

Mergers by a Private Hospital: One Script Two Different Endings!

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ABSTRACT

Introduction: A comparative study of a failed and a successful merger in health care was conducted in an attempt to explore the reasons for success or failure of mergers.

Materials and methods: This was a retrospective exploratory study of two mergers with the primary hospital being common. A detailed study of the existing policies and procedures, hospital records, financial data, and hospital statistics was conducted. Trends were analyzed and compared with the observed value.

Results: Reasons for the successful mergers can be attributed to managerial commitment and coordination, communication, as well as proximity of consultants of the two merging entities. Adequate strategic planning, a professional approach, and incremental implementation of necessary changes are also essential. No redressal of staff and stakeholder apprehension and poor communication are reasons for failure of mergers.

Conclusion: A merger in the Indian hospital scenario is a fairly recent phenomenon. Factors, and their interplay that result in successful or failed mergers in Indian context, are an unexplored field of research. Mergers are capital and resource-intensive, and the consequences of a failed alliance are huge. Thus, a careful, holistic feasibility study is essential before embarking on a merger.

Keywords: Alliances, Health care, Mergers, Success.

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INTRODUCTION

Modern hospitals are expensive to build and operate. Their initial capital cost is high and their operational cost

enormous. There are modern hospitals that are today standing almost empty for lack of funds to maintain them.¹ These high costs have led health care administrators to shift their focus from in-patient treatment to ambulatory care, bringing a paradigm shift in the health care milieu.

Hospital mergers are one such strategy adopted to decrease health care costs. Horizontal health care mergers are where two or more hospitals merge into a single entity, bringing all the hospital activities, including support services, management, patient care activities, and professional services, under the full control of the merged entity.² The main potential benefits from mergers are cost savings from economies of scale, elimination of duplicate services, reduction in unused capacity through pooling of staffs, improved management and production processes, better access to capital, quality improvements from higher volume of specialized procedures, and broader geographic/network coverage.^{3,4} Consumers are also benefited from cost saving when prices are reduced. The main potential hazards of mergers are decreased competition, higher prices, and reduced geographical access because of consolidation.⁵ The net impact of mergers depends on whether the benefits exceed the hazards.

The health services and organizational literature ascribes the following reasons for mergers.^{6,7} First, mergers may occur in order to attain the requisite investment and management base (i.e., critical mass) necessary to acquire costly health technology, increase market share, support desired clinical services, or attract specialized technical staff. On the contrary, some have argued that mergers are precipitated by the desire to consolidate services, achieve efficiency, and reduce over bedding and staffing in highly restricted markets.⁸

Survival and viability are the prime objectives of hospitals in the present competitive environment.⁹ There are two types of private hospitals: Corporate hospitals and Trust-run hospitals. Trust-run hospitals are charitable hospitals, run on a no-profit no-loss concept. Such hospitals also need a surplus to maintain sustainability by keeping pace with recent trends in terms of infrastructure and technology.¹⁰ In the era of cost containment and self-sufficiency, hospitals have to generate surplus from the costs borne by the patient.

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Abroad, hospital mergers are reviewed for several reasons. First, the 1990s witnessed a sporadic wave of consolidation across hospital markets in the United States. Pursuant to which there was a nine-fold increase in hospital mergers. By 2003, highly concentrated markets were witnessed in the nation's larger metropolitan statistical area by virtue of 90% occupancy. Stakeholders and policymakers have raised concerns about this trend, pointing toward the potential impacts on health care costs and quality.¹¹

Second, understanding competition in the hospital industry is important in its own right. Inpatient hospital care comprises 31% of total US health care expenditures.¹² Thus, mergers in the health care industry not only provide an opportunity to test theory, but may also create a substantial impact on its aggregate economic activity. Corporatization in the Indian health care sector has resulted in mergers primarily in pharmaceutical and biotechnology industry and secondarily in the hospitals. Few studies have reviewed the mergers among Indian hospitals.¹³

