

Conference & Exhibition | March 5–9, 2018 Las Vegas | Venetian – Palazzo – Sands Expo Center

Improving Health through Interoperability and Information Sharing

W. Glenn Hilburn, MBA, RN, CPHIMS Vice President, Clinical Systems Grady Health System

www.himssconference.org





Disclosure

This presentation is sponsored by BD.





WHERE THE WORLD CONNECTS FOR HEALTH

Grady Health System



- Located in Atlanta, Georgia
- Largest safety-net health system in the state of Georgia
- State's largest teaching hospital
- Our centers of excellence including best-inclass stroke, trauma, burn, cancer, and cardiac care
- Busiest Nationally Accredited Level 1 Trauma Center in Georgia
- 911 ambulance provider for Metro Atlanta
- One of the country's largest infectious disease programs
- World's first 24 hour comprehensive sicklecell center







Facts and Figures





APPROXIMATELY 620,000 PATIENT VISITS



GRADY EMS RESPONDED TO MORE THAN **125,000** 911 CALLS



25% OF ALL GEORGIA PHYSICIANS RECEIVED SOME OF THEIR TRAINING FROM GRADY



145,000+ PATIENTS TREATED IN THE EMERGENCY DEPARTMENT



300 VOLUNTEERS DEDICATED TO HELPING PATIENTS AND FAMILIES



interoperability

showcase

GRADY IS THE LARGEST HOSPITAL IN GEORGIA WITH **953** LICENSED BEDS



6 GRADY NEIGHBORHOOD HEALTH CENTERS



MORE THAN 6,000 EMPLOYEES





Transformational Innovation





Himss Analytics









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Atlanta Can't Live Without 🖓 Grady





Atlanta Can't Live Without 🖓 Grady









Grady Interoperability for Grady Health



showcase

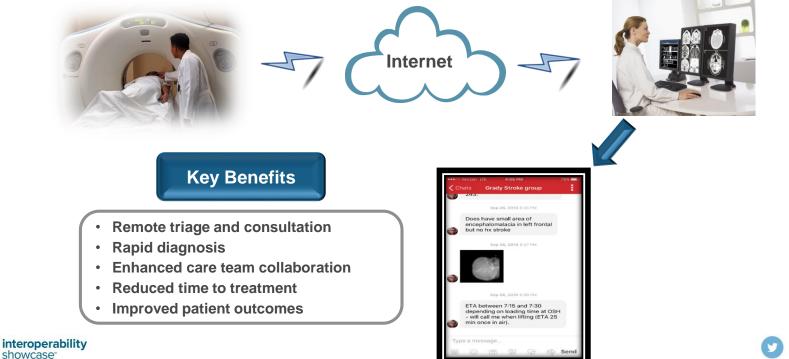






Tele-Radiology









Care Everywhere Health Information Exchange Care Grady

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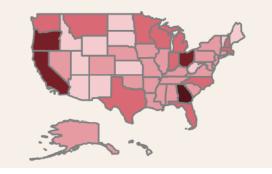


 The leading health information and technology conference

 WHERE THE WORLD CONNECTS FOR HEALTH



We've exchanged patient records 50 with organizations spanning states



We've exchanged patient records with more than 1,490 Hospitals 1,449 Emergency Departments 34,936 Clinics

1,360,224 > Patient Records Exchanged in 2017



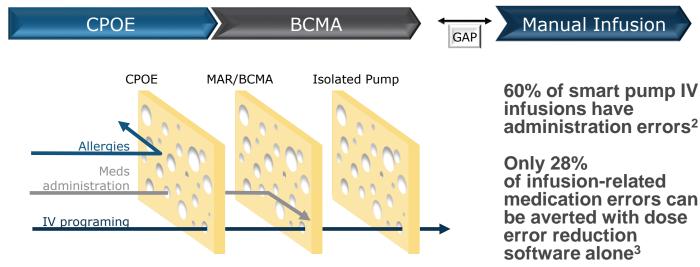




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Gaps with Unconnected Devices 4 Grady

Unconnected medical devices impact safety



2. Schnock K, Dykes P, Albert J et al. The frequency of intravenous medication administration errors related to smart infusion

pumps: a multihospital observational study. *BMJ Quality & Safety. 2016;0:1-10. doi:* 10.1136/bmjqs-2015-004465. 3. Guidance Article Infusion Pump Integration. *Health Devices.* 2013:210–221.

