



The Global Language of Business

Value Based Healthcare – VBHC

35th Global GS1 Healthcare Conference, Noordwijk, the Netherlands

March 26th, 2019

Karen Conway, Vice President Healthcare Value, GHX, US. Session chair

Eric Hans Eddes, Gastrointestinal and Oncological Surgeon, General Director Dutch Institute for Clinical Auditing, the Netherlands

Leila McMahon, GS1 Program Manager Smith & Nephew, UK

Hennie Mulder, Registered Operating Room Nurse, Coordinator Quality & Safety, Maxima Medical Centre, the Netherlands

Panel: Value Based Healthcare



Chair:
Karen Conway
Global Healthcare
Exchange (GHX)



Dr. Eric Hans
Eddes, DICA



Leila McMahon,
Smith & Nephew



Hennie Mulder,
Registered OR
Nurse, MMC





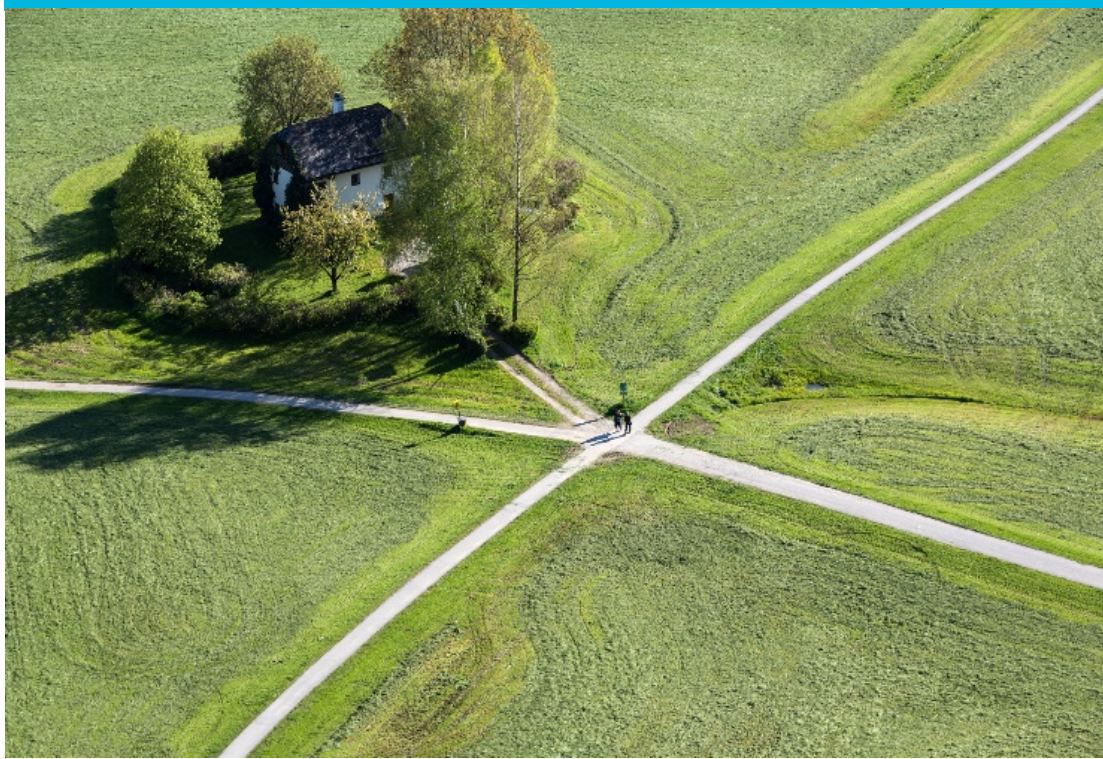
Value Based Healthcare - VBHC

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Karen Conway, Chair
Vice President Healthcare Value, GHX, US
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What is Value-based Healthcare?



Definitions Matter

"If you don't know where you're going, then any road will take you there."

***-Lewis Carroll,
Alice's Adventures
in Wonderland***

What is Value-based Healthcare?



“The health outcomes achieved that matter to patients relative to the cost of achieving these outcomes.”

- Michael E. Porter, Harvard Business School

A healthcare system that explicitly prioritizes health outcomes that matter to patients relative to their costs.

-The Economist Advisory Board

Value is defined as the outcomes that patients experience relative to the cost of delivering those outcomes. Value-based Healthcare, or VBHC, is healthcare that delivers the best possible outcomes to patients for the lowest possible cost.

- International Consortium for Health Outcomes Measurement (ICHOM)

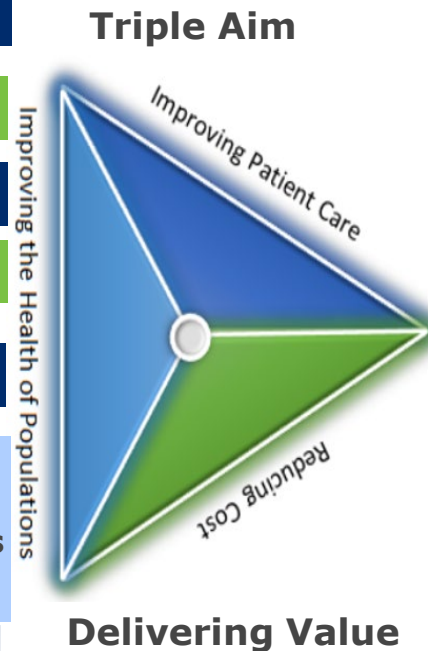
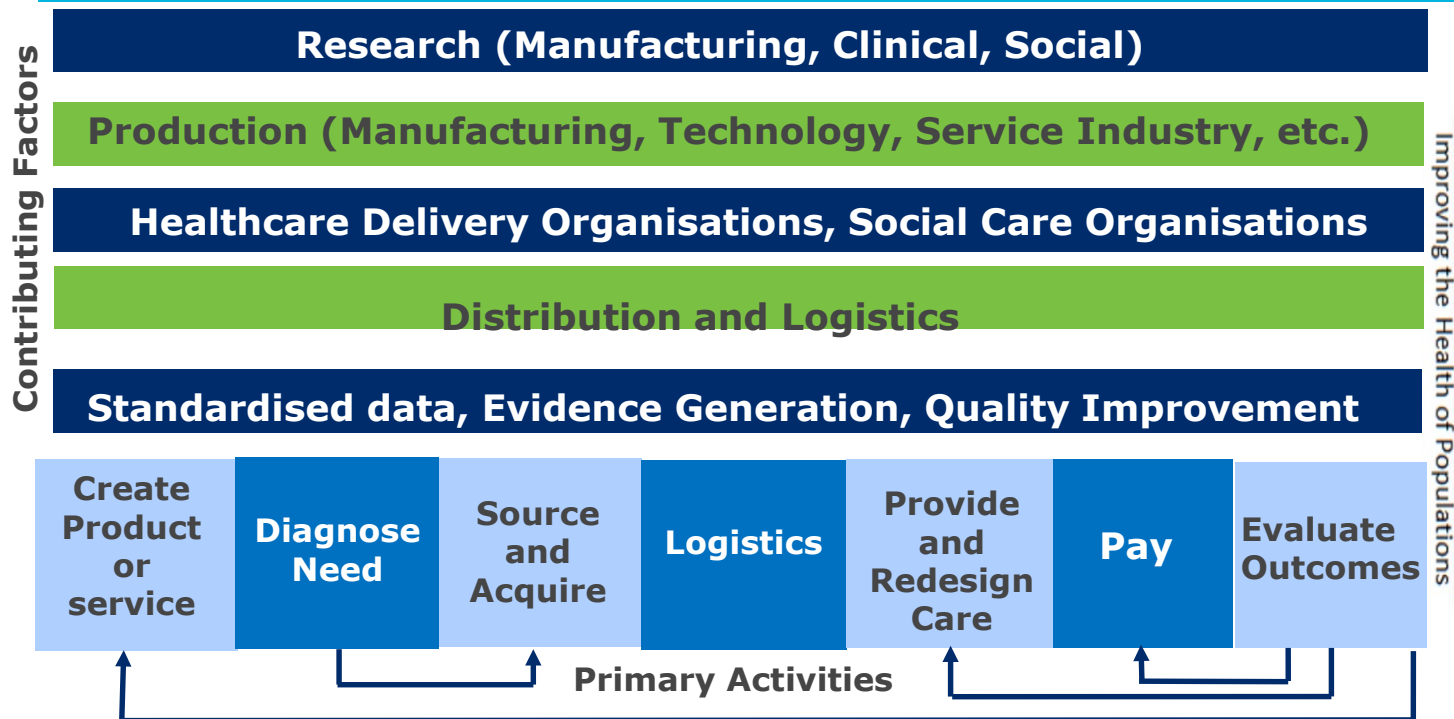
Important Questions



