



GS1 Healthcare Webinar

May 22, 2019



Welcome and thank you for attending!



- Welcome to our May 2019 webinar.
Thank you to our guest speaker **Dr. Shih-Chung Huang, Cardiologist and Director of Medical Education and Research Centre, Kaohsiung Armed Forces General Hospital, Chinese Taipei**
- Some housekeeping for today:
 - All attendees will be in listening-only mode
 - If you have questions during the presentation, please type them into the questions area and these will be monitored then answered at the end of the call
- After the webinar:
 - Within a week, the recording will be posted to: http://www.gs1.org/healthcare/hpac_webinars
 - All previous webinars are also posted to this location, so please feel free to use this resource and share the link



Forum for thought leaders and adopters of GS1 Healthcare Standards from the global clinical provider environment. The final goal is to improve patient safety, cost efficiency and staff productivity through implementation of GS1 standards.

A forum for sharing and discussion

Identification of projects and case studies

A source of expertise and advice

- The practical realities of implementation of GS1 Standards in the care giving environment in regards to the impact on clinical care and patient interaction
- Supporting the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing
- To those involved in GS1 standards development, the wider Healthcare stakeholder community and senior executives/decision-makers to gain their buy-in and support for implementation of GS1 Standards

Specific GS1 Healthcare Activities



Webinars

- Monthly webinars open to all stakeholders interested in learning about GS1 standards implementation in the care giving environment.
- http://www.gs1.org/healthcare/hpac_webinars

Awards

- Twice per year
- Provider Implementation Best Case Study Award
- Provider Recognition Award
- The prize: travel & accommodation to attend the next GS1 Healthcare conference
- <http://www.gs1.org/healthcare/hpac>

**GS1 Healthcare also holds two global conferences per year.
The next conference will be in Delhi, India from November 5 - 7, 2019.
We expect significant Healthcare Provider participation on the agenda.**



1

Hospital Introduction

Autobiography



Dr. Shih-Chung Huang

- Attending Physician of Cardiology, Division of Cardiology, Department of Medicine, Kaohsiung Armed Forces General Hospital (KAFGH), Chinese Taipei
- Director of Medical Education and Research Center, Kaohsiung Armed Forces General Hospital (KAFGH), Chinese Taipei.
- Email: sgchung@gmail.com



Kaohsiung Armed Forces General Hospital (KAFGH)



Organization was established	1945
Number of locations	1 general hospital and 4 branches <ul style="list-style-type: none">• General Hospital in Kaohsiung city• Pingtung Branch• Zuoying Branch• Gang shan Branch• Kaohsiung Outpatient Center
No. of Beds	740
No. of Staff	1206
Number of outpatients	43,428 person/month



Safety, Profession, Care, Efficiency

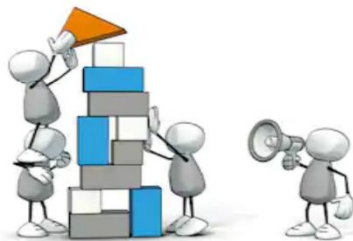
Aim Provide quality medical service to military and civilian
Vision Be a reliable health guardian for military and civilian