Indian public sector is mainly dependent on government funding or entering into public/private partnership and has been less keen in mergers or acquisitions. On the contrary, the growing competition in the health care industry has created an environment of uncertainty among the smaller hospitals in India. In such an environment such hospitals find mergers and acquisitions viable.¹⁴ Examples of some acquisitions witnessed by the Indian health care industry include Fortis Health care acquiring 10 hospitals from the Wockhardt for Rs 909 crore and Fortis having invested its stakes into SRL labs.¹⁴

One such example is the subject of the study, the charitable trust Hospital A providing accessible and affordable health care to all sections of society, which entered into an alliance with other hospitals. The study was undertaken with the aim to explore and understand the various factors that play a pertinent role in mergers and acquisitions in order to help broaden the spectrum of knowledge on this topic.

MATERIALS AND METHODS

Two hospital mergers were studied. First merger was between Hospital A and Hospital B, both located at close proximity in West Delhi and the second merger was between Hospital C, located at Gurgaon and the primary Hospital A.

Data for a period of 15 years were collected after going through the existing policies and procedures, financial data, and hospital utilization statistics during the period of merger (secondary data) and Memorandum of Understanding (MoU) between the hospitals. For an objective assessment of the alliance, the hospital statistics were obtained from the Medical Records Departments of both the hospitals. These were then tabulated to facilitate intrahospital (over a period of time) and interhospital comparisons and analyze the benefits of the alliance for the two hospitals. For Hospital A, to understand the benefits garnered from the alliance, the income generated from management consultancy fee, increased investigations, procedure and surgeries, and the value of collection charges for consultants were studied (Table 1).

The Balance Sheets and the Profit and Loss Accounts of Hospitals B and C were studied and were compared over the timeline to analyze the alliance. Besides this, charges being paid to the treating doctors and the suppliers (outsourced diagnostic services) along with the increase in these charges over the years were studied.

Data were analyzed using Microsoft Office 2010 (including Word, Excel and Access), Adobe Acrobat 8 Professional, Statistical Package for the Social Sciences version 22.0. Conclusion was drawn following the trend analysis. Trends were compared with the observed values. By the method of least squares, the trend for the various data heads, like the number of inpatients, number of patient's days, etc., was calculated for the period from 1997 to 2005. Annual forecasts for the next 5 years (2006 to 2010) were calculated and compared with the actual figures for the corresponding period.

Table 1: Gains for hospital A (amount in Rs)

| Years | Management consultancy | License fee (pharmacy) | Collection charges | Revenue transferred inpatients | Outsourced diagnostics |
|-----------|------------------------|------------------------|--------------------|--------------------------------|------------------------|
| 2005–2006 | 9,206,444.00 | 0.00 | 3,950,213 | 4,051,467 | 11,816,607 |
| 2006–2007 | 18,339,7712 | 1,723,562 | 10,298,508 | 16,431,462 | 21,822,5016 |
| 2007–2008 | 21,844,091 | 6,879,121 | 16,071,246 | 20,433,777 | 25,707,075 |
| 2008–2009 | 26,952158 | 8,243,836 | 21,184,178 | 41,447,766 | 54,803,812 |
| 2009–2010 | 33,196,252 | 8,498,877 | 22,805,776 | 36,279,631 | 57,778,688 |
| 2010–2011 | 26,879,724 | 14,552,610 | 52,783,962 | 28,910,893 | 75,586,392 |

Source: Monthly finance report by city hospital

RESULTS

Analysis

Merger between Hospital A and Hospital B: A Successful Alliance

Hospital A, a leading, 559-bedded not-for-profit, tertiary care referral hospital maintaining consistent bed occupancy of over 96% at all times situated in center of Delhi. Hospital B, a private 100-bedded, well-built, fully furnished, multispecialty hospital which is in health care operations for the past 7 years, but was not able to establish an independent identity prior to its merger with Hospital A.

