The Global Language of Business

GS1 Standards for connecting information and products, as well as people

GS1 Healthcare Webinar

Dr. Kengo Miyo, Chief Medical Informatics Officer, Center for Medical Informatics Intelligence, National Center for Global Health and Medicine, Tokyo, Japan

May 14, 2020

Welcome and thank you for attending!

- Welcome to our May 2020 webinar

  Thank you to our guest speaker Dr. Kengo Miyo, Chief Medical Informatics Officer, National Center for Global Health and Medicine, Tokyo, Japan

- 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

GS1 Healthcare Webinars

Create a forum for the global clinical provider environment for thought leaders and adopters of GS1 Standards in healthcare. The final goal: improve patient safety, cost efficiency and staff productivity through the implementation of GS1 standards.

A forum for sharing and discussion

- The practical realities of implementation of GS1 Standards in the care giving environment regarding the impact on clinical care and patient interaction

Identification of projects and case studies

- Supporting the adoption of GS1 Standards in healthcare providers and retail pharmacies
- For publication, presentation and sharing

A source of expertise and advice

- 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

- Bimonthly 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

- At each global GS1 Healthcare Conference
- 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 holds global conferences each year.
The March 2020 conference was postponed due to pandemic and new dates will be announced as soon as possible.
Significant Healthcare Provider participation is expected on the agenda.

Presenting today

Dr. Kengo Miyo

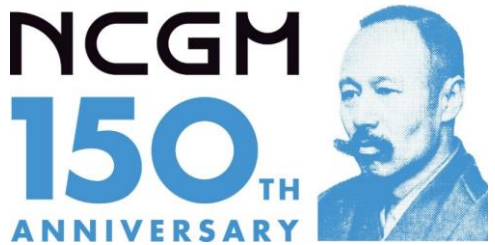
- Chief Medical Informatics Officer
- Center for Medical Informatics Intelligence (CMII)
- National Center for Global Health and Medicine (NCGM)
- Tokyo, Japan

GS1 Standards for connecting information and products, as well as people

Kengo Miyo Ph.D

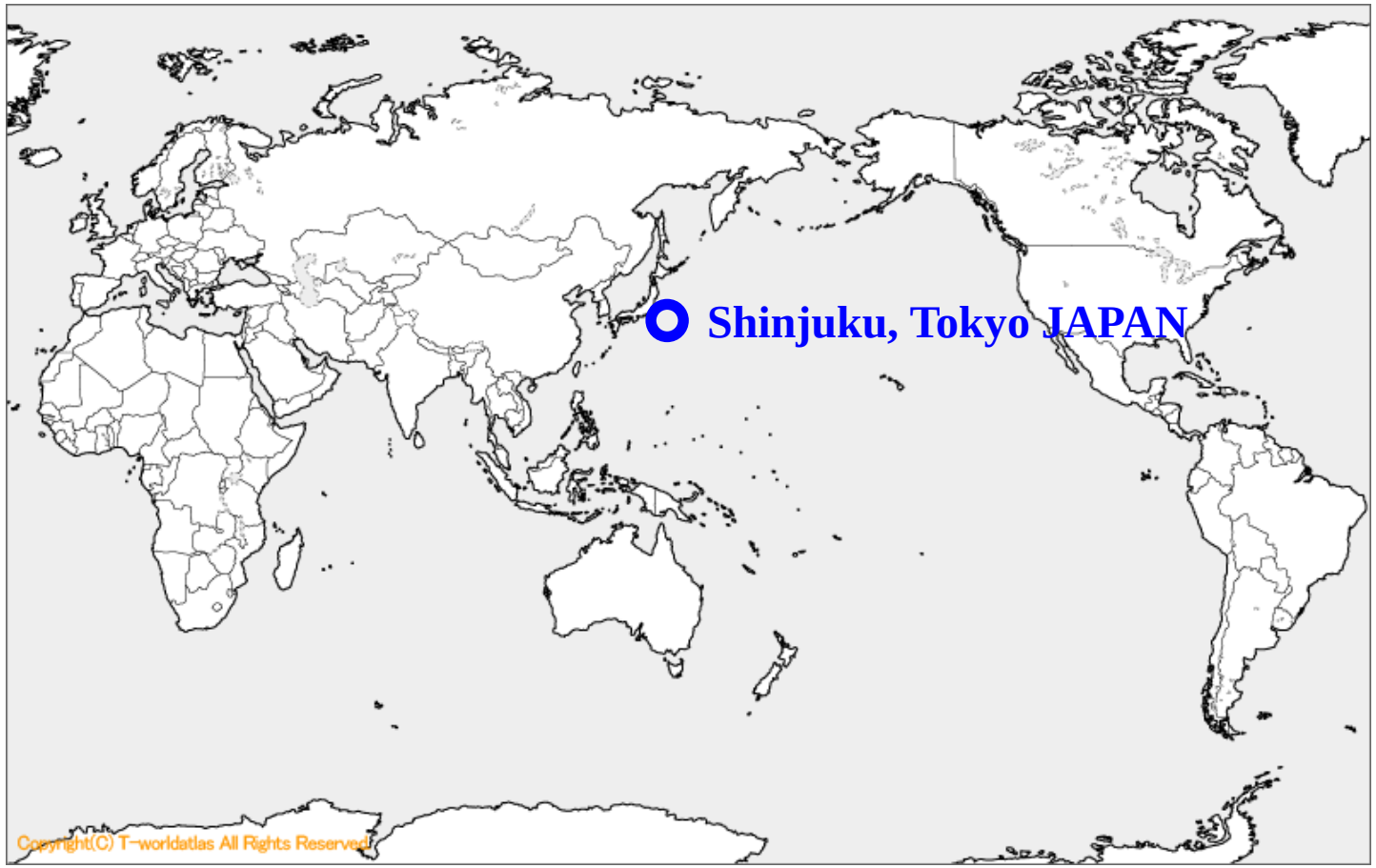
Center for Medical Informatics Intelligence(CMII)

National Center for Global Health and Medicine



National Center for Global Health and Medicine (NCGM)

- One of six national medical centers in Japan
- Originated from a military temporary hospital established in Tokyo Castle in 1868
- Consists of two hospitals (Center hospital and Kohnodai Hospital), Research Institute, International Medical Cooperation Bureau, and National College of Nursing