2

UDI Application Experience Sharing

UDI System Evolution in KAFGH



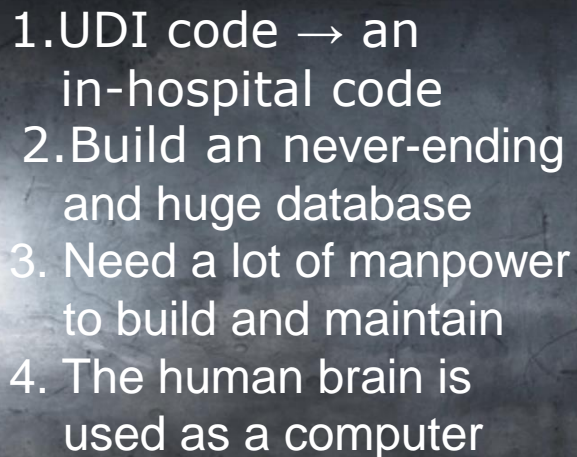
UDI System
1.0 in 2016

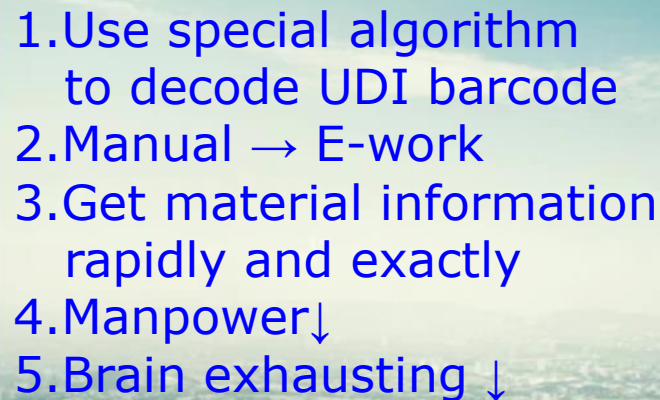
Build database



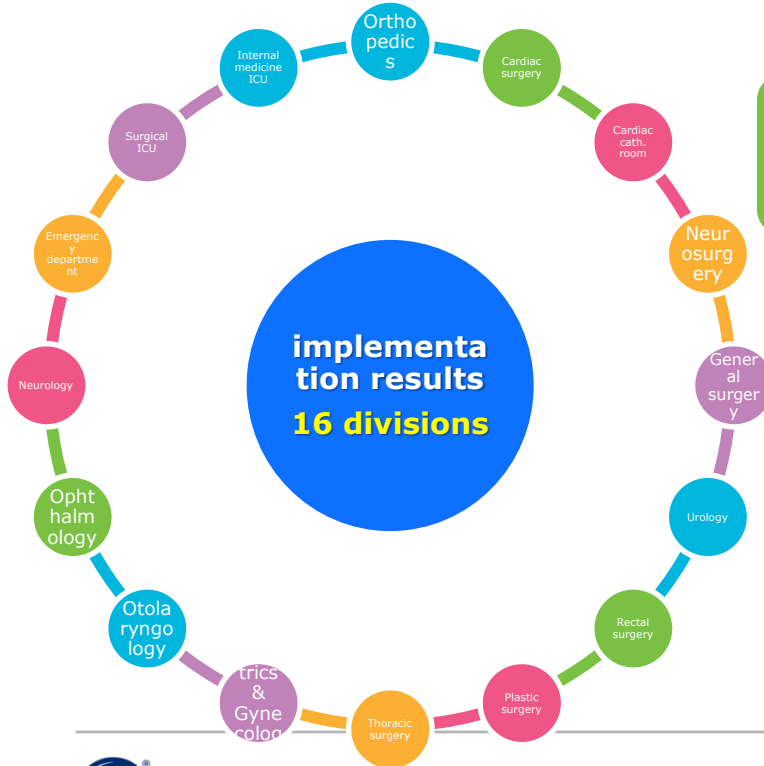
UDI System
2.0 in 2018

AI processing

- 
1. UDI code → an in-hospital code
 2. Build an never-ending and huge database
 3. Need a lot of manpower to build and maintain
 4. The human brain is used as a computer

- 
1. Use special algorithm to decode UDI barcode
 2. Manual → E-work
 3. Get material information rapidly and exactly
 4. Manpower ↓
 5. Brain exhausting ↓

