


# E-PRESCRIBING PITFALLS

December 13, 2019

Lillian Nieves, PharmD  
Andrew Saal, MD MPH



## SPEAKERS

- Lillian Nieves, PharmD is the Director of Clinical Pharmacy Services at the Providence Community Health Centers.
- Andrew Saal, MD MPH is the Chief Medical Officer of PCHC. He is boarded in both family medicine and clinical informatics, and frustrated with the broken US health system.

## DISCLOSURES

- Lillian reports that she has no financial conflicts of interest
- Andrew is not on the payroll of any pharmaceutical, insurance, or digital health company. Though he may be emotionally conflicted, he owns no stocks, has very little hair, and is basically unaware of whatever is hidden in his 401k

## WHY FOCUS ON E-PRESCRIBING?


- Patient Safety
- Clinician Sanity
- Evidence-Based Medicine
- Total Cost of Care

*The very same reasons we want to have clinical pharmacists at every level of the healthcare system*




## THE DIGITAL HIGHWAY

What Could Be Simpler?



## THE DIGITAL HIGHWAY

The Actual Problem



*Multiple computer systems are trying to exchange information*

### THE DIGITAL HIGHWAY

What Else Does ChangeHealth Do?

Just a few things can go wrong on any given day

### THE DIGITAL HIGHWAY

What Does SureScripts Look Like?

### THE DIGITAL HIGHWAY

So the system looks more like this

What could possibly go wrong?



### THE DIGITAL HIGHWAY

Different types of errors occur at different points

### ERROR TYPES

- Refill Request Crashes
  - How many tasks does the average internist get per day?
  - How many of these are medication refill requests?
  - What percentage of these requests crash and require someone to manually resolve?

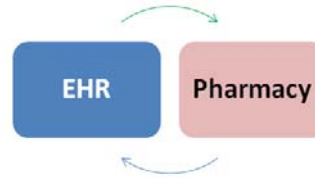
## A MOMENT OF REFLECTION

So... What exactly is *your* clinical pharmacy team spending most of their energy on?

Are they spending most of their time repairing refill requests to keep the docs from burning out?

What percentage of our efforts are being diverted towards damage control instead of improving quality and patient safety?

## MOVING THE DATA



Hurray! You got the Rx to go to the pharmacy...  
But can it return *cleanly* for a refill request?

Mismatch = System Error

## ERROR TYPES

- Refill Request Crashes
  - Mismatched Quantity
  - Mismatched Days Supplied

RX REQUEST

FROM: System    CREATED: 07/26/19    DUE: 07/26/19    PRIORITY: (High)    RELATED PROVIDER: Judith A. Nudelman MD

ASPIRIN 81MG EC LOW DOSE TABLETS

Authorize Rx:	Request Type: EDI	Request Priority: Routine
Provider: Judith A. Nudelman MD	ASPIRIN 81MG EC LOW DOSE TABLETS	
Quantity: 90	Units: Tablet	
Days Supplied: 30	Refills: 0	Dispense As Written: N
Sig: TAKE 1 TABLET BY MOUTH EVERY DAY		
Diagnosis: E11.65		
Pharmacy Notes: Maximum Refills Reached		
Request Date: 07/25/19    Comments: Created by System on 07/26/19 - 09:15 am: TAKE 1 TABLET BY MOUTH EVERY		

Request was matched to a renewable Rx written 03/14/19. Rx(8159644) will be Renewed.

Matched Renewable Rx:

Drug: Adult Aspirin Regimen 81MG Oral Tablet Delayed Release	
Quantity: 90	Units: Tablet
Days Supplied: 90	Refills: 3
Dispense As Written: N	
Sig: daily - once daily	
Diagnosis: E11.65	
Pharmacy Notes: Maximum Refills Reached	

Pharmacy: Walgreens Drug Store 10256    Issue Method: Electronic  
1140 N MAIN ST    Printer: No Printer Selected  
PROVIDENCE, RI 02904-1819  
(401) 228-4901

