First Databank

# FDB MEDKNOWLEDGE™ CANADA PACKAGES

Knowledge Bases

## Advancing Medication Decision Support Through Intuitive, Configurable and Actionable Drug Knowledge

**FDB MedKnowledge Canada** is one of the healthcare industry's most widely used source of drug information utilized at the point of care. Encompassing drugs approved by Health Canada and natural health products, it combines descriptive drug information and unique identifiers with an extensive array of clinical decision support modules. **FDB MedKnowledge Canada** helps pharmacists, physicians, nurses and other medical professionals avoid medication errors, prevent adverse drug events, reduce drug-related expenses and improve the quality of patient care.

For your convenience, **FDB MedKnowledge Canada** is comprised of packages designed to suit the application and need:

- **Core Package,**
- **Enhanced Package,** and
- **Premium Modules**

are offered separately.

*Available modules and packages may differ, depending on customer marketplace and intended use. Also, available modules and packages differ between FDB MedKnowledge Canada and the FDB MedKnowledge Framework™.*

## CORE PACKAGE

### FDB Foundations

#### Enhanced Therapeutic Classification™ System

The Enhanced Therapeutic Classification System is an advanced drug classification system that provides multiple ways to categorize drugs, for easy formulary maintenance and drug selection. It allows drugs to reside in multiple therapeutic classes, with links to drug concepts at any level of the hierarchy.

#### Multiple Access Points™

FDB's drug vocabulary encompasses a wide variety of logical ways to think about a drug, enabling you to search for, store and display drug information as broadly or narrowly as called for. These "multiple access points" (MAPs) allow developers to create more precise, user-specific applications.

As healthcare information systems grow more complex and drug databases are utilized in more settings, this flexibility becomes increasingly critical. MAPs follow good vocabulary practices and include a set of medication name identifiers, traditional FDB identifiers, plus therapeutic classifications and medical conditions.

#### Medical Test Lexicon™

The Medical Test Lexicon is a controlled vocabulary developed by FDB for the specific purpose of supporting the population of drug-lab interference records in the Drug-Lab Interference Module. Hospitals, pharmacies, physicians and clinical laboratories use the Medical Test Lexicon in conjunction with the Drug-Lab Interference Module to identify drugs that may falsely alter laboratory test results.

### Clinical Modules

#### Counseling Messages Module™

The Counseling Messages Module is a set of brief, prioritized counseling messages to assist the healthcare provider in counseling the patient, with a corresponding set for the professional. It serves as both a reminder and a reliable reference resource for clinicians with only important information highlighted. This content is not intended as a substitute for the Patient Education Module monographs, nor is it a substitute for oral counseling by a clinician.

*Also offered in Spanish and French as Premium Modules.*

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### Drug Allergy Module™
The Drug Allergy Module enhances the ability of clinicians to identify and consolidate information about drugs known to cause significant allergic reactions, cross-sensitivities, and drug intolerances by identifying and helping to avert drug-allergy issues. A specially developed Allergen Pick List streamlines workflow by giving the user a convenient way to quickly and easily record a patient's allergy, enabling fast and convenient allergy profiling.

### Drug-Drug Interaction Module™
The Drug-Drug Interaction Module helps clinicians identify and prevent clinically-significant drug interactions. It includes drug interaction information for prescription drugs, OTC drugs and natural health products. Management of alerts is achieved through superior configurability; by offering specific categories of interactions, users can fine tune alerts using severity levels and subcategories such as "conflicting evidence exists."

*A version targeted to the consumer is available as a Premium Module.*

### Drug-Food Interaction Module™
The Drug-Food Interaction Module alerts clinicians to potential interactions that may occur between certain drugs and foods and provides the capability of generating precautions or other advisories specific to each potential drug-food interaction. The results support a two-line message intended for prescription label printing, as well as access to the appropriate full-text monographs.

*A version targeted to the consumer is available as a Premium Module.*

### Drug-Lab Interference Module™
The Drug-Lab Interference Module identifies drugs that may falsely alter laboratory test results by causing an analytic interference in a laboratory test.

### Duplicate Therapy Module™
The Duplicate Therapy Module helps clinicians prevent patients from receiving duplicate drug therapies through the deployment of a highly-specific clinical screening of duplicate drug therapies with clinical relevance. The module helps detect potentially problematic duplications—not simply two drugs in the same therapeutic class, that may be validly prescribed together. For further refinement, a customizable field indicates how many drug duplicates are acceptable for a specific grouping.

### Min/Max Dose Modules™
Min/Max Dose Modules provide drug-dosing information to clinicians on the most frequently prescribed drugs. This five-module set offers an easy-to-implement resource for quick-check information on the usual range of daily doses for adult, pediatric, and geriatric patients.

