The Global Language of Business

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

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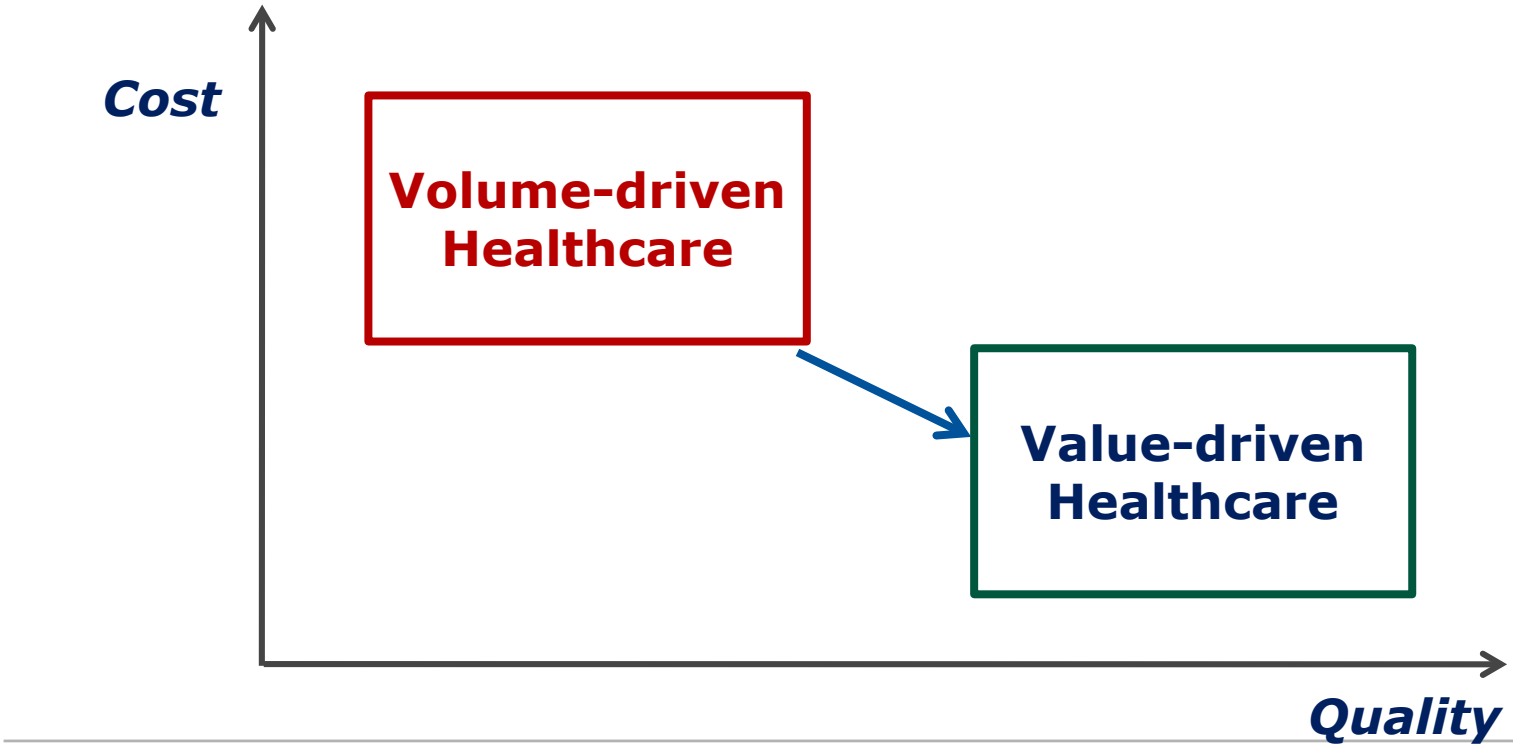
Susan Moffatt-Bruce, MD, PhD, MBA, FACS
Executive Director, University Hospital; Professor of Surgery and BioMedical Informatics
The Ohio State University Wexner Medical Center, USA

March 26th, 2019

Volume-driven to Value-driven Payment Transition



Source: Center for Healthcare Quality and Payment Reform

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$$\text{Value} = \frac{\text{Quality (safety, service, outcomes)}}{\text{Cost (price, utilization, standardization)}}$$

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$$\text{Value} = \frac{\text{Mortality}\\ \text{Patient Safety Indicators}\\ \text{Hospital Acquired Infections}\\ \text{Hospital Acquired Conditions}\\ \text{Patient Satisfaction}}{\text{Cost per procedure}\\ \text{Cost per patient}\\ \text{Cost per encounter}\\ \text{Cost per admission}\\ \text{Cost of unneeded tests}\\ \text{Cost of drugs}}$$

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How do we get to Value?

- Both Quality and Cost
- Engagement
- Teams
- Communication
- Patience

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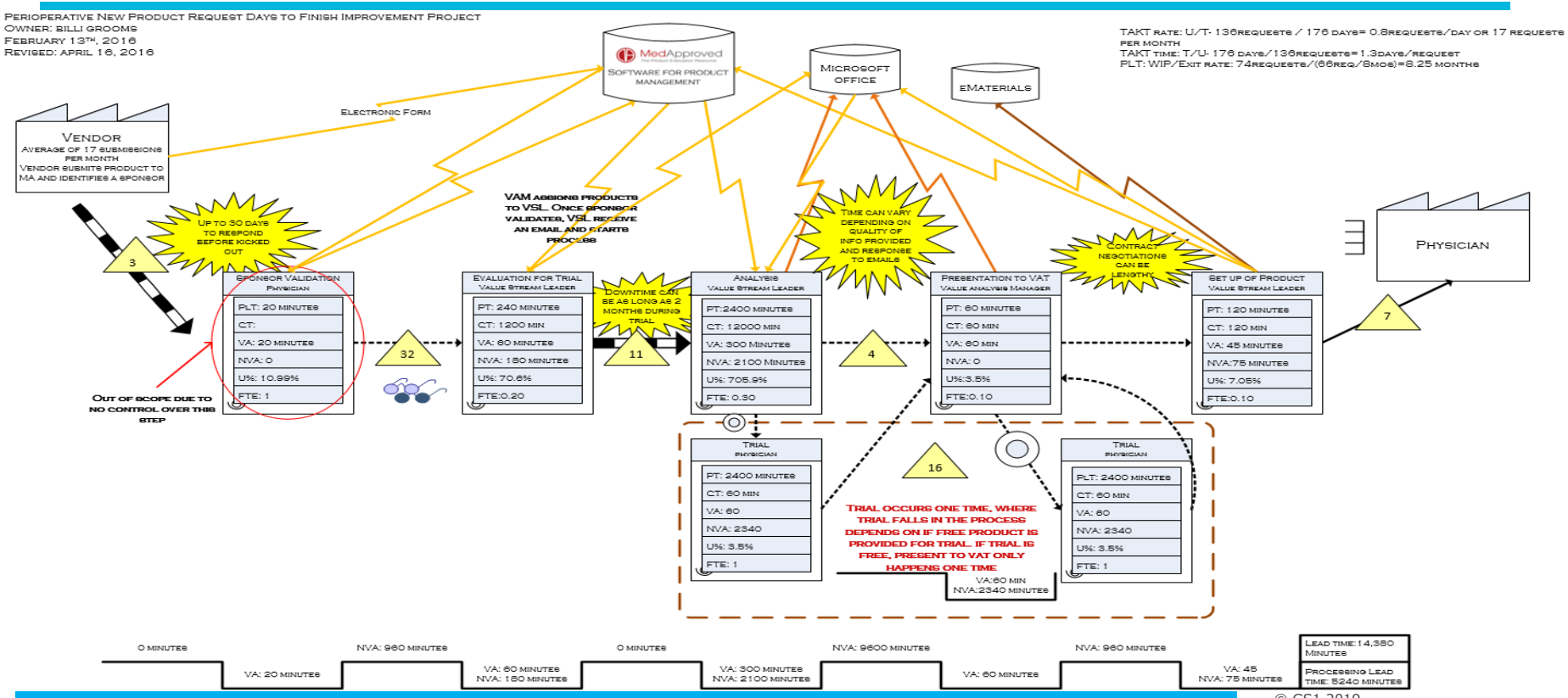
Value Stream Map of Poor Value!



