Full Traceability of External Supply Chain and Logistics within the Hospital by UDI Supports

Shuguang Hospital
Affiliated to Shanghai University of Traditional Chinese Medicine
Outlines

• Introduction of Shuguang Hospital
• Current situation of full traceable management
• The core link of UDI application in Shuguang
• Current situation of precision management of traditional Chinese medicine
• Conclusion
About Shuguang (1)

National Key TCM Hospital
Top 100 hospitals of National Health and Family Planning Commission
Model TCM Hospital of State Administration of Traditional Chinese Medicine

Cover area 126000 ㎡
West 19333 ㎡, East 106666 ㎡
Construction area 136000 ㎡
West 52000 ㎡, East 84000 ㎡

No. of Beds 1320
West 600 beds, east 720 beds

Total Staff over 2000
About Shuguang (2)

- First TCM hospital pass the ISO 9001 management system certification
- Passed ISO 15189 laboratory verification in Mar 2010
- Passed ISO 17025 laboratory verification in Apr 2010
- Passed FERCAP ethical clearance in Nov 2010
- Involved in the development of international standards such as ISO-TC249 and ICD 11
- National TCM Hospital Medical Quality Monitoring Center (since 1996)
- Shanghai Traditional Chinese Medicine Quality Control Center
About Shuguang (3)

Medical affairs

Longitudinal comparison

No. of out patients and emergent patients (10 thousand)

- 2011: 250
- 2012: 283
- 2013: 295
- 2014: 309
- 2015: 321

No. of discharge (10 thousand)

- 2011: 4.2
- 2012: 4.8
- 2013: 5.4
- 2014: 6.1
- 2015: 6.5

No. of surgery (10 thousand)

- 2011: 1.95
- 2012: 2.87
- 2013: 3.23
- 2014: 3.51
- 2015: 3.70

Days in Hospital (day)

- 2011: 9.5
- 2012: 8.7
- 2013: 7.9
- 2014: 7.1
- 2015: 6.8
### Differences between Chinese and Western Medical Management

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<thead>
<tr>
<th></th>
<th>Medical Difference</th>
<th>Drug Difference</th>
<th>Advantage</th>
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<tbody>
<tr>
<td><strong>Western Medicine</strong></td>
<td>• Local view&lt;br&gt;- Inspection, palpation, percussion, and auscultation&lt;br&gt;- Medical device diagnostics&lt;br&gt;- Professional techniques and standardized treatment remedy</td>
<td>• Chemical preparation (pills, capsules, granules)&lt;br&gt;- Modern equipments</td>
<td>Emergent and server patients</td>
</tr>
<tr>
<td><strong>TCM</strong></td>
<td>• Concept of holism, the unity between human and nature&lt;br&gt;- Observation, questioning, smelling&amp;listening, pulse taking&lt;br&gt;- Syndrome differentiation and treatment&lt;br&gt;- Typical formula/empirical formula</td>
<td>• Herbal remedy&lt;br&gt;- Food remedy&lt;br&gt;- Acupuncture and Tui Na&lt;br&gt;- Plaster therapy&lt;br&gt;- Psychotherapy</td>
<td>Patients with incurable and chronic diseases</td>
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Understanding of the application of UDI/GS1 standards in hospital

- Medical precision is the core element of hospital management
- Precise management requires the support of data environment
- Logistics informatization is the basis of precise management
- UDI is conducive to achieving precise management
Encourage pharmaceuticals and medical device manufacturers to give the smallest product sales unit UDI, so that operators and consumers could identify the products. Implantable medical devices should be marked with the manufacturer's name or trademark, batch code or serial number to ensure traceability.

Encourage industry associations to organize enterprises to build a traceable information query platform to provide data support for the monitoring secretors, information sharing for producers and information query for the publics.
Main problems:
• UDI=DI+PI: procurement DI, delivery DI, the hospitals requires DI+PI, the hospital may collecting PI upon recipient;
• Chinese drug electronic monitoring code haven’t solve the problem of hospital PI collection for 10 years, the hospital is still unable to trace the source precisely.
Current situation of full traceability management (2)

Main problems:

- The instrument UDI is not fully covered, China only covers category III implants and part of the category I and category II
- Western medicine and Chinese medicine coding standard is not uniformed, no automatic identification of the batch number information
Main problems:

- Repeated construction of the database is astonishingly costly. The enterprises and hospitals are struggling to cope.
- The database can not be interconnected, the information island phenomenon is serious.
Main achievements:

- Implantable medical devices used in Shuguang are able to meet the UDI management requirements.
- Part of the category I and category II products are still without UDI, we suggest the enterprises to use the same GS1 standards.
Core link of UDI application in hospital (1)

Introduction of core link: Purchase and storage security management

Main achievements

- The hospital scan the UDI code on the package to collect the time information of PI and domestic approval information of DI by using the UDI database provided by third-party.

