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Stroke multidisciplinary team service improvement

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Background and aim

Stroke multidisciplinary team (MDT) of stroke unit is a team who collaborate to provide patient care. Our team meeting is formed by doctors, nurses, therapists (physical, occupational, speech and language), dietitians, a discharge nurse. The MDT meets every week to provide patient care plans, establish progress, and define patient needs.

This project got impulse to me from following the MDT meetings weekly and by observing almost guessing predictions of MDT regarding individual patient's length of hospital stay. Basically the project wanted to use group of variables to predict length of stay in hospital and potential of improvement with therapy.

The extended hospital stay in recent studies is been associated with poor function outcome &worse neurological outcome in discharge , substantial cost increase and worse bed turnover with additional effect to those patients which they need the most care and therapy.[1]

A multidisciplinary team improvement project aims at a common goal, like efficient patient care. The project typically involves assessing current processes, identifying areas for improvement, and implementing changes to:

i. Improved patient outcomes
ii. Increased efficiency
iii. Improve hospital beds turnover
iv. Reduce errors
v. Providing ongoing improvement of MDT
vi. Increase team satisfaction, learning, and development
vii. Create an improved standard using an AI learning base experience model
viii. Comments related to personal character or behavior that might affect the view or decision making of patient care

Aim would be to focus and work more intensively in patient with potential for improvement.

Involve stakeholder by mapping and defining strategic and moral, segmentation receiving feedback and updating, influencing and keeping them satisfied.

Method and assessments

Identified issues involve information about the team's current working practices, including communication styles, decision-making processes, and effectiveness of resource utilization.

i. Decide the quantity measurement of the patient's current status from each team Medical Team and the Therapy team, discharge, and social care.
ii. Better identification of patient background factors and potential for improvement
iii. Better decision-making regarding hospital stays
iv. Rotation of the meeting chair
v. Recording evidence
vi. Decision of the Level of expertise in the MDT meeting for each team aiming for the highest level of expertise.
vii. Decrease of service efficiency by overwhelming

Key data measurement

Name / Age / Gender / Vascular risk factors / Stroke type / OCPS classification / treatment /NIHSS/ GCS / mRS / Barthel Index / Cognitive Assessment scale for Stroke Patients (CASP)/ The 12-Item General Health Questionnaire GHQ-12/ Medical status.

Specific baseline characteristics and preexisting medical conditions, including Atrial Fibrillation, Hypertension, Diabetes Mellitus, and previous stroke, are important prognostic factors of prolonged length of hospital stay.[1] Cognitive Assessment scale for Stroke Patients (CASP) is proven superior compare Mini Mental State Examination and Montreal Cognitive Assessment since it takes in consideration elements like aphasia and is more feasible.[2]

Although mRS is high reliable and able to be used in clinical trial review after 3 month but Barthel index is more convenient and suitable for longitudinal follow up.[2] NIHSS score after week may be used as primary outcome measurement.[3–5] After stroke all the patients should be screen for mood disorder using one of the tools GHQ-12, HADS, PHQ-9, and Geriatric. Depression Scale.[4]

Prognostic factors for stroke rehabilitation are age, race, gender, stroke type and location, neurologic deficit, urinary incontinence, aphasia and comorbidities.[6] OCSP classification has indication that has good prognostic values besides NIHSS to predict outcome.[6]

Loop

i. Collect data and database

Database would be in proposed software for data processing and analysis of data like SPSS Statistical Package for the Social Sciences which is very comprehensive tool for data analysis outcome prediction.

The group of variables can be studied using statistical methods of SPSS like correlation between outcome measures and variables and regression to predict outcome based on multiple variables. The results would be important if P value is under certain threshold. Data entry will be input from a member of team and each key data measurement will be provided from respective team.

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Medical team with consultant input will provide diagnosis, treatment, NIHSS score acute 24 hours and 7 days, and current patient stability. IT team collaboration for subsequent predictable algorithm and data security and storage.

ii. Analysis and improvement weekly

Based on the analysis, specific goals and objectives are set for the improvement project. This includes identifying targeted interventions and strategies to address the identified weaknesses. Define primary and secondary drivers that prevent achieving aims. Changes would be implemented while defining issues, weaknesses, and adjustments to team roles and responsibilities. The project would be working as loop and open to input (analysis weekly) and has potential for self -improvement.

iii. Documentation and dissemination

The project's findings and best practices are documented and shared with other teams to promote learning and continuous improvement.

Conclusion

The proposal aims to increase efficiency of MDT meetings and providing further valuable information that can predict using machine learning tools with enormous value for the future of patients care in NHS and to improve cost and efficiency of patient care.

Prolonged hospitalization days has proven to be inefficient in-patient care with further burden in hospital costs of care, unnecessary low bed turnover and not proper direction of resources. From the other point is seen that short hospital stay is not associated with worse outcome if proper resources of care are provided.

Acknowledgments

None.

Conflicts of interest

The authors declare that there are no conflicts of interest.

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