Connecting the supply chain to clinical outcomes

35th Global GS1 Healthcare Conference, Noordwijk, the Netherlands

March 26th, 2019

Prof. Dr. Susan Moffatt-Bruce, CEO Ohio State Wexner Medical Centre, Columbus, US; chair
Lorna Wilkinson, Director of Nursing, Salisbury NHS District Hospital, UK
Prof. Dr. Rainer Petzina, Cardiothoracic Surgeon, Universitaetsklinikum Schleswig-Holstein, Germany
Sotiris Tsiafos-Tsiaras, Military Pharmacist, Traceability Project Manager, 401 Athens General Military Hospital, Greece
Panel: Connecting the supply chain to clinical outcomes

Chair: Prof. Dr. Susan Moffatt-Bruce
Lorna Wilkinson
Prof. Dr. Rainer Petzina
Sotiris Tsiafos-Tsiaras
Connecting the supply chain to clinical outcomes

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Susan Moffatt-Bruce, MD, PhD, MBA, FACS
Executive Director, University Hospital; Professor of Surgery and BioMedical Informatics
The Ohio State University Wexner Medical Center, USA
March 26th, 2019
Volume-driven to Value-driven Payment Transition

Source: Center for Healthcare Quality and Payment Reform
Value = \frac{\text{Quality} \ (\text{safety, service, outcomes})}{\text{Cost} \ (\text{price, utilization, standardization})}
Value = 

Cost per procedure
Cost per patient
Cost per encounter
Cost per admission
Cost of unneeded tests
Cost of drugs

Mortality
Patient Safety Indicators
Hospital Acquired Infections
Hospital Acquired Conditions
Patient Satisfaction
How do we get to Value?

• Both Quality and Cost
• Engagement
• Teams
• Communication
• Patience
When do I order?

Products not available when needed

Barcodes don’t scan

Too much inventory in one cabinet

Can’t find supplies

EXPRESSED PRODUCT IN CIRCULATION

DOUBLE DOCUMENTING!!!

The Global Language of Business
What is Value Analysis (VA)?

- Objective standardized processes
- Review and decide on medical products, technologies, patient care services and patient care processes
- To provide safe, quality, cost-effective care
- Apply to new products as well as existing products and practices
- Multi-professional
Value Analysis

Executive Steering Committee

- Instrument VAT
- Physician Practice VAT
- Pharmacy VAT
- Laboratory Test VAT
- Nursing Practice VAT
The Value Matrix
Before & After Value Analysis
Before and After Value Analysis
Measuring Value

**Cost**

- $/patient day ↓ 7.2%
- Dept. inventory ↓ 52%
- Central Stores inv. ↓ 30%
- Inventory footprint ↓ 60%
- Off-contract spend ↓ 30%

**Time**

- Clinician ordering ↓ 90%
- Manual counting ↓ 100%
- Stat supply orders ↓ 45%

**Quality**

- Product availability → Patient care
- Nursing satisfaction
- Better outcomes
- No expired products
- 24/7 Joint Commission-ready

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Lessons Learned in Connecting Supply Chain to Clinical Outcomes:

- Physician leadership and engagement is key when making supply decisions
- Physician and clinical sign-off eliminate confusion
- Lead times must be verified on each product, not by product line
- Allow flexibility in timeline for scheduling conflicts
- Listen to clinical feedback!
Value = Quality \[\text{Cost per procedure, Cost per patient, Cost per encounter, Cost per admission, Cost of unneeded tests, Cost of drugs}\]
Ooo! Ooo!
Me! I'll do it!
Pick me!
Panel

- **Lorna Wilkinson**, Director of Nursing, Salisbury NHS District Hospital, UK

- **Prof. Dr. Rainer Petzina**, Cardiothoracic Surgeon, Head of quality management, risk management and patient safety in the University Hospital Schleswig-Holstein, Germany

- **Sotiris Tsiafos-Tsiaras**, Hospital Pharmacist, Traceability Project Manager, Athens General Army Hospital, Greece
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Lorna Wilkinson, Director of Nursing, Salisbury NHS District Hospital, UK
March 26th, 2019
Data Benefits at Salisbury NHS Foundation Trust

Connecting The Supply Chain to Clinicians
GS1 Global Healthcare Conference – Netherlands
26th March 2019
Think Salisbury…
Trust Services

District General Hospital Services
- Emergency Department
- Surgery
- Maternity
- Children's Services
- Orthopaedics
- Medicine
- Diagnostics
- Facilities

Regional Specialist Services
- Burns
- Cleft lip and Palate
- Genetics
- Plastic Surgery
- Laser Centre
- Wessex Rehabilitation

Supra-Regional Services
- Spinal Injury Services
My Role

Nurses, Midwives, Allied Health Professionals
Clinical Standards
Patient Safety
Patient Experience
Regulatory Requirements (CQC)
Executive Lead for Scan4Safety
Scan4Safety Programme

**Right Patient**
Setting standards to make sure we always have the right patient and know *what* product was used with *which* patient, *when*.