### Patient Education Module™
The Patient Education Module encompasses an extensive collection of drug monographs in consumer language. The monographs are concise summaries of the important information patients need to know about drugs. Though not intended to be a replacement for patient-specific counseling by a clinician, the module can serve as a counseling adjunct and a useful tool for patient reference. Monographs include information on the risks and benefits of a drug product and may promote patient compliance.

*Also offered in Spanish and French as Premium Modules.*

### Prioritized Label Warnings Module™
The Prioritized Label Warnings Module provides auxiliary labels and establishes label priority for a particular drug product based on the relative clinical importance of the message for that particular clinical formulation. These label warnings enable clinicians to provide patients with essential information by affixing the labels to the medication vial, or printing them separately for reference.

*Also offered in Spanish and French as Premium Modules.*

### Tall Man Plus™
Tall Man Plus provides alternating uppercase and lowercase spellings of drug names to visually distinguish look-alike and sound-alike medication names. Tall Man Plus also includes confused drug groupings and potentially problematic drug names based on recommendations from the US FDA, ISMP, CAPCA, and an expanded list developed by FDB.

## ENHANCED PACKAGE

Includes the Core Package, plus the following:

### FDB Foundations

### Medical Lexicon™
The Medical Lexicon (FML) is a specialized medical vocabulary relating drug products to various diagnoses and health-related concepts in numerous FDB disease decision support and dosing modules. Each Disease Identifier (DxID) in the FML is linked to various textbook names, as well as preferred professional names and synonyms; layman names and synonyms; and standard abbreviations.

Enhanced Package continued:

Cross-references are also made between DxIDs and SNOMED CT, ICD-9-CM, ICD-10-CM and ICD-10-PCS coding systems. Use of FML "semantic networks" enables applications to generate more comprehensive—yet precise—hits and alert messages, when compared to traditional approaches to navigating hierarchical medical vocabularies.

## Clinical Modules

### Dosage Range Check Module™

The Dosage Range Check Module helps clinicians monitor the appropriateness of drug dosing. It uses age, route of administration, indications, and organ function data to identify safe dosage levels based on certain patient-specific parameters. It provides renal dose screening, hepatic adjustment indicators, and lifetime maximum dose. Dosing information also accommodates the narrow therapeutic window for neonates and infants.

### Drug-Disease Contraindications Module™

The Drug-Disease Contraindications Module creates warnings concerning the use of certain drugs in patients with specific conditions and diseases, or patients who have had certain procedures or diagnostic tests. Clinicians may use these warnings to make informed decisions about altering a patient's drug therapy when these conditions exist.

### Geriatric Precautions Module™

The Geriatric Precautions Module provides clinicians access to relevant geriatric drug warnings, including a descriptive narrative, the severity level, and specific organ systems associated with the precaution information.

### Indications Module™

The Indications Module is used as a tool for assessing the appropriateness of drug therapy for a specific medical condition, based on current medical evidence. This module aims to help clinicians make informed decisions regarding medication therapy and may also be used to help identify potentially inappropriate drug treatment for a given disease. The module includes both approved and certain "off-label" indications substantiated by primary medical literature.

### Intravenous Module™

The Intravenous Module can help clinicians avoid the compatibility problems frequently encountered in the compounding and dispensing of IV preparations, decrease the time spent investigating compatibilities manually, and eliminate speculation and costs associated with wasted solutions. Content is derived from the *Handbook on Injectable Drugs*™, maintained by the American Society of Health-System Pharmacists® (ASHP). Also, with drugs-in-solution, total parenteral nutrition (TPN), Y-site, and drugs-in-syringe data, this module offers users extensive information on IV-drug compatibility.

### Lactation Precautions Module™

The Lactation Precautions Module provides warnings about the use of specific drugs in nursing mothers and whether the drug is passed into the breast milk and the potential for harm to the infant.

### Pediatric Precautions Module™

The Pediatric Precautions Module recognizes that pediatric patients can have increased sensitivity to particular effects of drug therapy, especially within specific age ranges. This module provides clinicians with valuable safety information or monitoring guidelines for minimizing adverse effects and the ability to generate brief messages should a problem or concern exist.

### Pregnancy Precautions Module™

The Pregnancy Precautions Module enables clinicians to recognize drug therapy that may not be appropriate for pregnant women or female patients of childbearing age and provides information, when available, on the teratogenic risk, adverse effect(s), carcinogenicity and/or mutagenicity or a drug in the human or fetus. Information is provided, when available, on adverse effects of a drug on the mother during gestation, labor or delivery.

