Development and Implementation of Critical Pathways in Electronic Medical Records Systems for Strabismus surgery in Children

Moon-Sook Kim[a], Hyo-Nam Woo[a], Jung-Hun Kim[b], Ki-Ho Park[b], Kyung-Hwan Kim[c]

[a] *Division of Quality Improvement, Seoul National University Hospital, Seoul, Korea*
[b] *Department of Ophthalmology, Seoul National University Hospital, Seoul, Korea*
[c] *Division of Health Informatics, Seoul National University Hospital, Seoul, Korea*

Abstract

Objectives: The aim of this study was to decrease length of stay and to improve cost-effectiveness by developing and implementing Critical pathways (CPs) in Electronic medical records systems for strabismus surgery in children. Methods: CPs have been developed and implemented since 2006. The results of average annual length of stay, the number of surgery per month, total hospitalization costs and costs per day were compared between CPs group and total patients from 2006 to 2008. Results: The rate of CPs implemented was 97.1%, and the results of CPs group were nearly same as those of total patients in 2008. Average length of stay was reduced from 3.0 days to 1.7 days, and the number of surgery increased 1.9 times, costs per day increased twice as much while total hospitalization costs has not changed in both CPs group and total patients.

Keywords:

Critical pathway, Strabismus, Length of stay, Hospitalization costs

Introduction

Critical pathways (CPs) have been a strategy for standardizing patients care and controlling health care costs and length of stay. And CPs help to improve communication with health care givers and patients and enhance patient satisfaction. It makes CPs' effects much greater that CPs are included in Electronic medical records (EMRs) systems.

Strabismus surgery was the best common operation in pediatric ophthalmology in Seoul National University Hospital, and needed coherent multidisciplinary team approach for perioperative care. CPs for strabismus surgery in children have been developed and implemented in EMRs system to offer standardized services based on the best practice in Korea at that time, reduce length of stay and improve cost effectiveness.

Methods

CP for strabismus in children have been developed and implemented in phases with multidisciplinary team since May of 2006. First of all, CP for Three days Two nights was developed in 2006, another CP for Two days One night was developed in May of 2007, the other CP for day-surgery was applied in April of 2008. All types of CPs have been used for strabismus surgery in children according to their clinical conditions. In addition, the program for monitoring CPs effects was developed in EMRs systems and have been used.

The annual results of group implemented CPs were analyzed length of stay, total hospitalization costs, costs per day, and the number of surgery from 2006 to 2008, and were compared with those of total children undergoing Strabismus surgery in Seoul National University Hospital, except people who received other operations with a strabismus surgery or had surgeries over twice.

Results

The rate of CPs implemented was 97.1%. Most patients receiving strabismus surgery got CPs and the results of CPs group were nearly same as those of total patients in 2008.

After implementation of CP, there was a significant reduction in average length of stay from 2.9 days to 1.7 days in CPs group, from 3.0 days to 1.7 days in total patients.

During the same period of time, the number of surgery has increased from 228 cases to 778 cases in CPs group, from 424 cases to 800 cases (almost 1.9 times) in total patients. Even though the CP of Two day One night process was the most implemented thing in 2008, the CP of day-surgery was the most contributed factor to an increase of the number of surgery.

Nevertheless costs per day in both CPs group and total patients increased twice as much while total hospitalization costs were hardly changed.

Conclusion

CPs in EMRs systems for Strabismus surgery in Children helped decrease length of stay and improve cost effectiveness.