- What are the outcomes that matter to patients?
- What factors contribute to achieving/delivering those outcomes?
 - Clinical
 - Social/economic/environmental
- What are the costs associated with those “contributing factors”?
- How can we reduce variation in costs and outcomes and standardise on what works *at the system level*?



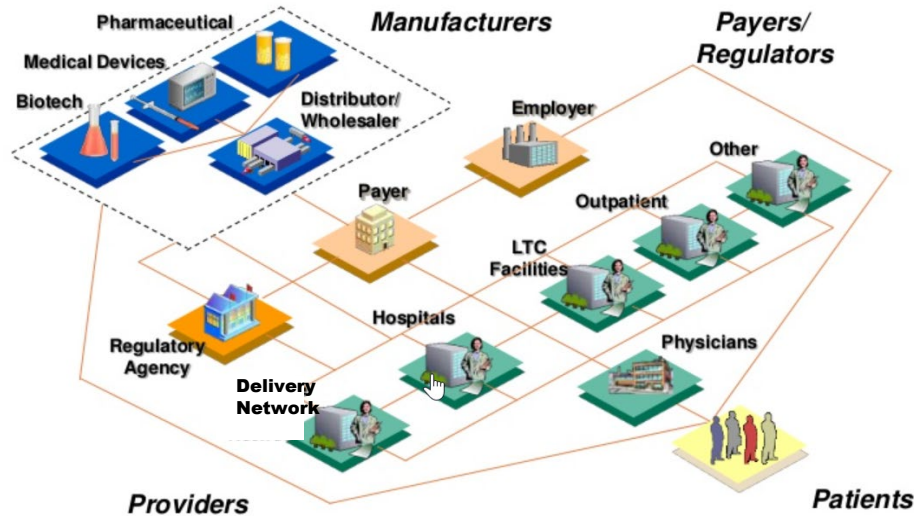
The Healthcare Value Chain Reimagined



Joint Value Creation Key



Healthcare Industry Stakeholders



Multiple stakeholders contribute to value-based healthcare

System level change requires aligning incentives to deliver value along the value chain

Standardised and synchronised data is fundamental to:

- Collaboration across disparate functions and organisations
- Evidence generation on what delivers value and to whom
- Research replication and generalization to accelerate learning and adoption

AHRQ 2007 Annual Conference Presentation: <http://www.ahrq.gov/about/annualmtg07/0927slides/juhn/Juhn-contents.html>

Value to Multiple Stakeholders



- Less paperwork
- Less time looking for, counting supplies

- Visibility to which products improve quality *AND* cost and for which patients



- Understand costs of care
- Ensure accurate billing
- Optimize reimbursement

- Confidence that she has the best product for her and they can find her if there is a recall.



- Real world evidence (RWE) to:
 - Better market and design products
 - Achieve faster regulatory approvals
 - Improved customer business relationships





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General Director Dutch Institute for Clinical Auditing, the Netherlands

March 26th, 2019



Dutch Institute for Clinical Auditing

Value Based Healthcare

Eric H Eddes, MD PhD

Director DICA

GastroIntestinal Surgeon Deventer Ziekenhuis

GS1 Clinical Advisory Committee

Value Based Healthcare

Alice in Wonderland's paradigm

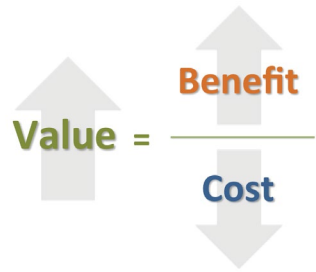


Where should I go – Alice

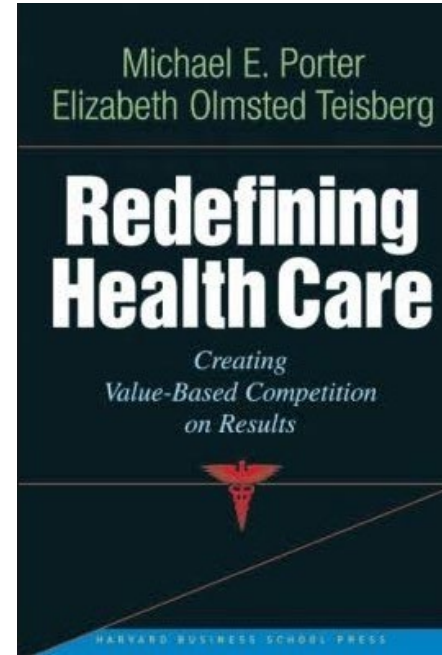
That depends on where you want to end up – the
Cheshire Cat

