

Important Information - Change is Coming

Transitioning to the GS1 DataMatrix: 2D Barcodes in Retail and Hospital Pharmacies Across Canada



When the barcode was introduced over 50 years ago, it revolutionized how we work and shop by linking physical products to their unique digital identities. This allowed critical product data to be shared across the supply chain, providing new capabilities for product tracking, simplified data management, and more accurate inventory and ordering.

Since that first scan, the complexities of healthcare have grown, particularly the need for more data and increased patient safety. In response, for product identification and traceability purposes, GS1 DataMatrix remains the 2D data carrier of choice in healthcare. This ensures the globally harmonised identification of products and facilitates implementations for all stakeholders.

At a Glance: The Benefits of the GS1 DataMatrix vs. Linear Barcodes (UPC-A)



GTIN: (01)0006878000108
Lot: (10)ABC123
Expiry Date: (17)17122024

GS1 DataMatrix



UPC-A Barcode

	GS1 DataMatrix	UPC-A Barcode
Size	Compact design ideal for small items like vials or wristbands.	Larger; may not fit well on small items.
Information Storage	Can store an extensive amount of data, including GTIN, expiry date, lot number, and much more.	Limited to Global Trade Item Number (GTIN), a product identifier.
Error Correction	Built-in error correction enables seamless scanning in any direction - even if partially damaged or torn.	Will not scan if damaged or torn.
Printing Flexibility	Capable of being printed on a variety of materials, including etched directly onto metal surfaces.	Primarily suited for paper and labels, with limited adaptability for direct material printing.
Global Compliance	Aligned with global healthcare position, mandatory for all regulated healthcare products.	Not aligned with global healthcare position.

The Journey to 2D Barcodes (GS1 Datamatrix)

Canada is advancing action to align with the global movement for the adoption of 2D barcodes (GS1 DataMatrix) on pharmaceuticals. Patient safety, best practices in dispensing to patient record workflow, along with improvements to supply chain traceability capabilities are the strategic imperatives driving this movement. The journey toward GS1 DataMatrix began with manufacturers and distributors and is now entering its final phase with retail and hospital pharmacies. Here's how the transition has unfolded:



Manufacturers

December 31, 2021 - 2023

Implemented GS1 DataMatrix on product packaging, encoding essential data such as

- GTIN
- Expiry date
- Lot number
- Serial Number (Optional)



Distributors

2023

Upgraded systems to scan, store, and process GS1 DataMatrix into legacy Enterprise Resource Planning (ERP), ordering, and distribution systems.



Retail and Hospital Pharmacies

2025

Have the capability to scan, store and process into legacy ERP, Pharmacy Practice Management (PPMs), Electronic Medical Records (EMRs).

Retail and hospital pharmacies are the final link in this chain—start preparing today to meet the December 2025 timeline.

2025 Readiness Checklist for Retail and Hospital Pharmacies

To prepare for the 2025 timeline, pharmacies must take the following steps:

- ✓ **1. Upgrade Scanners:** Ensure barcode scanners are compatible with GS1 DataMatrix. These scanners should be able to read 2D barcodes and extract the GTIN, Expiry date, and lot number.
- ✓ **2. Update Systems:** Review and upgrade legacy ERP, Pharmacy Practice Management (PPM), and Electronic Medical Record (EMR) systems. These systems should be able to:
 - Store and process 14-digit GTINs.
 - Handle variable data like lot numbers and expiry dates.
- ✓ **3. Train Staff:** Educate pharmacy teams on how to use updated scanners and systems to manage 2D barcodes effectively. Training will help ensure a smooth transition and minimize disruptions.
- ✓ **4. Plan Ahead:** Start collaborating with technology vendors and internal IT teams to implement changes before the deadline.

Helpful Resources

- [GS1 DataMatrix: A tool to improve patient safety through visibility in the supply chain](#)
- [2D eLearning Module: The Value of 2D Barcodes](#)
- [GS1 Automatic Identification Data Capture Healthcare Implementation Guideline](#)
- [GS1 General Specifications \(a deep dive on technical specifications, section 5.6\)](#)

Be Ready for 2025

Pharmacy leaders must act now to ensure seamless integration of 2D barcodes into their operations. Start by assessing your current systems, upgrading equipment, and preparing your teams for the transition.

For more information or to access support, contact the GS1 Canada Healthcare team at healthcare@gs1ca.org.