RX REQUEST

ENALAPRIL 5MG TAB

Authorize Rx:	Request Type: EDI	Request Priority: Routine
Provider: Judith A. Nudelman MD	ENALAPRIL 5MG TAB	
Quantity: 28	Units: tablet	
Days Supplied: 28	Refills: 0	Dispense As Written: N
Sig: TAKE 1 TABLET BY MOUTH DAILY		
Diagnosis: I10		
Pharmacy Notes: Maximum Refills Reached		
Request Date: 08/13/19    Comments: Created by System on 08/13/19 - 09:33 am: TAKE 1 TABLET BY MOUTH		

Request was matched to a renewable Rx written 08/31/18. Rx(7040542) will be Renewed.

Matched Renewable Rx:

Drug: Enalapril Maleate 5MG Oral Tablet	
Quantity: 90	Units: tablet
Days Supplied: 90	Refills: 3
Dispense As Written: N	
Sig: daily - once daily	
Diagnosis: I10	
Pharmacy Notes: Maximum Refills Reached	

Pharmacy: GENOA HEALTHCARE - Providence    Issue Method: Electronic  
530 N MAIN ST    Printer: No Printer Selected  
PROVIDENCE, RI 02904

## AUTOMATIC 90 DAY REFILLS?

Your action is needed for medications you take regularly

- You need to choose how you will fill your prescriptions
- For most medications, 90-day refills cost less

Make a choice and take action today:

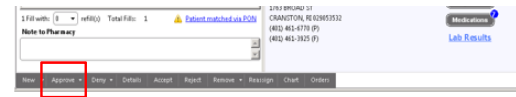
1. Get a new 90-day prescription by calling or visiting your CVS Pharmacy. 90-day supplies typically cost less than 30-day supplies.
- OR
2. Opt out and continue filling in 30-day supplies by calling Customer Care.

So, I have to actively opt-out or the computer will automatically change things to 90 days?

### AUTOMATIC 90 DAY REFILLS?

- "Patient Requests 90 Day Supply" and your software allows the change with a click
- Sounds great at first...

*"The DANGER is that it does NOT update the EHR Medication module with this new prescription we just approved. This is a Surescripts function- it can add the #90 Rx, but it cannot cancel the prior #30 Rx. This is EXTREMELY dangerous."*



### RANGE DOSING?

Sunshine, Little Mary (testy test test) 01/01/1920 99y F

Weight: 120lbs 0oz (54.43kg)  
Taken: 02/12/2018 [New Weight](#)

Drug: Ibuprofen 400 MG Oral Tablet

Diagnosis: I85.01 - Esophageal varices with bleeding

Sig: q4-6h - 1 every 4 - 6 hours as needed [Dose Calculator](#)

Quantity: 0 Units: tablet

Days: 10Q Refills: 2  PRN  DAW

Pat. Instruct.: 1 every 4 - 6 hours as needed

Pharm. Notes:

### RANGE DOSING?

#### A Recipe for Errors

- When the prescriber says "q4-6 hours PRN" ...
- What happens if the quantity is #100?
- What is the minimum number of pills the patient would need for 1 month?
- If the quantity isn't changed, how many days would #100 last?
- How might a computer interpret that eRx?

FROM	CREATED	DUE	PRIORITY	RELATED PROVIDER
System	07/29/19	07/29/19	High	Andrew Saal MD

RX REQUEST

IBUPROFEN 400MG TAB

Authorize Rx: Request Type: EDI Request Priority: Routine

Provider: Andrew Saal MD

Drug: IBUPROFEN 400MG TAB

Quantity: 100 Units: tablet

Days Supplied: 30 Refills: 0 Dispense As Written: N

Sig: TAKE 1 TABLET BY MOUTH EVERY 4 TO 6 HOURS AS NEEDED FOR PAIN

Diagnosis:

Pharmacy Notes: Maximum Refills Reached

Request Date: 07/29/19 Comments: Created by System on 07/29/19 - 09:12 am: TAKE 1 TABLET BY MO

Request was matched to a renewable Rx written 07/28/19. Rx(9024348) will be Renewed.