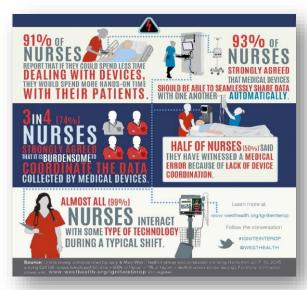






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Unconnected Medical Devices Impact Quality



91% of nurses said medical devices take time from patients⁴

93% of nurses agree devices should share data automatically⁴

Delays in data entry can result in incorrect treatment and possible patient harm⁵



4. Gary and Mary West Health Institute. *Missed Connections: A Nurses Survey on Interoperability and Improved Patient Care*. La Jolla, CA: Gary and Mary West Health Institute; 2015. 5. Wrong-Record, Wrong-Data Errors with Health IT Systems. *PSO Navigator*. 2015;7(2):1-10.



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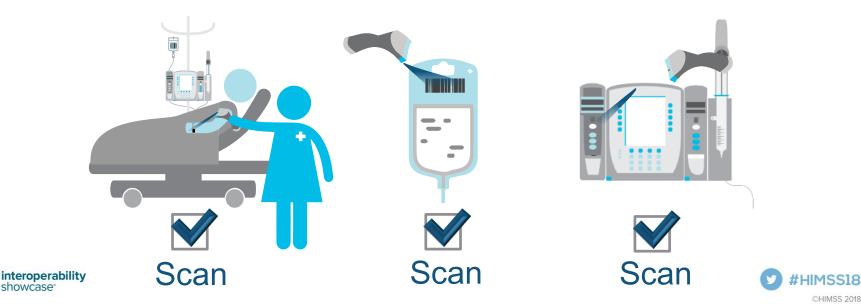


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Infusion Pump Interoperability BD Alaris[™] System

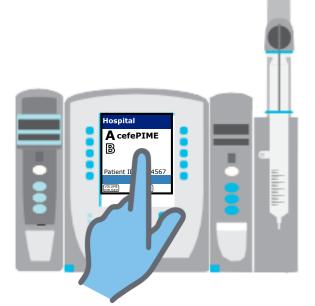
Grady

Brings pump and syringe infusions into BCMA workflow helping to protect more medications and patients





BD Infusion Pump Interoperability - Grady





- 75% of infusion-related medication errors are avoided with interoperability³
- Brings pump and syringe infusions into BCMA workflow helping to protect more medications and patients
- Forces use of Guardrails[™] on every infusion and titration







Linked the IV pump to the patient



Established a connection between what the MD ordered and what was actually administered





Infusion Interoperability Financial Improvements Related to Documentation

\$1,500,000 \$1,449,172 \$1.450.000 \$1,400,000 \$1,350,000 14% increase in \$1,300,000 \$1,272,333 charges \$1,250,000 \$1.200.000 \$1,150,000



Infusion Center 2017 Post-Interop





Infusion Interoperability

Financial Improvements Related to Reduction in Severe Harm Adverse Drug Events (PADE)

> **\$1,225,000** in cost avoidance due to reduction in Severe Harm Adverse Drug

> > **Events**

• 2015 2nd Qtr PADEs – 142

- 2017 2nd Qtr PADEs 107
- Average cost of Preventable Adverse Drug Events - \$8,750 (Institute of Medicine, 2016)
- Total cost avoidance (35 x \$8,750 x 4) = \$1,225,000







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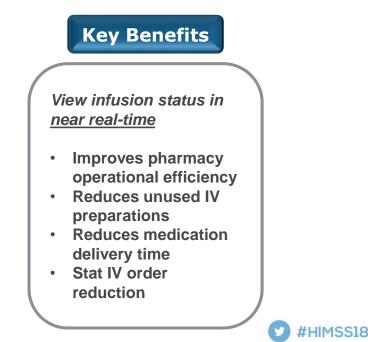
Infusion Visibility BD HealthSight[™] Viewer

