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# Leveraging Data: Demonstrating Pharmacy Value Beyond Dispensing



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# Disclosures

**The following individuals report having no relevant conflicts of interest:**

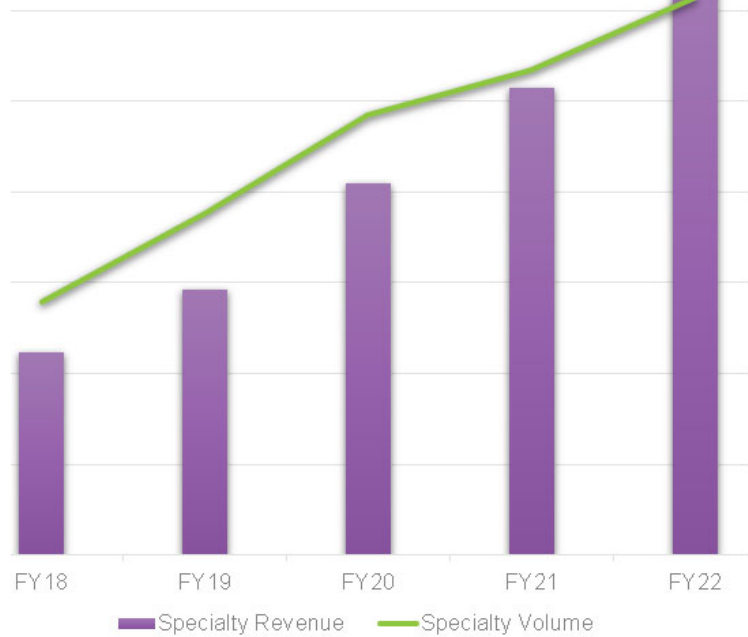
- Samaneh Wilkinson
- Jennifer Loucks
- Sarah Daniel

# Learning Objectives

1. Discuss strategies to proactively identify outcomes and data needs
2. Describe an approach to integrate discrete data collection into practice
3. Evaluate opportunities for automated reporting and dashboards
4. Summarize ways to leverage documentation, data, and reporting for multiple business purposes

# The University of Kansas Health System Specialty Pharmacy

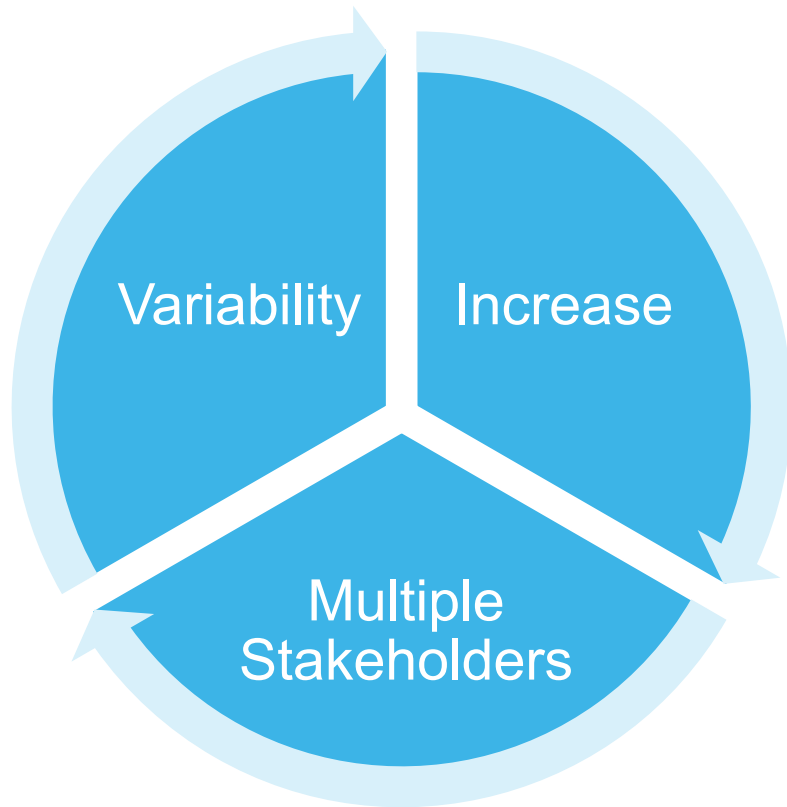
300% Increase in Growth and Revenue



- 43 ambulatory pharmacist FTEs
- 18 pharmacy patient advocates
- Dual specialty pharmacy accreditation
- Success obtaining access to limited distribution drugs (LDDs)
- Enhanced focus on payor contracting



