



Rethinking supply chain management: How better practices impact the bottom line

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Cardinal Health

Recognized leader in healthcare supply chain transformation

- Ranked #1 by Gartner 2011, 2012, 2013, 2014 in transforming the healthcare value chain to meet new challenges around costs, revenue and outcomes.

Unparalleled understanding of healthcare value chain

- Supplier and leading manufacturer of med/surg products
- Leader in providing supply chain services with +40 years experience

Building for the future of healthcare

- Investments in innovative technology and data solutions
- RFID footprint in 41 countries and tracking medical devices in over 4,000 hospitals

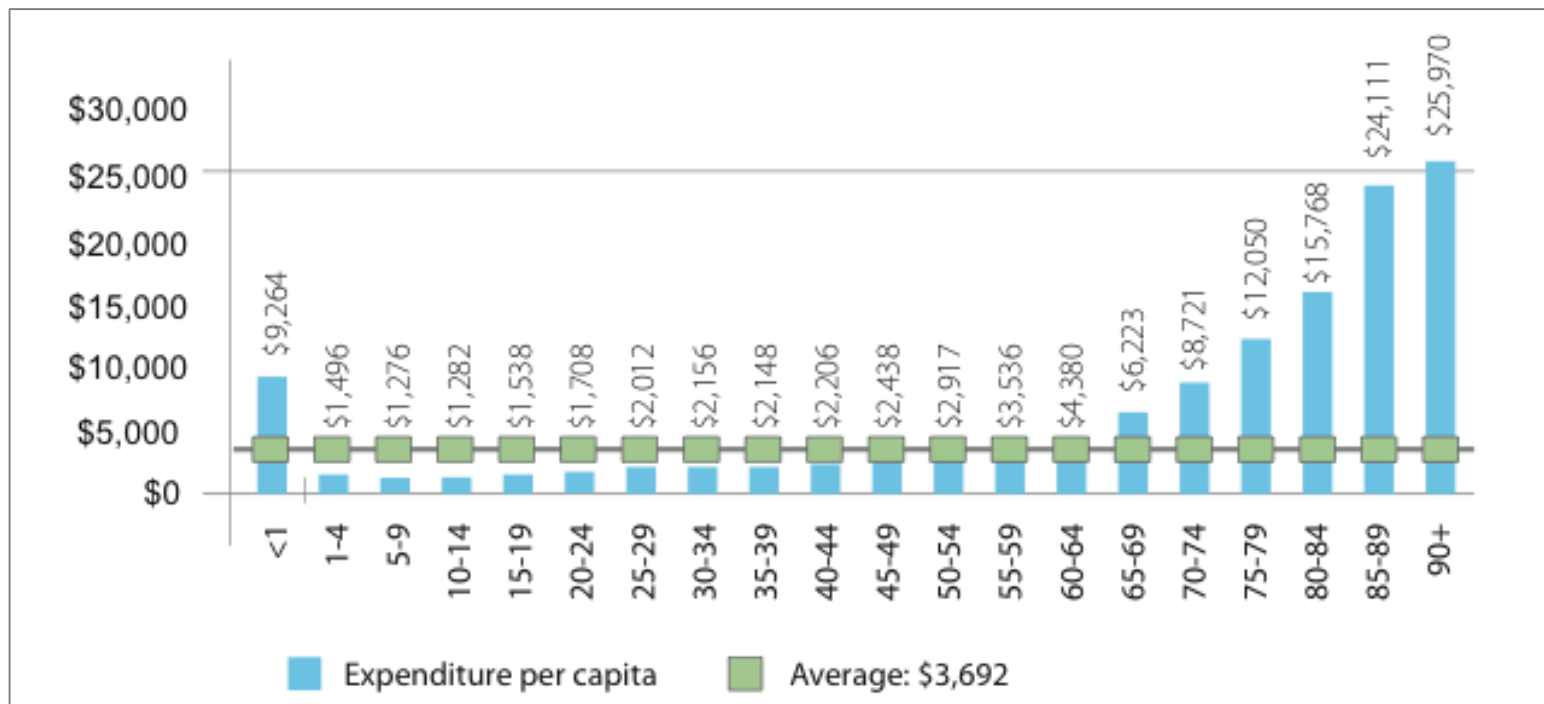
A changing landscape

- Affordable Care Act (ACA)
- Unique Device Identification (UDI)
 - FDA
- Census & demographics
 - 10,000 people turning 65 every day
 - 10M Americans over 80
 - 20% Population >80 by 2030

Source: The Centers for Disease Control and Prevention (CDC), *The State of Aging and Health in America*, 2013

The silver tsunami

The average spending on someone age 80 and older is nearly **9x** what it is for someone between the ages of 1 and 64.

