

# MITRE / FLUX NOTES **SELECTED CONCEPTS** v14.8

EDWIN CHOI, DANIEL REEVES, JUHAN SONIN, 13.JUL.2018



The following concepts explore accessibility and the medication section.

## I COLOR PALETTE

Current color palette

Background



Background	Contrast gray	Feature gray	Line gray
hex FFFFFFFF	hex F9F9F9	hex FoFoFo	hex DDDDDD
rgb 255 255 255	rgb 249 249 249	rgb 240 240 240	rgb 221 221 221

Type



Body gray	State	Warning Red
hex 3F3F3F	hex AAAAAA	hex C80BoB
rgb 63 63 63	rgb 170 170 170	rgb 200 11 11

Alert



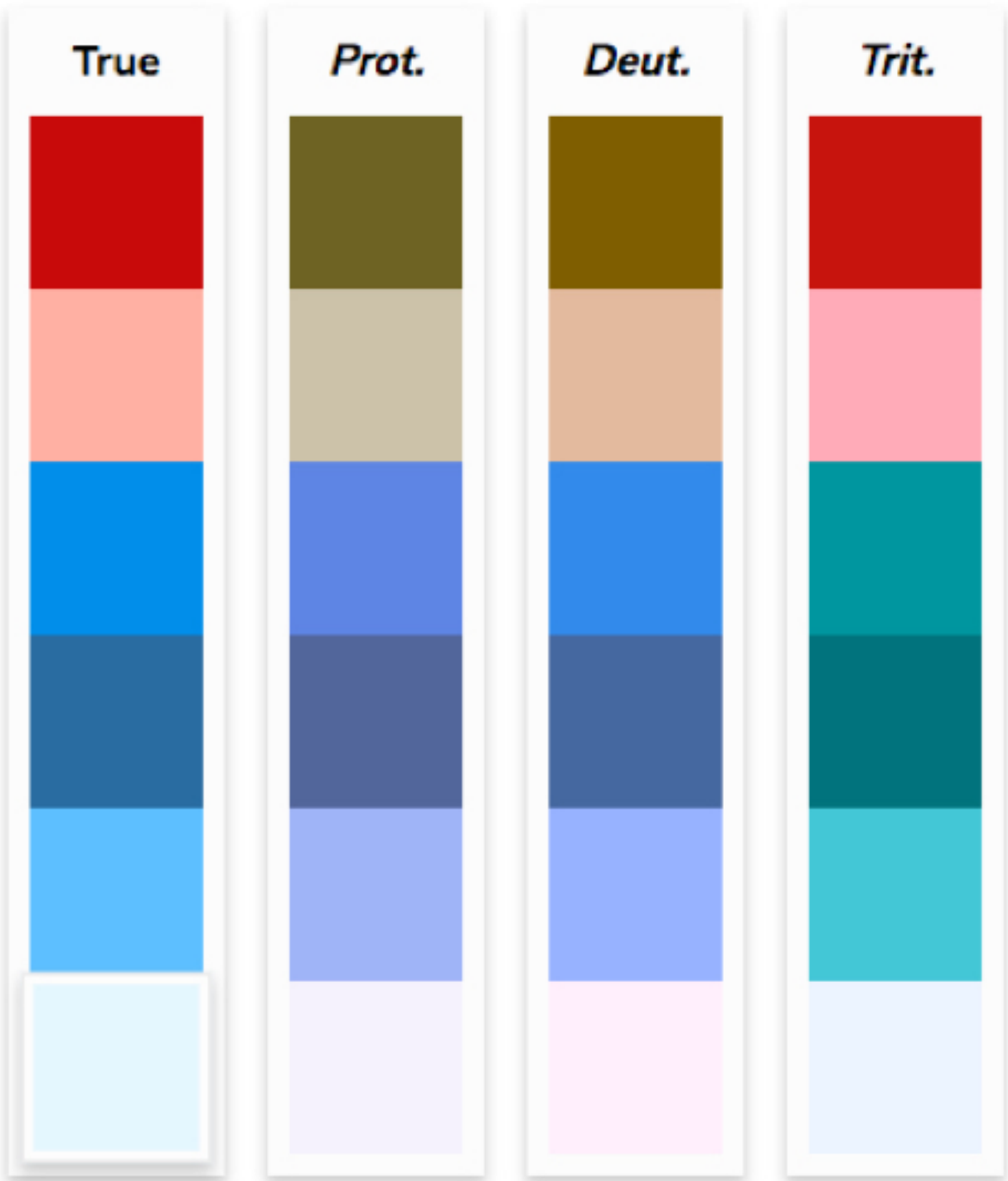
Missing Data Red	Warning Red
hex FFBoA2	hex C80BoB
rgb 255 176 162	rgb 200 11 11

