From understanding to decision making - experience from BIH

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Introduction

Bosnia and Herzegovina (B&H) comprises two main jurisdictions: the Federation of Bosnia and Herzegovina, and Republika Srpska (it also includes Br?ko District). The Federation of Bosnia and Herzegovina comprises 10 cantons of which the Mostar Canton is one.

As a low income country B&H has a high proportion of health expenditure to GDP and its healthcare delivery system is also beleaguered by poor efficiency, inequality and poor health service quality. Over the last ten years a comprehensive reform of health care system in both B&H entities has taken place. Reforms have focused on financing, organization and the management of the health care delivery.

The development of an incentive based hospital payment system was initiated in 2005 with the idea was to pay hospitals based on their output. In 2011 the EU funded a project to implement the Australian AR-DRG system that would allow the measurement of hospital inpatient output and prepare the way for the introduction of an activity based payment model.

Methods

This paper analyses activity levels of hospitals in the Mostar Canton to ascertain whether funding is being allocated appropriately by the Cantonal Health Insurance Fund (CHIF). CHIF funds three hospitals in the canton: Clinical Centre Mostar (tertiary hospital); GH Mostar (secondary hospital); and RH Konjic (regional hospital). We calculated the DRG weighed inpatient case load, but separated patients domiciled in Mostar Canton form those residing in other cantons who are funded by their own health insurance funds.

The calculations were based on the following approach:
* Individual hospital CMIs from DRG data were multiplied by the number of outpatient cases to determine the DRG weighted output of hospitals.
* Hospital inpatient expenditures were estimated at 70% of the total expenditures.
* To determine the cost of a weighted case when DRG=1 for each hospital (Base Rate), we divided the weighted output into the hospital expenditure on inpatient care.

Results

Summary tables of the DRG data will provide summary information on the number of cases coded; Error DRGs; number of same-day cases; number of surgical cases; average length of stay; and casemix index. The data available was for a period of 9 months and was annualised to enable comparisons.

The following outlines the main findings.

Findings Clinical Centre Mostar:
* It would appear that not all cases were coded when compared with the activity data reported by the Cantonal Public Health Institute
* The proportion of Error DRGs (11%) is reasonable at the early stages of coding
* The number of same-day cases (6%) appears relatively low and this could be the result of the particular admission rules that are being used
* An Average Length of Stay (ALOS) of 8.8 is on the high side when compared to other countries and it would seem that there is some room for reduction
* At face value, the casemix index (CMI) of 1.26 is reasonable for a tertiary hospital - but it should be compared with other like hospitals in B&H to establish a trend.
* The casemix index varies considerably month to month, ranging from 1.15 to 1.5 - this indicates considerable variance in the complexity of the hospital case load and may be the result of shortcomings in
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DRG coding.
* In CC Mostar, incomes per weighed case vary for patients from Mostar Canton to those from outside; the income per weighted case for Mostar Canton patients is KM1751, while for non-Mostar patients it is KM796, a difference of KM954 which is 55% less - for example if CC Mostar was to charge non-Mostar patient on average at the same Base Rate it would generate an additional annual income of some KM10 million

Findings GH Mostar and RH Konjic:
* The Proportion of Error DRGs at 37% and 26% is relatively high and indicates poor coding practice.
* The number of same-day cases is quite variable and appears relatively low at 6% of all cases and this could be the result of admission rules that are being used.
* ALOS of 6.1 for RH Mostar and 7.6 for GH Konjic can be an indicator of lesser case complexity and appears to be quite reasonable in context.
* At face value, the casemix index (CMI) of 1.27 for RH Mostar and 1.16 for GH Konjic is high when compared to the CMI of the CC Mostar which is 1.26.

Conclusions
Our paper demonstrated that considering the limited implementation time, CHIF has had some success in using the DRG system to measure the relative efficiency of its hospitals and calculating the scale of adjustments in hospital funding to reflect their inpatient output. Using transparency of available DRG data, CHIF can set the scene for a new hospital contracting model which creates incentives for enhanced performance and thereby greater efficiency. Moreover, the differential charging by CC Mostar indicates the need for an FBIH wide arrangement where hospitals are consistent in pricing patients whether they are domiciled in canton where the hospital is located or come from other cantons.

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