Need for the Partnership between Hospital A and Hospital B

Hospital B after facing a debacle of losing a contractual agreement with a reputed hospital in Delhi was facing many challenges to establish an identity as the hospital did not have an independent outpatient department (OPD) base as doctors were not willing to associate themselves to the hospital which led poor occupancy. Lack of comprehensive services led to dissatisfaction among both patients and staff leading to high attrition.

Hospital A, on the contrary, was facing a problem of constrained resources due to 100% occupancy, so the hospital had to either ask its patients to wait for bed or refer them to other hospitals when emergent interventions were required, thus losing not only its patient base to other hospitals in the vicinity but was also foregoing revenue and losing business. The doctors were dissatisfied as they could not admit their patients. The hospital intended to tap the opportunity of increased demand for advanced treatment modalities for which high investments had been made, but these resources were not being utilized optimally. In addition, there was an impending threat created after the entry of corporate hospital groups who were vying for a larger market share.

Prior to entering into an understanding, the financial summary of the Hospital B was examined. Hospital A believed that its management team could turn around Hospital B in 2 years and restore its profitability. The points in favor were its assets worth 25 crores and absence of any long-term debt besides the proximity the location advantage the hospital offered to Hospital A.

After comprehensive evaluation, both the hospitals entered in a contractual agreement on the 3rd of March 2005 for a period of 15 years which was extendible further by mutual agreement.

Analysis of Financial Status of Alliance

There has been a consistent increase in the management consultancy fee of Hospital A, which was calculated on the gross turnover after deduction of preagreed expenses.

Considering Year I as the base year, the growth has been to the tune of 99% in the II year and 19 to 23% over the preceding years till 2009 to 2010. The pace of growth slowed down thereafter. Increased bed strength at Hospital A could be responsible for the same. The growth has been up to 190% with a peak at 260% in the year 2008 to 2009.

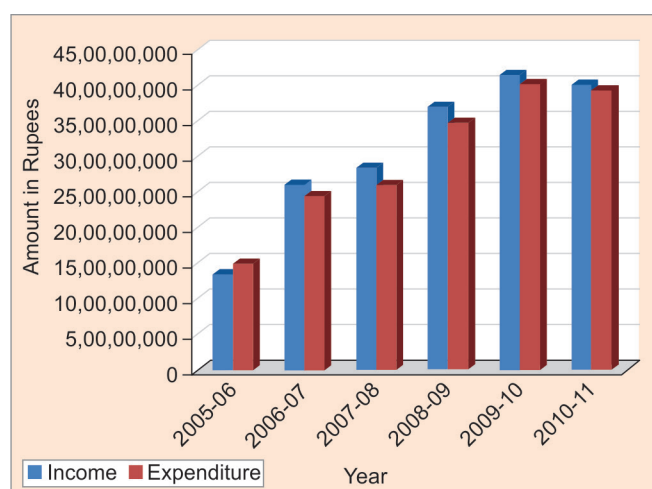
Over the years, reasons for major profits centers shifted from management consultancy and the increased volume of investigations outsourced to Hospital A (approx. 50% mgmt. fee and 40% from investigations) to the collection charges of the consultants (@ 20% of the professional charges) and revenue earned from patients transferred for various procedures, indicating increased utilization of the facilities at Hospital B.

Pharmacy

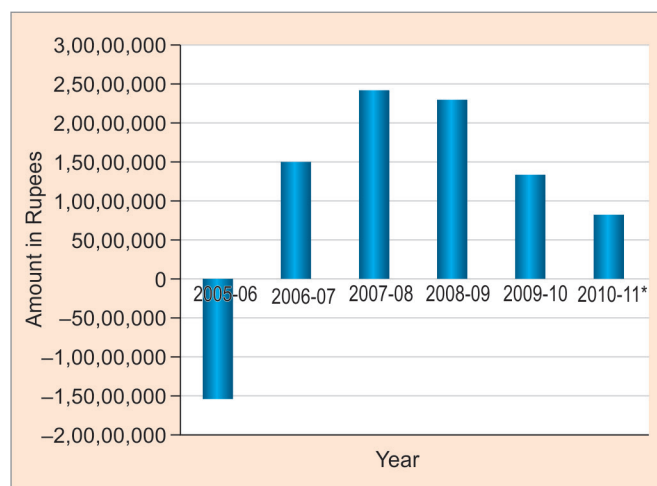
Following outsourcing of the pharmacy in the year 2006 to 2007, Hospital A's share of income from the pharmacy decreased by 25%. In the year 2010 to 2011, by mutual agreement, there was downward revision in the management consultancy fee paid to Hospital A, although when total earnings are considered, the amount in 2010 to 2011 is more than that in 2009 to 2010.

