

Process Design Document / Solution Design Document

340B Qualification Analysis

Purpose of Document

This document serves as the technology policies and procedure for Intelligent Automation Hub at Geisinger

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1. Document Control

Applies to:	All IAH RPA Operating Model
Classification:	Highly Confidential
Owner:	Intelligent Automation Hub Team

DOCUMENT HISTORY

Version	Date	Author	Approver	Reasons for Change
1.0	10/19/2023			Initial Draft
1.1	4/15/24			Revision of Inputs and Exception Handling
1.2	9/5/24			Proposed Final Draft
1.3	10/23/24			Updating 340B Qualifying Criteria Logic

REVIEW/APPROVAL

Role	Name	Date
SME		
Process Owner		
Business Architect		
Developer		
IAH Director		

STAKEHOLDERS

Role	Name	Email
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Process Owner		
SME		
Business Architect		
IAH Director		
Developer		

2. Document Details

2.1 PURPOSE OF THIS DOCUMENT

The Process Design Document outlines the business process chosen for automation and the technology being utilized.

The document describes the sequence of actions performed as part of the business process, the conditions, and rules of the process prior to automation and how they are envisioned to work after automating it, partly or entirely. This specifications document serves as a base for developers, providing them with the details required for applying automation to the selected business process.

3. Current State Process Description

3.1 PROCESS SUMMARY

This automation will audit 340B-eligible prescriptions for Specialty Pharmacy in Epic Willow Ambulatory and apply an appropriate 340B flag based on qualification criteria.

3.2 DATA FLOW & APPLICATIONS

3.2.1 INPUT

Input	Format	Location	Is it natively digital?	Is it structured?
Epic WAMB Initial Review Queue	Digital / Epic WQ	Epic WAMB	Yes	Yes
IAH Bot 340B Qualification Analysis Report	Exported to Excel	Exported from Epic to a Network Folder	Yes	Yes

3.2.2 OUTPUT

Output	Format	Location	Frequency	Comment
Excel Output File	XLSX	Network Folder and Email to Business	After each run.	Email output daily summary

3.2.3 APPLICATIONS

Application	Version	Interface	Req Key / Operation / URL	Comment
Epic Hyperspace		Desktop Application	Username: IAHRXBQUAL	
Epic Willow Ambulatory		Desktop Application	Access to mimic Tamara Krupinski.	
Network Folders		DFS Folders	\\geisinger.edu\dfs\0004\0610\610165	Test and Prod
Excel		Desktop Application		Generation of output files.
Outlook		Desktop Application	Bots its own account	Distribution of output files.
SharePoint		Web Application	Pharmacy Ops Compliance 340B	

3.3 BUSINESS RULES

Rule	Detail
Automation Frequency	Epic List: 4am (prescriptions signed in Epic between 11pm previous day to 4am to be in this list). Willow Processing: 4am-9am. Epic List: 9am. (prescriptions signed in Epic between 4am to 9am to be in this list). Willow Processing: 9-11am. Epic List: 11am. (prescriptions signed in Epic between 9am to 11am to be in this list). Willow Processing: 11-1pm Epic List: 1pm. (prescriptions signed in Epic between 11am to 1pm to be in this list). Willow Processing: 1-3pm. Epic List: 3pm (prescriptions signed in Epic between 1pm to 3pm to be in this list). Willow Processing: 3-6pm. Epic: 6pm (prescriptions signed in Epic between 3pm to 6pm to be in this list). Willow Processing: 6pm-11pm Epic: 11pm (prescriptions signed in Epic between 6pm to 11pm to be in this list). Willow Processing: 11pm-4am.
Bot start time	4am
Patient unique field	MRN
Excluding weekends and holidays	No

SLAs	Each transaction to be handled by 24 hours of the signed date/time.
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3.4 CURRENT STATE METRICS

Avg. Daily Transactions	# Batches Daily	Avg. Volume / Batch	Weekly Avg. Volume	Frequency
120	1	120	840	Daily