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BD Pyxis[™] ES System Interoperability









HIMSS18 The leading health information and technology conference WHERE THE WORLD CONNECTS FOR HEALTH

BD Pyxis[™] *Med Link Queue and Waste module*



Challenges

- Need to spend more time with patients
- Need to reduce nonvalue added steps
- Need to reduce interruptions and errors

Value

- Patient-centric: brings workflow to patient bedside
- Efficient: streamlines nursing workflow
- Safe: helps minimize disruptions

Features

- Remote queue medications
- Remote waste documentation
- Check station availability
- Dose request





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BD Pyxis[™] Med Link Integration with **Epic**

Key Benefits

- Single Sign On from Epic
- Access to Queue and Waste within EPIC eMAR
 - Via tab or hotlink
 - Directly to Patient Orders within ES module
- EPIC and ES Link covisibility

Medication Administration Simulation - Not For Human Use		- a ×
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Acetaminophen, 1000 mg Pill Eat the pill		
Potassium Chloride, 20mEq in 50mL IV, Scheduled, Injection Infuse over 1 hour		
	Pyxis ES Link	

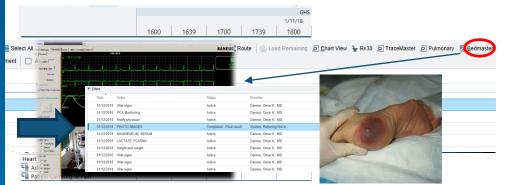






Device Interoperability





Key Benefits

- Promotes real-time data entry
- Improves data accuracy
- Enhances medical decision making
- Increases clinician efficiency





eGlycemic Management System 4 Grady

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- Application launches and fully functions from within EMR (single signon)
- Patient's insulin order set opens automatically
- Patient's dashboard continuously refreshes with insulin infusion rate recommendations and other glycemic indicators

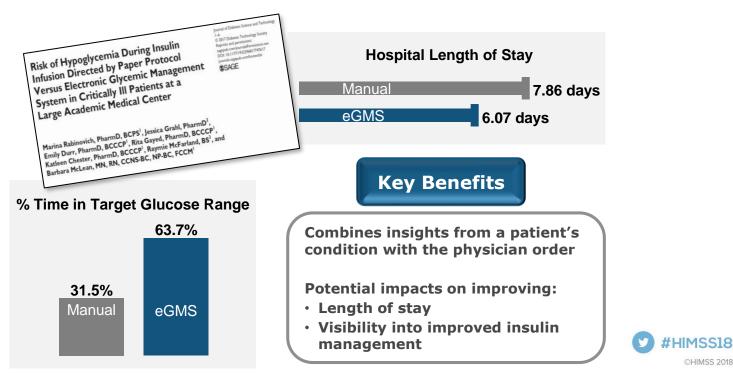






eGlycemic Management System

Proven Outcomes (Published Studies)



d Grady



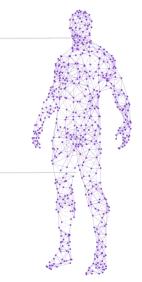
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Cognitive Machine Interoperability 4 Grady *A Cornerstone of Population Health*

Grady Health is applying a unique Eigen Space based cognitive machine that helps our providers:

Determine the interventions that will most effectively reduce risk to drive clinical-level action and meaning

Accelerate time to value by driving intelligence across clients and patient populations



- Incorporated into the workflow of Grady's Mobile Integrated Health (MIH) program
- Clinician-embedded model that improves EMS use in high-risk populations
- Leveraging the patient-level risks and recommendations delivered by the cognitive machine
- MIH is better able to target home visits, remote monitoring and the actions that will decrease readmissions, 911 volumes, and ER visits







Interoperability with Cognitive Machine Learning

Key Benefits

- Improved productivity of nurses and case managers
- Smart rounding methodology
- Case managers are deployed based on complexity and likelihood of readmission
- Enhanced workload efficiencies
- Patient specific intervention recommendations that impact readmission reduction

interoperability

showcase.











