CWoW Conceptual & Evaluative User Research Highlights

DaVita MCoE User Research Team

August 7-9, 2017

Chicago, IL

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Goals, Methods, & Participants

What Was Tested

- Diet Order (Evaluative Testing)
- Expiring Certifications (Conceptual Testing)
- Disputed Order and Justification Clarification (Evaluative Testing)
- Flowsheet (Evaluative Testing)
- Patient Details/Clinical Details (Evaluative Testing)

Goals and Objectives

The objectives for the August 7-9th 2017 CWoW User Research were to:

Diet Order

Prototype: https://davita.invisionapp.com/d/main#/projects/11639825

- Ensure Teammates understand which weight they are documenting (not target weight)
- See if the labels and placement of fields make sense to Teammates
- See if Teammates understand how to add a modification
- See if the options under modifications are the right options
- Assess whether Teammates understand how to discard and save the modifications

Expiring Certifications

(See Options A, B & C below)

- Assess what verbiage for notifications made the most sense to Teammates
- Find out how often Teammates would like to be notified of expiring credentials/licenses

Disputed Order and Justification Clarification

Prototype: https://davita.invisionapp.com/share/BQC77KI9W

- Ensure Teammates understand how to dispute an order
- See if Teammates understand the difference between refuting and disputing an order
- Understand the value of the Read Only view to Teammates for disputes
- Find out if Teammates understand how to edit a justification clarification
- See if Teammates understand how to submit a clarification
- Assess if the justification clarification summary contains the necessary information
- See if Teammates need to the view the full order

Flowsheet
Prototype: https://davita.invisionapp.com/d/main/#/console/11603206/245024353/preview

- Ensure the functionality (calculations) and layout of the flowsheet makes sense to Teammates
- Ensure Teammates understand how to edit the Flowsheet
- See what information Teammates want to see in the Read-Only view

Patient Details/Clinical Details
Prototype: https://davita.invisionapp.com/d/main#/projects/11678057

- Ensure Teammates understand how to view, enter and edit Height and Weight histories
- See if Teammates understand the Error/Validation Messages
- See if Teammate know to go to View/Edit History to edit and mark entries as "Entered in Error"

Methods

Conceptual User Research is an informal testing method where researchers place simple low fidelity prototypes, or written or verbal concepts, in front of potential users and ask them to quickly assess whether or not the prototypes or concepts make sense.

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 and moderated by a researcher to see where they encounter problems and experience confusion. The researchers visited three clinics over two days and spent 30-60 minutes with each of the 13 test participants.

User Research Participants by Role

3 RDs, 2 RNs, 1 PD/RN, 1 FA/RN, 1 AA, 1 SW, 1 FA, 3 PCTs

Clinics Visited

Little Village Dialysis Clinic (Chicago)
Logan Square Dialysis Clinic (Chicago)
TRC Children's Dialysis Center (Chicago)

Highlights

Diet Order

(Tested by: 3 RDs, 1 RD/RN, 1 FA/RN)

What went well

- 100% of participants understood which weight they were documenting and how to enter the weight (standard vs. adjusted)
- 100% of participants thought the layout was clear and easy to read
- 100% of participants understood how to add and save a modification
- 100% of Teammates said that diet modification headings made sense
- 100% knew how to submit the diet order either through selecting Preview first then Submit or Submit only