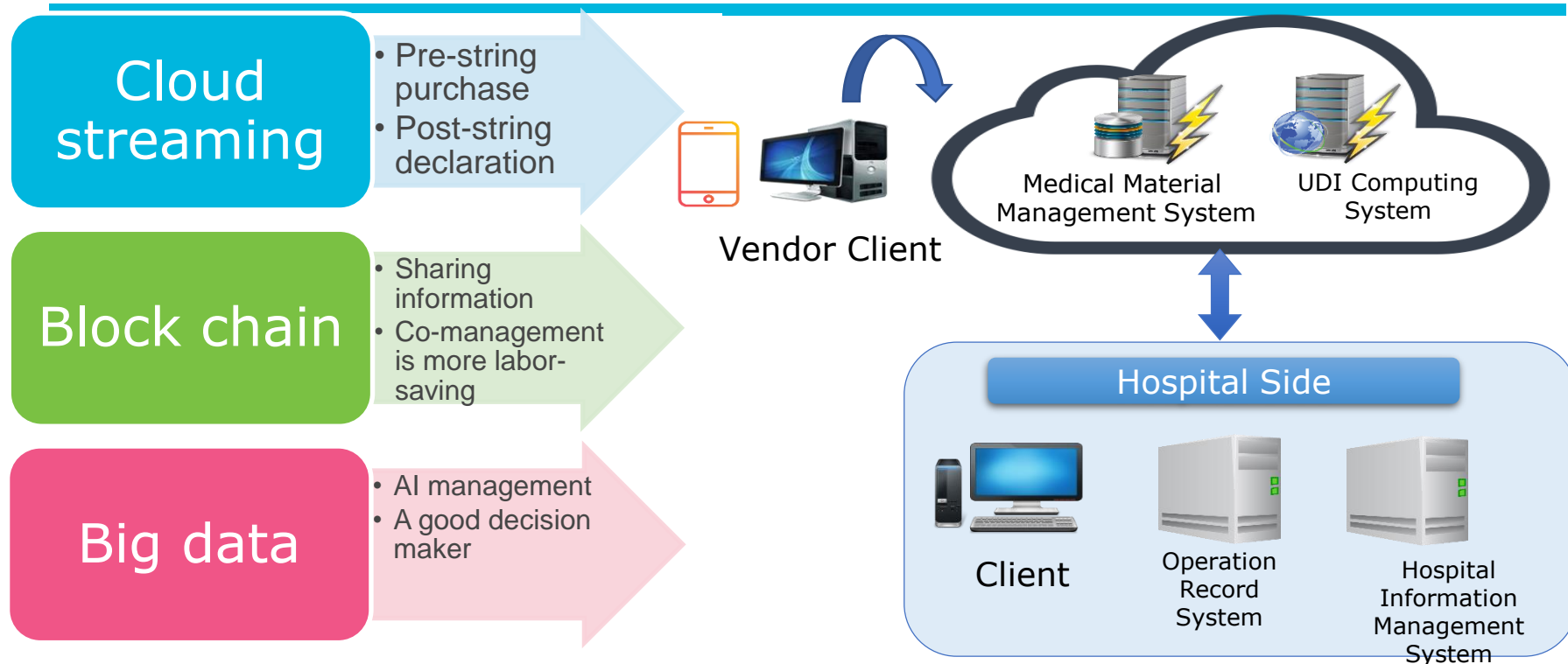
Implementation Results in KAFGH



Automatization of UDI application by A.I. based software :

- Clinical medical records (surgical operation information, patient medical information, nursing care information)
- Administration records (inventory, billing, supply chain management)

