

EMR Digital Health Drug Repository (DHDR) 1.0

Business View

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1. INTRODUCTION

1.1 Overview

The DHDR EHR Service, part of the Ministry of Health's (MOH) Comprehensive Drug Profile Strategy (CDPS), enables clinicians to access to their patients' dispensed drug history and pharmacy service events through an integrated EMR Offering.

1.2 Data Available in the DHDR

Data maintained in the DHDR EHR Service includes:

1. dispensed drug events
2. pharmacy service events

Data in the DHDR is contributed by, and available to health organizations, agencies and pharmacies (e.g., Pharmacy Management Systems). Integrated EMR Offerings have access to this data residing in the DHDR.

1.2.1 What are Dispensed Drug Events?

A dispensed drug event captures a record of one drug that was dispensed by an entity or organization to a patient (as opposed to a drug prescription that may contain multiple drugs that may be dispensed over time). Dispensed drug events in the DHDR captures each time a drug is dispensed (regardless of who the payor is), including patients who receive publicly funded and monitored drugs. A patient's dispensed drug history comprises of all the dispensed drug events captured in the DHDR for that patient.

1.2.2 What are Pharmacy Service Events?

Pharmacy service events include information contributed directly by various organizations about each time a publicly funded pharmacy service event occurs for publicly funded and monitored drugs. Pharmacy service event information includes data such as the name and contact information of the pharmacy or organization that provided the dispensing service.

1.3 Business Drivers

Currently, clinicians can use EMRs to prescribe drugs to patients and maintain records of the drugs they prescribe, but they do not have direct access to data about whether or not the prescribed drugs were actually dispensed to the patient. Making DHDR information available as an integrated function within an EMR provides clinicians with a more comprehensive, on-demand view of whether a prescription was dispensed to the patient. This information can assist healthcare providers in establishing a BPMH for their patients, enhance clinical decision-making and patient care.