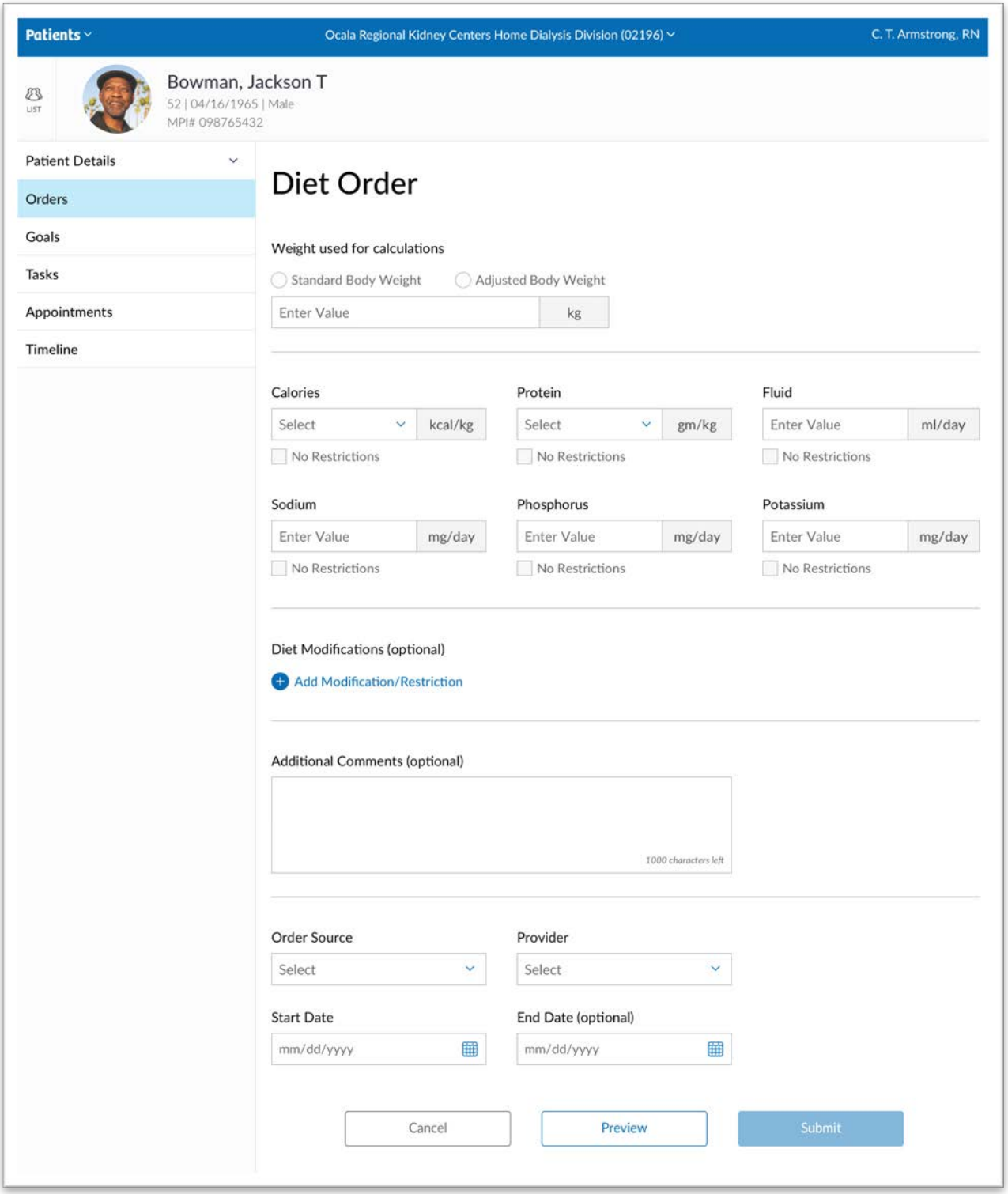
What could be improved

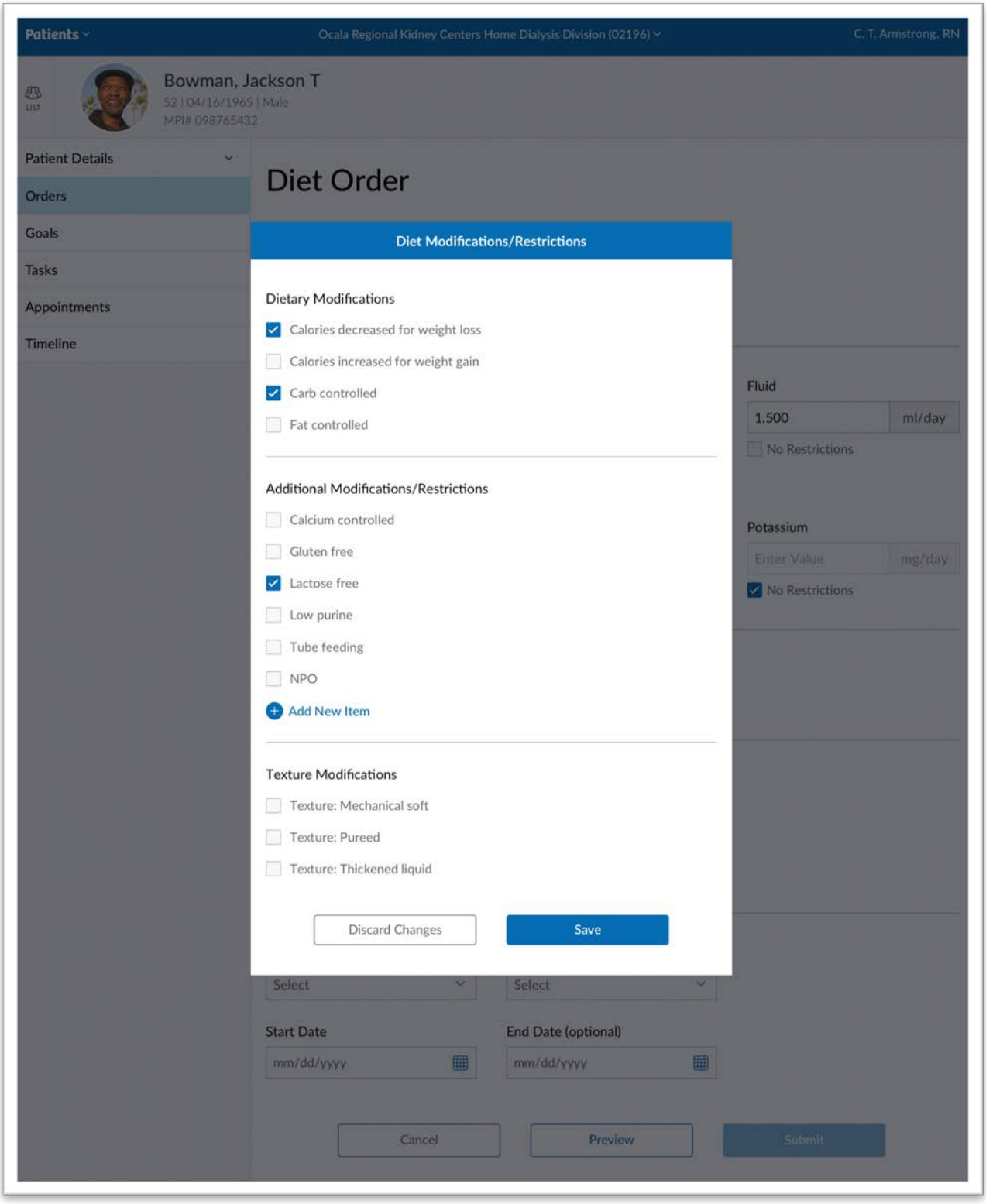
- 100% of Teammates understood that "No Restrictions" meant that a patient could eat and drink as much as they wanted
    - Several Teammates emphasized that they would never tell someone that they could drink as much as they wanted or have as much sodium as they wanted
- Additional headings for modifications suggested included more textures such as Nectar Thin and Honey Thick textures and Food Allergies (e.g., soy, nuts, etc.)
- 60% of participants thought "Discarding Diet Modifications" didn't make sense or was odd and would rather check or uncheck everything and "Save" instead

Insights/Observations

- One participant would like a free text option under nutrition/diet modification needs
- Standard body weight is something dieticians assess based on small, medium, or large body frames
    - This should in the form and preferably next to the standard body weight section

"I personally would be wary of putting this (no restrictions) in a diet order. I would make a note that the patient is on a liberalized diet at this time. I wouldn't feel comfortable with marking ANYTHING with no restrictions." - *RD*


Patients
Ocala Regional Kidney Centers Home Dialysis Division (02196)
C. T. Armstrong, RN
LIST
Bowman, Jackson T
52 | 04/16/1965 | Male
MPI# 098765432
Patient Details
Orders
Goals
Tasks
Appointments
Timeline
Diet Order
Weight used for calculations
Standard Body Weight
Adjusted Body Weight
Enter Value
kg
Calories
Select
kcal/kg
No Restrictions
Protein
Select
gm/kg
No Restrictions
Fluid
Enter Value
ml/day
No Restrictions
Sodium
Enter Value
mg/day
No Restrictions
Phosphorus
Enter Value
mg/day
No Restrictions
Potassium
Enter Value
mg/day
No Restrictions
Diet Modifications (optional)
Add Modification/Restriction
Additional Comments (optional)
1000 characters left
Order Source
Select
Provider
Select
Start Date
mm/dd/yyyy
End Date (optional)
mm/dd/yyyy
Cancel
Preview
Submit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Timeline
Diet Order
Diet Modifications/Restrictions
Dietary Modifications
Calories decreased for weight loss
Calories increased for weight gain
Carb controlled
Fat controlled
Additional Modifications/Restrictions
Calcium controlled
Gluten free
Lactose free
Low purine
Tube feeding
NPO
Add New Item
Texture Modifications
Texture: Mechanical soft
Texture: Pureed
Texture: Thickened liquid
Discard Changes
Save
Fluid
1,500
ml/day
No Restrictions
Potassium
Enter Value
mg/day
No Restrictions
Select
Select
Start Date
End Date (optional)
mm/dd/yyyy
mm/dd/yyyy
Cancel
Preview
Submit

Expiring Certifications

(Tested by: 1 RD, 1 SW, 1 FA/RN, 1 PCT, 1 RN)

What went well

- Participants preferred the verbiage in Option C, stating it provided the most details including when their license/certification is expiring, who to call for help, and the necessary contact information

What could be improved

- N/A

Insights/Observations

- Participants had mixed opinions about how often they wanted to be notified
    - 100% of participants did NOT want to be notified daily
    - 20% of participants wanted to only be notified twice
    - 20% wanted to be notified at 60 days, again at 30 days, and then two weeks before
    - 20% said every other day would be OK
    - 20% preferred getting notified two weeks before expiration
- 100% of participants would reach out to their FA for help if they needed it
    - The FA would direct them to the right place
    - They do not deal with a help desk
- One participant said in Illinois they get the notice in the mail from the state and can renew online
    - She would contact state licensing first before the FA

"60 days is OK. That is what BONENT is doing, they send out a letter two months before it is supposed to expire so you have time." – *PCT*

"Every other day until you do something about it would be OK." – *SW*

Expiring Certifications Test

Please be aware that your **(State) Registered Nurse License** will expire on xx/xx/xxxx. You have 60 *(Count down each day message appears: 59, 58, 57, etc)* days to renew. Please contact LicensePartners@davita.com once you have renewed and received your new license.

