Current Developing Status of CSSD in China

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Resume

➢ President of Chinese Nursing Association CSSD Committee
➢ Standing Member of Hospital Infection Management Committee
➢ Member of Hospital Infection control standard committee of NHHS Committee
➢ Member of Sterilization Standard Committee of NHHS Committee
➢ Member of National Sterilization and Equipment Standard Committee
➢ One of initiators of three criteria of standardization of CSSD
➢ One of initiators in the formulation of 7 national health industrial standards”
Hospital Introduction

National Guidance Center for Diagnosis and Treatment of Difficult and Severe diseases
Ranking the top of China’s best hospitals for nine consecutive years
Department Introduction

- Construction Area: >22,000 Square feet
- Equipment: 9 steam sterilizer
  - 4 low temperature sterilizer
  - 11 automated washers,
  - 5 automated washers for flexible endoscopes
- Reprocessing Qty: > 5000 sets/day
- National CSSD training and operating practice base; Beijing CSSD specialized nurses clinical education base
1. Review of CSSD History
2. Development Background
3. Current Developing Status
4. Challenge & Vision
1. REVIEW OF CSSD HISTORY

1. Review of CSSD History

2. Development Background

3. Current Developing Status

4. Challenge & Vision
Development of CSSD in China—in 1970's

primitive devices, unscientific layout
No guidance and ordinance from the government
Development of CSSD in China—in 1980's

- the treatment of syringes, infusion devices
- simple diagnostic, therapeutic instruments and items
- the 1988’s government CSSD simple standard
Development of CSSD in China—in 1990's

- ultrasonic washer
- semi-automated washer
- The working area divided
Modern management and function.

• 2004, CNA-CSSD established.
• 2009, WS 310, first systematic disinfection and supply industrial standard, released.
Review of Chinese CSSD History: before the Implementation of WS310

➢ Backward equipment facilities

➢ Unreasonable staff structure

➢ No job training
Lack of uniform processing standard for technical operation in CSSD

- Washings: manual job
- short of medical detergent
- Package: cotton cloth.
No reliable periodic inspection and evaluation system and method for cleaning and sterilizing equipment

- No test for the sterilization, disinfection and cleaning effect
- Lack of quality control and evaluation for the sterilizing, disinfection and cleaning apparatus
- No quality test for water.
- Information technology didn’t be applied in the management of CSSD and there was no quality tracking of sterile goods
2. DEVELOPMENT BACKGROUND

1. Review of CSSD History
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Development Background

Development on:
- Socio-economic
- Diagnosis & Therapeutic Technology
- Minimally Invasive Surgery Technology
- Nosocomial Infection research
- Sterilization Method
- Management Concept
- Management mode

WS310-2009, the mandatory health industrial standards by China Health Ministry
WS310 Industrial Standards of CSSD in Hospital

- WS310.1-2016  Part 1: Management Standards for CSSD
- WS310.2-2016  Part 2: Standards for operating procedure of cleaning, disinfection and sterilization of CSSD
- WS310.3-2016  Part 3: Monitoring Standards for cleaning, disinfection and sterilization of CSSD

The three standards constitute the standard requirements of management, technical operation and monitoring of CSSD in hospital.

The three standards cover structural management, process management, management evaluation and management requirement of quality system and continuous improvement.
Establishing the professional committee: CNA-CSSD

- CNA-CSSD, national, provincial and municipal professional committee,

A system push development of CSSD in China

Rely on CNA - National CSSD committee – Provincial level – City level – County level management network, established multi-channel three-dimensional network system.
Structure of CNA-CSSD Committee

Members of Professional Committee: 70

- President: 1
- Vice Presidents: 9
- Secretaries: 3

Members of Youth Committee: 50

- Director: 1
- Vice Directors: 4
- Secretaries: 2

Experts Group: 210

- Director: 1
- Vice Directors: 7
- Secretaries: 2

Work and Academic Group
- Working Group
- Standard & Guidance Group
- Scientific & Research Group
- Regional CSSD Group
- Academic Exchange Group
- Intelligence Informatization Group
- Youth Member Group
- Experts Group
Promoting Development & Implementing Standards

A domestic academic exchange platform for academic exchanges and communication among different provinces, to balance and enhance the professional development of different regions.

