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People Performance: A Benchmarking Tool for Hospitals

Staffing in hospitals has always been a hot issue. If the budget is tight and savings have to be made, all team managers will argue that it is impossible to do the same job with less people. If there are opportunities for expansion and investment, the central board will receive a bunch of ideas to engage more employees for more activity or better quality. In fact, decisions about staffing are in most cases rarely based upon objective data.

In the best case a historical overview of activity and the number of employees is available and savings or investments are motivated by the evolution of performance seen as the ratio of number of staff divided by an indicator of activity. The aim of our project was to obtain data about people performance, not only in a historical perspective but related to the performance of other hospitals.

In that perspective, 13 Flemish hospitals were asked to deliver information about staffing and activity in a standardised way so that relevant benchmarking information could be generated.

Methodology

People Performance is conceptualised as the number of employees (values) within a standardised organisational chart, divided by an activity indicator (driver).

Benchmarking of this performance can be performed for all participating hospitals or limited to hospitals with similar characteristics (segmentation).

Firstly a standardised organisation chart had to be formulated so that staff functions between different hospitals could be compared. Clear definitions were made about employees and their activities in intensive care, pharmacy, rehabilitation, accountancy and cleaning because the organisation chart and the combination of functions was far from identical in all the hospitals. Once definitions were agreed upon, it was possible to transform the hospital chart to the standard organisation chart and in that way to compare the numbers of employees involved in a specific function (Figure 2).

Secondly, one or more relevant activity drivers had to be determined for each staff function. The number of hospitalisation days or the number of admissions seemed to be relevant for internal medicine wards or paediatric wards while the net revenue of the lab gave an indication of the activity of the lab and the number of square metres was relevant to evaluate the staffing of cleaning or technical maintenance.

An algorithm of hospitalisation days, admissions and the number of daycare patients was used to have an overall indicator of activity which was necessary to make comparisons between large groups of employees across all the care-functions.

Thirdly, a correction was built in for annual leave privileges due to seniority, interim-staff and outsourcing of functions; for example the outsourcing of cleaning or independent physiotherapists instead of employees on payroll (Figure 3)

Lastly, central organised teams were distributed in line with their contribution to the multidisciplinary teams where they were functionally integrated. For example, a central service of social workers or psychologists distributed in line with the contribution to the teams of the geriatric, the psychiatric, or the rehabilitation ward. Some hospitals had a central service for patient transport while this was done by ward employees in other institutions. Therefore a distribution of central patient transport or mobile team had to be conceived.

All these elements were clearly defined and written down in a manual that was distributed to the 13 hospitals. During the pilot phase, the manual was continually updated based upon the feedback from the different hospitals while they were confronted with questions or difficulties during transformation. All data was gathered in an excel format and calculations were made by defining people performance as an indicator obtained by dividing the number of staff by one or more activity indicators. Hospitals were ranged and divided into four quartiles for every performance indicator so that they could compare themselves for every function related to one or more different activity indicators.

Results

In December 2011, the results were presented at a national symposium of the Belgian Organisation of Hospital Managers in Brugge.

Alongside the conclusions, based upon the benchmark for each hospital individually, statistical analysis was done to investigate the relationship between people performance and the size of the hospital and also the number of campuses. Surprisingly there was no evidence of a correlation between the size of the hospital or the number of campuses on one side and the performance of care or ancillary staff functions on the other side.

In Figure 5, the performance ratio, calculated as the number of care staff divided by the overall activity indicator, is related to the size of the hospital. The x-axis shows the individual hospitals represented by numbers, the red line gives an indication of the size of the hospital, so they are ranked in ascending mode. Pearson correlation (0.17) was low indicating that the performance was not correlated to the size of the hospital.

While intuitively we would believe that during a merger between two hospitals, a rationalisation of staffing would be made in support services such as billing and accountancy, transport, pharmacy and operating theatres, no statistically significant correlation was found except for the emergency room in hospitals with one or more campuses or in the lab, linked to net revenue.

Figure 6 illustrates a better performance (lower ratio) in hospitals with higher net revenue in laboratory (Pearson correlation -0.435).

Professionalisation and Commercialisation of the Benchmarking Tool

An agreement was made with a software company, Forcea, to put the data transaction within the data warehouse environment of IBM-Cognos. It enabled data entry online and dynamic analysis of performance indicators by combining employee functions and activity indicators.

For example one can opt to calculate the performance of the operating theatre function by dividing the number of employees by the number of operating rooms or the number of surgical patients or the number of surgical interventions. The tool also permitted to make a segmentation of hospitals to be included in the analysis in order to compare its own service or hospital with similar services, for example to compare its own nursing employees with hospitals with a geriatric service.

In Figure 7, the performance of the emergency service is segmented in a "one" and "more" campus setting. This clearly indicates that the performance is slightly better in hospitals with onecampus. The blue line indicates the median of performance. In hospitals with more than one campus the median of performance is slightly higher. The tool also permits the simulation of an employee budget and the comparison of forecasted performance with the existing performance of the hospital group.

Current Status and Planning

In June 2012, 21 hospitals agreed to participate in the benchmarking tool of people performance. At this moment a DRG benchmark has also been added to the Cognos-platform, which allows hospitals to make comparisons for average length of stay or use of a pharmaceutical within a certain DRG group.

In the future it is the intention to combine people performance and DRG benchmarking so that a strong or poor performance in staffing could eventually be explained by a difference in pathology, for example in DRG severity. Therefore a poor performance - that means high numbers of employees - in intensive care between different hospitals could be explained by a different pathology profile within these services.

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