3.5 CURRENT STATE PROCESS FLOW

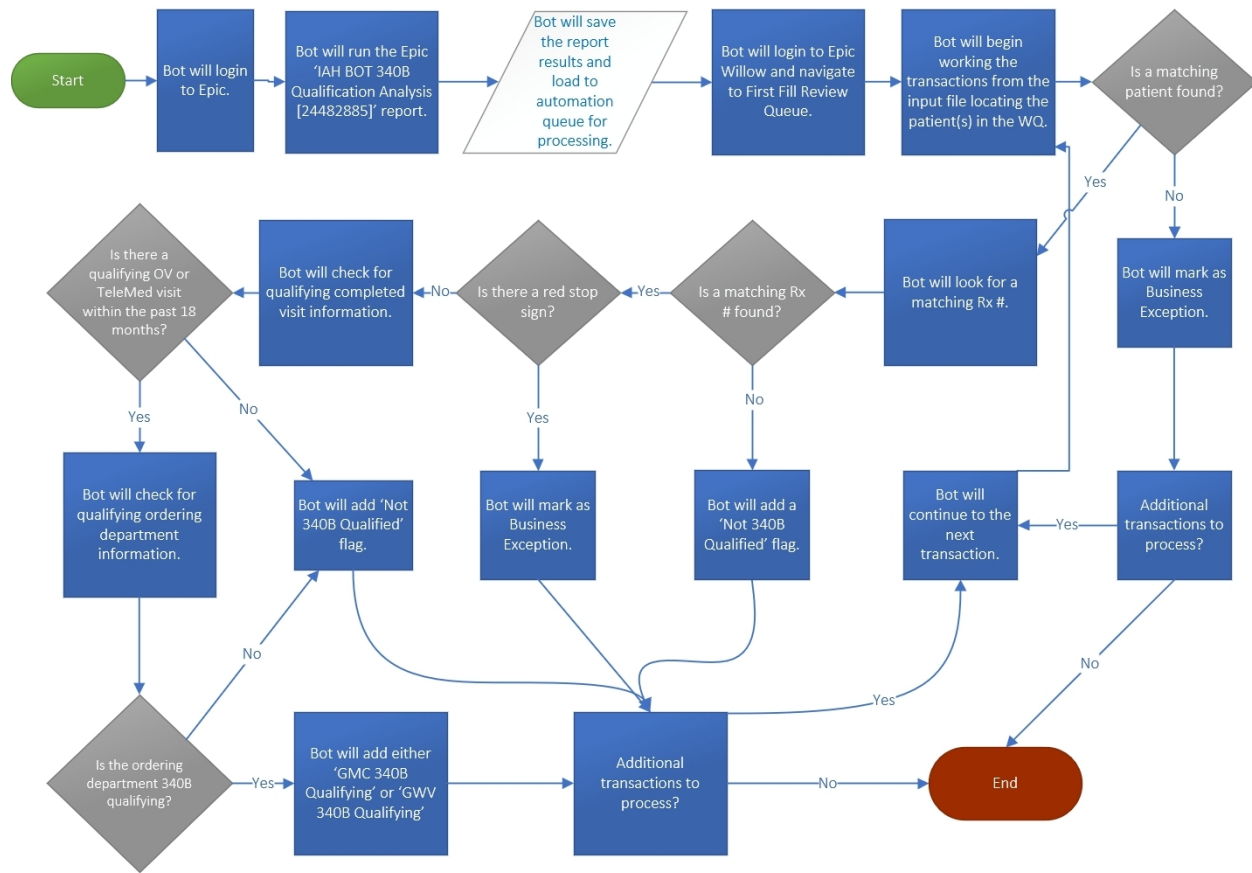
High Level Process Steps (Current state):

1. Pharmacy Technician launches Epic Willow > Initial Review queue.
2. Pharmacy Technician checks the qualifying department and completed visit.
3. Pharmacy Technician determines the 340B eligibility for each prescription.