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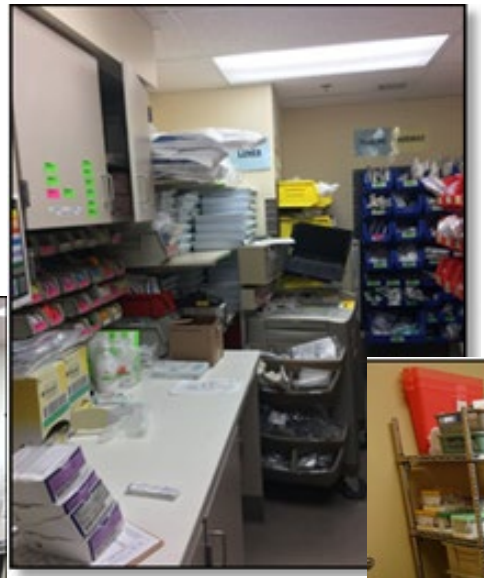

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DOUBLE DOCUMENTING!!!

Products not available when needed

EXPIRED PRODUCT IN CIRCULATION

When do I order?

Barcodes don't scan

Too much inventory in one cabinet

Can't find supplies

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

THE OHIO STATE UNIVERSITY
WEXNER MEDICAL CENTER

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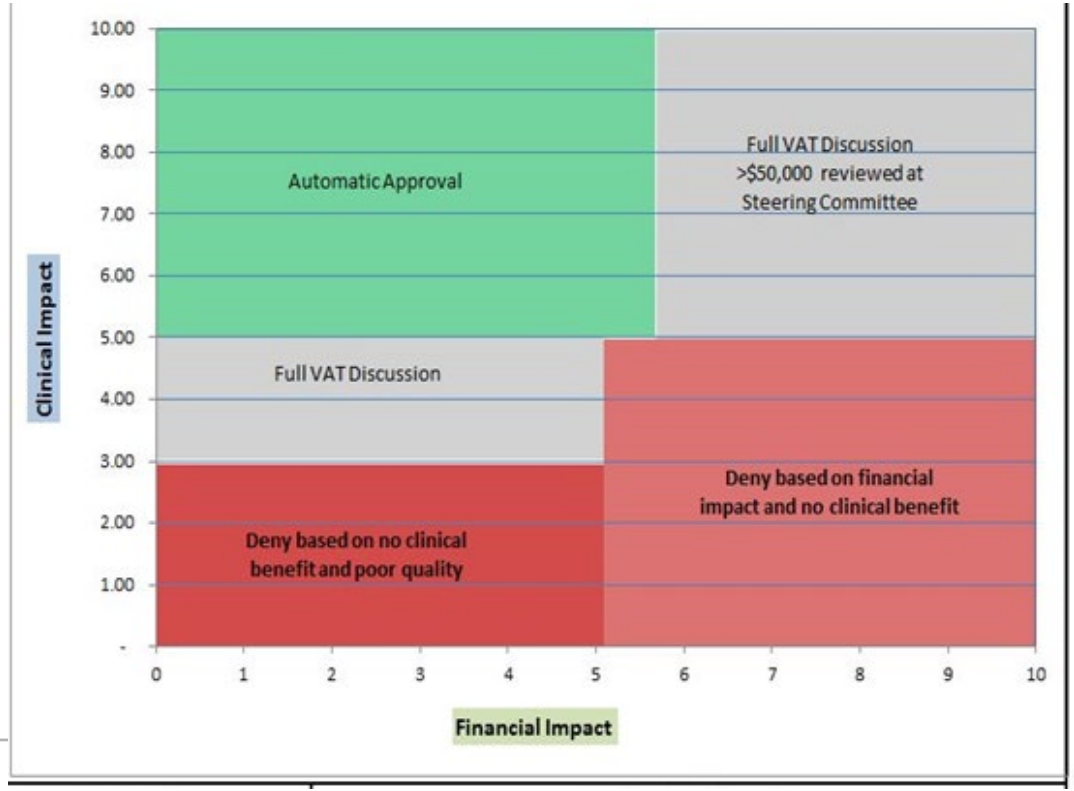
Value Analysis

The Value Matrix



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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

The Ohio State University
Wexner Medical Center

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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!

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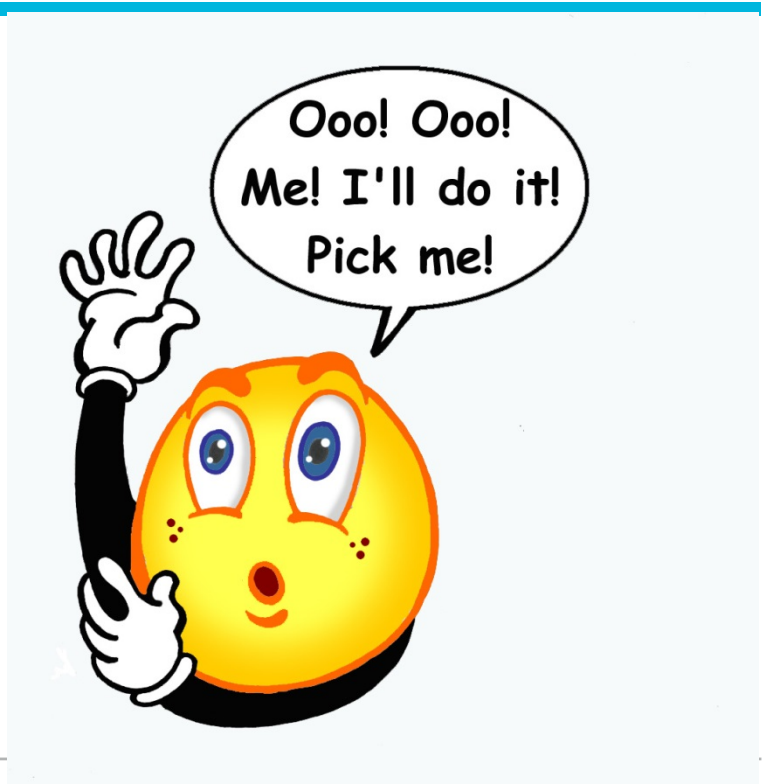
$$\text{Value} = \frac{\text{QUALITY}}{\text{COST}}$$

Mortality
Patient Safety Indicators
Hospital Acquired Infections
Hospital Acquired Conditions
Patient Satisfaction

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



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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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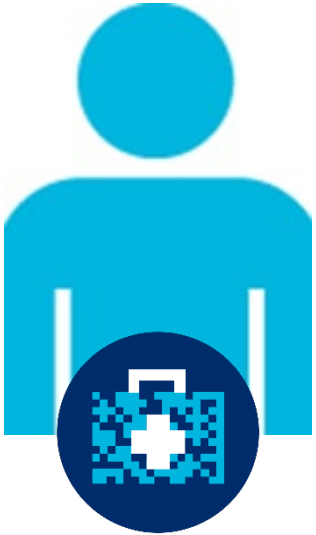


