

# *Emerging Healthcare Leaders Webinar:*

## *The Impact of COVID-19 on Canada's Healthcare Systems: An Opportunity for Federal Supply Chain Coordination and Transformation*

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# Upcoming Events

## Next EHL Webinar

December 15, 2021 | 11:00pm CT/12:00pm ET

*The Benefits of Networking and Volunteering*

[www.himss.org/events](http://www.himss.org/events)

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- Receive a certificate and CE hours

[Search Results for "Healthcare IT Foundations" – OLI \(cmu.edu\)](#)

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# Welcome



**Zaryab Ahmed**  
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# *Agenda*

- **Canada's PPE Supply Chain**
- **Recommended Technology Solutions**
- **Implementation Plan**
- **Tracking Project Success**
- **Cost Analysis**

# *Learning Objectives*

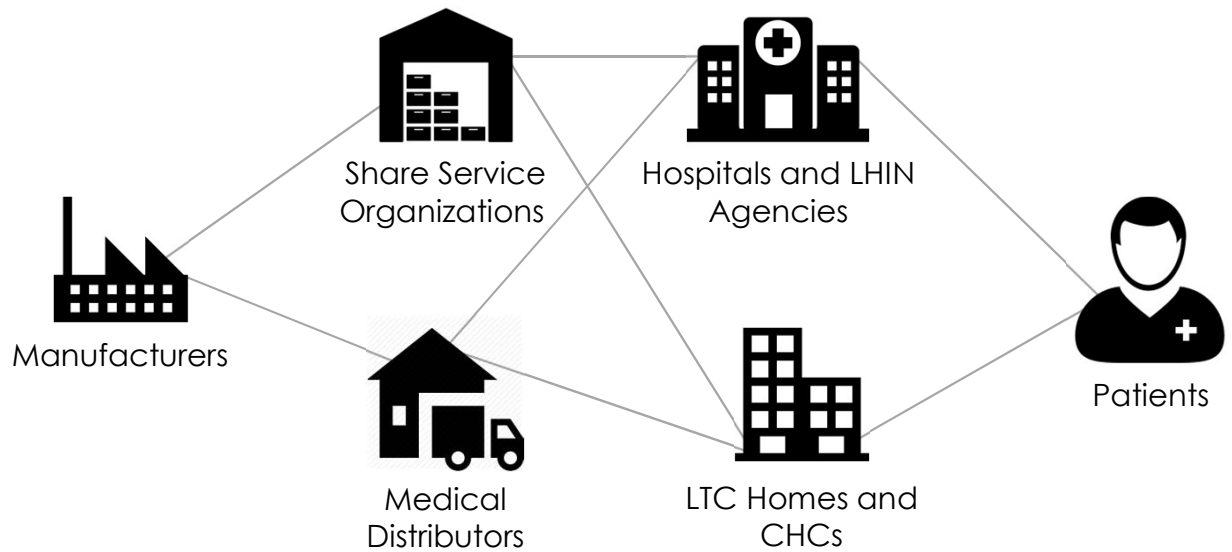
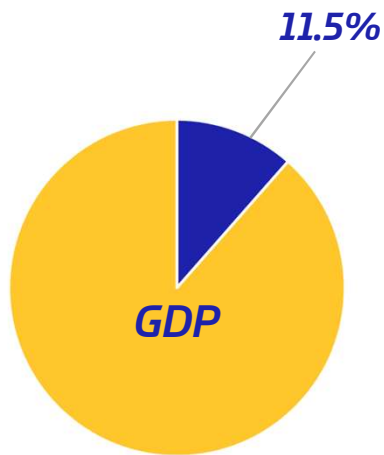
- **Recognize the pitfalls of Canada's PPE supply chain from the outset of the COVID-19 pandemic**
- **Identify applicable technological solutions that could potentially overcome these issues in the future**
- **Recommend an action plan to implement these technologies in the Canadian healthcare system**
- **Estimate potential costs to be incurred through this recommendation**

