

Global GS1 Healthcare Beijing Conference 2016

Implementation of Standardized Traceability System -Expectation of Healthcare Service Providers and Its Users-

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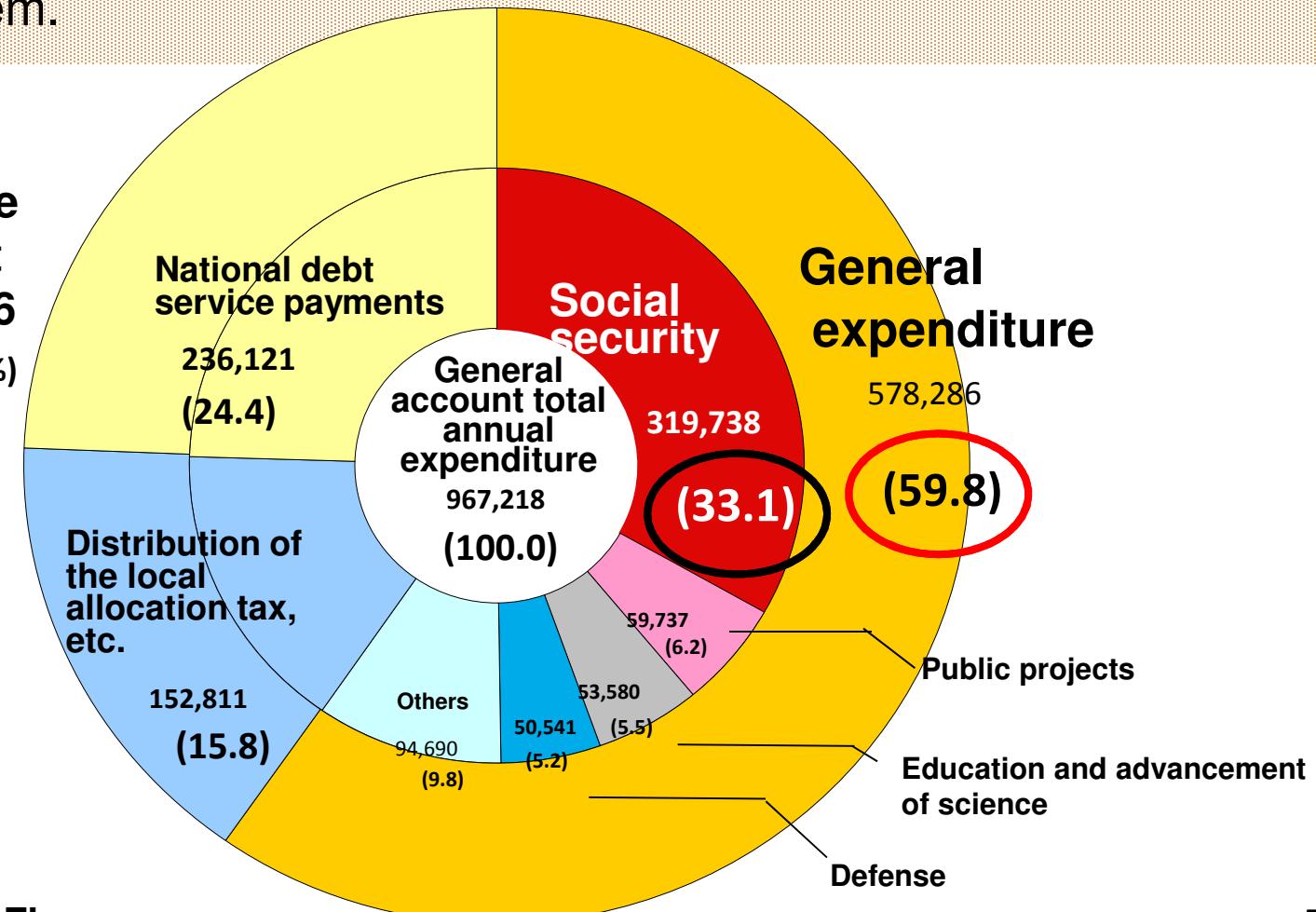
Former Chief Executive, NTT Medical Center Tokyo

The current status of the public finance in Japan

The social security-related costs account for more than half of the national general expenditure and for about 1/3 of the general account. Financial sustainability is difficult to exist without reforming the social security system.

Breakdown of the general account budget in FY2016

(Unit: 100 million yen, %)

