

Relevance of Quality Improvement Program for Service Demand and Delivery Management in a Tertiary Referral Hospital

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Statement of Original Authorship

The work contained in this thesis has not been previously submitted for a degree or diploma at any other higher education institutions to the best of my knowledge and belief. This thesis is structured based on the regulations and procedures governing the award of the degree of 'Doctor of Osteopathy' by National University of Medical Sciences, Madrid, Spain

Signed: Dr. Ajimsha M S

19/01/2015

(Ajimsha Mohammed Sharafudeen)

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Introduction

Quality improvement is usually related to structure, processes or clinical outcomes and depends on performance measures used to ensure the quality of services provided. An overall evaluation process is beneficial to ensure the improvement which later can have an effect on the process. In the present scenario, the hospital where the author works; is having an increasing request for physiotherapy weekend coverage by the adult neurology unit; since they have started surgeries on the weekend.

The hospital is currently providing physiotherapy services on an overtime basis as per the request. It was later noticed that the demand has increased for full day coverage on the weekend days (Friday and Saturday). At present, both days are covered as full days, but with less number of physiotherapists. No process studies or quality improvement evaluations are conducted in this scenario for analyzing its effect on the health care system as a whole.

The author is proposing a quality improvement program; emphasizing its aim, 'better utilization' of clinical outcome tools and process variations. Here, the evaluation of the process will be conducted through standardized satisfaction surveys, to reach a decision about the best services to provide. An evidence-based logical rationalization method will be used to clarify any issues arising during the study process. Evidences are extracted from research publications and quality improvement program reports from various hospitals across the globe. Most of the studies are based on qualitative researches using retrospective studies and staff surveys.

Aim

The aim of the quality improvement proposal is to diminish the inequity between the demand and delivery of physiotherapy service in the adult neurology unit of the above said hospital by December 2016. This is to manage the increased number of referrals receiving during the weekends and to improve the clinical outcome by early intervention.

Objectives

The main objective identified as:

- a. to extend the physiotherapy services upto seven days / week with effect from January 2016, to ensure the provision of physiotherapy as per the increasing demand from the adult neurology unit. Since provision daily services have some logistical issues, the department has to do the following to achieve the above:
- b. To create clinical protocols and guidelines for the major adult neurology cases by a multidisciplinary team within eight weeks. Three cases are identified as the major cases; stroke, traumatic brain injury (TBI) and spinal cord injury (SCI) for this project. A team of specialist physiotherapists, physicians and nurses will work together to create clinical protocols for this cases by June 2015. The protocols need to be approved by clinical pathways and guidelines committee to ensure that it is evidence based and meets the international standards within 3 months post development of the protocols.
- c. To facilitate training opportunities for the staff upon establishment of protocol and guidelines for adult neurology cases. Following the establishment of protocols and guidelines, a responsible team of specialists will take lead in educating and training the physiotherapists involved in the services within the first three months to ensure competency and adherence to the protocol, to meet the desired outcomes starting

from October 2015.

Rationale

Rationale for the proposed quality improvement/change

The demand of physiotherapy services for adult neurology unit has increased compared to the previous years. Adult neurology section has developed their practices by increasing the number of consultants and staff. The scope of services has changed to include subspecialties. As a result, the turnout has increased remarkably so as the need for physiotherapy care. Since 2005, the physiotherapy department was providing additional coverage on the weekends based on request and referrals from the adult neurology physicians during those days. The physiotherapy care has to initiate immediately after the discharge of the patient from the recovery room. Due to staff shortage, a schedule of same staff was prepared to cover these services and was paid as overtime.

The department has created inclusion criteria for patients to be covered during weekends to limit weekend case loads. Only new referrals after 3:00 pm on Thursdays and weekends were included. The staff who works during weekends has to work 6 days a week, twice a month instead of 5 days a week. The official working days are 5 days per week from Sunday till Thursday. A delay in providing the services can lead to increased patient length of stay. Physicians started to request physiotherapist to follow their patients during weekends to accelerate the discharge process, especially when there is a severe bed crisis. At present, there are no evaluation reports of the effectiveness of physiotherapy additional weekend coverage. A detailed analysis will highlight and emphasize multiple factors for a successful implication of an extended weekend care program.

Till date, no departmental staff satisfaction survey was conducted to measure the effect of extra working days on their life style. Literatures suggested that rebuilding during weekends is very important to have initiative and creative staff (Fritz and Sonnentag, 2005).

The staff will become fresh after 2 days rest at home. This will help to provide better care during the week. The department did not measure staff productivity in relation to an international therapist to patient ratio. There are instances where this ratio gets compromised.

Therapists either have to cancel the other patient session or reduce the time of the session, which can affect clinical outcome. Based on therapist patient ratio the workload can be equally distributed and managed between therapists. The department need to measure the staff productivity based on total number of staff and total referral / day. A patient who is admitted during weekend didn't receive equal services like patients admitted during regular working days. Quality improvement has to ensure equity in providing the care between patients.