# Introduction

**1** Improving capacity to meet unexpected surges in demand

**2** Increasing digital infrastructure and data enablement

**3** Balancing regional and national priorities



# *Recommendation Criteria*





# Current System Integration

Technology

Data Enablement





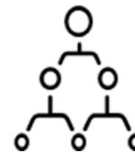
# Enhancing Procurement Processes



*PIPA compliant cloud-platform*



*Data enablement to enhance local procurement practices*



*Upstream data Sharing to provincial and federal levels*

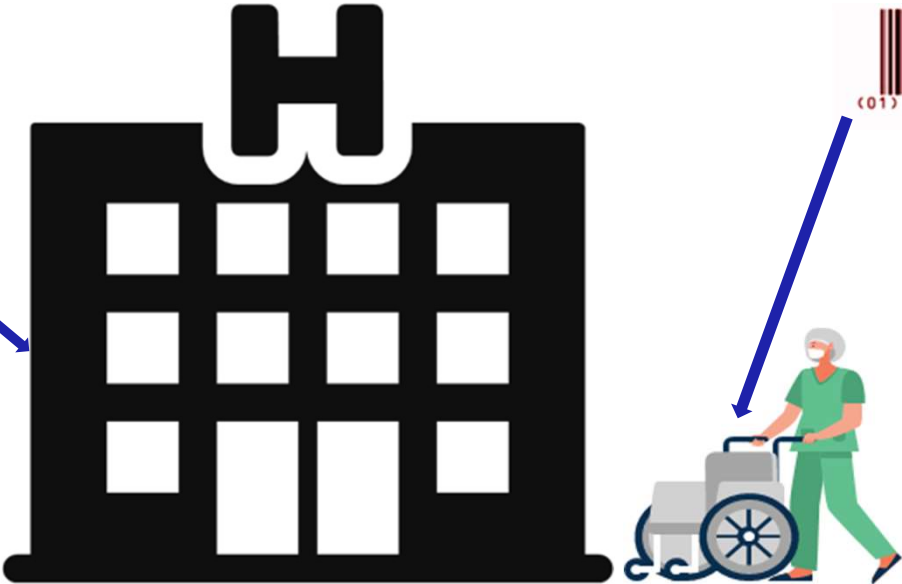
# Enabling GS1 Barcode System

*GTIN Global Trade Item Number and Extended Data*

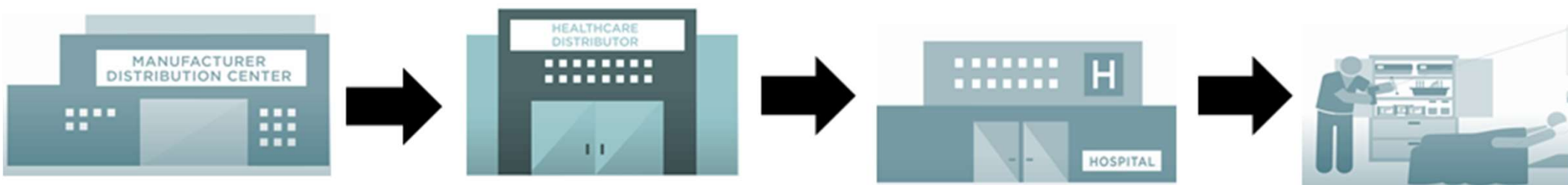
**LOCATION IDENTIFICATION**  
GLN Global Location Number  
0061414100005



**Deloitte.**



# Enabling GS1 From Manufacturer to Patient



1

*Local Analysts: monitor inventory, supply usage, predicted demand, storage capacity, and vendor performance* DM1

2

*Suppliers: supply availability, proximity to healthcare organizations, expiry dates, real-time product location*

3

*Provincial and Federal Analysts: current state supply needs and promoting knowledge translation*