**Right Product**
Setting standards to make sure our staff have *what* they need, *when* they need it.

**Right Place**
Setting standards to make sure that patients and products are in the right place.

**Right Process**
Setting standards and implementing common ways of working to deliver better and more easily repeatable patient care.
POC Scanning

- Live since 2016
- Almost 30,000 procedures recorded
Implementation Timeline

- **October 2016**: Cardiology (2)
- **March 2017**: Trauma and Orthopaedics (3)
- **October 2017**: Main Theatres (7)
- **February 2018**: Day Surgery (6)
- **March 2018**: Radiology and ERCP (3)

21 Operating Theatres Live (All Inpatient)

Plastic Surgery, Gynaecology, Urology, General Surgery, Maxillofacial, ENT, Oral Surgery, Obstetrics, Anaesthetics
The recent implementation of the Scan4Safety project in Cardiology provides us for the very first time complete traceability of products such as implantable medical devices used with our patients.

Knowledge is power – not only does this provide us with a level of data and insight that can be used to better challenge clinical practice and variation, helping us to reduce inefficiencies and improve patient experience and outcomes – more importantly it ultimately helps to safeguard our patients from avoidable harm. In the event of a product recall, we can now easily and quickly track an affected product to the right patient.”

Tim Wells, Consultant Cardiologist, Salisbury NHS Foundation Trust
Surgery History
Standardisation Through Data

- National data showed we were an outlier in terms of product choice/cost compared to revision rate/outcomes
- POC data was extracted to analyse standard product choice
- A meeting was held with orthopaedic lead clinician to discuss findings compared with national trend
- Change in practice and rationalisation of other product options
Result
Clinicians Dashboard

Number of procedures recorded

<table>
<thead>
<tr>
<th>Consultant</th>
<th>Procedure code</th>
<th>Procedure Description</th>
<th>Primary Speciality</th>
</tr>
</thead>
<tbody>
<tr>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
<td>(All)</td>
</tr>
</tbody>
</table>

**Consultant Total by Brand**

<table>
<thead>
<tr>
<th>Actual change</th>
<th>Consultant</th>
</tr>
</thead>
<tbody>
<tr>
<td>£1,000,000</td>
<td>Dr. Tim We</td>
</tr>
<tr>
<td>£500,000</td>
<td>Dr. Phil Pett</td>
</tr>
</tbody>
</table>

**Overall value per brand and average procedure cost per month**

<table>
<thead>
<tr>
<th>Procedure Date</th>
<th>FY 2018</th>
<th>FY 2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>April</td>
<td></td>
<td></td>
</tr>
<tr>
<td>May</td>
<td></td>
<td></td>
</tr>
<tr>
<td>June</td>
<td></td>
<td></td>
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<tr>
<td>July</td>
<td></td>
<td></td>
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<tr>
<td>August</td>
<td></td>
<td></td>
</tr>
<tr>
<td>September</td>
<td></td>
<td></td>
</tr>
<tr>
<td>October</td>
<td></td>
<td></td>
</tr>
<tr>
<td>November</td>
<td></td>
<td></td>
</tr>
<tr>
<td>December</td>
<td></td>
<td></td>
</tr>
<tr>
<td>January</td>
<td></td>
<td></td>
</tr>
<tr>
<td>February</td>
<td></td>
<td></td>
</tr>
<tr>
<td>March</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Average Cost Per Procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>£0</td>
</tr>
</tbody>
</table>
Clinicians View
Surgical Kitting
# Ward Traffic

## A typical Ward

<table>
<thead>
<tr>
<th>Service</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Porter</td>
<td>As requested</td>
</tr>
<tr>
<td>SDU</td>
<td>Every 30 mins Mon-Fri</td>
</tr>
<tr>
<td>Catering</td>
<td>Three times daily</td>
</tr>
<tr>
<td>Housekeeping</td>
<td>Daily</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>Daily</td>
</tr>
<tr>
<td>Linin Services</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td></td>
</tr>
<tr>
<td>Pathology</td>
<td>Once a week top up</td>
</tr>
<tr>
<td>Procurement – Mat Man/R&amp;D</td>
<td>Twice a week</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Role</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dietician</td>
<td>Daily</td>
</tr>
<tr>
<td>OT</td>
<td>Daily</td>
</tr>
<tr>
<td>Physio</td>
<td>Daily</td>
</tr>
<tr>
<td>Discharge Coordinator</td>
<td>Daily</td>
</tr>
<tr>
<td>Specialist Nurses</td>
<td>Daily</td>
</tr>
<tr>
<td>Bed Manager</td>
<td>Daily</td>
</tr>
<tr>
<td>DSN</td>
<td>Daily</td>
</tr>
<tr>
<td>Pharmacist</td>
<td>Day</td>
</tr>
<tr>
<td>Phlebotomy</td>
<td>Weekly</td>
</tr>
</tbody>
</table>