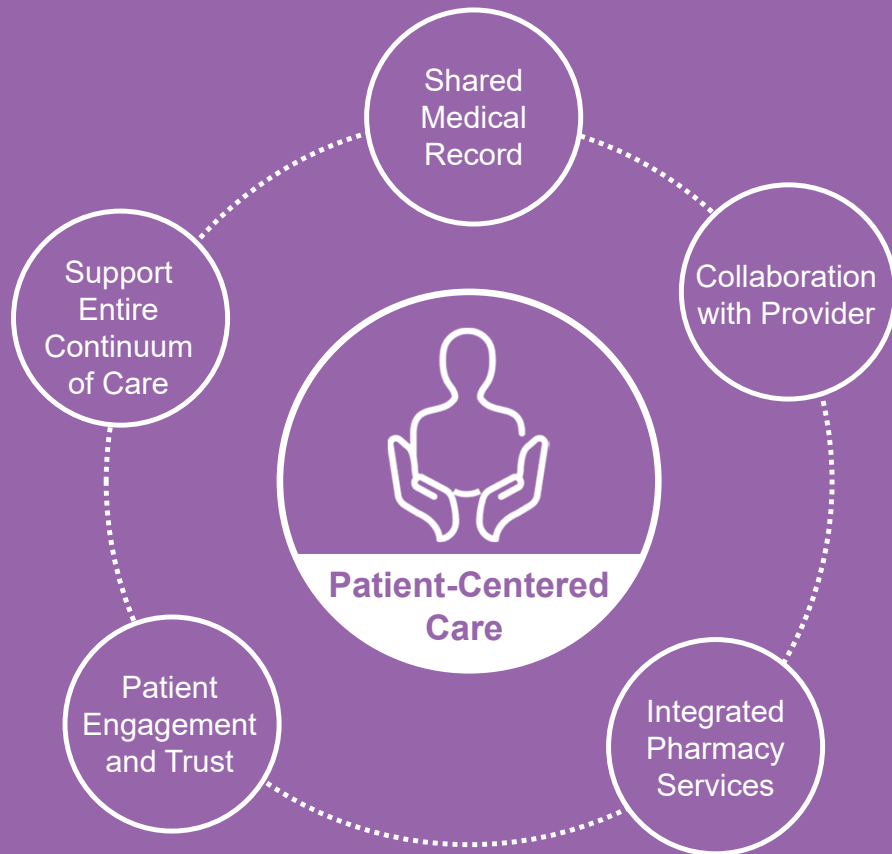
# Demand for Data



# Importance of Health System Specialty Pharmacy (HSSP) Data



# HSSP Advantage





# Barriers to Leveraging Data

- Internal awareness of HSSP advantage/impact
- Shared and limited IT and reporting resources
- Accessibility of data
- Lack of industry standard for pharmacist value

# Creating a sustainable solution to meet data requests and sharing the HSSP advantage of delivering superior patient care

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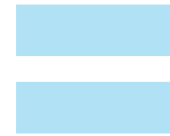
# Create a process empowering clinicians to document certain discrete data elements efficiently and effectively

Discrete Data = REPORTABLE DATA

Where are we starting?



“Wants” vs. non-negotiables



Solution

# Our 'Data' Journey

## 2017–18

- Standardized note templates
- Report counts of templates used

## 2019

- Added choices to note templates
- Improved workflow
- Small gain in reporting

## 2020

IT resident project: build new documentation system

## 2021

- Hired ambulatory IT pharmacist
- Perfected documentation system

## 2022

Pharmacy leadership and data analytics team create first dashboard

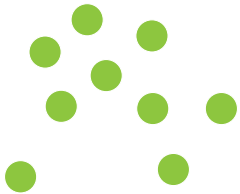
# Where We Started...