SCAN4SAFETY

NHS Salisbury NHS Foundation Trust

Data Benefits at Salisbury NHS Foundation Trust

Connecting The Supply Chain to Clinicians

GS1 Global Healthcare Conference – Netherlands

26th March 2019

Outstanding Every Time

Think Salisbury…

Trust Services

District General Hospital Services

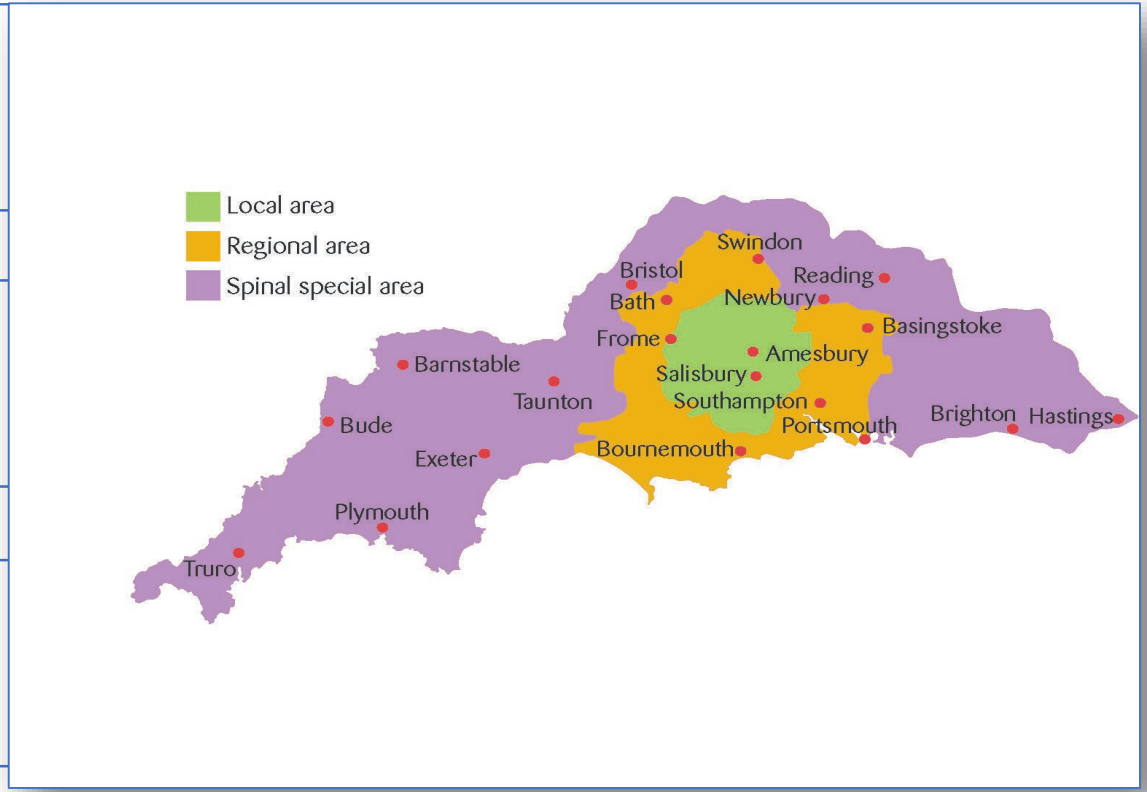
- Emergency Department
- Surgery
- Maternity
- Children's Services
- Orthopaedics
- Medicine
- Diagnostics
- Facilities

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

POC Scanning

Patient & Procedure

All Staff

All Products

Time

- **Live since 2016**
- **Almost 30,000 procedures recorded**

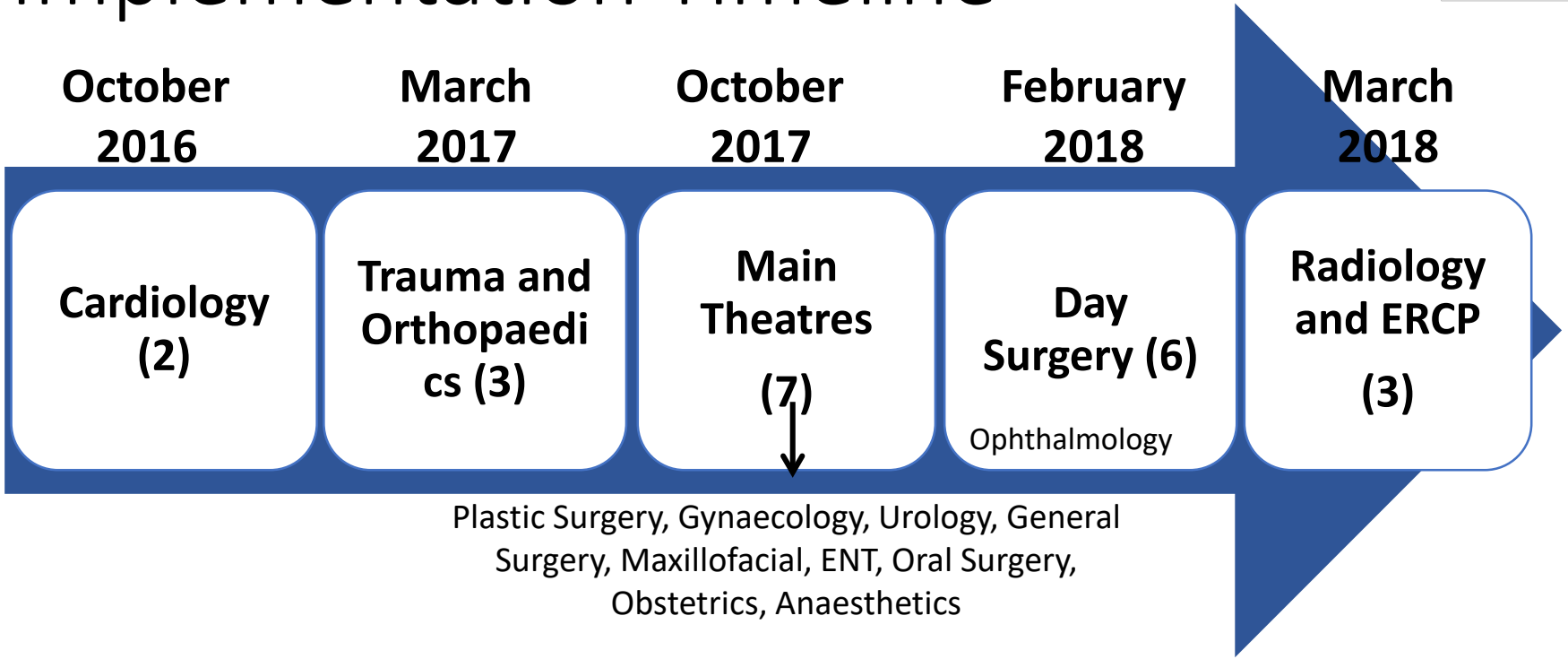
THEATRES109
Mrs Margaret Stacey

THEATRES011
Sister Jenny Staunton

CARDIO030
Mr Phil Steer

THEATRES007
Sister Cathy Steirn

Implementation Timeline



21 Operating Theatres Live (All Inpatient)

The Importance of Data

“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

NHS Salisbury NHS Foundation Trust

Surgery - Genesis Automation :: Stock Management

Home | Inventory | Lot No & Expiry | Point of Care | Master Data | Transaction Data | Orders | Reporting | Notifications | Settings | Help

Inventory Levels | Inventory Transactions | Surgery Items

Inventory | Notifications

Tasks | Surgery | Inventory Levels

Time Period: This Week | This Month | This Year | All Time

Date Range: From: 03/12/2018 To: 09/01/2019

Filter Data: Procedure: HIP REPLACEMENT CEMENTED | Surgeon: [Select Surgeon...] | Patient: [Select Patient...] | Theatre: [Select Theatre...] | Supplier Item: [Select Supplier Item...] | Lot Number:

Actions: Search | Reset Filters | Export To Excel | Grouping: Off

Summary Information
Monthly Avg. Cost: £22,400.18
Quarterly Avg. Cost: £22,400.18

Reference	Procedure Code	Procedure Name	Surgeon	Theatre	Duration	Patient ID	Nº Items	Cost	Created By	Created On	Details
PLC024866	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	01:15:00	2026931	36	£2,194.40	Theatre07...	7 January 2019	
PLC024837	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	02:00:00	0114104	33	£2,101.23	Theatre07...	7 January 2019	
PLC024667	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 06	01:37:00	0486023	21	£1,980.43	Theatre06...	3 January 2019	
PLC024422	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 02	01:00:00	0120247	30	£1,741.58	Theatre02...	27 December 2018	
PLC024397	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 02	02:00:00	0201327	33	£2,231.15	Theatre02...	27 December 2018	
PLC024388	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 02	02:00:00	0734001	35	£2,061.23	Theatre02...	27 December 2018	
PLC024213	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 06	00:50:00	0668458	11	£1,748.48	Theatre06...	20 December 2018	
PLC024172	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 06	02:18:00	0839186	27	£2,628.15	Theatre06...	20 December 2018	
PLC024060	ORTHO30	HIP REPLACEMENT CEMENTED	4192868 - M	Theatre 06	02:00:00	0137111	35	£2,658.94	Theatre06...	19 December 2018	
PLC024034	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 06	02:00:00	0187125	27	£1,937.80	Theatre06...	18 December 2018	
PLC023908	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	01:10:00	0948585	15	£1,593.01	Theatre07...	15 December 2018	
PLC023907	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	01:30:00	0056813	23	£1,873.01	Theatre07...	15 December 2018	
PLC023903	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	01:00:00	0305327	31	£1,405.24	Theatre07...	15 December 2018	
PLC023902	ORTHO30	HIP REPLACEMENT CEMENTED	5208177 - M	Theatre 07	01:30:00	0347491	26	£2,026.61	Theatre07...	15 December 2018	
22 rows							633	£44,800.35			

