The Influence of Hospital Accreditation on Quality and Hospital Management in Taiwan

Wui-Chiang Lee, Shing Liao, Hung-Jung Lin, Tsung-Hsien Su
Taiwan Joint Commission on Hospital Accreditation

Agenda
- Characteristics of accreditation in Taiwan
- Influences on quality and safety culture
- Influences on service volume
- Continuous improvement
- Conclusions

Characteristics of Accreditation System in Taiwan

Taiwan at A Glance

- Population: 23.3 million
- Land area: 36,191 km²
- Aging population (2013): 11.5%
- GDP (IMF, 2013): US $ 20,930 per capita (#37 in the world)
- NHE to GDP (2013): 6.6%
- Life expectancy (2013): 76.69 (M) / 83.25 (F)
- Hospital number (2013): 500 (public sectors 35%, private 65%)

Source: Directorate-General of Budget, Accounting and Statistics; ROC; MOHW

Accreditation since 1978

- Modern healthcare organizations and medical education systems (1970s’)
  - Medical training & hospital Accreditation (1978)
  - Country-wide health care networking (1st to 7th)
    - National Health Insurance (1995)
    - Quality & safety assurance
  - Taiwan Joint Commission on Hospital Accreditation (1999)

Characteristics of Accreditation

- Government responsibility granted by Medical Care Law
- Semi-voluntary, but linked to health insurance contract and reimbursement rate
- Run by 3rd party, tender project of government
- 4-year cycle
- Self-assessment plus on-site survey
- 1-3 days (depending on hospital size)
- Charge (by hospital size)
- Results are released to the public
Taiwan Joint Commission on Hospital Accreditation (TJCHA) since 1999

Accreditation Contents

- Hospital management (102 items)
  - Hospital infrastructure & workforce
  - Medical information, equipment safety
  - Patient-centered & safe environment
  - Risk management
- Quality and safety care (136 items)
  - Safe and quality processes of clinical care
  - Quality measurers and PDCA
  - Infection control, medication safety
- Teaching and training capabilities for all medical staffs

Influences of Accreditation

Accumulating evidences demonstrate that accreditation sets nationwide quality standards of hospitals in:

- Infrastructure, workforce, equipment
- Patient-centered and safe environment
- Informed consent and patient right protection
- Core measures of quality in process of care
- SOPs in medication safety, infection control
- Safety report and risk management system

The achievement rate of essential standards increased annually

The Association between Accreditation & Clinical Outcomes

- Research project sponsored by Ministry of Science and Technology (2012–2013)
- Pre-Post comparison study of 77 hospitals
- Study period: 2007–2011
- Data: Indicators of Taiwan Quality Indicators Project
**Sixteen Quality Indicators**

- **Hospital-wide quality**
  - Total unscheduled acute care readmissions <= 15 days
  - Unscheduled returns to ICU or OR
  - Documented falls in acute care

- **Intensive Care Units**
  - Urinary catheter-associated UTIs in the MICU, SICU
  - Central line-associated BSI in CCU, MICU, MSICU

- **Infection control**
  - VAP in SICU and MICU
  - Surgical site infection rate, all
  - Surgical site infection for abdominal or vaginal hysterectomy with NNIS Risk Index 1 or 3
  - Sum of surgical site infections for hip or knee arthroplasty patients all risk indices
  - Antibiotic prophylaxis for CABG, appendectomy, abdominal hysterectomy
    - within 1 hour prior to incision
    - for a duration of <= 24 hours

- **For All Participated Hospitals**
  - Decreasing unscheduled readmission rate within 15 days for the same diagnosis
    - From 1.63% (12 months before) to:
      - 1.35% (-17.5%, index month)
      - 1.23% (-24.7%, 3 months after)
      - 1.18% (-27.9%, 6 months after)

  - No statistically significant change in fall, fall-related injury, infection rates, antibiotic prophylaxis, and intensive care units quality

**Differences among Hospital Levels**

- Significantly better performance at medical centers in:
  - Unscheduled readmission rate within 15 days
  - Fall-related injuries
  - Ventilator-associated pneumonia

**Taiwan Patient Safety Culture Survey**

- **SAQ-C**
  - Teamwork Climate
  - Safety Climate
  - Working Conditions
  - Perception of Management
  - Job Satisfaction

**Employee’s Positive Safety Attitudes Increased after Accreditation**

- 100 hospitals participated (2007~2011)
- SAQ (Chinese version) with 30 items
- 5 point Likert scales:
  - Strongly agree (5), Slightly Agree (4), Neutral (3), Slightly disagree (2), Strongly disagree (1)
- **Positive response rate (%)**
  - Percentage of caregivers strongly and slightly agree (mean score 4, or higher) to a given safety culture dimension of a hospital

**Instrument and Measures**

- Ten hospitals participated (2007~2011)
- SAQ (Chinese version) with 30 items
- 5 point Likert scales:
  - Strongly agree (5), Slightly Agree (4), Neutral (3), Slightly disagree (2), Strongly disagree (1)
- **Positive response rate (%)**
  - Percentage of caregivers strongly and slightly agree (mean score 4, or higher) to a given safety culture dimension of a hospital
Safety is the Core Component in Accreditation Standards

<table>
<thead>
<tr>
<th>Hospital Management Standards</th>
<th>Clinical Practice Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital Operations Strategy</td>
<td>Rights and Responsibilities of patient and family</td>
</tr>
<tr>
<td>Staff Management and Support</td>
<td>Medical Care Quality Improvement</td>
</tr>
<tr>
<td>Environment and Safety</td>
<td>Core Implementation and Evaluation</td>
</tr>
<tr>
<td>Staff Education and Training</td>
<td>Care of High Risk Patients</td>
</tr>
<tr>
<td>Medical Records, Information</td>
<td>Medication Safety</td>
</tr>
<tr>
<td>Facility and Environment Safety</td>
<td>Anesthetic and Surgical Care</td>
</tr>
<tr>
<td>Risk Management and Emergency</td>
<td>Infection Prevention and Control</td>
</tr>
</tbody>
</table>

Significant Decrease in Inpatient Volume before Accreditation at 19 Medical Centers

Continuous Improvement: Accreditation Reform
- Non-accreditation period
  - Continuous quality measurement and workforce report
  - Online assessment and feedback
  - Inspection for safety events or significant variations in performance
- On-site accreditation
  - Decrease paperwork and document reviewing
  - Patient-focused methodology (tracer)

Accreditation is No Longer a Burden

Conclusions
- Although some unintended consequences exist, accreditation sets national quality standard and improves infrastructure and processes of care
- The differences in quality indicators were not significant after accreditation. More well-designed studies are needed
- Hospital’s safety climate improved and persisted
- Outpatient and inpatient service volumes decreased before accreditation at large-scale medical centers. Patient accessibility and staff workloading to be monitored