4. Future State Process Description

4.1 FUTURE STATE PROCESS FLOW

Bot Automation Process & Workflow Diagram (Future State):



1. Bot will log in to Epic.
2. Bot will run the Epic 'IAH BOT 340B Qualification Analysis [24482885]' report.
 - a. Bot will save the report results and load the input file to the automation queue for processing.
3. Bot will log in to Epic Willow and go to the initial review queue.
4. Bot will find the patient matching and open the patient's chart.
 - a. If no matching patient found, bot will mark it as business exception.
5. Bot will look for the matching Rx #.
 - a. If no matching Rx #, bot will attempt to match by Rx name.
 - b. If unable to match will mark 'Not 340B Qualified'.
6. If there is a red stop sign in the chart, Bot will exit and mark it as business exception.
7. Bot will check for qualifying completed visit information.
 - a. If not qualified, will add the not qualified flag.
8. Bot will check for qualifying department information.
 - a. If department is not qualified, will add the not qualified flag.
9. Bot will add GMC or GWV 340B Qualified flag.
10. Bot will repeat the process and provide one (1) daily output file.

4.2 IN SCOPE FOR RPA

100% of current state process is in scope for RPA.

4.3 OUT OF SCOPE FOR RPA

The actions out of scope for RPA are listed in the table below together with the reasoning.

Activity/ Action	Reason for out of scope	Future State solution	Measures to be taken for future automation
N/A	N/A	N/A	N/A

4.4 FUTURE STATE DETAILED STEPS

Step	Short Description of Key Process Steps
1.	Bot will launch Epic Production.
2.	Bot will type its User ID.
3.	Bot will type its password.
4.	Bot will click 'Log In'.
5.	Bot will click in the 'Department' field.
6.	Bot will type '4011021' and press Enter on the keyboard OR click the magnifying glass to select 'Geisinger Specialty Pharmacy'.

7.	Bot will click 'Continue'.
8.	Bot will click on 'My Reports'.
9.	Bot will click in the 'Search for reporting content' field.
10.	Bot will type '24482885' and press Enter.
11.	Bot will click the star icon to favorite the "IAH BOT 340B Qualification Analysis" report. <i>Note: Once favorited, bot can click 'My Favorites' at the top of the left sidebar menu instead of manually searching for report each run.</i>
12.	Bot will click on the pencil icon.
13.	Bot will click the pencil icon to adjust the date/time parameters according to the lookback identified in the automation frequency schedule and illustrated in the adjacent table.
14.	Bot will click 'Run'.
15.	Non-Actionable Step: Report Information
16.	Bot will click the vertical ellipses near the upper right corner of the report window.
17.	Bot will click 'Export Results' from the drop-down menu.
18.	Bot will click 'Browse'.
19.	Bot will enter network path for project input folder.
20.	Bot will click 'Save'.

21.	Bot will create and enter a password in the File Password field that satisfies the displayed File Password Requirements.
22.	Bot will click in the 'Verify File Password' field and will reenter the file password created and entered in the previous step.
23.	Bot will enter/select an Export Reason of 'Other'.
24.	Bot will click in the 'Comment' field and type 'IAH BOT 340B Qual Analysis Results Automation Input'.
25.	Bot will click Accept.
26.	Bot will click on the Folder icon in the taskbar.
27.	Bot will navigate to the network folder housing the exported project input file.
28.	Bot will load input file to the automation queue for processing.
29.	Bot will return to active Epic Production session by clicking the Epic icon in the Windows taskbar.
30.	Bot will click 'X' to close the report.
31.	Bot will click 'Log Out'.
32.	Bot will launch Epic Willow Ambulatory.
33.	Bot will click in the 'User ID' field and type its User ID.
34.	Bot will click in the 'Password' field and type its password.
35.	Bot will click 'Log In'.