Income and the Expenditure

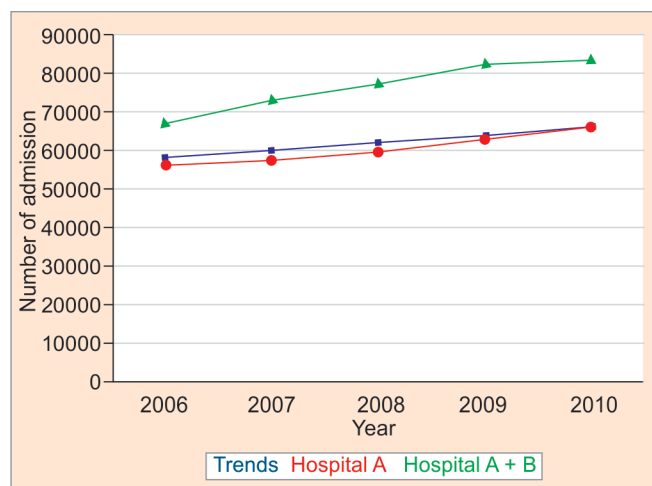
The income and the expenditure at Hospital B have consistently grown over the past 5 years, which was 0.89 in the 1st year of combined operations and has remained above 1.0 thereafter (Graph 1).



Graph 1: Income vs expenditure of Hospital B



Graph 2: Net profit (before tax) for Hospital B



Graph 3: Trends of admission at Hospital A and B

Table 2: Bed strength and admissions at Hospital A and Hospital B

| Years | Hospital A | | | Hospital B | | |
|-------|--------------|------------|----------------|--------------|------------|----------------|
| | Bed strength | Admissions | Admissions/bed | Bed strength | Admissions | Admissions/bed |
| 2005 | 559 | 56,709 | 101.4 | 100 | 3,074 | 30.7 |
| 2006 | 558 | 56,134 | 100.6 | 117 | 11,080 | 94.7 |
| 2007 | 567 | 57,298 | 101.1 | 124 | 15,596 | 125.8 |
| 2008 | 558 | 59,491 | 106.6 | 134 | 17,698 | 132.1 |
| 2009 | 675 | 62,980 | 93.3 | 140 | 19,168 | 136.9 |
| 2010 | 675 | 66,169 | 98.0 | 138 | 17,007 | 123.2 |

Source: Medical records department, hospital A

The income of Hospital B has grown by more than 300% with steady increase in profits (four times). The figures of 2010 to 2011 are as per the 1st three quarters of the financial year (Graph 2).

Consultants

Consultants from Hospital A and outsourced agencies working in these organizations have benefitted from this alliance. The income of consultants has grown remarkably over the last 5 years. When the professional charges of both the hospitals were compared, the Hospital A consultants have contributed to approximately 70% of these charges, indicating that almost 70% of the occupancy and revenue generation is by Hospital A consultants.