Social Workers

House Keeping Audit

Weekly
Well Organised Ward

Organised Ward

- **Why** – To increase nursing time spent with the patient
- **Who** - Britford, Pharmacy, Catering, Pathology, Materials Management
- **What** - Enhance services are delivered to the Ward
- **How** - By trialling some new ways of working

Focus on Patient Care
Fewer interruptions
Less traffic on the ward
Everything you need just turns up
Thank you for listening
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Prof. Dr. Rainer Petzina, Quality Management, Risk Management & Patient Safety, Cardiothoracic Surgeon, Universitaetsklinikum Schleswig-Holstein, Germany

March 26th, 2019
Connecting the supply chain to clinical outcomes

Prof. Dr. Dr. Rainer Petzina, MaHM
Quality Management, Risk Management & Patient Safety
Cardiac Surgeon
University Hospital Schleswig-Holstein (UKSH), Germany
University Hospital Schleswig-Holstein – UKSH

In-patients / year
Kiel ~ 54,000
Lübeck ~ 55,000

Out-patients / year
Kiel ~ 162,000
Lübeck ~ 140,000

Wissen schafft Gesundheit = Knowledge creates health
GS1 – material management / logistics

Use of GS1 in OR

Wissen schafft Gesundheit
GS1 – staff identification badge

New hospital – new staff identification badges

Prolonged process – Personnel Committee…
GS1 – room designation

New hospital – complex room designations

GS1 → GLN
Future projects

Central sterilisation facility
Future projects

Central sterilisation facility

„Sally movie“
Future projects

Patient identification wrist band – GS1
Medication process

Unit dose

Wissen schafft Gesundheit
GS1 based medication process

Barcode-based medication at the patient’s bedside

Medius Klinik Nürtingen

Wissen schafft Gesundheit

University Hospital Schleswig-Holstein
Scan4Safety & Comfort

https://www.scan4safety.nhs.uk/

University Hospital Schleswig-Holstein
Implant files

Easy recall

Wissen schafft Gesundheit
Patient journey – vision with GS1

Safer, more efficient care starts with a simple scan
Wissen schafft Gesundheit
Connecting the supply chain to clinical outcomes

Thank you for your attention!

Prof. Dr. Dr. Rainer Petzina, MaHM
Quality Management, Risk Management & Patient Safety
Cardiac Surgeon
University Hospital Schleswig-Holstein (UKSH), Germany

Wissen schafft Gesundheit
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Sotiris Tsiafos-Tsiaras, Military Pharmacist, Traceability Project Manager, 401 Athens General Military Hospital, Greece
March 26th, 2019
“You will not find it difficult to prove that battles, campaigns, and even wars have been won or lost primarily because of logistics.”

~ Dwight D. Eisenhower
Sounds familiar?

**Logistics “Definition”**

“The **right product**, at the **right place**, at the **right time**, (and with the **right cost**)

**“5 Patient Rights” of medication administration**

- Right **drug**
- Right **dosage**
- Right **patient**
- Right **time**
- Right **route**

Efficient healthcare is based on sound supply chain processes!
Many cultures inside a hospital!
Supply chain operations affect all of us!
It’s all about the data!
(and data quality!)
A simple scan means good quality data
Clear benefits for the Supply Chain

- Detailed view & better control of stock
- Fewer loses, fewer errors
- Accurate forecasting
- Improved purchasing strategy
- Traceability
- Faster, more efficient procedures
But...

Barcode scanning is not only about counting items!
Scanning is not only about counting items!

- In the OR:
  - Automatically checking EXP dates
  - Alerts for recalled items
  - No manual work (>85% less time needed)
  - Speed in data entry → more time with the patient
  - Well-documented surgical operations

Safer, simpler processes for the nurses, safer for patients
Accurate data:

- Allow for locating incidents that indicate possible errors
- Can support clinical decisions
- Add to the transparency of usage
Scanning is not only about counting items!

- Accuracy
- Transparency
- Correct data
- Simple processes
Good news travels fast...

Trust → more engagement

From the OR to:
- Anesthesia & Recovery Dept.
- Cardiac Cath. & Vascular Embolism Lab.
- Interventional Radiology Dept.

due to the nurses interest & engagement!
Don’t forget...

Supply Chain

Clinical work

The two sides of the same coin
Thank you!

Sotiris Tsiafos-Tsiaras,
OR Traceability Project Manager

401 Athens General Military Hospital, Greece
s.tsiaras@gmail.com
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Summarise and Q&A
March 26th, 2019
Patient pathway

A patient pathway demonstrating the individual touch points throughout the patient journey where GS1 standards are used. Standards adoption provides end-to-end traceability, improving patient safety and operational efficiency.
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THANK YOU FOR YOUR ATTENTION