



From the Office of Clinical Informatics  
**Northern Light Health**  
**Embedded Refills**  
**Flash Flyer**

---

Tuesday, June 27, 2023

---

## Table of Contents

**Frequently Asked Questions** ..... 1

    What is Embedded Refills Management and how does it work?..... 1

    Where is all this information in the refill message/order?..... 2

    What Triggers Embedded Refills?..... 3

    Why am I seeing these recommendations and warnings? ..... 4

    Why doesn't the message appear in the MPage? ..... 7

    Why did Embedded Refills miss/not find a result in the patient's chart?..... 7

---

### Frequently Asked Questions

#### **What is Embedded Refills Management and how does it work?**

**Embedded Refill Management** is a rules-based optimization solution that automates the approval process for defined prescription renewal requests. Once an order has been proposed in Cerner Millennium, the electronic health record will send relevant data to Embedded Refills. Embedded Refills then evaluates the patient and request data against the applicable medication protocol to recommend an action on the request.

- Embedded Refills are managed by the **Centralized Refill** team.
  - Central group of Refill Specialists who have taken over management of primary care medication refill pools in Message Center
  - Service provided by NL Pharmacy staff, contracted with each primary care practice.
  - For more information regarding this service: visit policy [here](#).
- All **refill protocols and workflows** have been reviewed and adjusted by clinical and operational leaders within Northern Light Health. These are then approved by the **Refill/PA Oversight Group**.
  - The Refill/PA Oversight Group: collection of primary care providers, pharmacists, practice managers and other clinical staff with the goal for primary care to use a single standardized medication refill protocol. The protocol is used by Embedded Refills to provide clinical suggestion on refill action.
  - Review existing medication refill protocol frequently for up-to-date best practices.

## Embedded Refills Flash

- The protocols aim to address the **most commonly prescribed medications** and support **standardized monitoring** and workflows across the system.
- Embedded Refill Management reduces the time needed to “manually scrub” patients’ charts to determine whether the patient meets refill protocol criteria. It automatically reviews Last Office Visit, Next Office Visit, related Lab Results, and other details to quickly determine if refill is appropriate.
- Centralized Refill team members use an Auto Text, **/Healthfinch**, to insert the relevant information into the order/message before sending it the provider.
  - If the protocol criteria are not met, the team member inputs that data into a message proposal to provider.
  - If all protocol criteria are met, the team member sends the order to the patient’s pharmacy.
    - These orders are active immediately and are sent to the provider’s Message Center Inbox for co-signature.
    - Communication Type: Patient Care Protocol, Cosign Required

### Where is all this information in the refill message/order?

- The embedded refill message is full of key details and is structured in a standard format which allows for easy review by staff – much faster than manual chart review and scrubbing!

#### ➤ Part A: Medication Details

- Requested medication name, strength, and route.
- Requested medication signature.
- Last ordered information from the patient’s medication list (provider, date, sig).

#### ➤ Part B: Embedded Refills Recommendations

- Any **warnings** or **manual review messages** appear in red text with an X to alert staff to errors or key decision support text.

Healthfinch Refills

Total Qualifying Requests: 1

In Protocol (1)

amLODIPine 5 mg oral tablet  
Cardiovascular: CCB & Alpha Blockers 1  
Requested Sig: TAKE ONE TABLET BY MOUTH ONCE DAILY  
Last ordered by Regina BLAUVELT FNP: 06/27/2022 QTY: 90, Refills: 3, Sig: 1 tab, po, daily (changed but equivalent)  
-> Refill x 12 months, qty: 90, refills: 3- RATIONALE: This refill should last until the patient is due for an office visit check, DBP check, Heart Rate check and SBP check

Protocol Elements

Last visit:	visit in NL Internal Medicine Bangor with BLAUVELT FNP, REGINA A
Next visit:	visit in NL Internal Medicine Bangor with BLAUVELT FNP, REGINA A
SBP	124mm Hg
DBP	77mm Hg
Heart Rate	86bpm

Health Catalyst Embedded Refills, Reference: 12852518755, 06/18/2023 5:36:43 PM EDT

Healthfinch Refills

Total Qualifying Requests: 1

Non-Active Medication (1)

Request 1 of 1  
escitalopram 10 mg oral tablet  
Psychiatry: Antidepressants - SSRI, TCAs, Serotonin Modulators & SNeRIs  
Requested Sig: TAKE 1 TABLET BY MOUTH DAILY  
Last ordered by James URBINA MD: 06/08/2022 QTY: 90, Refills: 3, Sig: 1 tab, po, daily (changed but equivalent)

X - The requested medication expired on 06/03/2023.  
-> Refill x 12 months, qty: 90, refills: 3- RATIONALE: This refill should last until the patient is due for an office visit

Protocol Elements

Last visit:	visit in NL Internal Medicine Bangor with URBINA MD, JAMES H
Next visit:	visit in NL Internal Medicine Bangor with URBINA MD, JAMES H

Health Catalyst Embedded Refills, Reference: 751163225764, 06/18/2023 4:17:51 AM EDT

- If the patient meets all protocol requirements, a **recommended refill duration** will appear in green font based on when the patient is next due for an office visit or lab per the protocol.