**Deloitte.**



## Slide 11

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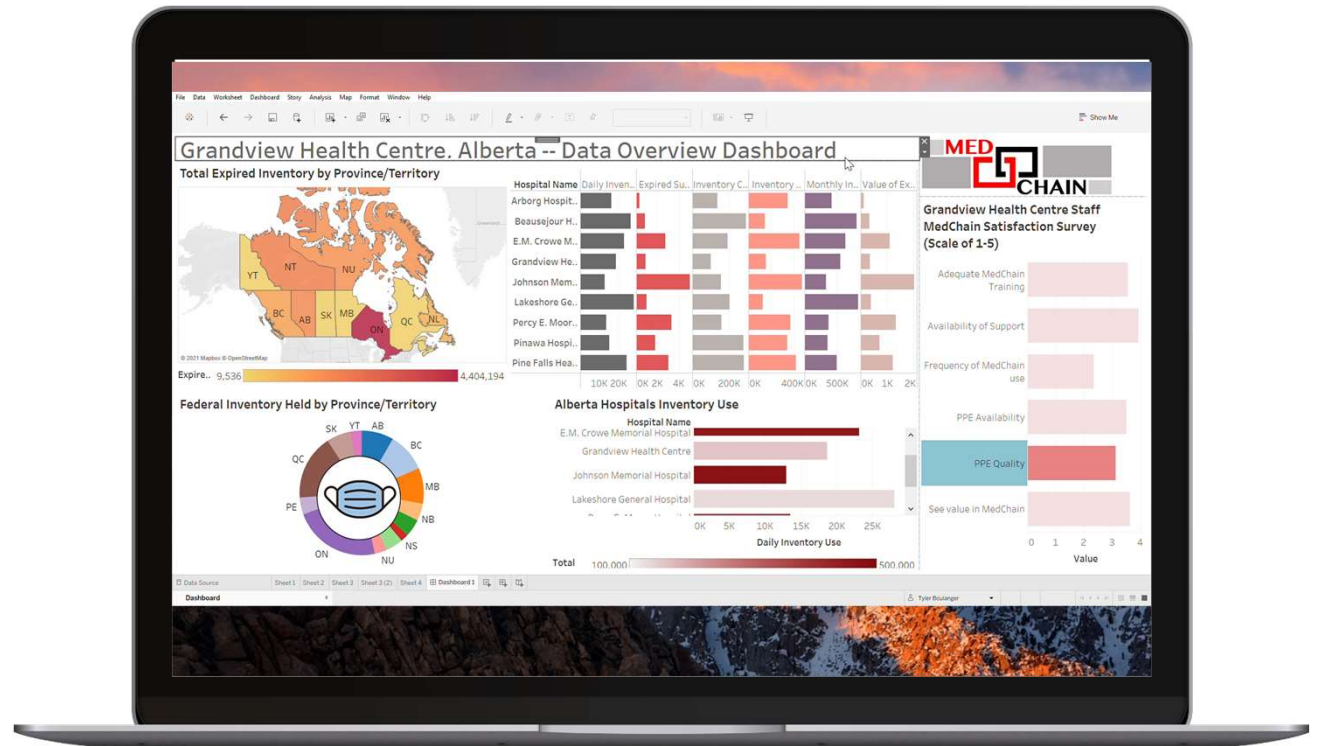
**DM1** On previous slides and then slides afterwards it looks like italics are applied to the font style, so I have modified this slide to be similar.