UDI System Architecture



Applications in Operation Room



使用醫材

Medical record

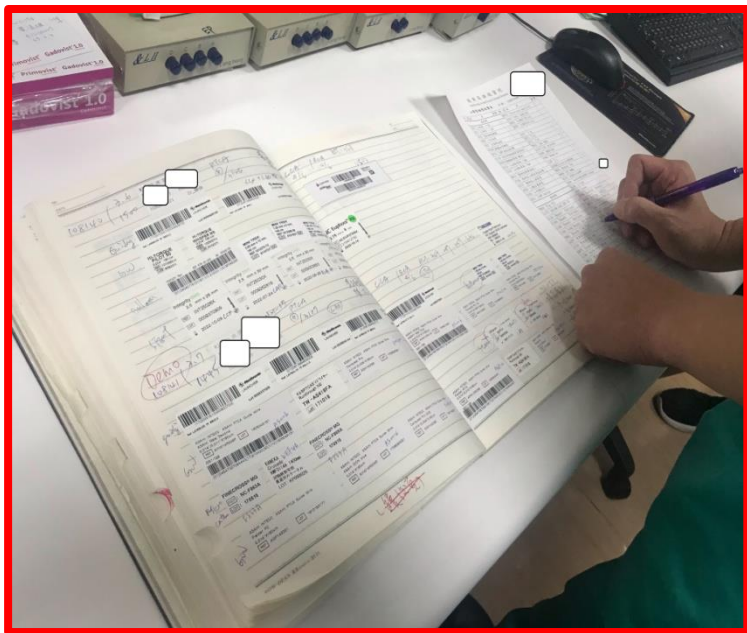
NO.	取得方式	品名 規格 REF碼	UseBy/Lot/SN	供應商 收費碼	計價 方式	數量	功能
1	庫備	"好美得卡-奧斯得寧"人工髖關節系統: 髖臼杯 CUP UH14428 UH1-44-28	UseBy: 221206 Lot: H02J39 SN: 無資料	互裕股份有限公司 DF066	健保 給付	1	編 / 刪
2	庫備	"好美得卡-奧斯得寧"人工髖關節系統: 股骨頸 C-TAPER LFIT 28+5 06-2805	UseBy: 230824 Lot: 7M8DV3 SN: 無資料	互裕股份有限公司 DF063	健保 給付	1	編 / 刪
3	庫備	"好美得卡-奧斯得寧"髖關節系統: 股骨柄 HA STEM 6051-0730 6051-0730S	UseBy: 230430 Lot: 2RT705 SN: 無資料	互裕股份有限公司 DF062	健保 給付	1	編 / 刪

use date, usage
amount, charge code,
item name, expiry date,
specification, serial or
lot number

Record
accurately
and rapidly
key clinical
staff
information



Applications in Warehouse Management



Before (manual)

查詢結果
列印

Barcode number trace and track

1 of 1 Find | Next

國軍高雄總醫院 衛材申報

進入手術間時間	科別	病人	REF	LOT	效期	Bar Code
2019-03-01 13:52:00	骨科	陳	DBMNJ1106TL	11211666	230322	(01)00886333001538(17)230322(10)11211666 /
			DBMNJ1106TL	11211666	230322	(01)00886333001538(17)230322(10)11211666 /
			DBMNJ0804TL	11236999	231119	(01)00886333001514(17)231119(10)11236999 /
			DBMNJ0804TL	11236999	231119	(01)00886333001514(17)231119(10)11236999 /
2019-03-02 10:11:00	骨科	張	66031896	90515293	210430	(01)04260102130494(17)210430(10)90515293 /
			UH1-45-28	WM21T8	230814	(01)07613327016918(17)230814(10)WM21T8(C
			6051-0730S	AL8HXM	230514	(01)07613327021011(17)230514(10)AL8HXM /
			06-2805	TX77L8	230728	(01)07613327016277(17)230728(10)TX77L8 / N

After (E work)

Applications in Accounting



Before(manual)

TX200L Hemoct
2C031 HemoStar® Long-Term Hemodialysis Catheter
2C048
2C046
BA33N
77-908

HemoStar® Long-Term Hemodialysis Catheter
(01)0080174101
3388(17)160930
(10)REAZ0488
REF 58033680
LOT REAZ0488

STR04 內側肱骨遠端鎖定骨板
STR05 髌骨遠端鎖定骨板

Triathlon®
Tibial Bearing Insert - PS

SIZE	TYP	THKNS
#4	PS	9mm

REF 5532-P-409
LOT LFB055
STRYKER ORTHOPAEDICS

2021-05-15

Difficult to identify

If altered, is its usage amount right ???