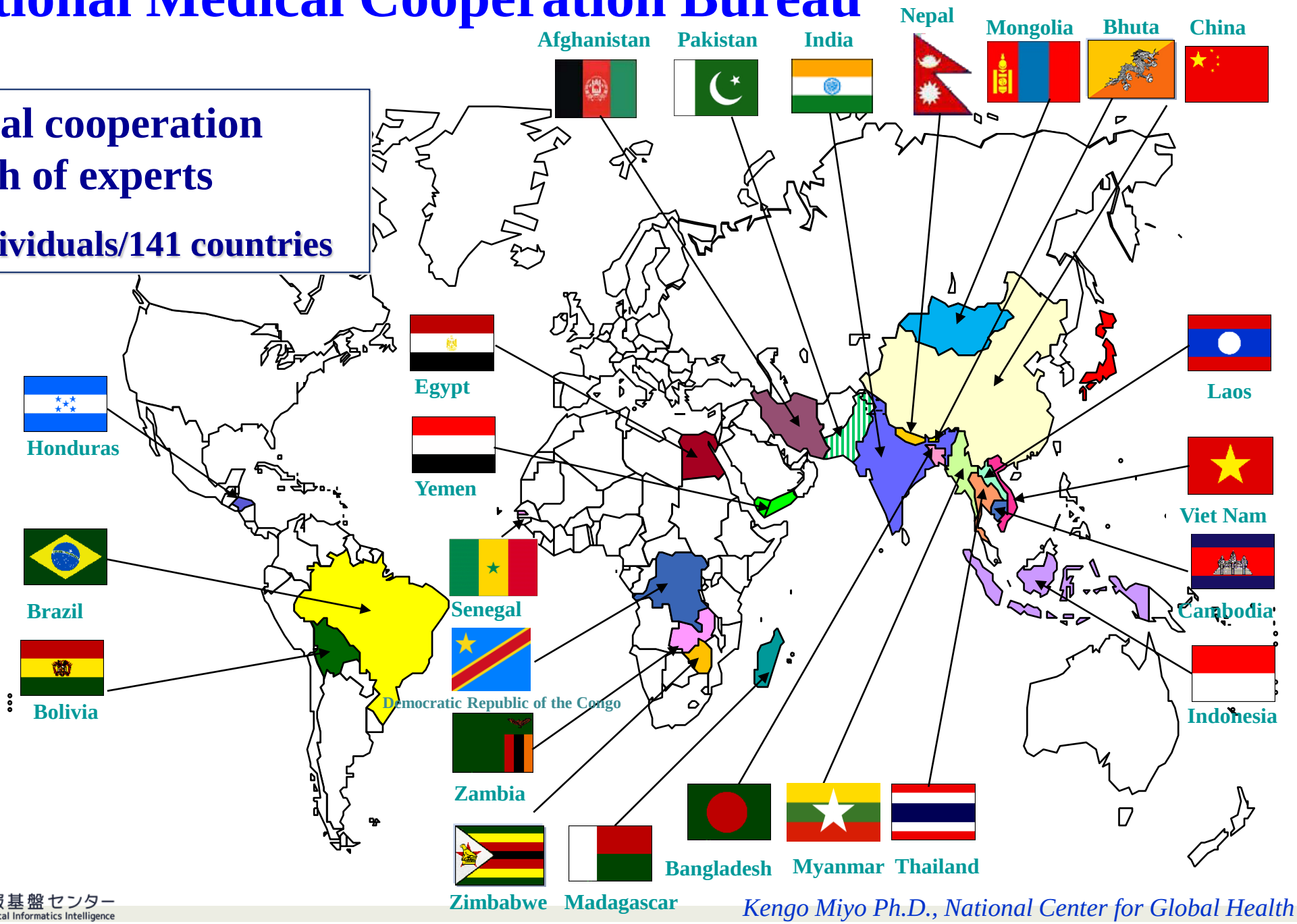
NCGM Center Hospital

- 43 departments, 781 beds, and 1700 staff members
- Newsweek World Best Hospitals 2019 Top 100 Global
- TOKYO 2020 Olympic Hospitals
- Focus: Diabetes-Related Diseases, Infectious Diseases (HIV, Hepatitis), and International Infectious Diseases (MERS, SARS, Ebola Hemmorrhagic Fever, COVID-19)

International Medical Cooperation Bureau

Technical cooperation
Dispatch of experts

3,622 individuals/141 countries

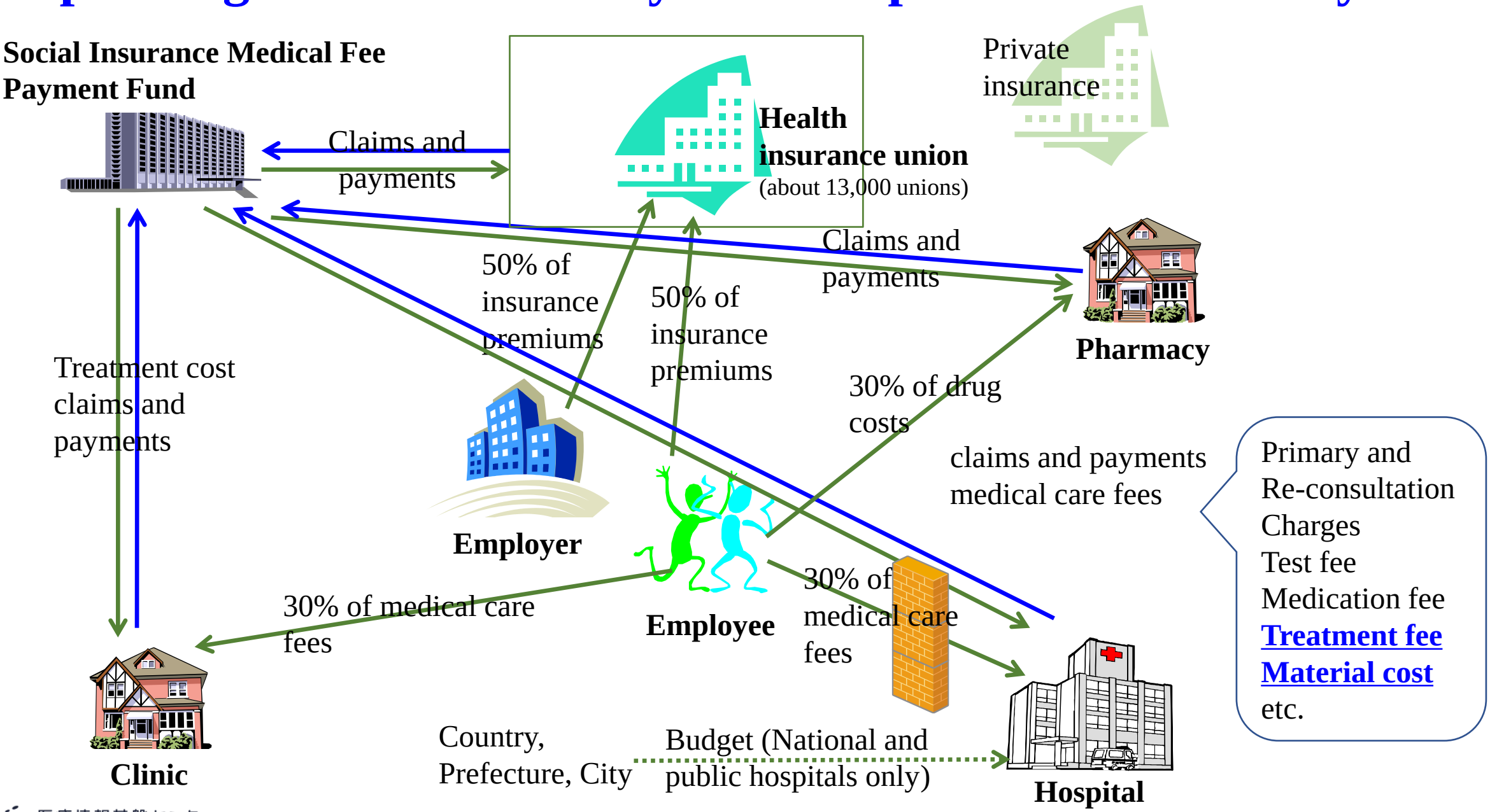


Kengo Miyo Ph.D., National Center for Global Health and Medicine

Overview of the Japanese medical system and management of medical materials

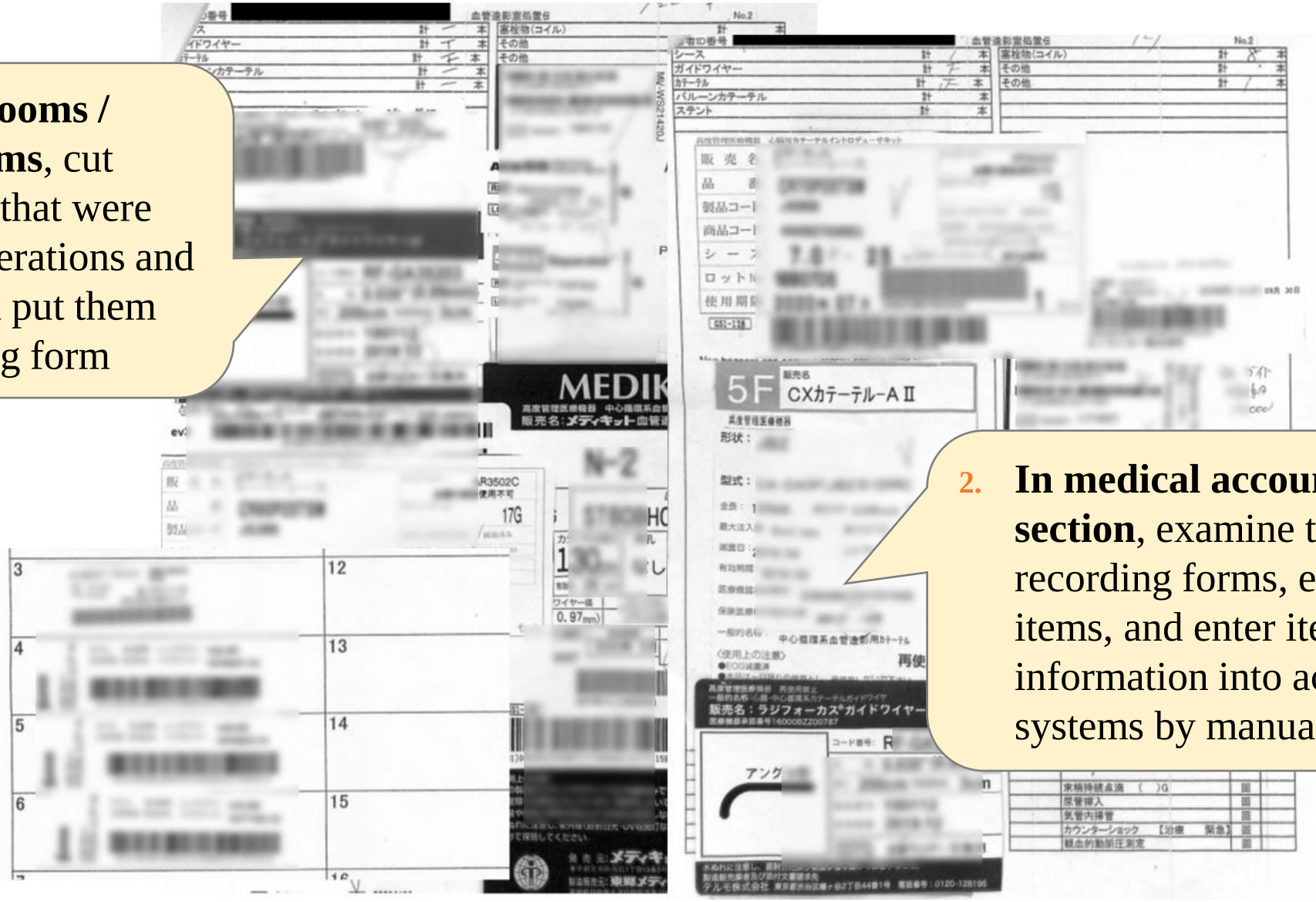
Kengo Miyo Ph.D., National Center for Global Health and Medicine