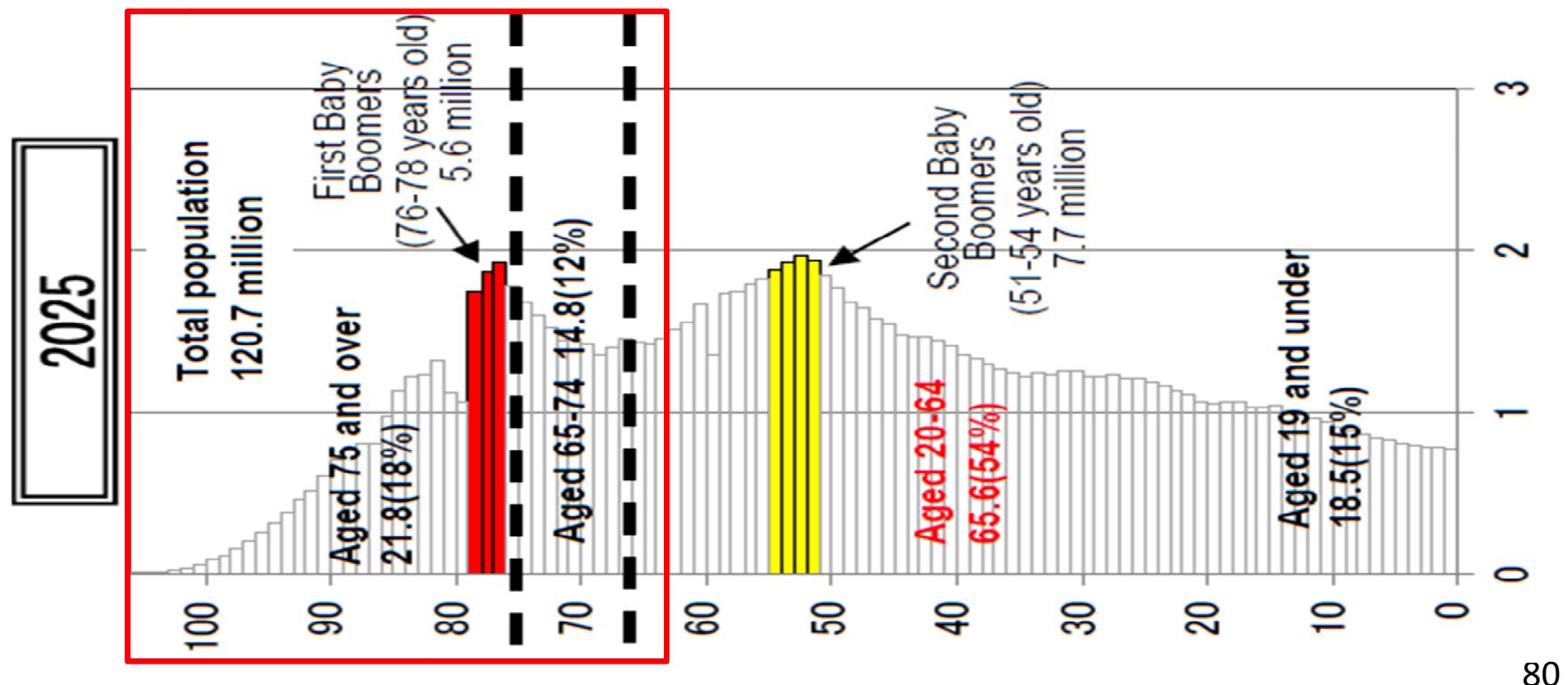


Source: Ministry of Finance

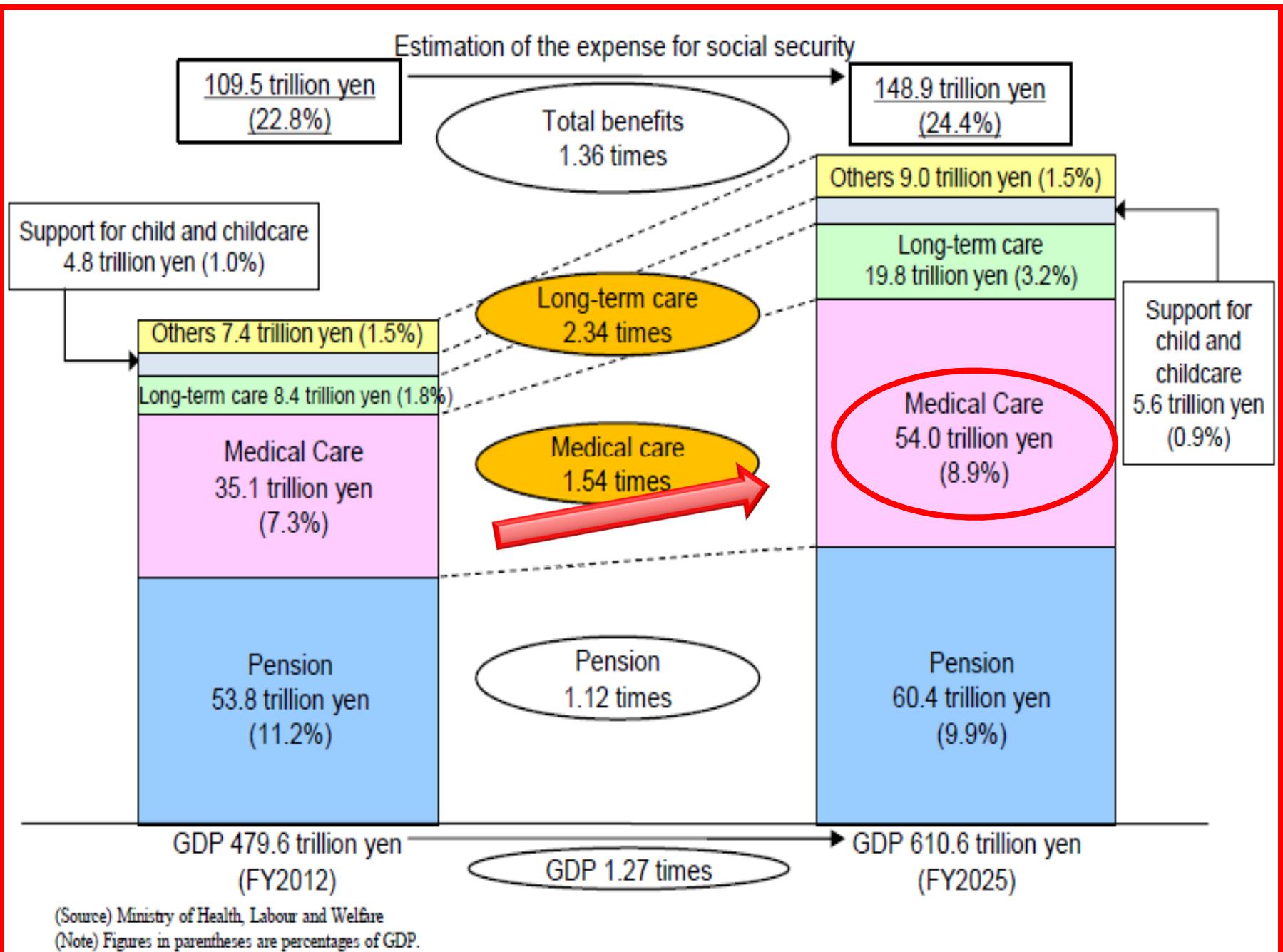
Japan is facing to “The Year 2025 Issues”

In 2025, the first Baby boomers reach 75-yrs-old. One fifth of Japanese population will consist of people over 75-yrs-old, and one third of it over 65-yrs-old.

Although the working population decreases, the population of those who needs medical care increases.



(Note) The first baby boomers are those who were born in 1947-49. The second baby boomers are those who were born in 1971-74.
(Source) National Institute of Population and Social Security Research "Japanese Future Demographic Projection (Jan. 2012)"



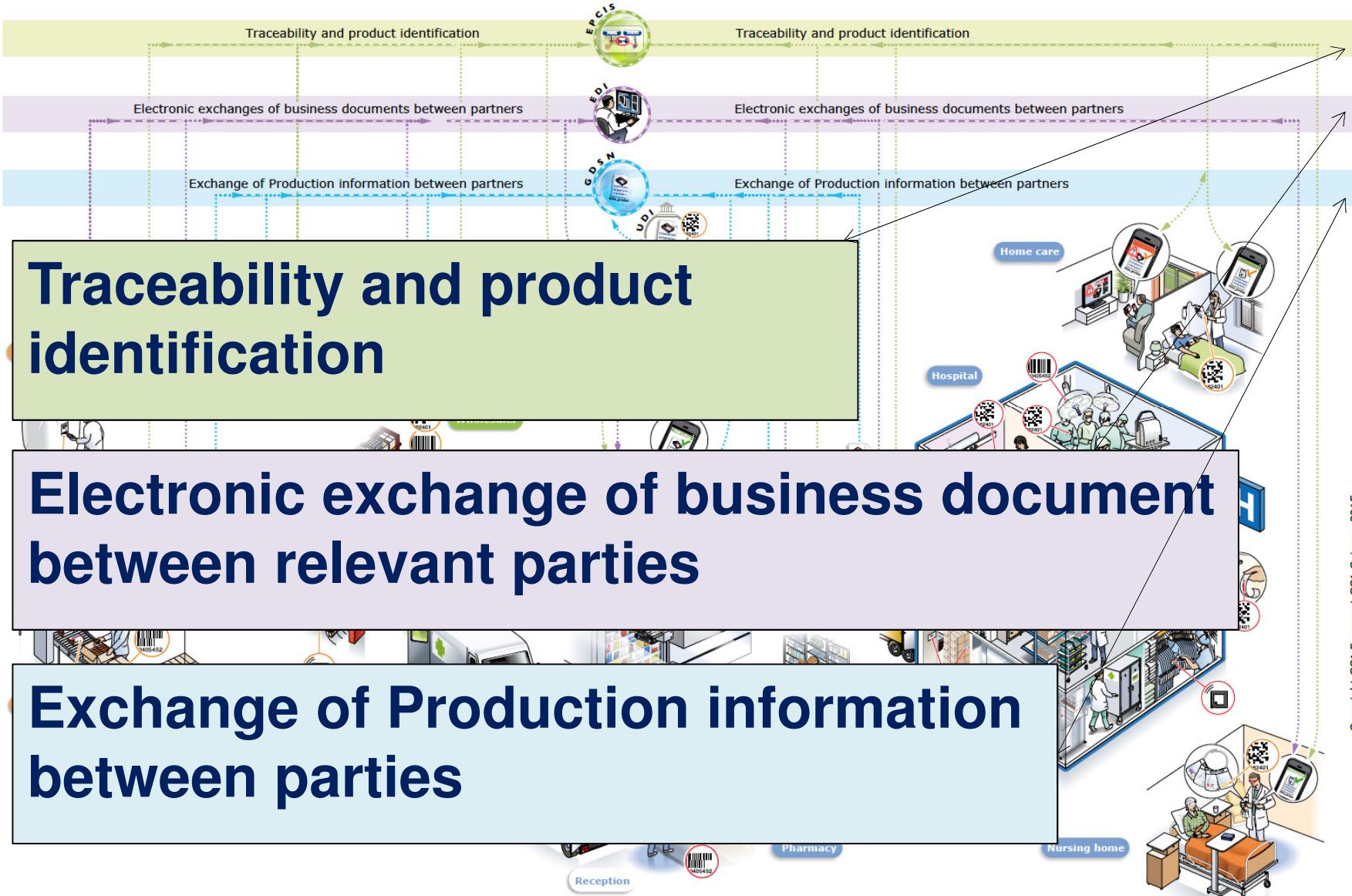
Reasons why we need standardized traceability system in the field of healthcare

In the field of Japanese healthcare, in addition to the patient safety and the improvement of quality, “**cost efficiency**” has become an essential issue as shown in the previous three slides.

If the cost is the same, we should choose the most effective way and if the outcome is the same, we should select the most affordable way.

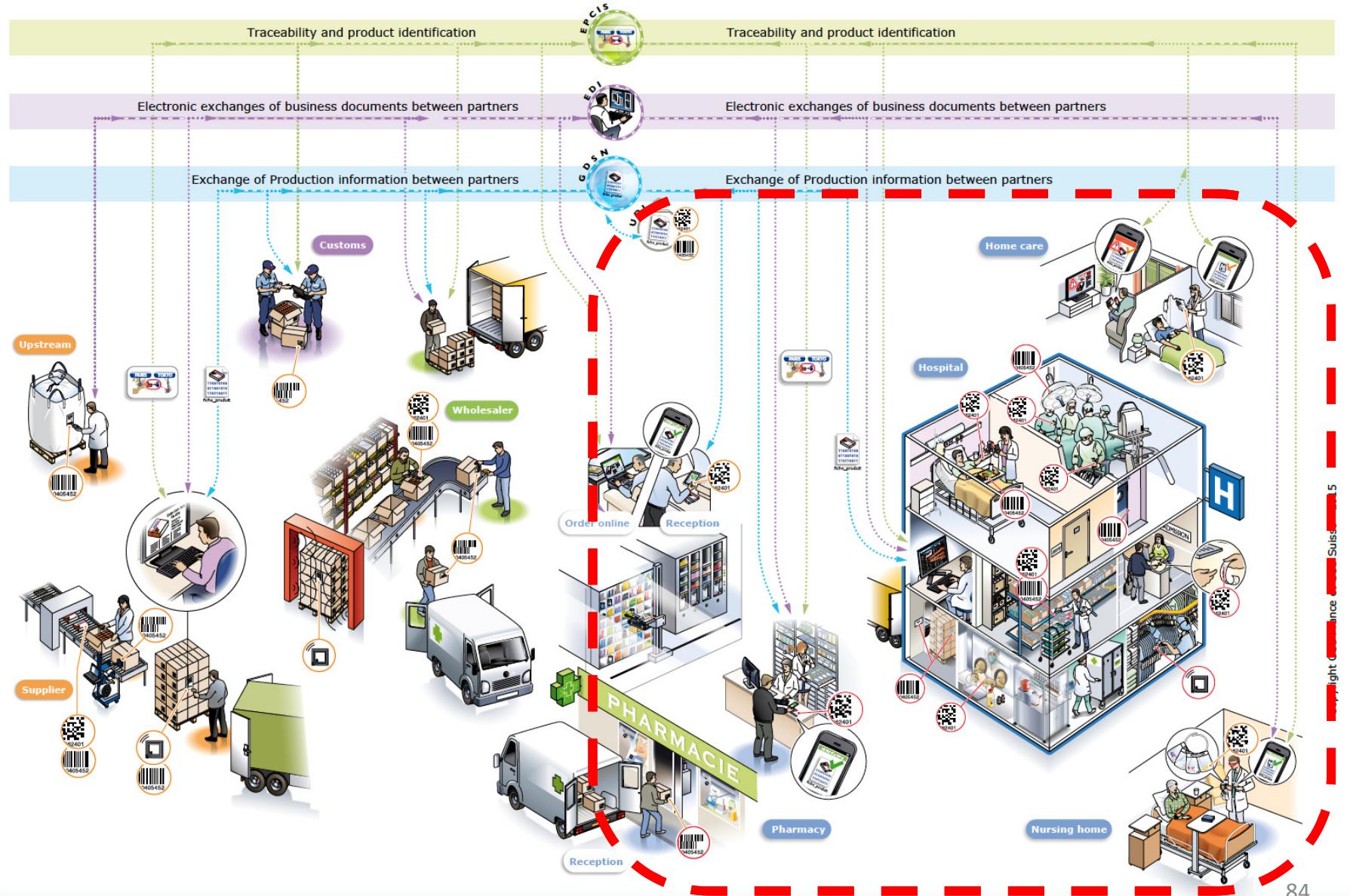
For solving this issue, we believe that it is vital to establish the globally standardized system making it possible to secure **the traceability in the field of healthcare**.