36.	Bot will click in the 'Department' field and type 4011021 and press Enter on the keyboard OR click the magnifying glass.
37.	Bot will confirm the department is "Geisinger Specialty Pharmacy" and click 'OK'.
38.	Bot will hover over the 'Initial Review' queue and click on the ellipsis "...".
39.	On the pop-up menu, the Bot will click 'Open by Default on login'. <i>Note: Bot will only need to do this once during its initial run.</i>
40.	Bot will again hover over 'Initial Review' and again click on the ellipses '...'.
41.	On the pop-up menu, the Bot will click on 'Add to favorites.' <i>Note: Bot will only need to do this once during its initial run.</i>
42.	Bot will click on the Initial Review queue.
43.	Bot will see a list of patients when the Initial Review queue opens.
44.	If the Bot sees the 'Load All' button at the bottom of the screen, it will click 'Load All'.
45.	If the Bot encounters this pop-up after clicking 'Load All', the bot will click 'Yes'. <i>Bot may need delay here to allow queue time to load (volume dependent).</i>
46.	Bot will begin working the patients from the input file. Bot will attempt to locate patients on the 'Initial Review' queue using Patient Name (<i>Last Name, First Name MI</i>), MRN , and DOB (MM/DD/YYYY). If there is no match found, bot will report this as business exception and move on to the next patient from the input file. Business Exception: Not in Initial Review queue

47.	If the Bot reaches a 100% patient match, using Patient Name, MRN, and DOB (MM/DD/YYYY), it will click once on the corresponding row.
48.	If there is a lock icon next to the selected patient, the Bot will report a business exception and move on to the next patient. Business Exception: Patient is Locked <i>Bot will place this patient at the bottom of the queue and make one retry attempt at the beginning of the subsequent run.</i>
49.	If there is no lock icon on the selected patient row, the Bot will click 'Open Patient'.
50.	No Action – Informational Step Only
51.	If there is no Rx #, the bot will attempt to match the Rx Name to the input file (Rx Name is 'Order Name' on input file). Three Scenarios Rx Name matches input Order Name – Red Stop Sign Present: Continue with Steps 52 → 53 Rx Name matches input Order Name – No Red Stop Sign: Steps 52, 54 → 59 Rx Name does NOT match input Order Name: Steps 60 → 61
52.	Rx# Missing – Rx Name Matches Input Order Name If Rx Name matches input, bot will click "Enter Rx".
53.	Rx# Missing – Rx Name Matches Input Order Name If there are any red stop signs, Bot will click on the 'X' to exit the chart, report a business exception, and move on to the next patient. Business Exception: Hard Stop in Willow <i>Bot will place this patient at the bottom of the queue and make one retry attempt at the beginning of the subsequent run.</i>
54.	Rx# Missing – Rx Name Matches Input Order Name

	If there are no red stop signs, the bot will click the down arrow to minimize the lower part of the screen.
55.	Rx# Missing – Rx Name Matches Input Order Name Bot will hover over or click in the 'Other Flag' field to get the magnifying glass to appear.
56.	Rx# Missing – Rx Name Matches Input Order Name Bot will click the magnifying glass, select the 'Not 340B Qualified' flag, and click 'OK'.
57.	Rx# Missing – Rx Name Matches Input Order Name Bot will click in the comments field and type "IAH".
58.	Rx# Missing – Rx Name Matches Input Order Name Bot will click 'Accept'.
59.	Bot will land back in the 'Initial Review' workqueue and continue working patients from the input file.
60.	Rx# Missing – Rx Name Does NOT Match If the Rx# is missing AND the Rx Name does not match the input file Order Name, Bot will click on the 'X' to exit the chart, report a <i>business exception</i> , and move on to the next patient. <i>Business Exception: Rx Match Not Found</i>
61.	Bot will land back in the 'Initial Review' workqueue and continue working patients from the input file.
62.	Rx# Present Bot will confirm the Rx# from the input file is a match to the Rx# listed next to the medication. <i>Note: There may be multiple medications listed under Work Requests.</i>

