

MITRE / FLUX NOTES **CONCEPTS v15**

EDWIN CHOI, DANIEL REEVES, JUHAN SONIN, 20.NOV.2018



Numerical captures in note

The general task is to capture numerical data in the note. For a medication change, the system expects a number to be entered after #to. In a vital entry, a number will be expected after a shortcut such as #value.

On a side note, it is unclear why the user must enter @active medications and #to. Perhaps in the future other shortcuts will be added such as #rationale? In general, if there is only one allowed path at any point (such as the user must now type @active medications), the system should automatically do it, not make the user work and figure it out.

Dr. Braker299 referred ms. Debra24 signed by: Dr. Bran24 Michel09A signed date: 10 April 2018

Summary

Procedures

Vitals

Labs

Disease status

Medication

Pathology

Treatment options

Hernandez98Aj due to pain in left breast. Dr. Jraker299 is ms. Debra24 Hernandez98Aj's primary care physician for 12 years.

Summary

Ms. Debra24 Hernandez98Aj is a 51-year-old menopausal non hispanic or latino woman with invasive ductal carcinoma of the breast, diagnosed on 13 January 2012. Her most recent status, recorded on 15 May 2017, is of worsening, disease progression based on pathology, imaging, and symptoms.

She underwent a lumpectomy. She underwent a sentinel lymph node biopsy on 20 September 2012 which revealed infiltrating poorly differentiated ductal carcinoma, stage IV, estrogen receptor 0, etc.

diagnostic mammogram on 4 October 2013 revealed a 2 cm mass in the right breast at 7 o'clock and an

source: Dana Farber Cancer Institute

B / U | reduce medication | lisinopril | to

reduce medication lisinopril #to

Delete note

1 incomplete 3 Placeholder

Sign note

@ 1

Search shortcuts

Templates Shortcuts

reduce medication #to

Patient @patient @age @gender @dateofbirth @name ...

Numerical captures in note

As soon as #to is registered (or #value in the future case of a numerical observation), a very simple text box appears inline. The user can simply type the number and hits “return/enter” to accept it.

The box can also be brought up by tapping on or typing “#enter value” in the shortcuts list. This protects against edge cases where the user needs to enter the value but has already entered #to.

Hernandez98Aj due to pain in left breast. Dr. Jraaker299 is ms. Debra24 Hernandez98Aj's primary care physician for 12 years.

Progress note

signed date: 10 April 2018

source: Dana Farber Cancer Institute

B / U ≡ ≡ | *reduce medication* | *lisinopril* | *to*

reduce medication lisinopril to 4.3

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Debra24 search...

[Close](#)







🔍 Search shortcuts

Templates
Shortcuts

reduce medication
#enter value

```
Patient
@patient
@age
@gender
@dateofbirth
@name
...
```

 Delete note

1 incomplete

3 Placeholder

Sign note

Numerical captures in note

Dr. Bran24 Michel09A

Debra24 Hernandez98Aj

Date of birth

5 Apr 1966 (51)

Admin. sex

Female

Location

Boston, MA

Ductal carcinoma of the breast

The number becomes structured data. As with all structured data, it is underlined and the user cannot edit it directly. If the user deletes "4.3", they can then bring up the edit box again by tapping on "enter value" in the shortcuts list or

Debra24 search...



- Summary
- Procedures
- Vitals
- Labs
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B / U | reduce medication | lisinopril | to

reduce medication lisinopril to 4.3.

Close

@

1

Search shortcuts

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reduce medication
#enter value

Patient
@patient
@age
@gender
@dateofbirth
@name
...

Delete note

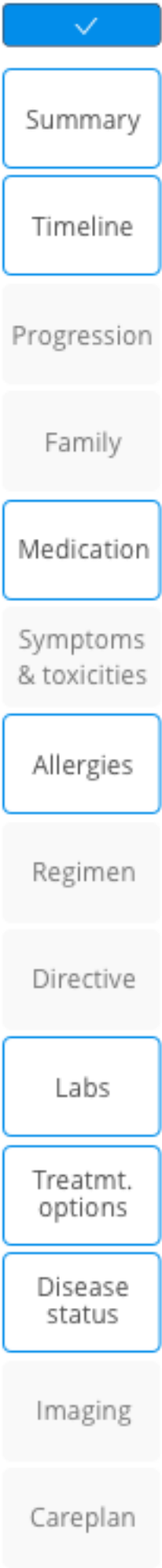
1 incomplete

3 Placeholder

Sign note

Minimap Edit mode adjustments

- issue: in edit mode, not clear which styling indicates on and off.
- issue: very short sections difficult to tap/grab.
- suggestion: make all boxes the same size during edit mode
- suggestion: change styling of “on” boxes to a blue outline. Change styling of “off” boxes to remove border altogether.



