

Supply Chain's Impact in Healthcare

Geisinger

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“The supply chain stuff is really tricky.”

— Elon Musk

Agenda

- ☐ Introductions
- ☐ Supply Chain's Impact in Healthcare
 - ☐ Operational
 - ☐ Financial
 - ☐ Quality & Patient Outcomes
- ☐ Data Standards in Healthcare
- ☐ Considerations in Device Selection
- ☐ Questions



Kate J. Polczynski, MBA, CMRP

Vice President, Enterprise Supply Chain
Geisinger Health

Bachelor's degree from the University of Pittsburgh at Johnstown

Master of Business Administration from Shippensburg University

Certified Materials and Resource Professional as administered by the
American Hospital Association

Adjunct Professor at Bloomsburg University of Pennsylvania, Zeigler
College of Business

Geisinger Supply Chain team was recognized in the Gartner Top 25
Healthcare Supply Chain rankings in 2021, 2022 and 2023

*Passion for exploring innovative healthcare strategies with an emphasis
on how data can improve patient outcomes thru both clinical and financial
performance optimization.*



Making better
health easier

Geisinger

Geisinger: Integrated health system with \$10 billion in combined revenues

We care for patients.

- **10** hospital campuses
- **126** primary and specialty clinics
- **26,000+** employees
- **1,700+** employed physicians

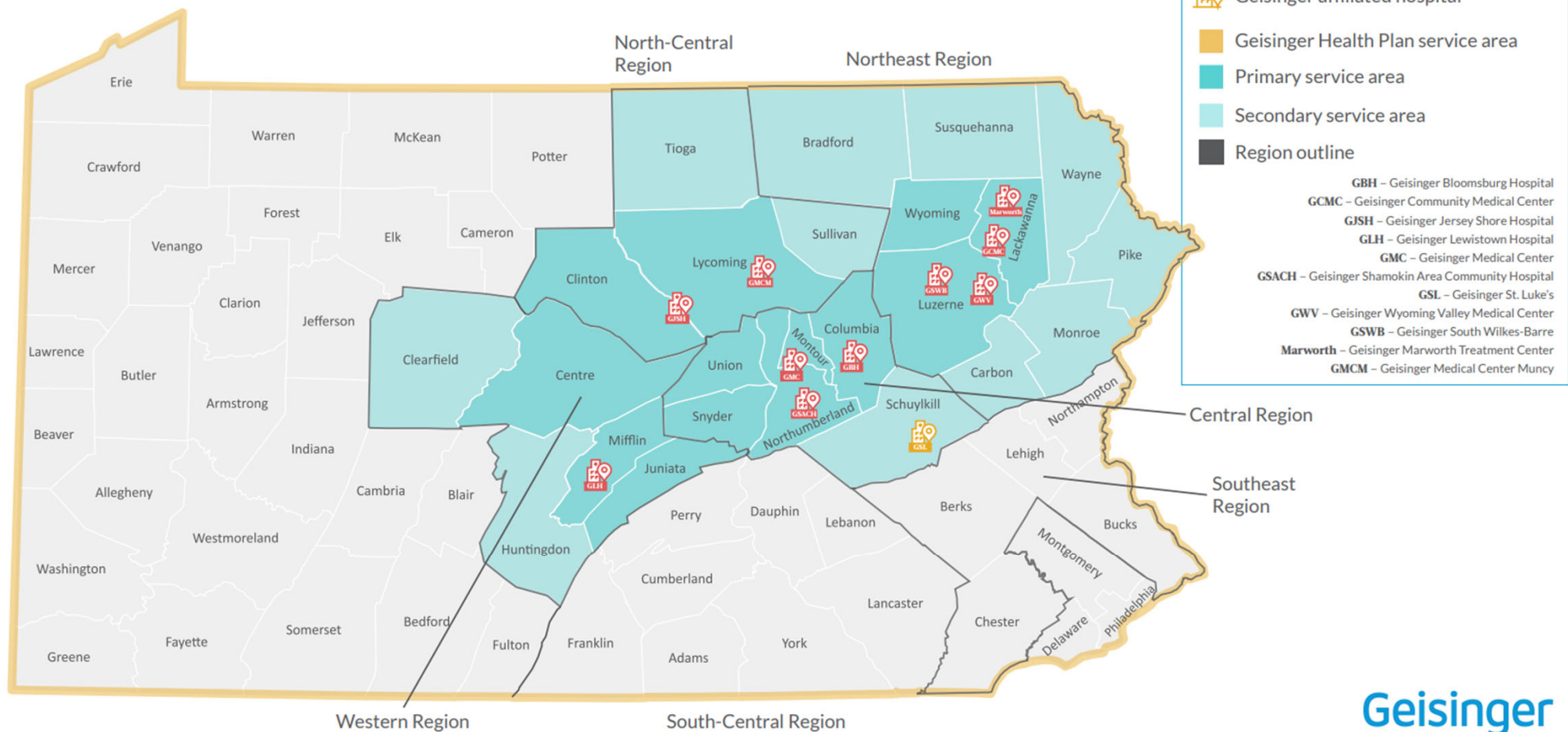
We provide quality, affordable healthcare coverage.