Value Based Healthcare

Alice in Wonderland paradigm

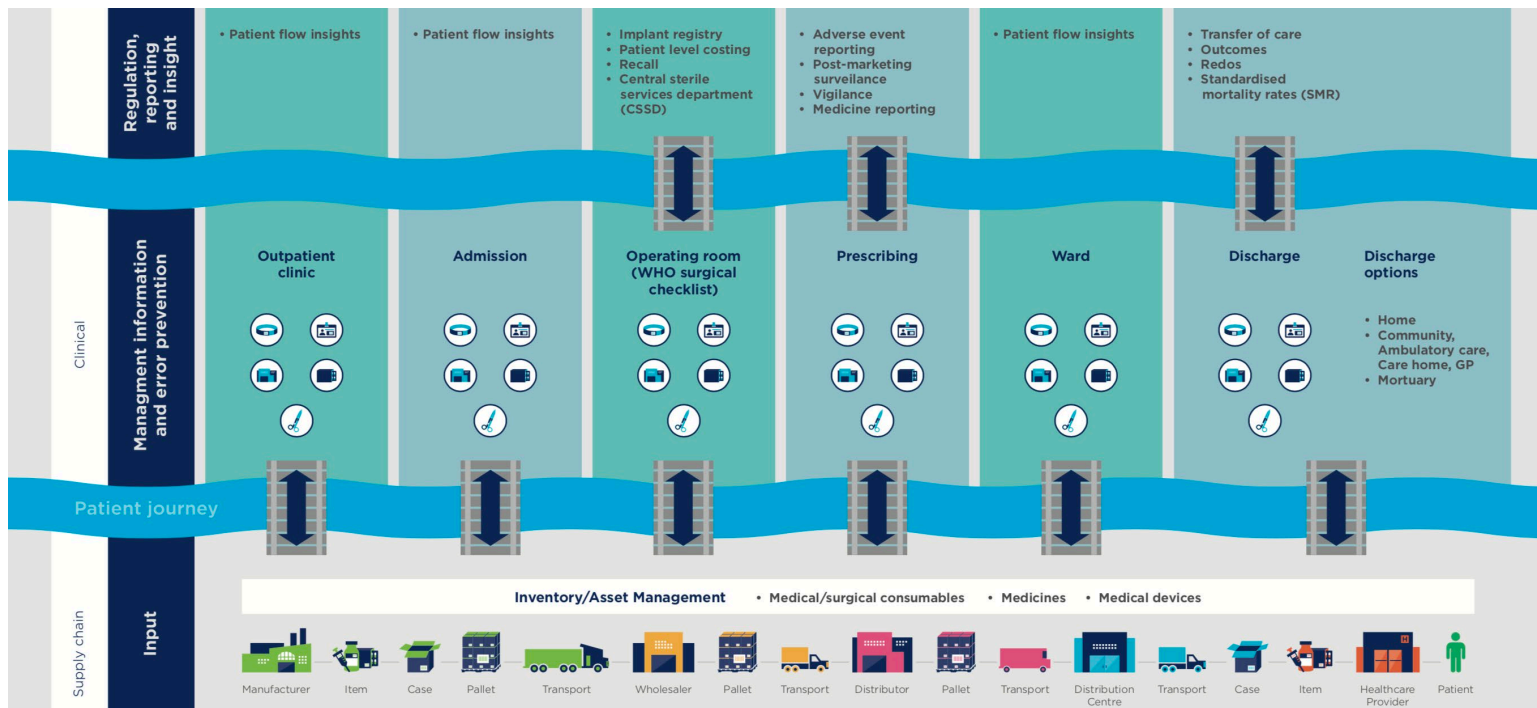


Best possible outcomes to patients for the lowest possible costs



Value Based Healthcare

Why?

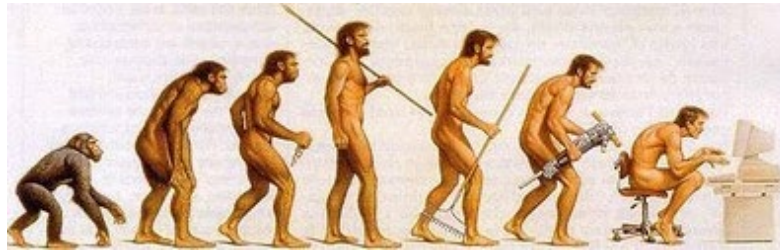


Value Based Healthcare

Why?

Reliable Information

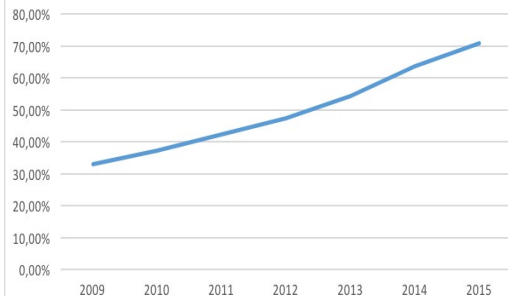
- Quality
- Safety
- Finance
- Patient (customer) satisfaction