Interactive



Interface Blue	SHR Context Dark	SHR Context Line	SHR Context Light
hex 028DEA	hex 296CA1	hex 5EBFFF	hex E5F7FF
rgb 2 141 234	rgb 41 108 161	rgb 94 191 255	rgb 229 247 255

Accessibility (color)



## Accessibility (contrast)

	Contrast ratio	Normal text		Large text	
		AA	AAA	AA	AAA
Body gray text on white	10.5:1	Pass	Pass	Pass	Pass
State text on white	2.3:1	Fail	Fail	Fail	Fail
Warning red on white	6:1	Pass	Fail	Pass	Pass
Interface blue on white	3.5:1	Fail	Fail	Pass	Fail
Body gray text on contrast gray	10:1	Pass	Pass	Pass	Pass
Body gray text on SHR context light	9.6:1	Pass	Pass	Pass	Pass
State text on contrast gray	2.2:1	Fail	Fail	Fail	Fail
Selected structured data	4.7:1	Pass	Fail	Pass	Pass
(Less common use cases)					
80% body gray text over white	8.2:1	Pass	Pass	Pass	Pass
80% body gray text over feature grey	9.2:1	Pass	Pass	Pass	Pass



Summary

Timeline

Medication

Allergies

Labs

Social

Disease  
status

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

Current color palette on Flux Notes

## 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

New note  
10 April 2018

Dr. Free2 Will  
Dana Farber Cancer Institute

Close

B I U | carcinoma of the breast

### REASON FOR VISIT

Follow-up consultation regarding a procedure related to invasive ductal carcinoma of the breast.

### HISTORY OF PRESENT ILLNESS

Here is the full history of present illness for invasive ductal carcinoma of the breast, with all the structured data. Structured data to capture: #staging. Other structured data to capture, #disease status.

Additional structured data to capture, #toxicity.

Additional structured data, #HER2.

Placeholder fields for structured data like #ER, #PR can be filled via template POS.

### REVIEW OF SYSTEMS

Review of systems text.

### ALLERGIES

Allergies text.

### MEDICATIONS

Allergies text.

### PHYSICAL EXAM

Physical exam text.

### ASSESSMENT

Assessment text. Patients blood pressure is an example of capturing a value #blood pressure

Remove unfilled elements and sign



Search shortcuts

Templates  
Shortcuts

Patient

@patient

@age

@gender

@dateofbirth

@name

...

Remove note



## Labs Invasive ductal carcinoma of breast

▼ Panels (15)