Daiker, Mara, 7/12/2021

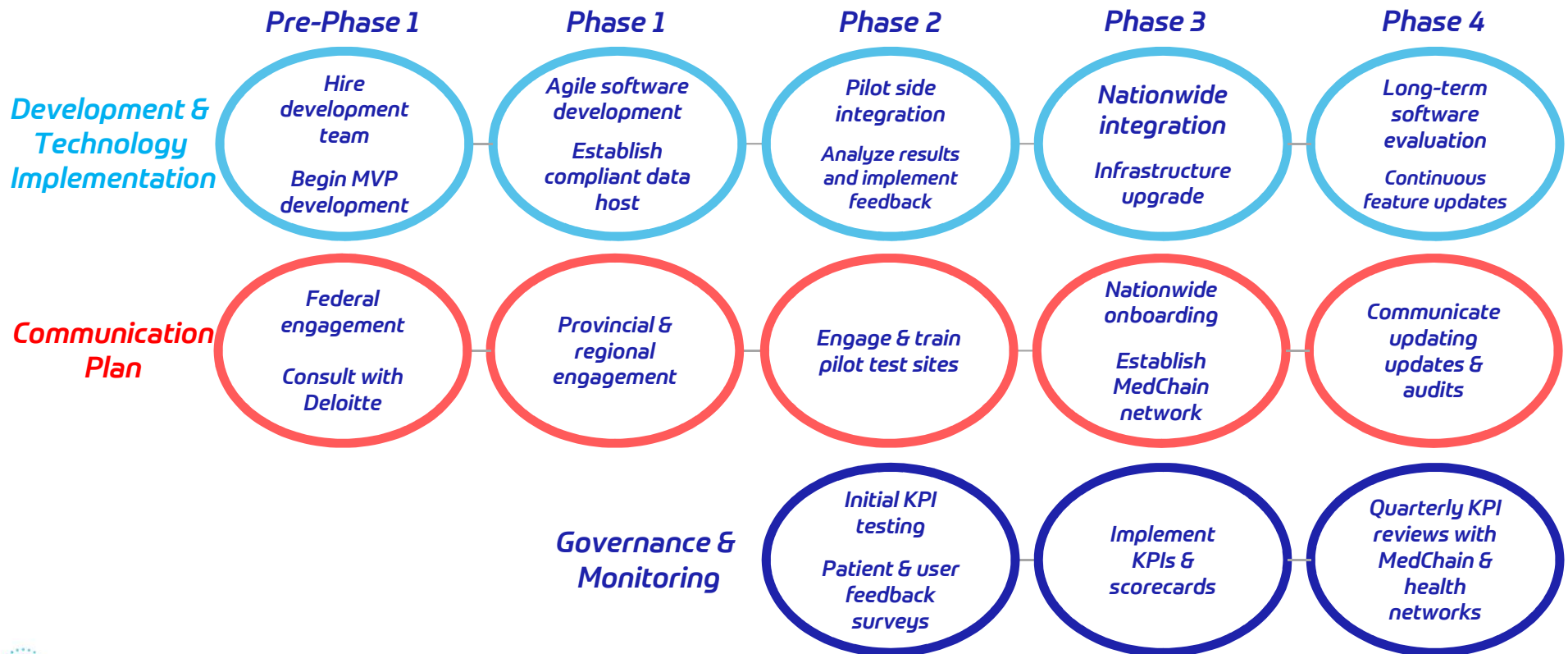
# MedChain Platform

## Integrated Supply Chain KPIs

Centralized sharing of organizational, regional, and national data



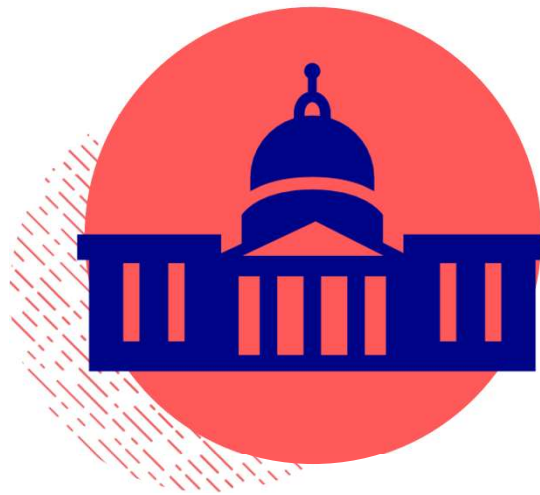
# Implementation Plan



# Communication Plan



*Federal Government*



*Provincial & Regional  