➤ **Part C: Protocol Elements**

- Lists the last qualifying office visit and any future qualifying visits found in the patient's chart.
- Outlines the most recent results for protocol requirements (e.g., vitals, lab tests, procedures). If no results are found within the chart, the message will display **None** or **None Found**.

lisinopril 20 mg oral tablet

- Cardiovascular: ACEIs, ARBs & Renin Inhibitors
- Requested Sig: 1 TAB, PO, Daily
- Last ordered by AMY M KUHL DO: 07/10/2022 QTY: 90, Refills: 3, Sig: 1 tab, po, daily (unchanged)
- X - A qualifying visit was not found within the last 2 years of the patient record.
- X - CrCl and K are overdue (performed 23 months ago, required every 12 months)

**Protocol Elements**

Last visit:		None
Next visit:	visit in NL Primary Care	
	Concourse West Waterville with	09/22/2023
	KUHL DO, AMY M	
SBP	122mm Hg	09/21/2022
DBP	82mm Hg	09/21/2022
K	4.2mEq/L	08/31/2021
CrCl	128	08/31/2021

Health Catalyst Embedded Refills, Reference: 587713075869, 07/17/2023 12:14:20 PM EDT

➤ **Part D: Reference Number**

- Ever need help troubleshooting a message? Send the reference number (see highlight below) and patients MRN via link found [here](#). This link will create a ticket that is reviewed by Refill/PA Oversight Group.

Healthfinch Refills

Total Qualifying Requests: 1

**Non-Active Medication (1)**

Request 1 of 1

escitalopram 10 mg oral tablet

Psychiatry: Antidepressants - SSRI, TCAs, Serotonin Modulators & SNeRIs

Requested Sig: TAKE 1 TABLET BY MOUTH DAILY

Last ordered by James URBINA MD: 06/08/2022 QTY: 90, Refills: 3, Sig: 1 tab, po, daily (changed but equivalent)

X - The requested medication expired on 06/03/2023.

-> Refill x 12 months, qty: 90, refills: 3- RATIONALE: This refill should last until the patient is due for an office visit.

**Protocol Elements**

Last visit:	visit in NL Internal Medicine Bangor with URBINA MD, JAMES H	03/24/2023
Next visit:	visit in NL Internal Medicine Bangor with URBINA MD, JAMES H	03/28/2024

Health Catalyst Embedded Refills, Reference: 751163225764, 06/18/2023 4:17:51 AM EDT

**What Triggers Embedded Refills?**

- Renewal requests that enter Cerner directly from any pharmacy will be picked up by Embedded Refills automatically within 3-5 minutes of the request entering the system.
- Renewal requests that are not interfaced require manual behind-the-screens processes performed by the Centralized Refill Team.

## Embedded Refills Flash

### Why am I seeing these recommendations and warnings?

Message Category	
<p align="center"><b>In Protocol</b></p> <p align="center">All protocol requirements are met or the patient is eligible for a courtesy refill, request may be renewed.</p>	
Refill Recommendation	Why you see this recommendation
- REFILL: X months until patient is due for X	The patient has met all protocol requirements and is eligible for a refill until they are due for an office visit or monitoring, whatever is due first
-REFILL: 3 months (This is a courtesy refill. Patient is overdue for X.) -RATIONALE: This is a courtesy refill. Patient is overdue for X. This will be the last refill authorized.	The patient is overdue for protocol requirements but they are within the grace period and are eligible for a courtesy refill. The Centralized Refill Team will determine if the patient should have a 30-day or 90-day supply.
<p align="center"><b>Out of Protocol</b></p> <p align="center">Protocol is not met (beyond grace period overdue office visits, abnormal/overdue labs, procedures and/or vital signs)</p>	
Refill Warning	Why you see this warning
A qualifying visit was not found within the last 1 year of the patient record.	The patient has not had an office visit that meets the criteria outlined in Embedded Refills within the last 1 year.
An office visit is overdue (performed X months ago, required every X months)	The patient has not had an office visit that meets the criteria outlined in Embedded Refills within the required timeframe for the medication that is requested for renewal.
A courtesy refill was already recommended on [date]	Embedded Refills has already recommended the patient receive a courtesy refill on a previous request and the patient is still overdue for required protocol elements.
[Lab, Procedure or Vital Sign] was not found within the last 5 years of the patient record.	The patient has not had required monitoring within the last 5 years.
[Lab/Procedure] is overdue (performed over X months ago, required every X months)	The patient has not had monitoring within the required timeframe for the medication that is requested for renewal.
[Lab/Vital Sign] abnormal (X lies outside X)	The patient has results that are outside the normal definitions built into Embedded Refills
Pregnancy status: Positive	The patient has an active pregnancy problem on their problem list.
Smoking status: Positive	The patient has a reported to be a tobacco user.