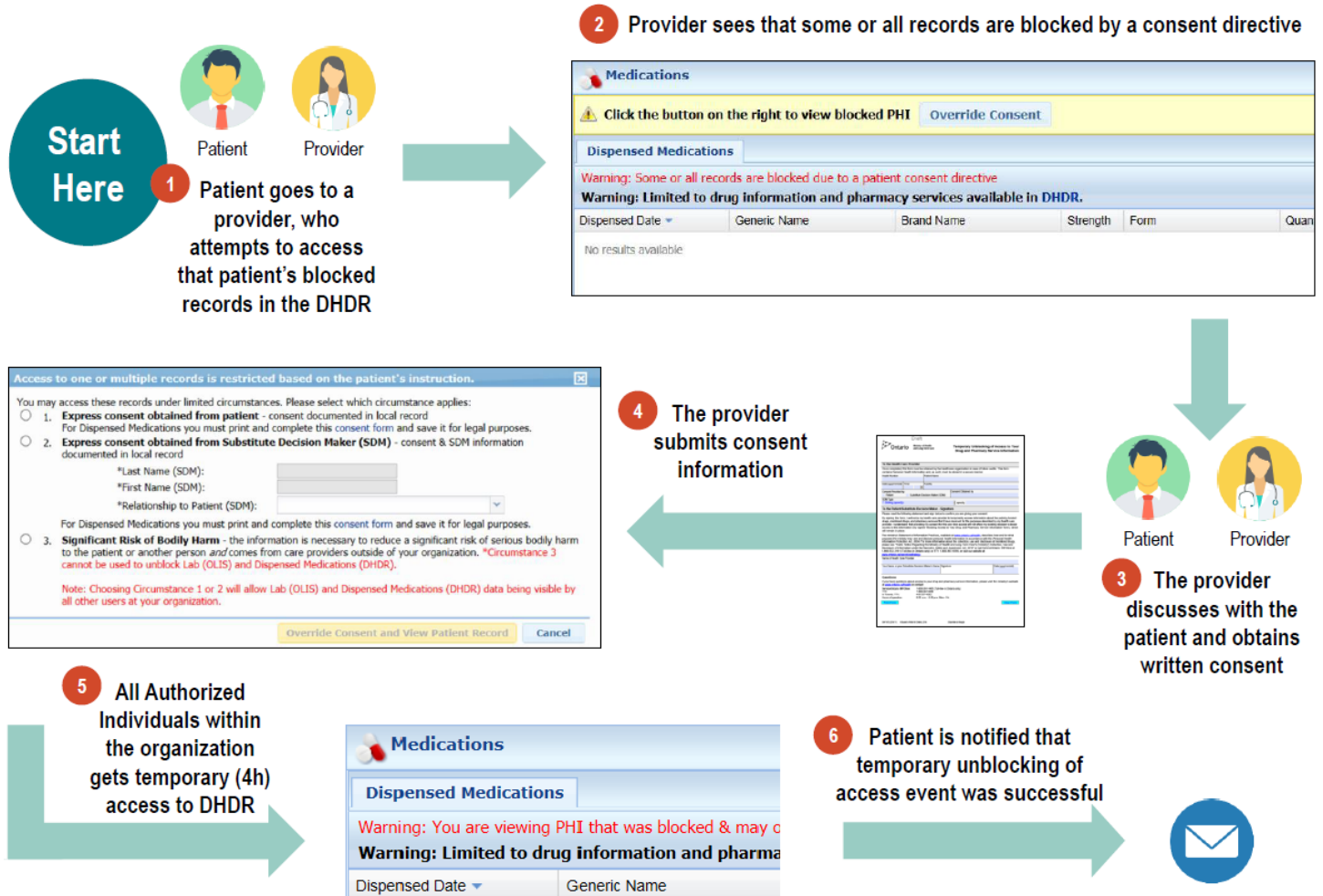


Figure 1 – Workflow of Temporary Unblocking of a Patient Consent Directive (Ministry of Health, 2019)

Where a patient consent directive is encountered by the EMR Offering and the patient's records are blocked, the clinician may make a request to the DHDR EHR Service to unblock or override the patient consent directive, allowing temporary access to that patient's dispense history. When a temporary consent unblock request is accepted, it is unblocked for a limited period of time (currently four hours) by the DHDR EHR Service. That patient's dispense history will be temporarily unblocked for all clinicians within the same organization as the clinician who requested the temporary consent unblock. As part of this workflow, the clinician will have an opportunity to print a paper copy of the temporary consent unblock form for the patient to sign to document their consent, then file the signed paper copy to adhere to auditing needs or policies of their clinic practice.

2. SYSTEM VIEW

2.1 Patient Consent Directives

The default consent of every patient is implied consent unless the patient or their substitute decision-maker (SDM) had submitted an explicit patient consent directive to the MOH requesting to block access to their information stored in the DHDR. Patients have the right to withhold or withdraw consent for the disclosure of their information stored in the DHDR EHR Service.¹

When an EMR Offering retrieves a patient's dispense history from the DHDR EHR Service, patient consent directive information will be returned by the DHDR EHR Service if a consent block directive exists for that patient's information.

With the patient's or their SDM's consent, clinicians may temporarily unblock the patient consent directive using their EMR Offering to retrieve the patient's blocked information. The unblocking of a patient's dispense history is managed by the Patient Consent Override Interface (PCOI) viewlet.

2.1.1 Patient Consent Override Interface (PCOI) Viewlet

The PCOI viewlet is a web-based interface utilized by the DHDR EHR Service that manages the workflow to process a temporary consent unblock for a given patient who's DHDR records are currently blocked by a patient consent directive. PCOI interacts with the EMR user to collect the necessary information to request a patient consent override from the DHDR EHR Service. The following high-level steps are part of this hand-over from the EMR Offering to the PCOI viewlet to manage the described workflow.

1. The EMR Offering attempts to retrieve the patient's DHDR records and encounters a patient consent block. The EMR Offering initiates the patient consent override workflow by calling the PCOI viewlet and providing information to identify the patient in question and the clinician making the request.
2. The EMR Offering waits for the workflow to be processed and the result to be returned back from the PCOI viewlet.
3. The PCOI viewlet retrieves the patient context and initiates the consent override workflow.
4. The PCOI viewlet proceeds through the workflow, which includes having the EMR user complete a web-based form to request the patient consent override.
5. The patient consent override request (or refusal) is captured by the PCOI viewlet.
6. The request is submitted by the PCOI viewlet to the DHDR EHR Service and notifies the EMR Offering upon completion.
7. The EMR Offering re-attempts to retrieve the patient's DHDR records again and the results are returned from the DHDR EHR Service – now temporarily unblocked.

¹ Patients may contact Service Ontario or visit the MOH's website (<http://www.ontario.ca/mydruginfo>) to obtain the appropriate forms to block or unblock access to their drug and pharmacy service information. This process is managed by the MOH.

The following diagram identifies the workflow within the EMR Offering when a patient consent directive is encountered. It illustrates the hand-off between the EMR Offering and the PCOI viewlet.