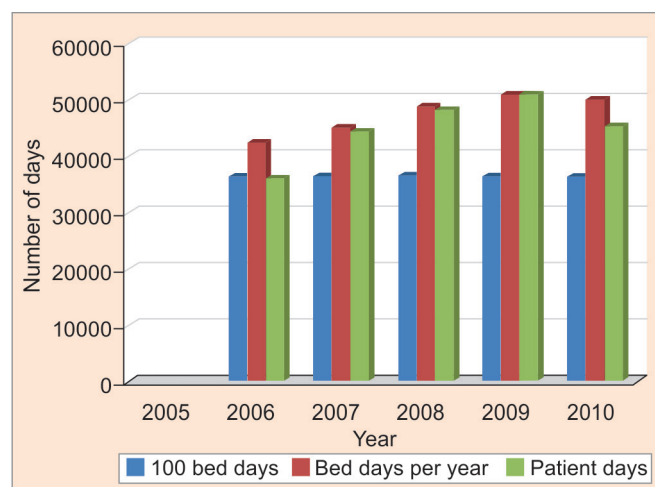
Hospital Utilization Statistics

Both the hospitals have consistently maintained a bed occupancy rate of above 95% where Hospital A treated 39% more patients, exceeding the trend projection by as much as 25% (Graph 3). The admissions per bed at Hospital B have increased from 30.7 to 123.2 (Table 2). The decrease in the total admissions at Hospital B can be attributed to additional 117 beds commissioned at Hospital A in 2009.

As compared to the trend projection of 14% more patient days, Hospital A registered an increase of 18%

in its own facility and 19.24% more patient days for the alliance taken together.

Hospital B maintained a healthy patient days to bed days ratio in the range of 0.85 to 0.9, touching 1.0 during the peak. Patient days to bed days ratio has always been in the range of 0.98 to 1.24, touching 1.9 at the peak times as per the MoU, and Hospital A had agreed to admit patients on 100 beds. Hence, a comparison of the total patient days at Hospital B per year for 100 bed days was plotted to assess the commitment (Graph 4).



Graph 4: Actual vs committed at Hospital B

Casualty Attendance

Hospital A has witnessed a sizable increase in the casualty attendance and in the admissions through casualty but bed availability was a limiting factor.

An increase in the number of inpatients has also given a boost to the diagnostics at Hospital B. The number of computed tomography scans done annually has increased by 125%. The number of X-rays done has increased by 110%, lab investigations have doubled, and echocardiography has quadrupled over the last 5 years. There has been a two and a half time's increase in ultrasound. However, investigations at Hospital A have not matched the trend projections. This is because the hospital was already running at full capacity.

Patients from Hospital B were admitted as day care cases at Hospital A and are transported back to Hospital B after surgery, which has enabled Hospital A to achieve economies of scale. Comparisons with trends show that Hospital A has kept pace with the trend of minor surgeries, which include day care surgeries that the hospital had promoted both at its own facility and at Hospital B, showing a corresponding increase in the number of surgeries.

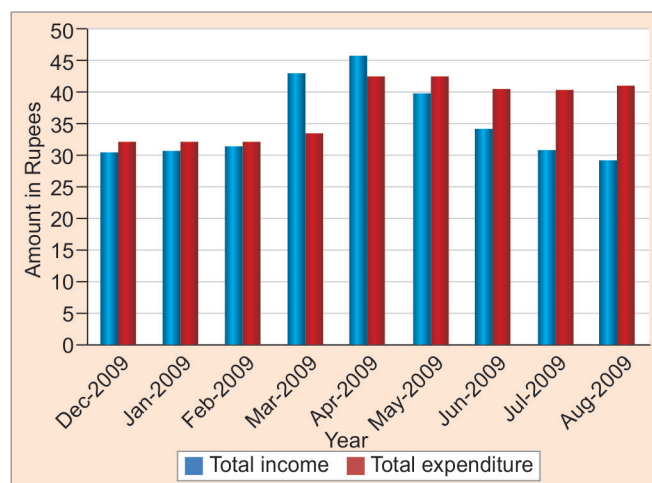
PARTNERSHIP BETWEEN HOSPITAL A AND HOSPITAL C: A FAILED ALLIANCE

Second group of merger that was studied was between Hospital A and Hospital C.

