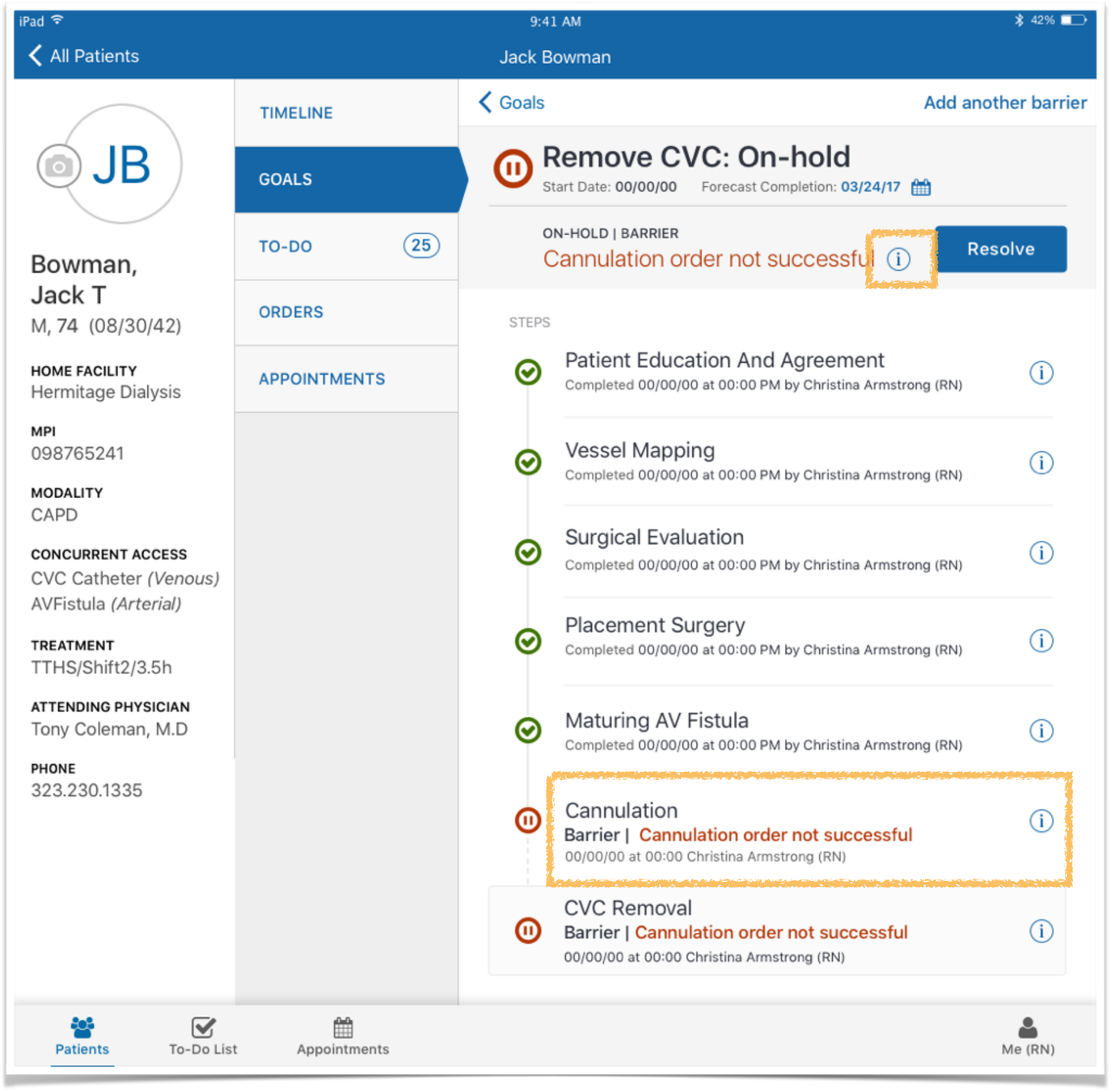
Jack T
M, 74 (08/30/42)
MPI
098765241
HOME FACILITY
Hermitage Dialysis
MODALITY
CAPD
ACCESS TYPE
CVC Catheter (Venous)
AVFistula (Arterial)
SCHEDULE
TTHS/Shift2/3.5h
ATTENDING PHYSICIAN
Tony Coleman, M.D
PHONE
323.230.1335
TIMELINE
GOALS
TO-DO 25
ORDERS
APPOINTMENTS
Health Goals
PROPOSED
Remove CVC
IN-PROGRESS
Remove CVC
Start Date: 00/00/00 Forecast Completion: 00/00/00
ON-HOLD
Remove CVC
Barrier | Cannulation order not successful
Start Date: 00/00/00 Forecast Completion: 00/00/00
REJECTED
Remove C
Rejected Date:
CANCELLED
Remove C
Start Date: 00/
COMPLETED
Remove C
Start Date: 00/00/00 Completion Date: 00/00/00
Barrier changes status of task and associated health goal to 'On-hold'. All associated tasks with health goal are also changed to "On-hold". After specified wait-time has passed, new task is created to "reassess barrier" for potentialresolution.
Resolution of barrier changes status of associated goal and tasks back to "Ready" status.
(This verbiage is not final)
Patients
To-Do List
Appointments
Me (RN)

POP UP EXPECTATIONS

- TMs were confused if the icon was tappable or not - once they determined it was tappable, they expected a pop-up for more information