After(E form)

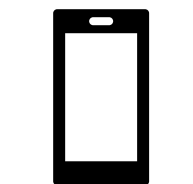
Charge code
Usage amount

計價項目：

計價方式	收費碼	合計	品名
自費給付	0	2	"好美得卡 奧斯得寧"斯高比歐人工膝蓋關節腔骨內墊
	D	1	"好美得卡" 辛普勒P骨水泥
健保給付	S	1	"好美得卡奧斯得寧"斯高比歐全人工膝關節系統
	S	1	"史賽克"全人工膝關節系統
	S	1	腔骨基層骨板

Accurate, clear, and automatically billing

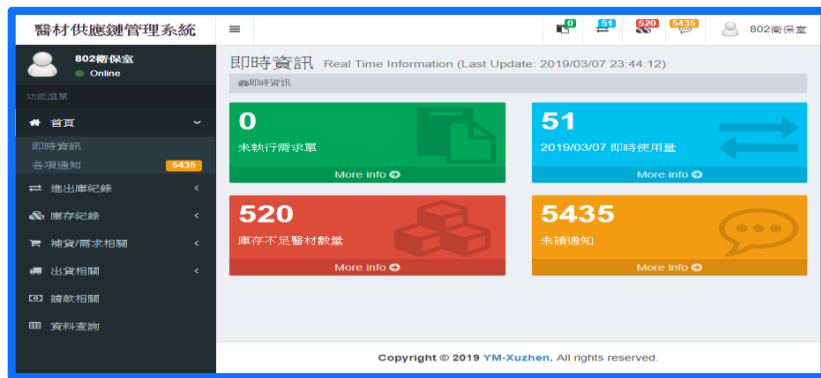
Applications in Suppliers



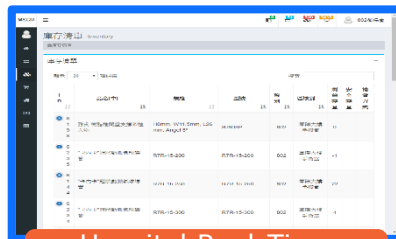
or



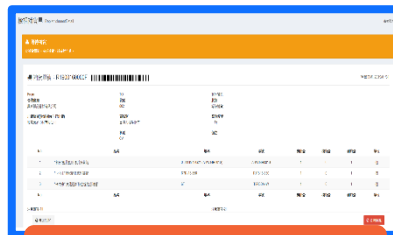
or



Cloud sharing



Hospital Real-Time inventory



Replenishment orders

Suppliers can obtain real-time stock of hospital medical materials through the cloud, can take the initiative to replenish the goods according to the experience of past use, and reduce wasted inventory time.