Need of Partnership

Hospital C, a private hospital, situated at Gurgaon, despite of its approachable location, was unable to attract patients because of lack of marketing, weak brand image, shortage of doctors, and other paramedical staff. Patients were not satisfied due to lack of comprehensive services, high waiting time, absence of super specialty, and continuum of care. To strengthen its position in market it approached Hospital A, which was also contemplating to increase its market share in national capital region (NCR) and become a hub for medical tourism. The alliance with Hospital C gave Hospital A an opportunity to create a niche for itself in NCR.

The observed values for both income as well as expenditure were declining (Graph 5), creating an enormous budget deficit in its first few months of operation and failing the main goal of alliance to economize the organization activity. As per MoU, Hospital A was entitled to monthly management consultancy fee @ 15% + applicable taxes of gross receipts of the Hospital C (including gross income of pharmacy (net of taxes) and income from all outsourced agencies) after subtracting deductions (national share of revenue amounting to Rs 40.00 lakhs per



Graph 5: Income vs expenditure – Hospital C

month adjustable on behalf of second party, professional fees of all Hospital A empaneled consultants, amount paid to the outsourced diagnostics, and pathology services or its outsourced services). Hospital C was unable to pay the management consultancy fees to Hospital A. In turn, it required increased investment by Hospital A to keep the hospital operational, proving to be a liability rather than an asset for Hospital A.

The statistical analysis clearly indicates a consistent downward trend in many of the hospital statistics like bed occupancy rate, average length of stay, etc. As expected, the merger also failed to attract patients in the casualty, OPD, for admissions, investigations, procedures, etc., further adding to the financial deficit (Table 3).

TERMINATION OF ALLIANCE BETWEEN HOSPITAL A AND HOSPITAL C

The alliance between Hospital A and Hospital C did not go as envisaged. The operation costs were much higher than expected; the hospital had continuous financial problems and personnel as well as patients were unsatisfied. After probing further it was found that despite acquiring a brand image Hospital C was not able to position itself well in the market. Distance and time constraints, in commuting from one hospital to another were a major hindrance for consultants of Hospital A to go to Hospital C, which contradicted the promises made in the marketing campaigns leading to dissatisfaction among patients. Management's resistance to change was responsible for the dissatisfaction among consultants and other staff, creating a vicious circle between services being provided and patient satisfaction. Dual control and ambiguous orders from Hospital C management and Hospital A administration created confusion among personnel in carrying out their job responsibilities, further fueling dissatisfaction among the staff at all levels.

Table 3: Trend analysis for total, casualty, and private OPD admission and investigations

| Trend | Total admissions | | Casualty admissions | | Private OPD admissions | | CT scan | | Ultrasound | | Lab investigations | |
|-----------|------------------|-------------|---------------------|-------------|------------------------|-------------|----------------|-------------|----------------|-------------|--------------------|-------------|
| | Observed value | Trend value | Observed value | Trend value | Observed value | Trend value | Observed value | Trend value | Observed value | Trend value | Observed value | Trend value |
| Dec, 2008 | 124 | 101.62 | 456 | 536.24 | 1,193 | 1346.80 | 0 | 15.07 | 41 | 70.60 | 3265 | 3224.91 |
| Jan, 2009 | 120 | 114.44 | 454 | 537.88 | 1,324 | 1395.93 | 15 | 15.55 | 87 | 73.62 | 4042 | 3428.54 |
| Feb, 2009 | 111 | 127.26 | 540 | 539.51 | 1,618 | 1445.07 | 22 | 16.03 | 63 | 76.63 | 3116 | 3632.18 |
| Mar, 2009 | 140 | 140.07 | 637 | 541.14 | 1,674 | 1494.20 | 25 | 16.52 | 101 | 79.65 | 3685 | 3835.81 |
| Apr, 2009 | 169 | 152.89 | 650 | 542.78 | 1,652 | 1543.33 | 31 | 17.00 | 111 | 82.67 | 4100 | 4039.44 |
| May, 2009 | 131 | 165.71 | 640 | 544.41 | 1,514 | 1592.47 | 22 | 17.48 | 82 | 85.68 | 4315 | 4243.08 |
| Jun, 2009 | 126 | 178.52 | 562 | 546.04 | 1,439 | 1641.60 | 9 | 17.97 | 101 | 88.70 | 4256 | 4446.71 |
| Jul, 2009 | 216 | 191.34 | 547 | 547.68 | 1,694 | 1690.73 | 13 | 18.45 | 83 | 91.72 | 3810 | 4650.34 |
| Aug, 2009 | 239 | 204.16 | 399 | 549.31 | 1,782 | 1739.87 | 16 | 18.93 | 75 | 94.73 | 5766 | 4853.98 |

