China’s zero markup for essential medicines at primary level facilities

Wen Chen

Fudan University
Efficiency concern in the country`s health system

• Specific nature of the efficiency problem
  – the mismatch between increasing demand for and inadequate supply of safe and effective health care and the escalating medical costs
  – drug sales constituted a major proportion of health care providers' revenue

• How does/did the efficiency problem manifest itself?
  – The proportion of medicine utilization relative to total health expenditure and GDP
  – Growth of medicine expenditure per capital
  – The share of medicine spending relative to healthcare service expenditure for hospital outpatient and inpatient care
  – The proportion of utilizing antibiotics, infusion, injection in outpatient prescription
Share of Medicine Expenditure Relative to THE

- X-axis: Years from 1990 to 2008
- Y-axis: Percentage from 0.00 to 60.00

The graph shows the share of medicine expenditure relative to THE from 1990 to 2008, with a general trend of decrease.
Share of Medicine Expenditure relative to GDP
Share of Medicine Expenditure relative to Healthcare Service Expenditure

![Bar chart showing the share of medicine expenditure relative to healthcare service expenditure from 1990 to 2008. The chart compares the percentage of medicine expenses to medical service expenditure for outpatients and inpatients across different years.](chart.png)

- **Blue bars**: Medicine Expenses/ Medical Service Expenditure for Outpatient (%)
- **Red bars**: Medicine Expenses/ Medical Service Expenditure for Inpatient (%)
Efficiency concern in the country`s health system

• Specific nature of the efficiency problem
  – the mismatch between increasing demand for and inadequate supply of safe and effective health care and the escalating medical costs
  – drug sales constituted a major proportion of health care providers' revenue

• How does/did the efficiency problem manifest itself?
  – The proportion of medicine utilization relative to total health expenditure and GDP
  – Growth of medicine expenditure per capital
  – The share of medicine spending relative to healthcare service expenditure for hospital outpatient and inpatient care
  – The proportion of utilizing antibiotics, infusion, injection in outpatient prescription

• Why was it perceived to be a problem?
  – The inefficiency related to medicines resulted in poor quality of care and expenditure escalation from overuse of medicine, then leading to inequitable access
### Prescribing Behavior in Different Types of Institutions

<table>
<thead>
<tr>
<th></th>
<th>Antibiotics Usage (%)</th>
<th>Average Number of Antibiotics</th>
<th>Prescriptions Requiring Two or More Antibiotics (%)</th>
<th>Injections Usage (%)</th>
<th>Infusions Usage (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban Area</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Health Care Center</td>
<td>45.3</td>
<td>0.6</td>
<td>13.5</td>
<td>41.8</td>
<td>32.8</td>
</tr>
<tr>
<td>Community Health Care Station</td>
<td>56.6</td>
<td>0.8</td>
<td>19.9</td>
<td>46.0</td>
<td>38.9</td>
</tr>
<tr>
<td><strong>Rural Area</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Township Health Center</td>
<td>60.8</td>
<td>0.8</td>
<td>15.7</td>
<td>42.3</td>
<td>29.8</td>
</tr>
<tr>
<td>Township Health Station</td>
<td>65.9</td>
<td>0.9</td>
<td>20.8</td>
<td>48.2</td>
<td>28.1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Center</td>
<td>57.0</td>
<td>0.8</td>
<td>15.3</td>
<td>42.5</td>
<td>30.5</td>
</tr>
<tr>
<td>Health Station</td>
<td>63.6</td>
<td>0.9</td>
<td>20.6</td>
<td>47.4</td>
<td>30.8</td>
</tr>
</tbody>
</table>
Causes of the efficiency problem

- Main causes of the efficiency problem.
  - Economic incentive for hospitals and physicians to rely on medicine utilization is the major cause of the inefficiency.
  - The distortion of medical services and medicines prices regulated by government and fee-for-service employed by health insurance schemes exacerbated the inefficiency.

- The focus of the case study.
  - Zero markup policy was used to de-link the financial relation between health provider and services delivery and introduce new compensation mechanisms for primary healthcare institutions.
Consequences of the efficiency problem

• Magnitude and impacts of the efficiency problem on health policy objectives.
  – The inefficiency related to medicines resulted in poor quality of care and expenditure escalation from overuse of medicine, then leading to inequitable access

• Distributional consequences e.g. which actors in the system actually benefited from the inefficiency etc.
  – Loser: provider, patient, insurer
  – Beneficiary: Pharmaceutical industry
Health system/financing reforms aimed at addressing the efficiency problem

• Description of the reform(s) aimed at addressing the efficiency problem.
  – No markup between wholesale and retail price of essential medicines at primary healthcare institutions
  – New compensation mechanism for primary healthcare institutions
  – Definition of essential medicines list and requirement of purchasing and utilization of essential medicines at primary healthcare level
Health system/financing reforms aimed at addressing the efficiency problem

• How it was intended to address the problem.
  – Current compensation system in primary healthcare institutions didn’t promote the rational use of medicines, especially for the essential medicines
  – Zero Markup policy eliminate the perverse economic incentives for prescription behaviors hence promote the rational use of medicines

• How it was actually implemented.
  – Pilot and extension
  – Adapting to local situation
  – Decentralization at provincial level
Effects of the reform on the efficiency problem(s)

Based on available information:

- **Impact on cost, access and quality of essential medicines with evidences**
  - Accessibility to essential medicines
  - Average expenditure per prescription for outpatient: statistically significant only for upper respiratory tract infection and gastritis in rural primary healthcare institutions

- **Impact on prescribing behavior and health service utilization patterns with evidences**
  - Percentage of prescriptions requiring antibiotics, infusion and injection: a limited impact on rational use in some cases
  - Primary health care utilization: significantly increased utilization

- **Impact on overall health system efficiency**: The NEMP, accompanied with several parallel policies, were working together to affect the entire health system comprehensively.

- **Impact on expenditure levels**: positive effect on reducing financial burden of patients
## Medicines provision in primary healthcare facilities

<table>
<thead>
<tr>
<th></th>
<th>National</th>
<th>Urban</th>
<th>Rural</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicines provision</td>
<td>322(144)</td>
<td>332(165)</td>
<td>318(134)</td>
</tr>
<tr>
<td>In which: National EMs</td>
<td>203(63%)</td>
<td>192(58%)</td>
<td>208(65%)</td>
</tr>
<tr>
<td>Supplementary Ems</td>
<td>73(23%)</td>
<td>94(28%)</td>
<td>64(20%)</td>
</tr>
<tr>
<td>including: TCM</td>
<td>24(33%)</td>
<td>33(35%)</td>
<td>20(31%)</td>
</tr>
<tr>
<td>Western medicines</td>
<td>48(66%)</td>
<td>58(62%)</td>
<td>43(67%)</td>
</tr>
</tbody>
</table>
Policy implications and lessons learnt (if author wishes)

• Observed policy implications.
  – Economic incentives for efficiency improvement

• Possible lessons learnt from this reform implementation experience.
  – Tradeoff with other policy objectives