- TMs unanimously thought the info icon would give information regarding why that particular patient had a barrier, not the definition of the barrier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42%
All Patients
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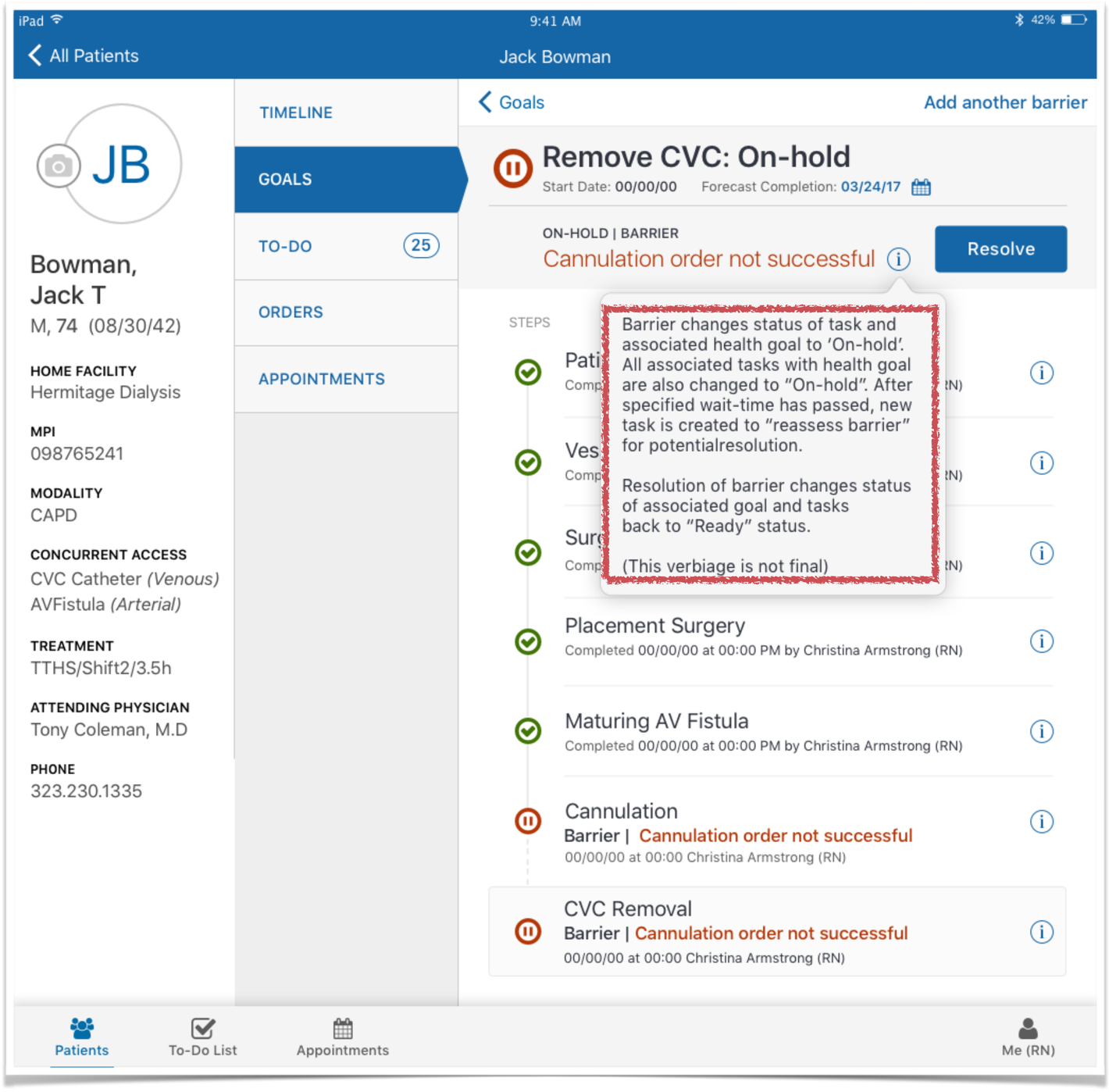
Bowman, Jack T
M, 74 (08/30/42)
HOME FACILITY
Hermitage Dialysis
MPI
098765241
MODALITY
CAPD
CONCURRENT ACCESS
CVC Catheter (Venous)
AVFistula (Arterial)
TREATMENT
TTHS/Shift2/3.5h
ATTENDING PHYSICIAN
Tony Coleman, M.D
PHONE
323.230.1335
TIMELINE
GOALS
TO-DO 25
ORDERS
APPOINTMENTS
Goals
Add another barrier
Remove CVC: On-hold
Start Date: 00/00/00 Forecast Completion: 03/24/17
ON-HOLD | BARRIER
Cannulation order not successful
Resolve
STEPS
Patient Education And Agreement
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Vessel Mapping
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Surgical Evaluation
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Placement Surgery
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Maturing AV Fistula
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Cannulation
Barrier | Cannulation order not successful
00/00/00 at 00:00 Christina Armstrong (RN)
CVC Removal
Barrier | Cannulation order not successful
00/00/00 at 00:00 Christina Armstrong (RN)
Patients
To-Do List
Appointments
Me (RN)

GOAL DETAIL

- When directed to the info icon, all TMs expected a pop up with details about why that particular patient was blocked, not the definition of the barrier

- 6 of 7 TMs scrolled to the step to look for details in the goal page when asked what the TMs would do to find more information on why the step had a barrier
- The TMs did not notice the info icon at the top of the page


iPad
9:41 AM
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All Patients
Jack Bowman
JB
Bowman,
Jack T
M, 74 (08/30/42)
HOME FACILITY
Hermitage Dialysis
MPI
098765241
MODALITY
CAPD
CONCURRENT ACCESS
CVC Catheter (Venous)
AVFistula (Arterial)
TREATMENT
TTHS/Shift2/3.5h
ATTENDING PHYSICIAN
Tony Coleman, M.D
PHONE
323.230.1335
TIMELINE
GOALS
TO-DO 25
ORDERS
APPOINTMENTS
Goals
Add another barrier
Remove CVC: On-hold
Start Date: 00/00/00 Forecast Completion: 03/24/17
ON-HOLD | BARRIER
Cannulation order not successful
Resolve
Barrier changes status of task and associated health goal to 'On-hold'. All associated tasks with health goal are also changed to "On-hold". After specified wait-time has passed, new task is created to "reassess barrier" for potentialresolution.
Resolution of barrier changes status of associated goal and tasks back to "Ready" status.
(This verbiage is not final)
STEPS
Placement Surgery
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Maturing AV Fistula
Completed 00/00/00 at 00:00 PM by Christina Armstrong (RN)
Cannulation
Barrier | Cannulation order not successful
00/00/00 at 00:00 Christina Armstrong (RN)
CVC Removal
Barrier | Cannulation order not successful
00/00/00 at 00:00 Christina Armstrong (RN)
Patients
To-Do List
Appointments
Me (RN)