Source: Medical records department, hospital A

Increasing expenditure on the part of Hospital A and failure to recover cost on the part of Hospital C became another point of deliberation for the Hospital A management to terminate its understanding with Hospital C. As a result, MoU was terminated with mutual consent of both the hospitals on 5th September 2009.

DISCUSSION

Gains of the Alliance: Hospital A and B

The alliance was a mutually beneficial arrangement for both the organizations. The two hospitals have generated significant savings by sharing resources. Efficient provisions of services have helped achieve economies of scale. Greater leverage in negotiating prices combined with lower costs has been achieved and has helped achieve financial synergy by both cost-reducing factors as well as revenue-enhancing factors.

Hospital A

Bed availability has fueled patient referrals to Hospital A, in addition to increase in OPD and walk-in patients. It has provided greater leverage in getting more service provider agreements. Due to the infrastructure support provided by Hospital B, increased productivity and shorter waiting lists have been observed at Hospital A. It has improved resource and equipment utilization of the advanced modalities of diagnosis and treatment. Growth rate at Hospital A surged accordingly. The alliance has performed better than the trend projection, which has helped the hospital venture into new service domains.

Hospital B

After earning an affiliation with a trusted name, the hospital has seen a turnaround in a record period of one and a half year of combined operations, which has helped to broaden its service line and fill the earlier gaps. The alliance has helped Hospital B to provide services like blood

bank, microbiology lab, magnetic resonance imaging services, eye bank etc., and maintain its occupancy rates over 95% at all times.

Mergers between two health care organizations happen due to interplay of a number of factors. Numbers of studies have been conducted to determine which factors should be taken onto consideration by the top management while coming to a decision to enter into an understanding.

Mergers are an area seldom researched in the Asian subcontinent. However, a number of studies have been conducted in the west to study mergers. The current study still agrees with the findings of the erstwhile studies conducted by Lee and Alexander⁷ and Sidorov.¹⁵ Besides, a number of studies have been conducted with a focus on various aspects of mergers be it acceptability, benefits, etc. A comparison between the studies conducted till date and the current study has been shown in Table 4.

CONCLUSION

Mergers are seen as a mean to help struggling hospitals at tough times. However, cost of failed mergers is enormous. In conclusion, a well-balanced MoU addressing the concerns of both hospitals, organizations of equal standing having similar mission, vision, and ideologies, and a clear, command structure as essential.

Importantly, the study also revealed that proximity, both between the merging hospitals and staffs, is a key factor. Stakeholder involvement and assuaging apprehension among staff at both organizations are areas that hospital administrators need to focus on.

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Table 4: Comparison between the findings in earlier studies and current study