- **More than 550,000** Geisinger Health Plan enrollees
- **More than 65,000** contracted providers in network
- **225+** hospitals in network

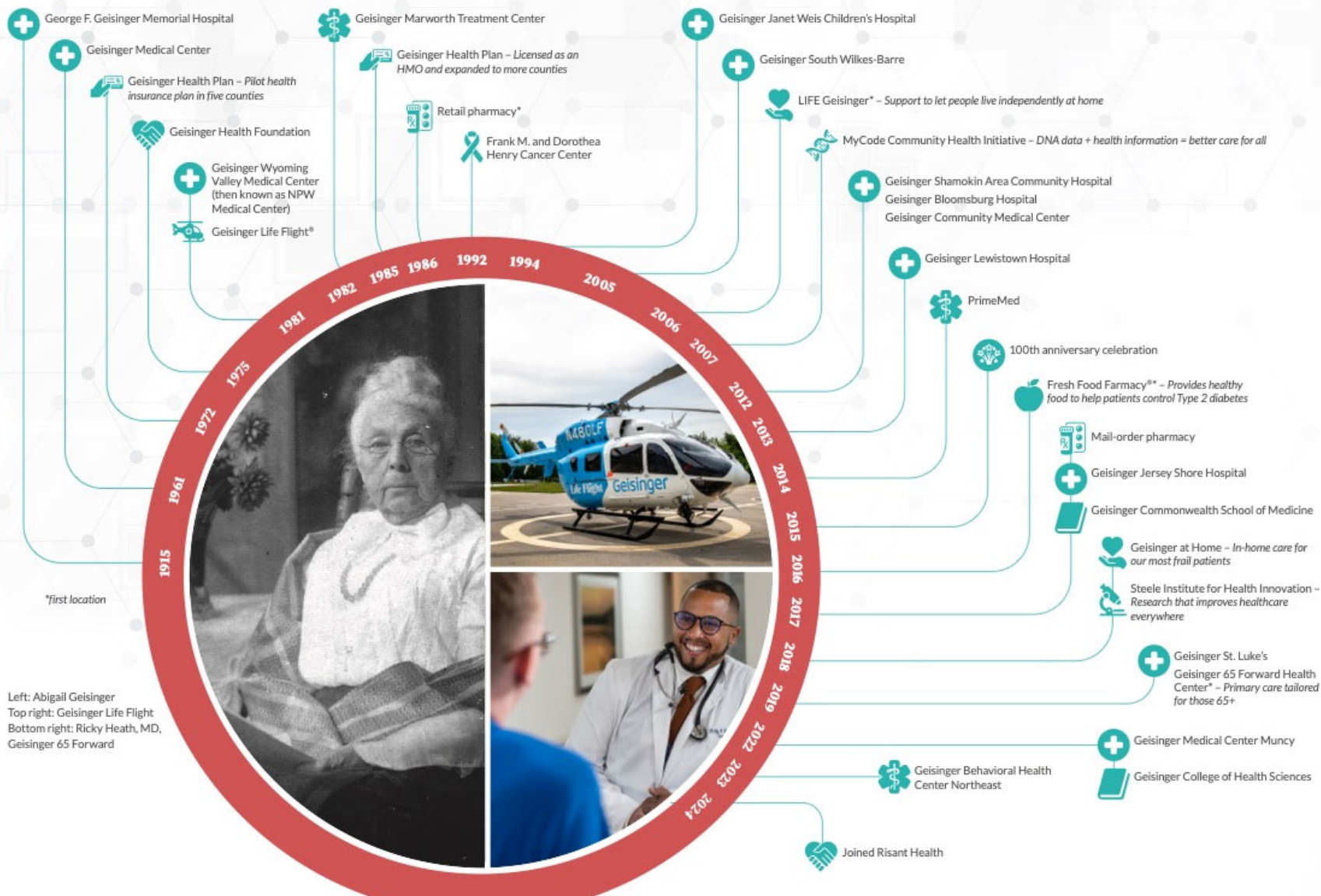
We teach, research and innovate.