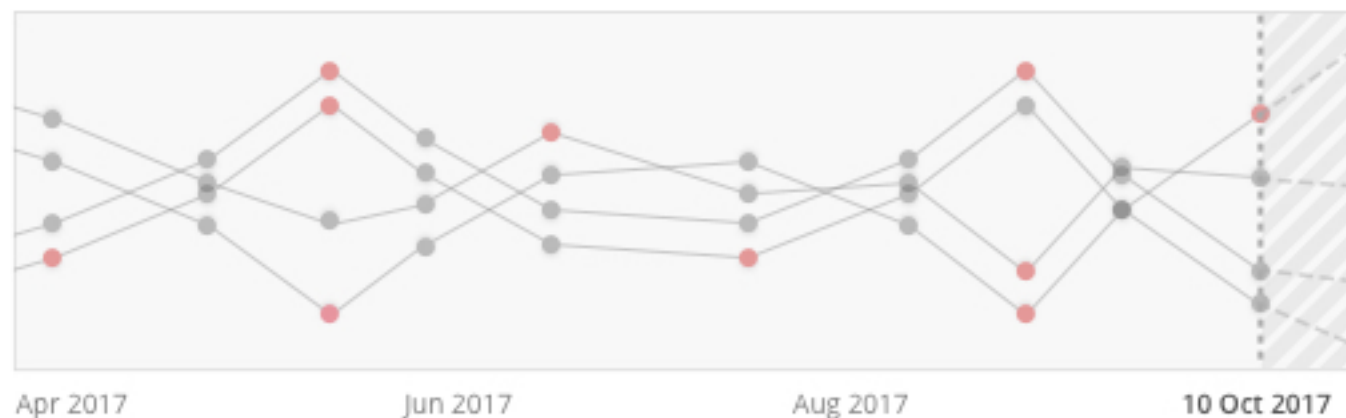
Current color palette on Flux Notes

is of:

☐ Add date

### Lipid panel

	8 Oct 2017	9 Oct 2017	10 Oct 2017
Total cholesterol	180 mg/dl	150 mg/dl	150 mg/dl
HDL cholesterol	35 mg/dl	35 mg/dl	Missing data
LDL cholesterol	46 mg/dl	46 mg/dl	46 mg/dl
HDL cholesterol	35 mg/dl	35 mg/dl	35 mg/dl
LDL cholesterol	46 mg/dl	46 mg/dl	46 mg/dl



### Metabolic panel

	10 Oct 2017	9 Oct 2017	10 Oct 2017
Blood urea nitrogen	112 mg/dl	150 mg/dl	150 mg/dl



+ New note

Sort by most recent ▼

+ Search filters

47 previous notes

2 Aug 2017

Clinical follow-up

Dr. Free2 Will

Dana Farber Cancer Institute

20 Jun 2017

Clinical follow-up

Dr. Free2 Will

Dana Farber Cancer Institute

14 May 2017

Clinical follow-up

Dr. Free2 Will

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8 May 2017

Clinical follow-up

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View 10 more clinical  
notes from 2015 - 2017

# Proposed adjusted color palette

## Background



Background	Contrast gray	Feature gray	Line gray
hex FFFFFFFF	hex F9F9F9	hex F0F0F0	hex DDDDDD
rgb 255 255 255	rgb 249 249 249	rgb 240 240 240	rgb 221 221 221

Darker state text for improved readability

## Type



Body gray	Body gray light	State	Warning Red
hex 232323	hex 4F4F4F	hex 767676	hex D33C3C
rgb 35 35 35	rgb 79 79 79	rgb 118 118 118	rgb 211 60 60

Body gray is darker in order to have state color be visibly different when these 2 colors are mixed in the same body of text

Body gray light on all peripheral secondary text (non record, non clinical note)

## Alert



Missing Data Red	Warning Red
hex EC9696	hex C80B0B
rgb 236 150 150	rgb 200 11 11

The text warning red in the adjusted palette is lighter than before to reduce its overbearing weight