## Where we started

- Pharmacist documentation with progress notes
- Numerous “templates”
- No discrete data beyond dispensing
- No IT/reporting resources
- No solution with current tools

# What Were the Non-Negotiables?



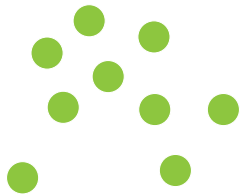
## Where we started

- Pharmacist documentation with progress notes
- Numerous “templates”
- No discrete data beyond dispensing
- No IT/reporting resources
- No solution with current tools

## Non-negotiables

- Avoid duplicate documentation
- Standardized “definitions”
- Generate discrete data
- Customizable to fit various needs
- Single source for multiple data needs

# What Solution Did We Select?



## Where we started

- Pharmacist documentation with progress notes
- Numerous “templates”
- No discrete data beyond dispensing
- No IT/reporting resources
- No solution with current tools

## Non-negotiables

- Avoid duplicate documentation
- Standardized “definitions”
- Generate discrete data
- Customizable to fit various needs
- Single source for multiple data needs

## Solution

- Developed tool for pharmacists to document progress notes
- Available within the current system
- Documentation generates discrete REPORTABLE data

# Our Approach

## Review



Review Pharmacist  
Documentation Tool

## Discuss



Discuss Data  
Elements to Include



# Pharmacist Documentation

The screenshot displays a software interface for pharmacist documentation. The top navigation bar includes tabs for Snapshot, Amb Rx, Chart Re..., Review, Event Log, Notes, Visi..., Oncology, Tra..., and a sidebar summary. The main content area is titled "Outreach" and is divided into several sections:

- Programs:** A table with columns for Linked, Program, Status, Responsible Staff, Start Date, and Department. A "New Program" button is visible. A table entry shows "Liver Transplant" (Disenrolled) with a start date of "10/23/2019" and a department of "RETAIL PHARMACY".
- Outreach Details:** Includes a "Preferred Call Times" section with a table for Begin Time and End Time, and a "Specialty Pharmacy Patient Notes" section with a rich text editor.
- Contacts:** A section for managing contacts, including buttons for "Incoming Call", "Outgoing Call", and "Other", and a "Show Permanent Comments" checkbox.
- Connect:** A section for video communication, featuring "Start Group Video" and "Start Video" buttons.

The bottom of the interface has a status bar with "ADD ORDER", "ADD DX (0)", "PRINT AVS", and "SIGN VISIT" options.

# Decide on Outcomes FIRST!



1

What outcome is important?



2

Identify outcome(s) to demonstrate value



3

Determine data elements to document



## The Value Story...

Health system specialty pharmacists provide superior patient care by adequately addressing drug interactions to prevent negative outcomes



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## Identify Outcome that Demonstrates Value

Pharmacist developed plan to address drug interactions prior to safely proceeding with therapy



# Define the Outcome

Percentage of patients with a clinically significant drug interaction with a documented plan to address the drug interaction

=

Plan to address drug interaction documented  
-----  
Patients with a clinically significant drug interaction

# Create Data Elements to Document Outcome

Pharmacist  
addressed drug  
interaction and  
developed plan to  
safely proceed

=

Plan to address  
drug interaction  
documented

Patients with a  
clinically significant  
drug interaction

**Drug interaction  
addressed by** \_\_\_\_\_

**Clinically significant  
drug-drug  
interactions**  yes  no

# Develop Documentation to Generate Note

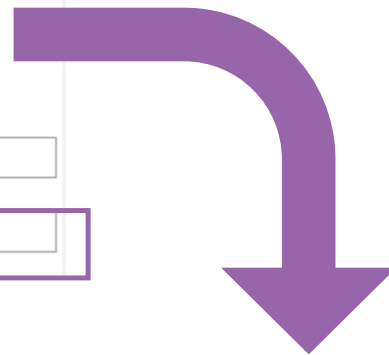
## Drug-Drug Interactions

Drug-drug interactions evaluated  yes  no

Clinically significant drug-drug interactions  yes  no

Drug interaction identified Harvoni + omeprazole leading to decreased efficacy

Drug interaction addressed by patient holding omeprazole while on Harvoni



## Drug-Drug Interactions

Drug-drug interactions were evaluated. There were clinically significant drug-drug interactions. The following drug-drug interactions were identified: Harvoni + omeprazole leading to decreased efficacy and will be managed by patient holding omeprazole while on Harvoni.