GOAL DETAIL POP UP

- TMs unanimously thought the info icon would give information regarding why that particular patient had a barrier, not the definition of the barrier

RECOMMENDATIONS

- Information in the pop up should be relevant to the patient, not the definition of the barrier

Task 2c 4/7 successful

Expand and collapse task list

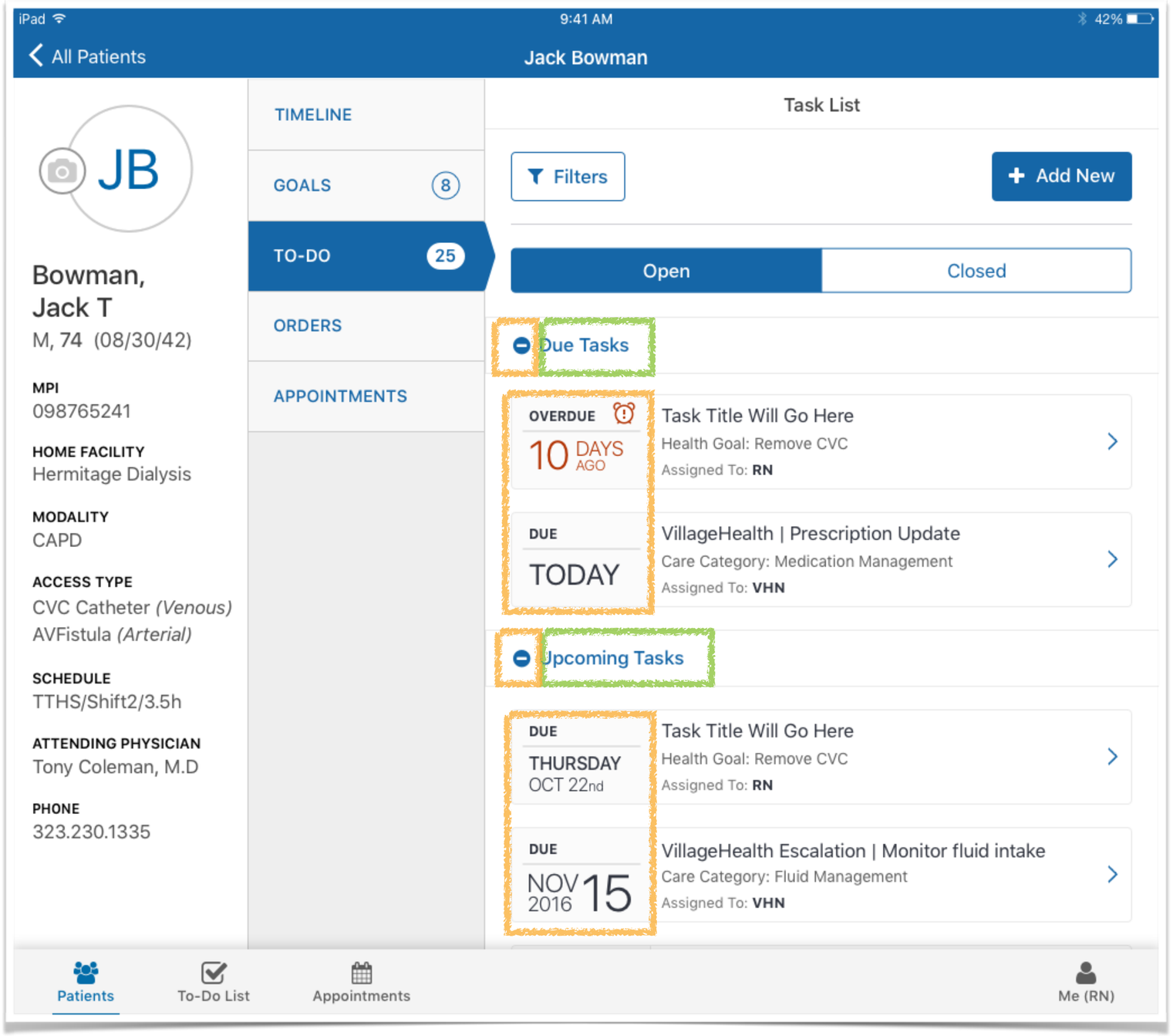
* Successful participants were comfortable with the task or concept and able to move forward without help

Expand and collapse task list

WHO WE TALKED TO

We conducted research with 6 teammates

- 2 RNs
- 1 RN/CC
- 2 PCTs
- 1 RD


iPad
9:41 AM
42%
All Patients
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Bowman, Jack T
M, 74 (08/30/42)
MPI
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HOME FACILITY
Hermitage Dialysis
MODALITY
CAPD
ACCESS TYPE
CVC Catheter (Venous)
AVFistula (Arterial)
SCHEDULE
TTHS/Shift2/3.5h
ATTENDING PHYSICIAN
Tony Coleman, M.D
PHONE
323.230.1335
TIMELINE
GOALS 8
TO-DO 25
ORDERS
APPOINTMENTS
Task List
Filters
Add New
Open
Closed
Due Tasks
OVERDUE
10 DAYS AGO
Task Title Will Go Here
Health Goal: Remove CVC
Assigned To: RN
DUE
TODAY
VillageHealth | Prescription Update
Care Category: Medication Management
Assigned To: VHN
Upcoming Tasks
DUE
THURSDAY
OCT 22nd
Task Title Will Go Here
Health Goal: Remove CVC
Assigned To: RN
DUE
NOV 2016 15
VillageHealth Escalation | Monitor fluid intake
Care Category: Fluid Management
Assigned To: VHN
Patients
To-Do List
Appointments
Me (RN)

TASK LIST

- TMs wanted the default list to be open with all tasks
- TMs liked the default organization of the tasks with overdue, due today and then upcoming
- Due and upcoming task labels made sense with the TMs

- 3 of the 7 TMs did needed help determining how to collapse the list
- TMs commented on the inconsistent date formatting and stated it was difficult to scan as all the dates were shown differently

