Let’s Talk Informatics

The Drug Information System in Clinical Practice

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Bethune Ballroom, Halifax, Nova Scotia
Please be advised that we are currently in a controlled vendor environment for the One Person One Record project.

Please refrain from questions or discussion related to the One Person One Record project.
Informatics...

utilizes health information and health care technology to enable patients to receive best treatment and best outcome possible.
Clinical Informatics...

is the application of informatics and information technology to deliver health care.

Objectives

At the conclusion of this activity, participants will be able to...

▪ Identify what knowledge and skills health care providers will need to use information now and in the future.
▪ Prepare health care providers by introducing them to concepts and local experiences in Informatics.
▪ Acquire knowledge to remain current with new trends, terminology, studies, data and breaking news.
▪ Cooperate with a network of colleagues establishing connections and leaders that will provide assistance and advice for business issues, as well as for best-practice and knowledge sharing.
Session Objectives

• Introduce the Drug Information System (DIS) and its purpose
• Increase awareness of the clinical information available in the Drug Information System
• Increase understanding of how DIS information can be applied in practice
• Explain how health care providers can access the DIS
• Provide an update on DIS progress
Conflict of Interest Declaration

• We do not have an affiliation (financial or otherwise) with a pharmaceutical, medical device, health care informatics organization, or other for-profit funder of this program.
What is the Drug Information System?
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Objective of the DIS:
• Facilitates secure electronic exchange of medication information
• Provide more complete information to health care providers in a single system with multiple points of access
• To ensure patient safety by reducing and/or eliminating drug related adverse events
• Supports existing Medication Reconciliation processes
• Enables the creation of electronic prescriptions (e-Prescribing)
• The DIS Program is the responsibility of DHW, with clinical application support provided by NSHA IM/IT
Information for Clinical Practice

- The DIS medication profile automatically includes:
  - Prescriptions dispensed by community pharmacies
  - e-Prescriptions for drugs and devices
- If entered by a healthcare provider*, the medication profile may also include:
  - Other Medications (e.g., OTCs, Drug Samples, Natural Products)
  - Allergies & Intolerances
  - Adverse Drug Reactions
  - Immunizations
  - Medical Conditions
  - Patient Observations
  - Patient Notes
  - Pharmacy Professional Services (e.g., smoking cessation) – entered by community pharmacies only

* Dispensary staff in community pharmacies and healthcare providers Portal with access to the DIS
How does the DIS work?

- The DIS is integrated pharmacy software to automatically capture all drug dispenses in real-time.
  - There are over 300 pharmacies in Nova Scotia and all are connected to the DIS
- Outside pharmacies, health care providers and their support staff can view and/or update information in the DIS through two web-based portals: the DIS Portal and the SHARE Clinical Portal.
Accessing the DIS

...in hospital, healthcare providers access the DIS through either the SHARE Clinical Portal or the DIS Portal...

- **SHARE Clinical Portal**
  - A new tab called Community Med Profile with ‘view-only’ access to the medication profile

- **DIS Portal**
  - Web based and allows prescribers to add to or update information in a patient’s medication profile
  - Enables the creation of e-prescriptions

- **To get access:**
  - Prescribers (physicians, nurse practitioners, pharmacists, etc.) are eligible for access to the SHARE and DIS Portals.
  - Non-prescriber roles access the DIS via the Community Med tab in SHARE.
  - Provincial SHARE Coordinators are available to assist users looking for DIS and/or SHARE access
E-Prescribing

- e-Prescriptions can be submitted by authorized prescribers through the **DIS Portal**
  - *True electronic transmission with no paper*
- e-Prescriptions through the DIS are the only form of e-prescription authorized by the NS College of Pharmacists
- The patient can fill the prescription at any community pharmacy in Nova Scotia
- The NS PMP Board has approved the use of e-prescribing through the DIS Portal for monitored drugs
  - *No duplicate PMP pad required*
Practice Applications

- **Drug Utilization Review (DUR)** is also performed by the DIS
  - DUR alerts display at time of dispense by pharmacies
  - DUR alerts also display for **e-prescriptions** at time of prescribing
  - Prescribers can also do a pre-determination to see if there are interactions with a drug prior to issuing a prescription
Practice Applications

- The DIS provides information to support medication reconciliation
  - Complete, detailed information on current medications is available from the DIS
    - Do not have to contact each individual pharmacy
  - Reports are available that can be printed and reviewed to support Med Rec
  - Working with the NSHA and IWK on a separate, approved report
Practice Applications

Existing DIS Medication Reconciliation Report

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**Medication Reconciliation Report**

For: JEFFERIE'S, DIS CARTER  
Date of Birth: 1934-09-07 Gender: Male  
Date range: 2017-08-08 - 2018-02-08  
Identifier: 8060110007 NS-HCN