## Interactive

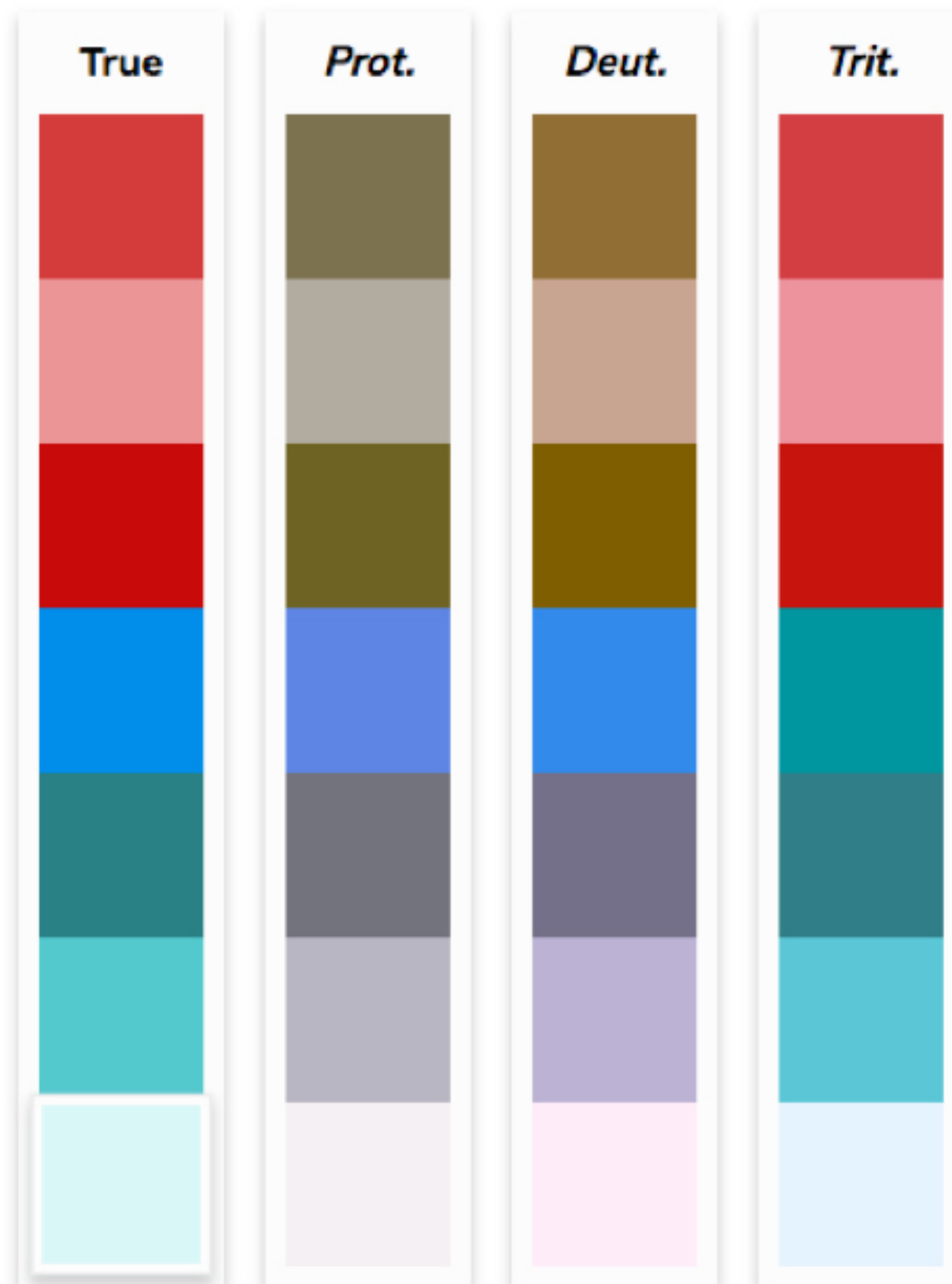


Interface Blue	SHR Context Dark	SHR Context Line	SHR Context Light
hex 028DEA	hex 298085	hex 55C9CE	hex DAF7F8
rgb 2 141 234	rgb 41 128 133	rgb 85 201 206	rgb 218 247 248

Adjusted color palette differentiates interactive elements (blue) from structured data elements (teal)



## Accessibility (color)



## Accessibility (contrast)

	Contrast ratio	Normal text		Large text		
		AA	AAA	AA	AAA	
Body gray text on white	15.7:1	Pass	Pass	Pass	Pass	
Body gray light text on white	8.2:1	Pass	Pass	Pass	Pass	
State text on white	4.5:1	Pass	Pass	Pass	Pass	
Warning red on white	6:1	Pass	Fail	Pass	Pass	
Interface blue on white	3.5:1	Fail	Fail	Pass	Fail	Not critical for single words
Body gray text on contrast gray	15:1	Pass	Pass	Pass	Pass	
Body gray text on SHR context light	14:1	Pass	Pass	Pass	Pass	
State text on contrast gray	4.3:1	Fail	Fail	Pass	Fail	
Selected structured data	4.7:1	Pass	Fail	Pass	Pass	
(Less common use cases)						
Body gray light over white	8.2:1	Pass	Pass	Pass	Pass	
Body gray light over feature gray	7.2:1	Pass	Pass	Pass	Pass	



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

Adjusted color palette on Flux Notes

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 missing data, 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.

