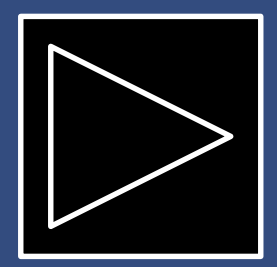


# Sequencing Pharmacy Clinical Workflow

TAP TO GO BACK TO KIOSK MENU

Qua Tran, Chirag Desai, Jinkyu Lee, Chirag Patel, Parth Patel



## Introduction/Problem

Previously in the ambulatory care setting, ambulatory pharmacists generally work off referral base notices. This limits the efficiency of pharmacists and reduces the amount of patients that they can care for. Ambulatory pharmacists require a tool in order to identify patients prior to a referral to maximize overall efficiency. Beth Israel Deaconess Medical Center (BIDMC) has created an analytic tool to identify high-risk patients and streamline workflow for ambulatory clinics in a user-friendly dashboard.

### Learning Objectives:

1. Discuss the impact of dashboard on ambulatory pharmacy workflow.
2. Identify methods to maximize ambulatory pharmacist presence in the clinics.

## Aim/Goal

Creating clinical and pharmacy visibility through analytical techniques to improve patient safety while optimizing clinical workflow.

## The Team

- Qua Tran CPht – Pharmacy Data Analyst
- Chirag Desai RPh – Director of Ambulatory and Pharmacy Business Development
- Parth Patel BSN, RN – Manager of Pharmacy Data Analytics
- Jinkyu Lee, Pharm D, CSP – Specialty Clinical Pharmacist Supervisor
- Chirag Patel CPht – 340b Compliance Coordinator \ Pharmacy Data Analyst

## The Interventions

- Patient Education – Initial
- Patient Education – Follow Up
- Therapeutic Optimization
- Drug Information
- Coordination of Care
- Appeal
- Conversion – New Rx (to BI or contract pharmacy)
- Conversion – Existing Rx (to BI or contract pharmacy)

## Results/Progress to Date

The dashboard displays the following information:

- Appointments:** 12 appointments for Infectious Disease.
- Weekday Distribution:**

Day	Count
Friday	2
Monday	2
Thursday	3
Tuesday	2
Wednesday	3
- Pharmacy Distribution:**

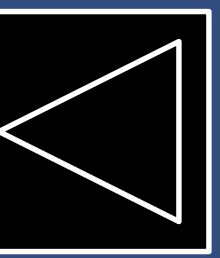
Pharmacy	Count
BIDMC Pharmacy - 364 Bro...	66
BIDMC Specialty Pharmacy ...	46
WALGREENS #333 - 333 Ra...	34
PILLPACK PHARMACY	20
CVS #222 - 222 Random St.	18
Target #555 - 555 Random ...	16
- Lab Results Table:**

MRN	Result Name	Result Value	Units	Range
1111111	Alanine Aminotransferase (ALT)	28.00	IU/L	0.000 - 40.0
1111111	Alkaline Phosphatase	95.00	IU/L	35.000 - 100.0
1111111	Aspartate Aminotransferase (AST)	21.00	IU/L	0.000 - 40.0
1111111	Basophils	0.50	%	0.000 - 1.000
1111111	Bilirubin	N/A	-	-
1111111	Bilirubin, Total	0.50	mg/dL	0.000 - 1.500
1111111	Creatinine	0.90	mg/dL	0.400 - 1.100
1111111	Eosinophils	1.20	%	1.000 - 7.000
1111111	Hematocrit	41.30	%	34.000 - 45.000
1111111	Hepatitis B Surface Antibody	N/A	-	-
1111111	Hepatitis B Surface Antigen	N/A	-	-
1111111	Hepatitis B Virus Core Antibody	N/A	-	-
1111111	Hepatitis C Virus Antibody	N/A	-	-
1111111	HIV Antibody	N/A	-	-
1111111	Lymphocytes	18.60	%	19.000 - 53.000
1111111	Neutrophils	71.90	%	34.000 - 71.000
1111111	Platelet Count	299.00	K/uL	150.000 - 400.000
- Scheduled Provider List:**

Provider	Appointments
ANDREWS, JULIE	1
BUSH, GEORGE	1
CAESAR, JULIUS	1
CLINTON, BILL	1
EDISON, THOMAS	1
FRANK, ANNE	1
FRANKLIN, BENJAMIN	1
FRY, ELIZABETH	1
<b>Total</b>	<b>12</b>
- Appointment Details Table:**