Explaining the flow of money in the Japanese healthcare system

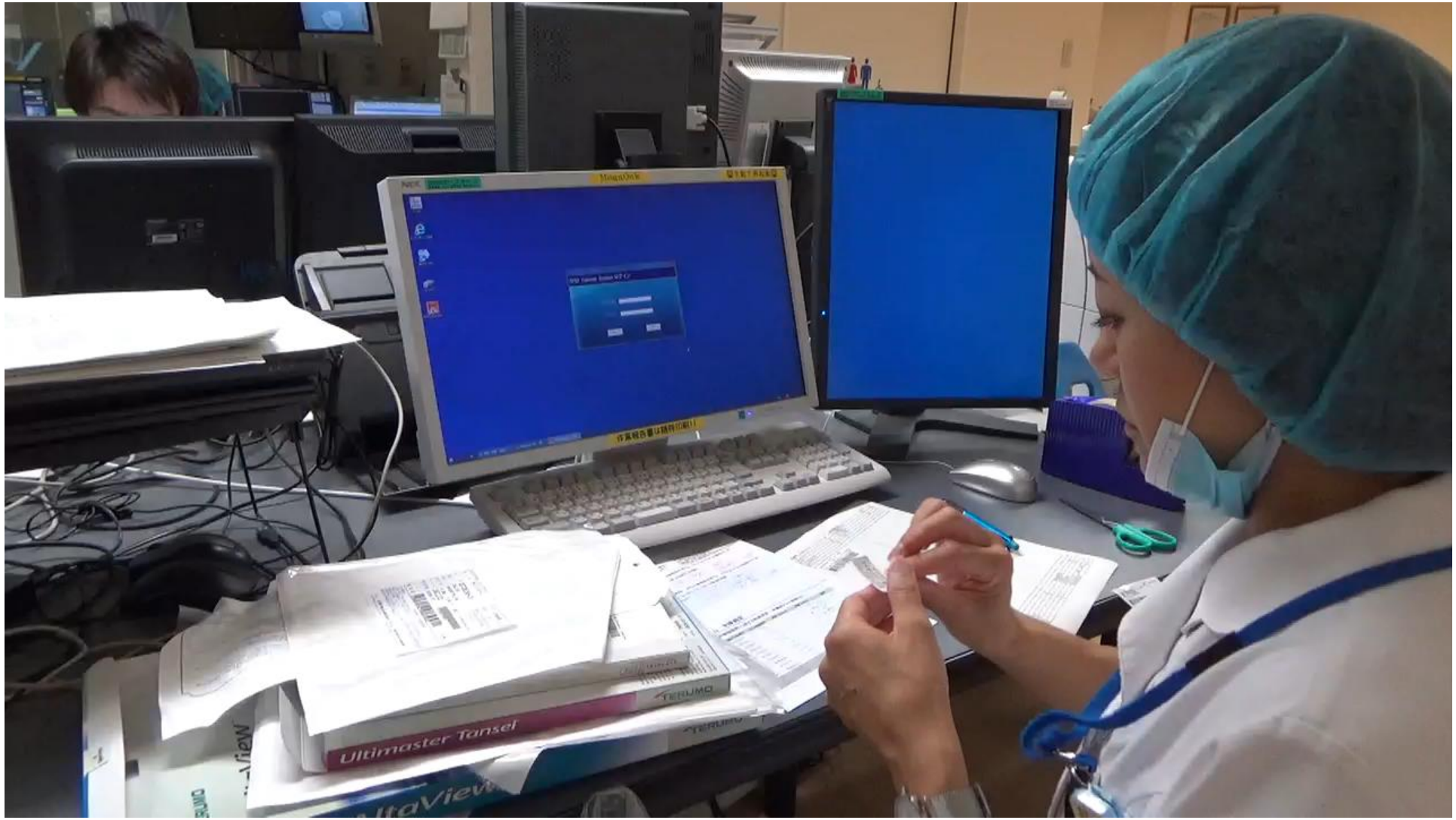


Analogue operations performed in many hospitals for medical bills

1. **In operating rooms / treatment rooms**, cut labels of items that were used during operations and treatments, and put them onto a recording form



2. **In medical accounting section**, examine the recording forms, examine the items, and enter item information into accounting systems by manual entry


Ultimaster Tansei
TERUMO

Doctor and nurse

It is troublesome to cut product labels and enter product information manually!

Is there an easy way to register product information?

Did doctors and nurses properly register product information?

We cannot miss medical claims!

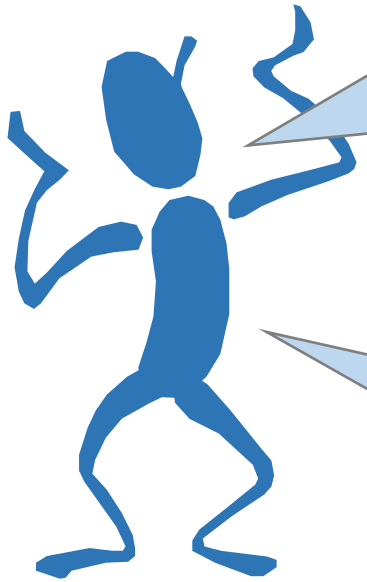
In hospital

Medical Affairs Division

Kengo Miyo Ph.D., National Center for Global Health and Medicine

It was not only hospitals that were in trouble…

Manufacturers and wholesalers



Too much production increases inventory.
Underproduction leads to lost opportunities.

We wonder how our products are used in hospitals.

Manufacturers

Massive daily delivery is very difficult! Securing truck drivers is also very difficult!

If we knew the amount of materials used in hospitals, we could make appropriate purchases from manufacturers.

Wholesalers

Daily delivery to NCGM

Ordering and delivery in hospital

It’s really burdensome to check such a large number of medical materials every day!

I wish I could manage inventory at the same time as delivery

Staff members in charge of supply and distribution

Everyday, we should order medical materials.

Out of stock is not acceptable. It's better to place more orders!

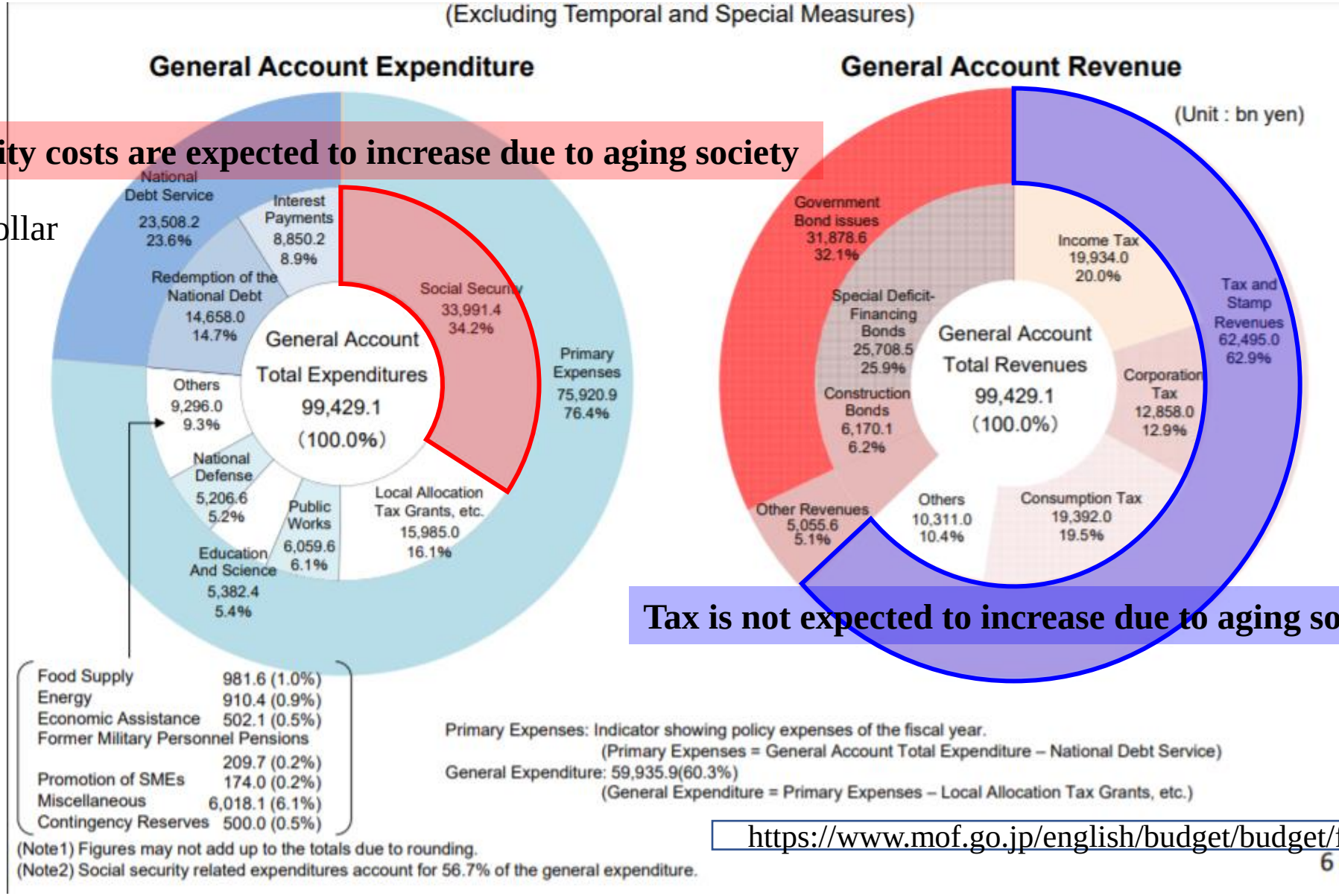
Management Division and Materials Division

