

EDWIN CHOI, DANIEL REEVES, JUHAN SONIN, 4.MAY.2018





All text is 12pt regular in standard text color, unless otherwise noted.

Dosage amount is in 16 pt semibold grey.

Dosage change text is bold. If it's too common and too strong, make semibold.

Full dimensions: 575×100 alignments to top, as in css (not baseline measurements)

	10 px buffer				325 px to left edge	455 px to left edge		
16 px pad for title line							20 pt pad	
	Medication name in 16 pt			change text and date flow, no break				
							15 pt spacing	
	Dose text flows,			•	route if available	prescription date		
	no break	50 80	25	50	status or refills	prescribing doc		
	110 px width				!			

If more space is available, do not shift layout.

If less space is available, graphic can be squished a bit, then wrap right half to second line, preserving spacing and type sizes.

Letrazole reduced from 5 mg qd on 13 Nov '17 2.5 mg qdr 13 Nov 2017 oral route Dr Yosemite299a ibuprofen 400 mg tables increased from 2 tablets on 13 Dec '17 **3** tablets qd oral route 13 Dec 2017 5 refills allowed Dr Yosemite299a ibuprofen 200 mg tablets replaced by ibuprofen 400... 13 Nov '17 2 tablets qd oral route 4 Nov 2017 stopped Dr Yosemite299a **PACLitael** dosage change truncate if ne... date change **205** mg/m2 11 4 Sep 2017 cycles Dr Yosemite299a 50 80 250 stopped

Additional dosage change texts:

increased to 3 tablets on 13 Dec '17 replaced ibuprofen 200 mg... 13 Nov '17

CONTEXT TRAY: Considerations

Considerations:

- If hierarchy of data is presented, it should be clear
- The software should provide 3 capabilities
- Predict and present to user likely shortcuts
- Allow user to confirm that the software context matches the intended context
- Allow the user to explore the available shortcuts
- Unavailable shortcuts are hidden
- The three functions above should not impede each other

Smaller problems to explore

- Having access to all items in a "group" is critical, but maybe the current "..." isn't working
- We like the idea of breadcrumbs. Where and how do we present them?

Larger problems to explore

- Do contexts expire? Do they have a limited scope?
- Global contexts vs. local contexts?
- Tool to visually see contexts in note?
- How does the Assistant interact with the context tray?

CONTEXTS: Scope

Considerations:

- · Main condition for patient visit (if there is one, unclear in the future of FluxNotes) should act as some sort of default.
- Most contexts should close automatically when inactive. But how do we define inactive?
- The currently implemented FluxNotes (and perhaps the SHR in general) doesn't require mixing of contexts. For example, there is no way to attribute a medication to a procedure or a Toxicity to a particular treatment.
- All capture-only contexts should close when complete. If completion is vague, it follows the inactivity rules.

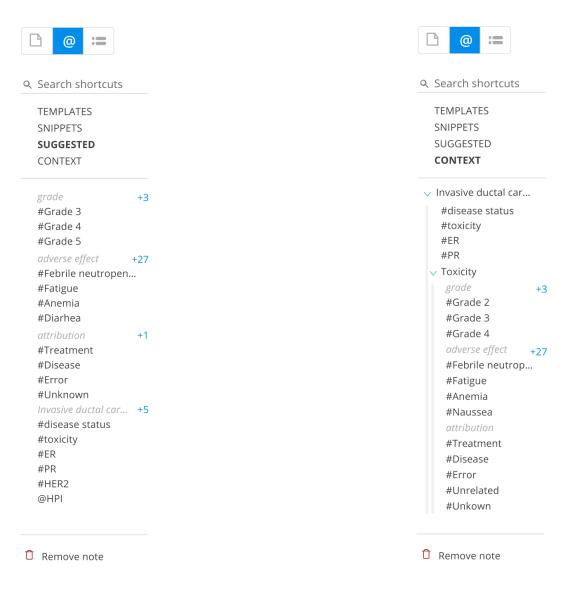
Inactivity

- A context is inactive if a shortcut for a parallel context is opened. This is okay, given the consideration above regarding mixing of contexts.
- Ex 1: The clinician is discussing a prescription for Taxol. Then she opens mammography via @procedures. This closes Taxol.
- Ex 2: The clinician is capturing staging. Although she does not capture all the possible fields, she opens #disease status, and staging closes.
- A context is also inactive if 2 paragraph marks have been called since the last capture or retrieval from that context. Requiring 2 end of paragraphs presents lists from closing a relevant context.