Matched Renewable Rx

Drug: Ibuprofen 400MG Oral Tablet

Quantity: 100 Units: tablet

Days Supplied: 30 Refills: 5 Dispense As Written: N

Sig: q4-6h - 1 every 4 - 6 hours as needed

Pat. Instruct.: 1 every 4-6 hours as needed for pain

Diagnosis:

Pharmacy Notes:

### ERROR TYPES

- Refill Request Crashes
- Units

Ever asked a doc how much triamcinolone a person would need to treat something twice a day for month?

"Uh... 30 grams?"

"1 medium tube, about so big..."

"Something about the size as a tube of toothpaste?"

### ERROR TYPES

- Refill Request Crashes
- Units

8 Ounces or 120 mL?

1 bottle of Miralax?

1 grain of aspirin?

1 large bottle of Lubriderm?

1 MDI Inhaler vs. 18 grams?



RX REQUEST

**POLYETHYLENE GLYC 3350 NF POW**

<b>Authorize Rx</b>	Request Type: EDI	Request Priority: Routine
Provider: Judith A. Nudelman MD	Drug: POLYETHYLENE GLYC 3350 NF POW	
Quantity: 510	Units: gram	
Days Supplied: 30	Refills: 0	Dispense As Written: N
Patient Instructions: DISSOLVE 17GRAMS IN 8OZ OF LIQUID AND DRINK DAILY AS NEEDED		
Diagnosis: R10.30		
Pharmacy Notes: Maximum Refills Reached		
Request Date: 08/06/19 Comments: Created by System on 08/06/19 - 01:02 pm: DISSOL		

Request was matched to a renewable Rx written 01/10/19. Rx(7753212) will be Renewed.

**Matched Renewable Rx**

Drug: MiraLax Oral Packet	Quantity: 30	Units: packet
Days Supplied: 30	Refills: 6	Dispense As Written: N



RX REQUEST

**ALBUTEROL HFA (VENTOLIN) INH**

<b>Authorize Rx</b>	Request Type: EDI	Request Priority: Routine
Provider: Andrew Saal MD	Drug: ALBUTEROL HFA (VENTOLIN) INH	
Quantity: 18	Units: inhaler	
Days Supplied: 30	Refills: 1	Dispense As Written: N
Patient Instructions: INHALE 2 PUFFS EVERY 4 HOURS ONLY IF NEEDED. USE SPACER		
Diagnosis: J45.909		
Pharmacy Notes:		
Request Date: 07/30/19 Comments: Created by System on 07/30/19 - 07:04 am: INHALE 2 PUFFS		

Request was matched to a renewable Rx written 02/13/19. Rx(7972586) will be Renewed.

**Matched Renewable Rx**

Drug: ProAir HFA 108 (90 Base)MCG/ACT Inhalation Aerosol Solution	Quantity: 1	Units: inhaler
Days Supplied: 30	Refills: 3	Dispense As Written: N
Sig: 2pu - 2 puffs Q4-6H PRN		
Patient Instructions: 2 puffs Q4-6H PRN		
Diagnosis: J45.909		
Pharmacy Notes:		

**MISMATCHED UNITS**

- Data Governance
  - Is everyone using the same set of rules?

1 Inhaler, please

Change Health

What's an "Inhaler"?

Pharmacy Computer

**MISMATCHED UNITS**

- Data Governance
  - Why isn't everyone using the same set of rules?



## MISMATCHED UNITS

- Data Governance
  - Is everyone using the same definitions?

### CMS proposed rule updates e-prescribing standards to reduce provider burden

by Heather Lands | Jun 19, 2019 10:15am

The proposed rule would implement new prior authorization transaction standards for the Part D e-prescribing program beginning in January 2021. If finalized, all Medicare Part D plans would be required to support electronic prior authorization transaction standards that were developed by the National Council for Prescription Drug Plans (NCPDP).

- Retirement of NCPDP SCRIPT Version 5.0 in favor of the upgraded NCPDP SCRIPT Version 8.1.