(*At 1-day left, the message should read:)*

EXPIRES TOMORROW:

A. Please be aware that your **(State) Registered Nurse License** expires tomorrow xx/xx/xxxx. Please renew immediately to prevent losing access to the system.

B. Please be aware that your (State and/or National) PCT Certification (or RN license, etc) expires tomorrow xx/xx/xxxx. Your access to the system will be denied. Please contact your FA.

C. Please be aware that your (State and/or National) (PCT/RN/LPN) Certification/Licensure expires tomorrow xx/xx/xxxx. After 11:59 pm on xx/xx/xxxx your access as a "PCT/RN/LPN" to the CWOW application will be disabled. Please contact your FA and License Partners to submit a copy of your credentials. License Partners can be reached at 1-866-635-1311 or licensepartners@davita.com

Disputed Orders and Justification Clarification

(Tested by: 1 FA, 3RDs, 1 FA/RN)

What went well

- 80% of participants understood how to dispute an order
- 100% liked having a Read-Only view for disputed orders to refer to
- 60% of Teammates understood how to edit a justification clarification and thought the process made sense
- 100% of Teammates understood how to submit a clarification, but one participant would like to see the order being removed so that it is clear

What could be improved

- 60% of participants thought there could be a better term for refute
    - It meant one thing to an FA and another to an RD
- 20% of participants want the Read-Only view to be condensed
- The justification summary information could be improved
    - One Teammate couldn't tell what needed to be clarified
    - Another Teammate said she would only want to see special circumstances in the summary because ESRD should be the default and automatic

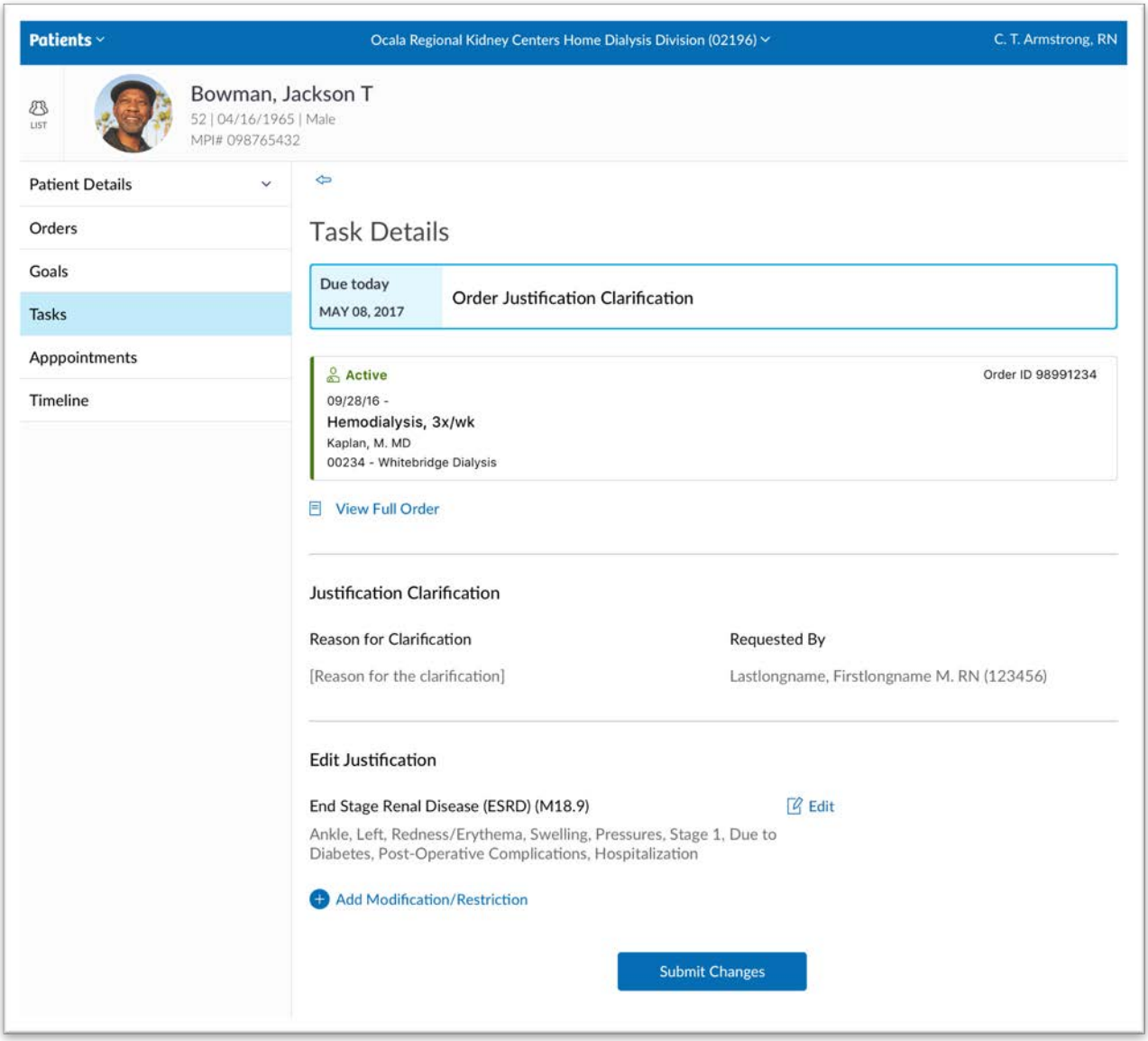
Insights/Observations

- Consider the term "Reject Dispute" as an alternate to "Refute Dispute"

"Does refute dispute mean accepting the patient? Is that what it means? Sorry I have a bad vocabulary. Maybe reject dispute is better…?" –RD

"[Teammate looking at Read-Only view] I just need to see medication, who ordered it, the primary doctor... It gets right to the point. Seems like a lot of stuff to look at." – FA

"In Snappy, some things never go away, even after submitting or deleting." - FA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LIST
Bowman, Jackson T
52 | 04/16/1965 | Male
MPI# 098765432
Patient Details
Orders
Goals
Tasks
Apppointments
Timeline
Task Details
Due today
MAY 08, 2017
Order Justification Clarification
Active
Order ID 98991234
09/28/16 -
Hemodialysis, 3x/wk
Kaplan, M. MD
00234 - Whitebridge Dialysis
View Full Order
Justification Clarification
Reason for Clarification
[Reason for the clarification]
Requested By
Lastlongname, Firstlongname M. RN (123456)
Edit Justification
End Stage Renal Disease (ESRD) (M18.9)
Edit
Ankle, Left, Redness/Erythema, Swelling, Pressures, Stage 1, Due to Diabetes, Post-Operative Complications, Hospitalization
Add Modification/Restriction
Submit Changes