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Search shortcuts

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...

Remove note



Summary

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Disease status

## Labs Invasive ductal carcinoma of breast

▼ Panels (15)

Adjusted color palette on Flux Notes

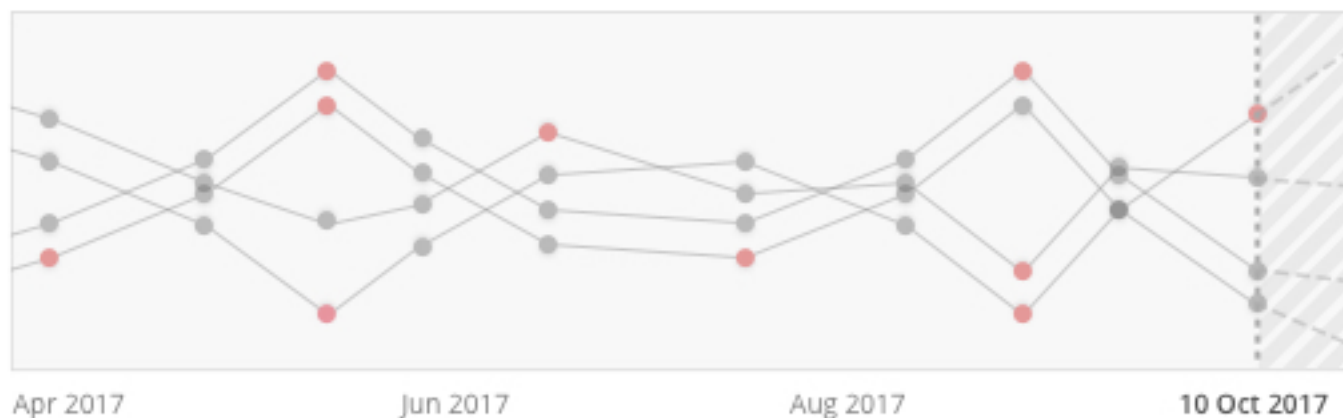
hels

s of:

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LDL cholesterol	46 mg/dl	46 mg/dl	46 mg/dl



### Metabolic panel

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Dana Farber Cancer Institute

View 10 more clinical notes from 2015 - 2017

## 2 MEDICATIONS (SHORT TERM)

Medications

Active medications	Dose	Timing	Start	End
<u>MedicationMedA</u>	> <u>10 mg</u>	<u>qd</u>	<u>24 Feb 2017</u>   <u>reduced, side effect</u>	<u>12 Dec 2018</u>
<u>MedicationMedb</u>	> <u>1 tablet</u>	<u>qd</u>	<u>2 March 2017</u>   <u>reduced, side effect</u>	
<u>MedicationMedC</u>	> <u>10 ml</u>	<u>5 cycles</u>	<u>10 Oct 2017</u>	<u>17 Oct 2017</u>   <u>stopped, ineffective</u>



Increasing the width of the content area in the designs in order to make space for patient record information. This means that the narrative view can be split into 2-columns to ensure the number of characters are within the ideal range.

54 charcters per column (ideal is between 45 - 75)

Patient has Invasive ductal carcinoma of breast laterality Right stage IA diagnosed on 29 NOV 2015. As of 30 JAN 2018, disease is Stable, neither improving nor worsening based on missing. No

recent lab results. Key toxicities include Grade 3 peripheral motor neuropathy, no blood clots, no neutropenia, no nausea/vomiting. Patient is ER Negative, PR Positive, and HER2 Positive.