- **550+** MBS/MD students at Geisinger College of Health Sciences
- **70** students in School of Nursing, **2,800+** other nursing students
- **600+** residents/fellows
- **1,400+** active research projects

Geisinger service area



Geisinger



Left: Abigail Geisinger
 Top right: Geisinger Life Flight
 Bottom right: Ricky Heath, MD,
 Geisinger 65 Forward

Achieving The “Quadruple Aim”

adaptation of the IHI Triple Aim

What are we Aiming for?

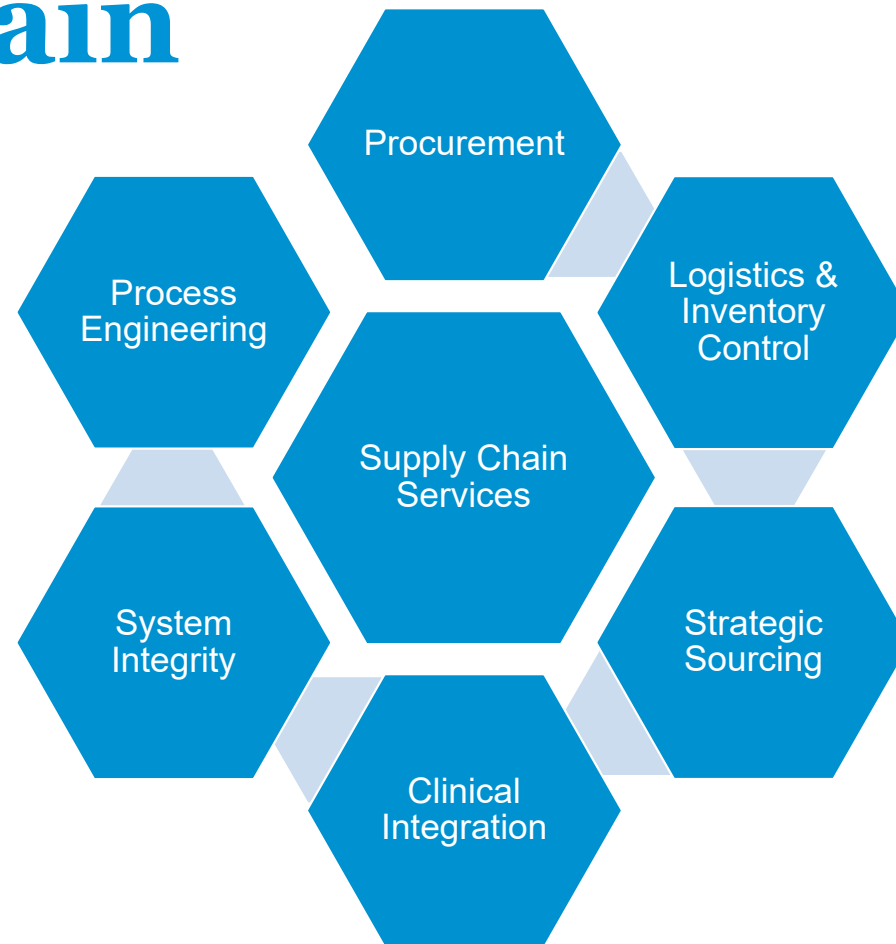
- Improving Patient Experience of Care, including Better Outcomes
- Reducing Cost
- Improving Population Health