Flowsheet

(Tested by: 1 FA/RN, 1 RN, 3 PCTs)

What went well

- 100% of participants knew how to enter a Flowsheet/Vital services by selecting “Add an Event”

What could be improved

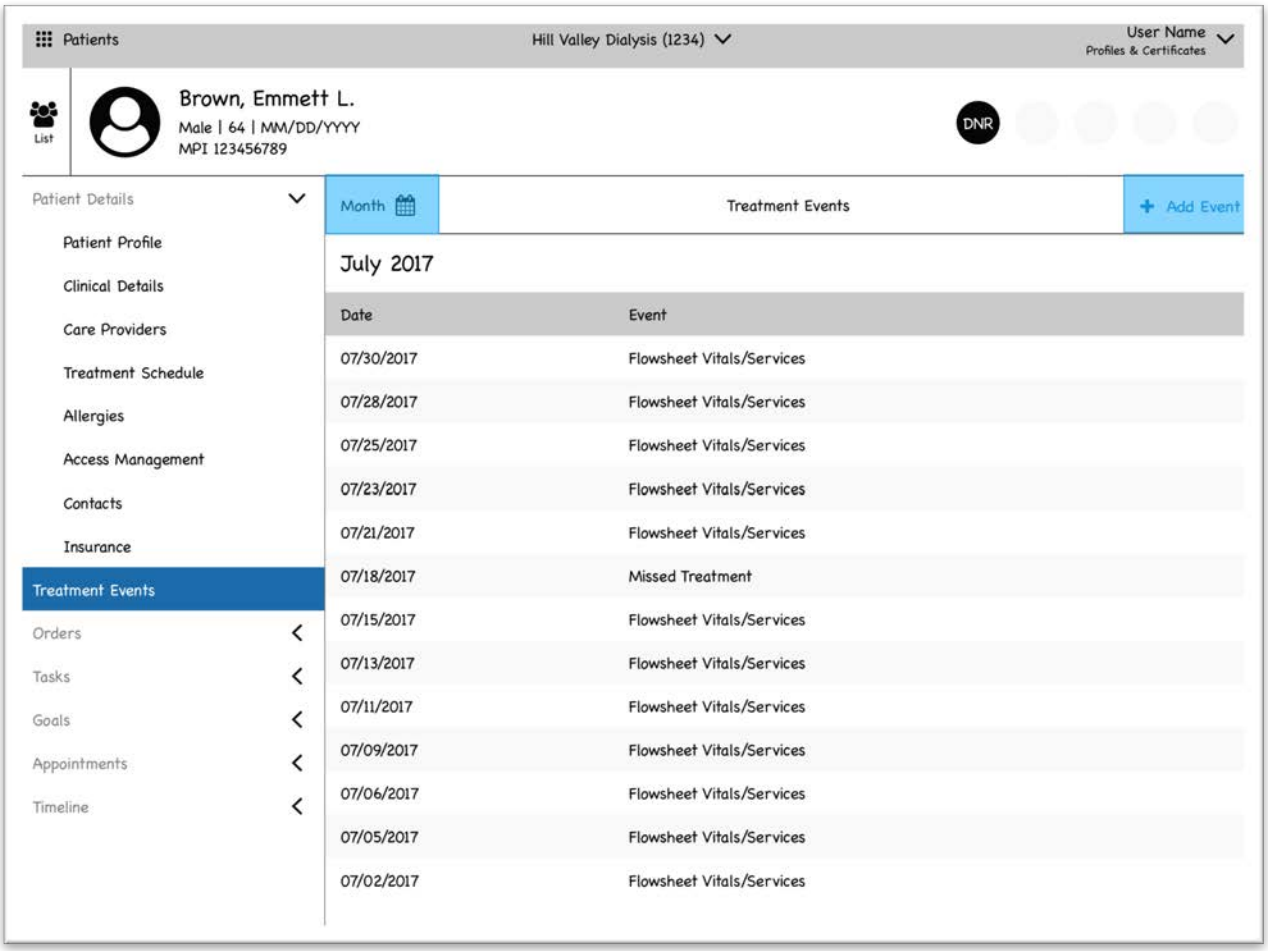
- 80% of participants said the layout didn’t exactly match their current flowsheet but once they learned the new one it would be easy to navigate
    - One participant did not like scrolling through such a long form
- Consider moving the section for Weight to the top in a pre-treatment area/section so it matches what the Flowsheet looks like now
- A suggestion was made to add a comments/notes feature to the pre- and post- weights (e.g., to add why there are no vitals entered such as patient refusal, or patient in wheelchair)
- 40% of participants would like changes to Previous Treatment Vitals including: standing first then sitting for “pre,” and seating first and standing for “post”
    - One participant wanted to know where temperature for “pre” and “post” treatment was in the section
- The term “Actual Removed” was confusing for the pediatric clinic
    - Teammates did not know if it meant that the post-weight was subtracted from the pre-weight or something else
    - One Teammate stated she can pull that number straight from the machine
- Entering “Prescribed Access” was confusing for 20% of participants

Insights/Observations

- Add an open text field for notes like Snappy currently does
    - Fields should match current flowsheet
- One participant suggested Machine Area should have a dropdown, not free text
- Consider using the term Reconcile Flowsheet and Reconcile Event over Add a Flowsheet and Add an Event
    - That is what is in Snappy now
- Several participants said the flowsheet had too many pages to scroll through
    - What they do now is very concise
- Consider using Primary and Secondary Access as the terms over Prescribed Access
    - Once you enter secondary it should automatically reveal more choices
- There was concern about what to do if there is a power outage when entering vitals

"Is entering a flowsheet the same as generating a flowsheet? I would normally reconcile an event. That's what I do in Snappy. It would be nice to get close to what the terminologies are." – *FA*

"At first you would get lost. You would think the format would be just like the paper. But, it is easy to navigate and play around with." – *FA*