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**Medication History**

Medications as per NS DIS on 2018-02-08

**Allergy/Intolerance Information**

<table>
<thead>
<tr>
<th>Substance</th>
<th>Type</th>
<th>Recorded By</th>
<th>Start Date</th>
<th>Severity</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMOXICILLIN 125 mg ORAL</td>
<td>Allergy</td>
<td>Angela Mcgee</td>
<td>2017-12-05</td>
<td>High</td>
</tr>
</tbody>
</table>

**Medication Information**

- **COMPOUND**: Atorvastatin Calcium  
  **Form**: Oral Tablet  
  **Sig**: Take once daily

- **Last Dispense Pickup Date**: 2017-10-18  
  **Last Dispensed Quantity**: 30  
  **Prescribed By**: James, Jesse

- **Last taken at**: Unable to verify

**Medication Order**

- **Dose, route, frequency per verification**
- **Dose, route, frequency per NS DIS**
- **Discontinue** or **Hold for evaluation**
- **Change to**: Reason for disc, hold, change:

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**Medication Information**

- **COMPOUND**: Hydrocodone HCl  
  **Form**: Oral Tablet

- **Last Dispense Pickup Date**: 2017-10-18  
  **Last Dispensed Quantity**: 112  
  **Prescribed By**: James, Jesse

- **Last taken at**: Unable to verify

---

**Medication Order**

- **Dose, route, frequency per verification**
- **Dose, route, frequency per NS DIS**
- **Discontinue** or **Hold for evaluation**
- **Change to**: Reason for disc, hold, change:
## Practice Applications

### DIS Medication Profile Report

**NOVA SCOTIA**

<table>
<thead>
<tr>
<th>Drug Name</th>
<th>Prescribed Date</th>
<th>Last Pick Up Date</th>
<th>Remaining Quantity</th>
<th>Last Quantity Picked Up</th>
<th>Prescribed By</th>
<th>Status</th>
<th>Issues</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fluzone Troment Subcon 45mg/0.5mL</td>
<td>2017-10-18</td>
<td>2017-10-18</td>
<td>0</td>
<td>5</td>
<td>Jesse James</td>
<td>Completed</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>ATORVASTATIN 10 MG SWALLOW, ORAL</td>
<td>2017-10-18</td>
<td>2017-10-18</td>
<td>360</td>
<td>30</td>
<td>Jesse James</td>
<td>Active</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>APO-HYDROMORPHONE 1 MG SWALLOW, ORAL</td>
<td>2017-06-06</td>
<td>2017-10-18</td>
<td>112</td>
<td>112</td>
<td>Jesse James</td>
<td>Active</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>DILAUDID 1 MG SWALLOW, ORAL</td>
<td>2017-06-05</td>
<td>2017-06-05</td>
<td>252</td>
<td>63</td>
<td>Angela McGee</td>
<td>Active</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>HYDROMORPH CONTIN 24 MG SWALLOW, ORAL</td>
<td>2017-06-05</td>
<td>2017-06-05</td>
<td>180</td>
<td>60</td>
<td>Angela McGee</td>
<td>Active</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>COUMADIN 1 MG SWALLOW, ORAL</td>
<td>2016-11-15</td>
<td>2017-06-06</td>
<td>30</td>
<td>30</td>
<td>Angela McGee</td>
<td>Active</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>APO-RABEPRAZOLE 20 MG SWALLOW, ORAL</td>
<td>2016-11-15</td>
<td>2017-10-18</td>
<td>0</td>
<td>60</td>
<td>Jennifer Sweetapple</td>
<td>Completed</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>APO-LORAZEPAM 1 MG SWALLOW, ORAL</td>
<td>2016-10-07</td>
<td>2016-01-02</td>
<td>1</td>
<td>7</td>
<td>Angela McGee</td>
<td>Active</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>PMS-DOMPERIDONE 10 MG SWALLOW, ORAL</td>
<td>2016-01-02</td>
<td></td>
<td>540 u</td>
<td></td>
<td>Physician Default</td>
<td>Active</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

**SIG:** Take 1 tablet three times a day with meals.
Practice Applications

- The DIS is the sole source of information on drug dispenses for the **NS Prescription Monitoring Program (PMP)**
  - The DIS provides data to the PMP on an hourly basis, but the PMP is still responsible for all monitoring activities
  - The DIS is the source of the information found in eAccess
    - All information in that is in eAccess is in the DIS
  - The DIS sends DUR alerts for potential double-doctoring and duplicate therapy
  - The DIS now facilitates the collection of benzodiazepine dispensing data which is also sent to the PMP
    - Not currently in eAccess
DIS in Clinical Practice At Discharge