## WHERE ARE MY REFILLS?

FROM: System | CREATED: 08/12/19 | DATE: 08/12/19 | PRIORITY: (high) | RELATED PROVIDER: Judith A. Nudelman MD

RX REQUEST: ASPIRIN 81MG EC LOW DOSE TABLETS

**Authorize Rx** | Request Type: EDI | Request Priority: Routine

Provider: Judith A. Nudelman MD  
 Drug: ASPIRIN 81MG EC LOW DOSE TABLETS  
 Quantity: 90 Units: tablet  
 Days Supplied: 90 Refills: 0 Dispense As Written: N  
 Sig:  
 Patient Instructions: TAKE 1 TABLET BY MOUTH EVERY DAY  
 Diagnosis:  
 Pharmacy Notes:  
 Request Date: 08/12/19 Comments: Created by System on 08/12/19 - 06:12 am: TAKE 1 TABLET BY MOUTH EVERY

Request was matched to a renewable Rx written 03/21/19. Rx(0206350) will be Renewed.

**Matched Renewable Rx:**

Drug: Aspirin 81MG Oral Tablet Delayed Release  
 Quantity: 90 Units: tablet  
 Days Supplied: 90 Refills: 3 Dispense As Written: N  
 Sig: daily - once daily  
 Patient Instructions: once daily

Pharmacy: Walgreens Drug Store 03468  
 100 BHOAD ST  
 PAWUCKETT, RI 02860-2024  
 (401) 724-6724

FROM: System | CREATED: 08/02/19 | DATE: 08/02/19 | PRIORITY: (high) | RELATED PROVIDER: Judith A. Nudelman MD

RX REQUEST: ASPIRIN 81MG EC TAB

**Authorize Rx** | Request Type: EDI | Request Priority: Routine

Provider: Judith A. Nudelman MD  
 Drug: ASPIRIN 81MG EC TAB  
 Quantity: 28 Units: tablet  
 Days Supplied: 28 Refills: 0 Dispense As Written: N  
 Sig:  
 Patient Instructions: TAKE 1 TABLET BY MOUTH DAILY  
 Diagnosis: I72.9  
 Pharmacy Notes: Maximum Refills Reached  
 Request Date: 08/01/19 Comments: Created by System on 08/02/19 - 06:20 am: TAKE 1 TABLET BY MOUTH DAILY

Request was matched to a renewable Rx written 07/23/19. Rx(0032607) will be Renewed.

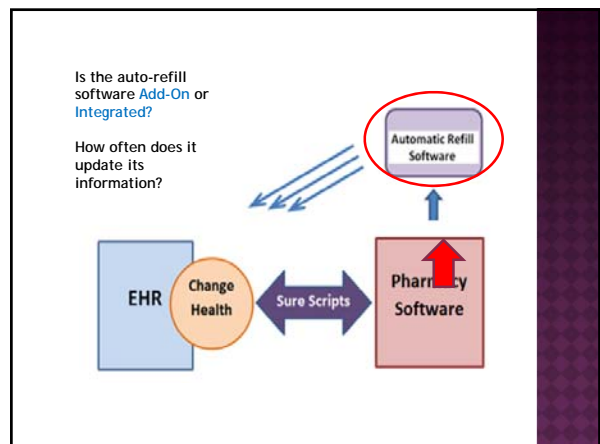
**Matched Renewable Rx:**

Drug: Adult Aspirin Hologram 81MG Oral Tablet Delayed Release  
 Quantity: 28 Units: tablet  
 Days Supplied: 28 Refills: 11 Dispense As Written: N  
 Sig: qd - once a day  
 Patient Instructions: once a day  
 Diagnosis: I72.9

Pharmacy: GENOA HEALTHCARE - Providence  
 530 N MAIN ST  
 PROVIDENCE, RI 02904  
 (401) 276-6370

## BUT WAIT, THERE'S MORE!

Some of our business colleagues have started using some new software...



### AUTO-REFILL SOFTWARE

- Time lag to update
  - Wait, I filled this already. Why are they still sending more refill requests?
  - I was too busy to remember if I had already done the refill, so I did it again when they asked...