RECOMMENDATIONS

- Change the visual treatment of expand/collapse action to a more intuitive pattern
- The “+” icon could also be confused with the “+” Add icon being used in other locations of the application

QUOTES

“The day is ever-changing. It is good to have the tasks due today.” - RN/CC

“I want to hide what is upcoming, but I never want to get rid of what is due today” - RN

“I would want what is due now open all the time, I would not want to hide anything ” - PCT

Task 2d

Text box character limit

Text box character limit

WHO WE TALKED TO

We conducted research with 6 teammates

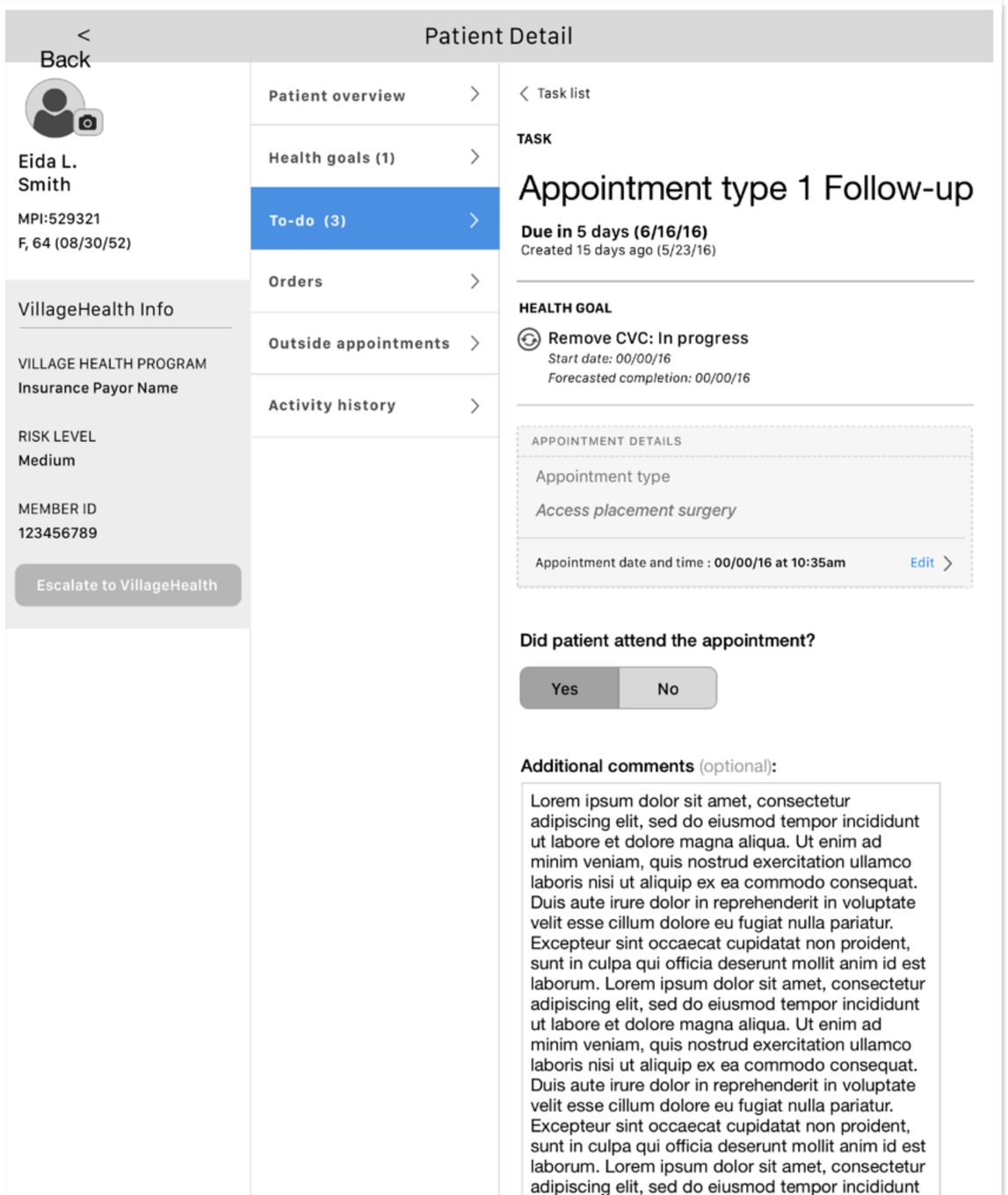
— 3 RNs

— 1 RN/CC

— 1 MSW

— 1 RD

Text box with approximately 5,000 characters



TEXT BOX LIMITS

- 7 of 7 TMs said that approximately 5,000 characters would be enough for the longest notes they write about their patients
- 7 of 7 TMs said that approximately 10,000 characters would be too long
- Some TMs said we should ask more MSWs as they often have to write very in-depth notes about patients

RECOMMENDATIONS

- Continue to share this with TMs and get feedback
- Interview more MSWs to ensure this quantity is sufficient
- Show the text in the form of a real note to make it easier to judge the quantity of text