Standardisation Through Data

NHS Salisbury NHS Foundation Trust

National data showed we were an outlier in terms of product choice/cost compared to revision rate/outcomes

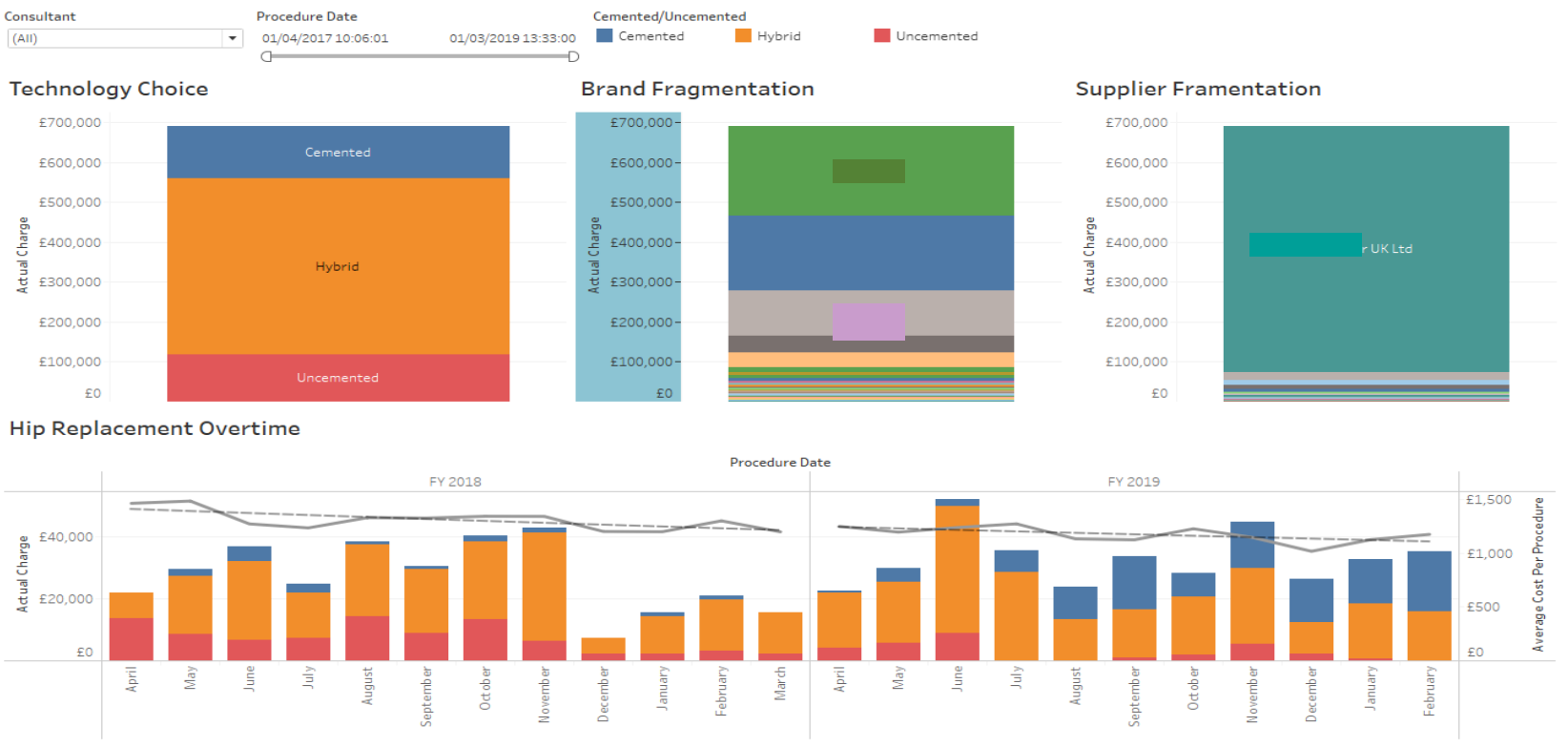
POC data was extracted to analyse standard product choice

A meeting was held with orthopaedic lead clinician to discuss findings compared with national trend

Change in practice and rationalisation of other product options

GETTING IT RIGHT FIRST TIME

Result

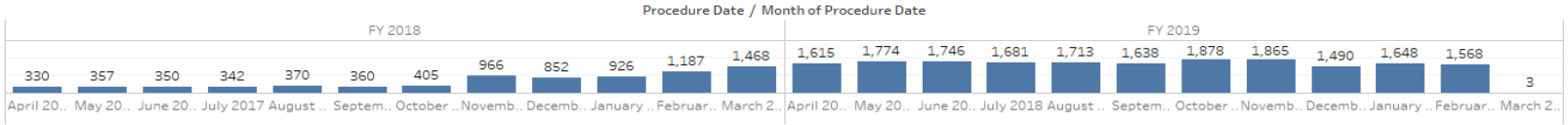

Consultant
(All)
Procedure Date
01/04/2017 10:06:01
01/03/2019 13:33:00
Cemented/Uncemented
Cemented
Hybrid
Uncemented
Technology Choice
Actual Charge
£700,000
£600,000
£500,000
£400,000
£300,000
£200,000
£100,000
£0
Cemented
Hybrid
Uncemented
Brand Fragmentation
Supplier Framentation
r UK Ltd
Hip Replacement Overtime
Procedure Date
FY 2018
FY 2019
£40,000
£20,000
£1,500
£1,000
£500
Average Cost Per Procedure
April
May
June
July
August
September
October
November
December
January
February
March

Clinicians Dashboard

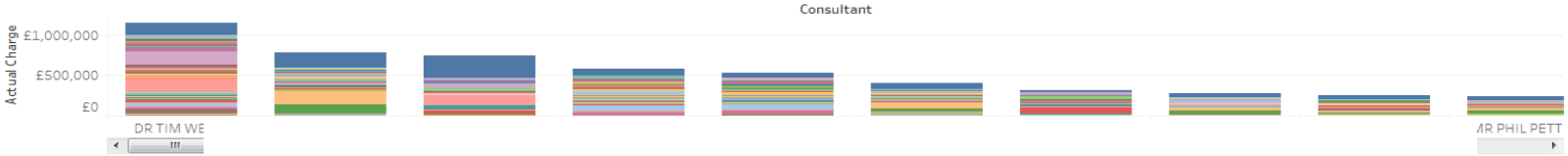
NHS Salisbury NHS Foundation Trust

Consultant: (All) | Procedure code: (All) | Procedure Description: (All) | Primary Specialty: (All)

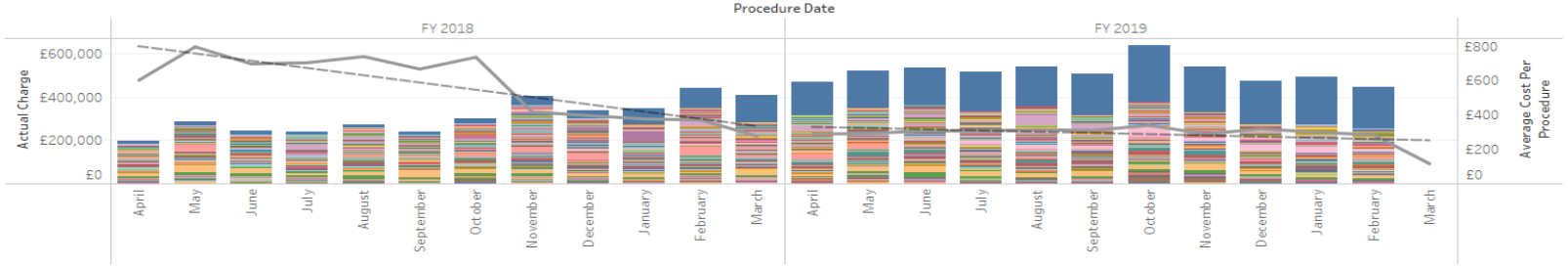
Number of procedures recorded



Consultant Total by Brand



Overall value per brand and average procedure cost per month



Clinicians View

Surgical Kitting

Ward Traffic

Porter	As requested
SDU	Every 30 mins Mon-Fri
Catering	Three times daily
Housekeeping	
Pharmacy	Daily
Linin Services	
Post	
Pathology	Once a week top up
Procurement – Mat Man/R&D	Twice a week