# Report Outcome from Discrete Data

Pharmacist addressed drug interaction and developed plan to safely proceed

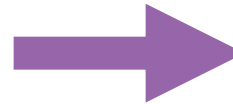


**Drug interaction addressed by**

**Clinically significant drug-drug interactions**

yes

no



Pharmacist addressed drug interaction and developed strategy to safely proceed



**97.8%**

Goal: 100%



# Data Validation and Improvement



Pharmacist addressed drug interaction and developed plan to safely proceed

=

Documentation of drug interaction addressed by

Patients with a clinically significant drug–drug interaction

Note Date	Disease State	Type of Assessment	Clinically Significant Drug–Drug Interaction	Drug Interaction Addressed By
11/4/2022	Movement disorders	Re-assessment	1	Baseline EKG 3/7/20: QTc 403. Repeat EKG ordered
11/9/2022	Epilepsy	Initial assessment	1	Monitoring of side effects



# Considerations for Outcomes

Tell a story

Focus on outcomes and value, avoid intermediaries

Understand current performance, avoid chasing metrics that don't matter

Feasibility, validity, and reproducibility

Key stakeholders and other internal factors

# Using the Data

- Data availability and visualization
- Improved compliance with accreditation standards
- Business strategy

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# Data Availability: MedWatch Reporting

Adverse Drug Reaction Details - Medication #1				
Select medication	ELEXACAFTOR-TEZACAFTOR-IVACAFT 100-50-75 MG(D) / 150 MG (N) PO TBSQ (aka TRIKAFTA) [451256]			
<b>Adverse Drug Reaction Symptoms</b>				
<b>Cardiovascular</b>	<input type="checkbox"/> chest pain	<input type="checkbox"/> hypotension	<input type="checkbox"/> leg swelling	<input type="checkbox"/> palpitations
<b>Constitutional</b>	<input type="checkbox"/> fatigue	<input type="checkbox"/> fever	<input type="checkbox"/> weight change	
<b>Electrolyte abnormalities</b>	<input type="checkbox"/> hyperkalemia	<input type="checkbox"/> hypokalemia	<input type="checkbox"/> hyponatremia	
<b>Endocrine</b>	<input type="checkbox"/> cold intolerance	<input type="checkbox"/> heat intolerance	<input type="checkbox"/> polydipsia	<input type="checkbox"/> polyuria
<b>Eyes</b>	<input type="checkbox"/> blurred vision	<input type="checkbox"/> dry eyes	<input type="checkbox"/> excessive tearing	<input type="checkbox"/> visual disturbances
<b>Gastrointestinal</b>	<input type="checkbox"/> abdominal pain	<input checked="" type="checkbox"/> diarrhea	<input type="checkbox"/> heartburn	<input type="checkbox"/> nausea/vomiting
	<input type="checkbox"/> constipation	<input type="checkbox"/> dry mouth	<input type="checkbox"/> loss of taste	
<b>Genitourinary</b>	<input type="checkbox"/> frequency	<input type="checkbox"/> urgency		
<b>Hematologic</b>	<input type="checkbox"/> bleeding	<input type="checkbox"/> bruising		
<b>HENT</b>	<input type="checkbox"/> congestion	<input type="checkbox"/> dry mouth	<input type="checkbox"/> rhinorrhea	<input type="checkbox"/> tinnitus
	<input type="checkbox"/> drooling	<input type="checkbox"/> hearing loss	<input type="checkbox"/> sore throat	
<b>Musculoskeletal</b>	<input type="checkbox"/> arthralgia	<input type="checkbox"/> leg cramps	<input type="checkbox"/> myalgias	
<b>Neurological</b>	<input type="checkbox"/> dizziness/lightheadedness	<input type="checkbox"/> headache	<input type="checkbox"/> tremor	<input type="checkbox"/> weakness
	<input type="checkbox"/> falls	<input type="checkbox"/> syncope		