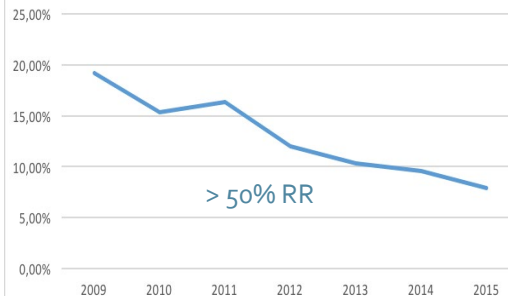
DICA; Improved Outcome

significant improvements

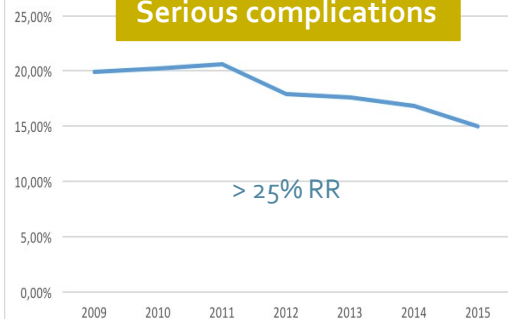
Laparoscopic resections



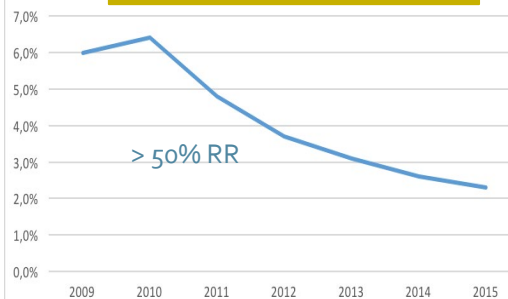
Irradical resections



Serious complications

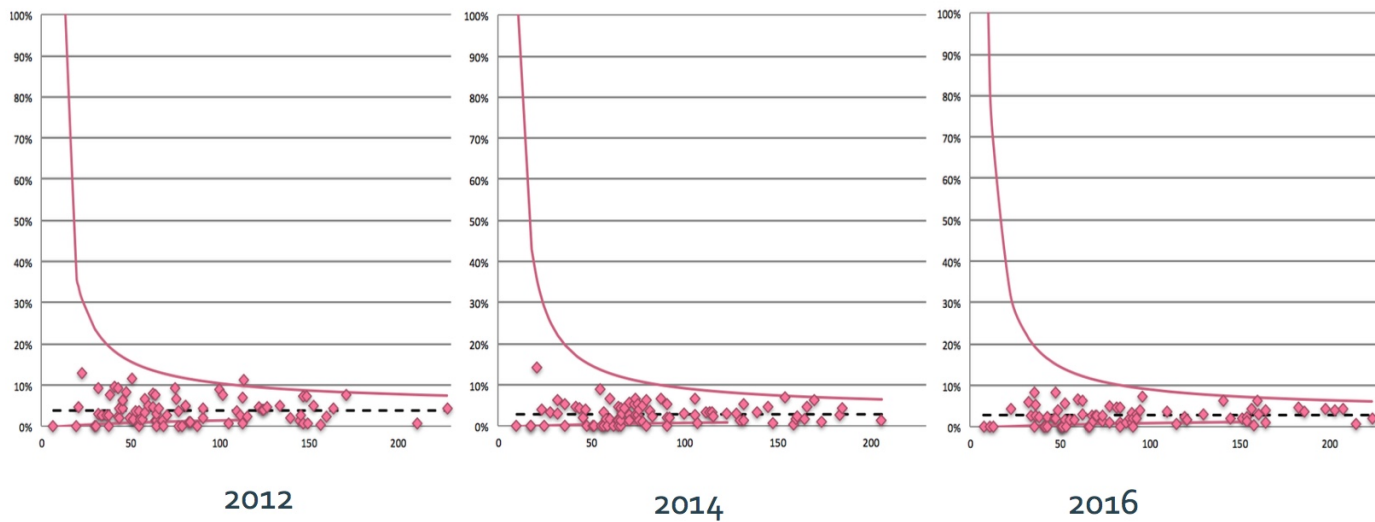


Postoperative mortality



DICA; Improved outcome

National Breast Cancer Audity



* Excl. neoadjuvante therapie

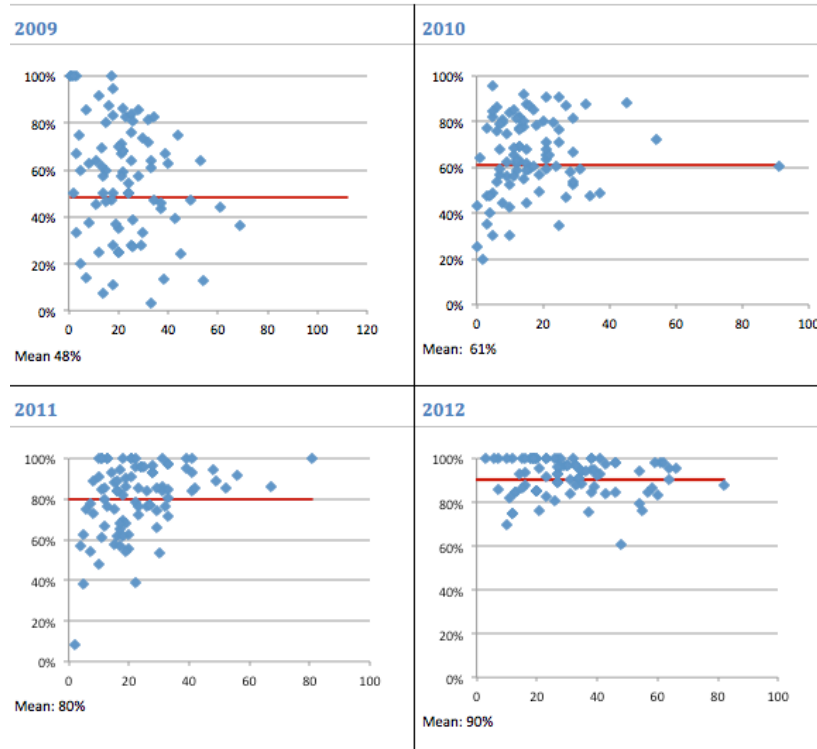
Irradical resections

2012	2013	2014	2015	2016
5,5%	5,0%	4,6%	4,4%	2,9%

DICA; Improved Outcome

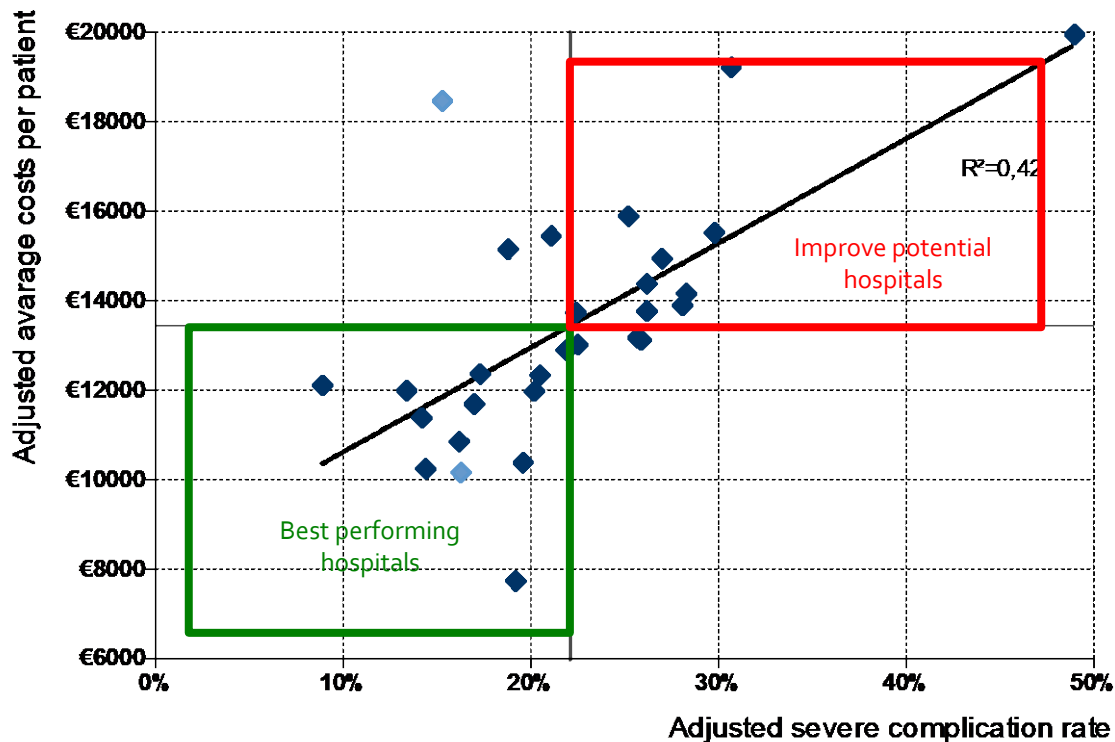
Colorectal Cancer Surgery

Percentage bekende CRM rectumcarcinoom gedurende jaren



Dutch Colorectal Audit

improving potential



Dutch Institute for Clinical Auditing

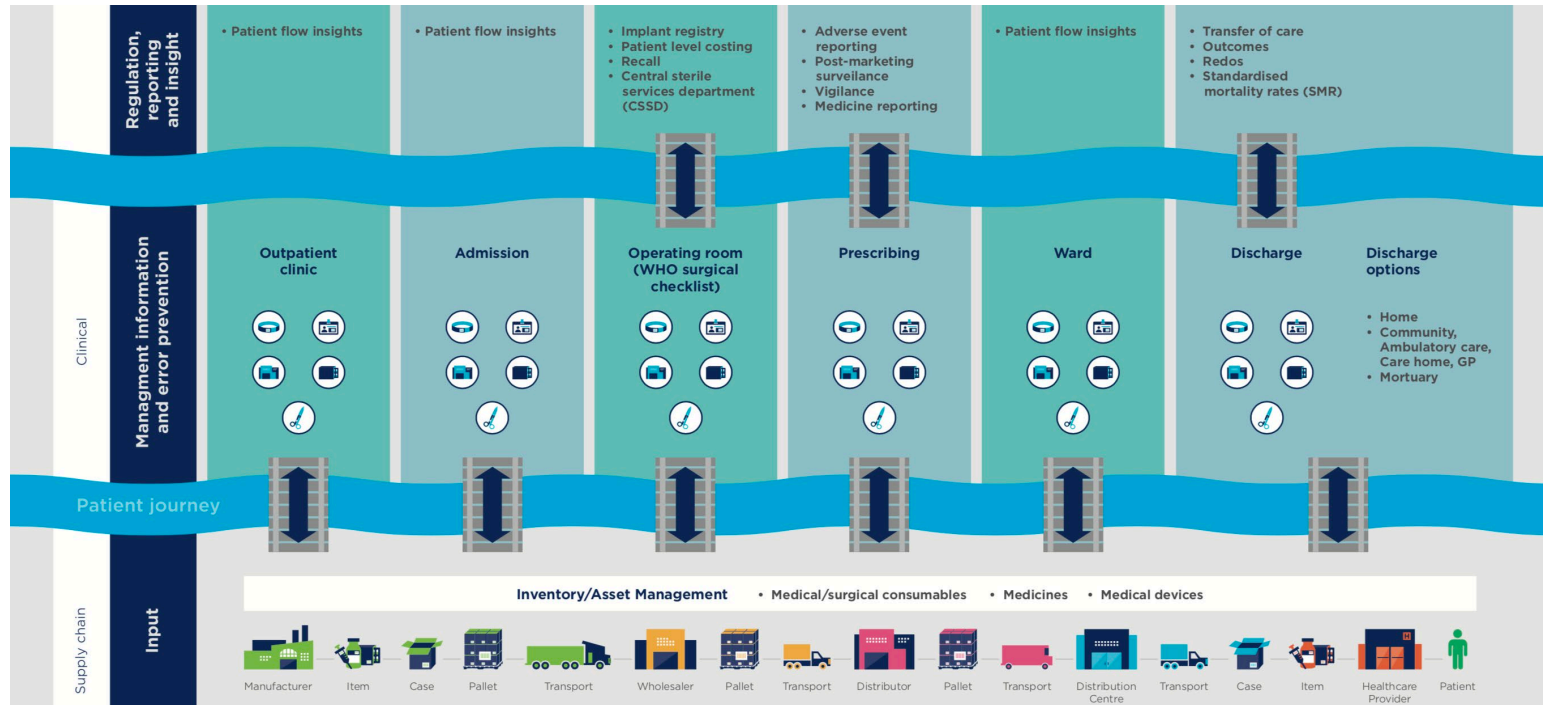
(inter)national cost savings

- 20 million euro colorectal cancer
- Equivalent potential in other patient groups
- National potential in savings 10 – 20 %



Value Based Healthcare

Patient's journey



Dutch Breast Implant Registry

clinical audit & traceability



Vrijdag 02 oktober 2015 | Het laatste nieuws het eerst op NU.nl



Voorpagina

Net binnen

NUweekend

Algemeen

Binnenland

Buitenland

Politiek

Economie

Geld

Ondernemen

Beurs

VW-schandaal

Sport

Voetbal

Impions League

Formule 1

Wielrennen

MijnTeam

Tech

[NU.nl](#) > [Lifestyle](#) > [Gezondheid](#)



Foto: ThinkStock