So what happens when the community pharmacist receives 3+ valid refills for the same medication within 48 hours?

### AUTO-REFILL SOFTWARE

!	1	Rx Request	09/17/19	OMEPRAZOLE 20MG CAPSULES
!	1	Rx Request	09/16/19	OMEPRAZOLE 20MG CAP
!	1	Rx Request	09/16/19	OMEPRAZOLE 20MG CAP

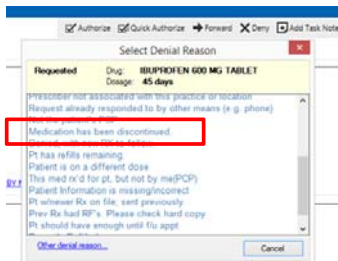
*No, really. I stopped the Prilosec after they got out of the ICU.*

	2	Rx Request	09/12/19	Gabapentin 300 MG CAPS
!	1	Rx Request	09/11/19	GABAPENTIN 400MG CAP
!	1	Rx Request	09/12/19	GABAPENTIN 400MG CAP
	2	Rx Request	09/11/19	Gabapentin 400 MG CAPS

*Now, how did they end up on two different doses of gabapentin?*

### AUTO-REFILL SOFTWARE

- But I've already discontinued that medication...



And notified the pharmacy through the EHR

### AUTO-REFILL SOFTWARE

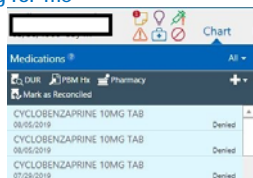
Tasks -  
All Tasks (include monitored)

Pri	Type	Due Date	To Us	Description
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
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2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed
2	Rx Cancel Notify	08/02/19	adevkota	Rx Cancel Failed

Well, some pharmacies are listening...

### AUTO-REFILL SOFTWARE

- But I've already discontinued that medication
- And told the pharmacy to discontinue it...
- Three times...
- But the auto-refill requests kept coming in...
- Until one of my colleagues refilled it while covering for me



Wait a second...  
Did my patient really request that refill?

## AUTO-REFILL SOFTWARE

◦ *Did my patient really request that refill?*

Patient Instructions: **TAKE 1 TABLET BY MOUTH EVERY 8 HOURS**  
 Diagnosis: **M54.5**  
 Pharmacy Notes: **Maximum Refills Reached**  
 Request Date: **08/01/19** Comments: **Created by System on 08/02/19 - 07:44 am: TAKE 1 TABLET**

**Created by System**

The best of intentions... with a marketing plan

## AUTO-REFILL SOFTWARE

◦ **A two-edged sword**

- Good idea for diabetes and blood pressure meds...
- But muscle relaxers?
- Cold medicines?
- Ibuprofen 800mg?
- Permethrin?
- Albuterol inhalers?
- PRN Medications for the elderly?

Who decides which drugs are eligible for auto-refills?

## AUTO-REFILL SOFTWARE

RX REQUEST  
LORATADINE 10 MG TABLET

Authorize Rx	Request Type: EDI	Request Priority: Routine
Provider: <b>Andrew Saal MD</b>	Drug: <b>LORATADINE 10 MG TABLET</b>	
Quantity: <b>90</b> Units: <b>tablet</b>		
Days Supplied: <b>90</b> Refills: <b>3</b>	Dispense As Written: <b>N</b>	
Sig: <b>TAKE 1 TABLET BY MOUTH EVERY DAY</b>		
Diagnosis: <b>J45.909</b>		
Pharmacy Notes: <b>Maximum Refills Reached</b>		
Request Date: <b>09/26/19</b>	Comments: <b>Created by System on 09/26/19 - 04:18 am:</b>	

Claritin Forever!