Delivery and inspection of medical supplies

Financial situation in Japan: Need for more efficient medical care

Social Security costs are expected to increase due to aging society

340 billion dollar



Tax is not expected to increase due to aging society

https://www.mof.go.jp/english/budget/budget/fy2019/01.pdf

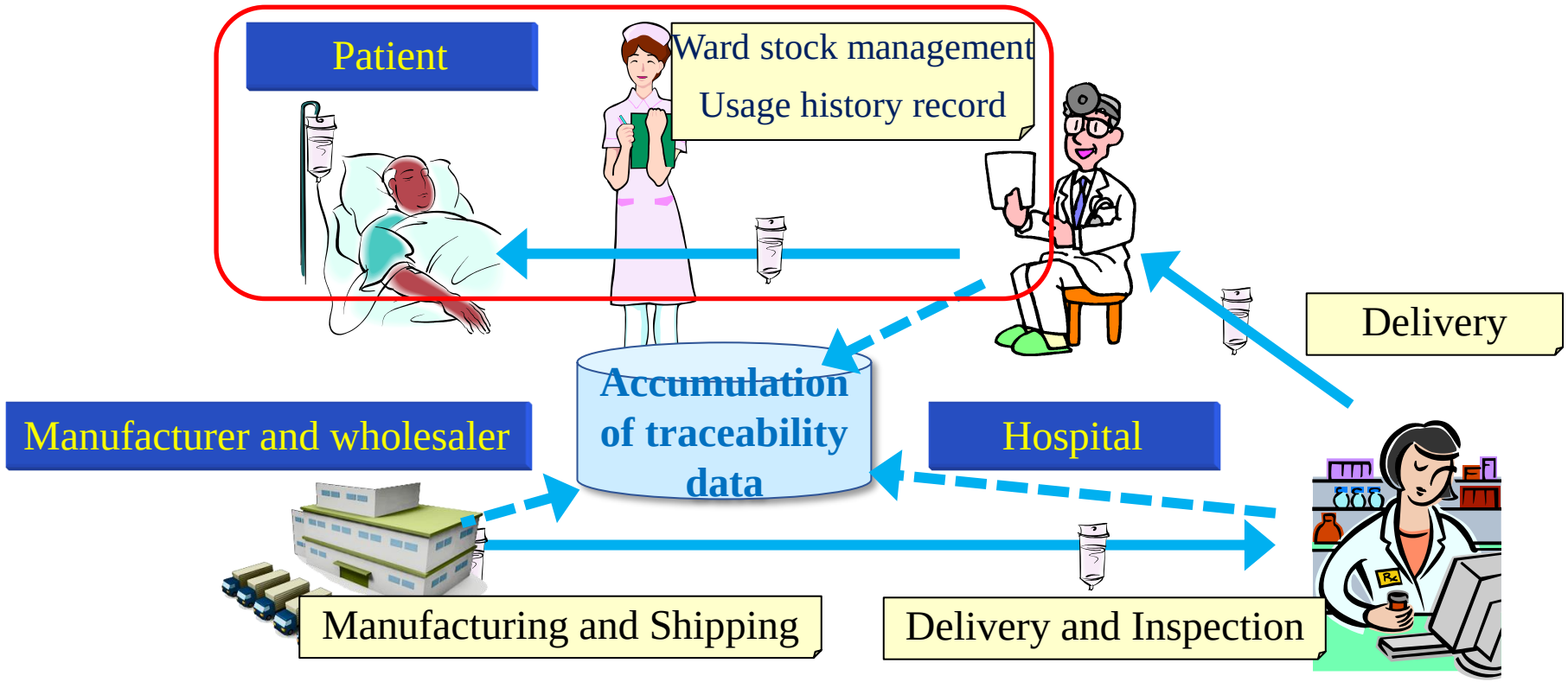
- Considering our future society, it is crucial to suppress the increase in social security costs.
- On the other hand, all staff members in hospitals, suppliers and distributers have made the best efforts for the stable supply of medical materials and the work efficiency from each perspective.

- Need to change the perspective
- Tackle the issue from a broad perspective

- *We can see a different world if we notice the fact that one same material is moving from the manufacturer to the consumption.*
- ***All are connected***

Improve each work by establishing traceability

Achieve a "three-way satisfaction* approach”
Good for suppliers, hospitals and patients



*3-way-satisfaction means triple win. the old Japanese regional merchant culture.
good for the purchaser, good for the buyer and good for society.

Achieve a "three-way satisfaction approach”
Good for suppliers, hospitals and patients

Good for hospitals

Efficient hospital logistics, Reduction of management and data input burden, Prevention of missed reimbursement claims

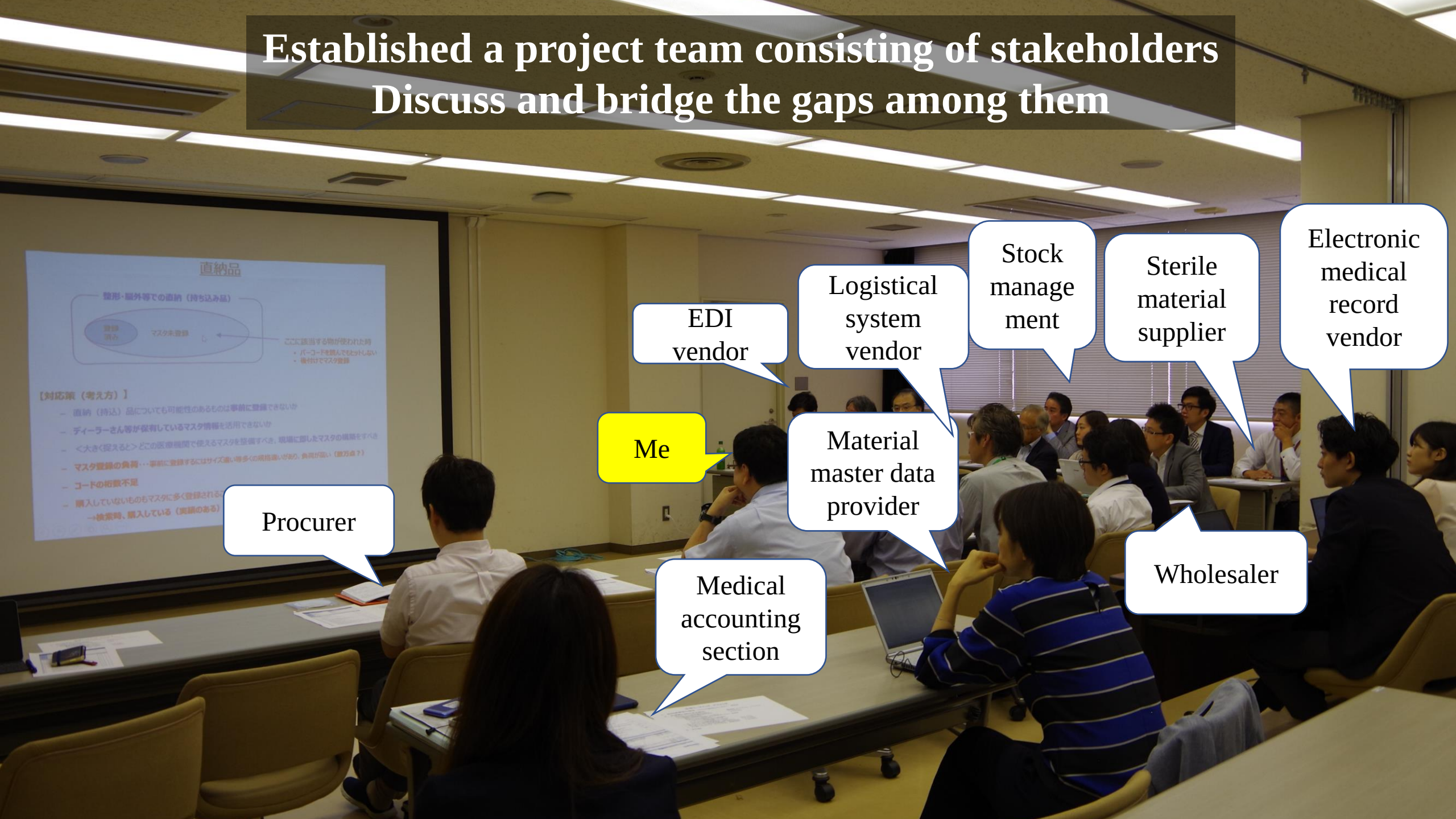
Good for suppliers

Improvement of distribution, Quick recall action

Good for patients

Feedback to healthcare policy and systems, Improvement of medical safety

Established a project team consisting of stakeholders
Discuss and bridge the gaps among them