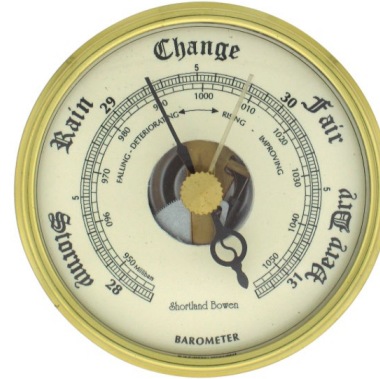
Borstimplantaat Silimed direct van de markt

Gepubliceerd: 24 september 2015 09:28

Laatste update: 24 september 2015 09:27



Implantaten van de Braziliaanse fabrikant Silimed mogen per direct niet meer gebruikt worden in Europa. Bij een fabriekscontrole bleek dat er onder meer glasvezeldeeltjes op de borstimplantaten zaten die daar niet thuis horen.



Dutch Melanoma Treatment Registry

clinical audit & new drugs

- Introduction new drugs
- Accelerated availability
- Professionals- Pharma – Health Authorities
- Expansion

Registratie: DMTR Rapportage: Prospectieve Patiënt-Episode 1 Jaar: 2014 Ziekenhuis: [dropdown]

Basisrapportage

1 / 1

DMTR

DUTCH MELANOMA
TREATMENT REGISTRY

DICA

DUTCH
INSTITUTE
FOR CLINICAL
AUDITING

Ziekenhuis: [dropdown]
Periode: 2014
Rapport datum: 11-5-2015
Registratie: DMTR Prospectieve Patiënt-Episode 1

Uitgebreide registratie - Patiëntgegevens

	Uw ziekenhuis		Nederland	
Geslacht	N	%	N	%
Man	4	66.7%	4	54.7%
Vrouw	2	33.3%	2	43.2%
Niet ingevuld	0	0.0%	0	2.2%

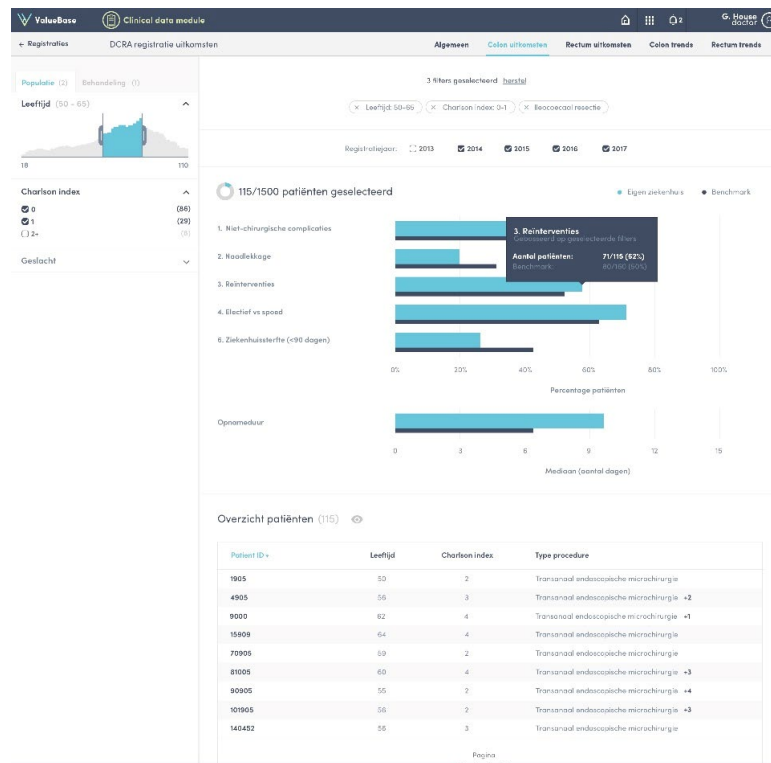
	Uw ziekenhuis		Nederland	
Leeftijd	N	%	N	%
Gemiddelde leeftijd*			57	62

	Uw ziekenhuis		Nederland	
Leeftijd	N	%	N	%
Niet ingevuld / foutieve waarde	0	0.0%	0	0.0%

	Uw ziekenhuis		Nederland	
WHO performance score	N	%	N	%
0	2	33.3%	2	51.1%
1	3	50.0%	3	30.9%
2	0	0.0%	0	5.0%
3	0	0.0%	0	4.3%