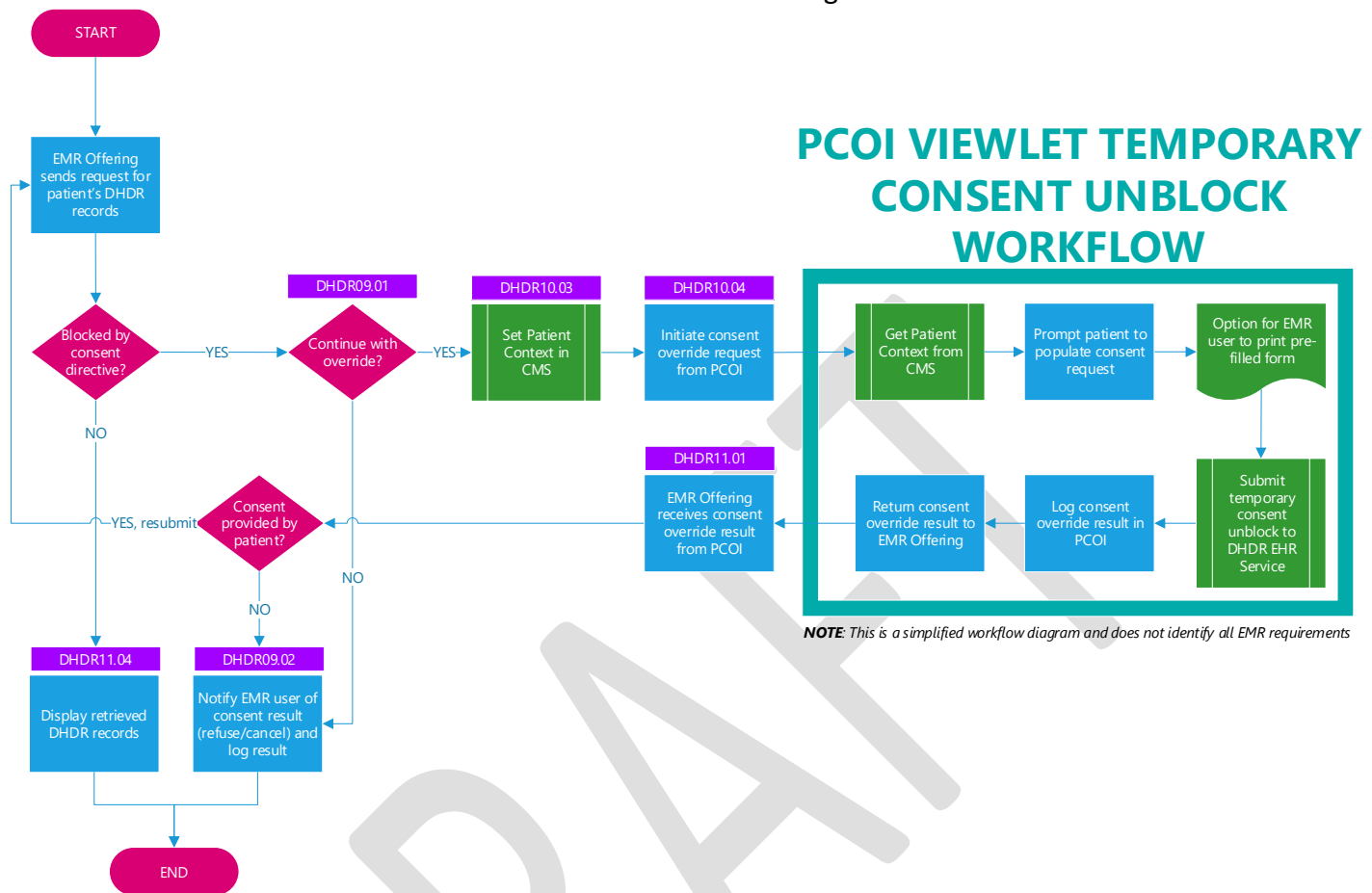


Figure 2 – Temporary patient consent unblocking interaction between EMR Offering and the PCOI viewlet.

2.2 DHDR EHR Service Views

The following figures illustrate the distinction between the different ‘views’ that the EMR Offering is required to provide when displaying a patient’s dispense history retrieved from the DHDR EHR Service. These examples contain fictitious patient data and are intended for illustrative purposes only. Implementation of these views may vary in different EMR Offerings. Also, please note that the data elements displayed in the illustrations may not accurately reflect the minimum data elements required to be displayed in each view; refer to the relevant EMR requirements for the list of data elements to display.