NCGM Efforts and Assessments

Identifying and Corresponding to Inhibitory Factors

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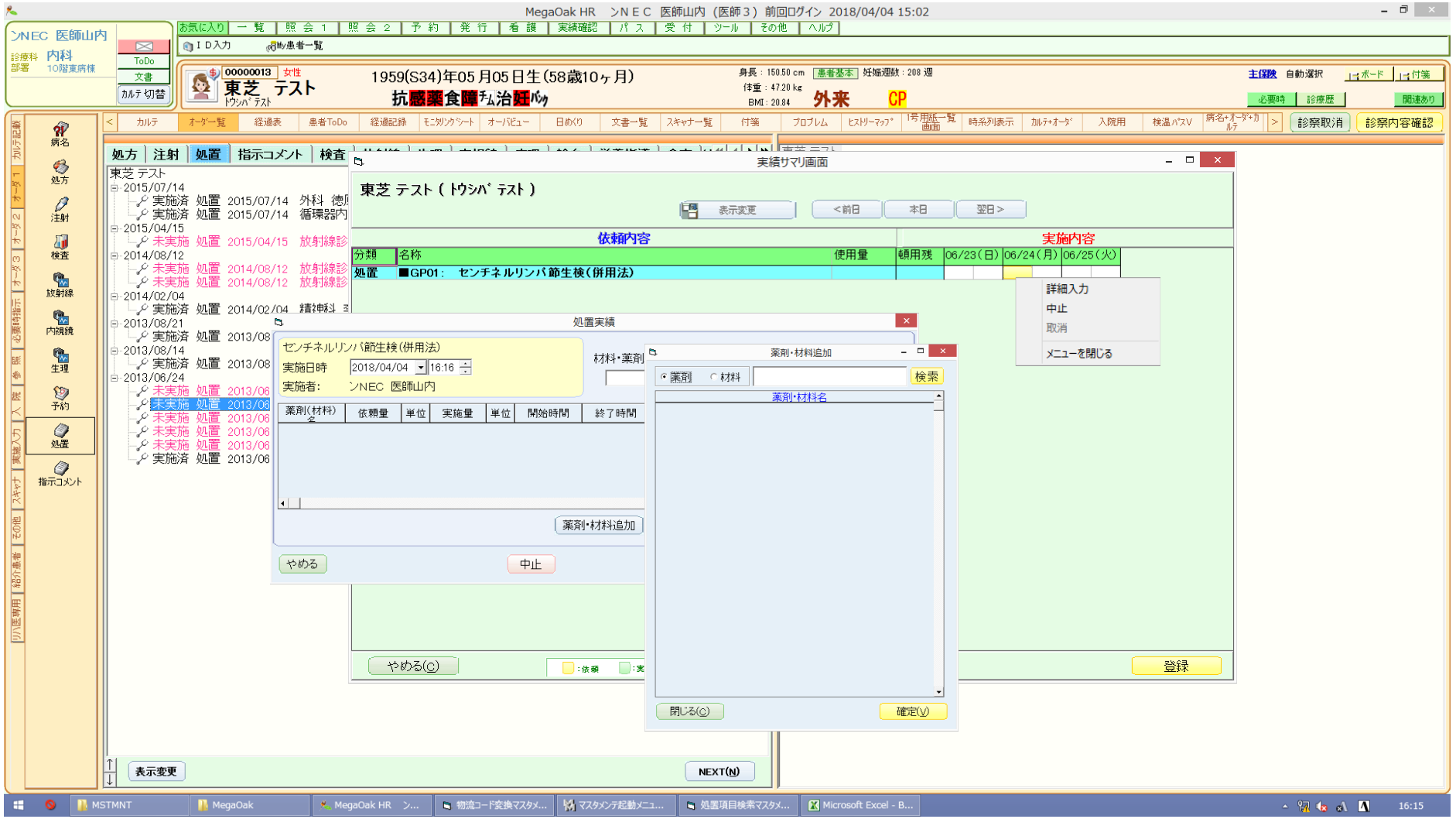
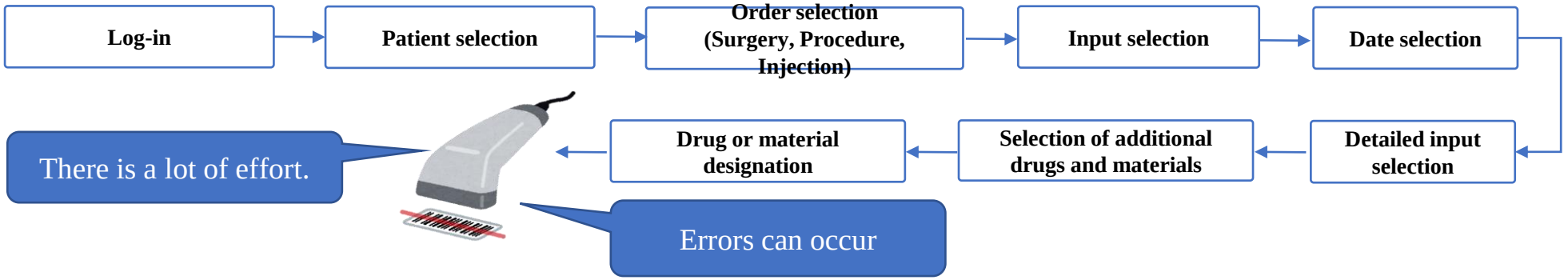
Analysis and modification of the electronic medical records

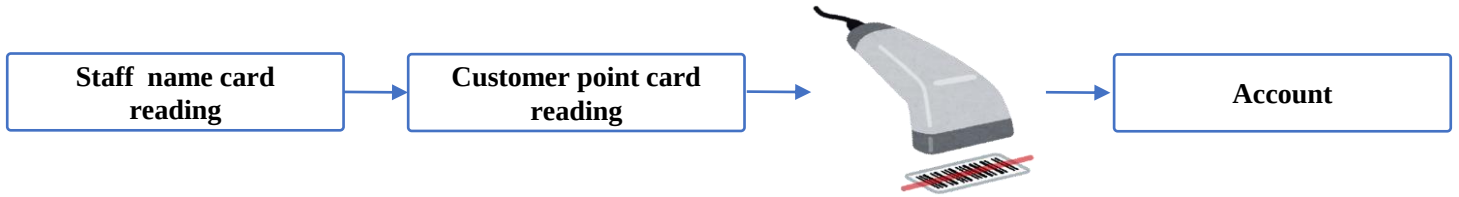
- Operating room nurses, electronic health record venders, surgical material suppliers, master data providers, stock management and medical department staff members analysed the problem of the EMRs



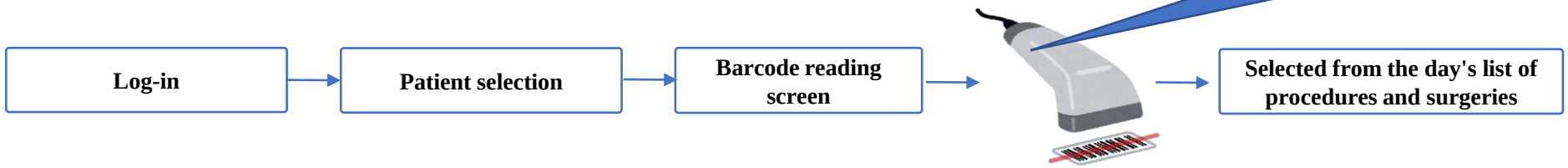
Barcode reading process: Electronic health records (Before)