## AUTO-REFILL SOFTWARE

07/28/40 79y F System 07/31/19 07/31/19 ■■ (high) Judith A. Nu

RX REQUEST  
FLUTICASONONE 50MCG SPR

Authorize Rx	Request Type: EDI	Request Priority: Routine
Provider: <b>Judith A. Nudelman MD</b>	Drug: <b>FLUTICASONONE 50MCG SPR</b>	
Quantity: <b>16</b> Units: <b>gram</b>		
Days Supplied: <b>30</b> Refills: <b>0</b>	Dispense As Written: <b>N</b>	
Sig: <b>USE 2 SPRAYS IN EACH NOSTRIL DAILY</b>		
Diagnosis: <b>J45.909</b>		
Pharmacy Notes: <b>Maximum Refills Reached</b>		
Request Date: <b>07/31/19</b>	Comments: <b>Created by System on 07/31/19 - 01:05 pm:</b>	

Flonase Forever!

## AUTO-REFILL SOFTWARE

RX REQUEST  
NICOTINE TD 14MG/24H DIS

Authorize Rx	Request Type: EDI	Request Priority: Routine
Provider: <b>Andrew Saal MD</b>	Drug: <b>NICOTINE TD 14MG/24H DIS</b>	
Quantity: <b>28</b> Units: <b>each</b>		
Days Supplied: <b>28</b> Refills: <b>0</b>	Dispense As Written: <b>N</b>	
Sig: <b>APPLY 1 PATCH DAILY</b>		
Diagnosis: <b>E11.65</b>		
Pharmacy Notes: <b>Maximum Refills Reached</b>		
Request Date: <b>08/07/19</b>	Comments: <b>Created by System on 08/07/19 -</b>	

Nicotine patches forever!

## AUTO-REFILL SOFTWARE

RX REQUEST  
ACCU-CHEK GUIDE MONITOR SYSTEM

Authorize Rx	Request Type: EDI	Request Priority: Routine
Provider: <b>Judith A. Nudelman MD</b>	Drug: <b>ACCU-CHEK GUIDE MONITOR SYSTEM</b>	
Quantity: <b>1</b> Units: <b>not specified</b>		
Days Supplied: <b>365</b> Refills: <b>0</b>	Dispense As Written: <b>N</b>	
Sig: <b>TEST CUATRO VECES AL DIA</b>		
Diagnosis: <b>E11.65</b>		
Pharmacy Notes: <b>Maximum Refills Reached</b>		
Request Date: <b>08/02/19</b>	Comments: <b>Created by System on 08/02/19 - 10:46 am: TEST CUATRO VECES AL DIA</b>	

Request was matched to a renewable Rx written 06/23/18. Rx(6729511) will be Renewed.

Matched Renewable Rx:		
Drug: <b>Accu-Chek Aviva Plus w/Device Kit</b>		
Quantity: <b>1</b> Units: <b>kit</b>		
Days Supplied: <b>30</b> Refills: <b>0</b>	Dispense As Written: <b>N</b>	
Sig: <b>qid - four times a day</b>		
Patient Instructions: <b>four times a day</b>		

A new glucometer every year!



### AUTO-REFILL SOFTWARE

RX REQUEST  
IBUPROFEN 800MG TABLETS

<b>Authorize Rx</b>	Request Type: EDI	Request Priority: Routine
Provider:	Andrew Saal MD	
Drug:	IBUPROFEN 800MG TABLETS	
Quantity:	90	Units: tablet
Days Supplied:	30	Refills: 0
		Dispense As Written: N
Sig:		
Patient Instructions:	TAKE 1 TABLET BY MOUTH EVERY 8 HOURS WITH FO	
Diagnosis:		
Pharmacy Notes:		
Request Date:	07/30/19	Comments: Created by System on 07/30/19 -

*Ibuprofen 800mg forever?  
But the patient said their back injury was healed...*

### AUTO-REFILL SOFTWARE

RX REQUEST  
BANOPHEN 50 MG CAPSULE

<b>Authorize Rx</b>	Request Type: EDI	Request Priority: Routine
Provider:	Andrew Saal MD	
Drug:	BANOPHEN 50 MG CAPSULE	
Quantity:	30	Units: capsule
Days Supplied:	30	Refills: 0
		Dispense As Written: N
Sig:		
Patient Instructions:	TAKE 1 CAPSULE BY MOUTH EVERYDAY AT BEDTIME	
Diagnosis:		
Pharmacy Notes:		
Request Date:	10/04/19	Comments: Created by System on 10/05/19 - 03:26 am.