Week Day	Appointment Start Time	Status	Clinic	MRN	Patient's Name	Age	Date Of Birth	Gender	Scheduled Provider	Primary Insurance	Specialty Patient	Days Since Last Visit	Last Clinic Visit Date	Last Clinic
Monday	3/25/2019 8:00:00 AM	New	INFECTIOUS DISEASE	1111111	TRUTH, SOJONA	65	9/23/54	F	OBAMA, BARACK	TUFTS NETWORK HEALTH	Yes	-19	3/6/2019	GENERAL
Monday	3/25/2019 8:30:00 AM	New	INFECTIOUS DISEASE	2222222	JOHNSON, MAGIC	74	12/15/45	M	BUSH, GEORGE	NEIGHBORHOOD HEALTH PLAN	Yes	-49	2/17/2018	CARDIOLO
Tuesday	3/26/2019 9:00:00 AM		INFECTIOUS DISEASE	3333333	DURANT, KEVIN	61	11/9/58	M	CLINTON, BILL	HARVARD PILGRIM	No	-1299	10/5/2018	INFECTIO
Tuesday	3/26/2019 9:15:00 AM		INFECTIOUS DISEASE	4444444	PAUL, CHRIS	57	7/6/62	M	EDISON, THOMAS	UNITED HEALTH CARE	No	-75	3/9/2019	GENERAL
Wednesday	3/27/2019 9:30:00 AM		INFECTIOUS DISEASE	5555555	DUNCAN, TIM	30	5/26/89	M	FRANKLIN, BENJAMIN	BMC HEALTH NET	Yes	-210	4/21/2018	DERMATO
Wednesday	3/27/2019 10:20:00 AM		INFECTIOUS DISEASE	6666666	JORDAN, MICHAEL	66	5/15/53	M	WINFREY, OPRAH	HEALTH SAFETY NET	Yes	-336	1/1/2019	RHEUMAT
Wednesday	3/27/2019 10:40:00 AM		INFECTIOUS DISEASE	7777777	WADE, DWAYNE	87	6/30/32	M	CAESAR, JULIUS	MASSHEALTH	Yes	-1354	7/10/2015	GENERAL
Thursday	3/28/2019 11:30:00 AM		INFECTIOUS DISEASE	8888888	CURRY, STEPHEN	77	5/14/42	M	ANDREWS, JULIE	UNITED HEALTH CARE COMMUNITY PLAN	No	-55	1/29/2019	ONCOLOC
Thursday	3/28/2019 11:45:00 AM		INFECTIOUS DISEASE	9999999	PARKS, ROSA	67	3/30/52	F	FRANK, ANNE	AARP MEDICARE COMPLETE PLUS HMO-POS	Yes	-217	3/9/2019	ONCOLOC
Thursday	3/28/2019 12:30:00 PM		INFECTIOUS DISEASE	1111112	EDWARDS, JOHN E.	77	5/24/42	M	LINCOLN, ABRAHAM	MASSHEALTH	Yes	-196	9/10/2018	GENERAL