A typical Ward

Dietician	Daily	Social Workers	Weekly
OT		House Keeping Audit	
Physio			
Discharge Coordinator			
Specialist Nurses			
Bed Manager			
DSN			
Pharmacist			
Phlebotomy			

Well Organised Ward

Focus on Patient Care
Fewer interruptions
Less traffic on the ward
Everything you need just turns up

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

NHS
Salisbury
NHS Foundation Trust

Thank you for listening

Outstanding Every Time

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Prof. Dr. Rainer Petzina, Quality Management, Risk Management & Patient Safety,
Cardiothoracic Surgeon, Universitaetsklinikum Schleswig-Holstein, Germany

March 26th, 2019

UNIVERSITÄTSKLINIKUM
Schleswig-Holstein

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

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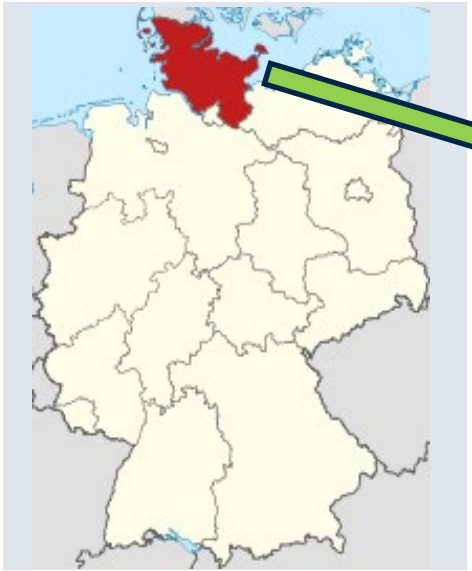
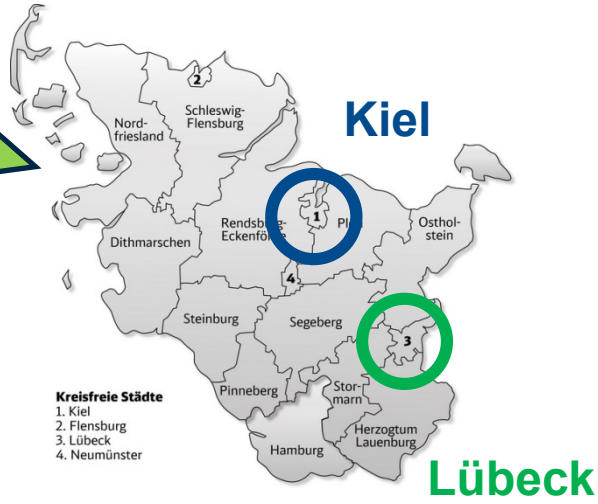
University Hospital Schleswig-Holstein – UKSH





In-patients / year
Kiel ~ 54.000
Lübeck ~ 55.000

Out-patients / year
Kiel ~ 162.000
Lübeck ~ 140.000

Wissen schafft Gesundheit = Knowledge creates health

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GS1 – material management / logistics

Use of GS1 in OR

Wissen schafft Gesundheit

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GS1 – staff identification badge

New hospital – new staff identification badges

Prolonged process – Personnel Committee…

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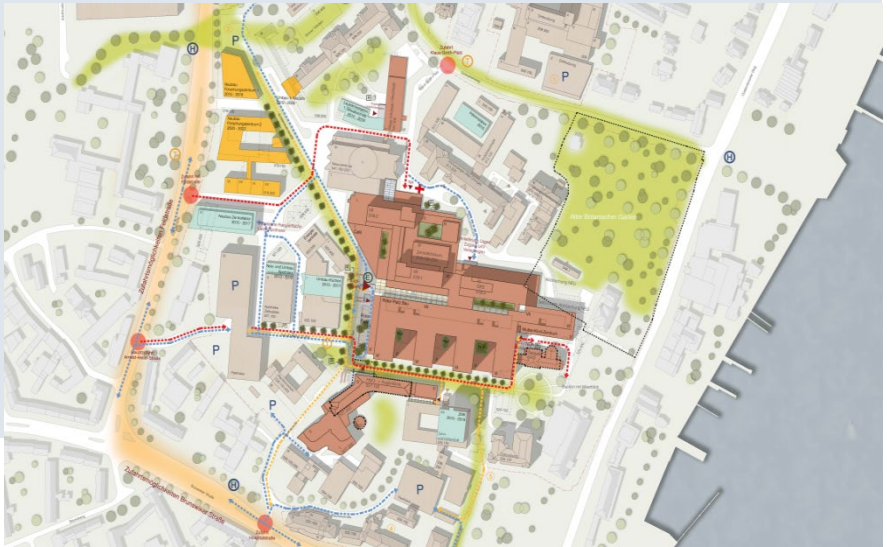
GS1 – room designation

New hospital – complex room designations

GS1 → GLN



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Future projects

Central sterilisation facility

Wissen schafft Gesundheit

Future projects

Central sterilisation facility

„Sally movie“

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Future projects

Patient identification wrist band – GS1

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Medication process

Unit dose

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GS1 based medication process

Medius Klinik Nürtingen

Wissen schafft Gesundheit

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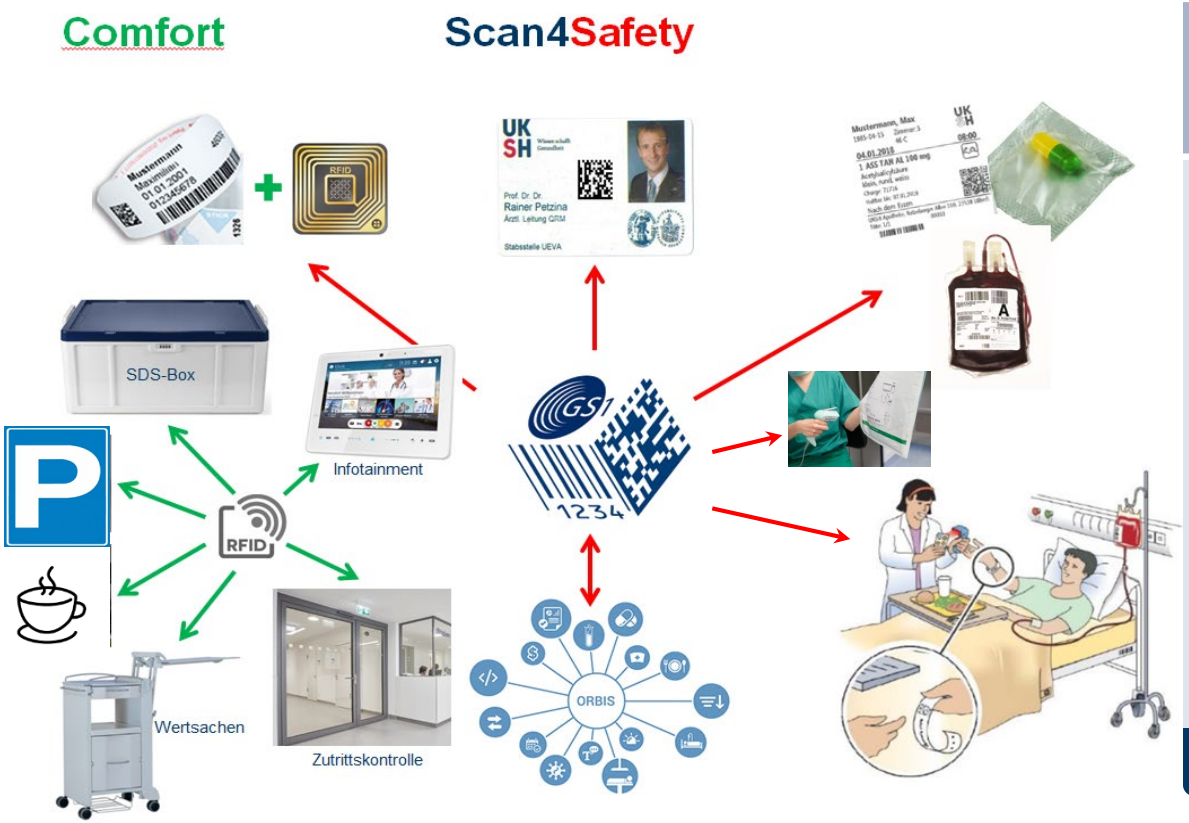
Scan4Safety & Comfort



SCAN4SAFETY
Patient. Product. Place. Process.