Mobile Integrated Health Achievements 2016-2017

May – Nov 2016 (7 months)	Jan-June 2017 (6 months)				
189 MIH reported visits	220 MIH reported visits				
17 Avoided Readmissions	45 Avoided Readmissions				
Total Visit Cost = \$37,500 (189 x \$200 p/visit)	Total Visit Cost = \$44,000 (220 x \$200 p/visit)				
Total Jvion MIH ROI = \$190,400 (503% ROI)	Total Jvion MIH ROI = \$504,000 (1000% ROI)				
Total 2016-2017 ROI = \$694 400					

Additional insights:

*Significant readmission reduction if MIH visit was within 5-10 days of discharge

-Readmission rates decreased by more than 10% in those cohorts

*Readmission risk was reduced for future inpatient admissions after MIH visits

-Impact lasts for several months (at least)









Telemedicine & Diabetic Eyes 4 Grady

Diabetes Facts:

The **#1** cause of preventable blindness

- 50% of patients that have had diabetes for more than 10 years will experience Diabetic Retinopathy
- 90% of patients that have had diabetes for more than 30 years will experience Diabetic Retinopathy





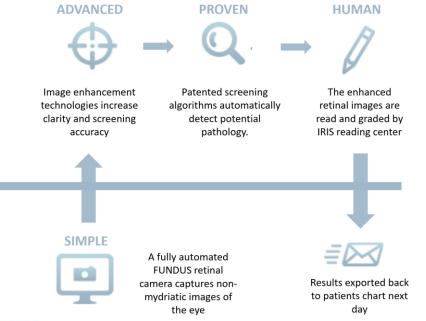








Outcomes of Early Detection



Key Benefits

The earlier diabetic retinopathy is detected, the greater the number of treatment options that are available at **much lower costs.**









Achievements to Date



Making a Difference Across the Entire Patient Population

What Grady has Achieved – Evidence-Based Outcomes

On a Mission to End Preventable Blindness

6599 exams

133K Examined Nationally

40% 34%

25%

17%

13%

17%

25%

- Patients examined with detected Pathology
- Patients diagnosed with **Diabetic Retinopathy**
- Patients identified with vision-15% threatening, progressive disease
 - Increase in Risk Adjustment **Eligible Diagnoses**







SMART on FHIR *Improving Data Liquidity*

A FHIR Future Burns Brightly for Population Health Management

As the healthcare industry warms up to FHIR, population health management and health data interoperability may be in for some significant improvements.





FHIR: The Future of Interoperability in Healthcare?



Key Benefits

- Increases patient engagement
- Supports population health
 management
- Bolsters clinical decision support







The Path Forward *Connecting the Digital Distribution of Healthcare*

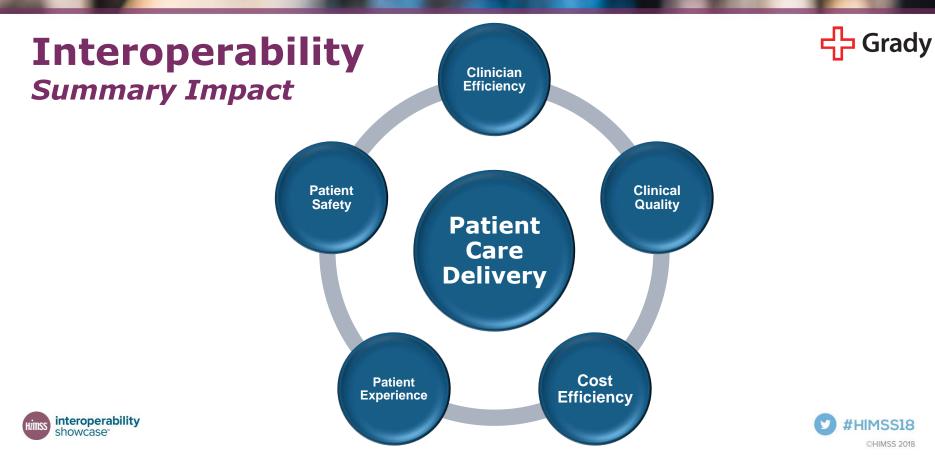






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 WHERE THE WORLD CONNECTS FOR HEALTH





Questions?



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