Health Authorities*



*Internal MedChain Team*



# Federal Engagement & Alignment



Anita  
Anand



Canada  
Health  
Infoway

*Federal Current  
State Analysis*

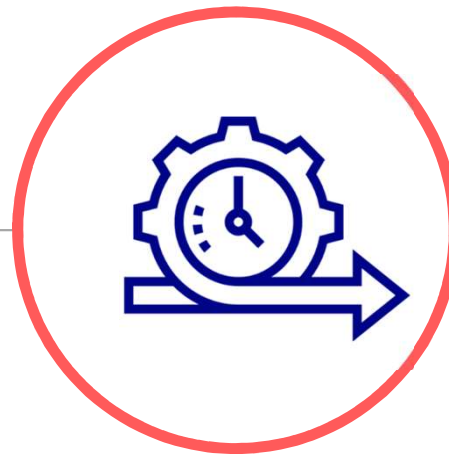


*Consulting  
Engagement*

# *Phase 1: Technology Development*



*Hiring & Development*

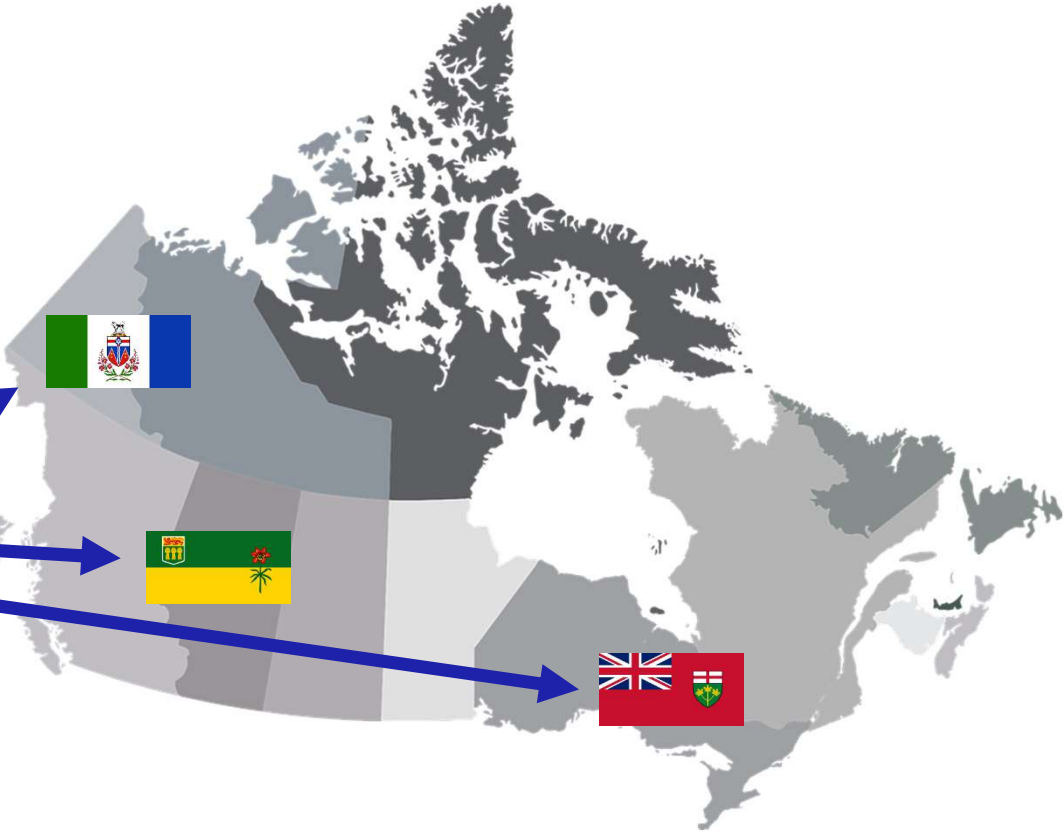


*Agile Testing*



*Compliance*

# Phase 1: Provincial Engagement

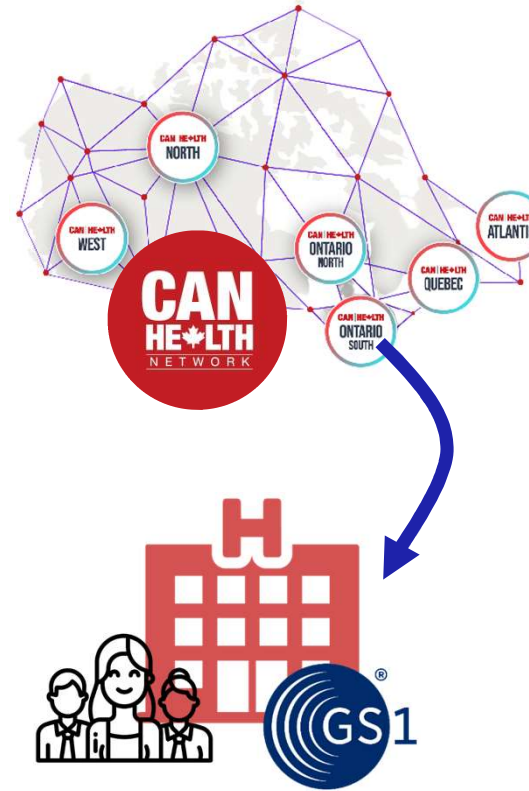
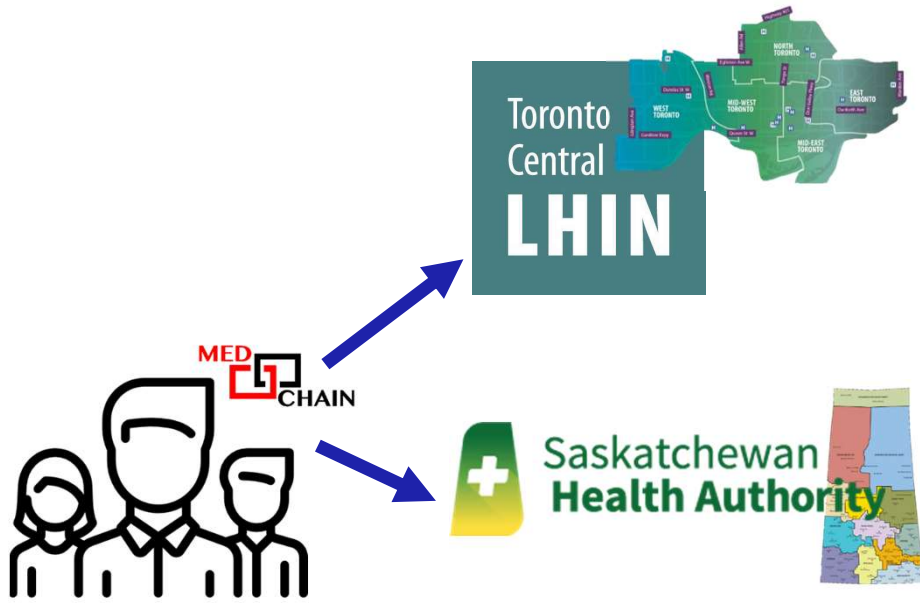


Phase 1  
Cost:  
\$470M  
(CAD)

Duration:  
12  
months

Phase 1  
ROI:  
0%

# Phase 2: Pilot



Phase 2  
Cost:  
\$14.01M  
(CAD)