- 9th CSSD Annual Conference
  - 791 participants
  - 891 submitted articles

- 10th CSSD Annual Conference
  - 708 participants
  - 665 submitted articles

- 11th CSSD Annual Conference
  - 815 participants
  - 810 submitted articles

- 12th CSSD Annual Conference
  - 1341 participant
  - 1226 submitted articles

- 13th CSSD Annual Conference
  - 1098 participants
  - 1256 submitted articles

Events:
- August, 2013, Chengdu
- June, 2015, Kunming
- Sept., 2017, Wuhan
- October, 2014, Hohhot
- July, 2016, Hefei
Twelve national standard and practice training bases have been established, CSSD specialist nurses training have been carried out in various provinces and municipalities.
Promoting Development & Implementing Standards

- The supervision of standardization has enforced by top-down inspection and quality improvement
Promoting Development & Implementing Standards

- strengthen international exchange and learn advanced experience of international counterparts

- Join WFHSS and expand the horizon of academic exchange

- we visited and got visited by our oversea counterparts to exchange each experience.

- Participate in the CSSD Open House Day to show present Chinese CSSD to the World
3. CURRENT DEVELOPING STATUS

1. Review of CSSD History
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3. CURRENT DEVELOPING STATUS

- Standards & guidelines
- Centralized management
- Equipment & facilities
- Personnel & qualifications
- Professional training
- Survey
- R&D and innovation
Current Developing Status—Standards & guidelines

2009-2019 Decade of CSSD Development in China
CNA-CSSD Participate in formulating national standards, compiling technical guidelines

Current Developing Status—Standards & guidelines

write

2009 / 2016
4.1 Hospital

4.1.1 Centralized management should be adopted. CSSD is responsible for the receiving, cleaning, disinfection, sterilization and supply of all reused diagnostic and therapeutic instruments, devices and articles that need to be disinfected or sterilized.
Centralized CSSD management was adopted by 93% of 900 hospitals in China.

Data Sources: National Special Questionnaire of CNA-CSSD in 2013, 2014, 2016, 2017 and 2019
Coverage rate of various equipment among Chinese hospitals:

- **Washing machines**: 94% have equipment, 6% do not.
- **Steam Sterilizers**: 97% have equipment, 3% do not.
- **EO sterilizers**: 55% have equipment, 45% do not.
- **Hydrogen peroxide plasma sterilizer**: 83% have equipment, 17% do not.
The CSSD staff are basically composed by nurses, the management staff who got college or higher education reached up to 73%.

### Nursing staff proportion in CSSD from 2017 to 2019

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<thead>
<tr>
<th></th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
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<tbody>
<tr>
<td>A. &lt; 20%</td>
<td>12%</td>
<td>2%</td>
<td>5%</td>
</tr>
<tr>
<td>B. 20-30%</td>
<td>6%</td>
<td>3%</td>
<td>6%</td>
</tr>
<tr>
<td>C. 30-50%</td>
<td>15%</td>
<td>16%</td>
<td>18%</td>
</tr>
<tr>
<td>D. 50-70%</td>
<td>23%</td>
<td>23%</td>
<td>27%</td>
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<tr>
<td>E. &gt;70%</td>
<td>43%</td>
<td>56%</td>
<td>44%</td>
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Data Sources: National Special Questionnaire of CNA-CSSD in 2017, 2018 and 2019
Promoting the development of sub-speciality, CSSD specialized nurses training is one of priorities.

Current Developing Status—Professional training

Specialized instrument management nurses

General surgery
Gastrointestinal, breast, thyroid ……
Neurosurgery
Obstetrics and gynecology
Urology surgery
……
Cardio-thoracic surgery
Orthopaedics
Spine, joint, trauma ……
Ophthalmology
E.N.T.
Dental
Current Developing Status—Professional training

- National Operational Guidelines for Cleaning, Disinfection and Sterilization of Rigid Endoscopes and Instruments
- National Operational Guidelines for Cleaning, Disinfection and Sterilization of Ophthalmic Surgical Instruments
- National Operational Guidelines for Cleaning, Disinfection and Sterilization of Loaner Instrument
- The first Best Practice Competition of Reprocessing Guide
From 2013 to 2019, CNA-CSSD completed 13 national surveys. It covers the current status of precise surgical instruments, loaner instruments and implants, application of IFUs, post setting and centralized management, etc.