Patients
Hill Valley Dialysis (1234)
User Name
Profiles & Certificates
List
Brown, Emmett L.
Male | 64 | MM/DD/YYYY
MPI 123456789
DNR
Patient Details
Patient Profile
Clinical Details
Care Providers
Treatment Schedule
Allergies
Access Management
Contacts
Insurance
Treatment Events
Orders
Tasks
Goals
Appointments
Timeline
Month
Treatment Events
Add Event
July 2017
Date
Event
07/30/2017
Flowsheet Vitals/Services
07/28/2017
Flowsheet Vitals/Services
07/25/2017
Flowsheet Vitals/Services
07/23/2017
Flowsheet Vitals/Services
07/21/2017
Flowsheet Vitals/Services
07/18/2017
Missed Treatment
07/15/2017
Flowsheet Vitals/Services
07/13/2017
Flowsheet Vitals/Services
07/11/2017
Flowsheet Vitals/Services
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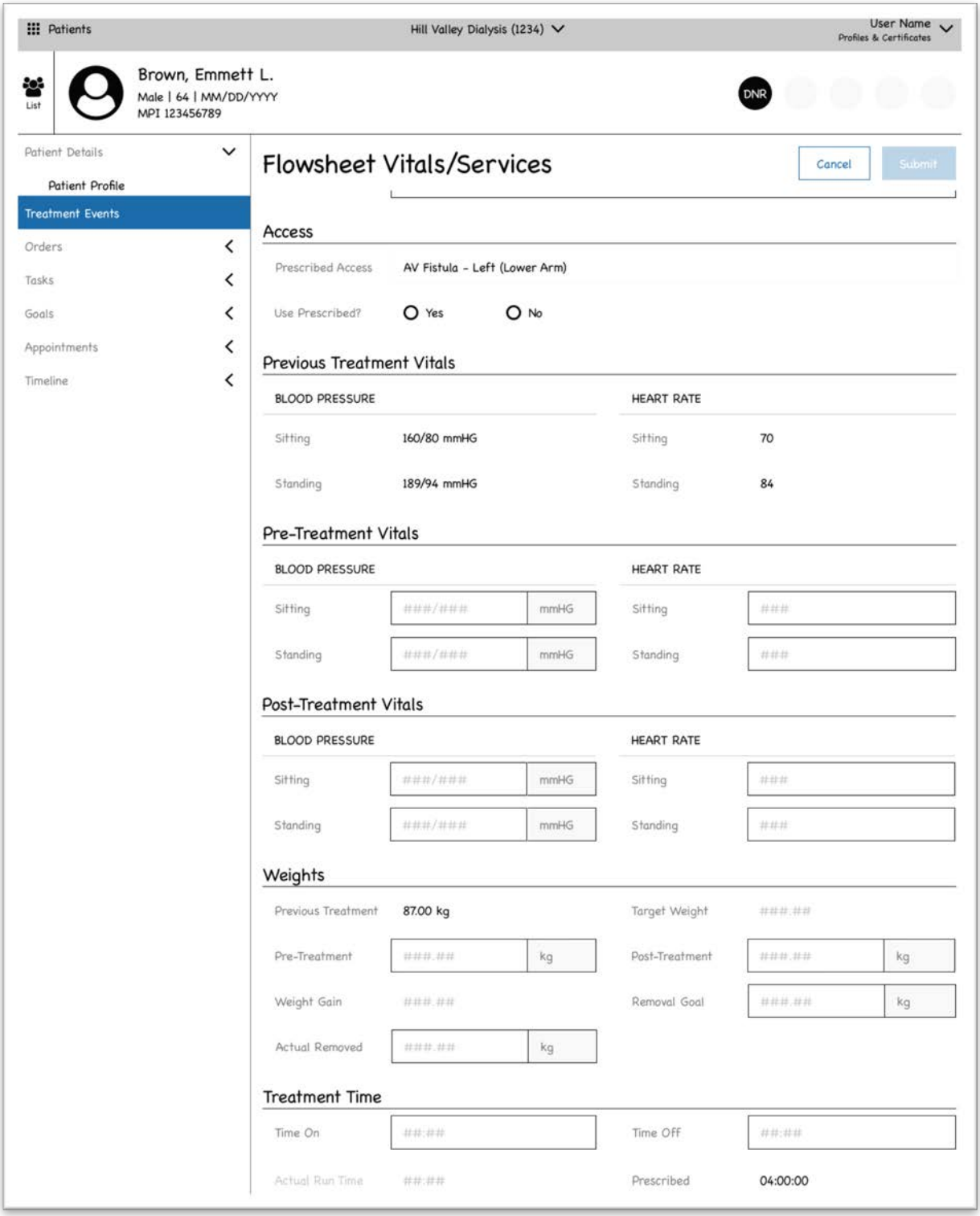
07/05/2017
Flowsheet Vitals/Services
07/02/2017
Flowsheet Vitals/Services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Brown, Emmett L.
Male | 64 | MM/DD/YYYY
MPI 123456789
DNR
Patient Details
Patient Profile
Treatment Events
Orders
Tasks
Goals
Appointments
Timeline
Flowsheet Vitals/Services
Cancel
Submit
Access
Prescribed Access
AV Fistula - Left (Lower Arm)
Use Prescribed?
Yes
No
Previous Treatment Vitals
BLOOD PRESSURE
HEART RATE
Sitting
160/80 mmHG
Sitting
70
Standing
189/94 mmHG
Standing
84
Pre-Treatment Vitals
BLOOD PRESSURE
HEART RATE
Sitting
###/###
mmHG
Sitting
###
Standing
###/###
mmHG
Standing
###
Post-Treatment Vitals
BLOOD PRESSURE
HEART RATE
Sitting
###/###
mmHG
Sitting
###
Standing
###/###
mmHG
Standing
###
Weights
Previous Treatment
87.00 kg
Target Weight
###.##
Pre-Treatment
###.##
kg
Post-Treatment
###.##
kg
Weight Gain
###.##
Removal Goal
###.##
kg
Actual Removed
###.##
kg
Treatment Time
Time On
##:##
Time Off
##:##
Actual Run Time
##:##
Prescribed
04:00:00

Patient Details/Clinical Details

(Tested by: 1 FA, 1 PD/RN, 1 RN, 1 FA/RN, 1 AA)

What went well

- 100% of participants knew how to view and enter Height and Weight histories
    - 40% of participants would edit in the field first
    - 60% knew to go to "Edit"
- 100% of participants understood and liked seeing Error/Validation messages stating it is a nice precaution