Duration:  
6 months

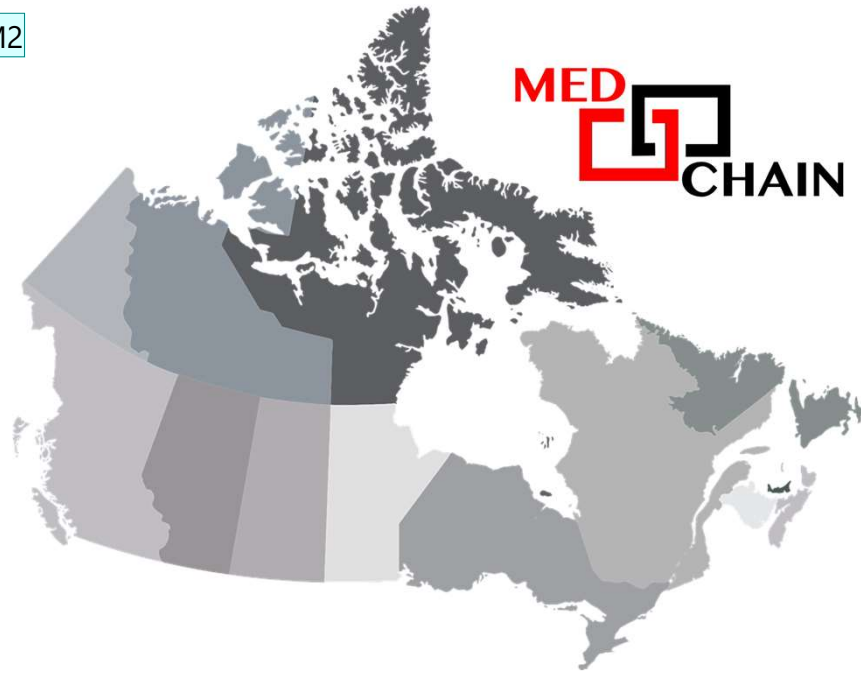
Phase 2  
ROI:  
1.48%

# Phase 3: National Expansion

**1** Comprehensive training program DM2

**2** Clear process expectations

**3** Support for analysts and users



Phase 3  
Cost:  
\$182.2M  
(CAD)

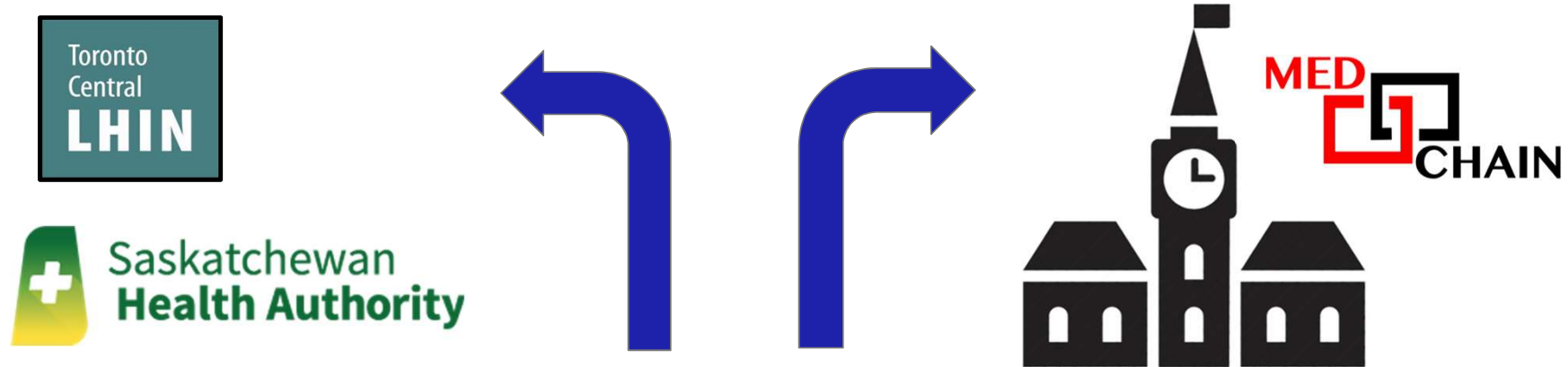
Duration:  
24  
months

Phase 3  
ROI:  
15.13%

## Slide 19

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**DM2** Adjusted font style and size to compliment slide 11.  
Daiker, Mara, 7/12/2021



## *The MedChain Network*





# Phase 4: Long-term Sustainability & Evaluation



**MedChain Key Performance Indicators**

- Finances
- Patient & Workplace Safety
- Inventory Management
- Procurement & Contracting