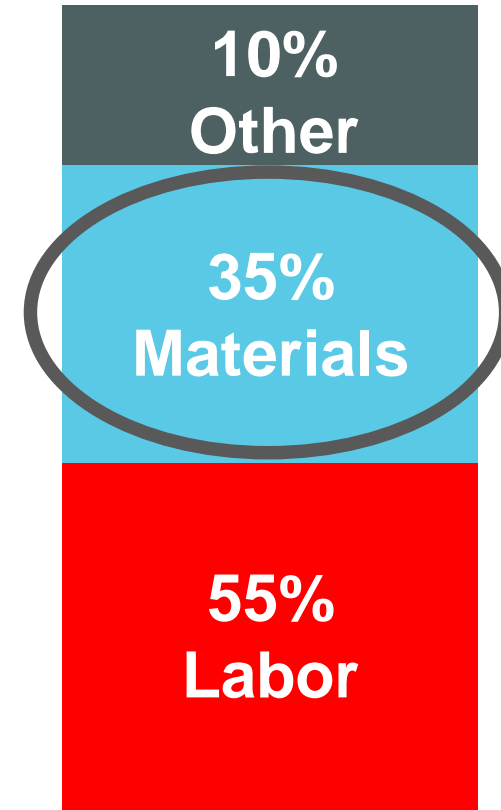


*CIHi - National Health Expenditure Trends 2014I

A changing landscape

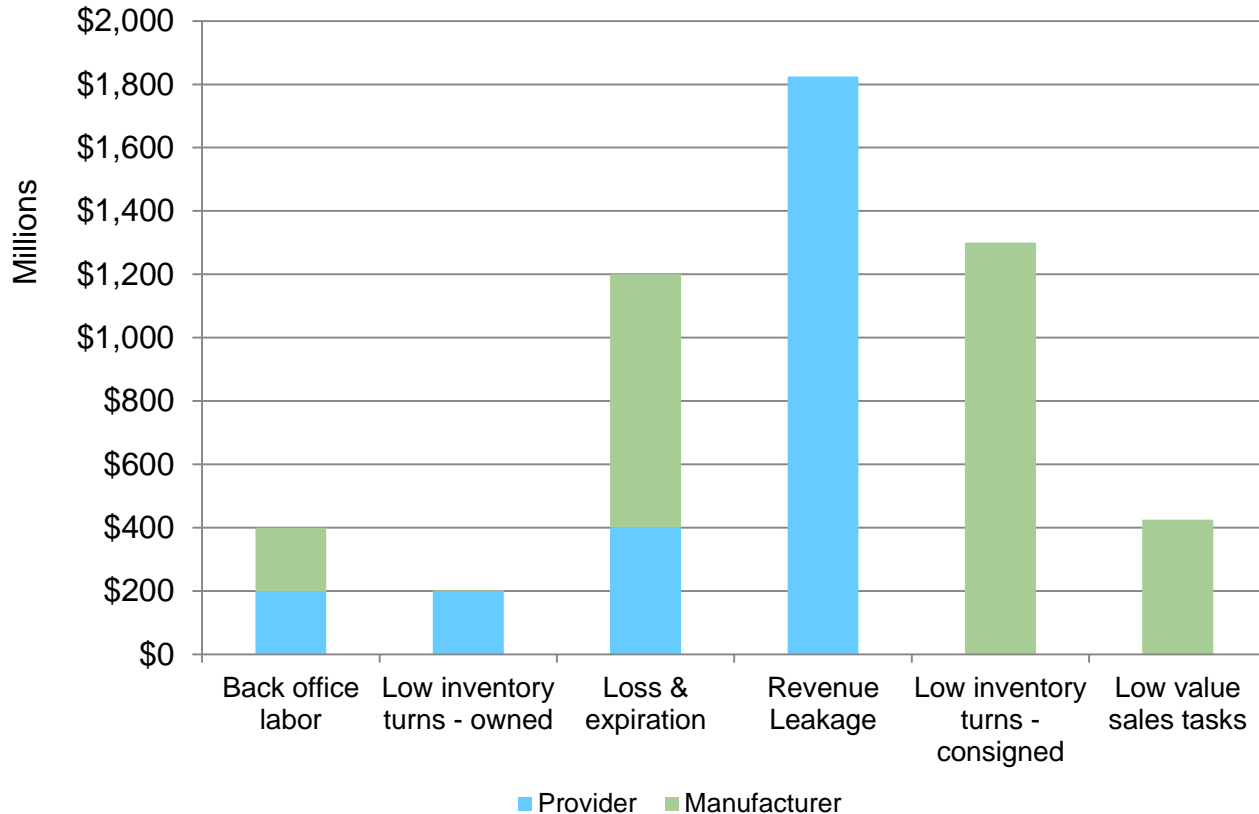
- Affordable Care Act (ACA)
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- Census demographics
 - 10,000 people turning 65 every day
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 - 20% Population >80 by 2030
- **CMS is growing**
 - Over 50% of patients are CMS
 - Increasing bundled reimbursement by DRG
- **Supply chain becoming more important**