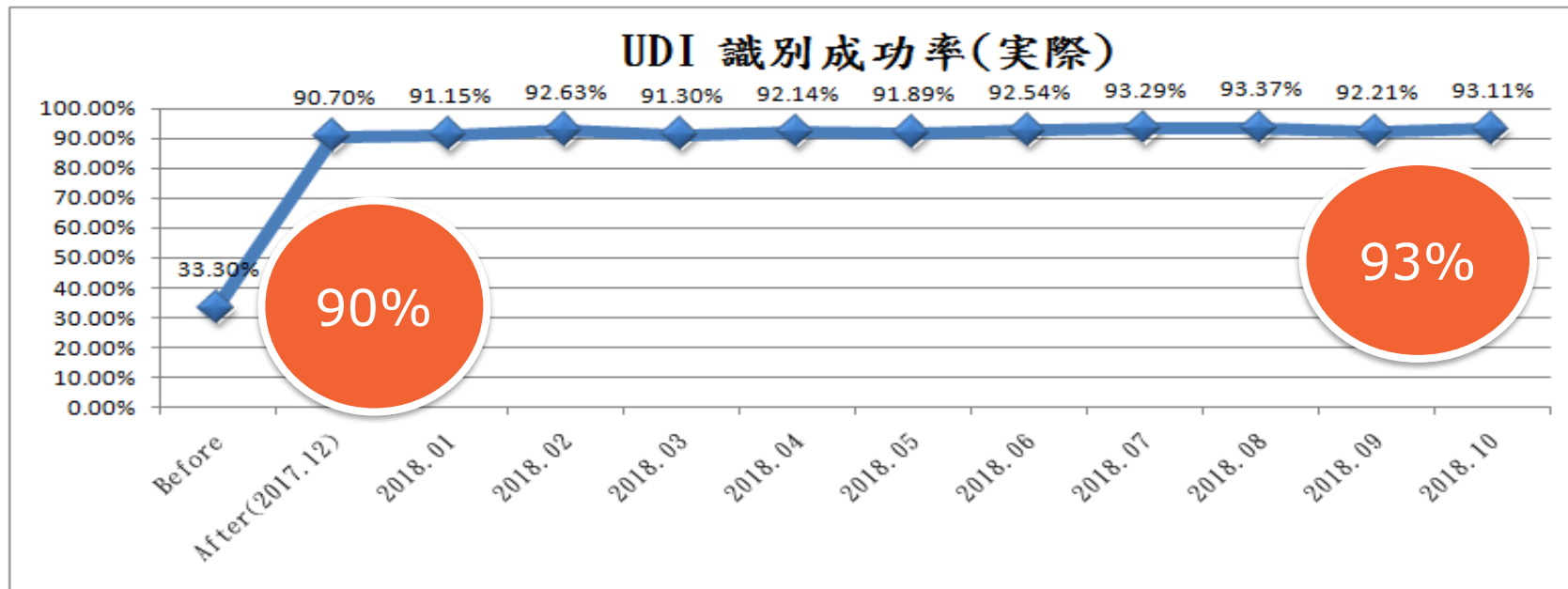
Successful UDI Recognition Rate



Category	2017. 12	2018. 01	2018. 02	2018. 03	2018. 04	2018. 05	2018. 06	2018. 07	2018. 08	2018. 09
Number (should be identified)	140	192	285	437	369	518	456	462	377	398
Class 1 medical device	0	4	5	12	10	4	12	12	9	1
Donated human organs	0	2	0	1	2	0	0	0	0	0
Drug	2	3	5	6	2	1	1	5	4	1
No UDI label (suppliers don't supply)	2	4	5	12	10	30	21	14	10	22
UDI System error	9	4	6	7	5	0	0	0	2	7
Number (successfully identified)	127	175	264	399	340	480	422	431	352	367
Success rate for UDI recognition(%)	90.70	91.15	92.63	91.30	92.14	91.89	92.54	93.29	93.37	92.21

NO UDI LABEL

Successful UDI Recognition Rate





3

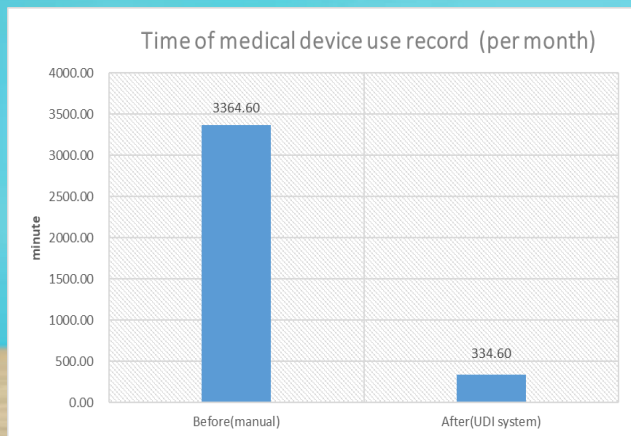
UDI Application Benefits

Benefit 1



1. Shorten Recording Time

- 90.1% decrease on manual working time (including administration management and medical recording)