Task 2e

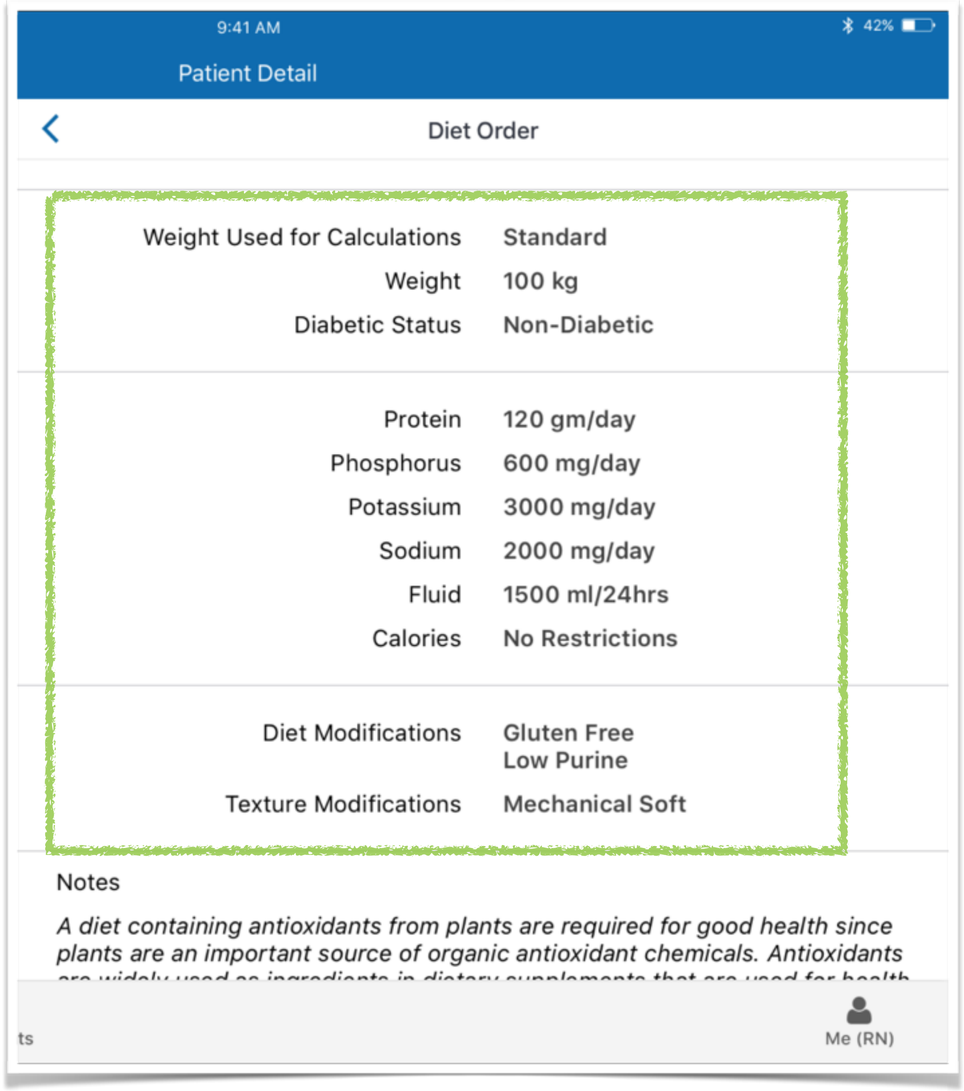
Text alignment and layout

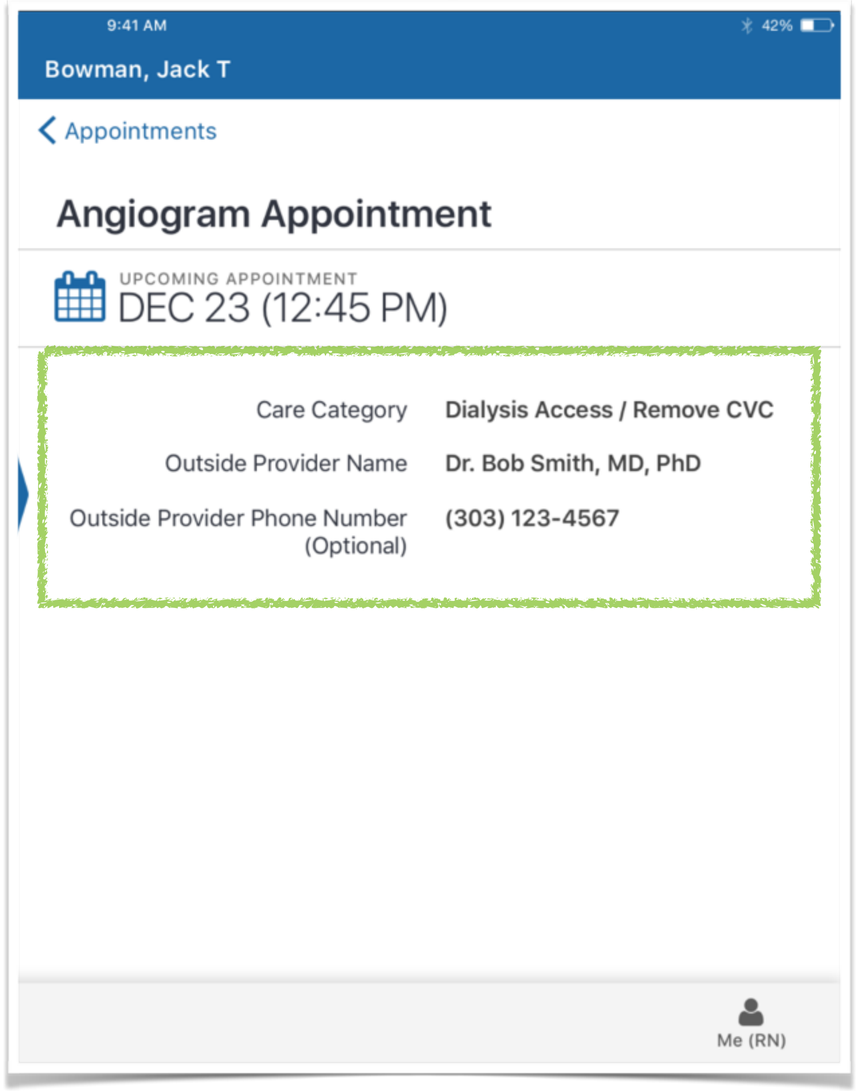