**Quarterly Scorecards**



**Goal Setting & Progress Measurement**

Phase 4 Cost: \$164.2M (CAD)

Duration: Indefinite

Phase 4 ROI: 35.26%



# Cost and ROI

Pilot

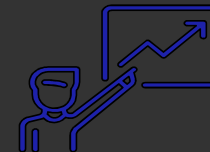
Phase Two Cost:  
\$14,061,900



Phase Two ROI:  
1.48%

National  
Expansion  
(Annual)

Phase Four Cost:  
\$164,160,00



Phase Four ROI:  
35.26%

# *Questions*

**We're happy to answer any questions you have about our presentation!**

***Thank You!***

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# Appendix 1

## MedChain Cost Calculations

Cost (Cad \$)	Assumption	Phase 1: Development	Phase 2: Pilot (91 Hospitals)	Phase 3: Expansion (1200 Hospitals)	Phase 4 (Long Term Evaluation)
Software Development	Development & maintenance	\$350,000		\$50,000	\$50,000
Hosting Platform and PIPA Compliance	Recurring annual costs	\$20,000		\$30,000	\$30,000
Legal	One time implementation costs	\$100,000		\$250,000	\$1,000,000
Implementation IT Support	IT Requirments/ Hospital	\$0		\$455,000	\$6,000,000
Technology: PC and Tablets	\$10,000/Hospital	\$0		\$910,000	\$12,000,000
Technology: Barcode Scanners	\$5,000/Hospital	\$0		\$455,000	\$6,000,000
Marketing and Program Development	\$500/Hospital	\$0		\$45,500	\$600,000
Personnel training and Onboarding	\$30,000/ Hospital	\$0		\$2,730,000	\$36,000,000
MedChain Analyst Costs	\$100,000/Hospital	\$0		\$9,100,000	\$120,000,000
Other stakeholder engagement	\$400/Hospital	\$0		\$36,400	\$480,000
	<b>Total Cost (CAD)</b>	<b>\$470,000</b>		<b>\$14,061,900</b>	<b>\$182,160,000</b>
Cost Benefit Calculations (Cad \$)	Supply chain expenditure is estimated to be 19% of total healthcare expenditure (\$20.8 Billion for Pilot Hospitals and \$265 Billion Nationally). Assuming 5% year over year growth	\$3,954,151,655		\$4,151,859,238	\$55,125,000,000
	Cost savings on supply chain expenditures is shown as percentages based on digitization research	0.00%		0.01%	0.05%
	<b>Expected Cost Benefit (CAD)</b>	<b>\$0</b>		<b>\$207,593</b>	<b>\$57,881,250</b>
	<b>ROI = Cost Benefit/ Total Cost</b>	<b>0%</b>		<b>1.48%</b>	<b>35.26%</b>

Summary	Pilot (Annually)	National Expansion (Annually)
Total Cost (CAD)	\$14,531,900	\$346,320,000
Expected Cost Benefit (CAD)	\$207,593	\$85,443,750
ROI = Cost Benefit / Total Cost	1.48%	35.26%



Note: Only hospitals were included for costs because they make up a majority of network demands, long term care homes and other providers will be included in more detailed calculations

## Appendix 2

# MedChain Key Performance Indicators

### Patient Safety and Workplace Standards

- Patient surveys
- Employee satisfaction surveys
- Investment in skills and development
- Voluntary turnover in supply chain roles
- Proportion of individuals qualified to agreed role standards

### Finances

- Inventory turnover
- Hard and soft savings
- Cost avoidance
- Value of unused inventory
- Value of expired inventory
- Cost to issue a purchase order

### Inventory Management

- Inventory Held
- Expired items still in stock as percentage of stock on hand
- Purchased inventory versus consumed inventory
- Unused inventory as a percentage of on-hand inventory

### Procurement and Contracting

- Scheduled vs. completed unit deliveries
- Percent of orders delivered on time
- Time between a requisition to the purchase order dispatch
- Contracts taking over 90 days to process
- Number of expired contracts