2.2.1 Summary View

The following diagram illustrates an example of a Summary View where the patient’s drug dispense events are retrieved from the DHDR EHR Service and displayed in an EMR Offering. Individual events that have the same generic name, strength, and form are grouped together under the most recently dispensed event, with the “Rx Count” indicating the actual number of drug dispense events represented in each grouping. Each group is depicted with data pertaining to the most recent drug dispense event (by Dispense Date) within that group.

Patient: John Doe DOB: 2000-12-31										
Drug Dispense Events from DHDR – Summary View (Grouped by Name, Strength, Form)										
Dispense Date	Generic	Strength	Dosage Form	Quantity	Est Days Supply	Prescriber	Prescriber #	Pharmacy	Pharmacy Fax #	Rx Count
2018-02-22	ATENOLOL	50mg	Tablet	2	30	Jane Smith	123-345-678	Best Pharmacy	444-567-324	3
2014-12-16	ATENOLOL	10mg	Tablet	5	30	Jane Smith	123-345-678	Okay Pharmacy	444-567-324	5
2007-12-16	FLOVENT	250mcg	Puff	2	50	John Johnson	395-347-896	Good Pharmacy	956-558-333	10
Date retrieved from DHDR: 2019-06-31T23:59 Warning: Limited to Drug and Pharmacy Service Information available in the Digital Health Drug Repository (DHDR) EHR service. To ensure a Best Possible Medication History, please review this information with the patient/family and use other available sources of medication information in addition to the DHDR EHR service.										

Note that the strength is different than the above group, which is why a separate grouping of dispense events is displayed.

Rx Count indicates the # of Drug Dispense Events in this grouping. Each line item in the Summary View represents a group of Drug Dispense Events.

Figure 3 - Illustration of the Summary View (Drug Dispense) in the EMR Offering

Expanding a grouping of dispense events displays all the events in that grouping.

Patient: John Doe									
DOB: 2000-12-31									
Drug Dispense Events from DHDR – (ATENOLOL 50mg Tablet)									
Dispense Date	Generic	Strength	Dosage Form	Quantity	Est Days Supply	Prescriber	Prescriber #	Pharmacy	Pharmacy Fax #
2018-02-22	ATENOLOL	50mg	Tablet	2	30	Jane Smith	123-345-678	Best Pharmacy	444-567-324
2017-12-22	ATENOLOL	50mg	Tablet	7	30	Jane Smith	123-345-678	Best Pharmacy	444-567-324
2017-10-16	ATENOLOL	50mg	Tablet	1	30	Julie Jacobs	345-678-901	Decent Pharmacy	986-567-237
Date retrieved from DHDR: 2019-06-31T23:59									
Warning: Limited to Drug and Pharmacy Service Information available in the Digital Health Drug Repository (DHDR) EHR service. To ensure a Best Possible Medication History, please review this information with the patient/family and use other available sources of medication information in addition to the DHDR EHR service.									

Figure 4 - Illustration of an expanding a group of events (Drug Dispense) in the EMR Offering

The above expectations for the Summary View also apply when displaying the events which are pharmacy services. These events are grouped by the Pharmacy Service Type.

2.2.2 Comparative View

The following diagram illustrates an example of a Comparative View. The patient's dispense events are retrieved from the DHDR EHR Service and displayed alongside prescription events stored in the EMR Offering. This view does not apply to pharmacy service events.

Patient: John Doe

DOB: 2000-12-31

Drug Dispense Events from DHDR – Summary View (Grouped by Name, Strength, Form)

Dispense Date	Generic	Strength	Dosage Form	Quantity	Est Days Supply	Prescriber	Prescriber #	Pharmacy	Pharmacy Fax #	Rx Count
2018-02-22	ATENOLOL	50mg	Tablet	2	30	Jane Smith	123-345-678	Best Pharmacy	444-567-324	3
2014-12-16	ATENOLOL	10mg	Tablet	5	30	Jane Smith	123-345-678	Okay Pharmacy	444-567-324	5
2007-12-16	FLOVENT	250mcg	Puff	2	50	John Johnson	395-347-896	Good Pharmacy	956-558-333	10

Date retrieved from DHDR: 2019-06-31T23:59

Warning: Limited to Drug and Pharmacy Service Information available in the Digital Heath Drug Repository (DHDR) EHR service. To ensure a Best Possible Medication History, please review this information with the patient/family and use other available sources of medication information in addition to the DHDR EHR service.

