

E-PRESCRIBING PITFALLS

December 13, 2019

Lillian Nieves, PharmD
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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?

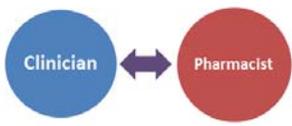
- Patient Safety
- Clinician Sanity
- Evidence-Based Medicine
- Total Cost of Care

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?

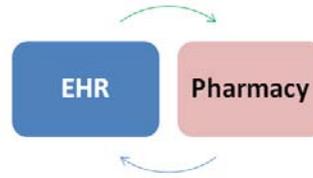
A MOMENT OF REFLECTION

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: 20 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

Authorize Rx	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

Authorize Rx	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

What's an "Inhaler"?

MISMATCHED UNITS

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

NCPDP STANDARDS
We create and promote standards for the electronic exchange of healthcare information related to pharmacy services.

National Council for Prescription Drug Programs

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(8206350) 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:
 Patient Instructions: daily - once daily
 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(9032607) will be Renewed.

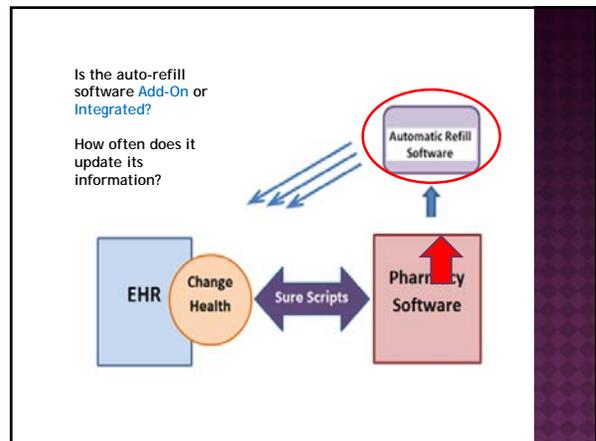
Matched Renewable Rx:

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

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

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

Flonase Forever!

AUTO-REFILL SOFTWARE

RX REQUEST
NICOTINE TD 14MG/24H DIS

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

Nicotine patches forever!

AUTO-REFILL SOFTWARE

RX REQUEST
ACCU-CHEK GUIDE MONITOR SYSTEM

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

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

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

A new glucometer every year!

AUTO-REFILL SOFTWARE

RX REQUEST
IBUPROFEN 800MG TABLETS

Authorize Rx	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:	TAKE 1 TABLET BY MOUTH EVERY 8 HOURS WITH FO	
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

Authorize Rx	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:	TAKE 1 CAPSULE BY MOUTH EVERYDAY AT BEDTIME	
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

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

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

AUTO-REFILL SOFTWARE

RX REQUEST
ALBUTEROL SULFATE HFA 90MCG

Authorize Rx	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:	INHALE 1 PUFF BY MOUTH EVERY 4 TO 6 HOURS AS NEEDED	
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

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

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



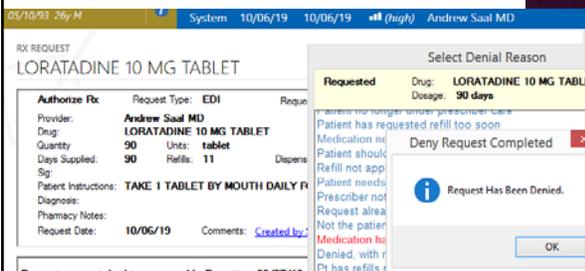
Did someone say "patient safety issue?"

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