We need standardized traceability system!

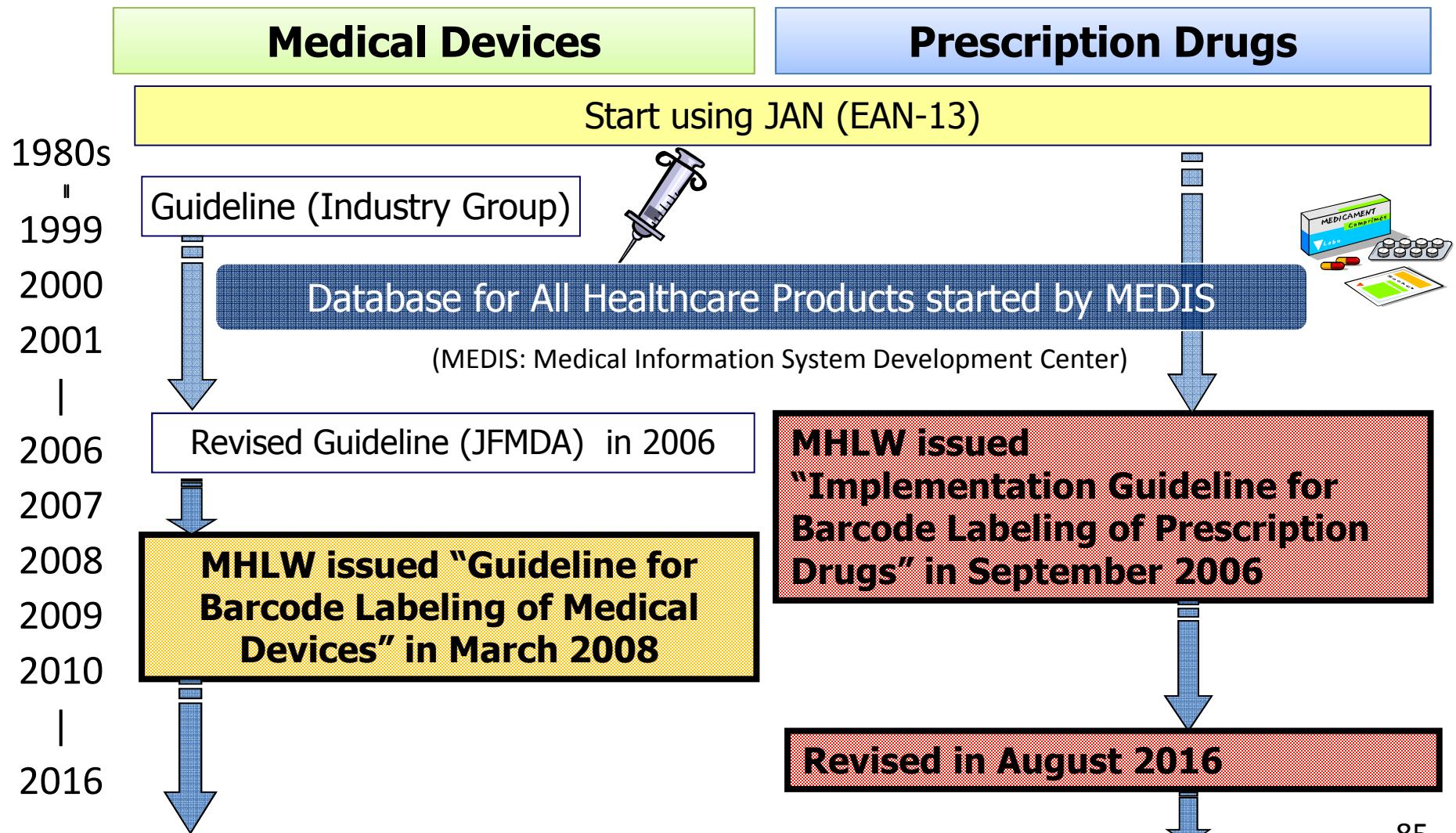


We need standardized traceability system!

The Global Language of Business

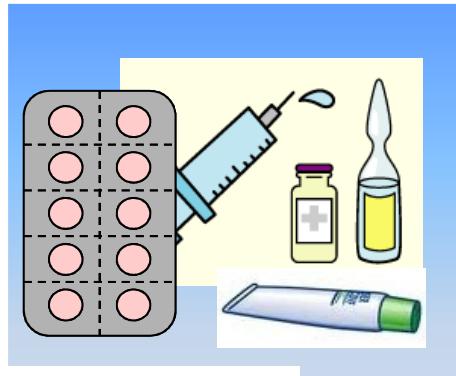


Brief Summary of Barcode Implementation in Healthcare Industry in Japan

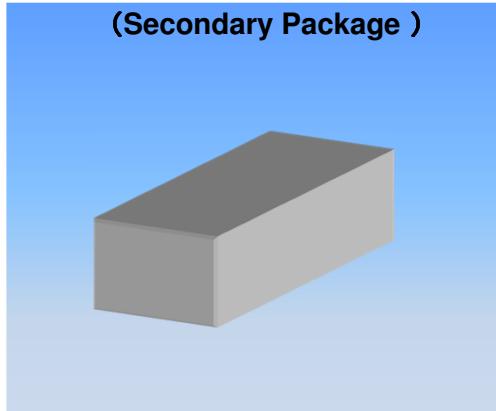


Rough sketch of Barcode labeling for prescription drugs

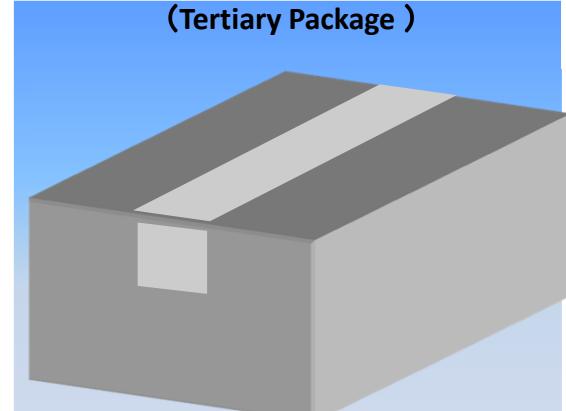
< Dispensing Unit >



< Sales Package >



< Original Package >



By 2015 July

Mandatory indication

AI (01) GTIN

By 2021 April

Mandatory indication

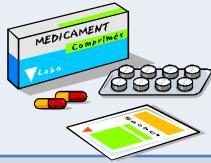
AI (01) GTIN

AI (17) Expiration Date and AI (10) Lot No.

Barcode Labeling of Medical Devices in 2015

	Medical Devices
Primary Package	86.4%
Sales Package (Inner and outer)	94.5%

Barcode Labeling of Prescription Drugs" in 2015

	Specific biological products	Injections	Oral medicine
Dispensing Unit	100 %	100 %	97.5 %
Sales Package	100%	99.9 %	99.8%

Sept. 2016 by MHLW



Summary of the Survey to Wholesales (distribution of pharmaceuticals)

Utilization rate of barcodes in distribution center

- | | |
|------------------|---------|
| 1) Sales Package | 100% |
| 2) Outer Package | 79.4% * |

* All companies replied “not yet” are in preparation

Utilization rate of barcodes in their branch office

- | | |
|------------------|---------|
| 1) Sales Package | 81.3% * |
| 2) Outer Package | 56.3% * |