# Data Availability: MedWatch Reporting

Has patient reacted to this or a similar medication before?	<input type="radio"/> yes	<input checked="" type="radio"/> no	<input type="radio"/> unknown
Impact on adherence	<input type="radio"/> interfered with adherence (provider notified)		<input checked="" type="radio"/> did not interfere with adherence
Medication FDA approved <=/= 3 years	<input type="radio"/> yes	<input checked="" type="radio"/> no	<input type="radio"/> unknown
Previous conclusive reports of reaction	<input checked="" type="radio"/> yes	<input type="radio"/> no	<input type="radio"/> unknown
Did patient require additional intervention due to the ADR?	<input checked="" type="radio"/> medication	<input type="radio"/> ED visit	<input type="radio"/> hospitalization
Medication	<input type="text" value="LOPERAMIDE PO [150527]"/>		

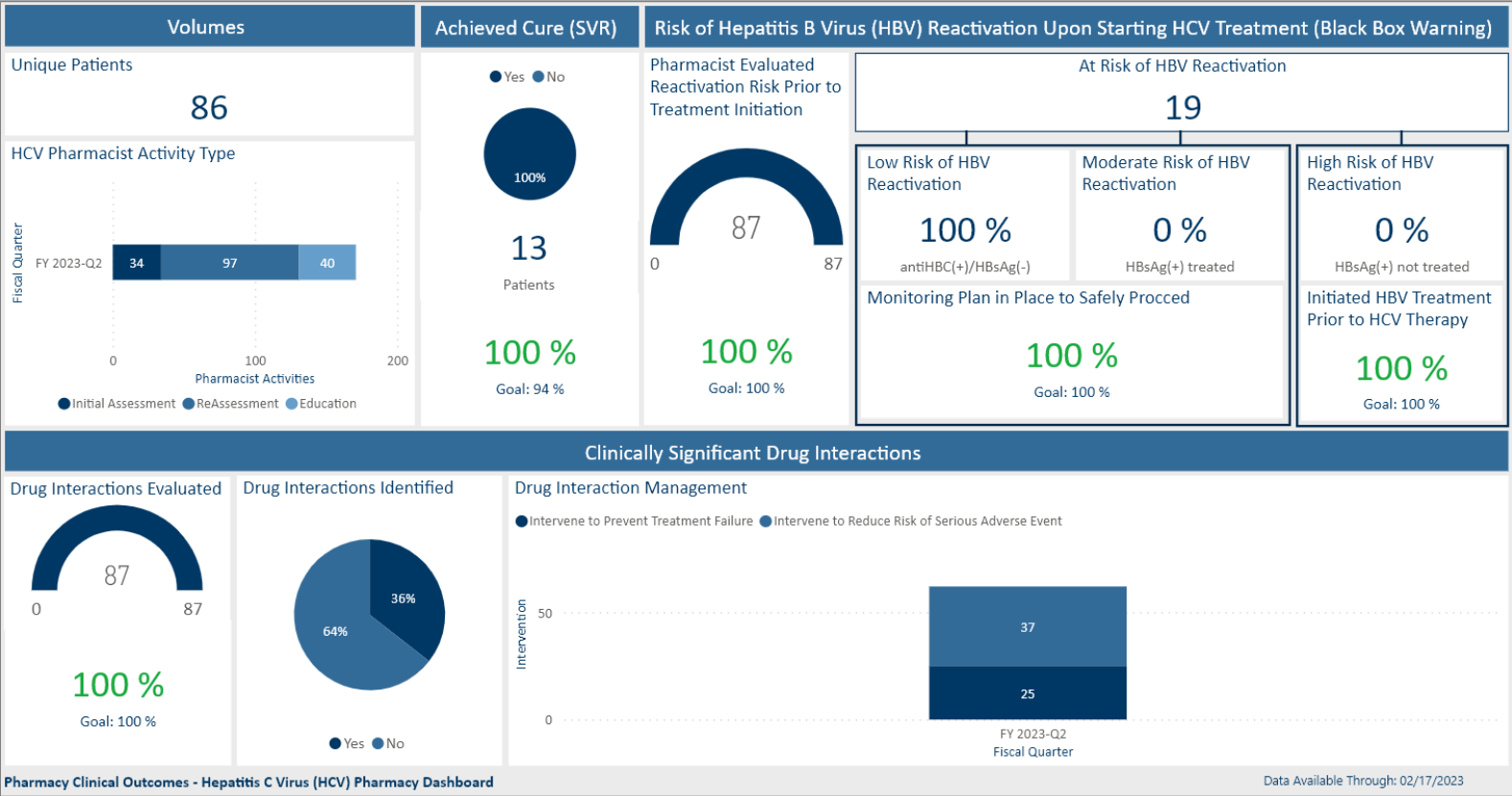
# Data Availability: MedWatch Reporting

Last Filed Date	Assess	Disease Stat	Advers	ADE ERX KU3429 Medication Name	ADE Ot	Cardio	Constit	Explain	Explain	Eyes KU	Eyes 2	FDA Ap	FDA Ap	Primary	Primary	Gastroi	Gastro
4/26/2022	Re-assess	Cystic Fibrosis	1	ELEXACAF TOR-TEZACAF TOR-IVACAF TOR 100-50-75 IV other				Changes in mood/excessive weight gain									
5/25/2022	Re-assess	Rheumatology	1	APREMILAST 30 MG PO TAB													nausea/vomiting
11/29/2022	Re-assess	Rheumatology	1	APREMILAST 30 MG PO TAB													nausea/vomiting
4/20/2022	Re-assess	Multiple Sclero	1	GLATOPA 40 MG/ML SC SYRG			palpitatio	fatigue									
4/12/2022	Re-assess	ILD	1	OFEV 150 MG PO CAP													diarrhea; nausea
2/24/2022	Re-assess	Cystic Fibrosis	1	ELEXACAF TOR-TEZACAF TOR-IVACAF TOR 100-50-75 IV other				Acne from Trikafta									
2/3/2022	Re-assess	Asthma	1	DUPIXENT SYRINGE SC	other			Reports eye discomfort and slight swelling/redness. States she has seen the ophthalmologist and re									
3/11/2022	Re-assess	Dermatology	1	OTEZLA 30 MG PO TAB													abdominal pain
1/11/2022	Re-assess	Dermatology	1	OTEZLA 30 MG PO TAB													