Refill Recommendation	Why you see this recommendation
-REFILL: X months until patient is due for X (if violations resolved)	There are items that have flagged or failed the protocol. If flagged or failed items can be reconciled, a refill duration is provided.
<b>Off Protocol</b> The requested medication does not fall under a defined protocol or cannot be addressed by the delegate (non-provider)	
Refill Warning	Why you see this warning
Medication cannot be delegated.	The requested medication is not assigned to protocol or is designated as a medication that can only be authorized by a provider.
<b>Duplicate</b> The requested medication is being requested too soon or the original request has not been addressed yet	
Refill Warning	Why you see this warning
A duplicate request was processed on [date]	The medication has already been requested (within the last 7 days for non-scheduled meds or within the last 3 days for scheduled medications) but has not been addressed yet.
The patient is requesting refills too soon, the current prescription is due to run out on [date]	The patient should have at least 45 days of medication remaining on their last order.
The patient should have outstanding refills for this medication until [date]	There should be refills on file at the pharmacy. The date provided in the warning is the estimated date as to when the patient should have their last refill dispensed.
<b>Manual Review</b> The requested medication falls under a protocol with additional decision support (manual review message), the requested medication has been recently ordered or there are elements of the chart that Embedded Refills cannot evaluate without support from a clinician.	
Refill Warning	Why you see this warning
A duplicate request was processed on [date]	The medication requested has been recently ordered (within the last 7 days for non-scheduled meds or within the last 3 days for scheduled medications). This often happens if the patient was previously prescribed 30-day supplies but the pharmacy wants to dispense 90-day supplies or if the last order failed to reach the pharmacy.

## Embedded Refills Flash

Refill Warning	Why you see this warning
Manual review message configured on protocol	There are several protocols that have a manual review message that needs to be reviewed to determine if it should apply to the patient on the request. For example, if the manual review message is only applicable for patients 65+ years old but the patients is < 65, the manual review message does not need to be considered.
Unable to determine if patient is due for a renewal, please review.	Embedded Refills is unable to determine if the medication is being requested too soon based on the sig of the last order.
This medication could not be identified	The refill request does not contain enough information for the medication to be recognized by Embedded Refills.
The patient is requesting a renewal from a different pharmacy	The medication is being requested too soon but the request is coming from a different pharmacy than the last order was sent to.
The request contains a message from the pharmacy	The medication is being requested too soon but there is a message from the pharmacy on the request.
The requested sig has changed from the last order	The sig on the request does not match the sig on the last order perfectly. The sigs may be equivalent or they may be different. The chart must be reviewed to determine the appropriate sig.
<b>Request Discrepancy</b>	
The requested medication is on the active medication list but at a different strength/form or there are multiple orders for the same medication	
Refill Warning	Why you see this warning
The patient is taking a different strength and form [prescribed strength and form] as of [date]	The requested medication is active of the patient's medication list but at a different strength and form. The chart should be reviewed to determine the appropriate strength the patient is to be taking.
The requested medication appears on the patient's medication history at a different strength (X mg).	The requested medication is active of the patient's medication list but at a different strength. The chart should be reviewed to determine the appropriate strength the patient is to be taking.
The requested medication appears is active on the patient's medication history at more than one strength	There are multiple active strengths for the same medication on the patient's active medication list. The chart should be reviewed to determine the appropriate strength the patient is to be taking.
The requested medication cannot be matched or does not appear in the patient's medication history	The requested medication was either ordered > 18 months ago or the request is for a medication that does not appear on the active medication list at any strength or form.

Inactive Medication	
The requested medication is not active on the medication list. Most common inactive statuses seen discontinued or documented	
Refill Warning	Why you see this warning
The requested medication was discontinued on [DATE] by [USER].	The requested medication appears to have been discontinued. Review the chart to determine if the medication is to be continued.
The requested medication was previously set to Documented on [DATE] by [USER].	The requested medication appears to have been documented but not prescribed. Review the chart to determine if the medication is to be continued.
The requested medication was previously set to Completed on [DATE] by [USER].	The requested medication appears to have been completed. Review the chart to determine if the medication is to be continued.
Controlled Substance	
The requested medication is a controlled substance under federal regulations.	
Refill Warning	Why you see this warning
Medication cannot be delegated.	The requested medication is a controlled substance that may or may not be assigned to a medication protocol. The medication must be authorized by a provider.
Warfarin	
Applies to all prescription renewal requests for warfarin.	
Refill Warning	Why you see this warning
None	Warfarin requests have their own category as they often are addressed by a specialized anti-coag team. Process these requests as usual.

**Why doesn't the message appear in the MPage?**

- Embedded Refills are only triggered if the medication being requested was ordered by an active provider.

**Why did Embedded Refills miss/not find a result in the patient's chart?**

- Embedded Refills is unable to read scanned labs results; these need to be manually inputted by clinical staff for Embedded Refills to determine value.

**For questions regarding process and/or policies, please contact your unit's Clinical Educator or Clinical Informaticist. For any other questions please contact the Customer Support Center at:  
207-973-7728 or 1-888-827-7728.**

[Return to Table of Contents](#)