* 80% companies replied “not yet” are in preparation

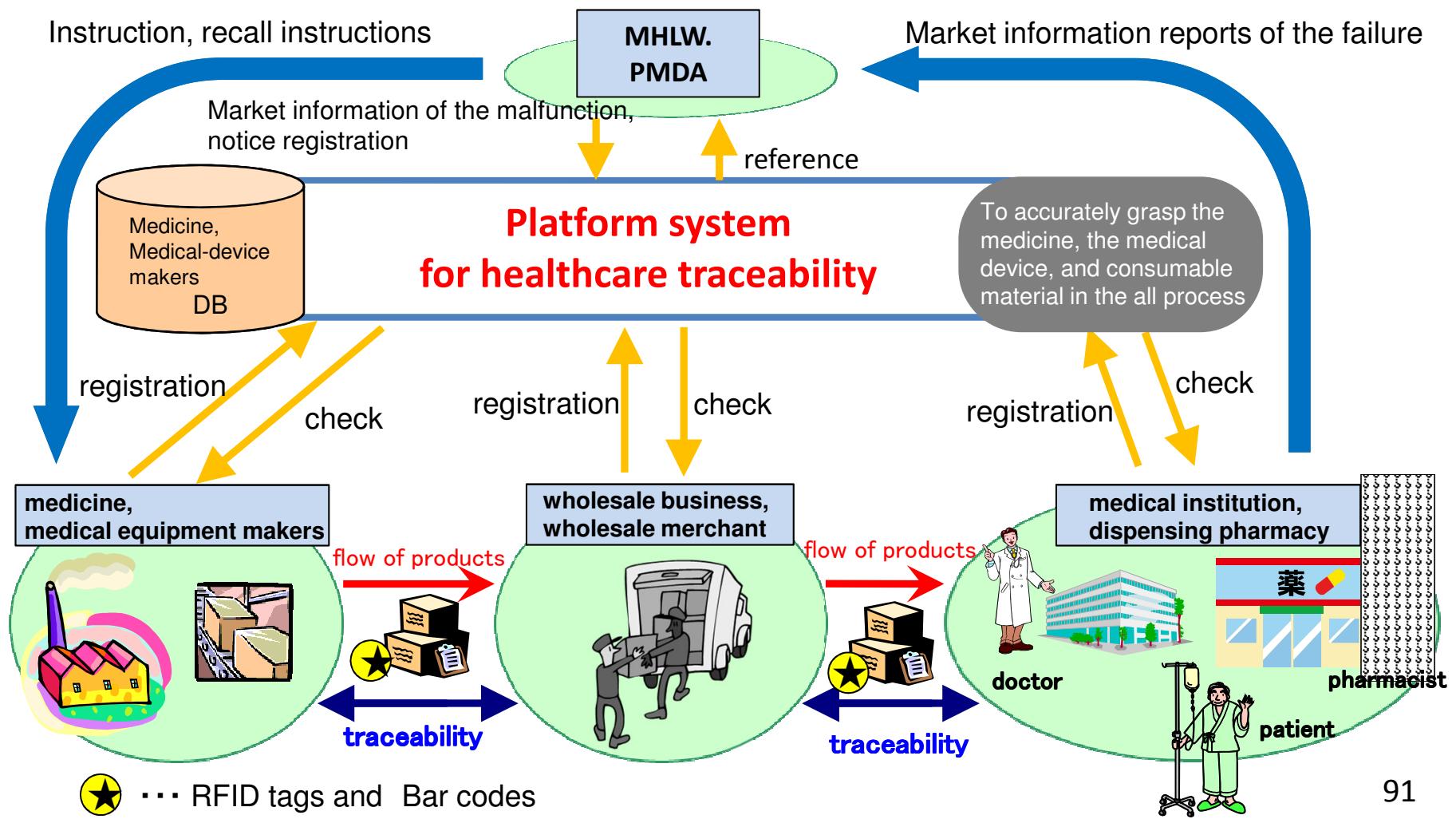
Sept. 2016 by MHLW

Current Situation in Japan (hospitals, medical careers, patients)

- Many kinds of identification code including hospital's private one have already been implemented in most Japanese hospitals.**
- However, introduction of GS1 identification codes and AIDC technology is still not prevalent.**
- Almost all medical careers in Japan don't know “what is GS1?”**
- For securing traceability in the field of healthcare, standardization of coding from manufactures to healthcare provider is mandatory.**
- Now, promoting the benefit of GS1 product identification & barcodes and encouraging healthcare providers and hospitals to use them are key issues.**

Platform system being proposed by JUMP

- The Japan Usability Medical Information Promotion Conference (JUMP) was born in 2013 for promoting social security numbers in healthcare systems. One of the proposals of the JUMP is to establish the concept and practical use of traceability.



Introduction effect of traceability system

Case study from
NTT Medical Center Tokyo

NTT Medical Center Tokyo

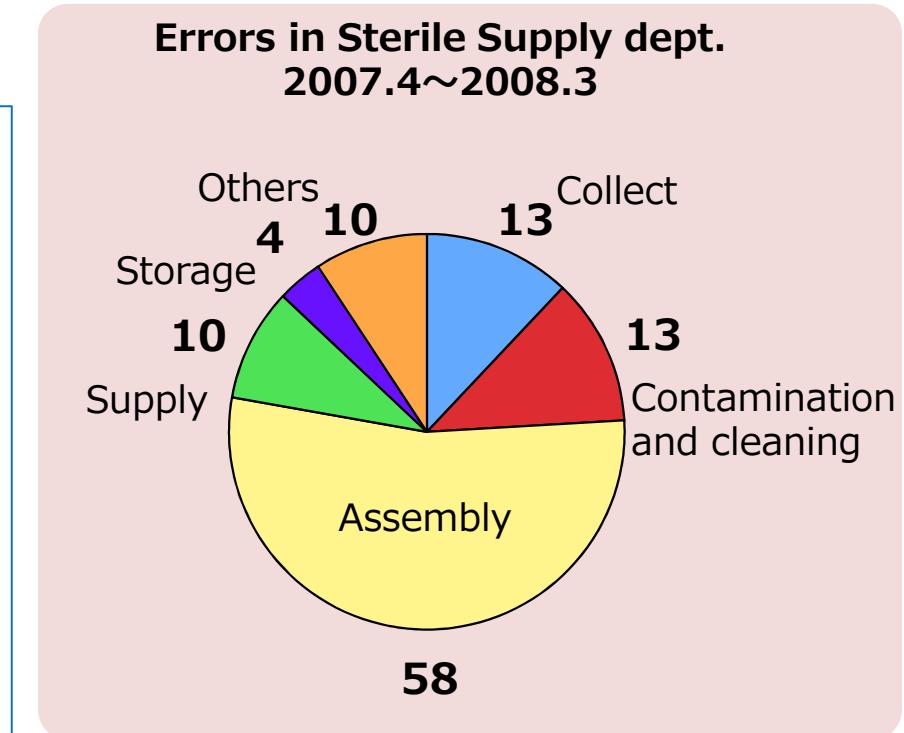
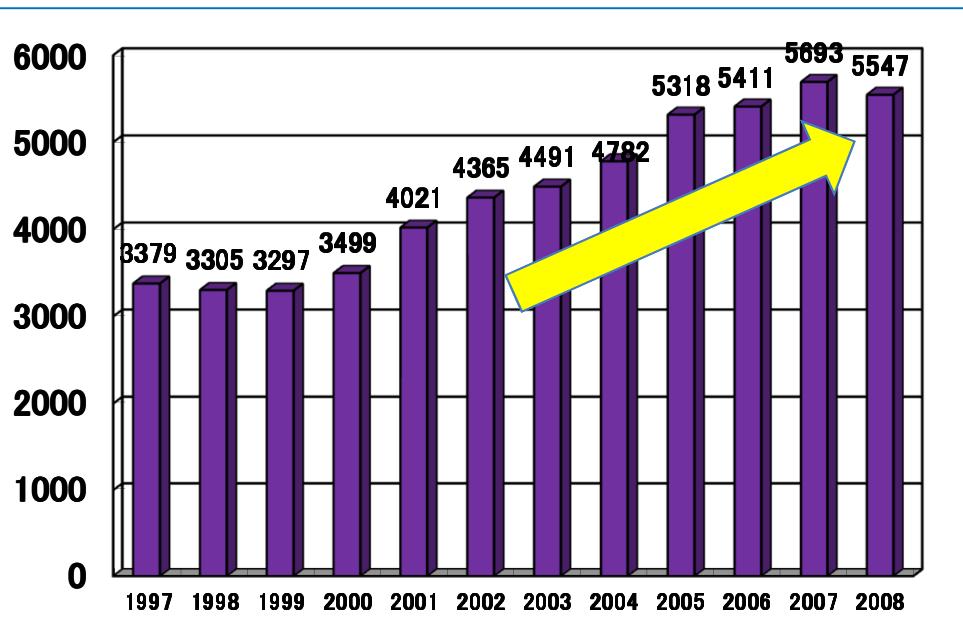
Beds	606
Outpatients per day	Approx. 2,117
Operating rooms	10
Operations per year	Approx. 5,518
Nurses in Ope. Dept.	21
Staff in supply room	10
Washers	3
Sterilizers	6
Surgical containers	Approx. 189
Medical steel instruments (DPM)	Approx. 20,000