### Prescriber Order Entry Module™

The Prescriber Order Entry Module (POEM) is a database of commonly predefined inpatient medication orders and outpatient prescriptions for adults, with clinically-validated, drug-specific doses and frequencies. These features are designed to protect clinicians against prescribing errors that are the most common causes of adverse drug events.

### Side Effects Module™

The Side Effects Module addresses the problem of drug side effects and drug-induced illness. As a reference tool, detailed lists of drug side effects can be generated for use by clinicians in patient monitoring and counseling. As a screening tool, clinicians can check the potential for additive drug side effects between two or more medications.

## PREMIUM MODULES

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(each licensed separately)

### AHFS Drug Information® Monographs

The American Hospital Formulary Service® Drug Information (AHFS DI) from the ASHP provides an evidence-based foundation for safe and effective drug therapy. These full-text monographs have been officially designated as a federal standard on drug therapy, based on accepted medical practice, and are used by pharmacists, physicians, nurses, and other clinicians in a wide range of healthcare environments.

### Canadian Clinical Drug Data Set Interoperability Module™

The Canadian Clinical Drug Interoperability Module provides mappings from FDB concepts to the Canadian Clinical Drug Data Set to enable the interoperability of medicinal products in support of the Canadian national e-prescribing system. FDB has extended the Canadian Clinical Drug File to FDB MedKnowledge™ Canada via a module that provides cross-references from selected FDB medication concepts to targeted Canadian Clinical Drug File concepts. In addition to the cross-reference links, descriptions for Canadian Clinical Drug File concepts and auxiliary information (as published by the Health Canada source), will be redistributed.

### Drug-Drug Interaction Module for Consumers™

The Drug-Drug Interaction Module for Consumers includes monographs on potential drug interactions to assist clinicians in educating the consumer about potential interactions that may occur between certain drugs.

### Drug-Food Interaction Module for Consumers™

The Drug-Food Interaction Module for Consumers includes monographs on potential drug-food interactions to assist clinicians in educating the consumer about potential interactions that may occur between certain drugs and foods.

### FDB OrderKnowledge®

FDB OrderKnowledge is a computerized prescriber order entry (CPOE)-ready drug knowledge base designed for medication ordering and prescribing. FDB OrderKnowledge is the first commercial product prebuilt to help make CPOE systems more user-friendly, including content that supports the user in completing an order in just two clicks. FDB OrderKnowledge extends CPOE capabilities and promotes accuracy by providing validated dose and frequency selections proactively. Prebuilt medication orders and sigs are tailored to physician workflow and support considerations like PRN reasons, special instructions, dose adjustments for organ impairment, and pediatric and discharge orders. Ordered and prescribed dosage calculations are supported via drug-specific rounding and variance increments.

### French Language Consumer Package

This package includes French language patient education monographs, counseling messages and prioritized label warnings.

### Opioid Risk Management Module™

This module facilitates a cumulative morphine equivalence calculation for opioid containing products. FDB will provide conversion ratios for opioids utilizing Canadian resources, such as the Canadian Pain Centre, when available, and when not provided, FDB will default to the U.S. Centers for Disease Control and Prevention (CDC) sources, if available . Additionally, the module will identify benzodiazepine, non-benzodiazepine sedative/hypnotic and muscle relaxant medications that, when used concurrently with opioids, can increase the risk of adverse effects.

### SNOMED CT Module

The SNOMED CT Module provides SNOMED CT concepts, terms, relationships, cross-references to FDB disease identifiers (DXIDs), and value sets for advanced allergy and intolerance documentation purposes. This module helps enable drug-disease clinical decision support and documentation of patient problems including food and environmental allergies and intolerances, allergic reactions, severities, and type using a standardized vocabulary. This standardization supports the portability and exchange of patient information between disparate healthcare applications.

## INTEGRATION OPTIONS

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FDB offers several options to integrate drug knowledge solutions into healthcare IT systems: programming to the drug knowledge directly or utilize our advanced developer software. The former utilizes ASCII files with content in tables that allow developers to continue to use their own data structures. Our developer software makes the development process faster and more efficient by reducing the need for complex programming.

- The FDB MedKnowledge Framework's components encapsulate FDB's proven drug knowledge and expertise in a highly flexible suite of intuitive, integrated software components. It offers a choice of technology and RDBMSs and adapts to most platforms, operating systems, and development tools. The FDB MedKnowledge Framework is compatible with clinical content from both the U.S. and Canada.

**For more information, contact Sales today at 800.633.3453 or visit fdbhealth.com**

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