- Shanghai database was established in 2006. Now it owns 570,000 products DI data from 5000 medical device enterprises.
Main achievements:

• Synchronizing the medical devices and patients’ records by scanning the UDI in operation room

• UDI scanning has been used in the departments of orthopedics, ophthalmology, general surgery, brain surgery, cardiology, endoscopy, interventional medicine and cardiothoracic surgery

• The application of UDI will be expanded with the wider coverage of its products
Main achievements:
• Connecting the information between the usage of medical devices and other records with the application of UDI in operation
Main progresses:

- Dramatically reduce data interaction with influential third-party platform (the platform contains more than 200 hospitals, over 4000 suppliers, 570000 products and 1200 manufactures)
- The interaction between hospitals and service providers in the supply chain greatly simplifies the construction of information system in the hospital, and facilitates safety management, patients tracing management and settlement management by information sharing.
Core link of UDI application in hospital (5)

Introduction of core link: realize the consistency of information tracing inside and outside the hospital

Main progresses:
- Through the third-party platform service providers, suppliers and hospitals realize the closed-loop management
- **Realize the two-way check goods, data sharing reduces the data entry**
Current situation of precise management of TCM (1)

Main progress:
• automatic machines are used to deliver the TCM products with standardized package
• automatic identification tools are used for the TCM products without standardized package to avoid mistakes
Current situation of precise management of TCM (2)

Doctor’s prescription

Receiving the prescription by HIS

Delivering the prescription by HIS

Payment

seamless connection

Drug management system in hospital

Equipment management  real-time monitoring, operating log, device alarms

Stock management  batch number and validity, early-in and early-out, slow moving reminder

Drug distribution management  dispensary at the pharmacy, planning distribution, timeout reminder

Replenish management  early warning of stock, Intelligent allocation, Automatic inventory

Statement management  inventory analysis, routine adjustment, sales analysis

Prescription early warning  drug incompatibility, multi-auditing, drug usage reference

Drug monitoring  Drug consumption, variety categorized reports

Performance appraisal  indicators for doctors and pharmacists
## Current situation of precise management of TCM (3)

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<tr>
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<th>Goal</th>
<th>Current situation</th>
<th>Comparison</th>
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<tbody>
<tr>
<td>Capability of prescription</td>
<td>500/hour, 4000/day (in 8hours)</td>
<td>Maximum 2000/day</td>
<td>2 times</td>
</tr>
<tr>
<td>No. of drug delivery</td>
<td>4800 boxes/hour, 38400 boxes/day (in 8hours)</td>
<td>Maximum 294 prescriptions/hour, delivering 1526 boxes of drugs</td>
<td>3 times</td>
</tr>
<tr>
<td>No. of drug kinds</td>
<td>2 Consis-D3 Automatic dispensing machine with the capacity of 1536 kinds</td>
<td>347 kinds</td>
<td>4.3 times</td>
</tr>
<tr>
<td>No. of drug stock</td>
<td>2 Consis-D3 Automatic dispensing machine with the capacity of 23040 boxes</td>
<td>9575 boxes</td>
<td>2.4 times</td>
</tr>
<tr>
<td>Processing speed</td>
<td>30-45s/prescription</td>
<td>8-10s/prescription</td>
<td>4 times</td>
</tr>
<tr>
<td>Time for taking drugs</td>
<td>5-10 mins</td>
<td>30s</td>
<td>5 times</td>
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### Main progress:
- Automated precision services greatly improving the service capability, increasing processing speed, and reducing mistakes while working.
Current situation of precise management of TCM (4)

- Automatic precision services dramatically increase service speed, but non-standard barcodes and untraceable information may fail the tracing of patients’ usage.
- The empty of standard bar code in TCM making the traceability can only be carried out between hospitals and enterprises, can not form a full traceability chain.
Perception: NOT everyone can get coding!

Hospital precision management cannot work alone without the standardization of logistics information. Information standardization should be proceed from a global perspective. Thanks to GS1's efforts and contributions in this area, thanks to the experts in this field to contribute to the long-term unremitting efforts!
Thank you!