Before introducing the traceability system

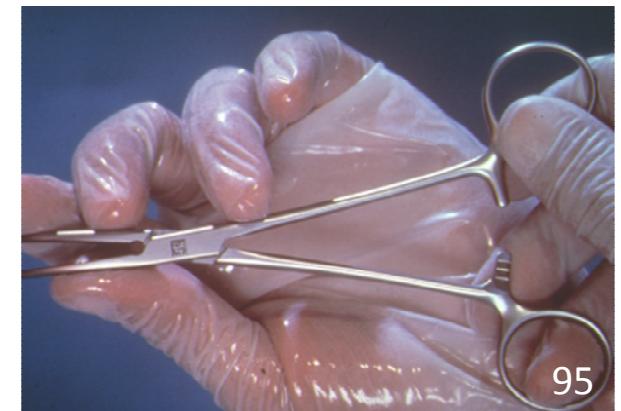
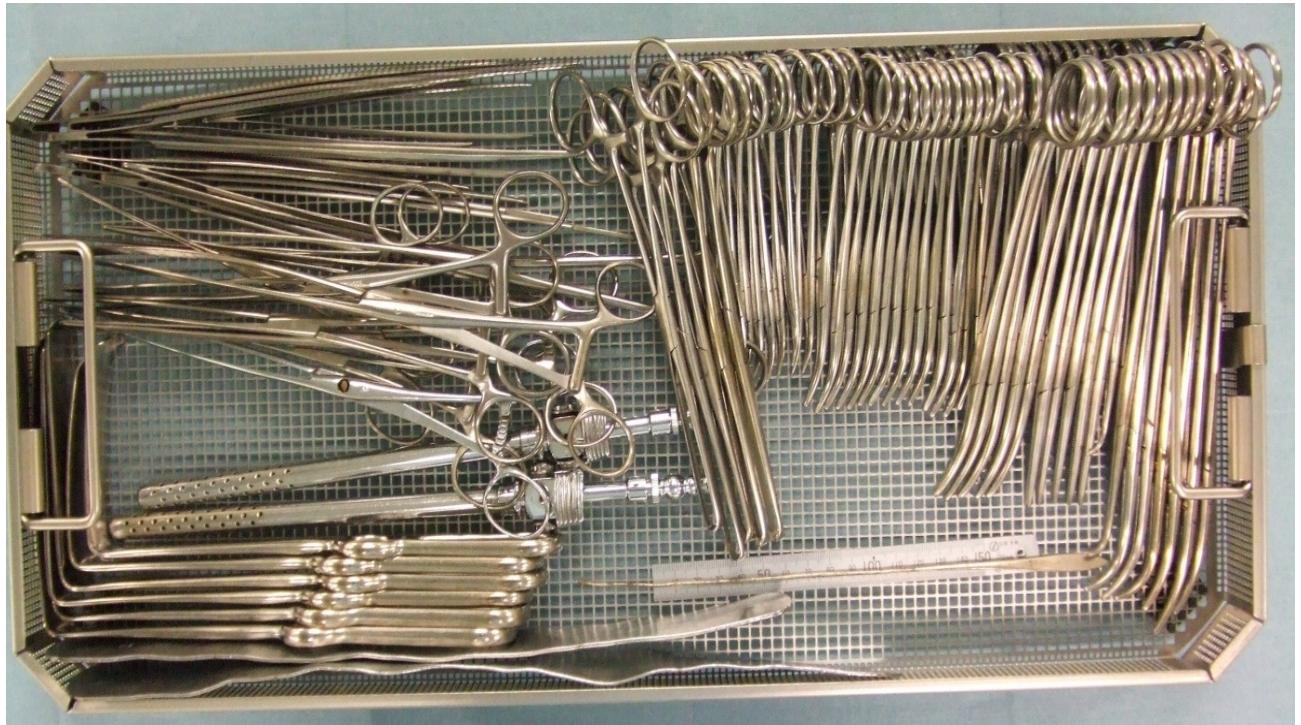


- The number of surgical operations continuously increased.

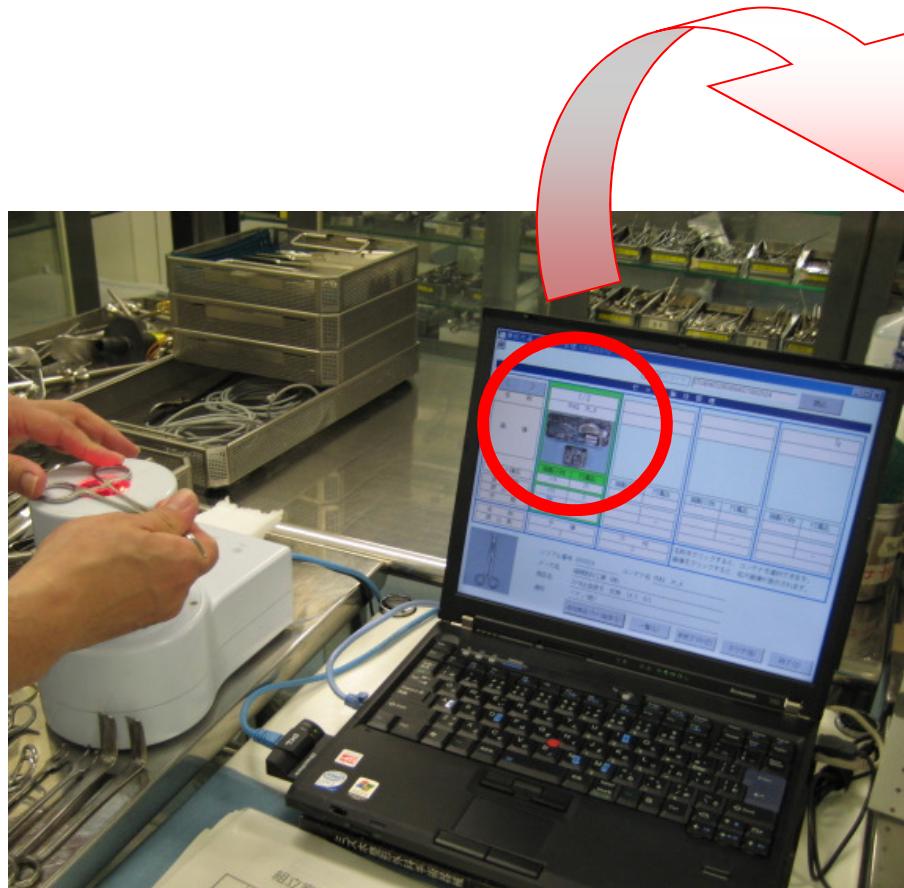


Management error relating to the SSU occurred in 108 out of 5,712 surgical cases (**1.89%**) from April 2007 to March 2008.
58 errors were in assembly (53.7%),

UDI for metal instruments



For preventing assembly error



The image shows a medical workstation setup. On the left, a person's hands are visible, working with surgical instruments on a tray. A laptop computer is open in front of them, displaying a software application. A red circle highlights a specific area on the laptop screen, and a red curved arrow points from this area to a detailed view of the software interface on the right.

Set Name	
Image	

Surg. Inst.	Affix
Composition	115
No. of Registr.	115
No. of Scanned	4
Status	Assembling

1/1

Surgery Big C





RFID tag on the container

Decrease of Errors Relating to SSU

	07.4~08.3	08.4~08.7	08.8~09.1
Errors	108	31	3
Surgeries	5,712	1,913	2,729
Error ratio	1.89%	1.62%	0.11%

07.4~08.3

before introduction of UDI

08.4~08.7

just after introduction

08.8~09.1

after stuff accustomed to the system



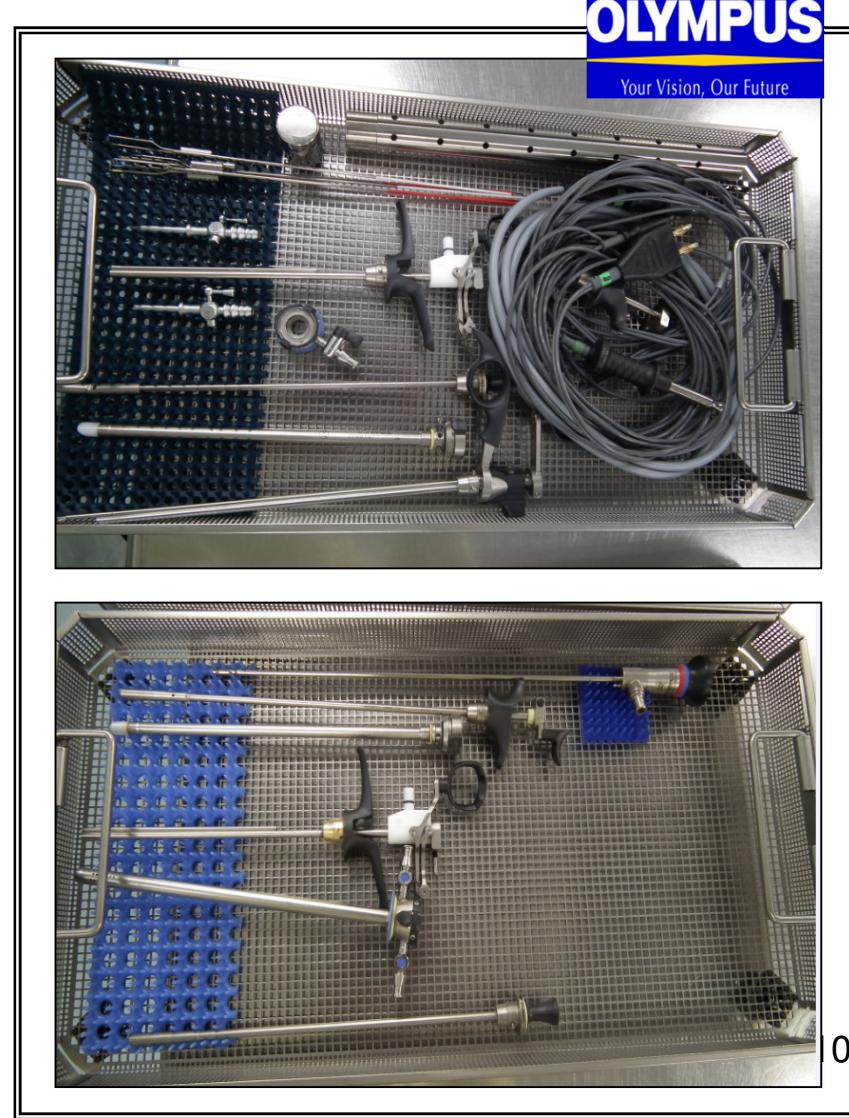
GS1 Healthcare Reference Book 2009/2010.