PLUS

- Improving the Provider / Care Team Experience



Enterprise Supply Chain

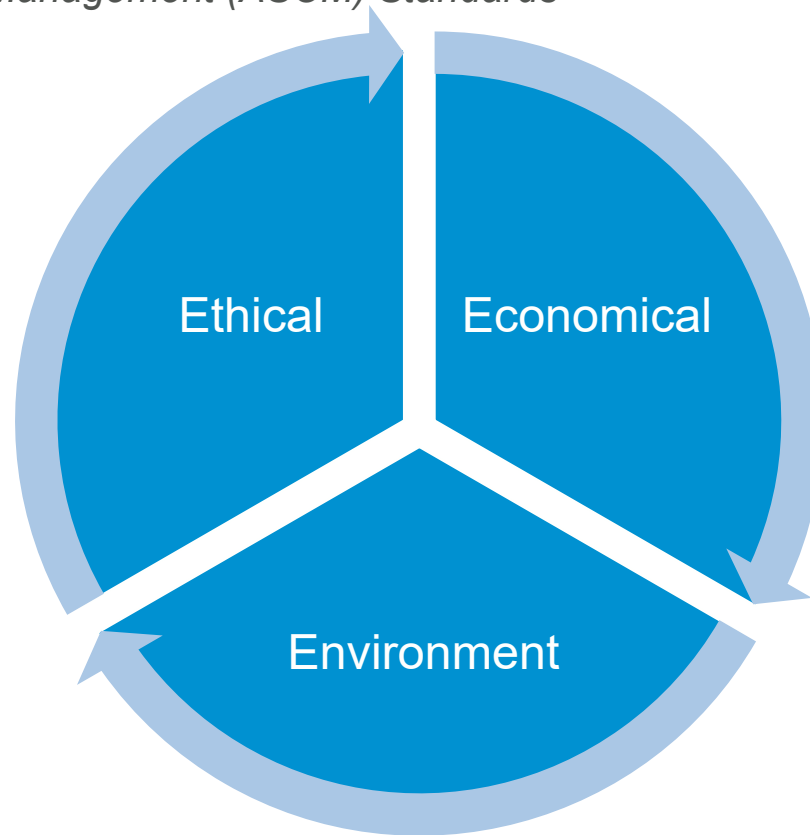


Supply Chain is Everywhere!



The Supply Chain “Triple E”

Association for Supply Chain Management (ASCM) Standards



https://www.scmr.com/article/ascm_introduces_new_standards_for_supply_chain_ethics

Supply Chain Impact in Healthcare



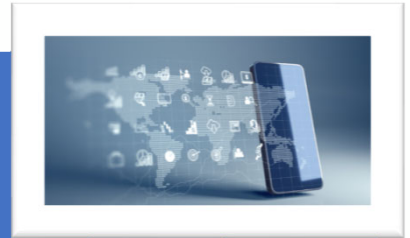
Purchase Order Evolution
User Experience
Catalog Ordering
Enriched Data
Touchless



Service Excellence
Closer to Use
On Time. Consistent.
Less Waste
Leverage Assets



Increased Spend Control
Corporate Standard
Total Expense Focus
Speed to Decision
Clinical Integration



Team, Customer &
Brand Focused
KPI and Control
Monitoring
Quality Assurance
Education
Process Innovation

Transparent. Digital. Easy.

