Hospital Performance Contracting 2014

Ministry of Public Health – Lebanon[1]

The following factors have been chosen as measures of hospital performance in 2014[2], for use in setting tariffs for services provided by public and private hospitals contracted with the MoPH:

1. Accreditation
2. Patient satisfaction
3. Case-Mix Index (CMI)
4. Intensive Care Unit (ICU) admissions
5. Proportion of Surgical to Medical admissions
6. Deduction rate

The main purpose is to set a fair pricing system that reflects the complexity as well as the quality of services provided. Some indicators are integrated to provide incentives and disincentives for hospitals to promote good practice and discourage overuse and abuse of the system. The first two factors, accreditation and patient satisfaction, are a reflection of quality, accounting for 40% and 10% respectively of the total contracting score. Factors 3 to 6 are a reflection of performance, and together account for 50% of the total contracting score.

The base data used for indicators of factors 3 to 5 is all regular stay (2-15 days) hospitalizations that took place under the MoPH's coverage in public and private hospitals, between June 2012 and May 2013. This comprises 76% of all admissions in this period, and excludes short-stay (0-1 days; 22%) and long-stay (>15 days; 2%) to enable the calculation of an accurate CMI, a similar practice used in other systems such as the US Centers for Medicare and Medicaid Services (CMS).

1. Accreditation

The results of the 2012 accreditation round of hospitals have been used in developing the contracting score. Accreditation was given a weight of 40% in this score relative to other factors. All hospitals with no reservation result were given an incentive of 5%, by including a multiplier of 1.05, while all hospitals with a simple reservation result had a neutral multiplier of 1.

2. Patient satisfaction

A phone call survey conducted by a professional and independent firm is conducted on a randomly selected sample of 25 patients per hospital. The results of the survey have a weight of 10% of the total contracting score. Therefore accreditation and patient satisfaction together comprise 50% of the total contracting score.

3. Case-Mix Index (CMI)

Case-Mix Index was first calculated separately for medical and surgical admissions, using discharge diagnosis ICD10 and CPT code respectively. We also excluded mixed admissions that comprise only 4% of hospitalizations, to enable a more accurate CMI calculation. The methodology is similar to that detailed in the article "Ammar W., Khalife J., El-Jardali F., Romanos J., Harb H., Hamadeh G., Dimassi H. (2013). Hospital accreditation, reimbursement and case mix: links and insights for contractual systems.

[1] Proposal submitted on April 15th 2014 by the three committees of the ESPISP-II project, financed by the World Bank.
[2] The results mentioned in this document are transitory and will be updated upon completion of the patient satisfaction survey.

BMC Health Services Research 13:505", and using a similar formula as that used by the US Centers for Medicare and Medicaid Services and various other national systems throughout the past three decades.

To increase the accuracy of the weights used in calculation of medical CMI, we used cost data based on all admissions from June 2011 to May 2013 (2 years). This is useful as medical admissions, unlike surgical admissions, have non-flat rates and therefore more affected by outliers when the number of admissions is small for certain conditions. A similar reasoning is also behind the exclusion of gastric bypass and cochlear implant in the calculation of surgical CMI, as these were ill-regulated expensive procedures that are performed in very few hospitals, thereby over-influencing their results. Unspecified neurotic disorders, unspecified hemiplegia and unspecified respiratory disorders were similarly excluded, as their distribution was skewed as a result of miscoding.

Once a medical CMI and surgical CMI were calculated for each hospital, they were used to develop a 'combined' CMI by giving each figure a weight based on the relative proportions of medical and surgical admissions to the specific hospital. For example, a hospital with medical CMI of 1.0 and surgical CMI of 1.6, and 100 medical admissions and 200 surgical admissions, would have a combined CMI of 1.4 (i.e. medical CMI is given 33% weight (100/300) and surgical CMI 67% weight (200/300).

Combined CMI was given a weight of 35% in the final contracting score relative to other factors.

4. **Intensive Care Unit (ICU) admissions**

The proportion of admissions to Intensive Care Units (ICU, CCU, NCO, PCU) out of all admissions was calculated for all hospitals. Each hospital admitting more than the average ICU admissions for all hospitals (6.8%) received the full score of the 5% dedicated to the ICU indicators in the final contracting score. Hospitals admitting below this average received a half-score (i.e. 2.5%).

5. **Proportion of surgical to medical admissions**

The proportion of surgical to medical admissions was calculated for each hospital, using the same data set of regular stay (2-15 days) admissions used in CMI calculation. This included 82,901 medical admissions and 95,990 surgical admissions, i.e. 54% of regular stays are surgical admissions. Hospitals in the highest quartile of surgical to medical admissions received a 5% incentive by using a multiplier of 1.05, while the three remaining quartiles had a neutral multiplier of 1.00. The quartiles were defined separately among public and private hospitals. Penalizing the lowest quartile remains a possibility to be considered in the future.

6. **Deduction proportion**

The deduction proportion of each hospital as calculated by the MoPH Auditing Committee has been used as a proportion of total amount billed by the individual hospital. Hospitals with more than 15% deduction are given a -5% disincentive; those between 5.1 and 14.9% are neither given an incentive nor disincentive (neutral); and those with less than 5% deduction are given an incentive of 5% to the final contracting score. It is planned to lower in the future the upper cutoff point to 10% instead of 15%.

Contracting Score

The final contracting score may be expressed as below:

Contracting Score = Accreditation + Patient Satisfaction + Case-Mix Index + Intensive Care Unit proportion + Surgical/Medical proportion + Deduction proportion

CS = Acd + PS + CMI + ICU + Surg/Med + D

These are weighted as follows: 40% Acd, 10% PS, 35% CMI, 5% ICU, 5% Surg/Med and 5% D.

Mean and standard deviation of contracting scores for all hospitals were calculated, and used in a z-score to express the distance of each hospital from the mean. This was done separately for public and private hospitals. Among private hospitals, those with a z-score above 0.00 (i.e. 0 or more standard deviations above the mean) were given highest tariff 1; those between 0 and -0.50 were given middle tariff 2; and those below -0.50 were given lowest tariff 3. Among public hospitals, those with a z-score above 0 were given highest tariff 1; those between 0 and -0.50 were given middle tariff 2; and those below -0.50 were given lowest tariff 3.

This resulted in the below distribution of hospitals:

TARIFF	Private	Public
T1	29	9
T2	45	6
T3	31	9
Total	105	24

Future Contracting Outlook

We anticipate that the evaluation of hospital performance for contracting with MoPH in 2015 will include a greater emphasis on intensive care unit admissions, utilization of respirators, and the deduction proportion from the MoPH auditing committee.