How to manage the use of surgical endoscopes.

How to adopt bar code technologies on them.

Component name		
Scope	30°	A22002A
Irrigation sheath	26Fr	A22026A
	Rotary type	
Continuous sheath	24Fr	A22040A
With a rotary cock attached		A22051A
Mandolin	24Fr	A22085A
TURis handle (passive)		WA22367A
Optical mandolin	24Fr	A22071A
E scalpel cord		A0393
Bipolar cord		WA00013A
Light guide (with a connector)		WA03200A
Irrigation adaptor		05XW
Irrigation adaptor		063W
Silicone tube		
Silicone tube		
Intermittent sheath		A22041A
Mandolin	24Fr	A22085A
Handle (passive)		WA22067A
Bridge (for 70°)		A22093A
Biopsy forceps		A20713A
Loop electrode	24Fr (30°, S)	WA22305D
Loop electrode	24Fr (30°, S)	WA22305D
Loop electrode	24Fr (30°, M)	WA22306E
Roller electrode		WA22351C
Needle electrode		WA22355C

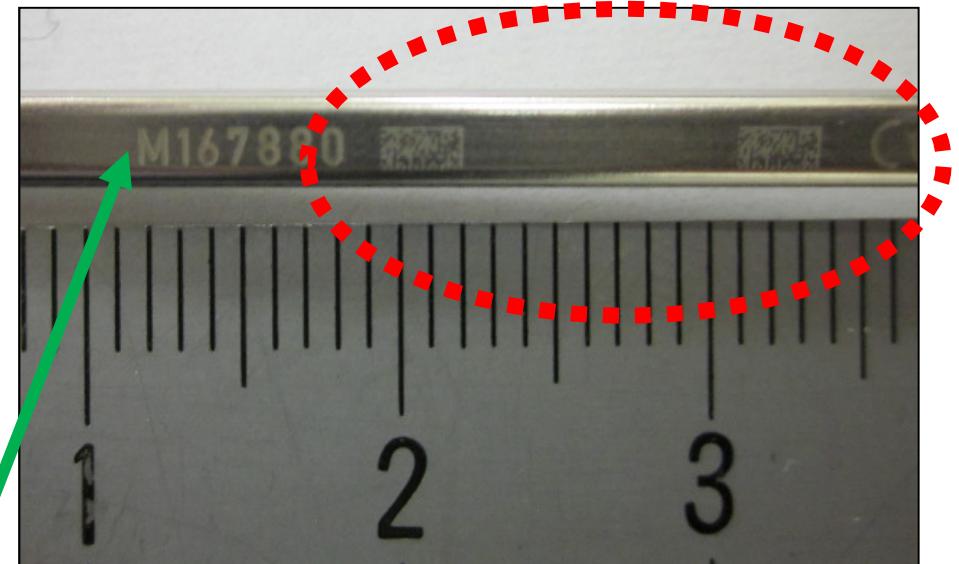
A set of endoscope is usually composed of more than 20 elements including very fine devices.