63.	If the Rx# is not a match, Bot will look for 'First Fill Review Needed' (additional tabs) and click on it.
64.	<i>If there IS NOT another tab</i>, Bot will click 'X' to exit the patient's chart and move on to the next patient from the input file. <i>Bot will place this patient at the bottom of the queue and make one retry attempt at the beginning of the subsequent run.</i>
65.	<i>If there IS another tab</i>, an additional 'First Fill Review Needed' tab, the Bot will look to match the RX# from the input file to the RX# under work requests. If a matching Rx# is found on an additional tab, continue to Step 66. If no matching Rx# found on the additional tab, Bot will repeat Step 64 (Click 'X' to exit the patient's chart and move on to the next patient from the input file. <i>Bot will place this patient at the bottom of the queue and make one retry attempt at the beginning of the subsequent run.</i>
66.	When a match is found, Bot will click on the medication name.
67.	If there are any red stop signs (e.g., Day Supply, NDC, etc.), the Bot will click on the X to exit the chart and report this patient as a <i>business exception</i> and move on to the next patient. <i>Business Exception: Hard Stop in Willow</i> <i>Bot will place this patient at the bottom of the queue and make one retry attempt at the beginning of the subsequent run.</i>
68.	If there are no red stop signs, the Bot will then audit the EMR for a qualifying completed visit.
69.	Bot will click on 'Chart Review'. Bot will look for a completed office visit or telemedicine visit within the last 18 months.

	Per update from business on 10/2/24, there must be an encounter with A qualifying department out of the same entity from the input file, but the qualifying department doesn't necessarily have to be a 1:1 match. <i>Note: Existing 340B processes use groupers table added to DB in 340B database loader with the files pulling from Bot Audit Resources SP subfolder. Can be repurposed. It appears 'CheckEncounters' workflow has most of the logic. Leveraging existing 340B processes may negate need for standalone crosswalk.</i>
70.	Bot will click on the 'Encounters' tab.
71.	If Bot sees the 'Not all records have been loaded and sorted' gold message bar, it will click 'Load All Records'.
72.	The Bot will look through the historical encounters ("Recent Visits") for a completed 'Office Visit' or 'Telemedicine' visit completed within the last 18 months, from the date the Rx was ordered, with A qualifying department from the same entity listed on the input file.
73.	No Action – Informational Step Only Bot will need to scroll to locate the desired information. <u>3 Key Columns</u> When: Within 18 months of Rx Order Date Type: Office Visit or Telemedicine Department: Must be A 340B qualifying department from the same entity. Bot will either locate or not locate a qualifying completed visit. Qualifying Visit NOT Located: Follow Steps 74 → 81 Qualifying Visit Located: Skip to Step 82
74.	If a qualifying completed visit cannot be located , the bot will click on 'Rx Management' tab to return to the medication management screen.

75.	The Bot will hover over or click in the 'Other Flag' field to get the magnifying glass to appear.
76.	Bot will click on the magnifying glass to add a flag to the selected medication (highlighted in purple under 'Work Requests').
77.	The bot will select the 'Not 340B Qualified' flag.
78.	Bot will click 'OK'.
79.	Bot will click in the comments field and type "IAH". If more than one flag, the Bot will do this for each flag added.
80.	Once the appropriate flag(s) have been added with a corresponding 'IAH' comment, Bot will click "Accept".
81.	Bot will land back in the 'Initial Review' workqueue and repeat Steps 46 → 73 for all remaining patients in queue from the input file.
82.	If a <i>qualified completed visit from within the last 18 months IS FOUND</i>, the Bot will use the GMC and GWV DEP_RECORDS files on the 340B Program SharePoint site to confirm which flag to add. <i>Note: The DEP_RECORDS files are updated quarterly and will be maintained by the business. Any changes to the list of eligible departments must be carried over to the Epic RWB report 'IAH BOT 340B Qualification Analysis [24482885].</i> The Bot will visit the 340B Program Bot Audit Resources SharePoint page and open the GMC_DEP_Records and GWV_DEP_Records files. If the <i>Encounter Department ID</i> from the input file is listed on the GMC_DEP_Records file in Column A, the bot will use: 'GMC 340B Qualified' If the <i>Encounter Department ID</i> is listed on the GWV_DEP_Records file in Column A, the bot will use:

	‘GWV 340B Qualified’ If the <i>Encounter Department ID</i> is not on either list, the bot will use: ‘Not 340B Qualified’
83.	Once the correct flag has been determined, the bot will click the prescription bottle icon to return to Epic Willow Ambulatory and apply the appropriate flag.
84.	The bot will hover over or click in the ‘Other Flag’ field to get the magnifying glass to appear.
85.	Bot will click on the magnifying glass to add a flag to the selected medication (highlighted in purple under ‘Work Requests’).
86.	Bot will click on the Flag name as determined in Step 82. GMC 340B Qualified [410124] GWV 340B Qualified [410125] Not 340B Qualified [410123]
87.	Bot will click ‘OK’.
88.	Bot will click in the comments field and type “IAH”. If more than one flag, the Bot will do this for each flag added.
89.	Once the appropriate flag(s) have been added with a corresponding ‘IAH’ comment, Bot will click “Accept”.
90.	Bot will land back in the ‘Initial Review’ workqueue and use Steps 46 → 89 to audit all remaining patients from the input file.
91.	Once all patients from the input file have been audited, the Bot will click ‘x’ to close the Initial Review workqueue.
92.	Bot will then click the ‘Epic’ menu and select ‘Log Out’ to close Epic Willow Ambulatory.

93.	Bot will email one daily Excel file, around 4:00am, of accounts processed during previous 24 hours to business distribution list and post to SharePoint.
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4.5 EXCEPTIONS IN THE PROCESS FLOW

Exception	Actions	Comment
Patient is Locked	Retry in the next run to determine if lock is still present.	
Hard Stop in Willow (Red Stop Signs)	Retry in the next run to determine if red stop signs still exist.	
Patient Not Found in Initial Review queue	Flag in output file and continue to next entry to process.	
Rx Match Not Found	Flag in output file and continue to next entry to process.	

4.6 SYSTEM ERRORS

Error	Action	Comment
Application Crash	Recover and retry 3 times.	
Epic Downtime	Pause Bot if during run time.	
Epic Upgrade	Review with business and determine what action, if any, is necessary.	

4.7 PROCESS CONTINUITY

Prevention:

Establishing and defining what redundancies and protocols are in place to prevent failures in the process and maintain business continuity

Detection:

Defining what protocols are in place for monitoring the process to detect bugs and stop incorrect actions at all points **post go-live and escalated monitoring during massive systems changes**

Recovery

Assessing the level of risk, define strategic stakeholders to be alerted in need of a recovery and outlining the recovery plan to get back to operational state.

Scenario	Prevention	Detection	Recovery
Expected input file volume severely reduced, absent, or grossly exaggerated.	Business to proactively keep the qualifying departments used by the IAH BOT 340B Qualification Analysis report up-to-date.	Expected transaction volume diminished or significantly overstated.	• Bot sends notification email to those who are on the distribution list and IAH Prod support team. • Business to resolve the issue and notify IAH regarding next steps. • IAH team to reschedule bot run based on bot's availability.
Input file format change or input file is blank (no data).	Business to notify IAH regarding upcoming changes. IAH and Business work together to prepare and follow change management process.	Bot fails to load data from Epic RWB input file.	• Bot sends notification email to those who are on the distribution list and IAH Prod support team. • Business and IAH work together prepare and follows change management process.