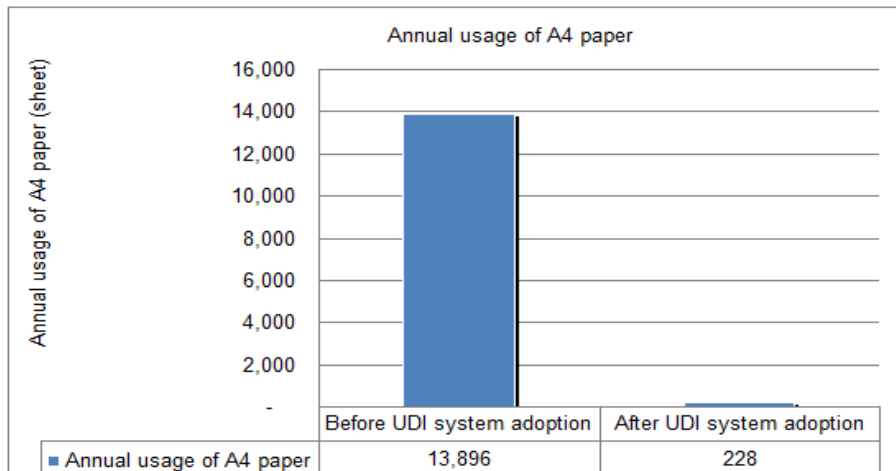


Benefit 2



2. Energy Saving and Carbon Reduction

- Save 13,440 A4 paper and reduce carbon emissions



Carbon Reduction

- 0.9% decreasing on the error rate of medical material record, and improving patient safety(from $5/367 = 1.36\%$ to $2/437 = 0.46\%$)





4

Challenges & Conclusions

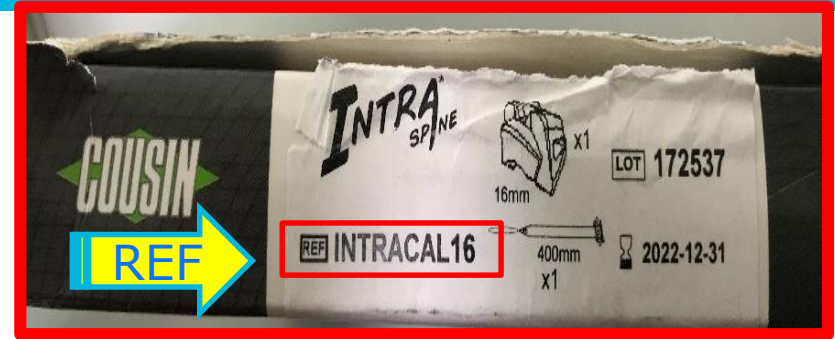
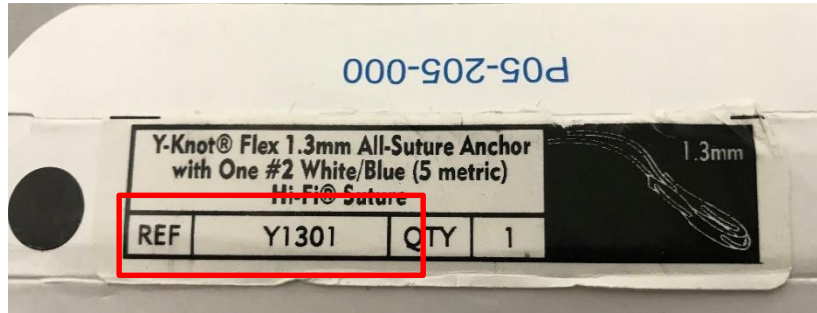
Challenge 1



No
UDI
Label

- Some suppliers are **not willing to label UDI** on their products due to the concern of **cost increase** and **no urgent enforcement of legislative regulation**.
- (Ex: class 1 medical device and drug, etc.)

No result by Scan, Use REF to find



Challenge 2



DI

Code
don't
Change
forever
?

- The DI code was originally thought to remain **unchanged** for years. However, it will **change** with the types of the packaging level and the place of origin.