Prescription Event(s) in EMR

Writ ten Date	Start Date	Medication	Strengt h	Dosage	Form	Route	Frequency	Duration	Refill Duration	Quantity	Refill Quantity	# Refills	Long- Term	Past Med	Compl	Notes	Instructions	Prescriber	Prescri ber ID
2014 -01- 01	2014- 01-03	HUMULIN 30/70 100 UNIT/ML (30-70) SUSPENSION	100 unit/mL (30-70)	5	Suspe nsion	subcut aneous	TID	10	20	150	300	2	N	Y	Y	Note	Patient is taking it	Simon Samson	700004

Figure 5 - Illustration of Comparative View in EMR Offering

2.2.3 Detailed View

The Detailed View provides the EMR user with the full set of data about a single drug dispense event from the list of events shown in a Summary View. This view does not apply to pharmacy service events.

Patient: John Doe	
DOB: 2000-12-31	
Detailed View (ATENOLOL 50mg Tablet – Dispensed 2018-02-22)	
Element	Value
Rx ID	01324
Dispense Date	2018-02-22
DIN	02039532
Generic Name	ATENOLOL
Brand Name	---
Therapeutic Class	CARDIOVASCULAR DRUGS
Sub-Class	CARDIAC DRUGS
Strength	50mg
Dosage Form	Tablet
Quantity	2
Est Days Supply	30
Prescriber	Jane Smith
Prescriber ID	4758621
ID Type	Physician
Prescriber Phone #	123-345-678
Pharmacy	Best Pharmacy
Pharmacist	John Johnson
Pharmacy Fax #	444-567-324
Pharmacy Phone #	456-897-325

Figure 6 - Illustration of a Detailed View in the EMR Offering

3. APPENDIX A: GLOSSARY OF KEY TERMS AND DEFINITIONS

3.1 Acronyms and Abbreviations

This table identifies definitions for terms used within or that are relevant to this EMR specification.

ACRONYM	DEFINITION
API	Application Programming Interface
BPMH	Best Possible Medication History
CPP	Cumulative Patient Profile
CPSO	College of Physicians and Surgeons of Ontario
DHDR	Digital Health Drug Repository
DIN	Drug Identification Number
DUR	Drug Utilization Review
EAP	Exceptional Access Program
EHR	Electronic Health Record
EMR	Electronic Medical Record
FHIR	Fast Healthcare Interoperability Resources
HCN	Health Card Number
HL7	Health Level Seven
MOH	Ministry of Health (formerly MOHLTC)
MOHLTC	Ministry of Health and Long-Term Care
NMS	Narcotics Management System
ODB	Ontario Drug Benefit
PCR	Provincial Client Registry
PIN	Product Identification Number
SADIE	Special Authorization Digital Information Exchange
SDM	Substitute decision-maker
HIC	Health Information Custodian

ACRONYM	DEFINITION
PCOI	Patient Consent Override Interface
PHI	Personal health information
PHIPA	Personal Health Information Protection Act
SDM	Substitute decision-maker
UAO	Under the Authority of
URI	Uniform Resource Identifier
URL	Uniform Resource Locator

3.2 Definitions

TERM	DEFINITION
Dispense event	<p>A single dispense of medication or pharmacy service recorded for the patient.</p> <p>This may include data about the patient, the dispense event, the practitioner who prescribed the medication or pharmacy service that was dispensed, the practitioner who dispensed the prescribed medication or pharmacy service, and other system information as it relates to this information.</p>
Dispense history	<p>The complete set of dispense events for the patient.</p> <p>In the context where filters or constraints are applied, this encompasses the subset of dispense events for that patient.</p>
Health Information Custodian (HIC)	<p>The institution, facility or practice that provides health care to a patient.</p> <p>A HIC is authorized and responsible to collect, use or disclose PHI</p>
Medication event	<p>A single medication (either prescribed by EMR user or historical) recorded for the patient in the EMR Offering.</p>
Medication history	<p>The complete set of medication events recorded in the EMR Offering for the patient.</p>
Patient chart	<p>Patient cumulative profile on the EMR</p>
Under the Authority of (UAO)	<p>This information is useful to identify the HIC when another agent or system acts under the authorization of the HIC. This information is used to identify the organization for whom to temporarily unblocking a patient consent directive.</p> <p>A temporary consent unblock, when triggered by one EMR user, applies to all EMR users belonging to the same HIC or organization, or UAO. This applies specifically to the DHDR EHR Service – each EHR service defines different business rules regarding the scope of a consent override.</p>

TERM	DEFINITION
Viewlet	A webpage or website that fulfills a specific function or task.

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