Global and Local contexts

- All contexts are local and follow the inactivity rules unless otherwise stated.
- A global context is always available, and are not closed by opening a parallel context.
- A note can have a global condition that is determined at note creation. Perhaps via template selection, or maybe by the very first condition call, or perhaps by the condition at the top of FluxNotes.
- Other conditions can be opened, providing a temporary override of the global condition. When that condition closes (perhaps via 2 paragraph marks) the global one is reactivated.

CONTEXT TRAY: User selects suggested or all available



CONTEXT BREADCRUMB: Note in progress

Workflow Post-encounter ▼

Ductal carcinoma of the breast ▼

Q Debra24 search...

Summary

Medication

Timeline

Allergies

Labs

Social

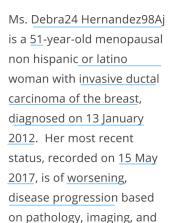
Disease status

Dr. Jraker299 referred ms. Debra24 Hernandez98Aj due to pain in left breast. Dr. Iraker299 is ms. Debra24 Hernandez98Aj's primary care physician for 12 years.

 $\equiv \mathbb{H}$

Summary

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

New Note Dr. Free2 Will 10 April 2018 Dana Farber Cancer Institute $B I U \equiv \equiv$ Invasive ductal carcinoma of the breast

REASON FOR VISIT:

follow-up regarding Invasive ductal carcinoma of the breast

HISTORY OF PRESENT ILLNESS:

Ms. Ortiz is a 43-year-old premenopausal Hispanic woman who recalls an unremarkable mammogram December 3, 2015. She recalls feeling a sharp pain in her right breast about 8 months later, and feeling a palpable lump two months after that. A diagnostic mammogram on August 13, 2017, revealed a 2 cm mass in the right breast at 7 o'clock and an indeterminate lymph node in the right axilla, 13 mm.

She underwent neoadjuvant cyclophosphamide (ddAC) followed by Taxol (T) from October 20, 2017 to February 23, 2018. Taxol was dose reduced to 60mg/m2 for the last 2 cycles and stopped after 11 doses due to neuropathy. She received 11 of 12 planned doses.

She underwent right lumpectomy with Dr. Ford on March 12, 2018. Pathology report on March 16, 2018 showed no residual disease, 0/2 SLNs, pathological complete response pCR.

× Close





Q Search shortcuts

TEMPLATES SNIPPETS SUGGESTED CONTEXT

> Invasive ductal car... +5 #disease status #toxicity #ER #PR #HER2

> > +11

#enrollment @medication @procedure

@HPI

Patient

SIGN NOTE

T Remove note





Date of birth

Admin. sex Location

U II II

Boston, MA

Workflow

Post-encounter ▼

Ductal carcinoma of the breast ▼

Invasive ductal carcinoma of the breast > toxicity

Q Debra24 search...

Summary

Debra24 Hernandez98Aj due to pain in left breast. Dr. Iraker299 is ms. Debra24

Dr. Jraker299 referred ms.

New Note 10 April 2018

5 Apr 1966 (51) Female

Dr. Free2 Will

Dana Farber Cancer Institute

× Close



Timeline

Medication

Allergies

Labs

Social

Hernandez98Aj's primary care nhysician for 12 years

gone out of scope.

user is capturing Toxicity. Staging has

REASON FOR VISIT:

follow-up regarding Invasive ductal carcinoma of the breast

SENT ILLNESS:

ear-old premenopausal Hispanic woman who recalls an mmogram December 3, 2015. She recalls feeling a sharp reast about 8 months later, and feeling a palpable lump that. A diagnostic mammogram on August 13, 2017, nass in the right breast at 7 o'clock and an indeterminate

lymph node in the right axilla, 13 mm.

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 She underwent neoadjuvant cyclophosphamide (ddAC) followed by Taxol (T) from October 20, 2017 to February 23, 2018. Taxol was dose reduced to 60mg/m2 for the last 2 cycles and stopped after 11 doses due to neuropathy. She received 11 of 12 planned doses.

She underwent right lumpectomy with Dr. Ford on March 12, 2018. Pathology report on March 16, 2018 showed no residual disease, 0/2 SLNs, pathological complete response pCR.

ASSESSMENT

I assess #staging #T0 #N0. She is experiencing #Toxicity

TEMPLATES

Q Search shortcuts

SNIPPETS

SUGGESTED

CONTEXT

grade #Grade 3

#Grade 4

#Grade 5

adverse effect

+3

+27

+1

+11

#Febrile neutropen...