Expenses



Source: American Hospital Association, *Underpayment by MediCare and Medicaid Fact Sheet*, November 2009
Source: Massachusetts Health Policy Commission, *2013 Cost Trends Report*, January 2014

Immense waste in the supply chain



Does not include indirect costs of:

- Excess time spent by nurses searching for inventory
- Time spent (or patient risk) during product recalls
- Risk of non-compliance with FDA/UDI regulations

10%-30%
Waste in PPI supply chain

\$5,000,000,000*
Estimated loss per year

*PNC Healthcare; GHX quantitative research study (August 2011)

Ever changing environment

Must be **agile** and **adaptable**
to **control costs**



Sources of variation

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Fluctuating patient census



Ramp up clinical staff



Seasonal staff

Demographics

80
59 24
44

Age



Gender



Geography

Clinical practice



Lack of standardization



Diseases treated differently

Seasonal impact



Summer



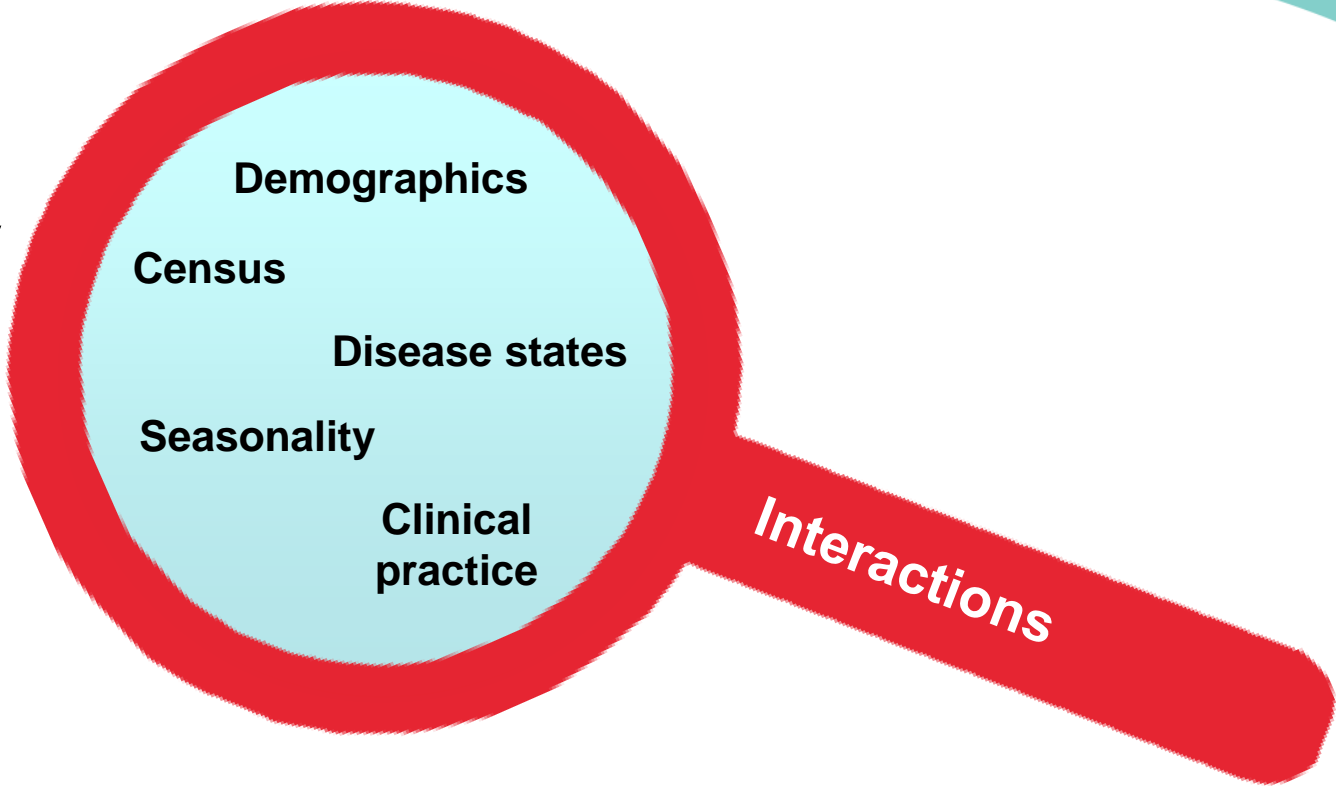
Flu



Winter

Multiple variables effect

Interactions magnify demand variation



Adapting to change

- Grocery stores adapted to a lean model
- Point-of-use data collection/analytics
- Just-in-time inventory (logical unit-of-measure)



Ensuring financial success

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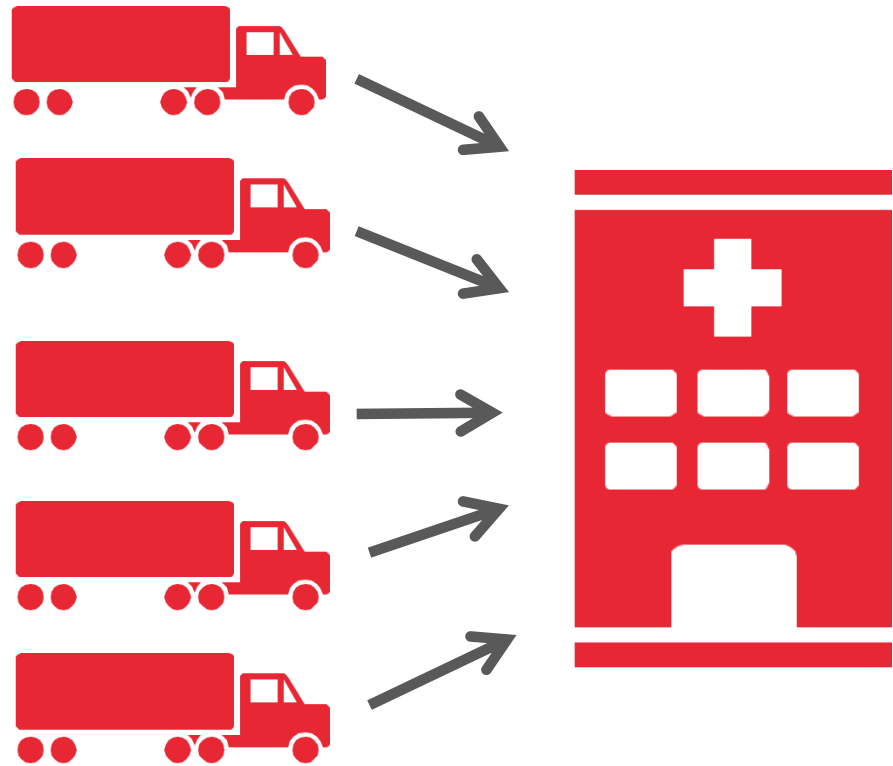
Freight management

- Freight has become a profit center for manufacturers
 - Included in price of product
- For example, consider the Operating Room
 - Next-day delivery
 - Transportation budget managed elsewhere
- Unit cost vs total delivered cost



Number of suppliers

- More invoices
- More time spent ordering
- More time unloading trucks
- **More cost**



\$60.08 (HIDA)

Manual cycle counting

- No value add in counting
 - 50% materials management time
- Too many mistakes
 - UOM issues
 - Fat finger
- Correct cycle count frequency?
 - Weekly, monthly, quarterly
 - NEVER?