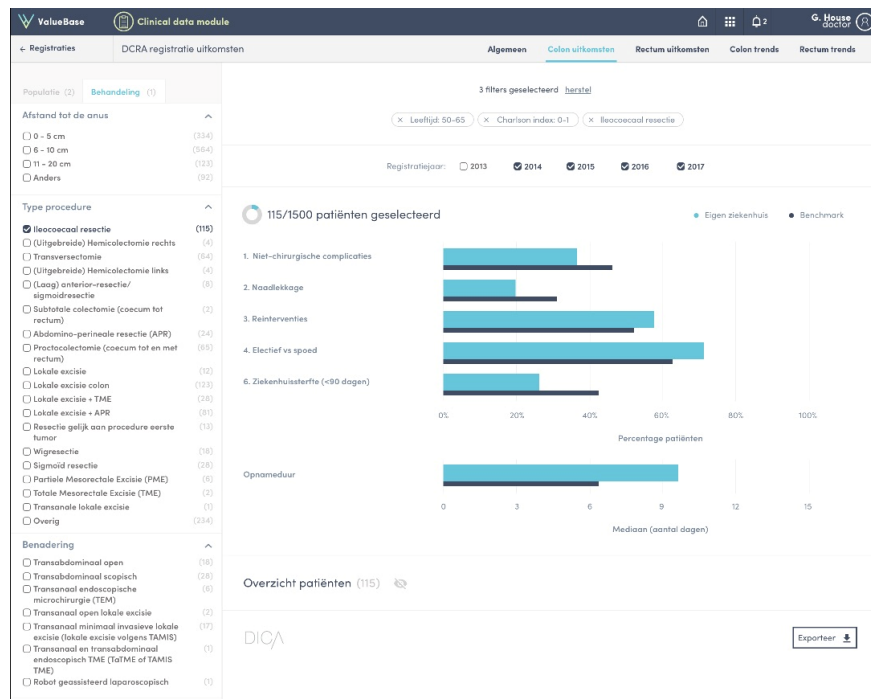
Dutch Institute for Clinical Auditing

shared decision making



Dutch Institute for Clinical Auditing

shared decision making

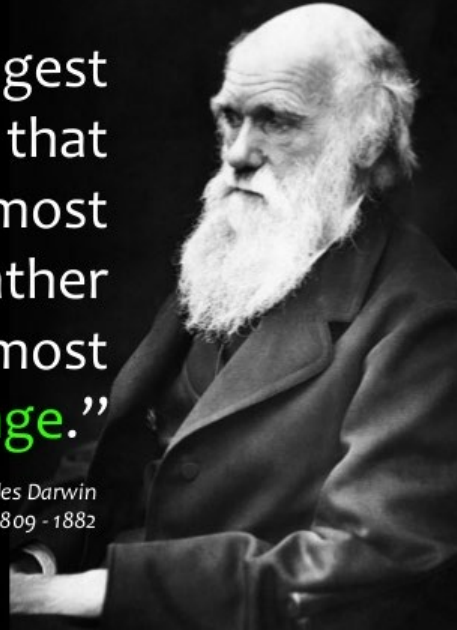


Value Based Healthcare

Darwin's paradigm

“It is not the strongest
of the species that
survive, nor the most
intelligent, but rather
the one most
adaptable to change.”

- Charles Darwin
1809 - 1882





Value Based Healthcare – VBHC

MEDICAL DEVICE MANUFACTURER PERSPECTIVE

35th Global GS1 Healthcare Conference, Noordwijk, the Netherlands

Leila McMahon, GS1 Program Manager Smith & Nephew, UK

March 26th, 2019







10

Smith & Nephew is a diversified advanced medical technology business that supports healthcare professionals in more than 100 countries to improve the quality of life for their patients.

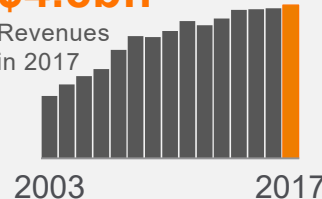


Leading positions in:

-  Sports Medicine
-  Orthopaedic Reconstruction
-  Trauma & Extremities
-  Advanced Wound Mgmt

\$4.8bn

Revenues
in 2017



15,000

We have more than 15,000 employees around the world.

FTSE100



A constituent of the UK's FTSE100, our shares are traded in London and New York.

We support healthcare professionals in their daily efforts to improve the lives of their patients



We do this by taking a **pioneering approach** to the design of our products and services.

Smith & Nephew has a long history of innovation, dating back to our foundations in the 19th century, and today we support customers to manage and prevent disease states, and enable swifter recovery for their patients.



We strive to **secure wider access** to our advanced technologies for more customers globally.

In emerging markets we have built an entrepreneurial business resourced to reach and support an ever greater number of customers in delivering affordable healthcare.



We seek to **enable better outcomes** for patients and healthcare systems.

We provide high quality products and appropriate training to improve clinical outcomes, enabling healthcare professionals to treat more patients and improving the economic outcome for payers.

Our values shape everything we do as a business and form the basis of our relationships with all our stakeholders.



PERFORMANCE

...means being responsive to the needs of our customers and their patients, setting ourselves clear goals and standards and achieving them.



INNOVATION

...means being energetic, creative and passionate about everything we do, anticipating customers' needs and overcoming barriers and developing opportunities.



TRUST

...is something we understand that we have to earn and we strive to operate with integrity and take an ethical approach to business.

What is VBHC?

Manufacturer Perspective...



Improved quality and outcomes for patients in more cost effective manner.

Healthcare proactive instead of reactive, preventing problems before they start.

Multiple stakeholders are sources for **important accurate data** specific to their roles in patients' lives across the entire ecosystem.

Manufacturers more hands-on, establishing programs and partnerships that demonstrate joint outcome benefits.

Foundational Pieces for VBHC



Our Customer Use Cases and Why our Master Data Quality and Completeness Matters

Inventory Management

Hospitals are looking to modernize their Inventory Management Processes, utilizing UDI scanning and synchronized item master to increase traceability to discrete locations, reduce expiry, stock-out, or excess.



Purchase to Pay

Hospitals and Buying Groups are pursuing the “perfect order”, where products are transacted electronically, based on a product/price catalog that is synchronized across trading partners



Product Safety - Recall

Hospitals and Regulatory Bodies wish to increase Product traceability to aid in fast/efficient product recalls. This is facilitated by capturing the UDI throughout the supply chain and Electronic health record



Reimbursement/Claims

Hospitals & governmental bodies expect to utilize the UDI as the predominant product identifier to improve traceability and increase cost controls.



Tendering/Sourcing/Contracting

Users desire a consistent set of master data which can aid in comparative purchasing decisions



Comparative Effectiveness

Clinicians desire a standard product attribute data useful to tracking and comparing patient outcomes.



Foundational Pieces for VBHC



How we started our journey and GS1 benefits.