Text alignment and layout

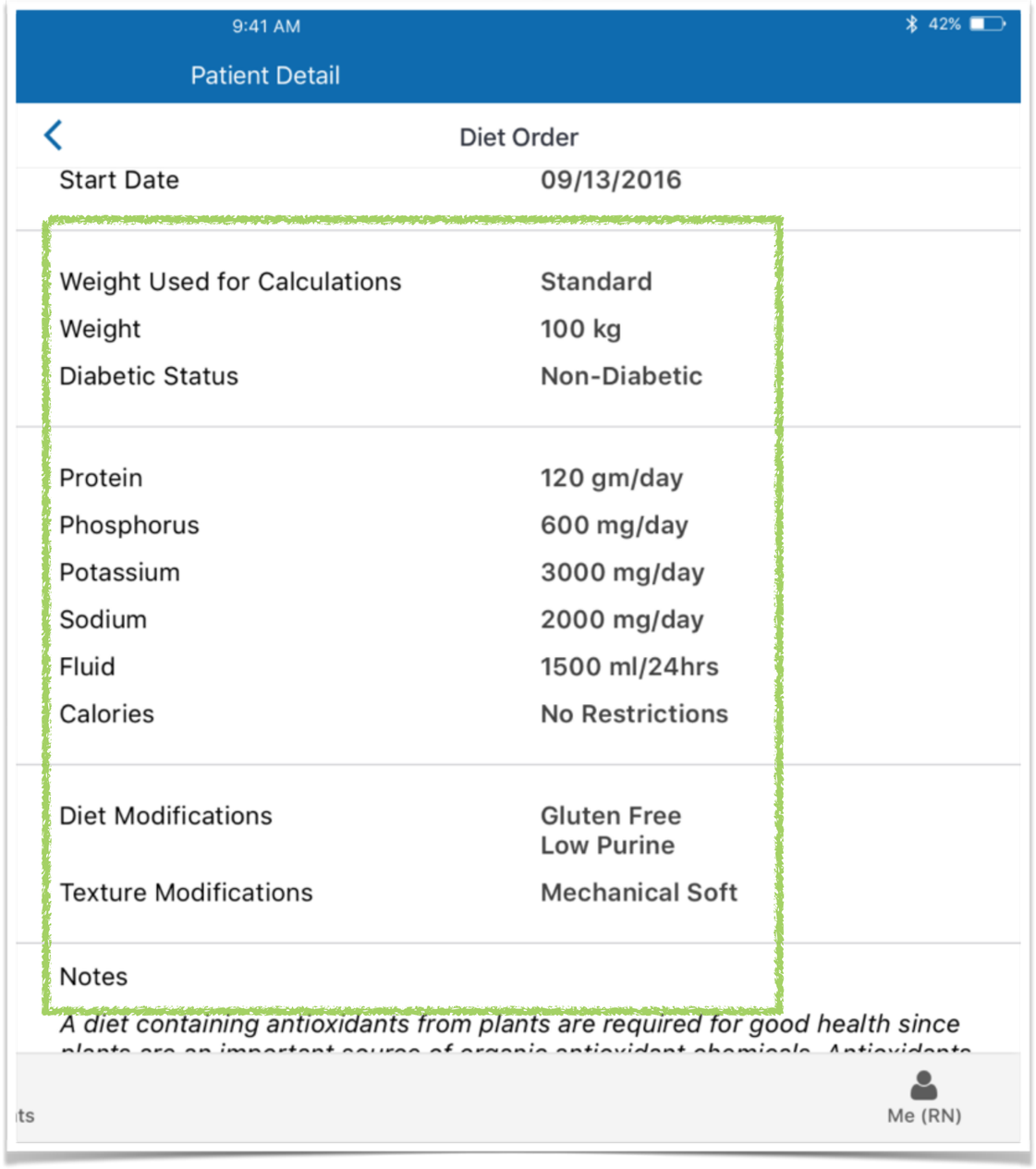
WHO WE TALKED TO

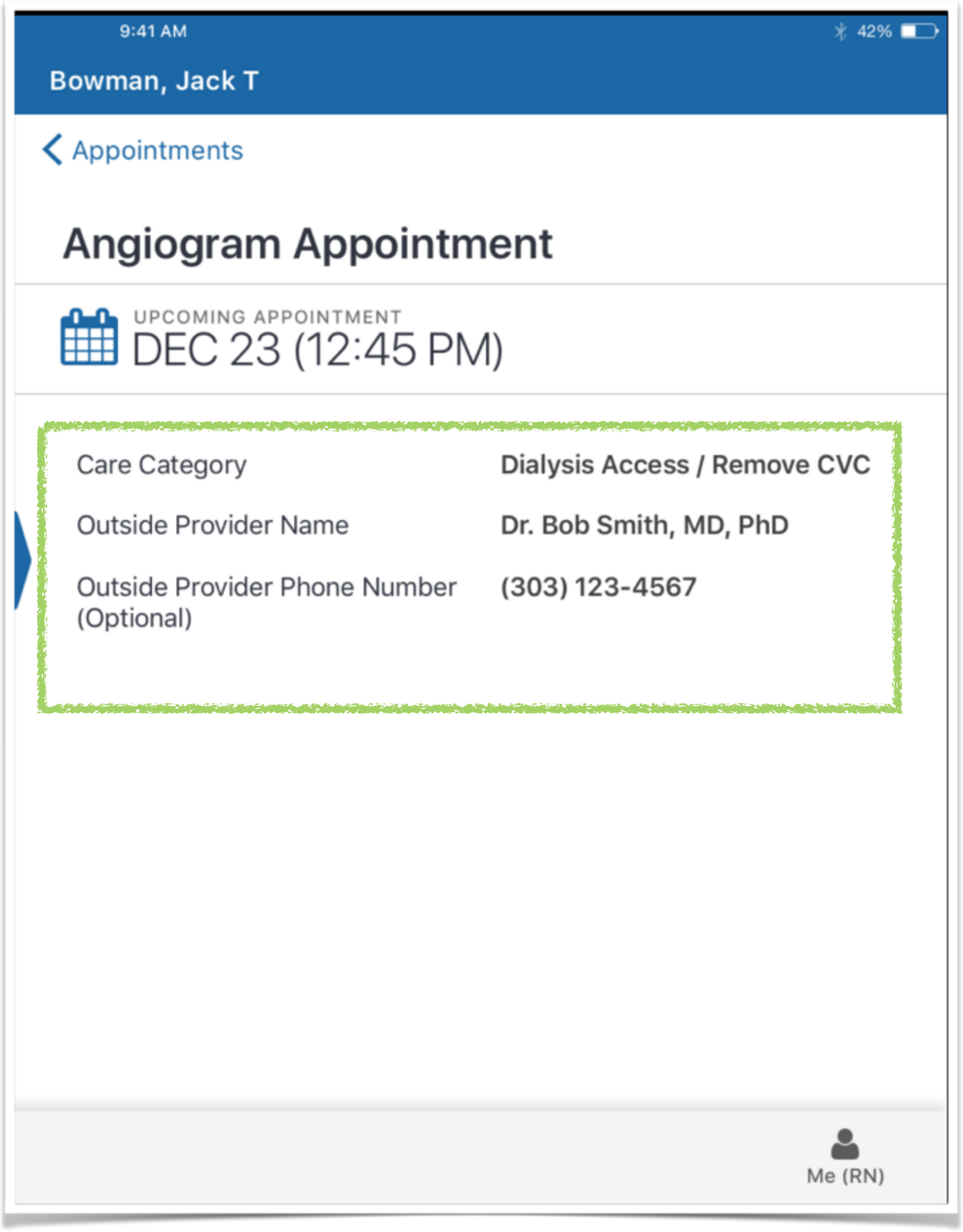