New Technology



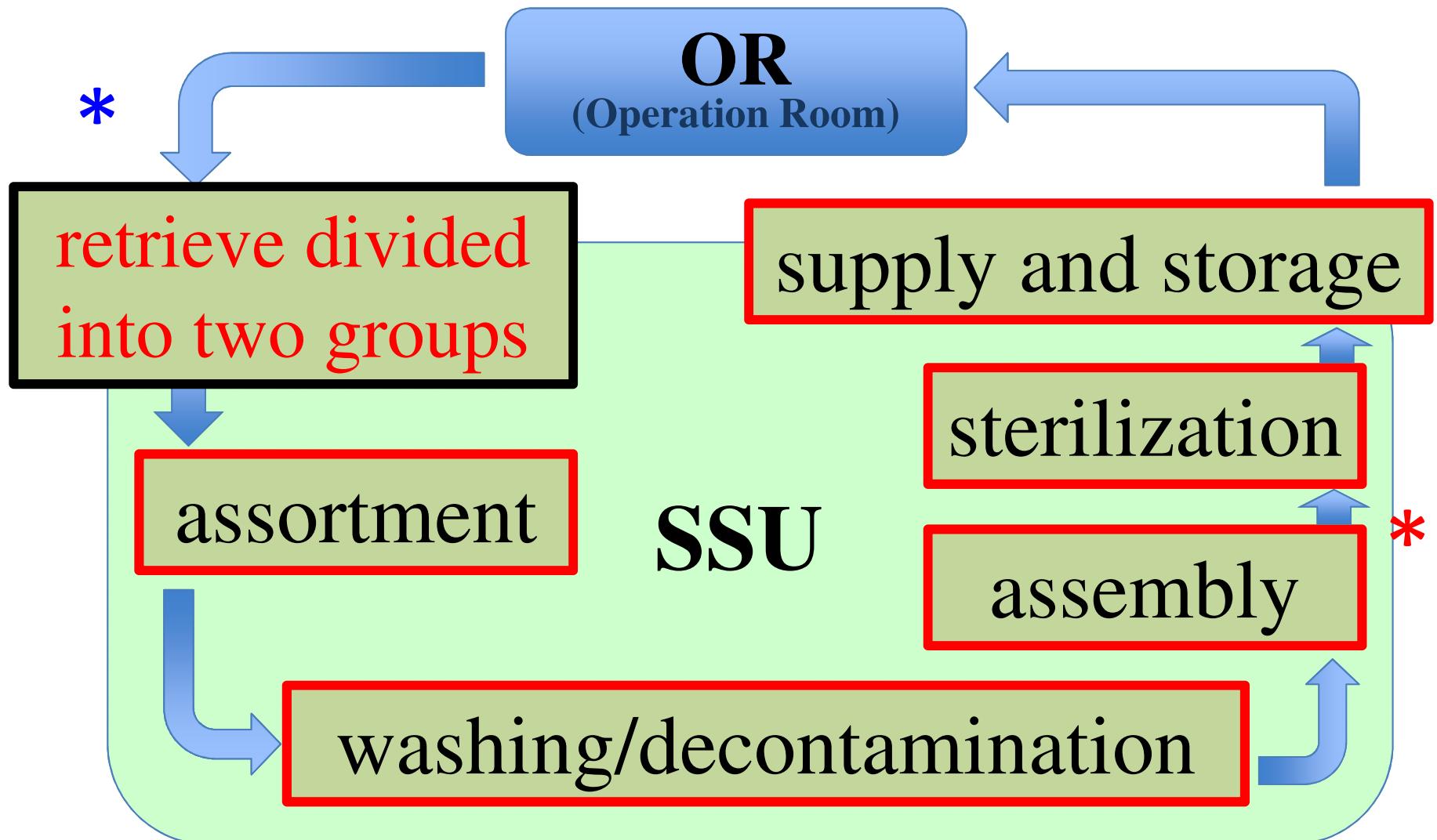
2011
0.95 mm x 2.80 mm



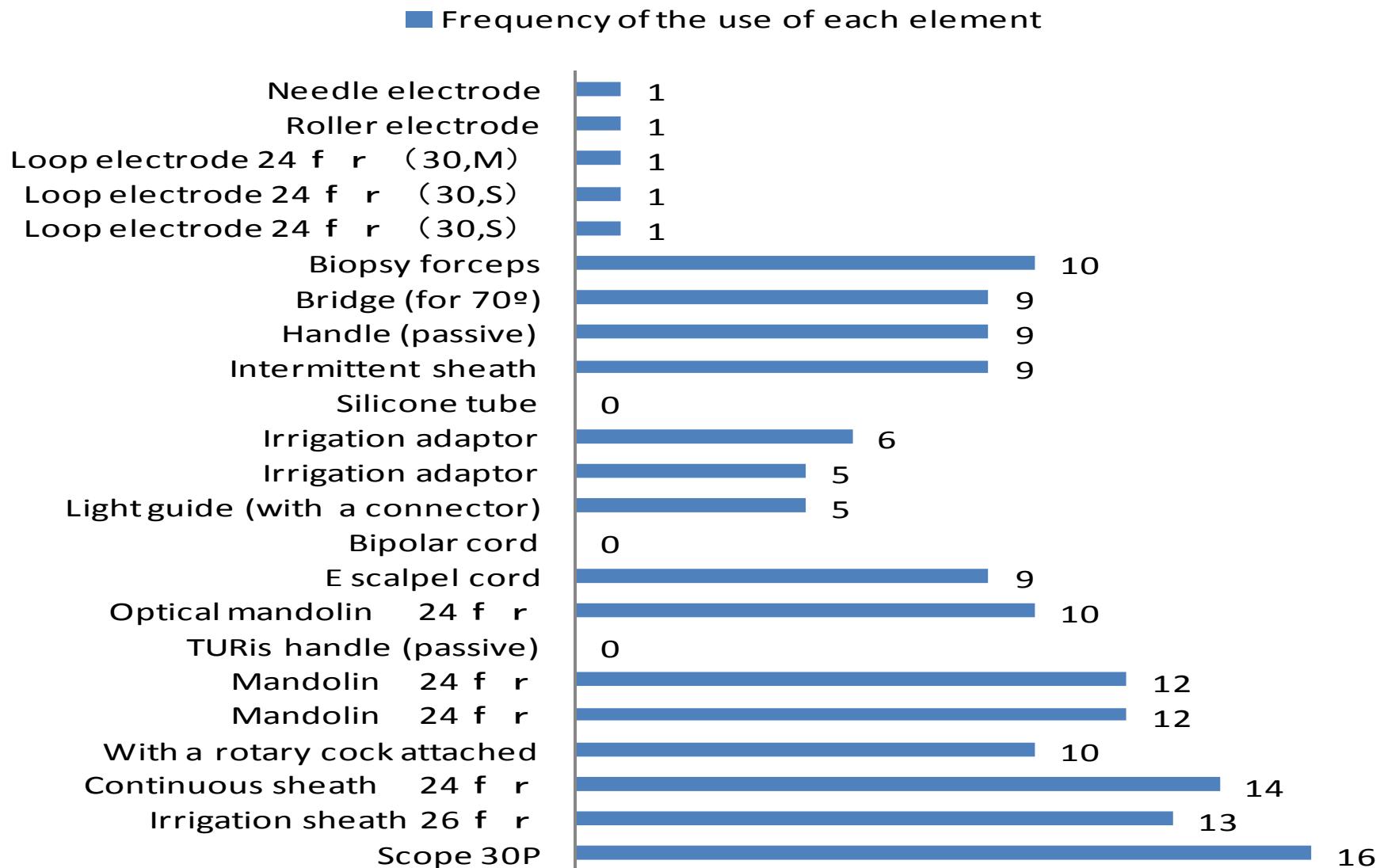
Electrode of endoscope

Work flow of SSU

SSU: sterile supply unit



Frequency of the use of each element



Brief history of our trials

- **First trial (2008~)**
 - Introduction of bar code technologies in SSU at the process of assembly for metal instruments
- **Second trial (2011~)**
 - Development of very small-sized direct part marking applicable to the element of surgical endoscopy
 - Introduction of bar code reading at the process of retrieve in addition to assembly
- **Third trial (2013~)**
 - Implementation of bar code reading at the process of assembly and retrieve for all metal instruments

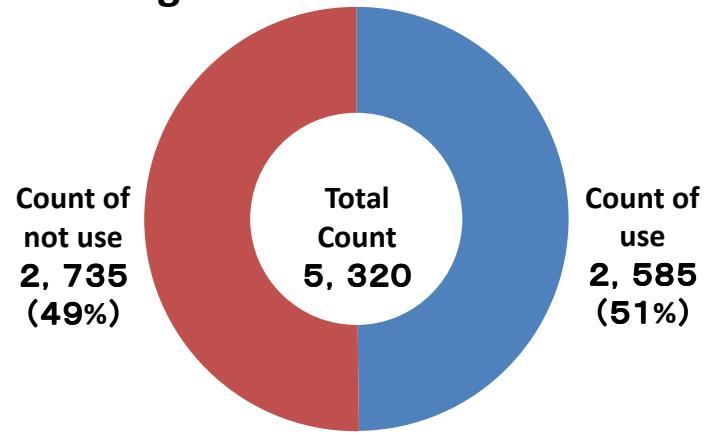
Result of the survey

Laparotomy Set (large) of General Surgery E



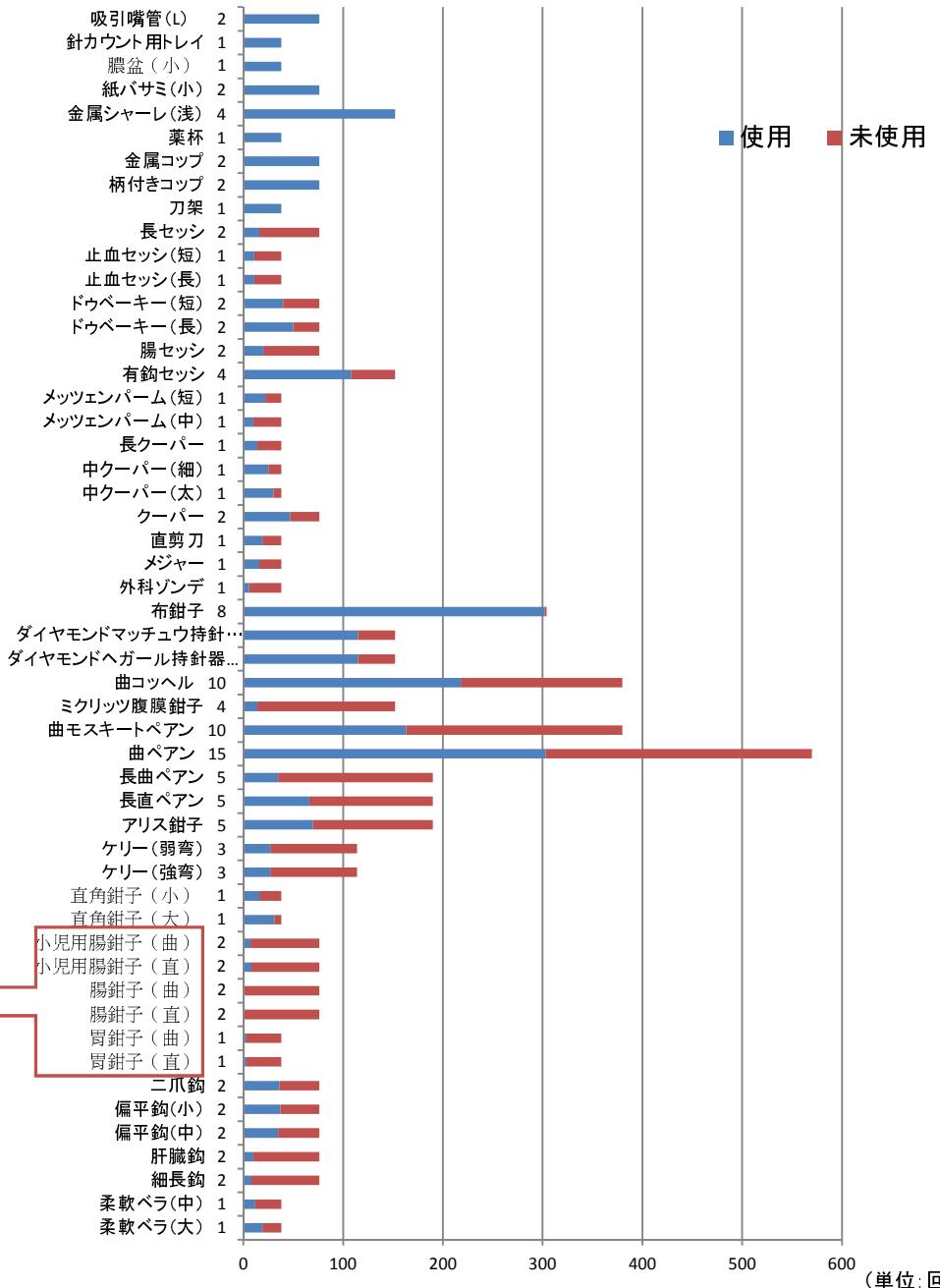
- Laparotomy Set (large) of General Surgery E
- July 2014～Oct. 2014
- Frequency of Use: 30 times
- Composition: 140 metal instruments
- Instruments used: 51 %
- Instruments not used: 49 %

Average of “use” and “not use”



Withdrawn from Set since Nov. 2014

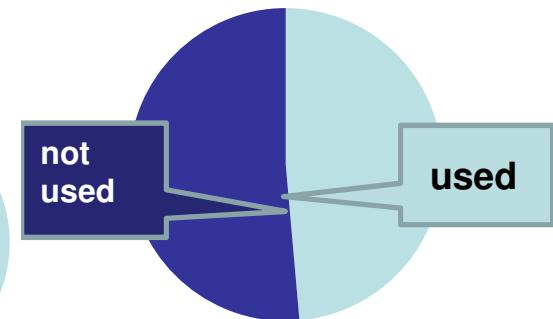
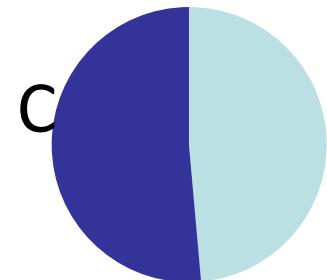
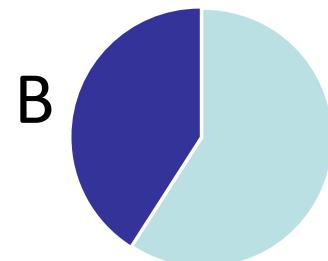
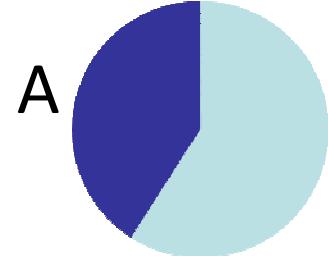
- | | |
|-------------|---|
| ① 小児用腸鉗子(直) | 2 |
| ② 小児用腸鉗子(曲) | 2 |
| ③ 腸鉗子(直) | 2 |
| ④ 腸鉗子(曲) | 2 |
| ⑤ 胃鉗子(直) | 1 |
| ⑥ 胃鉗子(曲) | 1 |
- total 10本