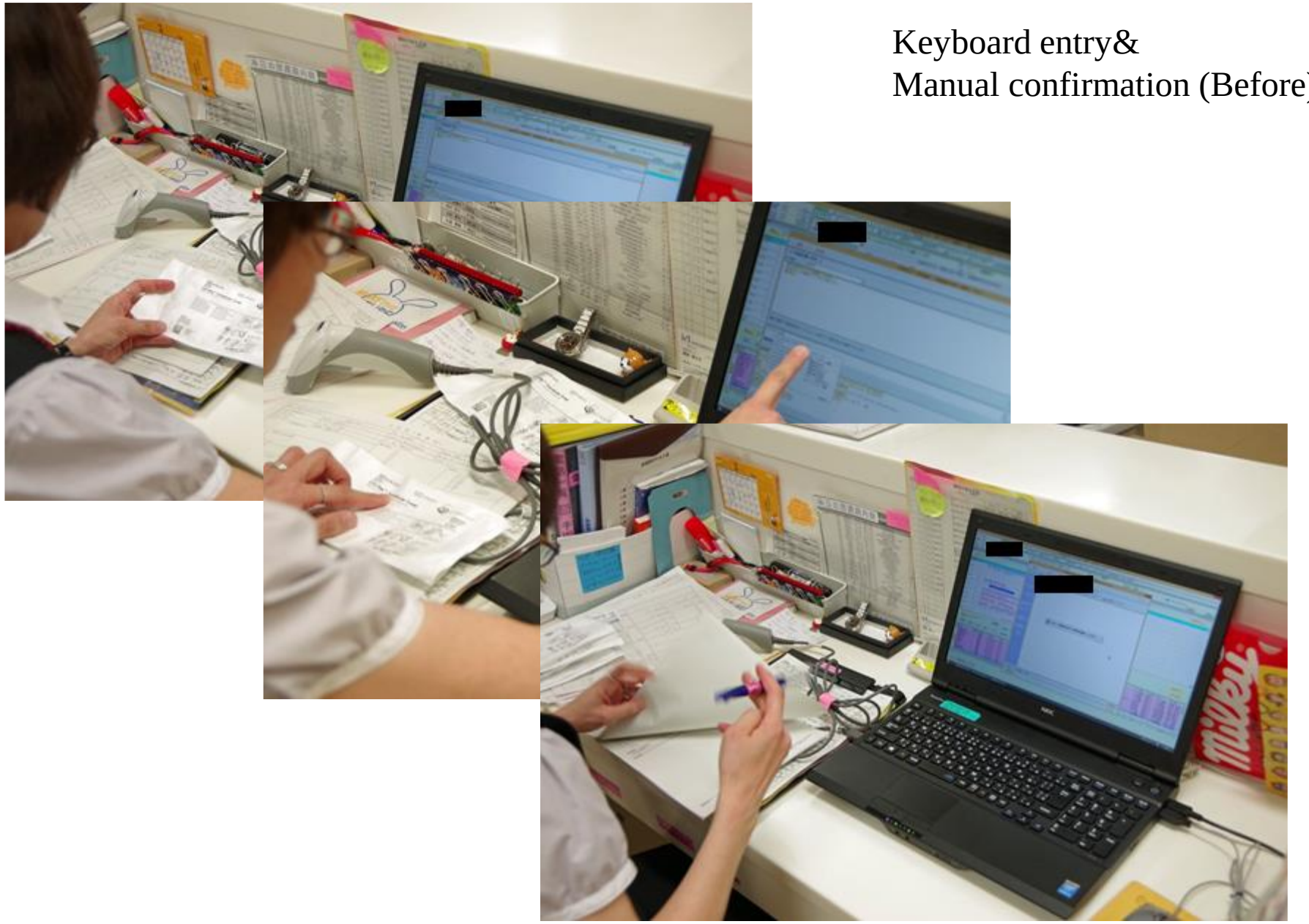


On the other hand, in the retail industry

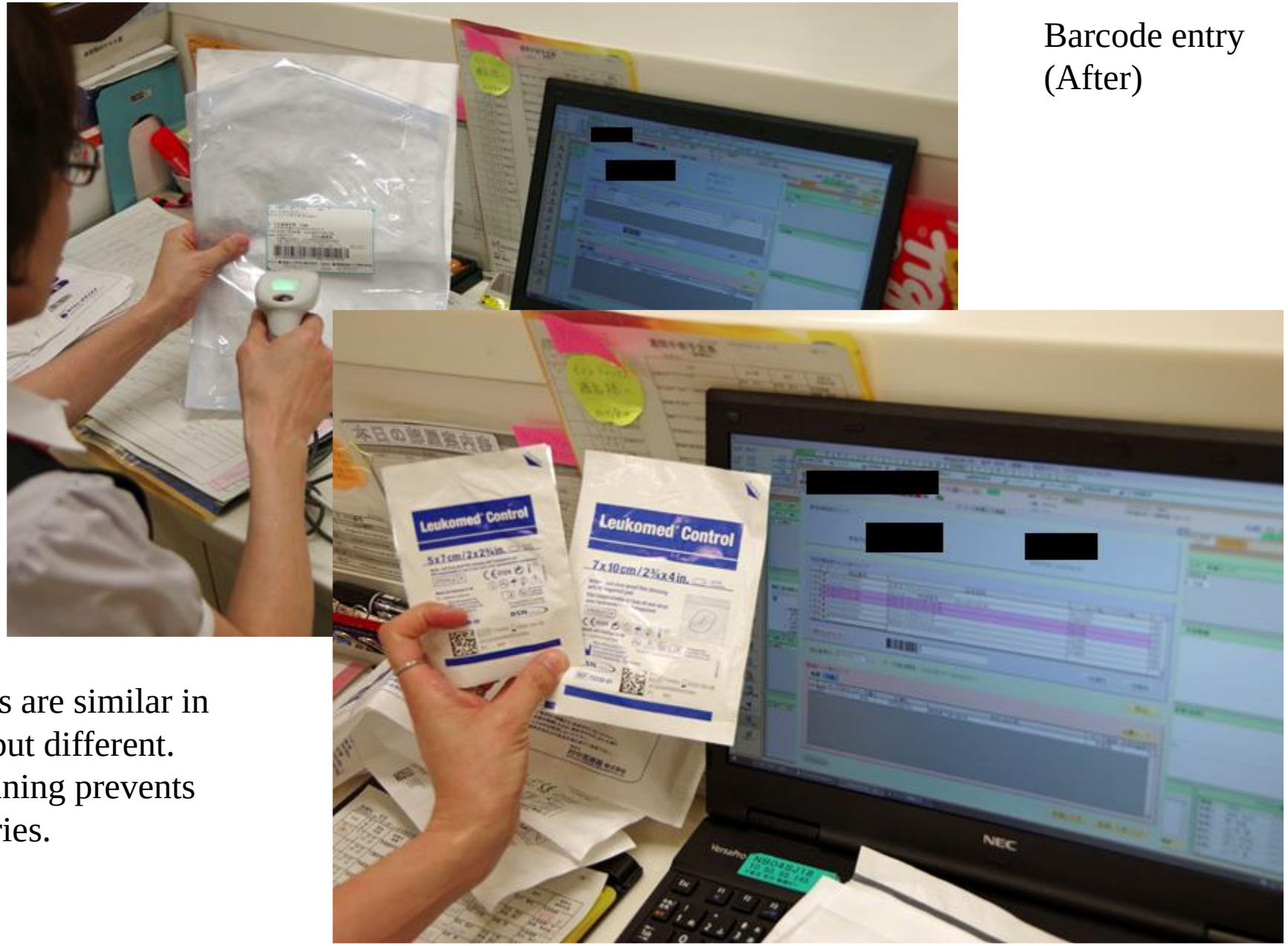


Barcode reading process: Electronic Medical Records (Afte





Keyboard entry&
Manual confirmation (Before)



Barcode entry
(After)

Both products are similar in appearance, but different. Barcode scanning prevents incorrect entries.

Effect measurement of nurses' materials registration work (Results)

<Measurement Results>

No.	Test patient ID	Test patient Name	Time (Before)	Time (After)	Comparison (Before)-(After)	Remarks (procedural information)
1	*****	●●●● ●●●●	04:37.7	02:48.0	01:49.7	PCI
2	*****	●●●● ●●●●	02:05.4	01:44.6	00:20.8	PCI
3	*****	●●●● ●●●●	03:35.2	02:35.5	00:59.8	PCI
4	*****	●●●● ●●●●	02:56.4	02:35.0	00:21.4	PCI
5	*****	●●●● ●●●●	03:51.6	03:14.3	00:37.2	CAG+PCI
6	*****	●●●● ●●●●	04:56.6	02:31.7	02:25.0	PCI
7	*****	●●●● ●●●●	04:50.8	02:46.6	02:04.2	CAG+PCI
8	*****	●●●● ●●●●	04:49.0	03:42.4	01:06.6	PCI
9	*****	●●●● ●●●●	04:05.9	02:54.2	01:11.7	PCI
10	*****	●●●● ●●●●	02:39.9	02:03.2	00:36.7	PCI
		Total (10 events)	38:28.6	26:55.4	11:33.1	
		Mean (10 events)	03:50.9	02:41.5	01:09.3	

Effect

30% reduction in work hours required for recording materials used

Measurement of the effect of the medical accounting section's insurance claims activities

Before

Conventional processing (material retrieval, entry, billing) ▲Medical Accounting System

1.Confirmation of paper claim forms → 2. Organizing items manually → 3. Search for items information → 4. Manual entry → 5. Claims

After

Electronic medical record system viewing & medical account system linkage information checking

1.Incorporation of information on use

▲Electronic Health Record System

2.Screen check

▲Medical Accounting System

3. Search for item information → 4. System input → 5. Claims

Transmission of usage history of materials (above 1) is done automatically, Staff members' work for cost inputs was optimized.