Bot not completing as outlined in PDD.	N/A: What was not known was not preventable.	Hypercare Phase: Daily auditing is performed and process logs are monitored.	IAH team adjusts bot design to improve business exceptions.
Higher than expected system exceptions.	N/A: What was not known was not preventable.	Insight Dashboards created for long term monitoring and trending of volume and exception changes.	- Business and IAH work together if additional phase is needed. - ServiceNow incident reported and escalated as needed.
Output file errors (timing, format, info, reporting).	N/A: What was not known was not preventable.	Hypercare Phase: Daily auditing is performed and process logs are monitored. Insight Dashboards created for long term monitoring and trending of volume and exception changes.	- Business and IAH team adjusts bot design to identify output file errors. - Business and IAH work together if additional phase is needed.
Unknown reasons If the bot fails, how will it continue and resolve issue?	N/A: What was not known was not preventable.	Bot is unable to complete the automated process.	- Bot sends notification email to the distribution list and IAH Prod support team. - The Bot Controller will then be responsible to triage the bot disruption, fix the issue(s), and either schedule ad hoc processing or resume the bot processing.

5. Technical Details

Item	Description	Comment
Robot Type	Unattended	
Orchestrator	Yes	Cloud
UiPath Version	2023.10.4	

6. Reporting

Report Type	Update Frequency	Details	Distribution List
Process Report	Daily (one output file at 4am daily)	Report status of processed transactions via email: Attach Output File - Subject: IAH 340B Qualification Analysis Outcome Date: MM/DD/YYYY - Body: Number of success, business exceptions and system exceptions All the columns from the Epic List. Outcome column: Success, Business Exception, System Exception	

		Reason column: business exception reason, system exception reason	
Error Logs	At Time of Error	Report of process errors Subject: 340B Qualification Bot Failure Bot will email the business to inform of the failure. Body: Bot failed due to system error. Bot will run the same population with next run.	

7. Environment Details

Application	Development Stage	Environment	Access Type	Access Key/Credential
Epic Hyperspace	Development, Testing, and Production	SUP and PROD	Username, Password, and Log in Department	Username: <IAHRXBQUAL> Password: <PASSWORD> Login Department: <DEPARTMENT>
Epic Willow Ambulatory	Development, Testing, and Production	SUP and PROD	Username, Password, and Log in Department	Username: <IAHRXBQUAL> Password: <PASSWORD> Login Department: <DEPARTMENT>
Outlook	Development, Testing, and Production		Email Account and Password	Email: TBD@geisinger.edu Password: <PASSWORD>
Network Folder	Test and Prod	Test and Prod Folders		

Excel	Test and Prod Data			
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8. Assumptions

Assumption	Impact
The entire process is automated end to end with no manual intervention.	
The distribution list, email addresses, and/or shared mailbox listed in the PDD for the purpose of process notification through email are to be maintained solely by the line of business.	

9. ADDITIONAL SOURCES OF PROCESS DOCUMENTATION

Type	Name	Link	Comments
Discovery Assessment	Discovery Assessment Outcome – Pharm 340B Qualification Analysis	340B QA Discovery Assessment	IAH Teams Folder
Step Recording (video)	N/A	Not Captured	IAH Teams Folder
Task Capture	Task Capture 19_10_2023 at 08_32	340B QA Task Capture	IAH Teams Folder
UAT Recording (video)			IAH Teams Folder

10. Appendix

10.1 GLOSSARY

Acronym/Term	Meaning
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340B	A specific section of the Federal Public Health Service Act. It refers to and is associated with the 340B Drug Pricing Program.
IAH	Intelligent Automation Hub
CSN	Contact Serial Number
DOB	Date of Birth
EMR	Electronic Medical Record
MRN	Medical Record Number
NDC	National Drug Code
PDD	Process Design Document
RPA	Robotic Process Automation
RWB	Reporting Work Bench
SLA	Service Level Agreement
WAMB	Epic Willow Ambulatory
WQ	Workqueue
XLSX	Excel Open XML Spreadsheet file format