Reviewing consignment

- Built in costs
- Expired/obsolete products – charged?
- Inefficient delivery method
- Ineffective controls and tracking
- Impact due to the FDA Unique Device Identification law (UDI)



How do you replenish?

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Traditional forecast-based purchasing

- A retail model of purchasing
- Established based on some criteria
- A “stocking strategy”

Positive	Negative
Low effort	Inaccurate
	Creates storage solution mentality
	Lack of visibility

Traditional demand-based purchasing

- An industry model (automotive, aerospace, etc.)
- Based on utilization

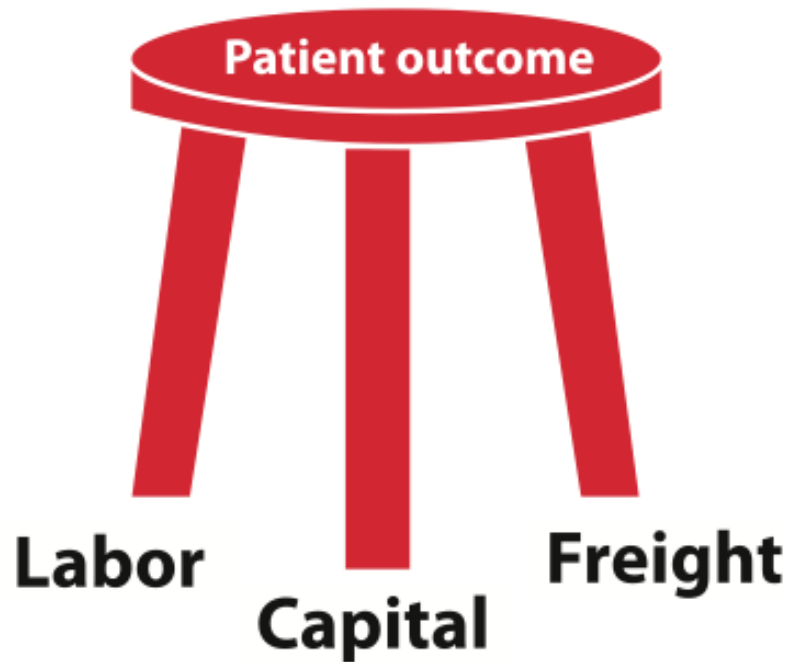
Positive	Negative
Based on actual demand	Inability to react quickly to unexpected demand variation
Replenish only what you need	Requires supply chain visibility

The art of finding the right balance

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Three-legged stool



**Technology is
the enabler**

Best practice for high value items

Best practice	Reason
Using an RFID-enabled system	<ul style="list-style-type: none">• Real time visibility• Unique Device Identification• Accurate tracking• Eliminate manual counting and errors
Point of care charge/data capture	<ul style="list-style-type: none">• Compliance• Accurate charge capture
Carefully choosing open vs. closed storage	<ul style="list-style-type: none">• Time management• Inventory control and compliance• Cost
Interface with HIS	<ul style="list-style-type: none">• Integrate inventory management in eco-system• Eliminate double entry
Targeting the desired end state	<ul style="list-style-type: none">• Inventory profile changing with successful implementation

Best practice for commodity products

Replace your PAR system!