| Parameter | Earlier studies | Current study |
|---|--|---|
| Financial impact of merger | Mullner and Anderson ² conducted a study on 32 hospital mergers and found no significant financial effects of mergers | Merger of Hospital A and Hospital B showed positive financial effects, while merger between Hospital A and Hospital C did not show any significant financial effects. The study concluded that the financial effect occurs selectively and depends on the conditions of the merger |
| Benefits | Lee and Alexander ⁷ concluded that the expected benefits of mergers include increasing market share, economies of scale, patient volume, and profitability | True in case of alliance between Hospital A and Hospital B |
| Impact on quality of services | Ho and Hamilton ⁶ study showed the slight reductions in quality of services as a result of merging of hospitals | The study also finds evidence of change in delivery of quality of services. Hospital A and Hospital B were able to maintain the quality of services, whereas a decline in quality was observed in Hospital A and Hospital C, which was attributed to the lack of management attention |
| Acceptability of merger by various stakeholders | Sidorov concluded that a health system merger does not automatically result in economies of scale; and not all stakeholders in the surrounding community necessarily would welcome a merger | The same observations are found |
| Stress among employees due to merger | Lees and Taylor ¹² observed in their study that nurses in emergency experienced stress due to the alliance | The current study observed that all level of employees experienced stress due to job security |
| Motivational factors for organizations to merge | Patrick and Gaughan ¹⁶ concluded in their study that the two major motivations that dominate the activity of merger are the growth through taking advantage of the acquired company's resources and the synergy respecting the financial math equation " $2 + 2 = 5$ " | Economies of scale were found to be one of the most dominating factors for merger |
| Importance of leadership in managing hospital mergers | Weil ¹⁹ studied the effect of hospital mergers in Europe and North America and suggested that they neither generated cost savings nor improved the quality of care. Almost all consolidations fall short, since those in leadership positions lack the necessary understanding and appreciation of the differences in culture, values, and goals of the existing facilities | The weak leadership of Hospital A and Hospital C was found responsible along with lack of consensus on the recruitment of staff |

REFERENCES

- Schwartz WB, Joskow PL. Duplicated hospital facilities: how much can we save by consolidating them. *N Engl J Med* 1980 Dec18;303(25):1449-1457.
- Mullner RM, Anderson RM. A descriptive and financial ratio analysis of merged and consolidated hospitals: United States, 1980–1985. *Adv Health Econ Health Ser Res* 1987;7(1): 41-58.
- Suter VL. A preliminary framework for studying mergers of public organizations. *Soc Econ Plann Sci* 1985;19(2): 137-144.
- Jordan M, Stuart N. Hospital mergers: why some fail and others succeed. *Hosp Q* 1999–2000 Winter;3(2):41-45.
- Xu T, Wu AW, Makary MA. The potential hazards of hospital consolidation. *JAMA* 2015 Oct6;314(13):1337-1338.
- Ho V, Hamilton BH. Hospital mergers and acquisitions: does hospital consolidation harm patients? *J Health Econ* 2000 Sep;19(5):767-791.
- Lee SY, Alexander JA. Consequences of organizational change in U.S. hospitals. *Med Care Res Rev* 1999 Sep;56(3): 227-276.
- Drazen E, Kueber M. Mergers in health care: avoiding divorce IDS style. *Healthc Financ Manage* 1998 Aug;52(8):33-36.
- Kopalle PK, Neslin SA. The economic viability of frequency reward programs in a strategic competitive environment. *Rev Market Sci* 2003;1(1):1-39.
- Palmer G, Short S. Health care and public policy. South Melbourne, Australia: Macmillan Education; 2000.
- Llewellyn-Davis R, Macaulay HM. The hospital in the regional health service. *Hosp Plann Admin* 1995;1:23-24.
- Lees M, Taylor G. Mergers and the new workplace: the effects of a merger of two emergency departments on nursing staff. *J Health Hum Serv Adm* 2004 Spring;26(4):470-484.
- AT Kearney. Mergers and acquisitions in the healthcare industry; 2010 Aug. Available from https://www.atkearney.com/health/ideas-insights/article/-/asset_publisher/LCcgOeS4t85g/content/mergers-and-acquisitions-in-the-healthcare-industry/10192
- Puro N. Mergers and acquisitions in healthcare industry. They choose. Bought. They sailed through or failed to? [Internet] [cited 2016 May 6]. Available from: <http://shsstiss.blogspot.in/2012/04/mergers-and-acquisitions-in-healthcare.html>.
- Sidorov J. Case study of a failed merger of hospital systems. *Manag Care* 2003 Nov;12(11):56-60.
- Gaughan, Patrick A. Maximizing Corporate Value Through Mergers And Acquisitions. 1st ed. New York: Wiley; 2013. Print.