6/29/2022	Re-assess	IBD	1	STELARA 130 MG/26 ML IV SOLN			fatigue				yes						
5/2/2022	Re-assess	ILD	1	ESBRIET 267 MG PO CAP	other			shakiness									
12/20/2022	Re-assess	IBD	1	RINVOQ 45 MG PO TB24				acne			no						
1/19/2022	Re-assess	Cystic Fibrosis	1	ELEXACAF TOR-TEZACAF TOR-IVACAF TOR 100-50-75 MG(D) /150 MG (N) PO TBSQ													abdominal pain;
3/10/2022	Re-assess	ILD	1	OFEV 150 MG PO CAP													diarrhea
3/28/2022	Re-assess	ILD	1	OFEV 100 MG PO CAP													diarrhea
4/4/2022	Re-assess	Dermatology	1	OTEZLA 30 MG PO TAB	other			mild bloating									
2/28/2022	Re-assess	ILD	1	OFEV 100 MG PO CAP	other		fatigue	headache									diarrhea
4/7/2022	Re-assess	Multiple Sclero	1	GLATIRAMER 40 MG/ML SC SYRG													
4/15/2022	Re-assess	Cystic Fibrosis	1	LUMACAF TOR-IVACAF TOR 150-188 MG PO GRPK													diarrhea
10/26/2022	Re-assess	IBD	1	SKYRIZI IV							yes						abdominal pain
4/5/2022	Re-assess	IBD	1	STELARA 90 MG/ML SC SYRG	other		fatigue	dry skin, hair loss									
4/5/2022	Re-assess	Multiple Sclero	1	TECFIDERA 240 MG PO CPDR													
4/7/2022	Re-assess	Multiple Sclero	1	AUBAGIO 14 MG PO TAB	other			Hair loss									
5/5/2022	Re-assess	ILD	1	OFEV 150 MG PO CAP	other			gas									diarrhea
5/23/2022	Re-assess	Multiple Sclero	1	AUBAGIO 14 MG PO TAB							no						nausea/vomiting
2/28/2022	Re-assess	ILD	1	OFEV 100 MG PO CAP													diarrhea
4/21/2022	Re-assess	ILD	1	OFEV 100 MG PO CAP													diarrhea
1/11/2022	Re-assess	Rheumatology	1	ADALIMUMAB 40 MG/0.4 ML SC PNKT	other			bumps in vaginal area									
12/30/2022	Re-assess	IBD	1	STELARA 90 MG/ML SC SYRG			fatigue	upper respiratory symptoms (sore throat, yes			yes						constipation
8/29/2022	Re-assess	Cystic Fibrosis	1	ELEXACAF TOR-TEZACAF TOR-IVACAF TOR 100-50-75 MG(D) /150 MG (N) PO TBSQ							yes						nausea/vomiting
4/21/2022	Initial Ass	ILD	1	OFEV 150 MG PO CAP													nausea/vomiting
4/21/2022	Re-assess	ILD	1	OFEV 150 MG PO CAP													nausea/vomiting