Challenge 2



package type	Package Level	DI code	
Single package	0	047 1123456 001 2	
2 in package	0	047 1123456 002 9	
10 in package	0	047 1123456 003 6	
A box of 48 groups of 2 into the packaging	1	147 1123456 002 6	
A box of 48 groups of 10 into the packaging	1	147 1123456 003 3	

Challenge 2



Manufacturing origin conversion, UDI code might change.

OR	T	2018-04	SIZE									
	T [®]		8									
	Tibial Bearing Insert - CR		THKNS									
	Use with T [®] CR Femoral Components		19mm									
X30 UHMWPE CoCr		REF 5530-G-819	LOT ABCD1234									
<table border="1"><tr><td>Howmedica Osteonics Corp. 325 Corporate Drive Mahwah, NJ 07430, USA A Subsidiary of Stryker Corp.</td><td>U.S. Patents: 6,818,020; 7,517,019; 7,581,137; 7,160,330; 7,714,036</td><td>EC REP Stryker France ZAC Satolas Green Puisse Av de Satolas Green 69681 Meyzieu Cedex France</td></tr><tr><td>CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a Physician</td><td>2014-01</td><td>Made in Ireland Limerick</td></tr><tr><td colspan="3">CE 0086</td></tr></table>				Howmedica Osteonics Corp. 325 Corporate Drive Mahwah, NJ 07430, USA A Subsidiary of Stryker Corp.	U.S. Patents: 6,818,020; 7,517,019; 7,581,137; 7,160,330; 7,714,036	EC REP Stryker France ZAC Satolas Green Puisse Av de Satolas Green 69681 Meyzieu Cedex France	CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a Physician	2014-01	Made in Ireland Limerick	CE 0086		
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CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a Physician	2014-01	Made in Ireland Limerick										
CE 0086												

Made in Ireland

Change
of
country
origin

OR	T	2021-03-22	SIZE									
	T [®]		8									
	Tibial Bearing Insert - CR		THKNS									
	Use with T [®] CR Femoral Components		19mm									
X30 UHMWPE CoCr		REF 5530-G-109	LOT UDISAMPLE									
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CAUTION: Federal Law (USA) restricts this device to sale by or on the order of a Physician	2016-03-22	Made in USA										
CE 0086												

Made in USA

How to overcome them ?!



We have overcome obstacles by using deep-learning
UDI system (patented)



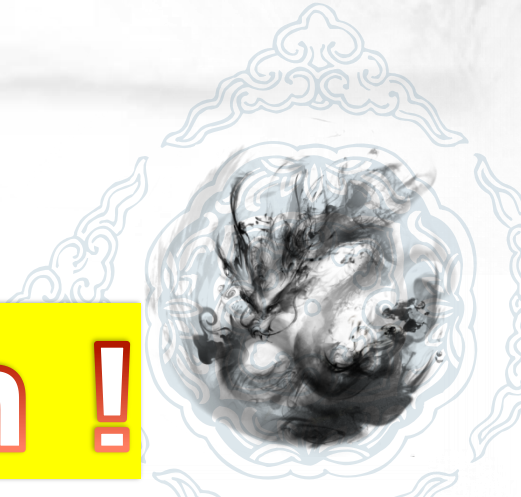
Take Home Message



- The implantation of GS1 UDI works sufficiently relying on the communication and coordination among clinicians, nurses, administrators, suppliers.
- The smart software system enables our barcode readers and data collectors with the capability to decode correctly. This allows information to be accurately fed into the hospital databases and relevant information systems.
- Most importantly, the full support of higher level management in the hospital is crucial. Additionally, maintaining faculty consensus and collaboration is necessary for long –term and successful patient safety that is achieved through UDI application.



**In Our Hospital
Safe and Efficient
Healthcare
Just Need
a Simple Scan !**



Contact Information



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Thank you for listening welcome to our hospital !



GS1 Healthcare webinar:

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