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Measurement of the effect of the medical accounting section's insurance claims activities (Results)

<Measurement Results>

No.	Test patient ID	Test patient Name	Time (Before)	Time (After)	Comparison (Before)-(After)	Remarks (procedural information)
1	*****	●●●● ●●●●	17:18.3	05:06.7	12:11.6	PCI
2	*****	●●●● ●●●●	08:43.9	01:11.2	07:32.7	PCI
3	*****	●●●● ●●●●	13:40.1	04:12.7	09:27.4	PCI
4	*****	●●●● ●●●●	06:37.0	02:49.5	03:47.5	PCI
5	*****	●●●● ●●●●	11:28.3	04:12.8	07:15.5	CAG+PCI
6	*****	●●●● ●●●●	09:55.2	03:58.2	05:57.1	PCI
7	*****	●●●● ●●●●	08:00.7	04:12.2	03:48.5	CAG+PCI
8	*****	●●●● ●●●●	10:14.4	02:42.9	07:31.4	PCI
9	*****	●●●● ●●●●	18:33.5	03:44.9	14:48.6	PCI
10	*****	●●●● ●●●●	07:57.5	03:01.7	04:55.8	PCI
		Total (10 events)	52:29.0	35:12.9	17:16.1	
		Mean (10 events)	11:14.9	03:31.3	[illegible]	

Effect **About 70% reduction in time spent on cost inputs**

Opinion that it is advantageous to focus on more important medical calculations

Development of the medical device traceability data bank

Emerging master data problems for establishing traceability

Introduction of GTIN to solve them

For the new usage of product information generated in hospitals

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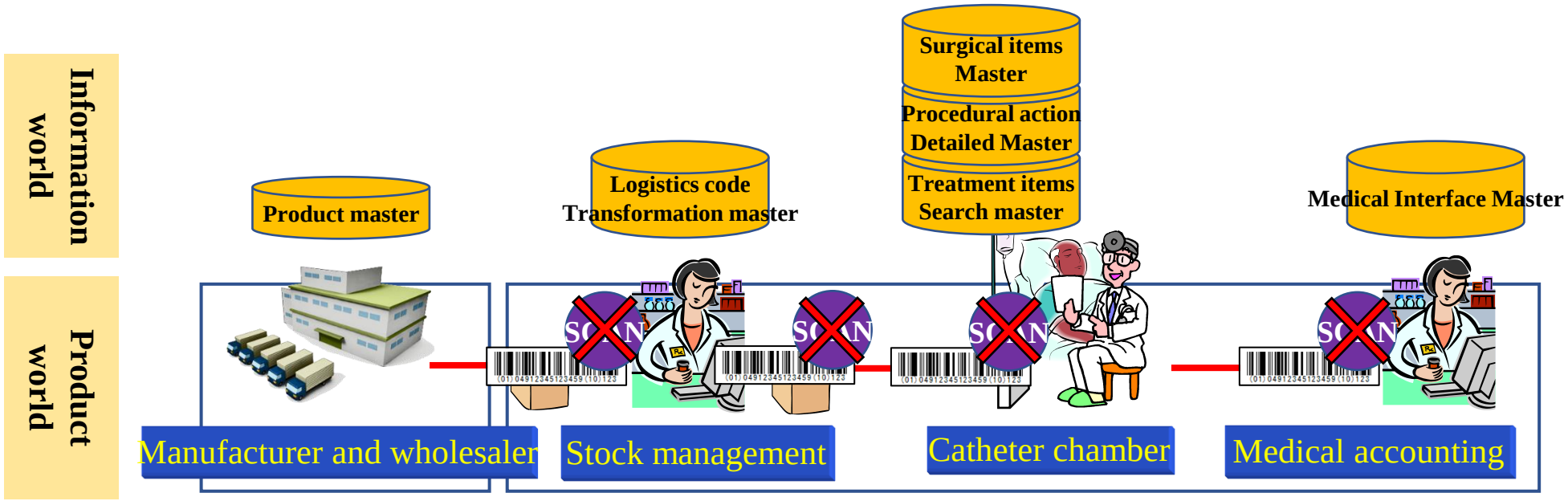
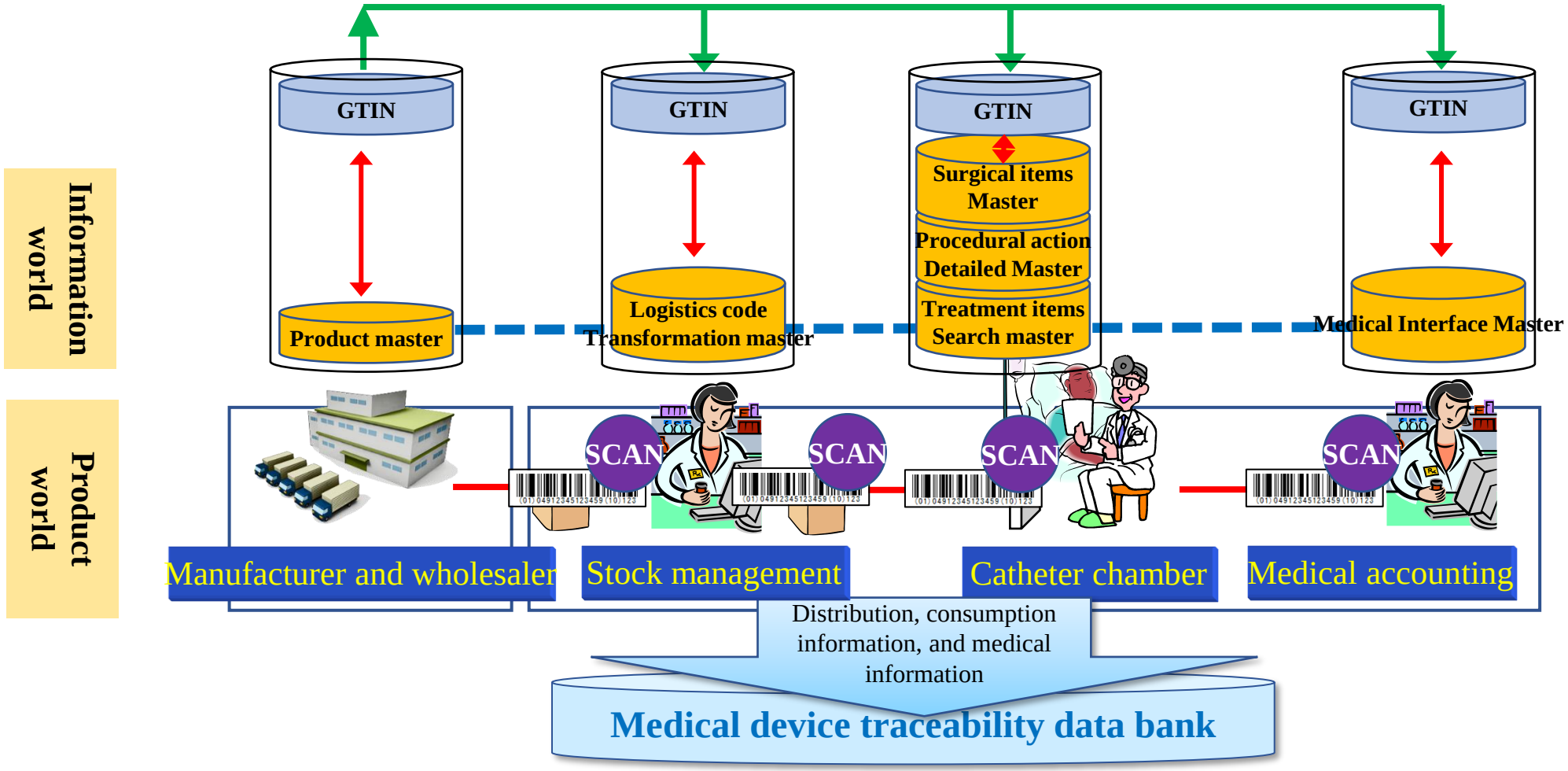
Connect the world of products and the world of information

- In NCGM, the electronic health record systems have five masters data on medical supplies by application, each managed with local codes
- Manufacturers and wholesalers' data are not compatible with those product masters data
- Cannot identify products by scanning product barcodes