Initiatives Enabled By Operational Excellence within Purchasing, Logistics, Clinical Integration, Contracting, Strategic Sourcing, System Integrity and Process Engineering

Thinking differently about Supply Chain's Impact

The Journal of
Healthcare
CONTRACTING

ABOUT JHC ISSUES ADVERTISING INFO DAIL-NEWS PODCASTS SCH NEWSLETTER B
RECENT PODCASTS JANUARY 10, 2022 | HOW ANSELL IS STAYING FUTURE READY TO MEET GROWING HEALTHCARE SUPPLY

Chain of custody is imperative to ensure product efficacy: The 3 questions Supply Chain Leaders need to ask themselves about what they are sourcing



Purchasing products from secondary sources wasn't something that popped up overnight in the U.S. healthcare supply chain. Prior to the COVID-19 pandemic, many as well as distributors, sou and secondary sources. Sh have plagued our medical several years. A Statistica s grew by 71% in 2018 and 2 400 million units from the 1 gown shortage and IV shor created serious shortages i global supply. Those short: chain departments unders COVID-19 has likely change healthcare sources produc

Modern Healthcare

NEWS DIGITAL HEALTH INSIGHTS DATA/LISTS OP-ED AWARDS EVENTS LISTEN

July 31, 2019 03:47 PM

Geisinger and Medline's bold vision for the future: Bringing value-based accountability to the supplier relationship

TWEET SHARE SHARE EMAIL

REPRINTS PR



The way in which providers are being paid for delivering care is changing dramatically. Emerging reimbursement models have proven that efficiency and quality improvement lead to reduced overall costs, and that volume at a reduced cost does not necessarily improve the bottom line. So why are most health systems still paying their suppliers on a fee-for-service or fee-for-product basis?

As providers are being asked to reduce waste and improve quality of care

Geisinger news releases

< Geisinger News Releases

Medacta, Geisinger extend lifetime guarantee to revision knee surgeries

Published Nov. 8, 2019 , Updated Nov. 8, 2019

Share this: < f t in e

Warranty builds on success of lifetime guarantees for total hip and knee replacements

CASTEL SAN PIETRO, Switzerland and DANVILLE, Pa. – Medacta, a high-growth, pure play orthopaedics company, and Geisinger, one of the nation's most innovative health systems, announced today that their lifetime guarantee for total hip and knee replacement surgeries has been extended to include revision knee surgeries.

This guarantee covers revision surgeries performed for patients with previous knee replacements that have failed, even if the original surgeries were performed outside the Geisinger health system or with joints from other manufacturers. Geisinger and Medacta will stand behind the full cost of care associated with eligible revision surgeries over a patient's lifetime, as long as they remain in the care of a Geisinger provider and are a [Geisinger Health Plan](#) member.

"Since we began this value-based journey in 2017 to provide lifetime comfort to patients around



David Maish, M.D., performed a revision knee replacement surgery for Patricia Matthews, of Luzerne, Pa., in July. Matthews's surgery is the first revision knee replacement to be guaranteed

ASIA ECONOMY

U.S. seizes shipment from Malaysia's Top Glove over forced labor concerns

PUBLISHED THU, MAY 13 2021 4:17 AM EDT

REUTERS

SHARE f t in e

KEY POINTS

- In a statement, the U.S. Customs and Border Protection said its officials at the Port of Kansas City seized 4.68 million latex gloves produced by a Top Glove unit in Malaysia with an estimated value of \$690,000.
- The seizure shows that there is demand for Top Glove products despite the U.S. ban first announced in July last year. Top Glove is the world's biggest glove maker and has seen global demand soar due to the COVID-19 pandemic.