- on border: 1px, Interactive blue #028DEA
- on text: Standard text color #4F4F4F
- off text: Text Gray #767676
- off border: none
- off fill: #F9F9F9

Joining narrative with POC

Current shortcomings

1. To add content not supported by shortcut, the clinician must go to the note itself.
2. Switching back and forth is cumbersome.
3. Forced progression of POC elements may be awkward.
4. Entering forms one
5. POC elements have no context.

Concept A - simplify operation of POC

1. collapse all elements - easier to see full context, what is available, everything will always fit
2. single tap reveals all fields (visual indicator TBD) - easier to fill out quickly as user becomes familiar with element as a whole.
3. collapses when complete, "x" is tapped, or another element is opened.

Concept B - text into POC

1. Make textual context and formatting available within POC. This requires concept A to make space.
2. Editable text from POC.
3. Go to note available from POC.

Concept C - integrate POC into note

Designs pending

1. Make note more sectioned, modular, navigable.
2. Embed POC elements within note as selectors and dropdowns.
3. The proposal (Concepts v14.15) for editable formatted text is implemented.
4. Use of #hashtag input and graphical selection is fluid and interchangeable.



- Simplify operation of POC
- Include textual context within POC

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Assessment

#Disease status Status Complete Resection Reason No data Reference date No data As of date No data
#disease status is #Complete Resection.

#Staging Tumor size T1 Node size N2 Metastasis No data
#Staging #T1 #N2.

#toxicity Adverse event Nausea Grade Grade 2 Attribution No data
#toxicity of #Nausea #Grade 2.

Adverse event Anemia Grade No data Attribution No data
#toxicity of #Anemia.

Plan

#enrollment Trial title No data Enrolled on No data

Delete note

1 incomplete

3 Placeholder

Sign note



- The user taps anywhere on #enrollment to edit
- The user can quickly select both attributes, see the inserted note text, and edit the text directly.

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Assessment

#Disease status Status Complete Resection Reason No data Reference date No data As of date No data
#disease status is #Complete Resection.

#Staging Tumor size T1 Node size N2 Metastasis No data
#Staging #T1 #N2.

#toxicity Adverse event Nausea Grade Grade 2 Attribution No data [remove toxicity](#)
#toxicity of #Nausea #Grade 2.
Adverse event Anemia Grade No data Attribution No data [remove toxicity](#)
#toxicity of #Anemia.
[+ add toxicity](#)

Plan

#enrollment Trial title PATINA Enrolled on No data

Trial title

PATINA

PALLAS

Enrolled on

11/18/18

#enrollment in #PATINA on ?

[view in note](#)

Delete note

1 incomplete

3

Placeholder

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Patient

@patient

@age

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...

Physical exam

Assessment



Delete note

1 incomplete

3

Placeholder

Sign note

Templates and Snippets

Designs pending

Difference

1. Templates intended to initialize a note. Support selections and previews from right hand pane.
1. Snippets intended to be components within note. Like custom shortcuts.
 - Context: Allow undetermined contexts that are expected previously in the note. If the context is missing, the user is informed and expected to fix the problem.

Snippets as components

1. Inspired by Components and Symbols in design software such as Figma or Sketch
2. Snippets are modular. Snippets inside snippets and inside templates.
3. Graphical indication of the snippets and manipulation (boxes that are draggable).
4. User can highlight note content to create a a new snippet. Source can be saved or in progress note.
5. Snippets persist
 - After insertion, the snippet can be swapped out, retaining data.
 - Composition of snippets can be saved as a new snippet.
 - User can navigate to master snippet.
 - User can detach a snippet from master snippet.
6. Text and formatting in a snippet can be swapped out, or “overridden”.

Organization

1. Tags
 - custom, e.g. “vital”, “status”, “side effect”
 - dynamic, e.g. “this patient”, “this disease”
2. Folders: contain tags and snippets

Post-application

1. Data initially caught on the fly within note, by nurse in a vitals entry, or by PRO, then reorganized into template.
2. Librates workflow

Filters and Logic

1. Applied to whole snippet, or any single shortcut.
 - Each shortcut needs to have a set of properties: cardinality, filter set, keys with value types.
2. Filters:
 - Ex: @currentMedications = @allMedications with filter: active==True.
3. Branching logic
 - Ex: @lastVitals. If date < today, then replace with placeholder. If empty, then replace with “no Vitals today...”
4. Truly opens door to powerful templates and snippets. Removes pickiness of built-in specialized shortcuts.