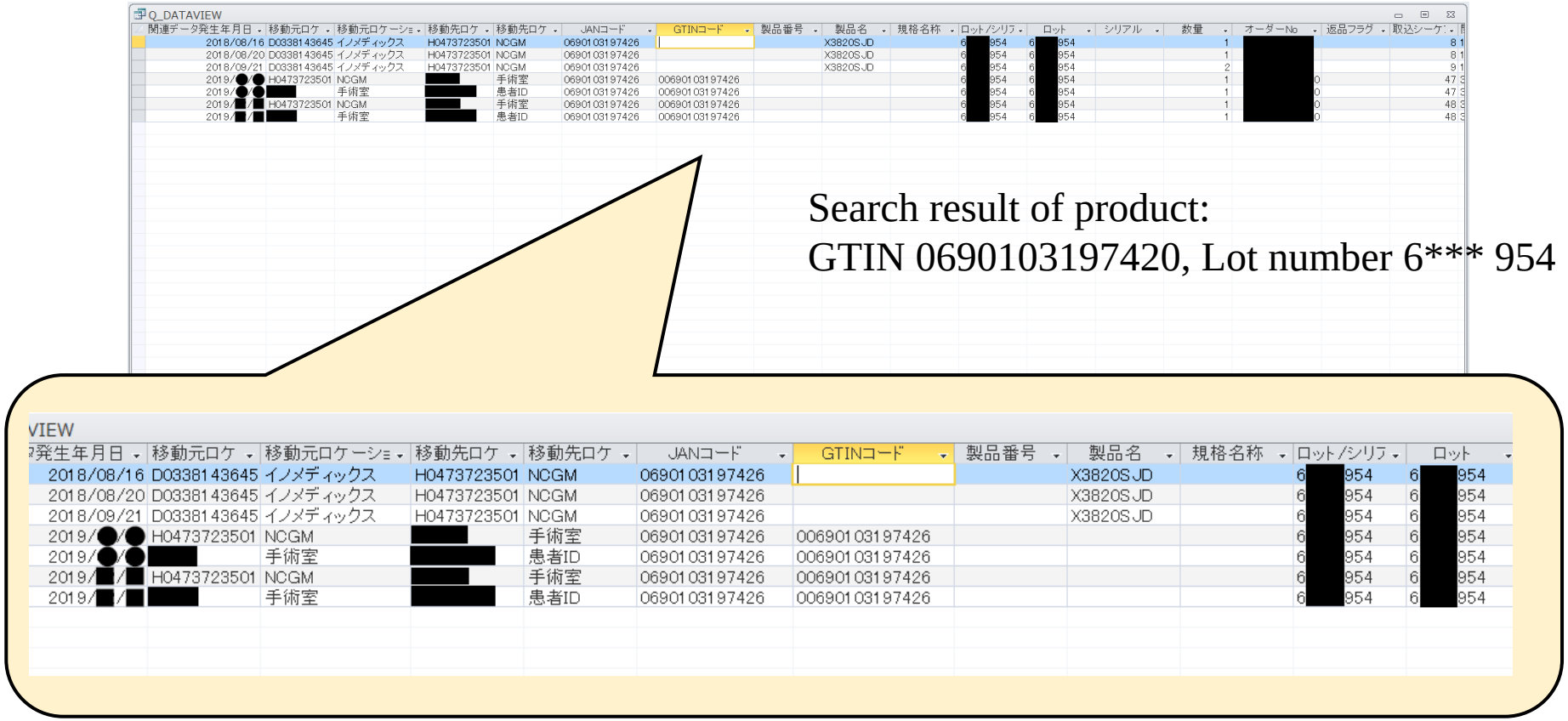


Connect the world of products and the world of information

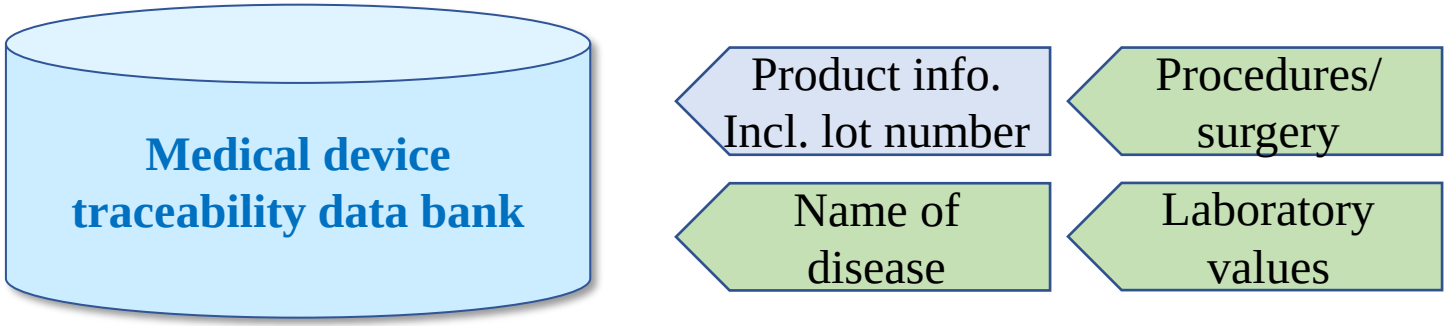
- Add GTINs to all master data for product identification and traceability
- Construct the data bank by accumulating product information, and adding medical information.



Introduction of the traceability data bank



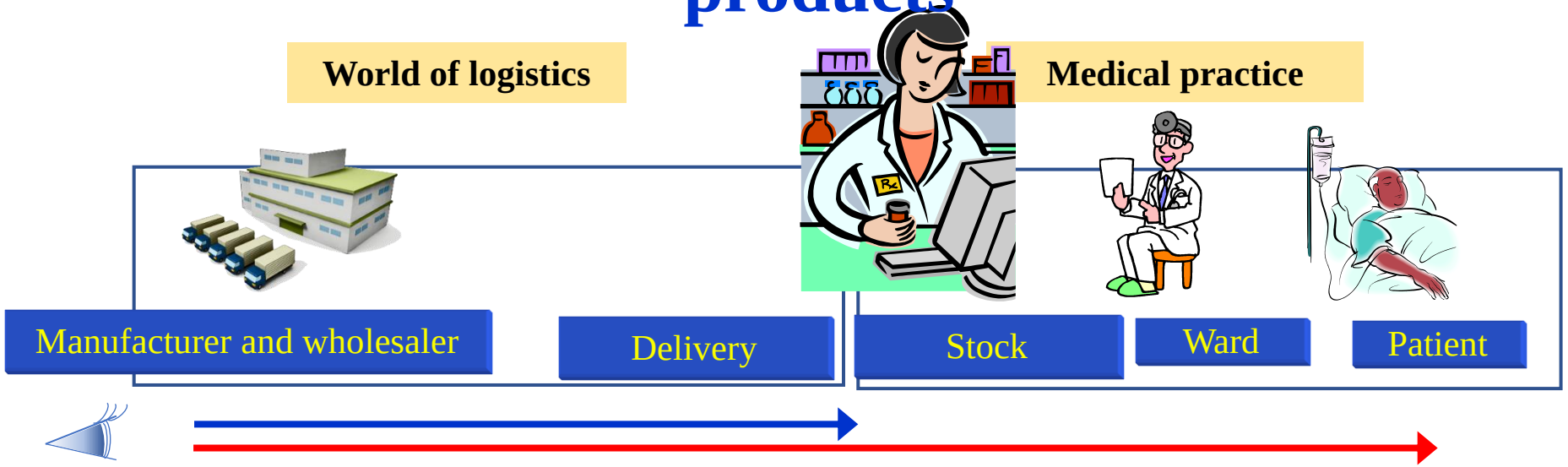
- Four medical supplies with GTIN 0690103197420, Lot number 6*** 954 were delivered by a wholesaler on August 16, 20, and 21 (one on 16 and 20, two on 21)
- One of them was used for a patient with Patient ID *** in the operating theatre.



- What patients with what disease
- What procedures and what surgery
- Production-to-consumption traceability
- All stakeholders such as wholesalers, manufacturers, master data providers participated in the discussion to establish the data bank

Potential for the innovations in medical device manufacturing, management and operation, including from clinical to industry.

Connecting people with people by connecting information with products



By visualising the information inside hospitals, connect manufacturers and dealers with patients

Conventional evaluation indicators have been production volume and sales volume

Originally, how much patients were saved should be the evaluation indicator in medical device industry

Potential possibility of the changes of manufacturing process and wholesalers'distribution

Future of the medical device data bank

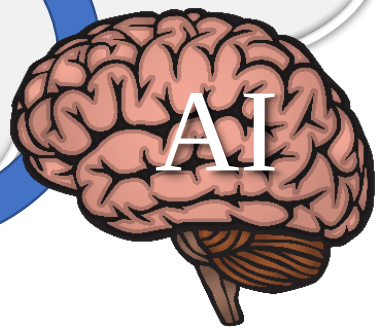
GS1 Standard

Automatic and continuous data collection

Traceability
Big data

Manufacturers and wholesalers
Hospitals
Society and patient

- **Manufacturing information**
- **Distribution information**
- **Medical information**



Process, analyse and predict
Generate information and related information

Today's conclusion

- *Each stakeholder has its own challenges*
- *Linking information with products, and sharing information to find common solutions*
- *In the process of discussing, people and people are connected to each other, and the business becomes robust.*
- *Spreading this effort widely will lead to cost control and continuous economic development in healthcare fields in Japan.*

ご清聴ありがとうございました

Thank you for your attention

Kengo Miyo Ph.D., National Center for Global Health and Medicine

GS1 Healthcare webinar:
Questions and contact details

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