# Data Availability: Pharmacist Activities and Growth



# Data Visualization: Clinical Dashboards



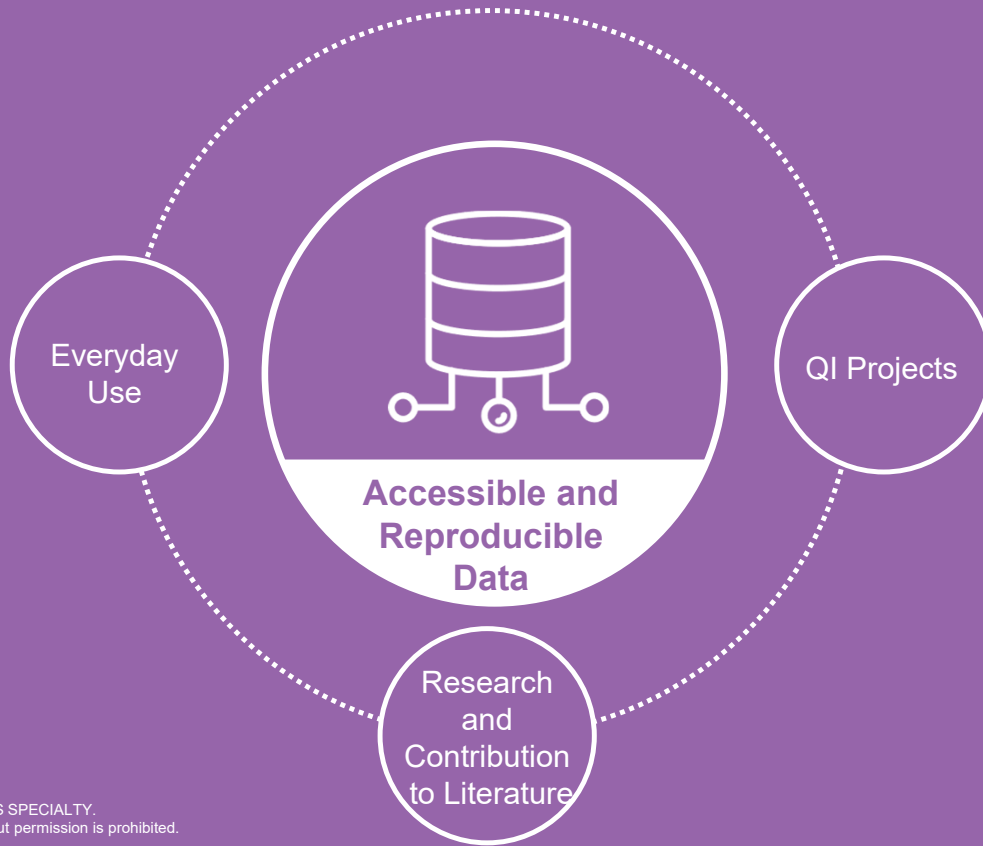
Pharmacy Clinical Outcomes - Hepatitis C Virus (HCV) Pharmacy Dashboard

Data Available Through: 02/17/2023





# Data Availability: Quality Improvement Projects and Research



# Improved Compliance with Accreditation Standards

Less maintenance and increased compliance



# Improved Compliance with Accreditation Standards

Content guides user through requirements

**Patient tracers: Find and fix issues to improve compliance with standards**

- Dashboard clearly identifies gaps
- Details accessible to identify and address gaps