Organization & Systems:

- 3 Divisions → 1 Smith & Nephew
- Multiple ERP systems
- Multiple QMS systems
- Multiple Development & Operations sites

Resulting in an un-unified approach to master data management and e-commerce

UDI – Unique Device Identification:

- Adopted GS1 as UDI/barcoding standard
- Adopted one system of record for all GUDID data, with roles & workflow. Direct interface to FDA's GUDID

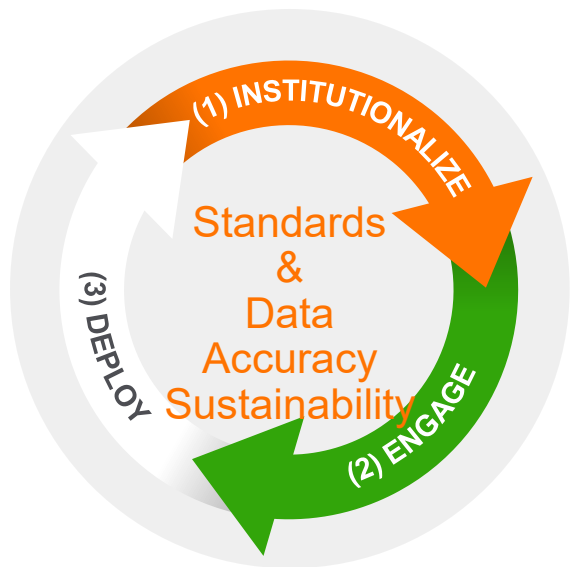
Foundation for growing customer demand for barcode scanning and product data synchronization.

Mandated requirements for:

- GS1 standard product identification and barcodes.
- Product data synchronization through the GDSN network. 61 data attributes,
 - 23 mandatory
 - 27 optional
 - 11 conditional
- PEPPOL compliant EDI, transacting based on GS1 GTINs and GLNs.
 - Purchase Orders
 - Advanced Shipping Notices
 - Invoices



SCAN⁺SAFETY
Patient. Product. Place. Process.



(1) Institutionalize

- ✓ Establishing master data management processes and systems.
- ✓ Proceduralizing approach to GS1 standards adoption and maintenance, build them into standard business processes.
- ✓ Assessing how solutions will scale.

(2) Engage

- ✓ Always seeking to understand the customers' strategy and objectives.
- ✓ Engaging with standards bodies and user communities. i.e. GS1, MedTech. Encourage harmonization and focus.

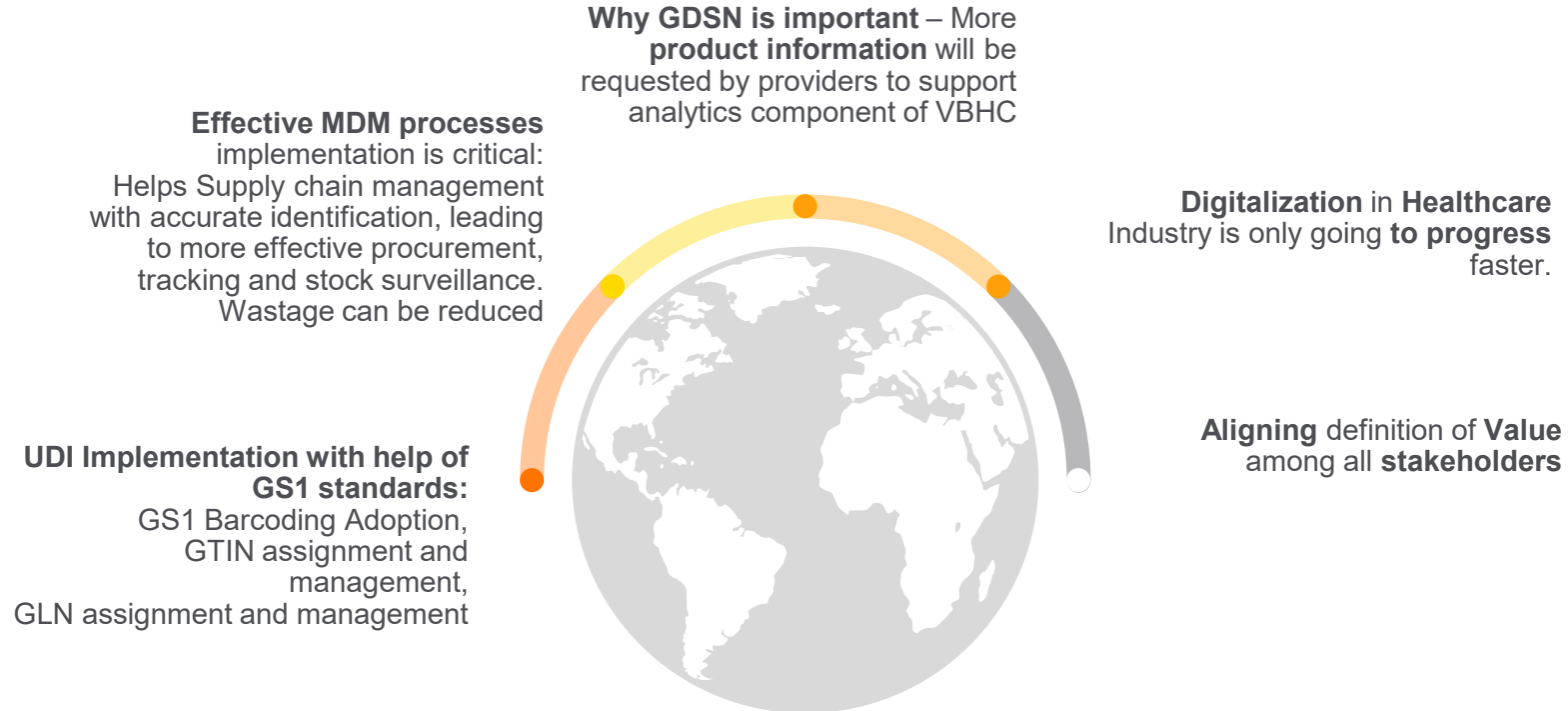
(3) Deploy

- ✓ For a multi-national company, its important building in-house, local market awareness and points of contact.
- ✓ Expect shared discovery & "learn-by-doing" experience.
- ✓ Establishing and tracking metrics, and feedback loops. All necessary for proper Analytics capability.

Final Thoughts – Standards & Data Accuracy

Sustainability

Manufacturer Perspective...





How GS1 standards can contribute to safety stops in the OR

35th Global GS1 Healthcare Conference, Noordwijk, the Netherlands

Hennie Mulder, Registered OR Nurse, Maxima Medical Centre, Veldhoven, the Netherlands

March 26th, 2019





Maxima Medical Center and Ministry of Defense: No conflict with any commercial interest



Surgical safety [Checklist](#)

The Dutch Inspectorate for Healthcare (IGJ) uses the checklist as instrument for monitoring the safety of surgical processes

Surgical Safety Checklist



World Health
Organization

Patient Safety
A World Alliance for Patient Safety Care



Before induction of anaesthesia

(with at least nurse and anaesthetist)

Has the patient confirmed his/her identity, site, procedure, and consent?

☐ Yes

Is the site marked?

☐ Yes

☐ Not applicable

Is the anaesthesia machine and medication check complete?

☐ Yes

Is the pulse oximeter on the patient and functioning?

☐ Yes

Does the patient have a:

Known allergy?

☐ No

☐ Yes

Difficult airway or aspiration risk?

☐ No

☐ Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?

☐ No

☐ Yes, and two IVs/central access and fluids planned

Before skin incision

(with nurse, anaesthetist and surgeon)

☐ **Confirm all team members have introduced themselves by name and role.**

☐ **Confirm the patient's name, procedure, and where the incision will be made.**

Has antibiotic prophylaxis been given within the last 60 minutes?