What could be improved

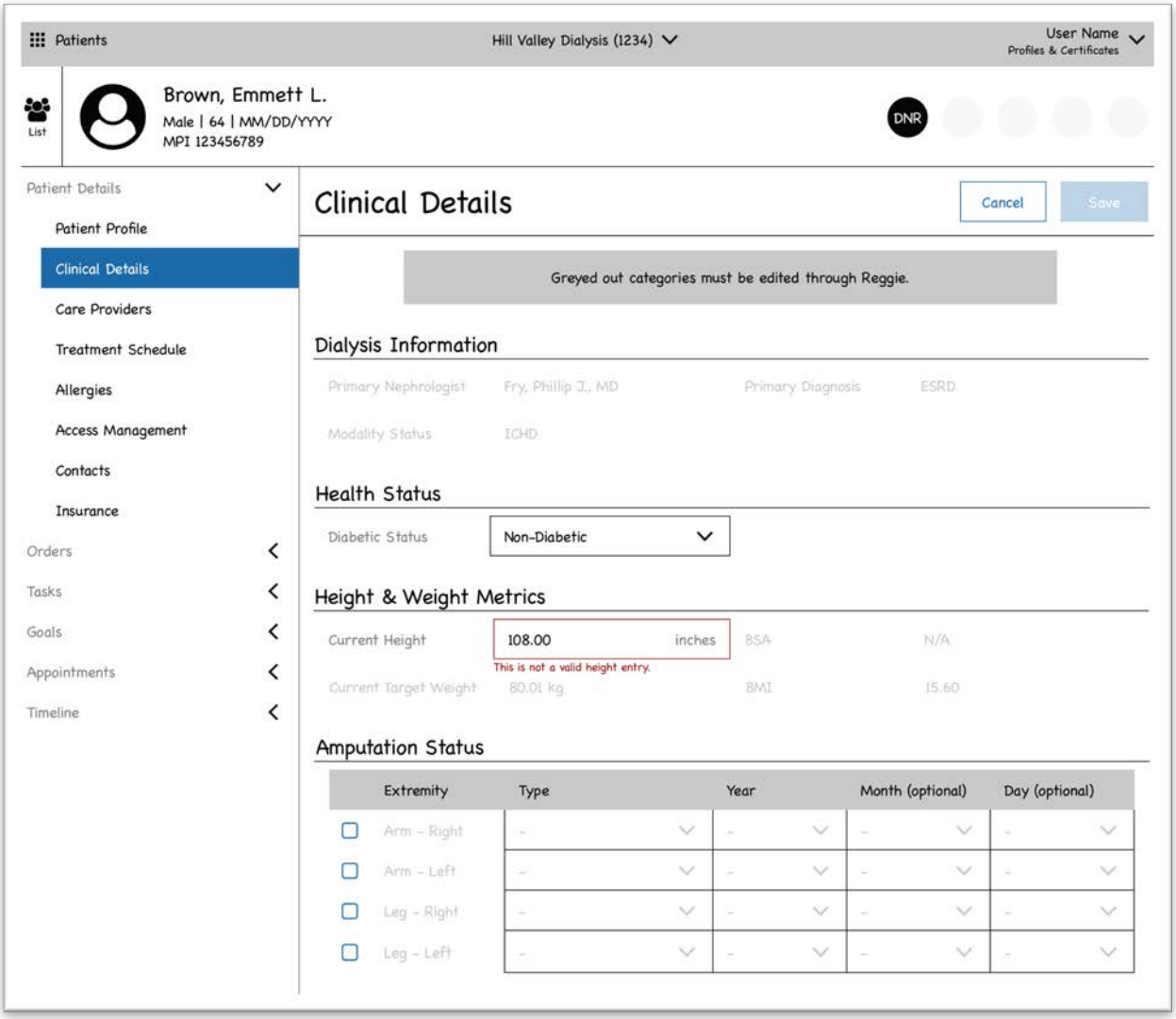
- The process of marking something in error was not what participants expected
    - It proved confusing for 80% of participants
    - Teammates did not like having to choose edit twice to mark something in error since they are already in edit mode
    - Several Teammates said it seems like double work
- 20% of participants couldn't find the edit button for "Amputation Status" suggesting it should be inline making it easier to find
- Participants want to be able to mark something in error differently: either right in the field or be able to tap a button to enter something in error that takes you to a modal/pop-up instead of selecting "Edit"

Insights/Observations

- For pediatric modality, consider allowing FA to set a range for weight and height for when they would get error messages because otherwise they would get them every time
- Make the processes for marking something in error for height and weight histories *AND* amputation status consistent
- Specify whether value is in inches or centimeters and consider adding a convertor from inches to centimeters
- Teammates found it helpful to have a line through items "Entered in Error"