#Fatigue

#Anemia

#Diarhea

#Treatment

#Disease

#Error

#Unknown

Invasive ductal car...

#disease status

#toxicity

#ER #PR

#HER2

@HPI

Patient

#enrollment

T Remove note

SIGN NOTE

Disease status





Date of birth 5 Apr 1966 (51) Female

Admin. sex

Location Boston, MA Workflow Post-encounter ▼

Ductal carcinoma of the breast ▼

enrollment

Q Debra24 search...

Q Search shortcuts

TEMPLATES

SUGGESTED CONTEXT

SNIPPETS

#date #Trial 1

#Trial 2

#Trial 3

#PATINA

#toxicity

#ER

#PR

#HER2

@HPI

@medication

@procedure

@condition

@name

Invasive ductal car... +5

#disease status

Summary

Dr. Jraker299 referred ms. Debra24 Hernandez98Aj due to pain in left breast. Dr. Iraker299 is ms. Debra24 Hernandez98Aj's primary care nhysician for 12 years

New Note 10 April 2018 U 🗎 📜 Dr. Free2 Will

Invasive duct...

Dana Farber Cancer Institute

× Close



+3

+9

REASON FOR VISIT:

follow-up regarding Invasive ductal carcinoma of the breast

Timeline

Medication

user has opened a new top-level context, enrollment

Hispanic woman who recalls an 2015. She recalls feeling a sharp ter, and feeling a palpable lump nogram on August 13, 2017,

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

is a si-year-old menopausar

She underwent a lumpectomy. She underwent revealed infiltrating poorly differentiated ductal

revealed a 2 cm mass in the right breast at 7 o'clock and an indeterminate lymph node in the right axilla, 13 mm.

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She underwent right lumpectomy with Dr. Ford on March 12, 2018. Pathology report on March 16, 2018 showed no residual disease, 0/2 SLNs, pathological complete response pCR.

ASSESSMENT

I assess #staging #T0 #N0. She is experiencing #Toxicity #Grade3 #Anemia due to #Disease.

I believe Ms. Ortiz is a good candidate for #enrollment #PA

T Remove note

symptoms.

a sentinel lymph node biopsy on 20 September 2012 which

carcinoma, stage IV, estrogen

SIGN NOTE

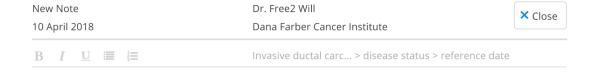
Labs

Allergies

Social

Disease status

CONTEXT BREADCRUMB: Layout notes



As the classic breadcrumb hierarchy elongates, truncate from beginning.

New Note 10 April 2018	Dr. Free2 Will Dana Farber Cancer Institute	× Close
B $I \underline{U} \equiv \sqsubseteq$	Invasive ductal carcinoma of the breast enrollment > Patina	

Alternate layout for two contexts

New Note 10 April 2018	Dr. Free2 Will Dana Farber Cancer Institute	× Close
В І <u>Ш</u> ≣ ≣	active contexts: Invasive ductal carcinoma of the breast enrollment > Patina	

option to annotate and label the breadcrumb

CONTEXT TRAY: Several options

grade 5 more #Grade 3 #Grade 4 #Grade 5	grade +5 #Grade 3 #Grade 4 #Grade 5	#Grade +5 \rightarrow #Grade 4 #Grade 5	grade 5 more #Grade 3 #Grade 4 #Grade 5
adverse effect 2 more #Febrile neutropen #Fatigue #Anemia #Diarhea	adverse effect +2 #Febrile neutropen #Fatigue #Anemia #Diarhea	#Febrile neutropen #Fatigue #Anemia #Diarhea	adverse effect 2 more #Febrile neutropen #Fatigue #Anemia #Diarhea
#Treatment #Disease #Error #Unknown #Unrelated	attribution +1 #Treatment #Disease #Error #Unknown #Unrelated	#Treatment #Disease #Error #Unknown #Unrelated	attribution 1 more #Treatment #Disease #Error #Unknown #Unrelated
Invasive ductal car #disease status #toxicity #ER #PR #HER2 @HPI	Invasive ductal car #disease status #toxicity #ER #PR #HER2 @HPI	#disease status #toxicity #ER #PR #HER2 @HPI	Invasive ductal car #disease status #toxicity #ER #PR #HER2 @HPI