We conducted research with 10 teammates

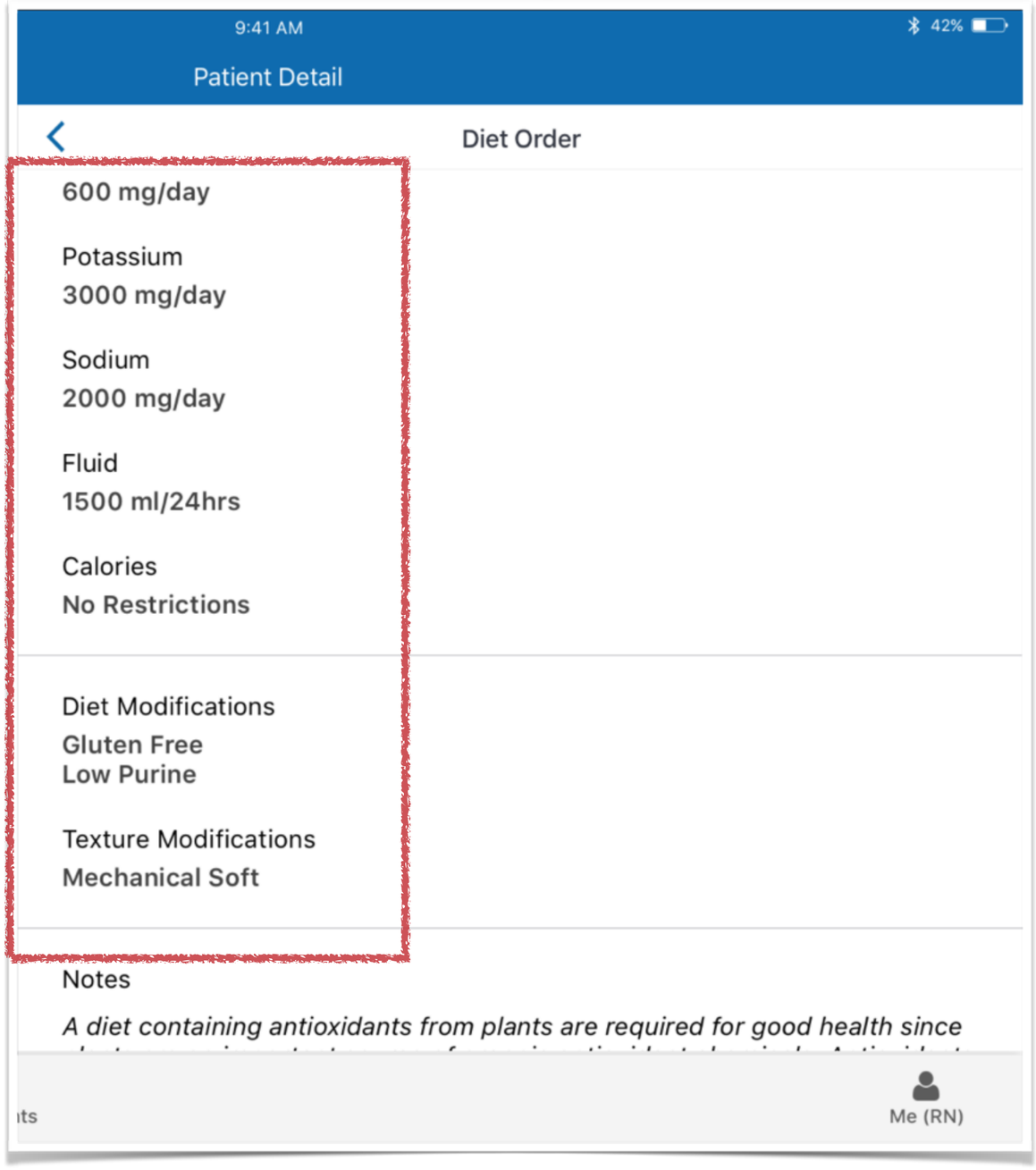
- 3 RNs
- 1 RN/CC
- 1 LPN
- 2 PCTs
- 1 MSW
- 1 RD