☐ Yes

☐ Not applicable

Anticipated Critical Events

To Surgeon:

☐ What are the critical or non-routine steps?

☐ How long will the case take?

☐ What is the anticipated blood loss?

To Anaesthetist:

☐ Are there any patient-specific concerns?

To Nursing Team:

☐ Has sterility (including indicator results) been confirmed?

☐ Are there equipment issues or any concerns?

Is essential imaging displayed?

☐ Yes

☐ Not applicable

Before patient leaves operating room

(with nurse, anaesthetist and surgeon)

Nurse Verbally Confirms:

☐ The name of the procedure

☐ Completion of instrument, sponge and needle counts

☐ Specimen labelling (read specimen labels aloud, including patient name)

☐ Whether there are any equipment problems to be addressed

To Surgeon, Anaesthetist and Nurse:

☐ What are the key concerns for recovery and management of this patient?



What is a safety stop?

Permission from patient to take
and share the picture



Safety stops: seven crucial moments



1. Pre-operative risk management
2. Planning: the patient may be scheduled for surgery
3. Control current situation
4. Pre time out: ready for take off (just before the surgery)?
5. Sign out for leaving operating room
6. Dismissal recovery
7. Dismissal ward

How can GS1 barcodes help in this process?

Scanning the patient, safety stop 3B sign in holding



Patient identification: right person?



Permission from patient to take and share the picture

Safety stop 4: Pre time out



Just before surgery questions to the patient:

- Control of patient data
- File available and complete?
- Is known what operation is going to take place: right side and place marked?
- Allergies and comorbidity checked?

Safety stop 5: Sign out



Organisation of patient safety:

- Is the procedure carried out and mentioned in the Electronic Health Record?
- Is the right label placed on the tissue for examination?
- Count gauzes, instruments, needles and disposables used before closing of wound
- Medication instructions and other instructions such as wound care, diet etc registered in EHR by anaesthesiologist

And I would like to add:

- **Are the medical implants used connected to the patient in the EHR?**

Safety stop 6: Dismissal recovery



Identification of patient
&
identification of infusion bag

Permission from patient to take
and share the picture



Conclusion



- When we started with safety stops, we noticed that the number of mistakes was greatly reduced.
- There are a lot of developments and ideas surrounding safety stops, for example: creation of information transfer cards to make the transfer absolutely safe.
- By reducing mistakes, costs also reduce and all the benefits are for the patient!

Scanning is easy, BUT...



- GS1
- HIBC
- SEC (ICCBBA)

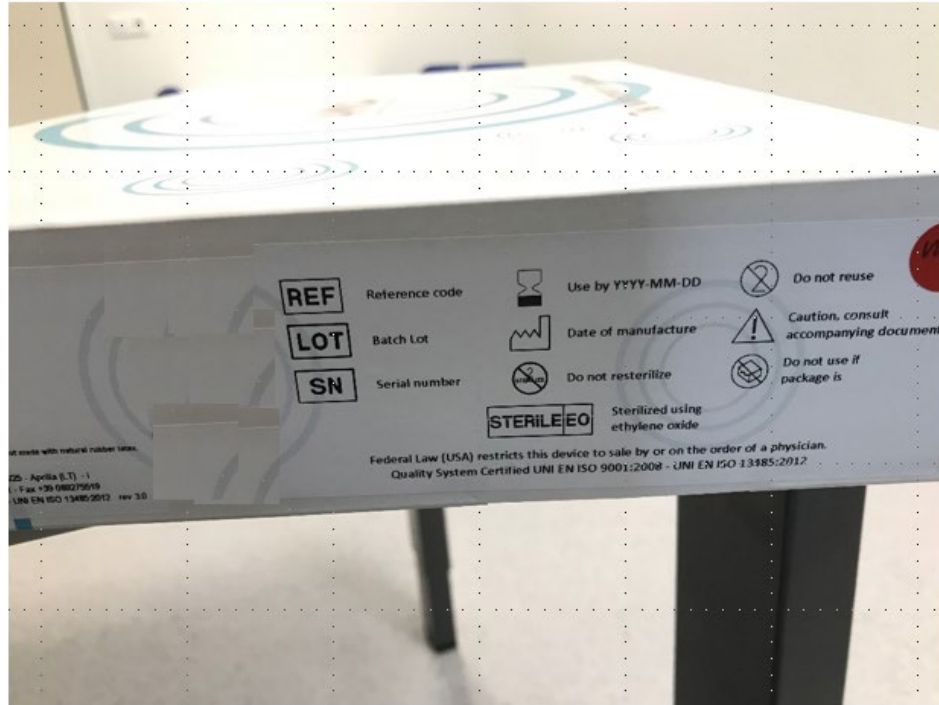
Examples of issues in practice



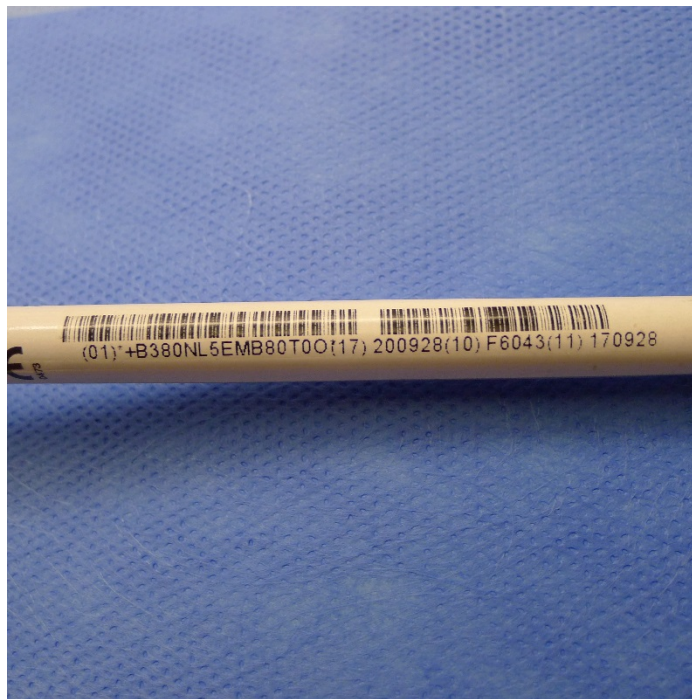
Order of data in barcode is not what EHR software expects

→ this implant cannot be registered in the EHR

No barcode at all...



???



Solution:



Dutch agreements on unique coding of medical devices.

Supported by industry, healthcare providers and the ministry of health

In line with EU MDR



National implant registry



Barcode scanning of medical devices



facilitates the work of the OR nurse

&

- Traceability within the hospitals
- Direct uploading in implant registry
- (Global) product traceability



So...



Questions?



Q & A : SLIDO

1. Go to slido.com
2. Enter #GS1HCNoordwijk
3. Select the panel **VBHC**
4. Go to "Questions"
5. Make sure you enter your full name so that if the questions you've raised are not selected, the GS1 team can revert to you
6. Post your questions



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Wrap up & Questions & Answers

March 26, 2019





The Global Language of Business

Thank you very much for your attention

March 26th, 2019