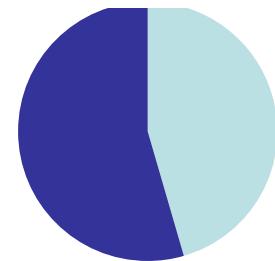
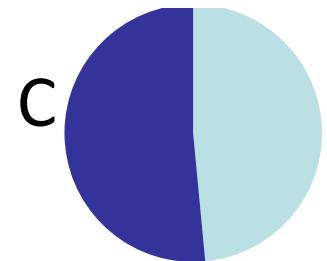
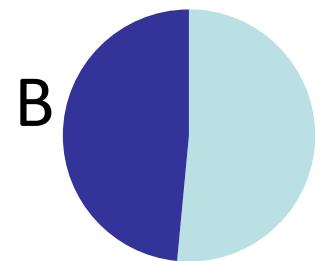
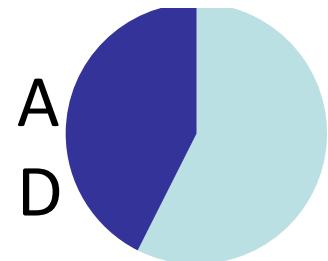
Status of Usage of Metal Instruments by

Container

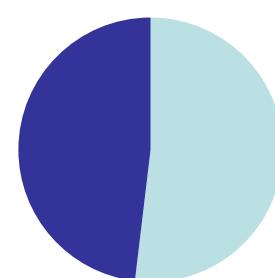
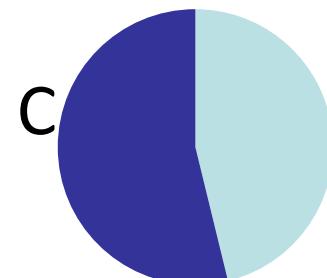
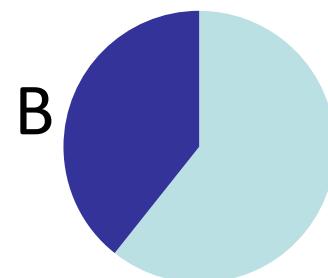
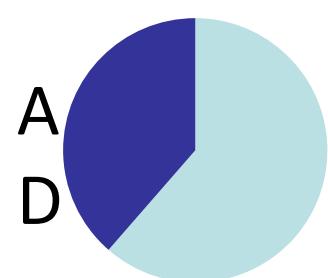
Laparotomy Set of Gynecology



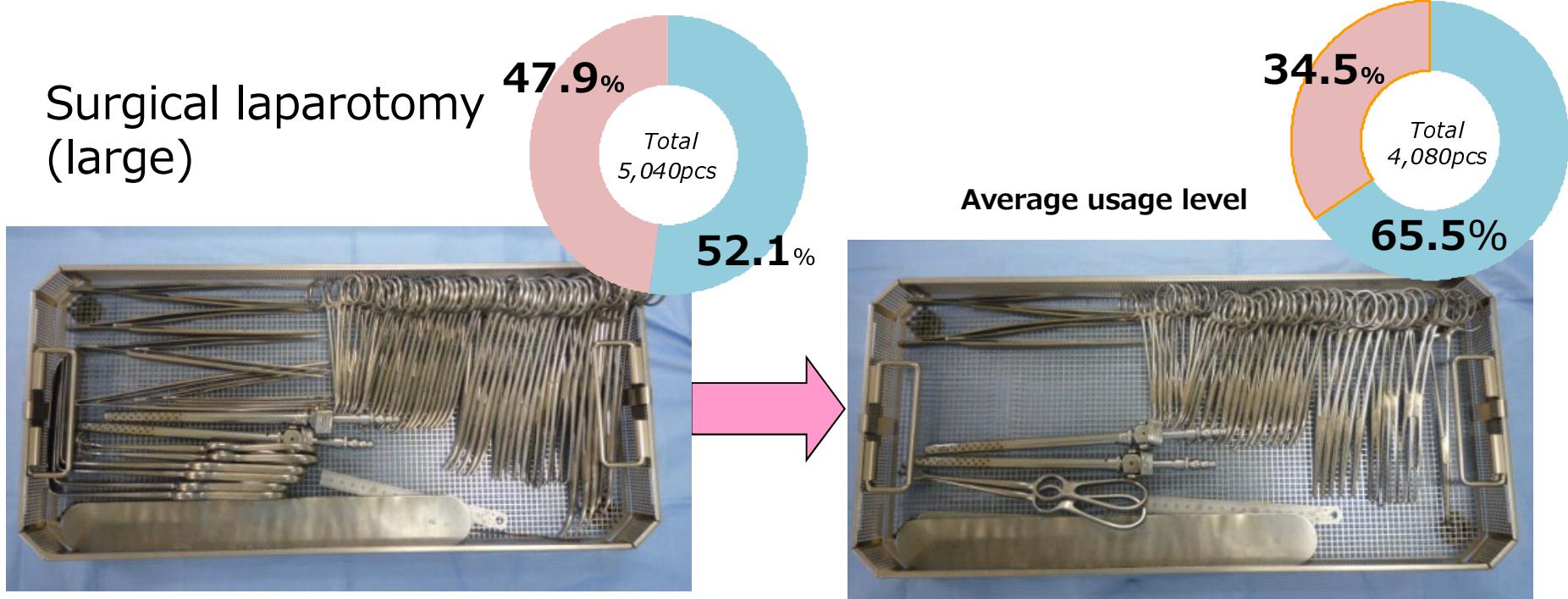
Laparotomy Set (middle) of General Surgery



Laparotomy Set (large) of General Surgery



Strive to downsize the set of instruments

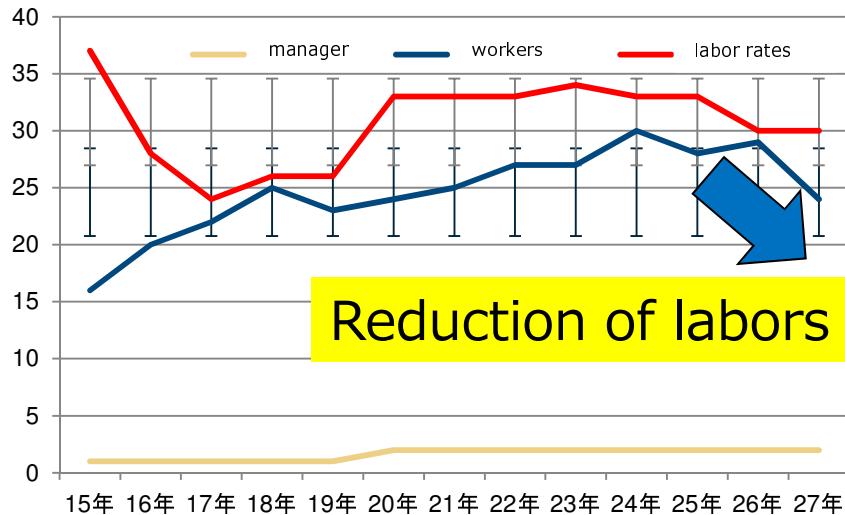


It realized to reduce the number of devices 30% or more.

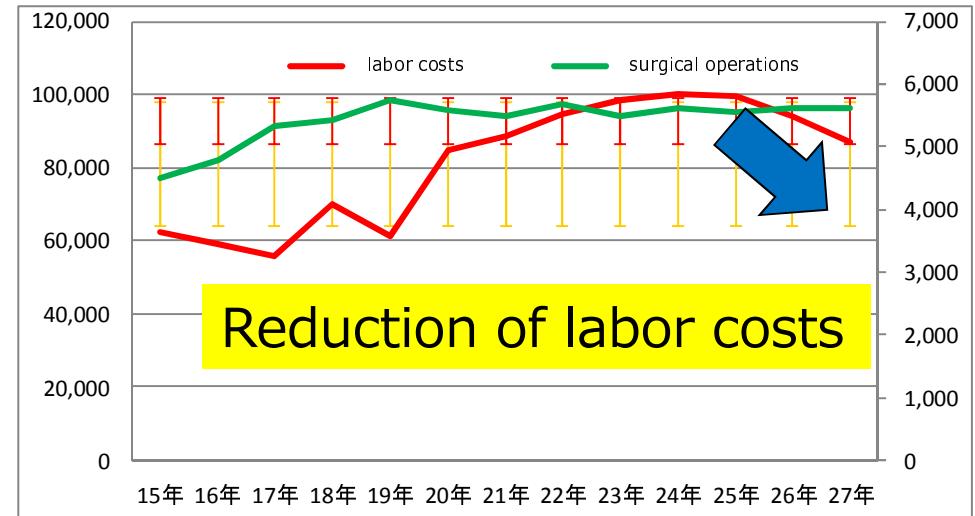
Introduction effect of traceability system

- Cost optimization based on work data
 - Reduction of working hours for washing and assembly

>> Reduction of labor costs



Trend in labor rates
and number of workers



Trend in labor costs
and number of surgical operations

Enhancing the efficiency of hospital management.

Tracking of the event history

- When the surgery started and ended
- When and by whom instruments were retrieved and washed.
- Which instruments are in each container
- How often instruments are being used
- When and which instruments have been repaired
- When, how and by whom the container were set, sterilized and stored
- In which patient the instruments were used (AIDS, Creutzfeld-Jakob disease, etc.)



Thank you for your kind attention.

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