# Business Strategy: Prescription Capture

## Pharmacist documents filling pharmacy and reason for outside pharmacy

- Pros: Provides additional details that are traditionally unavailable
- Cons: Relies on pharmacist documentation and low rate of leakage

<b>Pharmacy</b>	
Select pharmacy	<input type="button" value="TUKHS pharmacy"/> <input checked="" type="button" value="outside pharmacy"/>
	<input type="checkbox"/> TBD - filling pharmacy unknown at this time
Specify outside pharmacy	<input type="text" value="Name of pharmacy"/>
Reason for outside pharmacy	<input checked="" type="button" value="insurance mandate"/> <input type="button" value="patient preference"/> <input type="button" value="access (limited distribution drug)"/> <input type="button" value="medication assistance program"/>

# Business Strategy: Prescription Capture

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Non-Health System Pharmacy Unique Patient Count (prescriptions)

338

Non-Health System Pharmacy Utilization

48%

No Opportunity for Health System to Fill

42%

Estimated Financial Impact (No Opportunity to Fill) Based on first fill

Reason	Total	Percent	Financial Impact
access (limited distribution drug)	4	1.4%	
insurance mandate	258	87.2%	
medication assistance program	34	11.5%	
<b>Total</b>	<b>296</b>	<b>100.0%</b>	

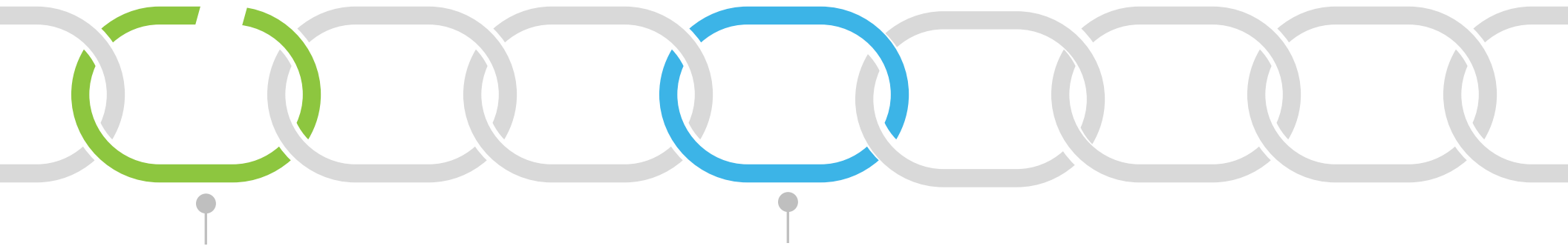
Opportunity for Health System to Fill

6%

Estimated Financial Impact (Opportunity to Fill) Based on first fill

Reason	Total	Percent	Financial Impact
	4	9.5%	
adherence	1	2.4%	
packaging			
customer service	6	14.3%	
Other	30	71.4%	
unable to ship	1	2.4%	
<b>Total</b>	<b>42</b>	<b>100.0%</b>	

# Business Strategy: Linking Data Sources



## CURRENT STATE

- Current reports do not link clinical and dispense data
- Not all prescription statuses are discrete data elements
- Proxy data points for prescription status

## FUTURE STATE

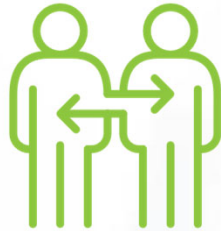
- Link multiple data sources
- Capture all prescription statuses as discrete data elements without affecting workflow
- Ability to send larger range of statuses in data extracts

# Business Strategy: Payor Contracting

Most significant barrier to our growth and mission to take care of every patient in our health system



Health System  
Vision for All  
Contracting



Leverage  
Local  
Employer  
Relationships



Demonstrate  
HSSP  
Advantage  
Using Data



# Implementation Takes Time—Start Now!

## Justify Resources

- IT Pharmacist
- Leadership
- Clinical Experts
- Reporting and Data Analytics

## Leverage Acentrus Partnership

- Regional Account Director
- Acentrus Vendor Portfolio

## Get Involved

- Participate in Research
- Join Organizational Committees
- Share Your Progress







# Questions



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