• Mr. Smith is being discharged from hospital and has changes to his warfarin, requires INR testing and had an allergic reaction to penicillin
• Using the DIS Portal the prescriber can first review his medication profile
## DIS in Clinical Practice At Discharge

<table>
<thead>
<tr>
<th>Prescriptions (6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rx ID</strong></td>
<td><strong>Medication</strong></td>
</tr>
<tr>
<td>----------</td>
<td>----------------</td>
</tr>
<tr>
<td>19010</td>
<td>ATORVASTATIN 10 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>11096</td>
<td>DILAUDID 2 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>10983</td>
<td>DILAUDID 1 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>10982</td>
<td>HYDROMORPH CONTIN 24 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>6041</td>
<td>COUMADIN 1 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5984</td>
<td>APO-RABEPRAZOLE 20 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>TAKE 1 TABLET TWICE A DAY</strong></td>
</tr>
</tbody>
</table>

### Other Medications (1)

<table>
<thead>
<tr>
<th>Medication</th>
<th><strong>Start Date</strong></th>
<th><strong>End Date</strong></th>
<th><strong>Issues</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASPIRIN 81 MG SWALLOW, ORAL</td>
<td>2017-07-10</td>
<td>2018-07-09</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

### Conditions (2)

<table>
<thead>
<tr>
<th>Condition</th>
<th><strong>Start Date</strong></th>
<th><strong>End Date</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>BENIGN HYPERTENSION</td>
<td>2016-09-27</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>GASTRO-oesophageal reflux disease without oesophagitis</td>
<td>2011-10-03</td>
<td></td>
<td>No</td>
</tr>
</tbody>
</table>

### Allergies/Intolerances (1)

<table>
<thead>
<tr>
<th>Substance</th>
<th><strong>Type</strong></th>
<th><strong>Start Date</strong></th>
<th><strong>Severity</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>AMOXICILLIN 125 MG ORAL</td>
<td>ALLERGY</td>
<td>2017-12-05</td>
<td>HIGH</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Adverse Reactions (1)

<table>
<thead>
<tr>
<th>Reaction</th>
<th><strong>Reaction Onset Date</strong></th>
<th><strong>Severity</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
</table>
Discharge: Add a Penicillin Allergy

<table>
<thead>
<tr>
<th>Substance:*</th>
<th>PENICILLIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type:*</td>
<td>DRUG ALLERGY</td>
</tr>
<tr>
<td>Start Date:*</td>
<td>2018-02-08</td>
</tr>
<tr>
<td>Severity:</td>
<td>HIGH</td>
</tr>
<tr>
<td>Uncertainty:</td>
<td>Certain</td>
</tr>
<tr>
<td>Status:</td>
<td>Active</td>
</tr>
<tr>
<td>Informant:</td>
<td>None Specified</td>
</tr>
</tbody>
</table>

Note:
Anaphylactic reaction to PenVK
Discharge-Abort RX and Add Note

<table>
<thead>
<tr>
<th>Prescribed by</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescriber</td>
<td>Angela McGee</td>
</tr>
<tr>
<td>Prescription Type</td>
<td>CONTINUOUSCHRONIC</td>
</tr>
<tr>
<td>Medication</td>
<td>COUMADIN 1 MG SWALLOW, ORAL</td>
</tr>
<tr>
<td>Drug Form</td>
<td>TABLET</td>
</tr>
<tr>
<td>Fill Rx On or After</td>
<td>2016-11-22</td>
</tr>
<tr>
<td>Rx Expire</td>
<td>2017-11-22</td>
</tr>
<tr>
<td>Directions for Use</td>
<td>Take 1 Tablet(s) once a day.</td>
</tr>
<tr>
<td>Intended Indications</td>
<td>Warfarin dose changed, new Rx issued</td>
</tr>
<tr>
<td>Notes</td>
<td>Add New Note</td>
</tr>
</tbody>
</table>

Recorded From: DIS Portal
Recorded On: 2016-11-22
Discharge-Abort RX and Add Note
Discharge-E-prescribe new RX
Discharge-Add Note About Blister Packs

Patient Notes (PN901)

- Type: GENERAL NOTE
- Note: Blister pack all medications

Options: Remove, Reset, Save
Progress to Date

October 2016 All pharmacies connected to the DIS

37 million dispense records

9,000 e-prescriptions

940,000 patient records
Questions?
Let’s Talk Informatics has been certified for continuing education credits by;

- College of Family Physicians of Canada and the Nova Scotia Chapter for 1 Mainpro+ credit.
- Digital Health Canada for 1CE hour for each presentation attended. Attendees can track their continuing education hours through the HIMSS online tracking certification application, which is linked to their HIMSS account.
Thank you for attending this event.