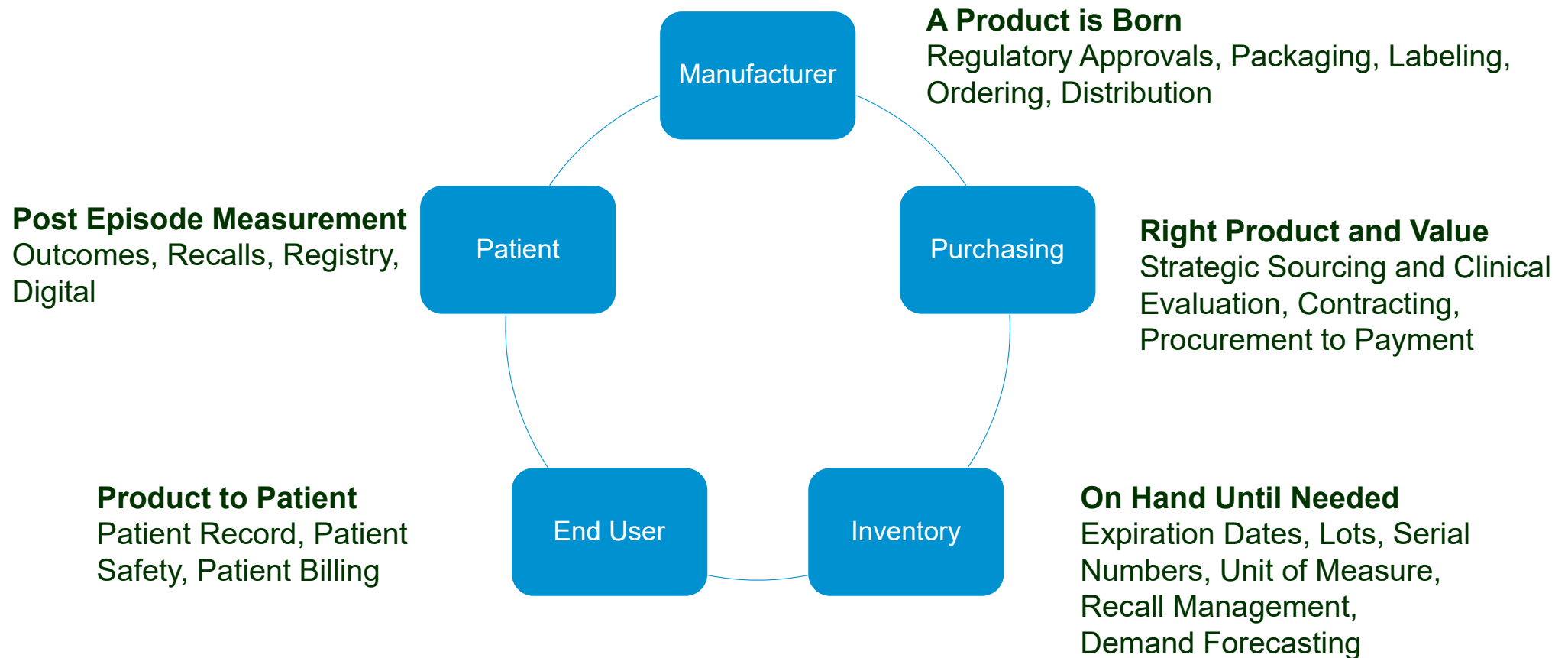
TV

Squawk Box

UP NEXT: Squawk on the 9:00 AM ET



Supply Chain Data Points



Comparative to the Food Industry

Data Standards

- Standardized Formatting for Universal Product Code (UPC) Barcode
- FDA Food Code 2017
- Food Labeling Regulations
- Safe Handling Instructions
- Food Allergen Labeling and Consumer Protection Act of 2004



- Variable
- Non Standard
- Missing?



- Transparent
- Consistent
- Integrated

Established FDA Compliance Dates

Sept 24, 2014 thru Sept 24, 2018
Depending on Device Class

Data Standards in Healthcare Today and the Journey to Tomorrow

FDA Amendments Act of 2007 (FDAAA) + FDA Safety and Innovation Act of 2011 (FDASIA) = UDI Final Rule September 24, 2013

The screenshot shows the FDA's 'What is a UDI?' page. It includes a sample UDI label for 'ComputHyper GlobalMed, LTD'. The label contains the following information:

- Header:** FDA U.S. Food and Drug Administration, Protecting and Promoting Public Health, www.fda.gov
- Title:** What is a UDI?
- Requirements:** Required on the device label, packages or, in some cases, on the device itself; Code in plain text and machine readable format (AIDC).
- Product Info:** Qty: 1 each, Size: 20mm x 12.5mm, REF: Z1234
- UDI Formula:** UDI = DI + PI (highlighted in a blue oval)
- Barcode:** A standard 1D barcode representing the UDI.
- UDI Data:** (01) 12345678901234 (17) 140102 (11) 100102 (10) A1234 (21) 1234
- Expiration Date:** 2014-01-02
- Lot Number:** LOT A1234
- Serial Number:** SN 1234
- Manufacturer:** ComputHyper GlobalMed, LTD, 101 Innovation Drive, New Sales, MD 20999-0000
- Contact Info:** XXX-867-5309 (USA), XXX-555-3226 (Outside USA), http://www.compuhypergm.com
- Warnings:** 45°C UPPER LIMIT OF TEMPERATURE, KEEP DRY, and a '2' in a circle.