Department of Health & Social Care

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

University Hospital Schleswig-Holstein

24.03.2019

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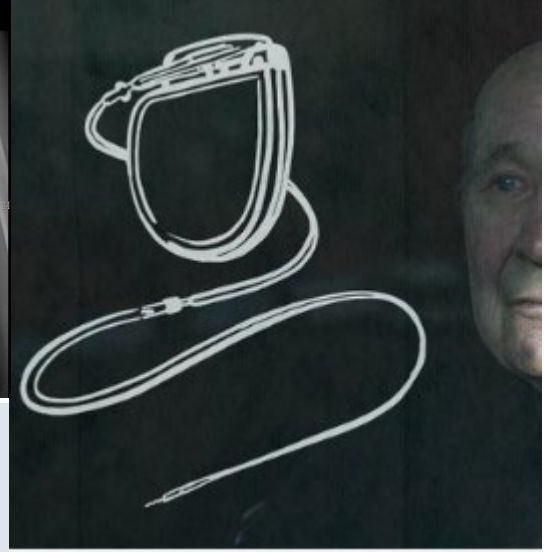
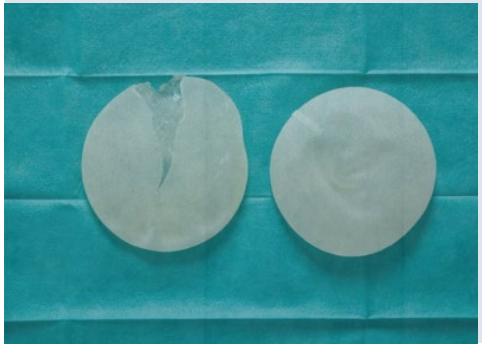
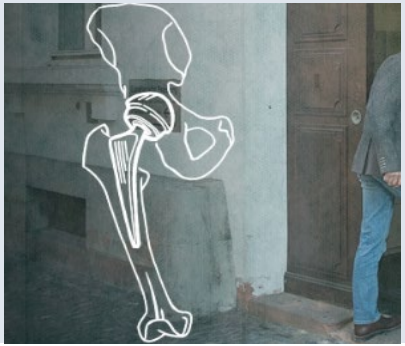
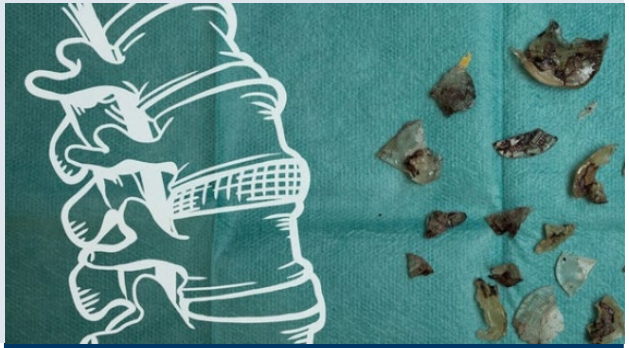


Implant files

Easy recall







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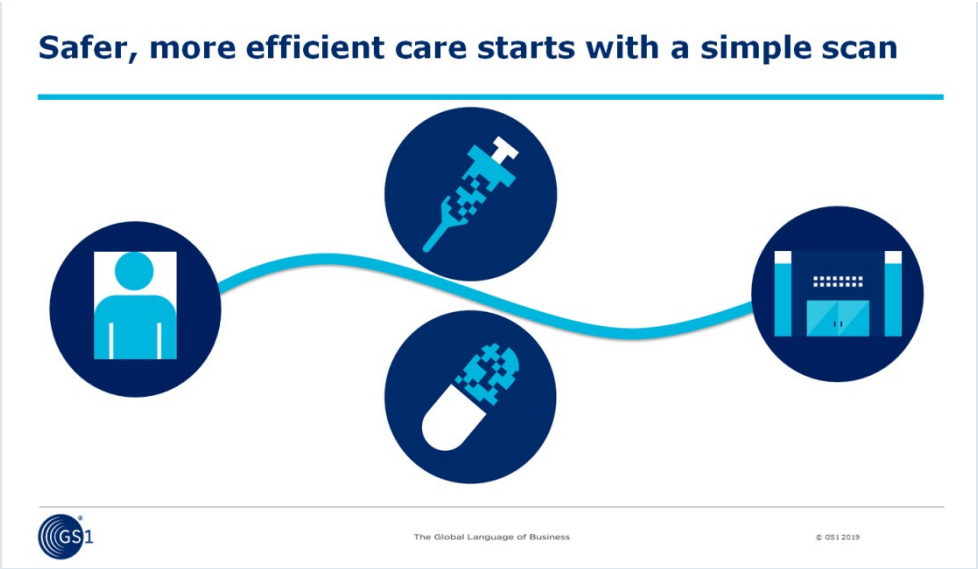
Patient journey – vision with GS1



UK SH

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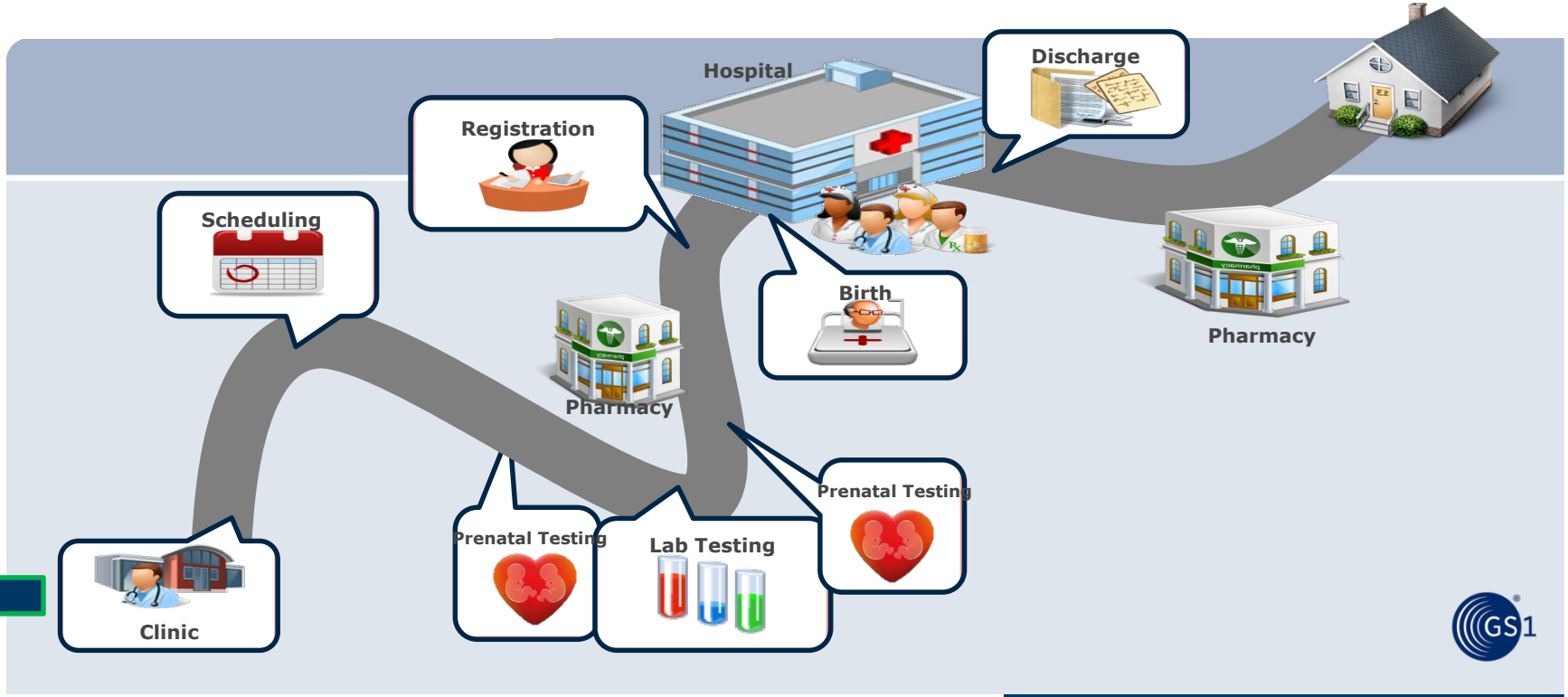

Wissen schafft Gesundheit

University Hospital Schleswig-Holstein

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Schleswig-Holstein

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

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Sotiris Tsiafos-Tsiaras, Military Pharmacist, Traceability Project Manager, 401 Athens General Military Hospital, Greece

March 26th, 2019

No doubts

“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

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Sounds familiar ?