Medications

Active medications	Dose	Timing	Start		Stop
<u>MedicationMedA</u>	✓ <u>10 mg</u>	<u>qd</u>	<u>24 Feb 2017</u>	<u>reduced, ineffective</u>	<u>12 Dec 2018</u>
	<u>20 mg</u>	<u>qd</u>	<u>15 Feb 2018</u>	<u>increased, ineffective</u>	
	<u>10 mg</u>	<u>qd</u>	<u>10 Jan 2018</u>		
	<u>5 mg</u>	<u>qd</u>	<u>5 Nov 2016</u>		<u>2 Jan 2017</u>   <u>temp stop, finished</u>
<u>MedicationMedb</u>	> <u>1 tablet</u>	<u>qd</u>	<u>2 March 2017</u>	<u>reduced, side effect</u>	
<u>MedicationMedC</u>	> <u>10 ml</u>	<u>qd</u>	<u>10 Oct 2017</u>		<u>17 Oct 2017</u>   <u>stopped, ineffective</u>

Medication change type:

- Reduced
- Increased
- Temp\_stop
- Swap
- Stop

Medication change reason:

- Not\_needed
- Finished
- Ineffective
- Burdensome
- Difficult
- Side\_effect

Medications

Active medications	Dose	Timing	Start		Stop	
<u>MedicationMedA</u>	✓ <u>10 mg</u>	<u>qd</u>	<u>24 Feb 2017</u>	<u>reduced, ineffective</u>	<u>20 Jul 2018</u>	<u>stopped, burdensome</u>
	<u>20 mg</u>	<u>qd</u>	<u>15 Feb 2018</u>	<u>increased, ineffective</u>		
	<u>10 mg</u>	<u>qd</u>	<u>10 Jan 2018</u>			
	<u>5 mg</u>	<u>qd</u>	<u>5 Nov 2016</u>		<u>2 Jan 2017</u>	<u>temp stop, finished</u>
<u>MedicationMedb</u>	> <u>1 tablet</u>	<u>qd</u>	<u>2 March 2017</u>	<u>reduced, side effect</u>		
<u>MedicationMedC</u>	> <u>10 ml</u>	<u>qd</u>	<u>10 Oct 2017</u>		<u>17 Oct 2017</u>	<u>stopped, ineffective</u>



### 3 MEDICATIONS (LONG TERM)

Medications

Active medications (2)

Filter

Medications	Dosage		Start	Stop	More
<a href="#">MedicationMedA</a>	<a href="#">10 mg qd (5)</a>	<div><div>5</div><div>10</div><div>20</div><div>25</div></div>	<a href="#">24 Feb 2018</a>   <a href="#">reduced, side ef...</a>	<a href="#">12 Dec 2018</a>	<a href="#">...</a>
<a href="#">MedicationBB</a>	<a href="#">150 mg qd</a>	<div><div>1</div><div>50</div><div>125</div><div>150</div></div>	<a href="#">2 Feb 2018</a>	<a href="#">2 Nov 2018</a>	<a href="#">...</a>

Inactive medications (3) Invasive ductal carcinoma of breast

Filter

Medications	Dosage		Start	Stop	More
<a href="#">MedicationC</a>	<a href="#">2 tablets qd</a>	<div><div>1</div><div>2</div><div>3</div><div>5</div></div>	<a href="#">24 Feb 2017</a>   <a href="#">reduced, side ef...</a>	<a href="#">20 Oct 2017</a>   <a href="#">stopped, finished</a>	<a href="#">...</a>
<a href="#">MedicationD</a>	<a href="#">130 mg qd</a>	<div><div>1</div><div>50</div><div>125</div><div>130</div></div>	<a href="#">10 Jan 2016</a>	<a href="#">15 Jan 2016</a>   <a href="#">stopped, finished</a>	<a href="#">...</a>
<a href="#">MedicationE</a>	<a href="#">10 mg qd</a>	<div><div>5</div><div>10</div><div>20</div><div>25</div></div>	<a href="#">5 Jan 2016</a>   <a href="#">reduced, side ef...</a>	<a href="#">10 Jan 2016</a>   <a href="#">stopped, finished</a>	<a href="#">...</a>

History (27) Invasive ductal carcinoma of breast

Medications Invasive ductal carcinoma of breast

Active medications (2)