U.S. FDA Unique Device Identification (UDI) Rule – Sources: FDA.gov

<https://www.federalregister.gov/documents/2013/09/24/2013-23059/unique-device-identification-system>

FDA- Accredited Issuing Agencies - UDI

- GS1
- Health Industry Business Communications Council (HIBCC)
- International Council for Commonality in Blood Banking Automation (ICCBBA)

Reference:
<https://www.fda.gov/media/96648/download>



The Global Language of Business

Know Your GS1 Barcodes and What Is in Them! Key to Patient Safety and Supply Chain Efficiency



What's in a Barcode?		GS1 DataMatrix	Examples of GS1-128 Barcodes for U.S. FDA UDI*		
GTIN* With Expiration Date, Batch/Lot and Serial Number Encoded in a GS1-128 Barcode*  (01) 0 0614141 00734 9 (17) 141231 (10) A12345B (21) 1234 GTIN - Global Trade Item Number Expiration Date Batch/Lot Number Serial Number (01) 0 0614141 00734 9 (17) 141231 (10) A12345B (21) 1234 Human Readable Interpretation Application Identifier (01) Global Trade Item Number* (10) Batch/Lot Number (17) Expiration Date YYMMDD (21) Serial Number (11) Production Date YYMMDD *Same data can be encoded in either GS1-128 or GS1 DataMatrix. Store data in separate fields in database to allow Data Query.		Example of GS1 DataMatrix for DSCSA* or U.S. FDA UDI**  GTIN 00314141999995 SN 10000000234 EXP 25 JAN 2015 LOT 987654321GFEDCBA GS1 recommends GS1 DataMatrix for healthcare use. *For information about the act, see the 2013 Drug Supply Chain Security Act. **For information about the rule, see the U.S. FDA Unique Device Identification System.	GTIN With Expiration Date, Batch/Lot and Serial Number Encoded in a GS1-128 Barcode  (01) 0 0614141 00734 9 (17) 141231 (10) A12345B (21) 1234 GTIN With Batch/Lot Number Encoded in a GS1-128 Barcode  (01) 0 0614141 99999 5 (10) 987654321GFEDCBA ↓ GTIN ↓ Batch/Lot Individual manufacturers select the data encoded based on their control procedures. *For information about the rule, see the U.S. FDA Unique Device Identification System. **GTIN can be encoded on the top GS1-128 or the lower GS1-128.	GTIN With Expiration Date and Batch/Lot Number Encoded in a GS1-128**  (01) 0 0614141 00734 9 (10) 987654321GFEDCBA  (01) 0607874002017	
GS1 Data Carriers			Notes & Tools		
Electronic Product Code (EPC)*-Enabled in Radio Frequency Identification (RFID) Tag  Carries a serialized GTIN (sGTIN)	EAN*/U.P.C.**  North American Retail	ITF - 14  Shipping Containers (Especially Corrugated)	GS1 DataBar® Stacked  (01) 0 0614141 98765 8	GS1 DataBar Limited With Composite Component  (01) 1 0614141 00734 6	Disclaimer This document is intended to demonstrate the use of GS1 Standards for Unique Device Identification. It does not provide any guidance or advice regarding regulatory compliance. Please consult your internal regulatory staff for compliance questions. GS1 US* is the local GS1 Member Organization that supports implementation of the GS1 System in the United States. GS1 US employees are not representatives or agents of the U.S. FDA, and the content herein has not been reviewed, approved, or authorized by the U.S. FDA. GS1 is a U.S. FDA-Accredited Issuing Agency for UDI, and GS1 Standards are authorized for use in implementing the requirements of the U.S. FDA UDI Rule. Data carriers not to scale. Contact GS1 Healthcare US* — www.gs1us.org/Healthcare