Best practice	Reason
Using 2-bin Kanban methodology	<ul style="list-style-type: none">• Proven best practice in other industries• Less labor• Supports FIFO (first in first out)
No over investment in technology	<ul style="list-style-type: none">• ROI not realized
Eliminate manual counting	<ul style="list-style-type: none">• Upside down transactions
Strong analytics platform	<ul style="list-style-type: none">• More predictable ordering patterns• Use data to optimize purchasing

Balancing the investment



Risk of under-investing



Risk of over-investing

Metrics for success in supply chain

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Before you begin

**Consistency
is key**



Ranking common metrics

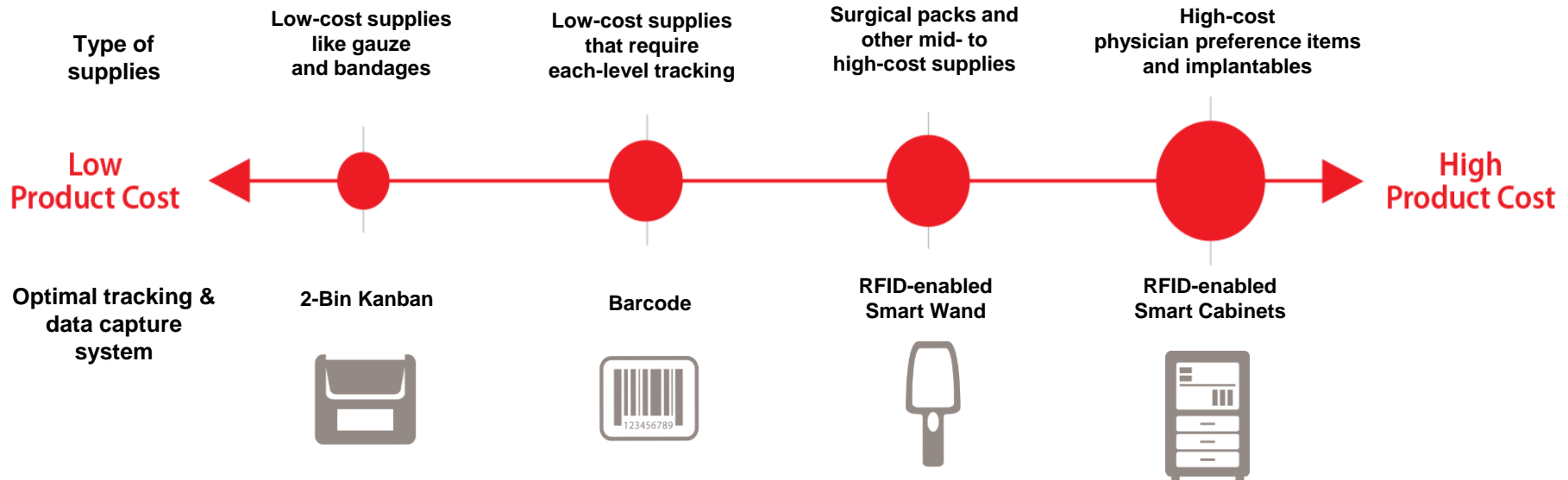
Rank	Tracking methods	Reason
Good	Total supply expense as a percent of net patient revenue	<ul style="list-style-type: none">• Variability in Net Patient Revenue distorts month over month trends• Does not effectively illustrate true supply spend performance
Better	Total supply expense per adjusted discharge <i>or</i> CMI adjusted discharge	<ul style="list-style-type: none">• Better aligns supply spend with patient volumes and level of acuity• Does not capture supply spend performance at the patient level
Best	Supply Intensity Score	<ul style="list-style-type: none">• Measures supply costs by patient and procedure type• Provides more precise and actionable data

Are you measuring the right metrics?

- Every hospital measures similar benchmarks
 - But your waste is hiding in what you're not measuring

New metrics to track	Improvement opportunity
Expired Supplies	<ul style="list-style-type: none">• How much are you expiring out each month?• These are products that could have been returned, redeployed, or even resold.• 2% - 5% annually lost
Lost Products (Leakage)	<ul style="list-style-type: none">• How much product is missing each month?• Leakage can be mitigated with enhanced tracking and inventory controls.
Clinical time spent on supply chain (HCAHPS)	<ul style="list-style-type: none">• How much clinical time is spent on finding stocked out supplies, logging in/out of POU systems, or recording takes/returns?• This represents time could have been spent with the patient.

Choose the right tool for the right inventory



The total supply chain approach

Cardinal Health Inventory Management Solutions



Q&A

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