*50mg Diphenhydramine for an elder? Even though I've discontinued it twice already?*

### AUTO-REFILL SOFTWARE

<b>Patient Name:</b>	[REDACTED]
<b>Member ID:</b>	0152545591
<b>Date of Birth:</b>	August 15, 1949
<b>Potential Clinical Concern(s)</b>	

Drug Age: Hydroxyzine >= 65 year-old  
Hydroxyzine is not recommended in the elderly due to anticholinergic adverse events (sedation, dizziness, blurred vision) to which patients 65 years of age and older are more susceptible. Please avoid use in this population.  
1. American Geriatrics Society 2019 Updated AGS Beers Criteria\* for Potentially Inappropriate Medication Use in Older Adults. J Am Geriatr Soc. 00(00):1-21, 2019.

*While sending out an alert about the BEERS criteria in the name of patient safety?*

### AUTO-REFILL SOFTWARE

RX REQUEST  
ALBUTEROL SULFATE HFA 90MCG

<b>Authorize Rx</b>	Request Type: EDI	Request Priority: Routine
Provider:	Judith A. Nudelman MD	
Drug:	ALBUTEROL SULFATE HFA 90MCG	
Quantity:	18	Units: gram
Days Supplied:	17	Refills: 0
		Dispense As Written: N
Sig:		
Patient Instructions:	INHALE 1 PUFF BY MOUTH EVERY 4 TO 6 HOURS AS NEEDED	
Diagnosis:		
Pharmacy Notes:	Maximum Refills Reached	
Request Date:	07/30/19	Comments: Created by System on 07/30/19 - 12:02 pm.

*Albuterol forever?  
But they were a little wheezy during bronchitis*

### AUTO-REFILL SOFTWARE

<b>Member ID:</b>	01662032500
<b>Date of Birth:</b>	July 23, 1985
<b>Potential Clinical Concern(s)</b>	

Gap in Care: Persistent asthma with a controller ratio < 0.5  
Our records indicate that your patient has persistent asthma and has an asthma medication ratio of less than 0.5, defined as the ratio of the number of long-term control medications (LTCMs) to the number of LTCM plus short-acting beta-agonist (SABA) medications during the six-month review period. Thus, the identified patient may potentially have inadequate asthma control. Both the National Institutes of Health and the Global Initiative for Asthma recommend the daily use of LTCM, particularly inhaled corticosteroids, to achieve and maintain control of persistent asthma. Quick-relief medications such as SABAs are used on an as-needed basis to relieve acute symptoms and prevent exercise-induced bronchospasms only. If clinically appropriate, please consider adjusting the long-term control medication for the identified patient.

*While sending out an alert because there isn't an asthma controller agent to offset all the albuterol?*

### AUTO-REFILL SOFTWARE

*Did the patient really agree? Can they turn it off?*

### AUTO-REFILL SOFTWARE



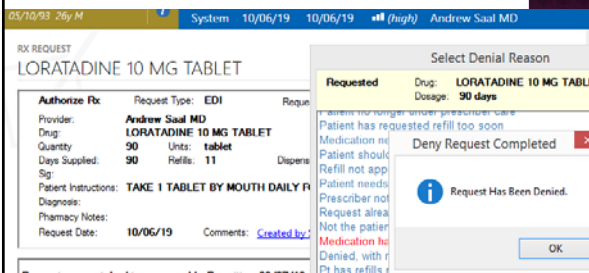
Did someone say "patient safety issue?"

### ACCOUNTABLE CARE



Who's running the care plan?

### INFORMATICS 101



Doing the right thing for patient safety...  
Should never require more clicks

### SO WHAT'S HAPPENING IN RI?



We're All in This Together!



### NEXT STEPS