Method

Quality improvement programs in health care organization:

The Institute of Medicine in 2001 defined the quality improvement in health care as “the degree to which services and treatment increase the likelihood of desired outcome and are consistent with current professional knowledge” as mentioned by Leon Wyszewianski at (Ransom et al 2005) and (A non at APA 2009). Different Physicians disagree with this definition as it is not including the effectiveness of cost and didn't differentiate between services according to their complexity. The definition guided the writer to measure that care provided in term of treatment or services by the evidence-based outcomes with reliable information of different professionals.

Importance of evaluation, measurement and research in quality improvement program in health care:

There are criteria defined by Øvretveit et al (2002 & 2003) to assist in evaluating any

quality improvement program. The Criteria are related to: 1) Program design which should be based on the goal to promote quality of care. 2) Program implementation that the program effectiveness is measured through quality and performance indicators. 3) Indicators used to measure performance; the indicators should be evidenced based they are related to the field of research, relevant, actionable, audible or feasible. 4) Privacy and confidentiality: the evaluation tool used should ensure confidentiality of the participant in the so informed consent is used and any privacy risk should be described.

Factors need to be considered to ensure the improvement such as the cost of the performance program and the equity in providing and measuring it. The evaluation is done based on measurable tool with clear measures such as graphs and charts. Evaluation depends on required services based on evidence-based practices and to compare it to international measures (Spath 2009).

Discussion

Proposal evaluation based on measurement methods in comparison to study methods

The proposal's aim is to improve the physiotherapy services in adult neurology unit in an acute care hospital. The proposed design is selected within the field of clinical care provided in a hospital in a view that the program can be implemented to the current patient care if it is found to be effective. Implementation of the program will be based on the selected indicators that can be easily measured. The selections of the indicators were based on the available evidences to develop a program with least number of errors or biases and can be analyzed through objective results. This proposal will ensure the confidentiality and privacy of participants through informed consent and clear description for participating in the surveys. It is important, first of all to discuss the resources of data and information that support the proposal. It has been decided that, retrospective data will be collected from the

physiotherapy department including the number of patients referred every weekend and the number of physiotherapists on weekend coverage.

The objectives are set to guide the department to implement the aim. Each objective includes different actions that required measuring the performance before and after the intervention. The first objective is to provide 7 days physiotherapy instead of 5 days / week. This objective will be measured by retrospective study for the last 3 years to have data for the all cases covered during weekends and have data for the number of physiotherapists required to cover these services, and the cost of coverage as overtime. This will justify the need of continuous physiotherapy services instead weekend coverage. These services will be started as a pilot in one ward of the hospital, which will be an adult neurology unit. It is important to study the impact of changing the service provision on physiotherapists, and on others working with them. A staff satisfaction survey will be distributed to them every 3 months from January 2016 till December 2016 to compare the findings and understand barriers to the services delivery. One year of data collection is important because the number of staff will during holidays and summer time so the department has to understand how to manage it during a shortage of staff. Different hospital depends on staff satisfaction to assist in building good decision and to understand the overall picture of the program. Different studies show that physiotherapy and other clinicians are agree 82% that physiotherapy is very important to be provided during weekends and can show better outcome with patients than working 5 days. 50% of them were not agreed to work during weekends due to their family and social commitments. In this hospital the culture is different and the staffs are non-citizens, some are preferred to work during weekends and to have another 2 days off during the week or to work extra days to have overtime. In this study it is expected that the staff will disagree to stop the coverage because they are gaining extra funds.

The second objective is to create protocols of dedicated specialist to assist in providing the services based on evidence that can be measured also during the piloting period. An audit of patient files will be done during the year 2016 to measure compliance toward these protocols and impact on length of stay.

The third objective is to ensure cost effectiveness, which will be measured by comparing expenses for the coverage / month and expenses of coverage in 7 days and compare the expenses with the overall cost of length of stay / day in the hospital. A report done by different hospital in the UK has shown that physiotherapy services have shown a good impact on length of stay by one day. In the writer hospital, the cost of one day stay is almost equal to one therapist salary / month.

An overall evaluation is required to assess the achievement by the end year 2016 through reviewing the data collected and through overall staff and patient satisfaction surveys. It is important to understand the effectiveness on the patients and staff through satisfaction surveys. Cost effectiveness is essential to help leaders to make a decision about establishing the services.

Conclusion

Health care quality improvement programs are different from any other quality improvement program because it is related to patients and services provided based on evidence based practices. Any development or change required should have measurement and evaluation tools that are evidence based by clear research paradigm. Researchers approved that there is a lack of research on measurement and evaluation tools, so they suggested some criteria for evaluation and measurement that can assist to understand our limitations in providing the services.

The proposal emphasizes a qualitative research based on retrospective studies done in other hospitals to evaluate the impact of seven day/week physiotherapy service on selected units.

As it was found from the previous studies that it has a beneficial effect on improving patient outcome, length of stay and on the cost reduction; this proposal is further expected to improve patient care outcome by ensuring that all adult neurology cases are referred to physiotherapy and started their physiotherapy program within 24 hours. It will ensure the optimum care of physiotherapy from admission to discharge regardless of the time of referral. Reducing length of stay will reduce the cost of the organization. There may be some cost on the hospital by hiring more staff, but it is assumed that the cost of an additional night in the hospital is almost equal to a salary of one therapist. The proposal needs to be piloted for one year and if the result is accepted the same program can be applied to other units in the hospital.

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