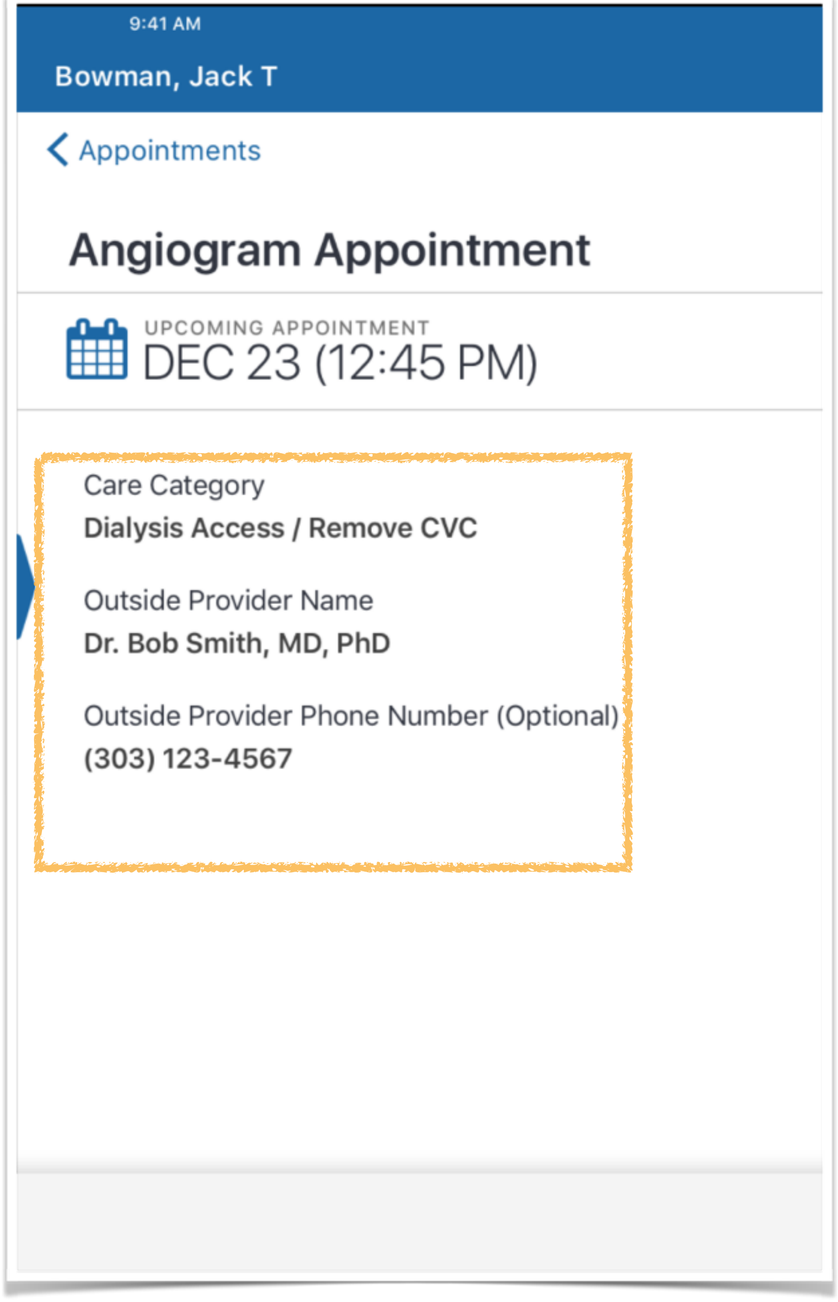

9:41 AM
42%
Patient Detail
Diet Order
Weight Used for Calculations
Standard
Weight
100 kg
Diabetic Status
Non-Diabetic
Protein
120 gm/day
Phosphorus
600 mg/day
Potassium
3000 mg/day
Sodium
2000 mg/day
Fluid
1500 ml/24hrs
Calories
No Restrictions
Diet Modifications
Gluten Free
Low Purine
Texture Modifications
Mechanical Soft
Notes
A diet containing antioxidants from plants are required for good health since plants are an important source of organic antioxidant chemicals. Antioxidants
ts
Me (RN)


9:41 AM
42%
Bowman, Jack T
Appointments
Angiogram Appointment
UPCOMING APPOINTMENT
DEC 23 (12:45 PM)
Care Category
Dialysis Access / Remove CVC
Outside Provider Name
Dr. Bob Smith, MD, PhD
Outside Provider Phone Number (Optional)
(303) 123-4567
Me (RN)


9:41 AM
42%
Patient Detail
Diet Order
Start Date 09/13/2016
Weight Used for Calculations Standard
Weight 100 kg
Diabetic Status Non-Diabetic
Protein 120 gm/day
Phosphorus 600 mg/day
Potassium 3000 mg/day
Sodium 2000 mg/day
Fluid 1500 ml/24hrs
Calories No Restrictions
Diet Modifications Gluten Free
Low Purine
Texture Modifications Mechanical Soft
Notes
A diet containing antioxidants from plants are required for good health since
Me (RN)


9:41 AM
42%
Bowman, Jack T
Appointments
Angiogram Appointment
UPCOMING APPOINTMENT
DEC 23 (12:45 PM)
Care Category Dialysis Access / Remove CVC
Outside Provider Name Dr. Bob Smith, MD, PhD
Outside Provider Phone Number (Optional) (303) 123-4567
Me (RN)


9:41 AM
42%
Patient Detail
Diet Order
600 mg/day
Potassium
3000 mg/day
Sodium
2000 mg/day
Fluid
1500 ml/24hrs
Calories
No Restrictions
Diet Modifications
Gluten Free
Low Purine
Texture Modifications
Mechanical Soft
Notes
A diet containing antioxidants from plants are required for good health since
Me (RN)


9:41 AM
Bowman, Jack T
Appointments
Angiogram Appointment
UPCOMING APPOINTMENT
DEC 23 (12:45 PM)
Care Category
Dialysis Access / Remove CVC
Outside Provider Name
Dr. Bob Smith, MD, PhD
Outside Provider Phone Number (Optional)
(303) 123-4567

TEXT ALIGNMENT

- There is not enough data to choose between the center and left aligned versions
- 4 of 9 preferred the long form as center aligned
- 3 of 9 preferred the long form as left aligned
- TMs pointed out the labels were light and data was bold - it was not what they expected
- TMs were mixed about the stacked text in the short version

- TMs did not like the stacked text in the long version

RECOMMENDATIONS

- If the visual design is not finalized for font treatment, consider retesting center and left aligned with label in a heavier font and data in a light-weight font

QUOTES

Center aligned

“Everything is all jumbled. ” - RN

“It is nice that it is close together, it is easy for my eyes to follow.” - RN

Left aligned

“I want to take my finger and line up the label with the data.” - RD

“I like that I can go [to the left] and see what I am looking for.” - LPN

Stacked

“This does not flow for me. It is natural to read right to left, it is easier than the top to the bottom.” - RD

“I don't like it. This seems to make it much longer.” - RN

CONTACT

Please contact us with any questions or if you would like an additional review.

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THANK YOU!