"If I make a mistake I want to change it right away!" - *RN*

"Ok, there is a different process for the height and weight vs amputation. This really needs to be consistent." - *RN*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DNR
Patient Details
Patient Profile
Clinical Details
Care Providers
Treatment Schedule
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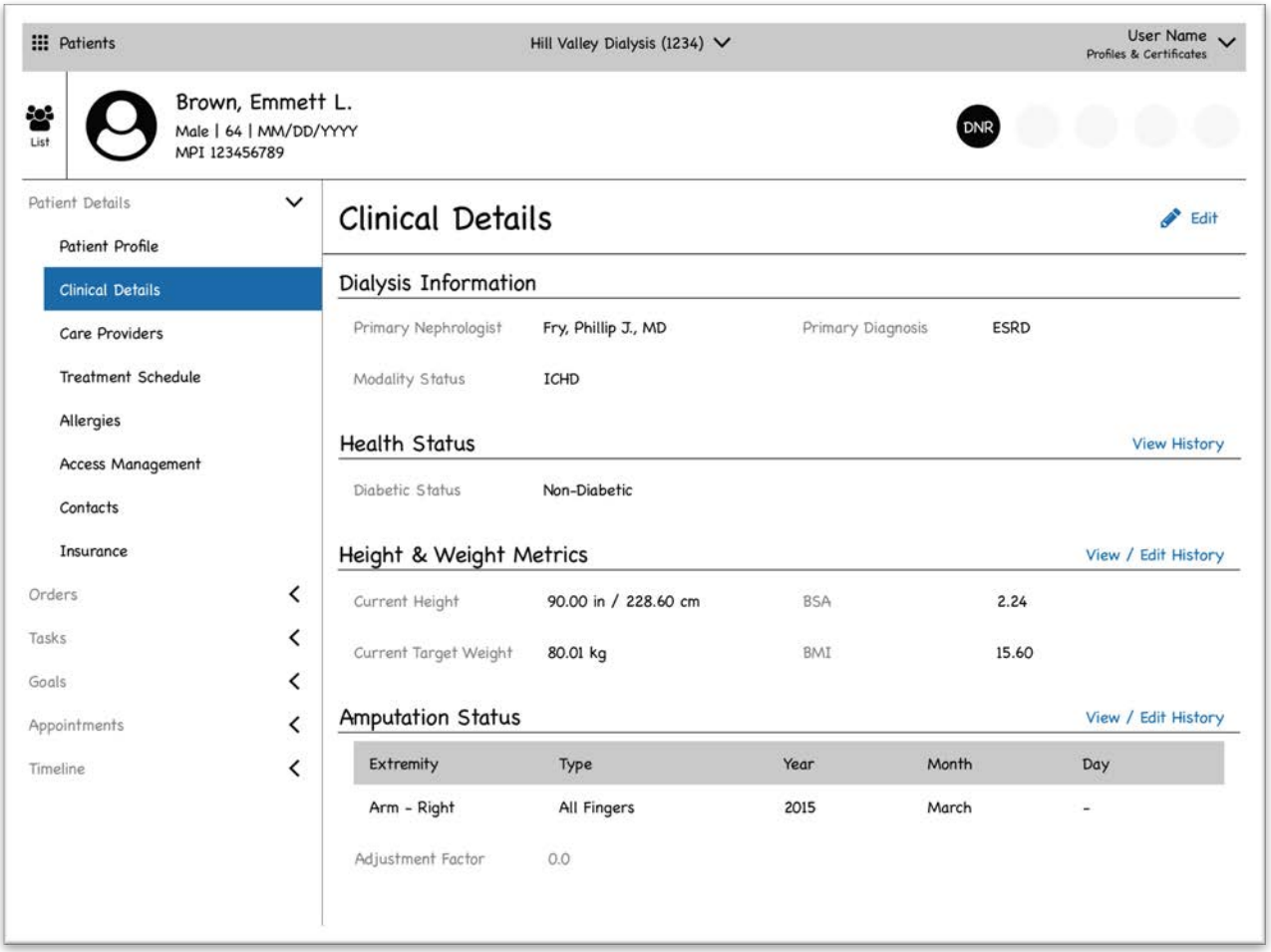
Access Management
Contacts
Insurance
Orders
Tasks
Goals
Appointments
Timeline
Clinical Details
Cancel
Save
Greyed out categories must be edited through Reggie.
Dialysis Information
Primary Nephrologist
Fry, Phillip J., MD
Primary Diagnosis
ESRD
Modality Status
ICHD
Health Status
Diabetic Status
Non-Diabetic
Height & Weight Metrics
Current Height
108.00
inches
This is not a valid height entry.
BSA
N/A
Current Target Weight
80.01 kg
BMI
15.60
Amputation Status
Extremity
Type
Year
Month (optional)
Day (optional)
Arm - Right
Arm - Left
Leg - Right
Leg - Left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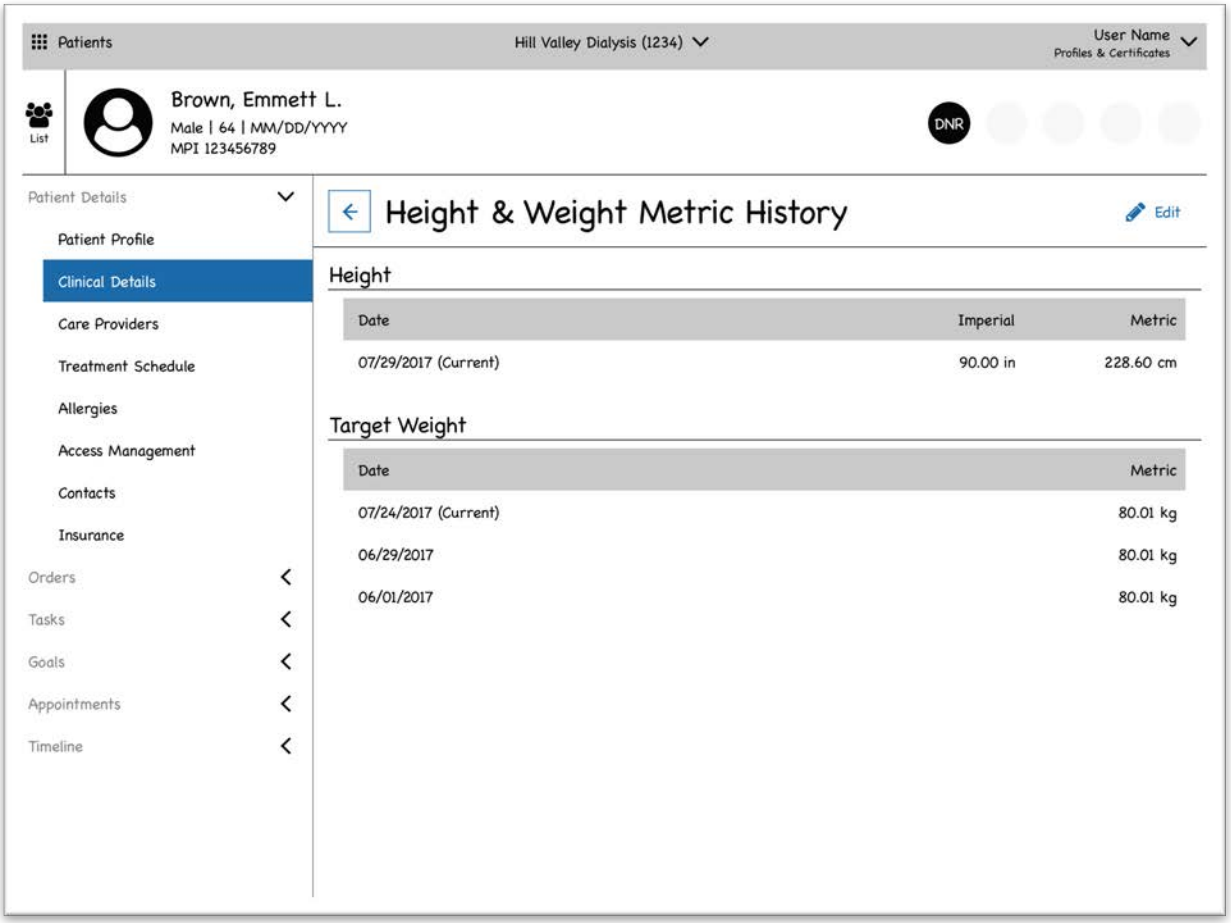
Appointments
Timeline
Clinical Details
Edit
Dialysis Information
Primary Nephrologist
Fry, Phillip J., MD
Primary Diagnosis
ESRD
Modality Status
ICHD
Health Status
View History
Diabetic Status
Non-Diabetic
Height & Weight Metrics
View / Edit History
Current Height
90.00 in / 228.60 cm
BSA
2.24
Current Target Weight
80.01 kg
BMI
15.60
Amputation Status
View / Edit History
Extremity
Type
Year
Month
Day
Arm - Right
All Fingers
2015
March
-
Adjustment Factor
0.0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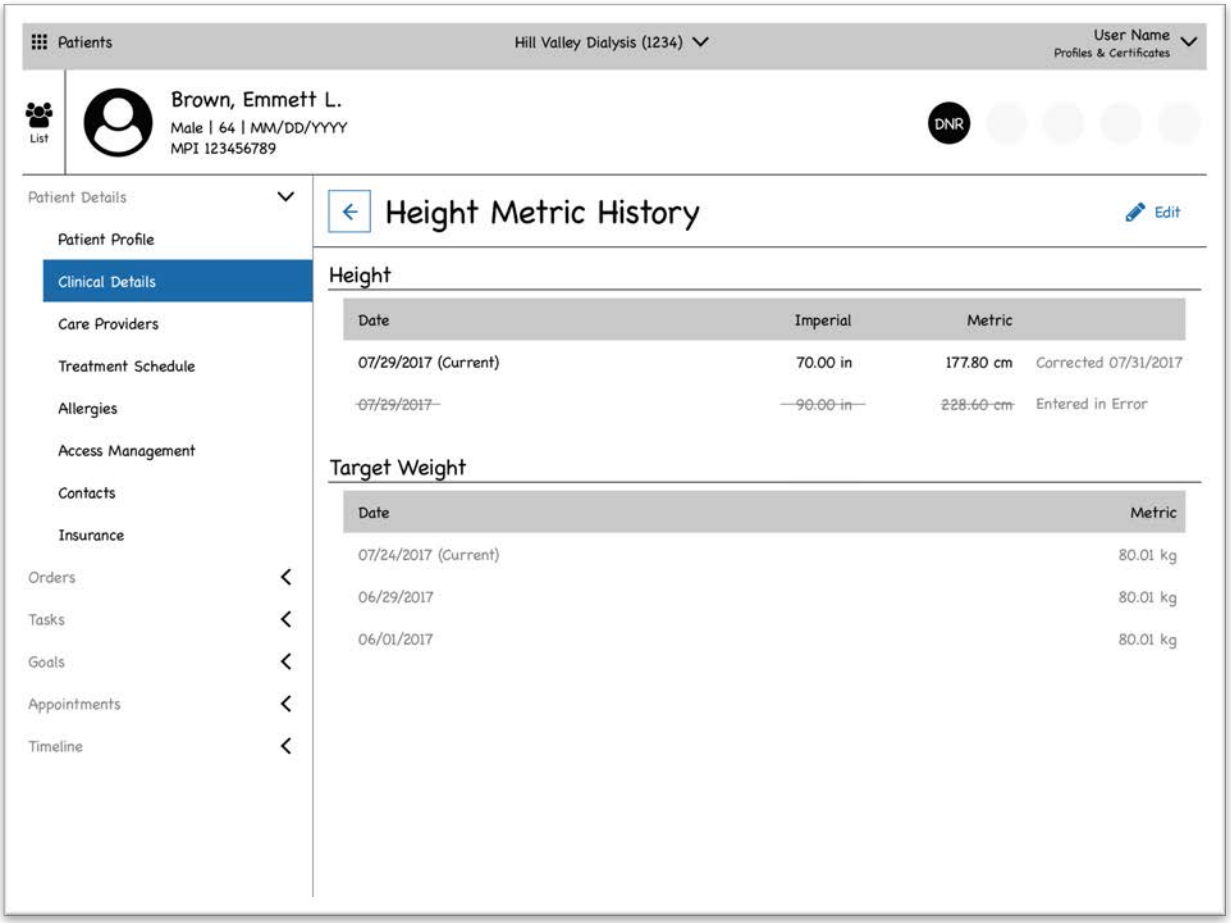
Timeline