For more information, contact:  
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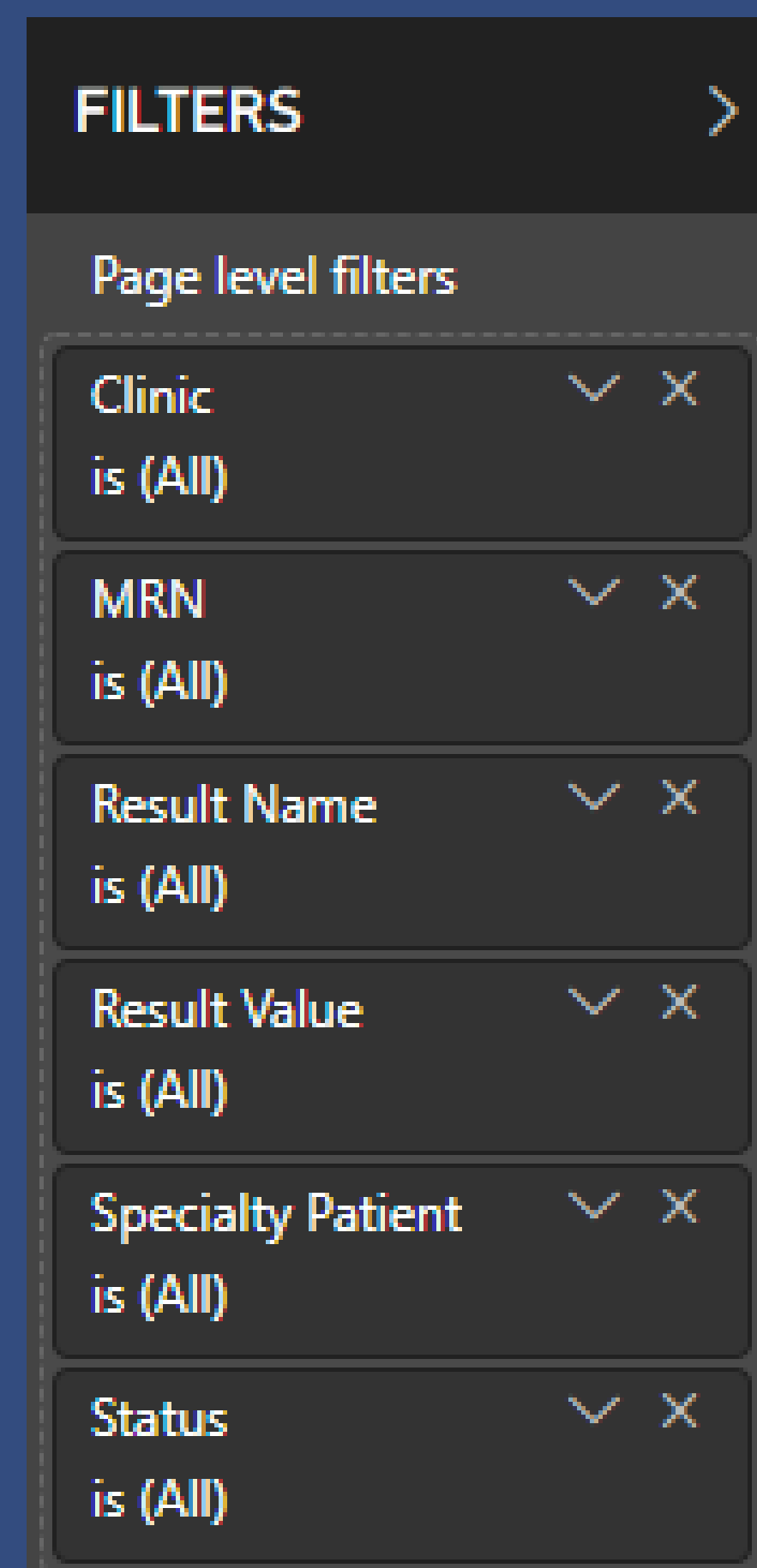
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## More Results/Progress to Date

Beth Israel Deaconess Medical Center has created an application that pulls all the necessary information from the EMR system and relays it to a user-friendly dashboard. This includes, but is not limited to, prescribed medications, laboratory values, future and prior clinic history, and re-admissions. The dashboard portrays up to three weeks of data, one week prior to the given date and two weeks future of the given date. This allows pharmacists to prepare in advance for certain patients and retroactively follow-up on patients.

### Target Audience:

Health Care Executives  
Nurses  
Nurse Practitioners  
Operations Professionals  
Pharmacy Technicians  
Pharmacists  
Physicians  
Quality Improvement Professionals  
General / Other Professionals in Health  
Care Industry



Dashboard Filters: Ability to differentiate Specialty Patients, New Prescriptions, Clinic and etc.

Pharmacists are spending more time with their patients rather than identifying high-risks patients or waiting for a referral. Prior to the rollout of the dashboards, pharmacists were seeing an average of 5-10 patients per week based off physician referrals. With the rollout of the dashboard, the amount of patients seen has at least doubled per pharmacist. The dashboard has allowed pharmacists to proactively identify patients who have not had a clinic visits in over a year or who have not had appropriate lab draws for high-risk medications. The real-time identification of these patients has been monumental for the clinic providers and allowed for full integration of a pharmacist into an interdisciplinary team for each clinic. The increased pharmacist utilization has allowed for implementing clinical pathways with high compliance as well as ensure best outcomes and provide optimal performance. The dashboard has allowed for innovative ways to utilize data-driven decision making to reduce variations in care and improve patient outcomes.

## Lessons Learned

- Medication Database: Database only updates once every week
- Version 1.0 to Version 2.0: Additions of Med List, Labs, Clinics
- Same Day Schedule Changes: Inability to reflect on database
- Labs Synchronization: Inability to capture scanned in labs

## Next Steps

- Addition of Ambulatory Clinical Care Pharmacists: More feedback on how to improve dashboard
- SureScripts: Access to medication reconciliation and pharmacy dispensing history
- Medication Compliance: Addition of medication compliance through pharmacy renewals and pharmacy adjudication times

**For more information, contact:**  
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