### Survey of CSSD Post Setting and Personnel in 2013 (651 hospitals)
- Survey of the current reprocessing status of precise surgical instruments in 2014 (761 hospitals)
- Survey of CSSD Steam Sterilization Procedures in 2014 (726 hospitals)

### Survey of the current reprocessing status of loaner instruments and implants in 2015 (764 hospitals)
- Survey on the current reprocessing status of ophthalmic surgical instruments in 2015 (492 hospitals)

### Survey of Application Status of IFUs in 2016 (903 hospitals)
- Survey on Application Status of IFUs in 2016

### Survey of basic topics of CSSD in 2016 (1143 hospitals)
- Survey of basic topics of CSSD in 2016

### Survey of basic topics of CSSD in 2017 (1869 hospitals)
- Survey of the status of CSSD Personnel, post Settings and Personnel Training in 2018 (1885 hospitals)

### Survey of CSSD Management Status in 2019 (2728 hospitals)

### Survey of the status of CSSD in 2019 (3258 hospitals)
- Survey of Steam Source and Steam Supply status in 2019 (2583 hospitals)

### Survey of Steam Source and Steam Supply status in 2019 (2583 hospitals)
20% of hospitals in China carried out clinical evidence-basis or scientific research projects.

Other themes includes: post, cost accounting, performance, training, quality improvement, etc.

Data Sources: National Special Questionnaire of CNA-CSSD in 2019
CSSD R&D innovation in clinical practice gave birth to many patent applications.
4. Challenge & Vision

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Challenge & Vision—Challenges

- Further promoting the Reprocessing of Difficult Specialized instruments in CSSD Centralized Management
  - Reprocessing of flexible endoscopy
  - Reprocessing of loaner instrument

- Pay Attention to Key Points and Processes to Improve the Reprocessing Quality of Instrument
  - Steam quality
  - Obtain and follow the manufacturer’s IFUs

- Exploring the Development of outsourced CSSD/Medical union CSSD
Challenge & Vision—Challenges

Application Status of CSSD Information System

920 hospitals
Tracking methods adopted by the CSSD which using informalization quality traceability management

- A. Bar code
- B. Datamatrix
- C. RFID

572 hospitals
Tracking method adopted by the CSSD which reach the total informatization quality traceability management

- A. Tracking each unit of instruments
- B. Tracking each tray of instruments
- C. Combine A and B
- D. Others

Data Sources: National Special Questionnaire of CNA-CSSD in 2019
Digitalized CSSD

CSSD system

- Material network-Equipment and Facilities
- Material network-agent Supply
- Digital Information System

Cleaning equipment
Disinfection equipment
High temperature sterilization equipment
Low temperature sterilization equipment
Equipment and accessories for decontamination area
Equipment and accessories for Inspection of Packaging and Sterilization Area
Equipment and accessories for sterile articles storage area

Cleaning and disinfection equipment
Sterilization equipment
Other equipment and accessories
Water
Electricity
Steam, compressed air, etc.
Big Data Helps CSSD Enter the Age of Intelligence

**Big data**

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<tr>
<th>Platform construction</th>
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<tr>
<td>✓ Construction of Mobile CSSD Information Platform</td>
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<td>✓ Big Data and CSSD Management Decision Support Platform</td>
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<td>✓ Whole Process CSSD Service Platform</td>
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<tr>
<th>Articles network</th>
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<tbody>
<tr>
<td>✓ Application of Information Technology and Innovation of articles network</td>
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<td>✓ Innovation of article network and CSSD Management Application</td>
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<tr>
<th>Informatization + Artificial Intelligence</th>
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<tr>
<td>✓ Research and Application of Artificial Intelligence, Articles Network, Big Data and Digital Technology in CSSD</td>
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<tr>
<td>✓ Application of Intelligent Hospital Management in Nursing Field</td>
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<td>✓ Construction of Intelligent Ward, Intelligent Ward region and Intelligent CSSD</td>
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<th>Thinking more</th>
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<tr>
<td>✓ Development Trend of CSSD Technology and informalization Product</td>
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<td>✓ More infinite possibilities...</td>
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Looking Forward

The Way to Professional Development of CSSD

- Standardization
- Normalization
- Professional
- Precise
- Informatization
- Digitization
- Scientific
- Intelligent
THANK YOU FOR YOUR ATTENTION!

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