Height & Weight Metric History
Edit
Height
Date
Imperial
Metric
07/29/2017 (Current)
90.00 in
228.60 cm
Target Weight
Date
Metric
07/24/2017 (Current)
80.01 kg
06/29/2017
80.01 kg
06/01/2017
80.01 kg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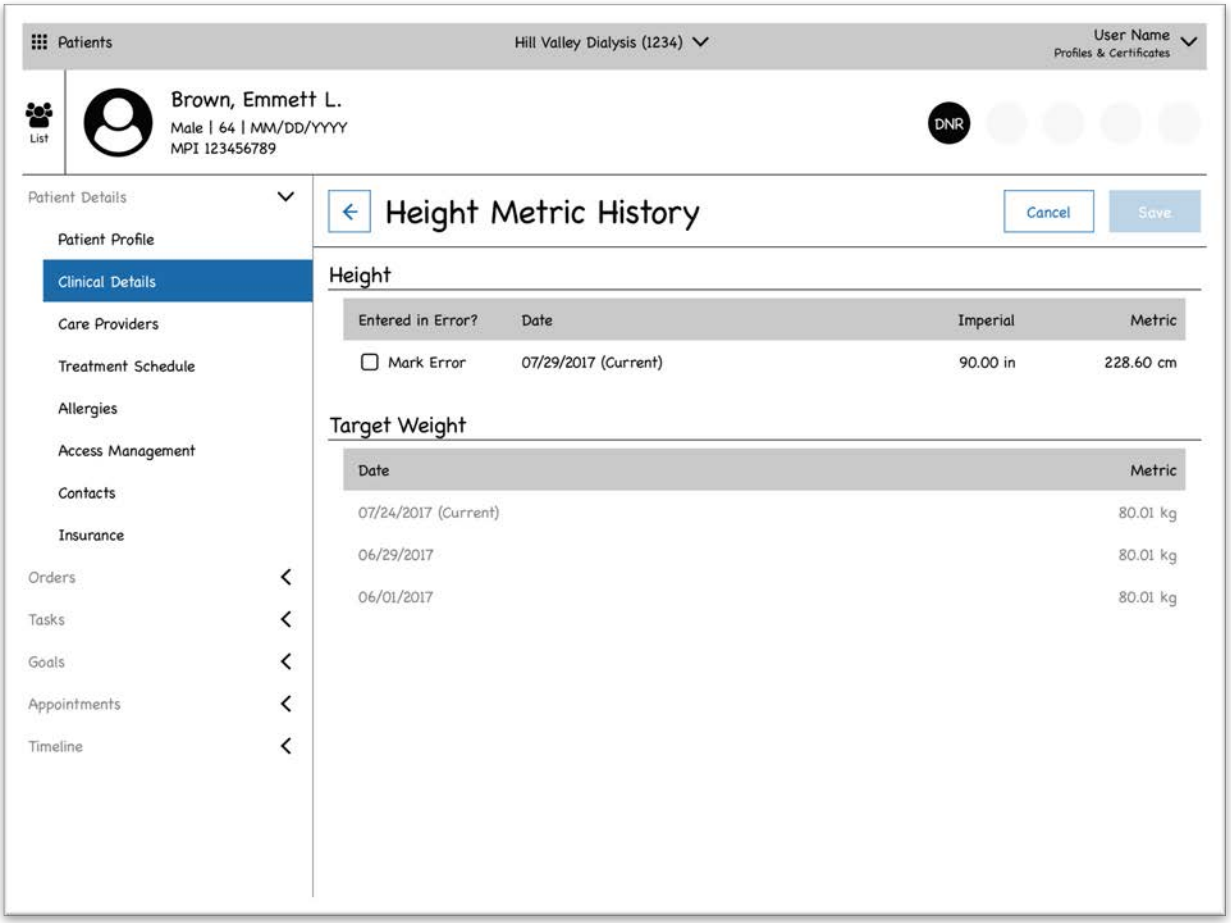
Insurance
Orders
Tasks
Goals
Appointments
Timeline
Height Metric History
Edit
Height
Date
Imperial
Metric
07/29/2017 (Current)
70.00 in
177.80 cm
Corrected 07/31/2017
07/29/2017
90.00 in
228.60 cm
Entered in Error
Target Weight
Date
Metric
07/24/2017 (Current)
80.01 kg
06/29/2017
80.01 kg
06/01/2017
80.01 kg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Orders
Tasks
Goals
Appointments
Timeline
Height Metric History
Cancel
Save
Height
Entered in Error?
Date
Imperial
Metric
Mark Error
07/29/2017 (Current)
90.00 in
228.60 cm
Target Weight
Date
Metric
07/24/2017 (Current)
80.01 kg
06/29/2017
80.01 kg
06/01/2017
80.01 kg

Wrap Up Insights

- 7 participants rated what they saw for the CWoW application on a scale from 1-5 with 1 being "I'm not at all satisfied" and 5 being "I'm extremely satisfied"*
    - 14% gave it a 3
    - 57% gave it a 4
    - 29% gave it a 5

"I'm just excited – a lot of people are reluctant to change – but for nurses this will be a lot better. This is the first I have ever heard of CWoW but I am really excited!" – *RN*

"I wouldn't introduce a lot of new terminology. It is nice to have something similar. There are some good things about Snappy – it is concise and you can see everything right there, not having to scroll through a lot." - *FA*

**One clinic is sending their responses on paper and we haven't received them yet*