Filter

Medications	Dosage		Start		Stop	More
<a href="#">MedicationMedA</a>	<a href="#">10 mg qd (5)</a>	<div><div>5</div><div>10</div><div>20</div><div>25</div></div>	<a href="#">24 Feb 2018</a>	<a href="#">reduced, side ef...</a>	<a href="#">12 Dec 2018</a>	<a href="#">...</a>
	<a href="#">20 mg qd (5)</a>	<div><div></div><div></div><div>20</div><div></div></div>	<a href="#">15 Feb 2018</a>	<a href="#">increased</a>		<a href="#">...</a>
	<a href="#">0 mg</a>	<div><div></div><div></div><div></div><div></div></div>	<a href="#">10 Jan 2017</a>	<a href="#">temp stop, burd...</a>		<a href="#">...</a>
	<a href="#">5 mg qd</a>	<div><div>5</div><div></div><div></div><div></div></div>	<a href="#">5 Nov 2016</a>			<a href="#">...</a>
<a href="#">MedicationBB</a>	<a href="#">150 mg qd</a>	<div><div>1</div><div>50</div><div></div><div>125</div><div>150</div></div>	<a href="#">2 Feb 2018</a>	<a href="#">increased</a>	<a href="#">2 Nov 2018</a>	<a href="#">...</a>

Expanding a particular medication reveals its entire MedicationChangeType history

Inactive medications (3) Invasive ductal carcinoma of breast

Filter

Medications	Dosage		Start		Stop	More
<a href="#">MedicationC</a>	<a href="#">2 tablets qd</a>	<div><div>1</div><div>2</div><div>3</div><div>5</div></div>	<a href="#">24 Feb 2017</a>	<a href="#">reduced, side ef...</a>	<a href="#">20 Oct 2017</a>	<a href="#">stopped, finished</a> <a href="#">...</a>
<a href="#">MedicationD</a>	<a href="#">130 mg qd</a>	<div><div>1</div><div>50</div><div></div><div>125</div><div>130</div></div>	<a href="#">10 Jan 2016</a>		<a href="#">15 Jan 2016</a>	<a href="#">stopped, finished</a> <a href="#">...</a>
<a href="#">MedicationE</a>	<a href="#">10 mg qd</a>	<div><div>5</div><div>10</div><div>20</div><div>25</div></div>	<a href="#">5 Jan 2016</a>	<a href="#">reduced, side ef...</a>	<a href="#">10 Jan 2016</a>	<a href="#">stopped, finished</a> <a href="#">...</a>

History (27) Invasive ductal carcinoma of breast

Medications

Active medications (2)

Filter

Medications	Dosage	Start	Stop	More
<a href="#">MedicationMedA</a>	10 mg qd (5)	24 Feb 2018	reduced, side ef...	12 Dec 2018
	20 mg qd (5)	15 Feb 2018	increased	
	0 mg	10 Jan 2017	temp stop, burd...	
	5 mg qd	5 Nov 2016		
<a href="#">MedicationBB</a>	150 mg qd	2 Feb 2018	increased	2 Nov 2018

There are additional data elements that must be considered in future medication section designs:

- Renewals
- Refills
- Prescriber
- Administration route
- Instructions

Inactive medications (3) Invasive ductal carcinoma of breast

Filter

Medications	Dosage	Start	Stop	More
<a href="#">MedicationC</a>	2 tablets qd	24 Feb 2017	reduced, side ef...	20 Oct 2017
<a href="#">MedicationD</a>	130 mg qd	10 Jan 2016		15 Jan 2016
<a href="#">MedicationE</a>	10 mg qd	5 Jan 2016	reduced, side ef...	10 Jan 2016

The global condition selector may be relevant to the information presentation to an entire section (like procedures, allergies), OR, depending on the information it may be relevant to only specific subsections

History (27) Invasive ductal carcinoma of breast

Filter

Medication	Dosage	Start	Stop	More
<a href="#">MedicationMedA</a>	10 mg qd (5)	24 Feb 2018	reduced, side ef...	12 Dec 2018
<a href="#">MedicationMedA</a>	20 mg qd (5)	15 Feb 2018	increased	
<a href="#">MedicationBB</a>	150 mg qd	2 Feb 2018	increased	2 Nov 2018
<a href="#">MedicationC</a>	2 tablets qd	24 Feb 2017	reduced, side ef...	20 Oct 2017
<a href="#">MedicationMedA</a>	0 mg	10 Jan 2017	temp stop, burd...	
<a href="#">MedicationMedA</a>	5 mg qd	5 Nov 2016		