Logistics "Definition"	"5 Patient Rights" of medication administration
"The **right product**, at the **right place**, at the **right time**, (and with the **right cost**)"	✓ Right **drug** ✓ Right **dosage** ✓ Right **patient** ✓ Right **time** ✓ Right **route**

Efficient healthcare is based on sound supply chain processes !

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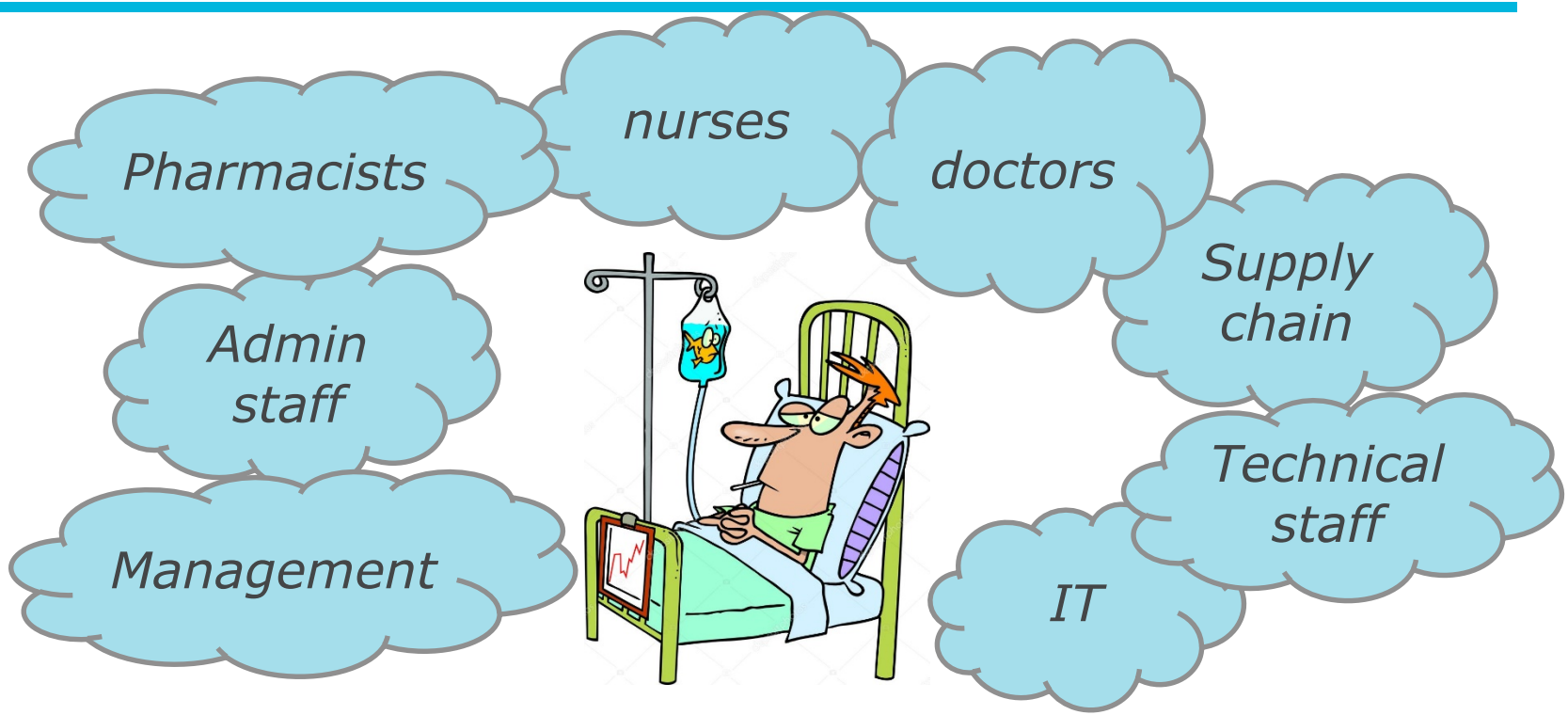
Many cultures inside a hospital !



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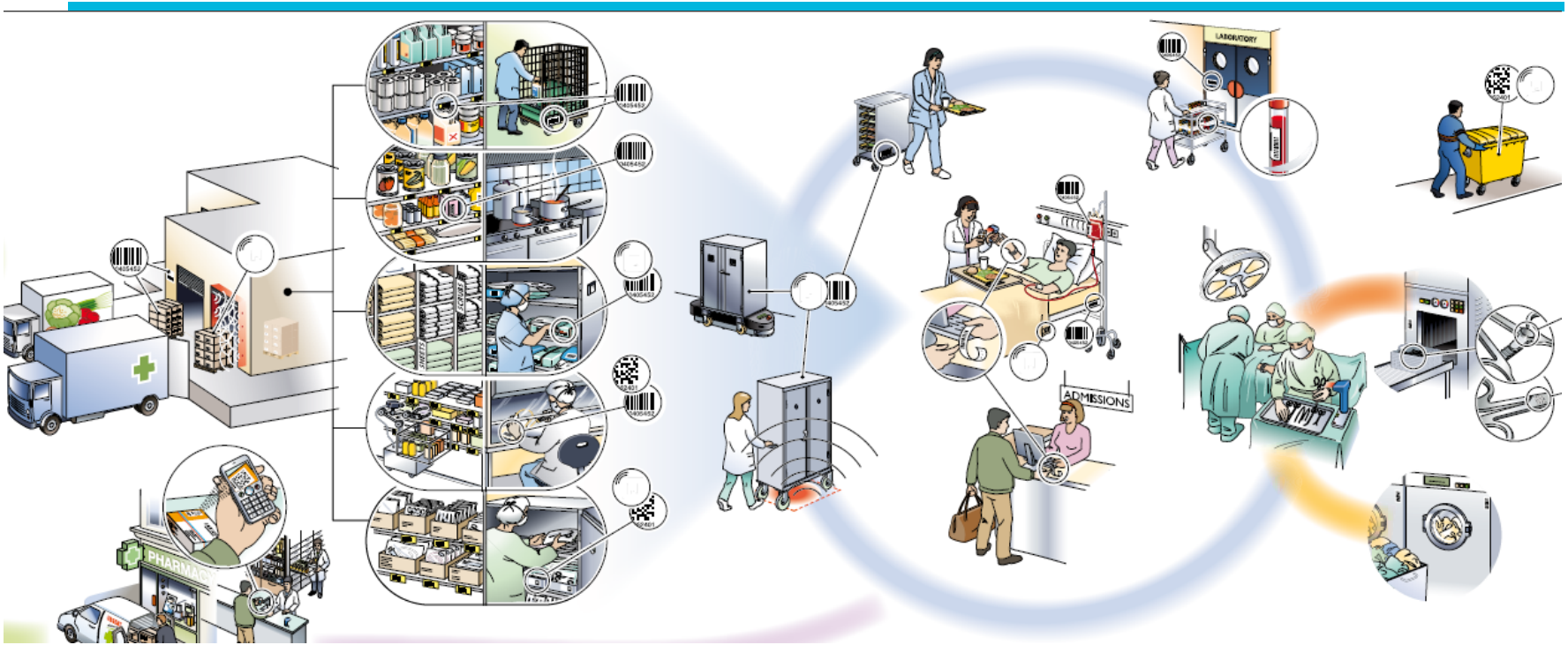
Supply chain operations affect all of us !



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It's all about the data !

(and data quality!)