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Source: GS1us.org

Data Standards in Use





Supply Chain's Impact – Use Case

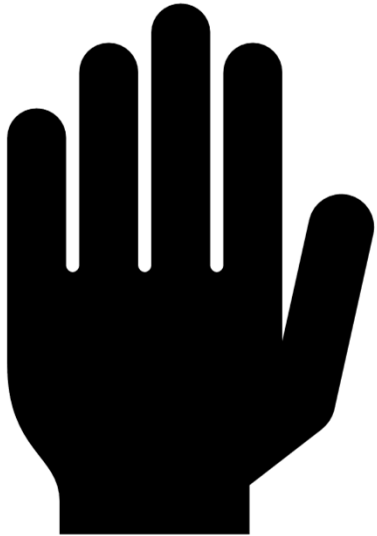
**How does an organization
select what medical device
to purchase?**

Product Selection Guiding Principles

- Patient / Clinician centric
- Quality, Total Cost, Outcome focused
- Evidence based Decision making
- Business Integrity in all decision making
- Fair and Equitable
- Free of Conflict or Outside Influence



Should we transition ... to this new exam glove?

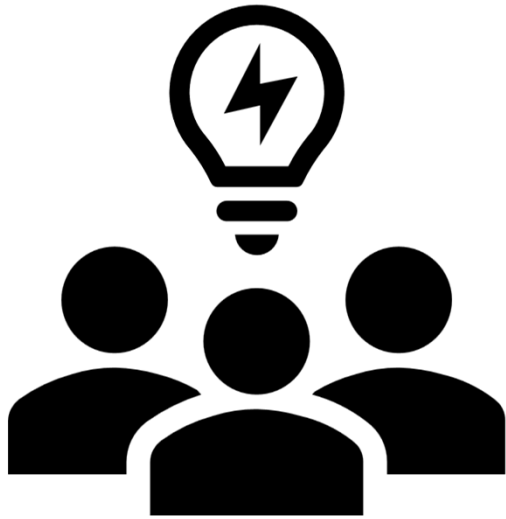


- Source to Specification or Comparability
to Current Product Used?
- Cost Impact Analysis (*Unit Cost +
Revenue considerations*)
- User Trial and Acceptance
- Conversion Process
- Distribution and Logistics

I'd like to start using A different Suture



Our data analysis shows ... we have Variation in our Valve selection Is it warranted? Can we standardize?



- Clinically comparable indications
- Patient population anomalies
- Warranted / Unwarranted variation
- Quality / Outcomes Impact?
 - Length of Stay
 - Readmission
 - Patient Complications



Any Questions?

Thank you

Geisinger

Resources / Articles Referenced

Supply Chain Impacting Quality

Medline/Geisinger strategic initiative – Modern Healthcare Article

<https://www.modernhealthcare.com/supply-chain/geisinger-and-medlines-bold-vision-future-bringing-value-based-accountability-supplier>

Medacta/Geisinger – Warranty

<https://www.geisinger.org/about-geisinger/news-and-media/news-releases/2019/11/08/19/57/medacta-geisinger-extend-lifetime-guarantee-to-revision-knee-surgeries>

Chain of Custody

<https://www.jhconline.com/chain-of-custody-is-imperative-to-ensure-product-efficacy-the-3-questions-supply-chain-leaders-need-to-ask-themselves-about-what-they-are-sourcing.html>

Amazon Supplier Code of Conduct

https://sustainability.aboutamazon.com/amazon_supply_chain_standards_english.pdf

US Customs and Border Protection article

<https://www.cnbc.com/2021/05/13/us-seizes-shipment-from-malaysias-top-glove-over-forced-labor-concerns.html>

https://www.scmr.com/article/ascm_introduces_new_standards_for_supply_chain_ethics

Data Standards

<https://www.federalregister.gov/documents/2013/09/24/2013-23059/unique-device-identification-system>

Fda.gov - <https://www.fda.gov/media/96648/download>

GS1us.org - <https://www.gs1us.org/industries/healthcare/standards-in-use>