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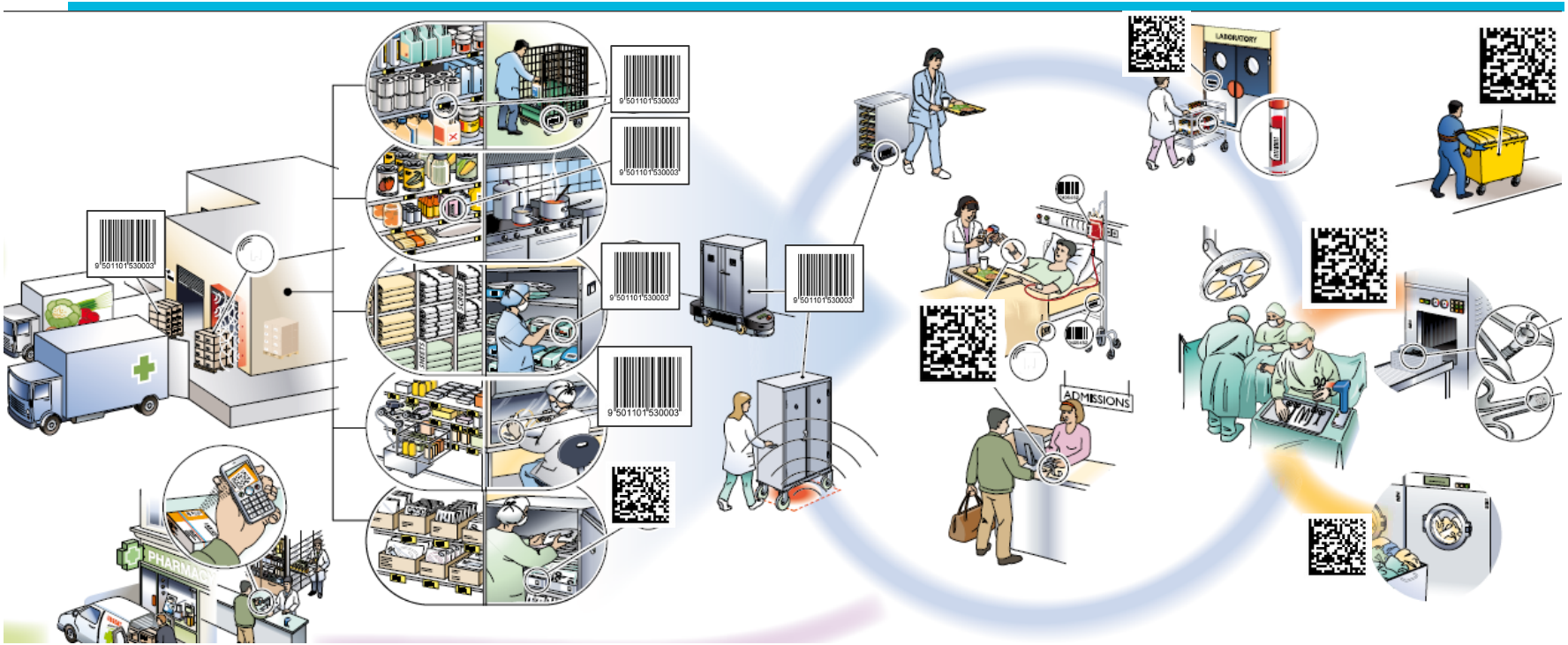
A simple scan means good quality data



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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

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But…

Barcode scanning is not only about counting items !

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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

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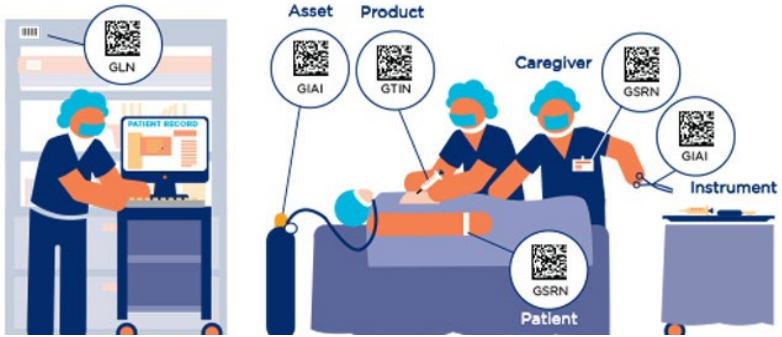
Scanning is not only about counting items !

Accurate data:

- Allow for locating incidents that indicate possible errors
- Can support clinical decisions
- Add to the transparency of usage



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Scanning is not only about counting items !

- Accuracy
- Transparency
- Correct data
- Simple processes

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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 !

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Don’t forget…

Supply Chain

Clinical work

The two sides of the same coin

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Thank you !

Sotiris Tsiafos-Tsiaras,
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The Global Language of Business

Connecting the supply chain to clinical outcomes

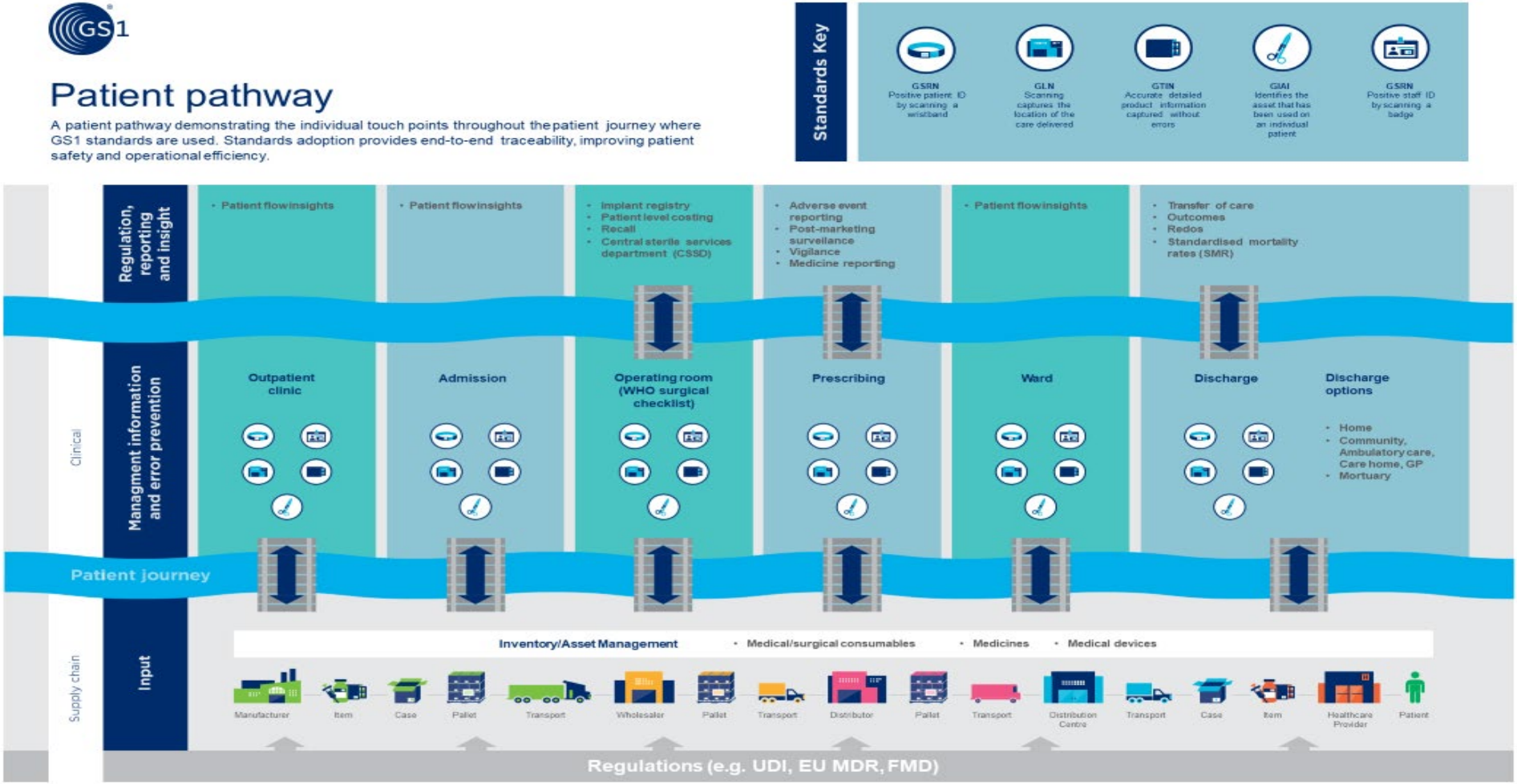
35th Global GS1 Healthcare Conference
Noordwijk, the Netherlands

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